DISPERSED FLOURESCENCE SPECTROSCOPY OF JET-COLLED p-AMINOTOLUENE

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Large amplitude hindered internal rotation of a methyl group and umbrella inversion of amine have been extensively investigated over the past several decades because of their important chemical significances. In p-aminotoluene (p-AT) both the groups are present and they can interact with each other via the aromatic ring. Such interaction has been studied earlier by Yan and Spangler by measuring the fluorescence excitation spectra, and subsequently by Tan and Pratt using rotationally resolved electronic spectroscopy. In this work, we show evidence of coupling between the two groups in the excited electronic state (S_1) of the molecule by measuring the dispersed fluorescence spectra following excitations to single vibronic levels, and by comparing the spectra with those of p-aminofluorobenzene.