MICROWAVE SPECTROSCOPY OF SEVEN CONFORMERS OF 1,2-PROPANEDIOL

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Previously, two conformations of 1,2-propanediol have been identified by microwave spectroscopy by Caminati.[a] Here we report the assignment of five additional conformers, two from work on a Balle-Flygare type cavity FTMW spectrometer at NIST, operating between 8 and 26 GHz, and three from a deep average scan on the chirped pulse Fourier transform microwave (CP-FTMW) spectrometer at the University of Virginia, operating between 6.5 and 18.5 GHz. All seven of the assigned conformers contain an intramolecular hydrogen bond between the two hydroxyl groups. Stark effect measurements have been performed on the cavity FTMW spectrometer to determine the dipole moments of the three lowest energy conformers. Relative abundances of the conformers have also been determined from the CP-FTMW spectrum. A subsequent interstellar search toward Sgr B2(N) yielded negative results with an upper limit to the total column density that is less than those of glycolaldehyde and ethylene glycol.

[a] W.Caminati, *J. Mol. Spectrosc.* **86** (1981) 193-201.