FT-IR SPECTROSCOPY OF MATRIX ISOLATED PHENYLPEROXYL RADICALS

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$^2A''$ phenylperoxyl radicals, $C_6H_5O_2$, have been generated in a cryogenic Ar matrix. In a two pulse experiment, phenyl radicals, C_6H_5, are generated via pyrolysis of phenyliodide in Ar through a hyperthermal SiC nozzle and deposited on a CsI window at 20 K; a second valve deposits a layer of O_2 in Ar on top of the phenyl radicals. The process is repeated and phenylperoxyl radicals are formed in the matrix. The matrix is analyzed with an IR spectrometer to identify vibrational frequencies of the radical.