

Abstract Submitted
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**Solvation and Deprotonation Dynamics in Reverse Micelles via
Broadband Femtosecond Transient Absorption (BFTA) Spectroscopy**

RICHARD COLE, Department of Chemistry, Colorado State University — Broadband femtosecond transient absorption (BFTA) spectroscopy is a useful tool in characterizing femtosecond and picosecond physical and chemical dynamics such as solvation, electron transfer, and deprotonation dynamics. This presentation will focus on our most recent results, which utilize BFTA spectroscopy in the ultraviolet-visible (UV-vis) spectral range to probe deprotonation and solvation dynamics in the nanoscopic confinement of reverse micelles. In these studies, pyranine, a ‘photoacid’, probes both solvation and deprotonation dynamics in reverse micelles formed from cationic (cetyl trimethylammonium bromide, CTAB), anionic (sodium dioctyl sulfosuccinate, AOT), and neutral (polyoxyethylene nonylphenylether, Igepal) surfactants. Dynamic behavior will be discussed in terms of the degree of nanoscopic confinement (micellar size) and the impact of varying interfacial environments.

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