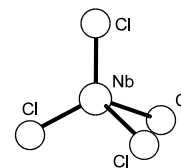


Structure Data of Free Polyatomic Molecules

159	Cl₄Nb	Niobium tetrachloride	T_d (see comment)
ED		Niobium(IV) chloride	NbCl ₄
	$\frac{r_g}{\text{Nb-Cl}} \quad \text{\AA}^a)$	$\frac{\theta_g}{\text{Cl-Nb-Cl}} \quad \text{deg}^a)$	
	$\frac{r_g}{\text{Nb-Cl}} \quad 2.279(5)$	$\frac{\theta_g}{\text{Cl-Nb-Cl}} \quad 108.2(5)$	
	$\frac{r_\alpha}{\text{Nb-Cl}} \quad \text{\AA}^a)$		
	$\frac{r_\alpha}{\text{Nb-Cl}} \quad 2.249(5)$		



Molecular models of C_{2v}, C_{3v}, D_{2d} and T_d symmetry were tested, and the T_d structure was preferred. NbCl₄ was found to be the only molecular form in the vapor in a combined analysis of ED and mass spectrometric data taken at 590(25) °C.

^{a)} 2.5 times the estimated standard error including a systematic error.

Giricheva, N.I., Girichev, G.V.: J. Mol. Struct. **484** (1999) 1.

See also: Belova, I.N., Giricheva, N.I., Girichev, G.V., Shlykov, S.A.: Zh. Strukt. Khim. **37** No.6 (1996) 1050; J. Struct. Chem. (Engl. Transl.) **37** (1996) 889.