FOURIER TRANSFORM MICROWAVE SPECTROSCOPY OF ARGON-IMIDAZOLE

RYAN WELCH and HELEN O. LEUNG, *Department of Chemistry, Amherst College, P.O. Box 5000, Amherst, MA 01002-5000.*

Guided by the spectroscopic constants obtained in a millimeter-wave study,[a] the rotational spectrum of Ar-imidazole has been recorded in the 8 - 18 GHz region using a pulsed molecular beam, Fourier transform microwave spectrometer. The nuclear quadrupole hyperfine structure due to the quadrupolar ^{14}N nuclei has been resolved for these low J transitions. The nuclear quadrupole coupling constants for each nitrogen nucleus in the complex will be compared with those in the imidazole monomer to derive molecular properties of the complex.

[a] W. Caminati, S. Melandri, A. Millemaggi, and P. G. Favero, Chem. Phys. Lett. 294, 377 (1998).