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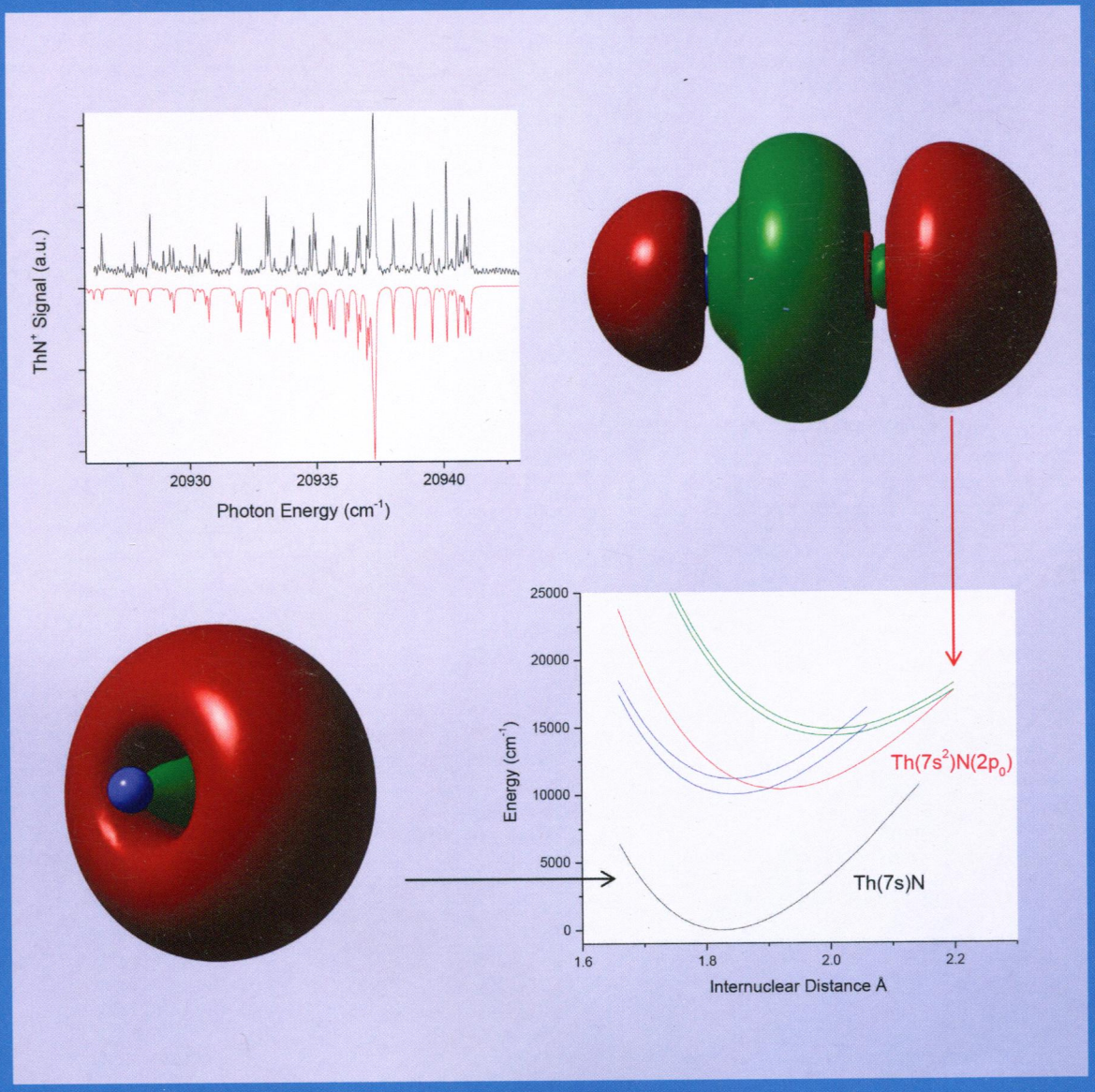

Probing the Nature of Actinide Bonds Using Electronic Spectroscopy and Multiphoton Ionization
(see page 10867)

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ON THE COVER: The cover shows the essential components of the method used to investigate actinide bonding characteristics. The key experimental data are rotationally resolved spectra for gas phase molecules and ions recorded under low temperature conditions (upper right). Molecular constants derived from the spectra yield potential energy curves (lower left) and insights concerning electronic configurations. Electronic structure calculations, validated using the experimental observations, then provide information concerning the relative roles of the metal 5f, 6d, and 7s orbitals in bond formation. As examples, the orbitals for the HOMO and the first excited charge transfer state of ThN are shown. See page 10867.

Feature Article

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