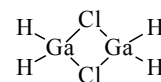


144 **Cl₂Ga₂H₄**ED, *ab initio*
calculations**Di- μ -chloro-bis[dihydridogallium(III)]**Di- μ -chloro-tetrahydrodigallium**D_{2h}** assumed

r_g	Å ^{a)}
Ga–Cl	2.352(2)
Ga–H	1.547(20)
Ga...Ga	3.290(14)

θ_a	deg ^{a)}
Cl–Ga–Cl	89.7(5)
H–Ga–H	135.1 ^{b)}

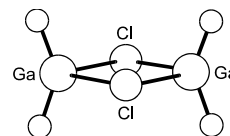


It was assumed that *trans*-H(Cl)Ga(μ -Cl)₂Ga(Cl)H was also present in the vapor. The mole fractions of H₂Ga(μ -Cl)₂GaH₂ and *trans*-H(Cl)Ga(μ -Cl)₂Ga(Cl)H were found to be 91(3) and 9%, respectively. Differences in the structural parameters between these molecules were assumed at the values from MP2/6-311G(d) calculations. A dynamic model was used to describe the low-frequency ring puckering mode of H₂Ga(μ -Cl)₂GaH₂ molecule. The differences in the bond lengths and bond angles between the different pseudoconformers were constrained to the values from MP2/6-311G(d) calculations.

The nozzle temperature was 48...58 °C.

^{a)} Estimated standard errors including a systematic error.

^{b)} Assumed at the value from MP2/6-311G(d) calculations.



Johnsen, E., Downs, A.J., Greene, T.M., Souter, P.F., Aarset, K., Page, E.M., Rice, D.A., Richardson, A.N., Brain, P.T., Rankin, D.W.H., Pulham, C.R.: Inorg. Chem. **39** (2000) 719.

Replaces [II/25A\(2, 316\)](#)