

Ultrafast Transient Absorption Investigation on the Photochemical Reaction Mechanisms of Selected Aromatic Carbonyl Compounds

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Abstract

In our recent years' study, femtosecond time-resolved transient absorption spectroscopy experiments and density functional theory computations are done for the mechanistic investigation of selected aromatic carbonyl compounds, especially for some photochemical reactions in water containing solutions. We will reported some of our investigated systems, like the photoredox reaction mechanism study on benzophenone and anthraquinone compounds,^{1 2 3 4 5 6 7 8 9} the photodeprotection reaction mechanism on selected photoliable protecting groups^{10 11 12} and the photoinduced generation of quinone methides^{13 14}

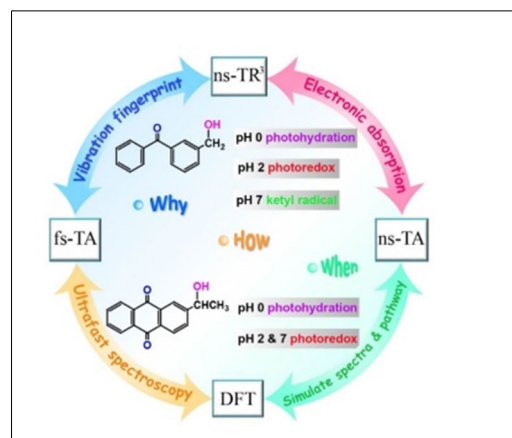


Fig. 1: The study on the photochemical reaction mechanism of BP and AQ compounds in aqueous solutions.

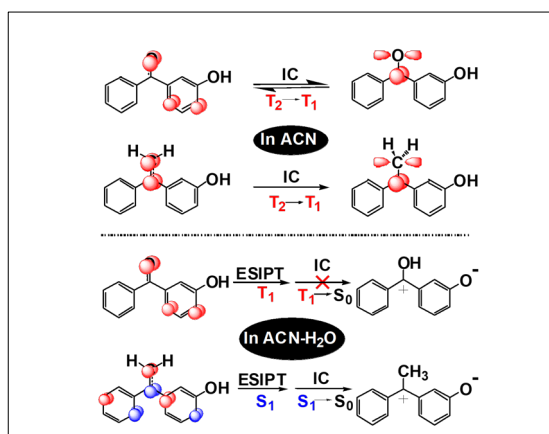


Fig. 2: The study on the reaction mechanism of photogenerated quinone methide.

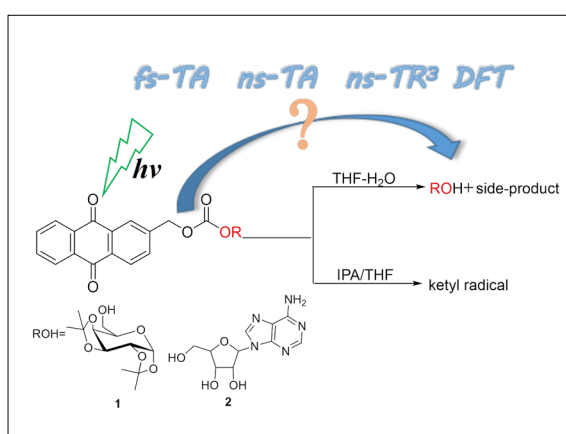


Fig. 3: The study on the photodeprotection mechanism of AQ compounds.

Keywords: ultrafast transient absorption, photoredox reaction, photodeprotection reaction, quinone methide

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