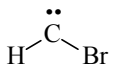
61 **CHBr** **Bromomethylene** **C_s**

LIF



State	$\tilde{X}\ ^1A'$
Energy [eV]	0.00
r_e(C−H) [Å]	1.111(8)
r_e(C−Br) [Å]	1.840(4)
θ_e(H−C−Br) [deg]	100.7(16)

HCBr was produced by the excimer laser photolysis of bromoform and absorption spectra studied in the near-infrared region using a long-path absorption cell. Rotational constants were derived for vibrationally excited ground state levels [1]. A combination of these results with earlier measurements on HCBr and DCBr [2] and *ab initio* vibration-rotation constants was used to estimate equilibrium parameters and a ground state structure for HCBr.

[1] Chang, B-C., Guss, J., Sears, T.J.: J. Mol. Spectrosc. **219** (2003) 136.
[2] Yu, H-G., Gonzales-Lezana, T., Marr, A.J., Muckerman, J.T., Sears, T.J.: J. Chem. Phys. **115** (2001) 5433.