

CATION SPECTROSCOPY OF 3,4-DIFLUOROANILINE

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Very few spectroscopic data of tri-substituted benzene are available in the literature. We applied the resonant two-photon ionization and mass analyzed threshold ionization spectroscopic techniques to record the vibronic and cation spectra of 3,4-difluoroaniline. The results give precise electronic excitation and adiabatic ionization energies. In addition, information about the active vibrations in the first electronically excited and cationic ground states are also obtained. The spectral assignment has been successfully done by comparing the present data with those of m-fluoroaniline and p-fluoroaniline. We have performed theoretical calculations to support our experimental findings.

Keywords: 3,4-difluoroaniline, resonant multiphoton ionization, threshold ionization, cation spectra