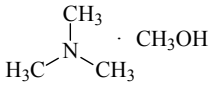
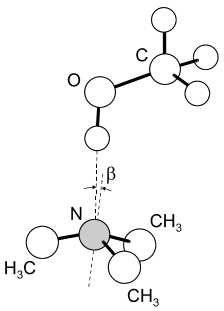
613 **$C_4H_{13}NO$** ***N,N*-Dimethylmethanamine – methanol (1/1)** **G_{18}**
MW Trimethylamine – methanol (1/1) (effective symmetry class)
(weakly bound complex) (large-amplitude motion)



r_0	Å
N...H	1.92(5)

θ_0	deg
β [a])	5.5(50)
O–H...N	179.3(50)



A partial analysis of the spectrum revealed that both the trimethyl amine (TMA) subunit and the methyl group in methanol undergo hindered internal rotations. The rotational transitions associated with the ground torsional state of TMA and the two lowest A and E states of methanol were assigned and fit. A simplified two-top torsion-rotation Hamiltonian was used in the analysis. From the fitted parameters, a nearly linear hydrogen-bonded structure was obtained for the complex. The apparent barrier height for the methyl group torsion (in methanol) was determined to be 174(10) cm^{-1}, from which the OH bending potential barrier height was estimated to be 1178(200) cm^{-1}. The potential barrier that hinders the TMA internal rotation was estimated as 32(5) cm^{-1}.

[a]) See figure for the definition.

Tan, X.-Q., Ioannou, I.I., Foltz, K.B., Kuczkowski, R.L.: J. Mol. Spectrosc. **177** (1996) 181.