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

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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 (700-4000 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.