

Abstract Submitted
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Double Photoionization of Pyrrole, Furan, and Thiophene¹ EMILY MAKOUTZ², Dept. of Physics, Univ. of Wisconsin–La Crosse, TIM HARTMAN, NARAYANA APPATHURAI, RALF WEHLITZ, Synchrotron Radiation Center, Univ. of Wisconsin–Madison — We have studied the double-to-single photoionization ratio for the aromatic molecules pyrrole, furan, and thiophene over photon energies ranging from 20 to 180 eV. Our goal is to compare the behavior of the ratios of these molecules as a function of photon energy. The three molecules have the same basic structure (a five-member-ring) that differs by a single atom. The overall goal is to find a systematic behavior of the double-to-single photoionization ratio for various organic molecules. By studying different hydrocarbons that vary in structure and/or atomic members, we were able to identify three basic double photoionization mechanisms that can contribute to double photoionization. However, not all hydrocarbons exhibit all three mechanisms.

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