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Improvement of Photoionization Efficiency of Diarylethene-Cyclodextrin Complexes by Using Multi-Laser Pulse Excitation

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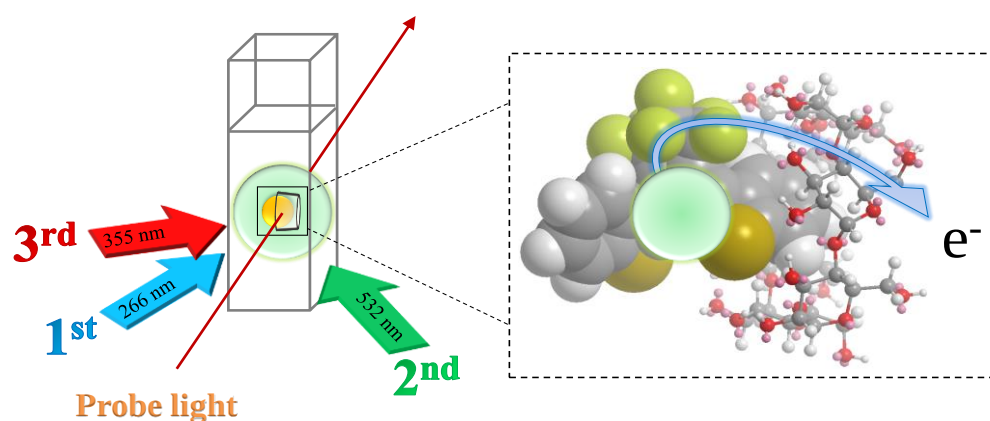
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Graphical abstract



Highlights

- The transient absorption of benzothiophene-based diarylethene in the presence of cyclodextrins in water/acetonitrile (9:1 v/v) was observed using multi-laser pulse excitation.
- Photoionization of benzothiophene-based diarylethene occurred from $S_0 \rightarrow S_1 \rightarrow S_n$ transition by two photons.
- Improvement of photoionization efficiency of benzothiophene-based diarylethene obtained using the three-color three-laser system attributed to the cycloreversion to the closed ring isomer by 532 nm laser pulse
- This work indicate a promising technique for the efficient photo-control of photonic devices and photo-driven actuators based on diarylethenes

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