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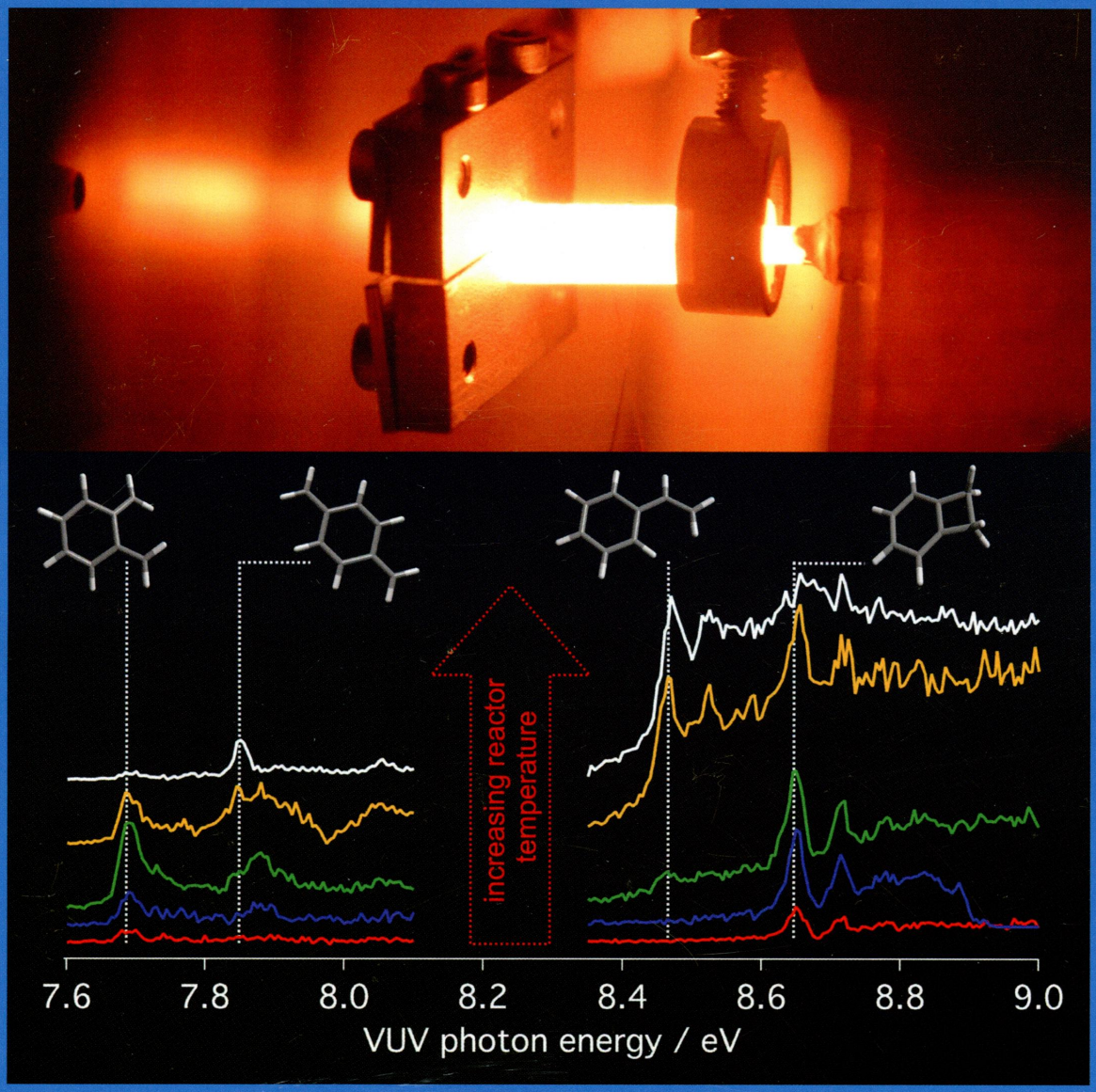

High-Temperature Xylyl Radical Decomposition and Rearrangement Dynamics Probed by Tunable VUV Synchrotron Radiation (see page 5A)

ISOLATED MOLECULES, CLUSTERS, RADICALS, AND IONS; ENVIRONMENTAL CHEMISTRY, GEOCHEMISTRY, AND ASTROCHEMISTRY; THEORY

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ON THE COVER: The collage shows the glowing tubular reactor at ~1300 K, which is used to explore the decomposition and rearrangement dynamics of gas-phase *o*-xylyl radicals. *o*-Xylylene, formed by direct hydrogen abstraction of the xylyl radical, further isomerizes in a multistep reaction to yield styrene. The latter species is known to form in particularly large quantities from the oxidation of *o*-xylene compared to the meta and para isomers. This study, benefiting from isomer specific product detection, can explain these finding by utilizing imaging photoelectron photoion coincidence (iPEPICO) spectroscopy (lower panel) and VUV synchrotron radiation at the Swiss Light Source. See page 3593.

Articles

Kinetics and Dynamics

Spectroscopy, Photochemistry, and Excited States

Environmental and Atmospheric Chemistry, Aerosol Processes, Geochemistry, and Astrochemistry

Molecular Structure, Quantum Chemistry, and General Theory

Additions and Corrections

Ⓢ Supporting Information available via online article