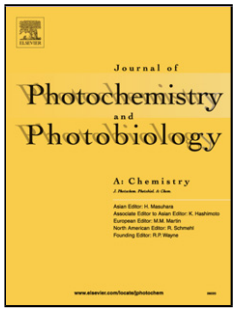

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PII: S1010-6030(16)31228-X
DOI: http://dx.doi.org/doi:10.1016/j.jphotochem.2017.04.026
Reference: JPC 10615

To appear in: *Journal of Photochemistry and Photobiology A: Chemistry*

Received date: 22-12-2016
Revised date: 4-4-2017
Accepted date: 18-4-2017

Please cite this article as: Tatsuya Takeshita, Hiroyuki Kurata, Michihiro Hara, Improvement of Photoionization Efficiency of Diarylethene-Cyclodextrin Complexes by Using Multi-Laser Pulse Excitation, Journal of Photochemistry and Photobiology A: Chemistryhttp://dx.doi.org/10.1016/j.jphotochem.2017.04.026

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

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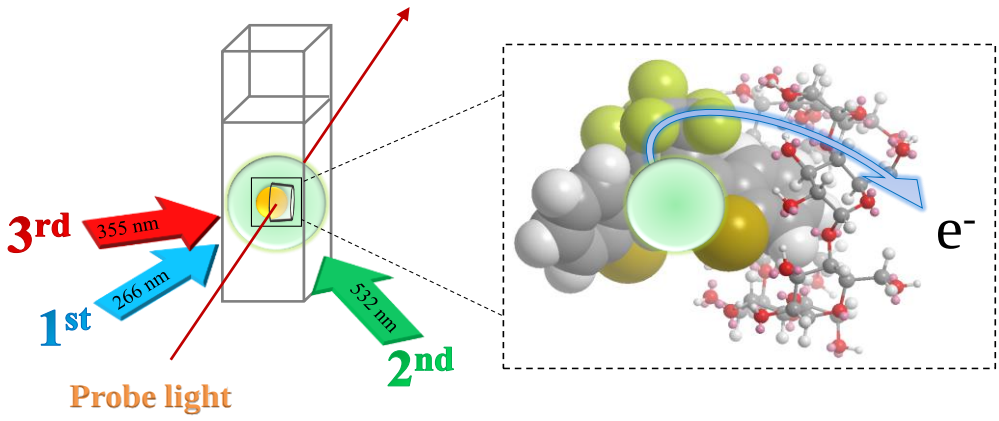
Graphical abstract



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