

A MICROWAVE INVESTIGATION OF THE CO₂-PYRIDINE VAN DER WAALS COMPLEX

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Rotational spectra of the NC₄H₄-CO₂ dimer and four isotopologs have been observed using Fourier transform microwave spectroscopy. Analysis of the rotational and quadrupole coupling constants will be presented. Preliminary structural analysis indicates the complex is planar; the CO₂ axis is perpendicular to the C₂ axis of pyridine with a C-N van der Waals bond length of 2.83 Å. This complex provides the first step in the microsolvation of an organic solute using CO₂ as a solvent and therefore may be useful in understanding solute-solvent interactions in supercritical CO₂.