

INFRARED SPECTROSCOPY OF SIZE-SELECTED CARBOCATIONS II.:  $C_6H_7^+$ ,  $C_7H_7^+$ , AND  $C_7H_9^+$

GARY E. DOUBERLY, ALLEN M. RICKS, and MICHAEL A. DUNCAN, *Department of Chemistry, University of Georgia, Athens, Georgia 30602.*

Cold, rare gas tagged, gas phase carbocations are produced in a pulsed electric discharge supersonic expansion cluster source. The infrared spectra of the size-selected species are obtained *via* infrared photodissociation spectroscopy. The structure and spectroscopy ( $700\text{-}4000\text{ cm}^{-1}$ ) of the benzenium, toluenium and tropylium ions will be discussed. The infrared spectral signatures of the title ions are compared to the interstellar unidentified infrared emission bands.