THE MILLIMETER- AND SUBMILLIMETER-WAVE SPECTRUM OF METHYL CARBAMATE ($H_2NCOOCH_3$)

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Although most organic molecules found in interstellar clouds are unsaturated in nature, saturated and near-saturated molecules are detected in so-called "hot-core" sources near the sites of high-mass star formation. One molecule searched for in such sources is glycine, the simplest amino acid and the amino derivative of acetic acid, but the results of this search have been ambiguous. Because there is more methyl formate than acetic acid in hot-core sources, it is reasonable to search for an amino derivative of methyl formate, the internal rotor known as methyl carbamate. The lowest energy, or *syn*, conformer of this species has heretofore only been studied at frequencies through 40 GHz. Using our fast-scan spectrometer ("FASSST"), we have measured and analyzed many new lines of the rotational-torsional spectrum of methyl carbamate in the ground torsional state of the *syn* conformer. Our new laboratory measurements should make it possible to search for this species in space.