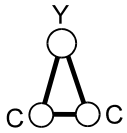
332 **C_2Y** **Yttrium dicarbide** **C_{2v}**

LIF YC_2

State	$\tilde{X}\,^2A_1$	$\tilde{A}\,^2A_1$
Energy [eV]	0.00	1.598
r_0(Y−C) [Å]	2.1946 [a])	2.2795 [a])
r_0(C−C) [Å]	1.2697 [a])	1.2630 [a])
θ_0(C−Y−C) [deg]	33.63 [a])	32.17 [a])



YC_2 molecules were produced by the reaction of laser-ablated yttrium atoms with methane diluted with argon, under supersonic jet-cooled conditions. The 000-000 band of the $\tilde{A}-\tilde{X}$ band system was studied by laser-induced fluorescence. Molecular parameters were deduced from the *A* and *B*+*C* rotational constants for the ground state, and from the *A* and *C* constants for the excited state. The molecule is T-shaped with Y atom bonded to the side of C_2 group.

[a]) No error limits are given since the influence of neighboring states on the rotational constants is not known.

Steimle, T.C., Bousquet, R.R., Namiki, K.C., Merer, A.J.: J. Mol. Spectrosc. **215** (2002) 10.