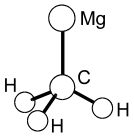
119 **CH_3Mg** **Methylmagnesium** **C_{3v}**
LIF CH_3Mg

State	$\tilde{X}\,^2A_1$	$\tilde{A}\,^2E$
Energy [eV]	0.00	2.483
r_0(C−Mg) [Å]	2.102(2)	2.124(6)
r_0(C−H) [Å]	1.105 [a])	1.105 [a])
θ_0(H−C−H) [deg]	108.163(12)	111.84(55)



CH_3Mg molecules were produced by a laser-ablation/photodissociation technique. A pulsed beam simultaneously vaporized magnesium and photolyzed acetone in a stream of acetone in helium. The resulting product was expanded into a vacuum chamber and probed with a CW ring dye laser. Structural parameters were deduced from the rotational constants derived.

[a]) Assumed at theoretical value.

Rubino, R., Williamson, J.M., Miller, T.A.: J. Chem. Phys. **103** (1995) 5964.