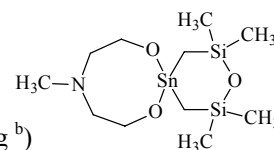


**902** **C<sub>11</sub>H<sub>27</sub>NO<sub>3</sub>Si<sub>2</sub>Sn** **2,2,4,4,10-Pentamethyl-3,7,13-trioxa-10-aza-** (see comment)  
**ED** **2,4-disila-6-stannaspiro[5.7]tridecane**



$r^a)$	$\text{\AA}^b)$	$\theta^a)$	$\text{deg}^b)$
Sn–C	2.139(12)	C(1)–Sn–C(5)	107.0(12)
Sn–O	1.980(3)	Sn–C–Si	108.4(10)
Si–C(ring)	1.893(2)	Si(2)–O–Si(4)	133.0(41)
Si–C(m)	1.876(8)	C(1)–Si–C(m)	100.0(15)
Si–O	1.677(12)	C(1)–Si–C(m')	106.2(24)
C(8)–O(7)	1.444(8)	Si–C–H	113.0 <sup>c)</sup>
C(8)–C(9)	1.494(5)	H–C–H	109.4 <sup>c)</sup>
N–C <sup>d)</sup>	1.481(3)	C(m)–Si–C(m')	109.7(13)
C–H (mean)	1.092(3)	O(7)–Sn–O(13)	111.5(21)
		O(7)–Sn–C(1)	109.4(7)
		Sn–O(7)–C(8)	109.4(21)
		O(7)–C(8)–C(9)	113.5(61)
		C(8)–C(9)–N	110.0(27)
		C(9)–N–C(11)	111.5(127)
		C(9)–N–C(m)	112.2(28)
		N–C(m)–H	113.0 <sup>c)</sup>
		Sn–C(1)–Si–O	17.9(24)
		C(5)–Sn–C(1)–Si(2)	51.9(22)
		C(1)–Si(2)–O–Si(4)	26.0(58)
		C(8)–O(7)–Sn–O(13)	19.9(40)
		Sn–O(7)–C(8)–C(9)	80.8(32)
		O(7)–C(8)–C(9)–N	72.2(81)
		C(8)–C(9)–N–C(11)	64.7(119)
		Sn–C(1)–C(5)–Si(4)	48.6(22)
		O(3)–Si(4)–Si(2)–C(1)	23.1(53)
		Sn–O(13)–O(7)–C(8)	19.2(38)
		O(13)–C(12)–C(8)–C(9)	66.6(56)
		N–C(11)–C(9)–C(8)	58.3(92)
		tilt (Si(CH <sub>3</sub> ) <sub>2</sub> ) <sup>c)</sup>	9.6(61)

Local  $C_{3v}$  symmetry and staggered conformation were assumed for the methyl groups. The eight-membered ring exists in the *boat-boat* conformation ( $C_s$  symmetry). It was impossible to distinguish between the *boat* and *chair* conformations of the six-membered ring. The nozzle was at 140(10) °C.

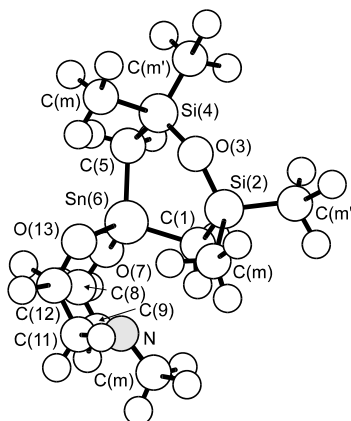
<sup>a)</sup> Unidentified, possibly  $r_a$  and  $\theta_a$ .

<sup>b)</sup> Estimated standard errors.

<sup>c)</sup> Assumed.

<sup>d)</sup> All N–C bond lengths were assumed equal.

<sup>e)</sup> Angle formed by the bisector of the C(m)–Si–C(m') angle with the OSiC(ring) plane; a positive value corresponds to moving of the axial methyl groups away from each other.



Belyakov, A.V., Vilkov, L.V., Golubinskii, A.V., Nikitin, V.S., Kovaleva, E.A.,  
Shiryaev, V.I.: Zh. Obshch. Khim. **66** No.5 (1996) 808; Russ. J. Gen. Chem. (Engl.  
Transl.) **66** (1996) 788.