

Structure Data of Free Polyatomic Molecules

151	Cl₃Gd	Gadolinium trichloride	D_{3h}
ED		Gadolinium(III) chloride	GdCl ₃

r_g	\AA^a	θ_g	deg^a
Gd–Cl	2.474(5)	Cl–Gd–Cl	117.0(11)

Only a small amount (less than 1%) of the dimeric molecules, Gd₂Cl₆, was detected in the vapor by mass spectrometry. Therefore, it was assumed in the ED analysis that only the monomeric molecules were present. The dynamic model taking into account anharmonicity of out-of-plane bending vibration was used in the analysis, and the equilibrium structure was concluded to be planar.

The nozzle temperature was 1160 K.

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

Giricheva, N.I., Zakharov, A.V., Shlykov, S.A., Girichev, G.V.: J. Chem. Soc., Dalton Trans. (2000) 3401.

See also: Zadorin, E.Z.: Zh. Fiz. Khim. **62** (1988) 883; Russ. J. Phys. Chem. (Engl. Transl.) **62** (1988) 441.

Danilova, T.G., Girichev, G.V., Giricheva, N.I., Krasnov, K.S., Zadorin, E.Z.: Izv. Vyssh. Uchebn. Zaved., Khim. Khim. Tekhnol. **20** (1977) 1069.

Replaces [II/25A\(2, 361\)](#)