FREQUENCY AND TIME DOMAIN STUDIES OF TOLUENE

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Nanosecond zero kinetic energy (ZEKE) and picosecond slow electron velocity map imaging (SEVI) photoelectron spectroscopic techniques have been employed in order to investigate the vibrational levels in the ground electronic state of the toluene cation. Vibrationally-resolved photoelectron spectra have been obtained following the preparation of a range of vibrational intermediate levels in the S_1 electronic state. Evidence for intramolecular vibrational energy redistribution (IVR) has been observed at low S_1 vibrational energies.