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Probing picosecond solvation dynamics using fluorescent probes with very small Stokes shift

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Abstract:

In this talk, starting with a brief overview of the theoretical and experimental research carried out in our lab (*i.e.*, ultrafast energy transfer dynamics at ensemble level as well as at single molecule/molecular-complex/particle level), studies on solvation dynamics using dynamic Stokes shift measurements will be presented. We studied picosecond solvation dynamics of basic fluorescein in AOT-hexane/water reverse micelles of varying sizes using time-correlated single photon counting (TCSPC) technique to explore how these probe molecules can 'sense' the influence of the interface even staying in the 'core region' (as opposed to the 'interfacial region'). A general method of probing picosecond solvation dynamics using fluorescent probes with very small Stokes shift (for example, fluoresceins and rhodamines) will be discussed.

References and Notes:

1. Yogita Silori, Shivalee Dey, and Arijit K. De, *How to probe picosecond solvation dynamics using fluorescent probes with very small Stokes shift*, *Physical Chemistry Chemical Physics* (Under review)