

Fluorine-edge Resonant Photoemission Spectroscopy at the Molecules Assembled on a Gold Substrate

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Femtosecond charge transfer dynamics in a series of self-assembled monolayers of fluoro-thiophenol on gold substrates was investigated with the core-hole clock method. Electrons from the fluorine K-shell were excited to the unoccupied molecular orbitals. By systematically varying the position of the fluorine group (ortho-, meta-, para- to the sulfur) we explored the role relative position plays in charge-transfer times. Preliminary experiments indicate the ortho position delocalize near completely on the femto-second timescale.