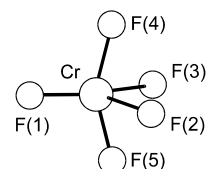


171	CrF₅	Chromium pentafluoride	(see comment)
ED		Chromium(V) fluoride	CrF ₅

r_g	Å ^{a)}
Cr–F	1.714(2)
F(1)...F(4)	2.411(6)
F(2)...F(3)	2.878(22)
F(4)...F(5)	3.470(26)



CrF₅, with nominal D_{3h} symmetry and orbital degeneracy, is predicted by the Jahn-Teller theorem to be distorted to a lower symmetry that removes the degeneracy. The ED data show that a C_{2v} symmetry structure provides a much better fit to the data than does D_{3h}. The C_{2v} “static” model with assumed harmonic vibrations is probably unrealistic. It seems more likely that accommodation of the odd electron in the valence shell of the chromium atom results in dynamic Jahn-Teller distortions which on the average resemble a C_{2v} structure. The nozzle was at *ca.* 80 °C.

^{a)} Twice the estimated standard errors.

Jacob, E.J., Hedberg, L., Hedberg, K., Davis, H., Gard, G.L.: J. Phys. Chem. **88** (1984) 1935.