LABORATORY MEASUREMENTS AND ASTRONOMICAL OBSERVATIONS OF H_2NCO^+

HARSHAL GUPTA, *Morrisroe Astrocience Laboratory, California Institute of Technology, Pasadena, CA 91125*; CARL A. GOTTLIEB AND MICHAEL C. MCCARTHY, *Harvard-Smithsonian Center for Astrophysics, 60 Garden Street, Cambridge, MA 02138*.

We will discuss the evidence for protonated HNCO (H_2NCO^+) in the centimeter- and millimeter-wave spectra of galactic molecular sources rich in polyatomic molecules, and the prospects for extending the astronomical observations to other sources. The astronomical observations were guided by laboratory measurements of the lowest rotational transitions in the centimeter-wave band by Fourier transform microwave (FTM) spectroscopy of a supersonic molecular beam,[a] and over 15 transitions between 222 and 367 GHz in a low pressure dc discharge through H_2 and HNCO.

[a] Lattanzi et al., *J. Phys. Chem. Lett.* **3**, 3420 (2012)