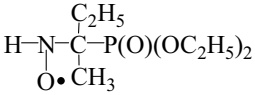
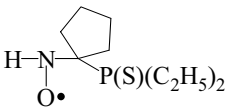
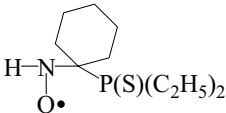
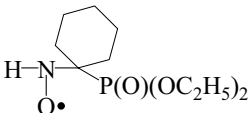
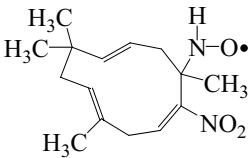
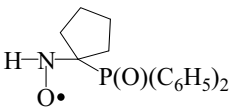
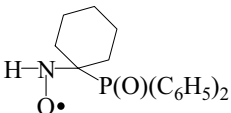
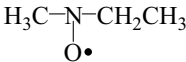
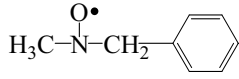
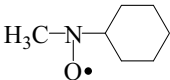
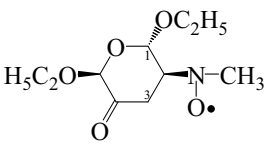
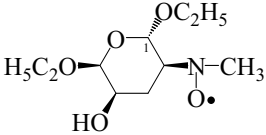
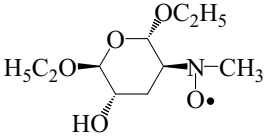
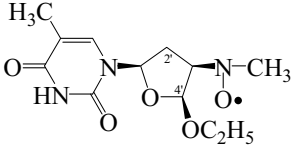
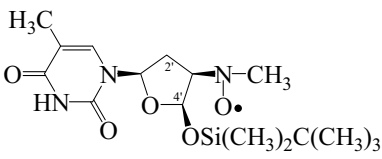
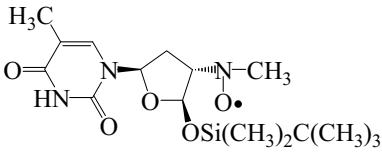


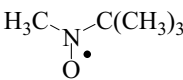
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
12.2 Acyclic nitroxides			
12.2.1 Alkyl nitroxides			
$[C_4H_{10}NO]$ $\begin{array}{c} H-N-C(CH_3)_3 \\ \\ O\bullet \end{array}$	Reaction of <i>tert</i> -butyl hydroxylamine and Fe^{III} Phosphate buffer, pH 7 ESR / 298	N: 1.45 H: 1.40	95Cha1
	Photolysis of 2-thione- <i>N</i> -hydroxypyridine and MNP H_2O [D_2O] Phosphate buffer, pH 7 ESR / 298	N: 1.461 H: 1.399 [D: 0.215]	94Res1
	Photolysis of PBN and H_2O_2 H_2O [D_2O] Phosphate buffer, pH 7 ESR / 293	N: 1.48 H: 1.48 [D: 0.23]	91Kot1
	Reaction of polysulphides or thiols, base and activated MnO_2 , MNP ESR / 298	2.0065 N: 1.31 H: 1.13	92Coa1
	Electrochemical red. of $C_6H_5N=NNHCH_3$ and MNP in ACN ESR / 298	N: 1.53 H: 1.246	96Rap1
$[C_7H_{17}NOPS]$ $\begin{array}{c} H-N-C(CH_3)_2P(S)(C_2H_5)_2 \\ \\ O\bullet \end{array}$	Photolysis of 2-propanone oxime and tetraethylbiphosphine disulphide Benzene ESR / 298	2.0062 N: 1.242 H: 1.241 ^{31}P : 3.74	90Alb1
$[C_7H_{17}NO_4P]$ $\begin{array}{c} H-N-C(CH_3)_2P(O)(OC_2H_5)_2 \\ \\ O\bullet \end{array}$	Reaction of Fe^{II} -EDTA- H_2O_2 and PPN Phosphate buffer, pH 5.6 ESR / 298	N: 1.33 H: 1.31 ^{31}P : 5.2	95Zeg1
$[C_8H_{19}NOPS]$ $\begin{array}{c} C_2H_5 \\ \\ H-N-C-P(S)(C_2H_5)_2 \\ \\ O\bullet CH_3 \end{array}$	Photolysis of 2-butanone oxime and tetraethylbiphosphine disulphide Benzene ESR / 298	2.0063 N: 1.230 H: 1.230 ^{31}P : 4.093	90Alb1

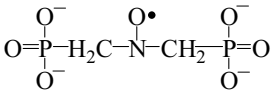
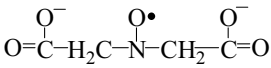
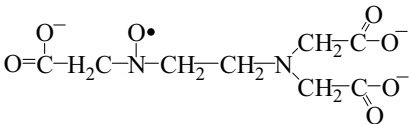
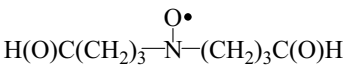
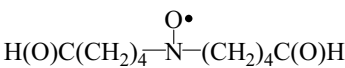
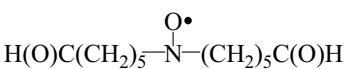
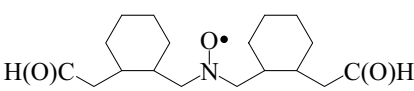
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_8H_{19}NO_4P]$ 	Photolysis of 2-butanone oxime, diethyl phosphite and BOOB Benzene ESR / 298	2.0061 N: 1.274 H: 1.136 ^{31}P : 4.682	90Alb1
$[C_9H_{19}NOPS]$ 	Photolysis of cyclopentanone oxime and tetraethylbiphosphine disulphide Benzene ESR / 298	2.0063 N: 1.225 H: 1.225 ^{31}P : 3.979	90Alb1
$[C_{10}H_{21}NOPS]$ 	Photolysis of cyclohexanone oxime and tetraethylbiphosphine disulphide Benzene ESR / 298	2.0064 N: 1.226 H: 1.226 ^{31}P : 4.414	90Alb1
$[C_{10}H_{21}NO_4P]$ 	Photolysis of cyclohexanone oxime, diethylphosphite and BOOB Benzene ESR / 298	2.0063 N: 1.211 H: 1.211 ^{31}P : 5.562	90Alb1
$[C_{15}H_{23}N_2O_3]$ 	Red light irradiation of humulene nitrosite Single crystal ESR / 290	Tensor components of spin-Hamiltonian are reported	89Kha1, 89Kha2
$[C_{17}H_{19}NO_2P]$ 	Photolysis of cyclopentanone oxime, diphenylphosphite and BOOB Benzene ESR / 298	2.0062 N: 1.201 H: 1.201 ^{31}P : 4.282	90Alb1
$[C_{18}H_{21}NO_2P]$ 	Photolysis of cyclohexanone oxime, diphenylphosphite and BOOB Benzene ESR / 298	2.0061 N: 1.212 H: 1.212 ^{31}P : 4.707	90Alb1

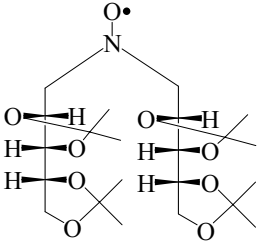
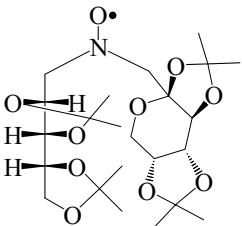
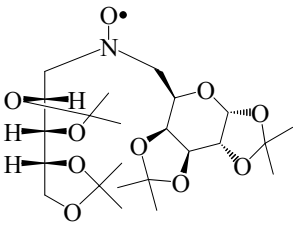
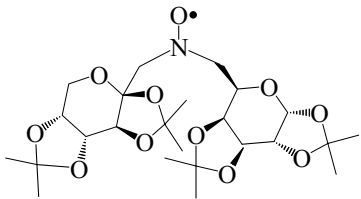
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
12.2.2 Dialkyl nitroxides			
12.2.2.1 Methyl <i>prim</i>-alkyl nitroxides			
$[C_3H_8NO]$ 	Oxidation of methylethylamine with Oxygen H_2O , pH > 9 ESR / 298	2.0055 N: 1.70 3H(NCH ₃): 1.475 2H(CH ₂): 1.15	87Gro1
$[C_8H_{10}NO]$ 	Reaction of benzylmethylamine and magnesium monoperphthalate H_2O + DM- β -CD ESR / 294	<i>Free radical</i> N: 1.737 2H(H β): 1.044 3H(CH ₃): 1.448 <i>Included radical</i> N: 1.666 2H(H β): 0.912 3H(CH ₃): 1.344	99Luc1
DM- β -CD = (2,6- <i>O</i> -dimethyl)- β -cyclodextrin. The rate constants for inclusion of the radical by β -CD at 294 K are $k_i = 2.5 \times 10^9 \text{ M}^{-1} \text{ s}^{-1}$ and $k_{-i} = 3.7 \times 10^7 \text{ s}^{-1}$. Thermodynamic parameters for the inclusion of the radical are reported.			
12.2.2.2 Methyl <i>sec</i>-alkyl nitroxides			
$[C_7H_{14}NO]$ 	Oxidation of bis(cyclohexyl)methylamine with Oxygen H_2O , pH > 9 ESR / 298	2.0055 N: 1.625 3H(CH ₃): 1.412 H(CH): 0.585 4H(CH ₂): 0.075	87Gro1
$[C_9H_{16}NO_5]$ 	Spontaneous oxidation of the hydroxylamine Diglyme ESR / 323	2.0058 N: 1.47 H β : 0.48 3H(CH ₃): 1.23 3H(H1,3,3): 0.07	91Tro1
Monodeuteration in position 3 leads to disappearance of one of the smaller splittings.			
$[C_9H_{18}NO_5]$ 	Spontaneous oxidation of the hydroxylamine H_2O ESR / 333	2.0056 N: 1.645 H β : 0.765 3H(CH ₃): 1.425 H(H1): 0.06	91Tro1

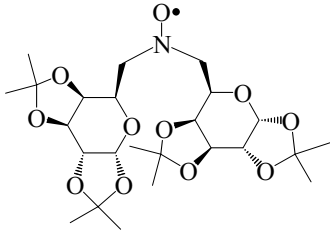
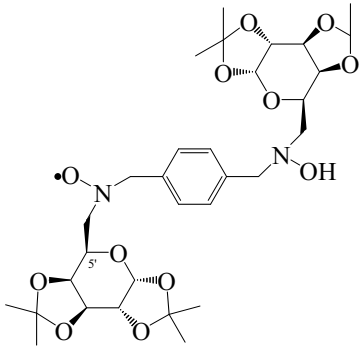
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_9H_{18}NO_5]$ 	Spontaneous oxidation of the hydroxylamine H ₂ O ESR / 343	2.0057 N: 1.63 3H(CH ₃): 1.40 H _β : 1.05	91Tro1
$[C_{11}H_{16}N_3O_5]$ 	Spontaneous oxidation of the hydroxylamine Diglyme ESR / 353	2.0060 N: 1.46 3H(CH ₃): 1.29 H _β : 0.36 H(H2'): 0.1 2H(H2',4'): 0.08	94Tro1, 95Tro1
$[C_{17}H_{30}N_3O_5Si]$ 	Spontaneous oxidation of the hydroxylamine Diglyme ESR / 388	2.0060 N: 1.49 3H(CH ₃): 1.26 H _β : 0.33 3H(H2',4'): 0.08	94Tro1
$[C_{17}H_{30}N_3O_5Si]$ 	Spontaneous oxidation of the hydroxylamine Diglyme ESR / 413	2.0060 N: 1.52 3H(CH ₃): 1.23 H _β : 0.49 H: 0.08	94Tro1

12.2.2.3 Methyl *tert*-alkyl nitroxides

$[C_5H_{12}NO]$ 	Photolysis of DMSO, MNP and NaOH H ₂ O Reaction of methyl- <i>tert</i> -butylamine and magnesium monoporphthalate H ₂ O + DM-β-CD ESR / 294	N: 1.69 3H(CH ₃): 1.35 <i>Free radical</i> N: 1.683 3H(CH ₃): 1.433 <i>CD Included radical</i> N: 1.625 3H(CH ₃): 1.325	95Lag1, 96Bar1 99Luc1
DM-β-CD = (2,6- <i>O</i> -dimethyl)-β-cyclodextrin. The rate constants for inclusion of the radical by β-CD at 294 K are $k_i = 2.8 \times 10^8 \text{ M}^{-1} \text{ s}^{-1}$ and $k_{-i} = 3.3 \times 10^6 \text{ s}^{-1}$. Thermodynamic parameters for the inclusion of the radical are reported.			

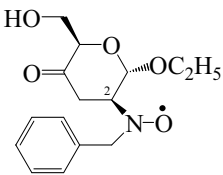
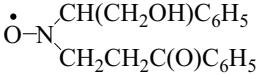
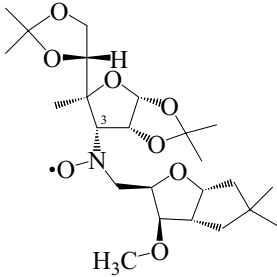
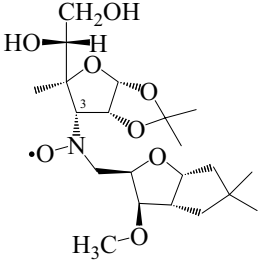
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
12.2.2.4 Di-<i>prim</i>-alkyl nitroxides			
$[\text{C}_2\text{H}_4\text{NO}_7\text{P}_2]^{4-}$ 	Reaction of H_2O_2 - Ti^{III} and EDTMPA- <i>N,N'</i> -dioxide H_2O , pH 8 ESR / 298	2.0055 N: 1.58 4H: 0.95 2^{31}P : 0.45	92Cro1
EDTMPA = Ethylenediaminetetrakis(methylenephosphonic acid).			
$[\text{C}_4\text{H}_4\text{NO}_5]^{2-}$ 	Reaction of H_2O_2 - Ti^{III} and EDTA- <i>N,N'</i> -dioxide H_2O , pH 8 ESR 298	2.0056 N: 1.53 4H: 0.83	92Cro1
$[\text{C}_8\text{H}_{10}\text{N}_2\text{O}_8]^{3-}$ 	Reaction of H_2O_2 - Ti^{III} and DTPA- <i>N,N',N''</i> -tri-oxide H_2O , pH 8 ESR 298	2.0058 N: 1.57 2H $_{\beta}$: 1.17 2H $_{\beta}$: 0.77	92Cro1
DTPA = Diethylentriaminopentaacetic acid.			
$[\text{C}_8\text{H}_{14}\text{NO}_3]$ 	Photolysis of cyclobutyl nitrite ACN (Flow system) ESR / 253–298	2.0054 N: 1.475 4H $_{\beta}$: 1.025	97Gro1
$[\text{C}_{10}\text{H}_{18}\text{NO}_3]$ 	Photolysis of cyclopentyl nitrite ACN / Flow system ESR / 253–298	2.0054 N: 1.500 4H $_{\beta}$: 1.000	97Gro1, 97Gro2
$[\text{C}_{12}\text{H}_{22}\text{NO}_3]$ 	Photolysis of cyclohexyl nitrite ACN (Flow system) ESR / 253–298	2.0058 N: 1.500 4H $_{\beta}$: 1.000	97Gro1
$[\text{C}_{18}\text{H}_{30}\text{NO}_3]$ 	Photolysis of β -hydroindanyl nitrite ACN (Flow system) ESR / 253–298	2.0053 N: 1.500 4H $_{\beta}$: 1.000	97Gro2

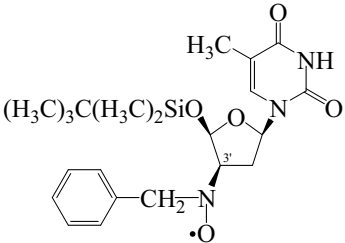
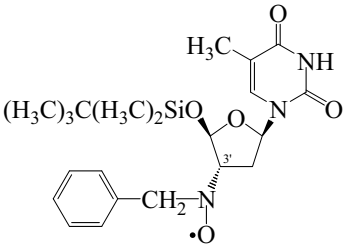
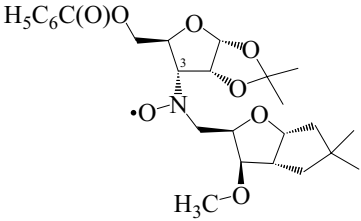
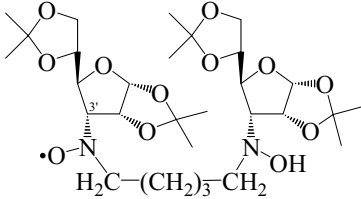
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[\text{C}_{22}\text{H}_{38}\text{NO}_9]$ 	Spontaneous oxidation of the hydroxylamine Diglyme ESR / 313 ESR / 353	2.0061 N: 1.39 $2H_\beta$: 1.03 $2H_\beta$: 0.635 N: 1.4 $2H_\beta$: 0.995 $2H_\beta$: 0.705	89Tro1
$[\text{C}_{23}\text{H}_{38}\text{NO}_{10}]$ 	Spontaneous oxidation of the hydroxylamine Diglyme ESR / 293	2.0059 N: 1.34 H_β : 1.09 H_β : 0.495 H_β : 0.835 H_β : 0.580 H: 0.07	89Tro1
$[\text{C}_{23}\text{H}_{38}\text{NO}_{10}]$ 	Spontaneous oxidation of the hydroxylamine Diglyme ESR / 338	2.0058 N: 1.46 H_β : 1.8 H_β : 1.1 H_β : 0.74 H_β : 0.1	89Tro1
$[\text{C}_{24}\text{H}_{38}\text{NO}_{11}]$ 	Spontaneous oxidation of the hydroxylamine Diglyme ESR / 308 ESR / 373	2.0062 N: 1.36 H_β : 1.1 H_β : 0.46 H_β : 0.825 H_β : 0.55 H: 0.1 N: 1.38 H_β : 1.12 H_β : 0.54 H_β : 0.86 H_β : 0.57 H: 0.08	89Tro1

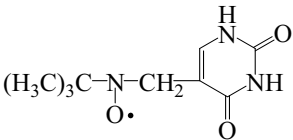
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
$[\text{C}_{24}\text{H}_{38}\text{NO}_{11}]$ 	Spontaneous oxidation of the hydroxylamine Diglyme ESR / 293	2.0064 N: 1.445 2H _β : 1.29 2H _β : 0.53 2H: 0.08	89Tro1
$[\text{C}_{32}\text{H}_{47}\text{N}_2\text{O}_{12}]$ 	Spontaneous oxidation of the dihydroxylamine Diglyme ESR / 363	2.0059 N: 1.45 H _β : 1.06 H _β : 0.925 2H _β : 0.835 H(H5'): 0.085	91Tro2

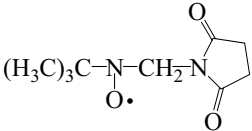
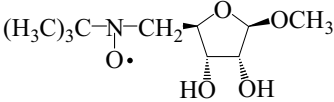
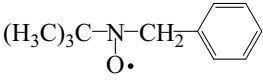
12.2.2.5 *prim*-Alkyl *sec*-alkyl nitroxides

$[\text{C}_8\text{H}_{14}\text{NO}_7]$ $\begin{array}{c} \bullet \\ \text{O}-\text{N}-\text{CH}_2\text{OCH}_2\text{CH}(\text{OH})\text{CHO} \\ \text{CH}(\text{OH})\text{CH}_2\text{OCH}_2\text{CHO} \end{array}$	Photolysis of tetrahydro-3,4-furandiol + NO ACN (Flow system) ESR / 273	2.0053 N: 1.450 2H _β : 0.912 H _β : 0.575	99Gro1
$[\text{C}_8\text{H}_{19}\text{N}_2\text{OH}]^+$ $\begin{array}{c} \bullet \\ \text{O}-\text{N}-\text{CH}_2\text{CH}_2\text{NH}_2\text{CH}(\text{CH}_3)_2 \\ \text{CH}(\text{CH}_3)_2 \end{array}$	Reaction between DIED and glyceraldehyde CH ₃ OH ESR / 298 DIED = Di- <i>iso</i> -propylethylenediamine. Similar results with glycolaldehyde.	2.0059 N: 1.548 2H _β : 1.147 H _β : 0.495	97Rob1
$[\text{C}_{10}\text{H}_{18}\text{NO}_5]$ $\begin{array}{c} \bullet \\ \text{O}-\text{N}-\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}(\text{OH})\text{CHO} \\ \text{CH}(\text{OH})\text{CH}_2\text{CH}_2\text{CH}_2\text{CHO} \end{array}$	Photolysis of 2-hydroxy-cyclopentyl nitrite ACN (Continuous flow) ESR / 298	2.0054 N: 1.431 2H _β : 0.876 H _β : 0.538	97Gro2

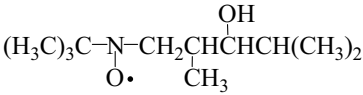
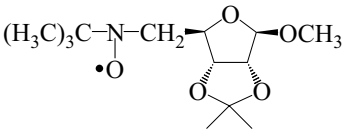
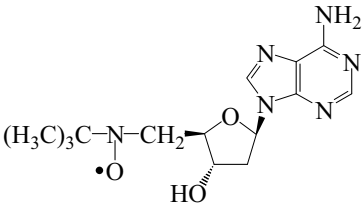
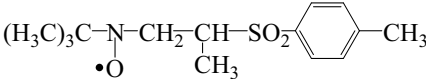
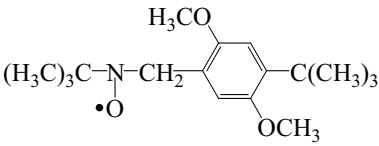
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
<p>[C₁₅H₂₀NO₅]</p> 	Spontaneous oxidation of the hydroxylamine Diglyme ESR / 333	2.0060 N: 1.445 H _β : 0.81 H _β : 0.94 H(H2): 0.38 3H: 0.07	91Tro1
<p>[C₁₇H₁₈NO₃]</p> 	Photolysis of corresponding α -phenyl nitron, CH ₃ OH and H ₂ O ₂ ESR / 298	2.0059 N: 1.49 H: 0.36	96Dul1
<p>[C₁₈H₃₀NO₁₀]</p> 	Spontaneous oxidation of the hydroxylamine CCl ₄ ESR / 298 ESR / 323	2.0062 N: 1.4 H _β : ~ 1.76 H _β : ~ 0.07 H(H3): 0.66 N: 1.39 H _β : 0.97 H _β : 0.92 H(H3): 0.7	89Tro1
<p>[C₂₁H₃₄NO₁₀]</p> 	Spontaneous oxidation of the hydroxylamine ESR Et ₂ O-CHCl ₃ / 298 Toluene / 323 Toluene / 403 Diglyme / 353	2.0062 N: 1.39 H _β : ~ 1.76 H _β : ~ 0.05 H(H3): 0.66 N: 1.39 H _β : 0.99 H _β : 0.96 H(H3): 0.74 N: 1.42 H _β : 1.01 H _β : 0.97 D(D3): 0.115 H: 0.1 2H: 0.045 N: 1.41 2H _β : 0.96 H(H3): 0.74 H: 0.1 2H: 0.045	89Tro1

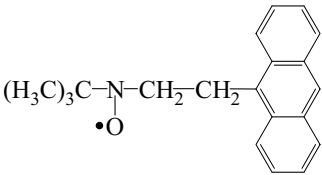
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
<p>[C₂₃H₃₄N₃O₅Si]</p> 	Spontaneous oxidation of the hydroxylamine Diglyme ESR / 393	2.0058 N: 1.45 H _β : 0.95 H _β : 0.79 H(H3'): 0.31 H: 0.115 2H: 0.08	95Tro2
<p>[C₂₃H₃₄N₃O₅Si]</p> 	Spontaneous oxidation of the hydroxylamine Diglyme ESR / 393	2.0060 N: 1.50 2H _β : 0.86 H(H3'): 0.34 3H: 0.005	95Tro2
<p>[C₂₄H₃₂NO₁₀]</p> 	Spontaneous oxidation of the hydroxylamine Diglyme ESR / 298	2.0059 N: 1.4 H _β : 1.03 H _β : 0.95 H(3): 1.11	89Tro1
<p>[C₂₉H₄₉N₂O₁₂]</p> 	<p>Spontaneous oxidation of the hydroxylamine ESR Diglyme / 363</p> <p>Diglyme / 388</p> <p>CHCl₃ / 323</p>	<p>2.0058 N: 1.43 H(H3'_{exo}): 1.10 2H_β: 0.93 2H: 0.05</p> <p>N: 1.44 H(H3'_{exo}): 1.10 H_β: 0.90 H_β: 0.98 2H: 0.07</p> <p>N: 1.44 H(H3'_{exo}): 1.16 H_β: 0.91 H_β: 0.91 2H: 0.05</p>	91Tro2

Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
12.2.2.6 <i>prim</i>-Alkyl <i>tert</i>-alkyl nitroxides			
12.2.2.6.1 <i>prim</i>-Alkyl <i>tert</i>-butyl nitroxides			
$[C_6H_{11}N_2O]$ $(H_3C)_3C-N-CH_2CN$ $O\cdot$	Electrochemical red. of various phenylsulfonium salts (<i>d</i> ₃)-ACN ESR / 298	2.0066 N: 1.532 2H _β : 0.863 [2D: 0.133]	93Sta1
$[C_6H_{14}NO_2S]$ $(H_3C)_3C-N-CH_2S(O)CH_3$ $O\cdot$	Photolysis of DMSO, MNP and NaNO ₂ H ₂ O, pH ≥ 7 ESR / 298	N: 1.63 2H _β : 1.06	95Lag1
$[C_7H_{13}NO_3^-Na^+]$ $(H_3C)_3C-N-CH_2CH_2COO^-Na^+$ $O\cdot$	Photolysis of sodium propionate, MNP and NaNO ₂ H ₂ O, pH ≥ 7 ESR / 298	N: 1.64 2H _β : 1.22 2H _γ : 0.07	95Lag1
$[C_7H_{13}N_2O]$ $(H_3C)_3C-N-CH_2CH_2CN$ $O\cdot$	Reaction of propionitrile with <i>tert</i> -butylhydroxyl amine and MNP CH ₂ Cl ₂ ESR / 298	N: 1.523 2H _β : 1.150 2H _γ : 0.057	99Ebe1
$[C_7H_{14}NO_2]$ $(H_3C)_3C-N-CH_2C(O)CH_3$ $O\cdot$	Photolysis of acetone, MNP and NaNO ₂ H ₂ O, pH ≥ 7 ESR / 298	N: 1.5 2H _β : 0.83	95Lag1
$[C_8H_{16}NO_3]$ $(H_3C)_3C-N-CH_2C(O)OC_2H_5$ $O\cdot$	Exposure of MNP, hexa-butylditin and α-iodo-ethylformate to daylight Benzene ESR / 298	2.0058 N: 1.46 2H _β : 0.775	00Jul1
$[C_8H_{16}NO_3]$ $(H_3C)_3C-N-CH_2OCH_2CH_2CHO$ $O\cdot$	Reaction of ethylene glycol with <i>tert</i> -butyl trifluoromethyl nitroxide Dioxane ESR / 298	N: 1.339 2H _β : 0.368	92Zha1, 95Zha1
$[C_9H_{14}N_3O_3]$ 	Reaction of thymine and H ₂ O ₂ -Ti ^{III} in the presence of MNP H ₂ O, pH ≥ 10 ESR / 298	2.0059 N: 1.5 2H _β : 0.6	93Cat1


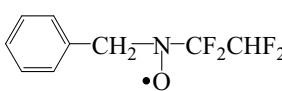
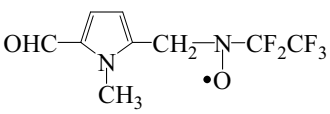
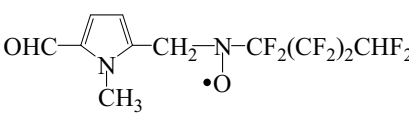
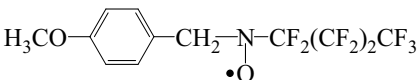
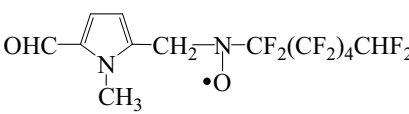
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
$[\text{C}_9\text{H}_{15}\text{N}_2\text{O}_3]$ 	<i>N</i> -Chlorosuccinimide (<i>d</i> ₆)-DMSO PBN / Benzene ESR / 293	N: 1.52 2 <i>H</i> _β : 1.14 [2 <i>D</i> : 0.165] N(ring): 0.14	98Kha1
$[\text{C}_9\text{H}_{18}\text{NO}_3]$ $(\text{H}_3\text{C})_3\text{C}-\text{N}(\text{O}^\bullet)-\text{CH}_2\text{CH}_2\text{C}(\text{O})\text{OC}_2\text{H}_5$	Photolysis of Et ₃ SiH, Br(CH ₂) ₂ COOC ₂ H ₅ and BOOB TMTHF ESR / 294	2.0060 N: 1.538 2 <i>H</i> _β : 1.225 2 <i>H</i> _γ : 0.063	89Kau1
$[\text{C}_9\text{H}_{20}\text{NO}_2]$ $(\text{H}_3\text{C})_3\text{C}-\text{N}(\text{O}^\bullet)-\text{CH}_2\text{CH}_2\text{C}(\text{OH})\text{C}_2\text{H}_5$	Radiolysis (2.8 MeV) of pentan-3-ol and MNP N ₂ O ₄ saturated H ₂ O ESR / 298	2.00564 N: 1.692 <i>H</i> _β : 1.335 <i>H</i> _β : 0.972 2 <i>H</i> _γ : 0.071	93Mad1
$[\text{C}_{10}\text{H}_{20}\text{NO}_5]$ 	Photolysis of RibCbl and MNP H ₂ O + β-CD ESR / 298	<i>Free radical</i> N: 1.69 <i>H</i> _β : 1.06 <i>H</i> _β : 1.46 <i>CD-Included radical</i> N: 1.90 <i>H</i> _β : 0.79 <i>H</i> _β : 1.43	98Luo1
RibCbl = 1-Methyl-5-deoxy-2,3-isopropylidene-β-D-(-)-ribofuranos-5-ylcobalamin.			
$[\text{C}_{10}\text{H}_{23}\text{N}_2\text{OH}]^+$ $(\text{H}_3\text{C})_3\text{C}-\text{N}(\text{O}^\bullet)-\text{CH}_2\text{CH}_2\text{NH}_2\text{C}(\text{CH}_3)_3$	Reaction of DTBED and glyceraldehyde CH ₃ OH ESR / 298	2.0063 N: 1.565 2 <i>H</i> _β : 1.162	97Rob1
DTBED = <i>N,N'</i> -Di- <i>tert</i> -butylethylenediamine.			
$[\text{C}_{11}\text{H}_{16}\text{NO}]$ 	Reaction of PBN with NaBH ₄ followed by oxidation with PbO ₂ H ₂ O ESR / 298	2.0054 N: 1.661 2 <i>H</i> _β : 1.079 ¹³ C _α : 0.644	88Hai1
(continued)	Sonolysis (50 kHz) of PBN / ESR / 298 H ₂ O, pH ~ 7 D ₂ O, pD ~ 7	N: 1.665 2 <i>H</i> _β : 1.063 <i>H</i> _β : 1.063 D _β = 0.163	95Miš1



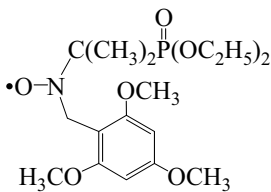

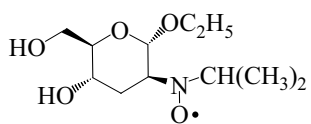
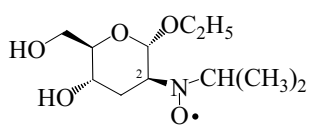
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
[C ₁₁ H ₁₆ NO] (<i>continued</i>) $(\text{H}_3\text{C})_3\text{C}-\text{N}(\text{O}\cdot)-\text{CH}_2-\text{C}_6\text{H}_5$	Oxidation of <i>N,N</i> -butylbenzylamine CHCl ₃ ESR / 298	2.0057 N: 1.387 2H _β : 0.735	00Bal1, 91Mig1
	DMSO	N: 1.56 2H _β : 0.86	93Lag1
	Benzene / Toluene	N: 1.48 2H _β : 0.74 ¹³ C _α : 0.538	87For1, 88Hai1, 90Dod1, 97Jan1
	Reaction of benzyl- <i>tert</i> -butylamine and magnesium monoperphthalate H ₂ O (Flow) ESR / 298	<i>Free radical</i> 2.0056 N: 1.666 2H _β : 1.063	96Luc1, 99Luc1
	H ₂ O + β-CD	<i>CD-Included radical</i> 2.0057 N: 1.59 2H _β : 0.77	
	H ₂ O + α-CD	<i>CD-Included radical</i> N: 1.656 2H _β : 0.944	96Luc1
	H ₂ O + γ-CD	<i>CD-Included radical</i> N: 1.597 2H _β : 0.802	
	Similar results obtained with 2-hydroxypropyl-β-cyclodextrin and 2,6-dimethoxy-β-cyclodextrin. Rate constants at 294 K for inclusion of the radical by α-CD: $k_i = 1.1 \times 10^8 \text{ M}^{-1} \text{ s}^{-1}$, $k_{-i} = 7.7 \times 10^6 \text{ s}^{-1}$; β-CD: $k_i = 6.8 \times 10^8 \text{ M}^{-1} \text{ s}^{-1}$, $k_{-i} = 5.3 \times 10^5 \text{ s}^{-1}$; γ-CD: $k_i = 3.8 \times 10^8 \text{ M}^{-1} \text{ s}^{-1}$, $k_{-i} = 7.6 \times 10^6 \text{ s}^{-1}$.		
	Reaction of benzyl- <i>tert</i> -butylamine with oxone H ₂ O ESR / 298 Oxone = 2KHSO ₅ ·KHSO ₄ ·K ₂ SO ₄ .	2.0056 N: 1.669 2H _β : 1.064 9H _γ : 0.015	00Fra1
	Reaction of benzyl- <i>tert</i> -butylamine with oxone and calix[4]arene H ₂ O ESR / 298 Calix[4]arene = Pentasodium 25,26,27,28-tetrahydroxycalix[4]-arene-5,11,17,23-tetrasulfonate. Calix[4]arene: $k_i = 3.5 \times 10^7 \text{ M}^{-1} \text{ s}^{-1}$, $k_{-i} = 2.6 \times 10^6 \text{ s}^{-1}$.	<i>Included radical</i> 2.0056 N: 1.686 2H _β : 1.211	00Fra1

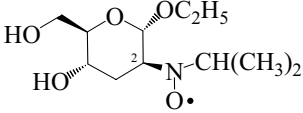
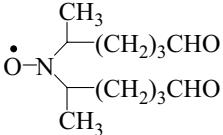
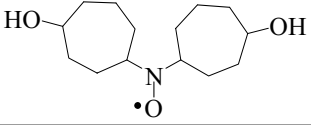
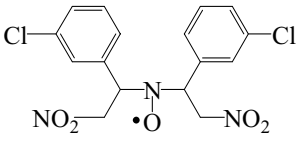
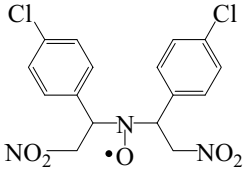
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
$[C_{11}H_{24}NO_2]$ 	Radiolysis (2.8 MeV) of 2,4-dimethylpentan-3-ol and MNP N ₂ O ₄ saturated H ₂ O ESR / 298	2.0056 ₆ N: 1.693 ΣH _β : 2.439 H _γ : 0.071	93Mad1
$[C_{13}H_{24}NO_5]$ 	Photolysis of RibCbl and MNP (dimer) H ₂ O ESR / 298 H ₂ O + β-CD ESR / 298	N: 1.65 H _β : 1.06 H _β : 1.46 <i>Free radical</i> N: 1.70 H _β : 1.03 H _β : 1.49 <i>CD-included radical</i> N: 1.90 H _β : 0.79 H _β : 1.43	98Luo1
RibCbl = 1-Methyl-5-deoxy-2,3-isopropylidene-β-D-(-)-ribofuranos-5-ylcobalamin.			
$[C_{14}H_{21}N_6O_3]$ 	Photolysis of 2'dAdoCbl and MNP (dimer) H ₂ O ESR / 298 H ₂ O + β-CD ESR / 298	N: 1.68 H _β : 0.79 H _β : 1.45 <i>Free radical</i> N: 1.58 H _β : 0.72 H _β : 1.47	98Luo1
2'dAdoCbl = 2',5'-Dideoxyadenosylcobalamin. CD-included radical not observed.			
$[C_{14}H_{22}NO_3S]$ 	Oxidation of the hydroxylamine with PbO ₂ CHCl ₃ ESR / 298	N: 1.525 H _β : 0.75 H _β : 1.55	89Aur1
$[C_{17}H_{28}NO_3]$ 	Photolysis of 2-methyl-5- <i>t</i> -butyl-1,4-dimethoxybenzene and (C ₆ F ₅ CO ₂) ₂ F113 ESR / 293	2.0053 N: 1.307 2H _β : 0.148	99Zha1
F113 = 1,1,2-Trichloro-1,2,2-trifluoroethane.			

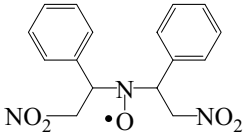
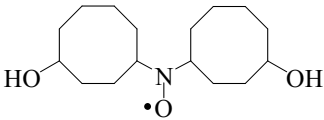
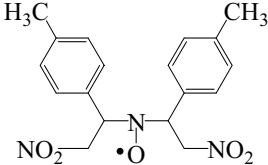
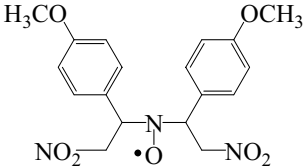
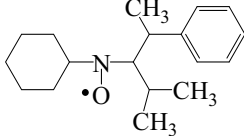
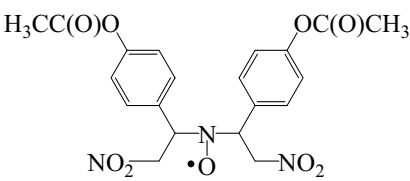
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{20}H_{22}NO]$ 	Photolysis of MNP and 3-(9-anthryl) <i>tert</i> -butyl perpropanoate Toluene ESR / 378	2.0060 N: 1.532 $2H_\beta$: 0.97 $2H_\gamma$: 0.072	89Lea1

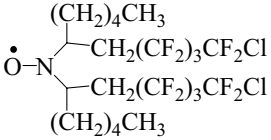
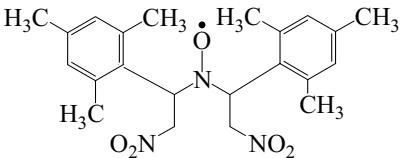
12.2.2.6.2 *prim*-Alkyl *tert*-polyfluoroalkyl nitroxides

$[C_6H_5F_9NO]$ $H_3CH_2C-N(CF_2(CF_2)_2CF_3)$ 	Photolysis of propionaldehyde, $Na^{14/15}NO_2$ and $(C_4F_9CO_2)_2$ F113 ESR / 287	2.0062 N: 1.124 [^{15}N : 1.574] $2H_\beta$: 0.893 $2F_\beta$: 1.574 $2F_\gamma$: 0.162	88Zha1
F113 = 1,1,2-Trichloro-1,2,2-trifluoroethane.			
$[C_9H_8F_4NO]$ 	Reaction of toluene with $(F_2CHCF_2)_2N(O^\bullet)$ and F_2CHCF_2NO F113 ESR / 293	2.0062 N: 1.067 $2H_\beta$: 0.679 $2F_\beta$: 1.573 $2F_\gamma$: 0.165	95Zha1
$[C_9H_8F_5N_2O_2]$ 	Reaction of MPCA with $(C_7F_{15})_2N(O^\bullet)$ and $C_7F_{15}NO$ F113 ESR / 298	2.0063 N: 1.185 $2H_\beta$: 0.820 $2F_\beta$: 1.508 $2F_\gamma$: 0.089	99He1
MPCA = 1-Methylpyrrolyl-5-carbaldehyde.			
$[C_{11}H_9F_8N_2O_2]$ 	Reaction of MPCA with $[H(CF_2CF_2)_2]_2N(O^\bullet)$ and $H(CF_2CF_2)_2NO$ F113 ESR / 298	N: 1.137 $2H_\beta$: 0.805 $2F_\beta$: 1.443 $2F_\gamma$: 0.143	99Zha2
F113 = 1,1,2-Trichloro-1,2,2-trifluoroethane.			
$[C_{12}H_9F_9NO_2]$ 	Photolysis of <i>p</i> -methyl anisole, $Na^{14/15}NO_2$ and $(C_4F_9CO_2)_2$ F113 ESR / 298	2.0062 N: 1.116 [^{15}N : 1.562] $2H_\beta$: 0.692 $2F_\beta$: 1.548 $2F_\gamma$: 0.151	88Zha1
$[C_{13}H_9F_{12}N_2O_2]$ 	Reaction of MPCA with $[H(CF_2CF_2)_3]_2N(O^\bullet)$ and $H(CF_2CF_2)_3NO$ F113 ESR / 298	N: 1.131 $2H_\beta$: 0.800 $2F_\beta$: 1.408 $2F_\gamma$: 0.140	99Zha2

Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
12.2.2.6.3 <i>prim</i>-Alkyl other <i>tert</i>-alkyl nitroxides			
$[C_7H_{13}N_2O_5]$ $O_2N(CH_3)_2C-\dot{N}-CH_2C(O)OC_2H_5$ 	Exposure of hexabutylditin, $ICH_2C(O)OC_2H_5$ and NNP to daylight Benzene ESR / 298	2.0059 N: 1.412 $2H_\beta$: 0.77 $6H_\gamma$: 0.04	00Jul1
$[C_{16}H_{21}F_2N_2O_5]$ $O_2N(CH_3)_2C-\dot{N}-CH_2C(CH_3)(C_6H_5)C(O)OC_2H_5$ 	Exposure of hexabutylditin, $ICF_2C(O)OC_2H_5$, α -methylstyrene and NNP to daylight Benzene ESR / 298	2.0063 N: 1.25 H_β : 1.60 H_β : 2.475	00Jul1
$[C_{17}H_{29}NO_7P]$ 	Reaction of H_2O_2 - Fe^{II} -EDTA + $(H_3CO)_3PPN$ ESR / 293 H_2O (H_3CO) ₃ PPN = <i>N</i> -(2,4,6-Trimethoxybenzylidene)-1-diethoxyphosphoryl-1-methylethylamine <i>N</i> -oxide.	N: 1.505 $2H_\beta$: 1.621 ^{31}P : 4.921	97Riz1
$[C_{18}H_{25}F_2N_2O_5]$ $O_2N(CH_3)_2C-\dot{N}-CH_2CH(CF_3)C(O)OC_2H_5$ 	Exposure of hexabutylditin, $ICF_2C(O)OC_2H_5$, 2,4,6-trimethylstyrene and NNP to daylight Benzene ESR / 298	N: 1.275 H_β : 1.525 H_β : 3.275	00Jul1
12.2.2.7 Di-<i>sec</i>-alkyl nitroxides			
$[C_{11}H_{22}NO_5]$ 	Spontaneous oxidation of deoxyhydroxyamino sugar ESR DME / 348	2.0059 N: 1.48 H_β : 0.74 $H(H2')$: 0.43 [D: 07]	91Tro3
$[C_{11}H_{22}NO_5]$  (continued)	Spontaneous oxidation of deoxyhydroxyamino sugar ESR DME / 263 ^a	2.0059 N: 1.48 <i>Conformer I</i> H_β : 1.40 $H(H2)$: 0.25 <i>Conformer II</i> H_β : < 0.05 $H(H2)$: 0.2	91Tro3

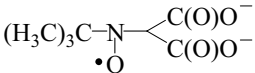
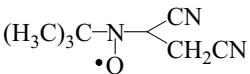
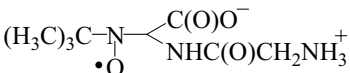

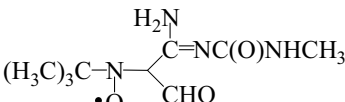
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
<p>[C₁₁H₂₂NO₅] (<i>continued</i>)</p> 	<p>DME / 228</p> <p>Diglyme / 423</p> <p>Diglyme / 353^b</p> <p>Diglyme / 253</p>	<p>N: 1.48 <i>Conformer I</i> H_β: 1.55 H(H2): 0.18 [D: n.r.] <i>Conformer II</i> H_β: 0.18 H(H2): 0.32 [D: 0.05]</p> <p>N: 1.475 H_β: 0.675 H(H2): 0.5</p> <p>N: 1.48 H_β: 0.72 H(H2): 0.41 [D: 0.07]</p> <p>N: 1.48 <i>Conformer I</i> H_β: 1.47 H(H2): < 0.05 <i>Conformer II</i> H_β: < 0.05 H(H2): 0.05</p>	<p>91Tro3</p> <p>91Tro1</p>
<p>[C₁₂H₂₂NO₃]</p> 	<p>Photolysis of 2-methylcyclopentanol + NO ACN (Flow system) ESR / 273</p>	<p>2.0054 N: 1.475 2H_β: 0.375</p>	<p>99Gro1</p>
<p>[C₁₄H₂₆NO₃]</p> 	<p>Photolysis of cycloheptyl nitrite ACN (Flow system) ESR / 253</p>	<p>2.0052 N: 1.512₅ 2H_β: 0.425</p>	<p>97Gro1</p>
<p>[C₁₆H₁₄Cl₂N₃O₅]</p> 	<p>Photolysis of <i>m</i>-chlorostyrene and TNM CH₂Cl₂ ESR / 298</p> <p>TNM = Tetranitromethane.</p>	<p><i>Diastereomer I</i> N: 1.46 2H_β: 1.04 <i>Diastereomer II</i> N: 1.44 2H_β: 0.64</p>	<p>98Ebe1</p>
<p>[C₁₆H₁₄Cl₂N₃O₅]</p> 	<p>Photolysis of <i>p</i>-chlorostyrene and TNM CH₂Cl₂ ESR / 298</p>	<p><i>Diastereomer I</i> N: 1.49 2H_β: 1.11 <i>Diastereomer II</i> N: 1.47 2H_β: 0.64</p>	<p>98Ebe1</p>

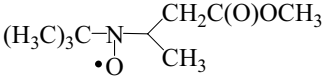
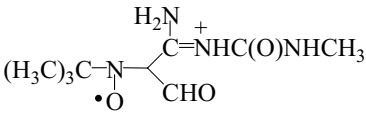
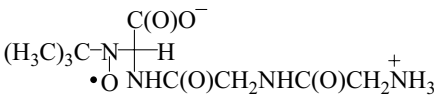
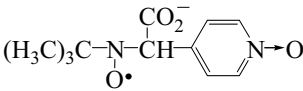
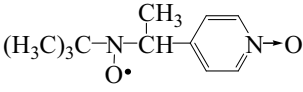
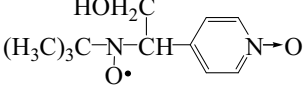
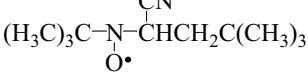
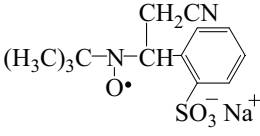
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
<p>[C₁₆H₁₆N₃O₅]</p> 	<p>Photolysis of styrene and TNM CH₂Cl₂ ESR / 298</p>	<p><i>Diastereomer I</i> N: 1.51 2H_β: 1.18 <i>Diastereomer II</i> N: 1.46 2H_β: 0.70</p>	98Ebe1
The same diastereomeric aminoxyls are observed in a CDCl ₃ solution of styrene, NO and maleic anhydride [99Ebe2].			
<p>[C₁₆H₃₀NO₃]</p> 	<p>Photolysis of cyclooctyl nitrite ACN (Flow system) ESR / 253</p>	<p>2.0052 N: 1.500 2H_β: 0.425</p>	97Gro2
<p>[C₁₈H₂₀N₃O₅]</p> 	<p>Photolysis of <i>p</i>-methylstyrene and TNM CH₂Cl₂ ESR / 298</p>	<p><i>Diastereomer I</i> N: 1.52 2H_β: 1.18 <i>Diastereomer II</i> N: 1.44 2H_β: 0.72</p>	98Ebe1
<p>[C₁₈H₂₀N₃O₇]</p> 	<p>Photolysis of TNM and <i>p</i>-methoxystyrene CH₂Cl₂ ESR / 298</p>	<p><i>Diastereomer I</i> N: 1.49 2H_β: 1.18 <i>Diastereomer II</i> N: 1.46 2H_β: 0.73</p>	98Ebe1
<p>[C₁₈H₂₈NO]</p> 	<p>Air oxidation of the corresponding hydroxylamine Crystals ESR / 298</p>	<p>2.0024 N: 3.3, 0, is: 1.1</p>	88Cow1
<p>[C₂₀H₂₀N₃O₉]</p> 	<p>Photolysis of <i>p</i>-oxyacetylstyrene and TNM CH₂Cl₂ ESR / 298</p>	<p><i>Diastereomer I</i> N: 1.49 2H_β: 1.10 <i>Diastereomer II</i> N: 1.44 2H_β: 0.70</p>	98Ebe1
TNM = Tetranitromethane.			

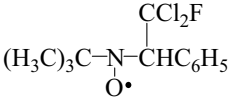
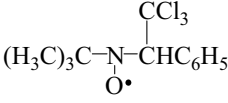
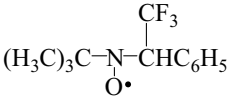
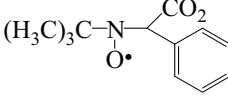
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{22}H_{28}Cl_2F_{16}NO]$ 	Pd(0) catalyzed reaction of $ClCF_2(CF_2)_3CF_2I$ and 1-heptene in the presence of NNP ESR / 293	N: 1.43 $2H_\beta$: 0.39	88Che1
$[C_{22}H_{28}N_3O_5]$ 	Photolysis of TNM and 2,4,6-trimethylstyrene CH_2Cl_2 ESR / 298 TNM = Tetranitromethane.	N: 1.51 $2HH_\beta$: 1.99	98Berg1

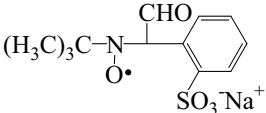
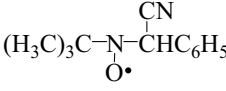
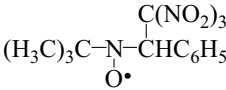
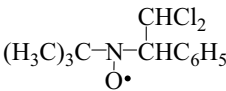
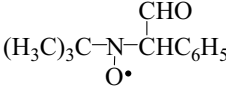
12.2.2.8 *sec*-Alkyl *tert*-alkyl nitroxides

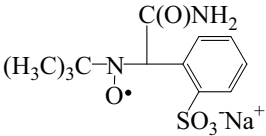
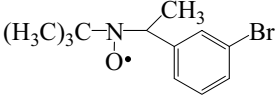
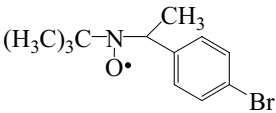
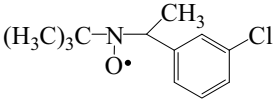
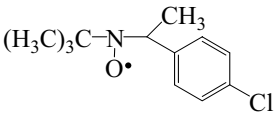
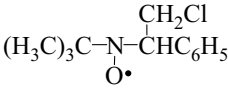
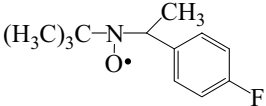
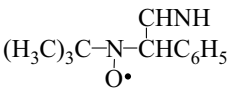
12.2.2.8.1 Acyclic *sec*-alkyl *tert*-butyl nitroxides [$^tBuN(O^\bullet)CH(XR^1)R^2$ with X = Carbon]

$[C_7H_{10}NO_5]^{2-}$ 	Thermal reaction (363 K for 30 s) of sodium malonate and MNP Aq. NaOH 0.2–0.5 M ESR / 298	N: 1.51 H_β : 0.40	95Lag1
$[C_8H_{12}N_3O]$ 	Reaction of fumaronitrile, <i>tert</i> -butylhydroxylamine, tributylamine and MNP CH_2Cl_2 ESR / 298	N: 1.451 H_β : 0.27 H_γ : 0.056 H_γ : 0.053 N(CN): 0.025	99Ebe1
$[C_8H_{16}N_3O_4]^-$ 	Reaction of glycylglycine with Fe^{II} - H_2O_2 and MNP H_2O ESR / 298	N: 1.57 H_β : 0.62 N_β : 0.21	97Haw1
$[C_9H_{16}NO_3]$ 	Reaction of acetylacetone, H_2O_2 , myeloperoxidase and MNP H_2O ESR / 298	2.0056 N: 1.46 H_β : 0.34 $^{13}C_\beta$: 0.85	91Mot1
$[C_9H_{17}N_4O_3]$ 	Photolysis of 1-methylcytosine, $K_2S_2O_8$ and MNP D_2O , $pD > 4$ ESR / 293	N: 1.50 H_β : 0.38 H_γ : 0.09	95Hil1

Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
$[\text{C}_9\text{H}_{18}\text{NO}_3]$ 	Reaction of tributylamine, <i>tert</i> -butylhydroxylamine, methylmethacrylate and MNP CH ₂ Cl ₂ ESR / 298	N: 1.550 H _β : 1.223 H _γ : 1.263 H _γ : 0.053	99Ebe1
$[\text{C}_9\text{H}_{18}\text{N}_4\text{O}_3]$ 	Photolysis of 1-methylcytosine, K ₂ S ₂ O ₈ and MNP D ₂ O, pD < 4 ESR / 293	N: 1.48 H _β : 0.422 H _γ : <0.005	95Hil1
$[\text{C}_{10}\text{H}_{19}\text{N}_4\text{O}_5]$ 	Reaction of glycylglycylglycine, Fe ^{II} -EDTA-H ₂ O ₂ , and MNP H ₂ O ESR / 298	N: 1.57 H _β : 0.24 N _β : 0.24	97Haw1
$[\text{C}_{11}\text{H}_{14}\text{N}_2\text{O}_4]^-$ 	Reaction of ¹³ C-sodium formate, Fe ^{II} -H ₂ O ₂ and POBN Phosphate buffer, pH 7.5 ESR / 298	N: 1.555 H _β : 0.346 ¹³ C _β : 1.011	00Kad1
$[\text{C}_{11}\text{H}_{17}\text{N}_2\text{O}_2]$ 	Reaction of ¹³ C-DMSO, H ₂ O ₂ -Fe ^{II} and POBN H ₂ O ESR / 298	N: 1.594 H _β : 0.274 ¹³ C _β : 0.485	95Gun1, 99Sto1, 99Zho1
$[\text{C}_{11}\text{H}_{17}\text{N}_2\text{O}_3]$ 	Reaction of ¹³ C-CH ₃ OH, H ₂ O ₂ -Fe ^{II} and POBN H ₂ O ESR / 298	N: 1.558 H _β : 0.281 ¹³ C _β : 0.453	94Con1, 00Kad1
$[\text{C}_{11}\text{H}_{21}\text{N}_2\text{O}]$ 	Exposure of acrylonitrile and MNP to daylight CH ₂ Cl ₂ ESR / 298	N: 1.51 H _β : 0.147 2H _γ : 0.053 N _γ : 0.025	98Ebe2
$[\text{C}_{12}\text{H}_{14}\text{N}_2\text{O}_4\text{S}^- \text{Na}^+]$ 	Photolysis of Na ₂ IrCl ₆ and SPBN H ₂ O : ACN (1:1) ESR / 298	N: 1.51 H _β : 0.62	93Fad1

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{12}H_{15}Cl_2FNO]$ 	γ -Irradiation of PBN in CFC-11 ESR / 298 CFC-11 = $CFCl_3$.	2.0056 N: 1.351 H_β : 0.108 F_γ : 0.146	94Gil1
$[C_{12}H_{15}Cl_3NO]$ 	γ -Irradiation of PBN in CCl_4 ESR / 298 Photolysis of $BrCCl_3$ and PBN in hexane ESR / 298 Benzene $CHCl_3$ ACN:H ₂ O (3:2), pH 5.0 ACN:H ₂ O (3:2), pH 7.8 Organic extract of rat liver perfused with $^{13}CCl_4$ or $Br^{13}CCl_3$ Benzene ESR / 298	2.0056 N: 1.40 H_β : 0.15 N: 1.382 H_β : 0.168 N: 1.397 H_β : 0.166 $^{13}C_\beta$: 0.582 N: 1.424 H_β : 0.186 N: 1.457 H_β : 0.222 N: 1.463 H_β : 0.224 N: 1.39 H_β : 0.17 $^{13}C_\beta$: 0.96	87Hal1, 94Gil1 88Hai1, 93Jan1 88Kne1, 88LaC1, 93Han1, 98Con1, 00Kad2
$[C_{12}H_{15}F_3NO]$ 	Photolysis of CF_3I and ^{13}C -PBN Benzene ESR / 298	N: 1.397 H_β : 0.185 3F: 0.154 $^{13}C_\alpha$: 0.592	88Hai1
$[C_{12}H_{15}NO_3]^-$ 	Thermolysis of $Na_2S_2O_8$, HCO_2Na and PBN in H_2O Microsomal incubation of PBN and $^{13}CBrCl_3$ or $^{13}CCl_4$ Bile of rats treated with PBN, Ascorbic acid, and $CuSO_4$ ESR / 298 $CHCl_3$ / 298	2.0058 N: 1.580 H_β : 0.463 $^{13}C_\alpha$: 0.665 $^{13}C_\beta$: 1.186 N: 1.60 $H(H_\beta)$: 0.49	88Hai1, 88Kne1, 88LaC1, 90Con1, 92Kad1, 93Bur1 89Kea1

Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
$[C_{12}H_{15}NO_5S^-Na^+]$ 	Photolysis of formaldehyde, Na ₂ PdCl ₆ and SPBN 50% aqueous solution ESR / 298 The same with Na ₂ IrCl ₆ .	N: 1.50 H _β : 0.60	90Fad1
$[C_{12}H_{15}N_2O]$ 	Photolysis of PBN and (CH ₃) ₃ Si ¹³ CN ACN ESR / 298 Photolysis of ¹³ C-PBN and (CH ₃) ₃ SiCN Toluene ESR / 298 Reaction of Na ¹³ CN, H ₂ O ₂ -peroxidase, PBN H ₂ O, pH 7.5 ESR / 298	N: 1.502 H _β : 0.203 ¹³ C _β : 0.985 N: 1.484 H _β : 0.176 N _γ : 0.021 ^a ¹³ C _α : 0.340 N: 1.60 H _β : 0.24 ¹³ C _β : 1.07	94Hai1 88Hai1, 94Hai1 88Mor1
$[C_{12}H_{15}N_4O_7]$ 	Reaction of TNM with benzyl <i>tert</i> -butyl amine or reaction of TNM with TBPA and PBN CHCl ₃ ESR / 298 TNM = Tetranitromethane; TBPA = Tris(4-bromophenyl)ammonium hexachloroantimonate.	2.0057 N: 1.46 H _β : 0.46 3N _γ : 0.03	92Ebel1, 93Lag1, 95Ebel1
$[C_{12}H_{16}Cl_2NO]$ 	Reaction of H ₂ O ₂ , PBN, ¹³ CH ₂ Cl ₂ and LPO Phosphate buffer, pH 6.0 ESR / 298	N: 1.37 H _β : 0.22 ¹³ C _β : 0.91	95Khi1
$[C_{12}H_{16}NO_2]$ 	Photolysis of acetaldehyde and PBN ESR / 298 Photolysis of formaldehyde, Na ₂ PdCl ₆ and 18-crown-6 ether Ether + PBN ESR / 298	N: 1.432 H _β : 0.217 N: 1.40 H _β : 0.320	97Jen1 90Fad1

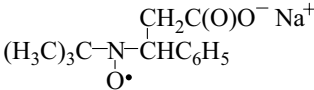
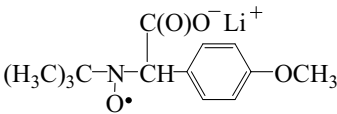
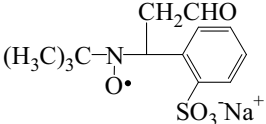
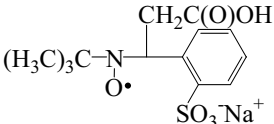
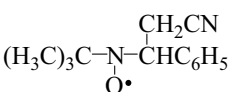
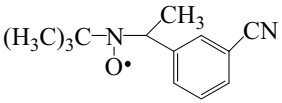
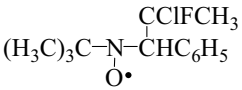
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[\text{C}_{12}\text{H}_{16}\text{N}_2\text{O}_5\text{S}^-\text{Na}^+]$ 	Photolysis of formamide Na_2IrCl_6 and SPBN 50% aqueous solution ESR / 298	N: 1.52 H_β : 0.59	93Fad1
$[\text{C}_{12}\text{H}_{17}\text{BrNO}]$ 	Reaction of CH_3MgBr with $m\text{Br}$ -PBN Hexane:ethyl acetate ESR / 298	2.0065 N: 1.478 H_β : 0.312	93Pan1
$[\text{C}_{12}\text{H}_{17}\text{BrNO}]$ 	Reaction of CH_3MgBr with $p\text{Br}$ -PBN Hexane:ethyl acetate ESR / 298	2.0059 N: 1.479 H_β : 0.320	93Pan1
$[\text{C}_{12}\text{H}_{17}\text{ClNO}]$ 	Reaction of CH_3MgBr with $m\text{Cl}$ -PBN Hexane:ethyl acetate ESR / 298	2.0063 N: 1.476 H_β : 0.313	93Pan1
$[\text{C}_{12}\text{H}_{17}\text{ClNO}]$ 	Reaction of CH_3MgBr with $p\text{Cl}$ -PBN Hexane:ethyl acetate ESR / 298	2.0061 N: 1.483 H_β : 0.329	93Pan1
$[\text{C}_{12}\text{H}_{17}\text{ClNO}]$ 	Reaction of $^{13}\text{CH}_2\text{ClBr}$ with H_2O_2 , LPO, PBN Phosphate buffer, pH 6.0 ESR / 298	N: 1.37 H_β : 0.22 $^{13}\text{C}_\beta$: 0.62	95Khi1
$[\text{C}_{12}\text{H}_{17}\text{FNO}]$ 	Photolysis of $(\text{C}_2\text{H}_5)_3\text{N}$, 4-F-styrene and MNP Benzene ESR / 298	2.0061 N: 1.478 H_β : 0.353 $9H_\gamma$: 0.009 $3H_\gamma$: 0.060 $2H_\theta$: 0.060	97Lin1
$[\text{C}_{12}\text{H}_{17}\text{N}_2\text{O}]$ 	Photolysis of $(\text{CH}_3\text{NH}_2-\text{H}_2\text{O})$ and PBN (313 K) Photolysis of $(\text{CH}_3\text{NH}_2-\text{H}_2\text{O})$ and PBN (313 K) Benzene ESR / 298	N: 1.50 H_β : 0.62	90Ogu1

Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
$[C_{12}H_{17}N_2O_2]$ $(H_3C)_3C-N(\dot{O})-CH(C_6H_5)C(O)NH_2$	Reaction of formamide, $Na_2PtCl_6^a$ and PBN Neat formamide ESR / 298 Photolysis of formamide BOOB and (<i>d</i> ₁₄)-PBN Benzene ESR / 298 Photolysis of $Na^{13}CN$ or $H^{13}C(O)NH_2$ or $Na_2S_2O_8$ and ^{13}C -(<i>d</i> ₁₄)PBN H_2O ESR / 298	N: 1.45 H_β : 0.31 N: 1.529 H_β : 0.327 N_γ : 0.052 ^b H_δ : 0.052 ^{b, c} 2.0058 N: 1.573 H_β : 0.327 $^{13}C_\alpha$: 0.586 $^{13}C_\beta$: 1.053 N_γ : 0.054 ^b H_δ : 0.054 ^{b, c}	93Fad1 95Jan1 88Hai1, 94Hai1
^a The same with Na_2IrCl_6 . ^b Coupling only resolved when using <i>d</i> ₁₄ -PBN. ^c Coupling with only one hydrogen due to hindered rotation of the C(O)NH ₂ group.			
$[C_{12}H_{17}N_2O_3]$ $(H_3C)_3C-N(\dot{O})-CH(C_6H_5)CH_2NO_2$	Photolysis of the system (CH ₃ NH ₂ -H ₂ O-O ₂) and PBN Benzene ESR / 298	N: 1.494 H_β : 0.520	90Mig1
$[C_{12}H_{17}N_2O_3]$ $(H_3C)_3C-N(\dot{O})-CH(CH_3)-CH_2-C_6H_4NO_2$	Reaction of CH ₃ MgBr with <i>m</i> NO ₂ -PBN Hexane:ethyl acetate ESR / 298	2.0061 N: 1.473 H_β : 0.297	93Pan1
$[C_{12}H_{17}N_2O_3]$ $(H_3C)_3C-N(\dot{O})-CH(CH_3)-CH_2-C_6H_4NO_2$	Reaction of CH ₃ MgBr with <i>p</i> NO ₂ -PBN Hexane:ethyl acetate ESR / 298	2.0060 N: 1.463 H_β : 0.245	93Pan1
$[C_{12}H_{18}NO]$ $(H_3C)_3C-N(\dot{O})-CH(CH_3)-CH_2-C_6H_5$	Reaction of CH ₃ MgBr with ^{13}C -(<i>d</i> ₁₄)PBN in H_2O and addition of PbO ₂ Benzene ESR / 298	2.0062 N: 1.485 H_β : 0.353 $^{13}C_\alpha$: 0.529 $3H_\gamma$: 0.045	88Hai1, 94Hai1

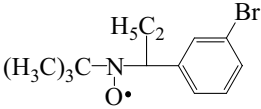
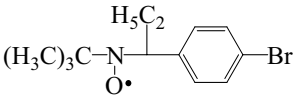
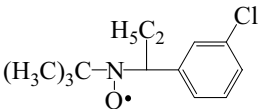
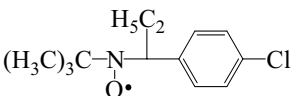
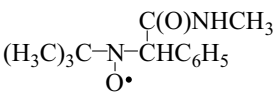
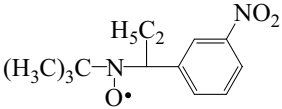
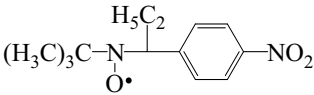
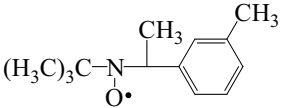
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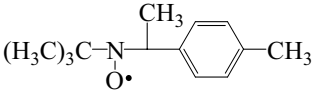
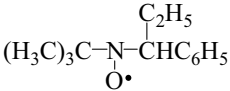
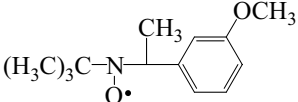
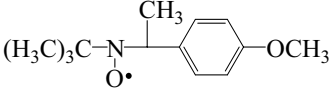
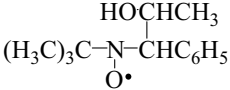
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
$[C_{12}H_{19}N_2O]$ $(H_3C)_3C-N(\dot{O})-CH(CH_2NH_2)CHC_6H_5$	Photolysis of $(CH_3NH_2-H_2O-O_2)$ and PBN Benzene ESR / 298	N: 1.494 H_β : 0.520	90Mig1
$[C_{12}H_{19}N_2O_2]$ $(H_3C)_3C-N(\dot{O})-CH(C_2H_5)-CH(C_6H_4N\rightarrow O)$	Lipid extracts of lungs of rats instilled with crocidolite and POBN $CHCl_3$ ESR / 298 Crocidolite = Asbestos.	N: 1.58 H_β : 0.26	98Ghi1
$[C_{12}H_{19}N_2O_3]$ $(H_3C)_3C-N(\dot{O})-CH(CH(OH)CH_3)-CH(C_6H_4N\rightarrow O)$	Reaction of $H_2O_2-Cu^I$, 1- ^{13}C -Ethanol and POBN H_2O ESR / 298 Addition of KO_2 and 1- ^{13}C -ethanol to defer-oxamine mesylate, microsomal protein, NADPH and POBN Phosphate buffer, pH 7.4 ESR / 298	N: 1.57 H_β : 0.406 $^{13}C_\beta$: 0.262 N: 1.58 H_β : 0.45 $^{13}C_\beta$: 0.23	90Kne1, 93Kne1, 95Gun1, 96lim1
$[C_{12}H_{20}NO_7]$ $(H_3C)_3C-N(\dot{O})-CHCH[C(O)OCH_3]_2$	Reaction of trimethyl ethylenetricarboxylate, $(CH_3)_3CNHOH-HCl$, $N(C_4H_9)_3$ and MNP CH_2Cl_2 ESR / 298	N: 1.403 H_β : 0.230 H_γ : 0.056 $3H_e$: 0.025 $6H_\chi$: 0.025	99Ebe1
$[C_{12}H_{20}N_3O]$ $(H_3C)_3C-N(\dot{O})-CHCH(CN)C(CH_3)_3$	Exposure of fumaronitrile and MNP to daylight CH_2Cl_2 ESR / 298	N: 1.51 H_β : 0.221 H_γ : 0.025 N_γ : 0.043	98Ebe2
$[C_{12}H_{22}NO_5]$ $(H_3C)_3C-N(\dot{O})-CHCH_2C(O)OC_2H_5$	Reaction of diethyl 2,3- d_2 -fumarate, $N(C_4H_9)_3$, $(CH_3)_3CNHOH-HCl$ and MNP CH_2Cl_2 ESR / 298	N: 1.429 D_β : 0.041 H_γ : 0.057 D_γ : 0.009 $2H$: 0.028 $2H$: 0.008	99Ebe1
$[C_{12}H_{22}NO_5]$ $(H_3C)_3C-N(\dot{O})-CHCH_2C(O)OC_2H_5$	Exposure of diethyl fumarate and MNP to daylight CH_2Cl_2 ESR / 298	N: 1.45 H_β : 0.27 $2H$: 0.064 $2H$: 0.034 $2H$: 0.017	98Ebe2

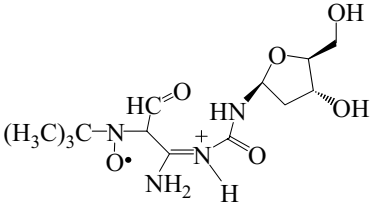
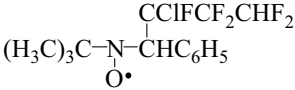
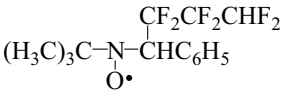
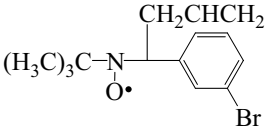
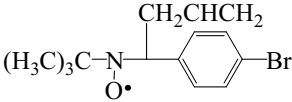
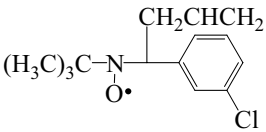
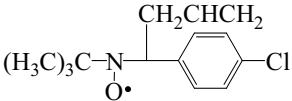
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{12}H_{24}NO_3]$ $(H_3C)_3C-N(\dot{O})-CHC(O)OCH_3$	Exposure of methyl acrylate and MNP to daylight CH_2Cl_2 ESR / 298	N: 1.45 H_β : 0.258 $2H_\gamma$: 0.060 $3H(OCH_3)$: 0.022	98Ebe2
$[C_{13}H_{15}Cl_2F_3NO]$ $(H_3C)_3C-N(\dot{O})-CHC_6H_5$	γ -Irradiation of PBN in CFC-113 ESR / 298 CFC-113 = 1,1,2-Trichloro-1,2,2-trifluoroethane.	2.0056 N: 1.378 H_β : 0.122 F_γ : 0.122	94Gil1, 94Zub1
$[C_{13}H_{16}BrN_2O]$ $(H_3C)_3C-N(\dot{O})-CHBrCN$	Reaction of HBr_2CN and (d_{14})-PBN Hexane ESR / 298	N: 1.46 H_β : 0.31 $^{13}C_\alpha$: 0.61	96San1
$[C_{13}H_{16}ClF_3NO]$ $(H_3C)_3C-N(\dot{O})-CHC_6H_5$	Reaction of halothane, Zn powder and PBN Neat halothane ESR / 298	<i>Diastereomer I</i> N: 1.47 H_β : 0.198 $^{13}C_\beta$: 0.418 H_γ : 0.078 $3F_8$: 0.061 <i>Diastereomer II</i> N: 1.459 H_β : 0.242 $^{13}C_\beta$: 0.337 H_γ : 0.038 $3F_8$: 0.030	92Kne1
$[C_{13}H_{16}ClN_2O]$ $(H_3C)_3C-N(\dot{O})-CHClCN$	Reaction of $CHCl_2CN$ and (d_{14})-PBN Hexane ESR / 298	N: 1.49 $^{13}C_\alpha$: 0.57 H_β : 0.35	96San1
$[C_{13}H_{16}Cl_2NO]$ $(H_3C)_3C-N(\dot{O})-CHC_6H_5$	γ -Irradiation (1 kGy) of trichloroethylene and PBN Neat trichloroethylene ESR / 298	N: 1.45 H_β : 0.32	97Car1
$[C_{13}H_{17}F_3NO]$ $(H_3C)_3C-N(\dot{O})-CH(CH_3)-C_6H_4-CF_3$	Photolysis of 4- CF_3 -styrene, $(C_2H_5)_3N$ and MNP Benzene ESR / 298	2.0070 N: 1.465 H_β : 0.320 $3H_\gamma$: 0.060 $2H_o$: 0.060 $9H_\gamma$: 0.009	97Lin1

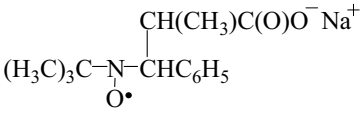
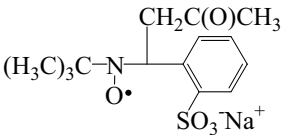
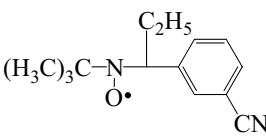
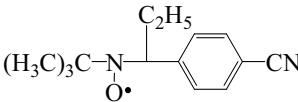
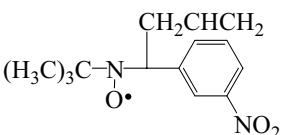
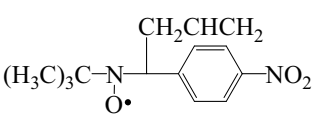
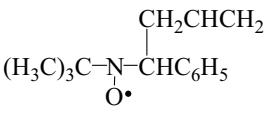
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[\text{C}_{13}\text{H}_{17}\text{NO}_3^-\text{Na}^+]$ 	Reaction of PBN and sodium acetate H_2O - NaOH (0.2 M) ESR / 298	N: 1.56 H_β : 0.403	95Lag1
$[\text{C}_{13}\text{H}_{17}\text{NO}_4^-\text{Li}^+]$ 	Synthesis described Phosphate buffer, pH 7.4 ESR / 298	N: 1.60 H_β : 0.49	89Kea1
$[\text{C}_{13}\text{H}_{17}\text{NO}_5\text{S}^-\text{Na}^+]$ 	Photolysis ($\lambda \geq 380$ nm) of acetaldehyde, SPBN, and $\text{K}_2\text{PdCl}_6^a$ 50% aqueous solution ESR / 298	N: 1.53 H_β : 0.60	90Fad1
^a The same with K_2IrCl_6 .			
$[\text{C}_{13}\text{H}_{17}\text{NO}_6\text{S}^-\text{Na}^+]$ 	Photolysis ($\lambda \geq 380$ nm) of acetic acid, K_2IrCl_6 and SPBN 50% aqueous solution ESR / 298	N: 1.51 H_β : 0.61	93Fad1
$[\text{C}_{13}\text{H}_{17}\text{N}_2\text{O}]$ 	Photolysis of K_2IrCl_6 , 18-crown-6 ether and PBN ESR / 298	N: 1.38 H_β : 0.39	93Fad1
$[\text{C}_{13}\text{H}_{17}\text{N}_2\text{O}]$ 	Reaction of CH_2BrCN and ^{13}C -(d_{14})-PBN Hexane ESR / 298	N: 1.48 H_β : 0.40 $^{13}\text{C}_\alpha$: 0.58 $2H_\gamma$: 0.06	96San1
	Reaction of CH_3MgBr with <i>m</i> CN-PBN Benzene ESR / 298	2.0067 N: 1.474 H_β : 0.325	93Pan1
$[\text{C}_{13}\text{H}_{18}\text{ClFNO}]$ 	γ -Irradiation of PBN in CFC-141b ESR / 298	2.0056 N: 1.388 H_β : 0.125 F_γ : 0.125	94Gil1
CFC-141b = CFCl_2CH_3 .			

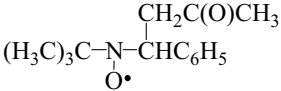
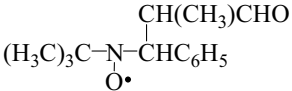
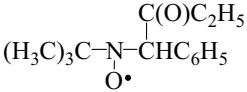
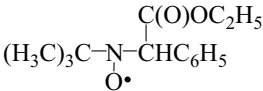
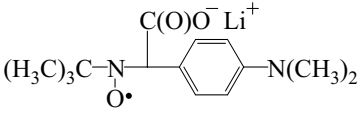
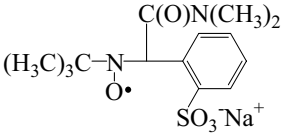
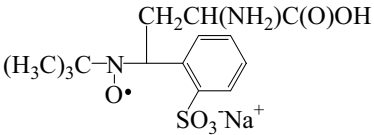
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{13}H_{18}Cl_2NO]$ $(H_3C)_3C-N(\dot{O})-CH(Cl)CH_2Cl$	γ -Irradiation (1 kGy) of PBN in trichloroethylene ESR / 298	N: 1.54 H_β : 0.43	97Car1
$[C_{13}H_{18}Cl_2NO]$ $(H_3C)_3C-N(\dot{O})-CH(CH_2CHCl_2)CH_2Cl$	γ -Irradiation (1 kGy) of PBN in trichloroethylene ESR / 298	N: 1.61 H_β : 0.325	97Car1
$[C_{13}H_{18}Cl_2NO]$ $(H_3C)_3C-N(\dot{O})-CH(CHCl_2)CH_2CH_3$	Reaction of 1,1,1-trichloroethane, LPO, veratryl alcohol, H_2O_2 and PBN ESR / 298	N: 1.33 H_β : 0.17	95Khl1
$[C_{13}H_{18}NO]$ $(H_3C)_3C-N(\dot{O})-CH=CHCH_2CH_3$	Reaction of vinylmagnesium bromide and ^{13}C -PBN in H_2O and addition of PbO_2 (or O_2) Toluene ESR / 298 ENDOR / 200	N: 1.485 H_β : 0.268 $^{13}C_\alpha$: 0.531 H_γ : 0.085 H_δ : 0.040 H_δ : 0.014	88Hai1, 94Hai1
$[C_{13}H_{18}NO_2]$ $(H_3C)_3C-N(\dot{O})-CH(CH_2CHO)CH_2CH_3$	Photolysis of CH_3CHO , K_2PdCl_6 , 18-crown-6 ether and PBN Neat acetaldehyde ESR / 298	N: 1.48 H_β : 0.34	90Fad1
$[C_{13}H_{18}NO_2]$ $(H_3C)_3C-N(\dot{O})-CH(C(O)CH_3)CH_2CH_3$	Photolysis of CH_3CHO , BOOB or TiO_2 and PBN Benzene ESR / 298	N: 1.428 H_β : 0.335	95Jan1, 97Jen1
$[C_{13}H_{18}NO_3]$ $(H_3C)_3C-N(\dot{O})-CH(CH_2C(O)OH)CH_2CH_3$	Photolysis of K_2IrCl_6 , 18-crown-6 ether, acetic acid and PBN ESR / 298	N: 1.42 H_β : 0.32	93Fad1
$[C_{13}H_{18}N_2O_6S^-Na^+]$ $(H_3C)_3C-N(\dot{O})-CH(H_2NCHC(O)OH)-C_6H_4SO_3^-Na^+$	Photolysis of K_2IrCl_6 , $CH_2(NH_2)C(O)OH$ and SPBN 50% aqueous solution ESR / 298	N: 1.52 H_β : 0.60	93Fad1

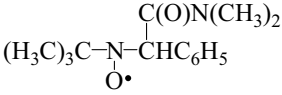
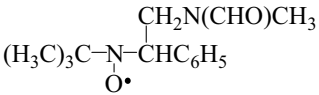
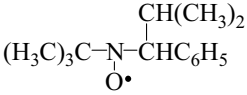
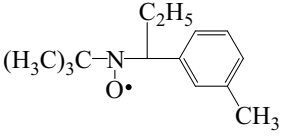
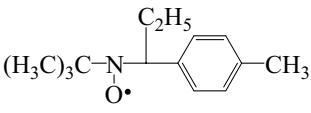
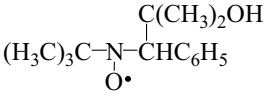
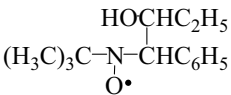
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
$[C_{13}H_{19}BrNO]$ 	Reaction of C_2H_5MgBr with <i>m</i> Br-PBN Benzene ESR / 298	2.0057 N: 1.457 H_β : 0.305	93Pan1
$[C_{13}H_{19}BrNO]$ 	Reaction of C_2H_5MgBr with <i>p</i> Br-PBN Benzene ESR / 298	2.0062 N: 1.458 H_β : 0.307	93Pan1
$[C_{13}H_{19}ClNO]$ 	Reaction of C_2H_5MgBr with <i>m</i> Cl-PBN Benzene ESR / 298	2.0058 N: 1.458 H_β : 0.304	93Pan1
$[C_{13}H_{19}ClNO]$ 	Reaction of C_2H_5MgBr with <i>p</i> Cl-PBN Benzene ESR / 298	2.0063 N: 1.458 H_β : 0.310	93Pan1
$[C_{13}H_{19}N_2O_2]$ 	Photolysis of BOOB, HC(O)NHCH ₃ and PBN Benzene ESR / 298	N: 1.484 H_β : 0.271 N_γ : 0.065	95Jan1
$[C_{13}H_{19}N_2O_3]$ 	Reaction of C_2H_5MgBr with <i>m</i> NO ₂ PBN Benzene ESR / 298	2.0057 N: 1.450 H_β : 0.280	93Pan1
$[C_{13}H_{19}N_2O_3]$ 	Reaction of C_2H_5MgBr with <i>p</i> NO ₂ PBN Benzene ESR / 298	2.0060 N: 1.448 H_β : 0.295	93Pan1
$[C_{13}H_{20}NO]$ 	Reaction of CH_3MgBr with <i>m</i> CH ₃ -PBN Photolysis of 3-CH ₃ -styrene, TEA and MNP Benzene ESR / 298 TEA = Triethyl amine.	2.0067 N: 1.481 H_β : 0.362 $3H_\gamma$: 0.061 $2H_\delta$: 0.060 H_p : 0.010 $9H_\gamma$: 0.009	93Pan1, 97Lin1

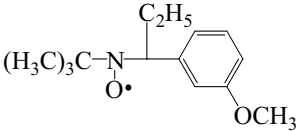
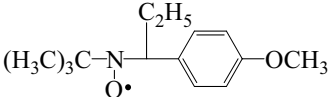
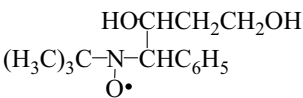
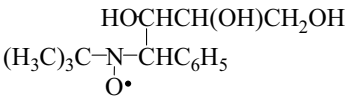
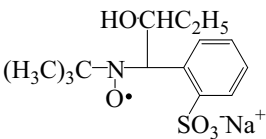
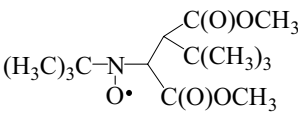
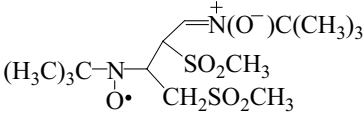
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{13}H_{20}NO]$ 	Reaction of CH_3MgBr with pCH_3 -PBN Photolysis of 4- CH_3 -styrene, TEA and MNP Benzene ESR / 298 TEA = Triethyl amine.	2.0067 N: 1.483 H_β : 0.358 $3H_\gamma$: 0.060 $2H_\delta$: 0.060 $9H_\gamma$: 0.008	93Pan1, 97Lin1
$[C_{13}H_{20}NO]$ 	Reaction of C_2H_5MgBr with PBN Photolysis of PBN and $C_2H_5C(O)OOH$ Decomposition of N -acyloxypyridine-2-thione + PBN Benzene ESR / 298	2.0065 N: 1.460 H_β : 0.325	91Abe1, 91Mig1, 93Pan1, 96San2
$[C_{13}H_{20}NO_2]$ 	Reaction of CH_3MgBr with mCH_3O -PBN Photolysis of mCH_3O -styrene, TEA and MNP Benzene ESR / 298	2.0061 N: 1.472 H_β : 0.365 $3H_\gamma$: 0.060 $2H_\delta$: 0.060 H_p : 0.011 $9H_\gamma$: 0.009	93Pan1, 97Lin1
$[C_{13}H_{20}NO_2]$ 	Reaction of CH_3MgBr with pCH_3O -PBN Photolysis of p - CH_3O -styrene, TEA and MNP Benzene ESR / 298	2.0068 N: 1.489 H_β : 0.351 $3H_\gamma$: 0.059 $2H_\delta$: 0.059 $9H_\gamma$: 0.010	93Pan1, 97Lin1
$[C_{13}H_{20}NO_2]$ 	Photolysis of C_2H_5OH , BOOB and ^{13}C -PBN ESR / ENDOR Toluene / 300 Toluene / 200	2.0058 ₃ <i>Diastereomer I</i> N: 1.516 H_β : 0.45 <i>Diastereomer II</i> N: 1.51 H_β : 0.51 <i>Diastereomer I</i> N: 1.528 H_β : 0.533 <i>Diastereomer II</i> N: 1.528 H_β : 0.641	88Hai2
(continued)			

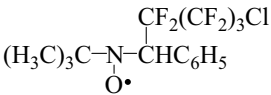
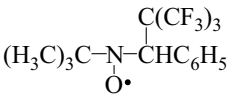
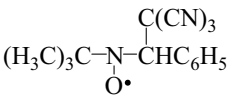
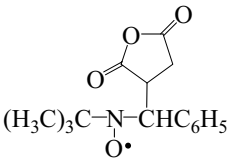
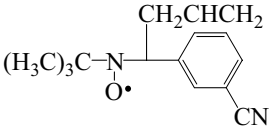
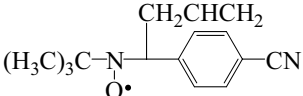
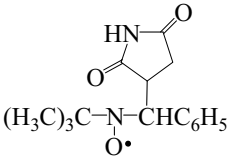
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[\text{C}_{13}\text{H}_{24}\text{N}_4\text{O}_6]^+$ 	Photolysis of 2'-deoxycytosine, $\text{K}_2\text{S}_2\text{O}_8$ and MNP D_2O , $\text{pD} < 4$ ESR / 298	<i>Conformer I</i> N : 1.46 H_β : 0.42 H_γ : < 0.005 <i>Conformer II</i> N : 1.46 H_β : 0.42 H_γ : 0.09 Relative intensity of conformers $I : II = 0.5 : 1$.	95Hil1
$[\text{C}_{14}\text{H}_{16}\text{ClF}_5\text{NO}]$ $\text{CClF}_2\text{CF}_2\text{CHF}_2$ 	γ -Irradiation of PBN in CFC-226 ESR / 298	2.0056^a N : 1.378 H_β : 0.185 F_γ : 0.119 CFC-226 = $\text{CHF}_2\text{CF}_2\text{CF}_2\text{Cl}$. ^a Dubious identification: might be $[\text{C}_{14}\text{H}_{16}\text{F}_6\text{NO}]$.	94Gil1
$[\text{C}_{14}\text{H}_{16}\text{F}_6\text{NO}]$ $\text{CF}_2\text{CF}_2\text{CHF}_2$ 	γ -Irradiation of PBN in CFC-226 ESR / 298	2.0056 N : 1.378 H_β : 0.185 F_γ : 0.119 ^a Dubious identification: might be $[\text{C}_{14}\text{H}_{16}\text{ClF}_5\text{NO}]$.	94Gil1
$[\text{C}_{14}\text{H}_{19}\text{BrNO}]$ 	Reaction of allylmagnesium bromide with <i>m</i> Br-PBN Benzene ESR / 298	2.0065 N : 1.450 H_β : 0.290	93Pan1
$[\text{C}_{14}\text{H}_{19}\text{BrNO}]$ 	Reaction of allylmagnesium bromide with <i>p</i> Br-PBN Benzene ESR / 298	2.0062 N : 1.458 H_β : 0.300	93Pan1
$[\text{C}_{14}\text{H}_{19}\text{ClNO}]$ 	Reaction of allylmagnesium bromide with <i>m</i> Cl-PBN Benzene ESR / 298	2.0062 N : 1.452 H_β : 0.290	93Pan1
$[\text{C}_{14}\text{H}_{19}\text{ClNO}]$ 	Reaction of allylmagnesium bromide with <i>p</i> Cl-PBN Benzene ESR / 298	2.0065 N : 1.456 H_β : 0.286	93Pan1

Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
$[C_{14}H_{19}NO_3^- Na^+]$ 	Thermal reaction of sodium propionate and PBN Aqueous NaOH (0.1 M) ESR / 298 Heated at 363 K for 30 s.	N: 1.56 H _β : 0.403	95Lag1
$[C_{14}H_{19}NO_5S^- Na^+]$ 	Photolysis of acetone, Na ₂ PdCl ₆ and SPBN 50% aqueous solution ESR / 298 The same with Na ₂ IrCl ₆ .	N: 1.50 H _β : 0.60	90Fad1
$[C_{14}H_{19}N_2O]$ 	Reaction of C ₂ H ₅ MgBr with <i>m</i> CN-PBN Benzene ESR / 298	2.0057 N: 1.450 H _β : 0.280	93Pan1
$[C_{14}H_{19}N_2O]$ 	Reaction of C ₂ H ₅ MgBr with <i>p</i> CN-PBN Benzene ESR / 298	2.0060 N: 1.448 H _β : 0.295	93Pan1
$[C_{14}H_{19}N_2O_3]$ 	Reaction of allylmagnesium bromide with <i>m</i> NO ₂ -PBN Benzene ESR / 298	2.0061 N: 1.453 H _β : 0.313	93Pan1
$[C_{14}H_{19}N_2O_3]$ 	Reaction of allylmagnesium bromide with <i>p</i> NO ₂ -PBN Benzene ESR / 298	2.0062 N: 1.463 H _β : 0.308	93Pan1
$[C_{14}H_{20}NO]$ 	Reaction of allylmagnesium bromide with ¹³ C-PBN in H ₂ O and addition of PbO ₂ (or O ₂) Toluene ESR / 298	N: 1.464 H _β : 0.327 ¹³ C _α : 0.538	88Hai1

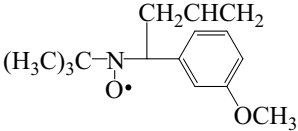
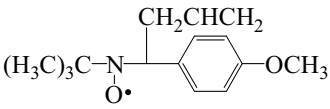
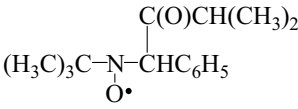
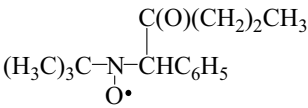
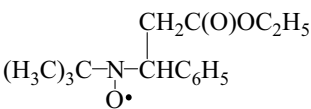
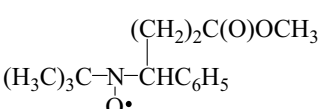
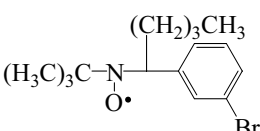
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{14}H_{20}NO_2]$ 	Photolysis of acetone, Na_2PdCl_6 , 18-crown-6 ether and PBN Acetone ESR / 298 The same with Na_2IrCl_6 .	N: 1.38 H_β : 0.32	90Fad1
$[C_{14}H_{20}NO_2]$ 	Photolysis of C_2H_5CHO Na_2PdCl_6 , 18-crown-6 ether and PBN Neat aldehyde ESR / 298 The same with Na_2IrCl_6 .	N: 1.39 H_β : 0.32	90Fad1
$[C_{14}H_{20}NO_2]$ 	Photolysis of C_2H_5CHO BOOB and ^{13}C -PBN or ^{15}N -PBN Benzene ESR / 298	N: 1.437 [^{15}N :2.009] H_β : 0.330 $^{13}C_\alpha$: 0.538	88Hai1, 95Jan1, 96Zha1
$[C_{14}H_{20}NO_3]$ 	Photolysis of ethyl formate, BOOB and PBN Benzene ESR / 298	N: 1.458 H_β : 0.310	95Jan1
$[C_{14}H_{20}N_2O_3 Li^+]$ 	Synthesis from n -BuLi and p -dimethylamino phenylacetic acid Phosphate buffer, pH 7.4 ESR / 298	N: 1.55 H_β : 0.40	89Kea1
$[C_{14}H_{20}N_2O_5 S^- Na^+]$ 	Photolysis of dimethylformamide, K_2IrCl_6 and SPBN 50% aqueous solution ESR / 298	N: 1.51 H_β : 0.61	93Fad1
$[C_{14}H_{20}N_2O_6 S^- Na^+]$ 	Photolysis of 2-amino-propionic acid, K_2IrCl_6 and SPBN 50% aqueous solution ESR / 298	N: 1.50 H_β : 0.62	93Fad1

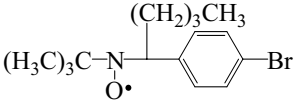
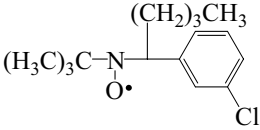
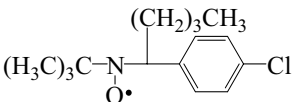
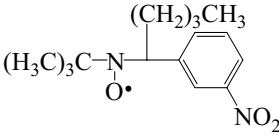
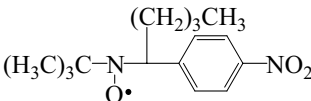
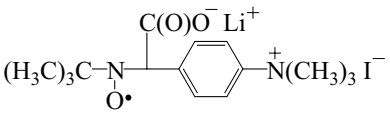
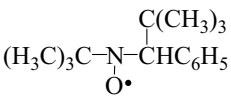
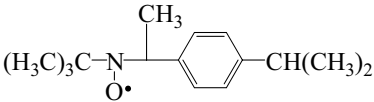
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
$[C_{14}H_{21}N_2O_2]$ 	Photolysis of dimethylformamide, K_2IrCl_6 , 18-crown-6 ether and PBN Photolysis of dimethylformamide, BOOB and PBN ESR / 298 Neat $HC(O)N(CH_3)_2$ Benzene	N: 1.40 H_β : 0.38 N: 1.50 H_β : 0.589	93Fad1, 95Jan1
$[C_{14}H_{21}N_2O_2]$ 	Photolysis of DMF, BOOB and PBN Benzene ESR / 298	N: 1.454 H_β : 0.258	95Jan1
$[C_{14}H_{22}NO]$ 	Reaction of ^{13}C -PBN with $(CH_3)_2CHMgBr$ Benzene ESR / 298	N: 1.467 H_β : 0.259 $^{13}C_\alpha$: 0.530	88Hai1
$[C_{14}H_{22}NO]$ 	Reaction of C_2H_5MgBr with <i>m</i> CH_3 -PBN Benzene ESR / 298	2.0056 N: 1.463 H_β : 0.339	93Pan1
$[C_{14}H_{22}NO]$ 	Reaction of C_2H_5MgBr with <i>p</i> CH_3 -PBN Benzene ESR / 298	2.0059 N: 1.460 H_β : 0.340	93Pan1
$[C_{14}H_{22}NO_2]$ 	Photolysis of <i>i</i> -propanol, K_2PdCl_6 , 18-crown-6 ether and ^{15}N -PBN ESR / 298	N: 1.543 H_β : 0.355 $[^{15}N: 2.248]$	89Fad1, 96Zha1
$[C_{14}H_{22}NO_2]$ 	Photolysis of <i>n</i> -propanol K_2PdCl_6 , 18-crown-6 ether and PBN ESR / 298	N: 1.526 H_β : 0.342 $[^{15}N: 2.258]$	89Fad1, 96Zha1

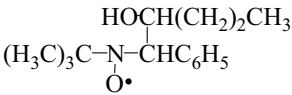
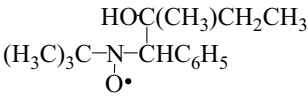
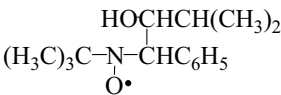
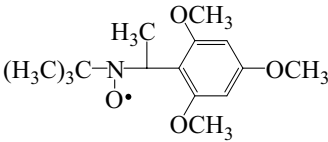
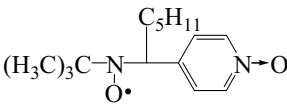
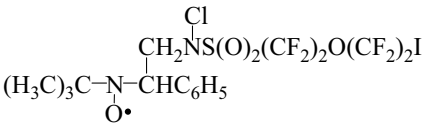
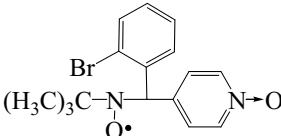
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{14}H_{22}NO_2]$ 	Reaction of C_2H_5MgBr with mH_3CO -PBN Benzene ESR / 298	2.0059 N: 1.463 H_β : 0.341	93Pan1
$[C_{14}H_{22}NO_2]$ 	Reaction of C_2H_5MgBr with pH_3CO -PBN Benzene ESR / 298	2.0065 N: 1.475 H_β : 0.325	93Pan1
$[C_{14}H_{22}NO_3]$ 	Photolysis of 1,3-propanediol, uranyl nitrate and PBN ESR / 298	N: 1.58 H_β : 0.35	89Fad2
$[C_{14}H_{22}NO_4]$ 	Photolysis of glycerine, uranyl nitrate and PBN ESR / 298	N: 1.56 H_β : 0.34	89Fad2
$[C_{14}H_{22}NO_5S^-Na^+]$ 	Photolysis ($\lambda > 380$ nm) of n -propanol, K_2PtCl_6 and SPBN 50% aqueous solution ESR / 298	N: 1.506 H_β : 0.360	89Fad1
$[C_{14}H_{26}NO_5]$ 	Exposure of dimethyl fumarate and MNP to daylight CH_2Cl_2 ESR / 298	N: 1.46 H_β : 0.276 H_γ : 0.066 6H: 0.023	98Ebe2
$[C_{14}H_{29}N_2O_6S_2]$ 	Oxidation of BHAMSE with PbO_2 $CHCl_3$ ESR / 298	N: 1.26 H_β : < 0.1	89Aur1
BHAMSE = 2-(<i>N-tert</i> -Butylhydroxyamino)-1-(methylsulfonyl)-ethane.			

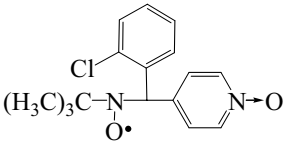
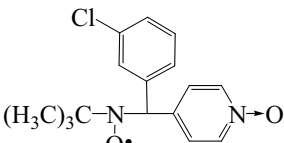
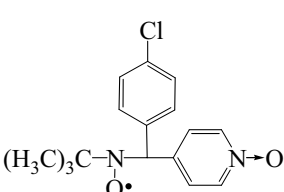
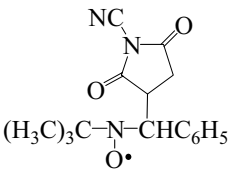
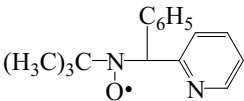
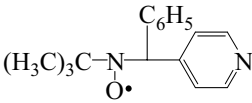
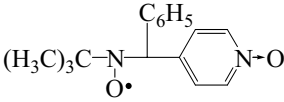
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{15}H_{15}ClF_8NO]$ 	Reaction of ClC_4F_8I with $Pd(PPh_3)_4$ (or with SmI_2) and PBN F113 ESR / 293 F113 = 1,1,2-trichloro-1,2,2-trifluoroethane.	N: 1.40	88Che1, 90Ma1, 00Jul1
$[C_{15}H_{15}F_9NO]$ 	γ -Irradiation of PBN in CFC-227 Neat fluorohydrocarbon ESR / 298 CFC-227 = CF_3CHFCF_3 .	2.0056 N: 1.306 H_β : 0.15	94Gil1
$[C_{15}H_{15}N_4O]$ 	Photolysis of $(CN)_3CH$, TBPA and PBN Photolysis of $(CN)_3C^-K^+$ chloranil and PBN ACN ESR / 243–295 TBPA = Tris(4-bromophenyl)aminium hexachloroantimonate.	N: 1.45 H_β : 0.64	98Ebe3
$[C_{15}H_{18}NO_4]$ 	Exposure of maleic anhydride and PBN to daylight CH_2Cl_2 ESR / 293	N: 1.46 H_β : 0.809 H_γ : 0.062 [D_β : ~0]	98Ebe2
$[C_{15}H_{19}N_2O]$ 	Reaction of allylmagnesium bromide with <i>m</i> CN-PBN Benzene ESR / 298	2.0066 N: 1.450 H_β : 0.293	93Pan1
$[C_{15}H_{19}N_2O]$ 	Reaction of allylmagnesium bromide with <i>p</i> CN-PBN Benzene ESR / 298	2.0061 N: 1.453 H_β : 0.341	93Pan1
$[C_{15}H_{19}N_2O_3]$ 	Exposure of maleimide and PBN to daylight CH_2Cl_2 ESR / 298	N: 1.45 H_β : 0.68 H_γ : 0.070 [D_β : ~0]	98Ebe2

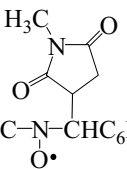
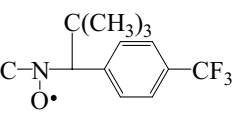
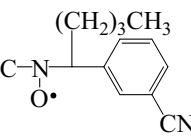
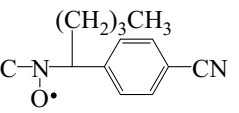
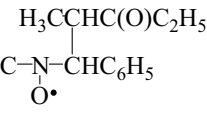
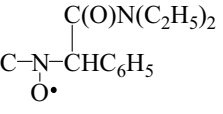
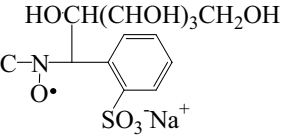
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{15}H_{20}F_2NO_3]$ $(H_3C)_3C-N(\dot{O})-CH(CF_2C(O)OC_2H_5)CH_2C_6H_5$	Reaction of ethyl iodo-difluoroacetate with $Zn \cdot NiCl_2 \cdot 6H_2O$ and PBN ESR / 298 Benzene CH_2Cl_2 THF Methanol	2.0058 N: 1.49 H_β : 0.65 F_γ : 0.08 2.0055 N: 1.50 H_β : 0.64 F_γ : 0.08 2.0041 N: 1.49 H_β : 0.65 2.0053 N: 1.55 H_β : 0.725	00Jul1
$[C_{15}H_{21}F_3NO]$ $(H_3C)_3C-N(\dot{O})-CH(CH(CH_3)_2)-CH_2-C_6H_4-CF_3$	Synthesis by reaction of $pCF_3-C_6H_4MgBr$ with N - <i>tert</i> -butyl- α -isopropyl nitron Benzene ESR / 298	N: 1.524 ₉ H_β : 0.263 ₉	99Ben1
$[C_{15}H_{21}N_2O]$ $(H_3C)_3C-N(\dot{O})-CH(C(CH_3)_2CN)CH_2C_6H_5$	Thermal reaction of AIBN and ^{13}C -PBN Benzene ESR / 298	N: 1.428 H_β : 0.329 $^{13}C_\alpha$: 0.578	88Hai1
$[C_{15}H_{22}NO]$ $(H_3C)_3C-N(\dot{O})-CH(CH_2CHCH_2)-CH_2-C_6H_4-CH_3$	Reaction of allylmagnesium bromide with mCH_3 -PBN Benzene ESR / 298	2.0066 N: 1.463 H_β : 0.331	93Pan1
$[C_{15}H_{22}NO]$ $(H_3C)_3C-N(\dot{O})-CH(CH_2CHCH_2)-CH_2-C_6H_4-CH_3$	Reaction of allylmagnesium bromide with pCH_3 -PBN Benzene ESR / 298	2.0059 N: 1.464 H_β : 0.312	93Pan1
$[C_{15}H_{22}NO_2]$ $(H_3C)_3C-N(\dot{O})-CH(CH_3CCH(O)CH_3)CH_2C_6H_5$	Photolysis of methyl ethyl ketone, K_2PdCl_6 , 18-crown-6 ether and PBN Neat ketone ESR / 298	N: 1.42 H_β : 0.35	90Fad1

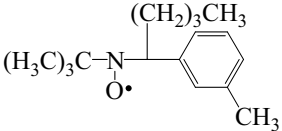
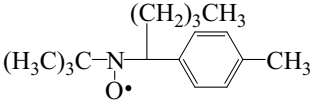
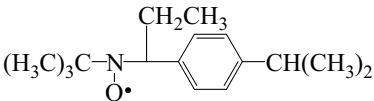
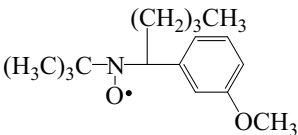
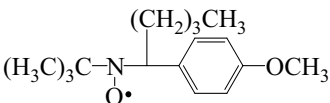
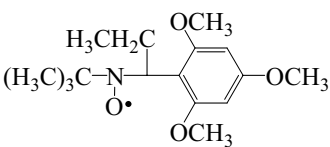
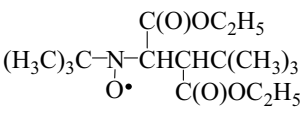
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
$[C_{15}H_{22}NO_2]$ 	Reaction of allylmagnesium bromide with <i>m</i> H ₃ CO-PBN Benzene ESR / 298	2.0067 N: 1.462 H _β : 0.325	93Pan1
$[C_{15}H_{22}NO_2]$ 	Reaction of allylmagnesium bromide with <i>p</i> H ₃ CO-PBN Benzene ESR / 298	2.0064 N: 1.470 H _β : 0.313	93Pan1
$[C_{15}H_{22}NO_2]$ 	Photolysis of isobutyrric aldehyde, BOOB and PBN Benzene ESR / 298	N: 1.435 H _β : 0.39	95Jan1
$[C_{15}H_{22}NO_2]$ 	Photolysis of butyrric aldehyde, BOOB and PBN Benzene ESR / 298	N: 1.432 H _β : 0.321	95Jan1
$[C_{15}H_{22}NO_3]$ 	Thermal reaction (328K) of ethyl bromoacetate with Zn and PBN ESR / 298 THF Benzene	2.0069 N: 1.432 H _β : 0.321 2.0055 N: 1.525 H _β : 0.46	97Din1 00Jul1
$[C_{15}H_{22}NO_3]$ 	Exposure of methyl acrylate and PBN to daylight Neat methyl acrylate ESR / 298	N: 1.47 H _β : 0.35	98Ebe2
$[C_{15}H_{23}BrNO]$ 	Reaction of C ₄ H ₉ MgBr with <i>m</i> Br-PBN Benzene ESR / 298	2.0063 N: 1.460 H _β : 0.298	93Pan1

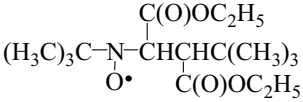
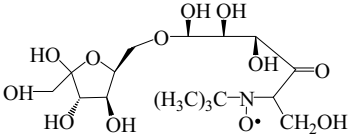
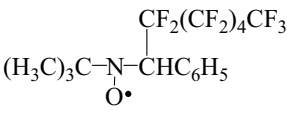
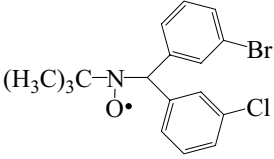
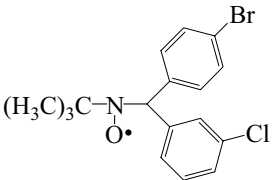
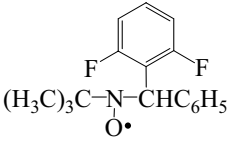
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{15}H_{23}BrNO]$ 	Reaction of C_4H_9MgBr with pBr -PBN Benzene ESR / 298	2.0066 N: 1.462 H_β : 0.298	93Pan1
$[C_{15}H_{23}ClNO]$ 	Reaction of C_4H_9MgBr with mCl -PBN Benzene ESR / 298	2.0064 N: 1.460 H_β : 0.297	93Pan1
$[C_{15}H_{23}ClNO]$ 	Reaction of C_4H_9MgBr with pCl -PBN Benzene ESR / 298	2.0064 N: 1.461 H_β : 0.302	93Pan1
$[C_{15}H_{23}N_2O_3]$ 	Reaction of C_4H_9MgBr with mNO_2 -PBN Benzene ESR / 298	2.0065 N: 1.448 H_β : 0.265	93Pan1
$[C_{15}H_{23}N_2O_3]$ 	Reaction of C_4H_9MgBr with pNO_2 -PBN Benzene ESR / 298	2.0069 N: 1.450 H_β : 0.284	93Pan1
$[C_{15}H_{23}N_2O_3Li]$ 	Synthesis described Phosphate buffer, pH 7.4 ESR / 298	N: 1.55 H_β : 0.40	89Kea1
$[C_{15}H_{24}NO]$ 	Thermal- or photoreaction of azo- <i>tert</i> -butane and ^{13}C -PBN Benzene ESR / 298	N: 1.466 H_β : 0.232 $^{13}C_\alpha$: 0.549	88Hai1
$[C_{15}H_{24}NO]$ 	Reaction of CH_3MgBr with $p(CH_3)_2CH$ -PBN Photolysis of $(C_2H_5)_3N$, $p(CH_3)_2CH$ -styrene and MNP Benzene ESR / 298	2.0059 N: 1.482 H_β : 0.352 $3H_\gamma$: 0.058 $2H_\delta$: 0.058 $9H_\gamma$: 0.009	93Pan1, 97Lin1

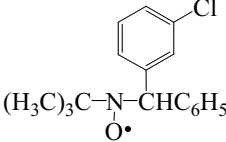
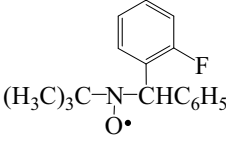
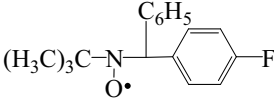
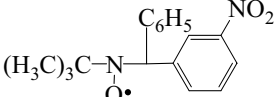
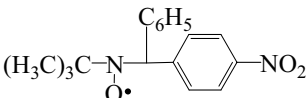
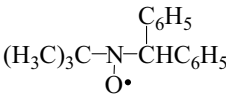
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
$[C_{15}H_{24}NO_2]$ 	Photolysis ($\lambda \geq 380$ nm) of 1-butanol, K_2IrCl_6 , 18-crown-6 ether and PBN Neat 1-Butanol ESR / 293	N: 1.526 H_β : 0.355	89Fad1
$[C_{15}H_{24}NO_2]$ 	Photolysis ($\lambda \geq 380$ nm) of 2-butanol, K_2IrCl_6 , 18-crown-6 ether and PBN Neat 2-Butanol ESR / 293 The same with K_2PdCl_6 or K_2PtCl_6 .	N: 1.553 H_β : 0.344	89Fad1
$[C_{15}H_{24}NO_2]$ 	Photolysis ($\lambda \geq 380$ nm) of 2-methyl-1-propanol, K_2PdCl_6 (K_2PtCl_6) 18-crown-6 ether and PBN Neat Butanol ESR / 293	N: 1.526 H_β : 0.342	89Fad1
$[C_{15}H_{24}NO_4]$ 	Synthesis by reaction of 2,4,6-(OCH_3) ₃ -PBN and CH_3MgBr $H_2O + \gamma$ -CD ESR / 298 Association constant $K_a = 150\ M^{-1}$. ^a <i>tert</i> -Butyl group in.	<i>Free radical</i> N: 1.677 H_β : 1.361 <i>CD-Included radical^a</i> N: 1.672 H_β : 1.672	89Kot2
$[C_{15}H_{25}N_2O_2]$ 	Reaction of arachidonic or linoleic acid, lipoxygenase and POBN Borate buffer ESR / 298	N: 1.575 H_β : 0.264	98Ghi1, 98Kad1, 99Zho1
$[C_{16}H_{17}ClF_8N_2O_4S]$ 	Spontaneous reaction of $R_FSO_2NCl_2$ with styrene and MNP CH_2Cl_2 ESR / 298	2.0052 N: 1.518 H_β : 0.304	94Zhu1
$[C_{16}H_{18}BrN_2O_2]$ 	Reaction of $CuCl_2$ with <i>o</i> -Br- $C_6H_4NHNH_2$ and POBN Carbonate buffer, pH 10 ESR / 298	N: 1.52 H_β : 0.43	92Iwa

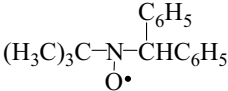
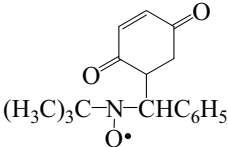
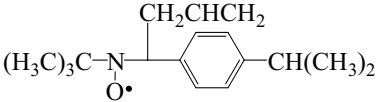
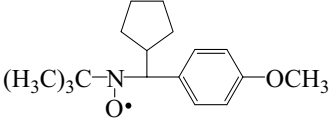
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
<p>[C₁₆H₁₈ClN₂O₂]</p> 	Reaction of CuCl ₂ with <i>o</i> -Cl-C ₆ H ₄ NHNH ₂ and POBN Carbonate buffer, pH 10 ESR / 298	N: 1.53 H _β : 0.42	92Iwa
<p>[C₁₆H₁₈ClN₂O₂]</p> 	Reaction of CuCl ₂ with <i>m</i> -Cl-C ₆ H ₄ NHNH ₂ and POBN Carbonate buffer, pH 10 ESR / 298	N: 1.52 H _β : 0.28	92Iwa
<p>[C₁₆H₁₈ClN₂O₂]</p> 	Reaction of CuCl ₂ with <i>p</i> -Cl-C ₆ H ₄ NHNH ₂ and POBN Carbonate buffer, pH 10 ESR / 298	N: 1.56 H _β : 0.29	92Iwa
<p>[C₁₆H₁₈N₃O₃]</p> 	Exposure of <i>N</i> -cyano-maleimide and PBN to daylight CH ₂ Cl ₂ ESR / 298	N: 1.458 H _β : 0.772 H _γ : 0.072	98Ebe2
<p>[C₁₆H₁₉N₂O]</p> 	Reaction of C ₆ H ₅ MgBr with α-2-pyridinyl butyl nitron and oxidation with MnO ₂ Diethyl ether ESR / 298	N: 1.61 H _β : 0.42	96Rez1
<p>[C₁₆H₁₉N₂O]</p> 	Reaction of C ₆ H ₅ MgBr with α-4-pyridinyl butyl nitron and oxidation with MnO ₂ Diethyl ether ESR / 298	N: 1.61 H _β : 0.36	96Rez1
<p>[C₁₆H₁₉N₂O₂]</p> 	Reaction of CuCl ₂ with C ₆ H ₅ NHNH ₂ and POBN Carbonate buffer, pH 10 ESR / 298	N: 1.54 H _β : 0.31	92Iwa

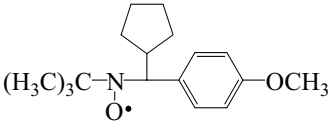
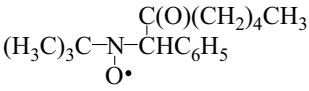
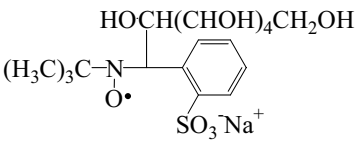
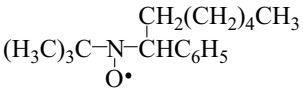
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
$[C_{16}H_{21}N_2O_3]$  $(H_3C)_3C-N(O\bullet)-CHC_6H_5$	Exposure of <i>N</i> -methylmaleimide and PBN to daylight CH ₂ Cl ₂ ESR / 298	N: 1.43 H _β : 0.66 H _γ : 0.060	98Ebe2
$[C_{16}H_{23}F_3NO]$  $(H_3C)_3C-N(O\bullet)-CH(C(CH_3)_3)-C_6H_4-CF_3$	Synthesis by reaction of <i>p</i> CF ₃ -C ₆ H ₄ MgBr with <i>N</i> - <i>tert</i> -butyl- <i>α</i> - <i>tert</i> -butyl nitron ESR / 298	N: 1.502 ₁ H _β : 0.219 ₈	99Ben1
$[C_{16}H_{23}N_2O]$  $(H_3C)_3C-N(O\bullet)-CH(CH_2)_3CH_3-C_6H_4-CN$	Reaction of C ₄ H ₉ MgBr and <i>m</i> CN-PBN Benzene ESR / 298	2.0068 N: 1.458 H _β : 0.297	93Pan1
$[C_{15}H_{23}N_2O_3]$  $(H_3C)_3C-N(O\bullet)-CH(CH_2)_3CH_3-C_6H_4-CN$	Reaction of C ₄ H ₉ MgBr and <i>p</i> CN-PBN Benzene ESR / 298	2.0060 N: 1.455 H _β : 0.331	93Pan1
$[C_{16}H_{24}NO_2]$  $(H_3C)_3C-N(O\bullet)-CHC_6H_5$	Photolysis of diethyl ketone, K ₂ PdCl ₆ , 18-crown-6 ether and PBN Neat ketone ESR / 298	N: 1.41 H _β : 0.31	90Fad1
$[C_{16}H_{25}N_2O_2]$  $(H_3C)_3C-N(O\bullet)-CHC_6H_5$	Photolysis of diethyl formamide, BOOB and PBN Benzene ESR / 298	N: 1.451 H _β : 0.593	95Jan1
$[C_{16}H_{25}NO_9S^-Na^+]$  $(H_3C)_3C-N(O\bullet)-CH(C_6H_4SO_3^-Na^+)-CH_2OH$	Photolysis of adonitol, uranyl nitrate and SPBN 50% aqueous solution ESR / 298	2.0059 N: 1.60 H _β : 0.38	89Fad2

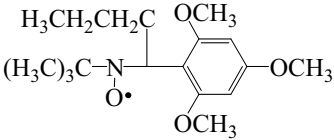
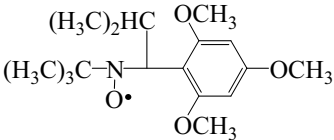
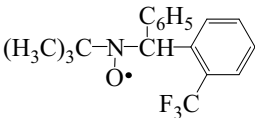
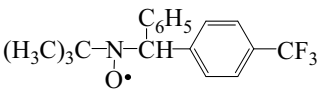
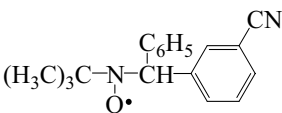
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{16}H_{26}NO]$ 	Reaction of C_4H_9MgBr with mCH_3 -PBN Benzene ESR / 298	2.0058 N: 1.463 H_β : 0.347	93Pan1
$[C_{16}H_{26}NO]$ 	Reaction of C_4H_9MgBr with pCH_3 -PBN Benzene ESR / 298	2.0066 N: 1.466 H_β : 0.340	93Pan1
$[C_{16}H_{26}NO]$ 	Reaction of C_4H_9MgBr with pC_3H_7 -PBN Benzene ESR / 298	2.0061 N: 1.462 H_β : 0.325	93Pan1
$[C_{16}H_{26}NO_2]$ 	Reaction of C_4H_9MgBr with mH_3CO -PBN Benzene ESR / 298	2.0064 N: 1.463 H_β : 0.331	93Pan1
$[C_{16}H_{26}NO_2]$ 	Reaction of C_4H_9MgBr with pH_3CO -PBN Benzene ESR / 298	2.0061 N: 1.473 H_β : 0.316	93Pan1
$[C_{16}H_{26}NO_4]$ 	Synthesis by reaction of 2,4,6-(OCH_3) ₃ -PBN and C_2H_5MgBr $H_2O + \gamma$ -CD ESR / 298	<i>Free radical</i> N: 1.658 H_β : 1.122 <i>CD-Included radical</i> N: 1.610 H_β : 1.334	89Kot2
Association constant $K_a = 150\text{ M}^{-1}$.			
$[C_{16}H_{30}NO_5]$ 	Exposure of diethyl fumarate and MNP to daylight (or photolysis) CH_2Cl_2 ESR / 298	N: 1.45 H_β : 0.269 H_γ : 0.059 4H: 0.024	98Ebe2
(continued)			

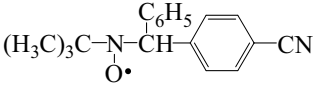
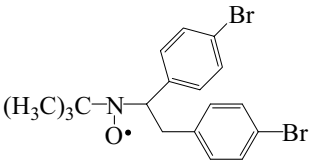
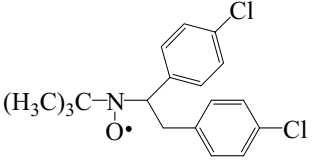
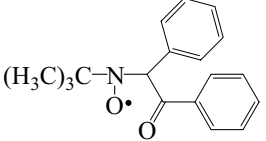
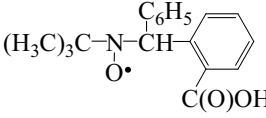
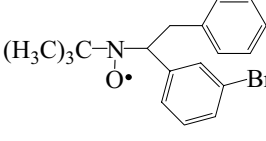
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
<p>[C₁₆H₃₀NO₅] (<i>continued</i>)</p> 	Photolysis of diethyl fumarate and MNP Neat diethyl fumarate ESR / 298	<p><i>Diastereomer I</i> 2.0061₅ N: 1.420 [15N: 1.96] H_β: 0.28 13C: 1.40 13C: 0.46 413C: 0.30</p> <p><i>Diastereomer II</i> 2.0061₇ N: 1.465 H_β: 0.235</p>	97Mas1
<p>[C₁₆H₃₀NO₁₂]</p> 	γ-Irradiation of fructans GF ₂ -GF ₅ and MNP in aqueous solution ESR / 298	N: 1.56 H _β : 0.39	92Tri1
<p>[C₁₇H₁₅F₁₃NO]</p> 	Reaction of <i>n</i> -perfluorohexyl iodide, PBN and Zn-NiCl ₂ ·6H ₂ O Benzene ESR / 298	2.0057 N: 1.45 H _β : 0.14 2F _γ : 0.09	00Jul1
<p>[C₁₇H₁₈BrClNO]</p> 	Reaction of <i>m</i> Br-PBN with CPBA Benzene ESR / <i>T</i> > 263K	2.0060 ₆ N: 1.436 H _β : 0.213	92Jan1
<p>[C₁₇H₁₈BrClNO]</p> 	Reaction of <i>p</i> Br-PBN with CPBA Benzene ESR / <i>T</i> > 263K	2.0061 ₁ N: 1.440 H _β : 0.207	92Jan1
<p>[C₁₇H₁₈BrF₂NO]</p> 	Light induced reaction of 2,6-F ₂ -PBN with PAT Benzene ESR / 298	N: 1.44 H _β : 0.44	89Sel1
PAT = Phenylazotriphenylmethane.			

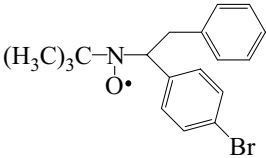
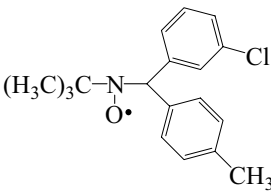
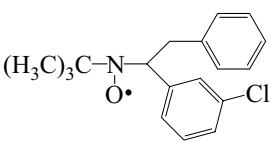
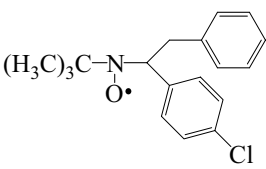
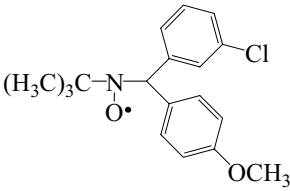
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{17}H_{19}ClNO]$ 	Reaction of <i>m</i> Cl-PBN with C_6H_5MgBr or of <i>m</i> Cl- $C_6H_4CO_3H$ with PBN Benzene ESR / 298	2.0066 N: 1.433 H_β : 0.214	92Jan1, 93Pan1, 96San2
$[C_{17}H_{19}FNO]$ 	Reaction of <i>o</i> F-PBN with PAT Benzene ESR / 298	N: 1.44 H_β : 0.26	89Sel1
PAT = Phenylazotriphenylmethane.			
$[C_{17}H_{19}FNO]$ 	Reaction of <i>p</i> F-PBN with PAT Benzene ESR / 298	N: 1.48 H_β : 0.22	89Sel1
$[C_{17}H_{19}N_2O_3]$ 	Reaction of <i>m</i> O ₂ N-PBN with C_6H_5MgBr Benzene ESR / 298	2.0062 N: 1.443 H_β : 0.213	93Pan1
$[C_{17}H_{19}N_2O_3]$ 	Reaction of <i>p</i> O ₂ N-PBN with C_6H_5MgBr Benzene ESR / 298	2.0061 N: 1.438 H_β : 0.213	93Pan1
$[C_{17}H_{20}NO]$ 	Photolysis of dibenzoyl peroxide, and ^{13}C -PBN or ^{15}N -PBN Benzene ESR / 298	2.0061 N: 1.437 H_β : 0.218 $^{13}C_\alpha$: 0.553	87Mur1, 88Hai1, 96Zha1
	Reaction of PBN and PAT Photolysis of PBN and dibenzoyl peroxide Aqu. phosphate buffer ESR / 298	2.0057 N: 1.602 H_β : 0.426 $^{13}C_\alpha$: 0.697	88Hai1, 96Zha1
(continued)	Reaction of C_6H_5Li with PBN and O_2 in benzene $H_2O + \alpha$ -, β -, γ -CD ESR / 298	Free nitroxide N: 1.590 H_β : 0.422	88Jan1, 88Kot1, 88Kot2, 89Kot1

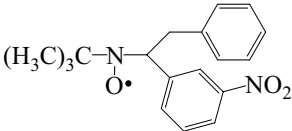
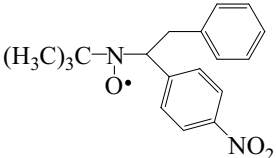
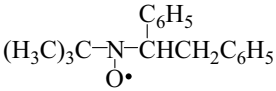
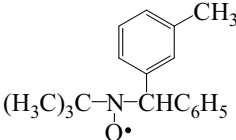
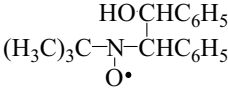
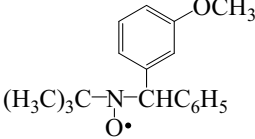
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
<p>[C₁₇H₂₀NO] (<i>continued</i>)</p> 	<p>Reaction of C₆H₅Li with PBN and O₂ in benzene H₂O + α-CD ESR / 298</p> <p>H₂O + β-CD ESR / ENDOR / 298</p> <p>H₂O / γ-CD ESR / 298</p>	<p><i>CD-Included nitroxide</i>^a N: 1.560 H_β: 0.435</p> <p><i>CD-Included nitroxide</i>^b N: 1.580 H_β: 0.318</p> <p><i>CD-included nitroxide</i>^c N: 1.541 H_β: 0.465</p> <p><i>CD-included nitroxide</i>^d N: 1.565</p> <p><i>Diastereomer I</i> H_β: 0.274</p> <p><i>Diastereomer II</i> H_β: 0.311</p> <p><i>CD-Included nitroxide</i>^e N: 1.573 H_β: 0.382</p>	<p>88Jan1, 88Kot1, 88Kot2, 89Kot1</p>
<p>^a <i>tert</i>-Butyl in; association constant <i>K</i>_a = 2.0×10 M⁻¹. ^b Phenyl in; association constant <i>K</i>_a = 1.1×10 M⁻¹. ^c <i>tert</i>-Butyl in; association constant <i>K</i>_a = 1.8×10³ M⁻¹. ^d Phenyl in; association constant <i>K</i>_a = 1.2×10³ M⁻¹. ^e Association constant <i>K</i>_a = 2.7×10² M⁻¹.</p>			
<p>[C₁₇H₂₀NO₃]</p> 	<p>Photolysis of <i>p</i>-benzoquinone and PBN CH₂Cl₂ ESR / 298</p>	<p>N: 1.46 H_β: 0.224</p>	<p>99Ebe1</p>
<p>[C₁₇H₂₆NO]</p> 	<p>Reaction of 2-propenylmagnesium bromide and <i>p</i>-(H₃C)₂CH-PBN Benzene ESR / 298</p>	<p>2.0067 N: 1.461 H_β: 0.317</p>	<p>93Pan1</p>
<p>[C₁₇H₂₆NO₂]</p>  <p>(<i>continued</i>)</p>	<p>Reaction of <i>c</i>-C₅H₉MgBr with <i>p</i>H₃CO-PBN and O₂ in benzene H₂O + β-CD ESR / ENDOR / 290</p>	<p><i>Free nitroxide</i> N: 1.60 H_β: 0.31</p>	<p>92Kot1</p>

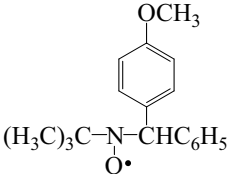
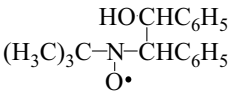
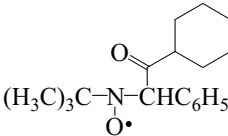
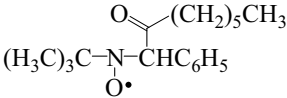
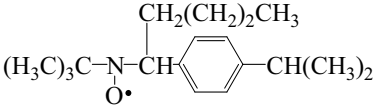
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
<p>[C₁₇H₂₆NO₂] (<i>continued</i>)</p> 	<p>Reaction of C₅H₉MgBr with <i>p</i>H₃CO-PBN and O₂ in benzene H₂O + β-CD ESR / ENDOR / 290</p>	<p><i>CD-Included nitroxide</i>^a N: 1.58 Hβ: 0.245</p> <p><i>CD-Included nitroxide</i>^b N: 1.60 Hβ: 0.393</p> <p><i>CD-Included nitroxide</i>^b N: 1.60 Hβ: 0.376</p> <p><i>CD-Included nitroxide</i>^b N: 1.60 Hβ: 0.368</p>	92Kot1
<p>^a <i>tert</i>-Butyl in; association constant $K_a \approx 1.8 \times 10^3 \text{ M}^{-1}$. ^b <i>c</i>-Pentyl in or anisyl in: of the three entries two refer to diastereomeric forms of the same complex.</p>			
<p>[C₁₇H₂₆NO₂]</p> 	<p>Photolysis of hexanal, BOOB and ¹⁵N-PBN Benzene ESR / 298</p>	<p>¹⁵N: 2.001 Hβ: 0.313</p>	96Zha1
<p>[C₁₇H₂₇NO₁₀S Na⁺]</p> 	<p>Photolysis of mannitol, uranyl nitrate and SPBN H₂O</p>	<p>2.0061 N: 1.55 Hβ: 0.38</p>	89Fad1, 89Fad2
<p>[C₁₇H₂₈NO]</p> 	<p>Reaction of C₆H₁₁MgBr with PBN and O₂ H₂O + β-CD ESR / ENDOR / 290</p>	<p><i>Free nitroxide</i> N: 1.58 Hβ: 0.32</p> <p><i>CD-Included nitroxide</i>^a N: 1.57 Hβ: 0.245</p> <p><i>CD-Included nitroxide</i>^b N: 1.58</p> <p><i>Diastereomer I</i> Hβ: 0.434</p> <p><i>Diastereomer II</i> Hβ: 0.339</p>	92Kot1
<p>^a <i>tert</i>-Butyl in. ^b Either phenyl in or <i>n</i>-hexyl in.</p>			

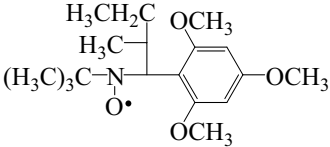
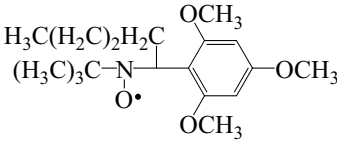
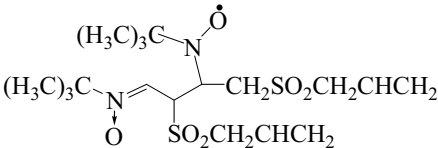
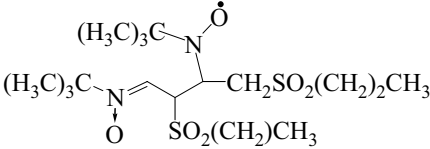
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
<p>[C₁₇H₂₈NO₄]</p> 	<p>Reaction of C₃H₇MgBr and 2,4,6-(H₃CO)₃-PBN H₂O + γ-CD ESR / 293</p>	<p><i>Free nitroxide</i> N: 1.661 H_β: 1.050 <i>CD-Included nitroxide^a</i> N: 1.608 H_β: 1.274 <i>CD-Included nitroxide^b</i> N: 1.660 H_β: 1.198</p>	89Kot2
<p>^a <i>tert</i>-Butyl in; association constant $K_a = 1.30 \times 10^2 \text{ M}^{-1}$. ^b <i>n</i>-Propyl in; association constant $K_a = 5 \times 10 \text{ M}^{-1}$.</p>			
<p>[C₁₇H₂₈NO₄]</p> 	<p>Reaction of <i>i</i>C₃H₇MgBr and 2,4,6-(H₃CO)₃-PBN H₂O + γ-CD ESR / 293</p>	<p><i>Free nitroxide</i> N: 1.632 H_β: 0.718 <i>CD-Included nitroxide^a</i> N: 1.606 H_β: 1.126 <i>CD-Included nitroxide^b</i> N: 1.615 H_β: 0.570</p>	89Kot2
<p>^a <i>tert</i>-Butyl in; association constant $K_a = 1.20 \times 10^2 \text{ M}^{-1}$. ^b <i>i</i>-Propyl in; association constant $K_a = 2 \times 10 \text{ M}^{-1}$.</p>			
<p>[C₁₈H₁₉F₃NO]</p> 	<p>Reaction of <i>o</i>F₃C-PBN with PAT Benzene ESR / 298</p>	<p>N: 1.45 H_β: 0.37</p>	89Sel1
PAT = Phenylazotriphenylmethane.			
<p>[C₁₈H₁₉F₃NO]</p> 	<p>Reaction of <i>p</i>F₃C-PBN with PAT Benzene ESR / 298</p>	<p>N: 1.47 H_β: 0.21</p>	89Sel1
<p>[C₁₈H₁₉N₂O]</p> 	<p>Reaction of <i>m</i>CN-PBN with C₆H₅MgBr Benzene ESR / 298</p>	<p>2.0063 N: 1.440 H_β: 0.211</p>	93Pan1

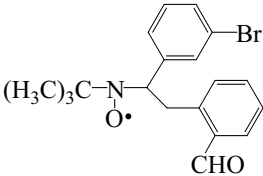
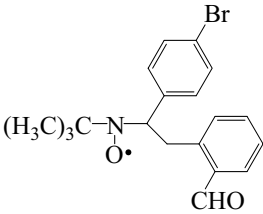
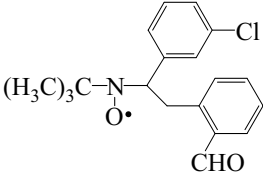
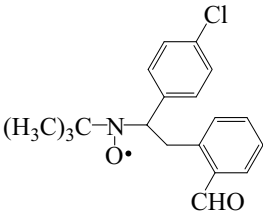
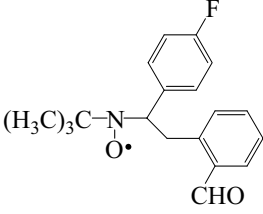
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{18}H_{19}N_2O]$ 	Reaction of p CN-PBN with C_6H_5MgBr Benzene ESR / 298	2.0065 N: 1.438 H_β : 0.220	93Pan1
$[C_{18}H_{20}Br_2NO]$ 	Photolysis of p,p' -dibromostilbene, DIPMA and MNP Benzene ESR / 298	2.0059 N: 1.442 H_β : 0.239	91Lin1
DIPMA = Diisopropylmethylamine.			
$[C_{18}H_{20}Cl_2NO]$ 	Photolysis of DIPMA, p,p' -dichlorostilbene and MNP Benzene ESR / 298	2.0059 N: 1.443 H_β : 0.240	91Lin1
$[C_{18}H_{20}NO_2]$ 	Photolysis of C_6H_5CHO , BOOB and ^{13}C -PBN or ^{15}N -PBN Benzene ESR / 298	N: 1.430 H_β : 0.454 $^{13}C_\alpha$: 0.579 $^{13}C_\beta$: 0.536 [^{15}N : 2.004]	88Hai1, 94Cri1, 96Zha1
$[C_{18}H_{20}NO_3]$ 	Reaction of monoperphthalate, Ti^{III} -EDTA and PBN H_2O , pH 6 ESR / 298	2.0060 N: 1.560 H_β : 0.560	91Gil
$[C_{18}H_{21}BrNO]$ 	Reaction of m Br-PBN with $C_6H_5CH_2MgBr$ Benzene ESR / 298	2.0066 N: 1.438 ₈ H_β : 0.226 ₃ $2H_\gamma$: 0.076 ₆ H_o : 0.078 ₆ H_o' : 0.078 ₅ H_p : 0.096 ₃	93Pan1
Hyperfine splittings obtained through resolution enhancement and simulation. Plots of a_N and a_{H_γ} vs Hammett σ_p are reported.			

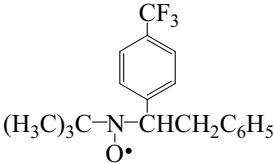

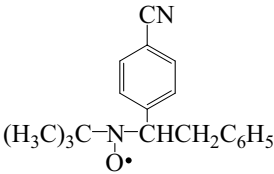
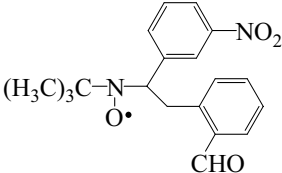
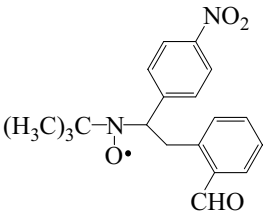
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
<p>[C₁₈H₂₁BrNO]</p> 	<p>Reaction of <i>p</i>Br-PBN with C₆H₅CH₂MgBr Benzene ESR / 298</p>	<p>2.0066 N: 1.443₈ H_β: 0.234₄ 2H_γ: 0.076₉ 2H_o: 0.078₈</p>	93Pan1
Comments as for the <i>m</i> -bromo analogue.			
<p>[C₁₈H₂₁ClNO]</p> 	<p>Reaction of <i>p</i>H₃C-PBN with CPBA Benzene ESR / 298</p>	<p>2.0061₂ N: 1.444 H_β: 0.220</p>	92Jan1
The spectrum is observed after a few days from mixing.			
<p>[C₁₈H₂₁ClNO]</p> 	<p>Reaction of <i>m</i>Cl-PBN with C₆H₅CH₂MgBr Benzene ESR / 298</p>	<p>2.0065 N: 1.439₁ H_β: 0.226₆ 2H_γ: 0.076₃ H_o: 0.078₄ H_o: 0.078₃ H_p: 0.096₁</p>	93Pan1
Comments as for the <i>m</i> -bromo analogue [C ₁₈ H ₂₁ BrNO].			
<p>[C₁₈H₂₁ClNO]</p> 	<p>Reaction of <i>p</i>Cl-PBN with C₆H₅CH₂MgBr Benzene ESR / 298</p>	<p>2.0058 N: 1.444₂ H_β: 0.234₆ 2H_γ: 0.076₀ 2H_o: 0.078₉</p>	93Pan1
Comments as for the <i>m</i> -bromo analogue [C ₁₈ H ₂₁ BrNO].			
<p>[C₁₈H₂₁ClNO]</p> 	<p>Reaction of CPBA with <i>p</i>H₃CO-PBN Benzene ESR / 298</p>	<p>2.0061₂ N: 1.447 H_β: 0.203</p>	92Jan1
The spectrum is observed after a few days from mixing.			

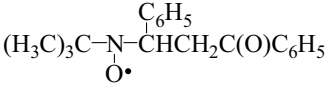
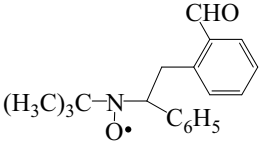
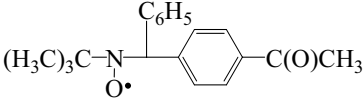
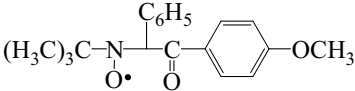
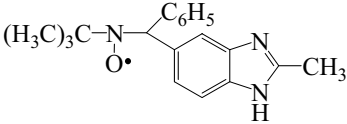
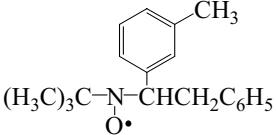
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{18}H_{21}N_2O_3]$ 	Reaction of mO_2N -PBN with $C_6H_5CH_2MgBr$ Benzene ESR / 298	2.0066 N: 1.431 ₀ H_β : 0.245 ₁ $2H_\gamma$: 0.071 ₁ H_o : 0.077 ₄ H_o : 0.077 ₅ H_p : 0.095 ₈	93Pan1
Comments as for the m -bromo analogue $[C_{18}H_{21}BrNO]$.			
$[C_{18}H_{21}N_2O_3]$ 	Reaction of pO_2N -PBN with $C_6H_5CH_2MgBr$ Benzene ESR / 298	2.0062 N: 1.421 ₀ H_β : 0.225 ₁ $2H_\gamma$: 0.069 ₂ $2H_o$: 0.078 ₁	93Pan1
Comments as for the m -bromo analogue $[C_{18}H_{21}BrNO]$.			
$[C_{18}H_{22}NO]$ 	Photolysis of ^{13}C -PBN and dibenzoyl peroxide Reaction of PBN with $C_6H_5CH_2MgBr$ Benzene ESR / 298	2.0061 N: 1.445 ₉ H_β : 0.239 ₄ $^{13}C_\alpha$: 0.553 $2H_\gamma$: 0.078 ₂ $2H_o$: 0.079 ₄ H_p : 0.072 ₂	88Hai1, 93Pan1
Comments as for the m -bromo analogue $[C_{18}H_{21}BrNO]$.			
$[C_{18}H_{22}NO]$ 	Reaction of mH_3C -PBN with C_6H_5MgBr Benzene ESR / 298	2.0066 N: 1.446 H_β : 0.223	93Pan1
$[C_{18}H_{22}NO_2]$ 	Photolysis ($\lambda > 380$ nm) of benzyl alcohol and K_2PtCl_6 , 18-crown-6 ether and PBN Neat benzyl alcohol ESR / 298	N: 1.526 H_β : 0.368	89Fad1
$[C_{18}H_{22}NO_2]$ 	Reaction of C_6H_5MgBr with mH_3CO -PBN Benzene ESR / 298	2.0066 N: 1.443 H_β : 0.223	93Pan1

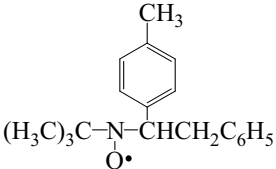
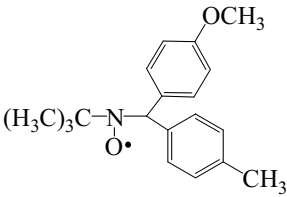
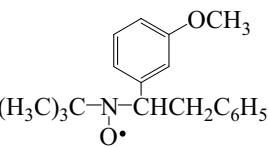
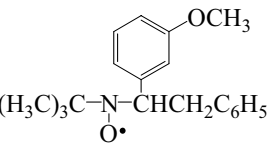
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
<p>[C₁₈H₂₂NO₂]</p> 	<p>Reaction of C₆H₅MgBr with <i>p</i>H₃CO-PBN Benzene ESR / 298</p> <p>H₂O + β-CD ESR / ENDOR / 290</p>	<p>2.0066 N: 1.448 H_β: 0.225</p> <p><i>Free nitroxide</i> N: 1.59 H_β: 0.43</p> <p><i>CD-Included nitroxide</i>^a N: 1.54 H_β: 0.442</p> <p><i>CD-Included nitroxide</i>^b N: 1.60 H_β: 0.313</p> <p><i>CD-Included nitroxide</i>^b N: 1.60 H_β: 0.285</p>	<p>93Pan1</p> <p>92Kot1</p>
^a <i>tert</i> -Butyl in. ^b Either phenyl in or anisyl in. Diastereomers not resolved.			
<p>[C₁₈H₂₂NO₂]</p> 	<p>Photolysis ($\lambda > 380$ nm) of benzyl alcohol, K₂PtCl₆, 18-crown-6 ether and PBN Neat benzyl alcohol ESR / 298</p>	<p>N: 1.526 H_β: 0.368</p>	89Fad1
<p>[C₁₈H₂₆NO₂]</p> 	<p>Photolysis of cyclohexyl aldehyde, BOOB and ¹⁵N-PBN Benzene ESR / 298</p>	<p>¹⁵N: 1.995 H_β: 0.381</p>	96Zha1
<p>[C₁₈H₂₈NO₂]</p> 	<p>Photolysis of hexanal, BOOB and PBN Benzene ESR / 298</p>	<p>N: 1.424 H_β: 0.319</p>	95Jan1
<p>[C₁₈H₃₀NO]</p> 	<p>Reaction of C₄H₉MgBr with <i>p</i>(H₃C)₂HC-PBN Benzene ESR / 298</p>	<p>2.0060 N: 1.467 H_β: 0.319</p>	93Pan1

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{18}H_{30}NO_4]$ 	Reaction of C_4H_9MgBr , 2,4,6- $(H_3CO)_3$ -PBN and O_2 $H_2O + \gamma$ -CD ESR / 293	<i>Free nitroxide</i> N: 1.631 H_β : 0.703 <i>CD-Included nitroxide^a</i> N: 1.601 H_β : 1.125 <i>CD-Included nitroxide^b</i> N: 1.615 H_β : 0.368	89Kot2
^a <i>tert</i> -Butyl in: association constant $K_a = 1.2 \times 10^2 M^{-1}$. ^b <i>sec</i> -Butyl in: association constant $K_a = 0.6 \times 10^2 M^{-1}$.			
$[C_{18}H_{30}NO_4]$ 	Reaction of C_4H_9MgBr , 2,4,6- $(H_3CO)_3$ -PBN and O_2 $H_2O + \gamma$ -CD ESR / 293	<i>Free nitroxide</i> N: 1.660 H_β : 1.087 <i>CD-Included nitroxide^a</i> N: 1.602 H_β : 1.275 <i>CD-Included nitroxide^b</i> N: 1.601 H_β : 0.883	89Kot2
^a <i>tert</i> -Butyl in: association constant $K_a = 1.2 \times 10^2 M^{-1}$. ^b <i>n</i> -Butyl in: association constant $K_a = 0.6 \times 10^2 M^{-1}$.			
$[C_{18}H_{33}N_2O_6S_2]$ 	PbO ₂ oxidation of $^iC_4H_9N(OH)C_2H_4SO_2R$ $CHCl_3$ ESR / 293	N: 1.35 H_β : 0.10	89Aur1
R = Allyl.			
$[C_{18}H_{37}N_2O_6S_2]$ 	PbO ₂ oxidation of $^iC_4H_9N(OH)C_2H_4SO_2R$ $CHCl_3$ ESR / 293	N: 1.30 H_β : 0.15	89Aur1
R = <i>n</i> -Propyl.			

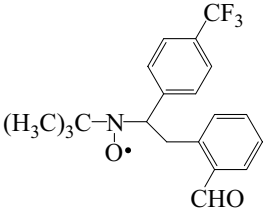
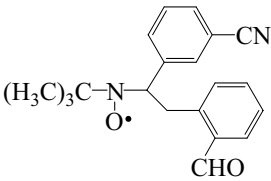
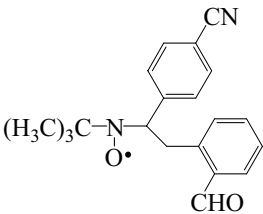
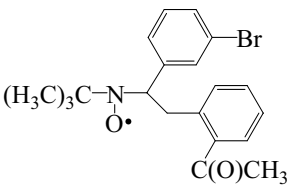
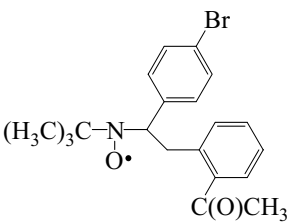
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
<p>[C₁₉H₂₁BrNO₂]</p> 	<p>Photolysis of <i>m</i>Br-PBN and <i>o</i>toluic-aldehyde Benzene ESR / 298</p>	<p>2.0066 N: 1.430 H_β: 0.235</p>	96Pan1
Correlation between hfs constants and Hammett parameters.			
<p>[C₁₉H₂₁BrNO₂]</p> 	<p>Photolysis of <i>p</i>Br-PBN and <i>o</i>toluic-aldehyde Benzene ESR / 298</p>	<p>2.0063 N: 1.442 H_β: 0.233</p>	96Pan1
Correlation between hfs constants and Hammett parameters.			
<p>[C₁₉H₂₁ClNO₂]</p> 	<p>Photolysis of <i>m</i>Cl-PBN and <i>o</i>toluic-aldehyde Benzene ESR / 298</p>	<p>2.0064 N: 1.430 H_β: 0.235</p>	96Pan1
Correlation between hfs constants and Hammett parameters.			
<p>[C₁₉H₂₁ClNO₂]</p> 	<p>Photolysis of <i>p</i>Cl-PBN and <i>o</i>toluic-aldehyde Benzene ESR / 298</p>	<p>2.0059 N: 1.442 H_β: 0.233</p>	96Pan1
Correlation between hfs constants and Hammett parameters.			
<p>[C₁₉H₂₁FNO₂]</p> 	<p>Photolysis of <i>p</i>F-PBN and <i>o</i>toluic-aldehyde Benzene ESR / 298</p>	<p>2.0066 N: 1.443 H_β: 0.237</p>	96Pan1
Correlation between hfs constants and Hammett parameters.			

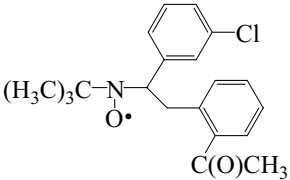
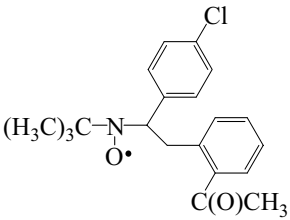
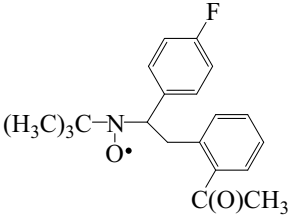
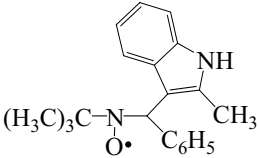
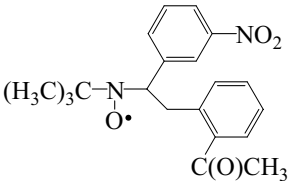
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
<p>[C₁₉H₂₁F₃NO]</p> 	<p>Reaction of pF₃C-PBN and BrMgCH₂C₆H₅ Benzene ESR / 298</p>	<p>N: 1.432₆ H_β: 0.229₇ 2H_γ: 0.073₅ 2H_o: 0.078₅ H_p: 0.072₂</p>	93Pan1
Comments as for the m -bromo analogue [C ₁₈ H ₂₁ BrNO].			
<p>[C₁₉H₂₁N₂O]</p> 	<p>Reaction of mNC-C₆H₅ and BrMgCH₂C₆H₅ Benzene ESR / 298</p>	<p>2.0063 N: 1.433₃ H_β: 0.219₉ 2H_γ: 0.072₂ H_o: 0.078₀ H_o: 0.077₄ H_p: 0.095₈</p>	93Pan1
Comments as for the m -bromo analogue [C ₁₈ H ₂₁ BrNO].			
<p>[C₁₉H₂₁N₂O]</p> 	<p>Reaction of pNC-C₆H₅ and BrMgCH₂C₆H₅ Benzene ESR / 298</p>	<p>2.0063 N: 1.422₀ H_β: 0.225₆ 2H_γ: 0.069₀ 2H_o: 0.078₃ H_p: 0.095₈</p>	93Pan1
Comments as for the m -bromo analogue [C ₁₈ H ₂₁ BrNO].			
<p>[C₁₉H₂₁N₂O₄]</p> 	<p>Photolysis of <i>o</i>toluic-aldehyde with mO₂N-PBN Benzene ESR / 298</p>	<p>2.0059 N: 1.425 H_β: 0.211</p>	96Pan1
Correlation between hfs constants and Hammett parameters.			
<p>[C₁₉H₂₁N₂O₄]</p> 	<p>Photolysis of <i>o</i>toluic-aldehyde with pO₂N-PBN Benzene ESR / 298</p>	<p>2.0062 N: 1.420 H_β: 0.215</p>	96Pan1
Correlation between hfs constants and Hammett parameters.			

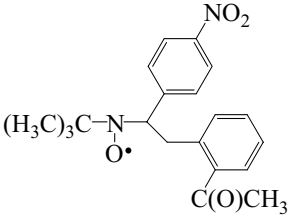
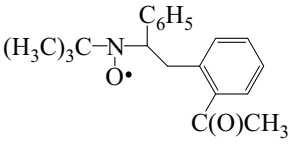
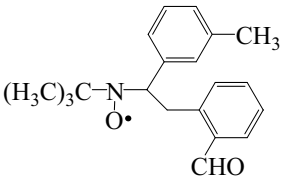
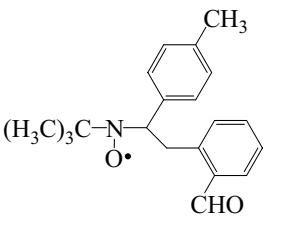
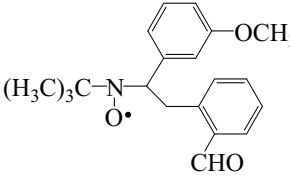
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
$[C_{19}H_{22}NO_2]$ 	Photolysis of α -bromoacetophenone, hexamethylditin and PBN Benzene ESR / 298	2.0059 N: 1.48 H $_{\beta}$: 0.46	94Bar1
Identical spectra using α -Bromoacetoveratrone.			
$[C_{19}H_{22}NO_2]$ 	Photolysis of <i>o</i> -toluic aldehyde and PBN Benzene ESR / 298	2.0060 N: 1.445 H $_{\beta}$: 0.243	96Pan1
Correlation between hfs constants and Hammett parameters.			
$[C_{19}H_{22}NO_2]$ 	Acid catalyzed thermal decomposition of DEAT in the presence of PBN Bromobenzene ESR / 298	N: 1.469 H $_{\beta}$: 0.244	90Sat1
DEAT = $(H_5C_2)_2NNNC_6H_4C(O)CH_3$.			
$[C_{19}H_{22}NO_3]$ 	Photolysis of <i>p</i> -anisaldehyde, BOOB and PBN Benzene ESR / 298	N: 1.425 H $_{\beta}$: 0.448	95Jan1
$[C_{19}H_{22}N_3O]$ 	Reaction of 2-methylbenzimidazole, PBN and chloranil ACN ESR / 298	N: 1.324 H $_{\beta}$: 0.406	97Alb1
$[C_{19}H_{21}N_2O]$ 	Reaction of <i>m</i> H $_3$ C-PBN with BrMgCH $_2$ C $_6$ H $_5$ Benzene ESR / 298	2.0067 N: 1.446 $_5$ H $_{\beta}$: 0.239 $_5$ 2H $_{\gamma}$: 0.078 $_7$ H $_o$: 0.079 $_5$ H $_{o'}$: 0.080 $_2$ H $_p$: 0.097 $_5$	93Pan1
Comments as for the <i>m</i> -bromo analogue $[C_{18}H_{21}BrNO]$.			

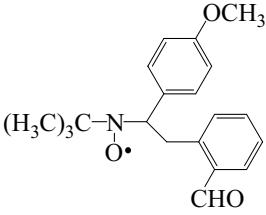
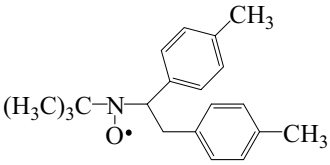
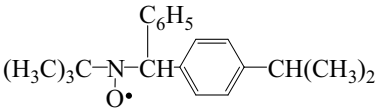
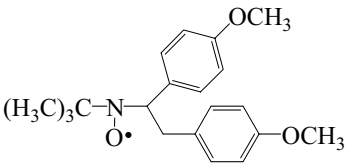
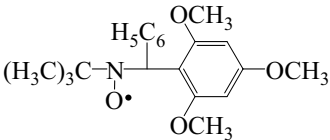
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
<p>[C₁₉H₂₁N₂O]</p> 	<p>Reaction of p-H₃C-PBN and BrMgCH₂C₆H₅ Benzene ESR / 298</p>	<p>2.0066 N: 1.448₉ H_β: 0.240₃ 2H_γ: 0.078₉ 2H_o: 0.079₈</p>	93Pan1
Comments as for the m -bromo analogue [C ₁₈ H ₂₁ BrNO].			
<p>[C₁₉H₂₄NO₂]</p> 	<p>Reaction of p-tolylMgBr p-H₃CO-PBN and O₂ H₂O + β-CD ESR / ENDOR / 290</p>	<p><i>Free nitroxide</i> N: 1.59 H_β: 0.43</p> <p><i>CD-Included nitroxide^a</i> N: 1.57 H_β: 0.441</p> <p><i>CD-Included nitroxide^b</i> N: 1.60 H_β: 0.364</p> <p><i>CD-Included nitroxide^b</i> N: 1.60 H_β: 0.313</p> <p><i>CD-Included nitroxide^b</i> N: 1.60 H_β: 0.280</p>	92Kot1
^a <i>tert</i> -Butyl in. ^b Either tolyl in or anisyl in.			
<p>[C₁₉H₂₄NO₂]</p> 	<p>Reaction of m-H₃CO-PBN and BrMgCH₂C₆H₅ Benzene ESR / 298</p>	<p>2.0063 N: 1.445₈ H_β: 0.238₁ 2H_γ: 0.077₉ H_o: 0.078₈ H_o: 0.079₂ H_p: 0.097₃</p>	93Pan1
Comments as for the m -bromo analogue [C ₁₈ H ₂₁ BrNO].			
<p>[C₁₉H₂₄NO₂]</p> 	<p>Reaction of p-H₃CO-PBN and BrMgCH₂C₆H₅ Benzene ESR / 298</p>	<p>2.0066 N: 1.454₆ H_β: 0.249₆ 2H_γ: 0.079₂ 2H_o: 0.080₁</p>	93Pan1
Comments as for the m -bromo analogue [C ₁₈ H ₂₁ BrNO].			

Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
<p>[C₁₉H₂₆NO₅]</p> <p>H₅C₂O(O)C=CHC(O)OC₂H₅</p> <p>(H₃C)₃C-N-CHC₆H₅</p> <p>O•</p>	<p>Exposure of DEADC and PBN to daylight</p> <p>CH₂Cl₂</p> <p>ESR / 298</p>	<p><i>cis</i>-Isomer</p> <p>N: 1.43</p> <p>H_β: 0.163 [D: n.r.]</p> <p><i>trans</i>-Isomer</p> <p>N: 1.45</p> <p>H_β: 0.325 [D: 0.054]</p>	98Ebe2
DEADC = Diethyl acetylenedicarboxylate; n.r. = not resolved.			
<p>[C₁₉H₃₀NO₄]</p> <p>(H₃C)₃C-N-CH(C₅H₉)C₆H₂(OCH₃)₃</p> <p>O•</p>	<p>Reaction of <i>c</i>C₅H₉MgBr, 2,4,6-(H₃CO)₃-PBN and O₂</p> <p>H₂O + γ-CD</p> <p>ESR / 293</p>	<p><i>Free nitroxide</i></p> <p>N: 1.637</p> <p>H_β: 1.014</p> <p><i>CD-Included nitroxide</i>^a</p> <p>N: 1.631</p> <p>H_β: 1.244</p> <p><i>CD-Included nitroxide</i>^b</p> <p>N: 1.662</p> <p>H_β: 0.604</p>	89Kot2
^a <i>tert</i> -Butyl in, association constant <i>K</i> _a = 1.3×10 ² M ⁻¹ . ^b <i>c</i> -Pentyl in, association constant <i>K</i> _a = 1.3×10 ² M ⁻¹ .			
<p>[C₁₉H₃₂NO₄]</p> <p>(H₃C)₃C-N-CH(C₁₁H₂₃)C₆H₂(OCH₃)₃</p> <p>O•</p>	<p>Reaction of C₅H₁₁MgBr 2,4,6-(H₃CO)₃-PBN and O₂</p> <p>H₂O + γ-CD</p> <p>ESR / 293</p>	<p><i>Free nitroxide</i></p> <p>N: 1.663</p> <p>H_β: 1.080</p> <p><i>CD-Included nitroxide</i>^a</p> <p>N: 1.633</p> <p>H_β: 1.186</p> <p><i>CD-Included nitroxide</i>^b</p> <p>N: 1.615</p> <p>H_β: 0.920</p>	89Kot2
^a <i>tert</i> -Butyl in, association constant <i>K</i> = 1.4×10 ² M ⁻¹ . ^b <i>n</i> -Pentyl in, association constant <i>K</i> = 0.7×10 ² M ⁻¹ .			
<p>[C₁₉H₂₀N₃O]</p> <p>(H₃C)₃C-N-CH(C₆H₄CN)CH₂C₆H₄CN</p> <p>O•</p>	<p>Photolysis of DIPMA, <i>p,p'</i>-dicyanostilbene and MNP</p> <p>Benzene</p> <p>ESR / 298</p>	<p>2.0060</p> <p>N: 1.425</p> <p>H_β: 0.238</p>	91Lin1
DIPMA = Diisopropylmethylamine.			

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
<p>[C₂₀H₂₁F₃NO₂]</p> 	<p>Photolysis of <i>p</i>CF₃-PBN with <i>o</i>toluic-aldehyde Benzene ESR / 298</p>	<p>2.0061 N: 1.428 H_β: 0.223</p>	96Pan1
Correlation between hfs constants and Hammett parameters.			
<p>[C₂₀H₂₁N₂O₂]</p> 	<p>Photolysis of <i>m</i>NC-PBN with <i>o</i>toluic-aldehyde Benzene ESR / 298</p>	<p>2.0063 N: 1.428 H_β: 0.224</p>	96Pan1
Correlation between hfs constants and Hammett parameters.			
<p>[C₂₀H₂₁N₂O₂]</p> 	<p>Photolysis of <i>p</i>NC-PBN and <i>o</i>toluic-aldehyde Benzene ESR / 298</p>	<p>2.0066 N: 1.421 H_β: 0.218</p>	96Pan1
Correlation between hfs constants and Hammett parameters.			
<p>[C₂₀H₂₃BrNO₂]</p> 	<p>Photolysis of <i>m</i>Br-PBN and 2-methyl acetophenone Benzene ESR / 298</p>	<p>2.0065 N: 1.435 H_β: 0.227</p>	96Pan1
Correlation between hfs constants and Hammett parameters.			
<p>[C₂₀H₂₃BrNO₂]</p> 	<p>Photolysis of <i>p</i>Br-PBN and 2-methyl acetophenone Benzene ESR / 298</p>	<p>2.0065 N: 1.439 H_β: 0.231</p>	96Pan1
Correlation between hfs constants and Hammett parameters.			

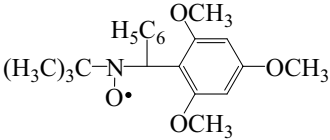
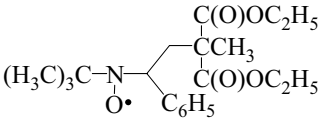
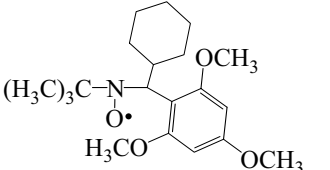
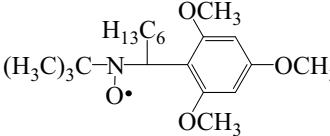
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
<p>[C₂₀H₂₃ClNO₂]</p> 	<p>Photolysis of <i>m</i>Cl-PBN and 2-methyl acetophenone Benzene ESR / 298</p>	<p>2.0066 N: 1.435 H_β: 0.226</p>	96Pan1
Correlation between hfs constants and Hammett parameters.			
<p>[C₂₀H₂₃ClNO₂]</p> 	<p>Photolysis of <i>p</i>Cl-PBN and 2-methyl acetophenone Benzene ESR / 298</p>	<p>2.0060 N: 1.438 H_β: 0.231</p>	96Pan1
Correlation between hfs constants and Hammett parameters.			
<p>[C₂₀H₂₃FNO₂]</p> 	<p>Photolysis of <i>p</i>F-PBN and 2-methyl acetophenone Benzene ESR / 298</p>	<p>2.0065 N: 1.440 H_β: 0.234</p>	96Pan1
Correlation between hfs constants and Hammett parameters.			
<p>[C₂₀H₂₃N₂O]</p> 	<p>Reaction of 2-methylindol, PBN and oxidation with PbO₂ (or chloranil) Benzene ESR / 298</p>	<p>2.0060 N: 1.470 H_β: 0.275</p>	97Alb1
<p>[C₂₀H₂₃N₂O₄]</p> 	<p>Photolysis of 2-methyl acetophenone and <i>m</i>NO₂-PBN Benzene ESR / 298</p>	<p>2.0062 N: 1.426 H_β: 0.215</p>	96Pan1
Correlation between hfs constants and Hammett parameters.			

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
<p>[C₂₀H₂₃N₂O₄]</p> 	<p>Photolysis of 2-methyl acetophenone and pNO₂-PBN Benzene ESR / 298</p>	<p>2.0068 N: 1.426 H_β: 0.201</p>	96Pan1
Correlation between hfs constants and Hammett parameters.			
<p>[C₂₀H₂₄NO₂]</p> 	<p>Photolysis of PBN and 2-methyl acetophenone Benzene ESR / 298</p>	<p>2.0062 N: 1.443 H_β: 0.239</p>	96Pan1
Correlation between hfs constants and Hammett parameters.			
<p>[C₂₀H₂₄NO₂]</p> 	<p>Photolysis of <i>o</i>toluic-aldehyde and mH₃C-PBN Benzene ESR / 298</p>	<p>2.0067 N: 1.448 H_β: 0.253</p>	96Pan1
Correlation between hfs constants and Hammett parameters.			
<p>[C₂₀H₂₄NO₂]</p> 	<p>Photolysis of pH₃C-PBN and <i>o</i>toluic-aldehyde Benzene ESR / 298</p>	<p>2.0066 N: 1.450 H_β: 0.246</p>	96Pan1
Correlation between hfs constants and Hammett parameters.			
<p>[C₂₀H₂₄NO₂]</p> 	<p>Photolysis of <i>o</i>toluic-aldehyde and mH₃CO-PBN Benzene ESR / 298</p>	<p>2.0063 N: 1.452 H_β: 0.255</p>	96Pan1
Correlation between hfs constants and Hammett parameters.			

Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
<p>[C₂₀H₂₄NO₂]</p> 	<p>Photolysis of <i>o</i>-toluic-aldehyde and <i>p</i>-H₃CO-PBN Benzene ESR / 298</p>	<p>2.0066 N: 1.452 H_β: 0.248</p>	96Pan1
Correlation between hfs constants and Hammett parameters.			
<p>[C₁₉H₂₆NO]</p> 	<p>Photolysis of DIPMA, <i>p,p'</i>-dimethylstilbene and MNP Benzene ESR / 298</p>	<p>2.0059 N: 1.453 H_β: 0.242</p>	91Lin1
DIPMA = Diisopropylmethylamine.			
<p>[C₂₀H₂₆NO]</p> 	<p>Reaction of C₆H₅MgBr and <i>p</i>[(H₃C)₂HC]-PBN Benzene ESR / 298</p>	<p>2.0067 N: 1.446 H_β: 0.215</p>	93Pan1
<p>[C₂₀H₂₆NO₃]</p> 	<p>Photolysis of DIPMA, <i>p,p'</i>-dimethoxystilbene and MNP Benzene ESR / 298</p>	<p>2.0060 N: 1.458 H_β: 0.239</p>	91Lin1
<p>[C₂₀H₂₆NO₄]</p> 	<p>Reaction of C₆H₅MgBr, 2,4,6-(H₃CO)₃-PBN and O₂ H₂O + α-CD ESR / ENDOR / 293</p> <p>H₂O + β-CD ESR / ENDOR / 293</p>	<p><i>Free nitroxide</i> N: 1.642 H_β: 0.978</p> <p><i>α-CD-Included nitroxide</i>^a N: 1.625 H_β: 0.755</p> <p><i>β-CD-Included nitroxide</i>^b N: 1.602 H_β: 1.220</p> <p><i>β-CD-Included nitroxide</i>^c N: 1.597 H_β: 0.613</p>	89Kot1, 89Kot2, 89Kot3

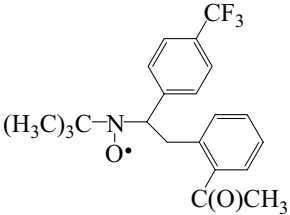
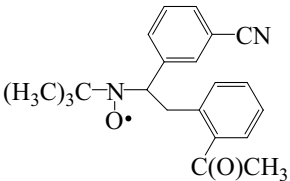
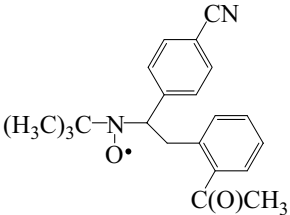
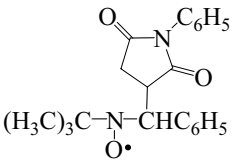
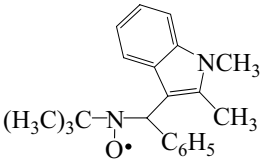
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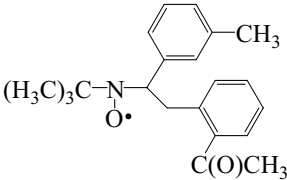
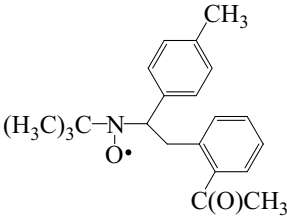
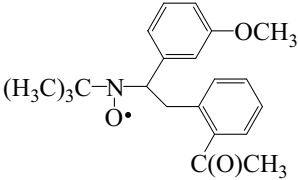
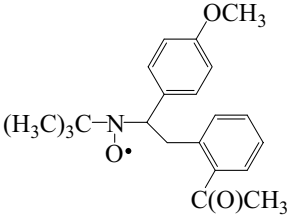
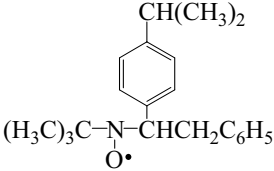
^a Unassigned: either *tert*-butyl in or phenyl in. ^b *tert*-Butyl in.
^c Phenyl in.

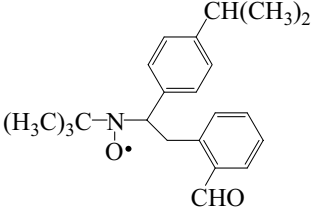
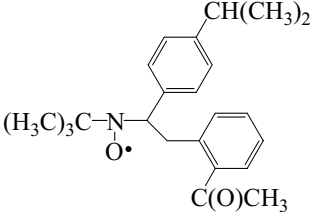
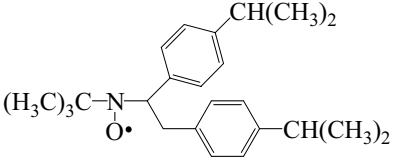
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
<p>[C₂₀H₂₆NO₄] (<i>continued</i>)</p> 	<p>Reaction of C₆H₅MgBr, 2,4,6-(H₃CO)₃-PBN and O₂ H₂O + γ-CD ESR / ENDOR / 293</p> <p>H₂O + OMCP-3(0.01M) ESR / 298</p> <p>OMCP-3 = Octamethoxyparacyclophane-3. ^a <i>tert</i>-Butyl in.</p>	<p><i>CD-Included nitroxide</i>^{a,b} N: 1.594 Hβ: 1.254</p> <p><i>CD-Included nitroxide</i>^{c,d} N: 1.574 Hβ: 0.622</p> <p><i>Free nitroxide</i> N: 1.642 Hβ: 0.978</p> <p><i>Inluded nitroxide</i> N: 1.602 Hβ: 0.752</p>	<p>89Kot1, 89Kot2, 89Kot3</p> <p>89Jan1</p>
<p>[C₂₀H₃₀NO₅]</p> 	<p>Photolysis of PBN and [(CO₂Et)₂MeCCH₂Co^{III}-7C₃ester] ClO₄ Benzene ESR / 298</p>	<p>N: 1.35 Hβ: 0.20</p>	88Mur1
<p>[C₂₀H₃₂NO₄]</p> 	<p>Reaction of C₆H₁₁MgBr, 2,4,6-(H₃CO)₃-PBN and O₂ H₂O + γ-CD ESR / 293</p>	<p><i>Free nitroxide</i> N: 1.632 Hβ: 0.683</p> <p><i>CD-Included nitroxide</i>^a N: 1.615 Hβ: 0.850</p> <p><i>CD-Included nitroxide</i>^b N: 1.604 Hβ: 0.281</p>	89Kot2
<p>[C₂₀H₃₄NO₄]</p> 	<p>Reaction of C₆H₁₃MgBr, 2,4,6-(H₃CO)₃-PBN and O₂ H₂O + γ-CD ESR / 293</p>	<p><i>Free nitroxide</i> N: 1.660 Hβ: 1.089</p> <p><i>CD-Included nitroxide</i>^a N: 1.633 Hβ: 1.121</p> <p><i>CD-Included nitroxide</i>^b N: 1.623 Hβ: 0.910</p>	89Kot2

^a *tert*-Butyl in: association constant $K_a = 1.30 \times 10^2 \text{ M}^{-1}$.
^b Cyclo-hexyl in: association constant $K_a = 7.5 \times 10^2 \text{ M}^{-1}$.

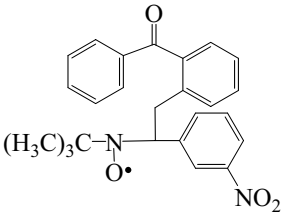
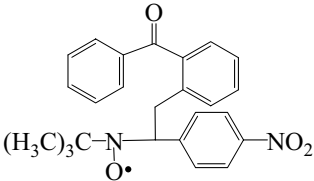
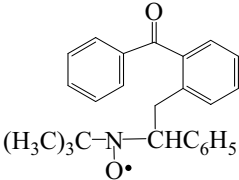
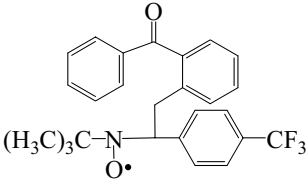
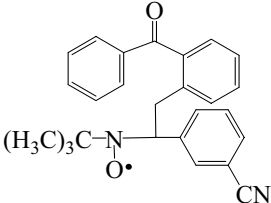
^a *tert*-Butyl in: association constant $K_a = 1.70 \times 10^2 \text{ M}^{-1}$.
^b *n*-Hexyl in: association constant $K_a = 1.5 \times 10^2 \text{ M}^{-1}$.

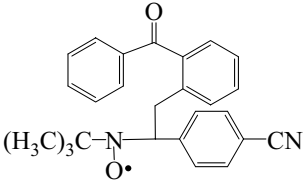
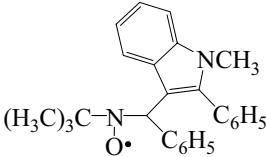
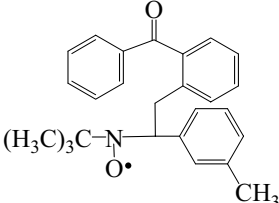
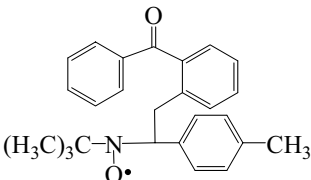
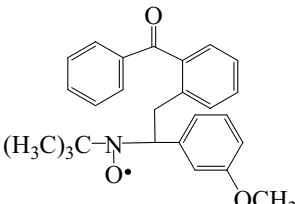
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
<p>[C₂₁H₂₃F₃NO₂]</p> 	Photolysis of <i>p</i> CF ₃ -PBN and 2-methylacetophenone Benzene ESR / 298	2.0060 N: 1.430 H _β : 0.211	96Pan1
Correlation between hfs constants and Hammett parameters.			
<p>[C₂₁H₂₃N₂O₂]</p> 	Photolysis of <i>m</i> NC-PBN and 2-methylacetophenone Benzene ESR / 298	2.0062 N: 1.430 H _β : 0.214	96Pan1
Correlation between hfs constants and Hammett parameters.			
<p>[C₂₁H₂₃N₂O₂]</p> 	Photolysis of <i>p</i> NC-PBN and 2-methylacetophenone Benzene ESR / 298	2.0067 N: 1.426 H _β : 0.211	96Pan1
Correlation between hfs constants and Hammett parameters.			
<p>[C₂₁H₂₃N₂O₃]</p> 	Exposure of <i>N</i> -phenylmaleimide and PBN to daylight CH ₂ Cl ₂ or ACN ESR / 298	N: 1.44 H _β : 0.626 H _γ : 0.060	98Ebe2
<p>[C₂₁H₂₅N₂O]</p> 	Reaction of 1,2-dimethylindole and PBN with chloranil (or PbO ₂) Benzene ESR / 298	2.0060 ₀ N: 1.450 H _β : 0.222	97Alb1

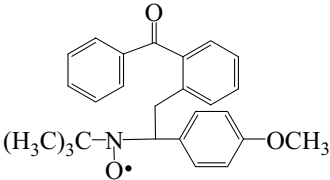
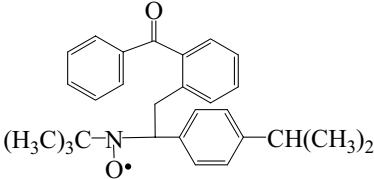
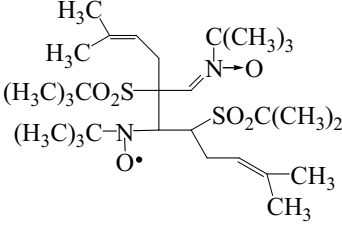
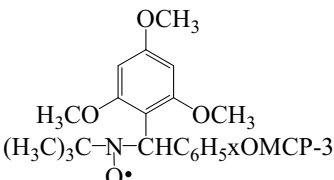
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{21}H_{26}NO_2]$ 	Photolysis of 2-methyl acetophenone and <i>m</i> H ₃ C-PBN Benzene ESR / 298	2.0066 N: 1.442 H _β : 0.241	96Pan1
Correlation between hfs constants and Hammett parameters.			
$[C_{21}H_{26}NO_2]$ 	Photolysis of 2-methyl acetophenone and <i>p</i> H ₃ C-PBN Benzene ESR / 298	2.0067 N: 1.446 H _β : 0.244	96Pan1
Correlation between hfs constants and Hammett parameters.			
$[C_{21}H_{26}NO_3]$ 	Photolysis of 2-methyl acetophenone and <i>m</i> H ₃ CO-PBN Benzene ESR / 298	2.0064 N: 1.440 H _β : 0.234	96Pan1
Correlation between hfs constants and Hammett parameters.			
$[C_{21}H_{26}NO_3]$ 	Photolysis of 2-methyl acetophenone and <i>p</i> H ₃ CO-PBN Benzene ESR / 298	2.0068 N: 1.454 H _β : 0.244	96Pan1
Correlation between hfs constants and Hammett parameters.			
$[C_{21}H_{28}NO]$ 	Reaction of <i>p</i> -isopropyl-PBN and benzylmagnesium bromide Benzene ESR / 298	2.0068 N: 1.447 ₁ H _β : 0.240 ₈ 2H _γ : 0.078 ₈ 2H _o : 0.079 ₇	93Pan1
Comments as for the <i>m</i> -bromo analogue [C ₁₈ H ₂₁ BrNO].			

Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
$[C_{22}H_{27}ClF_8NO]$ $H_3C(H_2C)_3H_2C=CH(CF_2)_4Cl$ $(H_3C)_3C-N-CHC_6H_5$ O^\bullet	Reaction of $Cl(F_2C)_4I$, SmI_2 , $HC\equiv C(CH_2)_4CH_3$ and PBN THF ESR / 298	N: 1.413 H_β : 0.300	90Ma1
$[C_{22}H_{28}NO_2]$ 	Photolysis of <i>o</i> -toluic-aldehyde and <i>p</i> [(H_3C) ₂ HC]-PBN Benzene ESR / 298	2.0068 N: 1.449 H_β : 0.245	96Pan1
Correlation between hfs constants and Hammett parameters.			
$[C_{22}H_{30}N_2O_2]^-$ $(H_3C)_3C-N^-(O^-)-CHC_6H_5$ $(H_3C)_3C-N^-(O^\bullet)-CHC_6H_5$	Reaction of PBN and SmI_2 THF ESR / 298	N: 1.463 H_β : 0.275	90Ma1
$[C_{22}H_{32}Cl_3N_4O_7S]$ $[C_{10}H_{17}N_3O_6S^+CCl_3]$ $(H_3C)_3C-N-CHC_6H_5$ O^\bullet	Incubation of ^{13}C - CCl_4 , microsomal, GSH, PBN and NADPH ESR / 298	N: 1.528 H_β : 2.80 $^{13}C(CCl_3)$: 1.038	92Sen1, 98Con1
$[C_{23}H_{30}NO_2]$ 	Photolysis of 2-methyl acetophenone and <i>p</i> [(H_3C) ₂ HC]-PBN Benzene ESR / 298	2.0068 N: 1.445 H_β : 0.243	96Pan1
Correlation between hfs constants and Hammett parameters.			
$[C_{24}H_{34}NO]$ 	Photolysis of DIPMA, <i>p,p'</i> -di- <i>i</i> -propyl stilbene and MNP Benzene ESR / 298	2.0059 N: 1.454 H_β : 0.241	91Lin1
DIPMA = Diisopropylmethylamine.			

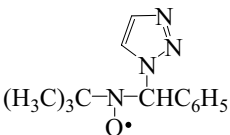
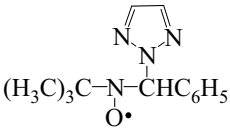
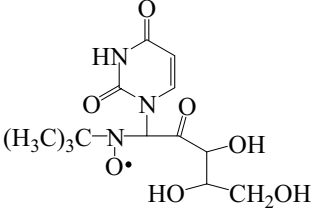
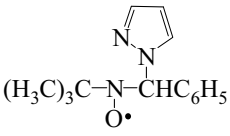
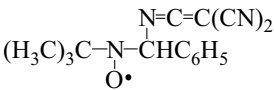
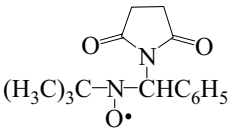
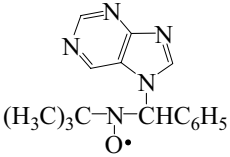
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{25}H_{25}BrNO_2]$ 	Photolysis of <i>m</i> Br-PBN and 2-methylbenzophenone Benzene ESR / 298	2.0065 N: 1.438 H_β : 0.238	96Pan1
Correlation between hfs constants and Hammett parameters.			
$[C_{25}H_{25}BrNO_2]$ 	Photolysis of <i>p</i> Br-PBN and 2-methylbenzophenone Benzene ESR / 298	2.0062 N: 1.438 H_β : 0.242	96Pan1
Correlation between hfs constants and Hammett parameters.			
$[C_{25}H_{25}ClNO_2]$ 	Photolysis of <i>m</i> Cl-PBN and 2-methylbenzophenone Benzene ESR / 298	2.0064 N: 1.438 H_β : 0.239	96Pan1
Correlation between hfs constants and Hammett parameters.			
$[C_{25}H_{25}ClNO_2]$ 	Photolysis of <i>p</i> Cl-PBN and 2-methylbenzophenone Benzene ESR / 298	2.0062 N: 1.440 H_β : 0.244	96Pan1
Correlation between hfs constants and Hammett parameters.			
$[C_{25}H_{25}FNO_2]$ 	Photolysis of <i>p</i> F-PBN and 2-methylbenzophenone Benzene ESR / 298	2.0064 N: 1.445 H_β : 0.238	96Pan1
Correlation between hfs constants and Hammett parameters.			

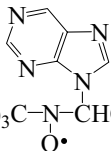
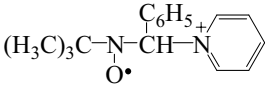
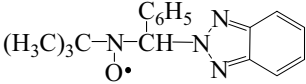
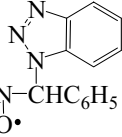
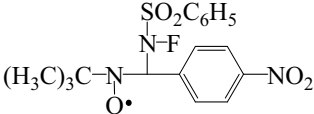
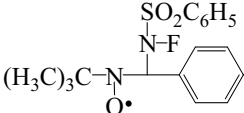
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
[C ₂₅ H ₂₅ N ₂ O ₄] 	Photolysis of 2-methyl-benzophenone and <i>m</i> NO ₂ -PBN Benzene ESR / 298	2.0060 N: 1.426 H _β : 0.234	96Pan1
Correlation between hfs constants and Hammett parameters.			
[C ₂₅ H ₂₅ N ₂ O ₄] 	Photolysis of 2-methyl-benzophenone and <i>p</i> NO ₂ -PBN Benzene ESR / 298	2.0066 N: 1.431 H _β : 0.231	96Pan1
Correlation between hfs constants and Hammett parameters.			
[C ₂₅ H ₂₆ NO ₂] 	Photolysis of 2-methyl-benzophenone and PBN Benzene ESR / 298	2.0064 N: 1.443 H _β : 0.242	96Pan1
Correlation between hfs constants and Hammett parameters.			
[C ₂₆ H ₂₅ F ₃ NO ₂] 	Photolysis of 2-methyl-benzophenone and <i>p</i> F ₃ C-PBN Benzene ESR / 298	2.0060 N: 1.433 H _β : 0.235	96Pan1
Correlation between hfs constants and Hammett parameters.			
[C ₂₆ H ₂₅ N ₃ O ₂] 	Photolysis of 2-methyl-benzophenone and <i>m</i> NC-PBN Benzene ESR / 298	2.0064 N: 1.432 H _β : 0.234	96Pan1
Correlation between hfs constants and Hammett parameters.			

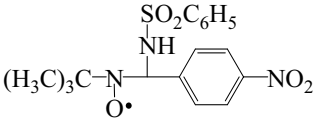
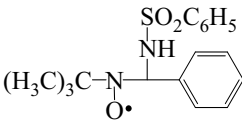
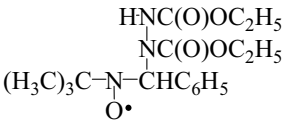
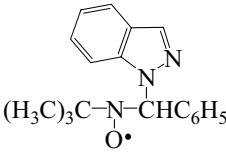
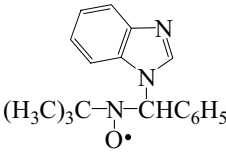
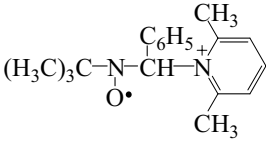
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
<p>[C₂₆H₂₅N₂O₂]</p> 	<p>Photolysis of 2-methylbenzophenone and <i>p</i>NC-PBN Benzene ESR / 298</p>	<p>2.0068 N: 1.430 H_β: 0.233</p>	96Pan1
Correlation between hfs constants and Hammett parameters.			
<p>[C₂₆H₂₇N₂O]</p> 	<p>Reaction of 1-methyl-2-phenyl indole, PBN and oxidation with chloranil (or PbO₂) Benzene ESR / 298</p>	<p>2.0060₀ N: 1.480 H_β: 0.360</p>	97Alb1
<p>[C₂₆H₂₈NO₂]</p> 	<p>Photolysis of 2-methylbenzophenone and <i>m</i>H₃C-PBN Benzene ESR / 298</p>	<p>2.0067 N: 1.452 H_β: 0.246</p>	96Pan1
Correlation between hfs constants and Hammett parameters.			
<p>[C₂₆H₂₈NO₂]</p> 	<p>Photolysis of 2-methylbenzophenone and <i>p</i>H₃C-PBN Benzene ESR / 298</p>	<p>2.0066 N: 1.454 H_β: 0.254</p>	96Pan1
Correlation between hfs constants and Hammett parameters.			
<p>[C₂₆H₂₈NO₃]</p> 	<p>Photolysis of 2-methylbenzophenone and <i>m</i>H₃CO-PBN Benzene ESR / 298</p>	<p>2.0066 N: 1.443 H_β: 0.239</p>	96Pan1
Correlation between hfs constants and Hammett parameters.			

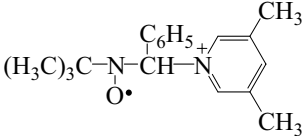
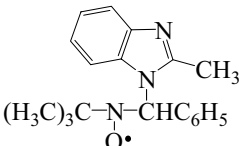
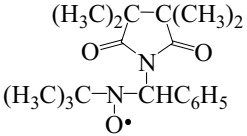
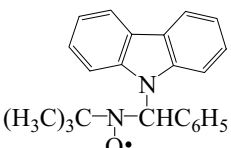
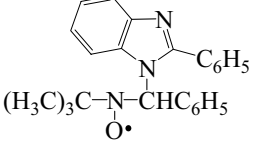
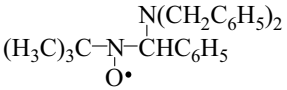
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
<p>[C₂₆H₂₈NO₃]</p> 	<p>Photolysis of 2-methyl-benzophenone and <i>p</i>H₃CO-PBN Benzene ESR / 298</p>	<p>2.0068 N: 1.461 H_β: 0.249</p>	96Pan1
Correlation between hfs constants and Hammett parameters.			
<p>[C₂₈H₃₂NO₂]</p> 	<p>Photolysis of 2-methyl-benzophenone and <i>p</i>[(H₃C)₂HC]-PBN Benzene ESR / 298</p>	<p>2.0068 N: 1.452 H_β: 0.246</p>	96Pan1
Correlation between hfs constants and Hammett parameters.			
<p>[C₃₀H₅₇N₂O₆S₂]</p> 	<p>PbO₂ oxidation of 'C₄H₉N(OH)C₂H₄SO₂R CHCl₃ ESR / 293</p>	<p>N: 1.41 H_β: < 0.06</p>	89Aur1
R = CH ₂ CH=C(CH ₃) ₂ .			
<p>[C₆₉H₉₂N₃O₁₃Cl₂]</p> <p>(H₃C)₃C-N(O•)-CH(C₆H₅)₂xOMCP-3</p>	<p>Reaction of C₆H₅MgBr and PBN H₂O + OMCP-3 ESR / 293</p>	<p><i>Free nitroxide</i> N: 1.595 H_β: 0.425 <i>Included nitroxide</i> N: 1.581 H_β: 0.378</p>	89Jan1
OMCP-3 = Octamethoxy-paracyclophane-3.			
<p>[C₇₂H₉₈N₃O₁₆Cl₂]</p> 	<p>Reaction of C₆H₅MgBr and 2,4,6-(H₃CO)₃-PBN H₂O + OMCP-3 ESR / 293</p>	<p><i>Free nitroxide</i> N: 1.642 H_β: 0.978 <i>Included nitroxide</i> N: 1.602 H_β: 0.752</p>	89Jan1

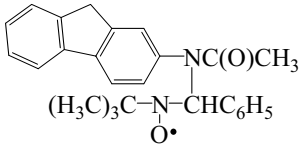
Substance	Generation / Matrix or Solvent / Method / T [K]	g-Factor / a -Value [mT]	Ref. / add. Ref.
12.2.2.8.2 Acyclic <i>sec</i>-alkyl <i>tert</i>-butyl nitroxides [$^t\text{BuN}(\text{O}^\bullet)\text{CH}(\text{XR}^1)\text{R}^2$ with X = Nitrogen]			
$[\text{C}_{11}\text{H}_{15}\text{N}_4\text{O}]$ $(\text{H}_3\text{C})_3\text{C}-\text{N}(\text{N}_3)-\text{CHC}_6\text{H}_5$ O^\bullet	Photolysis of $\text{C}_2\text{H}_2\text{Br}_4$, $n\text{C}_4\text{H}_9\text{NH}_4^+\text{N}_3^-$ and ^{13}C -PBN C_6H_6 ESR / 298 Photolysis of NaN_3 , H_2O_2 and ^{15}N -PBN Phosphate buffer ESR / 298	N: 1.395 H_β : 0.192 $^{13}\text{C}_\alpha$: 0.347 N_β : 0.178 ^{15}N : 2.124 H_β : 0.234 N_β : 0.198	88Hai1 96Zha1
$[\text{C}_{11}\text{H}_{17}\text{N}_2\text{O}]$ $(\text{H}_3\text{C})_3\text{C}-\text{N}(\text{NH}_2)-\text{CHC}_6\text{H}_5$ O^\bullet	Photolysis of NH_3 , BOOB and ^{13}C -(d_{14})- PBN H_2O ESR / 298 Photolysis of NH_3 and PBN Benzene ESR / 313	N: 1.606 H_β : 0.354 $^{13}\text{C}_\alpha$: 0.532 N_β : 0.082 $2\text{H}(\text{NH}_2)$: 0.039 N: 1.50 H_β : 0.260 N_β : 0.17	88Hai1, 94Hai1 90Ogu1
$[\text{C}_{12}\text{H}_{15}\text{N}_2\text{OS}]$ $(\text{H}_3\text{C})_3\text{C}-\text{N}(\text{NCS})-\text{CHC}_6\text{H}_5$ O^\bullet	Photolysis of ITCAIP and PBN Benzene ESR / 298 ITCAIP = (2-Isithiocyanato) azoisopropane.	2.0066 N: 1.41 H_β : 0.11	89Nis1
$[\text{C}_{12}\text{H}_{17}\text{N}_2\text{O}_2]$ $(\text{H}_3\text{C})_3\text{C}-\text{N}(\text{NHCHO})-\text{CHC}_6\text{H}_5$ O^\bullet	Reaction of $\text{HC}(\text{O})\text{NH}_2$, Na, Ni peroxide and PBN DMSO ESR / 298	N: 1.50 H_β : 0.205 N_β : 0.165 H_δ : 0.145 [D: 0.038]	98Ebe4
$[\text{C}_{13}\text{H}_{15}\text{Cl}_2\text{N}_2\text{O}]$ $(\text{H}_3\text{C})_3\text{C}-\text{N}(\text{N}=\text{C}=\text{CCl}_2)-\text{CHC}_6\text{H}_5$ O^\bullet	Reaction of CCl_3CN and ^{13}C -PBN Hexane ESR / 298	N: 1.45 H_β : 0.27 $^{13}\text{C}_\alpha$: 0.40 N_β : 0.16	96San1, 97Ebe1
$[\text{C}_{13}\text{H}_{16}\text{BrN}_2\text{O}]$ $(\text{H}_3\text{C})_3\text{C}-\text{N}(\text{N}=\text{C}=\text{CHBr})-\text{CHC}_6\text{H}_5$ O^\bullet	Reaction of CHBr_2CN and d_{14} -PBN Hexane ESR / 298	N: 1.48 H_β : 0.19 N_β : 0.19	96San1
$[\text{C}_{13}\text{H}_{16}\text{ClN}_2\text{O}]$ $(\text{H}_3\text{C})_3\text{C}-\text{N}(\text{N}=\text{C}=\text{CHCl})-\text{CHC}_6\text{H}_5$ O^\bullet	Reaction of CHCl_2CN and d_{14} -PBN Hexane ESR / 298	N: 1.47 H_β : 0.27 N_β : 0.16	96San1

Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
$C_{13}H_{17}N_4O$ 	Reaction of 1 <i>H</i> -1,2,3-triazole with PBN and oxidation with PbO ₂ (or chloranil) Benzene ESR / 298	2.0061 ₅ N: 1.383 H _β : 0.118 N _β : 0.329	97Alb1
$[C_{13}H_{17}N_4O]$ 	Reaction of 1 <i>H</i> -1,2,3-triazole with PBN and oxidation with PbO ₂ (or chloranil) Benzene ESR / 298	2.0061 ₅ N: 1.383 H _β : 0.263 N _β : 0.395	97Alb1
$[C_{13}H_{20}N_3O_7]$ 	Photolysis of uridine, Na ₂ S ₂ O ₈ and MNP H ₂ O, pH 2 ESR / 298	2.0059 N: 1.44 H _β : 0.17 N _β : 0.17 [¹⁵ N: 0.24]	97Ho1
No change upon deuteration of positions 5 and 6 of the base.			
$[C_{14}H_{18}N_3O]$ 	Reaction of pyrazole, PBN and oxidation with chloranil (or PbO ₂) Benzene (ACN, CH ₂ Cl ₂) ESR / 298	2.0061 ₅ N: 1.393 H _β : 0.134 N _β : 0.360	97Alb1
$[C_{15}H_{15}N_4O]$ 	Photolysis of KC(CN) ₃ , PBN and Br ₂ CH ₂ Cl ₂ (ACN) ESR / 298	N: 1.35 H _β : 0.13 N _β : 0.37	98Ebe3
$[C_{15}H_{19}N_2O_3]$ 	Reaction of TBPA, succinimide and PBN CH ₂ Cl ₂ ESR / 298	N: 1.44 H _β : 0.54 N _β : 0.135	92Ebe1
TBPA = Tris(4-bromophenyl)aminium hexachloroantimonate.			
$[C_{16}H_{18}N_5O]$ 	Reaction of purine with PBN and oxidation with chloranil ACN:H ₂ O (95:5) ESR / 298	2.0061 ₀ N: 1.403 H _β : 0.224 N _β : 0.398	97Alb1

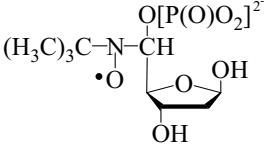
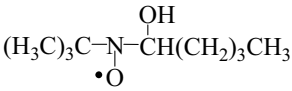
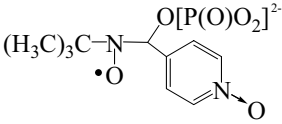
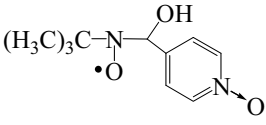
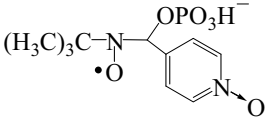
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{16}H_{18}N_5O]$ 	Reaction of purine with PBN and chloranil ACN:H ₂ O (95:5) ESR / 298	2.0061 ₀ N: 1.434 H _β : 0.245 N _β : 0.245	97Alb1
$[C_{16}H_{20}N_2O]^+$ 	Photolysis of C(NO ₂) ₄ and PBN Pyridine-DMSO (1:1) ESR / 298 Reaction of pyridine, TBPA and PBN CH ₂ Cl ₂ ESR / 298 TBPA = Tris(4-bromophenyl)aminium hexachloroantimonate.	2.0057 N: 1.30 H _β : 0.234 N _β : 0.312 [¹⁵ N: 0.437] N: 1.33 H _β : 0.225 N _β : 0.287	93Lag1 92Ebe1
$[C_{17}H_{19}N_4O]$ 	Reaction of PBN, benzotriazole and chloranil Reaction of PBN and 1-chlorobenzotriazole Benzene (CH ₂ Cl ₂) ESR / 298	2.0061 ₅ N: 1.360 H _β : 0.126 N _β : 0.380	96Car1, 97Alb1
$[C_{17}H_{19}N_4O]$ 	Reaction of PBN, benzotriazole and chloranil Reaction of PBN and 1-chlorobenzotriazole Benzene (CH ₂ Cl ₂) ESR / 298 Similar spectra in CH ₂ Cl ₂ , CDCl ₃ , CCl ₄ , F ₃ CCH(OH)CF ₃ .	2.0061 ₅ N: 1.360 H _β : 0.170 N _β : 0.420	96Car1, 97Alb1
$[C_{17}H_{19}FN_3O_5S]$ 	Photolysis (or heating with HF) of <i>p</i> O ₂ N-PBN and FN(SO ₂ C ₆ H ₅) ₂ CH ₂ Cl ₂ ESR / 298	N: 1.35 H _β : 0.21 N _β : 0.38 F _γ : 0.21	97Ebe2
$[C_{17}H_{20}FN_2O_3S]$ 	Photolysis (or heating with HF) of PBN and FN(SO ₂ C ₆ H ₅) ₂ CH ₂ Cl ₂ ESR / 298	N: 1.38 H _β : 0.20 N _β : 0.36 F: 0.19	97Alb1, 97Ebe2

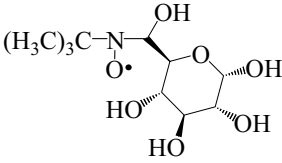
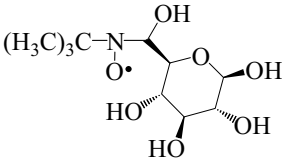
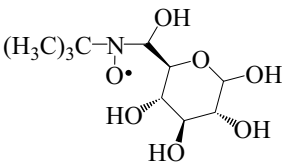
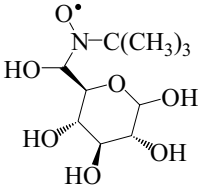
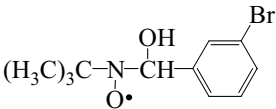
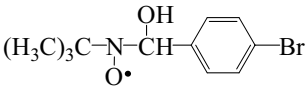
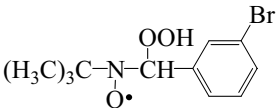
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
$[C_{17}H_{20}N_3O_5S]$ 	Photolysis of <i>p</i> O ₂ N-PBN HN(SO ₂ C ₆ H ₅) ₂ and TAPT CH ₂ Cl ₂ ESR / 298	N: 1.33 H _β : 0.64 N _β : 0.3–0.4 H _γ : 0.325	97Ebe2
TAPT = 1,4,6-tris(4-anisyl)pyrylium tetrafluoroborate.			
$[C_{17}H_{21}N_2O_3S]$ 	Photolysis of PBN, HN(SO ₂ C ₆ H ₅) ₂ and TAPT CH ₂ Cl ₂ ESR / 298	N: 1.39 H _β : 0.72 N _β : 0.3–0.4 H _γ : 0.176 [D: 0.12]	97Ebe2
$[C_{17}H_{26}N_3O_5]$ 	Exposure of PBN and diethylazodicarboxylate to daylight CH ₂ Cl ₂ ESR / 298	N: 1.48 H _β : 0.56 N _β : 0.115 [D: 0.087]	98Ebe2
$[C_{18}H_{20}N_3O]$ 	Reaction of indazole with PBN and oxidation with PbO ₂ (or chloranil) ESR / 298 Benzene CH ₂ Cl ₂	2.0061 ₈ N: 1.385 H _β : 0.173 N _β : 0.415 N: 1.377 H _β : 0.215 N _β : 0.376	97Alb1
$[C_{18}H_{20}N_3O]$ 	Reaction of PBN with benzimidazole and oxi- dation with PbO ₂ Benzene (ACN, CH ₂ Cl ₂) ESR / 298	2.0062 ₃ N: 1.420 H _β : 0.205 N _β : 0.355	97Alb1
$[C_{18}H_{24}N_2O]^+$ 	Reaction of 2,6-lutidine, PBN and TBPA CH ₂ Cl ₂ ESR / 298	N: 1.33 H _β : 0.220 N _β : 0.291	92Ebe1
TBPA = Tris(4-bromophenyl)aminium hexachloroantimonate.			

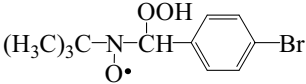
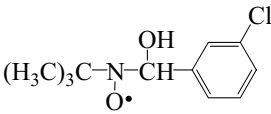
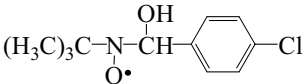
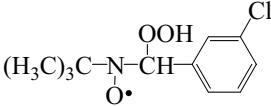
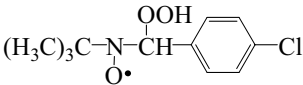
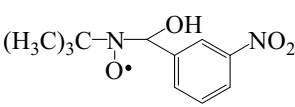
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[\text{C}_{18}\text{H}_{24}\text{N}_2\text{O}]^+$ 	Reaction of 3,5-lutidine with PBN and TBPA CH_2Cl_2 ESR / 298	N: 1.34 H_β : 0.220 N_β : 0.303	92Ebe1
TBPA = Tris(4-bromophenyl)aminium hexachloroantimonate.			
$[\text{C}_{19}\text{H}_{22}\text{N}_3\text{O}]$ 	Reaction of PBN with 2-methylbenzimidazole and chloranil $\text{ACN} (\text{CH}_2\text{Cl}_2)$ ESR / 298	2.0062 ₄ N: 1.342 H_β : 0.363 N_β : 0.458	97Alb1
$[\text{C}_{19}\text{H}_{27}\text{N}_2\text{O}_3]$ 	Photolysis of TBATC, TBMS and PBN CH_2Cl_2 ESR / 298	N: 1.43 H_β : 0.51 N_β : 0.122	92Ebe1, 94Ebe1
TBMS = Tetrabutylammonium tetramethylsuccinimide. TBATC = Tetrabutylammonium 12-tungstocobaltate (III), $(\text{Bu}_4\text{N})_5\text{Co}^{\text{III}}\text{W}_{12}\text{O}_{40}$.			
$[\text{C}_{23}\text{H}_{23}\text{N}_2\text{O}]$ 	Reaction of carbazole, KO_2 and ^{13}C -PBN Benzene ESR / 298	N: 1.465 H_β : 0.464 $^{13}\text{C}_\alpha$: 0.464 N_β : 0.440	88Hai1
$[\text{C}_{24}\text{H}_{24}\text{N}_3\text{O}]$ 	Reaction of 2-phenylbenzimidazole, PBN and chloranil ESR / 298 Benzene CH_2Cl_2	2.0062 ₀ N: 1.365 H_β : 0.484 N_β : 0.443 N: 1.342 H_β : 0.410 N_β : 0.378	97Alb1
$[\text{C}_{25}\text{H}_{29}\text{N}_2\text{O}]$ 	Photolysis of tribenzylamine, BOOB and MNP Benzene ESR / 298	2.0059 ₇ N: 1.397 H_β : 0.441	00Alb1

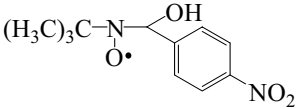
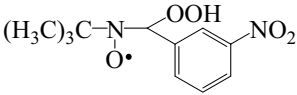
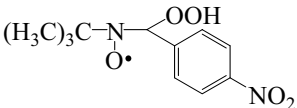
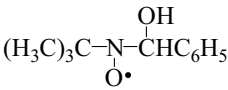
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{26}H_{27}N_2O_2]$ 	Heating NANDAF and PBN Benzene ESR / 343	N: 1.30 H_β : 0.31 N_β : 0.15	93Mic1
NANDAF = [<i>N</i> -Acetyl- <i>N</i> -[[(2'-deoxy,3'- <i>tert</i> -butyldimethylsilyloxy)-5'-guanosyl]-3-carbonyl]propanoyloxy]]-2-aminofluorene.			

12.2.2.8.3 Acyclic *sec*-alkyl *tert*-butyl nitroxides [$^t\text{BuN}(\text{O}^\bullet)\text{CH}(\text{XR}^1)\text{R}^2$ with X = Oxygen]

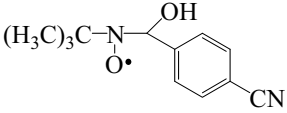
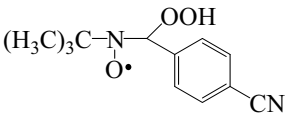
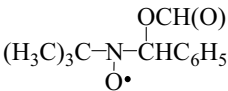
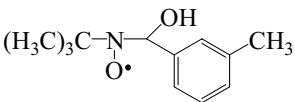
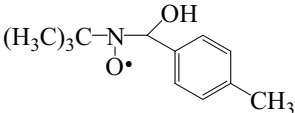
$[C_9H_{17}NO_8P]^{2-}$ 	Reaction of 2'-deoxyribose-5'-phosphate with Fe^{II} -EDTA- H_2O_2 and MNP H_2O , pH 7 ESR / 298	N: 1.53 H_β : 0.16	95Dav1
$[C_9H_{20}NO_2]$ 	Radiolysis (2.8 MeV) of pentan-1-ol and MNP N_2O_4 saturated H_2O ESR / 298	2.00579 N: 1.559 H_β : 0.142	93Mad1
$[C_{10}H_{14}N_2O_6P]$ 	Photolysis of $\text{Na}_2\text{P}_2\text{O}_8$ and POBN H_2O , pH 7.4 ESR / 298	N: 1.50 H_β : 0.14	92Dav1
$[C_{10}H_{15}N_2O_3]$ 	Photolysis of POBN and H_2O_2 - H_2O Photolysis of POBN and $\text{Na}_2\text{S}_2\text{O}_8$ H_2O , pH 7 Photolysis of POBN and $\text{K}_4\text{P}_2\text{O}_8$ H_2O , pH 1.5 ESR / 298	N: 1.49 H_β : 0.17 $H(\text{OH})$: 0.03	92Dav1
$[C_{10}H_{15}N_2O_6P]$ 	Photolysis of POBN and $\text{K}_4\text{P}_2\text{O}_8$ H_2O , pH 7.4 ESR / 298	N: 1.50 H_β : 0.14	92Dav1

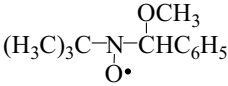
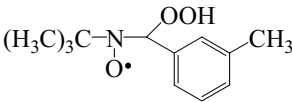
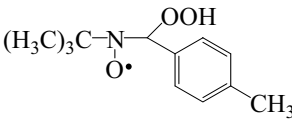
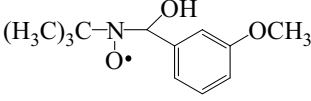
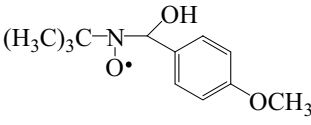
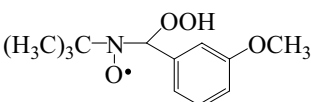
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{10}H_{20}NO_7]$ 	Irradiation (1.7 kGy) of α -D-glucopyranose and MNP H ₂ O-C ₂ H ₅ OH (2:1) ESR / 274	2.005 ₉ N: 1.54 H $_{\beta}$: 0.46	90Thi1
$[C_{10}H_{20}NO_7]$ 	Irradiation (1.7 kGy) of β -D-glucopyranose and MNP H ₂ O-C ₂ H ₅ OH (2:1) ESR / 274	2.0059 ₅ N: 1.53 H $_{\beta}$: 0.41	90Thi1
$[C_{10}H_{20}NO_7]$  	Irradiation (2 kGy) of glucose and MNP H ₂ O-C ₂ H ₅ OH (2:1) ESR / 274	N: 1.55 H $_{\beta}$: 0.45 ¹³ C $_{\alpha}$: 0.42 N: 1.50 H $_{\beta}$: 0.10 ¹³ C $_{\alpha}$: 0.46	93Raf1
$[C_{11}H_{15}BrNO_2]$ 	Photolysis of <i>m</i> Br-PBN and H ₂ O ₂ ACN ESR / 298 First order decay rate $k = 2.53 \times 10^{-2} \text{ s}^{-1}$.	N: 1.468 H $_{\beta}$: 0.243	92Hin1, 92Jan2
$[C_{11}H_{15}BrNO_2]$ 	Photolysis of <i>p</i> Br-PBN and H ₂ O ₂ ACN ESR / 298 First order decay rate $k = 3.55 \times 10^{-2} \text{ s}^{-1}$.	N: 1.474 H $_{\beta}$: 0.263	92Hin1, 92Jan2
$[C_{11}H_{15}BrNO_3]$ 	Photolysis of <i>m</i> Br-PBN and H ₂ O ₂ ACN ESR / 298	N: 1.352 H $_{\beta}$: 0.204	92Hin1, 92Jan2

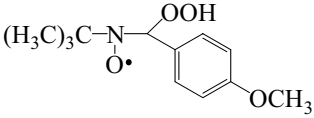
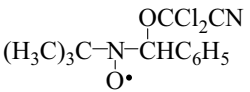
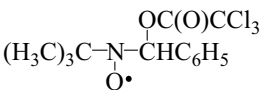
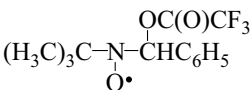
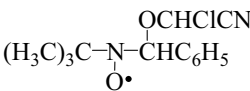
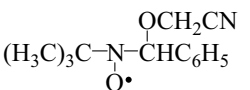
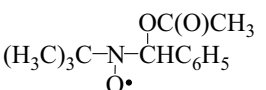
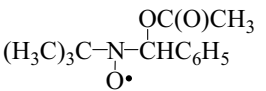
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{11}H_{15}BrNO_3]$ 	Photolysis of <i>p</i> Br-PBN and H_2O_2 ACN ESR / 298	N: 1.365 H_β : 0.209	92Hin1, 92Jan2
$[C_{11}H_{15}ClNO_2]$ 	Photolysis of <i>m</i> Cl-PBN and H_2O_2 ACN ESR / 298 First order decay rate $k = 4.52 \times 10^{-2} \text{ s}^{-1}$.	N: 1.452 H_β : 0.229	92Hin1, 92Jan2
$[C_{11}H_{15}ClNO_2]$ 	Photolysis of <i>p</i> Cl-PBN and H_2O_2 ACN ESR / 298 First order decay rate $k = 4.58 \times 10^{-2} \text{ s}^{-1}$.	N: 1.458 H_β : 0.234	92Hin1, 92Jan2
$[C_{11}H_{15}ClNO_2]$ 	Photolysis of <i>m</i> Cl-PBN and H_2O_2 ACN ESR / 298	N: 1.356 H_β : 0.197	92Jan2
$[C_{11}H_{15}ClNO_2]$ 	Photolysis of <i>p</i> Cl-PBN and H_2O_2 ACN ESR / 298	N: 1.355 H_β : 0.205	92Hin1, 92Jan2
$[C_{11}H_{15}NO_4S]^-$ $(H_3C)_3C-N(O)-CH[OS(O)O^-]C_6H_5$	Photolysis of ^{13}C -PBN and Na_2SO_3 H_2O ESR / 293	N: 1.502 H_β : 0.195 $^{13}C_\alpha$: 0.692	88Hai1, 88Mot1
$[C_{11}H_{15}NO_5P_2]^{2-}$ $(H_3C)_3C-N(O)-CH[OP(O)(O^-)_2]C_6H_5$	Photolysis of PBN and $K_4P_2O_8$ H_2O , pH 7.4 ESR / 298	N: 1.54 H_β : 0.17	92Dav1
$[C_{11}H_{15}N_2O_4]$ 	Photolysis of H_2O_2 and mO_2N -PBN ACN ESR / 298 First order decay rate $k = 2.77 \times 10^{-2} \text{ s}^{-1}$.	N: 1.458 H_β : 0.204	92Hin1, 92Jan2

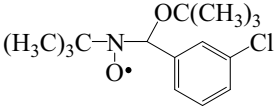
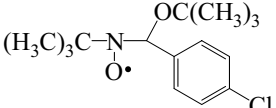
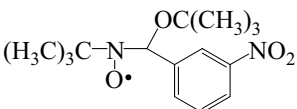
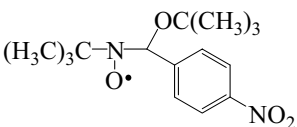
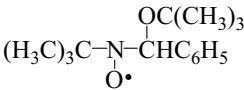
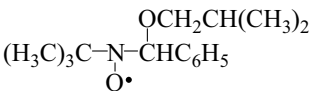
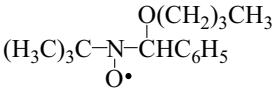
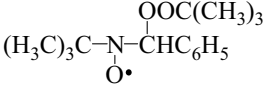
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{11}H_{15}N_2O_4]$ 	Photolysis of H_2O_2 and pO_2N -PBN ACN ESR / 298 First order decay rate $k = 2.25 \times 10^{-2} \text{ s}^{-1}$.	N: 1.441 H_β : 0.206	92Hin1, 92Jan2
$[C_{11}H_{15}N_2O_5]$ 	Photolysis of H_2O_2 and mO_2N -PBN ACN ESR / 298	N: 1.377 H_β : 0.208	92Hin1, 92Jan2
$[C_{11}H_{15}N_2O_4]$ 	Photolysis of H_2O_2 and pO_2N -PBN ACN ESR / 298	N: 1.341 H_β : 0.179	92Hin1, 92Jan2
$[C_{11}H_{16}NO_2]$ 	Reaction of MMPP with $Ti(SO_4)_3$ and PBN H_2O Photolysis of peroxydisulphate and PBN H_2O Reaction of TBATC with H_2O_2 and PBN ESR / 298 Reaction of KO_3 , 18-crown-6 ether and PBN Toluene ESR / 223 ÷ 243 Benzene ESR / 298 Reaction of H_2O_2 with $NH_4Fe(SO_4)_3$ and PBN C_2H_5OH ESR / 298 Photolysis of H_2O_2 and PBN ACN * ESR / 298 MMPP = Magnesium monoperoxyphthalate. TBATC = Tetrabutylammonium 12-tungstocobaltate (III), $(Bu_4N)_5Co^{III}W_{12}O_{40}$. * First order decay rate $k = 7.15 \times 10^{-2} \text{ s}^{-1}$.	2.0057 ÷ 2.0060 N: 1.546 H_β : 0.270 $^{13}C_\alpha$: 0.436 $^{17}O_\beta$: 0.336 $H(OH)$: 0.021 N: ~1.38 H_β : ~0.18 N: 1.42 H_β : 0.20 N: 1.58 H_β : 0.35 N: 1.476 H_β : 0.275	88Hai1, 88Mal1, 91Gil1, 91Kot1, 92Dav1, 94Ban1, 94Ebe1, 94Hai1, 95Cha1 87For1 98Sár1 92Hin1, 92Jan2

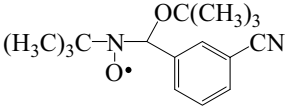
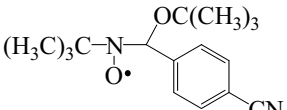
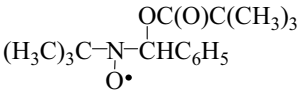
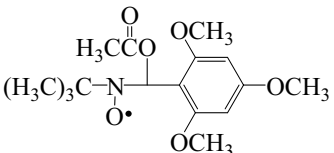
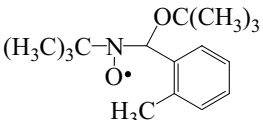
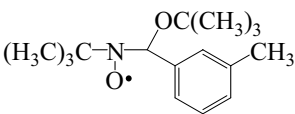
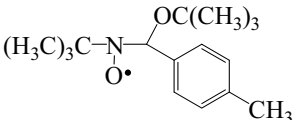
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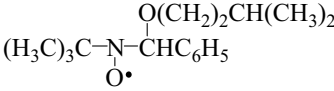
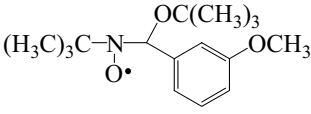
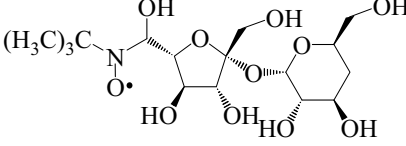
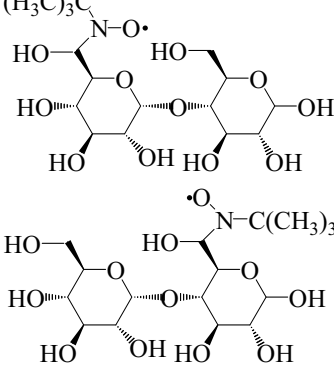
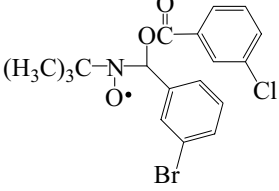
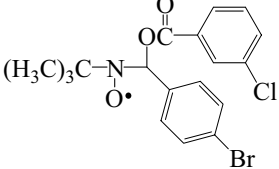
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{12}H_{15}N_2O_2]$ 	Photolysis of <i>p</i> CN-PBN and H_2O_2 ACN ESR / 298	N: 1.445 H_β : 0.206	92Hin1, 92Jan2
First order decay rate $k = 2.09 \times 10^{-2} \text{ s}^{-1}$.			
$[C_{12}H_{15}N_2O_3]$ 	Photolysis of <i>p</i> CN-PBN and H_2O_2 ACN ESR / 298	N: 1.342 H_β : 0.184	92Hin1, 92Jan2
$[C_{12}H_{16}NO_3]$ 	Exposure of HCOOH, PBN and TMPP to daylight ESR / 298 CH_2Cl_2 ACN Benzene HFP	N: 1.33 H_β : 0.144 H_δ : 0.144 N: 1.32 H_β : 0.147 H_δ : 0.147 N: 1.31 H_β : 0.14 H_δ : 0.14 [D $_\delta$ = n.r.] N: 1.43 H_β : 0.15 H_δ : 0.20	97Ebe3
TMPP = 2,4,6-Tris(4-methoxyphenyl)pyrylium tetrafluoroborate. HFP = 1,1,1,3,3,3-hexafluoropropan-2-ol.			
$[C_{12}H_{18}NO_2]$ 	Photolysis of H_2O_2 and <i>m</i> CH $_3$ -PBN ACN ESR / 298	N: 1.480 H_β : 0.274	92Hin1, 92Jan2
First order decay rate $k = 5.50 \times 10^{-2} \text{ s}^{-1}$.			
$[C_{12}H_{18}NO_2]$ 	Photolysis of <i>p</i> CH $_3$ -PBN and H_2O_2 ACN ESR / 298	N: 1.480 H_β : 0.283	92Hin1, 92Jan1
First order decay rate $k = 7.14 \times 10^{-2} \text{ s}^{-1}$.			

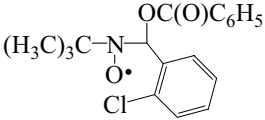
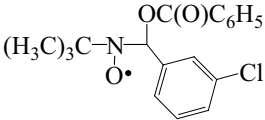
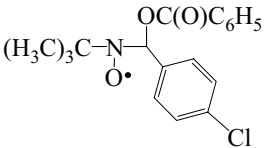
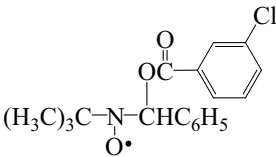
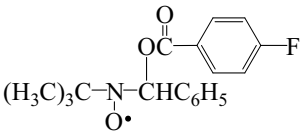
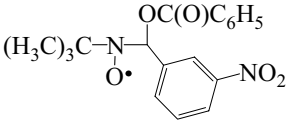
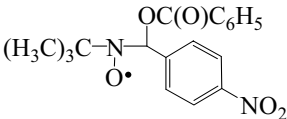
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{12}H_{18}NO_2]$ 	Photolysis of methanol, benzophenone and ^{13}C -PBN ESR / 298 Benzene Methanol Bile from rats treated with DMSO-PQ $^{2+}$ -Fe II and PBN H $_2$ O ESR / 298	N: 1.359 H $_{\beta}$: 0.184 $^{13}C_{\alpha}$: 0.455 N: 1.45 H $_{\beta}$: 0.28 N: 1.508 H(H $_{\beta}$): 0.332	88Hai1 88Hai2 92Kad1, 93Bur1
$[C_{12}H_{18}NO_3]$ 	Photolysis of H $_2$ O $_2$ and <i>m</i> CH $_3$ -PBN ACN ESR / 298	N: 1.369 H $_{\beta}$: 0.241	92Hin1, 92Jan2
$[C_{12}H_{18}NO_3]$ 	Photolysis of H $_2$ O $_2$ and <i>p</i> CH $_3$ -PBN ACN ESR / 298	N: 1.373 H $_{\beta}$: 0.231	92Hin1, 92Jan2
$[C_{12}H_{18}NO_3]$ 	Photolysis of H $_2$ O $_2$ and <i>m</i> H $_3$ CO-PBN ACN ESR / 298 First order decay rate $k = 8.07 \times 10^{-2} \text{ s}^{-1}$.	N: 1.475 H $_{\beta}$: 0.273	92Hin1, 92Jan2
$[C_{12}H_{18}NO_3]$ 	Photolysis of H $_2$ O $_2$ and <i>p</i> H $_3$ CO-PBN ACN ESR / 298 First order decay rate $k = 1.388 \times 10^{-1} \text{ s}^{-1}$.	N: 1.486 H $_{\beta}$: 0.283	92Hin1, 92Jan2
$[C_{12}H_{18}NO_4]$ 	Photolysis of H $_2$ O $_2$ and <i>m</i> H $_3$ CO-PBN ACN ESR / 298	N: 1.366 H $_{\beta}$: 0.225	92Hin1, 92Jan2

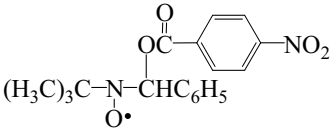
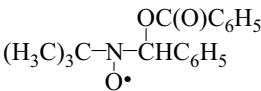
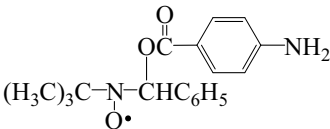
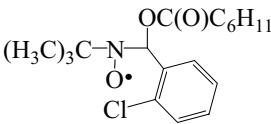
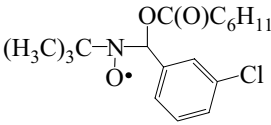
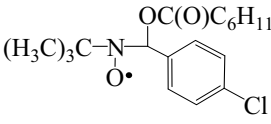
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{12}H_{18}NO_4]$ 	Photolysis of H_2O_2 and p - H_3CO -PBN ACN ESR / 298	N: 1.396 H_β : 0.234	92Hin1, 92Jan2
$[C_{13}H_{15}Cl_2N_2O_2]$ 	Reaction of CCl_3CN and ^{13}C -PBN Hexane ESR / 298	N: 1.35 H_β : 0.17 $^{13}C_\alpha$: 0.46	96San1
$[C_{13}H_{15}Cl_3NO_3]$ 	Exposure of TMPP, $Cl_3CC(O)OH$ and PBN to daylight CH_2Cl_2 ESR / 298	N: 1.28 H_β : 0.129	97Ebe3
TMPP = 2,4,6-Tris(4-methoxyphenyl)pyrylium tetrafluoroborate.			
$[C_{13}H_{15}F_3NO_3]$ 	Exposure of TMPP, $F_3CC(O)OH$ and PBN to daylight ESR / 298 CH_2Cl_2	N: 1.29 H_β : 0.148	97Ebe3
$[C_{13}H_{16}ClN_2O_2]$ 	Reaction of $CHCl_2CN$ and d_{14} -PBN Hexane ESR / 298	N: 1.40 $^{13}C_\alpha$: 0.46 H_β : 0.21	96San1
$[C_{13}H_{17}N_2O_2]$ 	Reaction of CH_2BrCN and ^{13}C -(d_{14})-PBN Hexane ESR / 298	N: 1.39 H_β : 0.17 $^{13}C_\alpha$: 0.49	96San1
$[C_{13}H_{18}NO_3]$ 	Heating NAOPT and PBN (328 K) Benzene ESR / 298	N: 1.33 H_β : 0.21	91Abe1, 93Mic1
NAOPT = <i>N</i> -(acetyloxy)pyridine-2-thione.			
$[C_{13}H_{18}NO_3]$ 	Photolysis of TBATC, $Bu_4N(AcO)_2H$ and PBN ESR / 298 Hexafluoro-2-propanol or ACN	N: 1.47 H_β : 0.205	92Ebe1, 94Ebe1, 97Ebe2, 97Ebe3
TBATC = Tetrabutylammonium 12-tungstocobaltate (III), $(Bu_4N)_5Co^{III}W_{12}O_{40}$.			

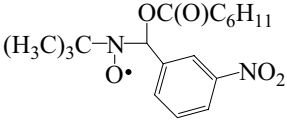
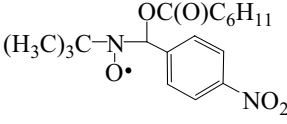
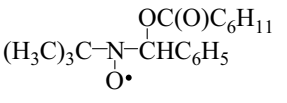
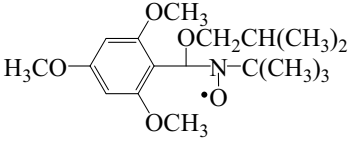
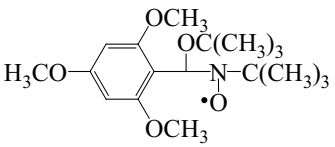
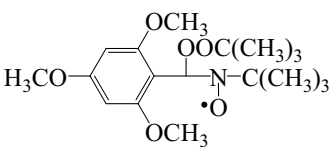
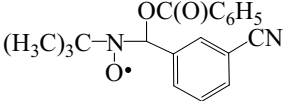
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{15}H_{23}ClNO_2]$ 	Heating (328 K) DBPO and <i>m</i> Cl-PBN Benzene ESR / 298	N: 1.37 H_β : 0.20	91Abe1
$[C_{15}H_{23}ClNO_2]$ 	Heating (328 K) DBPO and <i>p</i> Cl-PBN Benzene ESR / 298	N: 1.39 H_β : 0.23	91Abe1
$[C_{15}H_{23}N_2O_4]$ 	Heating (328 K) DBPO and <i>m</i> O ₂ N-PBN Benzene ESR / 298	N: 1.39 H_β : 0.19	91Abe1
$[C_{15}H_{23}N_2O_4]$ 	Heating (328 K) DBPO and <i>p</i> O ₂ N-PBN Benzene ESR / 298	N: 1.35 H_β : 0.24	91Abe1
$[C_{15}H_{24}NO_2]$ 	Heating (328 K) DBPO and ¹³ C- ¹⁵ N-PBN Benzene ESR / 298	2.0061 N: 1.428 H_β : 0.203 ¹³ C α : 0.491 [¹⁵ N: 1.955]	88Hai1, 91Abe, 96Zha1
$[C_{15}H_{24}NO_2]$ 	Photolysis of isobutyl nitrite and ¹³ C- ¹⁵ N-PBN Benzene ESR / 298	N: 1.372 H_β : 0.197 ¹³ C α : 0.456 [¹⁵ N: 1.921]	88Hai1, 96Zha1
$[C_{15}H_{24}NO_2]$ 	Photolysis of <i>n</i> butyl nitrite and ¹⁵ N-PBN Benzene ESR / 298	N: 1.373 H_β : 0.200 [¹⁵ N: 1.921]	96Zha1
$[C_{15}H_{24}NO_3]$ 	Photolysis of <i>tert</i> -butyl hydroperoxide, BOOB and ¹³ C-(¹⁵ N)-PBN Benzene ESR / 298	2.0061 N: 1.325 H_β : 0.115 ¹³ C α : 0.465 [¹⁵ N: 1.916]	88Hai1, 96Zha1

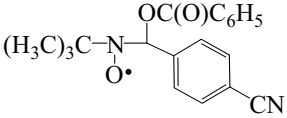
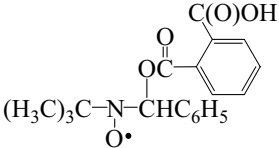
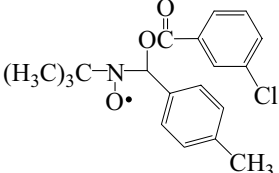
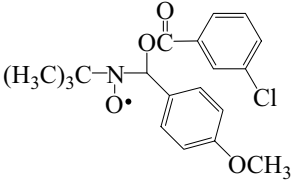
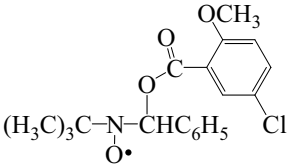
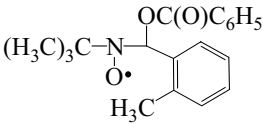
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{16}H_{23}N_2O_2]$ 	Heating (328 K) DBPO and <i>m</i> CN-PBN Benzene ESR / 298	N: 1.41 H_β : 0.22	91Abe1
$[C_{16}H_{23}N_2O_2]$ 	Heating (328 K) DBPO and <i>p</i> CN-PBN Benzene ESR / 298	N: 1.40 H_β : 0.20	91Abe1
$[C_{16}H_{24}NO_3]$ 	Heating (328 K) NPOPT and PBN Benzene LLE of $(H_3C)_3CCO_2H$ and TMPP CH_2Cl_2 ESR / 298	N: 1.39 H_β : 0.19	91Abe1, 92Ebe1, 97Ebe3
NPOPT = <i>N</i> -(Pivaloyloxy)pyridine-2-thione. TMPP = 2,4,6-Tris(4-methoxyphenyl)pyrylium tetrafluoroborate.			
$[C_{16}H_{24}NO_6]$ 	Reaction of 2,4,6-trimethoxy-PBN with lead tetraacetate Benzene ESR / 298	N: 1.386 H_β : 0.741	90Jan2
$[C_{16}H_{26}NO_2]$ 	Heating (328 K) DBPO and <i>o</i> H ₃ C-PBN Benzene ESR / 298	N: 1.33 H_β : 0.24	91Abe1
$[C_{16}H_{26}NO_2]$ 	Heating (328 K) DBPO and <i>m</i> H ₃ C-PBN Benzene ESR / 298	N: 1.33 H_β : 0.24	91Abe1
$[C_{16}H_{26}NO_2]$ 	Heating (328 K) DBPO and <i>p</i> H ₃ C-PBN Benzene ESR / 298	N: 1.33 H_β : 0.24	91Abe1

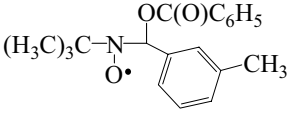
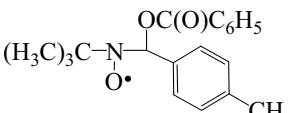
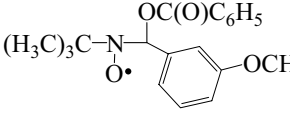
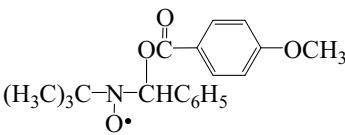
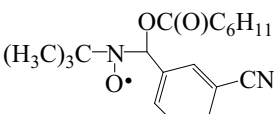
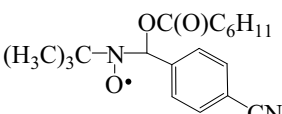
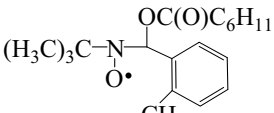
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{16}H_{26}NO_2]$ 	Photolysis of isopentyl nitrite and ^{15}N -PBN Benzene ESR / 298	N: 1.369 [^{15}N : 1.921] H_β : 0.196	96Zha1
$[C_{16}H_{26}NO_3]$ 	Heating (328 K) DBPO and mH_3CO -PBN Benzene ESR / 298	N: 1.40 H_β : 0.23	91Abe1
$[C_{16}H_{30}NO_{11}]$ 	γ -Irradiation (2 kGy) of sucrose-GF ₁ and MNP in H_2O H_2O / C_2H_5OH (2:1) ESR / 298	2.0060 N: 1.55 H_β : 0.06	91Tri1, 92Tri1
$[C_{16}H_{30}NO_{12}]$ 	γ -Irradiation (2 kGy) of ^{13}C -maltose and MNP in H_2O H_2O / C_2H_5OH (2:1) ESR / 298	N: 1.54 H_β : 0.65 $^{13}C_\alpha$: 0.52 N: 1.44 H_β : 0.05 $^{13}C_\alpha$: 0.70	93Raf1
$[C_{18}H_{18}BrClNO_3]$ 	Reaction of CPBA and mBr -PBN Benzene ESR / 293–313	2.00641 N: 1.316 H_β : 0.152	92Jan1
$[C_{18}H_{18}BrClNO_3]$ 	Reaction of CPBA and pBr -PBN Benzene (or ACN) ESR / 293–313	2.00628 N: 1.321 H_β : 0.156	92Jan1

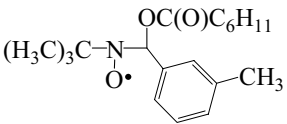
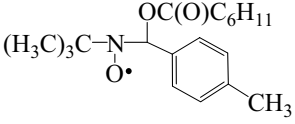
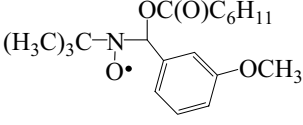
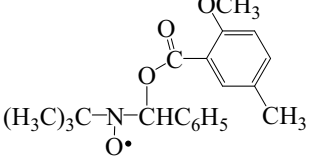
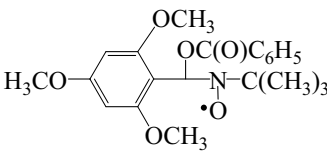
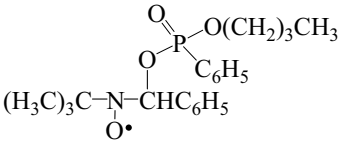
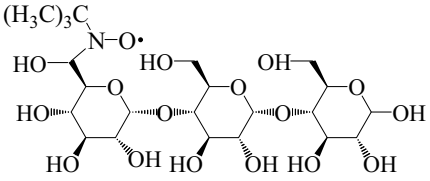
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
$[C_{18}H_{19}ClNO_3]$ 	Heating (328 K) NBOPT and <i>o</i> Cl-PBN Benzene ESR / 298	N: 1.37 <i>H_β</i> : 0.21	91Abe1
NBOPT = <i>N</i> -(Benzoyloxy)pyridine-2-thione.			
$[C_{18}H_{19}ClNO_3]$ 	Heating (328 K) NBOPT and <i>m</i> Cl-PBN Benzene ESR / 298	N: 1.34 <i>H_β</i> : 0.151	91Abe1
$[C_{18}H_{19}ClNO_3]$ 	Heating (328 K) NBOPT and <i>p</i> Cl-PBN Benzene ESR / 298	N: 1.35 <i>H_β</i> : 0.14	91Abe1
$[C_{18}H_{19}ClNO_3]$ 	Reazction of CPBA and PBN Benzene ESR / 298	2.00635 N: 1.328 <i>H_β</i> : 0.165	92Jan1, 96San2
$[C_{18}H_{19}FNO_3]$ 	LLE of <i>p</i> F-C ₆ H ₄ COOH, TMPP and PBN CH ₂ Cl ₂ ESR / 298	N: 1.35 <i>H_β</i> : 0.156	97Ebe3
TMPP = 2,4,6-Tris(4-methoxyphenyl)pyrylium tetrafluoborate.			
$[C_{18}H_{19}N_2O_5]$ 	Heating (328 K) NBOPT and <i>m</i> O ₂ N-PBN Benzene ESR / 298	N: 1.32 <i>H_β</i> : 0.15	91Abe1
NBOPT = <i>N</i> -(Benzoyloxy)pyridine-2-thione.			
$[C_{18}H_{19}N_2O_5]$ 	Heating (328 K) NBOPT and <i>p</i> O ₂ N-PBN Benzene ESR / 298	N: 1.32 <i>H_β</i> : 0.15	91Abe1

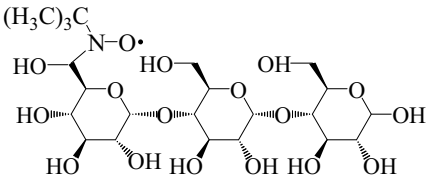
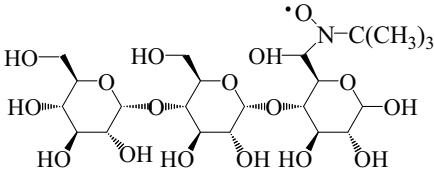
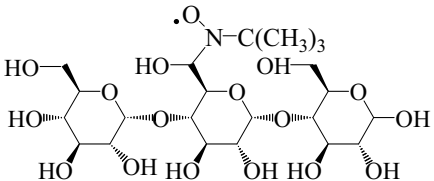
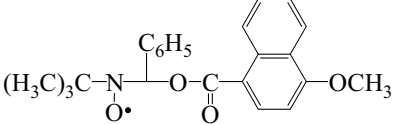
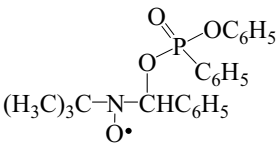
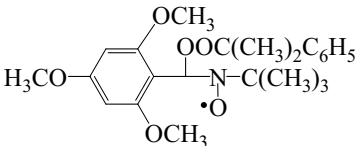
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{18}H_{19}N_2O_5]$ 	LLE of pO_2N - C_6H_4COOH , TMPP and PBN CH_2Cl_2 ESR / 298	N: 1.34 H_β : 0.166	97Ebe3
TMPP = 2,4,6-Tris(4-methoxyphenyl)pyrylium tetrafluoroborate.			
$[C_{18}H_{20}NO_3]$ 	Heating benzoyl peroxide and ^{13}C - ^{15}N -PBN Photolysis of benzoyl peroxide, DEA and PBN Benzene (CH_2Cl_2) ESR / 298 LLE of C_6H_5COOH , TMPP and PBN HFP ESR / 298	N: 1.329 [^{15}N : 1.862] H_β : 0.148 $^{13}C_\alpha$: 0.317 N: 1.47 H_β : 0.206	88Hai1, 91Abe1, 92Ebe1, 94Nis1, 96San2, 96Zha1 97Ebe3
DEA = Diethylamine. HFP = 1,1,1,3,3,3-Hexafluoropropanol. TMPP = 2,4,6-Tris(4-methoxyphenyl)pyrylium tetrafluoroborate.			
$[C_{18}H_{21}N_2O_3]$ 	LLE of TMPP, PBN and pNH_2 - C_6H_4COOH CH_2Cl_2 ESR / 298	N: 1.49 H_β : 0.2	97Ebe3
$[C_{18}H_{19}ClNO_3]$ 	Heating (328 K) NHCPT and oCl -PBN Benzene ESR / 298	N: 1.27 H_β : 0.27	91Abe1
NHCPT = <i>N</i> -(Cyclohexylcarboxy)pyridine-2-thione.			
$[C_{18}H_{19}ClNO_3]$ 	Heating (328 K) NHCPT and mCl -PBN Benzene ESR / 298	N: 1.36 $H(H_\beta)$: 0.19	91Abe1
$[C_{18}H_{19}ClNO_3]$ 	Heating (328 K) NHCPT and pCl -PBN Benzene ESR / 298	N: 1.33 H_β : 0.18	91Abe1

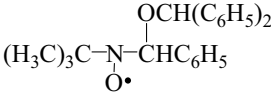
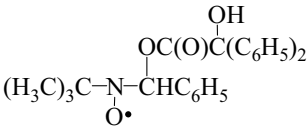
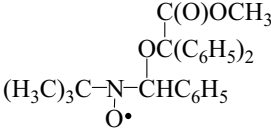
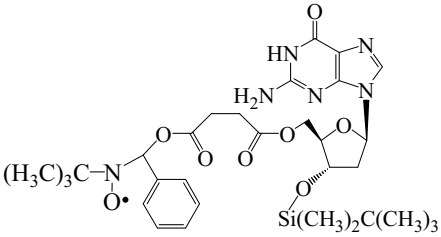
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
$[C_{18}H_{25}N_2O_5]$ 	Heating (328 K) NHCPT and <i>m</i> O ₂ N-PBN Benzene ESR / 298	N: 1.33 <i>H_β</i> : 0.18	91Abe1
NHCPT = <i>N</i> -(Cyclohexylcarboxy)pyridine-2-thione.			
$[C_{18}H_{25}N_2O_5]$ 	Heating <i>p</i> O ₂ N-PBN and NHCPT Benzene ESR / 298	N: 1.35 <i>H_β</i> : 0.19	91Abe1
$[C_{18}H_{26}NO_3]$ 	Heating (328 K) NHCPT and PBN Benzene ESR / 298	N: 1.39 <i>H_β</i> : 0.19	91Abe1
$[C_{18}H_{30}NO_5]$ 	Heating 2,4,6-(H ₃ CO) ₃ -PBN and isobutyl nitrite Benzene ESR / 298	N: 1.397 <i>H_β</i> : 0.886	90Jan2
$[C_{18}H_{30}NO_5]$ 	Reaction of DBPO and 2,4,6-trimethoxy-PBN Benzene ESR / 298	N: 1.418 <i>H_β</i> : 0.927	90Jan2
$[C_{18}H_{30}NO_6]$ 	Heating BHP and 2,4,6-(H ₃ CO) ₃ -PBN Benzene ESR / 298	N: 1.325 <i>H_β</i> : 0.474	90Jan2
$[C_{19}H_{19}N_2O_3]$ 	Heating (328 K) NBOPT and <i>m</i> NC-PBN Benzene ESR / 298	N: 1.35 <i>H_β</i> : 0.15	91Abe1
NBOPT = <i>N</i> -(Benzoyloxy)pyridine-2-thione.			

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{19}H_{19}N_2O_3]$ 	Heating (328 K) NBOPT and <i>p</i> NC-PBN Benzene ESR / 298	N: 1.33 H_β : 0.15	91Abe1
NBOPT = <i>N</i> -(Benzoyloxy)pyridine-2-thione.			
$[C_{19}H_{20}NO_5]$ 	Reaction of MMPP, Ti^{III} -EDTA and PBN H_2O , pH 6 (Flow syst.) ESR / 298	2.0060 N: 1.51 H_β : 0.275	91Gil1
MMPP = Magnesium monoperoxyphthalate.			
$[C_{19}H_{21}ClNO_3]$ 	Reaction of CPBA and <i>p</i> H_3C -PBN Benzene ESR / 298	2.00629 N: 1.336 H_β : 0.172	92Jan1
$[C_{19}H_{21}ClNO_4]$ 	Reaction of CPBA and <i>p</i> H_3CO -PBN ESR / 298 Benzene ACN	2.00635 N: 1.343 H_β : 0.173 2.00623 N: 1.361 H_β : 0.190	92Jan1
$[C_{19}H_{21}ClNO_4]$ 	Thermal decomposition of 2-trinitromethyl-4- chloroanisole in the pre- sence of PBN CH_2Cl_2 ESR / 295	N: 1.30 H_β : 0.163	96Ebe1
$[C_{19}H_{22}NO_3]$ 	Heating (328 K) NBOPT and <i>o</i> H_3C -PBN Benzene ESR / 298	N: 1.40 H_β : 0.30	91Abe1

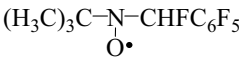
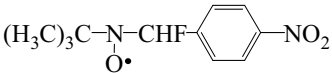
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
$[C_{19}H_{22}NO_3]$ 	Heating (328 K) NBOPT and <i>m</i> H ₃ C-PBN Benzene ESR / 298	N: 1.35 H _β : 0.15	91Abe1
NBOPT = <i>N</i> -(Benzoyloxy)pyridine-2-thione.			
$[C_{19}H_{22}NO_3]$ 	Heating (328 K) NBOPT and <i>p</i> H ₃ C-PBN Benzene ESR / 298	N: 1.34 H _β : 0.15	91Abe1
$[C_{19}H_{22}NO_4]$ 	Heating (328 K) <i>m</i> H ₃ CO-PBN and NBOPT Benzene ESR / 298	N: 1.38 H _β : 0.16	91Abe1
$[C_{19}H_{22}NO_4]$ 	Photolysis ($\lambda > 400$ nm) of <i>p</i> H ₃ CO-C ₆ H ₄ COOH, TMPP and PBN CH ₂ Cl ₂ ESR / 298	N: 1.41 H _β : 0.282	97Ebe3
TMPP = 2,4,6-Tris(4-methoxyphenyl)pyrylium tetrafluoroborate.			
$[C_{19}H_{25}N_2O_3]$ 	Heating (328 K) NHCPT and <i>m</i> NC-PBN Benzene ESR / 298	N: 1.41 H _β : 0.18	91Abe1
NHCPT = <i>N</i> -(Cyclohexylcarboxy)pyridine-2-thione.			
$[C_{19}H_{25}N_2O_3]$ 	Heating (328 K) NHCPT and <i>p</i> NC-PBN Benzene ESR / 298	N: 1.42 H _β : 0.19	91Abe1
$[C_{19}H_{28}NO_3]$ 	Heating (328 K) NHCPT and <i>o</i> H ₃ C-PBN Benzene ESR / 298	N: 1.28 H _β : 0.24	91Abe1

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{19}H_{28}NO_3]$ 	Heating (328 K) NHCPT and mH_3C -PBN Benzene ESR / 298	N: 1.40 H_β : 0.19	91Abe1
NHCPT = <i>N</i> -(Cyclohexylcarboxy)pyridine-2-thione.			
$[C_{19}H_{28}NO_3]$ 	Heating (328 K) NHCPT and pH_3C -PBN Benzene ESR / 298	N: 1.40 H_β : 0.19	91Abe1
$[C_{19}H_{28}NO_4]$ 	Heating (328 K) mH_3CO -PBN and NHCPT Benzene ESR / 298	N: 1.39 H_β : 0.19	91Abe1
$[C_{20}H_{24}NO_4]$ 	Thermal decomposition of 2-trinitromethyl-4-methylanisole in the presence of PBN CH_2Cl_2 ESR / 295	N: 1.31 H_β : 0.151	96Ebe1
$[C_{21}H_{26}NO_6]$ 	Thermal decomposition of benzoyl peroxide in the presence of 2,4,6-(H_3CO) $_3$ -PBN Benzene ESR / 298	N: 1.336 H_β : 0.537	90Jan2
$[C_{21}H_{29}NO_4P]$ 	Photolysis of dioxybis-[(<i>n</i> -butoxy)phenylphosphane oxide] and PBN $CHCl_3$ ESR / 293	2.0063 ₁ N: 1.310 H_β : 0.10 ^{31}P : < 0.03	92Kor1
$[C_{22}H_{40}NO_{17}]$  (continued)	γ -Irradiation (2 kGy) of ^{13}C -maltotriose and MNP H_2O - C_2H_5OH (2:1) ESR / 298	<i>Rotamer I</i> N: 1.55 H_β : 0.62 $^{13}C_\alpha$: 0.52	93Raf1

Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
<p>[C₂₂H₄₀NO₁₇] (<i>continued</i>)</p> 	<p>γ-Irradiation (2 kGy) of ¹³C-maltotriose and MNP H₂O-C₂H₅OH (2:1) ESR / 298</p>	<p><i>Rotamer II</i> N: 1.55 H_β: 0.50 ¹³C_α: 0.23</p>	93Raf1
<p>[C₂₂H₄₀NO₁₇]</p> 	<p>γ-Irradiation (2 kGy) of ¹³C-maltotriose and MNP H₂O-C₂H₅OH (2:1) ESR / 298</p>	<p>N: 1.44 H_β: 0.03 ¹³C_α: 0.70</p>	93Raf1
<p>[C₂₂H₄₀NO₁₇]</p> 	<p>γ-Irradiation (2 kGy) of ¹³C-maltotriose and MNP H₂O-C₂H₅OH (2:1) ESR / 298</p>	<p>N: 1.53 H_β: 0.09</p>	93Raf1
<p>[C₂₃H₂₄NO₄]</p> 	<p>Photolysis or heating 1-methoxy-4-trinitromethylnaphthalene and PBN LLE of 4-methoxynaphthoic acid, TMPP and PBN CH₂Cl₂ ESR / 298</p> <p>TMPP = 2,4,6-Tris(4-methoxyphenyl)pyrylium tetrafluoroborate.</p>	<p>N: 1.35 H_β: 0.156</p>	96Ebe1, 97Ebe3
<p>[C₂₃H₂₅NO₄P]</p> 	<p>Photolysis of dioxybis-[(phenoxy)phenylphosphane oxide] and PBN CHCl₃ ESR / 293</p>	<p>2.0062₆ N: 1.333 H_β: 0.105 ³¹P: 0.33</p>	92Kor1
<p>[C₂₃H₃₂NO₆]</p> 	<p>Heating cumylhydroperoxide, 2,4,6-(H₃CO)₃-PBN and BOOB Benzene ESR</p>	<p>N: 1.321 H_β: 0.508</p>	90Jan2

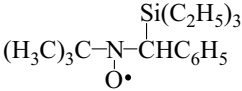
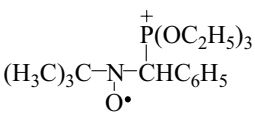
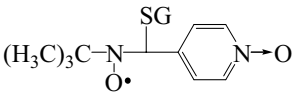
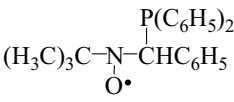
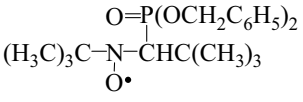
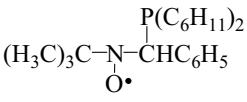
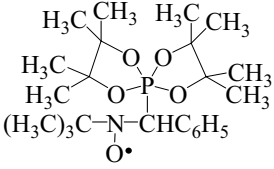
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{24}H_{26}NO_2]$ 	LLE of $(H_3C)_2CHOH$, TMPP and PBN CH_2Cl_2 ESR / 298 TMPP = 2,4,6-Tris(4-methoxyphenyl)pyrylium tetrafluoroborate.	N: 1.35 H_β : 0.156	97Ebe3
$[C_{25}H_{26}NO_4]$ 	LLE of 2-hydroxy-2,2-diphenylacetic acid, TMPP and PBN CH_2Cl_2 ESR / 298	N: 1.33 H_β : 0.131	97Ebe3
$[C_{25}H_{28}NO_4]$ 	LLE of methyl 2-hydroxy-2,2-diphenylacetate, TMPP and PBN CH_2Cl_2 ESR / 298	N: 1.32 H_β : 0.16	97Ebe3
$[C_{31}H_{45}N_6O_8Si]$ 	Heating NANDAF and PBN Benzene ESR / 298 NANDAF = [<i>N</i> -Acetyl- <i>N</i> -[[(2'-deoxy,3'- <i>tert</i> -butyldimethylsilyloxy)-5'-guanosyl]-3-carbonyl]propanoyloxy]]-2-amino-fluorene.	N: 1.35 H_β : 0.22	93Mic1

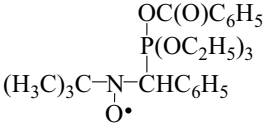
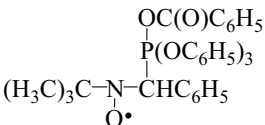
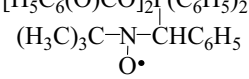
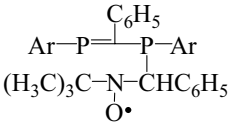
12.2.2.8.4 Acyclic *sec*-alkyl *tert*-butyl nitroxides [$^tBuN(O^\bullet)CH(XR^1)R^2$ with $X = \text{Halogen}$]

$[C_{11}H_{10}F_6NO]$ 	Reaction of XeF_2 and F_3PBN CH_2Cl_2 ESR / 298	N: 1.22 H_β : 0.288 F_β : 5.60	97Ebe2
$[C_{11}H_{14}FN_2O_3]$ 	Reaction of XeF_2 and pO_2N -PBN ESR / 298 CH_2Cl_2 HFP	N: 1.24 H_β : 0.107 F_β : 4.78 N: 1.38 H_β : 0.133 F_β : 4.03	97Ebe2

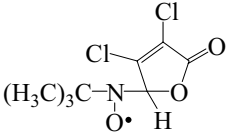
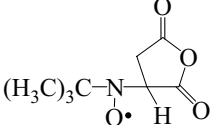
HFP = 1,1,1,3,3,3-Hexafluoropropanol.

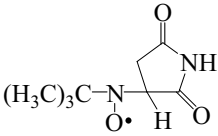
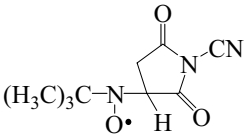
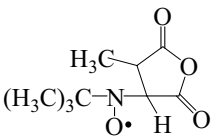
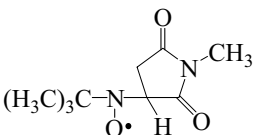
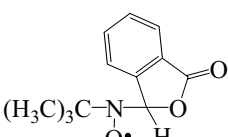
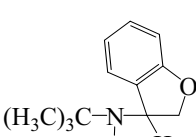
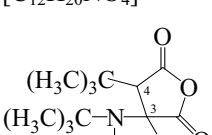
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[\text{C}_{12}\text{H}_{19}\text{N}_3\text{OS}]^+$ $\begin{array}{c} \text{NH}_2^+ \\ \\ \text{SCNH}_2 \\ \\ (\text{H}_3\text{C})_3\text{C}-\text{N}-\text{CHC}_6\text{H}_5 \\ \\ \text{O}^\bullet \end{array}$	Reaction of thiourea, H_2O_2 and PBN Citrate buffer, pH 3.0 ESR / 298	2.0064 N: 1.53 H_β : 0.24	92Sah1
$[\text{C}_{12}\text{H}_{27}\text{NO}_4\text{P}]$ $\begin{array}{c} \text{O}=\text{P}(\text{OC}_2\text{H}_5)_2 \\ \\ (\text{H}_3\text{C})_3\text{C}-\text{N}-\text{CHCH}(\text{CH}_3)_2 \\ \\ \text{O}^\bullet \end{array}$	Reaction of CPBA and α -aminophosphonate CH_2Cl_2 ESR / 298	2.0061 N: 1.427 ^{31}P : 4.776 H_β : 0.099	00Gri1
$[\text{C}_{13}\text{H}_{20}\text{NOS}]$ $\begin{array}{c} \text{SC}_2\text{H}_5 \\ \\ (\text{H}_3\text{C})_3\text{C}-\text{N}-\text{CHC}_6\text{H}_5 \\ \\ \text{O}^\bullet \end{array}$	Photolysis of ONSC_2H_5 and ^{13}C -PBN Benzene ESR / 298	N: 1.380 H_β : 0.200 $^{13}\text{C}_\alpha$: 0.490	88Hai1
$[\text{C}_{13}\text{H}_{21}\text{NO}_4\text{P}]$ $\begin{array}{c} \text{O}=\text{P}(\text{OCH}_3)_2 \\ \\ (\text{H}_3\text{C})_3\text{C}-\text{N}-\text{CHC}_6\text{H}_5 \\ \\ \text{O}^\bullet \end{array}$	PbO_2 oxidation of $(\text{H}_3\text{CO})_2\text{P}(\text{O})\text{H}$ and PBN Benzene ESR / 298	2.0061 N: 1.46 H_β : 0.33 ^{31}P : 2.39	88Rei1
$[\text{C}_{13}\text{H}_{23}\text{F}_6\text{NO}_4\text{P}]$ $\begin{array}{c} \text{O}=\text{P}(\text{OCH}_2\text{CF}_3)_2 \\ \\ (\text{H}_3\text{C})_3\text{C}-\text{N}-\text{CHC}(\text{CH}_3)_3 \\ \\ \text{O}^\bullet \end{array}$	Reaction of CPBA and α -aminophosphonate CH_2Cl_2 ESR / 298	2.0062 N: 1.427 ^{31}P : 4.526 H_β : < 0.05	00Gri1
$[\text{C}_{13}\text{H}_{29}\text{NO}_4\text{P}]$ $\begin{array}{c} \text{O}=\text{P}(\text{OC}_2\text{H}_5)_2 \\ \\ (\text{H}_3\text{C})_3\text{C}-\text{N}-\text{CHC}(\text{CH}_3)_3 \\ \\ \text{O}^\bullet \end{array}$	Synthesis via oxidation of 2,2-dimethyl-1-(1,1-dimethylethylamino)-propyl diethylphosphonate. Glycerol ESR / > 330 ESR / 200÷230	2.0058 N: 1.446 ^{31}P : 4.597 H_β : < 0.05 2.0084, 2.0067, 2.0023 is. 2.0058 N: 0.64, 0.56, 3.34 is. 1.47 ^{31}P : 4.36, 4.12, 4.9 is. 4.46	98Cha1, 00Gri1 98Cha1
Conformational analysis reported.			
$[\text{C}_{15}\text{H}_{25}\text{NO}_4\text{P}]$ $\begin{array}{c} \text{O}=\text{P}(\text{OC}_2\text{H}_5)_2 \\ \\ (\text{H}_3\text{C})_3\text{C}-\text{N}-\text{CHC}_6\text{H}_5 \\ \\ \text{O}^\bullet \end{array}$	Heating DBPO, $(\text{H}_3\text{C}_2\text{O})_2\text{P}(\text{O})\text{H}$ and ^{13}C -PBN Benzene ESR / 298	2.0063 N: 1.465 H_β : 0.306 $^{13}\text{C}_\alpha$: 0.616 ^{31}P : 2.433	88Hai1

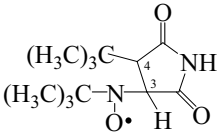
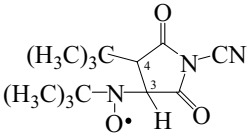
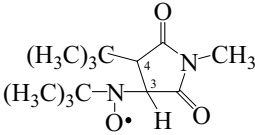
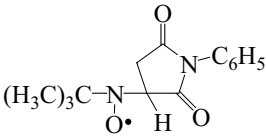
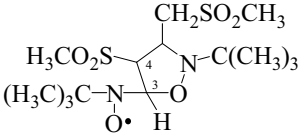
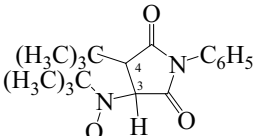
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / α -Value [mT]	Ref. / add. Ref.
$[\text{C}_{17}\text{H}_{30}\text{NOSi}]$ 	Heating HSi(C ₂ H ₅) ₃ , DBPO and ¹³ C-PBN Benzene ESR / 298	2.0062 N: 1.467 H _β : 0.600 ¹³ C _α : 0.514 ²⁹ Si _β : ~1.30	88Hai1
$[\text{C}_{17}\text{H}_{30}\text{NO}_4\text{P}]^+$ 	Reaction of P(OC ₂ H ₅) ₃ , TBPA and PBN CH ₂ Cl ₂ Benzene ESR / 298	N: 1.47 H _β : 0.345 ³¹ P: 2.33	92Ebe1, 94Ebe1
TBPA = Tris(4-bromophenyl)aminium hexachloroantimonate.			
$[\text{C}_{20}\text{H}_{30}\text{N}_5\text{O}_8\text{S}]$ 	Bile from rats fed with oxidised linoleic acid and POBN H ₂ O ESR / 298	N: 1.534 H _β : 0.262	92Cha1
SG = Thiyl radical from glutathione.			
$[\text{C}_{23}\text{H}_{25}\text{NOP}]$ 	Reaction of HP(C ₆ H ₅) ₂ , DPPH and PBN Benzene ESR / 298	N: 1.41 H _β : 0.32 ³¹ P: 1.82	97Sue1
$[\text{C}_{23}\text{H}_{33}\text{NO}_4\text{P}]$ 	Reaction of CPBA and α -aminophosphonate CH ₂ Cl ₂ ESR / 298	2.0061 N: 1.427 ³¹ P: 4.588 H _β : < 0.05	00Gri1
$[\text{C}_{23}\text{H}_{37}\text{NOP}]$ 	Heating DBPO, dicyclohexyl phosphine and ¹³ C-PBN Benzene ESR / 298	N: 1.439 H _β : 0.335 ¹³ C _α : 0.633 ³¹ P: 1.211	88Hai1
$[\text{C}_{23}\text{H}_{39}\text{NO}_5\text{P}]$ 	Photolysis of BOOB, phosphorane and PBN Benzene ESR / 298	N: 1.440 H _β : 0.306 ³¹ P: 2.478	99Hai1

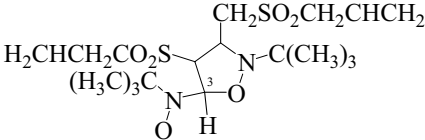
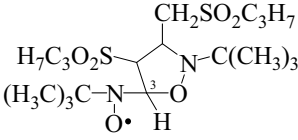
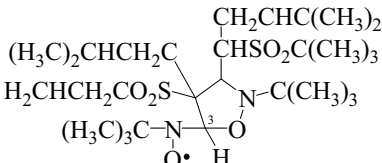
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{24}H_{35}NO_6P]$ 	Heating $P(OC_2H_5)_3$, BPO and PBN Benzene ESR / 328	N: 1.43 H_β : 0.31 ^{31}P : 2.52	97Sue1
BPO = Benzoyl peroxide			
$[C_{36}H_{35}NO_6P]$ 	Heating $P(OC_6H_5)_3$, BPO and PBN Benzene ESR / 328	N: 1.44 H_β : 0.31 ^{31}P : 2.64	97Sue1
$[C_{37}H_{35}NO_5P]$ $[H_5C_6(O)CO]_2P(C_6H_5)_2$ 	Heating $P(C_6H_5)_3$, BPO and PBN Benzene ESR / 328	N: 1.71 H_β : 0.38 ^{31}P : 2.64	97Sue1
$[C_{54}H_{78}NOP_2]$ 	Photolysis of 1,3-diphosphopropene and PBN Toluene ESR / 298	2.0088 N: 1.46 H_β : 0.227 ^{31}P : 1.76	90Gou1
Ar = 2,4,6- <i>tert</i> -Butylphenyl. 1,3-Diphosphopropene = 1,3-Di(2,4,6- <i>tert</i> -butylphenyl)-2-phenyl-3-chloro-1,3-diphosphopropene.			

12.2.2.8.6 Five-membered cyclic *sec*-alkyl *tert*-butyl nitroxides

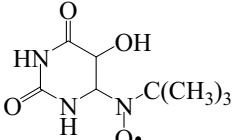
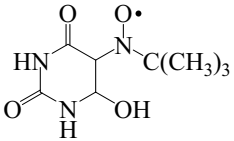
$[C_8H_{10}Cl_2NO_3]$ 	Reaction of (d_1)-mucochloric acid, GSH and MNP Phosphate buffer, pH 7.1 ESR / 298	2.0063 N: 1.365 H_β : 0.073 [D : 0.019]	94LaL1
$[C_8H_{12}NO_4]$ 	Exposure of maleic anhydride and PBN to daylight DMF ESR / 298	N: 1.448 H: 0.112 H: 0.088 H: 0.080	98Ebe2

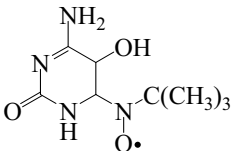
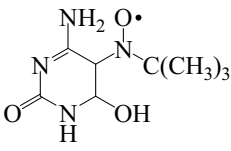
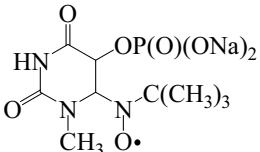
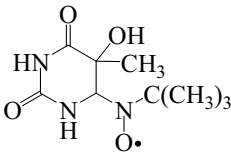
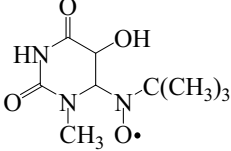
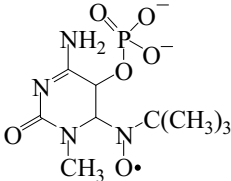
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
<p>[C₈H₁₃N₂O₃]</p> 	Exposure of (1- <i>d</i> ₁)-maleimide and PBN to daylight CH ₂ Cl ₂ ESR / 298	N: 1.47 H: 0.116 H: 0.059 N _γ : 0.060 H(NH): 0.079 [D: 0.012]	98Ebe2
<p>[C₉H₁₂N₃O₃]</p> 	Exposure of <i>N</i> -cyano-maleimide and PBN to daylight CH ₂ Cl ₂ ESR / 298	N: 1.438 H: 0.272 H: 0.028 N _γ : 0.090	98Ebe2
<p>[C₉H₁₄NO₄]</p> 	Exposure of methyl maleic anhydride and PBN to daylight CH ₂ Cl ₂ ESR / 298	N: 1.46 H: 0.22	98Ebe2
<p>[C₉H₁₅N₂O₃]</p> 	Exposure of <i>N</i> -methyl-maleimide and PBN to daylight CH ₂ Cl ₂ ESR / 298	N: 1.40 H: 0.23 H: 0.02 H: 0.03 N _γ : 0.112	98Ebe2
<p>[C₁₂H₁₄NO₃]</p> 	Reaction of <i>o</i> -phthalaldehyde or phthalide, <i>tert</i> -butyl hyponitrite and MNP Benzene ESR / 298	2.0063 N: 1.284 H _β : 0.105	94Men1
<p>[C₁₂H₁₆NO₂]</p> 	Photolysis of BOOB, dihydro-2,3-benzofuran and MNP Benzene ESR / 298	N: 1.44 H _β : 0.10	90Jan2
<p>[C₁₂H₂₀NO₄]</p> 	Exposure of maleic anhydride and MNP to daylight CH ₂ Cl ₂ ESR / 298	N: 1.44 H(H3): 0.154 H(H4): 0.085 9H _γ : 0.015	98Ebe2

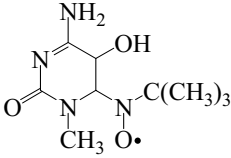
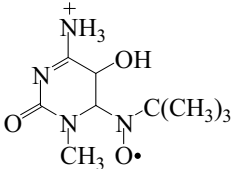
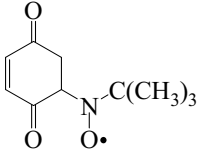
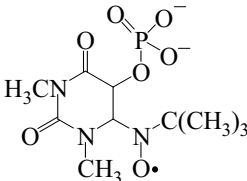
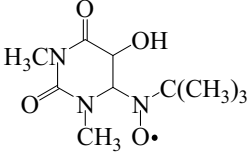
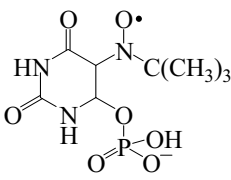
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{12}H_{21}N_2O_3]$ 	Exposure of (1- d_1)-maleimide and MNP to daylight CH_2Cl_2 ESR / 298	N: 1.45 H(H3): 0.175 H(H4): 0.079 $9H_\gamma$: 0.020 N_γ : 0.080 H(NH): 0.090 [D: 0.014]	98Ebe2
$[C_{13}H_{20}N_3O_3]$ 	Exposure of <i>N</i> -cyano-maleimide and MNP to daylight CH_2Cl_2 ESR / 298	N: 1.42 H(H3): 0.164 H(H4): 0.076 $9H_\gamma$: 0.016 N_γ : 0.108	98Ebe2
$[C_{13}H_{23}N_2O_3]$ 	Exposure of <i>N</i> -methyl-maleimide and MNP to daylight CH_2Cl_2 ESR / 298	N: 1.44 H(H3): 0.182 H(H4): 0.084 $9H_\gamma$: 0.016 N_γ : 0.087	98Ebe2
$[C_{14}H_{17}N_2O_3]$ 	Exposure of <i>N</i> -phenyl-maleimide and PBN to daylight ACN ESR / 298	N: 1.46 H: 0.111 H: 0.096 H: 0.079 N_γ : 0.057	98Ebe2
$[C_{14}H_{29}N_2O_6S_2]$ 	Oxidation of BHAMSE with PbO_2 $CHCl_3$ ESR / 293	N: 1.41 H(H3): < 0.06	89Aur1
BHAMSE = 2-(<i>N</i> -tert-Butylhydroxyamino)-1-(methylsulfonyl)-ethane.			
$[C_{18}H_{25}N_2O_3]$ 	Exposure of <i>N</i> -phenyl-maleimide and PBN to daylight ACN ESR / 298	N: 1.44 H(H3): 0.160 H(H4): 0.080 $9H_\gamma$: 0.019 N_γ : 0.081	98Ebe2

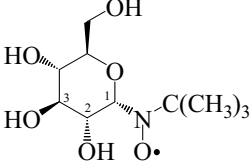
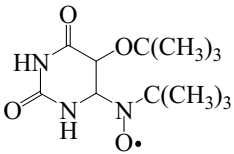
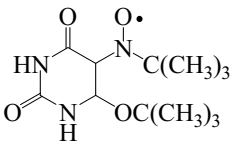
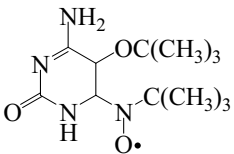
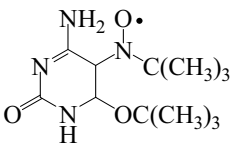
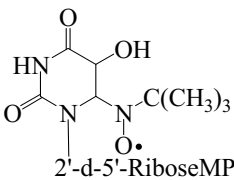
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
<p>[C₁₈H₃₃N₂O₆S₂]</p> 	<p>Oxidation of BHAASE with PbO₂ CHCl₃ ESR / 293</p>	<p>N: 1.35 H(H3): 0.10</p>	89Aur1
<p>[C₁₈H₃₃N₂O₆S₂]</p> 	<p>Oxidation of BHAPSE with PbO₂ CHCl₃ ESR / 293</p>	<p>N: 1.30 H(H3): 0.15</p>	89Aur1
<p>[C₃₀H₅₇N₂O₆S₂]</p> 	<p>Oxidation of BHABSH with PbO₂ CHCl₃ ESR / 243</p>	<p>N: 1.41 H(H3): < 0.06</p>	89Aur1

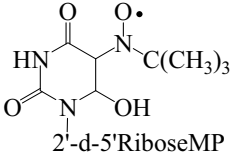
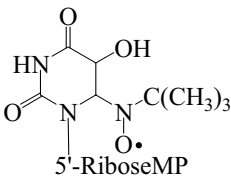
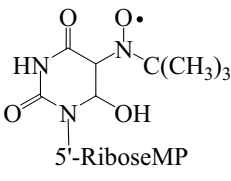
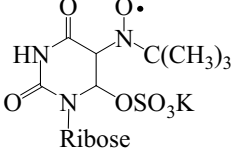
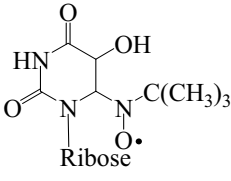
12.2.2.8.7 Six-membered cyclic *sec*-alkyl *tert*-butyl nitroxides

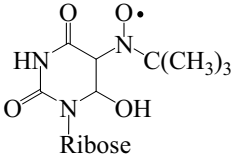
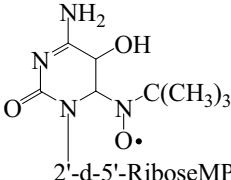
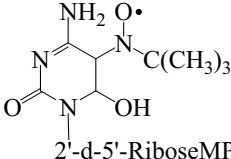
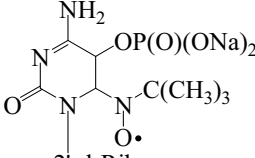
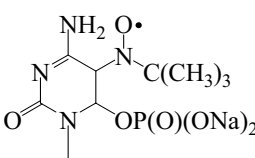
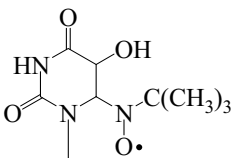
<p>[C₈H₁₄N₃O₄]</p> 	<p>Reaction of uracil with H₂O₂-Ti^{III} (Fe^{II}) and MNP H₂O, pH 1÷9 ESR / 298</p>	<p>2.0059 N: 1.50 H_β: 0.16 N_β: 0.35</p>	93Cat1, 95Mol1
<p>[C₈H₁₄N₃O₄]</p> 	<p>Reaction of uracil with H₂O₂-Ti^{III} (Fe^{II}) and MNP H₂O, pH 7÷9 ESR / 298</p>	<p>2.0059 N: 1.37 H_β: 0.42</p>	93Cat1

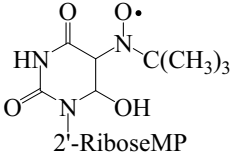
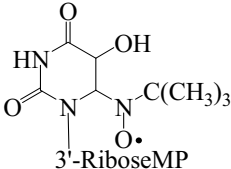
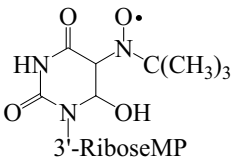
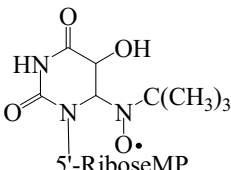
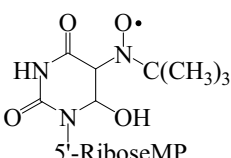
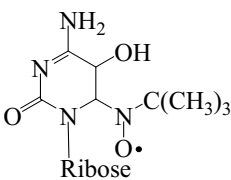
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[\text{C}_8\text{H}_{15}\text{N}_4\text{O}_3]$ 	Reaction of cytosine, H_2O_2 - Ti^{III} (Fe^{II}) and MNP H_2O , pH 1÷9 ESR / 298	2.0059 N: 1.49 H_β : 0.15 N_β : 0.35 H_γ : 0.02	93Cat1, 95Mol1
$[\text{C}_8\text{H}_{15}\text{N}_4\text{O}_3]$ 	Reaction of cytosine, H_2O_2 - Ti^{III} (Fe^{II}) and MNP H_2O , pH 1÷9 ESR / 298	2.0059 N: 1.53 H_β : 0.32	93Cat1
$[\text{C}_9\text{H}_{15}\text{N}_3\text{O}_7\text{PNa}_2]$ 	Photolysis of (3- d_1)-1-methyluracil, $\text{Na}_2\text{S}_2\text{O}_8$, HPO_4^{2-} , and MNP D_2O , pD > 7 ESR / 298	N: 1.482 H_β : 0.194 N_β : 0.217 H_γ : 0.047	95Hil1
$[\text{C}_9\text{H}_{16}\text{N}_3\text{O}_4]$ 	Reaction of thymine, H_2O_2 - Ti^{III} (Fe^{II}) and MNP H_2O , pH 1÷9 ESR / 298	2.0059 N: 1.51 N_β : 0.35	93Cat1, 95Mol1
$[\text{C}_9\text{H}_{16}\text{N}_3\text{O}_4]$ 	Photolysis of (3- d_1)-1-methyluracil, $\text{K}_2\text{S}_2\text{O}_8$ and MNP D_2O , pD 1÷9 ESR / 298	N: 1.482 H_β : 0.196 N_β : 0.226 H_γ : 0.050	95Hil1
Protonation at pD < 1 hardly influences the spectral parameters.			
$[\text{C}_9\text{H}_{16}\text{N}_4\text{O}_6\text{P}]^{2-}$ 	Photolysis of (4- d_2)-1-methylcytosine, $\text{K}_2\text{S}_2\text{O}_8$, HPO_4^{2-} and MNP D_2O , pD > 7 ESR / 298	N: 1.495 H_β : 0.253 N_β : 0.195 H_γ : 0.052	95Hil1

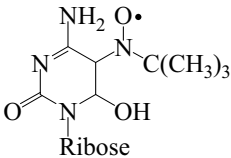
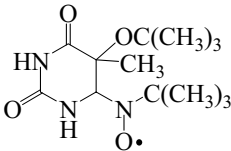
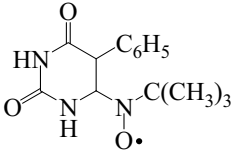
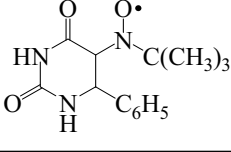
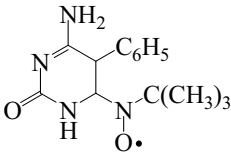
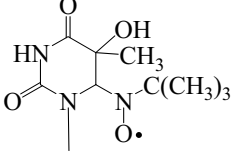
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
$[\text{C}_9\text{H}_{17}\text{N}_4\text{O}_3]$ 	Reaction of 1-methylcytosine, H_2O_2 - Ti^{III} (or Fe^{II}) and MNP H_2O , pH 4÷9 ESR / 298	2.0059 N: 1.49 H_β : 0.21 N_β : 0.21	93Cat1
$[\text{C}_9\text{H}_{18}\text{N}_4\text{O}_3]^+$ 	Photolysis of 1-methylcytosine, H_2O_2 - Ti^{III} (or Fe^{II}) and MNP H_2O , pH 1÷4 ESR / 298	2.0059 N: 1.51 H_β : 0.41 N_β : 0.14 H_γ : 0.05	93Cat1
$[\text{C}_{10}\text{H}_{14}\text{NO}_3]$ 	Reaction of <i>tert</i> -butylhydroxylamine, <i>p</i> -benzoquinone and MNP CH_2Cl_2 ESR / 298	N: 1.442 H_β : 0.312 2H_γ : 0.076 H_δ : 0.040	99Ebel
$[\text{C}_{10}\text{H}_{17}\text{N}_3\text{O}_7\text{P}]^{2-}$ 	Photolysis of 1,3-dimethyluracil, $\text{K}_2\text{S}_2\text{O}_8$, HPO_4^{2-} and MNP H_2O , pH > 7 ESR / 298	N: 1.508 H_β : 0.213 N_β : 0.213 H_γ : 0.052	95Hil1
$[\text{C}_{10}\text{H}_{18}\text{N}_3\text{O}_4]$ 	Photolysis of 1,3-dimethyluracil, $\text{K}_2\text{S}_2\text{O}_8$ and MNP H_2O , pH 0.5÷9 ESR / 298	N: 1.48 H_β : 0.218 N_β : 0.218 H_γ : 0.052	95Hil1
$[\text{C}_{10}\text{H}_{18}\text{N}_3\text{O}_7\text{P}]^-$ 	Photolysis of 1,3-dimethyluracil, $\text{K}_2\text{S}_2\text{O}_8$, HPO_4^{2-} and MNP H_2O , pH 3÷6 ESR / 298	N: 1.49 H_β : 0.381 N_γ : 0.033	95Hil1

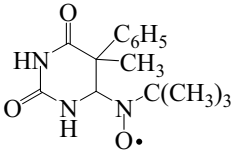
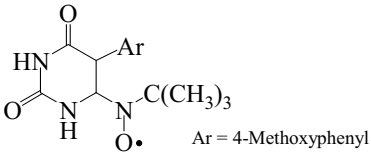
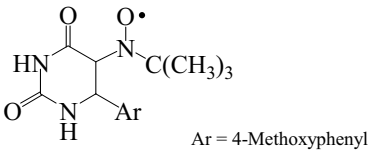
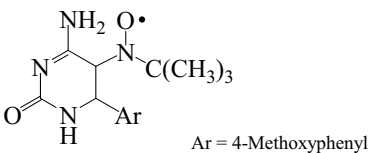
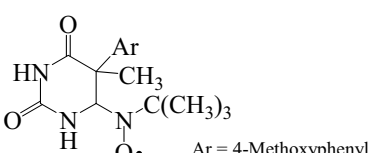
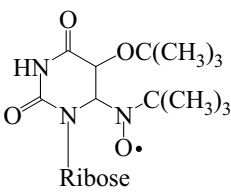
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{10}H_{20}NO_6]$ 	γ -Irradiation (20 kGy) of β -D-fructofuranosyl α -D-glucopyranoside as powder and addition to a solution of MNP in H_2O - C_2H_5OH (2:1) ESR / 298	N: 1.43 H(H1): 0.24 H(H2): 0.20 H(H3): 0.13	91Tri1
$[C_{12}H_{22}N_3O_4]$ 	Photolysis of uracil, Ti^{III} -BHP and MNP H_2O , pH 7.4 ESR / 298	N: 1.50 H_β : 0.135 N_β : 0.345	95Haz1
$[C_{12}H_{22}N_3O_4]$ 	Photolysis of uracil, Ti^{III} -BHP and MNP H_2O , pH 1 ESR / 298	N: 1.50 H_β : 0.245 H_γ : 0.064 N_γ : 0.064	95Haz1
$[C_{12}H_{23}N_4O_3]$ 	Photolysis of cytosine, Ti^{III} -BHP and MNP H_2O , pH 7 ESR / 298	N: 1.50 H_β : 0.167 N_β : 0.347	95Haz1
$[C_{12}H_{23}N_4O_3]$ 	Photolysis of cytosine, Ti^{III} -BHP and MNP H_2O , pH 2.5 ESR / 298	N: 1.50 H_β : 0.380	95Haz1
$[C_{13}H_{21}N_3O_{10}PNa_2]$  2'-d-5'-RiboseMP	Reaction of 2'-deoxyuridine 5'-monophosphate, H_2O_2 - Fe^{II} -EDTA and MNP Phosphate buffer pH 7.4 ESR / 298	N: 1.54 H_β : 0.40 N_β : 0.106	89Fli1

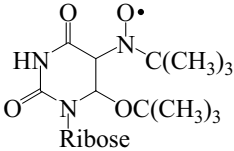
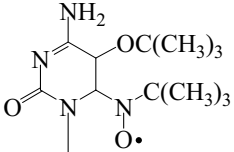
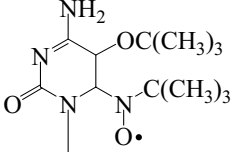
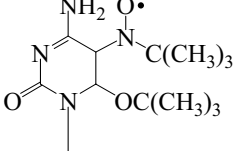
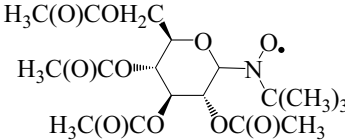
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
$[C_{13}H_{21}N_3O_{10}PNa_2]$  2'-d-5'-RiboseMP	Reaction of 2'-deoxyuridine 5'-monophosphate, H_2O_2 - Fe^{II} -EDTA and MNP Phosphate buffer pH 7.4 ESR / 298	N: 1.54 H_β : 0.340	89Fli1
$[C_{13}H_{21}N_3O_{11}PNa_2]$  5'-RiboseMP	Reaction of uridine monophosphate, H_2O_2 - $FeSO_4$ and MNP H_2O , pH 1÷9 ESR / 298	2.0059 N: 1.51 H_β : 0.72	93Cat1, 95Mol1
$[C_{13}H_{21}N_3O_{11}PNa_2]$  5'-RiboseMP	Reaction of uridine monophosphate, H_2O_2 - $FeSO_4$ and MNP H_2O , pH 1÷9 ESR / 298	2.0059 N: 1.53 H_β : 0.37	93Cat1, 95Mol1
$[C_{13}H_{21}N_3O_{11}SK]$  Ribose	Reaction of (5- <i>d</i> ₁) or (5,6- <i>d</i> ₂)-uridine, $K_2S_2O_8$ - Fe^{II} -EDTA and MNP H_2O , pH 2.5÷7.4 ERSR / 298	2.0059 N: 1.44	97Ho1
$[C_{13}H_{22}N_3O_8]$  Ribose	Reaction of uridine, H_2O - $FeSO_4$ and MNP H_2O , pH 1÷9 ESR / 298 Reaction of (1,3- $^{15}N_2$), (5- <i>d</i> ₁), and (5,6- <i>d</i> ₂)-uridine with H_2O - $FeSO_4$ and MNP H_2O , pH 1÷9 ESR / 298 Nearly identical spectra with 2'-deoxyuridine.	2.0059 N: 1.50 H_β : 0.68 2.0059 N: 1.50 H_β : 0.16 N_β : 0.26 [D: < 0.05] [^{15}N : 0.37]	93Cat1, 95Dav1, 95Mol1 97Ho1

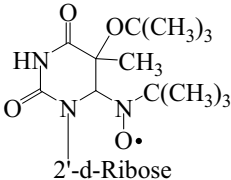
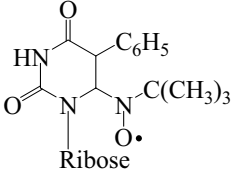
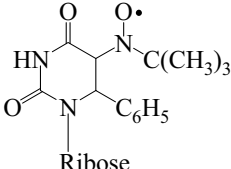
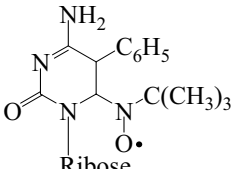
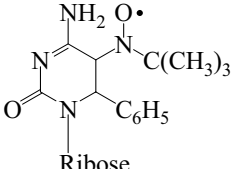
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{13}H_{22}N_3O_8]$  Ribose	Reaction of $(1,3-^{15}N_2)$, $(5-d_1)$, and $(5,6-d_2)$ -uridine with H_2O - $FeSO_4$ and MNP H_2O , pH 1÷9 ESR / 298	2.0059 N: 1.51 H_β : 0.35 [D: < 0.05]	93Cat1, 95Dav1, 95Mol1, 97Hol1
Nearly identical spectra with 2'-deoxyuridine.			
$[C_{13}H_{22}N_4O_9PNa_2]$  2'-d-5'-RiboseMP	Reaction of 2'-deoxycytidine 5'-monophosphate, H_2O_2 - Fe^{II} -EDTA and MNP Phosphate buffer pH 7.4 ESR / 298	N: 1.54 H_β : 0.55 N_β : 0.09	89Flil
$[C_{13}H_{22}N_4O_9PNa_2]$  2'-d-5'-RiboseMP	Reaction of 2'-deoxycytidine 5'-monophosphate, H_2O_2 - Fe^{II} -EDTA and MNP Phosphate buffer pH 7.4 ESR / 298	N: 1.56 H_β : 0.44	89Flil
$[C_{13}H_{22}N_4O_9PNa_2]$  2'-d-Ribose	Reaction of 2'-deoxycytidine, H_2O_2 - $FeSO_4$ -EDTA, Na_2HPO_4 and MNP H_2O , pH > 7 ESR / 298	N: 1.50 H_β : 0.70	95Hil1
$[C_{13}H_{22}N_4O_9PNa_2]$  2'-d-Ribose	Reaction of 2'-deoxycytidine, H_2O_2 - $FeSO_4$ -EDTA, Na_2HPO_4 and MNP H_2O , pH > 7 ESR / 298	N: 1.50 H_β : 0.40	95Hil1
$[C_{13}H_{23}N_3O_{11}P]$  2'-RiboseMP	Reaction of uridine 2'-monophosphate, H_2O_2 - Ti^{III} -EDTA and MNP H_2O , pH 1÷9 ESR / 298	2.0059 N: 1.53 H_β : 0.73	93Cat1

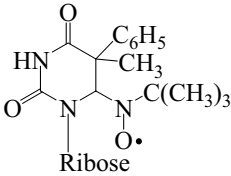
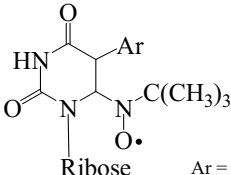
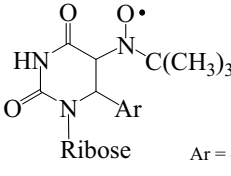
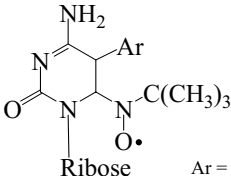
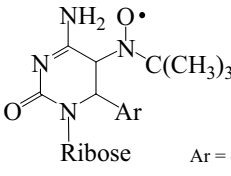
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{13}H_{23}N_3O_{11}P]$  2'-RiboseMP	Reaction of uridine 2'-monophosphate, H_2O_2 - Ti^{III} -EDTA and MNP H_2O , pH 1÷9 ESR / 298	2.0059 N: 1.53 H_β : 0.40	93Cat1
$[C_{13}H_{23}N_3O_{11}P]$  3'-RiboseMP	Reaction of uridine 3'-monophosphate, H_2O_2 - Ti^{III} -EDTA and MNP H_2O , pH 1÷9 ESR / 298	2.0059 N: 1.48 H_β : 0.72	93Cat1
$[C_{13}H_{23}N_3O_{11}P]$  3'-RiboseMP	Reaction of uridine 3'-monophosphate, H_2O_2 - Ti^{III} -EDTA and MNP H_2O , pH 1÷9 ESR / 298	2.0059 N: 1.49 H_β : 0.36	93Cat1
$[C_{13}H_{23}N_3O_{11}P]$  5'-RiboseMP	Reaction of uridine 5'-monophosphate, H_2O_2 - Ti^{III} -EDTA and MNP H_2O , pH 1÷9 ESR / 298	2.0059 N: 1.51 H_β : 0.72	93Cat1
$[C_{13}H_{23}N_3O_{11}P]$  5'-RiboseMP	Reaction of uridine 5'-monophosphate, H_2O_2 - Ti^{III} -EDTA and MNP H_2O , pH 1÷9 ESR / 298	2.0059 N: 1.53 H_β : 0.37	93Cat1
$[C_{13}H_{23}N_4O_7]$  Ribose	Reaction of citidine, H_2O_2 - Ti^{III} or Fe^{II} -EDTA and MNP H_2O , pH 2÷7 ESR / 298	2.0059 N: 1.48 H_β : 0.65	93Cat1, 95Dav1, 95Mol1
Nearly identical spectra with 2'-deoxycytidine.			

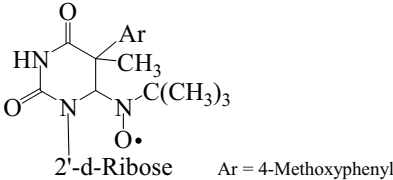
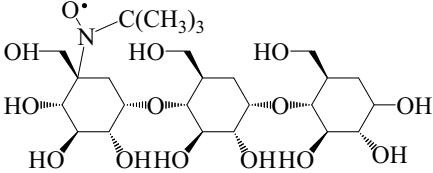
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{13}H_{23}N_4O_7]$  Ribose	Reaction of citidine, H_2O_2 - Ti^{III} or Fe^{II} -EDTA and MNP H_2O , pH 2÷7 ESR / 298	2.0059 N: 1.49 H_β : 0.38	93Cat1, 95Dav1, 95Mol1
Nearly identical spectra with 2'-deoxycytidine.			
$[C_{13}H_{24}N_3O_4]$  Ribose	Reaction of thymine, $tBuOOH$ - Ti^{III} and MNP H_2O , pH 1÷7.4 ESR / 298	N: 1.458 N_β : 0.30	95Haz
$[C_{14}H_{18}N_3O_3]$  Ribose	Reaction of uracil, $[C_6H_5C(O)O]_2-Fe^{II}$ - EDTA and MNP H_2O , pH 7.4 ESR / 298	N: 1.50 H_β : 0.14 N_β : 0.35	96Haz1
$[C_{14}H_{18}N_3O_3]$  Ribose	Reaction of uracil, $[C_6H_5C(O)O]_2-Fe^{II}$ - EDTA and MNP H_2O , pH 7.4 ESR / 298	N: 1.56 H_β : 0.17	96Haz1
$[C_{14}H_{19}N_4O_2]$  Ribose	Reaction of cytosine, $[C_6H_5C(O)O]_2-Fe^{II}$ - EDTA and MNP H_2O , pH 7.4 ESR / 298	N: 1.47 N_β : 0.33	96Haz1
$[C_{14}H_{24}N_3O_7]$  2'-d-Ribose	Reaction of 2'-deoxythi- midine, $FeSO_4$ -EDTA- H_2O_2 and MNP Phosphate buffer, pH 7 ESR / 298	2.0059 N: 1.44 N_β : 0.29	93Cat1, 95Dav1
Almost identical spectra are obtained with 2'-deoxythymidine-5'-monophosphate: $C_{14}H_{23}N_3O_{10}PNa_2$ [89Flil].			

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / α -Value [mT]	Ref. / add. Ref.
$[C_{15}H_{20}N_3O_3]$ 	Reaction of thymine, $[C_6H_5C(O)O]_2$, Fe^{II} -EDTA and MNP or reaction of thymine, $PhN_2^+-Cu^I$ and MNP H_2O , pH 7.4 ESR / 298	N: 1.50 N_β : 0.35	96Haz1
$[C_{15}H_{20}N_3O_4]$ 	Reaction of uracil, Fe^{II} -EDTA, 4-methoxybenzondiazonium ion and MNP H_2O , pH 7.4 ESR / 298	N: 1.53 H_β : 0.18 N_β : 0.31	95Haz2
$[C_{15}H_{20}N_3O_4]$ 	Reaction of uracil, Fe^{II} -EDTA, 4-methoxybenzondiazonium ion and MNP H_2O , pH 2 ESR / 298	N: 1.50 H_β : 0.25	95Haz2
$[C_{15}H_{21}N_4O_3]$ 	Reaction of cytosine, Fe^{II} -EDTA, 4-methoxybenzondiazonium ion and MNP H_2O , pH 2.5 ESR / 298	N: 1.50 H_β : 0.25	95Haz2
$[C_{16}H_{22}N_3O_4]$ 	Reaction of thymine, 4-methoxybenzondiazonium ion, Fe^{II} -EDTA and MNP H_2O , pH 7.4 ESR / 298	N: 1.51 N_β : 0.35	95Haz2
$[C_{17}H_{30}N_3O_8]$ 	Reaction of $(1,3-^{15}N_2)$ -uridine, BHP- Ti^{III} -EDTA and MNP H_2O , pH 7.4 ESR / 298	2.0059 N: 1.51 H_β : 0.16 N_β : 0.26	97Ho1
	ESR / 298	N: 1.5 ^a H_β : 0.68	95Haz1
^a Virtually identical spectra have been reported for the 2'-deoxyuridine and 2',3'-dideoxyuridine adducts [95Haz1].			

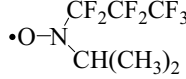
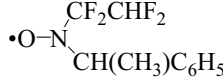
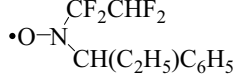
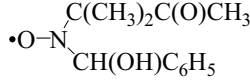
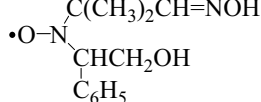
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
<p>[C₁₇H₃₀N₃O₆]</p>  <p>Ribose</p>	<p>Reaction of (1,3-¹⁵N₂)-uridine, BHP-Ti^{III}-EDTA and MNP H₂O, pH 7.4 ESR / 298</p>	<p>N: 1.52 H_β: 0.39</p>	<p>95Haz1, 97Ho1</p>
Virtually identical spectra have been reported for the 2'-deoxyuridine and 2',3'-dideoxyuridine adducts [95Haz1].			
<p>[C₁₇H₃₁N₄O₆]</p>  <p>2'-d-Ribose</p>	<p>Reaction of 2'-deoxycytidine BHP-Ti^{III}-EDTA and MNP H₂O, pH 7.4 ESR / 298</p>	<p>2.0059 N: 1.46 H_β: 0.60</p>	<p>95Haz1</p>
<p>[C₁₇H₃₁N₄O₇]</p>  <p>Ribose</p>	<p>Reaction of cytidine, BHP-Ti^{III}-EDTA and MNP H₂O, pH 7.4 ESR / 298</p>	<p>2.0059 N: 1.493 H_β: 0.46 N_β: 0.11</p>	<p>95Haz1</p>
<p>[C₁₇H₃₁N₄O₇]</p>  <p>Ribose</p>	<p>Reaction of cytidine, BHP-Ti^{III}-EDTA and MNP H₂O, pH 7.4 ESR / 298</p>	<p>2.0059 N: 1.50 H_β: 0.39</p>	<p>95Haz1</p>
A virtually identical spectrum has been reported for the 2'-deoxyuridine adduct [95Haz1].			
<p>[C₁₈H₂₈NO₁₀]</p> 	<p>Photolysis of glycosylcobaloxime and MNP THF-CH₂Cl₂ (9:1) ESR / 298</p>	<p>2.0063 N: 1.293 H_β: 0.146 H_γ: 0.076</p>	<p>88Gho1</p>

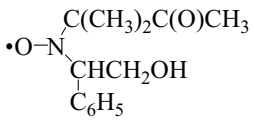
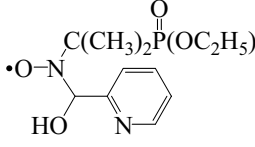
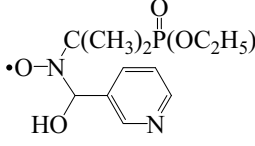
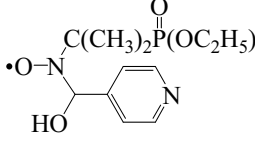
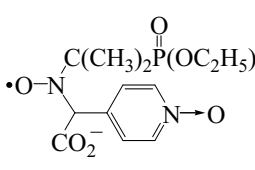
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{18}H_{32}N_3O_7]$  2'-d-Ribose	Reaction of 2'-deoxythymidine, BHP-Ti ^{III} -EDTA and MNP H ₂ O, pH 1–7.4 ESR / 298	N: 1.458 N _β : 0.30	95Haz1
$[C_{19}H_{26}N_3O_7]$  Ribose	Reaction of uridine, [C ₆ H ₅ C(O)O] ₂ -Fe ^{II} -EDTA and MNP or reaction of uridine, PhN ₂ ⁺ -Cu ^I and MNP H ₂ O, pH 7.4 ESR / 298	N: 1.475 H _β : 0.65	96Haz1
Virtually identical spectra are observed with 2'-deoxyuridine.			
$[C_{19}H_{26}N_3O_7]$  Ribose	Reaction of uridine, [C ₆ H ₅ C(O)O] ₂ -Fe ^{II} -EDTA and MNP or reaction of uridine, PhN ₂ ⁺ -Cu ^I and MNP H ₂ O, pH 7.4 ESR / 298	N: 1.49 H _β : 0.35	96Haz1
Virtually identical spectra are observed with 2'-deoxyuridine.			
$[C_{19}H_{27}N_4O_6]$  Ribose	Reaction of cytidine, [C ₆ H ₅ C(O)O] ₂ -Fe ^{II} -EDTA and MNP or reaction of cytidine, PhN ₂ ⁺ -Cu ^I and MNP H ₂ O, pH 7.4 ESR / 298	N: 1.485 H _β : 0.66	96Haz1
Virtually identical spectra are observed with 2'-deoxycytidine.			
$[C_{19}H_{27}N_4O_6]$  Ribose	Reaction of cytidine, [C ₆ H ₅ C(O)O] ₂ -Fe ^{II} -EDTA + MNP or reaction of cytidine, PhN ₂ ⁺ -Cu ^I and MNP H ₂ O, pH 7.4 ESR / 298	N: 1.49 H _β : 0.38	96Haz1
Virtually identical spectra are observed with 2'-deoxycytidine.			

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{20}H_{28}N_3O_7]$  Ribose	Reaction of thymidine, $[C_6H_5C(O)O]_2-Fe^{II}$ -EDTA and MNP or reaction of thymidine, $PhN_2^+-Cu^I$ and MNP H_2O , pH 7.4 ESR / 298	N: 1.42 H_β : 0.29	96Haz1
Virtually identical spectra are observed with 2'-deoxythymidine.			
$[C_{20}H_{28}N_3O_8]$  Ribose Ar = 4-Methoxyphenyl	Reaction of uridine, 4-methoxybenzondiazonium ion- Fe^{II} -EDTA and MNP H_2O , pH 7.4 ESR / 298	N: 1.51 H_β : 0.35	95Haz2
Virtually identical spectra are observed with 2'-deoxyuridine and 2',3'-dideoxyuridine.			
$[C_{20}H_{28}N_3O_8]$  Ribose Ar = 4-Methoxyphenyl	Reaction of uridine, 4-methoxybenzondiazonium ion- Fe^{II} -EDTA and MNP H_2O , pH 7.4 ESR / 298	N: 1.51 H_β : 0.61	95Haz2
Virtually identical spectra are observed with 2'-deoxycytidine and 2',3'-dideoxycytidine.			
$[C_{20}H_{29}N_4O_7]$  Ribose Ar = 4-Methoxyphenyl	Reaction of cytidine, 4-methoxybenzondiazonium ion- Fe^{II} -EDTA and MNP H_2O , pH 7.4 ESR / 298	N: 1.52 H_β : 0.63	95Haz2
Virtually identical spectra are observed with 2'-deoxycytidine and 2',3'-dideoxycytidine.			
$[C_{20}H_{29}N_4O_7]$  Ribose Ar = 4-Methoxyphenyl	Reaction of cytidine, 4-methoxybenzondiazonium ion- Fe^{II} -EDTA and MNP H_2O , pH 7.4 ESR / 298	N: 1.50 H_β : 0.38	95Haz2
Virtually identical spectra are observed with 2'-deoxycytidine and 2',3'-dideoxycytidine.			

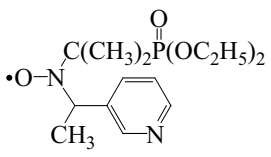
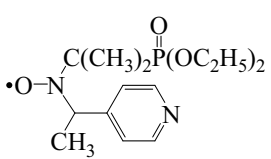
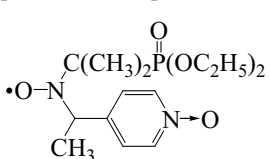
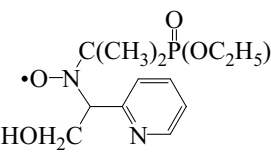
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
$[C_{21}H_{30}N_3O_7]$  2'-d-Ribose Ar = 4-Methoxyphenyl	Reaction of 2'-deoxythymidine, 4-methoxybenzondiazonium ion- Fe^{II} -EDTA and MNP H_2O , pH 7.4 ESR / 298	N: 1.46 N_β : 0.46	95Haz2
$[C_{22}H_{40}NO_{17}]$ 	γ -Irradiation (2 kGy) of (^{13}C)-maltotriose and MNP in H_2O H_2O / C_2H_5OH (2:1) ESR / 298	N: 1.55 H_β : 0.34	93Raf1

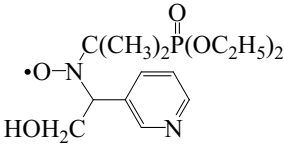
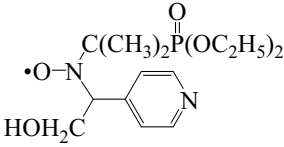
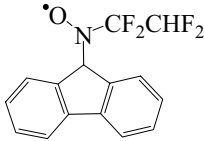
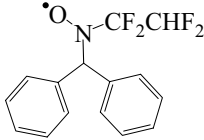
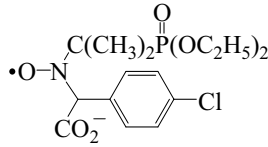
12.2.2.8.8 *sec*-Alkyl other *tert*-alkyl nitroxides

$[C_6H_7F_7NO]$ 	Reaction of FAP and $iPrNHOC(O)C_6H_5$ $CF_2Cl-CFCl_2$ (F113) ESR / 298 FAP = Perfluorodiacetyl peroxide, $[F_7C_3C(O)O]_2$.	N: 1.094	95Zha1
$[C_{10}H_{10}F_4NO]$ 	Reaction of ethylbenzene and Magic Blue $CF_2Cl-CFCl_2$ (F113) ESR / 293 Magic Blue = $C_2HF_4NO + (C_2HF_4)_2N(O^\bullet)$.	2.0062 N: 1.117 $2F_\beta$: 1.588 H_β : 0.398 $2F_\gamma$: 0.168	95Zha1
$[C_{11}H_{12}F_4NO]$ 	Reaction of propylbenzene and Magic Blue $CF_2Cl-CFCl_2$ (F113) ESR / 293	2.0062 N: 1.101 $2F_\beta$: 1.797 H_β : 0.353 $2F_\gamma$: 0.145	95Zha1
$[C_{12}H_{16}NO_3]$ 	Photolysis of H_2O_2 and α -phenyl-[2-methylbut-2-yl-3-one] nitroxide H_2O ESR / 298	2.0057 N: 1.50 H_β : 0.33	96Dul1
$[C_{12}H_{17}N_2O_3]$ 	Photolysis of $CH_3OH-H_2O_2$ and α -phenyl- <i>N</i> -[2-methyl-2-propyloxime] nitroxide H_2O ESR / 298	2.0051 N: 1.57 H_β : 0.39	96Dul1

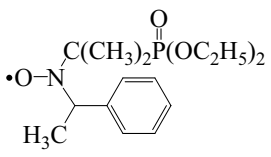
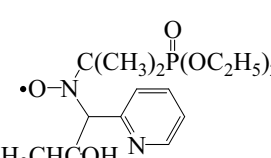
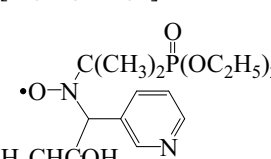
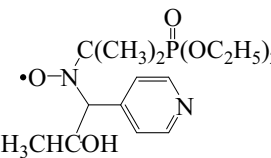
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{13}H_{18}NO_3]$ 	Photolysis of $CH_3OH-H_2O_2$ and α -phenyl- N -[2-methylbut-2-yl-3-one] nitron H_2O ESR / 298	2.0057 N : 1.51 H_β : 0.39	96Dul1
$[C_{13}H_{22}N_2O_5P]$ 	Photolysis of H_2O_2 and 2-PyPN H_2O ESR / 293 2-PyPN = N -[(Pyridinium-2-yl)methylidene]-1-diethoxyphosphoryl-1-methylethylamine N -oxide.	N : 1.405 H_β : 0.228 ^{31}P : 4.160	97Riz1
$[C_{13}H_{22}N_2O_5P]$ 	Photolysis of H_2O_2 and 3-PyPN H_2O ESR / 293 3-PyPN = N -[(Pyridinium-3-yl)methylidene]-1-diethoxyphosphoryl-1-methylethylamine N -oxide.	N : 1.392 H_β : 0.175 ^{31}P : 4.376	97Riz1
$[C_{13}H_{22}N_2O_5P]$ 	Photolysis of H_2O_2 and 4-PyPN H_2O ESR / 293 4-PyPN = N -[(Pyridinium-4-yl)methylidene]-1-diethoxyphosphoryl-1-methylethylamine N -oxide.	N : 1.418 H_β : 0.217 ^{31}P : 4.328	97Riz1
$[C_{14}H_{21}N_2O_7P]^-$ 	Reaction of HCO_2Na , $H_2O_2-Fe^{II}$ -EDTA and 4-PyOPN H_2O ESR / 293 4-PyOPN = { 1-Diethoxyphosphoryl-1-methyl- N -[(1-oxido-pyridin-1-ium-4-yl)methylidene]ethylamine N -oxide. The spectra do not change in the presence of SDS micelles.	N : 1.418 H_β : 0.217 ^{31}P : 4.328	97Riz2

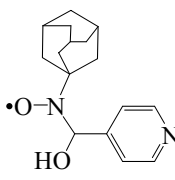
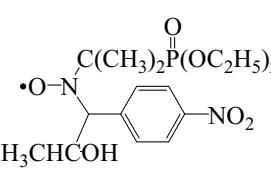
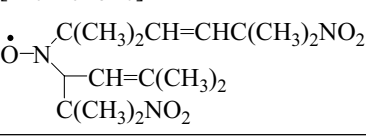
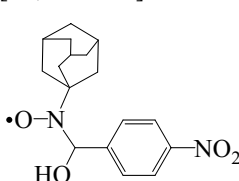
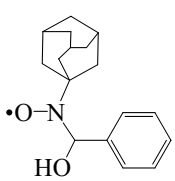
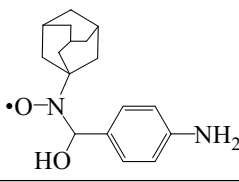
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
<p>[C₁₄H₂₂N₂O₆P]</p> <p>2-PyPN = <i>N</i>-[(Pyridinium-2-yl)methylidene]-1-diethoxyphosphoryl-1-methylethylamine <i>N</i>-oxide.</p>	<p>Reaction of HCO₂Na, H₂O₂-Fe^{II}-EDTA and 2-PyPN H₂O ESR / 293</p>	<p>N: 1.430 H_β: 0.300 ³¹P: 4.558</p>	97Riz1
<p>[C₁₄H₂₂N₂O₆P]</p> <p>3-PyPN = <i>N</i>-[(Pyridinium-3-yl)methylidene]-1-diethoxyphosphoryl-1-methylethylamine <i>N</i>-oxide.</p>	<p>Reaction of HCO₂Na, H₂O₂-Fe^{II}-EDTA and 3-PyPN H₂O ESR / 293</p>	<p>N: 1.428 H_β: 0.324 ³¹P: 4.985</p>	97Riz1
<p>[C₁₄H₂₂N₂O₆P]</p> <p>4-PyPN = <i>N</i>-[(Pyridinium-4-yl)methylidene]-1-diethoxyphosphoryl-1-methylethylamine <i>N</i>-oxide.</p>	<p>Reaction of HCO₂Na, H₂O₂-Fe^{II}-EDTA and 4-PyPN H₂O ESR / 293</p>	<p>N: 1.432 H_β: 0.243 ³¹P: 4.310</p>	97Riz1
<p>[C₁₄H₂₂N₂O₇P]</p> <p>4-NO₂PPN = <i>N</i>-(4-Nitrobenzylidene)-1-diethoxyphosphoryl-1-methylethylamine <i>N</i>-oxide.</p>	<p>Photolysis of H₂O₂ or reaction of H₂O₂-Fe^{II}-EDTA and 4-O₂N-PPN H₂O ESR / 293</p>	<p>N: 1.440 H_β: 0.228 ³¹P: 4.742</p>	97Riz1
<p>[C₁₄H₂₄N₂O₄P]</p> <p>2-PyPN = <i>N</i>-[(Pyridinium-2-yl)methylidene]-1-diethoxyphosphoryl-1-methylethylamine <i>N</i>-oxide.</p>	<p>Reaction of DMSO, H₂O₂-Fe^{II}-EDTA and 2-PyPN H₂O ESR / 293</p>	<p>N: 1.462 H_β: 0.364 ³¹P: 4.651</p>	97Riz1

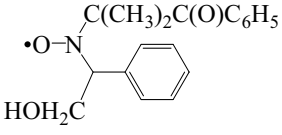
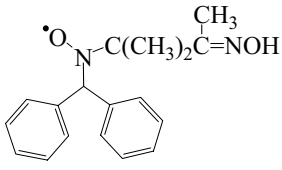
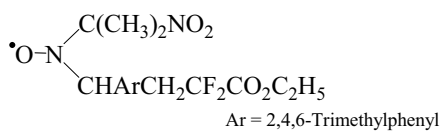
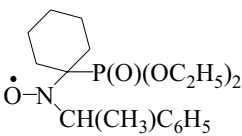
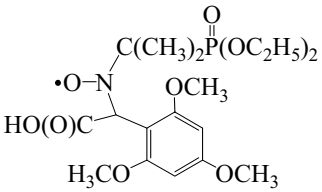
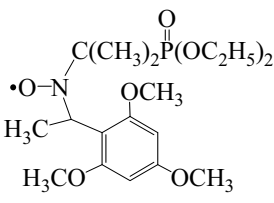
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{14}H_{24}N_2O_4P]$ 	Reaction of DMSO, H_2O_2 - Fe^{II} -EDTA and 3-PyPN H_2O ESR / 293	N: 1.469 H_β : 0.243 ^{31}P : 4.673	97Riz1
3-PyPN = <i>N</i> -[(Pyridinium-3-yl)methylidene]-1-diethoxyphosphoryl-1-methylethylamine <i>N</i> -oxide.			
$[C_{14}H_{24}N_2O_4P]$ 	Reaction of DMSO, H_2O_2 - Fe^{II} -EDTA and 4-PyPN H_2O ESR / 293	N: 1.435 H_β : 0.266 ^{31}P : 4.640	97Riz1
4-PyPN = <i>N</i> -[(Pyridinium-4-yl)methylidene]-1-diethoxyphosphoryl-1-methylethylamine <i>N</i> -oxide.			
$[C_{14}H_{24}N_2O_5P]$ 	Reaction of DMSO, H_2O_2 - Fe^{II} -EDTA and 4-PyOPN ESR / 293 H_2O H_2O -SDS micelles	N: 1.45 H_β : 0.24 ^{31}P : 4.67 N: 1.43 H_β : 0.16 ^{31}P : 4.15	97Riz2
4-PyOPN = 1-Diethoxyphosphoryl-1-methyl- <i>N</i> -[(1-oxido-pyridin-1-ium-4-yl)methylidene]ethylamine <i>N</i> -oxide.			
$[C_{14}H_{24}N_2O_5P]$ 	Reaction of CH_3OH , H_2O_2 - Fe^{II} -EDTA and 2-PyPN ESR / 293 H_2O C_2H_5OH - H_2O (90:10)	N: 1.423 H_β : 0.320 ^{31}P : 4.320 N: 1.399 H_β : 0.298 ^{31}P : 4.027	97Riz1
2-PyPN = <i>N</i> -[(Pyridinium-2-yl)methylidene]-1-diethoxyphosphoryl-1-methylethylamine <i>N</i> -oxide.			

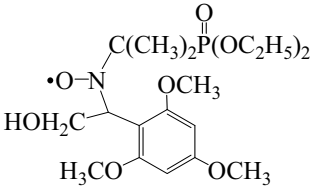
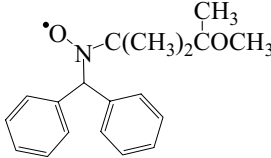
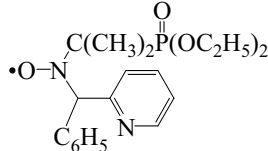
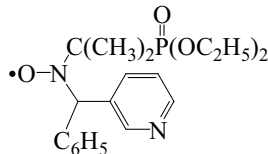
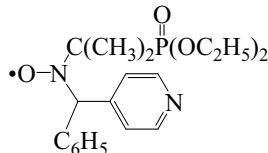
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
<p>[C₁₄H₂₄N₂O₅P]</p> 	<p>Reaction of CH₃OH, H₂O₂-Fe^{II}-EDTA and 3-PyPN ESR / 293 H₂O</p> <p>C₂H₅OH-H₂O (90:10)</p>	<p>N: 1.429 H_β: 0.216 ³¹P: 4.480</p> <p>N: 1.387 H_β: 0.192 ³¹P: 4.153</p>	97Riz1
3-PyPN = <i>N</i> -[(Pyridinium-3-yl)methylidene]-1-diethoxyphosphoryl-1-methylethylamine <i>N</i> -oxide.			
<p>[C₁₄H₂₄N₂O₅P]</p> 	<p>Reaction of CH₃OH, H₂O₂-Fe^{II}-EDTA and 4-PyPN ESR / 293 H₂O</p> <p>C₂H₅OH-H₂O (90:10)</p>	<p>N: 1.420 H_β: 0.247 ³¹P: 4.347</p> <p>N: 1.401 H_β: 0.235 ³¹P: 4.141</p>	97Riz1
4-PyPN = <i>N</i> -[(Pyridinium-4-yl)methylidene]-1-diethoxyphosphoryl-1-methylethylamine <i>N</i> -oxide.			
<p>[C₁₅H₁₀F₄NO]</p> 	<p>Reaction of fluorene and Magic Blue CF₂Cl-CFCl₂ (F113) ESR / 293</p>	<p>2.0063 N: 1.060 2F_β: 1.799 H_β: 0.202 2F_γ: 0.104</p>	95Zha1
Magic Blue = C ₂ HF ₄ NO + (C ₂ HF ₄) ₂ N(O•).			
<p>[C₁₅H₁₂F₄NO]</p> 	<p>Reaction of diphenylmethane and Magic Blue CF₂Cl-CFCl₂ (F113) ESR / 293</p>	<p>2.0062 N: 1.092 2F_β: 1.628 H_β: 0.296 2F_γ: 0.134</p>	95Zha1
<p>[C₁₅H₂₁ClNO₆P]⁻</p> 	<p>Reaction of HCO₂Na, H₂O₂-Fe^{II}-EDTA and 4-Cl-PPN H₂O ESR / 293</p>	<p>N: 1.45 H_β: 0.42 ³¹P: 5.00</p>	97Riz2
4-Cl-PPN = <i>N</i> -(4-Chlorophenyl)methylidene-1-diethoxyphosphoryl-1-methylethylamine <i>N</i> -oxide.			

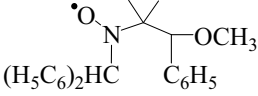
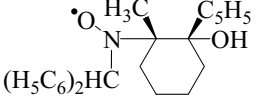
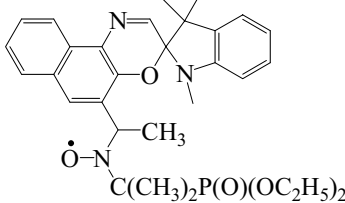
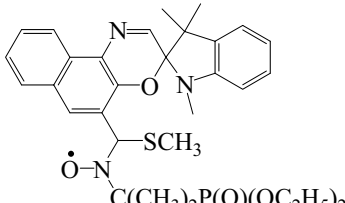
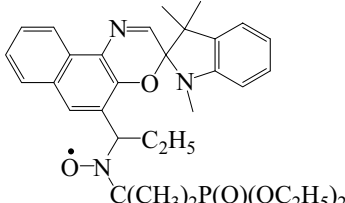
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[\text{C}_{15}\text{H}_{22}\text{NO}_6\text{P}]^-$ 	Reaction of HCO_2Na , H_2O_2 - Fe^{II} -EDTA and PPN H_2O ESR / 293	N : 1.44 H_β : 0.45 ^{31}P : 4.97	97Riz2
PPN = <i>N</i> -(Benzylidene)-1-diethoxyphosphoryl-1-methylethylamine <i>N</i> -oxide.			
$[\text{C}_{15}\text{H}_{22}\text{N}_2\text{O}_8\text{P}]$ 	Reaction of HCO_2Na , H_2O_2 - Fe^{II} -EDTA and 4- NO_2 -PPN H_2O ESR / 293	N : 1.414 H_β : 0.350 ^{31}P : 4.919	97Riz1
4- NO_2 -PPN = <i>N</i> -(4-Nitrobenzylidene)-1-diethoxyphosphoryl-1-methylethylamine <i>N</i> -oxide.			
$[\text{C}_{15}\text{H}_{24}\text{ClNO}_4\text{P}]$ 	Reaction of DMSO, H_2O_2 - Fe^{II} -EDTA and 4-Cl-PPN ESR / 293 H_2O H_2O / SDS micelles	N : 1.49 H_β : 0.32 ^{31}P : 4.64 N : 1.30 H_β : 0.30 ^{31}P : 4.45	97Riz2
$[\text{C}_{15}\text{H}_{24}\text{N}_2\text{O}_6\text{P}]$ 	Reaction of DMSO, H_2O_2 - Fe^{II} -EDTA and 4- NO_2 -PPN ESR / 293 H_2O DMSO / H_2O (90:10)	N : 1.455 H_β : 0.307 ^{31}P : 4.633 N : 1.370 H_β : 0.274 ^{31}P : 4.562	97Riz1
$[\text{C}_{15}\text{H}_{24}\text{N}_2\text{O}_7\text{P}]$ 	Reaction of CH_3OH , H_2O_2 - Fe^{II} -EDTA and 4- NO_2 -PN ESR / 293 H_2O DMSO / H_2O (90:10)	N : 1.435 H_β : 0.287 ^{31}P : 4.305 N : 1.403 H_β : 0.260 ^{31}P : 4.049	97Riz1

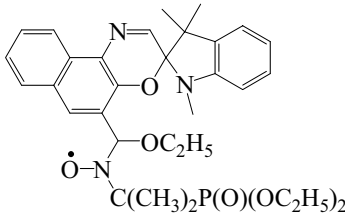
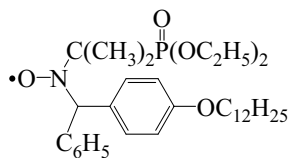
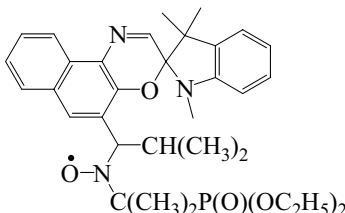
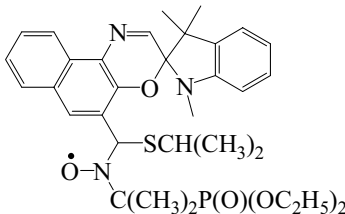
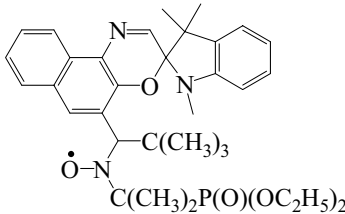
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
[C ₁₅ H ₂₅ NO ₄ P] 	Reaction of DMSO, H ₂ O ₂ -Fe ^{II} -EDTA and PPN ESR / 293 H ₂ O H ₂ O / SDS micelles DMSO / H ₂ O (90:0)	N: 1.49 H _β : 0.35 ³¹ P: 4.66 N: 1.39 H _β : 0.40 ³¹ P: 4.39 N: 1.395 H _β : 0.242 ³¹ P: 4.588	97Riz2 97Riz1
[C ₁₅ H ₂₆ N ₂ O ₅ P] 	Reaction of C ₂ H ₅ OH, H ₂ O ₂ -Fe ^{II} -EDTA and 2-PyPN ESR / 293 H ₂ O C ₂ H ₅ OH-H ₂ O (90:10)	N: 1.438 H _β : 0.324 ³¹ P: 4.248 N: 1.412 H _β : 0.356 ³¹ P: 4.036	97Riz1 2-PyPN = <i>N</i> -[(Pyridinium-2-yl)methylidene]-1-diethoxyphosphoryl-1-methylethylamine <i>N</i> -oxide.
[C ₁₅ H ₂₆ N ₂ O ₅ P] 	Reaction of C ₂ H ₅ OH, H ₂ O ₂ -Fe ^{II} -EDTA and 3-PyPN ESR / 293 H ₂ O C ₂ H ₅ OH-H ₂ O (90:10)	N: 1.441 H _β : 0.116 ³¹ P: 4.510 N: 1.401 H _β : 0.235 ³¹ P: 4.041	97Riz1 3-PyPN = <i>N</i> -[(Pyridinium-3-yl)methylidene]-1-diethoxyphosphoryl-1-methylethylamine <i>N</i> -oxide.
[C ₁₅ H ₂₆ N ₂ O ₅ P] 	Reaction of C ₂ H ₅ OH, H ₂ O ₂ -Fe ^{II} -EDTA and 4-PyPN ESR / 293 H ₂ O C ₂ H ₅ OH-H ₂ O (90:10)	N: 1.427 H _β : 0.244 ³¹ P: 4.246 N: 1.412 H _β : 0.228 ³¹ P: 3.993	97Riz1 4-PyPN = <i>N</i> -[(Pyridinium-4-yl)methylidene]-1-diethoxyphosphoryl-1-methylethylamine <i>N</i> -oxide.

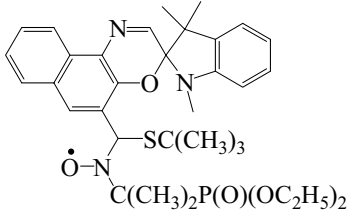
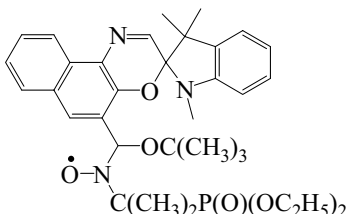
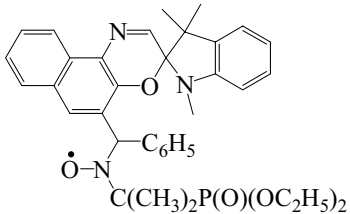
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
<p>[C₁₆H₂₁N₂O₂]</p> 	<p>Reaction of H₂O₂-Fe^{II} and α-(4-pyridyl)-<i>N</i>-adamant-1-yl nitron H₂O ESR / 298</p> <p>The corresponding 4-pyridyl <i>N</i>-oxide nitron gives identical spectra.</p>	<p>N: 1.52 H_{β}: 0.24</p>	98Sár1
<p>[C₁₆H₂₆N₂O₇P]</p> 	<p>Reaction of C₂H₅OH, H₂O₂-Fe^{II}-EDTA and 4-NO₂PPN ESR / 293 H₂O C₂H₅OH-H₂O (90:10)</p> <p>4-NO₂PPN = <i>N</i>-(4-Nitrobenzylidene)-1-diethoxyphosphoryl-1-methylethylamine <i>N</i>-oxide.</p>	<p>N: 1.449 H_{β}: 0.264 ³¹P: 4.279</p> <p>N: 1.402 H_{β}: 0.261 ³¹P: 3.914</p>	97Riz1
<p>[C₁₆H₂₈N₃O₅]</p> 	<p>Reaction of 2,5-dimethylhexa-2,4-diene and NO <i>tert</i>-Butylbenzene ESR / 298</p>	<p>2.0060 N: 1.46 H_{β}: 1.08</p>	97Par1
<p>[C₁₇H₂₁N₂O₄]</p> 	<p>Reaction of α-(<i>p</i>-nitrophenyl)-<i>N</i>-adamant-1-yl nitron with H₂O₂-Fe^{II} H₂O ESR / 298</p>	<p>N: 1.60</p>	98Sár1
<p>[C₁₇H₂₂NO₂]</p> 	<p>Reaction of H₂O₂-Fe^{II} and α-phenyl-<i>N</i>-adamant-1-yl nitron H₂O ESR / 298</p>	<p>N: 1.57 H_{β}: 0.35</p>	98Sár1
<p>[C₁₇H₂₃N₂O₂]</p> 	<p>Reaction of H₂O₂-Fe^{II} and α-(<i>p</i>-aminophenyl)-<i>N</i>-adamant-1-yl nitron H₂O ESR / 298</p>	<p>N: 1.61</p>	98Sár1

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{18}H_{20}NO_3]$ 	Reaction of CH_3OH - H_2O_2 and α -phenyl- <i>N</i> -[2-benzoylprop-2-yl] nitron H_2O ESR / 298	2.0057 N: 1.54 H_β : 0.32	96Dul
$[C_{18}H_{21}N_2O_2]$ 	Oxidation of the corresponding hydroxylamine with MnO_2 or PbO_2 H_2O ESR / 298	N: 1.57 H_β : 0.32	93Rez1, 94Rez1
$[C_{18}H_{25}F_2N_2O_5]$  Ar = 2,4,6-Trimethylphenyl	Exposure of $[(C_4H_9)_3Sn]_2$, $ICF_2CO_2C_2H_5$, 2,4,6-trimethylstyrene and NNP to daylight Benzene ESR / 298	<i>Conformer I</i> N: 1.288 H_β : 2.25 <i>Conformer II</i> N: 1.275 H_β : 2.25	00Jul1
$[C_{18}H_{29}NO_4P]$ 	Reaction of the corresponding aminophosphonate and CPBA CH_2Cl_2 ESR / 298	2.0061 N: 1.396 H_β : 0.240 P: 5.934	00Gri1
$[C_{18}H_{29}NO_9P]$ 	Reaction of HCO_2Na , H_2O_2 - Fe^{II} -EDTA and $(H_3CO)_3PPN$ H_2O ESR / 293 (H_3CO) ₃ PPN = <i>N</i> -(2,4,6-Trimethoxybenzylidene)-1-diethoxyphosphoryl-1-methylethylamine <i>N</i> -oxide.	N: 1.494 H_β : 0.529 ³¹ P: 4.124	97Riz1
$[C_{18}H_{31}NO_7P]$ 	Reaction of DMSO, H_2O_2 - Fe^{II} -EDTA and $(H_3CO)_3PPN$ H_2O DMSO / H_2O (90:10)	N: 1.569 H_β : 1.337 ³¹ P: 4.687 N: 1.485 H_β : 1.246 ³¹ P: 4.832	97Riz1

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
<p>[C₁₈H₃₁NO₈P]</p> 	<p>Reaction of CH₃OH, H₂O₂-Fe^{II}-EDTA and (H₃CO)₃PPN ESR / 293 H₂O DMSO / H₂O (90:10)</p> <p>(H₃CO)₃PPN = <i>N</i>-(2,4,6-Trimethoxybenzylidene)-1-diethoxyphosphoryl-1-methylethylamine <i>N</i>-oxide.</p>	<p>N: 1.458 H_β: 0.487 ³¹P: 4.748</p>	97Riz1
<p>[C₁₉H₂₄NO₂]</p> 	<p>Reaction of C₆H₅MgBr and 3,3-dimethyl-4-methoxy-1-phenyl-2-azapent-1-ene 2-oxide MnO₂ Hexane ESR / 298</p>	<p>N: 1.45 H_β: 0.304</p>	96Rez1
<p>[C₁₉H₂₆N₂O₄P]</p> 	<p>Photolysis of C₆H₅I and 2-PyPN Benzene ESR / 293</p> <p>2-PyPN = <i>N</i>-[(Pyridinium-2-yl)methylidene]-1-diethoxyphosphoryl-1-methylethylamine <i>N</i>-oxide.</p>	<p>N: 1.371 H_β: 0.249 ³¹P: 4.107</p>	97Riz1
<p>[C₁₉H₂₆N₂O₄P]</p> 	<p>Photolysis of C₆H₅I and 3-PyPN Benzene ESR / 293</p> <p>3-PyPN = <i>N</i>-[(Pyridinium-3-yl)methylidene]-1-diethoxyphosphoryl-1-methylethylamine <i>N</i>-oxide.</p>	<p>N: 1.362 H_β: 0.265 ³¹P: 4.582</p>	97Riz1
<p>[C₁₉H₂₆N₂O₄P]</p> 	<p>Photolysis of C₆H₅I and 4-PyPN Benzene ESR / 293</p> <p>4-PyPN = <i>N</i>-[(Pyridinium-4-yl)methylidene]-1-diethoxyphosphoryl-1-methylethylamine <i>N</i>-oxide.</p>	<p>N: 1.352 H_β: 0.244 ³¹P: 4.477</p>	97Riz1

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{24}H_{26}NO_2]$ 	Reaction of C_6H_5MgBr with the corresponding nitrone Hexane ESR / 298	N: 1.47 H_β : 0.38	96Rez1
$[C_{26}H_{28}NO_2]$ 	Reaction of C_6H_5MgBr with α -phenyl- N -(2-methylcyclohexanon-2-yl) nitrone and oxidation with MnO_2 Hexane ESR / 298	N: 1.59 H_β : 0.39	96Rez1
$[C_{31}H_{39}N_3O_5P]$ 	Photolysis of PPCN and dimethylmercury Benzene ESR / 343	2.0061 ₀ N: 1.389 H_β : 0.344 ^{31}P : 4.768	97Cam1
PPCN (Phosphorylated photochromic nitroxide) = 5'-{N-[2-(Diethoxyphosphoryl)propan-2-yl]-N-oxidoazaniumylidenemethyl}-1,3,3-trimethylspiro-{indoline-2,3'-Nphtho[2,1-b][1,4]oxazine}.			
$[C_{31}H_{39}N_3O_5PS]$ 	Photolysis of PPCN and methyl sulphide Benzene ESR / 292	2.0065 ₆ N: 1.337 H_β : 0.288 ^{31}P : 4.351	97Cam1
$[C_{32}H_{41}N_3O_5P]$ 	Photolysis of PPCN and diethylmercury Benzene ESR / 343	2.0054 ₇ N: 1.388 H_β : 0.358 ^{31}P : 4.393	97Cam1

Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
<p>[C₃₂H₄₁N₃O₆P]</p>  <p>PPCN (Phosphorylated photochromic nitrone) = 5'-[N-[2-(Diethoxyphosphoryl)propan-2-yl]-N-oxidoazaniumylidenemethyl]-1,3,3-trimethylspiro-{indoline-2,3'-Nphtho[2,1-b][1,4]oxazine}.</p>	Photolysis of PPCN and ethyl nitrite Benzene ESR / 343	2.0062 ₀ N: 1.402 H _B : 0.186 ³¹ P: 3.834	97Cam1
<p>[C₃₂H₅₁NO₅P]</p>  <p>4-DOPPN = <i>N</i>-[(4-Dodecyloxyphenyl)methylidene]-1-diethoxyphosphoryl-1-methylethylamine <i>N</i>-oxide.</p>	Photolysis of C ₆ H ₅ I and 4-DOPPN Benzene ESR / 293	N: 1.375 H _B : 0.295 ³¹ P: 4.595	97Riz1
<p>[C₃₃H₄₃N₃O₅P]</p> 	Photolysis of PPCN, hexabutylditin and <i>i</i> propyl bromide Benzene ESR / 296	2.0055 ₃ N: 1.344 H _B : 0.387 ³¹ P: 4.093	97Cam1
<p>[C₃₃H₄₃N₃O₅PS]</p> 	Photolysis of PPCN and <i>i</i> propyl sulphide Benzene ESR / 292	2.0064 ₆ N: 1.353 H _B : 0.383 ³¹ P: 4.061	97Cam1
<p>[C₃₄H₄₅N₃O₅P]</p> 	Photolysis of PPCN, hexabutylditin and <i>tert</i> -butyl bromide Benzene ESR / 296	2.0056 ₀ N: 1.333 H _B : 0.323 ³¹ P: 3.757	97Cam1

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
<p>[C₃₄H₄₅N₃O₅PS]</p> 	<p>Photolysis of PPCN and <i>tert</i>-butyl sulphide Benzene ESR / 292</p>	<p>2.0065₇ N: 1.410 H_β: 0.400 ³¹P: 3.381</p>	97Cam1
<p>[C₃₄H₄₅N₃O₆P]</p> 	<p>Photolysis of PPCN and BOOB Benzene ESR / 343</p>	<p>2.0061₈ N: 1.360 H_β: 0.158 ³¹P: 4.351</p>	97Cam1
<p>[C₃₆H₄₁N₃O₅P]</p> 	<p>Photolysis of PPCN and diphenyl mercury Benzene ESR / 343</p>	<p>2.0060₀ N: 1.372 H_β: 0.355 ³¹P: 4.035</p>	97Cam1

12.2.2.9 Di-*tert*-alkyl nitroxides

12.2.2.9.1 *tert*-Butyl acyclic-*tert*-alkyl nitroxides

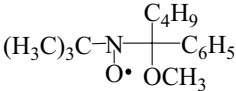
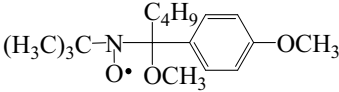
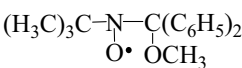
<p>[C₅H₉Cl₂FNO]</p> <p>(H₃C)₃C-N(CFCl₂) O•</p>	<p>γ-Irradiation of a frozen solution of MNP in CFCl₃ and annealing CFCl₃ ESR / 150</p>	<p>N: 1.22 2^{35/37}Cl: 0.22</p>	88Cha1
<p>[C₆H₉Cl₂F₃NO]</p> <p>(H₃C)₃C-N(CFCICF₂Cl) O•</p>	<p>UV Irradiation of a gaseous MNP-CFC-113 mixture and bubbling in liquid CF₂ClCCl₂F ESR / 293</p>	<p>N: 1.15 F_β: 0.40 Cl_β: 0.40 2F_γ: 0.11</p>	94Gil1
<p>[C₆H₉Cl₂F₃NO]</p> <p>(H₃C)₃C-N(CF₂CFCl₂) O•</p>	<p>Photolysis of CFCl₂CF₂I and MNP CF₂ClCCl₂F (F113) ESR / 253</p>	<p>N: 1.19 2F_β: 2.47</p>	94Gil1

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[\text{C}_6\text{H}_9\text{F}_5\text{NO}]$ $(\text{H}_3\text{C})_3\text{C}-\text{N}(\text{O})-\text{CF}_2\text{CF}_3$	Reaction (ET) of $[\text{C}_2\text{F}_5\text{C}(\text{O})\text{O}]_2$ with $t\text{BuNHOC}(\text{O})\text{C}_6\text{H}_5$ in $\text{CF}_2\text{ClCCl}_2\text{F}$ (F113) ESR / 290 Hfs constants in ten additional solvents and correlation of a_{N} with solvent polarity parameters.	$N: 1.152$ $2F_{\beta}: 2.280$	00Pen1
$[\text{C}_7\text{H}_{12}\text{F}_2\text{NO}_3]$ $(\text{H}_3\text{C})_3\text{C}-\text{N}(\text{O})-\text{CF}_2\text{C}(\text{O})\text{OCH}_3$	Reaction (ET) of $\text{H}_3\text{CO}(\text{O})\text{CCF}_2\text{SO}_2\text{N}_3$ and MNP CH_2Cl_2 ESR	2.0056 $N: 1.141$ $2F_{\beta}: 2.182$	95Zho1
$[\text{C}_7\text{H}_{15}\text{N}_2\text{O}_4]$ $(\text{H}_3\text{C})_3\text{C}-\text{N}^+(\text{NH}_3)-\text{C}(\text{O})\text{CH}_2\text{OH}$ $\text{O}^-\text{C}(\text{O})\text{O}^-$	Exposure of $^{13}\text{C}_2$ -serine to H-MG and MNP ESR H-MG = Half Mustard Gas, $\text{ClCH}_2\text{CH}_2\text{SCH}_2\text{CH}_3$.	2.0051 $N: 1.657_0$ $^{13}\text{C}_{\alpha}: 0.310_7$ $N_{\beta}: 0.103_5$ $2H_{\gamma}: 0.053_2$	95Arr1
$[\text{C}_8\text{H}_9\text{ClF}_8\text{NO}]$ $(\text{H}_3\text{C})_3\text{C}-\text{N}(\text{O})-\text{CF}_2(\text{CF}_2)_2\text{CF}_2\text{Cl}$	Photolysis of $\text{Cl}(\text{CF}_2)_4\text{I}$ and MNP ESR / 292	2.0064 $N: 1.143$ $2F_{\beta}: 2.013$	90Che1
$[\text{C}_8\text{H}_9\text{F}_8\text{INO}_2]$ $(\text{H}_3\text{C})_3\text{C}-\text{N}(\text{O})-\text{CF}_2\text{CF}_2\text{OCF}_2\text{CF}_2\text{I}$	Reaction (ET) of $\text{IC}_2\text{F}_4\text{OCF}_2\text{F}_4\text{SO}_2\text{NCl}_2$ and MNP Benzene ESR / 298	2.0053 $N: 1.161$ $2F_{\beta}: 2.001$ $2F_{\gamma}: 0.099$	95Zho1
$[\text{C}_8\text{H}_9\text{F}_9\text{NO}]$ $(\text{H}_3\text{C})_3\text{C}-\text{N}(\text{O})-\text{CF}_2(\text{CF}_2)_2\text{CF}_3$	Photolysis of $\text{C}_4\text{F}_9\text{I}$ and MNP $\text{CF}_2\text{ClCCl}_2\text{F}$ (F113) ESR / 297	2.0066 $N: 1.154$ $2F_{\beta}: 1.998$	90Che1
$[\text{C}_8\text{H}_9\text{F}_9\text{NO}_4\text{S}]$ $(\text{H}_3\text{C})_3\text{C}-\text{N}(\text{O})-\text{CF}_2\text{CF}_2\text{OCF}_2\text{CF}_2\text{SO}_2\text{F}$	Reaction (ET) of $[\text{C}_4\text{F}_9\text{SO}_3\text{C}(\text{O})\text{O}]_2$ and MNP $\text{CF}_2\text{ClCCl}_2\text{F}$ (F113) ESR / 297	$N: 1.138$ $2F_{\beta}: 2.250$	90Che1
$[\text{C}_8\text{H}_{10}\text{F}_8\text{NO}]$ $(\text{H}_3\text{C})_3\text{C}-\text{N}(\text{O})-\text{CF}_2(\text{CF}_2)_2\text{CHF}_2$	Reaction of di- <i>tert</i> -butyl nitroxide with $[\text{CHF}_2(\text{CF}_2)_3\text{C}(\text{O})\text{O}]_2$ in $\text{CF}_2\text{ClCCl}_2\text{F}$ (F113) ESR / 292	$N: 1.217$ $2F_{\beta}: 1.939$	90Che1

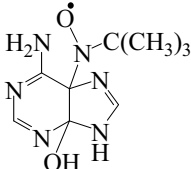
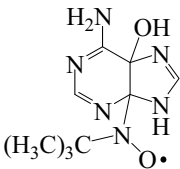
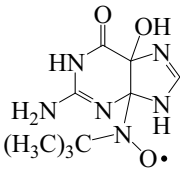
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
$[\text{C}_8\text{H}_{14}\text{F}_2\text{NO}_3]$ $(\text{H}_3\text{C})_3\text{C}-\text{N}(\text{O}\cdot)-\text{CF}_2\text{C}(\text{O})\text{OC}_2\text{H}_5$	Exposure of MNP and ICF ₂ C(O)OC ₂ H ₅ to day-light Benzene ESR / 298	2.0062 N: 1.26 2F _β : 2.57	00Jul1
$[\text{C}_8\text{H}_{18}\text{NO}]$ $(\text{H}_3\text{C})_3\text{C}-\text{N}(\text{O}\cdot)-\text{C}(\text{CH}_3)_3$	Photolysis or exposure of MNP to daylight <i>i</i> Propyl-vinyl sulphide ESR / 298 Cyclohexane Benzene Toluene CCl ₄ THF Acetone DMF ACN CH ₂ Cl ₂ Alkaline H ₂ O Sephadex G hydrogel H ₂ O PH 7.0 buffer	2.0061 ₁ N: 1.540 [15N: 2.17] 2 ¹³ C(C _α): 0.40 6 ¹³ C(C _β): 0.44 2.0059 ₅ –2.0061 ₀ N: 1.50 N: 1.535 N: 1.526 N: 1.527 N: 1.529 N: 1.538 N: 1.557 N: 1.56 N: 1.57 N: 1.68 N: 1.708–1.718 N: 1.718 N: 1.72	97Mas1 88Mal1, 91Tak1, 92Bal1, 92Car1, 92Jan1, 92Win1, 93AlB1 93Mil1, 94Ebe1, 94Res1, 95Lag1, 95Lag2, 96Car1, 96Rap1, 96San2, 97Ebe2, 97Ebe3, 97Jan1, 98Ebe2, 98Ebe5, 00Alb1, 00Sos1.
	CDCl ₃ FT-NMR H ₂ O + γ-CD ESR / 298	18H: –0.0077 2 ¹³ C _α : –0.492 6 ¹³ C _β : +0.465 Free nitroxide N: 1.71 CD-included nitroxide ^a N: 1.67	91Pet1 88Eas1
^a Association constant <i>K</i> _a = 280 M ^{–1} .			
$[\text{C}_9\text{H}_{16}\text{N}_2\text{O}_5]^-$ $(\text{H}_3\text{C})_3\text{C}-\text{N}(\text{O}\cdot)-\text{C}(\text{O})\text{O}^-$ CH_2OH $\text{NHC}(\text{O})\text{CH}_3$	Reaction of 2-acetamido acrylic acid, Fe ^{II} -EDTA-H ₂ O ₂ and MNP H ₂ O ESR / 298	N: 1.535 N _β : 0.309	93Sip1

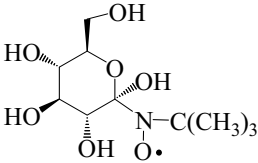
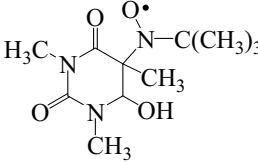
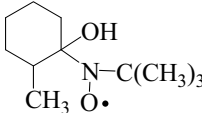
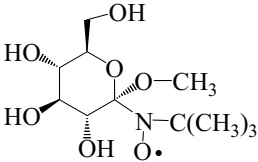
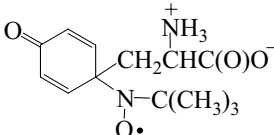
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
$[\text{C}_9\text{H}_{20}\text{NO}_2]$ $(\text{H}_3\text{C})_3\text{C}-\text{N}-\overset{\text{CH}_3}{\underset{\text{O}\cdot \text{OH}}{\text{C}}}(\text{CH}_2)_2\text{CH}_3$	Electron irradiation of pentan-2-ol and MNP N ₂ O saturated H ₂ O ESR / 298	2.0056 ₀ N: 1.662	93Mad1
$[\text{C}_9\text{H}_{20}\text{NO}_2]$ $(\text{H}_3\text{C})_3\text{C}-\text{N}-\overset{\text{OH}}{\underset{\text{O}\cdot}{\text{C}}}(\text{C}_2\text{H}_5)_2$	Electron irradiation of pentan-3-ol and MNP N ₂ O saturated H ₂ O ESR / 298	2.0056 ₇ N: 1.655 H(OH): 0.166	93Mad1
$[\text{C}_{10}\text{H}_9\text{ClF}_{12}\text{NO}]$ $(\text{H}_3\text{C})_3\text{C}-\text{N}-\underset{\text{O}\cdot}{\text{CF}_2}(\text{CF}_2)_4\text{CF}_2\text{Cl}$	Photolysis of Cl(CF ₂) ₆ I and MNP CF ₂ ClCFCl ₂ (F113) ESR / 297	2.0054 N: 1.143 2F _β : 1.905	89Hua1, 90Che1
$[\text{C}_{10}\text{H}_9\text{F}_{13}\text{NO}]$ $(\text{H}_3\text{C})_3\text{C}-\text{N}-\underset{\text{O}\cdot}{\text{CF}_2}(\text{CF}_2)_4\text{CF}_3$	Photolysis of MNP and [CF ₃ (CF ₂) ₅ C(O)O] ₂ CF ₂ ClCFCl ₂ (F113) ESR / 292	2.0065 N: 1.137 2F _β : 1.933	90Che1
$[\text{C}_{10}\text{H}_9\text{F}_{13}\text{NO}_4\text{S}]$ $(\text{H}_3\text{C})_3\text{C}-\text{N}-\underset{\text{O}\cdot}{\text{CF}_2}(\text{CF}_2)_4\text{O}(\text{CF}_2)_2\text{SO}_2\text{F}$	Photolysis of MNP and I(CF ₂) ₆ SO ₂ F CF ₂ ClCFCl ₂ (F113) ESR / 298	N: 1.139 2F _β : 2.069	90Che1
$[\text{C}_{10}\text{H}_{10}\text{F}_{12}\text{NO}]$ $(\text{H}_3\text{C})_3\text{C}-\text{N}-\underset{\text{O}\cdot}{\text{CF}_2}(\text{CF}_2)_4\text{CHF}_2$	Photolysis of MNP and [CHF ₂ (CF ₂) ₅ C(O)O] ₂ CF ₂ ClCFCl ₂ (F113) ESR / 297	N: 1.161 2F _β : 1.935	90Che1
$[\text{C}_{10}\text{H}_{17}\text{N}_2\text{O}_3]$ $(\text{H}_3\text{C})_3\text{C}-\text{N}-\overset{\text{CH}_3}{\underset{\text{O}\cdot \text{CH}_3}{\text{C}}}\text{CH}_2\text{C}(\text{O})\text{NCO}$	Photolysis of 3-bromo-2,2-dimethyl-propanoyl isocyanate, Et ₃ SiH, THBN and MNP TMTHF ESR / 293 THBN = Di- <i>tert</i> -butylhyponitrite.	2.0060 N: 1.530 2H _δ : 0.053	89Kau1
$[\text{C}_{11}\text{H}_9\text{F}_{15}\text{NO}]$ $(\text{H}_3\text{C})_3\text{C}-\text{N}-\underset{\text{O}\cdot}{\text{CF}_2}(\text{CF}_2)_5\text{CF}_3$	Photolysis of MNP and [CF ₃ (CF ₂) ₆ C(O)O] ₂ CF ₂ ClCFCl ₂ (F113) ESR / 297	N: 1.137 2F _β : 1.933	90Che1
$[\text{C}_{11}\text{H}_{14}\text{F}_2\text{NO}]$ $(\text{H}_3\text{C})_3\text{C}-\text{N}-\underset{\text{O}\cdot}{\text{CF}_2}\text{C}_6\text{H}_5$	Reaction of PBN and XeF ₂ CH ₂ Cl ₂ ESR / 298 ^a In benzene.	N: 1.27 2F _β : 2.11 ¹³ C _α : 0.394 ^a	88Hai1, 97Ebe2

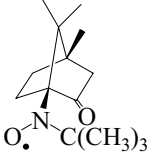
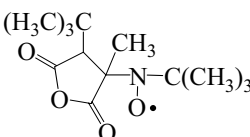
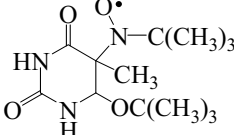
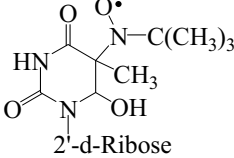
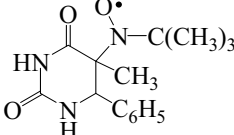
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
$[\text{C}_{12}\text{H}_9\text{ClF}_{16}\text{NO}]$ $(\text{H}_3\text{C})_3\text{C}-\text{N}-\text{CF}_2(\text{CF}_2)_7\text{Cl}$ O^\bullet	Photolysis of $\text{I}(\text{CF}_2)_8\text{Cl}$ and MNP $\text{CF}_2\text{ClCFCl}_2$ (F113) ESR / 297	2.0065 N: 1.149 $2F_\beta$: 1.950	90Che1
$[\text{C}_{12}\text{H}_{13}\text{BrF}_3\text{N}_2\text{O}_3]$ $(\text{H}_3\text{C})_3\text{C}-\text{N}-\text{CF}_2-\text{C}(\text{BrF}_2)(\text{F})-\text{C}_6\text{H}_4-\text{NO}_2$ O^\bullet	Photolysis of Br_2 , $p\text{NO}_2$ -1,2,2-trifluorostyrene and MNP <i>n</i> Hexane ESR / 298	N: 1.305 F_β : 2.403	96Zha2
$[\text{C}_{12}\text{H}_{16}\text{F}_2\text{NO}_2]$ $(\text{H}_3\text{C})_3\text{C}-\text{N}-\text{CF}_2-\text{C}_6\text{H}_4-\text{OCH}_3$ O^\bullet	Reaction of XeF_2 and $p\text{H}_3\text{CO}$ -PBN CH_2Cl_2 ESR / 298	N: 1.27 $2F_\beta$: 1.08	97Ebe2
$[\text{C}_{12}\text{H}_{23}\text{N}_2\text{O}]$ $(\text{H}_3\text{C})_3\text{C}-\text{N}-\text{C}(\text{CN})(\text{CH}_3)\text{CH}_2\text{C}(\text{CH}_3)_3$ O^\bullet	Exposure of 2-methylacrylonitrile and MNP to daylight CH_2Cl_2 ESR / 298	N: 1.57 $2H_\gamma$: 0.084 $3H_\gamma$: 0.040	98Ebe2
$[\text{C}_{13}\text{H}_{17}\text{F}_2\text{NO}_3\text{Li}]$ $(\text{H}_3\text{C})_3\text{C}-\text{N}-\text{C}(\text{O}^-\text{Li}^+)(\text{CH}_3)\text{C}_6\text{H}_5$ O^\bullet	Reaction of 2-phenylpropionic acid, <i>n</i> BuLi and MNP in hexane Phosphate buffer pH 7.4 ESR / 298	N: 1.70	89Kea1
$[\text{C}_{13}\text{H}_{20}\text{NO}_2]$ $(\text{H}_3\text{C})_3\text{C}-\text{N}-\text{C}(\text{CH}_3)(\text{OCH}_3)\text{C}_6\text{H}_5$ O^\bullet	Photolysis of $\text{Sn}(\text{CH}_3)_4$ and $\alpha\text{-H}_3\text{CO}$ -PBN Benzene ESR / 298	N: 1.385	89Ack1
$[\text{C}_{13}\text{H}_{26}\text{NO}_3]$ $(\text{H}_3\text{C})_3\text{C}-\text{N}-\text{C}(\text{OCH}_3)(\text{CH}_3)\text{CH}_2\text{C}(\text{CH}_3)_3$ O^\bullet	Exposure of MNP and methyl methacrylate to daylight CH_2Cl_2 ESR / 298	N: 1.57 $2H_\gamma$: 0.080 $3H_\gamma$: 0.028	98Ebe2
$[\text{C}_{15}\text{H}_{20}\text{N}_2\text{O}_5]^-$ $(\text{H}_3\text{C})_3\text{C}-\text{N}-\text{C}(\text{O}^-\text{O}^-)(\text{CH}_2\text{OH})\text{C}_6\text{H}_5$ O^\bullet	Reaction of phenylacetyl dehydroalanine, Fe^{II} -EDTA- H_2O_2 and MNP Phosphate buffer pH 7.4 ESR / 298	N: 1.530 N_β : 0.326 H_γ : 0.032 H: 0.032	93Sip1

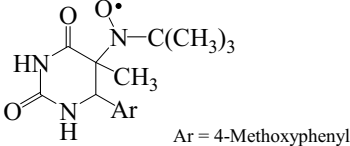
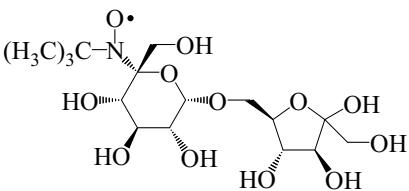
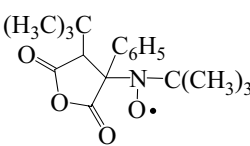
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
$[C_{16}H_{26}NO_2]$ 	Photolysis of α -H ₃ CO-PBN and Pb(C ₄ H ₉) ₄ Benzene ESR / 298	N: 1.373	89Ack1
$[C_{17}H_{28}NO_3]$ 	Photolysis of α -H ₃ CO- <i>p</i> -H ₃ CO-PBN and tetrabutyl lead Benzene ESR / 298	N: 1.343	89Ack1
$[C_{18}H_{22}NO_2]$ 	Photolysis of α -H ₃ CO-PBN and phenyl lead triacetate Benzene ESR / 298	N: 1.375	89Ack1

12.2.2.9.2 *tert*-Butyl cyclic-*tert*-alkyl nitroxides

$[C_9H_{15}N_6O_2]$ 	Reaction of adenine, Ti ^{III} -H ₂ O ₂ and MNP H ₂ O, pH 7.0 ESR / 298	N: 1.50 N _β : 0.50	95Dav1
Tentative assignment: might also be the isomeric nitroxide shown in the next entry.			
$[C_9H_{15}N_6O_2]$ 	Reaction of adenine, Ti ^{III} -H ₂ O ₂ and MNP H ₂ O, pH 7.0 ESR / 298	N: 1.50 N _β : 0.24	95Dav1
Tentative assignment: might also be the isomeric nitroxide shown in the preceding entry.			
$[C_9H_{15}N_6O_3]$ 	Reaction of guanine, Fe ^{II} -EDTA-H ₂ O ₂ and MNP H ₂ O, pH 7.0 ESR / 298	N: 1.61	95Dav1
Tentative assignment: might also be the isomeric amino-nitroxide resulting from OH attack at C ₈ .			

Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
<p>[C₁₀H₂₀NO₇]</p> 	<p>γ-Irradiation (1.7 kGy) of α-D-glucopyranose in H₂O-C₂H₅OH (2:1) containing MNP ESR / 274</p>	<p>2.0060 N: 1.50 H_γ: 0.10 H: 0.02</p>	90Thi1
This radical is also observed when dissolving the sugar powder (irradiated at 77 K, 20 kGy) in H ₂ O:C ₂ H ₅ OH (2:1) containing MNP at 298 K. Trapping yield estimated to be < 10%.			
<p>[C₁₁H₂₀N₃O₄]</p> 	<p>Photolysis of 1,3-dimethylthymine, K₂S₂O₈ and MNP H₂O, pH 1÷9 ESR / 298</p>	<p>N: 1.60</p>	95Hil1
<p>[C₁₁H₂₂NO₂]</p> 	<p>Electron irradiation of 2-methylcyclohexanol and MNP N₂O saturated H₂O ESR / 298</p>	<p>2.0056 N: 1.665 H_γ: 0.165 2H_γ: 0.075 3H_δ: 0.085 H(OH): 0.165</p>	93Mad
<p>[C₁₁H₂₂NO₇]</p> 	<p>γ-Irradiation (1.7 kGy) of α-D-glucopyranose in H₂O-C₂H₅OH (2:1) containing MNP ESR / 274</p>	<p>2.0060₅ N: 1.49 H_γ: 0.07 H: 0.03</p>	90Thi1
This radical is also observed when dissolving the sugar powder (irradiated at 77÷298 K, 20 kGy) in H ₂ O:C ₂ H ₅ OH (2:1) containing MNP at 298 K. Trapping yield estimated to be < 10%.			
<p>[C₁₃H₁₉N₂O₄]</p> 	<p>Reaction of tyrosine, H₂O₂, horseradish peroxidase and MNP H₂O ESR / 298</p>	<p>N: 1.55 ¹³C_α: 0.71 2¹³C_β: 0.80 H_γ: 1.05 H_γ: 0.55 H_δ: 0.07</p>	96Bar1, 98Gun1
Attribution based on selective deuteration.			

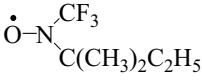
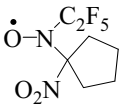
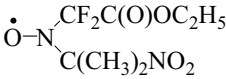
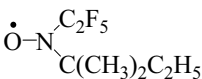
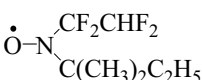
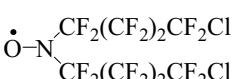
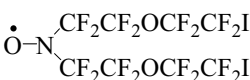
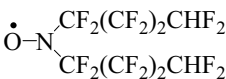
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{13}H_{22}NO_2]$ 	Synthesis described. Diethyl ether ESR / 298	2.006 N: 1.50 H: 1.50 H: 1.37 H: 1.41 H: 1.39	96Bra1
$[C_{13}H_{22}NO_4]$ 	Exposure of methylmaleic anhydride and MNP to daylight CH_2Cl_2 ESR / 298	N: 1.59 $3H_\gamma$: 0.066 H_γ : 0.103 $9H_\gamma$: 0.033	98Ebe2
$[C_{13}H_{24}N_3O_4]$ 	Reaction of thymine, BHP- Ti^{III} and MNP H_2O , pH 1÷7.4 ESR / 298	N: 1.60	95Haz1
Identical spectra with 2'-deoxythymidine $[C_{18}H_{32}N_3O_7]$.			
$[C_{14}H_{24}N_3O_7]$  2'-d-Ribose	Reaction of 2'-deoxythymidine, Fe^{II} -EDTA- H_2O_2 and MNP H_2O , pH 1÷9 ESR / 298	2.0059 N: 1.60	93Cat1, 95Dav1
Identical spectra with 2'-deoxythymidine-5'-monophosphate, $C_{14}H_{23}N_3O_{10}PNa_2$ [89Flil].			
$[C_{15}H_{20}N_3O_3]$ 	Reaction of thymine, $[C_6H_5C(O)O]_2$, Fe^{II} -EDTA and MNP Phosphate buffer pH 7.4 ESR / 298	N: 1.56	96Haz1
Similar spectra observed with thymidine $[C_{20}H_{28}N_3O_7]$ and 2'-deoxythymidine $[C_{20}H_{28}N_3O_6]$.			

Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
$[C_{15}H_{20}N_3O_3]$  Ar = 4-Methoxyphenyl	Reaction of thymine, $H_3COC_6H_4N_2^+BF_4^-$, Fe^{II} -EDTA and MNP H_2O , pH 2.5 ESR / 298	N: 1.56	95Haz2
Similar spectra observed with 2'-deoxythymidine $[C_{20}H_{28}N_3O_6]$.			
$[C_{16}H_{30}NO_{12}]$ 	γ -Irradiation (2 kGy) of sucrose-GF ₁ in H_2O containing MNP H_2O / C_2H_5OH (2:1) ESR / 298	N: 1.52 H: 0.04	92Tri1
$[C_{18}H_{24}NO_4]$ 	Exposure of phenylma- leic anhydride and MNP to daylight CH_2Cl_2 ESR / 298	N: 1.60 H_p : 0.130 H_γ : 0.080 $9H_\gamma$: 0.033	98Ebe2

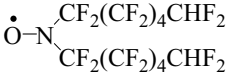
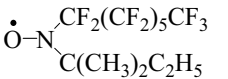
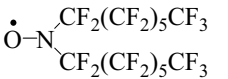
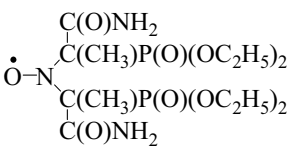
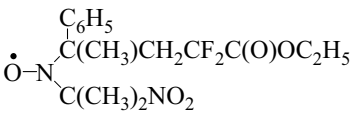
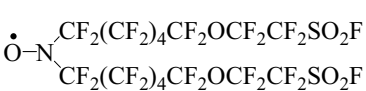
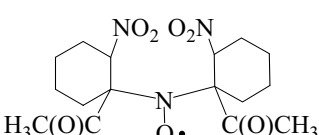
12.2.2.9.3 Other di-*tert*-alkyl nitroxides

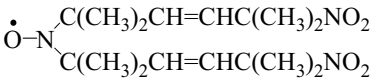
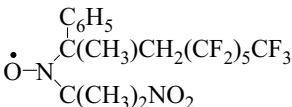
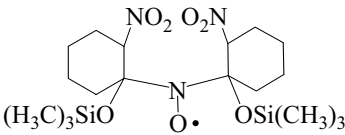
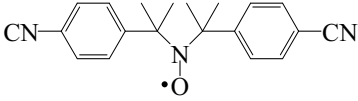
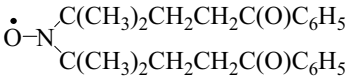
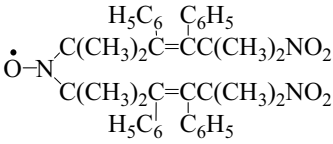
$[C_2F_6NO]$ $F_3C-N(CF_3)-O\cdot$	Reaction of ^{15}N - $NaNO_2$ and $[F_3CC(O)O]_2$ $CF_2ClCFCl_2$ (F113) ESR / 293	2.0069 N: 0.935 $6F_\beta$: 0.830 $[^{15}N: 1.312]$	88Zha1, 95Zha1
$[C_4Cl_2F_8NO]$ $\cdot O-N(CF_2CF_2Cl)_2$	Reaction of $ClCF_2CF_2I$ and $Na^{15}NO_2$ $CF_2ClCFCl_2$ (F113) ESR / 293	2.0069 N: 0.865 $4F_\beta$: 1.087 $4F_\gamma$: 0.092 $[^{15}N: 1.241]$	88Zha1
$[C_4F_{10}NO]$ $\cdot O-N(CF_2CF_3)_2$	Reaction of $Na^{15}NO_2$ and $[C_2F_5C(O)O]_2$ $CF_2ClCFCl_2$ (F113) ESR / 293	2.0071 N: 0.886 $4F_\beta$: 1.213 $6F_\gamma$: 0.103 $[^{15}N: 1.213]$	88Zha1, 95Zha1
$[C_4H_2F_8NO]$ $\cdot O-N(CF_2CHF_2)_2$	Reaction of $Na^{15}NO_2$ and $[C_2HF_4C(O)O]_2$ $CF_2ClCFCl_2$ (F113) ESR / 293	2.0068 N: 0.976 $4F_\beta$: 1.438 $[^{15}N: 1.362]$	88Zha1, 95Zha1

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_4H_6F_3N_2O_3]$ $\dot{O}-N(\text{CF}_3)C(\text{CH}_3)_2\text{NO}_2$	Reaction of Cu^0 with $[\text{CF}_3\text{C}(\text{O})\text{O}]_2$ and NNP or of $[\text{CF}_3\text{C}(\text{O})\text{O}]_2$ with $[(\text{CH}_3)_2\text{CNO}_2]^- \text{Na}^+$ $\text{CF}_2\text{ClCFCl}_2$ (F113) ESR / 293	2.0065 N: 1.085 $3F_\beta$: 0.932	87Zha1, 95Zha1, 99Zha3
$[C_5H_6F_3N_2O_3]$ $\dot{O}-N(\text{CF}_2\text{CF}_3)C(\text{CH}_3)_2\text{NO}_2$	Reaction of Cu^0 with $[\text{C}_2\text{F}_5\text{C}(\text{O})\text{O}]_2$ and NNP or of $[\text{C}_2\text{F}_5\text{C}(\text{O})\text{O}]_2$ with $[(\text{CH}_3)_2\text{CNO}_2]^- \text{Na}^+$ Isopentane ESR / 293	2.0066 N: 1.050 $2F_\beta$: 1.576 $3F_\gamma$: 0.088	87Zha1, 95Zha1, 99Zha3
$[C_5H_7F_4N_2O_3]$ $\dot{O}-N(\text{CF}_2\text{CHF}_2)C(\text{CH}_3)_2\text{NO}_2$	Reaction of Cu^0 with $[\text{C}_2\text{HF}_4\text{C}(\text{O})\text{O}]_2$ and NNP $\text{CF}_2\text{ClCFCl}_2$ (F113) ESR / 293	2.0063 N: 1.100 $2F_\beta$: 1.635	87Zha1
$[C_5H_8F_3N_2O_3]$ $\dot{O}-N(\text{CF}_3)C(\text{CH}_3)\text{C}_2\text{H}_5\text{NO}_2$	Reaction of NaNO_2 and $[\text{CF}_3\text{C}(\text{O})\text{O}]_2$ with $[\text{C}_2\text{H}_5\text{C}(\text{CH}_3)\text{NO}_2]^- \text{Na}^+$ $\text{CF}_2\text{ClCFCl}_2$ (F113) ESR / 293	2.0065 N: 1.092 $3F_\beta$: 0.995	99Zha3
$[C_6F_{14}\text{NO}]$ $\dot{O}-N(\text{C}_3\text{F}_7)_2$	Reaction of $\text{Na}^{15}\text{NO}_2$ and $[\text{C}_3\text{F}_7\text{C}(\text{O})\text{O}]_2$ or of $[\text{C}(\text{CH}_3)_2\text{NO}_2]^- \text{Na}^+$, $[\text{C}_3\text{F}_7\text{C}(\text{O})\text{O}]_2$ and NaNO_2 $\text{CF}_2\text{ClCFCl}_2$ (F113) ESR / 293	2.0070 N: 0.88 $4F_\beta$: 0.995 $4F_\gamma$: 0.122 [^{15}N : 1.216]	88Zha1, 95Zha1
$[C_6H_6F_7N_2O_3]$ $\dot{O}-N(\text{C}_3\text{F}_7)C(\text{CH}_3)_2\text{NO}_2$	Reaction of Cu^0 with $[\text{C}_3\text{F}_7\text{C}(\text{O})\text{O}]_2$ and NNP or of $[\text{C}_3\text{F}_7\text{C}(\text{O})\text{O}]_2$, NaNO_2 and $[\text{C}(\text{CH}_3)_2\text{NO}_2]^- \text{Na}^+$ $\text{CF}_2\text{ClCFCl}_2$ (F113) ESR / 278	2.0066 N: 1.037 $2F_\beta$: 1.345	87Zha1, 95Zha1, 99Zha3
$[C_6H_8F_5N_2O_3]$ $\dot{O}-N(\text{C}_2\text{F}_5)C(\text{CH}_3)\text{C}_2\text{H}_5\text{NO}_2$	Reaction of NaNO_2 with $[\text{C}_2\text{F}_5\text{C}(\text{O})\text{O}]_2$ and $[\text{C}_2\text{H}_5\text{C}(\text{CH}_3)\text{NO}_2]^- \text{Na}^+$ $\text{CF}_2\text{ClCFCl}_2$ (F113) ESR / 293	2.0065 N: 1.111 $2F_\beta$: 1.848	99Zha3

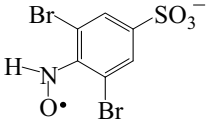
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$[C_6H_8F_5N_2O_3]$ 	Dissolution of CF ₃ NO and (CF ₃) ₂ N(O•) in isopentane ESR / 293	N: 1.172 3F _β : 1.271	95Zha1
$[C_7H_8F_5N_2O_3]$ 	Reaction of [C ₂ F ₅ C(O)O] ₂ with nitrocyclopentane, Na salt CF ₂ ClCFCl ₂ (F113) ESR / 293	N: 1.140 2F _β : 1.621 3F _γ : 0.125	99Zha3
$[C_7H_{11}F_2N_2O_5]$ 	Exposure of hexabutyl-ditin, ICF ₂ C(O)OC ₂ H ₅ , and NNP to daylight Benzene ESR / 298	2.0062 N: 1.18 2F _β : 1.90	00Jul1
$[C_7H_{11}F_5NO]$ 	Dissolution of C ₂ F ₅ NO and (C ₂ F ₅) ₂ N(O•) in isopentane ESR / 293	N: 1.118 2F _β : 2.364	95Zha1
$[C_7H_{12}F_4NO]$ 	Dissolution of C ₂ HF ₄ NO and (C ₂ HF ₄) ₂ N(O•) in isopentane ESR / 293	N: 1.193 2F _β : 2.212	95Zha1
$[C_8Cl_2F_{16}NO]$ 	Reaction of C ₄ ClF ₈ I or C ₄ ClF ₈ SO ₂ Br with Na ¹⁵ NO ₂ CF ₂ ClCFCl ₂ (F113) ESR / 293	2.0071 N: 0.877 [15N: 1.241] 4F _β : 0.988 4F _γ : 0.119	88Zha1, 95Zha1
$[C_8F_{16}I_2NO_3]$ 	Reaction of R _F SO ₂ NCl ₂ and MNP CF ₂ ClCFCl ₂ (F113) ESR / 293 R _F = CF ₂ CF ₂ OCF ₂ CF ₂ I. Similar spectra also observed in benzene, chloroform, carbon tetrachloride and methylene chloride.	2.0056 N: 0.884 4F _β : 0.996 4F _γ : 0.100	95Zho1
$[C_8H_2F_{16}NO]$ 	Reaction of Na ¹⁵ NO ₂ and [C ₄ HF ₈ C(O)O] ₂ CF ₂ ClCFCl ₂ (F113) ESR / 293	2.0071 N: 0.894 [15N: 1.262] 4F(F _β): 0.998 4F(F _γ): 0.114	88Zha1

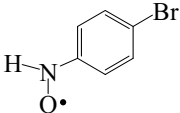
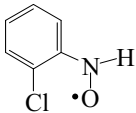
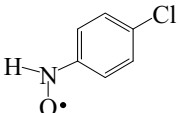
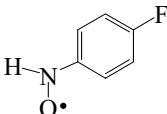
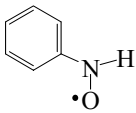
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_8H_{11}F_7NO]$ $\dot{O}-N-\begin{array}{c} C_3F_7 \\ \\ C(CH_3)_2C_2H_5 \end{array}$	Dissolution of C_3F_7NO and $(C_3F_7)_2N(O^\bullet)$ in isopentane ESR / 293	N: 1.133 [^{15}N : 1.60] $2F_\beta$: 2.000	95Zha1
$[C_9H_6F_{13}N_2O_3]$ $\dot{O}-N-\begin{array}{c} CF_2(CF_2)_4CF_3 \\ \\ C(CH_3)_2NO_2 \end{array}$	Exposure of hexabutyl-ditin, $ICF_2(CF_2)_4CF_3$ and NNP to daylight Benzene ESR / 298	2.0063 N: 1.075 $2F_\beta$: 1.45	00Jul1
$[C_9H_{11}F_9NO]$ $\dot{O}-N-\begin{array}{c} CF_2(CF_2)_2CF_3 \\ \\ C(CH_3)_2C_2H_5 \end{array}$	Dissolution of C_4F_9NO and $(C_4F_9)_2N(O^\bullet)$ in isopentane ESR / 293	2.0061 N: 1.162 [^{15}N : 1.62] $2F_\beta$: 2.089	88Zha1
$[C_9H_{12}F_8NO]$ $\dot{O}-N-\begin{array}{c} CF_2(CF_2)_2CHF_2 \\ \\ C(CH_3)_2C_2H_5 \end{array}$	Dissolution of C_4HF_8NO and $(C_4HF_8)_2N(O^\bullet)$ in isopentane ESR / 293	N: 1.175 $2F_\beta$: 2.089	95Zha1
$[C_{10}H_6F_{15}N_2O_3]$ $\dot{O}-N-\begin{array}{c} CF_2(CF_2)_5CF_3 \\ \\ C(CH_3)_2NO_2 \end{array}$	Reaction of $NaNO_2$ and $[C_7F_{15}C(O)O]_2$ with $[C(CH_3)_2NO_2]^-Na^+$ $CF_2ClCFCl_2$ (F113) ESR / 293	2.0066 N: 1.055 $2F_\beta$: 1.387	88Zha1, 95Zha1, 99Zha3
$[C_{11}H_{12}F_4NO]$ $\dot{O}-N-\begin{array}{c} CF_2CHF_2 \\ \\ C(CH_3)_2C_6H_5 \end{array}$	Dissolution of C_2HF_4NO and $(C_2HF_4)_2N(O^\bullet)$ in cumene $CF_2ClCFCl_2$ ESR / 293	2.0061 N: 1.174 $2F_\beta$: 1.475 $2F_\gamma$: 0.089	95Zha1
$[C_{11}H_{12}F_{12}NO]$ $\dot{O}-N-\begin{array}{c} CF_2(CF_2)_4CHF_2 \\ \\ C(CH_3)_2C_2H_5 \end{array}$	Dissolution of $C_6HF_{12}NO$ and $(C_6HF_{12})_2N(O^\bullet)$ in isopentane ESR / 293	N: 1.139 $2F_\beta$: 2.016	95Zha1
$[C_{12}Cl_2F_{24}NO]$ $\dot{O}-N-\begin{array}{c} CF_2(CF_2)_4CF_2Cl \\ \\ CF_2(CF_2)_4CF_2Cl \end{array}$	Reaction of $C_6ClF_{12}I$ or $C_6ClF_{12}SO_2Br$ with $Na^{15}NO_2$ $CF_2ClCFCl_2$ (F113) ESR / 293	2.0072 N: 0.875 [^{15}N : 1.245] $4F_\beta$: 0.967 $4F_\gamma$: 0.115	88Zha1, 95Zha1
$[C_{12}F_{26}NO_7S_2]$ $\dot{O}-N-\begin{array}{c} CF_2(CF_2)_2CF_2OCF_2CF_2SO_2F \\ \\ CF_2(CF_2)_2CF_2OCF_2CF_2SO_2F \end{array}$	Reaction of $NaNO_2$ with $[FSO_2C_2F_4OC_4F_8CO_2]_2$ $CF_2ClCFCl_2$ (F113) ESR / 293	2.0069 N: 0.854 $4F_\beta$: 1.022 $4F_\gamma$: 0.110	95Zha1

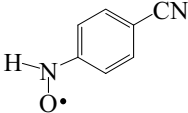
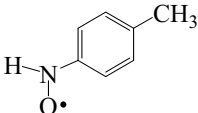
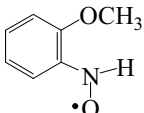
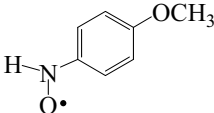
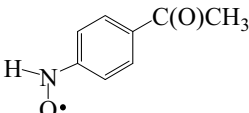
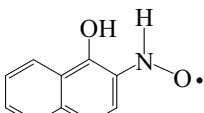
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
$[\text{C}_{12}\text{H}_2\text{F}_{24}\text{NO}]$ 	Reaction of $\text{Na}^{15}\text{NO}_2$ with $[\text{C}_6\text{HF}_{12}\text{C}(\text{O})\text{O}]_2\text{CF}_2\text{ClCFCl}_2$ (F113) ESR / 293	2.0071 N: 0.861 4F _β : 0.981 4F _γ : 0.116 [¹⁵ N: 1.205]	88Zha1
$[\text{C}_{12}\text{H}_{11}\text{F}_{15}\text{NO}]$ 	Dissolution of $\text{C}_7\text{F}_{15}\text{NO}$ and $(\text{C}_7\text{F}_{15})_2\text{N}(\text{O}^\bullet)$ in isopentane ESR / 293	N: 1.126 2F _β : 2.024	95Zha1
$[\text{C}_{14}\text{F}_{30}\text{NO}]$ 	Reaction of $\text{Na}^{15}\text{NO}_2$ with $[\text{C}_7\text{F}_{15}\text{C}(\text{O})\text{O}]_2\text{CF}_2\text{ClCFCl}_2$ (F113) ESR / 293	2.0072 N: 0.875 4F _β : 0.969 4F _γ : 0.112 [¹⁵ N: 1.238]	88Zha1
$[\text{C}_{14}\text{H}_{30}\text{N}_3\text{O}_9\text{P}_2]$ 	Photolysis of 1-carbamoyl-1-nitroso-ethyl phosphonate Benzene ESR / 298	<i>Conformer I</i> N: 1.27 2 ³¹ P: 1.77 <i>Conformer II</i> N: 1.22 3 ³¹ P: 3.13 3 ³¹ P: 4.10	87Kas1
Spectral parameters also in CHCl_3 , $\text{C}_2\text{H}_5\text{OH}$, acetone and DMF.			
$[\text{C}_{16}\text{H}_{21}\text{F}_2\text{N}_2\text{O}_5]$ 	Exposure of hexabutylditin, α-methyl styrene, $\text{ICF}_2\text{C}(\text{O})\text{OC}_2\text{H}_5$ and NNP to daylight Benzene ESR / 298	2.0061 N: 1.55	00Jul1
$[\text{C}_{16}\text{F}_{34}\text{NO}_7\text{S}_2]$ 	Reaction of $\text{Na}^{15}\text{NO}_2$ and $\text{FSO}_2\text{C}_2\text{F}_4\text{OC}_6\text{F}_{12}\text{I}$ $\text{CF}_2\text{ClCFCl}_2$ (F113) ESR / 293	2.0071 N: 0.854 4F _β : 1.022 4F _γ : 0.110 [¹⁵ N: 1.222]	88Zha1
$[\text{C}_{16}\text{H}_{24}\text{N}_3\text{O}_7]$ 	Dissolution of 1-acetylcyclohexene in cyclohexane containing NO and O ₂ ESR / 298	2.0060 N: 1.43	97Par1

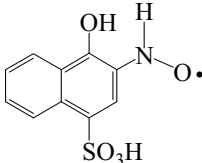
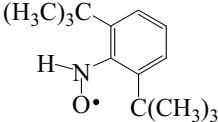
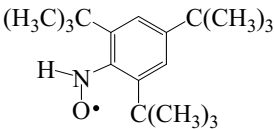
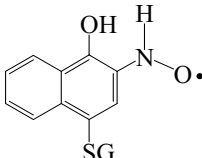
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{16}H_{28}N_3O_5]$ 	Dissolution of 2,5-dimethylhexa-2,4-diene in <i>tert</i> -butylbenzene containing NO and O ₂ ESR / 298	2.0060 N: 1.55	97Par1
$[C_{18}H_{16}F_{13}N_2O_3]$ 	Reaction of α -methylstyrene, ICF ₂ (CF ₂) ₄ CF ₃ , NNP and [(C ₄ H ₉) ₄ Sn] ₂ Benzene ESR / 298	2.0056 N: 1.512 2H _{γ} : 0.05	00Jul1
$[C_{18}H_{34}N_3O_7Si_2]$ 	Dissolution of 1-trimethylsilyloxycyclohexene Containing NO and O ₂ Cyclohexane ESR / 298	2.0060 N: 1.36	97Par1
$[C_{20}H_{20}N_3O]$ 	Photolysis of 2-(<i>p</i> -cyano-phenyl)-2-nitropropane and HSi[Si(CH ₃) ₃] ₃ Benzene ESR / 298	2.0060 N: 1.459	92Bal
$[C_{24}H_{30}NO_3]$ 	Reaction of 2-phenyl-DMPO and CPBA Benzene ESR / 298	N: 1.435	96San2
$[C_{40}H_{44}N_3O_5]$ 	Dissolution of 3,4-diphenyl-2,5-dimethyl-2,4-hexadiene in NO saturated benzene O ₂ / Δ (343 K) ESR / 298	2.0060 N: 1.42	96Ada1

12.2.3 Aryl nitroxides

$[C_6H_3Br_2NO_4S]^-$ 	Reaction of <i>N</i> -acetylglucosamine, Fe ^{II} -EDTA-H ₂ O ₂ and DBNBS H ₂ O, pH 4 ESR / 298	N: 1.33 H(H _{α}): 1.42	96Haw1
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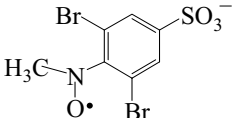
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
<p>[C₆H₅BrNO]</p> 	<p>Reaction of <i>p</i>-bromoaniline, [F₃CC(O)O]₂ and H₃COCH₂CH₂OH CF₂ClCFCl₂ (F113) ESR / 293</p>	<p>2.006 N: 0.938 H_α: 1.230 2H_m: 0.115 2H_o: 0.319</p>	00Xu1
<p>[C₆H₅ClNO]</p> 	<p>Electrochemical reduct. of <i>o</i>-chloronitrosobenzene ACN / TBFP ESR / 298</p>	<p>2.0060 N: 0.88 H_α: 1.22 2H_m: 0.105 2H_{o,p}: 0.305</p>	93Gro1
<p>Protonation of the radical anion by residual water. TBFP = Tetra-<i>n</i>-butylammonium hexafluorophosphate.</p>			
<p>[C₆H₅ClNO]</p> 	<p>Reaction of <i>p</i>-chloroaniline, [F₃CC(O)O]₂ and H₃COCH₂CH₂OH CF₂ClCFCl₂ (F113) ESR / 293</p>	<p>2.006 N: 0.925 H_α: 1.225 2H_m: 0.100 2H_o: 0.300</p>	00Xu1
<p>[C₆H₅FNO]</p> 	<p>Reaction of <i>p</i>-fluoroaniline, [F₃CC(O)O]₂ and H₃COCH₂CH₂OH CF₂ClCFCl₂ (F113) ESR / 293</p>	<p>2.006 N: 0.974 H_α: 1.240 2H_m: 0.103 2H_o: 0.308 F: 0.750</p>	00Xu1
<p>[C₆H₆NO]</p> 	<p>Reaction of aniline, [F₃CC(O)O]₂ and H₃COCH₂CH₂OH CF₂ClCFCl₂ (F113) ESR / 293</p>	<p>2.006 N: 0.950 H_α: 1.225 2H_m: 0.100 3H_{o,p}: 0.305</p>	00Xu1
	<p>Reaction of thiophenol and nitrosobenzene <i>i</i>-Propanol ESR / 298</p>	<p>2.0059₃ N: 0.925 H_α: 1.180 2H_m: 0.097 2H_o: 0.286 H_p: 0.303</p>	95Alb1
	<p>Reaction of nitrosobenzene and GSH (or L-cysteine, NADPH) Phosphate buffer pH 7.4 ESR / 298</p>	<p>N: 1.069 H_α: 1.327 2H_m: 0.112 2H_o: 0.332, 0.359 H_p: 0.332</p>	88Tak1

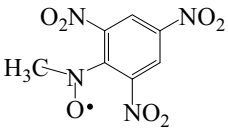
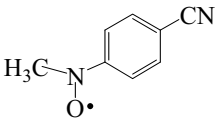
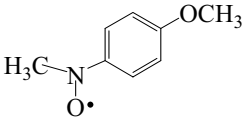
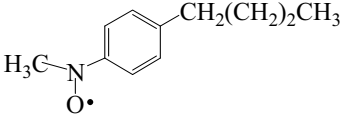
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_7H_5N_2O]$ 	Reaction of <i>p</i> -cyanoaniline, $[F_3CC(O)O]_2$ and $H_3COCH_2CH_2OH$ $CF_2ClCFCl_2$ (F113) ESR / 293	2.006 N: 0.848 H_α : 1.155 $2H_m$: 0.104 $2H_o$: 0.308	00Xu1
$[C_7H_8NO]$ 	Reaction of <i>p</i> -toluidine, $[F_3CC(O)O]_2$ and $H_3COCH_2CH_2OH$ $CF_2ClCFCl_2$ (F113) ESR / 293	2.006 N: 0.978 H_α : 1.280 $2H_m$: 0.104 $2H_o$: 0.314	00Xu1
$[C_7H_8NO_2]$ 	Reaction of <i>o</i> -anisidine and CPBA Benzene ESR / 298 Reaction of <i>o</i> -anisidine and H_2O_2 Acetic acid ESR / 298	2.0060 ₀ N: 0.962 H_α : 1.280 $2H_m$: 0.095 $2H_{o,p}$: 0.347 2.0059 ₁ N: 1.032 H_α : 1.303 $2H_m$: 0.101 H_o : 0.360 H_p : 0.370	94Bol1
$[C_7H_8NO_2]$ 	Reaction of <i>p</i> -anisidine, $[F_3CC(O)O]_2$ and $H_3COCH_2CH_2OH$ $CF_2ClCFCl_2$ (F113) ESR / 293	2.006 N: 0.993 H_α : 1.311 $2H_m$: n.r. $2H_o$: 0.330	00Xu1
$[C_8H_8NO_2]$ 	Reaction of <i>p</i> -aminoacetophenone, $[F_3CC(O)O]_2$ and $H_3COCH_2CH_2OH$ $CF_2ClCFCl_2$ (F113) ESR / 293	2.006 N: 0.860 H_α : 1.150 $2H_m$: 0.090 $2H_o$: 0.290	00Xu1
$[C_{10}H_8NO_2]$ 	Reaction of 2-nitroso-1-naphthol, NADPH and O_2 Phosphate buffer pH 7.4 ESR / 298	N: 0.432 H: 0.514 $2H$: 0.45 $2H$: 0.131 H: 0.087 H: 0.041 H: 0.032	88Tak1

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{10}H_8NO_5S]$ 	Reaction of 2-nitroso-1-naphthol-4-sulphonic acid, NADPH and O_2 Phosphate buffer pH 7.4 ESR / 298	N: 0.485 2H: 0.520 H: 0.106 H: 0.090 H: 0.063 H: 0.055 H: 0.045	88Tak1
$[C_{14}H_{22}NO]$ 	Electrochemical reduct. of 2,6-di- <i>tert</i> -butylnitrosobenzene ACN ESR / 298	2.0060 N: 1.22 H_α : 1.40 $2H_m$: 0.07	89Cer1
$[C_{18}H_{30}NO]$ 	Electrochemical reduct. of 2,4,6-tri- <i>tert</i> -butylnitrosobenzene DMF / TEAP ESR / 298	2.0060 N: 1.20 H_α : 1.37 $2H_m$: 0.113	93Gro1
Protonation of the radical anion by residual water.			
$[C_{20}H_{24}N_4O_8S]$ 	Reaction of 2-nitroso-1-naphthol and GSH + O_2 Phosphate buffer pH 7.4 ESR / 298	N: 0.384 H: 0.445 H: 0.430 2H: 0.113 H: 0.098 2H: 0.052	88Tak1

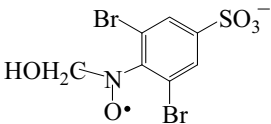
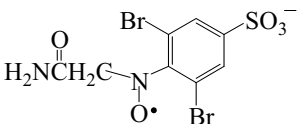
12.2.4 Aryl alkyl nitroxides

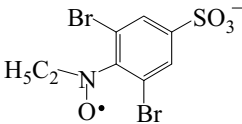
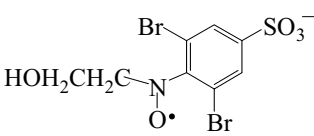
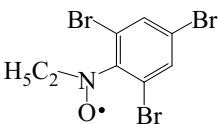
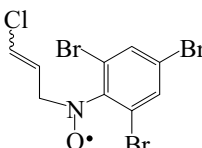
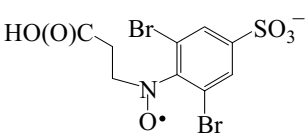
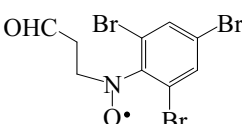
12.2.4.1 Aryl methyl nitroxides

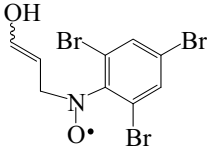
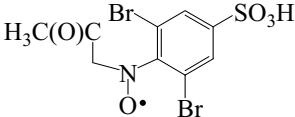
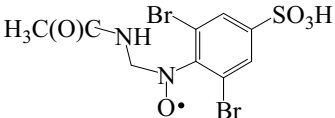
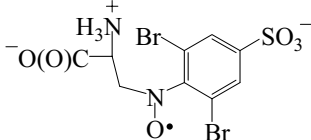
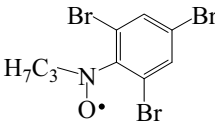
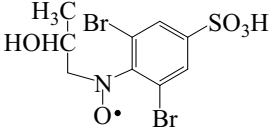
$[C_7H_5Br_2NO_4S]^-$ 	Photolysis of <i>tert</i> -butylperoxybenzoate (or keratinocytes treated with <i>tert</i> -butylperoxybenzoate) and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.44 $3H_\beta$: 1.34 $2H_m$: 0.074	93Gre1, 93Tim1, 94Gre1
	Reaction of DMSO, $TiCl_3 \cdot (H_3C)_3COOH$ and DBNBS H_2O , pH ca. 2 (Flow) ESR / 298	2.0062 ₉ N: 1.432 $3H_\beta$: 1.335 $2H_m$: 0.070	88Smi1, 92Bor1

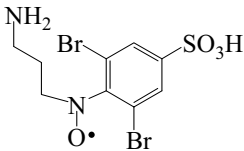
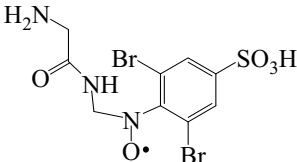
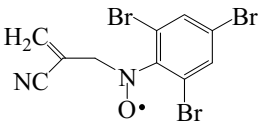
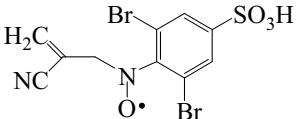
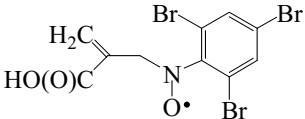
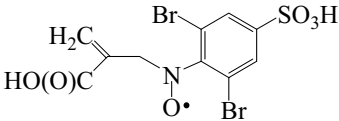
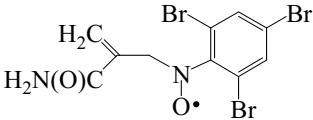
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_7H_5N_4O_7]$ 	Photolysis of <i>N</i> ,2,4,6-tetranitrophenyl- <i>N</i> -methylaniline Powder ESR / 298 Single Crystal ENDOR* / 113	2.0088, 2.0060, 2.0020 is. 2.0056 N: 0.125, 0.425, 2.78 is. 1.10 H _β : 1.2, 1.0, 1.0 is. 0.107 2.009, 2.006, 2.002 is. 2.0056 N: 3.4, 11.8, 77.8 is. 31.0 H _β : 26.7, 28.3, 36.1 is. 21.46	92Pac1 93Pac1
* Hyperfine coupling constants in MHz.			
$[C_8H_7N_2O]$ 	Oxidation of 3-(<i>p</i> -cyanophenyl)-1-methyl-triaz-2-en-1-ol with PbO ₂ Benzene ESR / 298	N: 0.942 3H _β : 0.887 2H _m : 0.090 2H _o : 0.263 N(CN): 0.037	96Ome1
$[C_8H_{10}NO_2]$ 	Oxidation of 3-(<i>p</i> -anisyl)-1-methyl-triaz-2-en-1-ol with PbO ₂ Benzene ESR / 298	N: 1.105 3H _β : 1.007 2H _m : 0.092 2H _o : 0.280 3H(OCH ₃): 0.032	96Ome1
$[C_{11}H_{16}NO]$ 	Oxidation of 3-(<i>p</i> -butylphenyl)-1-methyl-triaz-2-en-1-ol with PbO ₂ Benzene ESR / 298	N: 1.055 3H _β : 0.980 2H _m : 0.095 2H _o : 0.280 2H: 0.215	96Ome1

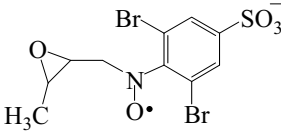
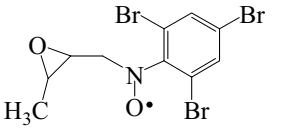
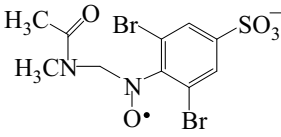
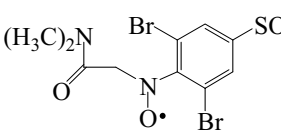
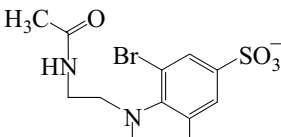
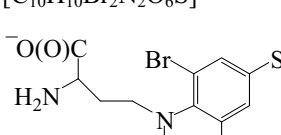
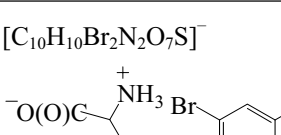
12.2.4.2 Aryl *prim*-alkyl nitroxides

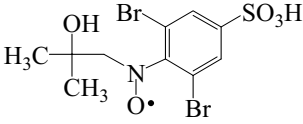
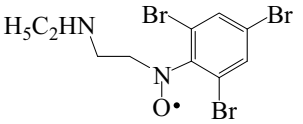
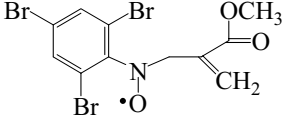
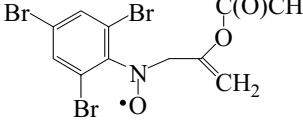
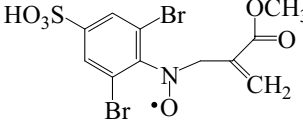
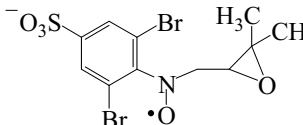
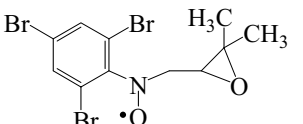
$[C_7H_5Br_2NO_5S]^-$ 	Reaction of CH ₃ OH, TiCl ₃ -H ₂ O ₂ and DBNBS H ₂ O ESR / 298	2.0064 N: 1.34 2H _β : 0.74 2H _m : 0.08	87Oza1, 88Smi1
$[C_8H_6Br_2NO_5S]^-$ 	Reaction of HOCl/CIO ⁻ , acetamide and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.34 2H _β : 0.97	98Haw1

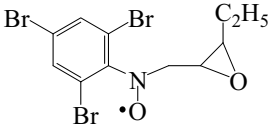
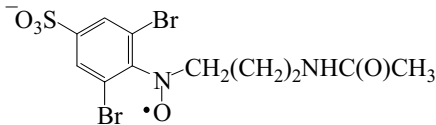
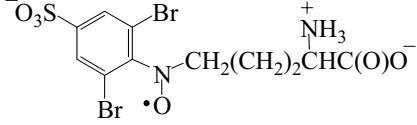
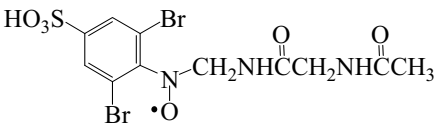
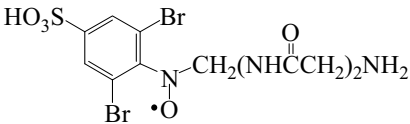
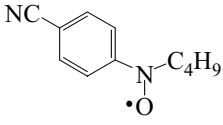
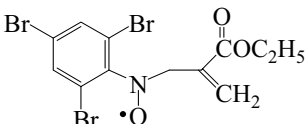
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[\text{C}_8\text{H}_7\text{Br}_2\text{NO}_4\text{S}]^-$ 	Rat liver nuclei treated with 3-pentylhydroperoxide and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.44 $2H_\beta$: 1.30 $2H_m$: 0.074 $3H_\gamma$: 0.035	94Gre1
$[\text{C}_8\text{H}_7\text{Br}_2\text{NO}_5\text{S}]^-$ 	Reaction of $\text{C}_2\text{H}_5\text{OH}$ with $\text{TiCl}_3\text{-H}_2\text{O}_2$ and DBNBS γ -Irradiation of $\text{C}_2\text{H}_5\text{OH}$ in N_2O saturated H_2O containing DBNBS ESR / 298 Keratinocytes treated with ethylhydroperoxide and DBNBS Phosphate buffer pH 7.4 ESR / 298	2.0063 N: 1.42 $2H_\beta$: 1.22 $2H_m$: 0.06 N: 1.34 $2H_\beta$: 0.8	87Oza1, 92Bor1 93Tim1
$[\text{C}_8\text{H}_7\text{Br}_3\text{NO}]$ 	Photolysis of 2-ethylbut-3-en-2-ol, <i>tert</i> -butyl nitrite and TBNB ACN ESR / 246	2.0061 N: 1.340 $2H(H_\beta)$: 1.105 $2H(H_m)$: 0.040	98Gro1
$[\text{C}_9\text{H}_6\text{Br}_3\text{ClNO}]$ 	Exposure of 3-chloropropene and TBNB to daylight (or photolysis) Benzene ESR / 298	2.00662 N: 1.261 $2H_\beta$: 0.983	92Smi1
$[\text{C}_9\text{H}_7\text{Br}_2\text{NO}_6\text{S}]^-$ 	Photolysis of succinic acid and Fe^{III} T2MPyP + DBNBS H_2O , pH 3 ÷ 6 ESR / 298 Fe^{III} T2MPyP = Iron(III)tetrakis(2- <i>N</i> -methylpyridyl)porphyrine.	N: 1.38 $2H_\beta$: 1.19	97Gil1
$[\text{C}_9\text{H}_7\text{Br}_3\text{NO}_2]$ 	Photolysis of allylic alcohol, <i>tert</i> -butyl nitrite and TBNB ACN ESR / 246	2.0061 N: 1.365 $2H_\beta$: 0.935 $2H_m$: 0.055	98Gro1

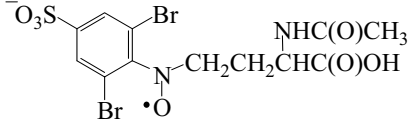
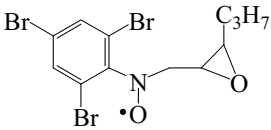
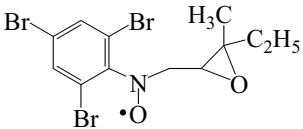
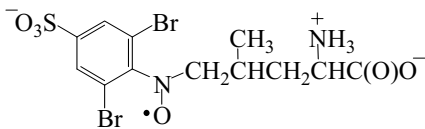
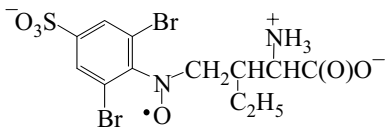
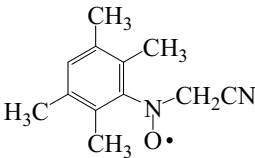
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_9H_7Br_3NO_2]$ 	Exposure of allylic alcohol and TBNB to daylight (or photolysis) Benzene ESR / 298	2.0065 ₀ N: 1.279 2H _β : 1.151	92Smi1
$[C_9H_8Br_2NO_5S]$ 	Reaction of acetone with TiCl ₃ -H ₂ O ₂ and DBNBS H ₂ O, pH 3 ÷ 6 ESR / 298	2.0063 ₂ N: 1.307 2H _β : 0.950 2H _m : 0.062	88Smi1
$[C_9H_9Br_2N_2O_5S]$ 	Photolysis of <i>N</i> -acetyl-glycine, Fe ^{III} T2MPyP and DBNBS H ₂ O, pH 3.1 or reaction of <i>N</i> -methyl-acetamide, HOCl/CIO ⁻ and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.39 2H _β : 0.83 N _β : 0.25 2H _m : 0.07	97Gil1, 98Haw1, 98Haw2
Fe ^{III} T2MPyP = Iron(III)tetrakis(2- <i>N</i> -methylpyridyl)porphyrine.			
$[C_9H_8Br_2N_2O_6S]^-$ 	Reaction of HOCl/CIO ⁻ , alanine or aspartic acid and DBNBS or reaction of alanine, Fe ^{II} -EDTA-H ₂ O ₂ and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.34 2H _β : 0.89 ¹³ C _α : 0.64	91Dav1, 98Haw2
$[C_9H_9Br_3NO]$ 	Photolysis of 3-methyl-hex-1-en-3-ol, <i>tert</i> -butylnitrite and TBNB ACN ESR / 246	2.0061 N: 1.327 2H _β : 1.035 2H _m : 0.040	98Gro1
$[C_9H_{10}Br_2NO_5S]$ 	Reaction of 2-propanol, Fe ^{II} -EDTA-H ₂ O ₂ and DBNBS H ₂ O (Flow) γ-Irradiation of 2-propanol + DBNBS in N ₂ O saturated H ₂ O ESR / 298	2.0062 ₄ N: 1.401 2H _β : 1.060 2H _m : 0.055	88Smi1, 92Bor1

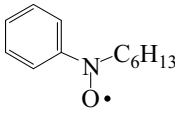
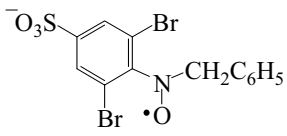
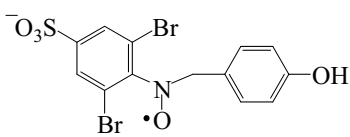
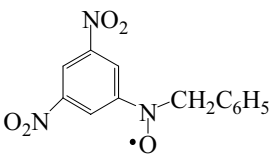
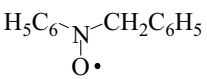
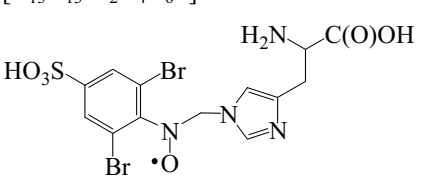
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_9H_{11}Br_2N_2O_4S]$ 	Photolysis of 4-amino- butyric acid, DBNBS and Fe^{III} T2MPyP H_2O , pH 3.1 ESR / 298	N : 1.40 $2H_\beta$: 1.18	97Gil1
Fe^{III} T2MPyP = Iron(III)tetrakis(2- <i>N</i> -methylpyridyl)porphyrine.			
$[C_9H_{10}Br_2N_3O_5S]$ 	Reaction of $HOCl/ClO^-$, glycylglycine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N : 1.36 $2H_\beta$: 0.83 N_β : 0.25	98Haw2
$[C_{10}H_6Br_3N_2O]$ 	Reaction of 2-methyl- acrylonitrile and TBNB Benzene ESR / 298	2.0067_3 N : 1.238 $2H_\beta$: 0.964	92Smi
$[C_{10}H_7Br_2N_2O_4S]$ 	Reaction of 2-methyl- acrylonitrile and DBNBS H_2O ESR / 298	2.0063_8 N : 1.379 H_β : 1.097 H_β : 1.117 H_δ : 0.040 $2H_m$: 0.060	88Smi1
$[C_{10}H_7Br_3NO_3]$ 	Reaction of 2-methyl- acrylic acid and TBNB Benzene ESR / 298	2.0065_1 N : 1.245 $2H_\beta$: 0.874	92Smi
$[C_{10}H_8Br_2NO_6S]$ 	Reaction of 2-methyl- acrylic acid and DBNBS H_2O ESR / 298	2.0062_7 N : 1.383 H_β : 1.035 H_β : 0.997 H_δ : 0.050 $2H_m$: 0.070	88Smi1
$[C_{10}H_8Br_3N_2O_2]$ 	Reaction of 2-methyl- acrylamide and TBNB Benzene ESR / 298	2.0067_0 N : 1.274 $2H_\beta$: 0.845	92Smi

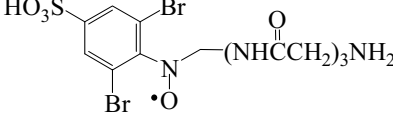
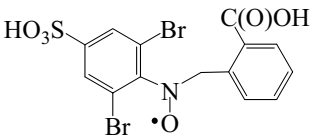
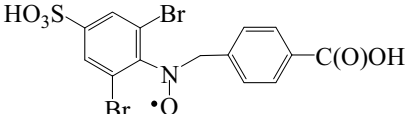
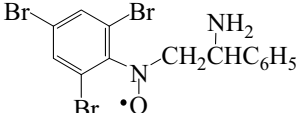
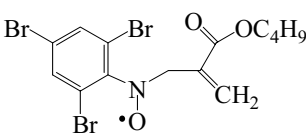
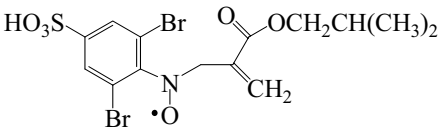
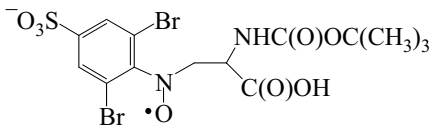
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{10}H_9Br_2NO_5S]^-$ 	Photolysis of but-3-en-2-ol, <i>tert</i> -butylnitrite and DBNBS ACN ESR / 246	2.0062 N: 1.285 H_β : 0.980 H_β : 0.770 $2H_m$: 0.065	98Gro1
$[C_{10}H_9Br_3NO_2]$ 	Photolysis of but-3-en-2-ol, <i>tert</i> -butylnitrite and TBNB ACN ESR / 246	2.0062 N: 1.285 H_β : 0.970 H_β : 0.785 $2H_m$: 0.070	98Gro1
$[C_{10}H_{10}Br_2N_2O_5S]^-$ 	Reaction of HOCl/CIO ⁻ , <i>N,N</i> -dimethylacetamide and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.31 $2H_\beta$: 0.92 N_β : 0.31	98Haw1
$[C_{10}H_{10}Br_2N_2O_5S]^-$ 	Reaction of HOCl/CIO ⁻ , <i>N,N</i> -dimethylacetamide and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.32 $2H_\beta$: 0.971	98Haw1
$[C_{10}H_{10}Br_2N_2O_5S]^-$ 	Reaction of HOCl/CIO ⁻ , <i>N</i> -ethylacetamide and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.36 $2H_\beta$: 0.55	98Haw1
$[C_{10}H_{10}Br_2N_2O_6S]^-$ 	Reaction of glutamic acid, Fe ^{III} T2MPyP and DBNBS H ₂ O, pH 3.1 ESR / 298	N: 1.39 $2H_\beta$: 1.17	97Gil1
Fe ^{III} T2MPyP = Iron(III)tetrakis(2- <i>N</i> -methylpyridyl)porphyrine.			
$[C_{10}H_{10}Br_2N_2O_7S]^-$ 	Reaction of HOCl/CIO ⁻ , threonine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.35 $2H_\beta$: 0.92	98Haw2

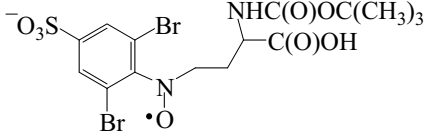
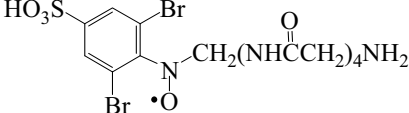
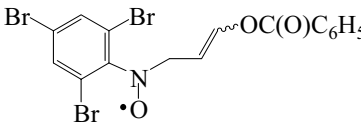
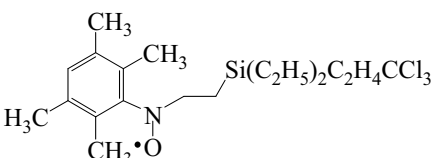
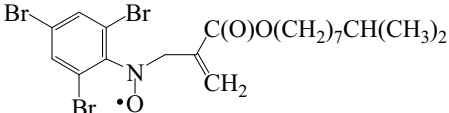
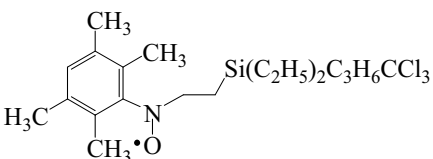
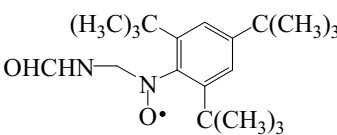
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{10}H_{12}Br_2NO_5S]$ 	γ -Irradiation of 2-methylpropan-2-ol and DBNBS N_2O saturated H_2O ESR / 298	N : 1.35 $2H_\beta$: 0.96 $2H_m$: 0.06	92Bor1
$[C_{10}H_{12}Br_3N_2O]$ 	Reaction of NiO_2 , diethylamine and TBNB Benzene ESR / 298	2.0067_0 N : 1.243 $2H_\beta$: 0.947	92Smi1
$[C_{11}H_9Br_3NO_3]$ 	Exposure of methyl methacrylate and TBNB to daylight Benzene ESR / 298	2.0065_1 N : 1.235 $2H_\beta$: 0.815	92Smi1
$[C_{11}H_9Br_3NO_3]$ 	Exposure of isopropenyl acetate and TBNB to daylight Benzene ESR / 298	2.0067_4 N : 1.233 $2H_\beta$: 0.916	92Smi1
$[C_{11}H_{10}Br_2NO_6S]$ 	Exposure of isobutyl methacrylate and DBNBS to daylight H_2O ESR / 298	2.0063_7 N : 1.345 H_β : 0.841 H_β : 0.893	92Smi1
$[C_{11}H_{11}Br_2NO_5S]^-$ 	Photolysis of 2-methylbuten-3-ol, <i>tert</i> -butyl nitrite and DBNBS ACN ESR / 246	2.0062 N : 1.287 H_β : 0.905 H_β : 1.020 $2H_m$: 0.060	98Gro1
$[C_{11}H_{11}Br_3NO_2]$ 	Photolysis of 2-methylbuten-3-ol, <i>tert</i> -butyl nitrite and TBNB ACN ESR / 246	2.0062 N : 1.290 H_β : 0.865 H_β : 1.050 $2H_m$: 0.070	98Gro1

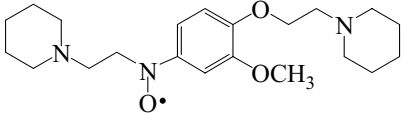
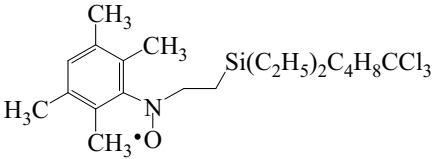
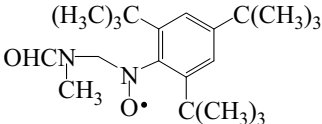
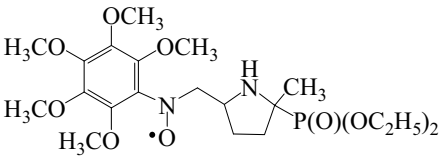
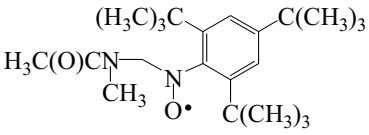
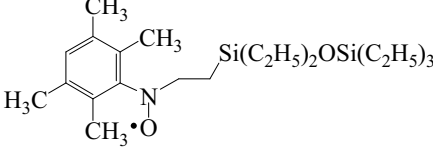
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{11}H_{11}Br_3NO_2]$ 	Photolysis of penten-3-ol, <i>tert</i> -butylnitrite and TBNB ACN ESR / 246	2.0062 N: 1.282 H_β : 0.775 H_β : 0.975 $2H_m$: 0.067	98Gro1
$[C_{11}H_{12}Br_2N_2O_5S]^-$ 	Reaction of 4-acetamidobutyric acid, DBNBS and $Fe^{III}T2MPyP$ H_2O , pH 3.1 ESR / 298	N: 1.40 $2H_\beta$: 1.18	97Gill1
$Fe^{III}T2MPyP$ = Iron(III)tetrakis(2- <i>N</i> -methylpyridyl)porphyrine.			
$[C_{11}H_{12}Br_2N_2O_6S]^-$ 	Reaction of $HOCl/ClO^-$, nor-valine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.42 $2H_\beta$: 1.19	98Haw2
DBNBS = 2,6-Dibromonitrosobenzene-4-sulphonic acid.			
$[C_{11}H_{12}Br_2N_3O_6S]$ 	Reaction of $HOCl/ClO^-$, <i>N</i> -acetylglycylglycine, and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.39 $2H_\beta$: 0.79 N_β : 0.25	98Haw2
$[C_{11}H_{13}Br_2N_4O_6S]$ 	Reaction of $HOCl/ClO^-$, glycylglycylglycine and DBNBS Aqueous phosphate buffer, pH 7.4 ESR / 298	N: 1.39 $2H_\beta$: 0.83 N_β : 0.25	98Haw2
$[C_{11}H_{13}N_2O]$ 	Reaction of 3-butyl-1- <i>p</i> -cyano-phenyl triazene and NPBA Benzene ESR / 298	N: 0.9552 $2H_\beta$: 0.705 $2H_m$: 0.097 $2H_o$: 0.265 $N(CN)$: 0.040	96Rap1
NPBA = <i>p</i> Nitroperbezoic acid.			
$[C_{12}H_{11}Br_3NO_3]$ 	Exposure of ethyl methacrylate and TBNB to daylight Benzene ESR / 298	2.0065 ₃ N: 1.234 $2H_\beta$: 0.826	92Smi1

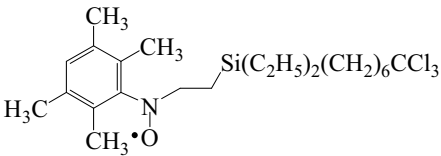
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[\text{C}_{12}\text{H}_{12}\text{Br}_2\text{N}_2\text{O}_7\text{S}]^-$ 	Reaction of <i>N</i> -acetyl-L-glutamic acid, DBNBS and Fe^{III} T2MPyP H_2O , pH 3.1 ESR / 298	N : 1.40 $2H_\beta$: 1.19	97Gil1
Fe^{III} T2MPyP = Iron(III)tetrakis(2- <i>N</i> -methylpyridyl)porphyrine.			
$[\text{C}_{12}\text{H}_{13}\text{Br}_3\text{NO}_2]$ 	Photolysis of <i>tert</i> -butyl nitrite, hexen-3-ol and TBNB ACN ESR / 246	2.0062 N : 1.283 H_β : 0.775 H_β : 0.985 $2H_m$: 0.070	98Gro1
$[\text{C}_{12}\text{H}_{13}\text{Br}_3\text{NO}_2]$ 	Photolysis of , <i>tert</i> -butyl nitrite, 3-methyl-penten-3-ol and TBNB ACN ESR / 246	2.0062 N : 1.285 H_β : 0.920 H_β : 1.025 $2H_m$: 0.070	98Gro1
$[\text{C}_{12}\text{H}_{14}\text{Br}_2\text{N}_2\text{O}_6\text{S}]^-$ 	Reaction of HOCl/ClO^- , D,L-leucine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N : 1.42 $2H_\beta$: 1.18	98Haw2, 91Dav1
$[\text{C}_{12}\text{H}_{14}\text{Br}_2\text{N}_2\text{O}_6\text{S}]^-$ 	Reaction of HOCl/ClO^- , isoleucine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N : 1.42 $2H_\beta$: 1.18	98Haw2
Alternative assignment is the $\bullet\text{CH}_2\text{CH}_2\text{CH}(\text{CH}_3)\text{CH}(\text{NH}_3^+)\text{CO}_2^-$ adduct to DBNBS.			
$[\text{C}_{12}\text{H}_{15}\text{N}_2\text{O}]$ 	Photoreduction of some sulfonium salts, $\text{Ph}_3\text{S}^+\text{X}^-$ or photodecomposition of Ph-N=N-SPh in ACN containing ND ESR / 298	2.0057 N : 1.343 $2H_\beta$: 0.977	93Sta1, 97Ere1, 98Sta1
ND = Nitrosodurene.			

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[\text{C}_{12}\text{H}_{18}\text{NO}]$ 	Reaction of 1-phenyl-3- <i>n</i> -hexyl triazene and NPBA Benzene ESR / 298 NPBA = <i>p</i> Nitroperbenzoic acid.	N: 1.060 $2H_\beta$: 0.724 $3H_{o,p}$: 0.288 $2H_m$: 0.090	96Rap1
$[\text{C}_{13}\text{H}_9\text{Br}_2\text{NO}_4\text{S}]^-$ 	Reaction of HOCl/CIO ⁻ , phenylalanine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.47 $2H_\beta$: 1.19	96Gil1, 98Haw2
$[\text{C}_{13}\text{H}_9\text{Br}_2\text{NO}_5\text{S}]^-$ 	Reaction of HOCl/CIO ⁻ , tyrosine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.47 $2H_\beta$: 1.19 [2D: 0.18] $2H_m$: 0.070	98Haw2
$[\text{C}_{13}\text{H}_{10}\text{N}_3\text{O}_5]$ 	Photodecomposition of 1,3,5-trinitrobenzene in toluene ESR / 290 ESR / 200	2.0061 N: 0.952 $2H_\beta$: 0.536 [2D: 0.072] $2N(\text{NO}_2)$: 0.020 $3H_{o,p}$: 0.268 [3D: 0.04] N: 9.52 H_β : 0.671 [D: 0.097] H_β : 0.321 [D: 0.047] $2N(\text{NO}_2)$: 0.020 $3H_{o,p}$: 0.268 [3D: 0.04]	90Men1
$[\text{C}_{13}\text{H}_{12}\text{NO}_2]$ 	Reaction of <i>p</i> -cresol with PbO ₂ and NB Benzene ESR / 298 NB = Nitrosobenzene	N: 1.120 $2H_\beta$: 0.610 $2H_m$: 0.093 $3H_{o,p}$: 0.290	94Ome1
$[\text{C}_{13}\text{H}_{13}\text{Br}_2\text{N}_4\text{O}_6\text{S}]^-$ 	Reaction of HOCl/CIO ⁻ , <i>N</i> -methyl-histidine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.44 $2H_\beta$: 1.03	98Haw2

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{13}H_{16}Br_2N_5O_7S]$ 	Reaction of HOCl/CIO ⁻ , glycyl(glycyl) ₂ glycine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.39 2H _β : 0.83 N _β : 0.25	98Haw2
$[C_{14}H_{10}Br_2NO_6S]$ 	Photolysis of <i>o</i> -toluic acid, DBNBS and Fe ^{III} T2MPyP H ₂ O, pH 6.0 ESR / 298	N: 1.424 2H _β : 0.986	96Gil1
Fe ^{III} T2MPyP = Iron(III)tetrakis(2- <i>N</i> -methylpyridyl)porphyrine.			
$[C_{14}H_{10}Br_2NO_6S]$ 	Photolysis of <i>p</i> -toluic acid, DBNBS and Fe ^{III} T2MPyP H ₂ O, pH 6.0 ESR / 298	N: 1.436 2H _β : 1.128	96Gil1
$[C_{14}H_{12}Br_3N_2O]$ 	Reaction of NiO ₂ with (±)-α-methylbenzylamine and TBNB Benzene ESR / 298	2.0068 ₁ N: 1.235 2H _β : 0.894	92Smi1
$[C_{14}H_{15}Br_3NO_3]$ 	Exposure of <i>n</i> -butyl methacrylate and TBNB to daylight Benzene ESR / 298	2.0065 ₀ N: 1.231 2H _β : 0.814	92Smi1
$[C_{14}H_{16}Br_2NO_6S]$ 	Reaction of isobutyl methacrylate, DBNBS and TiCl ₃ -H ₂ O ₂ H ₂ O (Flow) ESR / 298	2.0063 ₈ N: 1.358 H _β : 0.854 H _β : 0.881	88Smi1
$[C_{14}H_{16}Br_2N_2O_8S]^-$ 	Photolysis of <i>N</i> -Boc-L-aspartic acid, DBNBS and Fe ^{III} T2MPyP H ₂ O, pH 3.1 ESR / 298	N: 1.36 2H _β : 0.94	97Gil1
Boc = -C(O)OC(CH ₃) ₃ . Fe ^{III} T2MPyP = Iron(III)tetrakis(2- <i>N</i> -methylpyridyl)porphyrine.			

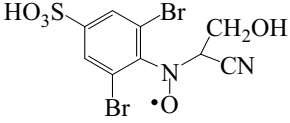
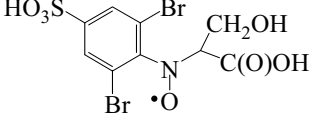
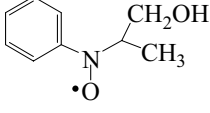
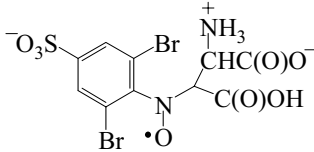
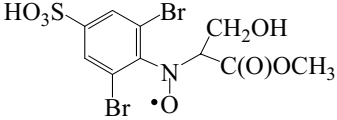
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{15}H_{18}Br_2N_2O_8S]^-$ 	Photolysis of <i>N</i> -Boc-L-glutamic acid DBNBS and Fe^{III} T2MPyP H_2O , pH 3.1 ESR / 298	N: 1.39 $2H_\beta$: 1.18	97Gil1
$[C_{15}H_{19}Br_2N_6O_8S]$ 	Reaction of $HOCl/ClO^-$, (glycyl) $_4$ glycine, and DBNBS H_2O , pH 7.4 ESR / 298	N: 1.39 $2H_\beta$: 0.83 N_β : 0.25	98Haw2
$[C_{16}H_{11}Br_3NO_3]$ 	Reaction of allyl benzoate and TBNB Benzene ESR / 298	2.0066_0 N: 1.268 $2H_\beta$: 1.029	92Smi1
$[C_{19}H_{31}Cl_3NOSi]$ 	Photolysis of BOOB, $(H_5C_2)_3SiCH_2CH_2CCl_3$ and ND Benzene ESR / 298	N: 1.39 $2H_\beta$: 1.12	88Gas1
$[C_{20}H_{27}Br_3NO_3]$ 	Reaction of isodecyl methacrylate and TBNB Benzene ESR / 298	2.0066_7 N: 1.232 $2H_\beta$: 0.814	92Smi1
$[C_{20}H_{33}Cl_3NOSi]$ 	Photolysis of BOOB, $(H_5C_2)_3Si(CH_2)_3CCl_3$ and ND Benzene ESR / 298	N: 1.39 $2H_\beta$: 1.39	88Gas1
$[C_{20}H_{33}N_2O_2]$ 	Sonolysis of methylformamide in 2,4,6-tri- <i>tert</i> -butyl nitrosobenzene Neat nitroso compound ESR / 298	N: 1.530 $\Sigma 2H(H_\beta + H_\beta)$: 2.838	94Mis1

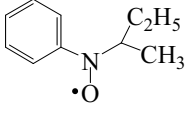
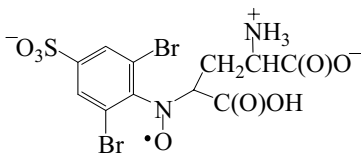
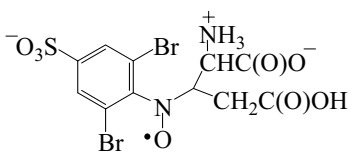
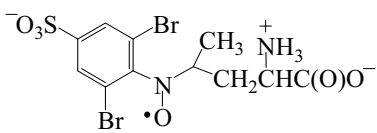
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
<p>[C₂₁H₃₄N₃O₃]</p> 	Photolysis of 1-piperi-dino-2-(2-methoxy-4-nitrophenoxy) ethane H ₂ O, pH 12.0 ESR / 298	N: 1.1	95Mar1
<p>[C₂₁H₃₅Cl₃NOSi]</p> 	Photolysis of BOOB, (H ₅ C ₂) ₃ Si(CH ₂) ₄ CCl ₃ and ND Benzene ESR / 298	N: 1.39 2H _β : 1.12	88Gas1
<p>[C₂₁H₃₅N₂O₂]</p> 	Sonolysis of DMF and 2,4,6-tri- <i>tert</i> -butylnitrosobenzene Neat nitroso compound ESR / 298	N: 1.325 Σ2H(H _β +H _β): 2.650 2H _m : 0.085	94Mis1
<p>[C₂₁H₃₆N₂O₉P]</p> 	Borohydride reduction of AcOHgCH ₂ -CH(CH ₃)-P(O)(OC ₂ H ₅) ₂ in H ₂ O-THF containing PMNB ESR / 298	2.0061 N: 1.307 H _β : 0.710 H _β : 1.089	94Rou
PMNB = Pentamethoxynitrosobenzene.			
<p>[C₂₂H₃₇N₂O₂]</p> 	Sonolysis of dimethylacetamide and 2,4,6-tri- <i>tert</i> -butylnitrosobenzene Neat nitroso compound ESR / 298	N: 1.325 Σ2H(H _β +H _β): 2.400 2H _m : 0.085	94Mis1
<p>[C₂₂H₄₂NO₂Si₂]</p> 	Photolysis of BOOB, (H ₅ C ₂) ₃ SiOSi(C ₂ H ₅) ₃ and ND Benzene ESR / 298	N: 1.39 2H _β : 1.12	88Gas1

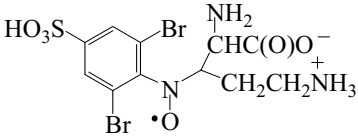
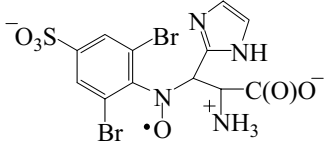
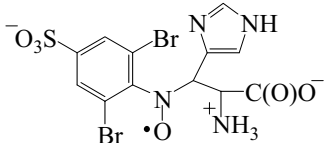
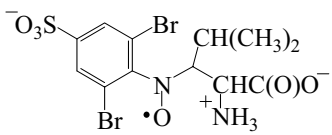
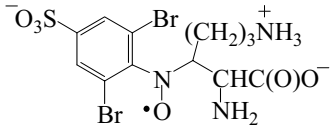
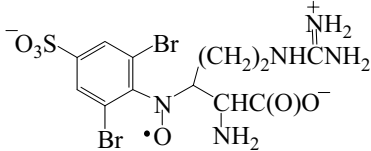
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[\text{C}_{23}\text{H}_{39}\text{Cl}_3\text{NOSi}]$ 	Photolysis of BOOB, (H_5C_2) ₃ SiOSi(C_2H_5) ₃ and ND Benzene ESR / 298	N: 1.42 $2H_\beta$: 0.74	88Gas1

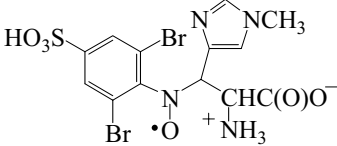
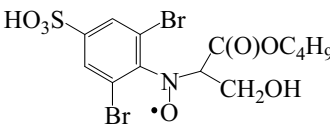
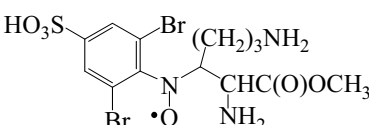
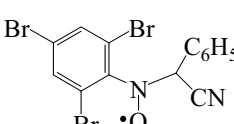
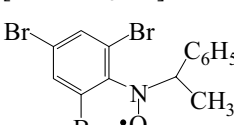
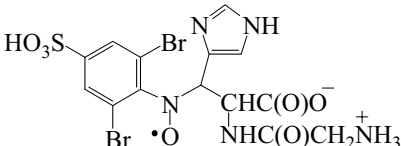
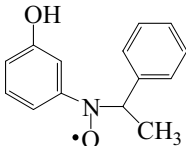
12.2.4.3 Aryl *sec*-alkyl nitroxides

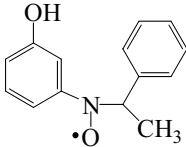
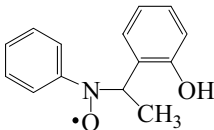
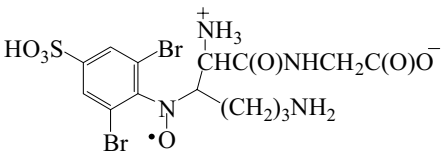
12.2.4.3.1 Aryl acyclic-*sec*-alkyl nitroxides $[\text{ArN}(\text{O}^\bullet)\text{CH}(\text{XR}^1)\text{R}^2]$ with X = Carbon]

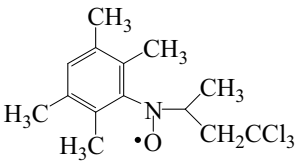
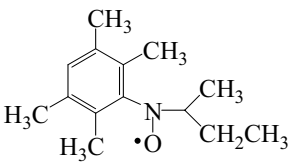
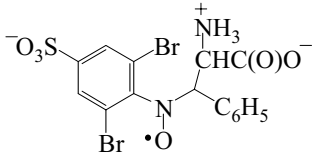
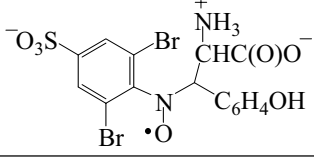
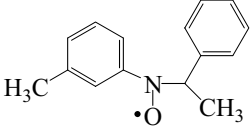
$[\text{C}_9\text{H}_7\text{Br}_2\text{N}_2\text{O}_5\text{S}]$ 	Reaction of acrylonitrile with $\text{TiCl}_3\text{-H}_2\text{O}_2$ and DBNBS H_2O (Flow) ESR / 298	2.0064 ₈ N: 1.292 H_β : 0.544	88Smi1
$[\text{C}_9\text{H}_8\text{Br}_2\text{NO}_7\text{S}]$ 	Reaction of acrylic acid with $\text{TiCl}_3\text{-H}_2\text{O}_2$ and DBNBS H_2O (Flow) ESR / 298	2.0063 ₇ N: 1.299 H_β : 0.500	88Smi1
$[\text{C}_9\text{H}_{12}\text{NO}_2]$ 	Oxidation of the corresponding amine with CPBA Toluene ESR-ENDOR / 298 EPR-ENDOR / 223	2.0055 ₀ N: 1.109 H_β : 0.363 $2H_m$: 0.098 $2H_o$: 0.277 H_p : 0.293 N: 1.109 H_β : 0.303 $2H_m$: 0.098 H_o : 0.284 $2H_{o,p}$: 0.293	99Sch1
$[\text{C}_{10}\text{H}_8\text{Br}_2\text{N}_2\text{O}_8\text{S}]^-$ 	Reaction of HOCl/ClO^- , aspartic acid and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.31 H_β : 0.68 $^{13}\text{C}_\alpha$: 0.64	98Haw2
$[\text{C}_{10}\text{H}_8\text{Br}_2\text{NO}_7\text{S}]$ 	Reaction of $\text{Ti}^{\text{III}}\text{-H}_2\text{O}_2$ with methyl acrylate and DBNBS H_2O ESR / 298	2.0063 ₇ N: 1.307 H_β : 0.486	88Smi1

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{10}H_{14}NO]$ 	Oxidation of the corresponding amine with CPBA Toluene ESR-ENDOR / 293 ESR-ENDOR / 193 Ethanol ESR-ENDOR / 293 ESR-ENDOR / 193	2.0057_0 N: 1.068 H_β : 0.240 $2H_m$: 0.094 $2H_o$: 0.264 H_p : 0.286 N: 1.068 H_β : 0.214 $2H_m$: 0.094 H_o : 0.267 $2H_{o,p}$: 0.289 $2H_\gamma$: 0.026 2.0057_0 N: 1.152 H_β : 0.234 $2H_m$: 0.102 H_o : 0.277 H_o : 0.285 H_p : 0.297 N: 1.152 H_β : 0.193 $2H_m$: 0.099 H_o : 0.280 $2H_{o,p}$: 0.300 $2H_\gamma$: 0.042	89Ste1, 99Sch1
$[C_{11}H_{10}Br_2N_2O_8S]^-$ 	Reaction of L-glutamic acid, Fe^{II} -EDTA- H_2O_2 and DNBBS Phosphate buffer pH 7.4 ESR / 298	N: 1.35 H_β : 0.56	91Dav1
$[C_{11}H_{10}Br_2N_2O_8S]^-$ 	Reaction of L-glutamic acid, Fe^{II} -EDTA- H_2O_2 and DNBBS Phosphate buffer pH 7.4 ESR / 298	N: 1.31 H_β : 0.33	98Haw2
$[C_{11}H_{12}Br_2N_2O_6S]^-$ 	Reaction of HOCl/ ClO^- , nor-valine and DNBBS Phosphate buffer pH 7.4 ESR / 298	N: 1.35 H_β : 0.63	98Haw2

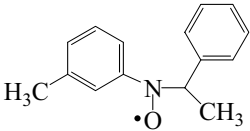
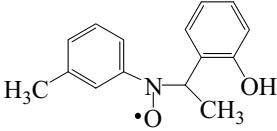
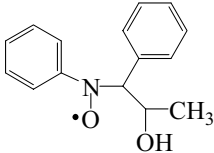
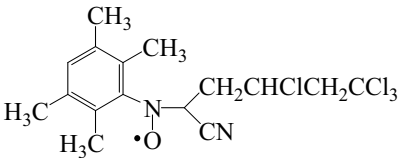
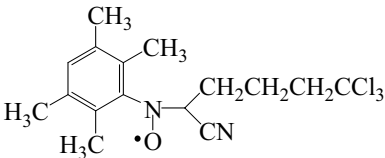
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{11}H_{14}Br_2N_3O_6S]$ 	Reaction of HOCl/ClO ⁻ , ornithine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.33 H _β : 0.38	98Haw2
$[C_{12}H_{10}Br_2N_4O_6S]^-$ 	Reaction of HOCl/ClO ⁻ , histidine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.42 H _β : 0.72	98Haw2
$[C_{12}H_{10}Br_2N_4O_6S]^-$ 	Reaction of HOCl/ClO ⁻ , histidine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.33 H _β : 0.50	98Haw2
$[C_{12}H_{14}Br_2N_2O_6S]^-$ 	Reaction of D,L-leucine, H ₂ O ₂ -Fe ^{II} -EDTA and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.44 H _β : 0.97	91Dav1
	Reaction of HOCl/ClO ⁻ , D,L-leucine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.31 H _β : 0.53	98Haw2
$[C_{12}H_{15}Br_2N_3O_6S]^-$ 	Reaction of L-lysine, H ₂ O ₂ -Fe ^{II} -EDTA and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.36 H _β : 0.75	91Dav1
	Reaction of HOCl/ClO ⁻ , lysine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.36 H _β : 0.92 13C _α : 0.88	98Haw2
$[C_{12}H_{15}Br_2N_5O_6S]^-$ 	Reaction of L-arginine, H ₂ O ₂ -Fe ^{II} -EDTA and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.35 H _β : 0.971	91Dav1

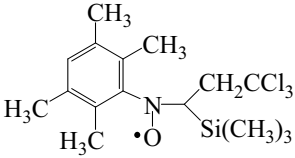
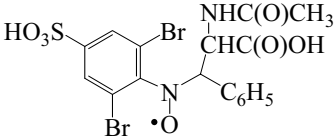
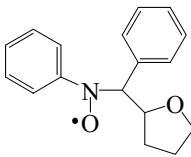
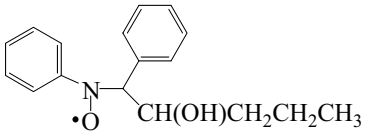
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
<p>[C₁₃H₁₃Br₂N₄O₆S]</p> 	<p>Reaction of HOCl/ClO⁻, 1-methyl-histidine and DBNBS Phosphate buffer pH 7.4 ESR / 298</p>	<p>N: 1.42 H_β: 0.72</p>	98Haw2
<p>[C₁₃H₁₆Br₂NO₇S]</p> 	<p>Reaction of TiCl₃-H₂O₂, butyl acrylate, and DBNBS H₂O (Flow) ESR / 298</p>	<p>2.00635 N: 1.325 H_β: 0.592</p>	88Smi1
<p>[C₁₃H₁₈Br₂N₃O₆S]</p> 	<p>Reaction of HOCl/ClO⁻, lysine methyl ester and DBNBS Phosphate buffer pH 7.4 ESR / 298</p>	<p>N: 1.42 H_β: 0.72</p>	98Haw2
<p>[C₁₄H₈Br₃N₂O]</p> 	<p>Reaction of phenylacetonitrile with NiO₂ and TBNB Benzene ESR / 298</p>	<p>2.0069₄ N: 1.272 H_β: 0.587</p>	92Smi1
<p>[C₁₄H₁₁Br₃NO]</p> 	<p>Reaction of ethylbenzene with NiO₂ and TBNB Benzene ESR / 298</p>	<p>2.0066₄ N: 1.282 H_β: 0.523</p>	92Smi1
<p>[C₁₄H₁₄Br₂N₅O₇S]</p> 	<p>Reaction of HOCl/ClO⁻, glycylhistidine and DBNBS Phosphate buffer pH 7.4 ESR / 298</p>	<p>N: 1.36 H_β: 0.72</p>	98Haw2
<p>[C₁₄H₁₄NO₂]</p>  <p>(continued)</p>	<p>Oxidation of corresponding amine with CPBA Toluene ESR / 293</p>	<p>N: 1.077 H_β: 0.519 H_m: 0.097 H_o: 0.264 H_o: 0.268 H_p: 0.277 3H_γ: 0.035</p>	89Ste1

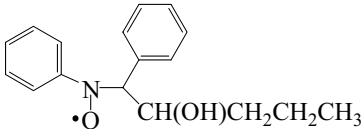
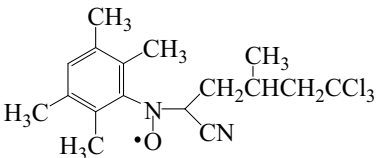
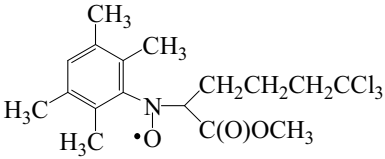
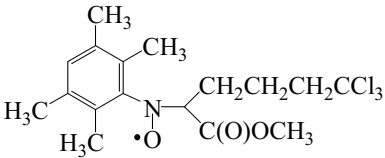
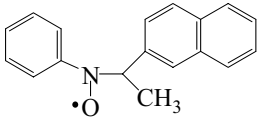
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
<p>[C₁₄H₁₄NO₂] (<i>continued</i>)</p> 	<p>Oxidation of corresponding amine with CPBA Ethanol ESR – ENDOR / 203</p>	<p>N: 1.134 H_β: 0.580 H_m: 0.097 H_o: 0.277 H_o: 0.287 H_p: 0.303 3H_γ: 0.035</p>	89Ste1
<p>[C₁₄H₁₄NO₂]</p> 	<p>Oxidation of corresponding amine with CPBA Toluene ESR / 293</p> <p>ESR-ENDOR-TRIPLE 193</p> <p>Ethanol ESR-ENDOR / 293</p> <p>ESR-ENDOR / 193</p>	<p>2.0052₀ N: 1.201 H_β: 0.311 2H_m: 0.100 H_o: 0.270 H_o: 0.287 H_p: 0.293</p> <p>N: 1.201 H_β: +0.267 2H_m: +0.103 H_o: -0.307 H_o: -0.293 H_p: -0.318 3H_γ: 0.040</p> <p>2.0054₇ N: 1.138 H_β: 0.626 2H_m: 0.097 H_o: 0.277 H_o: 0.283 H_p: 0.286</p> <p>N: 1.138 H_β: 0.693 2H_m: 0.096 H_o: 0.279 H_o: 0.297 H_p: 0.297 3H_γ: 0.033</p>	89Ste1, 99Sch1
<p>[C₁₄H₁₉Br₂N₄O₇S]</p> 	<p>Reaction of lysylglycine with HOCl/CIO⁻ and DBNBS Phosphate buffer pH 7.4 ESR / 298</p>	<p>N: 1.36 H_β: 0.92</p>	98Haw2

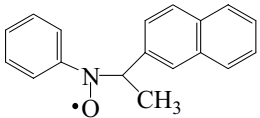
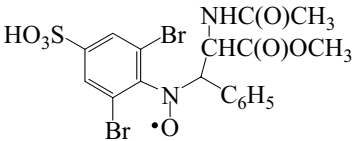
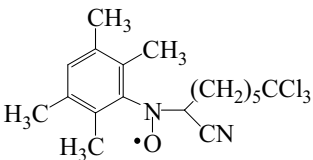
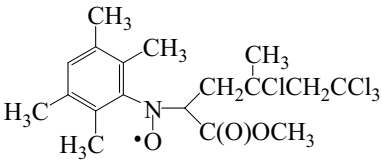
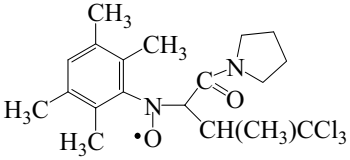
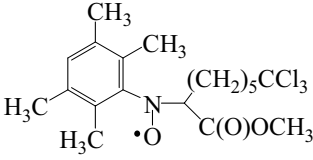
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{14}H_{19}Cl_3NO]$ 	Photolysis ($\lambda \sim 366$ nm) of $H_3CCHICH_2CCl_3$, $Re_2(CO)_{10}$ and ND Benzene or CH_2Cl_2 ESR / 298	N: 1.37 H_β : 0.80	91Gas1
$[C_{14}H_{22}NO]$ 	Thermolysis of di- <i>sec</i> -butyl tellurium and ND <i>tert</i> -Butylbenzene ESR / 350	N: 1.38 H_β : 0.81	92Bel1
$[C_{15}H_{12}Br_2N_2O_6S]^-$ 	Reaction of D,L-phenylalanine, Fe^{II} -EDTA- H_2O_2 and DNBNS Phosphate buffer pH 7.4 ESR / 298 Reaction of D,L-phenylalanine, $HOCl/ClO^-$ and DNBNS Phosphate buffer pH 7.4 ESR / 298 Identical spectra obtained with tyrosine.	N: 1.45 H_β : 0.71 N: 1.42 H_β : 0.88	91Dav1 98Haw2
$[C_{15}H_{13}Br_2N_2O_7S]^-$ 	Reaction of tyrosine (or 3,3- H_2 -tyrosine) with $HOCl/ClO^-$ and DNBNS Phosphate buffer pH 7.4 ESR / 298	N: 1.42 H_β : 0.88 [D: n.r.]	98Haw2
$[C_{15}H_{16}NO]$ 	Oxidation of corresponding amine with CPBA Toluene ESR / 293	N: 1.068 H_β : 0.532 H_m : 0.088 H_o : 0.255 H_o : 0.268 H_p : 0.268 $3H_\gamma$: 0.031 N: 1.068 H_β : 0.618 H_m : 0.092 H_o : 0.263 H_o : 0.284 H_p : 0.293 $3H_\gamma$: 0.035	89Ste1

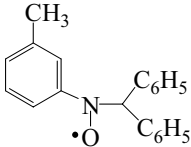
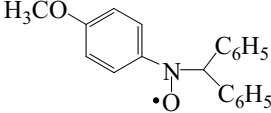
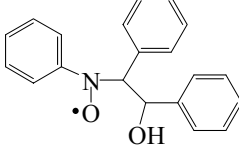
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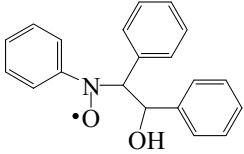
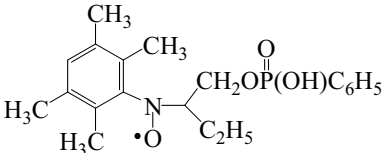
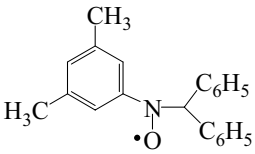
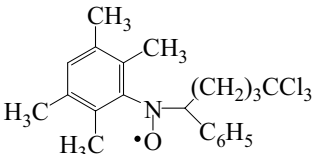
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
<p>[C₁₅H₁₆NO] (<i>continued</i>)</p> 	Oxidation of corresponding amine with CPBA Ethanol ESR-ENDOR / 193	H_β : 0.589 H_m : 0.094 H_o : 0.276 H_o : 0.289 H_p : 0.310	89Ste1
<p>[C₁₅H₁₆NO₂]</p> 	Oxidation of corresponding amine with CPBA Toluene ENDOR / 183 Ethanol ENDOR / 193	H_β : 0.299, 0.278 ^a H_o : 0.292 H_o : 0.289 H_p : 0.321 H_β : 0.678, 6.47 ^a $2H_m$: 0.094 H_o : 0.275 H_o : 0.292 H_p : 0.292	89Ste1
^a Two diastereomeric nitroxides.			
<p>[C₁₅H₁₆NO₂]</p> 	Spin trapping with DPN Ethanol ESR / 293 Toluene ESR / 293	N : 1.129 H_β : 0.375 ^a $2H_m$: 0.098 $2H_o$: 0.273 H_p : 0.285 N : 1.120 H_β : 0.620 ^a $2H_m$: 0.093 $2H_o$: 0.273 H_p : 0.278	99Sch1
^a Lack of multiple β -hydrogen hyperfine splittings.			
<p>[C₁₆H₁₉Cl₄N₂O]</p> 	Photolysis of 1,1,1,3-tetrachloro-3-bromopropane and Re ₂ (CO) ₁₀ in the presence of acrylonitrile and ND Benzene ESR / 298	N : 1.32 H_β : 0.69	91Gas1
<p>[C₁₆H₂₀Cl₃N₂O]</p> 	Photolysis of 1,1,1-trichloro-3-bromopropane and Re ₂ (CO) ₁₀ in the presence of acrylonitrile and ND Benzene ESR / 298	N : 1.32 H_β : 0.69	91Gas1

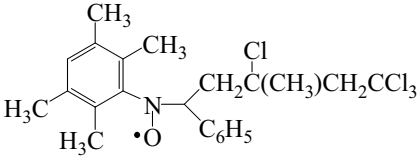
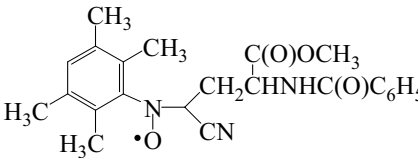
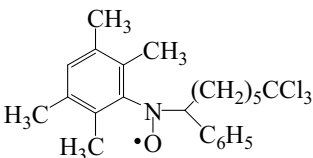
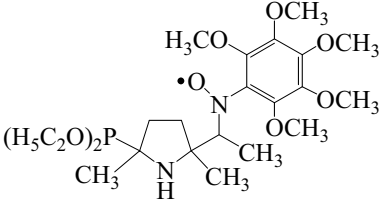
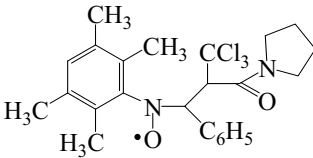
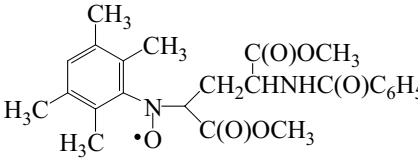
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
<p>[C₁₆H₂₅Cl₃NOSi]</p> 	Photolysis of CCl ₄ and Re ₂ (CO) ₁₀ in the presence of trimethylsilyl-ethylene and ND Benzene-CH ₂ Cl ₂ ESR / 298	N: 1.32 H _β : 0.74	88Gas1
<p>[C₁₇H₁₅Br₂N₂O₇S]</p> 	Reaction of HOCl/ClO ⁻ , <i>N</i> -acetylphenylalanine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.44 H _β : 0.72	98Haw2
<p>[C₁₇H₁₈NO₂]</p> 	Spin trapping with DPN THF ESR / 293 ENDOR / 193	N: 1.072 H _β : 0.374 2H _m : 0.088 2H _o : 0.268 H _p : 0.273 H _β : 0.410 2H _m : 0.093 H _o : 0.267 H _o : 0.286 H _p : 0.286	99Sch1
<p>[C₁₇H₂₀NO₂]</p> 	Spin trapping with DPN Neat <i>n</i> butanol ESR / 293 ENDOR / 253 Toluene ESR / 293	N: 1.133 H _β : 0.378 2H _m : 0.097 H _o : 0.271 H _o : 0.281 H _p : 0.281 H _β : 0.326 2H _m : 0.097 H _o : 0.279 H _o : 0.291 H _p : 0.291 N: 1.121 H _β : 0.576 2H _m : 0.097 H _o : 0.277 H _o : 0.281 H _p : 0.281	99Sch1
(continued)			

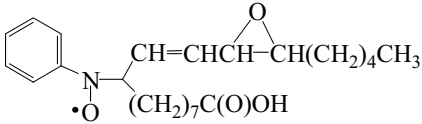
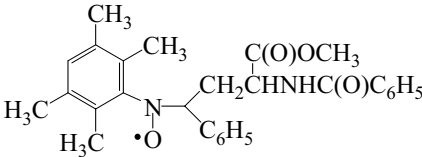
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
<p>[C₁₇H₂₀NO₂] (<i>continued</i>)</p> 	Spin trapping with DPN Toluene ENDOR / 193	H_β : 0.679 $2H_m$: 0.095 H_o : 0.27 H_o : 0.291 H_p : 0.291	99Sch1
<p>[C₁₇H₂₁Cl₄N₂O]</p> 	Photolysis of 1,1,1,3-tetrachloro-3-bromopropane and Re ₂ (CO) ₁₀ in the presence of methylacrylonitrile and ND Benzene ESR / 298	N: 1.36	91Gas1
<p>[C₁₇H₂₂Cl₄NO₃]</p> 	Photolysis of 1,1,1-trichloro-3-bromopropane and Re ₂ (CO) ₁₀ in the presence of methylacrylate and ND Benzene ESR / 298	N : 1.35 H_β : 0.86	91Gas1
<p>[C₁₇H₂₃Cl₃NO₃]</p> 	Photolysis of 1,1,1-trichloro-3-bromopropane and Re ₂ (CO) ₁₀ in the presence of methylacrylate and ND Benzene ESR / 298	N: 1.35	91Gas1
<p>[C₁₈H₁₆NO]</p> 	<p>Oxidation of the corresponding amine by CPBA Toluene ESR / 293</p> <p>ESR-ENDOR / 193</p> <p>Ethanol ESR / 293</p>	N : 1.064 H_β : 0.545 $2H_m$: 0.095 H_o : 0.258 H_o : 0.266 H_p : 0.273 H_β : 0.623 $2H_m$: 0.095 H_o : 0.263 H_o : 0.281 H_p : 0.281 N : 1.134 H_β : 0.550 $2H_m$: 0.095 H_o : 0.279 H_o : 0.281 H_p : 2.81	89Ste1, 99Sch1
(continued)			

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
<p>[C₁₈H₁₆NO] (<i>continued</i>)</p> 	Oxidation of the corresponding amine by CPBA ENDOR / 193	H_β : 0.592 $2H_m$: 0.095 H_o : 0.270 H_o : 0.287 H_p : 0.287	89Ste1, 99Sch1
<p>[C₁₈H₁₇Br₂N₂O₇S]</p> 	Reaction of HOCl/ClO ⁻ , <i>N</i> -acetylphenylalanine, methyl ester and DBNBS Phosphate buffer pH 7.4 ESR / 298	N : 1.44 H_β : 0.72	98Haw2
<p>[C₁₈H₂₄Cl₃N₂O]</p> 	Photolysis of 1,1,1-trichloro-5-iodopentane, Re ₂ (CO) ₁₀ , acrylonitrile and ND Benzene-CH ₂ Cl ₂ ESR / 298	N : 1.32 H_β : 0.69	91Gas1
<p>[C₁₈H₂₄Cl₄NO₃]</p> 	Photolysis of 1,1,1,3-tetrachloro-3-bromobutane, Re ₂ (CO) ₁₀ , methyl acrylate and ND Benzene-CH ₂ Cl ₂ ESR / 298	N : 1.35 H_β : 0.86	92Gas1
<p>[C₁₉H₂₆Cl₃N₂O₂]</p> 	Photolysis of CCl ₄ , Re ₂ (CO) ₁₀ , 1-pyrrolidin-1-yl-but-2-en-1-one and ND CH ₂ Cl ₂ ESR / 298	N : 1.38 H_β : 0.86	95Gas
<p>[C₁₉H₂₇Cl₃NO₃]</p> 	Photolysis of 1,1,1-trichloro-4-iodobutane, Re ₂ (CO) ₁₀ , methyl acrylate and ND Benzene-CH ₂ Cl ₂ ESR / 298	N : 1.35 H_β : 0.86	91Gas1

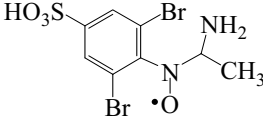
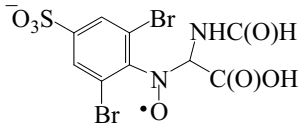
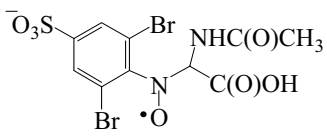
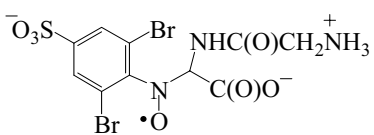
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
<p>[C₂₀H₁₈NO]</p> 	<p>Reaction of the corresponding amine with CPBA Toluene ESR / 293</p> <p>TRIPLE / 193</p> <p>Ethanol ESR / 293</p> <p>ENDOR / 223</p>	<p>N: 1.066 H_β: 0.348 H_m: 0.074 H_m: 0.090 H_o: 0.258 H_o: 0.266 H_p: 0.266</p> <p>H_β: +3.88, +3.74* H_m: 0.090 H_o: -0.260 H_o: -0.277 H_p: -0.277</p> <p>N: 1.125 H_β: 0.369 H_m: 0.079 H_m: 0.097 H_o: 0.268 H_o: 0.277 H_p: 0.303</p> <p>H_β: 4.13, 3.90 H_m: 0.092 H_o: 0.276 H_o: 0.288 H_p: 0.288</p>	89Ste1
* Two different rotamers.			
<p>[C₂₀H₁₈NO₂]</p> 	<p>Reaction of the corresponding amine with CPBA Toluene ESR / 293</p> <p>ENDOR / 193</p>	<p>N: 1.106 H_β: 0.348 2H_m: 0.090 H_o: 0.270 H_o: 0.270 3H(OCH₃): 0.031</p> <p>H_β: 0.402 2H_m: 0.083 H_o: 0.255 H_o: 0.287 3H(OCH₃): 0.035</p>	89Ste1
<p>[C₂₀H₁₈NO₂]</p> 	<p>Oxidation of corresponding amine with CPBA and ND Toluene ESR/ 333</p>	<p>N: 1.128 H_β: 0.625 2H_m: 0.093 H_o: 0.273 H_o: 0.277 H_p: 0.283</p>	89Ste1, 99Sch1

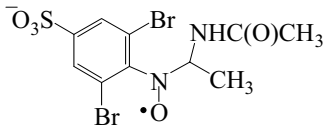
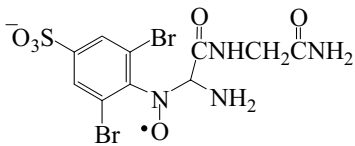
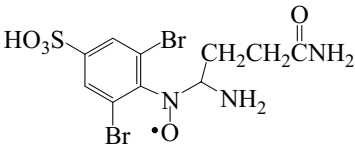
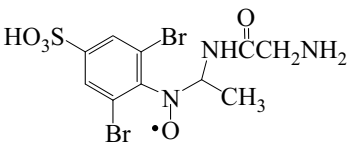
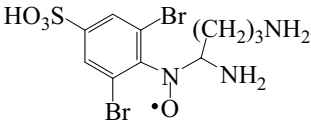
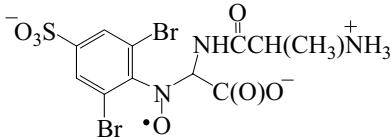
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
<p>[C₂₀H₁₈NO₂]</p> 	<p>Oxidation of corresponding amine with CPBA and ND ENDOR / 193</p> <p>Ethanol ESR / 293</p> <p>ENDOR / 193</p>	<p>H_β: 0.752 2H_m: 0.096 H_o: 0.277 H_o: 0.290 H_p: 0.290</p> <p>N: 1.125 H_β: 0.309 2H_m: 0.098 H_o: 0.273 H_o: 0.273 H_p: 0.281</p> <p>H_β: 0.232 2H_m: 0.095 H_o: 0.277 H_o: 0.277 H_p: 0.290</p>	89Ste1, 99Sch1
<p>[C₂₀H₂₇NO₄P]</p> 	<p>Thermal or photo reaction of dioxybis[(<i>n</i>butoxy)phenylphosphane oxide] and ND Carbon tetrachloride ESR / 293</p>	<p>2.0062₇ N: 1.333 H_β: 1.05 ³¹P: 0.33</p>	92Kor1
<p>[C₂₁H₂₀NO]</p> 	<p>Oxidation of corresponding amine with CPBA + DN Toluene ESR / 293</p> <p>ENDOR / 193</p>	<p>N: 1.072 H_β: 0.338 2H_m: 0.84 H_o: 0.259 H_o: 0.264 H_p: 0.264</p> <p>H_β: 0.361 2H_m: 0.90 H_o: 0.261 H_o: 0.275 H_p: 0.275</p>	89Ste1
<p>[C₂₁H₂₅Cl₃NO]</p> 	<p>Photolysis of 1,1,1-trichloro-3-bromopropane, Re₂(CO)₁₀, styrene and ND Benzene-CH₂Cl₂ ESR / 298</p>	<p>N: 1.38 H_β: 0.38</p>	91Gas1

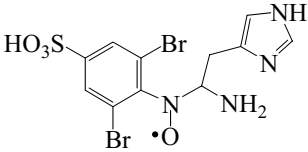
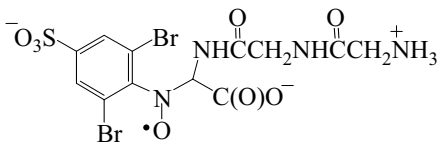
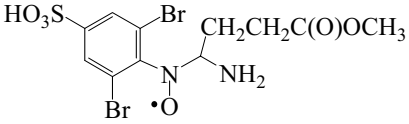
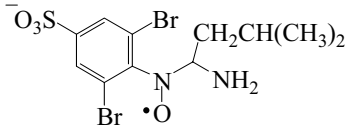
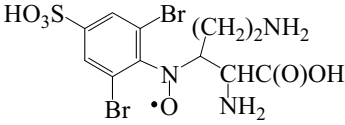
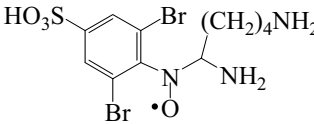
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{22}H_{26}Cl_4NO]$ 	Photolysis of 1,1,1,3-tetrachloro-3-bromobutane, $Re_2(CO)_{10}$, styrene and ND Benzene- CH_2Cl_2 ESR / 298	N: 1.38 H_β : 0.38	92Gas1
$[C_{22}H_{26}Cl_4NO]$ 	Photolysis of (benzoylamino)bromoacetic acid, $Re_2(CO)_{10}$, acrylonitrile and ND CH_2Cl_2 ESR / 298	N: 1.38 H_β : 0.39	96Gas1
$[C_{23}H_{29}Cl_3NO]$ 	Photolysis of 1,1,1-trichloro-5-iodopentane, $Re_2(CO)_{10}$, styrene and ND Benzene- CH_2Cl_2 ESR / 298	N: 1.38 H_β : 0.38	91Gas1
$[C_{23}H_{40}N_2O_9P]$ 	Borohydride reduction of an appropriate organomercurial in the presence of PMNB 10 % Aqueous NaOH ESR / 298	2.0061 N: 1.285 H_β : 0.251	94Rou1
$[C_{24}H_{28}Cl_3N_2O_2]$ 	Photolysis of CH_2Cl_2 solutions of $Re_2(CO)_{10}$, $PhCH=CHC(O)X$, CCl_4 and ND ESR / 298 X = <i>N</i> -Pyrrolidyl.	N: 1.44 H_β : 0.69	95Gas
$[C_{24}H_{29}N_2O_6]$ 	Photolysis of CH_2Cl_2 solutions of $Re_2(CO)_{10}$, $Ph(O)CNHCHBrC(O)X$, methyl acrylate and ND ESR / 298 X = OCH_3 .	N: 1.35 H_β : 0.82	96Gas1

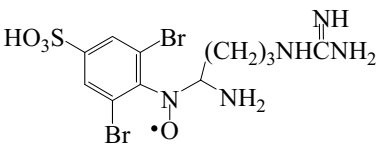
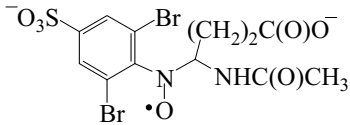
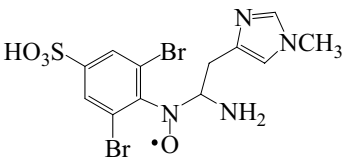
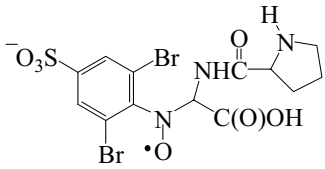
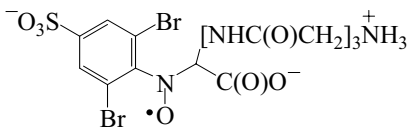
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{24}H_{36}NO_4]$ 	Incubation of linoleic acid, soybean lipoxygenase, ammonium acetate and NB ACN ESR / 298	N: 1.17 H_β : 0.31 $2H_m$: 0.1 $2H_o$: 0.27 H_p : 2.7 [D: 0.05]	91Iwa1
$[C_{28}H_{31}N_2O_4]$ 	Photolysis of CH_2Cl_2 solutions of $Re_2(CO)_{10}$, $Ph(O)CNHCHBrC(O)X$, styrene and ND ESR / 298 X = OCH_3 .	N: 1.38 H_β : 0.39	96Gas1

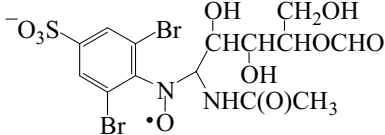
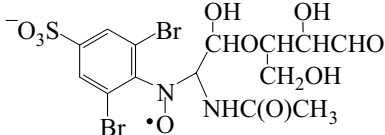
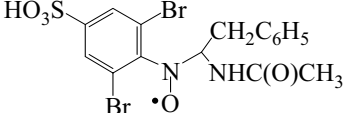
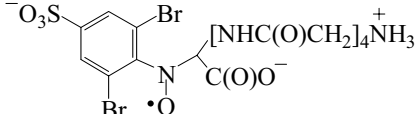
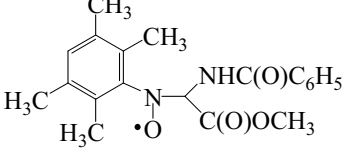
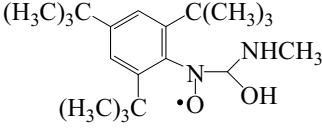
12.2.4.3.2 Aryl acyclic-*sec*-alkyl nitroxides $[ArN(O^\bullet)CH(XR^1)R^2]$ with X = Nitrogen

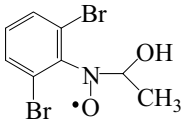
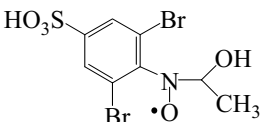
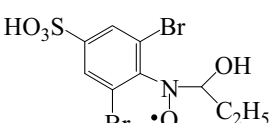
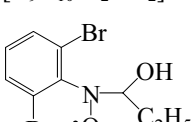
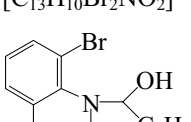
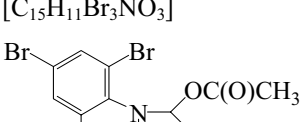
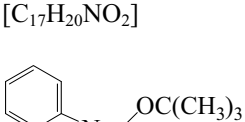
$[C_8H_9Br_2N_2O_4S]$ 	Photolysis of L-alanine, Fe^{III} T2MPyP and DBNBS H_2O , pH 3.1 ESR / 298	N: 1.31 H_β : 0.77	97Gil1
Fe^{III} T2MPyP = Iron(III)tetrakis(2- <i>N</i> -methylpyridyl)porphyrine.			
$[C_9H_6Br_2N_2O_7S]^-$ 	Reaction of <i>N</i> -formylglycine, Fe^{II} -EDTA- H_2O_2 and DBNBS H_2O ESR / 298	N: 1.39 H_β : 0.69 N_β : 0.15	97Haw1
$[C_{10}H_8Br_2N_2O_7S]^-$ 	Reaction of <i>N</i> -acetylglycine, Fe^{II} -EDTA- H_2O_2 and DBNBS H_2O ESR / 298	N: 1.39 H_β : 0.64 N_β : 0.21	97Haw1, 98Haw2
$[C_{10}H_9Br_2N_3O_7S]^-$ 	Reaction of glycylglycine, Fe^{II} -EDTA- H_2O_2 , and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.40 H_β : 0.85 N_β : 0.14	91Dav1, 97Haw1

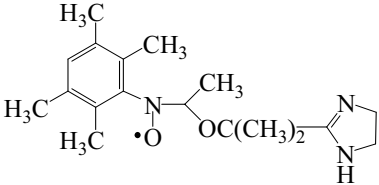
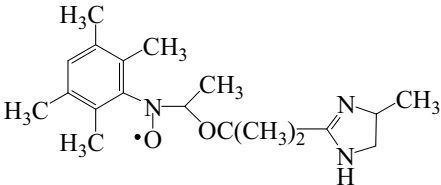
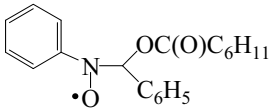
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[\text{C}_{10}\text{H}_{10}\text{Br}_2\text{N}_2\text{O}_5\text{S}]^-$ 	Reaction of HOCl/CIO ⁻ , <i>N</i> -ethylacetamide and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.36 H_β : 0.58	98Haw1, 98Haw2
$[\text{C}_{10}\text{H}_{10}\text{Br}_2\text{N}_4\text{O}_6\text{S}]^-$ 	Reaction of Fe ^{II} -H ₂ O ₂ , aminoglycylglycine and DBNBS H ₂ O ESR / 298	N: 1.36 H_β : 0.69 N_β : 0.17	97Haw1
$[\text{C}_{10}\text{H}_{12}\text{Br}_2\text{N}_3\text{O}_5\text{S}]$ 	Reaction of HOCl/CIO ⁻ , glutamine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.33 H_β : 0.43	98Haw2
$[\text{C}_{10}\text{H}_{12}\text{Br}_2\text{N}_3\text{O}_5\text{S}]$ 	Reaction of HOCl/CIO ⁻ , glycylalanine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.39 H_β : 0.69 N_β : 0.25	98Haw2
$[\text{C}_{10}\text{H}_{14}\text{Br}_2\text{N}_3\text{O}_4\text{S}]$ 	Reaction of HOCl/CIO ⁻ , ornithine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.33 H_β : 0.38	98Haw2
Tentative assignment. Might also be $[\text{C}_{11}\text{H}_{14}\text{Br}_2\text{N}_3\text{O}_6\text{S}]$.			
$[\text{C}_{11}\text{H}_{11}\text{Br}_2\text{N}_3\text{O}_7\text{S}]^-$ 	Reaction of Fe ^{II} -H ₂ O ₂ , alanylglycine, and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.35 H_β : 0.97 N_β : 0.13	91Dav1, 97Haw1

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{11}H_{11}Br_2N_4O_4S]$ 	Reaction of HOCl/CIO ⁻ , histidine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.30 H_β : 0.50	98Haw2
$[C_{11}H_{12}Br_2N_4O_8S]^-$ 	Reaction of Fe ^{II} -H ₂ O ₂ , glycylglycylglycine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.40 H_β : 0.75 N_β : 0.21	91Dav1, 97Haw1
$[C_{11}H_{13}Br_2N_2O_6S]$ 	Photolysis of L-glutamic acid, Fe ^{III} T2MPyP and DBNBS H ₂ O, pH 3.1 ESR / 298	N: 1.31 H_β : 0.77	97Gil1
Fe ^{III} T2MPyP = Iron(III)tetrakis(2- <i>N</i> -methylpyridyl)porphyrine.			
$[C_{11}H_{14}Br_2N_2O_4S]^-$ 	Reaction of HOCl/CIO ⁻ , leucine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.4 H_β : 0.48 N_β : 0.18	98Haw2
$[C_{11}H_{14}Br_2N_3O_6S]$ 	Reaction of HOCl/CIO ⁻ , ornithine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.33 H_β : 0.38	98Haw2
Tentative assignment. Might also be $[C_{10}H_{14}Br_2N_3O_4S]$.			
$[C_{11}H_{16}Br_2N_3O_4S]$ 	Reaction of HOCl/CIO ⁻ , ¹³ C-lysine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.31 H_β : 0.35 ¹³ C $_\beta$: 0.88	98Haw2

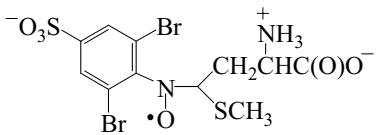
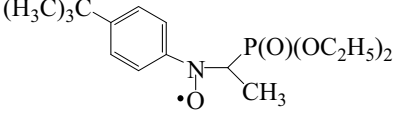
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{11}H_{16}Br_2N_5O_4S]$ 	Reaction of HOCl/CIO ⁻ , arginine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.35 H _β : 0.33	98Haw2
$[C_{12}H_{11}Br_2N_2O_7S]^{2-}$ 	Photolysis of <i>N</i> -acetyl-L-glutamic acid, Fe ^{III} T2MPyP and DBNBS H ₂ O, pH 10 ESR / 298 Fe ^{III} T2MPyP = Iron(III)tetrakis(2- <i>N</i> -methylpyridyl)porphyrine. No spectral changes upon protonation at lower pH.	N: 1.39 H _β : 0.65 N _β : 0.28	97Gil1
$[C_{12}H_{13}Br_2N_4O_4S]$ 	Reaction of HOCl/CIO ⁻ , 1-methyl histidine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.33 H _β : 0.50	98Haw2
$[C_{13}H_{13}Br_2N_3O_7S]^{-}$ 	Reaction of Fe ^{II} -H ₂ O ₂ , prolylglycine and DBNBS H ₂ O ESR / 298	N: 1.33 H _β : 1.04 N _β : 0.19	97Haw1
$[C_{14}H_{15}Br_2N_5O_9S]^{-}$ 	Reaction of Fe ^{II} -H ₂ O ₂ glycyl(glycyl) ₂ glycine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.40 H _β : 0.71 N _β : 0.21	91Dav1, 97Haw1

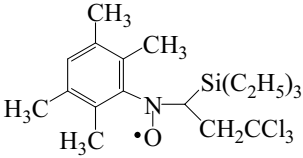
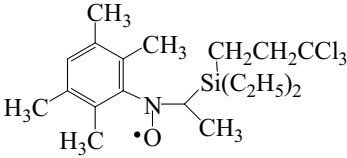
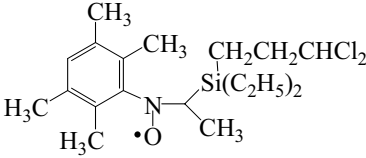
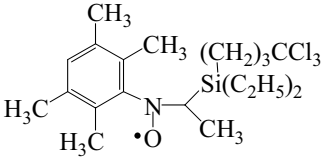
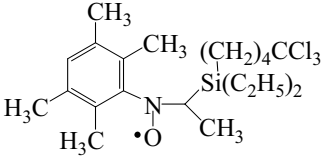
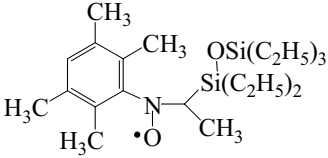
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{14}H_{16}Br_2N_2O_{10}S]^-$ 	Reaction of HOCl/CIO ⁻ , <i>N</i> -acetylgalactoseamine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.39 H_β : 0.82 N_β : 0.23	98Haw1
Tentative assignment. Might be the following entry.			
$[C_{14}H_{16}Br_2N_2O_{10}S]^-$ 	Reaction of HOCl/CIO ⁻ , <i>N</i> -acetylgalactoseamine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.42 H_β : 1.08 N_β : 0.21	98Haw1
Tentative assignment. Might be the preceding entry.			
$[C_{16}H_{15}Br_2N_2O_5S]$ 	Reaction of HOCl/CIO ⁻ , <i>N</i> -acetylphenylalanine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.36 H_β : 0.61 N_β : 0.25	98Haw2
$[C_{16}H_{18}Br_2N_6O_{10}S]^-$ 	Reaction of Fe ^{II} -H ₂ O ₂ glycyl(glycyl) ₃ glycine, and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.41 H_β : 0.70 N_β : 0.22	91Dav1
$[C_{20}H_{23}N_2O_4]$ 	Photolysis of (benzoyl- amino)bromoacetic acid methyl ester, Re ₂ (CO) ₁₀ and ND CH ₂ Cl ₂ ESR / 294	N: 1.40 H_β : 0.450 N_β : 0.225	96Gas1
$[C_{20}H_{35}N_2O_2]$ 	Sonolysis of TBNB in methylformamide Neat formamide ESR / 298	N: 0.95	94Miš1

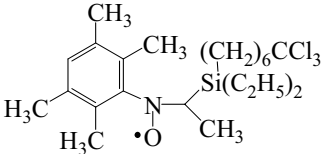
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
12.2.4.3.3 Aryl acyclic-<i>sec</i>-alkyl nitroxides [ArN(O\bullet)CH(XR1)R2 with X = Oxygen]			
<p>[C₈H₈Br₂NO₂]</p> 	Photolysis ($\lambda \geq 334$ nm) of ethanol, anthraquinone and DBNB Benzene ESR / 298	N: 1.321 H_β : 0.843	89Móg1
<p>[C₈H₈Br₂NO₅S]</p> 	Reaction of TiCl ₃ -H ₂ O ₂ , ethanol and DNBBS H ₂ O (Flow) ESR / 298	2.0063 ₂ N: 1.375 H_β : 0.906 $2H_m$: 0.058	88Smi1
<p>[C₉H₉Br₂NO₅S]</p> 	Rat liver nuclei incubated with <i>n</i> propyl peroxide and DNBBS Phosphate buffer pH 7.4 ESR / 298	N: 1.30 H_β : 0.614	94Gre1
<p>[C₉H₁₀Br₂NO₂]</p> 	Photolysis ($\lambda \geq 334$ nm) of <i>n</i> -propanol, anthraquinone and DBNB Benzene ESR / 298	N: 1.32 H_β : 0.68	89Móg1
<p>[C₁₃H₁₀Br₂NO₂]</p> 	Photolysis ($\lambda \geq 334$ nm) of 1-phenylethanol, anthraquinone and DBNB Benzene ESR / 298	N: 1.33 ₄ H_β : 0.68	89Móg1
<p>[C₁₅H₁₁Br₃NO₃]</p> 	Reaction of benzyl acetate, NiO ₂ and TBNB Benzene ESR / 298	2.0065 ₆ N: 1.24 ₄ H_β : 0.522	92Smi1
<p>[C₁₇H₂₀NO₂]</p> 	Thermolysis of DBPO in the presence of (<i>d</i> ₅)-DPN Benzene ESR / 328	N: 1.07 H_β : 0.40	91Abe1
MM2 and AM1 molecular orbital calculations reported.			

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{18}H_{28}N_3O_2]$ 	Decomposition of VA-44 in the presence of MDN Benzene- t BuOH:EtOH:KCl-K ₃ PO ₄ buffer (2:2:2:4 v/v) ESR / 295	N: 1.456 H_β : 0.913	98Roj1
$[C_{19}H_{30}N_3O_2]$ 	Decomposition of Me-VA-44 in the presence of MDN Benzene- t BuOH:EtOH:KCl-K ₃ PO ₄ buffer (2:2:2:4 v/v) ESR / 295	N: 1.452 H_β : 0.922	98Roj1
$[C_{20}H_{22}NO_3]$ 	Thermolysis of <i>N</i> -(cyclohexylcarboxy)-pyridine-2-thione in the presence of (d_5)-DPN Benzene ESR / 328 MM2 and AM1 molecular orbital calculations reported.	N: 1.09 H_β : 0.29	91Abe1

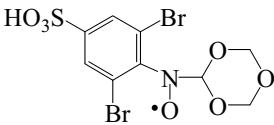
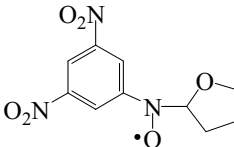
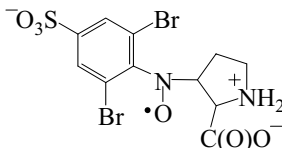
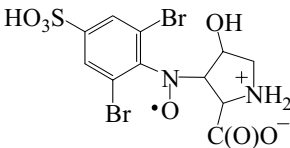
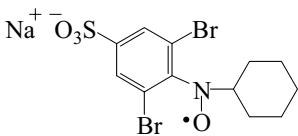
12.2.4.3.4 Aryl acyclic-*sec*-alkyl nitroxides $[ArN(O^\bullet)CH(XR^1)R^2]$ with X = Phosphorus, Sulphur, Silicon]

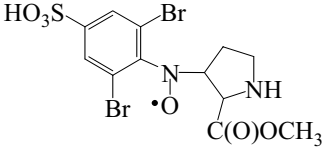
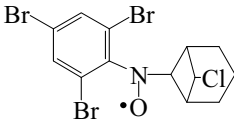
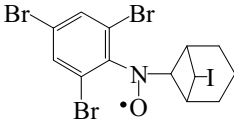
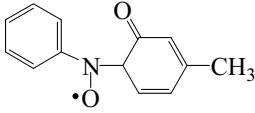
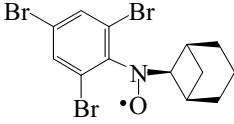
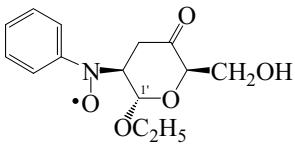
$[C_{11}H_{13}Br_2N_2O_6S_2]^-$ 	Reaction of D,L-methionine, Fe ^{II} -EDTA-H ₂ O ₂ and DNBNS Phosphate buffer pH 7.4 ESR / 298	N: 1.35 H_β : 0.63	91Dav1
$[C_{16}H_{27}NO_4P]$ 	Oxidation of the corresponding α -aminophosphonate with CPBA CH ₂ Cl ₂ ESR / 298	2.0061 N: 1.410 ³¹ P: 4.509 H_β : not resolved	00Gri1

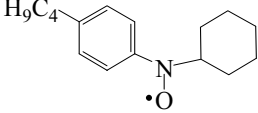
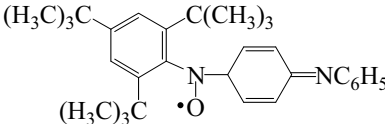
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
<p>[C₁₉H₃₁Cl₃NOSi]</p> 	<p>Photolysis ($\lambda = 300$ nm) of triethylsilylethylene, CCl₄, Re₂(CO)₁₀ and ND Benzene ESR / 298</p>	<p>N: 1.32 H_{β}: 0.74</p>	88Gas1
<p>[C₁₉H₃₁Cl₃NOSi]</p> 	<p>Photolysis ($\lambda = 300$ nm) of (H₅C₂)₃Si(CH₂)₂CHCl₂, BOOB and ND Benzene ESR / 298</p>	<p>N: 1.39 H_{β}: 1.39</p>	88Gas1
<p>[C₁₉H₃₂Cl₂NOSi]</p> 	<p>Photolysis ($\lambda = 300$ nm) of (H₅C₂)₃Si(CH₂)₂CHCl₂, Re₂(CO)₁₀ and ND Benzene ESR / 298</p>	<p>N: 1.39 H_{β}: 1.39</p>	88Gas1
<p>[C₂₀H₃₃Cl₃NOSi]</p> 	<p>Photolysis ($\lambda = 300$ nm) of (H₅C₂)₃Si(CH₂)₃CCl₃, BOOB and ND Benzene ESR / 298</p>	<p>N: 1.39 H_{β}: 1.39</p>	88Gas1
<p>[C₂₁H₃₅Cl₃NOSi]</p> 	<p>Photolysis ($\lambda = 300$ nm) of (H₅C₂)₃Si(CH₂)₄CCl₃, BOOB and ND Benzene ESR / 298</p>	<p>N: 1.39 H_{β}: 1.39</p>	88Gas1
<p>[C₂₂H₄₂Cl₃NO₂Si₂]</p> 	<p>Photolysis ($\lambda = 300$ nm) of hexaethyldisiloxane, BOOB and ND Benzene ESR / 298</p>	<p>N: 1.39 H_{β}: 1.39</p>	88Gas1

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[\text{C}_{23}\text{H}_{39}\text{Cl}_3\text{NOSi}]$ 	Photolysis ($\lambda = 300$ nm) of $(\text{H}_5\text{C}_2)_3\text{Si}(\text{CH}_2)_6\text{CCl}_3$, BOOB and ND Benzene ESR / 298	N: 1.39 H_β : 1.39	88Gas1

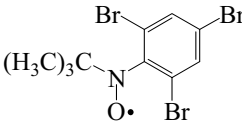
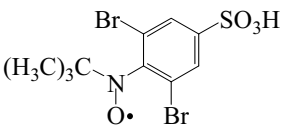
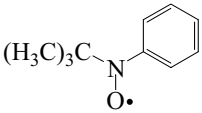
12.2.4.3.5 Aryl cyclic-*sec*-alkyl nitroxides

$[\text{C}_9\text{H}_8\text{Br}_2\text{NO}_7\text{S}]$ 	Reaction of trioxane, $\text{TiCl}_3\text{-H}_2\text{O}_2$ and DBNBS H_2O (Flow) ESR / 298	2.0063 ₂ N: 1.196 H_β : 0.534	88Smi1
$[\text{C}_{10}\text{H}_{10}\text{N}_3\text{O}_6]$ 	Dark reaction following photolysis of 1,3,5-trinitrobenzene and THF THF ESR / 280	2.0061 N: 0.969 H_β : 0.47 $2\text{N}(\text{NO}_2)$: 0.025 $3H_{o,p}$: 0.255	90Men1
$[\text{C}_{11}\text{H}_{10}\text{Br}_2\text{N}_2\text{O}_6\text{S}]^-$ 	Reaction of HOCl/ClO^- , proline and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.36 H_β : 0.39	98Haw2
Tentative assignment. Might also be the nitroxide resulting from trapping of the prolin-5-yl radical.			
$[\text{C}_{11}\text{H}_{11}\text{Br}_2\text{N}_2\text{O}_7\text{S}]$ 	Reaction of HOCl/ClO^- , hydroxyproline and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.35 H_β : 0.37	98Haw2
Tentative assignment. Might also be the nitroxide resulting from trapping of the hydroxyprolin-5-yl radical.			
$[\text{C}_{12}\text{H}_{13}\text{Br}_2\text{NO}_4\text{S}^-\text{Na}^+]$ 	Oxidation of cyclohexane and DBNBS Pyridine-acetic acid ESR / 298	N: 1.41 H_β : 0.80	91Kni1

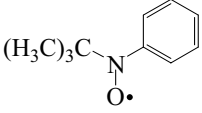
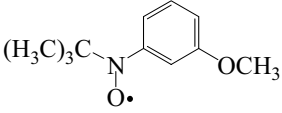
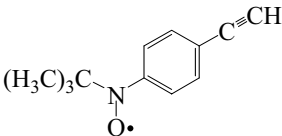
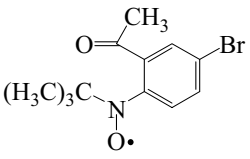
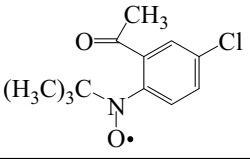
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
<p>[C₁₂H₁₃Br₂N₂O₆S]</p> 	<p>Reaction of HOCl/CIO⁻, proline methyl ester and DBNBS Phosphate buffer pH 7.4 ESR / 298</p>	<p>N: 1.36 H_β: 0.39</p>	98Haw2
Tentative assignment. Might also be the nitroxide resulting from trapping of the 5-yl radical.			
<p>[C₁₃H₁₂Br₃ClNO]</p> 	<p>Reaction of iodine, 1-chlorotricyclo[4.1.0.0]-heptane and TBNB Benzene ESR / 293</p>	<p>N: 1.10 H_β: 0.50</p>	90Vas1
<p>[C₁₃H₁₂Br₃INO]</p> 	<p>Reaction of iodine, 1-chlorotricyclo[4.1.0.0]-heptane and TBNB Benzene ESR / 293</p>	<p>N: 1.20 H_β: 0.51</p>	90Vas1
<p>[C₁₃H₁₂NO₂]</p> 	<p>Oxidation of <i>m</i>-cresol with PbO₂ in the presence of NB Benzene ESR / 298</p>	<p>N: 1.090 H_β: 0.462 2H_m: 0.094 3H_{o,p}: 0.274</p>	94Ome1
<p>[C₁₃H₁₃Br₃NO]</p> 	<p>Reaction of 1-chlorotricyclo[4.1.0.0]-heptane and TBNB Benzene ESR / 293</p>	<p>N: 1.19 H_β: 0.59</p>	90Vas1
<p>[C₁₄H₁₈NO₅]</p> 	<p>Spontaneous oxidation of corresponding hydroxylamine Diglyme ESR / 298</p> <p>ESR / 333^a</p>	<p>2.0058 N: 1.07 H_β: 0.33 2H_m: 0.10 3H_{o,p}: 0.32 H(H1'): 0.05</p> <p>2.0056 N: 1.08 H_β: 0.375 H(H1'): 0.08</p>	91Tro1
^a From hydroxylamine with perdeuterated phenyl ring.			

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{16}H_{24}NO]$ 	Oxidation of 1-cyclohexyl-3-(4- <i>n</i> -butyl)phenyltriaz-2-en-1-ol with excess PbO_2 Benzene ESR / 298	N : 1.085 Other splittings unresolved.	91Tro1
$[C_{30}H_{39}N_2O]$ 	Reaction of diphenylamine and benzoyl peroxide in the presence of 2,4,6-tri- <i>tert</i> -butylnitrosobenzene	2.0055 N : 2.65 H_β : 0.192 $2H$: 0.031 $2H$: 0.039 $2H$: 0.071	94Nis
The nitrogen splitting is inconsistent with the proposed structure.			

12.2.4.4 Aryl *tert*-alkyl nitroxides12.2.4.4.1 Aryl *tert*-butyl nitroxides

$[C_{10}H_{11}Br_3NO]$ 	Heating (333 K) 2,2'-azobis-(2-methylpropane) and TBNB Benzene ESR / 298	2.0066_2 N : 1.238	92Smi1
$[C_{10}H_{12}Br_2NO_4S]$ 	Photolysis at 298 K or heating (373 K) 2,2'-azobis-(2-methylpropane) and DBNBS H_2O ESR / 298	2.0062_4 N : 1.424	88Smi1
$[C_{10}H_{14}NO]$ 	Photolysis of phenylazosulfonate and MNP Electrochemical reduction of a phenyl triazene and MNP Electrochemical reduction of $Ph_3S^+BF_4^-$ and MNP Reaction of MNP with $[(\eta^5\text{-cyclohexadienyl})\text{-tricarboxyliron}]^+$ ACN or CH_2Cl_2 ESR / 298	2.0059 N : 1.385 $2H_m$: 0.084 $3H_{o,p}$: 0.170	90Li1, 93Sta1, 96Rap, 98Sta1

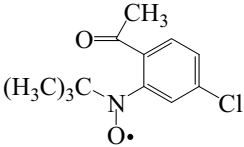
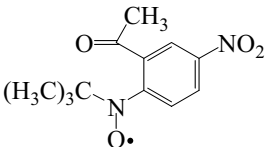
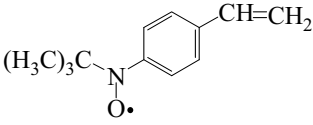
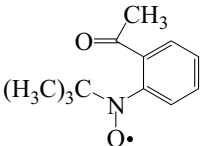
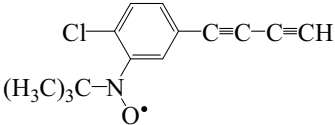
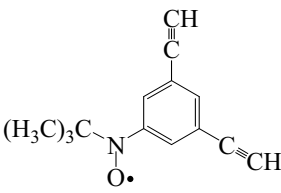
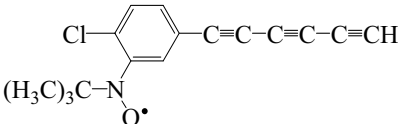
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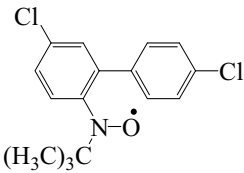
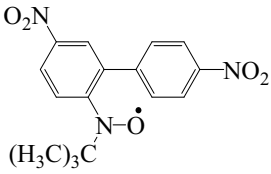
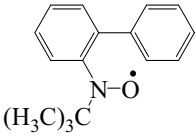
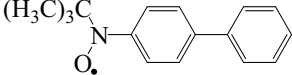
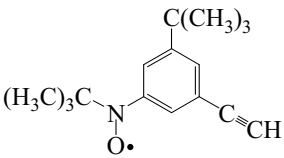
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
<p>[C₁₀H₁₄NO] (<i>continued</i>)</p> 	<p>Photolysis of <i>N</i>-phenyl-<i>N</i>-<i>tert</i>-butylformanilide Reduction of benzendiazonium salt with iodine in the presence of MNP Benzene ESR / 300–333–373</p> <p>Synthesis through reaction of C₆H₅NO and <i>tert</i>-butylmagnesium bromide followed by oxidation with Ag₂O Ethylbenzene ENDOR-TRIPLE / 203</p> <p>Toluene ESR-ENDOR / 173</p>	<p>2.0055 N: 1.265 2H_{<i>m</i>}: 0.090 3H_{<i>o,p</i>}: 0.180</p> <p>N: 1.195 9H_{<i>γ</i>}: −0.10 2H_{<i>m</i>}: +0.0860 3H_{<i>o,p</i>}: −0.2132</p> <p>N: 1.208 2H_{<i>m</i>}: +0.89^a 3H_{<i>o,p</i>}: −2.09</p>	<p>89Gro1, 90Noz1</p> <p>88Yam1</p>
<p>[C₁₁H₁₆NO₂]</p> 	<p>Photolysis of <i>m</i>-methoxybenzenazosulfonate and MNP Methanol ESR / 298</p>	<p>2.0058 N: 1.52</p>	<p>98Sta1</p>
<p>[C₁₂H₁₄NO]</p> 	<p>Fluoride deprotection of TBS ether followed by PbO₂ oxidation Toluene ESR / 298</p>	<p>N: 1.143 2H_{<i>m</i>}: 0.104 2H_{<i>o</i>}: 0.219 H(C≡CH): 0.095</p>	<p>98Shu1</p>
<p>[C₁₂H₁₅BrNO₂]</p> 	<p>Photolysis of 5-bromo-3-hydroxy-2,3-dihydro-2,1-benzisoxazole ACN or CH₂Cl₂ ESR / 298</p>	<p>N: 1.27 2H_{<i>m</i>}: 0.083 H_{<i>o</i>}: 0.147</p>	<p>96Sri1</p>
<p>[C₁₂H₁₅ClNO₂]</p> 	<p>Photolysis of 5-chloro-3-hydroxy-2,3-dihydro-2,1-benzisoxazole ACN or CH₂Cl₂ ESR / 298</p>	<p>N: 1.18 2H_{<i>m</i>}: 0.070 H_{<i>o</i>}: 0.139</p>	<p>96Sri1</p>

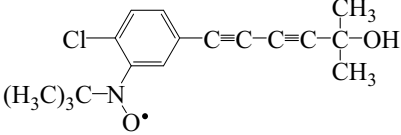
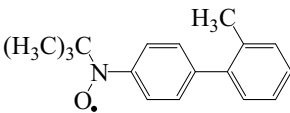
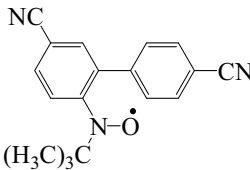
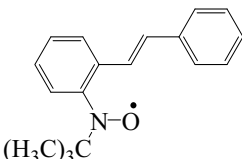
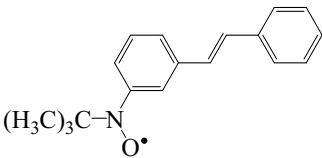
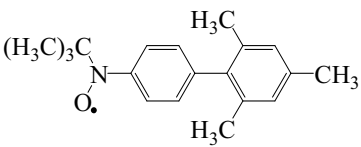
^a Signs from MO calculations.

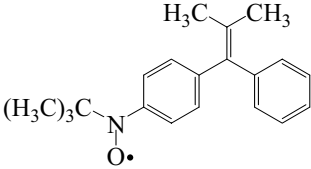
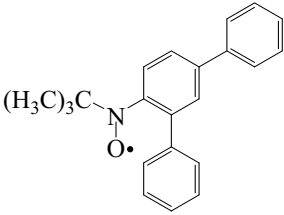
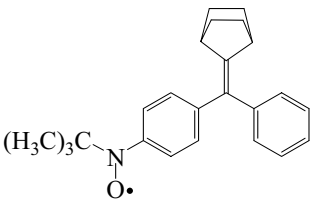
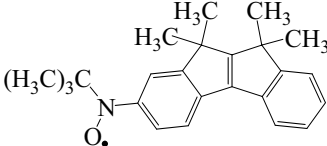
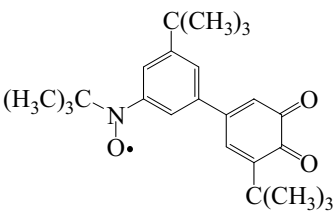
Poor resolution. Additional unresolved splittings.

TBS ether = 1-[*N*-*tert*-butyl-*N*-(*tert*-butyldimethylsiloxy)-amino]-4-ethynylbenzene

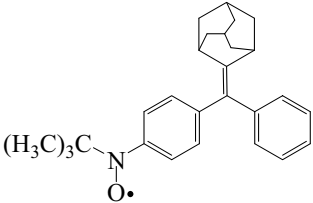
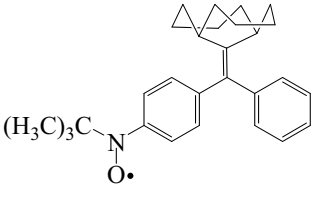
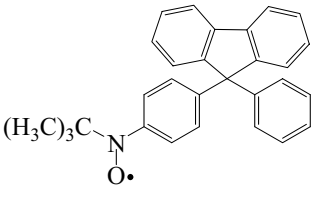
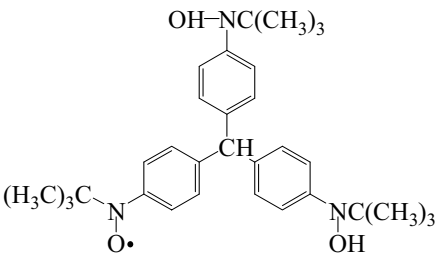
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
<p>[C₁₂H₁₅ClNO₂]</p> 	<p>Photolysis of 6-chloro-3-hydroxy-2,3-dihydro-2,1-benzisoxazole ACN or CH₂Cl₂ ESR / 298</p>	<p>N: 1.30 H_m: 0.060 H_o: 0.145 H_p: 0.09</p>	96Sri1
<p>[C₁₂H₁₅N₂O₄]</p> 	<p>Photolysis of 5-nitro-3-hydroxy-2,3-dihydro-2,1-benzisoxazole ACN or CH₂Cl₂ ESR / 298</p>	<p>N: 0.79 2H_m: 0.040 H_o: 0.140</p>	96Sri1
<p>[C₁₂H₁₆NO]</p> 	<p>Fluoride deprotection of TBS ether followed by PbO₂ oxidation Toluene ESR / 298</p>	<p>N: 1.172 2H_m: 0.101 2H_o: 0.217 H(CH): 0.077 2H(CH₂): 0.101</p>	93Nis1, 98Shu1
<p>[C₁₂H₁₆NO₂]</p> 	<p>Photolysis of 3-hydroxy-2,3-dihydro-2,1-benzisoxazole ACN or CH₂Cl₂ ESR / 298</p>	<p>N: 1.29 2H_m: 0.080 H_o: 0.155 H_p: 0.040</p>	96Sri1
<p>[C₁₄H₁₃ClNO]</p> 	<p>Oxidation of the corresponding hydroxylamine with Fremy's salt Hexane ESR / 298</p>	<p>2.0066 N: 1.378</p>	91Ino1, 93Ino1
<p>[C₁₄H₁₄NO]</p> 	<p>Synthesis described Benzene ESR / 298</p>	<p>2.0061 N: 1.210 3H_{o,p}: 0.198</p>	96Miu1
<p>[C₁₆H₁₃ClNO]</p> 	<p>Oxidation of the corresponding hydroxylamine with Fremy's salt Hexane ESR / 298</p>	<p>2.0059 N: 1.39</p>	93Ino1

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
<p>[C₁₆H₁₆Cl₂NO]</p> 	<p>Reduction of <i>p</i>-chloro-benzenediazonium salt with iodide ions in the presence of MNP Benzene ESR / 298</p>	<p>N: 1.45 9H_γ: 0.0265 H_o: 0.0730 H_m: 0.0475 H_m: 0.1010 2H_o: 0.007*</p>	90Noz1
* Derived from simulation of the spectra.			
<p>[C₁₆H₁₆N₃O₅]</p> 	<p>Reduction of <i>p</i>-nitro-benzenediazonium salt with iodide ions in the presence of MNP Benzene ESR / 298</p>	<p>N: 1.41 9H_γ: 0.0240 H_o: 0.0820 H_m: 0.0450 H_m: 0.0930 N: 0.013* 2H_o: 0.005*</p>	90Noz1
* Derived from simulation of the spectra.			
<p>[C₁₆H₁₈NO]</p> 	<p>Reduction of <i>p</i>-nitro-benzenediazonium salt with iodide ions in the presence of MNP Benzene ESR / 298</p>	<p>N: 1.48 9H_γ: -0.0285 H_o: -0.0740 H_m: +0.0485 H_m: +0.1020 H_p: -0.0285 2H_o: -0.007*</p>	90Noz1
Assignment by means of NMR spectroscopy. * Derived from simulation of the spectra.			
<p>[C₁₆H₁₈NO]</p> 	<p>Fluoride deprotection of of TBS ether followed by PbO₂ oxidation Toluene ESR / 298</p>	<p>N: 1.194 2H_m: 0.093 2H_o: 0.212</p>	98Shu1
TBS ether = 1-[<i>N</i> - <i>tert</i> -butyl- <i>N</i> -(<i>tert</i> -butyldimethylsiloxy)-amino]-4-phenylbenzene.			
<p>[C₁₆H₂₂NO]</p> 	<p>Oxidation of the corresponding hydroxylamine with PbO₂ CH₂Cl₂ ESR / 298</p>	<p>2.0060 N: 1.32 3H_{o, p}: 0.219</p>	93Miu1

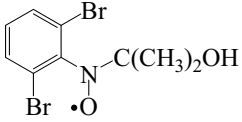
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
<p>[C₁₇H₁₉ClNO₂]</p> 	<p>Oxidation of the corresponding hydroxylamine with Fremy's salt Hexane ESR / 298</p>	<p>2.0066 N: 1.38 H_m: 0.10 H_o: 0.21 H_p: 0.31</p>	93Ino1
<p>[C₁₇H₂₀NO]</p> 	<p>Fluoride deprotection of of TBS ether followed by PbO₂ oxidation Toluene ESR / 298</p> <p>TBS ether = 2'Methyl-4-[<i>N-tert</i>-butyl-<i>N</i>-(<i>tert</i>-butyldimethylsiloxy)amino]biphenyl.</p>	<p>N: 1.210 2H_m: 0.088 2H_o: 0.203</p>	98Shu1
<p>[C₁₈H₁₆N₃O]</p> 	<p>Reduction of <i>p</i>-cyano-benzenediazonium salt with iodide ions in the presence of MNP Benzene ESR / 298</p>	<p>N: 1.43 9H_r: 0.0260 H_o: 0.0845 H_m: 0.0500 H_m: 0.0965 2H_o: 0.005*</p>	90Noz1
* Derived from simulation of the spectra.			
<p>[C₁₈H₂₀NO]</p> 	<p>Oxidation of corresponding hydroxylamine with Ag₂O Benzene ESR / 298</p>	<p>N: 1.42</p>	94Yos1
<p>[C₁₈H₂₀NO]</p> 	<p>Oxidation of corresponding hydroxylamine with Ag₂O Benzene ESR / 298</p>	<p>N: 1.26 H_m: 0.08 2H_o: 0.19 H_p: 0.21</p>	94Yos1
<p>[C₁₉H₂₄NO]</p> 	<p>Fluoride deprotection of of TBS ether followed by PbO₂ oxidation Toluene ESR / 298</p> <p>TBS ether = 2',4',6'-Trimethyl-4-[<i>N-tert</i>-butyl-<i>N</i>-(<i>tert</i>-butyldimethylsiloxy)amino]biphenyl.</p>	<p>N: 1.218 2H_m: 0.088 2H_o: 0.203</p>	98Shu1

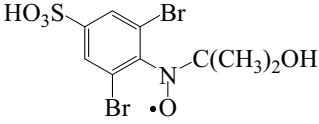
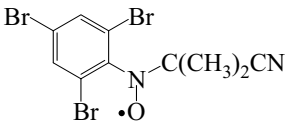
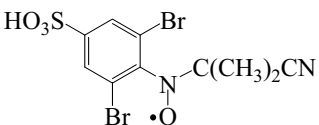
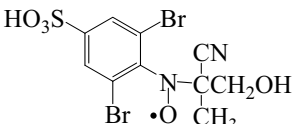
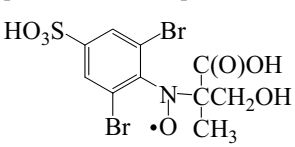
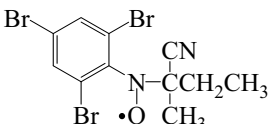
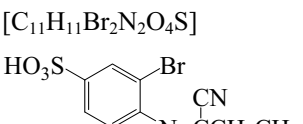
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
<p>[C₂₀H₂₄NO]</p> 	<p>Synthesis via reaction of 1-phenyl-1-(4-bromophenyl)-2,2-dimethyl ethylene, (H₃C)₃CLi, MNP and oxidation with PbO₂</p> <p>Benzene</p> <p>ESR / 298</p>	<p>N: 1.20</p> <p>2H_m: 0.090</p> <p>2H_o: 0.210</p>	99Shu1
<p>[C₂₂H₂₂NO]</p> 	<p>Oxidation of the corresponding amine with CPBA in CH₂Cl₂</p> <p>Benzene</p> <p>ESR / 293</p>	<p>2.0061</p> <p>N: 1.48</p>	99Oka1
<p>[C₂₄H₂₈NO]</p> 	<p>Synthesis described</p> <p>Benzene</p> <p>ESR / 298</p>	<p>N: 1.198</p> <p>2H_m: 0.091</p> <p>2H_o: 0.209</p>	99Shu1
<p>[C₂₄H₂₈NO]</p> 	<p>Synthesis described</p> <p>Benzene</p> <p>ESR / 298</p>	<p>N: 1.213</p> <p>H_m: 0.091</p> <p>H_o: 0.203</p> <p>H_o: 0.216</p>	99Shu1
<p>[C₂₄H₃₂NO₃]</p> 	<p>Synthesis described</p> <p>THF</p> <p>ESR / 298</p>	<p>N: 1.253</p> <p>3H_{o,p}: 0.180</p>	98Shu2

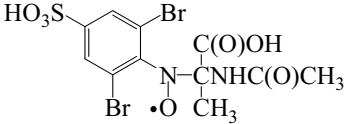
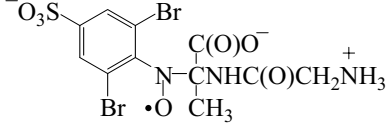
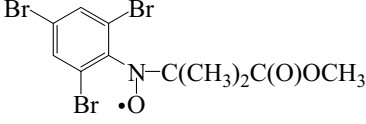
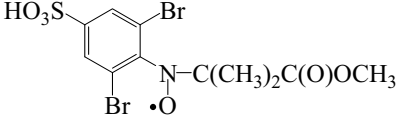
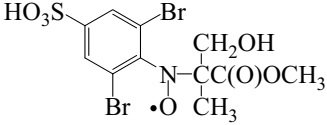
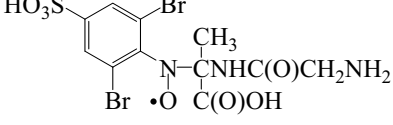
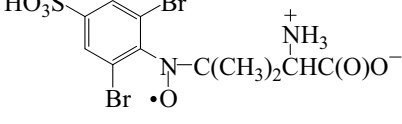
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
$[C_{24}H_{32}NO_3^- Na^+]$ 	Synthesis described THF ESR / 298	$ D/hc : 0.084^a$ $ E/hc $: not estimated due to spectral complexity	98Shu2
^a Value in cm ⁻¹ .			
$[C_{24}H_{33}NO_2]$ 	Synthesis described Toluene ESR / 298	The overall spectrum is virtually the combination of a signal from a nitroxide and one from a phenoxyl radical. N: 1.198 <i>H_m</i> : 0.082 <i>H_o</i> : 0.197 <i>H_o</i> : 0.209 <i>H_p</i> : 0.209	99Lia1
For the phenoxyl moiety: 2 <i>H</i> : 0.173, <i>H</i> : 0.174, <i>H</i> : 0.180, <i>H</i> : 0.181.			
$[C_{25}H_{36}NO_2]$ 	Synthesis described Toluene ESR / 298	N: 1.248 <i>H_m</i> : 0.080 <i>H_o</i> : 0.179 <i>H_o</i> : 0.181 <i>H_p</i> : 0.196	99Lia1
$[C_{26}H_{26}NO]$ 	Synthesis described THF ESR / 298	2.006 N: 1.15 <i>H_m</i> : 0.09 2 <i>H_o</i> : 0.19 <i>H</i> : 0.02 <i>H</i> : 0.012	95Nis
$[C_{26}H_{36}NO]$ 	Synthesis described THF ESR / 298	N: 1.193 2 <i>H_m</i> : 0.092 2 <i>H_o</i> : 0.209	99Shu1

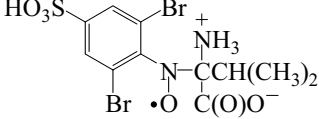
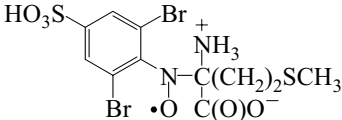
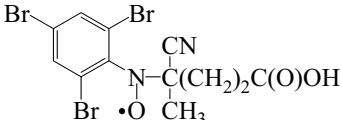
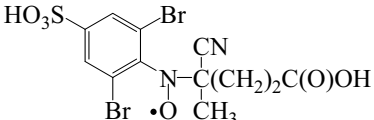
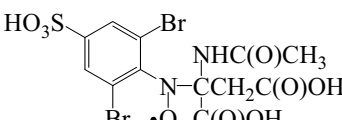
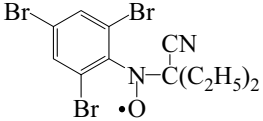
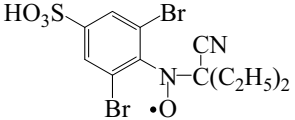
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{27}H_{32}NO]$ 	Synthesis described THF ESR / 298	N: 1.203 $2H_m$: 0.090 $2H_o$: 0.209	99Shu1
$[C_{28}H_{36}NO]$ 	Synthesis described THF ESR / 298	N: 1.208 $2H_m$: 0.088 $2H_o$: 0.208	99Shu1
$[C_{29}H_{26}NO]$ 	Synthesis described THF ESR / 298	N: 1.200 $2H_m$: 0.089 $2H_o$: 0.205	99Shu1
$[C_{31}H_{42}N_3O_3]$ 	Oxidation of the corresponding tris(hydroxylamine) with PbO_2 (Ag_2O) Benzene ESR / 298	N: 1.289 $2H_m$: 0.088 $2H_o$: 0.200	96Oni

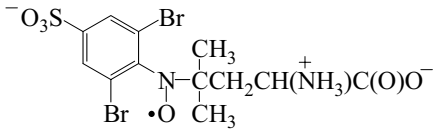
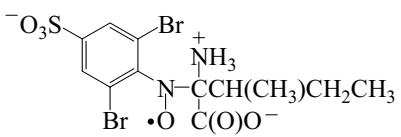
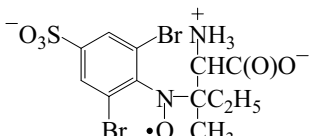
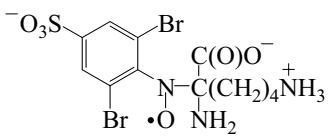
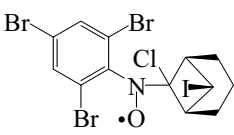
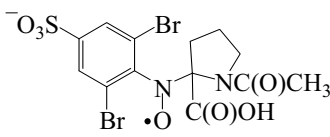
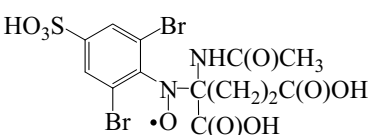
12.2.4.4.2 Aryl other *tert*-alkyl nitroxides

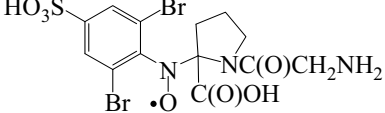
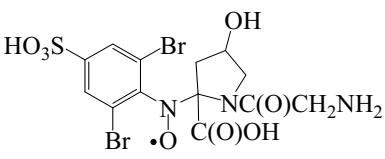
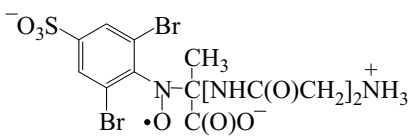
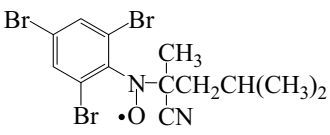
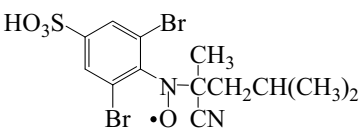
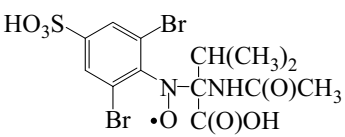
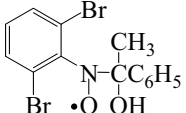
$[C_9H_{10}Br_2NO_2]$ 	Photolysis of <i>isopropanol</i> (or <i>t</i> -butanol), anthraquinone and DBNB Benzene ESR / 298	N: 1.34	89Móg1
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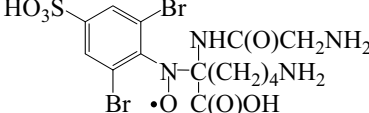
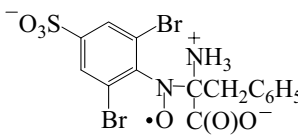
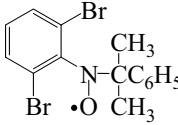
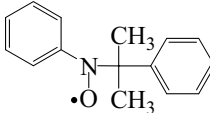
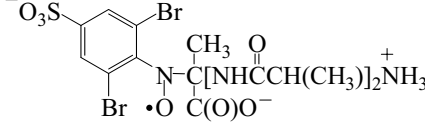
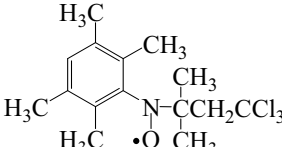
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
<p>[C₉H₁₀Br₂NO₅S]</p> 	<p>Reaction of TiCl₃, H₂O₂, <i>i</i>-propanol and DBNBS H₂O (Flow) ESR / 298</p>	<p>2.0063₁ N: 1.404 2<i>H_m</i>: 0.070</p>	88Smi
<p>[C₁₀H₈Br₃N₂O]</p> 	<p>Reaction of AIBN, NiO₂ and TBNB Benzene ESR / 298</p>	<p>2.0067₃ N: 1.212</p>	92Smi1
<p>[C₁₀H₉Br₂N₂O₄S]</p> 	<p>Thermal decomposition (373 K) of AIBN in the presence of DBNBS H₂O ESR / 298</p>	<p>2.0063₅ N: 1.328</p>	88Smi1
<p>[C₁₀H₉Br₂N₂O₅S]</p> 	<p>Reaction of TiCl₃, H₂O₂ and methacrylonitrile in the presence of DBNBS H₂O (Flow) ESR / 298</p>	<p>2.0065₃ N: 1.300</p>	88Smi1
<p>[C₁₀H₁₀Br₂NO₇S]</p> 	<p>Reaction of TiCl₃, H₂O₂ and methyl methacrylate in the presence of DBNBS H₂O (Flow) ESR / 298</p>	<p>2.0064₅ N: 1.293</p>	88Smi1
<p>[C₁₁H₁₀Br₃N₂O]</p> 	<p>Thermal decomposition (333 K) of 2,2'-azobis-(2-methylbutanonitrile) in the presence of TBNB Benzene ESR / 298</p>	<p>2.0066₈ N: 1.221</p>	92Smi1
<p>[C₁₁H₁₁Br₂N₂O₄S]</p> 	<p>Thermal decomposition (373 K) of 2,2'-azobis-(2-methylbutanonitrile) in the presence of DBNBS H₂O ESR / 298</p>	<p>2.0064₁ N: 1.332</p>	88Smi1

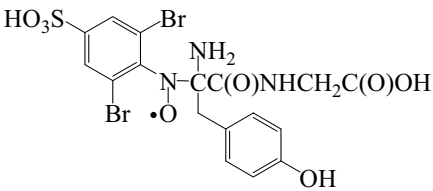
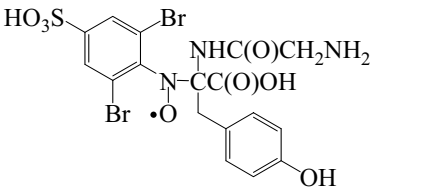
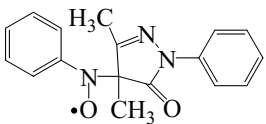
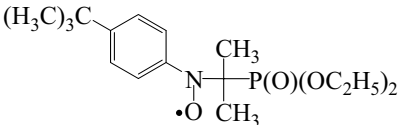
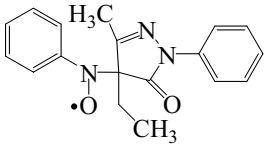
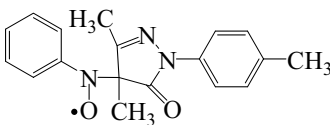
Substance	Generation / Matrix or Solvent / Method / T [K]	g-Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{11}H_{11}Br_2N_2O_7S]$ 	Reaction of HOCl/CIO ⁻ , <i>N</i> -acetylalanine and DBNBS H ₂ O ESR / 298	N: 1.39	98Haw2
$[C_{11}H_{11}Br_2N_3O_7S]^-$ 	Reaction of Fe ^{II} -EDTA-H ₂ O ₂ , glycylalanine and DBNBS Phosphate buffer pH 7.4	N: 1.34	91Dav1, 97Haw1
$[C_{11}H_{11}Br_3NO_3]$ 	Thermal decomposition (333 K) of dimethyl 2,2'-azobis-(2-methylpropanoate) in the presence of TBNB Benzene ESR / 298	2.0067 ₁ N: 1.198	92Smi1
$[C_{11}H_{12}Br_2NO_6S]$ 	Thermal decomposition (373 K) of dimethyl 2,2'-azobis-(2-methylpropanoate) in the presence of DBNBS H ₂ O ESR / 298	2.0063 ₃ N: 1.333	88Smi1
$[C_{11}H_{12}Br_2NO_7S]$ 	Reaction of methyl methacrylate with TiCl ₃ , H ₂ O ₂ and DBNBS H ₂ O (Flow) ESR / 298	2.0063 ₉ N: 1.291	88Smi1
$[C_{11}H_{12}Br_2N_3O_7S]$ 	Reaction of HOCl/CIO ⁻ , alanylglycine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.39	98Haw2
$[C_{11}H_{13}Br_2N_2O_6S]$ 	Reaction of HOCl/CIO ⁻ , valine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.39	98Haw2
Tentative assignment. Might also be the following entry.			

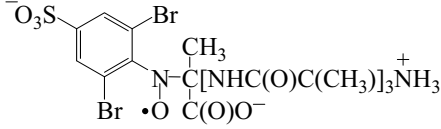
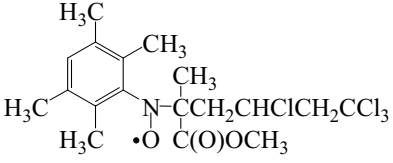
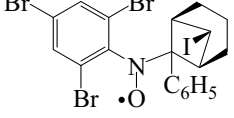
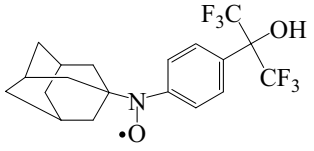
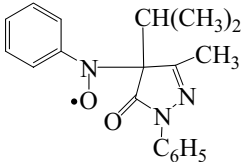
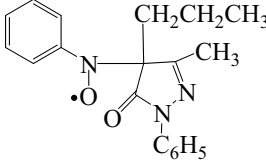
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{11}H_{13}Br_2N_2O_6S]$ 	Reaction of HOCl/CIO ⁻ , valine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.39	98Haw2
Tentative assignment. Might also be the preceding entry.			
$[C_{11}H_{13}Br_2N_2O_6S_2]$ 	Reaction of Fe ^{II} -EDTA-H ₂ O ₂ , D,L-methionine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.38	91Dav1
$[C_{12}H_{10}Br_3N_2O_3]$ 	Thermal decomposition (333 K) of 4,4'-azobis-(4-cyanopentanoic acid) in the presence of TBNB Benzene ESR / 298	2.0067 ₈ N: 1.217	92Smi1
$[C_{12}H_{11}Br_2N_2O_6S]$ 	Thermal decomposition (373 K) of 4,4'-azobis-(4-cyanopentanoic acid) in the presence of DBNBS H ₂ O ESR / 298	2.0065 ₂ N: 1.321	88Smi1
$[C_{12}H_{11}Br_2N_2O_9S]$ 	Reaction of HOCl/CIO ⁻ , <i>N</i> -acetylaspartic acid and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.33	98Haw2
$[C_{12}H_{12}Br_3N_2O]$ 	Thermal decomposition (333 K) of 2,2'-azobis-(2-ethylbutanonitrile) in the presence of TBNB Benzene ESR / 298	2.0067 ₆ N: 1.240	92Smi1
$[C_{12}H_{13}Br_2N_2O_4S]$ 	Thermal decomposition (373 K) of 2,2'-azobis-(2-ethylbutanonitrile) in the presence of DBNBS H ₂ O ESR / 298	2.0062 ₀ N: 1.392	88Smi1

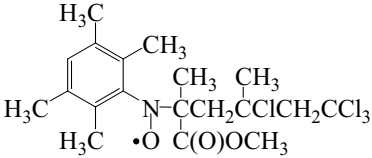
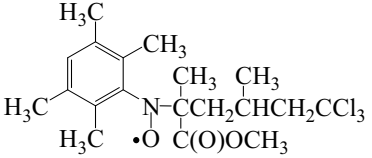
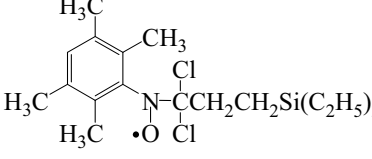
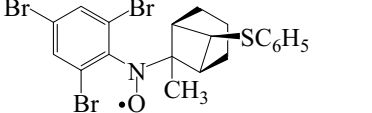
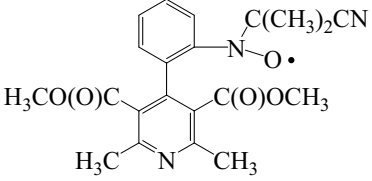
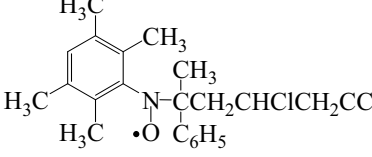
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{12}H_{14}Br_2N_2O_6S]^-$ 	Reaction of Fe^{II} -EDTA- H_2O_2 , D,L-leucine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.43	91Dav1
$[C_{12}H_{14}Br_2N_2O_6S]^-$ 	Reaction of $HOCl/ClO^-$, isoleucine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.42	98Haw2
Tentative assignment. Might be the following entry.			
$[C_{12}H_{14}Br_2N_2O_6S]^-$ 	Reaction of $HOCl/ClO^-$, isoleucine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.42	98Haw2
Tentative assignment. Might be the preceding entry.			
$[C_{12}H_{15}Br_2N_3O_6S]^-$ 	Reaction of Cu^{II} - H_2O_2 , lysine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.36	97Haw1
An identical spectrum is observed with <i>N</i> -acetyl lysine.			
$[C_{13}H_{11}Br_3ClINO]$ 	Reaction of 1-chlorotri-cyclo-[4.1.0.0 ^{2,7}]heptane with iodine and TBNB Benzene ESR / 293	N: 1.10	90Vas1
$[C_{13}H_{12}Br_2N_2O_7S]^-$ 	Reaction of Fe^{II} -EDTA- H_2O_2 , <i>N</i> -acetylproline and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.31	97Haw1
$[C_{13}H_{13}Br_2N_2O_9S]$ 	Reaction of $HOCl/ClO^-$, <i>N</i> -acetylglutamic acid, and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.32	98Haw2

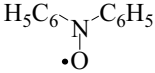
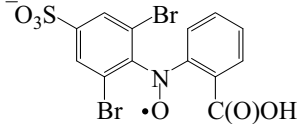
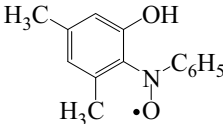
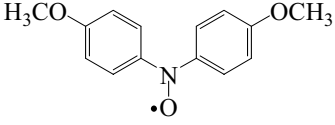
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{13}H_{14}Br_2N_3O_7S]$ 	Reaction of HOCl/CIO ⁻ , <i>N</i> -glycylproline and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.33	98Haw2
$[C_{13}H_{14}Br_2N_3O_8S]$ 	Reaction of HOCl/CIO ⁻ , <i>N</i> -glycylhydroxyproline and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.33	98Haw2
$[C_{13}H_{14}Br_2N_4O_8S]^-$ 	Reaction of Fe ^{II} -EDTA-H ₂ O ₂ , glycylglycylalanine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.34	91Dav1
$[C_{13}H_{14}Br_3N_2O]$ 	Thermal decomposition (333 K) of 2,2'-azobis-(2,4-dimethylpentanonitrile) in the presence of TBNB Benzene ESR / 298	2.0067 ₈ N: 1.232	92Smi1
$[C_{13}H_{15}Br_2N_2O_4S]$ 	Thermal decomposition (373 K) of 2,2'-azobis-(2,4-dimethylpentanonitrile) in the presence of DBNBS H ₂ O ESR / 298	2.0067 ₈ N: 1.359	88Smi1
$[C_{13}H_{15}Br_2N_2O_7S]$ 	Reaction of HOCl/CIO ⁻ , <i>N</i> -acetylvaline and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.39	98Haw2
$[C_{14}H_{12}Br_2NO_2]$ 	Photolysis of anthraquinone, 2-phenylpropan-2-ol and DBNB Benzene ESR / 298	N: 1.38	89Móg1

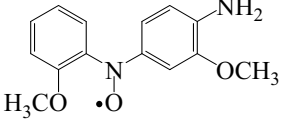
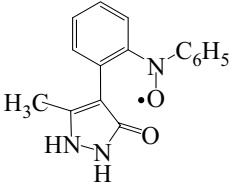
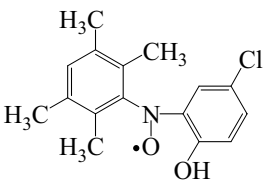
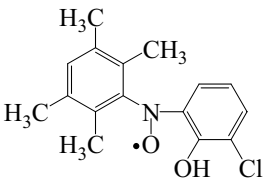
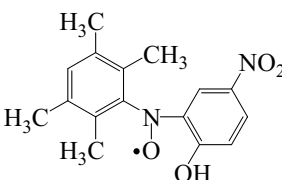
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{14}H_{19}Br_2N_4O_7S]$ 	Reaction of HOCl/CIO ⁻ , glycyllsine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.33	98Haw2
$[C_{15}H_{12}Br_2N_2O_6S]^-$ 	Reaction of Fe ^{II} -EDTA-H ₂ O ₂ , L-phenylalanine, and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.41	91Dav1
$[C_{15}H_{14}Br_2NO]$ 	Photolysis of anthraquinone, <i>tert</i> -butylbenzene and DBNB Benzene ESR / 298	N: 1.30	89Móg1
$[C_{15}H_{16}NO]$ 	Photolysis of aniline and cumylhydroperoxide Oxidation of <i>N</i> -cumyl-aniline with CPBA Oxidation of 2-cumyl-2,3-dihydro-phthalazine-1,4-dione with PbO ₂ in the presence of NB Benzene ESR / 298	2.0057 N: 1.125 2H _m : 0.095 3H _{o,p} : 0.300 2.0059 N: 1.15 2H _m : 0.09 3H _{o,p} : 0.24	94Gro1 89Rei1, 92Klu1
Slight variations of the hyperfine splitting constants with solvent (isooctane, 1-butene oxide) and temperature (200÷298 K).			
$[C_{15}H_{18}Br_2N_4O_8S]^-$ 	Reaction of Fe ^{II} -EDTA-H ₂ O ₂ , alanylalanylalanine and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.32	91Dav1
$[C_{15}H_{21}Cl_3NO]$ 	Photolysis ($\lambda = 366$ nm) of Re ₂ (CO) ₁₀ , 1,1,1-trichloro-3,3-dimethyl-3-bromopropane and ND ESR / 295	N: 1.36	92Gas1

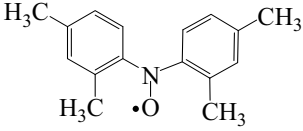
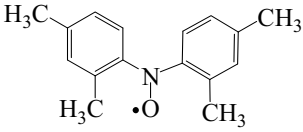
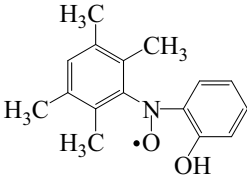
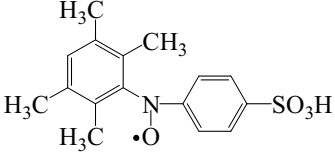
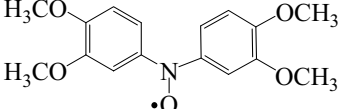
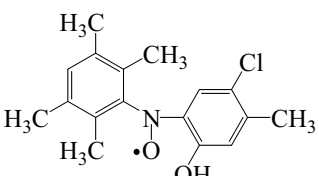
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
<p>[C₁₇H₁₆Br₂N₃O₈S]</p> 	<p>Reaction of HOCl/CIO⁻, glycytyrosine and DBNBS Phosphate buffer pH 7.4 ESR / 298</p>	N: 1.36	98Haw2
<p>[C₁₇H₁₆Br₂N₃O₈S]</p> 	<p>Reaction of HOCl/CIO⁻, tyrosylglycine and DBNBS Phosphate buffer pH 7.4 ESR / 298</p>	N: 1.33	98Haw2
<p>[C₁₇H₁₆N₃O₂]</p> 	<p>Oxidation of the appropriate pyrazolin-5-one with PbO₂ in the presence of NB Benzene ESR / 298</p>	<p>N: 1.056 2H_m: 0.094 3H_{o,p}: 0.235</p>	93Ome1
Similar hyperfine splitting constants measured in chloroform.			
<p>[C₁₇H₂₉NO₄P]</p> 	<p>Oxidation of the corresponding α-aminophosphonate with CPBA CH₂Cl₂ ESR / 298</p>	<p>2.0059 N: 1.271 H_o: 0.087 ³¹P: 3.618</p>	00Gri1
<p>[C₁₈H₁₈N₃O₂]</p> 	<p>Oxidation of the appropriate pyrazolin-5-one with PbO₂ in the presence of NB CHCl₃ ESR / 298</p>	<p>N: 1.088 2H_m: 0.089 3H_{o,p}: 0.227</p>	93Ome1
<p>[C₁₈H₁₈N₃O₂]</p> 	<p>Oxidation of the appropriate pyrazolin-5-one with PbO₂ in the presence of NB Benzene ESR / 298</p>	<p>N: 1.059 2H_m: 0.096 3H_{o,p}: 0.235</p>	93Ome1

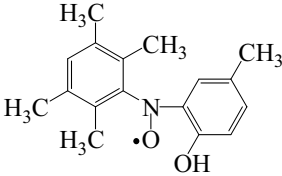
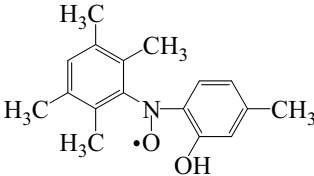
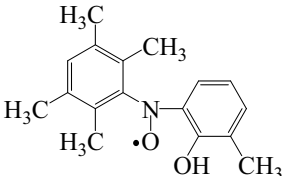
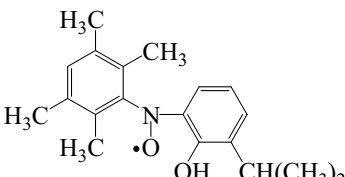
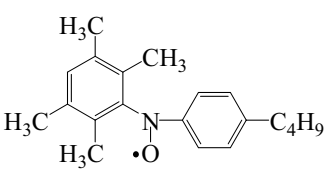
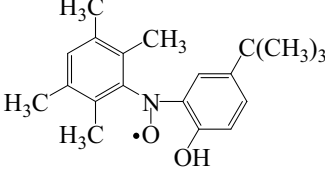
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[\text{C}_{18}\text{H}_{20}\text{Br}_2\text{N}_5\text{O}_9\text{S}]^-$ 	Reaction of Fe^{II} -EDTA- H_2O_2 , alanylalanylalanylalanine and DNBBS Phosphate buffer pH 7.4 ESR / 298	N: 1.32	91Dav1
$[\text{C}_{18}\text{H}_{24}\text{Cl}_4\text{NO}_3]$ 	Photolysis ($\lambda = 366$ nm) of $\text{Re}_2(\text{CO})_{10}$, 1,1,1,3-tetrachloro-3-iodopropane, methylmethacrylate and ND Benzene ESR / 295	N: 1.32	91Gas1
$[\text{C}_{19}\text{H}_{16}\text{Br}_3\text{INO}]$ 	Reaction of 1-phenyltricyclo-[4.1.0.0 ^{2,7}]heptane with iodine and TBNB Benzene ESR / 293	N: 1.18	90Vas1
$[\text{C}_{19}\text{H}_{20}\text{F}_6\text{NO}_2]$ 	Reaction of the appropriate amine* with H_2O_2	N: 1.21 $2H_o$: 0.29	89Svi1
* <i>N</i> -(1-Adamantyl)-4-(1-hydroxy-1-trifluoromethyl-2,2,2-trifluoroethyl)aniline.			
$[\text{C}_{19}\text{H}_{20}\text{N}_3\text{O}_2]$ 	Oxidation of the appropriate pyrazolin-5-one with PbO_2 in the presence of NB Benzene ESR / 298	N: 1.123 $2H_m$: 0.094 $3H_{o,p}$: 0.214	93Ome1
Similar hyperfine coupling constants measured in chloroform.			
$[\text{C}_{19}\text{H}_{20}\text{N}_3\text{O}_2]$ 	Oxidation of the appropriate pyrazolin-5-one with PbO_2 in the presence of NB Benzene ESR / 298	N: 1.078 $2H_m$: 0.096 $3H_{o,p}$: 0.209	93Ome1

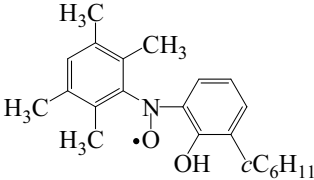
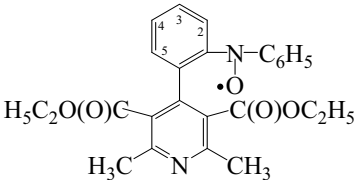
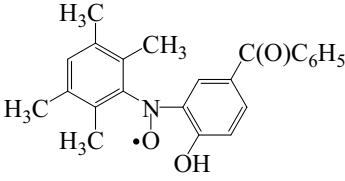
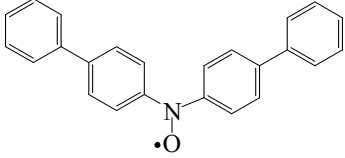
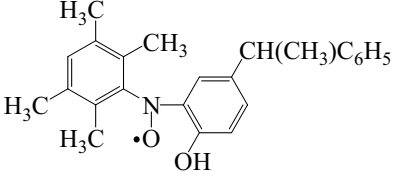
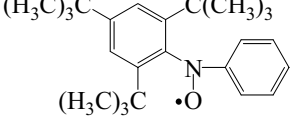
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
<p>[C₁₉H₂₆Cl₄NO₃]</p> 	<p>Photolysis ($\lambda = 366$ nm) of Re₂(CO)₁₀, 1,1,1,3-tetrachloro-3-bromobutane, methylmethacrylate and ND Benzene ESR / 295</p>	N: 1.32	92Gas1
<p>[C₁₉H₂₇Cl₃NO₃]</p> 	<p>Photolysis ($\lambda = 366$ nm) of Re₂(CO)₁₀, 1,1,1,3-tetrachloro-3-bromobutane, methylmethacrylate and ND Benzene ESR / 295</p>	N: 1.32	91Gas1
<p>[C₁₉H₃₂Cl₂NOSi]</p> 	<p>Photolysis ($\lambda = 366$ nm) of Re₂(CO)₁₀, 1,1,1-trichloro-3-triethylsilylpropane and ND Benzene ESR / 298</p> <p>Also with Cl₃C(CH₂)₂CH₂Si(C₂H₅)₃, Cl₃C(CH₂)₃CH₂Si(C₂H₅)₃ and Cl₃C(CH₂)₅CH₂Si(C₂H₅)₃ [88Gas1].</p>	N: 1.07 2 ³⁵ Cl: 0.22	88Gas1
<p>[C₂₀H₁₉Br₃NOS]</p> 	<p>Reaction of 1-methyltricyclo[4.1.0.0^{2,7}]heptane, thiophenol and TBNB Benzene ESR / 293</p>	N: 1.12	90Vas1
<p>[C₂₁H₂₂N₃O₅]</p> 	<p>Photolysis of AIBN and the nitroso compound Benzene ESR / 298</p>	2.0054 N: 1.16 2H(H _{3,5}): 0.080, 0.090 2H(H _{2,4}): 0.190	94Sta
<p>[C₂₂H₂₆Cl₄NO]</p> 	<p>Photolysis ($\lambda = 366$ nm) of Re₂(CO)₁₀, 1,1,1,3-tetrachloro-3-bromopropane, 1-methylstyrene and ND Benzene ESR / 295</p> <p>The same also with Cl₃CCH₂CH₂Br, Cl₃CCH₂CHBrCH₃, Cl₃CCH₂CClBrCH₃, and Cl₃C(CH₂)₃CH₂Br [91Gas1].</p>	N: 1.36	91Gas1

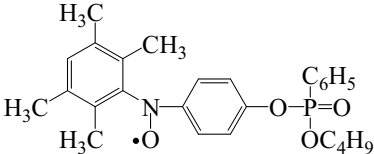
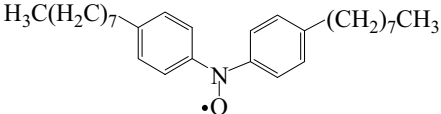
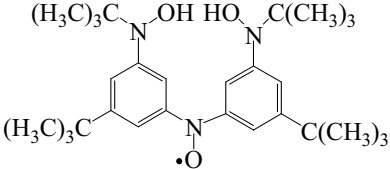
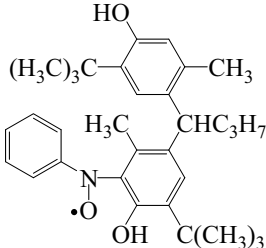
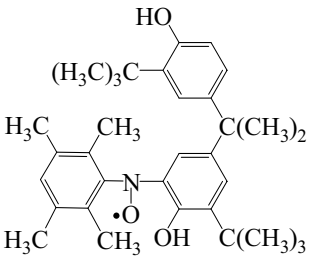
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{12}H_{10}NO]$ 	Photolysis of <i>N,N</i> -diphenylformamide and BOOB Reaction of benzendiazonium tetrafluoroborate with sodium iodide in the presence of MNP Reaction of <i>N</i> -nitrosodiphenylamine with phenylmagnesium bromide Oxidation of diphenylamine with CPBA Benzene ESR / 298 Synthesis Toluene ENDOR / GTR 170–230	2.0056 N: 0.965 $4H_m$: 0.075 $6H_{o,p}$: 0.185 N: 0.9653 $4H_m$: 0.082 $6H_{o,p}$: 0.191	89Gro1, 90Noz1, 92Car1, 94Nis1 91Yam1
GTR = General Triple Resonance.			
$[C_{13}H_7Br_2ClNO_6S]^-$ 	Incubation of monoperoxyphthalic acid with rat liver nuclei or microsomal fractions, NADH and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 1.068 $2H_m$: 0.100 H_o : 0.256 H_p : 0.330	93Gre1, 94Gre1
$[C_{14}H_{14}NO_2]$ 	Oxidation of 3,5-dimethylphenol with PbO_2 in the presence of NB Benzene ESR / 298–323	N: 1.012 $2H_m$: 0.093 H_o : 0.267 $2H_{o,p}$: 0.287 $2H$: 0.055	94Ome1
$[C_{14}H_{14}NO_3]$ 	Reaction of <i>N</i> -nitrosodiphenylamine with <i>p</i> -anisylmagnesium bromide THF / Ethyl ether ESR / 298 Oxidation of secondary amine in strongly basic media: O_2 , KOH and 18-crown-6 ether DMSO ESR / 298	N: 1.063 $6H(OCH_3)$: 0.021 $4H_m$: 0.075 $4H_o$: 0.195 N: 1.06 $4H_m$: 0.094 $4H_o$: 0.190	92Car1 94Sha1

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
<p>[C₁₄H₁₅N₂O₃]</p> 	<p>Oxidation of <i>o</i>-methoxy-<i>p</i>-(2-methoxyphenylamino)aniline with CPBA Benzene ESR / 298</p> <p>Reaction of <i>o</i>anisidine with K₄Fe(CN)₆ H₂O, pH 9 (Flow) ESR / 298</p>	<p>2.0056 N: 1.078 3H(OCH₃): 0.022 N(NH₂): 0.073 2H(NH₂): 0.073 H_m: 0.094 H_o: 0.220 H_p: 0.293</p> <p>2.0059 N: 1.280</p>	94Bol1
<p>[C₁₆H₁₄N₃O₂]</p> 	<p>Oxidation of 3-methyl-4-phenylpyrazolin-5-one with PbO₂ in the presence of NB CHCl₃ ESR / 293</p>	<p>N: 1.098 $2H_m$: 0.080 $3H_{o,p}$: 0.238 $2H$: 0.078</p>	93Ome1
<p>[C₁₆H₁₇ClNO₂]</p> 	<p>Oxidation of <i>p</i>-chlorophenol with PbO₂ in the presence of ND Benzene ESR / 298–323</p>	<p>N: 1.150 H(OH): 0.078 H_m: 0.078 H_o: 0.269 H_p: 0.322</p>	94Ome1
<p>[C₁₆H₁₇ClNO₂]</p> 	<p>Oxidation of <i>o</i>-chlorophenol with PbO₂ in the presence of ND Benzene ESR / 298–323</p>	<p>N: 1.163 H(OH): 0.073 H_m: 0.073 H_o: 0.290 H_p: 0.330</p>	94Ome1
<p>[C₁₆H₁₇N₂O₄]</p> 	<p>Oxidation of <i>p</i>-nitrophenol with PbO₂ in the presence of ND Benzene ESR / 298–323</p>	<p>N: 1.142 H(OH): 0.072 H_m: 0.078 H_o: 0.263 H_p: 0.292</p>	94Ome1

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{16}H_{18}NO]$ 	Reaction of <i>N</i> -nitroso-diphenylamine with 2,4-dimethylphenylmagnesium bromide THF / Ethyl ether ESR / 298	N: 1.022 $2H_o$: 0.190	92Car1
$[C_{16}H_{18}NO]$ 	Oxidation of secondary amine in strongly basic media: O_2 , KOH and 18-crown-6 ether DMSO ESR / 298	N: 1.02 $4H_m$: 0.095 $2H_o$: 0.19	94Sha1
$[C_{16}H_{18}NO_2]$ 	Oxidation of phenol with PbO_2 in the presence of ND Benzene ESR / 298–323	N: 1.170 $H(OH)$: 0.082 $2H_m$: 0.082 H_o : 0.277 H_p : 0.323	94Ome1
$[C_{16}H_{18}NO_4S]$ 	Photolysis of pHO_3S -phenylazotolylsulphide in the presence of ND ACN ESR / 298–323	2.0059 N: 1.030 $2H_m$: 0.106 $2H_o$: 0.283	98Sta1
$[C_{16}H_{18}NO_5]$ 	Reaction of <i>N</i> -nitroso-diphenylamine with 3,4-dimethoxyphenylmagnesium bromide THF / Ethyl ether ESR / 298	N: 1.058 $2H_m$: 0.05 $4H_o$: 0.21 $12H(OCH_3)$: 0.025	92Car1
$[C_{17}H_{19}ClNO_2]$ 	Oxidation of 3-methyl-4-chlorophenol with PbO_2 in the presence of ND Benzene ESR / 298–323	N: 1.150 $H(OH)$: 0.080 H_m : 0.080 H_o : 0.266 $3H(CH_3)$: 0.338	94Ome1

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{17}H_{20}NO_2]$ 	Oxidation of 4-methylphenol with PbO_2 in the presence of ND Benzene ESR / 298–323	N: 1.180 H(OH): 0.075 H_m : 0.075 3H(CH ₃): 0.080 H_o : 0.260 H_p : 0.340	94Ome1
$[C_{17}H_{20}NO_2]$ 	Oxidation of 3-methylphenol with PbO_2 in the presence of ND Benzene ESR / 298–323	N: 1.207 H(OH): 0.080 2 H_m : 0.080 H_o : 0.282 3H(CH ₃): 0.370	94Ome1
$[C_{17}H_{20}NO_2]$ 	Oxidation of 2-methylphenol with PbO_2 in the presence of ND Benzene ESR / 298–323	N: 1.169 H(OH): 0.083 H_m : 0.083 3H(CH ₃): 0.091 H_o : 0.272 H_p : 0.322	94Ome1
$[C_{19}H_{24}NO_2]$ 	Oxidation of 2-isopropylphenol with PbO_2 in the presence of ND Benzene ESR / 298–323	N: 1.190 H(OH): 0.075 H_m : 0.075 H: 0.044 H_o : 0.270 H_p : 0.320	94Ome1
$[C_{20}H_{26}NO]$ 	Oxidation of 1-methyl-3-(4-butylphenyl)triaz-2-en-1-ol with PbO_2 in the presence of ND Benzene ESR / 298–323	N: 1.032 H_m : 0.087 H_m : 0.095 H_o : 0.270 H_o : 0.286 2H(Butyl): 0.217	96Ome1, 96Rap1
$[C_{20}H_{26}NO_2]$ 	Oxidation of 4- <i>t</i> -butylphenol with PbO_2 in the presence of ND Benzene ESR / 298–323	N: 1.180 H(OH): 0.075 H_m : 0.085 H_o : 0.260 H_p : 0.334	94Ome1

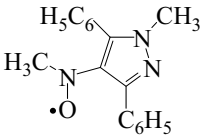
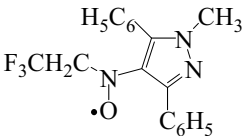
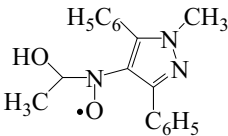
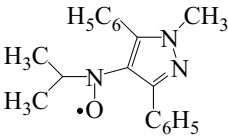
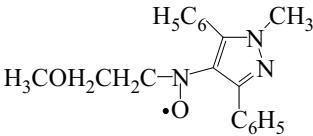
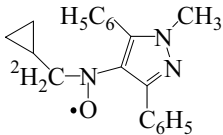
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
<p>[C₂₂H₂₈NO₂]</p> 	Oxidation of 2-cyclohexylphenol with PbO ₂ in the presence of ND Benzene ESR / 298–323	N: 1.170 H(OH): 0.069 H: 0.050 H _m : 0.085 H _o : 0.279 H _p : 0.324	94Ome1
<p>[C₂₃H₂₁N₂O₅]</p> 	Oxidation of <i>N</i> -anilino-phthalimide with lead tetracetate in the presence of UV irradiated nifedipine. Benzene ESR / 298	2.0057 N: 0.964 H _m : 0.081 3H _{o, p} : 0.217 H(H ₃): 0.061 H(H ₅): 0.084 H(H ₂): 0.115 H(H ₄): 0.130	94Sta1
<p>[C₂₃H₂₂NO₃]</p> 	Oxidation of 4-carbonylphenylphenol with PbO ₂ in the presence of ND Benzene ESR / 298–323	N: 1.150 H(OH): 0.070 H _m : 0.070 2H _{o, p} : 0.280	94Ome1
<p>[C₂₄H₁₈NO]</p> 	Reaction of <i>N</i> -nitroso-diphenylamine with <i>p</i> -dilphenylmagnesium bromide THF / Ethyl ether ESR / 298	N: 1.010 4H _m : 0.080 4H _o : 0.190 10H _{o', m', p} : 0.020	92Car1
<p>[C₂₄H₂₆NO₂]</p> 	Oxidation of 4-(α-methyl)benzylphenol with PbO ₂ in the presence of ND Benzene ESR / 298–323	N: 1.170 H(OH): 0.077 H: 0.048 H _m : 0.085 H _o : 0.260 H _p : 0.325	94Ome1
<p>[C₂₄H₃₄NO]</p> 	Reaction of benzoyl peroxide with diphenylamine and TBNB Benzene ESR / 298	2.0056 N: 0.988 2H _m : 0.063 2H _m : 0.092 H _p : 0.261 2H _o : 0.286	94Nis1

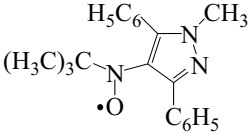
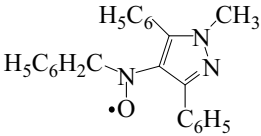
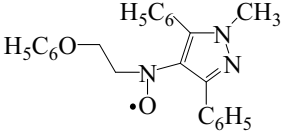
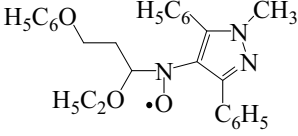
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{26}H_{31}NO_4P]$ 	Thermolysis (335–352 K) or photolysis of dioxy- bis[(phenoxy)phenyl- phosphane oxide in the presence of ND Benzene ESR / 293	2.0058_7 $N: 1.017$ $2H_m: 0.089^*$ $2H_o: 0.280^*$ $^{31}P: 0.375$	92Kor1
* Not observed in benzene- d_6 .			
$[C_{28}H_{42}NO]$ 	Oxidation of bis(<i>p</i> -octyl- phenyl)amine with NPBA Benzene ESR / 298	$N: 1.02$ $4H_m: 0.08$ $4H_o: 0.19$	95Jen1
$[C_{28}H_{44}N_3O_3]$ 	Synthesis described Benzene ESR / 298	2.0057 $N: 0.99$ $6H_{o,p}: 0.19$	91Ish1
$[C_{32}H_{42}NO_3]$ 	Oxidation of 2,2'-di- <i>tert</i> - butyl-5,5'-dimethyl-4,4'- butylidenediphenol with PbO ₂ in the presence of ND Benzene ESR / 298–323	$N: 1.100$ $4H: 0.040$ $H: 0.076$ $2H_m: 0.092$ $3H_{o,p}: 0.257$	94Ome1
$[C_{33}H_{44}NO_3]$ 	Oxidation of 4,4'-iso- propylidenebis(2'- <i>tert</i> - butylphenol) with PbO ₂ in the presence of ND Benzene ESR / 298–323	$N: 1.163$ $H(OH): 0.085$ $H_o: 0.264$ $H_p: 0.334$	94Ome1

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{40}H_{72}N_3O_3Si_2]$ $(H_3C)_3C(H_3C)_2Si$ $(H_3C)_3C-N-O$ $(H_3C)_3C$	Synthesis described Benzene ESR / 298	2.0053 N: 1.04 $6H_{o,p}$: 0.18	91Ish1
$[C_{54}H_{106}N_5O_7Si_4]$ $(H_3C)_3C(H_3C)_2Si$ $(H_3C)_3C-N-O$ H_3CO $(H_3C)_3C-N-O$ $(H_3C)_3C(H_3C)_2Si$	Coupling of pentyl nitrite with 1-bromo-4-methoxy-3,5-bis[<i>N</i> - <i>tert</i> -butyl- <i>N</i> -(<i>tert</i> -butyldimethylsiloxy)-amino]benzene Benzene ESR / 298	N: 1.00 $4H_o$: 0.185	97Fuj1

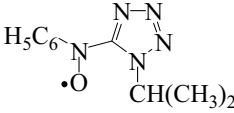
12.2.6 Heteroaryl alkyl nitroxides

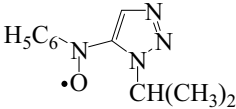
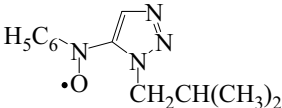
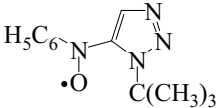
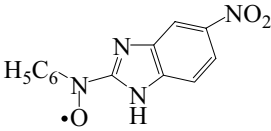
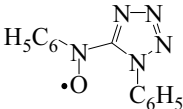
$[C_{11}H_{14}N_5O]$ $(H_3C)_3C$ $N-N-N-N$ C_6H_5	Oxidation of <i>tert</i> -butyl-5-(1-phenyltetrazolyl)-amine with the system $Co(acac)_2$ - <i>tert</i> -butylhydroperoxide Benzene ESR / 298	2.0061 N: 0.995 N: 0.036 N: 0.078 N: 0.120 N: 0.165	92Ome1
$[C_{12}H_{14}N_3O_2]$ H_3C HOH_2C C_6H_5	Photolysis of methanol, H_2O_2 and DNPP CH_3OH ESR / 293	N: 1.31 $2H_\beta$: 0.600 $3H(CH_3)$: 0.130 $3H(NCH_3)$: 0.030 $H(OH)$: 0.030*	89Lag1
* Tentatively inferred from the spectra of the NCD_3 derivative. DNPP = 1,3-dimethyl-4-nitroso-5-phenylpyrazole.			
$[C_{12}H_{16}N_3O]$ $(H_3C)_3C$ C_6H_5	Oxidation of <i>tert</i> -butyl-2-benzimidazolylamine with the system $Co(acac)_2$ - <i>tert</i> -butylhydroperoxide Benzene ESR / 298	2.0061 N: 1.020 N(N1): 0.085 $3H(NCH_3)$: 0.075 N(N3): 0.210 $H(H6)$: 0.070 $H(H4)$: 0.115	92Ome1

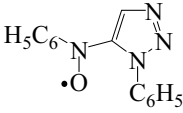
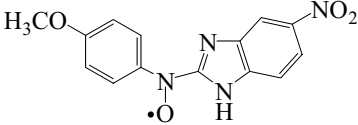
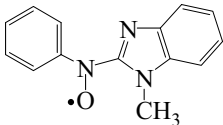
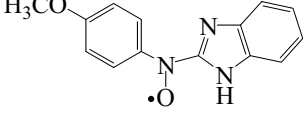
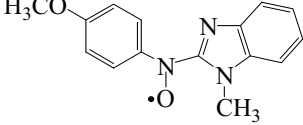
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{17}H_{16}N_3O]$ 	Photolysis of DMSO, H_2O_2 and MNDP DMSO (DMSO- d_6) ESR / 293	N: 1.29 $3H_\beta$: 1.19 [$3D_\beta$: 0.17] $3H(NCH_3)$: 0.030	89Lag1
MNDP = 1-Methyl-4-nitroso-3,5-diphenylpyrazole.			
$[C_{18}H_{15}F_3N_3O]$ 	Thermal degradation of 1-(2-methyl-2-hydroperoxyethyl)-2-(2,2,2-trifluoroethyl)diazene in the presence of MNDP Benzene ESR / 298	N: 1.15 $2H_\beta$: 0.63 $3F$: 0.113	91Mat1
$[C_{18}H_{18}N_3O_2]$ 	Thermal degradation of 1-(2-methyl-2-hydroperoxyethyl)-2-(2-phenoxyethyl)diazene in the presence of MNDP Ethanol ESR / 298	N: 1.35 H_β : 0.46	91Mat1
$[C_{19}H_{20}N_3O]$ 	Thermal degradation of 1-(2-methyl-2-hydroperoxyethyl)-2-(2-propyl)diazene in the presence of MNDP Benzene ESR / 298	2.0061 N: 1.31 H_β : 0.58	91Mat1
$[C_{19}H_{20}N_3O_2]$ 	Thermal degradation of 1-(2-methyl-2-hydroperoxyethyl)-2-(2-methoxyethyl)diazene in the presence of MNDP Benzene ESR / 298	N: 1.26 $2H_\beta$: 0.88	91Mat1
$[C_{20}H_{20}N_3O]$ 	Thermal degradation of 1-(2-methyl-2-hydroperoxyethyl)-2-(d_2 -cyclopropylmethyl)diazene in the presence of MNDP Benzene ESR / 298	2.0057 N: 1.28 $2D_\beta$: 0.15	91Mat1
Trapping rate constant $k_{298} = 6.9 \times 10^7 \text{ M}^{-1} \text{ s}^{-1}$.			

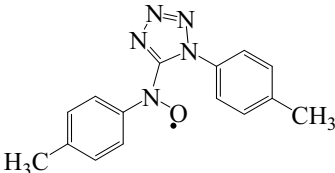
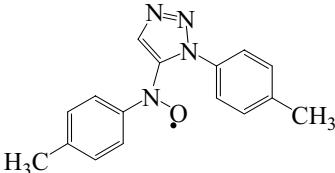
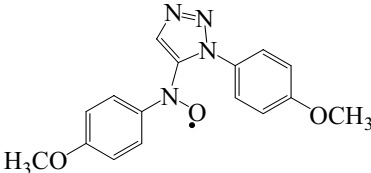
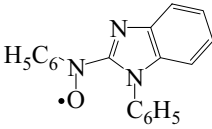
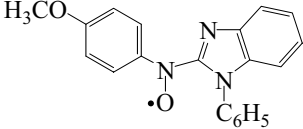
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{20}H_{22}N_3O]$ 	Thermal degradation of 1-(2-methyl-2-hydroperoxyethyl)-2- <i>tert</i> -butyl-diazene in the presence of MNDP Benzene ESR / 298	N: 1.434	91Mat1
$[C_{23}H_{20}N_3O]$ 	Thermal degradation of 1-(2-methyl-2-hydroperoxyethyl)-2-benzyl-diazene in the presence of MNDP Benzene ESR / 298	2.0068 N: 1.30 $2H_\beta$: 0.75	91Mat1
$[C_{24}H_{22}N_3O_2]$ 	Thermal degradation of 1-(2-methyl-2-hydroperoxyethyl)-2-(2-phenoxyethyl)-diazene in the presence of MNDP Benzene ESR / 298	N: 1.26 $2H_\beta$: 0.86	91Mat1
$[C_{28}H_{30}N_3O_3]$ 	Thermal degradation of 1-(2-methyl-2-hydroperoxyethyl)-2-(3-phenoxyethyl)-diazene in the presence of MNDP Ethyl vinyl ether ESR / 298	2.0063 N: 1.37 H_β : 0.117	91Mat1

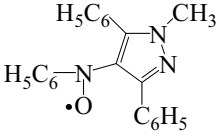
12.2.7 Heteroaryl aryl nitroxides

$[C_{10}H_{12}N_5O]$ 	Oxidation of phenyl-5-(1-isopropyltetrazolyl)-amine with the system $Co(acac)_2$ - <i>tert</i> -butylhydroperoxide Benzene ESR / 298	2.0061–2.0065 N: 0.895 $2H_m$: 0.078 $3H_{o,p}$: 0.212 $H(NCH)$: 0.060 N: 0.020 N: 0.060 N: 0.116 N: 0.122	92Ome1
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Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{11}H_{13}N_4O]$ 	Oxidation of phenyl-5-(1-isopropyl-1,2,3-triazolyl)amine with the system $Co(acac)_2$ - <i>tert</i> -butylhydroperoxide Benzene (CH_2Cl_2) ESR / 298	2.0061–2.0065 N: 0.935 $2H_m$: 0.084 $3H_{o,p}$: 0.227 H(H4): 0.141 H(NCH): 0.027 N: 0.018 N: 0.080 N: 0.137	92Ome1
Small variations of the hfs constants in CH_2Cl_2 .			
$[C_{12}H_{15}N_4O]$ 	Oxidation of phenyl-5-(1-isobutyl-1,2,3-triazolyl)amine with the system $Co(acac)_2$ - <i>tert</i> -butylhydroperoxide Benzene ESR / 298	2.0061–2.0065 N: 0.935 $2H_m$: 0.087 $3H_{o,p}$: 0.219 H(H4): 0.126 H(NCH): 0.038 N: 0.031 N: 0.094 N: 0.138	92Ome1
$[C_{12}H_{15}N_4O]$ 	Oxidation of phenyl-5-(1- <i>tert</i> -butyl-1,2,3-triazolyl)amine with the system $Co(acac)_2$ - <i>tert</i> -butylhydroperoxide Benzene ESR / 298	2.0061–2.0065 N: 0.945 $2H_m$: 0.084 $3H_{o,p}$: 0.250 H(H4): 0.067 N: 0.045 N: 0.162	92Ome1
$[C_{13}H_9N_4O_3]$ 	Oxidation of phenyl-2-(5-nitrobenzotriazolyl)-amine with the system $Co(acac)_2$ - <i>tert</i> -butylhydroperoxide Benzene ESR / 298	2.0061–2.0065 N: 0.875	92Ome1
Hfs constants to the phenyl and benzotriazole units not reported.			
$[C_{13}H_{10}N_5O]$ 	Oxidation of phenyl-5-(1-phenyltetrazolyl)-amine with the system $Co(acac)_2$ - <i>tert</i> -butylhydroperoxide Benzene ESR / 298	2.0061–2.0065 N: 0.855 $2H_m$: 0.076 $3H_{o,p}$: 0.210 N: 0.025 N: 0.061 N: 0.104 N: 0.127	92Ome1

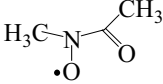
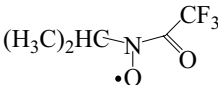
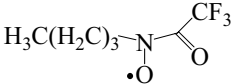
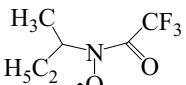
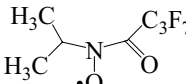
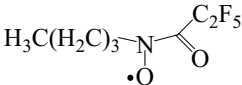
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{14}H_{11}N_4O]$ 	Oxidation of phenyl-5-(1-phenyl-1,2,3-triazol-5-yl)amine with the system $Co(acac)_2$ - <i>tert</i> -butylhydroperoxide Benzene ESR / 298	2.0061–2.0065 N: 0.915 $2H_m$: 0.081, 0.085 $2H_o$: 0.226, 0.232 H_p : 0.241 H(H4): 0.085 N: 0.035 N: 0.089 N: 0.140	92Ome1
Small variations of the hfs constants in CH_2Cl_2 .			
$[C_{14}H_{11}N_4O_4]$ 	Oxidation of <i>p</i> -methoxyphenyl-2-(5-nitrobenzoimidazol-2-yl)-amine with the system $Co(acac)_2$ - <i>tert</i> -butylhydroperoxide Benzene ESR / 298	2.0061–2.0065 N: 0.895	92Ome1
Hfs constants to the phenyl and benzoimidazol units not reported.			
$[C_{14}H_{12}N_3O]$ 	Oxidation of phenyl-2-(1-methylbenzimidazol-2-yl)-amine with the system $Co(acac)_2$ - <i>tert</i> -butylhydroperoxide Benzene ESR / 298	2.0061–2.0065 N: 0.920 N(N1): 0.050 N(N3): 0.180 H(H4): 0.180 H(H5): 0.050 H(H6): 0.108 H(H7): 0.050 $2H_m$: 0.078 $3H_{o,p}$: 0.200	92Ome1
$[C_{14}H_{12}N_3O_2]$ 	Oxidation of <i>p</i> -methoxyphenyl-2-benzimidazol-2-ylamine with the system $Co(acac)_2$ - <i>tert</i> -butylhydroperoxide Benzene ESR / 298	2.0061–2.0065 N: 0.910	92Ome1
Hfs constants to the phenyl and benzoimidazol units not reported.			
$[C_{15}H_{14}N_3O_2]$ 	Oxidation of <i>p</i> -methoxyphenyl-2-(1-methylbenzimidazol-2-yl)-amine with the system $Co(acac)_2$ - <i>tert</i> -butylhydroperoxide Benzene ESR / 298	2.0061–2.0065 N: 0.940	92Ome1
Hfs constants to the phenyl and benzoimidazol units not reported.			

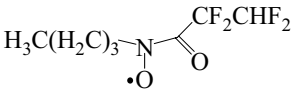
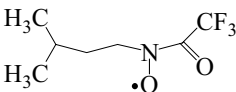
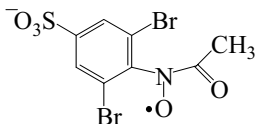
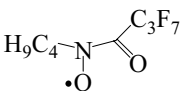
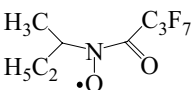
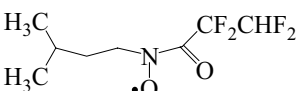
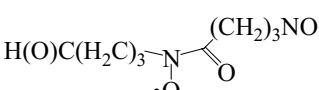
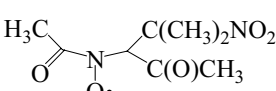
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
<p>[C₁₅H₁₄N₅O]</p> 	<p>Oxidation of <i>p</i>-tolyl-5-(1-<i>p</i>-tolyltetrazolyl)-amine with the system Co(acac)₂-<i>tert</i>-butylhydroperoxide Benzene ESR / 298</p>	<p>2.0061–2.0065 N: 0.865 2H_m: 0.076 2H_o: 0.210 H_p: 0.235 N: 0.025 N: 0.061 N: 0.104 N: 0.127</p>	92Ome1
<p>[C₁₆H₁₅N₄O]</p> 	<p>Oxidation of <i>p</i>-tolyl-5-(1-<i>p</i>-tolyl-1,2,3-triazolyl)amine with the system Co(acac)₂-<i>tert</i>-butylhydroperoxide Benzene (CH₂Cl₂) ESR / 298</p>	<p>2.0061–2.0065 N: 0.937 2H_m: 0.081, 0.083 2H_o: 0.229, 0.239 3H(_pCH₃): 0.262 H(H4): 0.118 N: 0.015 N: 0.072 N: 0.148</p>	92Ome1
Small variations of the hfs constants in CH ₂ Cl ₂ .			
<p>[C₁₆H₁₅N₄O₃]</p> 	<p>Oxidation of <i>p</i>-methoxyphenyl-5-(1-<i>p</i>-methoxyphenyl-1,2,3-triazolyl)-amine with the system Co(acac)₂-<i>tert</i>-butylhydroperoxide Benzene (CH₂Cl₂) ESR / 298</p>	<p>2.0061–2.0065 N: 0.960 Further splittings unresolved.</p>	92Ome1
<p>[C₁₉H₁₄N₃O]</p> 	<p>Oxidation of phenyl-2-(1-phenylbenzimidazolyl)amine with the system Co(acac)₂-<i>tert</i>-butylhydroperoxide Benzene ESR / 298</p>	<p>2.0061–2.0065 N: 0.89 N(N3): 0.186 H(H4): 0.154 H(H5): 0.050 H(H6): 0.079 2H_m: 0.074 3H_{o, p}: 0.202</p>	92Ome1
<p>[C₂₀H₁₆N₃O₂]</p> 	<p>Oxidation of <i>p</i>-methoxyphenyl-2-(1-phenylbenzimidazolyl)amine with the system Co(acac)₂-<i>tert</i>-butylhydroperoxide Benzene ESR / 298</p>	<p>2.0061–2.0065 N: 0.895</p>	92Ome1
Hfs constants to the phenyl and benzimidazol units not reported.			

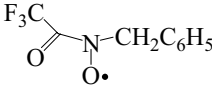
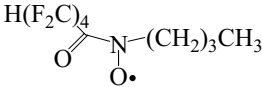
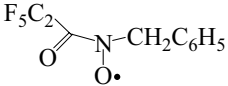
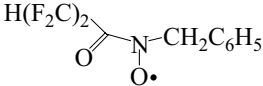
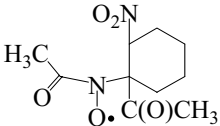
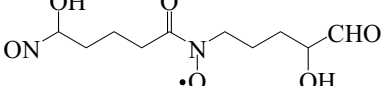
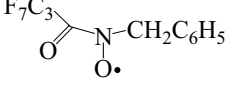
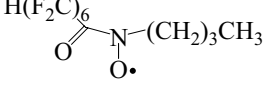
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{22}H_{18}N_3O]$ 	Thermal degradation of 1-(2-methyl-2-hydroperoxyethyl)-2-phenyldiazene in the presence of MNDP Benzene ESR / 298	2.0056 N: 0.98 $2H_m$: 0.085 $3H_{o,p}$: 0.263	91Mat1
MNDP = 1-Methyl-4-nitroso-3,5-diphenylpyrazole.			

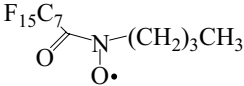
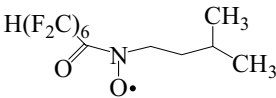
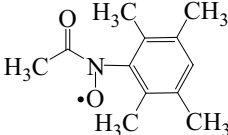
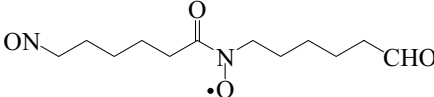
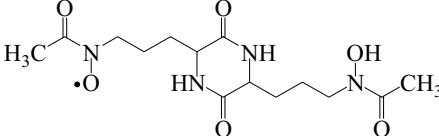
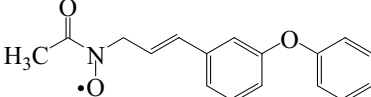
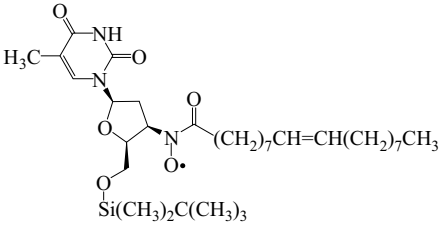
12.2.8 Acyl nitroxides

12.2.8.1 Acyl alkyl nitroxides and acyl aryl nitroxides

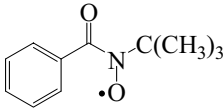
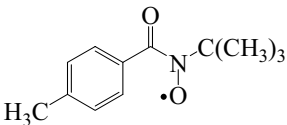
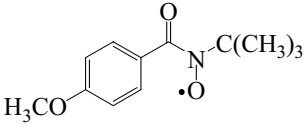
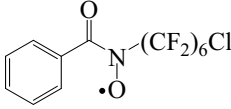
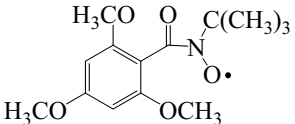
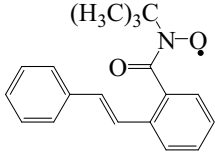
$[C_3H_6NO_2]$ 	Reaction of <i>N</i> -acetyl- <i>N</i> -methylhydroxylamine, metmyoglobin and H_2O_2 H_2O ESR / 298	N: 0.78 $3H_\beta$: 0.886	93Gre2
$[C_5H_7F_3NO_2]$ 	Reaction of <i>N</i> -isopropyl- <i>O</i> -benzoylamine and $[F_3CC(O)O]_2$ F-113 ESR / 293–298	N: 0.730	95Zha1
F-113 = 1,1,2-Trichloro-1,2,2-trifluoroethane.			
$[C_6H_9F_3NO_2]$ 	Reaction of <i>N</i> - <i>n</i> -propyl- <i>O</i> -benzoylamine and $[F_3CC(O)O]_2$ F-113 ESR / 293–298	2.0065 N: 0.737 $2H_\beta$: 0.575	93Zha1
$[C_6H_9F_3NO_2]$ 	Reaction of <i>N</i> -(2-butyl)- <i>O</i> -benzoylamine and $[F_3CC(O)O]_2$ F-113 ESR / 293–298	N: 0.735	95Zha1
$[C_7H_7F_7NO_2]$ 	Reaction of <i>N</i> -(isopropyl)- <i>O</i> -benzoylamine and $[F_7C_3C(O)O]_2$ F-113 ESR / 293–298	N: 0.727	95Zha1
$[C_7H_9F_5NO_2]$ 	Reaction of <i>N</i> -(<i>n</i> -butyl)- <i>O</i> -benzoylamine and $[F_5C_2C(O)O]_2$ F-113 ESR / 293–298	N: 0.727	93Zha1, 95Zha1

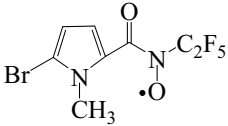
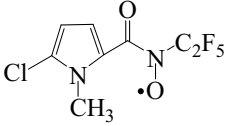
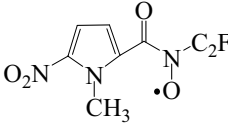
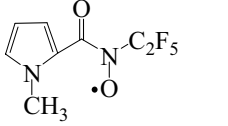
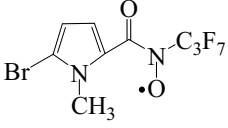
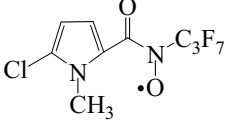
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_7H_{10}F_4NO_2]$ 	Reaction of <i>N</i> - <i>n</i> -butyl- <i>O</i> -benzoylamine and $[HF_2CF_2CC(O)O]_2$ F-113 ESR / 293–298	N: 0.740 $2H_\beta$: 0.554	93Zha1
$[C_7H_{11}F_3NO_2]$ 	Reaction of <i>N</i> -isopentyl- <i>O</i> -benzoylamine and $[F_3CC(O)O]_2$ F-113 ESR / 293–298	N: 0.726 $2H_\beta$: 0.607	93Zha1, 95Zha1
$[C_8H_5Br_2NO_5S]^-$ 	Reaction of HOCl/CIO ⁻ with acetamide and DBNBS Phosphate buffer pH 7.4 ESR / 298	N: 0.97	98Haw1
$[C_8H_9F_7NO_2]$ 	Reaction of <i>N</i> - <i>n</i> -butyl- <i>O</i> -benzoylamine and $[F_7C_3C(O)O]_2$ F-113 ESR / 293–298	N: 0.733 $2H_\beta$: 0.568	93Zha1, 95Zha1
$[C_8H_9F_7NO_2]$ 	Reaction of <i>N</i> -2-butyl- <i>O</i> -benzoylamine and $[F_7C_3C(O)O]_2$ F-113 ESR / 293–298	N: 0.734	95Zha1
$[C_8H_{12}F_4NO_2]$ 	Reaction of <i>N</i> -isopentyl- <i>O</i> -benzoylamine and $[HF_2CF_2C(O)O]_2$ F-113 ESR / 293–298	N: 0.740	93Zha1
$[C_8H_{13}N_2O_4]$ 	Photolysis of cyclobutyl nitrite ACN (Flow) ESR / 298	2.0065 N: 0.75 $2H_\beta$: 0.625	97Gro1
$[C_8H_{13}N_2O_5]$ 	Reaction of mesityl oxide and NO in the presence of air Benzene ESR / 298 Mesityl oxide = 2-Oxo-4-methylpent-3-ene.	2.0070 N: 0.71 H_β : 0.16	97Par1

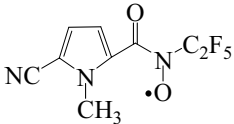
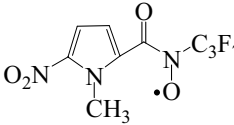
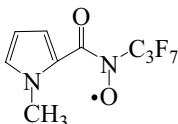
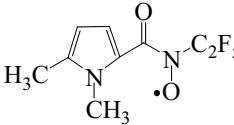
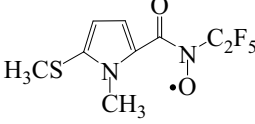
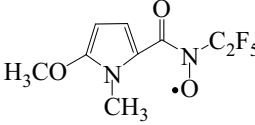
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_9H_7F_3NO_2]$ 	Reaction of <i>N</i> -benzyl- <i>O</i> -benzoylamine and $[F_3CC(O)O]_2$ F-113 ESR / 293–298	2.0065 N: 0.727 $2H_\beta$: 0.496	93Zha1, 95Zha1
$[C_9H_{10}F_8NO_2]$ 	Reaction of <i>N</i> - <i>n</i> -butyl- <i>O</i> -benzoylamine and $[H(F_2C)_4C(O)O]_2$ F-113 ESR / 293–298	2.0067 N: 0.719 $2H_\beta$: 0.562	93Zha1
$[C_{10}H_7F_5NO_2]$ 	Reaction of <i>N</i> -benzyl- <i>O</i> -benzoylamine and $[F_5C_2C(O)O]_2$ F-113 ESR / 293–298	N: 0.725 $2H_\beta$: 0.468	93Zha1, 95Zha1
$[C_{10}H_8F_4NO_2]$ 	Reaction of <i>N</i> -benzyl- <i>O</i> -benzoylamine and $[H(F_2C)_2C(O)O]_2$ F-113 ESR / 293–298	N: 0.749 $2H_\beta$: 0.465	93Zha1
$[C_{10}H_{15}N_2O_5]$ 	Reaction of 1-acetylcyclohexene and NO in the presence of air Benzene ESR / 298	2.0055 N: 0.78 H_γ : 0.09	97Par1
$[C_{10}H_{17}N_2O_6]$ 	Photolysis of 2-hydroxy cyclopentyl nitrite ACN (Flow) ESR / 298	2.0065 N: 0.763 $2H_\beta$: 0.650	97Gro2
$[C_{11}H_7F_7NO_2]$ 	Reaction of <i>N</i> -benzyl- <i>O</i> -benzoylamine and $[F_7C_3C(O)O]_2$ F-113 ESR / 293–298	N: 0.722 $2H_\beta$: 0.468	93Zha1, 95Zha1
$[C_{11}H_{10}F_{12}NO_2]$ 	Reaction of <i>N</i> - <i>n</i> -butyl- <i>O</i> -benzoylamine and $[H(F_2C)_6C(O)O]_2$ F-113 ESR / 293–298	N: 0.722	93Zha1

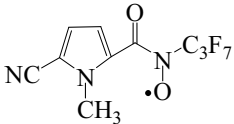
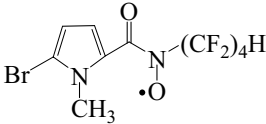
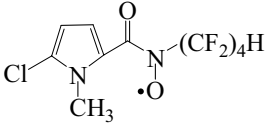
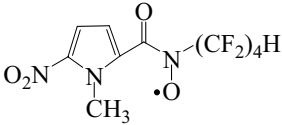
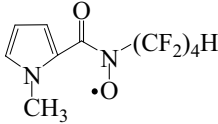
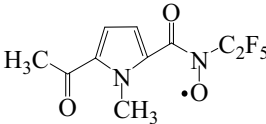
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[\text{C}_{12}\text{H}_9\text{F}_{15}\text{NO}_2]$ 	Reaction of <i>N</i> - <i>n</i> -butyl- <i>O</i> -benzoylamine and $[\text{F}_{15}\text{C}_7\text{C}(\text{O})\text{O}]_2$ F-113 ESR / 293–298	N: 0.722	93Zha1
$[\text{C}_{12}\text{H}_{12}\text{F}_{12}\text{NO}_2]$ 	Reaction of <i>N</i> -isopentyl- <i>O</i> -benzoylamine and $[\text{H}(\text{F}_2\text{C})_6\text{C}(\text{O})\text{O}]_2$ F-113 ESR / 293–298	2.0064 N: 0.731 $2H_\beta$: 0.574	93Zha1
$[\text{C}_{12}\text{H}_{16}\text{NO}_2]$ 	Reaction of MDN with BHP and Co^{II} -acetylacetonate Benzene, <i>tert</i> -butanol, ethanol and phosphate buffer ESR / 295	N: 0.714	98Roj1
$[\text{C}_{12}\text{H}_{21}\text{N}_2\text{O}_4]$ 	Photolysis of cyclohexyl nitrite ACN (Flow) ESR / 298	2.0065 N: 0.750 $2H_\beta$: 0.612	97Gro1
$[\text{C}_{14}\text{H}_{23}\text{N}_4\text{O}_6]$ 	Reaction of rhodotorulic acid, metmyoglobin and H_2O_2 Phosphate buffer pH 7.4 ESR / 298	N: 0.767 $2H_\beta$: 0.661	93Gre2
$[\text{C}_{17}\text{H}_{15}\text{NO}_3]$ 	Incubation of corresponding hydroxylamine with linoleic acid and lipoxygenase Phosphate buffer pH 7.4 ESR / 298	N: 0.740 $2H_\beta$: 0.600	92Cha2
$[\text{C}_{34}\text{H}_{60}\text{N}_3\text{O}_6\text{Si}]$ 	Spontaneous oxidation of the corresponding hydroxamic acid in air Diglyme ESR / 298	2.0066 N: 0.76 H_β : 0.245	94Tro1

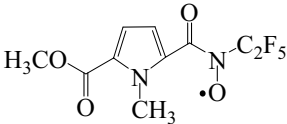
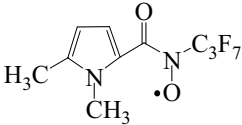
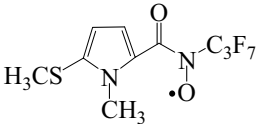
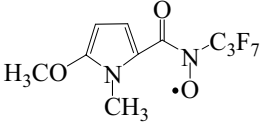
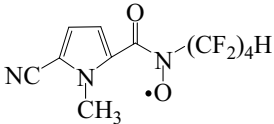
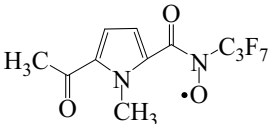
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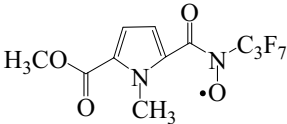
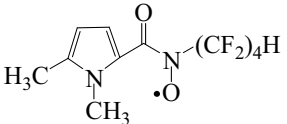
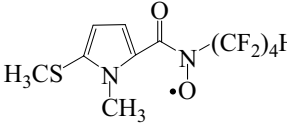
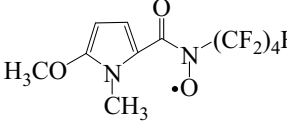
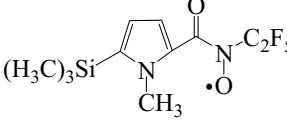
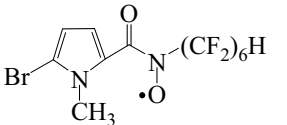
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
<p>[C₁₁H₁₄NO₂] (<i>continued</i>)</p> 	<p>Oxidation of hydrogen-bis(<i>tert</i>-butylcyanoacetate) with hexachloro-osmate (V)</p> <p>Photolysis ($\lambda \leq 435$ nm) of PBN and Co^{III}W</p> <p>CH₂Cl₂</p> <p>ESR / 298</p>	N: 0.800	92Ebe2, 94Ebe1
<p>[C₁₂H₁₆N₂O₂]</p> 	<p>Reaction of <i>p</i>H₃C-PBN and CPBA</p> <p>Benzene (or ACN)</p> <p>ESR / 293–313</p>	<p>2.0067₅</p> <p>N: 0.812</p>	92Jan1
<p>[C₁₂H₁₆N₂O₃]</p> 	<p>Reaction of CPBA and <i>p</i>H₃CO-PBN</p> <p>Benzene (or ACN)</p> <p>ESR / 293–313</p>	<p>2.0067₂</p> <p>N: 0.836</p>	92Jan1, 96Zha2
<p>[C₁₃H₅ClF₁₂NO₂]</p> 	<p>Reaction of Cl(CF₂)₆NO and [Cl(CF₂)₆]₂N(O[•]) with benzaldehyde</p> <p>CFC-113</p> <p>ESR / 298</p>	<p>2.0065</p> <p>N: 0.731 [15N: 1.024]</p> <p>2F_β: 0.876</p> <p>2F_γ: 0.076</p>	88Zha1
CFC-113 = 1,1,2-Trichloro-1,2,2-trifluoroethane.			
<p>[C₁₄H₂₀NO₅]</p> 	<p>Photolysis of 2,4,6-(H₃CO)₃PBN and benzophenone</p> <p>Benzene</p> <p>ESR / 298</p>	N: 0.747	90Jan2
<p>[C₁₉H₂₀NO₂]</p> 	<p>Photolysis of the corresponding hydroxamic acid and BOOB</p> <p><i>tert</i>-Butylbenzene</p> <p>ESR / 233–263</p>	N: 0.78	90Ber1
First order decay: $\log A = 9.08$, $E_a = 12.3$ kcal mol ⁻¹ .			

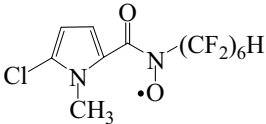
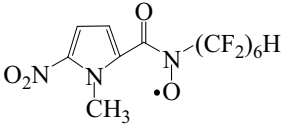
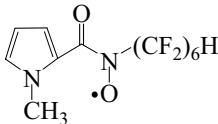
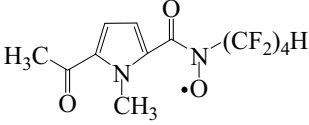
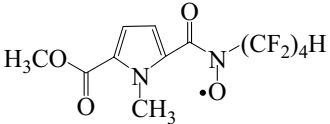
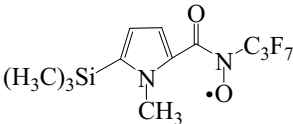
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
12.2.8.3 2-(<i>N</i>-Methylpyrrolyl)carbonyl polyfluoroalkyl nitroxides			
$[C_8H_5BrF_5N_2O_2]$ 	Reaction of C_2F_5NO and $(C_2F_5)_2N(O^\bullet)$ with (<i>N</i> -methyl-2-bromopyrrolyl)-5-carboxy-aldehyde CFC-113 ESR / 298	2.0062 N: 0.804 $2F_\beta$: 1.221 $2F_\gamma$: 0.090	99He1
CFC-113 = 1,1,2-Trichloro-1,2,2-trifluoroethane.			
$[C_8H_5ClF_5N_2O_2]$ 	Reaction of C_2F_5NO and $(C_2F_5)_2N(O^\bullet)$ with (<i>N</i> -methyl-2-chloropyrrolyl)-5-carboxyaldehyde CFC-113 ESR / 298	2.0063 N: 0.802 $2F_\beta$: 1.218 $2F_\gamma$: 0.089	99He1
$[C_8H_5F_5N_3O_4]$ 	Reaction of C_2F_5NO and $(C_2F_5)_2N(O^\bullet)$ with (<i>N</i> -methyl-2-nitropyrryl)-5-carboxyaldehyde CFC-113 ESR / 298	2.0062 N: 0.726 $2F_\beta$: 1.091 $2F_\gamma$: 0.079	99He1
$[C_8H_6F_5N_2O_2]$ 	Reaction of C_2F_5NO and $(C_2F_5)_2N(O^\bullet)$ with (<i>N</i> -methylpyrrolyl)-2-carboxyaldehyde CFC-113 ESR / 298	2.0062 N: 0.795 $2F_\beta$: 1.198 $2F_\gamma$: 0.088	99He1
$[C_9H_5BrF_7N_2O_2]$ 	Reaction of C_3F_7NO and $(C_3F_7)_2N(O^\bullet)$ with (<i>N</i> -methyl-2-bromopyrrolyl)-5-carboxyaldehyde CFC-113 ESR / 298	2.0062 N: 0.793 $2F_\beta$: 0.995 $2F_\gamma$: 0.089	99He1
$[C_9H_5ClF_7N_2O_2]$ 	Reaction of C_3F_7NO and $(C_3F_7)_2N(O^\bullet)$ with (<i>N</i> -methyl-2-chloropyrrolyl)-5-carboxyaldehyde CFC-113 ESR / 298	2.0063 N: 0.789 $2F_\beta$: 0.997 $2F_\gamma$: 0.091	99He1

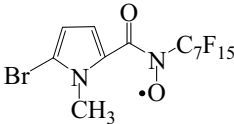
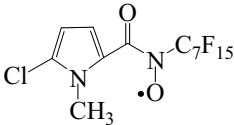
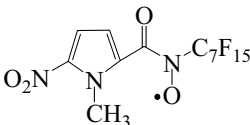
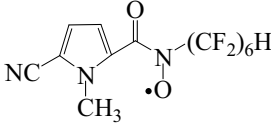
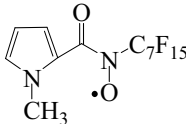
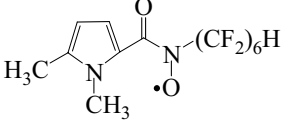
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[\text{C}_9\text{H}_5\text{F}_5\text{N}_3\text{O}_2]$ 	Reaction of $\text{C}_2\text{F}_5\text{NO}$ and $(\text{C}_2\text{F}_5)_2\text{N}(\text{O}^\bullet)$ with (<i>N</i> -methyl-2-cyanopyrrolyl)-5-carboxyaldehyde CFC-113 ESR / 298	2.0063 N: 0.734 $2F_\beta$: 1.119 $2F_\gamma$: 0.087	99He1
CFC-113 = 1,1,2-Trichloro-1,2,2-trifluoroethane.			
$[\text{C}_9\text{H}_5\text{F}_7\text{N}_3\text{O}_4]$ 	Reaction of $\text{C}_3\text{F}_7\text{NO}$ and $(\text{C}_3\text{F}_7)_2\text{N}(\text{O}^\bullet)$ with (<i>N</i> -methyl-2-nitropyrrolyl)-5-carboxyaldehyde CFC-113 ESR / 298	2.0063 N: 0.721 $2F_\beta$: 0.879 $2F_\gamma$: 0.079, 0.077	99He1
$[\text{C}_9\text{H}_6\text{F}_7\text{N}_2\text{O}_2]$ 	Reaction of $\text{C}_3\text{F}_7\text{NO}$ and $(\text{C}_3\text{F}_7)_2\text{N}(\text{O}^\bullet)$ with (<i>N</i> -methylpyrrolyl)-2-carboxyaldehyde CFC-113 ESR / 298	2.0062 N: 0.780 $2F_\beta$: 0.980 $2F_\gamma$: 0.088	99He1
$[\text{C}_9\text{H}_8\text{F}_5\text{N}_2\text{O}_2]$ 	Reaction of $\text{C}_2\text{F}_5\text{NO}$ and $(\text{C}_2\text{F}_5)_2\text{N}(\text{O}^\bullet)$ with (<i>N</i> ,2-dimethylpyrrolyl)-5-carboxyaldehyde CFC-113 ESR / 298	2.0063 N: 0.828 $2F_\beta$: 1.220 $2F_\gamma$: 0.094	99He1
$[\text{C}_9\text{H}_8\text{F}_5\text{N}_2\text{O}_2\text{S}]$ 	Reaction of $\text{C}_2\text{F}_5\text{NO}$ and $(\text{C}_2\text{F}_5)_2\text{N}(\text{O}^\bullet)$ with [<i>N</i> -methyl-2-(methylthio)pyrrolyl]-5-carboxyaldehyde CFC-113 ESR / 298	2.0062 N: 0.844 $2F_\beta$: 1.278 $2F_\gamma$: 0.096	99He1
$[\text{C}_9\text{H}_8\text{F}_5\text{N}_2\text{O}_3]$ 	Reaction of $\text{C}_2\text{F}_5\text{NO}$ and $(\text{C}_2\text{F}_5)_2\text{N}(\text{O}^\bullet)$ with (<i>N</i> -methyl-2-methoxypyrryl)-5-carboxyaldehyde CFC-113 ESR / 298	2.0063 N: 0.875 $2F_\beta$: 1.290 $2F_\gamma$: 0.098	99He1

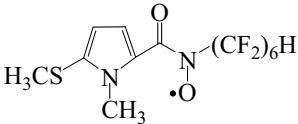
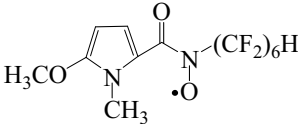
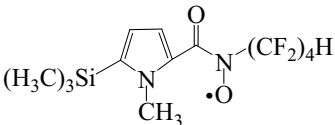
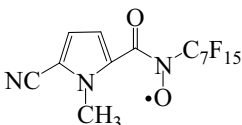
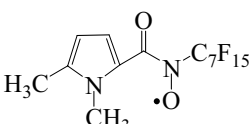
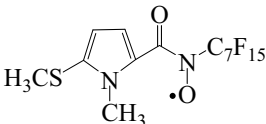
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[\text{C}_{10}\text{H}_5\text{F}_7\text{N}_3\text{O}_2]$ 	Reaction of $\text{C}_3\text{F}_7\text{NO}$ and $(\text{C}_3\text{F}_7)_2\text{N}(\text{O}^\bullet)$ with (<i>N</i> -methyl-2-cyanopyrrolyl)-5-carboxyaldehyde CFC-113 ESR / 298	2.0063 N: 0.733 $2F_\beta$: 0.895 $2F_\gamma$: 0.080	99He1
CFC-113 = 1,1,2-Trichloro-1,2,2-trifluoroethane.			
$[\text{C}_{10}\text{H}_6\text{BrF}_8\text{N}_2\text{O}_2]$ 	Reaction of $\text{C}_4\text{F}_8\text{HNO}$ and $[\text{H}(\text{CF}_2)_4]_2\text{N}(\text{O}^\bullet)$ with (<i>N</i> -methyl-2-bromopyrrolyl)-5-carboxyaldehyde CFC-113 ESR / 298	2.0062 N: 0.802 $2F_\beta$: 1.006 $2F_\gamma$: 0.090	99Zha2
$[\text{C}_{10}\text{H}_6\text{ClF}_8\text{N}_2\text{O}_2]$ 	Reaction of $\text{C}_4\text{F}_8\text{HNO}$ and $[\text{H}(\text{CF}_2)_4]_2\text{N}(\text{O}^\bullet)$ with (<i>N</i> -methyl-2-chloropyrrolyl)-5-carboxyaldehyde CFC-113 ESR / 298	2.0063 N: 0.796 $2F_\beta$: 1.005 $2F_\gamma$: 0.096	99Zha2
$[\text{C}_{10}\text{H}_6\text{F}_8\text{N}_3\text{O}_4]$ 	Reaction of $\text{C}_4\text{F}_8\text{HNO}$ and $[\text{H}(\text{CF}_2)_4]_2\text{N}(\text{O}^\bullet)$ with (<i>N</i> -methyl-2-nitropyrrolyl)-5-carboxyaldehyde CFC-113 ESR / 298	2.0063 N: 0.730 $2F_\beta$: 0.884 $2F_\gamma$: 0.086	99Zha2
$[\text{C}_{10}\text{H}_7\text{F}_8\text{N}_2\text{O}_2]$ 	Reaction of $\text{H}(\text{CF}_2)_4\text{NO}$ and $[\text{H}(\text{CF}_2)_4]_2\text{N}(\text{O}^\bullet)$ with (<i>N</i> -methylpyrrolyl)-2-carboxyaldehyde CFC-113 ESR / 298	2.0063 N: 0.787 $2F_\beta$: 0.985 $2F_\gamma$: 0.090	99Zha2
$[\text{C}_{10}\text{H}_8\text{F}_5\text{N}_2\text{O}_3]$ 	Reaction of $\text{C}_2\text{F}_5\text{NO}$ and $(\text{C}_2\text{F}_5)_2\text{N}(\text{O}^\bullet)$ with (<i>N</i> -methyl-2-acetylpyrrolyl)-5-carboxyaldehyde CFC-113 ESR / 298	2.0062 N: 0.758 $2F_\beta$: 1.158 $2F_\gamma$: 0.081	99He1

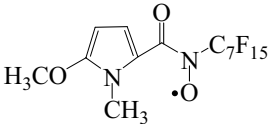
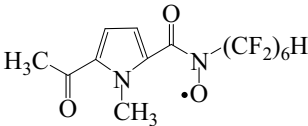
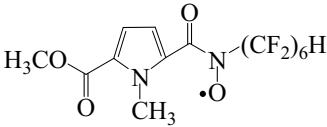
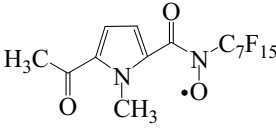
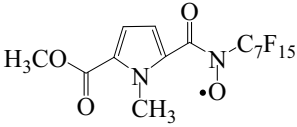
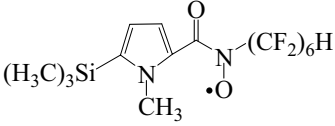
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{10}H_8F_5N_2O_4]$ 	Reaction of C_2F_5NO and $(C_2F_5)_2N(O^\bullet)$ with (<i>N</i> -methyl-2-methoxycarbonylpyrrolyl)-5-carboxaldehyde CFC-113 ESR / 298	2.0063 N: 0.758 $2F_\beta$: 0.947 $2F_\gamma$: 0.080	99He1
CFC-113 = 1,1,2-Trichloro-1,2,2-trifluoroethane.			
$[C_{10}H_8F_7N_2O_2]$ 	Reaction of C_3F_7NO and $(C_3F_7)_2N(O^\bullet)$ with (<i>N</i> ,2-dimethylpyrrolyl)-5-carboxaldehyde CFC-113 ESR / 298	2.0063 N: 0.808 $2F_\beta$: 0.988 $2F_\gamma$: 0.095	99He1
$[C_{10}H_8F_7N_2O_2S]$ 	Reaction of C_3F_7NO and $(C_3F_7)_2N(O^\bullet)$ with [<i>N</i> -methyl-2-(methylthio)pyrrolyl]-5-carboxaldehyde CFC-113 ESR / 298	2.0062 N: 0.821 $2F_\beta$: 1.014 $2F_\gamma$: 0.101	99He1
$[C_{10}H_8F_7N_2O_3]$ 	Reaction of C_3F_7NO and $(C_3F_7)_2N(O^\bullet)$ with (<i>N</i> -methyl-2-methoxypyrrolyl)-5-carboxaldehyde CFC-113 ESR / 298	2.0062 N: 0.850 $2F_\beta$: 1.098 $2F_\gamma$: 0.105	99He1
$[C_{11}H_6F_8N_3O_2]$ 	Reaction of $H(CF_2)_4NO$ and $[H(CF_2)_4]_2N(O^\bullet)$ with (<i>N</i> -methyl-2-cyanopyrrolyl)-5-carboxaldehyde CFC-113 ESR / 298	2.0063 N: 0.744 $2F_\beta$: 0.916 $2F_\gamma$: 0.083	99Zha2
$[C_{11}H_8F_7N_2O_3]$ 	Reaction of C_3F_7NO and $(C_3F_7)_2N(O^\bullet)$ with (<i>N</i> -methyl-2-acetylpyrrolyl)-5-carboxaldehyde CFC-113 ESR / 298	2.0062 N: 0.748 $2F_\beta$: 0.960 $2F_\gamma$: 0.082	99He1

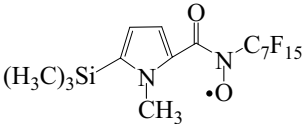
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{11}H_8F_7N_2O_4]$ 	Reaction of C_3F_7NO and $(C_3F_7)_2N(O^\bullet)$ with [<i>N</i> -methyl-2-(methoxycarbonyl)-pyrrolyl]-5-carboxyaldehyde CFC-113 ESR / 298	2.0063 N : 0.758 $2F_\beta$: 0.947 $2F_\gamma$: 0.080	99He1
CFC-113 = 1,1,2-Trichloro-1,2,2-trifluoroethane.			
$[C_{11}H_9F_8N_2O_2]$ 	Reaction of $H(CF_2)_4NO$ and $[H(CF_2)_4]_2N(O^\bullet)$ with (<i>N</i> ,2-dimethylpyrrolyl)-5-carboxyaldehyde CFC-113 ESR / 298	2.0062 N : 0.815 $2F_\beta$: 0.996 $2F_\gamma$: 0.098	99Zha2
$[C_{11}H_9F_8N_2O_2S]$ 	Reaction of $H(CF_2)_4NO$ and $[H(CF_2)_4]_2N(O^\bullet)$ with [<i>N</i> -methyl-2-(methylthio)-pyrrolyl]-5-carboxyaldehyde CFC-113 ESR / 298	2.0062 N : 0.830 $2F_\beta$: 1.026 $2F_\gamma$: 0.103	99Zha2
$[C_{11}H_9F_8N_2O_3]$ 	Reaction of $H(CF_2)_4NO$ and $[H(CF_2)_4]_2N(O^\bullet)$ with (<i>N</i> -methyl-2-methoxypyrrolyl)-5-carboxyaldehyde CFC-113 ESR / 298	2.0063 N : 0.860 $2F_\beta$: 1.109 $2F_\gamma$: 0.106	99Zha2
$[C_{11}H_{14}F_5N_2O_2Si]$ 	Reaction of C_2F_5NO and $(C_2F_5)_2N(O^\bullet)$ with [<i>N</i> -methyl-2-(trimethylsilyl)pyrrolyl]-5-carboxyaldehyde CFC-113 ESR / 298	2.0062 N : 0.810 $2F_\beta$: 1.216 $2F_\gamma$: 0.088	99He1
$[C_{12}H_6BrF_{12}N_2O_2]$ 	Reaction of $H(CF_2)_6NO$ and $[H(CF_2)_6]_2N(O^\bullet)$ with (<i>N</i> -methyl-2-bromopyrrolyl)-5-carboxyaldehyde CFC-113 ESR / 298	2.0063 N : 0.794 $2F_\beta$: 0.994 $2F_\gamma$: 0.105	99Zha2

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{12}H_6ClF_{12}N_2O_2]$ 	Reaction of $H(CF_2)_6NO$ and $[H(CF_2)_6]_2N(O\bullet)$ with (<i>N</i> -methyl-2-chloropyrrolyl)-5-carboxyaldehyde CFC-113 ESR / 298	2.0062 N: 0.789 $2F_\beta$: 0.996 $2F_\gamma$: 0.090	99Zha2
CFC-113 = 1,1,2-Trichloro-1,2,2-trifluoroethane.			
$[C_{12}H_6F_{12}N_3O_4]$ 	Reaction of $H(CF_2)_6NO$ and $[H(CF_2)_6]_2N(O\bullet)$ with (<i>N</i> -methyl-2-nitropyrrolyl)-5-carboxyaldehyde CFC-113 ESR / 298	2.0062 N: 0.720 $2F_\beta$: 0.879 $2F_\gamma$: 0.077	99Zha2
$[C_{12}H_7F_{12}N_2O_2]$ 	Reaction of $H(CF_2)_6NO$ and $[H(CF_2)_6]_2N(O\bullet)$ with (<i>N</i> -methylpyrrolyl)-2-carboxyaldehyde CFC-113 ESR / 298	2.0062 N: 0.781 $2F_\beta$: 0.980 $2F_\gamma$: 0.088	99Zha2
$[C_{12}H_9F_8N_2O_3]$ 	Reaction of $H(CF_2)_4NO$ and $[H(CF_2)_4]_2N(O\bullet)$ with (<i>N</i> -methyl-2-acetylpyrrolyl)-5-carboxyaldehyde CFC-113 ESR / 298	2.0063 N: 0.757 $2F_\beta$: 0.929 $2F_\gamma$: 0.086	99Zha2
$[C_{12}H_9F_8N_2O_4]$ 	Reaction of $H(CF_2)_4NO$ and $[H(CF_2)_4]_2N(O\bullet)$ with [<i>N</i> -methyl-2-(methoxycarbonyl)pyrrolyl]-5-carboxyaldehyde CFC-113 ESR / 298	2.0063 N: 0.770 $2F_\beta$: 0.949 $2F_\gamma$: 0.081	99Zha2
$[C_{12}H_{14}F_7N_2O_2Si]$ 	Reaction of C_3F_7NO and $(C_3F_7)_2N(O\bullet)$ with [<i>N</i> -methyl-2-(trimethylsilyl)pyrrolyl]-5-carboxyaldehyde CFC-113 ESR / 298	2.0062 N: 0.797 $2F_\beta$: 0.989 $2F_\gamma$: 0.086	99He1

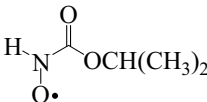
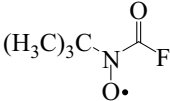
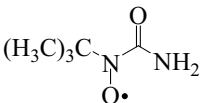
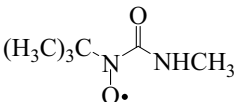
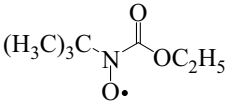
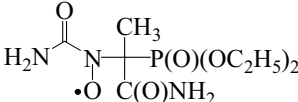
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[\text{C}_{13}\text{H}_5\text{BrF}_{15}\text{N}_2\text{O}_2]$ 	Reaction of $\text{C}_7\text{F}_{15}\text{NO}$ and $(\text{C}_7\text{F}_{15})_2\text{N}(\text{O}^\bullet)$ with (<i>N</i> -methyl-2-bromopyrrolyl)-5-carboxyaldehyde CFC-113 ESR / 298	2.0063 N: 0.789 $2F_\beta$: 0.994 $2F_\gamma$: 0.089	99He1
CFC-113 = 1,1,2-Trichloro-1,2,2-trifluoroethane.			
$[\text{C}_{13}\text{H}_5\text{ClF}_{15}\text{N}_2\text{O}_2]$ 	Reaction of $\text{C}_7\text{F}_{15}\text{NO}$ and $(\text{C}_7\text{F}_{15})_2\text{N}(\text{O}^\bullet)$ with (<i>N</i> -methyl-2-chloropyrrolyl)-5-carboxyaldehyde CFC-113 ESR / 298	2.0062 N: 0.788 $2F_\beta$: 0.995 $2F_\gamma$: 0.092	99He1
$[\text{C}_{13}\text{H}_5\text{F}_{15}\text{N}_3\text{O}_4]$ 	Reaction of $\text{C}_7\text{F}_{15}\text{NO}$ and $(\text{C}_7\text{F}_{15})_2\text{N}(\text{O}^\bullet)$ with (<i>N</i> -methyl-2-nitropyrrolyl)-5-carboxyaldehyde CFC-113 ESR / 298	2.0062 N: 0.721 $2F_\beta$: 0.880 $2F_\gamma$: 0.077	99He1
$[\text{C}_{13}\text{H}_6\text{F}_{12}\text{N}_3\text{O}_2]$ 	Reaction of $\text{H}(\text{CF}_2)_6\text{NO}$ and $[\text{H}(\text{CF}_2)_6]_2\text{N}(\text{O}^\bullet)$ with (<i>N</i> -methyl-2-cyanopyrrolyl)-5-carboxyaldehyde CFC-113 ESR / 298	2.0062 N: 0.732 $2F_\beta$: 0.896 $2F_\gamma$: 0.082	99Zha2
$[\text{C}_{13}\text{H}_6\text{F}_{15}\text{N}_2\text{O}_2]$ 	Reaction of $\text{C}_7\text{F}_{15}\text{NO}$ and $(\text{C}_7\text{F}_{15})_2\text{N}(\text{O}^\bullet)$ with (<i>N</i> -methylpyrrolyl)-2-carboxyaldehyde CFC-113 ESR / 298	2.0062 N: 0.782 $2F_\beta$: 0.981 $2F_\gamma$: 0.089	99He1
$[\text{C}_{13}\text{H}_9\text{F}_{12}\text{N}_2\text{O}_2]$ 	Reaction of $\text{H}(\text{CF}_2)_6\text{NO}$ and $[\text{H}(\text{CF}_2)_6]_2\text{N}(\text{O}^\bullet)$ with (<i>N</i> ,2-dimethylpyrrolyl)-5-carboxyaldehyde CFC-113 ESR / 298	2.0062 N: 0.807 $2F_\beta$: 0.985 $2F_\gamma$: 0.096	99Zha2

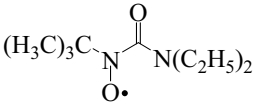
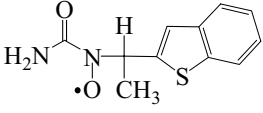
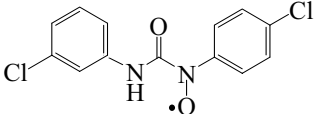
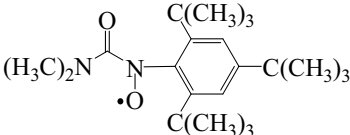
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{13}H_9F_{12}N_2O_2S]$ 	Reaction of $H(CF_2)_6NO$ and $[H(CF_2)_6]_2N(O^\bullet)$ with [<i>N</i> -methyl-2-(methylthio)pyrrolyl]-5-carboxyaldehyde CFC-113 ESR / 298	2.0062 N: 0.823 $2F_\beta$: 1.010 $2F_\gamma$: 0.102	99Zha2
CFC-113 = 1,1,2-Trichloro-1,2,2-trifluoroethane.			
$[C_{13}H_9F_{12}N_2O_3]$ 	Reaction of $H(CF_2)_6NO$ and $[H(CF_2)_6]_2N(O^\bullet)$ with (<i>N</i> -methyl-2-methoxypyrrolyl)-5-carboxyaldehyde CFC-113 ESR / 298	2.0063 N: 0.849 $2F_\beta$: 1.096 $2F_\gamma$: 0.105	99Zha2
$[C_{13}H_{15}F_8N_2O_2Si]$ 	Reaction of $H(CF_2)_4NO$ and $[H(CF_2)_4]_2N(O^\bullet)$ with [<i>N</i> -methyl-2-(trimethylsilyl)pyrrolyl]-5-carboxyaldehyde CFC-113 ESR / 298	2.0062 N: 0.807 $2F_\beta$: 1.004 $2F_\gamma$: 0.090	99Zha2
$[C_{14}H_5F_{15}N_3O_2]$ 	Reaction of $C_7F_{15}NO$ and $(C_7F_{15})_2N(O^\bullet)$ with (<i>N</i> -methyl-2-cyanopyrrolyl)-5-carboxyaldehyde CFC-113 ESR / 298	2.0062 N: 0.731 $2F_\beta$: 0.892 $2F_\gamma$: 0.082	99He1
$[C_{14}H_8F_{15}N_2O_2]$ 	Reaction of $C_7F_{15}NO$ and $(C_7F_{15})_2N(O^\bullet)$ with (<i>N</i> ,2-dimethylpyrrolyl)-5-carboxyaldehyde CFC-113 ESR / 298	2.0063 N: 0.805 $2F_\beta$: 0.985 $2F_\gamma$: 0.093	99He1
$[C_{14}H_8F_{15}N_2O_2S]$ 	Reaction of $C_7F_{15}NO$ and $(C_7F_{15})_2N(O^\bullet)$ with [<i>N</i> -methyl-2-(methylthio)pyrrolyl]-5-carboxyaldehyde CFC-113 ESR / 298	2.0062 N: 0.818 $2F_\beta$: 1.010 $2F_\gamma$: 0.102	99He1

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{14}H_8F_{15}N_2O_3]$ 	Reaction of $C_7F_{15}NO$ and $(C_7F_{15})_2N(O^\bullet)$ with (<i>N</i> -methyl-2-methoxypyrrolyl)-5-carboxaldehyde CFC-113 ESR / 298	2.0063 N: 0.845 $2F_\beta$: 1.096 $2F_\gamma$: 0.106	99He1
CFC-113 = 1,1,2-Trichloro-1,2,2-trifluoroethane.			
$[C_{14}H_9F_{12}N_2O_3]$ 	Reaction of $H(CF_2)_6NO$ and $[H(CF_2)_6]_2N(O^\bullet)$ with (<i>N</i> -methyl-2-acetylpyrrolyl)-5-carboxaldehyde CFC-113 ESR / 298	2.0063 N: 0.748 $2F_\beta$: 0.962 $2F_\gamma$: 0.082	99Zha2
$[C_{14}H_9F_{12}N_2O_4]$ 	Reaction of $H(CF_2)_6NO$ and $[H(CF_2)_6]_2N(O^\bullet)$ with [<i>N</i> -methyl-2-(methoxycarbonyl)pyrrolyl]-5-carboxaldehyde CFC-113 ESR / 298	2.0063 N: 0.755 $2F_\beta$: 0.948 $2F_\gamma$: 0.084	99Zha2
$[C_{15}H_8F_{15}N_2O_3]$ 	Reaction of $C_7F_{15}NO$ and $(C_7F_{15})_2N(O^\bullet)$ with (<i>N</i> -methyl-2-acetylpyrrolyl)-5-carboxaldehyde CFC-113 ESR / 298	2.0063 N: 0.749 $2F_\beta$: 0.964 $2F_\gamma$: 0.082	99He1
$[C_{15}H_8F_{15}N_2O_4]$ 	Reaction of $C_7F_{15}NO$ and $(C_7F_{15})_2N(O^\bullet)$ with [<i>N</i> -methyl-2-(methoxycarbonyl)pyrrolyl]-5-carboxaldehyde CFC-113 ESR / 298	2.0063 N: 0.760 $2F_\beta$: 0.946 $2F_\gamma$: 0.084	99He1
$[C_{15}H_{15}F_{12}N_2O_2Si]$ 	Reaction of $H(CF_2)_6NO$ and $[H(CF_2)_6]_2N(O^\bullet)$ with [<i>N</i> -methyl-2-(trimethylsilyl)pyrrolyl]-5-carboxaldehyde CFC-113 ESR / 298	2.0062 N: 0.795 $2F_\beta$: 0.987 $2F_\gamma$: 0.088	99Zha2

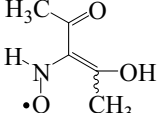
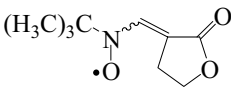
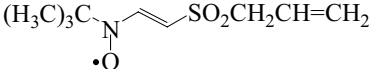
Substance	Generation / Matrix or Solvent / Method / <i>T</i> [K]	<i>g</i> -Factor / <i>a</i> -Value [mT]	Ref. / add. Ref.
$[\text{C}_{16}\text{H}_{14}\text{F}_{15}\text{N}_2\text{O}_2\text{Si}]$ 	Reaction of $\text{C}_7\text{F}_{15}\text{NO}$ and $(\text{C}_7\text{F}_{15})_2\text{N}(\text{O}^\bullet)$ with [<i>N</i> -methyl-2-(trimethylsilyl)pyrrolyl]-5-carboxyaldehyde CFC-113 ESR / 298	2.0062 N: 0.795 $2F_\beta$: 0.990 $2F_\gamma$: 0.085	99He1

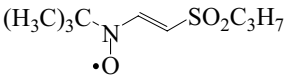
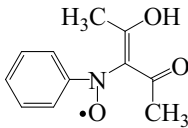
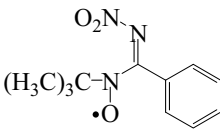
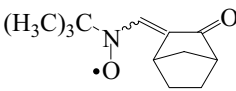
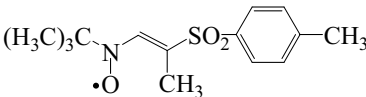
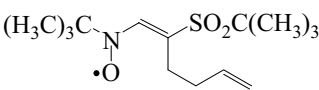
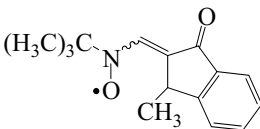
12.2.8.4 Aminocarbonyl, halocarbonyl, oxycarbonyl hydro, alkyl and aryl nitroxides

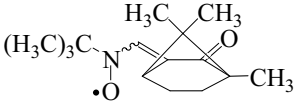
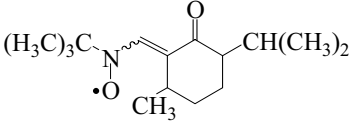
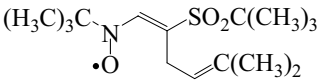
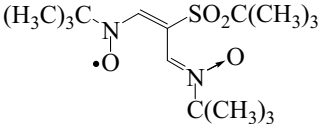
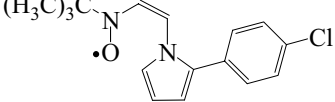
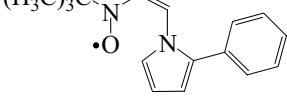
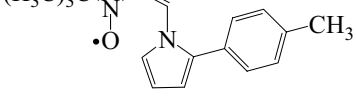
$[\text{C}_4\text{H}_8\text{NO}_3]$ 	Oxidation of isopropyl <i>N</i> -hydroxycarbamate with PbO_2 ESR / 298	2.008 N: 0.87 H(NH): 0.34 H_δ : 0.15	96Min1
$[\text{C}_5\text{H}_9\text{FNO}_2]$ 	γ -Irradiation of MNP and $\text{ICFCICl}_2\text{Cl}$ CFC-113 ESR / 298	N: 0.66 F_β : 0.33	94Gil1
CFC-113 = 1,1,2-Trichloro-1,2,2-trifluoroethane.			
$[\text{C}_5\text{H}_{11}\text{N}_2\text{O}_2]$ 	Thermal decomposition of DBPO and formamide Benzene ESR / 298	N: 1.038 N_β : < 0.01 H(NH): 0.080*	95Jan1
* Only one hydrogen.			
$[\text{C}_6\text{H}_{13}\text{N}_2\text{O}_2]$ 	Thermal decomposition of DBPO and <i>N</i> -methylformamide Benzene ESR / 298	N: 1.060 N_β : 0.115 H(NH): 0.058	95Jan1
$[\text{C}_7\text{H}_{14}\text{NO}_3]$ 	Thermal decomposition of DBPO and ethylformate Benzene ESR / 298	N: 0.871	95Jan1
$[\text{C}_8\text{H}_{17}\text{N}_3\text{O}_6\text{P}]$ 	LLE of (1-carbamoyl-1-nitrosoethyl)phosphonate ESR / 298 Methanol (or DMF) Acetone (or chloroform)	N: 1.26 ^{31}P : 3.66 N: 1.31 ^{31}P : 3.65	87Kas1

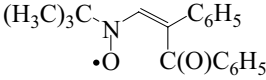
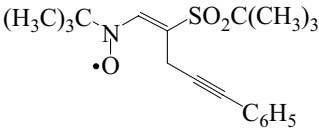
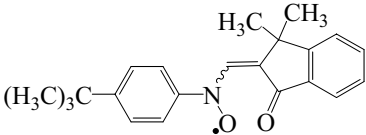
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_9H_{19}N_2O_2]$ 	Thermal decomposition of DBPO and <i>N,N</i> -diethylformamide Benzene ESR / 298	N: 1.206	95Jan1
$[C_{11}H_{11}N_2O_2]$ 	Incubation of hydroxylamine with linoleic acid and lipoxygenase Phosphate buffer pH 7.4 ESR / 298 *Only one hydrogen.	N: 1.006 H_β : 0.279 $H(NH)$: 0.107*	92Cha2
$[C_{13}H_9Cl_2N_2O_2]$ 	Incubation of hydroxylamine with linoleic acid and lipoxygenase Phosphate buffer pH 7.4 ESR / 298	N: 0.903 H_m : 0.073 H_m : 0.087 H_o : 0.168 H_o : 0.182	92Cha2
$[C_{21}H_{35}N_2O_2]$ 	Sonolysis of argon saturated DMF in the presence of 2,4,6-tri- <i>tert</i> -butylnitrosobenzene ESR / 298	N: 0.95	94Miš1

12.2.9 Vinyl and iminyl nitroxides

$[C_5H_8NO_3]$ 	Photolysis of 3-oximino-2,4-dioxopentane, H_2O_2 and HCl CH_3OH (CH_3OD) ESR / 298	N: 1.20 H_α : ~1.10 [D_α : 0.182]	89Lag2
$[C_9H_{14}NO_3]$ 	Oxidation of <i>N</i> -[(tetrahydro-2-oxo-3-furanyl)methylen]- <i>tert</i> -butylamine- <i>N</i> -oxide with PbO_2 $CHCl_3$ ESR / 298	N: 0.775 H_β : 0.24 $2H_\delta$: 1.55	90Aur1
$[C_9H_{16}NO_3S]$ 	Oxidation of the corresponding hydroxylamine with PbO_2 Chloroform ESR / 293	N: 0.800 H_β : 0.15 H_γ : 0.800 $3H$: 0.110	89Aur1

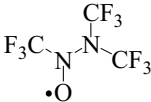
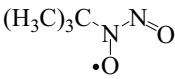
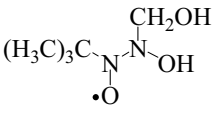
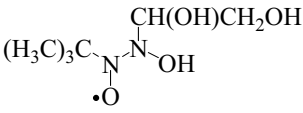
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_9H_{18}NO_3S]$ 	Oxidation of the corresponding hydroxylamine with PbO_2 Chloroform ESR / 293	N: 0.825 H_β : 0.15 H_γ : 0.825 $3H$: 0.100	89Aur1
$[C_{11}H_{12}NO_3]$ 	Synthesis described Benzene ESR / 298	N: 0.976 $2H_m$: 0.085 $3H_{o,p}$: 0.264	88Ome1
$[C_{11}H_{14}N_3O_3]$ 	Reaction of ammonium dinitroamide, PBN and TBPA ACN (or CH_2Cl_2) ESR / 298	N: 0.744 N: 0.434 N: 0.069	98Ebe5
TBPA= Tris(4-bromophenyl)aminium hexachloroantimonate.			
$[C_{12}H_{18}NO_2]$ 	Oxidation of <i>N</i> -[(2-oxobicyclo[2.2.1]hept-3-yl)methylen]- <i>tert</i> -butylamine- <i>N</i> -oxide with PbO_2 $CHCl_3$ ESR / 298	N: 0.81 H_β : 0.250 H_δ : 0.250 $2H$: 0.28	90Aur1
$[C_{14}H_{20}NO_3S]$ 	Oxidation of the corresponding hydroxylamine with PbO_2 Chloroform ESR / 293	N: 0.865 H_β : 0.250 $3H_\delta$: 0.855	89Aur1
$[C_{14}H_{26}NO_3S]$ 	Oxidation of the corresponding hydroxylamine with PbO_2 Chloroform ESR / 293	N: 0.830 H_β : 0.265 H_δ : 0.145 H_δ : 0.540	89Aur1
$[C_{15}H_{18}NO_2]$ 	Oxidation of <i>N</i> -[(3-hydroxy-1-methyl-2-indenyl)methylen]- <i>tert</i> -butylamine- <i>N</i> -oxide with PbO_2 $CHCl_3$ ESR / 298	N: 0.765 H_β : 0.24 H_δ : 0.765	90Aur1

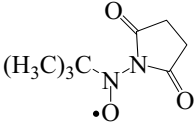
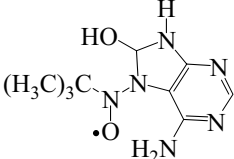
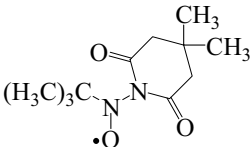
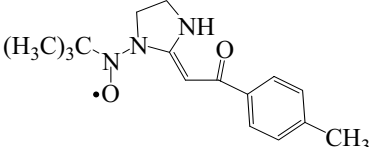
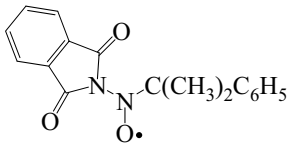
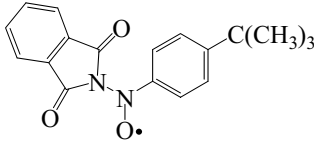
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{15}H_{24}NO_2]$ 	Oxidation of <i>N</i> -[(1,7,7-trimethyl-2-oxobicyclo[2.2.1]hept-3-yl)methylen]- <i>tert</i> -butylamine- <i>N</i> -oxide with PbO_2 $CHCl_3$ ESR / 298	N: 0.810 H_β : 0.25 $2H$: 0.25	90Aur1
$[C_{15}H_{26}NO_2]$ 	Oxidation of <i>N</i> -[(2-hydroxy-3-isopropyl-6-methyl-1-cyclohexen-1-yl)methylen]- <i>tert</i> -butylamine- <i>N</i> -oxide with PbO_2 $CHCl_3$ ESR / 298	N: 1.065 H_β : 0.390 H_δ : 0.335	90Aur1
$[C_{15}H_{28}NO_3S]$ 	Oxidation of the corresponding hydroxylamine with PbO_2 Chloroform ESR / 293	N: 0.825 H_β : 0.265 H_δ : 0.97 H_δ : < 0.03	89Aur1
$[C_{15}H_{29}N_2O_4S]$ 	Oxidation of the corresponding hydroxylamine with PbO_2 Chloroform ESR / 293 ESR / 338	N: 0.475 H_β : 0.475 N_δ : 0.33 H_δ : 0.33 $2N$: 0.403 $2H_\beta$: 0.403	89Aur1
$[C_{16}H_{18}ClN_2O]$ 	Reaction of 2-(4-chlorophenyl)pyrrole with acetylene and MNP DMSO / KOH ESR / 293	N: 1.178 H_β : 1.178	92Vak1
$[C_{16}H_{19}N_2O]$ 	Reaction of 2-phenylpyrrole with acetylene and MNP DMSO / KOH ESR / 293	N: 1.289 H_β : 1.022	92Vak1
$[C_{17}H_{21}N_2O]$ 	Reaction of 2-(<i>p</i> -tolyl)pyrrole with acetylene and MNP DMSO / KOH ESR / 293	N: 1.155 H_β : 1.155	92Vak1

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{19}H_{20}NO_2]$ 	Oxidation of the corresponding hydroxylamine with PbO_2 CH_2Cl_2 ESR / 298	N: 0.88 H_β : 0.285 $2H_m$: 0.065 $3H_{o,p}$: 0.17	88Aur1
$[C_{15}H_{28}NO_3S]$ 	Oxidation of the corresponding hydroxylamine with PbO_2 Chloroform ESR / 293	N: 0.825 H_β : 0.265 H_δ : 0.97 H_δ : < 0.03	89Aur1
$[C_{15}H_{26}NO_2]$ 	Oxidation of <i>N</i> -[(3-hydroxy-1,1-dimethyl-2-indenyl)methylen]-(4- <i>tert</i> -butylphenyl)amine- <i>N</i> -oxide with PbO_2 $CHCl_3$ ESR / 298	N: 0.705 H_β : 0.235 $2H_m$: 0.071 $2H_o$: 0.153 $6H_\epsilon(CH_3)$: 0.079	90Aur1

12.2.10 Amino and nitroso nitroxides

12.2.10.1 Alkyl amino nitroxides and alkyl nitroso nitroxides

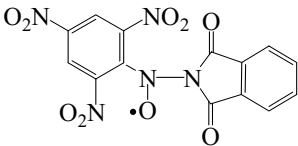
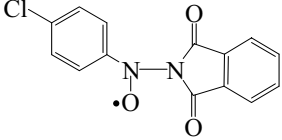
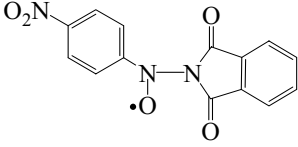
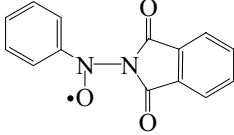
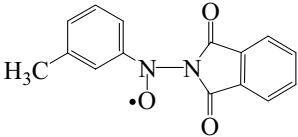
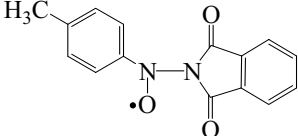
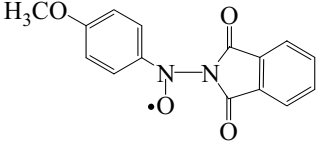
$[C_3F_9N_2O]$ 	Photolysis of perfluoro-2,4,4,7,7,9-hexamethyl-3,8-dioxo-2,5,6,9-tetraazadec-5-ene and trifluoronitrosomethane CCl_4 ESR / 233	2.0065 N: 0.960 N_α : 0.323 $3F_\beta$: 0.926 $6F_\gamma$: 0.153	91Fis1
$[C_4H_9N_2O_2]$ 	Photolysis of MNP and H_2O_2 H_2O , pH 6.9 to 7.5 ESR / 298	2.0055 N: 1.568 [^{15}N : 2.188] N(NO): 0.854 [^{15}N : 1.194]	90For1
$[C_5H_{13}N_2O_3]$ 	Reaction of MNP with $F_3CN(O^\bullet)C(CH_3)_3$ and ethylenglycol CFC-113 ESR / 298 CFC-113 = 1,1,2-Trichloro-1,2,2-trifluoroethane.	2.0059 N: 1.3397 H: 0.172	95Zha1
$[C_6H_{15}N_2O_4]$ 	Reaction of MNP with $F_3CN(O^\bullet)C(CH_3)_3$ and ethylenglycol CFC-113 ESR / 298	2.0054 N: 1.467 H: 0.164	95Zha1

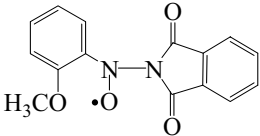
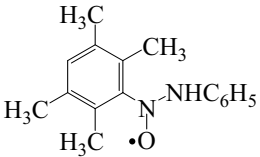
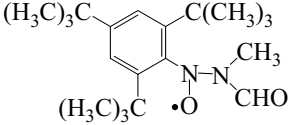
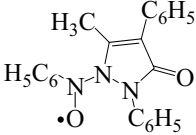
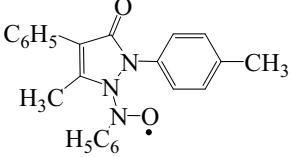
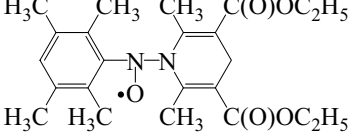
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_8H_{13}N_2O_3]$ 	Photolysis of MNP and <i>N</i> -bromosuccinimide CD ₃ CN ESR / 290 to 315	2.0058 N: 1.638 N _α : 0.181	89Kau
$[C_9H_{15}N_6O_2]$ 	Reaction of TiCl ₃ -H ₂ O ₂ with adenine and MNP H ₂ O, pH 7.0 ESR / 298	N: 1.32 N _α : 0.24	95Dav1
$[C_{11}H_{19}N_2O_3]$ 	Photolysis of MNP and <i>N</i> -bromo-3,3-glutaryl-imide TMTHF ESR / 294	2.0058 N: 1.563 N _α : 0.185 nH: 0.027*	89Kau
* Splitting into an even number (≥ 10) of lines.			
$[C_{16}H_{22}N_3O_2]$ 	Reaction of 2-[(4-methylbenzoyl)-methylene]-imidazoline with 2,4-dinitrochlorobenzene and MNP DMF ESR / 298	N: 1.863 N _α : 0.093	91Zha1
An almost identical spectrum is observed with 2-[(4-methoxybenzoyl)methylene]imidazoline.			
$[C_{17}H_{15}N_2O_3]$ 	Oxidation of <i>N</i> -(1-methyl-1-phenylethylamino)-phthalimide with PbO ₂ CH ₃ CN* ESR / 298	2.0061 N: 1.639 N _α : 0.184	89Rei1
* Similar values of g and of hfs constants in ethanol, acetone, carbon tetrachloride or benzene			
$[C_{18}H_{17}N_2O_3]$ 	Oxidation of <i>N</i> -(4- <i>tert</i> -butylphenylamino)-phthalimide with PbO ₂ / BHP Benzene ESR / 298	2.0056 N: 1.142 N _α : 0.196 2H _m : 0.087 2H _o : 0.261	88Klu1

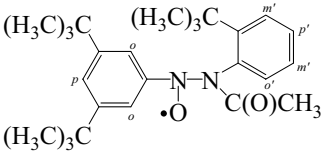
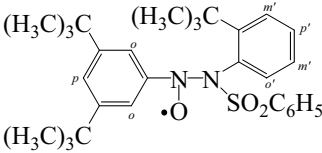
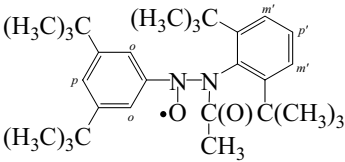
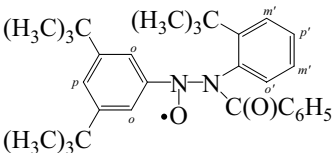
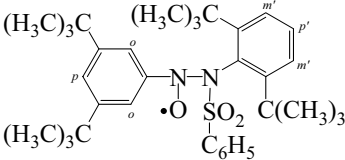
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{28}H_{37}N_4O_7]$ 	Oxidation of 1,4-bis(2-carboxymethyl-2-ethylbutyryl)-2,3-diphenyltetrazane with PbO_2 and O_2 Benzene ESR / 298	2.0059 N: 0.85	87Sch1

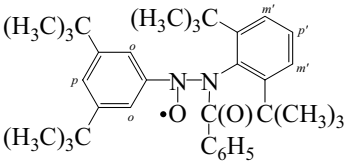
12.2.10.2 Aryl amino nitroxides and aryl nitroso nitroxides

$[C_8H_5F_6N_2O]$ 	Photolysis of perfluoro-2,4,4,7,7,9-hexamethyl-3,8-dioxa-2,5,6,9-tetraazadec-5-ene and NB CCl_4 ESR / 233	2.0065 N: 1.17 N_α : 0.24 $2H_m$: 0.08 $3H_{o,p}$: 0.16	91Fis1
$[C_{10}H_9N_2O_3]$ 	Oxidation of the corresponding hydrazine with $Co(acac)_2$ and BHP or with PbO_2 and BHP Benzene ESR / 298	2.0056 N: 1.130 N_α : 0.181 $2H_m$: 0.092 $2H_o$: 0.262 H_p : 0.259 3H: 0.020	88Ome2
$[C_{11}H_{11}N_2O_3]$ 	Oxidation of the corresponding hydrazine with $Co(acac)_2$ and BHP or with PbO_2 and BHP Benzene ESR / 298	N: 1.162 N_α : 0.190 $2H_m$: 0.086 $3H_{o,p}$: 0.261	88Ome2
$[C_{11}H_{12}N_3O_2]$ 	Oxidation of 3,4-dimethylpyrazolin-5-one with PbO_2 in the presence of NB ESR / 298 Benzene	N: 1.056 N_α : 0.035 $2H_m$: 0.090 $3H_{o,p}$: 0.235	93Ome1
Similar hfs constants values in chloroform.			
$[C_{13}H_{15}N_2O_3]$ 	Oxidation of the corresponding hydrazine with $Co(acac)_2$ and BHP or with PbO_2 and BHP Benzene ESR / 298	N: 1.125 N_α : 0.180 $2H_m$: 0.086 $2H_o$: 0.266 H_p : 0.260 4H: 0.025	88Ome2

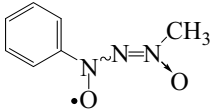
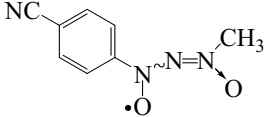
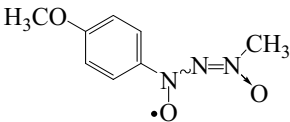
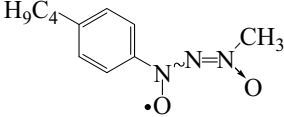
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{14}H_6N_5O_9]$ 	Oxidation of the corresponding hydrazine with lead tetracetate Benzene ESR / 298	N : 0.975 N_α : 0.145 H_m : 0.091 H_m : 0.100 $2N(NO_2)$: 0.038 $N(NO_2)$: 0.044	88Ome2
$[C_{14}H_8ClN_2O_3]$ 	Oxidation of the corresponding hydrazine with $Co(acac)_2$ and BHP or with PbO_2 and BHP Benzene ESR / 298	N : 2.0058 N_α : 1.110 N_α : 0.190 $2H_m$: 0.093 $2H_o$: 0.264 ^{35}Cl : 0.030 [^{37}Cl : 0.025]	88Ome2
$[C_{14}H_8N_3O_5]$ 	Oxidation of the corresponding hydrazine with $Co(acac)_2$ and BHP or with PbO_2 and BHP Benzene ESR / 298	N : 2.0059 N : 1.000 N_α : 0.187 $2H_m$: 0.091 $2H_o$: 0.255 $N(NO_2)$: 0.065	88Ome2
$[C_{14}H_9N_2O_3]$ 	Oxidation of the corresponding hydrazine with $Co(acac)_2$ and BHP or with PbO_2 and BHP Benzene ESR / 298	N : 2.0055 N : 1.114 N_α : 0.188 $2H_m$: 0.087 $2H_o$: 0.257 H_p : 0.260	88Ome2
$[C_{15}H_{11}N_2O_3]$ 	Oxidation of the corresponding hydrazine with $Co(acac)_2$ and BHP or with PbO_2 and BHP Benzene ESR / 298	N : 2.0056 N : 1.117 N_α : 0.193 H_m : 0.083 $3H(CH_3)$: 0.087 $2H_o$: 0.257 H_p : 0.264	88Ome2
$[C_{15}H_{11}N_2O_3]$ 	Oxidation of the corresponding hydrazine with $Co(acac)_2$ and BHP or with PbO_2 and BHP Benzene ESR / 298	N : 2.0055 N : 1.125 [^{15}N : 1.54] N_α : 0.190 $2H_m$: 0.085 $2H_o$: 0.259 $3H(CH_3)$: 0.275	88Ome1, 88Ome2
$[C_{15}H_{11}N_2O_4]$ 	Oxidation of the corresponding hydrazine with $Co(acac)_2$ and BHP or with PbO_2 and BHP Benzene ESR / 298	N : 2.0055 N : 1.164 N_α : 0.192 $2H_m$: 0.076 $2H_o$: 0.260 $3H(OCH_3)$: 0.034	88Ome2

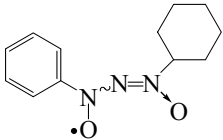
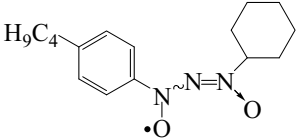
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
<p>[C₁₅H₁₁N₂O₄]</p> 	<p>Oxidation of the corresponding hydrazine with Co(acac)₂ and BHP or with PbO₂ and BHP Benzene ESR / 298</p>	<p>2.0056 N: 1.225 N_α: 0.185 H_m: 0.071 H_m: 0.095 H_o: 0.234 H_p: 0.252</p>	88Ome2
<p>[C₁₆H₁₉N₂O]</p> 	<p>Reaction of formic acid, ethyl pyruvate phenyl hydrazon and ND CH₂Cl₂ ESR / 323 to 333</p>	<p>N: 1.28 N_α: 0.37 H(NH): 0.37</p>	91Ker1
<p>[C₂₀H₃₃N₂O₂]</p> 	<p>Sonolysis of <i>N</i>-methylformamide in the presence of 2,4,6-tri-<i>tert</i>-butylnitrosobenzene ESR / 298</p>	<p>N: 0.980 2H_m: 0.090 N_α: 0.980</p>	94Miš1
<p>[C₂₂H₁₈N₃O₂]</p> 	<p>Oxidation of 1,4-di-phenyl-3-methyl-pyrazolin-5-one with PbO₂ in the presence of NB Benzene ESR / 293</p>	<p>2.0061 N: 1.091 2H_m: 0.086 3H_{o, p}: 0.241 N_α: 0.042*</p>	93Ome1
* In CHCl ₃ .			
<p>[C₂₃H₂₀N₃O₂]</p> 	<p>Oxidation of 1-<i>p</i>-tolyl-4-phenyl-3-methyl-pyrazolin-5-one with PbO₂ in the presence of NB Benzene ESR / 293</p>	<p>N: 1.089 2H_m: 0.087 3H_{o, p}: 0.240 N_α: 0.042*</p>	93Ome1
* In CHCl ₃ .			
<p>[C₂₃H₃₁N₂O₅]</p> 	<p>Photolysis of Hantzsch ester, diethyl <i>p</i>-cyano-benzylidene malonate and ND Benzene-pyridine (5:1) ESR / 298</p>	<p>N: 1.018 N_α: 0.289 2H: 0.089</p>	90Den1

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{26}H_{37}N_2O_2]$ 	Treatment of the bromoamide from <i>N</i> -acetyl-2- <i>tert</i> -butylaniline with sodium followed by addition of 3,5-di- <i>tert</i> -butylnitrosobenzene Benzene ESR / 298	N : 0.578 N_α : 0.180 $3H_{o,p}$: 0.180 $2H_m$: 0.054 H_o : 0.114 H_p : 0.108	93Bol1
$[C_{30}H_{39}N_2O_3S]$ 	Treatment of the bromoamide from <i>N</i> -benzenesulphonyl-2- <i>tert</i> -butylaniline with sodium followed by addition of 3,5-di- <i>tert</i> -butylnitrosobenzene Benzene ESR / 298	N : 0.619 N_α : 0.173 $3H_{o,p}$: 0.117 $2H_m$: 0.042 H_o : 0.114 H_p : 0.054	93Bol1
$[C_{30}H_{45}N_2O_2]$ 	Treatment of the bromoamide from <i>N</i> -acetyl-2,6-di- <i>tert</i> -butylaniline with sodium followed by addition of 3,5-di- <i>tert</i> -butylnitrosobenzene Benzene ESR / 298	N : 0.619 N_α : 0.173 $3H_{o,p}$: 0.117 $2H_m$: 0.054 H_p : 0.114	93Bol1
$[C_{31}H_{39}N_2O_2]$ 	Treatment of the bromoamide from <i>N</i> -benzoyl-2- <i>tert</i> -butylaniline with sodium followed by addition of 3,5-di- <i>tert</i> -butylnitrosobenzene Benzene ESR / 298	N : 0.537 N_α : 0.166 $3H_{o,p}$: 0.111 $2H_m$: 0.050 H_o : 0.105 H_p : 0.100	93Bol1
$[C_{34}H_{47}N_2O_3S]$ 	Treatment of the bromoamide from <i>N</i> -benzenesulphonyl-2,6-di- <i>tert</i> -butylaniline with sodium followed by addition of 3,5-di- <i>tert</i> -butylnitrosobenzene Benzene ESR / 298	N : 0.553 N_α : 0.170 $3H_{o,p}$: 0.114 $2H_m$: 0.050 H_p : 0.059	93Bol1

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{35}H_{47}N_2O_2]$ 	Treatment of the bromoamide from <i>N</i> -benzoyl-2,6-di- <i>tert</i> -butylaniline with sodium followed by addition of 3,5-di- <i>tert</i> -butylnitrosobenzene Benzene ESR / 298	N: 0.683 N_α : 0.173 $3H_{o,p}$: 0.117 $2H_m$: 0.054 H_p : 0.114	93Bol1

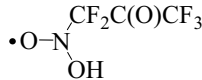
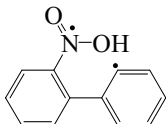
12.2.11 Azoxy nitroxides

$[C_7H_8N_3O_2]$ 	Oxidation of the corresponding triazenol with PbO_2 and BHP Benzene ESR / 298	N: 0.825 N_α : 0.165 N_β : 0.570 $2H_m$: 0.057 $3H_{o,p}$: 0.171 $3H(CH_3)$: 0.418	96Ome1
$[C_8H_7N_4O_2]$ 	Oxidation of the corresponding triazenol with PbO_2 and BHP Benzene ESR / 298	N: 0.810 N_α : 0.124 N_β : 0.510 $N(CN)$: 0.026 $2H_m$: 0.069 $2H_o$: 0.193 $3H(CH_3)$: 0.338	96Ome1
$[C_8H_{10}N_3O_3]$ 	Oxidation of the corresponding triazenol with PbO_2 and BHP Benzene ESR / 298	N: 0.823 N_α : 0.180 N_β : 0.617 $3H(OCH_3)$: 0.027 $2H_m$: 0.060 $2H_o$: 0.160 $3H(CH_3)$: 0.470	96Ome1
$[C_{11}H_{16}N_3O_2]$ 	Oxidation of the corresponding triazenol with PbO_2 and BHP Benzene ESR / 298	N: 0.820 N_α : 0.181 N_β : 0.585 $2H(CH_2)$: 0.124 $2H_m$: 0.058 $2H_o$: 0.165 $3H(CH_3)$: 0.433	96Ome1

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{12}H_{16}N_3O_2]$ 	Oxidation of the corresponding triazenol with PbO_2 and BHP Benzene ESR / 298	N : 0.96 $[^{15}N$: 1.250] N_α : 0.150 N_β : 0.570 $2H_m$: 0.064 $3H_{o,p}$: 0.175 H_δ : 0.130	96Ome1
$[C_{16}H_{24}N_3O_2]$ 	Oxidation of the corresponding triazenol with PbO_2 and BHP Benzene ESR / 298	N : 0.867 $[^{15}N$: 0.225] N_α : 0.173 N_β : 0.576 $2H(CH_2)$: 0.125 $2H_m$: 0.062 $2H_o$: 0.162 H_δ : 0.173	96Ome1

12.2.12 Oxynitroxides

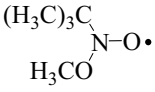
12.2.12.1 Hydroxynitroxides

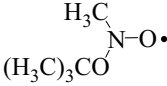
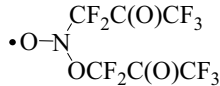
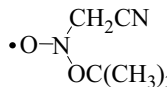
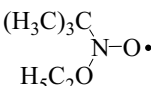
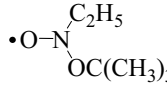
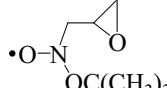
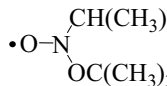
$[C_3F_5HNO_3]$ 	Photolysis of nitropentafluoroacetone in triethylsilane ESR / 203 to 253	N : 1.125 $2F_\beta$: 2.70 $H(OH)$: 0.20	93Tum1
$[C_{12}H_9NO_2]$ 	Photolysis of 2-nitrophenyl ESR / 1.93 to 4.2 Single crystal Ethanol glass	2.00405, 2.00565, 2.00220 X/hc : 0.01439* Y/hc : 0.0220 Z/hc : -0.03669 2.00426, 2.00612, 2.00208 X/hc : 0.0115* Y/hc : 0.0212 Z/hc : -0.0328	95Hig1

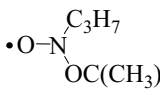
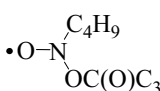
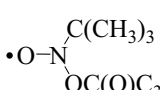
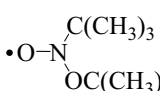
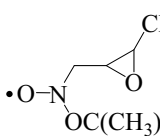
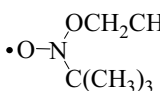
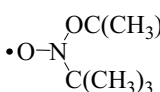
* Values in cm^{-1} .
Triplet-singlet separation: 1.7 cm^{-1} .

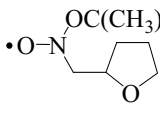
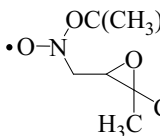
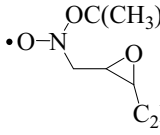
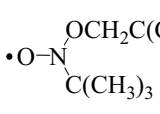
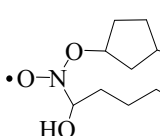
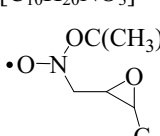
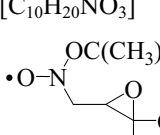
12.2.12.2 Alkoxynitroxides

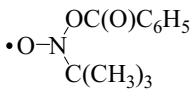
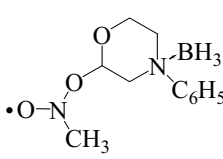
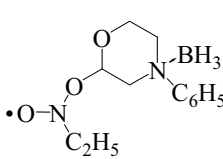
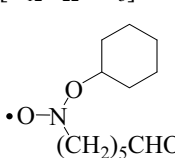
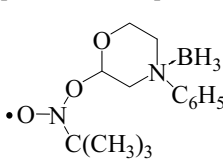
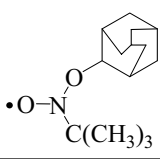
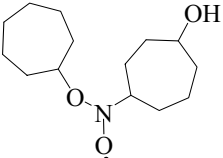
12.2.12.2.1 Alkoxy alkyl nitroxides

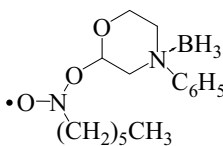
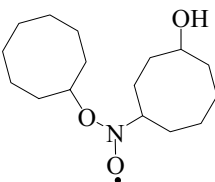
$[C_5H_{12}NO_2]$ 	Photolysis of methoxydisulphide and MNP Cyclopropane – Benzene ESR / 253	2.0055 N : 2.96 $3H$: 0.15	96Bor1
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Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_5H_{12}NO_2]$ 	Photolysis of BOOB and nitromethane Benzene ESR / 298 Photolysis of <i>tert</i> -butyl-nitrite and 2-methylbut-3-en-2-ol ACN (Flow) ESR / 298	2.0055 N: 2.640 3H $_{\beta}$: 0.867 2.0054 N: 2.575 3H $_{\beta}$: 0.887 ₅	92Bal1 97Gro3, 98Gro1
$[C_6F_{10}NO_4]$ 	Photolysis of nitropentafluoroacetone Toluene ESR / 203 to 253	N: 1.125 2F $_{\beta}$: 2.04 2F $_{\gamma}$: 0.78	93Tum1
$[C_6H_{11}N_2O_2]$ 	Photolysis of <i>tert</i> -butyl-nitrite in ACN ESR / 233 to 253	2.0052 N: 2.690 2H $_{\beta}$: 0.525 N $_{\gamma}$: 0.020	98Gro1
$[C_6H_{14}NO_2]$ 	Photolysis of ethoxydisulphide and MNP Cyclopropane – Benzene ESR / 253	2.0055 N: 2.90 2H: 0.10	96Bor1
$[C_6H_{14}NO_2]$ 	Photolysis of BOOB and nitroethane Benzene ESR / 298 Photolysis of <i>tert</i> -butyl-nitrite and pent-1-en-3-ol ACN (Flow) ESR / 233 to 273	2.0056 N: 2.648 2H $_{\beta}$: 0.777 2.0052 N: 2.570 2H $_{\beta}$: 0.821 3H $_{\delta}$: 0.030	92Bal1 97Gro3, 98Gro1
$[C_7H_{14}NO_3]$ 	Photolysis of <i>tert</i> -butyl-nitrite and 3-methylpent-1-en-3-ol ACN ESR / 243	2.0053 N: 2.572 H $_{\beta}$: 0.925 H $_{\beta}$: 0.562 ₅ H $_{\gamma}$: 0.25	97Gro3
$[C_7H_{16}NO_2]$ 	Photolysis of BOOB and 2-nitropropane Benzene ESR / 298	2.0056 N: 2.662 H $_{\beta}$: 0.380	92Bal1

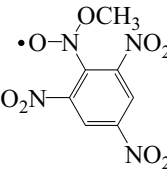
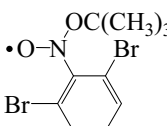
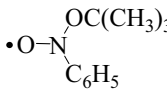
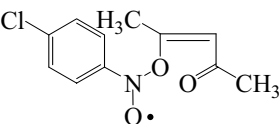
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_7H_{16}NO_2]$ 	Photolysis of <i>tert</i> -butyl-nitrite and hex-1-en-3-ol ACN ESR / 243	2.0052 N: 2.54 ₂ 2H _β : 0.788 2H _γ : 0.030 3H _δ : 0.015	98Gro1
$[C_8H_9F_7NO_3]$ 	Reaction of <i>n</i> -butyl amine and [F ₇ C ₃ C(O)O] ₂ CFC-113 ESR / 293–298 * Unusually low value for an oxynitroxide. CFC-113 = 1,1,2-Trichloro-1,2,2-trifluoroethane.	N: 0.994* No other splitting reported	95Zha1
$[C_8H_9F_7NO_3]$ 	Reaction of <i>t</i> -butyl amine and [F ₇ C ₃ C(O)O] ₂ CFC-113 ESR / 293–298 * Unusually low value for an oxynitroxide.	N: 1.070* No other splitting reported	95Zha1
$[C_8H_{15}N_2O_2]$ 	Photolysis of AIBN and PBN Partially O ₂ depleted toluene ESR / 250	2.0052 ₉ N: 2.848	90Jan1
$[C_8H_{16}NO_3]$ 	Photolysis of <i>tert</i> -butyl-nitrite and 2-methylbut-3-en-2-ol ACN ESR / 243	2.0053 N: 2.57 ₅ 2H _β : 0.887 H _γ : 0.887 3H _δ : 0.015	98Gro1
$[C_8H_{18}NO_2]$ 	Photolysis of <i>i</i> -butoxy-disulphide and MNP Cyclopropane – Benzene ESR / 253	2.0055 N: 2.92 2H _γ : 0.125	96Bor1
$[C_8H_{18}NO_2]$ 	Photolysis of MNP and BOOB (or DBPO or <i>tert</i> -butoxy-disulphide) Addition of MNP to potassium ozonate Photolysis of BOOB, (H ₅ C ₂ O) ₃ P and CH ₃ NO ₂ Thermolysis (353 K) of di- <i>tert</i> -butoxy- <i>tert</i> -butyl-peroxyaluminum Benzene ESR / 278 to 298	2.0054 ₁ N: 2.717	87For1, 90Dod1, 92Bal1, 92Luc1, 95Jan1, 96Bor1, 97Jan1, 00Alb1

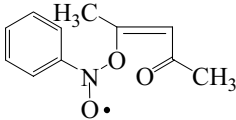
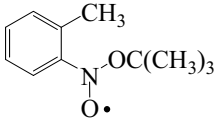
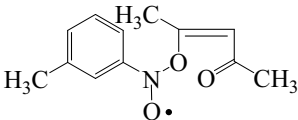
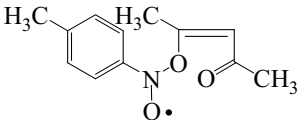
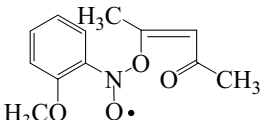
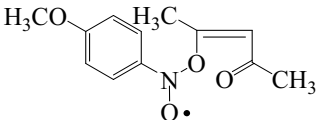
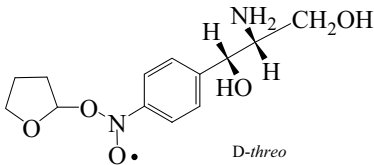
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_9H_{18}NO_3]$ 	Photolysis of <i>tert</i> -butyl-nitrite and pent-4-en-1-ol ACN (Flow) ESR / 298	2.0053 N: 2.537 ₅ H _{β} : 0.400 H _{β} : 1.200 H _{γ} : 0.035 2H _{δ} : 0.017 ₅	97Gro3
$[C_9H_{18}NO_3]$ 	Photolysis of <i>tert</i> -butyl-nitrite and 2-methylbut-3-en-2-ol ACN (Flow) ESR / 298	2.0053 N: 2.565 H _{β} : 0.560 [D: 0.080] H _{β} : 0.910 [D: 0.135] H _{γ} : 0.022	97Gro3, 98Gro1
$[C_9H_{18}NO_3]$ 	Photolysis of <i>tert</i> -butyl-nitrite and 3-methylpent-1-en-3-ol ACN (Flow) ESR / 298	2.0052 N: 2.550 H _{β} : 0.575 H _{β} : 0.995	98Gro1
$[C_9H_{20}NO_2]$ 	Photolysis of 2,2-dimethylpropoxydisulphide and MNP Cyclopropane – Benzene ESR / 253	2.0055 N: 2.68 2H _{γ} : 0.16	96Bor1
$[C_{10}H_{18}NO_5]$ 	Photolysis of <i>tert</i> -butyl-nitrite and cyclopentane-1,3-diol ACN (Flow) ESR / 298	2.0053 N: 2.725 H _{β} : 0.275	97Gro2
$[C_{10}H_{20}NO_3]$ 	Photolysis of <i>tert</i> -butyl-nitrite and hex-1-en-3-ol ACN (Flow) ESR / 298	2.0053 N: 2.562 H _{β} : 0.525 H _{β} : 0.975	98Gro1
$[C_{10}H_{20}NO_3]$ 	Photolysis of <i>tert</i> -butyl-nitrite and pent-1-en-3-ol ACN (Flow) ESR / 298	2.0053 N: 2.572 H _{β} : 0.562 ₅ H _{β} : 0.925 H _{γ} : 0.002 ₅	98Gro1

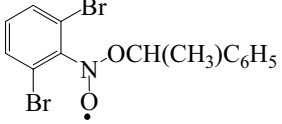
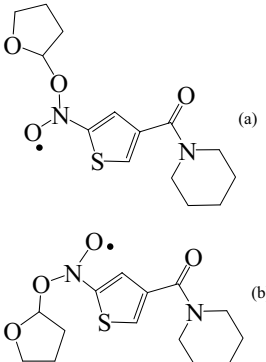
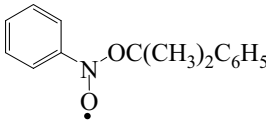
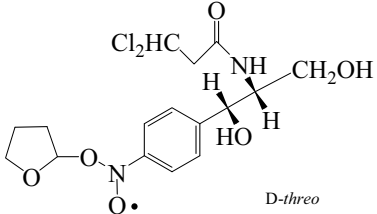
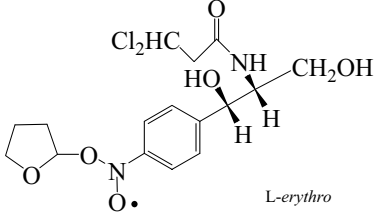
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{11}H_{14}NO_3]$ 	Reaction of dibenzoyl peroxide, diphenylamine and MNP Benzene ESR / 298	2.0066 N: 1.54	94Nis1
$[C_{11}H_{18}BN_2O_3]$ 	Photolysis of phenyl-morpholineborane, BOOB and nitromethane Benzene ESR / 298	2.0053 N: 2.85 ₅ 3H _β : 0.905	96Luc2
$[C_{12}H_{20}BN_2O_3]$ 	Photolysis of phenyl-morpholineborane, BOOB and nitroethane Benzene ESR / 298	2.0053 N: 2.85 ₁ H _β : 0.810 H _β : 0.846	96Luc2
$[C_{12}H_{22}NO_3]$ 	Photolysis of cyclohexyl nitrite ACN (Flow) ESR / 298	2.0053 N: 2.787 ₅ 2H _β : 0.812 ₅	97Gro1
$[C_{14}H_{24}BN_2O_3]$ 	Photolysis of phenyl-morpholineborane, BOOB and 2-methyl-2-nitropropane Benzene ESR / 298	2.0053 N: 2.85 ₈	96Luc2
$[C_{14}H_{24}NO_2]$ 	Photolysis of adamantane, 2-methyl-2-nitropropane and BOOB Benzene ESR / 298	2.0055 N: 2.710	92Luc
$[C_{14}H_{26}NO_3]$ 	Photolysis of cycloheptyl nitrite ACN (Flow) ESR /	2.0053 N: 2.57 ₀ H _β : 0.40 ₀	97Gro1

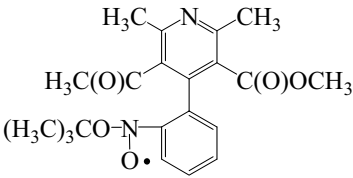
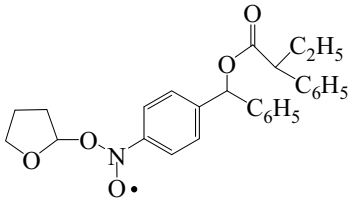
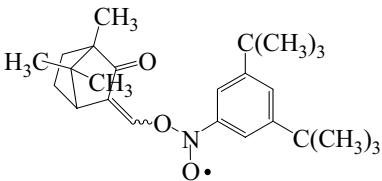
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{16}H_{28}BN_2O_3]$ 	Photolysis of phenyl-morpholineborane, BOOB and nitrohexane Benzene ESR / 298	2.0054 N: 2.84 ₀ H _β : 0.76 ₃ H _β : 0.87 ₀	96Luc2
$[C_{16}H_{30}NO_3]$ 	Photolysis of cyclooctyl nitrite ACN (Flow) ESR / 298	2.0053 N: 2.57 ₀ H _β : 0.40 ₀	97Gro1

12.2.12.2.2 Alkoxy aryl nitroxides

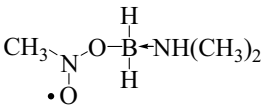
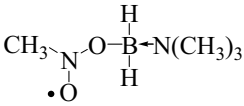
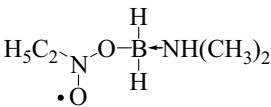
$[C_7H_5N_4O_8]$ 	Lead tetracetate oxidation of <i>N</i> -methoxy- <i>N</i> -2,4,6-trinitrophenylamine Toluene ESR – ENDOR – GTR / 200 GTR = General TRIPLE resonance.	N: 1.66 3H(OCH ₃): 0.1068 2H _m : 0.2329	95Sum1
$[C_{10}H_{12}Br_2NO_2]$ 	Photolysis of DBNB, <i>tert</i> -butanol and anthraquinone Benzene ESR / 298	N: 2.65	89Móg1
$[C_{10}H_{14}NO_2]$ 	Photolysis of aniline and BHP Thermolysis of DBPO (313 K) in the presence of NB Benzene ESR / 298 * 2.0068 in [90Sue1]. Slight variations of hfs constants with temperature and solvents (isooctane, 1-butene oxide).	2.0052* N: 1.462 2H _m : 0.095 3H _{o,p} : 0.300	89Gro1, 90Sue1, 94Gro1
$[C_{11}H_{11}ClNO_3]$ 	Decomposition of <i>N</i> - <i>p</i> -chlorophenylamino-phthalylimide in the presence of BHP-PbO ₂ Benzene – Methanol ESR / 298	2.0059 to 2.0062 N: 1.040 2H _m : 0.090 2H _o : 0.264 ³⁵ Cl: 0.023 [³⁷ Cl: 0.020]	88Ome1

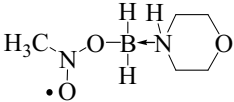
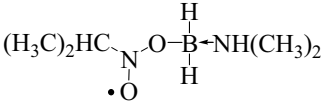
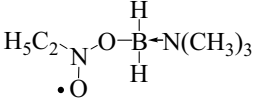
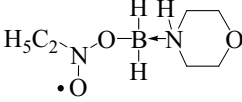
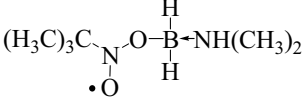
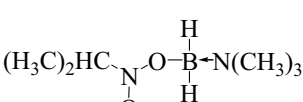
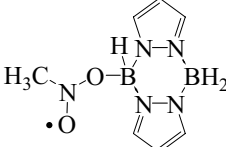
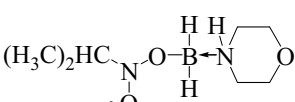
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{11}H_{12}NO_3]$ 	Decomposition of <i>N</i> -phenylaminophthalylimide in the presence of BHP-Co(acac) ₂ Benzene – Methanol ESR / 298	2.0059 to 2.0062 N: 1.063 2H _m : 0.080 3H _{o,p} : 0.235	88Ome1
$[C_{11}H_{16}NO_2]$ 	Thermolysis of DBPO (313 K) in the presence of 2-nitrosotoluene Benzene ESR / 298	2.0052 N: 1.610 2H _m : 0.092 3H(CH ₃): 0.092 2H _{o,p} : 0.236	90Sue1
$[C_{12}H_{14}NO_3]$ 	Decomposition of <i>N</i> - <i>m</i> -tolylaminophthalylimide in the presence of BHP-Co(acac) ₂ Benzene – Methanol ESR / 298	2.0059 to 2.0062 N: 1.050 H _m : 0.077 3H(CH ₃): 0.083 3H _{o,p} : 0.234	88Ome1
$[C_{12}H_{14}NO_3]$ 	Decomposition of <i>N</i> - <i>p</i> -tolylaminophthalylimide in the presence of BHP-Co(acac) ₂ Benzene – Methanol ESR / 298	2.0059 to 2.0062 N: 1.077 [¹⁵ N: 1.508] 2H _m : 0.080 2H _o : 0.240 3H(CH ₃): 0.254	88Ome1
$[C_{12}H_{14}NO_4]$ 	Decomposition of <i>N</i> - <i>o</i> -anisylaminophthalylimide in the presence of BHP-Co(acac) ₂ Benzene – Methanol ESR / 298	2.0059 to 2.0062 N: 1.140 H _m : 0.070 H _m : 0.097 H _o : 0.183 H _p : 0.192	88Ome1
$[C_{12}H_{14}NO_4]$ 	Decomposition of <i>N</i> - <i>p</i> -anisylaminophthalylimide in the presence of BHP-Co(acac) ₂ Benzene – Methanol ESR / 298	2.0059 to 2.0062 N: 1.100 2H _m : 0.080 2H _o : 0.232 3H(OCH ₃): 0.035	88Ome1
$[C_{13}H_{19}N_2O_5]$ 	Addition of 2-furyl radicals to the appropriate nitrocompound THF ESR – ENDOR / 293	N: 1.564 2H _m : 0.101 H _o : 0.296 H _o : 0.299 H: 0.208	99Sch1
Identical parameters for the other enantiomer (<i>L</i> - <i>threo</i>). The nitrogen splitting decreases with temperature (N: 1.468 at 213 K).			

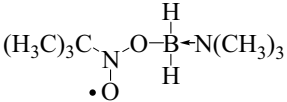
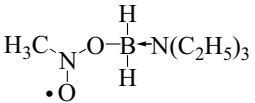
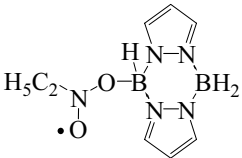
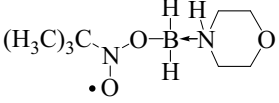
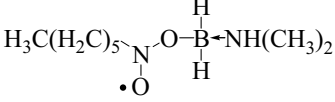
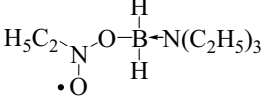
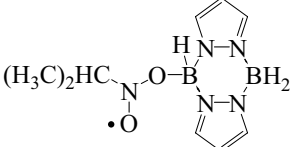
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{14}H_{12}Br_2NO_2]$ 	Photolysis of DBNB, 1-phenylethanol and anthraquinone Benzene ESR / 298	N: 2.70	89Móg1
$[C_{14}H_{19}N_2O_4S]$ 	Photolysis of the substituted nitrothiophene in THF THF ESR / 293 $k_{ba}^{293} = 1.2 \times 10^6 \text{ s}^{-1}$.	N: 1.350 H(H2): 0.451 H(H4): 0.549 H(H2-THF): 0.040 N: 1.361 H(H2): 0.419 H(H4): 0.537 H(H2-THF): 0.043	93Luc1
$[C_{15}H_{16}NO_2]$ 	Photolysis of aniline and cumyl hydroperoxide 2,2,4-Trimethylpentane ESR / 203 to 210	2.0050 N: 1.475 $2H_m$: 0.100 $3H_{o,p}$: 0.300	94Gro1
$[C_{16}H_{21}Cl_2N_2O_6]$  D-threo	Addition of 2-furyl radicals to the appropriate nitrocompound THF ESR – ENDOR / 293	N: 1.518 $2H_m$: 0.103 H_o : 0.296 H_o : 0.302 H: 0.249	99Sch1
$[C_{16}H_{21}Cl_2N_2O_6]$  L-erythro	Addition of 2-furyl radicals to the appropriate nitrocompound THF ESR – ENDOR / 293	N: 1.509 $2H_m$: 0.103 H_o : 0.297 H_o : 0.302 H: 0.227	99Sch1

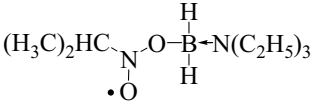
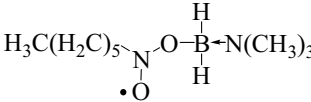
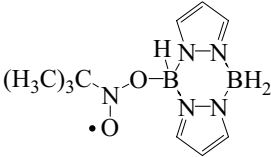
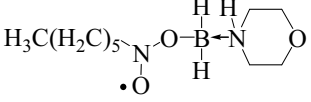
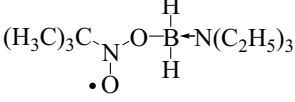
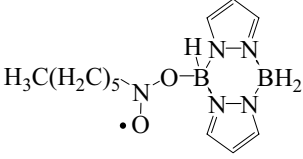
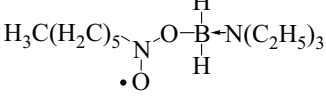
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{21}H_{25}N_2O_6]$ 	Photolysis of BOOB in the presence of 2,6-dimethyl-4-(2-nitroso-phenyl)-pyridine-3,5-dicarboxylic acid dimethyl ester Benzene ESR / 298	N : 1.45 $2H_m$: 0.100 $2H_{o,p}$: 0.293	94Sta1
$[C_{27}H_{28}NO_5]$ 	Addition of 2-furyl radicals to the appropriate nitrocompound THF ESR – ENDOR / 293 ESR – ENDOR / 213	N : 1.487 $2H_m$: 0.105 $2H_o$: 0.305 H : 0.208 N : 1.440 $2H_m$: 0.105 H_o : 0.305 H_o : 0.320 H : 0.216 and 0.170*	99Sch1
Mixture of two diastereomeric compounds. * At low temperature two conformers in a 2:1 ratio.			
$[C_{25}H_{36}NO_3]$ 	Reaction of 3-formylcamphor with sodium ethoxide in the presence of 3,5-di- <i>tert</i> -butylnitrosobenzene Benzene ESR / 298	N : 1.025 $3H_{o,p}$: 0.385 $2H$: 0.275	91Bad1

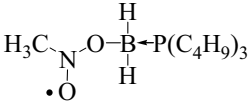
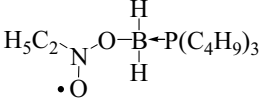
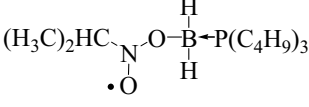
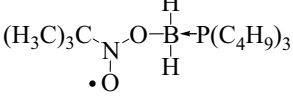
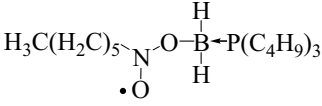
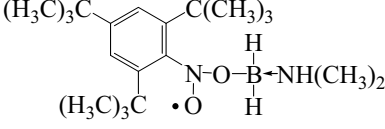
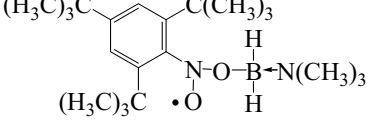
12.2.12.3 Boroxynitroxides

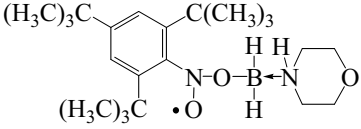
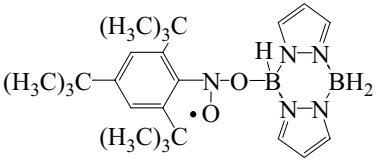
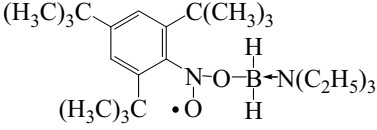
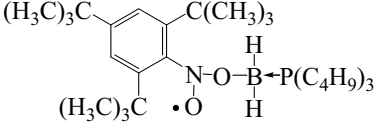
$[C_3H_{12}BN_2O_2]$ 	Photolysis of dimethylamine-borane, BOOB and nitromethane Benzene ESR / 298	2.0054 N : 2.743 $3H_\beta$: 1.013	96Luc2
$[C_4H_{14}BN_2O_2]$ 	Photolysis of trimethylamine-borane, BOOB and nitromethane Benzene ESR / 298	2.0054 N : 2.729 $3H_\beta$: 0.900 ^{11}B : 0.328	96Luc2
$[C_4H_{14}BN_2O_2]$ 	Photolysis of dimethylamine-borane, BOOB and nitroethane Benzene ESR / 298	2.0054 N : 2.745 $2H_\beta$: 0.931	96Luc2

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_5H_{14}BN_2O_3]$ 	Photolysis of morpholinoborane, BOOB and nitromethane Benzene ESR / 298	2.0054 N: 2.743 3H β : 1.013	96Luc2
$[C_5H_{16}BN_2O_2]$ 	Photolysis of dimethylaminoborane, BOOB and 2-nitropropane Benzene ESR / 298	2.0054 N: 2.771 H β : 0.543	96Luc2
$[C_5H_{16}BN_2O_2]$ 	Photolysis of trimethylaminoborane, BOOB and nitroethane Benzene ESR / 298	2.0054 N: 2.729 2H β : 0.761 ^{11}B : 0.352	96Luc2
$[C_6H_{16}BN_2O_3]$ 	Photolysis of morpholinoborane, BOOB and nitroethane Benzene ESR / 298	2.0054 N: 2.745 2H β : 0.931	96Luc2
$[C_6H_{18}BN_2O_2]$ 	Photolysis of dimethylaminoborane, BOOB and 2-nitro-2-methylpropane Benzene ESR / 298	2.0054 N: 2.78 ^{11}B : 0.118 H: 0.019 H: 0.057 H: 0.041	96Luc2
$[C_6H_{18}BN_2O_2]$ 	Photolysis of trimethylaminoborane, BOOB and 2-nitropropane Benzene ESR / 298	2.0055 N: 2.749 ^{11}B : 0.325 H β : 0.375	96Luc2
$[C_7H_{12}B_2N_5O_2]$ 	Photolysis of pyrazabole, nitromethane and BOOB Benzene ESR / 298	2.0054 N: 2.786 ^{11}B : 0.191 3H β : 0.920 H γ : 0.071	96Luc2
$[C_7H_{18}BN_2O_3]$ 	Photolysis of morpholinoborane, BOOB and 2-nitropropane Benzene ESR / 298	2.0054 N: 2.771 H β : 0.543	96Luc2

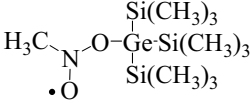
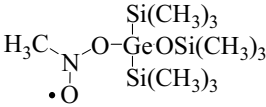
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_7H_{20}BN_2O_2]$ 	Photolysis of trimethyl-aminoborane, BOOB and 2-nitro-2-methylpropane Benzene ESR / 298	2.0054 N: 2.760 ^{11}B : 0.330	96Luc2
First order decay: $E_a = 21.82 \text{ kcal mol}^{-1}$, $\log(A/s^{-1}) = 14.25$.			
$[C_7H_{20}BN_2O_2]$ 	Photolysis of triethyl-aminoborane, BOOB and nitromethane Benzene ESR / 298	2.0054 N: 2.704 ^{11}B : 0.336 $3H_\beta$: 0.889	96Luc2
$[C_8H_{14}B_2N_5O_2]$ 	Photolysis of pyrazabole, BOOB and nitroethane Benzene ESR / 298	2.0054 N: 2.785 ^{11}B : 0.187 $2H_\beta$: 0.813 H_γ : 0.068	96Luc2
$[C_8H_{20}BN_2O_3]$ 	Photolysis of morpholinoborane, BOOB and 2-nitro-2-methylpropane Benzene ESR / 298	2.0054 N: 2.78 ^{11}B : 0.118	96Luc2
$[C_8H_{22}BN_2O_2]$ 	Photolysis of dimethyl-aminoborane, BOOB and 1-nitrohexane Benzene ESR / 298	2.0054 N: 2.693 $2H_\beta$: 0.911	96Luc2
$[C_8H_{22}BN_2O_2]$ 	Photolysis of triethyl-aminoborane, BOOB and nitroethane Benzene ESR / 298	2.0054 N: 2.713 ^{11}B : 0.343 $2H_\beta$: 0.791	96Luc2
$[C_9H_{16}B_2N_5O_2]$ 	Photolysis of pyrazabole, BOOB and 2-nitropropane Benzene ESR / 298	2.0055 N: 2.830 ^{11}B : 0.158 H_β : 0.455 H_γ : 0.084	96Luc2

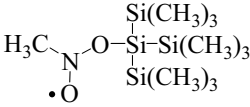
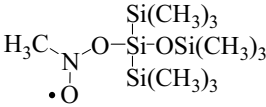
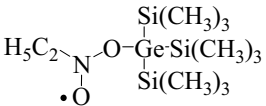
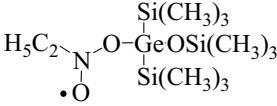
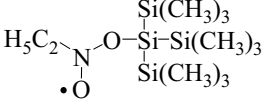
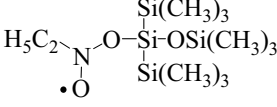
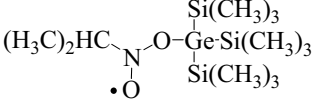
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_9H_{24}BN_2O_2]$ 	Photolysis of triethylaminoborane, BOOB and 2-nitropropane Benzene ESR / 298	2.0055 N: 2.754 ^{11}B : 0.320 H_β : 0.370	96Luc2
$[C_9H_{24}BN_2O_2]$ 	Photolysis of trimethylaminoborane, BOOB and 1-nitrohexane Benzene ESR / 298	2.0054 N: 2.684 ^{11}B : 0.355 $2H_\beta$: 0.801	96Luc2
$[C_{10}H_{18}B_2N_5O_2]$ 	Photolysis of pyrazabole, BOOB and 2-nitro-2-methylpropane Benzene ESR / 298	2.0055 N: 2.845 ^{11}B : 0.124 H_γ : 0.086	96Luc2
$[C_{10}H_{24}BN_2O_3]$ 	Photolysis of morpholinoborane, BOOB and 1-nitrohexane Benzene ESR / 298	2.0054 N: 2.693 $2H_\beta$: 0.911	96Luc2
$[C_{10}H_{26}BN_2O_2]$ 	Photolysis of triethylaminoborane, BOOB and 2-nitro-2-methylpropane Benzene ESR / 298	2.0054 N: 2.765 ^{11}B : 0.320	96Luc2
First order decay: $E_a = 17.82 \text{ kcal mol}^{-1}$, $\log(A/s^{-1}) = 13.02$.			
$[C_{12}H_{22}B_2N_5O_2]$ 	Photolysis of pyrazabole, BOOB and 1-nitrohexane Benzene ESR / 298	2.0054 N: 2.765 ^{11}B : 0.185 $2H_\beta$: 0.814 H_γ : 0.064	96Luc2
$[C_{12}H_{30}BN_2O_2]$ 	Photolysis of triethylaminoborane, BOOB and 1-nitrohexane Benzene ESR / 298	2.0054 N: 2.680 ^{11}B : 0.354 $2H_\beta$: 0.805	96Luc2

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{13}H_{32}BNO_2P]$ 	Photolysis of tributylphosphine-borane, nitromethane and BOOB Benzene ESR / 298	2.0054 N: 2.747 ^{11}B : 0.126 $3H_\beta$: 0.927 ^{31}P : 0.503 $2H_\gamma$: 0.096	96Luc2
$[C_{14}H_{34}BNO_2P]$ 	Photolysis of tributylphosphine-borane, nitroethane and BOOB Benzene ESR / 298	2.0054 N: 2.765 ^{11}B : 0.118 $2H_\beta$: 0.820 ^{31}P : 0.510 $2H_\gamma$: 0.091	96Luc2
$[C_{15}H_{36}BNO_2P]$ 	Photolysis of tributylphosphine-borane, 2-nitropropane and BOOB Benzene ESR / 298	2.0054 N: 2.791 ^{11}B : 0.105 H_β : 0.466 ^{31}P : 0.492 $2H_\gamma$: 0.101	96Luc2
$[C_{16}H_{38}BNO_2P]$ 	Photolysis of tributylphosphine-borane, 2-nitro-2-methylpropane and BOOB Benzene ESR / 298	2.0055 N: 2.803 ^{11}B : 0.099 H_β : 0.466 ^{31}P : 0.492 $2H_\gamma$: 0.111 $9H_\gamma$: 0.020	96Luc2
$[C_{18}H_{42}BNO_2P]$ 	Photolysis of tributylphosphine-borane, 1-nitrohexane and BOOB Benzene ESR / 298	2.0055 N: 2.722 ^{11}B : 0.124 $2H_\beta$: 0.849 ^{31}P : 0.460 $2H_\gamma$: 0.115	96Luc2
$[C_{20}H_{38}BN_2O_2]$ 	Photolysis of dimethylaminoborane, BOOB and 2,4,6-tri- <i>tert</i> -butyl-nitrobenzene Benzene ESR / 298	2.0053 N: 2.152	96Luc2
$[C_{21}H_{40}BN_2O_2]$ 	Photolysis of trimethylaminoborane, BOOB and 2,4,6-tri- <i>tert</i> -butyl-nitrobenzene Benzene ESR / 298	2.0054 N: 2.181 ^{11}B : 0.071 $2H_\gamma$: 0.122	96Luc2

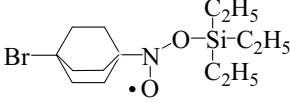
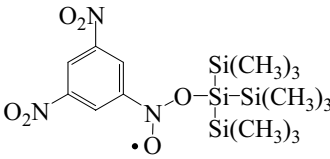
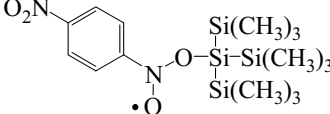
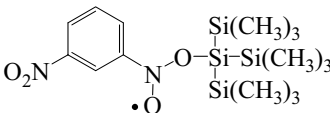
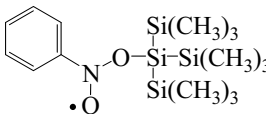
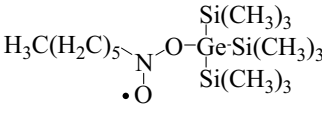
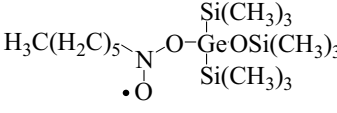
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{22}H_{40}BN_2O_3]$ 	Photolysis of morpholinoborane, BOOB and 2,4,6-tri- <i>tert</i> -butylnitrobenzene Benzene ESR / 298	2.0053 N: 2.152	96Luc2
$[C_{24}H_{38}B_2N_5O_2]$ 	Photolysis of pyrazabole, BOOB and 2,4,6-tri- <i>tert</i> -butylnitrobenzene Benzene ESR / 298	2.0053 N: 2.194 ^{11}B : 0.084 $2H_m$: 0.164 H_γ : 0.064 $2N$: 0.062	96Luc2
$[C_{24}H_{46}BN_2O_2]$ 	Photolysis of triethylaminoborane, BOOB and 2,4,6-tri- <i>tert</i> -butylnitrobenzene Benzene ESR / 298	2.0053 N: 2.174 $2H_m$: 0.087 $2H_\gamma$: 0.182	96Luc2
$[C_{30}H_{58}BNO_2P]$ 	Photolysis of tributylphosphineborane, 2,4,6-tri- <i>tert</i> -butylnitrobenzene and BOOB Benzene ESR / 298	2.0053 N: 2.167 ^{31}P : 0.532 $2H_m$: 0.085 $2H_\gamma$: 0.203	96Luc2

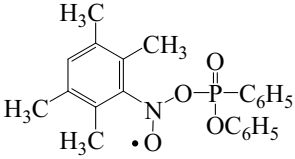
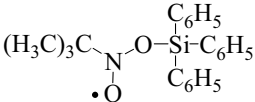
12.2.12.4 Silyloxy-, germyloxy- and phosphoxynitroxides

$[C_{10}H_{30}GeNO_2Si_3]$ 	Photolysis of nitromethane, tris(trimethylsilyl)germanium hydride and BOOB Benzene ESR / 298	2.0057 N: 2.808 $3H_\beta$: 0.914 ^{29}Si : 0.110	97Ber1
First order decay: $k_{298} = 4.7 \times 10^{-2} \text{ s}^{-1}$.			
$[C_{10}H_{30}GeNO_3Si_3]$ 	Photolysis of nitromethane, tris(trimethylsilyl)germanium hydride and BOOB Benzene ESR / 298	2.0055 N: 2.802 $3H_\beta$: 0.970	97Ber1

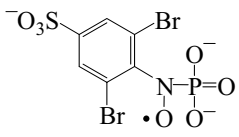
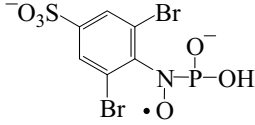
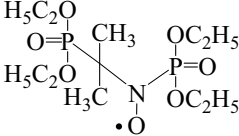
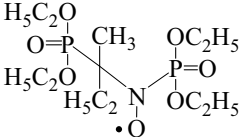
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{10}H_{30}NO_2Si_4]$ 	Photolysis of tris(trimethylsilyl)silane, BOOB and nitromethane Benzene ESR / 298	2.0053 ₈ N: 2.902 3H _β : 0.897 3 ²⁹ Si: 0.132	90Alb2, 92Bal1
$[C_{10}H_{30}NO_3Si_4]$ 	Photolysis of tris(trimethylsilyl)silane, BOOB and nitromethane Benzene ESR / 298	2.0053 ₀ N: 2.827 3H _β : 0.892	92Bal1
First order decay: $E_a = 19.25 \text{ kcal mol}^{-1}$, $\log (A/s^{-1}) = 13.46$.			
$[C_{11}H_{32}GeNO_2Si_3]$ 	Photolysis of nitroethane, tris(trimethylsilyl)germanium hydride and BOOB Benzene ESR / 298	2.0056 N: 2.825 2H _β : 0.851 3H _γ : 0.034	97Ber1
First order decay: $k_{313} = 8.3 \times 10^{-2} \text{ s}^{-1}$.			
$[C_{11}H_{32}GeNO_3Si_3]$ 	Photolysis of nitroethane, tris(trimethylsilyl)germanium hydride and BOOB Benzene ESR / 298	2.0054 N: 2.790 2H _β : 0.920 3H _γ : 0.028	97Ber1
$[C_{11}H_{32}NO_2Si_4]$ 	Photolysis of tris(trimethylsilyl)silane, BOOB and nitroethane Benzene ESR / 298	2.0054 N: 2.887 2H _β : 0.826 3H _γ : 0.033 3 ²⁹ Si: 0.130	92Bal1
First order decay: $k_{300} = 2.1 \times 10^{-1} \text{ s}^{-1}$.			
$[C_{11}H_{32}NO_3Si_4]$ 	Photolysis of tris(trimethylsilyl)silane, BOOB and nitroethane Benzene ESR / 298	2.0054 N: 2.820 2H _β : 0.822 3H _γ : 0.030	92Bal1
$[C_{12}H_{34}GeNO_2Si_3]$ 	Photolysis of 2-nitropropane, tris(trimethylsilyl)germanium hydride and BOOB Benzene ESR / 298	2.0055 N: 2.833 H _β : 0.521 6H _γ : 0.025	97Ber1

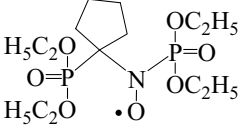
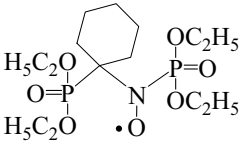
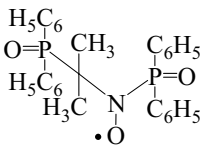
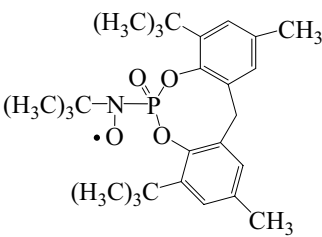
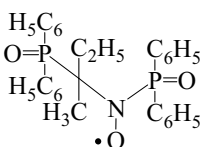
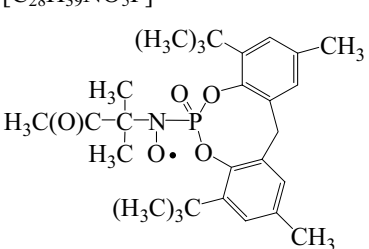
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{12}H_{34}GeNO_3Si_3]$ $(H_3C)_2HC-N(O)-O-GeSi(CH_3)_3$	Photolysis of 2-nitropropane, tris(trimethylsilyl)germanium hydride and BOOB Benzene ESR / 298	2.0053 N: 2.804 H_β : 0.650 $6H_\gamma$: 0.025	97Ber1
$[C_{12}H_{34}NO_2Si_4]$ $(H_3C)_2HC-N(O)-O-Si(CH_3)_3$	Photolysis of 2-nitropropane, tris(trimethylsilyl)silane and BOOB Benzene ESR / 298	2.0052 N: 2.910 H_β : 0.526 $6H_\gamma$: 0.022	92Bal1
First order decay: $k_{291} = 7.7 \times 10^{-2} s^{-1}$.			
$[C_{12}H_{34}NO_3Si_4]$ $(H_3C)_2HC-N(O)-O-Si(CH_3)_3$	Photolysis of 2-nitropropane, tris(trimethylsilyl)silane and BOOB Benzene ESR / 298	2.0052 N: 2.854 H_β : 0.505 $6H_\gamma$: 0.020	92Bal1
$[C_{13}H_{36}GeNO_2Si_3]$ $(H_3C)_3C-N(O)-O-GeSi(CH_3)_3$	Photolysis of 2-nitro-2-methylpropane, BOOB and tris(trimethylsilyl)germanium hydride Benzene ESR / 298	2.0054 N: 2.848	97Ber1
$[C_{13}H_{36}GeNO_3Si_3]$ $(H_3C)_3C-N(O)-O-GeSi(CH_3)_3$	Photolysis of 2-nitro-2-methylpropane, BOOB and tris(trimethylsilyl)germanium hydride Benzene ESR / 298	2.0053 N: 2.821	97Ber1
$[C_{13}H_{36}NO_2Si_4]$ $(H_3C)_3C-N(O)-O-Si(CH_3)_3$	Photolysis of 2-nitro-2-methylpropane, BOOB and tris(trimethylsilyl)silane Benzene ESR / 298	2.0055 N: 2.910	92Bal1
$[C_{13}H_{36}NO_3Si_4]$ $(H_3C)_3C-N(O)-O-Si(CH_3)_3$	Photolysis of 2-nitro-2-methylpropane, BOOB and tris(trimethylsilyl)silane Benzene ESR / 298	2.0054 N: 2.880	92Bal1

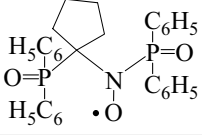
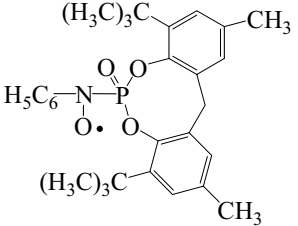
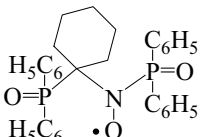
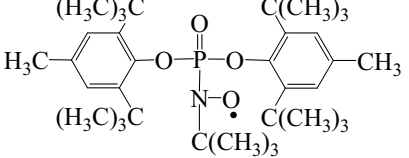
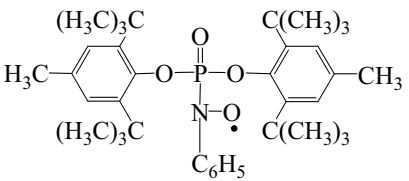
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{14}H_{27}BrNO_2Si]$ 	Photolysis of triethylsilane, BOOB and 4-nitro-1-bromobicyclo-[2.2.2]octane Cyclopropane ESR / 160	N: 2.84	95Bin1
$[C_{15}H_{30}N_3O_6Si_4]$ 	Photolysis of 1,3,5-trinitrobenzene and tris(trimethylsilyl)silane Benzene ESR / 298	2.0048 N: 1.295 $2N(NO_2)$: 0.023 $2H_o$: 0.323 H_p : 0.331	90Alb2
$[C_{15}H_{31}N_2O_4Si_4]$ 	Photolysis of 1,4-dinitrobenzene and tris(trimethylsilyl)silane Benzene ESR / 298	2.0047 N: 1.240 $2H_m$: 0.103 $2H_o$: 0.310 $N(NO_2)$: 0.095	90Alb2
$[C_{15}H_{31}N_2O_4Si_4]$ 	Photolysis of 1,3-dinitrobenzene and tris(trimethylsilyl)silane Benzene ESR / 298	2.0048 N: 1.401 H_m : 0.103 $3H_{o,p}$: 0.316 $N(NO_2)$: 0.024	90Alb2
$[C_{15}H_{32}NO_2Si_4]$ 	Photolysis of 1,3-dinitrobenzene and tris(trimethylsilyl)silane Benzene ESR / 298	2.0047 N: 1.502 $2H_m$: 0.108 $2H_o$: 0.314 H_p : 0.329	90Alb2
$[C_{15}H_{40}GeNO_2Si_3]$ 	Photolysis of 1-nitrohexane, BOOB and tris(trimethylsilyl)germanium hydride Benzene ESR / 298	2.0055 N: 2.841 $2H_\beta$: 0.853	97Ber1
First order decay: $k_{313} = 7.8 \times 10^{-2} \text{ s}^{-1}$			
$[C_{15}H_{40}GeNO_3Si_3]$ 	Photolysis of 1-nitrohexane, BOOB and tris(trimethylsilyl)germanium hydride Benzene ESR / 298	2.0053 N: 2.800 $2H_\beta$: 0.930	97Ber1

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{22}H_{23}NO_4P]$ 	Photolysis of dioxybis- [(phenoxy)phenylphos- phane oxide] and ND $CHCl_3$ ESR / 293	2.0064 N: 1.58 H_p : 0.047* ^{31}P : 1.58	92Kor1
Multiplet of ≥ 16 lines.			
$[C_{22}H_{24}NO_2Si]$ 	Photolysis of 2-nitro-2- methylpropane, BOOB and triphenylsilane Benzene ESR / 298	2.0054 N: 2.936	92Luc1
First order decay: $E_a = 18.80 \text{ kcal mol}^{-1}$, $\log (A/s^{-1}) = 11.13$.			

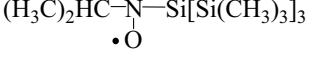
12.2.13 Phosphonitroxides

$[C_6H_2Br_2NO_7PS]^{3-}$ 	Reaction of Ti^{3+} - H_2O_2 , sodium phosphite and DBNBS H_2O (Flow) ESR / 298	2.0072 N: 1.08 $2H_m$: 0.07 ^{31}P : 1.24	87Oza2
$[C_6H_3Br_2NO_6PS]^{2-}$ 	Reaction of Ti^{3+} - H_2O_2 , sodium hypophosphite and DBNBS H_2O (Flow) ESR / 298	2.0072 N: 1.08 $2H_m$: 0.17 ^{31}P : 1.24	87Oza2
$[C_{11}H_{26}NO_7P_2]$ 	Prolonged photolysis of acetone oxime, BOOB (traces) and diethylpyro- phosphite Benzene ESR / 298	2.0068 N: 0.953 $^{31}P_\alpha$: 1.261 $^{31}P_\beta$: 2.786	90Alb1
$[C_{12}H_{28}NO_7P_2]$ 	Prolonged photolysis of butan-2-one oxime, BOOB (traces) and diethylpyrophosphite Benzene ESR / 298	2.0066 N: 0.920 $^{31}P_\alpha$: 1.281 $^{31}P_\beta$: 3.100	90Alb1

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
<p>[C₁₃H₂₈NO₇P₂]</p> 	Prolonged photolysis of cyclopentanone oxime, BOOB (traces) and diethylpyrophosphite Benzene ESR / 298	2.0067 N: 0.944 ³¹ P _α : 1.225 ³¹ P _β : 3.807	90Alb1
<p>[C₁₄H₃₀NO₇P₂]</p> 	Prolonged photolysis of cyclohexanone oxime, BOOB (traces) and diethylpyrophosphite Benzene ESR / 298	2.0070 N: 0.936 ³¹ P _α : 1.208 ³¹ P _β : 4.172	90Alb1
<p>[C₂₇H₂₆NO₃P₂]</p> 	Prolonged photolysis of acetone oxime, BOOB (traces) and diphenylphosphine oxide Benzene ESR / 298	2.0068 N: 1.061 ³¹ P _α : 1.061 ³¹ P _β : 1.400	90Alb1
<p>[C₂₇H₃₉NO₄P]</p> 	Oxidation of methylene-bis(6- <i>tert</i> -butyl-4-methyl- <i>o</i> -phenylene)-hydrogenphosphite with PbO ₂ in the presence of MNP Chlorobenzole ESR / 298	2.0068 N: 0.93 ³¹ P: 1.42	88Rei1
<p>[C₂₈H₂₈NO₃P₂]</p> 	Prolonged photolysis of butan-2-one oxime, BOOB (traces) and diphenylphosphine oxide Benzene ESR / 298	2.0068 N: 1.081 ³¹ P _α : 1.061 ³¹ P _β : 1.081	90Alb1
<p>[C₂₈H₃₉NO₅P]</p> 	Oxidation of methylene-bis(6- <i>tert</i> -butyl-4-methyl- <i>o</i> -phenylene)-hydrogenphosphite with PbO ₂ in the presence of 3-methyl-3-nitrosobutan-2-one Chlorobenzole ESR / 298	2.0070 N: 0.90 ³¹ P: 1.37	88Rei1

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{29}H_{28}NO_3P_2]$ 	Prolonged photolysis of cyclopentanone oxime, BOOB (traces) and diphenylphosphine oxide Benzene ESR / 298	2.0066 N: 1.050 $^{31}P_\alpha$: 1.067 $^{31}P_\beta$: 2.490	90Alb1
$[C_{29}H_{35}NO_4P]$ 	Oxidation of methylene-bis(6- <i>tert</i> -butyl-4-methyl- <i>o</i> -phenylene)-hydrogen-phosphite with PbO_2 in the presence of NB Chlorobenzole ESR / 298	2.0068 N: 0.82 ^{31}P : 1.47	88Rei1
Hfs constants for the aromatic hydrogens not reported.			
$[C_{30}H_{30}NO_3P_2]$ 	Prolonged photolysis of cyclohexanone oxime, BOOB (traces) and diphenylphosphine oxide Benzene ESR / 298	2.0070 N: 0.989 $^{31}P_\alpha$: 1.181 $^{31}P_\beta$: 3.428	90Alb1
$[C_{34}H_{55}NO_4P]$ 	Treatment of bis(2,6-di- <i>tert</i> -butyl-4-methylphenyl)-hydrogenphosphite and MNP with PbO_2 Chlorobenzole ESR / 298	2.0070 N: 0.89 ^{31}P : 1.42	88Rei1
$[C_{36}H_{51}NO_4P]$ 	Treatment of bis(2,6-di- <i>tert</i> -butyl-4-methylphenyl)-hydrogenphosphite and NB with PbO_2 Chlorobenzole ESR / 298	2.0069 N: 0.81 ^{31}P : 1.25	88Rei1
Hfs constants for the aromatic hydrogens not reported.			

12.2.14 Silylnitroxides

$[C_{12}H_{34}NOSi_4]$ $(H_3C)_2HC-N-Si[Si(CH_3)_3]_3$ 	Photolysis of tris(trimethylsilyl)silane, BOOB and 2-nitropropane Benzene ESR / 298	2.0070 N: 1.063 H_β : 0.149	92Ba11
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
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[\text{C}_{13}\text{H}_{36}\text{NOSi}_4]$ $(\text{H}_3\text{C})_3\text{C}-\underset{\cdot\text{O}}{\underset{ }{\text{N}}}-\text{Si}[\text{Si}(\text{CH}_3)_3]_3$	Photolysis of tris(trimethylsilyl)silane, BOOB and 2-methyl-2-nitropropane Benzene ESR / 298	2.0070 N: 1.087 $^{29}\text{Si}_\alpha$: 0.670 $^{29}\text{Si}_\beta$: 0.438	92Bal1
$[\text{C}_{17}\text{H}_{44}\text{NOSi}_4]$ $(\text{H}_3\text{C})_3\text{CH}_2\text{C}(\text{H}_3\text{C})_2\underset{\cdot\text{O}}{\underset{ }{\text{N}}}-\text{Si}[\text{Si}(\text{CH}_3)_3]_3$	Photolysis of tris(trimethylsilyl)silane, BOOB and 2,4,4-trimethyl-2-nitro-pentane Benzene ESR / 298	2.0070 N: 1.123	92Bal1

12.2.15 Thionitroxides

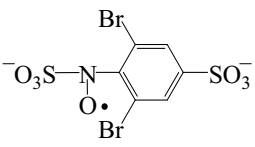

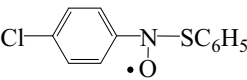

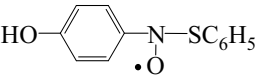
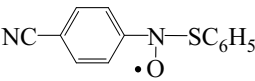
12.2.15.1 Alkyl thionitroxides

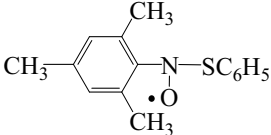
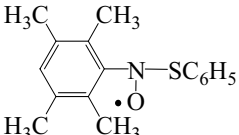
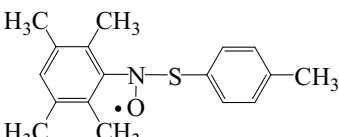
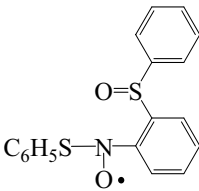
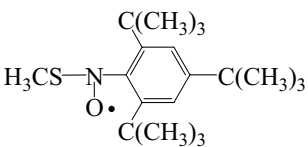
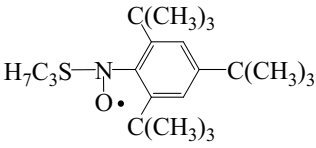
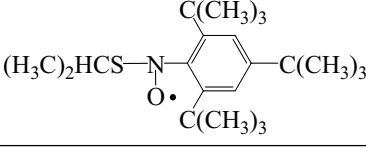
$[\text{C}_4\text{H}_8\text{N}_2\text{O}_6\text{S}]^-$ $^- \text{O}_3\text{S}-\underset{\cdot\text{O}}{\underset{ }{\text{N}}}-\text{CH}_2\text{C}(\text{CH}_3)_2\text{ONO}$	Reaction of <i>tert</i> -butyl nitrite and Na_2SO_3 Methanol / NaOH ESR / 298	2.0058 N: 1.3 2H_β : 0.5	92Lag1
$[\text{C}_4\text{H}_9\text{NO}_4\text{S}]^-$ $^- \text{O}_3\text{S}-\underset{\cdot\text{O}}{\underset{ }{\text{N}}}-\text{C}(\text{CH}_3)_3$	Reaction of $\text{Na}_2\text{S}_2\text{O}_4$ with MNP and O_2 ^{17}O enriched $\text{H}_2\text{O}/\text{NaOH}$ ESR / 298	N: 1.47 3^{13}C_β : 0.400 ^{33}S : 0.16 ^{17}O : 0.067	88Sto1
$[\text{C}_5\text{H}_{12}\text{NO}_2\text{S}]$ $(\text{H}_3\text{C})_3\text{C}-\underset{\cdot\text{O}}{\underset{ }{\text{N}}}-\text{SOCH}_3$	Photolysis of dimethoxy disulfide and MNP Cyclopropane, benzene ESR / 253 to 353	2.0070 N: 1.55	96Bor1
$[\text{C}_5\text{H}_{12}\text{NO}_3\text{S}]$ $(\text{H}_3\text{C})_3\text{C}-\underset{\cdot\text{O}}{\underset{ }{\text{N}}}-\text{S}(\text{O})\text{OCH}_3$	Photolysis of dimethoxy disulfide and MNP Cyclopropane, benzene ESR / 253 to 353	2.0061 ₅ N: 1.24	96Bor1
$[\text{C}_6\text{H}_{14}\text{NO}_2\text{S}]$ $(\text{H}_3\text{C})_3\text{C}-\underset{\cdot\text{O}}{\underset{ }{\text{N}}}-\text{SOC}_2\text{H}_5$	Photolysis of diethoxy disulfide and MNP Cyclopropane, benzene ESR / 253 to 353	2.0070 N: 1.84	96Bor1
$[\text{C}_6\text{H}_{14}\text{NO}_3\text{S}]$ $(\text{H}_3\text{C})_3\text{C}-\underset{\cdot\text{O}}{\underset{ }{\text{N}}}-\text{S}(\text{O})\text{OC}_2\text{H}_5$	Photolysis of diethoxy disulfide and MNP Cyclopropane, benzene ESR / 253 to 353	2.0061 ₅ N: 1.21	96Bor1

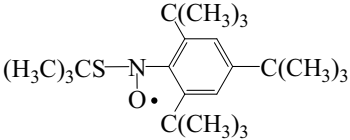
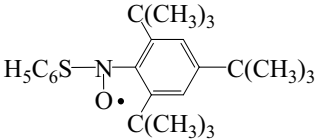
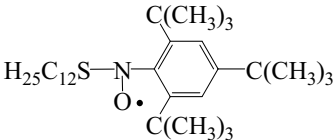
Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[\text{C}_7\text{H}_{16}\text{NO}_3\text{S}]$ $(\text{H}_3\text{C})_3\text{C}-\underset{\cdot\text{O}}{\underset{ }{\text{N}}}-\text{S}(\text{O})\text{OCH}(\text{CH}_3)_2$	Photolysis of diisopropoxy disulfide and MNP Cyclopropane, benzene ESR / 253 to 353	2.0061 ₅ N: 1.24	96Bor1
$[\text{C}_8\text{H}_{18}\text{NO}_2\text{S}_2]$ $(\text{H}_3\text{C})_3\text{C}-\underset{\cdot\text{O}}{\underset{ }{\text{N}}}-\text{S}(\text{CH}_2)_2\text{O}(\text{CH}_2)_2\text{SH}$	Oxidation of the appropriate disulfide* with activated MnO_2 Toluene ESR / 298 * $\text{HS}(\text{CH}_2)_2\text{O}(\text{CH}_2)_2\text{SS}(\text{CH}_2)_2\text{O}(\text{CH}_2)_2\text{SH}$.	2.0072 N: 1.85	92Coa1
$[\text{C}_8\text{H}_{18}\text{NO}_3\text{S}]$ $(\text{H}_3\text{C})_3\text{C}-\underset{\cdot\text{O}}{\underset{ }{\text{N}}}-\text{S}(\text{O})\text{OCH}_2\text{CH}(\text{CH}_3)_2$	Photolysis of diisobutoxy disulfide and MNP Cyclopropane, benzene ESR / 253 to 353	2.0061 ₅ N: 1.25	96Bor1
$[\text{C}_8\text{H}_{18}\text{NO}_3\text{S}]$ $(\text{H}_3\text{C})_3\text{C}-\underset{\cdot\text{O}}{\underset{ }{\text{N}}}-\text{S}(\text{O})\text{OC}(\text{CH}_3)_3$	Photolysis of di- <i>tert</i> -butoxy disulfide and MNP Cyclopropane, benzene ESR / 253 to 353	2.0061 ₅ N: 1.24	96Bor1
$[\text{C}_9\text{H}_{20}\text{NO}_2\text{S}]$ $(\text{H}_3\text{C})_3\text{C}-\underset{\cdot\text{O}}{\underset{ }{\text{N}}}-\text{SOCH}_2\text{C}(\text{CH}_3)_3$	Photolysis of dineopentoxy disulfide and MNP Cyclopropane, benzene ESR / 253 to 353	2.0070 N: 1.86	96Bor1
$[\text{C}_9\text{H}_{13}\text{N}_2\text{OS}]$ $(\text{H}_3\text{C})_3\text{C}-\underset{\cdot\text{O}}{\underset{ }{\text{N}}}-\text{S}-\text{C}_5\text{H}_4\text{N}$	Photolysis (334 nm) of pyridine-2-thione and MNP Phosphate buffer pH 7.0 ESR / 298	N: 1.637	94Res1
$[\text{C}_9\text{H}_{13}\text{N}_2\text{O}_2\text{S}]$ $(\text{H}_3\text{C})_3\text{C}-\underset{\cdot\text{O}}{\underset{ }{\text{N}}}-\text{S}-\text{C}_5\text{H}_4\text{N}$	Photolysis (334 nm) of <i>N</i> -hydroxypyridine-2-thione (sodium salt) and MNP Phosphate buffer pH 7.0 ESR / 298	N: 1.509	94Res1
$[\text{C}_9\text{H}_{20}\text{NO}_3\text{S}]$ $(\text{H}_3\text{C})_3\text{C}-\underset{\cdot\text{O}}{\underset{ }{\text{N}}}-\text{S}(\text{O})\text{OCH}_2\text{C}(\text{CH}_3)_3$	Photolysis of dineopentoxy disulfide and MNP Cyclopropane, benzene ESR / 253 to 353	2.0061 ₅ N: 1.25	96Bor1
$[\text{C}_{14}\text{H}_{25}\text{N}_4\text{O}_9\text{S}]$ $(\text{H}_3\text{C})_3\text{C}-\underset{\cdot\text{O}}{\underset{ }{\text{N}}}-\text{SO}_2\text{G}$	Reaction of muchloric acid, GSH and PBN Phosphate buffer ESR / 298 GSH = Glutathione (reduced form).	2.0061 N: 1.28	94LaL1

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{34}H_{70}NO_{13}S_{12}]$ $(H_3C)_3C-N-[S(CH_2)_2OCH_2O(CH_2)_2S]_6H$ 	Oxidation of the appropriate polysulfide* with activated MnO_2 Toluene ESR / 298 * $HS(CH_2)_2OCH_2O[SS(CH_2)_2OCH_2O(CH_2)_2]_5SH$.	2.0072 N: 1.85	92Coal

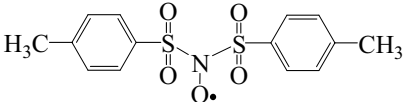
12.2.15.2 Aryl thionitroxides

$[C_6H_2Br_2NO_7S_2]^{2-}$ 	Photolysis of glycine, $Fe^{III}T2MpyP$ and DBNBS Anaerobic H_2O solutions Reaction of various aminoacids with $HOCl/ClO^-$ and DBNBS Phosphate buffer pH 7.4 ESR / 298 $Fe^{III}T2MpyP$ = Iron(III)tetrakis(2- <i>N</i> -methylpyridyl)porphyrin.	N: 1.246 $2H_m$: 0.055 $^{17}O(NSO_3)$: 0.030	88Sto1, 97Gil1, 98Haw2
$[C_7H_8NO_3S]$ $H_5C_6-N-SO_2CH_3$ 	Reaction of NB with H_2O_2 and $FeSO_4 \cdot 7H_2O$ DMSO ESR / 298	2.0056 N: 1.17 $3H_r$: 0.042 $2H_m$: 0.083 $3H_{o,p}$: 0.202	90Car1
$[C_{12}H_9ClNOS]$ 	Reaction of thiophenol with <i>p</i> Cl-NB Benzene ESR / 298	2.0062 ₀ N: 1.128 $2H_m$: 0.088 $2H_o$: 0.257 ^{35}Cl : 0.024	95Alb1
$[C_{12}H_{10}NOS]$ $H_5C_6-N-SC_6H_5$ 	Reaction of thiophenol with NB Benzene ESR / 298	2.0059 ₆ N: 1.154 $2H_m$: 0.089 $2H_o$: 0.249 H_p : 0.261	95Alb1
$[C_{12}H_{10}NO_2S]$ 	Reaction of thiophenol with <i>p</i> HO-NB Benzene ESR / 298	2.0057 ₆ N: 1.218 $2H_m$: 0.076 $2H_o$: 0.249	95Alb1
$[C_{13}H_9N_2OS]$ 	Reaction of thiophenol with <i>p</i> NC-NB Benzene ESR / 298	2.0061 ₉ N: 1.053 $2H_m$: 0.082 $2H_o$: 0.254 N(CN): 0.082	95Alb1

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{15}H_{16}NOS]$ 	Reaction of thiophenol with 2,4,6-trimethyl-NB Benzene ESR / 298	2.0057 ₇ N: 1.570	95Alb1
$[C_{16}H_{18}NOS]$ 	Reaction of thiophenol with ND Benzene ESR / 298	2.0066 ₄ N: 1.602	95Alb1
$[C_{17}H_{20}NOS]$ 	Photolysis of 4-tolylthio-azo(4-nitrobenzene) and ND ACN, benzene ESR / 298	2.0065 N: 1.630	97Ere1, 98Sta1
$[C_{18}H_{15}NO_2S]$ 	Oxidation of the corresponding hydroxylamine with PbO ₂ Benzene ESR / 298	2.0060 ₃ N: 0.902 2H _m : 0.034 3H _{o',p'} : 0.094 H _m : 0.117 H _m : 0.139 H _o : 0.373 H _p : 0.390	95Alb1
$[C_{19}H_{32}NOS]$ 	Photolysis of methyl disulfide and 2,4,6-tri-tert-butyl-NB Toluene ESR / 298	2.006 ₅ –2.007 ₅ N: 1.56 2H _m : 0.09 3H _γ : 0.17	92Mil1
$[C_{21}H_{36}NOS]$ 	Photolysis of n-propyl disulfide and 2,4,6-tri-tert-butyl-NB Toluene ESR / 298	2.006 ₅ –2.007 ₅ N: 1.58 2H _m : 0.08 2H _γ : 0.115	92Mil1
$[C_{21}H_{36}NOS]$ 	Photolysis of isopropyl disulfide and 2,4,6-tri-tert-butyl-NB Toluene ESR / 298	2.006 ₅ –2.007 ₅ N: 1.58 2H _m : 0.08 H _γ : 0.11	92Mil1

Substance	Generation / Matrix or Solvent / Method / T [K]	g -Factor / a -Value [mT]	Ref. / add. Ref.
$[C_{22}H_{38}NOS]$ 	Photolysis of <i>tert</i> -butyl-disulfide and 2,4,6-tri- <i>tert</i> -butyl-NB Toluene ESR / 298	2.006 ₅ –2.007 ₅ N: 1.6 2H _m : 0.19	92Mil1
$[C_{24}H_{34}NOS]$ 	Reaction of thiophenol with 2,4,6-tri- <i>tert</i> -butyl-NB Benzene ESR / 298	2.0066 ₄ N: 1.631 2H _m : 0.084	95Alb1
$[C_{30}H_{54}NOS]$ 	Photolysis of <i>ndodecyl</i> -disulfide and 2,4,6-tri- <i>tert</i> -butyl-NB Toluene ESR / 298	2.006 ₅ –2.007 ₅ N: 1.58 2H _m : 0.08 2H _γ : 0.115	92Mil1
Identical spectra with <i>n</i> hexadecyl-disulfide.			

12.2.15.3 Dithionitroxides

$[C_{14}H_{14}NO_5S_2]$ 	Decomposition of the corresponding hydroxyl-amine in air Benzene ESR / 298	N: 1.050 [¹⁵ N: 1.479]	96Bal1
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