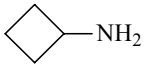
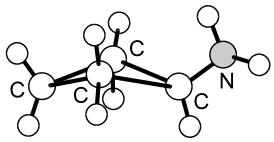
585 **C_4H_9N** **Cyclobutylamine** **G_4** (equatorial *gauche*)
MW Cyclobutanamine (effective symmetry class)





The conformer detected has the amino group in the equatorial position and the nitrogen lone pair in *gauche* with respect to the adjacent hydrogen of the ring.
Each rotational transition is split into four component lines, corresponding to the four equivalent minima in the potential energy surface of the internal rotation and inversion of the NH_2 group. Vibrational spacings are ΔE_{14} = 11890.12(8), ΔE_{23} = 11874.15(3), ΔE_{12} = 7.98 and ΔE_{34} = 7.98 MHz.
The observed spectra were analyzed by assuming the following potential function: $V(x, y) = [(V_1/2)\cos(x) + (V_3/2)\cos(3x)](y/y_0) + B_0[1 - (y/y_0)^2]^2$, where x and y denote the internal-rotation and inversion coordinates, respectively, and led to V_3 = 450.6 (1) and B_0 = 2904 (6) cm^{-1}, while fixing V_1 to – 370.7 cm^{-1} and y_0 to 33°.

Favero, L.B., Corbelli, G., Velino, B., Caminati, W., Favero, P.G.: Chem. Phys. **228** (1998) 219.

MW

The model for the internal rotation and the inversion was refined by using the results on the ND_2 and NHD species.

Favero, L.B., Velino, B., Maris, A., Caminati, W.: J. Mol. Struct. **612** (2002) 357.