HIGH RESOLUTION IR SPECTRA OF CYCLOPROPYL RADICAL

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The C_3H_5 cyclopropyl radical has been generated in a slit supersonic discharge source and the infrared spectrum in the CH stretching region recorded via a direct absorption difference frequency spectrometer. The radical is generated by expanding a dilute (1%) mix of cyclopropyl bromide in a diluent of Ne/He. Precursor and radical absorption are differentiated by simultaneous gated detection and gated discharge current. Transitions observed around 3118 cm^{-1} and 3041 cm^{-1} are tentatively assigned to the lone CH stretch and the asymmetric CH_2 stretchs, respectively. A more detailed rotational assignment is currently in progress and the results will be reported, providing both structural information and a detailed view into the inversion tunneling of the lone hydrogen through the radical center.