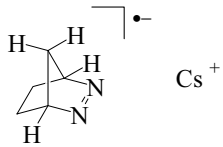
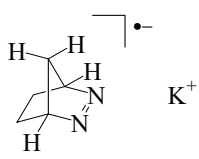
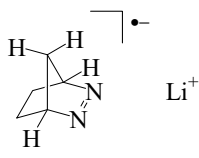
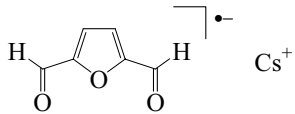


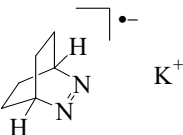
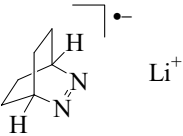
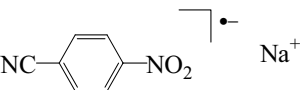
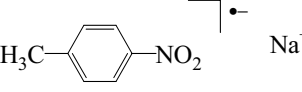
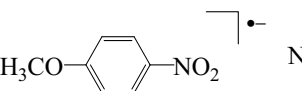
| Substance | Generation / Matrix or<br>Solvent / Method / $T$ [K] | $g$ -Factor /<br>$a$ -Value [mT] | Ref. /<br>add. Ref. |
|-----------|------------------------------------------------------|----------------------------------|---------------------|
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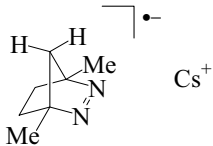
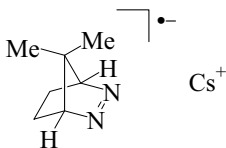
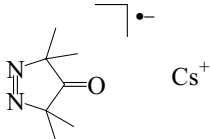
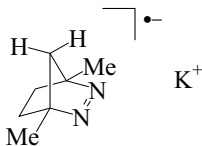
### 3.2 Complexes of group 1 (Li, Na, K, Rb, Cs)

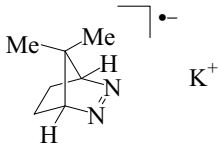
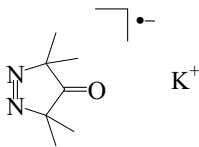
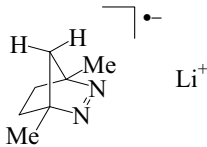
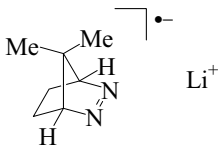
|                                                                                                                                                    |                                                                         |                                                                                                                                                                                                                                                                                   |       |
|----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| $[\text{LiO}_2]^\bullet$<br>$\text{O}_2^{\bullet-} \text{Li}^+$                                                                                    | chemical reaction<br>acetonitrile<br>ESR / 143                          | $g_{zz} = 2.0546$                                                                                                                                                                                                                                                                 | 93Oza |
| $[\text{NaO}_2]^\bullet$<br>$\text{O}_2^{\bullet-} \text{Na}^+$                                                                                    | chemical reaction<br>acetonitrile<br>ESR / 143                          | $g_{zz} = 2.0841$                                                                                                                                                                                                                                                                 | 93Oza |
| $[\text{CLiO}_2]^\bullet$<br>$\text{CO}_2^{\bullet-} \text{Li}^+$                                                                                  | chemical reaction<br>argon matrix<br>ESR / 4                            | $g_x: 2.0008$<br>$g_y: 1.9967$<br>$g_z: 2.0033$<br>$A_x(^7\text{Li}): 0.0165$<br>$A_y(^7\text{Li}): 0.0153$<br>$A_z(^7\text{Li}): 0.0144$<br>$A_x(^{13}\text{C}): 0.2145$<br>$A_y(^{13}\text{C}): 0.1680$<br>$A_z(^{13}\text{C}): 0.1680$                                         | 94Koe |
| $[\text{CNaO}_2]^\bullet$<br>$\text{CO}_2^{\bullet-} \text{Na}^+$                                                                                  | chemical reaction<br>argon matrix<br>ESR / 4                            | $g_x: 2.0023$<br>$g_y: 1.9979$<br>$g_z: 2.0029$<br>$A_x(^{23}\text{Na}): 0.0425$<br>$A_y(^{23}\text{Na}): 0.0400$<br>$A_z(^{23}\text{Na}): 0.0395$<br>$A_x(^{13}\text{C}): 0.1960$<br>$A_y(^{13}\text{C}): 0.1500$<br>$A_z(^{13}\text{C}): 0.1530$                                | 94Koe |
| $[\text{C}_5\text{H}_8\text{CsN}_2]^\bullet$<br><br>(continued) | reduction with cesium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / 203 | 2.0042<br>$^{133}\text{Cs}: 0.449$<br>$^{14}\text{N}(2 \text{ N}): 0.856$<br>$\text{H}(2 \text{ H, exo}): 0.348$<br>$\text{H}(2 \text{ H, endo}): 0.075$<br>$\text{H}(1 \text{ H, anti}): 0.229$<br>$\text{H}(1 \text{ H, syn}): 0.123$<br>$\text{H}(2 \text{ H, bridge}): 0.041$ | 91Ess |

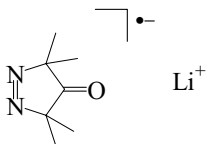
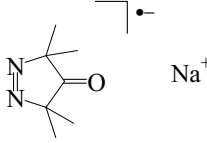
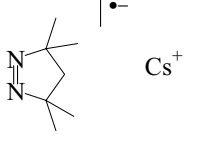
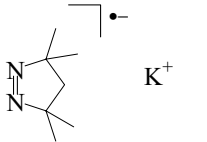
| Substance                                                                                                                             | Generation / Matrix or Solvent / Method / $T$ [K]                                           | $g$ -Factor / $a$ -Value [mT]                                                                                                                                                                                                                                                                                                                                          | Ref. / add. Ref. |
|---------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| $[\text{C}_5\text{H}_8\text{CsN}_2]^{\bullet}$ ( <i>continued</i> )                                                                   | ESR / 293                                                                                   | $^{133}\text{Cs}$ : 0.493<br>$^{14}\text{N}$ (2 N): 0.834<br>H(2 H, exo): 0.337<br>H(2 H, endo): 0.074<br>H(1 H, anti): 0.221<br>H(1 H, syn): 0.116<br>H(2 H, bridge): 0.039                                                                                                                                                                                           |                  |
| $[\text{C}_5\text{H}_8\text{KN}_2]^{\bullet}$<br>    | reduction with potassium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / 203<br><br>ESR / 293 | 2.0039<br>$^{39}\text{K}$ : 0.053<br>$^{14}\text{N}$ (2 N): 0.871<br>H(2 H, exo): 0.355<br>H(2 H, endo): 0.076<br>H(1 H, anti): 0.232<br>H(1 H, syn): 0.127<br>H(2 H, bridge): 0.046<br><br>$^{39}\text{K}$ : 0.055<br>$^{14}\text{N}$ (2 N): 0.855<br>H(2 H, exo): 0.340<br>H(2 H, endo): 0.073<br>H(1 H, anti): 0.223<br>H(1 H, syn): 0.122<br>H(2 H, bridge): 0.044 | 91Ess            |
| $[\text{C}_5\text{H}_8\text{LiN}_2]^{\bullet}$<br> | reduction with potassium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / 203<br><br>ESR / 293 | 2.0038<br>$^7\text{Li}$ : 0.104<br>$^{14}\text{N}$ (2 N): 0.848<br>H(2 H, exo): 0.362<br>H(2 H, endo): 0.076<br>H(1 H, anti): 0.228<br>H(1 H, syn): 0.122<br>H(2 H, bridge): 0.054<br><br>$^7\text{Li}$ : 0.053<br>$^{14}\text{N}$ (2 N): 0.846<br>H(2 H, exo): 0.358<br>H(2 H, endo): 0.075<br>H(1 H, anti): 0.225<br>H(1 H, syn): 0.113<br>H(2 H, bridge): 0.053     | 91Ess            |
| $[\text{C}_6\text{H}_4\text{CsO}_3]^{\bullet}$<br> | reduction with cesium metal<br>1,2-dimethoxyethane<br>ESR / 223                             | $^{133}\text{Cs}$ : 0.033<br>H(2 H, furan): 0.484<br>H(2 H, aldehyde): 0.126                                                                                                                                                                                                                                                                                           | 95Sch            |

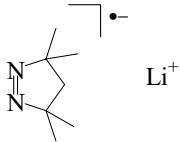
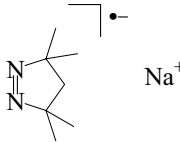
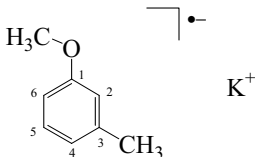
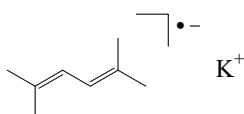


| Substance                                                                                                                                       | Generation / Matrix or Solvent / Method / $T$ [K]                                           | $g$ -Factor / $a$ -Value [mT]                                                                                                                                                                                                                                                              | Ref. / add. Ref. |
|-------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| $[\text{C}_6\text{H}_{10}\text{KN}_2]^{\bullet}$<br>           | reduction with potassium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / 203<br><br>ESR / 293 | 2.0040<br>$^{39}\text{K}$ : 0.053<br>$^{14}\text{N}(2\text{ N})$ : 0.878<br>H(4 H, exo): 0.274<br>H(4 H, endo): 0.073<br>H(2 H, bridge): 0.020<br><br>$^{39}\text{K}$ : 0.061<br>$^{14}\text{N}(2\text{ N})$ : 0.876<br>H(4 H, exo): 0.268<br>H(4 H, endo): 0.071<br>H(2 H, bridge): 0.020 | 91Ess            |
| $[\text{C}_6\text{H}_{10}\text{LiN}_2]^{\bullet}$<br>          | reduction with potassium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / 203<br><br>ESR / 293 | 2.0039<br>$^7\text{Li}$ : 0.112<br>$^{14}\text{N}(2\text{ N})$ : 0.858<br>H(4 H, exo): 0.276<br>H(4 H, endo): 0.073<br>H(2 H, bridge): 0.019<br><br>$^7\text{Li}$ : < 0.015<br>$^{14}\text{N}(2\text{ N})$ : 0.852<br>H(4 H, exo): 0.272<br>H(4 H, endo): 0.077<br>H(2 H, bridge): 0.020   | 91Ess            |
| $[\text{C}_7\text{H}_4\text{N}_2\text{NaO}_2]^{\bullet}$<br> | reduction with sodium metal<br>ammonia<br>ESR / 198                                         | $^{14}\text{N}$ : 0.816                                                                                                                                                                                                                                                                    | 86Ste            |
| $[\text{C}_7\text{H}_7\text{NNaO}_2]^{\bullet}$<br>          | reduction with sodium metal<br>ammonia or methylamine<br>ESR / 198                          | $^{14}\text{N}$ : 1.183                                                                                                                                                                                                                                                                    | 86Ste<br>87Lui   |
| $[\text{C}_7\text{H}_7\text{NNaO}_3]^{\bullet}$<br>          | reduction with sodium metal<br>ammonia<br>ESR / 198                                         | $^{14}\text{N}$ : 1.192                                                                                                                                                                                                                                                                    | 86Ste            |

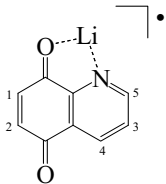
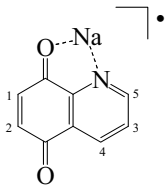
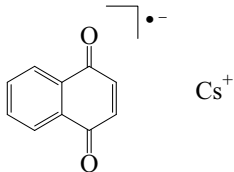
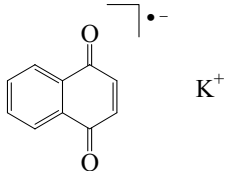
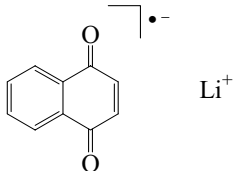
| Substance                                                                                                            | Generation / Matrix or Solvent / Method / $T$ [K]                                        | $g$ -Factor / $a$ -Value [mT]                                                                                                                                                                                                                                                                                                                                                          | Ref. / add. Ref. |
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| $[C_7H_{12}CsN_2]^{\bullet}$<br>    | reduction with cesium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / 203                  | 2.0041<br>$^{133}Cs$ : 0.450<br>$^{14}N(2 N)$ : 0.868<br>H(2 H, exo): 0.418<br>H(2 H, endo): 0.058<br>H(1 H, anti): 0.213<br>H(1 H, syn): 0.116<br>H(6 H, br, $CH_3$ ): 0.026                                                                                                                                                                                                          | 91Ess            |
| $[C_7H_{12}CsN_2]^{\bullet}$<br>    | reduction with cesium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / 203<br><br>ESR / 293 | 2.0042<br>$^{133}Cs$ : 0.482<br>$^{14}N(2 N)$ : 0.864<br>H(2 H, exo): 0.406<br>H(2 H, endo): 0.059<br>H(3 H, anti, $CH_3$ ): 0.139<br>H(3 H, syn, $CH_3$ ): 0.012<br>H(2 H, bridge): < 0.010<br><br>$^{133}Cs$ : 0.546<br>$^{14}N(2 N)$ : 0.853<br>H(2 H, exo): 0.400<br>H(2 H, endo): 0.059<br>H(3 H, anti, $CH_3$ ): 0.139<br>H(3 H, syn, $CH_3$ ): 0.010<br>H(2 H, bridge): < 0.010 | 91Ess            |
| $[C_7H_{12}CsN_2O]^{\bullet}$<br> | reduction with cesium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / 203<br><br>ESR / 293 | 2.0042<br>$^{133}Cs$ : 0.420<br>$^{14}N(2 N)$ : 0.918<br>H(12 H, $CH_3$ ): 0.061<br><br>$^{133}Cs$ : 0.470<br>$^{14}N(2 N)$ : 0.940<br>H(12 H, $CH_3$ ): 0.061                                                                                                                                                                                                                         | 91Ess            |
| $[C_7H_{12}KN_2]^{\bullet}$<br>   | reduction with potassium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / 203               | 2.0039<br>$^{39}K$ : 0.050<br>$^{14}N(2 N)$ : 0.852<br>H(2 H, exo): 0.422<br>H(2 H, endo): 0.057<br>H(1 H, anti): 0.215<br>H(1 H, syn): 0.115<br>H(6 H, br, $CH_3$ ): 0.027                                                                                                                                                                                                            | 91Ess            |

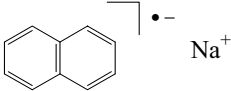
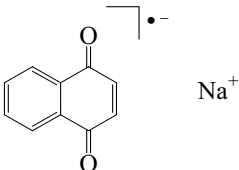
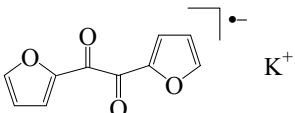
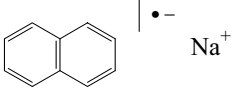
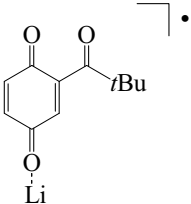
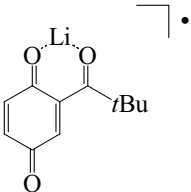
| Substance                                                                                                                                             | Generation / Matrix or Solvent / Method / $T$ [K]                                           | $g$ -Factor / $a$ -Value [mT]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Ref. / add. Ref. |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| $[\text{C}_7\text{H}_{12}\text{KN}_2]^\bullet$<br>                   | reduction with potassium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / 203<br><br>ESR / 293 | 2.0039<br>$^{39}\text{K}$ : 0.050<br>$^{14}\text{N}(2\text{ N})$ : 0.852<br>$\text{H}(2\text{ H, exo})$ : 0.409<br>$\text{H}(2\text{ H, endo})$ : 0.064<br>$\text{H}(3\text{ H, anti, CH}_3)$ : 0.136<br>$\text{H}(3\text{ H, syn, CH}_3)$ : 0.010<br>$\text{H}(2\text{ H, bridge})$ : < 0.010<br><br>$^{39}\text{K}$ : 0.058<br>$^{14}\text{N}(2\text{ N})$ : 0.848<br>$\text{H}(2\text{ H, exo})$ : 0.406<br>$\text{H}(2\text{ H, endo})$ : 0.065<br>$\text{H}(3\text{ H, anti, CH}_3)$ : 0.139<br>$\text{H}(3\text{ H, syn, CH}_3)$ : 0.012<br>$\text{H}(2\text{ H, bridge})$ : < 0.010 | 91Ess            |
| $[\text{C}_7\text{H}_{12}\text{KN}_2\text{O}]^\bullet$<br>          | reduction with potassium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / 203<br><br>ESR / 253 | 2.0039<br>$^{39}\text{K}$ : 0.047<br>$^{14}\text{N}(2\text{ N})$ : 0.927<br>$\text{H}(12\text{ H, CH}_3)$ : 0.062<br><br>$^{39}\text{K}$ : 0.052<br>$^{14}\text{N}(2\text{ N})$ : 0.938<br>$\text{H}(12\text{ H, CH}_3)$ : 0.060                                                                                                                                                                                                                                                                                                                                                           | 91Ess            |
| $[\text{C}_7\text{H}_{12}\text{LiN}_2]^\bullet$<br>                | reduction with potassium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / 203                  | 2.0038<br>$^7\text{Li}$ : 0.107<br>$^{14}\text{N}(2\text{ N})$ : 0.843<br>$\text{H}(2\text{ H, exo})$ : 0.432<br>$\text{H}(2\text{ H, endo})$ : 0.057<br>$\text{H}(1\text{ H, anti})$ : 0.212<br>$\text{H}(1\text{ H, syn})$ : 0.114<br>$\text{H}(6\text{ H, br, CH}_3)$ : 0.028                                                                                                                                                                                                                                                                                                           | 91Ess            |
| $[\text{C}_7\text{H}_{12}\text{LiN}_2]^\bullet$<br><br>(continued) | reduction with potassium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / 203                  | 2.0038<br>$^7\text{Li}$ : 0.102<br>$^{14}\text{N}(2\text{ N})$ : 0.880<br>$\text{H}(2\text{ H, exo})$ : 0.421<br>$\text{H}(2\text{ H, endo})$ : 0.067<br>$\text{H}(3\text{ H, anti, CH}_3)$ : 0.133<br>$\text{H}(3\text{ H, syn, CH}_3)$ : 0.013<br>$\text{H}(2\text{ H, bridge})$ : < 0.010                                                                                                                                                                                                                                                                                               | 91Ess            |

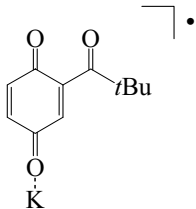
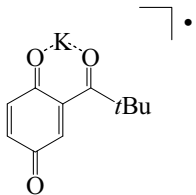
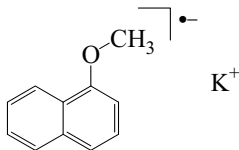
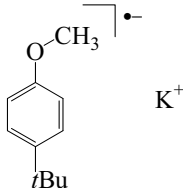
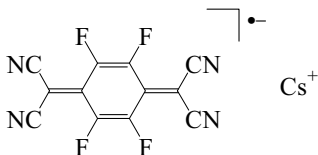
| Substance                                                                                                                                                     | Generation / Matrix or Solvent / Method / $T$ [K]                                       | $g$ -Factor / $a$ -Value [mT]                                                                                                                                                                                                                                                                                    | Ref. / add. Ref. |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| $[\text{C}_7\text{H}_{12}\text{LiN}_2]^\bullet$ ( <i>continued</i> )                                                                                          | ESR / 293                                                                               | $^7\text{Li}$ : 0.055<br>$^{14}\text{N}(2\text{ N})$ : 0.872<br>$\text{H}(2\text{ H, exo})$ : 0.415<br>$\text{H}(2\text{ H, endo})$ : 0.067<br>$\text{H}(3\text{ H, anti, CH}_3)$ : 0.136<br>$\text{H}(3\text{ H, syn, CH}_3)$ : 0.013<br>$\text{H}(2\text{ H, bridge})$ : < 0.010                               |                  |
| $[\text{C}_7\text{H}_{12}\text{LiN}_2\text{O}]^\bullet$<br>                  | reduction with potassium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / 203<br>ESR / 273 | 2.0038<br>$^7\text{Li}$ : 0.117<br>$^{14}\text{N}(2\text{ N})$ : 0.892<br>$\text{H}(12\text{ H, CH}_3)$ : 0.061<br>$^7\text{Li}$ : 0.097<br>$^{14}\text{N}(2\text{ N})$ : 0.902<br>$\text{H}(12\text{ H, CH}_3)$ : 0.060                                                                                         | 91Ess            |
| $[\text{C}_7\text{H}_{12}\text{NaN}_2\text{O}]^\bullet$<br>                 | reduction with sodium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / 203<br>ESR / 253    | 2.0039<br>$^{23}\text{Na}$ : 0.206<br>$^{14}\text{N}(2\text{ N})$ : 0.938<br>$\text{H}(12\text{ H, CH}_3)$ : 0.063<br>$^{23}\text{Na}$ : 0.218<br>$^{14}\text{N}(2\text{ N})$ : 0.945<br>$\text{H}(12\text{ H, CH}_3)$ : 0.059                                                                                   | 91Ess            |
| $[\text{C}_7\text{H}_{14}\text{CsN}_2]^\bullet$<br>                        | reduction with cesium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / 203<br>ESR / 293    | 2.0041<br>$^{133}\text{Cs}$ : 0.472<br>$^{14}\text{N}(2\text{ N})$ : 0.930<br>$\text{H}(2\text{ H, CH}_2)$ : 0.052<br>$\text{H}(12\text{ H, CH}_3)$ : 0.074<br>$^{133}\text{Cs}$ : 0.554<br>$^{14}\text{N}(2\text{ N})$ : 0.932<br>$\text{H}(2\text{ H, CH}_2)$ : 0.049<br>$\text{H}(12\text{ H, CH}_3)$ : 0.071 | 91Ess            |
| $[\text{C}_7\text{H}_{14}\text{KN}_2]^\bullet$<br><br>( <i>continued</i> ) | reduction with potassium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / 203              | 2.0037<br>$^{39}\text{K}$ : 0.048<br>$^{14}\text{N}(2\text{ N})$ : 0.918<br>$\text{H}(2\text{ H, CH}_2)$ : 0.048<br>$\text{H}(12\text{ H, CH}_3)$ : 0.074                                                                                                                                                        | 91Ess            |

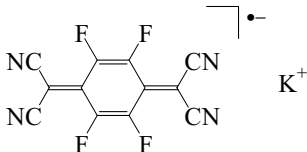
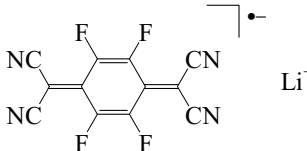
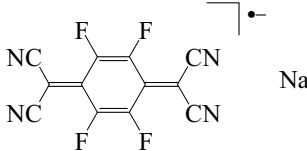
| Substance                                                                                                                              | Generation / Matrix or Solvent / Method / $T$ [K]                                           | $g$ -Factor / $a$ -Value [mT]                                                                                                                                                                                                                                                                                      | Ref. / add. Ref. |
|----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| $[\text{C}_7\text{H}_{14}\text{KN}_2]^{\bullet}$ ( <i>continued</i> )                                                                  | ESR / 273                                                                                   | $^{39}\text{K}$ : 0.058<br>$^{14}\text{N}(2\text{ N})$ : 0.923<br>$\text{H}(2\text{ H, CH}_2)$ : 0.048<br>$\text{H}(12\text{ H, CH}_3)$ : 0.072                                                                                                                                                                    |                  |
| $[\text{C}_7\text{H}_{14}\text{LiN}_2]^{\bullet}$<br> | reduction with potassium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / 203<br><br>ESR / 293 | 2.0037<br>$^7\text{Li}$ : 0.116<br>$^{14}\text{N}(2\text{ N})$ : 0.888<br>$\text{H}(2\text{ H, CH}_2)$ : 0.049<br>$\text{H}(12\text{ H, CH}_3)$ : 0.071<br><br>$^{14}\text{N}(2\text{ N})$ : 0.890                                                                                                                 | 91Ess            |
| $[\text{C}_7\text{H}_{14}\text{NaN}_2]^{\bullet}$<br> | reduction with sodium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / 203<br><br>ESR / 273    | 2.0037<br>$^{23}\text{Na}$ : 0.224<br>$^{14}\text{N}(2\text{ N})$ : 0.931<br>$\text{H}(2\text{ H, CH}_2)$ : 0.051<br>$\text{H}(12\text{ H, CH}_3)$ : 0.072<br><br>$^{23}\text{Na}$ : 0.236<br>$^{14}\text{N}(2\text{ N})$ : 0.933<br>$\text{H}(2\text{ H, CH}_2)$ : 0.050<br>$\text{H}(12\text{ H, CH}_3)$ : 0.071 | 91Ess            |
| $[\text{C}_8\text{H}_{10}\text{KO}]^{\bullet}$<br>  | reduction with Na-K alloy<br>THF<br>ESR / 163–298<br><br>HMO calculations                   | $\text{H}(2)$ : $-0.343$<br>$\text{H}(3, \text{CH}_3)$ : 0.520<br>$\text{H}(4)$ : $-0.315$<br>$\text{H}(5)$ : $-0.601$<br>$\text{H}(6)$ : $-0.428$                                                                                                                                                                 | 89Cel            |
| $[\text{C}_8\text{H}_{14}\text{K}]^{\bullet}$<br>   | reduction with potassium metal<br>1,2-dimethoxyethane<br>ESR / 195                          | $^{39}\text{K}$ : $< 0.02$<br>$\text{H}(1, \text{exo})$ : 0.95<br>$\text{H}(1, \text{endo})$ : 0.86<br>$\text{H}(2)$ : $-0.13$<br>$\text{H}(3)$ : $-0.13$<br>$\text{H}(4, \text{exo})$ : 0.95<br>$\text{H}(4, \text{endo})$ : 0.86                                                                                 | 98Ger            |

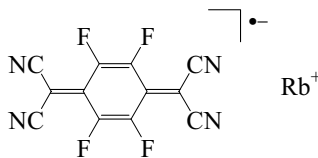
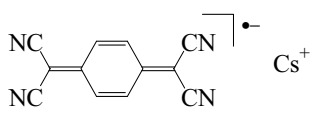
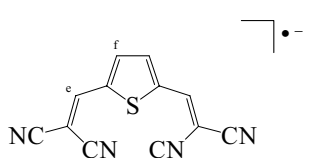
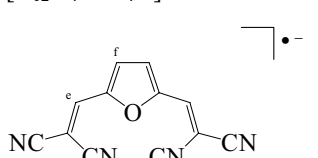


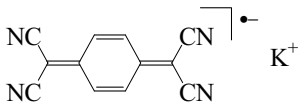
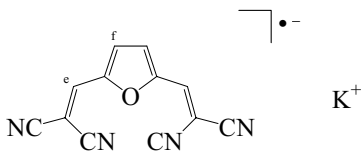
| Substance                                                                                                                              | Generation / Matrix or Solvent / Method / $T$ [K]                      | $g$ -Factor / $a$ -Value [mT]                                                                                                                                                                                       | Ref. / add. Ref. |
|----------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| $[\text{C}_9\text{H}_5\text{LiNO}_2]^\bullet$<br>     | chemical reduction<br>THF / HMPTA 3:1<br>ESR / ENDOR / 220             | $^7\text{Li}$ : 0.034<br>$\text{H}(1)$ : 0.411<br>$\text{H}(2)$ : 0.208<br>$\text{H}(3)$ : 0.107<br>$\text{H}(4)$ : 0.020                                                                                           | 91Boc            |
|                                                                                                                                        | electrochemistry, HMO calculations                                     |                                                                                                                                                                                                                     |                  |
| $[\text{C}_9\text{H}_5\text{NNaO}_2]^\bullet$<br>     | reduction with sodium metal<br>THF / HMPTA 3:1<br>ESR / ENDOR / 210    | $^{23}\text{Na}$ : -0.033<br>$\text{H}(1)$ : -0.373<br>$\text{H}(2)$ : -0.247<br>$\text{H}(3)$ : -0.098<br>$\text{H}(4)$ : 0.016                                                                                    | 91Boc            |
|                                                                                                                                        | electrochemistry, HMO calculations                                     |                                                                                                                                                                                                                     |                  |
| $[\text{C}_{10}\text{H}_6\text{CsO}_2]^\bullet$<br> | reduction with cesium metal<br>1,2-dimethoxyethane<br>ESR / 208–237    | $\text{H}(2)$ : 0.270<br>$\text{H}(3)$ : 0.382<br>$\text{H}(5)$ : 0.016<br>$\text{H}(6)$ : 0.082<br>$\text{H}(7)$ : 0.041<br>$\text{H}(8)$ : 0.043                                                                  | 87Fli            |
| $[\text{C}_{10}\text{H}_6\text{KO}_2]^\bullet$<br>  | reduction with potassium metal<br>1,2-dimethoxyethane<br>ESR / 193–276 | $\text{H}(2)$ : 0.263–0.262<br>$\text{H}(3)$ : 0.384–0.387<br>$\text{H}(5)$ : 0.015–0.014<br>$\text{H}(6)$ : 0.080–0.088<br>$\text{H}(7)$ : 0.042–0.044<br>$\text{H}(8)$ : 0.049–0.046<br>variation of $a$ with $T$ | 87Fli            |
| $[\text{C}_{10}\text{H}_6\text{LiO}_2]^\bullet$<br> | reduction with lithium metal<br>1,2-dimethoxyethane<br>ESR / 260–309   | $\text{H}(2)$ : 0.192–0.178<br>$\text{H}(3)$ : 0.462–0.480<br>$\text{H}(5)$ : 0.016–0.005<br>$\text{H}(6)$ : 0.097–0.100<br>$\text{H}(7)$ : 0.029–0.019<br>$\text{H}(8)$ : 0.072–0.076<br>variation of $a$ with $T$ | 87Fli            |

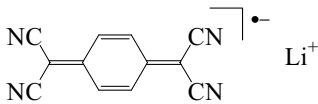
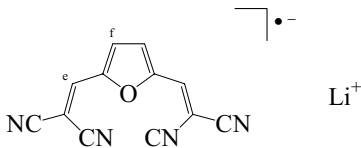
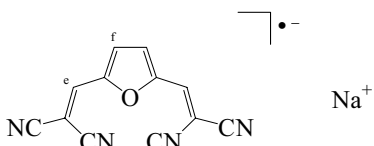
| Substance                                                                                                                                   | Generation / Matrix or Solvent / Method / $T$ [K]                                 | $g$ -Factor / $a$ -Value [mT]                                                                                                   | Ref. / add. Ref. |
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| $[\text{C}_{10}\text{H}_6\text{Na}]^{\bullet}$<br>         | reduction with sodium metal<br>THF<br>ESR / var. $T$                              | effect of perdeuteration<br>on ion pairing and<br>$a(^{23}\text{Na})$                                                           | 93Ste            |
| $[\text{C}_{10}\text{H}_6\text{NaO}_2]^{\bullet}$<br>      | reduction with lithium metal<br>1,2-dimethoxyethane<br>ESR / 218–239              | H(2): 0.240–0.241<br>H(3): 0.416–0.415<br>H(5): 0.013<br>H(6): 0.081<br>H(7): 0.036<br>H(8): 0.049<br>variation of $a$ with $T$ | 87Fli            |
| $[\text{C}_{10}\text{H}_6\text{KO}_4]^{\bullet}$<br>      | reduction with potassium metal<br>HMPTA / 1,2-dimethoxyethane<br>1:5<br>ESR / 357 | H(3,3'): 0.210<br>H(4,4'): 0.036<br>H(5,5'): 0.153                                                                              | 95Sch            |
| $[\text{C}_{10}\text{H}_8\text{Na}]^{\bullet}$<br>       | reduction with sodium metal<br>THF<br>ESR / var. $T$                              | effect of perdeuteration<br>on ion pairing and<br>$a(^{23}\text{Na})$                                                           | 93Ste            |
| $[\text{C}_{11}\text{H}_{12}\text{LiO}_3]^{\bullet}$<br> | reduction with lithium metal<br>THF<br>ESR / 233–344                              | H(3): 0.188–0.179<br>H(5): 0.123–0.109<br>H(6): 0.319–0.334<br>variation of $a$ with $T$                                        | 89Fli            |
| $[\text{C}_{11}\text{H}_{12}\text{LiO}_3]^{\bullet}$<br> | reduction with lithium metal<br>THF<br>ESR / 233–344                              | H(3): 0.439–0.550<br>H(5): 0.292–0.228<br>H(6): 0.120–0.111<br>variation of $a$ with $T$                                        | 89Fli            |

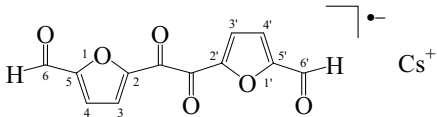
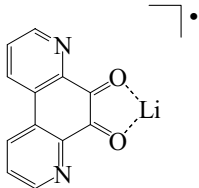
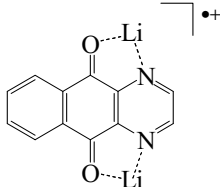
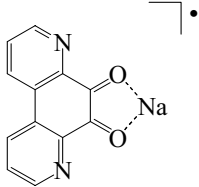
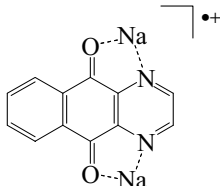
| Substance                                                                                                                                 | Generation / Matrix or Solvent / Method / $T$ [K]                         | $g$ -Factor / $a$ -Value [mT]                                                                                                                | Ref. / add. Ref. |
|-------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| $[C_{11}H_{12}KO_3]^{\bullet}$<br>                       | reduction with potassium metal<br>THF<br>ESR / 185–287                    | H(3): 0.272–0.281<br>H(5): 0.180–0.175<br>H(6): 0.263–0.262<br>variation of $a$ with $T$                                                     | 89Fli            |
| $[C_{11}H_{12}KO_3]^{\bullet}$<br>                       | reduction with potassium metal<br>THF<br>ESR / 185–287                    | H(3): 0.315–0.325<br>H(5): 0.270–0.265<br>H(6): 0.172–0.171<br>variation of $a$ with $T$                                                     | 89Fli            |
| $[C_{11}H_{10}KO]^{\bullet}$<br>                       | reduction with Na-K alloy<br>THF<br>ESR / 163–298<br><br>HMO calculations | H(1): –0.422<br>H(o-CH <sub>3</sub> ): 0.009<br>H(3): –0.342<br>H(4): –0.498<br>H(5): –0.545<br>H(6): –0.055<br>H(7): –0.321<br>H(8): –0.422 | 89Cel            |
| $[C_{11}H_{16}KO]^{\bullet}$<br>                       | reduction with Na-K alloy<br>THF<br>ESR / 163–298<br><br>HMO calculations | H(2,6): –0.522<br>H(3,5): –0.602                                                                                                             | 89Cel            |
| $[C_{12}CsF_4N_4]^{\bullet}$<br><br><i>(continued)</i> | chemical reaction<br>THP<br>ESR / 232–297                                 | 2.002869<br><sup>19</sup> F: 0.1536<br><sup>14</sup> N: 0.1116                                                                               | 91Mar            |

| Substance                                                                                                                              | Generation / Matrix or Solvent / Method / $T$ [K]                                                                                                                   | $g$ -Factor / $a$ -Value [mT]                                                                                                                                                                                                                                                                            | Ref. / add. Ref. |
|----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| $[\text{C}_{12}\text{CsF}_4\text{N}_4]^\bullet$ (continued)                                                                            | THF<br>ESR / 178–297<br><br>1,2-dimethoxyethane<br>ESR / 207–297                                                                                                    | 2.002869<br><br>$^{19}\text{F}$ : 0.1541<br>$^{14}\text{N}$ : 0.1118<br><br>2.002870<br><br>$^{19}\text{F}$ : 0.1535<br>$^{14}\text{N}$ : 0.1111                                                                                                                                                         |                  |
| $[\text{C}_{12}\text{F}_4\text{KN}_4]^\bullet$<br>    | chemical reaction<br>THF<br>ESR / 185–297<br><br>1,2-dimethoxyethane<br>ESR / 219–297<br><br>THF / crown ether<br>ESR / 185–297<br><br>THF / NaTPB<br>ESR / 185–297 | 2.002861<br><br>$^{19}\text{F}$ : 0.1542<br>$^{14}\text{N}$ : 0.1121<br><br>2.002862<br><br>$^{19}\text{F}$ : 0.1535<br>$^{14}\text{N}$ : 0.1112<br><br>2.002859<br><br>$^{19}\text{F}$ : 0.1540<br>$^{14}\text{N}$ : 0.1120<br><br>2.002859<br><br>$^{19}\text{F}$ : 0.1553<br>$^{14}\text{N}$ : 0.1118 | 91Mar            |
| $[\text{C}_{12}\text{F}_4\text{LiN}_4]^\bullet$<br> | chemical reaction<br>THF<br>ESR / 173–297<br><br>1,2-dimethoxyethane<br>ESR / 201–297                                                                               | 2.002858<br><br>$^{19}\text{F}$ : 0.1543<br>$^{14}\text{N}$ : 0.1117<br><br>2.002858<br><br>$^{19}\text{F}$ : 0.1535<br>$^{14}\text{N}$ : 0.1113                                                                                                                                                         | 91Mar            |
| $[\text{C}_{12}\text{F}_4\text{NaN}_4]^\bullet$<br> | chemical reaction<br>THF<br>ESR / 173–297<br><br>1,2-dimethoxyethane<br>ESR / 208–297                                                                               | 2.002860<br><br>$^{19}\text{F}$ : 0.1542<br>$^{14}\text{N}$ : 0.1118<br><br>2.002869<br><br>$^{19}\text{F}$ : 0.1536<br>$^{14}\text{N}$ : 0.1112                                                                                                                                                         | 91Mar            |
| (continued)                                                                                                                            |                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                          |                  |

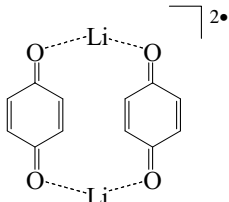
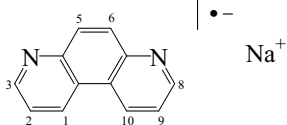
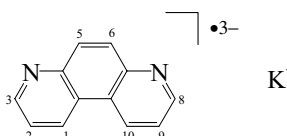
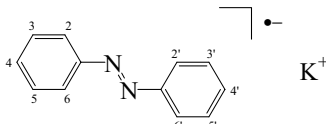
| Substance                                                                                                                                      | Generation / Matrix or Solvent / Method / $T$ [K]                                                            | $g$ -Factor / $a$ -Value [mT]                                                                                                                               | Ref. / add. Ref. |
|------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| $[\text{C}_{12}\text{F}_4\text{N}_4\text{Na}]^\bullet$ ( <i>continued</i> )                                                                    | THF / NaTPB<br>ESR / 173–297                                                                                 | 2.002865<br>$^{19}\text{F}$ : 0.1542<br>$^{14}\text{N}$ : 0.1117                                                                                            |                  |
| $[\text{C}_{12}\text{F}_4\text{N}_4\text{Rb}]^\bullet$<br>    | chemical reaction<br>THF<br>ESR / 175–297<br>1,2-dimethoxyethane<br>ESR / 207–297                            | 2.002869<br>$^{19}\text{F}$ : 0.1542<br>$^{14}\text{N}$ : 0.1118<br>2.002870<br>$^{19}\text{F}$ : 0.1535<br>$^{14}\text{N}$ : 0.1113                        | 91Mar            |
| $[\text{C}_{12}\text{H}_4\text{CsN}_4]^\bullet$<br>           | chemical reaction<br>THP<br>ESR / 232–297<br>THF<br>ESR / 232–297<br>1,2-dimethoxyethane<br>ESR / 232–297    | 2.002706<br>H: 0.1411<br>$^{14}\text{N}$ : 0.1001<br>2.002704<br>H: 0.1414<br>$^{14}\text{N}$ : 0.1005<br>2.002699<br>H: 0.1416<br>$^{14}\text{N}$ : 0.1000 | 91Mar            |
| $[\text{C}_{12}\text{H}_4\text{CsN}_4\text{S}]^\bullet$<br> | chemical reduction<br>2-methyl-THF<br>ESR / 243<br>HMO calculations                                          | 2.0038<br>$^{133}\text{Cs}$ : 0.0085<br>$H_e$ : 0.303<br>$H_f$ : 0.115<br>$^{14}\text{N}$ : 0.087, 0.067                                                    | 92Sch1           |
| $[\text{C}_{12}\text{H}_4\text{CsN}_4\text{O}]^\bullet$<br> | chemical reduction<br>2-methyl-THF<br>ESR / 203–223<br>2-methyl-THF<br>ESR / 243–263<br>( <i>continued</i> ) | 2.0029<br>$H_e$ : 0.323<br>$H_f$ : 0.098<br>2.0029<br>$^{133}\text{Cs}$ : 0.047–0.040<br>$H_e$ : 0.321–0.322<br>$H_f$ : 0.098                               | 92Sch1           |

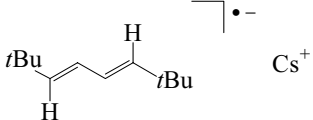
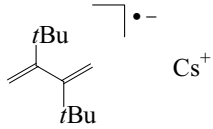
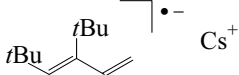
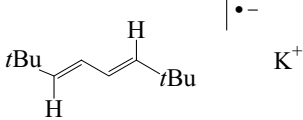
| Substance                                                                                                                                     | Generation / Matrix or Solvent / Method / $T$ [K]                                                                                                       | $g$ -Factor / $a$ -Value [mT]                                                                                                                                                                                                                              | Ref. / add. Ref. |
|-----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| $[\text{C}_{12}\text{H}_4\text{CsN}_4\text{O}]^\bullet$ ( <i>continued</i> )                                                                  | 1,2-dimethoxyethane<br>ESR / 203–263<br><br>THF<br>ESR / 203–263<br><br>HMO calculations                                                                | 2.0029<br><br>$H_e$ : 0.375–0.321, 0.354–0.317<br>$H_f$ : 0.123–0.116, 0.034–0.035<br><br>2.0029<br><br>$H_e$ : 0.363–0.357, 0.324–0.322<br>$H_f$ : 0.114–0.096, 0.038                                                                                     |                  |
| $[\text{C}_{12}\text{H}_4\text{KN}_4]^\bullet$<br>           | chemical reaction<br>THF<br>ESR / 187–297<br>1,2-dimethoxyethane<br>ESR / 218–297<br>THF / crown ether<br>ESR / 185–297<br>THF / NaTPB<br>ESR / 186–297 | 2.002702<br><br>$H$ : 0.1415<br>$^{14}\text{N}$ : 0.1006<br><br>2.002700<br><br>$H$ : 0.1416<br>$^{14}\text{N}$ : 0.1001<br><br>2.002695<br><br>$H$ : 0.1412<br>$^{14}\text{N}$ : 0.1006<br><br>2.002697<br><br>$H$ : 0.1416<br>$^{14}\text{N}$ : 0.1002   | 91Mar            |
| $[\text{C}_{12}\text{H}_4\text{KN}_4\text{O}]^\bullet$<br> | chemical reduction<br>2-methyl-THF<br>ESR / 203–263<br>1,2-dimethoxyethane<br>ESR / 203–263<br><br>THF<br>ESR / 203–263<br><br>HMO calculations         | 2.0029<br><br>$H_e$ : 0.335–0.331<br>$H_f$ : 0.100–0.098<br><br>2.0029<br><br>$H_e$ : 0.372–0.361, 0.321–0.328<br>$H_f$ : 0.124–0.121, 0.035<br><br>2.0029<br><br>$H_e$ : 0.366–0.357, 0.337–0.331, 0.318<br>$H_f$ : 0.120–0.113, 0.101–0.096, 0.038–0.039 | 92Sch1           |

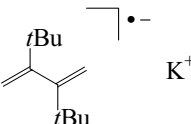
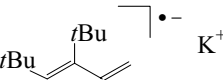
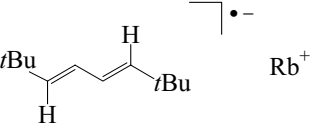
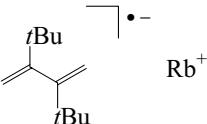
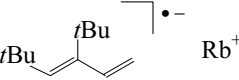
| Substance                                                                                                                                      | Generation / Matrix or Solvent / Method / $T$ [K]                                                                                       | $g$ -Factor / $a$ -Value [mT]                                                                                                                                                                                                                           | Ref. / add. Ref. |
|------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| $[\text{C}_{12}\text{H}_4\text{LiN}_4]^\bullet$<br>           | chemical reaction<br>THF<br>ESR / 186–297<br>1,2-dimethoxyethane<br>ESR / 210–297                                                       | 2.002698<br>H: 0.1413<br>$^{14}\text{N}$ : 0.1003<br>2.002701<br>H: 0.1414<br>$^{14}\text{N}$ : 0.0998                                                                                                                                                  | 91Mar            |
| $[\text{C}_{12}\text{H}_4\text{LiN}_4\text{O}]^\bullet$<br>   | chemical reduction<br>2-methyl-THF<br>ESR / 203–263<br>1,2-dimethoxyethane<br>ESR / 203–263<br>THF<br>ESR / 203–263<br>HMO calculations | 2.0029<br>$^7\text{Li}$ : 0.016–0.013<br>$H_c$ : 0.369<br>$H_f$ : 0.101<br>2.0029<br>$H_c$ : 0.370–0.362,<br>0.318–0.317<br>$H_f$ : 0.122–0.101,<br>0.034–0.033<br>2.0029<br>$H_c$ : 0.369–0.366,<br>0.319–0.317<br>$H_f$ : 0.119–0.102,<br>0.035–0.039 | 92Sch1           |
| $[\text{C}_{12}\text{H}_4\text{N}_4\text{NaO}]^\bullet$<br> | chemical reduction<br>2-methyl-THF<br>ESR / 203–263<br>1,2-dimethoxyethane<br>ESR / 203–263<br>THF<br>ESR / 203–263<br>HMO calculations | 2.0029<br>$H_c$ : 0.352–0.343<br>$H_f$ : 0.101–0.099<br>2.0029<br>$H_c$ : 0.367–0.352,<br>0.321–0.319<br>$H_f$ : 0.126–0.123,<br>0.102–0.110, 0.035<br>2.0029<br>$H_c$ : 0.351–0.340<br>$H_f$ : 0.101–0.097                                             | 92Sch1           |

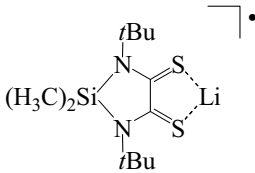
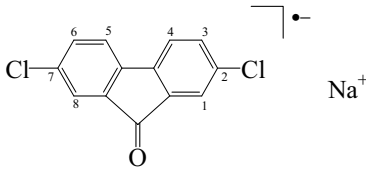
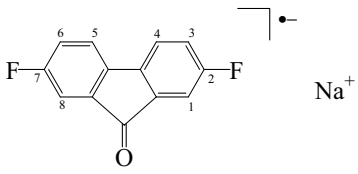
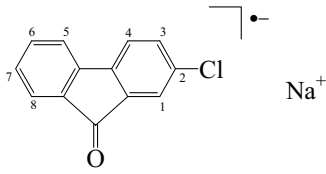
| Substance                                                                                                                                                    | Generation / Matrix or Solvent / Method / $T$ [K]                                                        | $g$ -Factor / $a$ -Value [mT]                                                                                  | Ref. / add. Ref. |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|------------------|
| $[\text{C}_{12}\text{H}_6\text{CsO}_6]^\bullet$<br>                         | reduction with cesium metal<br>1,2-dimethoxyethane<br>ESR / 321                                          | $^{133}\text{Cs}$ : < 0.01<br>$\text{H}(3,3')$ : 0.131<br>$\text{H}(4,4')$ : 0.040<br>$\text{H}(6,6')$ : 0.058 | 95Sch            |
| $[\text{C}_{12}\text{H}_6\text{LiN}_2\text{O}_2]^\bullet$<br>               | reduction with lithium metal<br>THF<br>ESR / 295<br><br>HMO calculations                                 | 2.0045                                                                                                         | 92Boc1           |
| $[\text{C}_{12}\text{H}_6\text{Li}_2\text{N}_2\text{O}_2]^{\bullet+}$<br>  | chemical reduction<br>1,2-dimethoxyethane<br>ESR / ENDOR / 220<br><br>electrochemistry, HMO calculations | $^7\text{Li}$ : -0.024<br>$\text{H}(1)$ : 0.099<br>$\text{H}(2)$ : -0.075<br>$\text{H}(3)$ : -0.045            | 91Boc            |
| $[\text{C}_{12}\text{H}_6\text{N}_2\text{NaO}_2]^\bullet$<br>             | reduction with sodium metal<br>THF<br>ESR / 295<br><br>HMO calculations                                  | 2.0048                                                                                                         | 92Boc1           |
| $[\text{C}_{12}\text{H}_6\text{N}_2\text{Na}_2\text{O}_2]^{\bullet+}$<br> | chemical reduction<br>1,2-dimethoxyethane<br>ESR / ENDOR / 210<br><br>electrochemistry, HMO calculations | $^{23}\text{Na}$ : 0.031<br>$\text{H}(1)$ : 0.102<br>$\text{H}(2)$ : 0.072<br>$\text{H}(3)$ : 0.040            | 91Boc            |



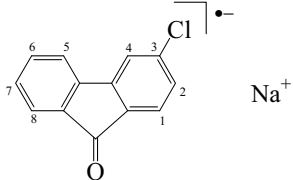
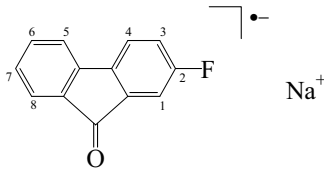
| Substance                                                                                                                                         | Generation / Matrix or Solvent / Method / $T$ [K]                                                                          | $g$ -Factor / $a$ -Value [mT]                                                                                                                                                                                                                                                                                                                       | Ref. / add. Ref. |
|---------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| $[\text{C}_{12}\text{H}_8\text{Li}_2\text{O}_4]^{2\bullet}$<br>  | chemical reaction<br>toluene<br>ESR / 77<br><br>calculations, effect of amines on aggregation                              | $g_1$ : 2.006<br>$g_2$ : 2.007<br>$g_3$ : 2.0095<br><br>$D$ : 104 G<br>$E$ : 2 G                                                                                                                                                                                                                                                                    | 98Bro1           |
| $[\text{C}_{12}\text{H}_8\text{N}_2\text{Na}]^\bullet$<br>       | reduction with sodium metal<br>1,2-dimethoxyethane<br>ESR / 202<br><br>electrochemistry                                    | 2.0027<br><br>$H(1,10)$ : 0.320<br>$H(2,9)$ : 0.180<br>$H(3,8)$ : 0.046<br>$H(4,7)$ : 0.250<br>$H(5,6)$ : 0.416                                                                                                                                                                                                                                     | 89Fuj            |
| $[\text{C}_{12}\text{H}_8\text{N}_2\text{K}]^{\bullet 2-}$<br> | reduction with potassium metal<br>1,2-dimethoxyethane<br>ESR / 298<br><br>electrochemistry                                 | 2.0027<br><br>$H(1,10)$ : 0.570<br>$H(2,9)$ : 0.120<br>$H(3,8)$ : 0.512<br>$H(4,7)$ : 0.030<br>$H(5,6)$ : $\approx 0$                                                                                                                                                                                                                               | 89Fuj            |
| $[\text{C}_{12}\text{H}_{10}\text{KN}_2]^\bullet$<br>          | reduction with potassium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / 203<br><br>1,2-dimethoxyethane<br>ESR / ENDOR / 298 | 2.0035<br><br>$^{39}\text{K}$ : < 0.01<br>$^{14}\text{N}$ : 0.478<br>$H(2,2')$ : -0.211<br>$H(3,3')$ : 0.062<br>$H(4,4')$ : -0.320<br>$H(5,5')$ : 0.089<br>$H(6,6')$ : -0.294<br><br>$^{39}\text{K}$ : 0.041<br>$^{14}\text{N}$ : 0.500<br>$H(2,2')$ : -0.215<br>$H(3,3')$ : 0.066<br>$H(4,4')$ : -0.309<br>$H(5,5')$ : 0.092<br>$H(6,6')$ : -0.282 | 91Bus            |
| (continued)                                                                                                                                       |                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                     |                  |

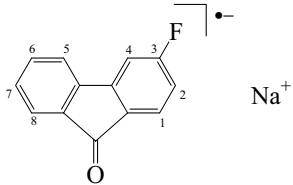
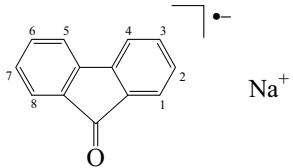
| Substance                                                                                                                                | Generation / Matrix or Solvent / Method / $T$ [K]                                                                             | $g$ -Factor / $a$ -Value [mT]                                                                                                                                                                     | Ref. / add. Ref. |
|------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| $[\text{C}_{12}\text{H}_{10}\text{KN}_2]^{\bullet}$ ( <i>continued</i> )                                                                 | 2-methyl-THF<br>ESR / ENDOR / 203                                                                                             | $^{39}\text{K}$ : 0.049<br>$^{14}\text{N}$ : 0.500<br>$\text{H}(2,2')$ : -0.216<br>$\text{H}(3,3')$ : 0.065<br>$\text{H}(4,4')$ : -0.314<br>$\text{H}(5,5')$ : 0.091<br>$\text{H}(6,6')$ : -0.294 |                  |
|                                                                                                                                          | 2-methyl-THF<br>ESR / ENDOR / 298                                                                                             | $^{39}\text{K}$ : 0.035<br>$^{14}\text{N}$ : 0.503<br>$\text{H}(2,2')$ : -0.217<br>$\text{H}(3,3')$ : 0.069<br>$\text{H}(4,4')$ : -0.308<br>$\text{H}(5,5')$ : 0.092<br>$\text{H}(6,6')$ : -0.285 |                  |
| $[\text{C}_{12}\text{H}_{22}\text{Cs}]^{\bullet}$<br>  | reduction with cesium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / 200<br>data at other temperatures and in THF available    | 2.0056<br>$^{133}\text{Cs}$ : 0.70<br>$\text{H}(1,4)$ : -0.73<br>$\text{H}(2,3)$ : -0.24                                                                                                          | 98Ger            |
| $[\text{C}_{12}\text{H}_{22}\text{Cs}]^{\bullet}$<br> | reduction with cesium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / 195<br>data at other temperatures and in THF available    | 2.0017<br>$^{133}\text{Cs}$ : 1.46<br>$\text{H}(1,4, \text{exo})$ : -0.70<br>$\text{H}(1,4, \text{endo})$ : -0.48                                                                                 | 98Ger            |
| $[\text{C}_{12}\text{H}_{22}\text{Cs}]^{\bullet}$<br> | reduction with cesium metal<br>1,2-dimethoxyethane<br>ESR / 195                                                               | 2.0026<br>$^{133}\text{Cs}$ : 0.36<br>$\text{H}(1)$ : 0.89<br>$\text{H}(4, 2 \text{ H})$ : 0.69<br>$\text{H}(3)$ : 0.31                                                                           | 98Ger            |
| $[\text{C}_{12}\text{H}_{22}\text{K}]^{\bullet}$<br>  | reduction with potassium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / 200<br>data at other temperatures and in THF available | 2.0028<br>$^{39}\text{K}$ : 0.126<br>$\text{H}(1,4)$ : -0.730<br>$\text{H}(2,3)$ : -0.242<br>$\text{H}(t\text{Bu})$ : 0.026                                                                       | 98Ger            |

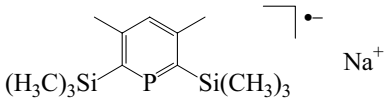
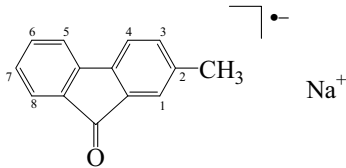
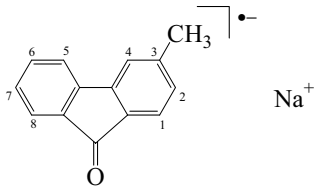
| Substance                                                                                                           | Generation / Matrix or Solvent / Method / $T$ [K]                                                                                                                  | $g$ -Factor / $a$ -Value [mT]                                                                                     | Ref. / add. Ref. |
|---------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|------------------|
| $[C_{12}H_{22}K]^{\bullet}$<br>    | reduction with potassium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / 195<br>data at other temperatures and in THF available, partial deuterated species reported | 2.0027<br>$^{39}K$ : 0.119<br>H(1,4, exo): $-0.695$<br>H(1,4, endo): $-0.445$                                     | 98Ger            |
| $[C_{12}H_{22}K]^{\bullet}$<br>    | reduction with potassium metal<br>1,2-dimethoxyethane<br>ESR / 200                                                                                                 | $^{39}K$ : $< 0.03$<br>H(1, exo): $-0.89$<br>H(3): $-0.31$<br>H(4, exo): $-0.69$<br>H(4, endo): $-0.69$           | 98Ger            |
| $[C_{12}H_{22}Rb]^{\bullet}$<br>  | reduction with rubidium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / 200<br>data at other temperatures and in THF available                                       | 2.0036<br>$^{85}Rb$ : 0.405<br>$^{87}Rb$ : 1.38<br>H(1,4): $-0.753$<br>H(2,3): $-0.242$<br>H( <i>t</i> Bu): 0.027 | 98Ger            |
| $[C_{12}H_{22}Rb]^{\bullet}$<br> | reduction with rubidium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / 195<br>data at other temperatures and in THF available                                       | 2.0024<br>$^{85}Rb$ : 0.597<br>$^{87}Rb$ : 2.01<br>H(1,4, exo): $-0.697$<br>H(1,4, endo): $-0.456$                | 98Ger            |
| $[C_{12}H_{22}Rb]^{\bullet}$<br> | reduction with rubidium metal<br>1,2-dimethoxyethane<br>ESR / 195                                                                                                  | 2.0026<br>$^{85}Rb$ : 0.11<br>$^{87}Rb$ : 0.37<br>H(1): 0.89<br>H(4, 2 H): 0.69<br>H(3): 0.31                     | 98Ger            |

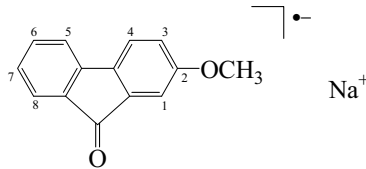
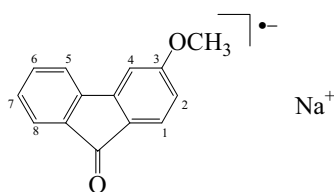
| Substance                                                                                                                                                  | Generation / Matrix or Solvent / Method / $T$ [K]                                                         | $g$ -Factor / $a$ -Value [mT]                                                                                                                                                                                                                                                                                                    | Ref. / add. Ref. |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| $[\text{C}_{12}\text{H}_{24}\text{LiN}_2\text{S}_2\text{Si}]^\bullet$<br> | chemical reduction<br>THF<br>ESR / ENDOR / 220                                                            | 2.0079<br>$^7\text{Li}$ : 0.011<br>$^{14}\text{N}$ : 0.1638<br>H: 0.0122                                                                                                                                                                                                                                                         | 88Boc2           |
| $[\text{C}_{13}\text{H}_6\text{Cl}_2\text{NaO}]^\bullet$<br>              | reduction with sodium metal<br>THF<br>ESR / ENDOR / TRIPLE / 295<br><br>THF<br>ESR / ENDOR / TRIPLE / 218 | $^{23}\text{Na}$ : 0.0280<br>$\text{H}(1,8)$ : $-0.225$<br>$\text{H}(3,6)$ : $-0.316$<br>$\text{H}(4,5)$ : 0.072<br><br>$^{23}\text{Na}$ : 0<br>$\text{H}(1,8)$ : $-0.2135$<br>$\text{H}(3,6)$ : $-0.3195$<br>$\text{H}(4,5)$ : 0.0695                                                                                           | 86Her            |
| $[\text{C}_{13}\text{H}_6\text{F}_2\text{NaO}]^\bullet$<br>             | reduction with sodium metal<br>THF<br>ESR / ENDOR / TRIPLE / 295<br><br>THF<br>ESR / ENDOR / TRIPLE / 207 | $^{23}\text{Na}$ : 0.0361<br>$^{19}\text{F}$ : $-0.139$<br>$\text{H}(1,8)$ : $-0.248$<br>$\text{H}(3,6)$ : $-0.313$<br>$\text{H}(4,5)$ : 0.0735<br><br>$^{23}\text{Na}$ : 0<br>$^{19}\text{F}$ : $-0.1363$<br>$\text{H}(1,8)$ : $-0.2500$<br>$\text{H}(3,6)$ : 0.3133<br>$\text{H}(4,5)$ : 0.0730<br>$^{19}\text{F}$ : $-0.1363$ | 86Her            |
| $[\text{C}_{13}\text{H}_7\text{ClNaO}]^\bullet$<br>                     | reduction with sodium metal<br>THF<br>ESR / ENDOR / TRIPLE / 295                                          | $^{23}\text{Na}$ : 0.031<br>$\text{H}(1)$ : $-0.219$<br>$\text{H}(3)$ : $-0.299$<br>$\text{H}(4)$ : 0.062<br>$\text{H}(5)$ : 0.072<br>$\text{H}(6)$ : $-0.350$<br>$\text{H}(7)$ : 0.016<br>$\text{H}(8)$ : $-0.203$                                                                                                              | 86Her            |

(continued)

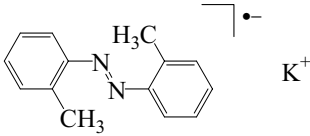
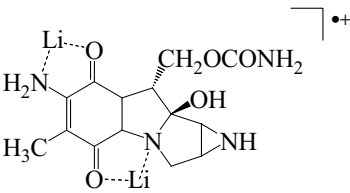
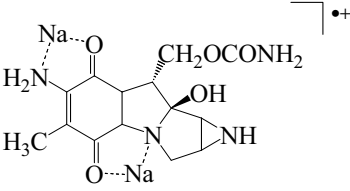
| Substance                                                                                                                                                     | Generation / Matrix or Solvent / Method / $T$ [K]                                                         | $g$ -Factor / $a$ -Value [mT]                                                                                                                                                                                                                          | Ref. / add. Ref. |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| $[\text{C}_{13}\text{H}_7\text{ClNaO}]^\bullet$ ( <i>continued</i> )                                                                                          | THF<br>ESR / ENDOR / TRIPLE / 198                                                                         | $^{23}\text{Na}$ : 0<br>H(1): -0.2216<br>H(3): -0.2861<br>H(4): 0.0616<br>H(5): 0.0722<br>H(6): -0.3418<br>H(7): 0.016<br>H(8): -0.2092                                                                                                                |                  |
| $[\text{C}_{13}\text{H}_7\text{ClNaO}]^\bullet$<br>                          | reduction with sodium metal<br>THF<br>ESR / ENDOR / TRIPLE / 295<br><br>THF<br>ESR / ENDOR / TRIPLE / 214 | $^{23}\text{Na}$ : 0.0405<br>H(1): -0.197<br>H(2): 0.013<br>H(4): 0.062<br>H(5): 0.076<br>H(6): -0.300<br>H(8): -0.205<br><br>$^{23}\text{Na}$ : 0<br>H(1): -0.1943<br>H(2): -0.1130<br>H(4): 0.0586<br>H(5): 0.0728<br>H(6): -0.2987<br>H(8): -0.2026 | 86Her            |
| $[\text{C}_{13}\text{H}_7\text{FNaO}]^\bullet$<br><br>( <i>continued</i> ) | reduction with sodium metal<br>THF<br>ESR / ENDOR / TRIPLE / 295                                          | $^{23}\text{Na}$ : 0.0387<br>H(1): -0.247<br>$^{19}\text{F}$ : -0.118<br>H(3): -0.311<br>H(4): 0.071<br>H(5): 0.072<br>H(6): -0.316<br>H(7): 0.027<br>H(8): -0.222                                                                                     | 86Her            |

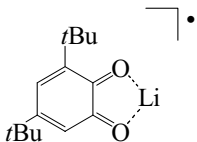
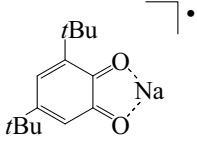
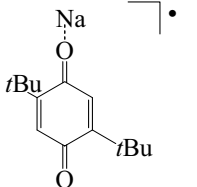
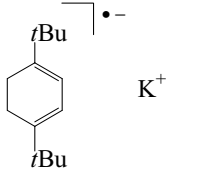
| Substance                                                                                                                            | Generation / Matrix or Solvent / Method / $T$ [K]                | $g$ -Factor / $a$ -Value [mT]                                                                                                                                                | Ref. / add. Ref. |
|--------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| $[\text{C}_{13}\text{H}_7\text{FNaO}]^\bullet$ ( <i>continued</i> )                                                                  | THF<br>ESR / ENDOR / TRIPLE / 208                                | $^{23}\text{Na}$ : 0<br>H(1): $-0.2406$<br>$^{19}\text{F}$ : 0.1363<br>H(3): $-0.3102$<br>H(4): 0.0700<br>H(5): 0.0700<br>H(6): $-0.3118$<br>H(7): 0.0214<br>H(8): $-0.2140$ |                  |
| $[\text{C}_{13}\text{H}_7\text{FNaO}]^\bullet$<br>  | reduction with sodium metal<br>THF<br>ESR / ENDOR / TRIPLE / 295 | $^{23}\text{Na}$ : 0.0425<br>H(1): $-0.204$<br>H(2): 0.028<br>$^{19}\text{F}$ : 0.645<br>H(4): 0.060<br>H(5): 0.063<br>H(6): $-0.316$<br>H(7): 0.004<br>H(8): $-0.203$       | 86Her            |
|                                                                                                                                      | THF<br>ESR / ENDOR / TRIPLE / 203                                | $^{23}\text{Na}$ : 0<br>H(1): $-0.1925$<br>H(2): 0.0116<br>$^{19}\text{F}$ : 0.6237<br>H(4): 0.0578<br>H(5): 0.0598<br>H(6): $-0.3128$<br>H(8): $-0.1925$                    |                  |
| $[\text{C}_{13}\text{H}_8\text{NaO}]^\bullet$<br> | reduction with sodium metal<br>THF<br>ESR / ENDOR / TRIPLE / 295 | $^{23}\text{Na}$ : 0.0421<br>H(1,8): $-0.215$<br>H(2,7): 0.017<br>H(3,6): $-0.320$<br>H(4,5): 0.068                                                                          | 86Her            |
|                                                                                                                                      | THF<br>ESR / ENDOR / TRIPLE / 195                                | $^{23}\text{Na}$ : 0<br>H(1,8): $-0.2075$<br>H(2,7): 0.0072<br>H(3,6): $-0.3132$<br>H(4,5): 0.0658                                                                           |                  |

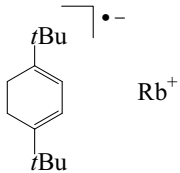
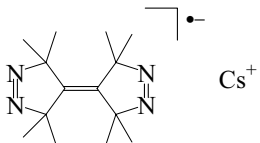
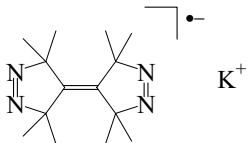
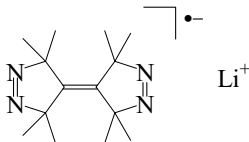
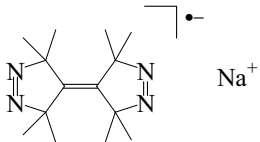
| Substance                                                                                                                                  | Generation / Matrix or Solvent / Method / $T$ [K]                                                         | $g$ -Factor / $a$ -Value [mT]                                                                                                                                                                                                                                                                                                           | Ref. / add. Ref. |
|--------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| $[C_{13}H_{25}NaPSi_2]^{\bullet}$<br>                     | reduction with sodium metal in the presence of sodium naphthalide<br>THF<br>ESR / 200<br>DFT calculations | $^{23}Na$ : 0.57<br>$^{31}P(1P)$ : 3.57<br>H: -0.57                                                                                                                                                                                                                                                                                     | 01Cat            |
| $[C_{14}H_{10}NaO]^{\bullet}$<br>                         | reduction with sodium metal<br>THF<br>ESR / ENDOR / TRIPLE / 295<br><br>THF<br>ESR / ENDOR / TRIPLE / 197 | $^{23}Na$ : 0.0455<br>H(1): -0.228<br>H(CH <sub>3</sub> ): -0.022<br>H(3): -0.308<br>H(4): 0.069<br>H(5): 0.070<br>H(6): -0.326<br>H(7): 0.020<br>H(8): -0.222<br><br>$^{23}Na$ : 0<br>H(1): -0.2188<br>H(CH <sub>3</sub> ): 0.0208<br>H(3): -0.3031<br>H(4): 0.0682<br>H(5): 0.0682<br>H(6): -0.3208<br>H(7): -0.0162<br>H(8): -0.2158 | 86Her            |
| $[C_{14}H_{10}NaO]^{\bullet}$<br><br><i>(continued)</i> | reduction with sodium metal<br>THF<br>ESR / ENDOR / TRIPLE / 295                                          | $^{23}Na$ : 0.0443<br>H(1): -0.211<br>H(2): 0.028<br>H(CH <sub>3</sub> ): 0.317<br>H(4): 0.067<br>H(5): 0.069<br>H(6): -0.323<br>H(7): 0.012<br>H(8): -0.212                                                                                                                                                                            | 86Her            |

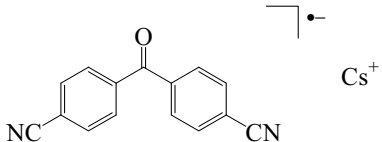
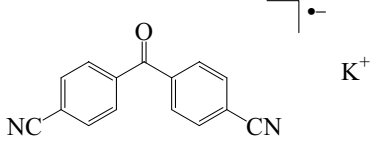
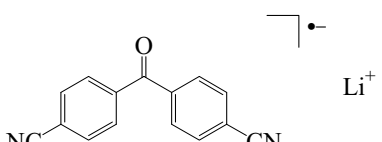
| Substance                                                                                                                                                           | Generation / Matrix or Solvent / Method / $T$ [K]                                                         | $g$ -Factor / $a$ -Value [mT]                                                                                                                                                                                                                                                                                                          | Ref. / add. Ref. |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| $[\text{C}_{14}\text{H}_{10}\text{NaO}]^{\bullet}$ ( <i>continued</i> )                                                                                             | THF<br>ESR / ENDOR / TRIPLE / 195                                                                         | $^{23}\text{Na}$ : 0<br>H(1): $-0.2012$<br>H(2): $0.0214$<br>H(CH <sub>3</sub> ): $0.3175$<br>H(4): $0.0607$<br>H(5): $0.0661$<br>H(6): $-0.3135$<br>H(7): $-0.0036$<br>H(8): $-0.2054$                                                                                                                                                |                  |
| $[\text{C}_{14}\text{H}_{10}\text{NaO}_2]^{\bullet}$<br>                           | reduction with sodium metal<br>THF<br>ESR / ENDOR / TRIPLE / 295<br><br>THF<br>ESR / ENDOR / TRIPLE / 190 | $^{23}\text{Na}$ : $0.0485$<br>H(1): $-0.251$<br>H(3): $-0.288$<br>H(4): $0.069$<br>H(5): $0.074$<br>H(6): $-0.327$<br>H(7): $0.032$<br>H(8): $-0.232$<br><br>$^{23}\text{Na}$ : 0<br>H(1): $-0.2470$<br>H(2): $0.0427$<br>H(3): $-0.2880$<br>H(4): $0.0680$<br>H(5): $0.0688$<br>H(6): $-0.3210$<br>H(7): $0.0240$<br>H(8): $-0.2215$ | 86Her            |
| $[\text{C}_{14}\text{H}_{10}\text{NaO}_2]^{\bullet}$<br><br>( <i>continued</i> ) | reduction with sodium metal<br>THF<br>ESR / ENDOR / TRIPLE / 295                                          | $^{23}\text{Na}$ : $0.0470$<br>H(1): $-0.193$<br>H(2): $0.047$<br>H(OCH <sub>3</sub> ): $0.024$<br>H(4): $0.037$<br>H(5): $0.066$<br>H(6): $-0.326$<br>H(7): $-0.004$<br>H(8): $-0.203$                                                                                                                                                | 86Her            |

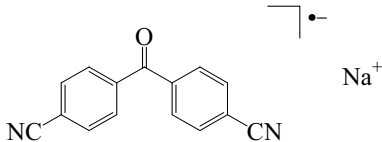
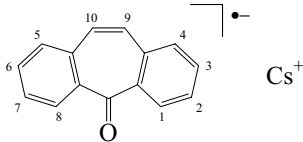
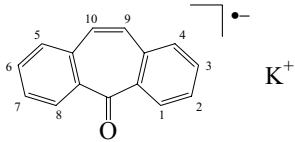
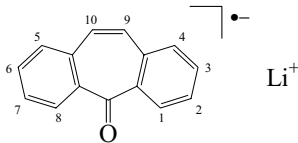


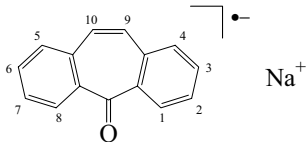
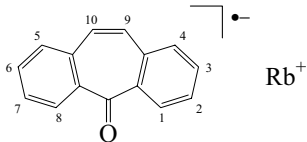
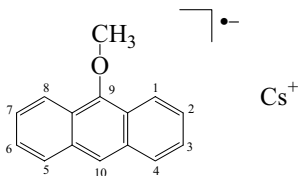
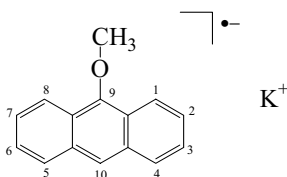
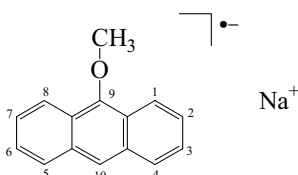
| Substance                                                                                                                    | Generation / Matrix or Solvent / Method / $T$ [K]                          | $g$ -Factor / $a$ -Value [mT]                                                                                                                                                                              | Ref. / add. Ref. |
|------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| $[C_{14}H_{10}NaO_2]^{\bullet}$ ( <i>continued</i> )                                                                         | THF<br>ESR / ENDOR / TRIPLE / 170                                          | $^{23}Na$ : 0<br>$H(1)$ : -0.1835<br>$H(2)$ : -0.0162<br>$H(OCH_3)$ : 0.0234<br>$H(4)$ : 0.0333<br>$H(5)$ : 0.0612<br>$H(6)$ : -0.3246<br>$H(7)$ : -0.0115<br>$H(8)$ : -0.1960                             |                  |
| $[C_{14}H_{14}KN_2]^{\bullet}$<br>          | reduction with potassium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / 203 | 2.0035<br>$^{39}K$ : < 0.01<br>$^{14}N$ : 0.446<br>$H(2,2', 6 H, CH_3)$ : 0.151<br>$H(3,3')$ : 0.058<br>$H(4,4')$ : 0.321<br>$H(5,5')$ : 0.090<br>$H(6,6')$ : 0.297                                        | 91Bus            |
| $[C_{14}H_{18}Li_2N_4O_5]^{\bullet+}$<br> | chemical reduction<br>THF<br>ENDOR / 220                                   | 2.0046<br>$^7Li$ : 0.0161<br>$^{14}N(NH_2)$ : 0.245<br>$^{14}N$ : 0.197<br>$H(CH_3)$ : 0.0943<br>$H$ : -0.2075<br>$H$ : 0.1671<br>$H$ : 0.1105<br>$H$ : 0.065<br>$H$ : 0.05<br>$H$ : 0.033<br>$H$ : 0.013  | 92Boc1           |
| $[C_{14}H_{18}Na_2N_4O_5]^{\bullet+}$<br> | chemical reduction<br>THF<br>ENDOR / 220                                   | 2.0048<br>$^{23}Na$ : 0.025<br>$^{14}N(NH_2)$ : 0.205<br>$^{14}N$ : 0.174<br>$H(CH_3)$ : 0.073<br>$H$ : -0.1625<br>$H$ : 0.1211<br>$H$ : 0.061<br>$H$ : 0.052<br>$H$ : 0.045<br>$H$ : 0.020<br>$H$ : 0.012 | 92Boc1           |
|                                                                                                                              | HMO calculations                                                           |                                                                                                                                                                                                            |                  |
|                                                                                                                              | HMO calculations                                                           |                                                                                                                                                                                                            |                  |

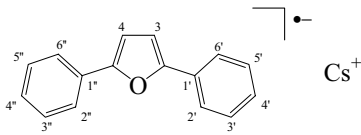
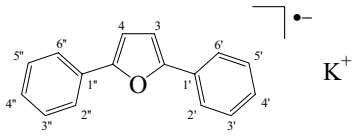
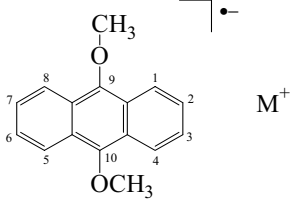
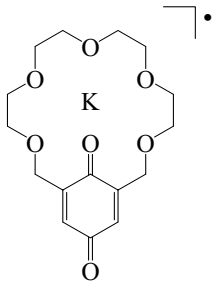
| Substance                                                                                                              | Generation / Matrix or Solvent / Method / $T$ [K]                  | $g$ -Factor / $a$ -Value [mT]                                                                | Ref. / add. Ref. |
|------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------|
| $[C_{14}H_{20}LiO_2]^{\bullet}$<br>   | chemical reduction<br>THF / PMDTA<br>ESR / 298                     | $^7Li$ : 0.056<br>$H(4)$ : 0.338<br>$H(6)$ : 0.061<br>$H(tBu)$ : 0.027                       | 98Shu2           |
|                                                                                                                        | aggregation in the presence of amines                              |                                                                                              |                  |
|                                                                                                                        | calculations on postulated trimer                                  |                                                                                              | 96Bro1           |
|                                                                                                                        | THF                                                                |                                                                                              | 84Boc            |
|                                                                                                                        | ENDOR / 190                                                        |                                                                                              |                  |
| $[C_{14}H_{20}NaO_2]^{\bullet}$<br>  | chemical reduction<br>THF / PMDTA<br>ESR / 298                     | $^{23}Na$ : 0.050<br>$H(4)$ : 0.332<br>$H(6)$ : 0.071<br>$H(tBu)$ : 0.028                    | 98Shu2           |
|                                                                                                                        | aggregation in the presence of amines                              |                                                                                              |                  |
|                                                                                                                        | THF                                                                |                                                                                              | 84Boc            |
|                                                                                                                        | ENDOR / 190                                                        |                                                                                              |                  |
| $[C_{14}H_{20}NaO_2]^{\bullet}$<br> | reduction with sodium metal<br>THF<br>ESR / 290–293                | $H(1 H)$ : 0.15<br>$H(1 H)$ : 0.31                                                           | 94Kab            |
|                                                                                                                        | $Na^+$ hopping studied by 2D exchange FT-ESR                       |                                                                                              |                  |
| $[C_{14}H_{24}K]^{\bullet}$<br>     | reduction with potassium metal<br>1,2-dimethoxyethane<br>ESR / 200 | 2.0028<br>$^{39}K$ : < 0.03<br>$H(5,6, ax)$ : 1.23<br>$H(5,6, eq)$ : 0.95<br>$H(2,3)$ : 0.20 | 98Ger            |

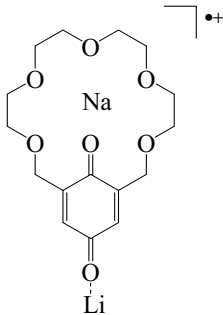
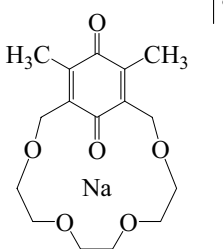
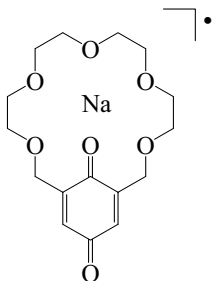
| Substance                                                                                                              | Generation / Matrix or Solvent / Method / $T$ [K]                                       | $g$ -Factor / $a$ -Value [mT]                                                                                                                              | Ref. / add. Ref. |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| $[C_{14}H_{24}Rb]^{\bullet}$<br>      | reduction with rubidium metal<br>1,2-dimethoxyethane<br>ESR / 195                       | 2.0028<br>$^{85}Rb$ : 0.040<br>$^{87}Rb$ : 0.136<br>$H(5,6, ax)$ : 1.23<br>$H(5,6, eq)$ : 0.95<br>$H(2,3)$ : 0.20                                          | 98Ger            |
| $[C_{14}H_{24}CsN_4]^{\bullet}$<br>   | reduction with cesium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / 203<br>ESR / 293    | 2.0042<br>$^{133}Cs$ : 0.448<br>$^{14}N(2 N)$ : 0.888<br>$H(12 H, CH_3)$ : 0.092<br>$^{133}Cs$ : 0.527<br>$^{14}N(2 N)$ : 0.902<br>$H(12 H, CH_3)$ : 0.085 | 91Ess            |
| $[C_{14}H_{24}KN_4]^{\bullet}$<br>   | reduction with potassium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / 203<br>ESR / 273 | 2.0037<br>$^{39}K$ : 0.048<br>$^{14}N(2 N)$ : 0.896<br>$H(12 H, CH_3)$ : 0.091<br>$^{39}K$ : 0.053<br>$^{14}N(2 N)$ : 0.898<br>$H(12 H, CH_3)$ : 0.088     | 91Ess            |
| $[C_{14}H_{24}LiN_4]^{\bullet}$<br> | reduction with potassium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / 203<br>ESR / 293 | 2.0036<br>$^7Li$ : 0.119<br>$^{14}N(2 N)$ : 0.872<br>$H(12 H, CH_3)$ : 0.089<br>$^7Li$ : 0.099<br>$^{14}N(2 N)$ : 0.874<br>$H(12 H, CH_3)$ : 0.099         | 91Ess            |
| $[C_{14}H_{24}NaN_4]^{\bullet}$<br> | reduction with sodium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / 203<br>ESR / 293    | 2.0036<br>$^{23}Na$ : 0.208<br>$^{14}N(2 N)$ : 0.908<br>$H(12 H, CH_3)$ : 0.094<br>$^{23}Na$ : 0.216<br>$^{14}N(2 N)$ : 0.910<br>$H(12 H, CH_3)$ : 0.089   | 91Ess            |

| Substance                                                                                                            | Generation / Matrix or Solvent / Method / $T$ [K]                                                                             | $g$ -Factor / $a$ -Value [mT]                                                                                                                                                                                              | Ref. / add. Ref. |
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| $[C_{15}H_8CsN_2O]^{\bullet}$<br>   | reduction with cesium metal<br>1,2-dimethoxyethane or THF<br>ESR / ENDOR / 300<br>$Cs^+$                                      | $^{133}Cs$ : 0.1353<br>$^{14}N$ : 0.0614<br>$H(o)$ : 0.2020<br>$H(m)$ : 0.0460                                                                                                                                             | 88Bar            |
| $[C_{15}H_8KN_2O]^{\bullet}$<br>    | reduction with potassium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / var. $T$<br>$K^+$<br><br>THF<br>ESR / ENDOR / var. $T$ | $^{39}K$ : 0.0142<br>$^{13}C(CO)$ : 0.5362<br>$H(o)$ : 0.2017<br>$H(m)$ : 0.0462<br>$^{14}N(CN)$ : 0.0609<br><br>$^{39}K$ : 0.0143<br>$^{13}C(CO)$ : 0.5423<br>$H(o)$ : 0.2026<br>$H(m)$ : 0.0465<br>$^{14}N(CN)$ : 0.0611 | 88Bar            |
| $[C_{15}H_8LiN_2O]^{\bullet}$<br> | reduction with lithium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / var. $T$<br>$Li^+$<br><br>THF<br>ESR / ENDOR / var. $T$  | $^7Li$ : 0.0184<br>$^{13}C(CO)$ : 0.7650<br>$H(o)$ : 0.2228<br>$H(m)$ : 0.0591<br>$^{14}N(CN)$ : 0.0606<br><br>$^7Li$ : 0.0193<br>$^{13}C(CO)$ : 0.7885<br>$H(o)$ : 0.2338<br>$H(m)$ : 0.0584<br>$^{14}N(CN)$ : 0.0620     | 88Bar            |

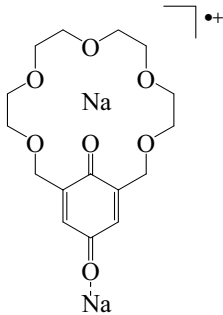
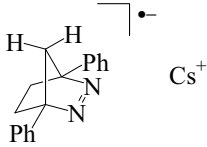
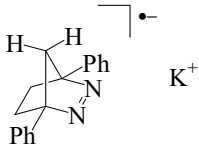
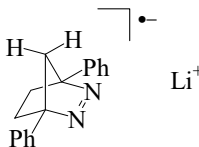
| Substance                                                                                                            | Generation / Matrix or Solvent / Method / $T$ [K]                                    | $g$ -Factor / $a$ -Value [mT]                                                                                                                                                                                                                                       | Ref. / add. Ref. |
|----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| $[C_{15}H_8N_2NaO]^{\bullet}$<br>   | reduction with sodium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / var. $T$         | species 1:<br>$^{23}\text{Na}$ : 0.0139<br>$^{14}\text{N}(\text{CN})$ : 0.0608<br>$H(o)$ : 0.2019<br>$H(m)$ : 0.0457<br><br>species 2:<br>$^{23}\text{Na}$ : 0.0624<br>$^{14}\text{N}(\text{CN})$ : 0.0594<br>$H(o)$ : 0.2700<br>$H(o)$ : 0.1486<br>$H(m)$ : 0.0511 | 88Bar            |
| $[C_{15}H_{10}CsO]^{\bullet}$<br>  | reduction with cesium metal<br>THF<br>ENDOR / TRIPLE / 193                           | 2.0035<br>$^{133}\text{Cs}$ : 0.196<br>$H(1,8)$ : -0.350<br>$H(3,6)$ : -0.301<br>$H(2,7)$ : 0.078<br>$H(4,5)$ : 0.030<br>$H(9,10)$ : 0.030                                                                                                                          | 90Lui            |
| $[C_{15}H_{10}KO]^{\bullet}$<br>  | reduction with potassium metal<br>THF<br>ENDOR / TRIPLE / 193                        | 2.0035<br>$^{39}\text{K}$ : 0.015<br>$H(1,8)$ : -0.353<br>$H(3,6)$ : -0.312<br>$H(2,7)$ : 0.080<br>$H(4,5)$ : 0.030<br>$H(9,10)$ : 0.030                                                                                                                            | 90Lui            |
| $[C_{15}H_{10}LiO]^{\bullet}$<br> | reduction with lithium metal<br>THF<br>ENDOR / TRIPLE / 193<br><br>INDO calculations | 2.0033<br>$^7\text{Li}$ : 0.021<br>$^7\text{Li}$ : -0.141<br>$^7\text{Li}$ : 0.106<br>$H(1,8)$ : -0.359<br>$H(3,6)$ : -0.323<br>$H(2,7)$ : 0.092<br>$H(4,5)$ : 0.056<br>$H(9,10)$ : 0.030                                                                           | 90Lui            |

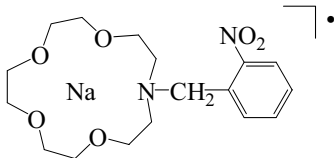
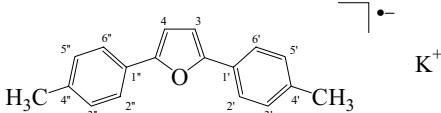
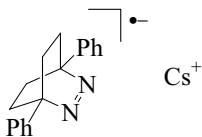
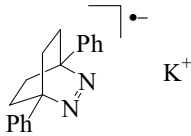
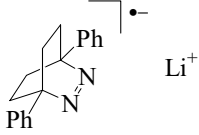
| Substance                                                                                                            | Generation / Matrix or Solvent / Method / $T$ [K]            | $g$ -Factor / $a$ -Value [mT]                                                                                                                                                                      | Ref. / add. Ref. |
|----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| $[C_{15}H_{10}NaO]^{\bullet}$<br>   | reduction with sodium metal<br>THF<br>ENDOR / TRIPLE / 193   | 2.0035<br>$^{23}\text{Na}$ : 0.027<br>$^{23}\text{Na}$ : 0.061<br>$^{23}\text{Na}$ : -0.152<br>$H(1,8)$ : -0.355<br>$H(3,6)$ : -0.312<br>$H(2,7)$ : 0.080<br>$H(4,5)$ : 0.030<br>$H(9,10)$ : 0.030 | 90Lui            |
| $[C_{15}H_{10}ORb]^{\bullet}$<br>   | reduction with rubidium metal<br>THF<br>ENDOR / TRIPLE / 193 | 2.0035<br>$^{87}\text{Rb}$ : 0.032<br>$^{87}\text{Rb}$ : 0.251<br>$H(1,8)$ : -0.350<br>$H(3,6)$ : -0.301<br>$H(2,7)$ : 0.078<br>$H(4,5)$ : 0.030<br>$H(9,10)$ : 0.030                              | 90Lui            |
| $[C_{15}H_{12}CsO]^{\bullet}$<br> | reduction<br>THF<br>ESR / 183<br><br>HMO calculations        | <br>$H(1,8)$ : -0.288<br>$H(2,7)$ : -0.146<br>$H(3,6)$ : -0.165<br>$H(4,5)$ : -0.288<br>$H(10)$ : -0.491<br>$H(o-CH_3)$ : 0.015                                                                    | 89Cel            |
| $[C_{15}H_{12}KO]^{\bullet}$<br>  | reduction<br>THF<br>ESR / 183<br><br>HMO calculations        | <br>$H(1,8)$ : -0.295<br>$H(2,7)$ : -0.141<br>$H(3,6)$ : -0.173<br>$H(4,5)$ : -0.277<br>$H(10)$ : -0.505<br>$H(o-CH_3)$ : 0.017                                                                    | 89Cel            |
| $[C_{15}H_{12}NaO]^{\bullet}$<br> | reduction<br>THF<br>ESR / 183<br><br>HMO calculations        | <br>$H(1,8)$ : -0.290<br>$H(2,7)$ : -0.152<br>$H(3,6)$ : -0.152<br>$H(4,5)$ : -0.290<br>$H(10)$ : -0.477<br>$H(o-CH_3)$ : 0.015                                                                    | 89Cel            |

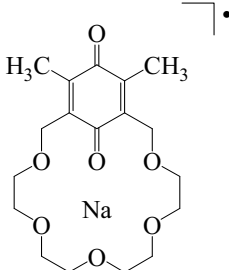
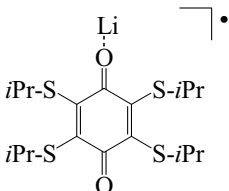
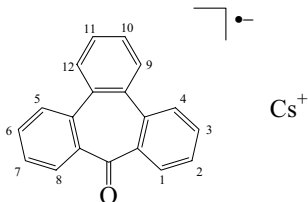
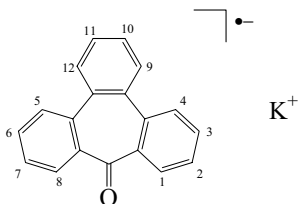
| Substance                                                                                                                                                                                                   | Generation / Matrix or Solvent / Method / $T$ [K]                                                                    | $g$ -Factor / $a$ -Value [mT]                                                                                                                                                | Ref. / add. Ref. |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| $[\text{C}_{16}\text{H}_{12}\text{CsO}]^{\bullet}$<br>                                                                     | reduction with cesium metal<br>THF<br>ESR / 298<br>MTHF<br>ESR / 298                                                 | $^{133}\text{Cs}$ : 0.062<br><br><br>$^{133}\text{Cs}$ : 0.088                                                                                                               | 87Lui            |
| $[\text{C}_{16}\text{H}_{12}\text{KO}]^{\bullet}$<br>                                                                      | reduction with potassium metal<br>1,2-dimethoxyethane<br>ESR / 298                                                   | H(3,4): 0.080<br>H(2',2''): 0.200<br>H(3',3''): 0.040<br>H(4',4''): 0.381<br>H(5',5''): 0.060<br>H(6',6''): 0.241                                                            | 87Lui            |
| $[\text{C}_{16}\text{H}_{14}\text{MO}_2]^{\bullet}$<br> <p>M = Li, Na, K, Cs with identical proton coupling constants</p> | reduction<br>THF<br>ESR / 183<br><br><br>HMO calculations                                                            | $^{133}\text{Cs}$ : 0.44<br>H(1,4,5,8): -0.304<br>H(2,3,6,7): -0.156<br>H(o-CH <sub>3</sub> ): -0.014                                                                        | 89Cei            |
| $[\text{C}_{16}\text{H}_{22}\text{KO}_7]^{\bullet}$<br>                                                                  | chemical reduction<br>THF<br>ESR / ENDOR / 240<br>ESR / ENDOR / 200<br><br>ESR / ENDOR / 180<br><br>electrochemistry | 2.0054<br><br>H(3,5): -0.313<br>H(HCH): 0.085<br>H(HCH): 0.007<br><br>H(3,5): 0.309<br>H(HCH): 0.089<br>H(HCH): 0.008<br><br>H(3,5): 0.307<br>H(HCH): 0.091<br>H(HCH): 0.009 | 92Boc2           |

| Substance                                                                                                               | Generation / Matrix or Solvent / Method / $T$ [K]                                                                        | $g$ -Factor / $a$ -Value [mT]                                                                                                                                                                                                                                                               | Ref. / add. Ref. |
|-------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| $[C_{16}H_{22}LiNaO_7]^{\bullet+}$<br> | chemical reduction<br>THF<br>ESR / ENDOR / 240<br><br>electrochemistry                                                   | 2.0049<br><br>$^7\text{Li}$ : 0.012<br>$^{23}\text{Na}$ : 0.158<br>$H(3,5)$ : 0.197<br>$H(HCH)$ : 0.197<br>$H(HCH)$ : 0.008                                                                                                                                                                 | 92Boc2<br>89Boc  |
| $[C_{16}H_{22}NaO_6]^{\bullet}$<br>   | electrochemical reduction<br>acetonitrile<br>ESR / 298                                                                   | <br>$^{23}\text{Na}$ : 0.097<br>$H(\text{CH}_3, 6\text{ H})$ : 0.249<br>$H(\text{CH}_2, 2\text{ H})$ : 0.097                                                                                                                                                                                | 91Has            |
| $[C_{16}H_{22}NaO_7]^{\bullet}$<br>  | chemical reduction<br>THF<br>ESR / ENDOR / 220<br><br>ESR / ENDOR / 200<br><br>ESR / ENDOR / 180<br><br>electrochemistry | 2.0054<br><br>$^{23}\text{Na}$ : 0.168<br>$H(3,5)$ : -0.311<br>$H(HCH)$ : 0.087<br>$H(HCH)$ : 0.010<br><br>$^{23}\text{Na}$ : 0.171<br>$H(3,5)$ : 0.309<br>$H(HCH)$ : 0.088<br>$H(HCH)$ : 0.010<br><br>$^{23}\text{Na}$ : 0.171<br>$H(3,5)$ : 0.306<br>$H(HCH)$ : 0.090<br>$H(HCH)$ : 0.010 | 92Boc2<br>89Boc  |

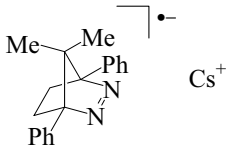
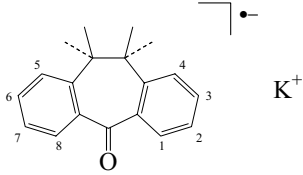
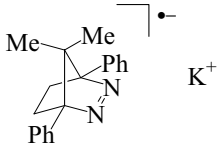


| Substance                                                                                                               | Generation / Matrix or Solvent / Method / $T$ [K]                          | $g$ -Factor / $a$ -Value [mT]                                                                                                                                                                                                                                  | Ref. / add. Ref. |
|-------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| $[C_{16}H_{22}Na_2O_7]^{\bullet+}$<br> | chemical reduction<br>THF<br>ESR / ENDOR / 240                             | 2.0049<br>$^{23}\text{Na}$ : 0.159<br>$H(3,5)$ : 0.248<br>$H(HCH)$ : 0.156                                                                                                                                                                                     | 92Boc2<br>89Boc  |
|                                                                                                                         | electrochemistry                                                           |                                                                                                                                                                                                                                                                |                  |
| $[C_{17}H_{16}CsN_2]^{\bullet-}$<br>  | reduction with cesium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / 203    | 2.0042<br>$^{133}\text{Cs}$ : 0.433<br>$^{14}\text{N}(2\text{ N})$ : 0.867<br>$H(2\text{ H, exo})$ : 0.432<br>$H(2\text{ H, endo})$ : 0.062<br>$H(1\text{ H, anti, CH}_3)$ : 0.213<br>$H(1\text{ H, syn, CH}_3)$ : 0.117<br>$H(10\text{ H, bridge})$ : < 0.005 | 91Ess            |
| $[C_{17}H_{16}KN_2]^{\bullet-}$<br>  | reduction with potassium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / 203 | 2.0038<br>$^{39}\text{K}$ : 0.046<br>$^{14}\text{N}(2\text{ N})$ : 0.848<br>$H(2\text{ H, exo})$ : 0.434<br>$H(2\text{ H, endo})$ : 0.062<br>$H(1\text{ H, anti, CH}_3)$ : 0.216<br>$H(1\text{ H, syn, CH}_3)$ : 0.118<br>$H(10\text{ H, bridge})$ : < 0.005   | 91Ess            |
| $[C_{17}H_{16}LiN_2]^{\bullet-}$<br> | reduction with potassium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / 203 | 2.0038<br>$^7\text{Li}$ : 0.103<br>$^{14}\text{N}(2\text{ N})$ : 0.848<br>$H(2\text{ H, exo})$ : 0.435<br>$H(2\text{ H, endo})$ : 0.065<br>$H(1\text{ H, anti, CH}_3)$ : 0.211<br>$H(1\text{ H, syn, CH}_3)$ : 0.115<br>$H(10\text{ H, bridge})$ : < 0.005     | 91Ess            |

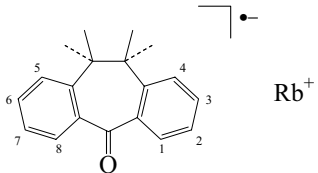
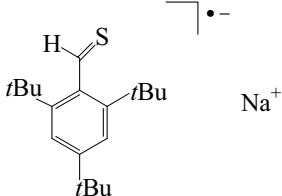
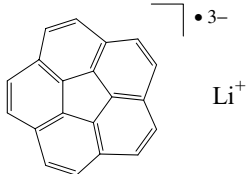
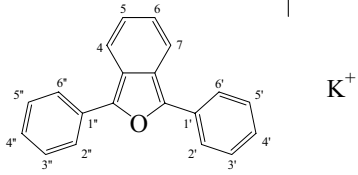
| Substance                                                                                                               | Generation / Matrix or Solvent / Method / $T$ [K]                                           | $g$ -Factor / $a$ -Value [mT]                                                                                                                                                                                                                                                                                                                                                                        | Ref. / add. Ref. |
|-------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| $[C_{17}H_{26}N_2NaO_6]^{\bullet}$<br> | electrolysis<br>acetonitrile<br>ESR / 293                                                   | $^{23}\text{Na}$ : 0.25<br>$^{14}\text{N}(\text{NO}_2)$ : 1.240<br>$^{14}\text{N}$ : 0.140<br>$\text{H}(2)$ : 0.130<br>$\text{H}(3)$ : 0.100<br>$\text{H}(4)$ : 0.395<br>$\text{H}(5)$ : 0.100<br>$\text{H}(6)$ : 0.318                                                                                                                                                                              | 86Del            |
| confirmed through deuteration                                                                                           |                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                      |                  |
| $[C_{18}H_{16}KO]^{\bullet}$<br>       | reduction with potassium metal<br>1,2-dimethoxyethane<br>ESR / 298                          | $\text{H}(3,4)$ : 0.077<br>$\text{H}(2',2'')$ : 0.204<br>$\text{H}(3',3'')$ : 0.045<br>$\text{H}(\text{CH}_3, 6\text{ H})$ : 0.401<br>$\text{H}(5',5'')$ : 0.066<br>$\text{H}(6',6'')$ : 0.256                                                                                                                                                                                                       | 87Lui            |
| $[C_{18}H_{18}CsN_2]^{\bullet}$<br>  | reduction with cesium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / 203                     | 2.0041<br>$^{133}\text{Cs}$ : 0.435<br>$^{14}\text{N}(2\text{ N})$ : 0.870<br>$\text{H}(4\text{ H, exo})$ : 0.304<br>$\text{H}(4\text{ H, endo})$ : 0.062<br>$\text{H}(10\text{ H, bridge})$ : < 0.010                                                                                                                                                                                               | 91Ess            |
| $[C_{18}H_{18}KN_2]^{\bullet}$<br>   | reduction with potassium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / 203                  | 2.0039<br>$^{39}\text{K}$ : 0.048<br>$^{14}\text{N}(2\text{ N})$ : 0.867<br>$\text{H}(4\text{ H, exo})$ : 0.301<br>$\text{H}(4\text{ H, endo})$ : 0.065<br>$\text{H}(10\text{ H, bridge})$ : < 0.010                                                                                                                                                                                                 | 91Ess            |
| $[C_{18}H_{18}LiN_2]^{\bullet}$<br>  | reduction with potassium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / 203<br><br>ESR / 293 | 2.0039<br>$^7\text{Li}$ : 0.066<br>$^{14}\text{N}(2\text{ N})$ : 0.862<br>$\text{H}(4\text{ H, exo})$ : 0.289<br>$\text{H}(4\text{ H, endo})$ : 0.066<br>$\text{H}(10\text{ H, bridge})$ : < 0.010<br><br>$^7\text{Li}$ : < 0.015<br>$^{14}\text{N}(2\text{ N})$ : 0.858<br>$\text{H}(4\text{ H, exo})$ : 0.287<br>$\text{H}(4\text{ H, endo})$ : 0.065<br>$\text{H}(10\text{ H, bridge})$ : < 0.015 | 91Ess            |

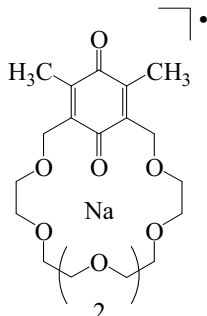
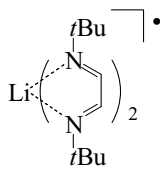
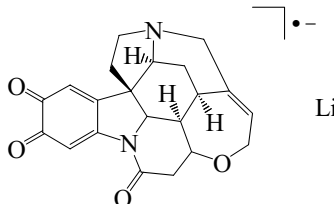
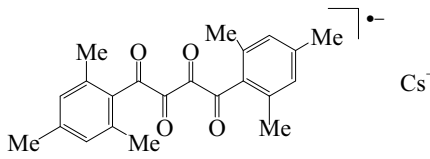
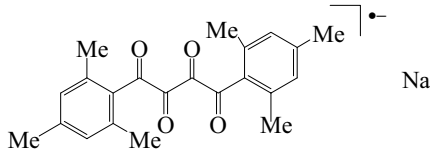
| Substance                                                                                                                | Generation / Matrix or Solvent / Method / $T$ [K]                                                         | $g$ -Factor / $a$ -Value [mT]                                                                                                                                                                                                                            | Ref. / add. Ref. |
|--------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| $[C_{18}H_{26}NaO_7]^{\bullet}$<br>     | electrochemical reduction<br>acetonitrile<br>ESR / 298<br>reduction with sodium metal<br>THF<br>ESR / 298 | $^{23}\text{Na}$ : 0.125<br>$\text{H}(\text{CH}_3, 6 \text{ H})$ : 0.248<br>$\text{H}(\text{CH}_2, 2 \text{ H})$ : 0.089<br><br>$^{23}\text{Na}$ : 0.116<br>$\text{H}(\text{CH}_3, 6 \text{ H})$ : 0.275<br>$\text{H}(\text{CH}_2, 2 \text{ H})$ : 0.072 | 91Has            |
| $[C_{18}H_{28}LiO_2S_4]^{\bullet}$<br> | chemical reduction<br>THF<br>ESR / ENDOR / 220                                                            | 2.0055<br><br>$^7\text{Li}$ : 0.0188<br>$\text{H}$ : 0.0052                                                                                                                                                                                              | 88Boc2           |
| $[C_{19}H_{12}CsO]^{\bullet}$<br>     | reduction with cesium metal<br>THF<br>ENDOR / TRIPLE / 193                                                | 2.0034<br><br>$^{133}\text{Cs}$ : 0.013<br>$^{133}\text{Cs}$ : 0.038<br>$\text{H}(1,8)$ : -0.333<br>$\text{H}(3,6)$ : -0.251<br>$\text{H}(2,7)$ : 0.102<br>$\text{H}(4,5)$ : 0.088<br>$\text{H}(9,12)$ : -0.023<br>$\text{H}(10,11)$ : -0.009            | 90Lui            |
| $[C_{19}H_{12}KO]^{\bullet}$<br>      | reduction with potassium metal<br>THF<br>ENDOR / TRIPLE / 193                                             | 2.0035<br><br>$^{39}\text{K}$ : 0.021<br>$\text{H}(1,8)$ : -0.333<br>$\text{H}(3,6)$ : -0.253<br>$\text{H}(2,7)$ : 0.104<br>$\text{H}(4,5)$ : 0.088<br>$\text{H}(9,12)$ : -0.025<br>$\text{H}(10,11)$ : -0.013                                           | 90Lui            |



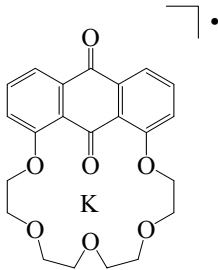
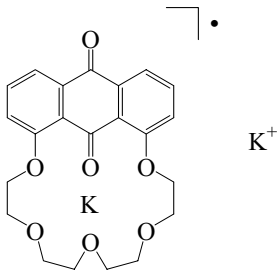
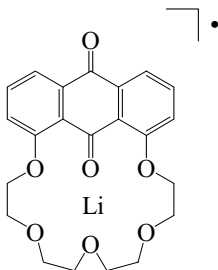
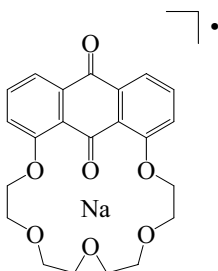
| Substance                                                                                                             | Generation / Matrix or Solvent / Method / $T$ [K]                                                                       | $g$ -Factor / $a$ -Value [mT]                                                                                                                                                                                                                                                                                                                                                                                                        | Ref. / add. Ref. |
|-----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| $[C_{19}H_{20}CsN_2]^{\bullet}$<br>  | reduction with cesium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / 203<br><br><br><br><br><br><br><br><br>ESR / 293    | 2.0042<br><br>$^{133}Cs$ : 0.488<br>$^{14}N(2 N)$ : 0.972<br>H(2 H, exo): 0.485<br>H(2 H, endo): 0.044<br>H(3 H, anti, CH <sub>3</sub> ): 0.126<br>H(3 H, syn, CH <sub>3</sub> ): < 0.010<br>H(10 H, bridge): < 0.010<br><br>$^{133}Cs$ : 0.529<br>$^{14}N(2 N)$ : 0.898<br>H(2 H, exo): 0.484<br>H(2 H, endo): 0.045<br>H(3 H, anti, CH <sub>3</sub> ): 0.131<br>H(3 H, syn, CH <sub>3</sub> ): < 0.010<br>H(10 H, bridge): < 0.010 | 91Ess            |
| $[C_{19}H_{20}KO]^{\bullet}$<br>    | reduction with potassium metal<br>THF<br>ENDOR / TRIPLE / 193                                                           | 2.0036<br><br>$^{39}K$ : 0.027<br>H(1,8): -0.292<br>H(3,6): -0.358<br>H(2,7): 0.069<br>H(4,5): 0.090<br>H(9,10, ax): 0.305<br>H(9,10, eq): 0.027                                                                                                                                                                                                                                                                                     | 90Lui            |
| $[C_{19}H_{20}KN_2]^{\bullet}$<br> | reduction with potassium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / 203<br><br><br><br><br><br><br><br><br>ESR / 293 | 2.0038<br><br>$^{39}K$ : 0.049<br>$^{14}N(2 N)$ : 0.888<br>H(2 H, exo): 0.484<br>H(2 H, endo): 0.044<br>H(3 H, anti, CH <sub>3</sub> ): 0.127<br>H(3 H, syn, CH <sub>3</sub> ): < 0.010<br>H(10 H, bridge): < 0.010<br><br>$^{39}K$ : 0.052<br>$^{14}N(2 N)$ : 0.844<br>H(2 H, exo): 0.482<br>H(2 H, endo): 0.042<br>H(3 H, anti, CH <sub>3</sub> ): 0.121<br>H(3 H, syn, CH <sub>3</sub> ): < 0.010<br>H(10 H, bridge): < 0.010     | 91Ess            |

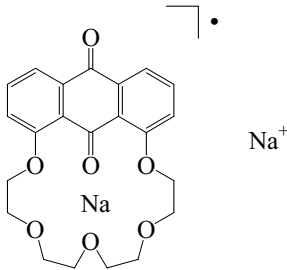
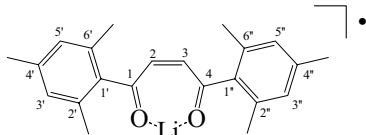
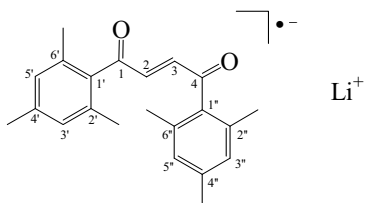
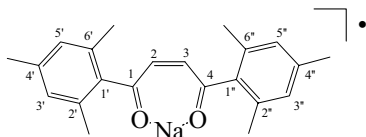


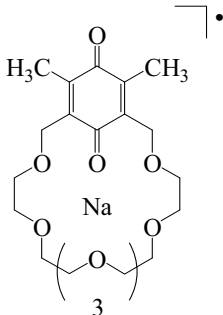
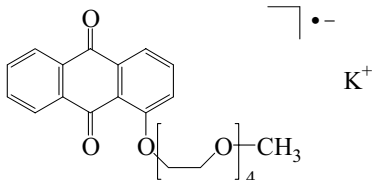
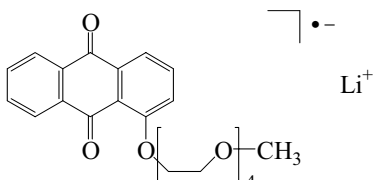
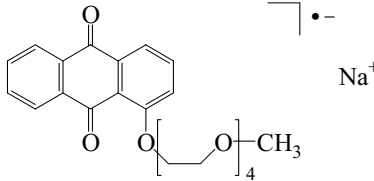
| Substance                                                                                                              | Generation / Matrix or Solvent / Method / $T$ [K]                  | $g$ -Factor / $a$ -Value [mT]                                                                                                                                    | Ref. / add. Ref. |
|------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| $[C_{19}H_{20}ORb]^{\bullet}$<br>     | reduction with rubidium metal<br>THF<br>ENDOR / TRIPLE / 193       | 2.0036<br>$^{87}Rb$ : 0.05<br>$^{87}Rb$ : 0.11<br>H(1,8): -0.292<br>H(3,6): -0.358<br>H(2,7): 0.069<br>H(4,5): 0.090<br>H(9,10, ax): 0.305<br>H(9,10, eq): 0.027 | 90Lui            |
| $[C_{19}H_{30}NaS]^{\bullet}$<br>     | reduction with sodium metal<br>THF<br>ESR / 297                    | 2.0064<br>$^{23}Na$ : 0.200<br>H: 1.352<br>H(m): 0.154                                                                                                           | 91Alb            |
| $[C_{20}H_{10}Li]^{\bullet 2-}$<br> | photochemical reaction<br>THF<br>ESR / var. $T$                    | 2.0025                                                                                                                                                           | 95Zil            |
| variable temperature data for $^6Li$ and $^7Li$ hyperfine coupling                                                     |                                                                    |                                                                                                                                                                  |                  |
| $[C_{20}H_{14}KO]^{\bullet}$<br>    | reduction with potassium metal<br>1,2-dimethoxyethane<br>ESR / 203 | H(4,7): 0.242<br>H(5,6): 0.121<br>H(2',2''): 0.165<br>H(3',3''): 0.048<br>H(4',4''): 0.242<br>H(5',5''): 0.053<br>H(6',6''): 0.184                               | 91Lui            |

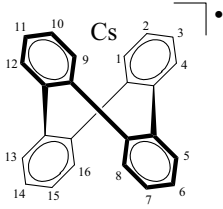
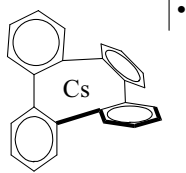
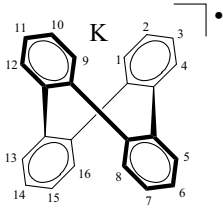
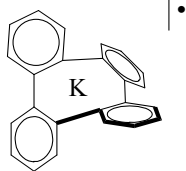
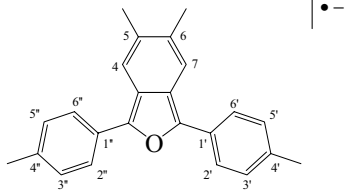
| Substance                                                                                                                                           | Generation / Matrix or Solvent / Method / $T$ [K]                                                             | $g$ -Factor / $a$ -Value [mT]                                                                                                                                                                                                                                | Ref. / add. Ref. |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| $[\text{C}_{20}\text{H}_{30}\text{NaO}_8]^\bullet$<br>             | electrochemical reduction<br>acetonitrile<br>ESR / 298<br><br>reduction with sodium metal<br>THF<br>ESR / 298 | <br>$^{23}\text{Na}$ : 0.080<br>$\text{H}(\text{CH}_3, 6 \text{ H})$ : 0.244<br>$\text{H}(\text{CH}_2, 4 \text{ H})$ : 0.048<br><br>$^{23}\text{Na}$ : 0.070<br>$\text{H}(\text{CH}_3, 6 \text{ H})$ : 0.280<br>$\text{H}(\text{CH}_2, 4 \text{ H})$ : 0.033 | 91Has            |
| $[\text{C}_{20}\text{H}_{40}\text{LiN}_4]^\bullet$<br>            | chemical reaction<br>hexane<br>ESR / 293<br><br>crystal structure                                             | <br>2.0034<br><br>$^7\text{Li}$ : 0.127<br>$^{14}\text{N}(2 \text{ N})$ : 0.436<br>$\text{H}(2 \text{ H})$ : 0.458                                                                                                                                           | 94Gar            |
| $[\text{C}_{21}\text{H}_{22}\text{LiN}_2\text{O}_4]^\bullet$<br> | chemical reduction<br>dimethylformamide<br>ESR / ENDOR / 250<br><br>HMO calculations                          | <br>2.0047<br><br>$^7\text{Li}$ : 0.052<br>$^{14}\text{N}$ : 0.12<br>$\text{H}(1)$ : 0.132<br>$\text{H}(2)$ : -0.085<br>$\text{H}(3)$ : 0.038<br>$\text{H}(4)$ : < 0.001                                                                                     | 92Boc1           |
| $[\text{C}_{22}\text{H}_{22}\text{CsO}_4]^\bullet$<br>           | reduction with cesium metal<br>THF<br>ESR / ENDOR / 190<br><br>electrochemistry                               | <br>2.0053<br><br>$^{133}\text{Cs}$ : 0.0211<br>$\text{H}$ : 0.0167<br>$\text{H}$ : < 0.005                                                                                                                                                                  | 90Boc            |
| $[\text{C}_{22}\text{H}_{22}\text{NaO}_4]^\bullet$<br>           | reduction with sodium metal<br>THF<br>ESR / ENDOR / 190<br><br>electrochemistry                               | <br>2.0056<br><br>$^{23}\text{Na}$ : 0.0606<br>$\text{H}$ : 0.0165<br>$\text{H}$ : < 0.005                                                                                                                                                                   | 90Boc            |

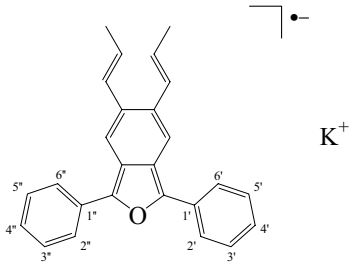
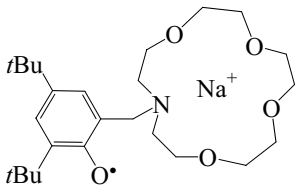
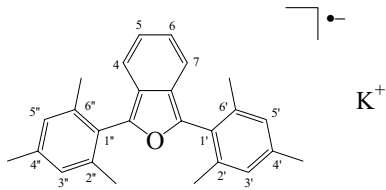
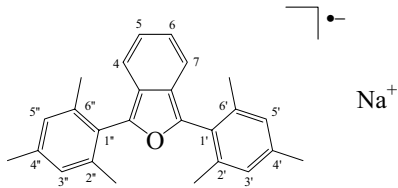
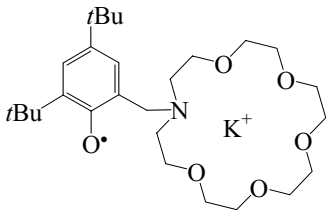


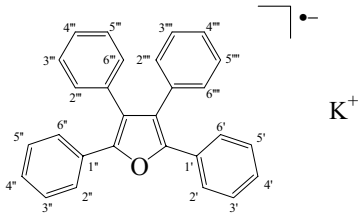
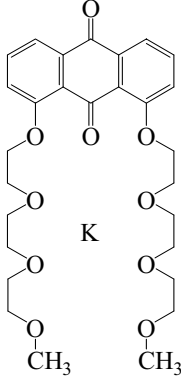
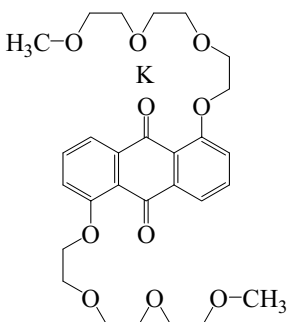
| Substance                                                                                                               | Generation / Matrix or Solvent / Method / $T$ [K]                                    | $g$ -Factor / $a$ -Value [mT]                                                                                      | Ref. / add. Ref. |
|-------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|------------------|
| $[C_{22}H_{22}KO_7]^{\bullet}$<br>     | reduction with potassium metal<br>THF<br>ESR / 298<br><br>electrochemistry           | H(1): 0.117<br>H(2): 0.029<br>H(3): 0.112<br>H(4): 0.117<br>H(5): 0.029<br>H(6): 0.112                             | 88Del            |
| $[C_{22}H_{22}K_2O_7]^{*\bullet}$<br> | reduction with potassium metal<br>THF<br>ESR / 298<br><br>electrochemistry           | H(1): 0.141<br>H(2): 0.068<br>H(3): 0.078<br>H(4): 0.141<br>H(5): 0.068<br>H(6): 0.078                             | 88Del            |
| $[C_{22}H_{22}LiO_7]^{\bullet}$<br>  | reduction with lithium metal<br>dichloromethane<br>ESR / 298<br><br>electrochemistry | $^7\text{Li}$ : 0.019<br>H(1): 0.150<br>H(3): 0.071<br>H(4): 0.150<br>H(6): 0.071                                  | 88Del            |
| $[C_{22}H_{22}NaO_7]^{\bullet}$<br>  | reduction with sodium metal<br>THF<br>ESR / 298<br><br>electrochemistry              | $^{23}\text{Na}$ : 0.143<br>H(1): 0.118<br>H(2): 0.023<br>H(3): 0.102<br>H(4): 0.118<br>H(5): 0.023<br>H(6): 0.102 | 88Del            |

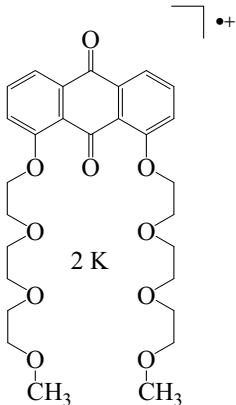
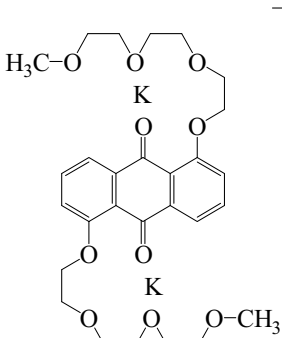
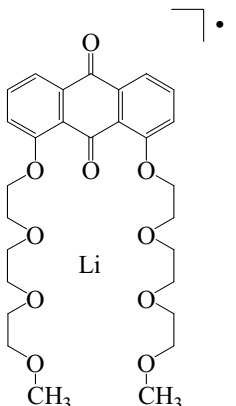
| Substance                                                                                                               | Generation / Matrix or Solvent / Method / $T$ [K]                                                                                                                         | $g$ -Factor / $a$ -Value [mT]                                                                                                     | Ref. / add. Ref. |
|-------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|------------------|
| $[C_{22}H_{22}Na_2O_7]^{\bullet+}$<br> | reduction with sodium metal<br>THF<br>ESR / 298<br><br>electrochemistry                                                                                                   | $^{23}\text{Na}$ : 0.113<br>H(1): 0.161<br>H(2): 0.074<br>H(3): 0.087<br>H(4): 0.161<br>H(5): 0.074<br>H(6): 0.087                | 88Del            |
| $[C_{22}H_{24}LiO_2]^{\bullet}$<br>    | reduction with lithium metal or isomerization<br>1,2-dimethoxyethane<br>ESR / ENDOR / TRIPLE / 193                                                                        | $^7\text{Li}$ : 0.113<br>H(2): 0.161<br>H(3): 0.074<br>H(3'): 0.087<br>H(5'): 0.161<br>H(6'): 0.074                               | 93Cel            |
| $[C_{22}H_{24}LiO_2]^{\bullet}$<br>  | reduction with lithium metal or isomerization<br>1,2-dimethoxyethane<br>ESR / ENDOR / TRIPLE / 213<br><br>INDO calculations, ESR data from reactions with K, Cs and Mg/Hg | $^7\text{Li}$ : -0.017<br>H(2): -0.521<br>H(2'): 0.011<br>H(3'): 0.026<br>H(4'): 0.011<br>H(5'): 0.011<br>H(6'): 0.026            | 93Cel            |
| $[C_{22}H_{24}NaO_2]^{\bullet}$<br>  | reduction with sodium metal<br>1,2-dimethoxyethane<br>ESR / ENDOR / TRIPLE / 213                                                                                          | $^{23}\text{Na}$ : -0.014<br>H(2): -0.516<br>H(2'): 0.014<br>H(3'): 0.036<br>H(4'): 0.014<br>H(5'): 0.014<br>H(6'): 0.036 / 0.032 | 93Cel            |

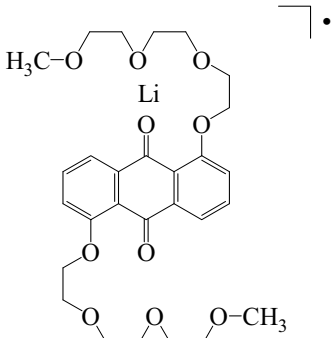
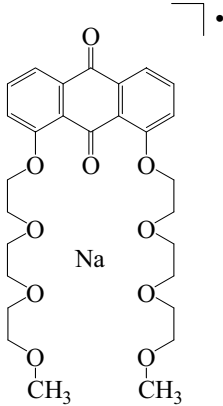
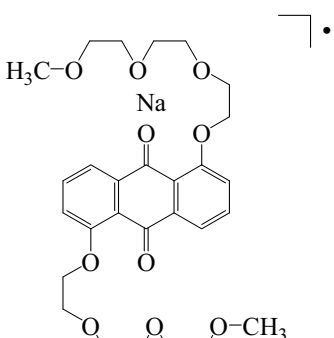
| Substance                                                                                                              | Generation / Matrix or Solvent / Method / $T$ [K]                                                                                         | $g$ -Factor / $a$ -Value [mT]                                                                                                                                           | Ref. / add. Ref.          |
|------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| $[C_{22}H_{34}NaO_9]^{\bullet}$<br>   | electrochemical reduction<br>acetonitrile<br>ESR / 298<br>reduction with sodium metal<br>THF<br>ESR / 298                                 | H(CH <sub>3</sub> , 6 H): 0.295<br>H(CH <sub>2</sub> , 4 H): 0.052<br><br><sup>23</sup> Na: 0.059<br>H(CH <sub>3</sub> , 6 H): 0.279<br>H(CH <sub>2</sub> , 4 H): 0.040 | 91Has                     |
| $[C_{23}H_{26}KO_7]^{\bullet}$<br>   | electrochemical generation<br>THF<br>ESR / RT<br><br>electrochemistry                                                                     | H(1 H): 0.043<br>H(1 H): 0.067<br>H(1 H): 0.084<br>H(1 H): 0.111<br>H(1 H): 0.158                                                                                       | 86Gus2<br>86Gus1          |
| $[C_{23}H_{26}LiO_7]^{\bullet}$<br> | chemical reaction<br>CH <sub>2</sub> Cl <sub>2</sub><br>ESR / RT<br><br>electrochemical generation<br>THF<br>ESR / RT<br>electrochemistry | <sup>7</sup> Li: 0.033<br>H(2 H): 0.119<br>H(1 H): 0.021<br>H(1 H): 0.071<br>H(1 H): 0.087<br>H(1 H): 0.143<br><br><sup>7</sup> Li: 0.022                               | 86Ech<br>86Gus2<br>86Gus1 |
| $[C_{23}H_{26}NaO_7]^{\bullet}$<br> | electrochemical generation<br>THF<br>ESR / RT<br><br>electrochemistry                                                                     | <sup>23</sup> Na: 0.017<br>H(1 H): 0.057<br>H(1 H): 0.065<br>H(1 H): 0.081<br>H(1 H): 0.122<br>H(1 H): 0.153                                                            | 86Gus2<br>86Gus1          |

| Substance                                                                                                                                                                                                                                                                                                      | Generation / Matrix or Solvent / Method / $T$ [K]                                                                                                                                                                 | $g$ -Factor / $a$ -Value [mT]                                                                                                                                                                                                                           | Ref. / add. Ref. |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| <p><math>[\text{C}_{24}\text{H}_{16}\text{Cs}]^{\bullet}</math></p>  <p><math>D_{2d}</math> symmetry</p>  <p><math>C_2</math> symmetry</p>   | <p>reduction with cesium metal</p> <p>1,2-dimethoxyethane</p> <p>ESR / ENDOR / 203</p> <p>photooxidation of dianion</p> <p>2-methyl-THF</p> <p>ESR / ENDOR / 196</p> <p>in THF mixture of both configurations</p> | <p>2.00280</p> <p>H(1,4,9,12): 0.012<br/>H(5,8,13,16): 0.012<br/>H(2,3,10,11): -0.131<br/>H(6,7,14,15): -0.131</p> <p>2.00228</p> <p><math>^{133}\text{Cs}</math>: 0.119<br/>H(1,4,9,12): 0.013<br/>H(2,3,10,11): -0.167<br/>H(6,7,14,15): -0.095</p>   | 94Sch2           |
| <p><math>[\text{C}_{24}\text{H}_{16}\text{K}]^{\bullet}</math></p>  <p><math>D_{2d}</math> symmetry</p>  <p><math>C_2</math> symmetry</p> | <p>reduction with potassium metal</p> <p>1,2-dimethoxyethane</p> <p>ESR / ENDOR / 203</p> <p>reduction with potassium metal</p> <p>2-methyl-THF</p> <p>ESR / ENDOR / 203</p>                                      | <p>2.00279</p> <p>H(1,4,9,12): 0.012<br/>H(5,8,13,16): 0.012<br/>H(2,3,10,11): -0.130<br/>H(6,7,14,15): -0.130</p> <p>2.00283</p> <p><math>^{39}\text{K}</math>: &lt; 0.01<br/>H(1,4,9,12): 0.013<br/>H(2,3,10,11): -0.165<br/>H(6,7,14,15): -0.097</p> | 94Sch2           |
| <p><math>[\text{C}_{24}\text{H}_{22}\text{KO}]^{\bullet}</math></p>  <p><math>\text{K}^+</math></p>                                                                                                                         | <p>reduction with potassium metal</p> <p>1,2-dimethoxyethane</p> <p>ESR / 203</p>                                                                                                                                 | <p>H(4,7): 0.214<br/>H(5,6, CH<sub>3</sub>): 0.108<br/>H(2',2''): 0.165<br/>H(3',3''): 0.049<br/>H(4',4'', CH<sub>3</sub>): 0.248<br/>H(5',5''): 0.054<br/>H(6',6''): 0.185</p>                                                                         | 91Lui            |

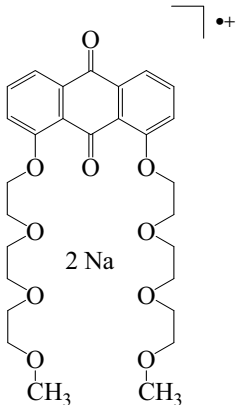
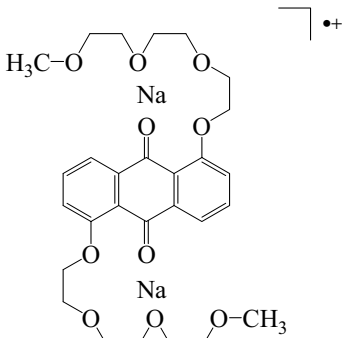
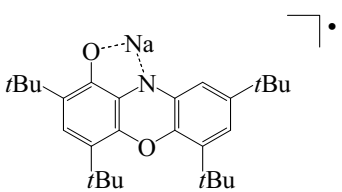
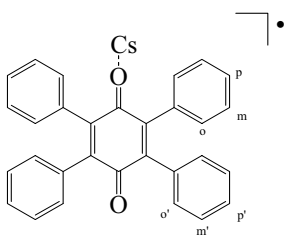
| Substance                                                                                                               | Generation / Matrix or Solvent / Method / $T$ [K]                                                                          | $g$ -Factor / $a$ -Value [mT]                                                                                     | Ref. / add. Ref. |
|-------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|------------------|
| $[C_{24}H_{22}KO]^{\bullet}$<br>       | reduction with potassium metal<br>1,2-dimethoxyethane<br>ESR / 298                                                         | H(3,4): 0.110<br>H(2',2''): 0.200<br>H(3',3''): 0.034<br>H(4',4''): 0.381<br>H(5',5''): 0.060<br>H(6',6''): 0.247 | 87Lui            |
| $[C_{25}H_{42}NNaO_5]^{\bullet+}$<br>  | chemical oxidation<br>acetonitrile<br>ESR / 233<br><br>electrochemistry, electronic, mass and resonance Raman spectroscopy | 2.0046<br><br>H: 0.642                                                                                            | 01Ito            |
| $[C_{26}H_{26}KO]^{\bullet}$<br>     | reduction with potassium metal<br>1,2-dimethoxyethane<br>ESR / 203                                                         | H(4,7): 0.407<br>H(5,6): 0.167<br>H(2',2'', CH3): 0.044<br>H(4',4'', CH3): 0.117<br>H(6',6'', CH3): 0.044         | 91Lui            |
| $[C_{26}H_{26}NaO]^{\bullet}$<br>    | reduction with sodium metal<br>1,2-dimethoxyethane<br>ESR / 203                                                            | H(4,7): 0.400<br>H(5,6): 0.167<br>H(2',2'', CH3): 0.044<br>H(4',4'', CH3): 0.118<br>H(6',6'', CH3): 0.044         | 91Lui            |
| $[C_{27}H_{46}KNO_6]^{\bullet+}$<br> | chemical oxidation<br>acetonitrile<br>ESR / 233<br><br>electrochemistry, UV-VIS, mass and resonance Raman spectroscopy     | 2.0045<br><br>H: 0.535                                                                                            | 01Ito            |

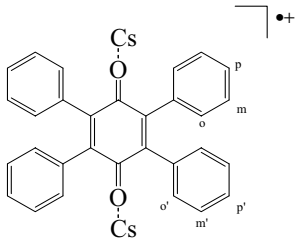
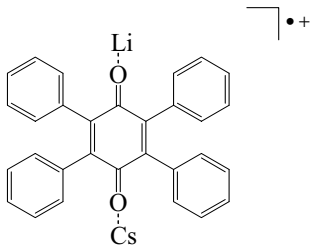
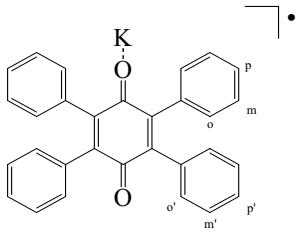
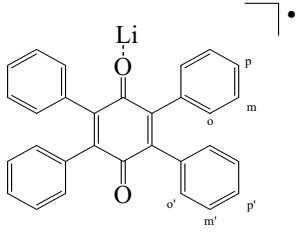
| Substance                                                                                                                                     | Generation / Matrix or Solvent / Method / $T$ [K]                          | $g$ -Factor / $a$ -Value [mT]                                                                                                                                                                                                                                                                                                | Ref. / add. Ref. |
|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| $[\text{C}_{28}\text{H}_{20}\text{KO}]^{\bullet}$<br>        | reduction with potassium metal<br>1,2-dimethoxyethane<br>ESR / 298         | $\text{H}(2'', 2''')$ : 0.027<br>$\text{H}(6'', 6''')$ : 0.039<br>$\text{H}(4'', 4''')$ : 0.057<br>$\text{H}(3'', 3''')$ : 0.007<br>$\text{H}(5'', 5''')$ : 0.007<br>$\text{H}(2', 2'')$ : 0.192<br>$\text{H}(3', 3'')$ : 0.039<br>$\text{H}(4', 4'')$ : 0.345<br>$\text{H}(5', 5'')$ : 0.057<br>$\text{H}(6', 6'')$ : 0.228 | 87Lui            |
| $[\text{C}_{28}\text{H}_{36}\text{KO}_{10}]^{\bullet}$<br>  | reduction with potassium metal<br>THF<br>ESR / 298<br><br>electrochemistry | K: 0.016<br>$\text{H}(1)$ : 0.128<br>$\text{H}(2)$ : 0.020<br>$\text{H}(3)$ : 0.091<br>$\text{H}(4)$ : 0.128<br>$\text{H}(5)$ : 0.020<br>$\text{H}(6)$ : 0.091                                                                                                                                                               | 88Del            |
| $[\text{C}_{28}\text{H}_{36}\text{KO}_{10}]^{\bullet}$<br> | reduction with potassium metal<br>THF<br>ESR / 298<br><br>electrochemistry | $\text{H}(1)$ : 0.175<br>$\text{H}(2)$ : 0.017<br>$\text{H}(3)$ : 0.072<br>$\text{H}(4)$ : 0.133<br>$\text{H}(5)$ : 0.063<br>$\text{H}(6)$ : 0.063                                                                                                                                                                           | 88Del            |

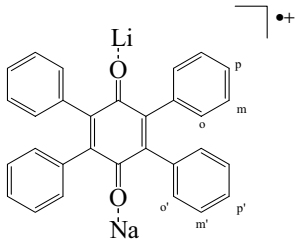
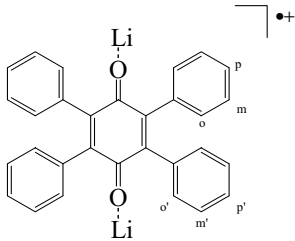
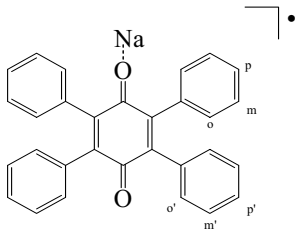
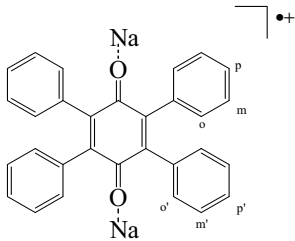
| Substance                                                                                                                  | Generation / Matrix or Solvent / Method / $T$ [K]                                    | $g$ -Factor / $a$ -Value [mT]                                                          | Ref. / add. Ref. |
|----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------|
| $[C_{28}H_{36}K_2O_{10}]^{\bullet+}$<br>  | reduction with potassium metal<br>THF<br>ESR / 298<br><br>electrochemistry           | H(1): 0.152<br>H(2): 0.065<br>H(3): 0.070<br>H(4): 0.152<br>H(5): 0.065<br>H(6): 0.070 | 88Del            |
| $[C_{28}H_{36}K_2O_{10}]^{\bullet+}$<br> | reduction with potassium metal<br>THF<br>ESR / 298<br><br>electrochemistry           | H(1): 0.121<br>H(2): 0.029<br>H(3): 0.098<br>H(4): 0.121<br>H(5): 0.029<br>H(6): 0.098 | 88Del            |
| $[C_{28}H_{36}LiO_{10}]^{\bullet}$<br>  | reduction with lithium metal<br>dichloromethane<br>ESR / 298<br><br>electrochemistry | H(1): 0.114<br>H(2): 0.048<br>H(3): 0.108<br>H(4): 0.114<br>H(5): 0.048<br>H(6): 0.108 | 88Del            |

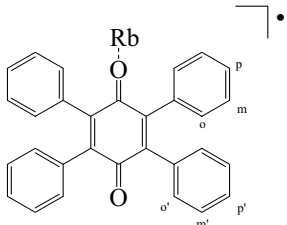
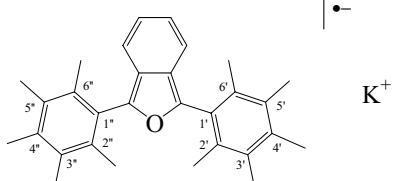
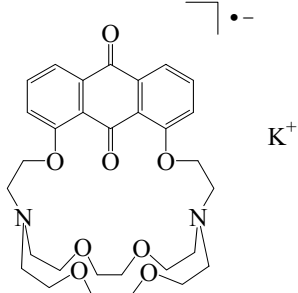
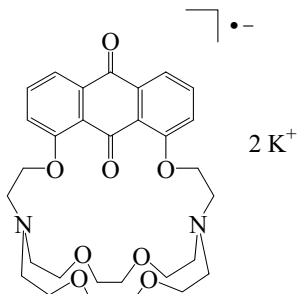
| Substance                                                                                                                 | Generation / Matrix or Solvent / Method / $T$ [K]                                    | $g$ -Factor / $a$ -Value [mT]                                                                               | Ref. / add. Ref. |
|---------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|------------------|
| $[C_{28}H_{36}LiO_{10}]^{\bullet}$<br>   | reduction with lithium metal<br>dichloromethane<br>ESR / 298<br><br>electrochemistry | H(1): 0.121<br>H(2): 0.036<br>H(3): 0.104<br>H(4): 0.121<br>H(5): 0.036<br>H(6): 0.104                      | 88Del            |
| $[C_{28}H_{36}NaO_{10}]^{\bullet}$<br>  | reduction with sodium metal<br>THF<br>ESR / 298<br><br>electrochemistry              | $^{23}Na$ : 0.019<br>H(1): 0.125<br>H(2): 0.017<br>H(3): 0.095<br>H(4): 0.125<br>H(5): 0.017<br>H(6): 0.095 | 88Del            |
| $[C_{28}H_{36}NaO_{10}]^{\bullet}$<br> | reduction with sodium metal<br>THF<br>ESR / 298<br><br>electrochemistry              | H(1): 0.183<br>H(2): 0.023<br>H(3): 0.079<br>H(4): 0.126<br>H(5): 0.063<br>H(6): 0.069                      | 88Del            |

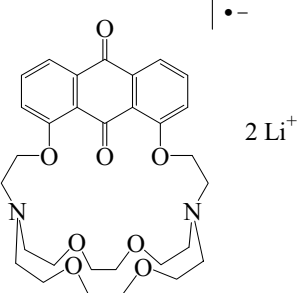
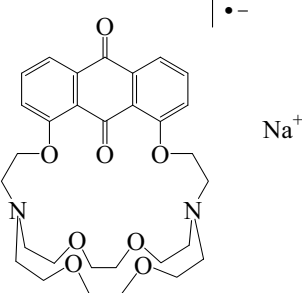
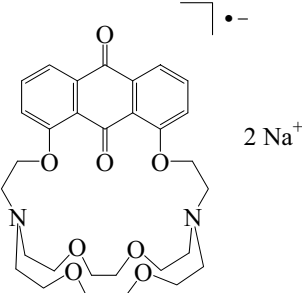
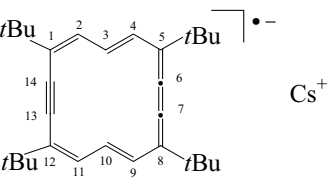


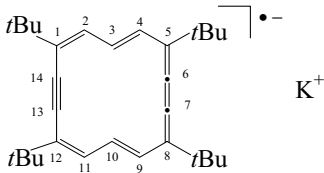
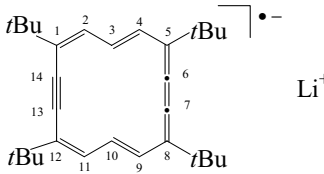
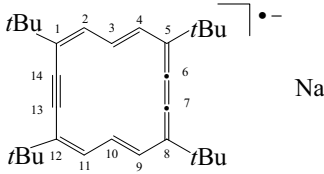
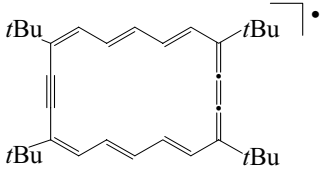
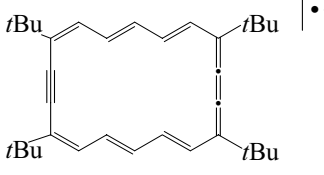
| Substance                                                                                                                   | Generation / Matrix or Solvent / Method / $T$ [K]                                    | $g$ -Factor / $a$ -Value [mT]                                                                                                               | Ref. / add. Ref. |
|-----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| $[C_{28}H_{36}Na_2O_{10}]^{\bullet+}$<br>  | reduction with sodium metal<br>THF<br>ESR / 298<br><br><br>electrochemistry          | $^{23}\text{Na}$ : 0.070<br>H(1): 0.085<br>H(2): 0.077<br>H(3): 0.077<br>H(4): 0.085<br>H(5): 0.077<br>H(6): 0.077                          | 88Del            |
| $[C_{28}H_{36}Na_2O_{10}]^{\bullet+}$<br> | reduction with sodium metal<br>THF<br>ESR / 298<br><br><br>electrochemistry          | H(1): 0.126<br>H(2): 0.034<br>H(3): 0.098<br>H(4): 0.126<br>H(5): 0.034<br>H(6): 0.098                                                      | 88Del            |
| $[C_{28}H_{39}NNaO_2]^{\bullet}$<br>     | chemical reduction<br>THF<br>ESR / 298                                               | $^{23}\text{Na}$ : 0.07<br>$^{14}\text{N}$ : 0.632<br>H(3): 0.312<br>H(7): 0.343<br>H(9): 0.239                                             | 89Kar            |
| $[C_{30}H_{20}CsO_2]^{\bullet}$<br>      | reduction with cesium metal<br>THF<br>ESR / ENDOR / 180–200<br><br>ESR / ENDOR / 220 | 2.0052<br>$^{133}\text{Cs}$ : 0.050<br>H(o, m, p): 0.009–0.008<br>H(o'): 0.020<br>H(m'): 0.015<br>H(p'): 0.024<br>$^{133}\text{Cs}$ : 0.043 | 94Boc            |

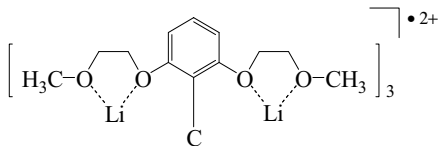
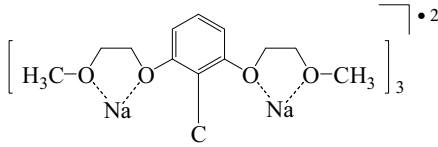
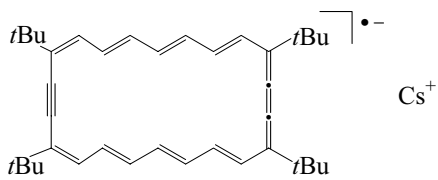
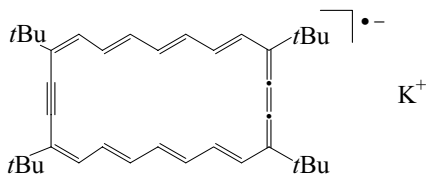
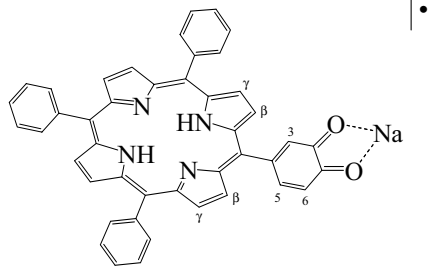
| Substance                                                                                                                | Generation / Matrix or Solvent / Method / $T$ [K]                                                    | $g$ -Factor / $a$ -Value [mT]                                                                                                                       | Ref. / add. Ref. |
|--------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| $[C_{30}H_{20}Cs_2O_2]^{\bullet+}$<br>  | reduction with cesium metal<br>THF<br>ESR / ENDOR / 200                                              | 2.0051<br>$^{133}\text{Cs}$ : 0.047<br>$H(o)$ : 0.017<br>$H(m)$ : 0.011<br>$H(p)$ : 0.017                                                           | 94Boc            |
| $[C_{30}H_{20}CsLiO_2]^{\bullet+}$<br> | reduction with lithium metal<br>THF<br>ESR / ENDOR / 180–200                                         | 2.0051<br>$^{133}\text{Cs}$ : 0.045–0.040<br>$^7\text{Li}$ : 0.026–0.021<br>$H(o)$ : 0.016<br>$H(m)$ : 0.011–0.010<br>$H(p)$ : 0.016                | 94Boc            |
| $[C_{30}H_{20}KO_2]^{\bullet}$<br>    | reduction with potassium metal<br>THF<br>ESR / ENDOR / 200                                           | 2.0051<br>$H(o)$ : –0.012<br>$H(m)$ : 0.008<br>$H(p)$ : –0.012<br>$H(o')$ : –0.020<br>$H(m')$ : 0.015<br>$H(p')$ : –0.024                           | 94Boc            |
| $[C_{30}H_{20}LiO_2]^{\bullet}$<br>   | reduction with lithium metal<br>THF<br>ESR / ENDOR / 180<br><br>data at other temperatures available | 2.0052<br>$^7\text{Li}$ : –0.023<br>$H(o)$ : –0.010<br>$H(m)$ : 0.007<br>$H(p)$ : –0.010<br>$H(o')$ : –0.021<br>$H(m')$ : 0.017<br>$H(p')$ : –0.023 | 94Boc            |

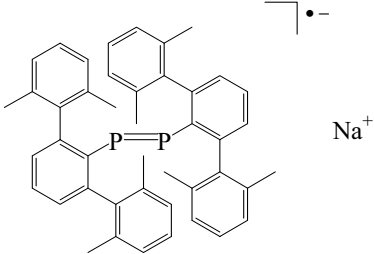
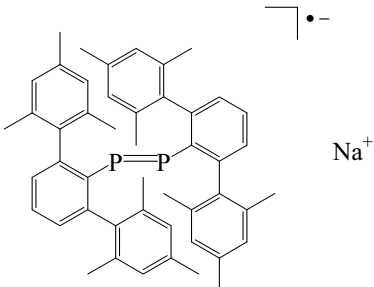
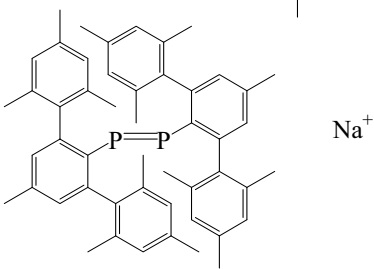
| Substance                                                                                                                 | Generation / Matrix or Solvent / Method / $T$ [K]                                                                                                             | $g$ -Factor / $a$ -Value [mT]                                                                                                                                                                 | Ref. / add. Ref. |
|---------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| $[C_{30}H_{20}LiNaO_2]^{\bullet+}$<br>   | reduction with lithium metal<br>THF<br>ESR / ENDOR / 260<br><br>ESR / ENDOR / 280                                                                             | 2.0051<br>$^{23}\text{Na}$ : 0.009<br>$^7\text{Li}$ : -0.016<br>$H(o)$ : 0.017<br>$H(m)$ : 0.012<br>$H(p)$ : 0.017<br><br>$^{23}\text{Na}$ : 0.010<br>$^7\text{Li}$ : 0.013<br>$H(p)$ : 0.013 | 94Boc            |
| $[C_{30}H_{20}Li_2O_2]^{\bullet+}$<br>  | reduction with lithium metal<br>THF<br>ESR / ENDOR / 180–300                                                                                                  | 2.0051<br>$^7\text{Li}$ : -0.027–0.011<br>$H(o)$ : 0.016–0.014<br>$H(m)$ : 0.011–0.010<br>$H(p)$ : 0.016–0.014                                                                                | 94Boc            |
| $[C_{30}H_{20}NaO_2]^{\bullet}$<br>    | reduction with sodium metal<br>THF<br>ESR / ENDOR / 180<br><br>data at other temperatures available, crystal structure, electrochemistry, UV-VIS spectroscopy | 2.0052<br>$H(o)$ : -0.012<br>$H(m)$ : 0.008<br>$H(p)$ : -0.012<br>$H(o')$ : -0.020<br>$H(m')$ : 0.015<br>$H(p')$ : -0.024                                                                     | 94Boc<br>96Boc2  |
| $[C_{30}H_{20}Na_2O_2]^{\bullet+}$<br> | reduction with sodium metal<br>THF<br>ESR / ENDOR / 200<br><br>data at other temperatures available                                                           | 2.0051<br>$^{23}\text{Na}$ : 0.007<br>$H(o)$ : -0.016<br>$H(m)$ : 0.011<br>$H(p)$ : -0.016                                                                                                    | 94Boc            |

| Substance                                                                                                                   | Generation / Matrix or Solvent / Method / $T$ [K]                                            | $g$ -Factor / $a$ -Value [mT]                                                                                                                                       | Ref. / add. Ref. |
|-----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| $[C_{30}H_{20}O_2Rb]^{\bullet}$<br>        | reduction with rubidium metal<br>THF<br>ESR / ENDOR / 200–240<br><br>ESR / ENDOR / 260       | 2.0050<br><sup>85,87</sup> Rb: 0.042–0.045<br>H(o, m, p): 0.009–0.008<br>H(o'): 0.020–0.019<br>H(m'): 0.015–0.014<br>H(p'): 0.024<br><br><sup>85,87</sup> Rb: 0.049 | 94Boc            |
| $[C_{30}H_{34}KO]^{\bullet}$<br>           | reduction with potassium metal<br>1,2-dimethoxyethane<br>ESR / 203                           | H(4,7): 0.464<br>H(5,6): 0.179<br>H(2',2'', CH <sub>3</sub> ): 0.019<br>H(4',4'', CH <sub>3</sub> ): 0.084<br>H(6',6'', CH <sub>3</sub> ): 0.019                    | 91Lui            |
| $[C_{30}H_{38}KN_2O_8]^{\bullet}$<br>    | reduction with potassium metal<br>THF<br>ESR / RT<br><br>electrochemistry, binding constants | <sup>39,41</sup> K: 0.011<br>H(2 H): 0.027<br>H(2 H): 0.114<br>H(2 H): 0.114                                                                                        | 92Che            |
| $[C_{30}H_{38}K_2N_2O_8]^{\bullet+}$<br> | reduction with potassium metal<br>THF<br>ESR / RT<br><br>electrochemistry, binding constants | H(2 H): 0.075<br>H(2 H): 0.083<br>H(2 H): 0.161                                                                                                                     | 92Che            |

| Substance                                                                                                                    | Generation / Matrix or Solvent / Method / $T$ [K]                                     | $g$ -Factor / $a$ -Value [mT]                                                 | Ref. / add. Ref. |
|------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|------------------|
| $[C_{30}H_{38}Li_2N_2O_8]^{\bullet+}$<br>   | electrochemical reduction in the presence of lithium salt<br>acetonitrile<br>ESR / RT | $^7Li$ : 0.020<br>$H(2 H)$ : 0.046<br>$H(2 H)$ : 0.188                        | 92Che            |
| electrochemistry, binding constants                                                                                          |                                                                                       |                                                                               |                  |
| $[C_{30}H_{38}N_2NaO_8]^{\bullet}$<br>     | reduction with sodium metal<br>THF<br>ESR / RT                                        | $^{23}Na$ : 0.035<br>$H(2 H)$ : 0.035<br>$H(2 H)$ : 0.112<br>$H(2 H)$ : 0.120 | 92Che            |
| electrochemistry, binding constants                                                                                          |                                                                                       |                                                                               |                  |
| $[C_{30}H_{38}N_2Na_2O_8]^{\bullet+}$<br> | reduction with sodium metal<br>THF<br>ESR / RT                                        | $^{23}Na$ : 0.070<br>$H(2 H)$ : 0.070<br>$H(2 H)$ : 0.086<br>$H(2 H)$ : 0.144 | 92Che            |
| electrochemistry, binding constants                                                                                          |                                                                                       |                                                                               |                  |
| $[C_{30}H_{42}Cs]^{\bullet}$<br>          | reduction with cesium metal<br>diethylether<br>ESR / 213<br>ESR / 273                 | $^{133}Cs$ : 1.920<br><br>$^{133}Cs$ : 2.081                                  | 85Hub2           |

| Substance                                                                                                           | Generation / Matrix or Solvent / Method / $T$ [K]                            | $g$ -Factor / $a$ -Value [mT]                                                                                        | Ref. / add. Ref. |
|---------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|------------------|
| $[C_{30}H_{42}K]^{\bullet}$<br>    | reduction with potassium metal<br>diethylether<br>ESR / 213                  | $^{39}K$ : 0.235<br>$H(t-Bu)$ : < 0.01<br>$H(2)$ : 0.111<br>$H(3)$ : 0.494                                           | 85Hub2           |
| $[C_{30}H_{42}Li]^{\bullet}$<br>   | reduction with lithium metal<br>diethylether<br>ESR / 213<br>ESR / 273       | $^7Li$ : 0.853<br><br>$^7Li$ : 0.913                                                                                 | 85Hub2           |
| $[C_{30}H_{42}Na]^{\bullet}$<br>  | reduction with sodium metal<br>diethylether<br>ESR / 213<br>ESR / 273        | $^{23}Na$ : 0.776<br><br>$^{23}Na$ : 0.781                                                                           | 85Hub2           |
| $[C_{34}H_{46}Cs]^{\bullet}$<br> | reduction with cesium metal<br>diethylether<br>ESR / 213<br>ESR / 273        | $^{133}Cs$ : 0.691<br><br>$^{133}Cs$ : 0.655                                                                         | 85Hub2           |
| $[C_{34}H_{46}K]^{\bullet}$<br>  | reduction with potassium metal<br>diethylether<br>ESR / 213<br><br>ESR / 273 | $^{39}K$ : 0.045<br>$H(t-Bu)$ : < 0.01<br>$H(2)$ : 0.087<br>$H(3)$ : 0.392<br>$H(4)$ : 0.122<br><br>$^{39}K$ : 0.078 | 85Hub2           |

| Substance                                                                                                                    | Generation / Matrix or Solvent / Method / $T$ [K]                                | $g$ -Factor / $a$ -Value [mT]                                                                                                                 | Ref. / add. Ref. |
|------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| $[C_{37}H_{51}Li_6O_{12}]^{\bullet 2+}$<br> | chemical reaction<br>THF / toluene<br>ESR / ESEEM / 4<br>magnetic susceptibility | $^7\text{Li}$ : 0.035                                                                                                                         | 93Jan            |
| $[C_{37}H_{51}Na_6O_{12}]^{\bullet 2+}$<br> | chemical reaction<br>THF / toluene<br>ESR / ESEEM / 4<br>magnetic susceptibility | $^{23}\text{Na}$ : 0.086                                                                                                                      | 93Jan            |
| $[C_{38}H_{50}\text{Cs}]^{\bullet}$<br>    | reduction with cesium metal<br>diethylether<br>ESR / 213                         | $^{133}\text{Cs}$ : 0.388                                                                                                                     | 85Hub2           |
| $[C_{38}H_{50}\text{K}]^{\bullet}$<br>    | reduction with potassium metal<br>diethylether<br>ESR / 213                      | $^{39}\text{K}$ : 0.060<br>$H(\text{t-Bu})$ : < 0.01<br>$H(2)$ : 0.058<br>$H(3)$ : 0.347<br>$H(4)$ : 0.134<br>$H(5)$ : 0.397                  | 85Hub2           |
| The radical trianion can also be obtained with unresolved coupling constants.                                                |                                                                                  |                                                                                                                                               |                  |
| $[C_{44}H_{30}N_4NaO_2]^{\bullet}$<br>    | chemical generation<br>methanol<br>ENDOR / 250                                   | $^{23}\text{Na}$ : 0.0221<br>$H(3)$ : 0.1149<br>$H(5)$ : 0.3356<br>$H(6)$ : 0.0829<br>$H(\beta)$ : 0.0200<br>$H(\gamma, 4\text{ H})$ : 0.0071 | 95Kur            |

| Substance                                                                                                              | Generation / Matrix or Solvent / Method / $T$ [K]                       | $g$ -Factor / $a$ -Value [mT] | Ref. / add. Ref. |
|------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|-------------------------------|------------------|
| $[C_{44}H_{42}NaP_2]^{\bullet}$<br>   | reduction with sodium metal<br>THF<br>ESR / 298<br><br>electrochemistry | 2.009<br>$^{31}P$ : 4.55      | 97Sha            |
| $[C_{48}H_{50}NaP_2]^{\bullet}$<br>  | reduction with sodium metal<br>THF<br>ESR / 298<br><br>electrochemistry | 2.008<br>$^{31}P$ : 4.6       | 97Sha            |
| $[C_{50}H_{54}NaP_2]^{\bullet}$<br> | reduction with sodium metal<br>THF<br>ESR / 298<br><br>electrochemistry | 2.007<br>$^{31}P$ : 4.6       | 97Sha            |