VELOCITY MAP IMAGING STUDY OF THE PHOTOINITIATED CHARGE-TRANSFER DISSOCIATION OF Cu\(^+\)(C\(_6\)H\(_6\)) AND Ag\(^+\)(C\(_6\)H\(_6\))

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M\(^+\)(C\(_6\)H\(_6\)) (M = Cu, Ag) complexes are generated in the gas phase by laser vaporization and detected in a reflectron time-of-flight mass spectrometer. Excitation of M\(^+\)(C\(_6\)H\(_6\)) at 355 nm results exclusively in dissociative charge transfer, leading to neutral M and C\(_6\)H\(_6^+\) products for both Cu and Ag complexes. Kinetic energy release in translationally hot C\(_6\)H\(_6^+\) fragments is detected using a new apparatus designed for photofragment imaging of mass-selected ion beams. Velocity map imaging and slice imaging techniques are employed. Analysis of the data provide new information on the binding energies of Cu\(^+\)(C\(_6\)H\(_6\)) and Ag\(^+\)(C\(_6\)H\(_6\)).