HIGH RESOLUTION ELECTRONIC SPECTROSCOPY OF TOLUIDINES IN THE GAS PHASE. BARRIER HEIGHT DETERMINATIONS FOR THE METHYL GROUP TORSIONAL MOTIONS. [a]

PHILIP J. MORGAN, LEONARDO ALVAREZ-VALTIERRA and DAVID W. PRATT, *Department of Chemistry, University of Pittsburgh, PA 15260*.

The high resolution electronic spectra of m-toluidine and o-toluidine have each been recorded for the $S_1 \leftarrow S_0$ transition. Each spectrum is split into two sub-bands owing to tunneling motions along the methyl group torsional coordinates. Analyses of these data provide information about the barriers opposing methyl group torsional motions in both electonic states. Properties of the PES's along this coordinate will be discussed for both molecules.

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