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Title:	Photoswitchable synthons for supramolecular assembly
Authors:	<a href="#">Nawaria, Sajal</a>
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Abstract:	Azobenzenes are one of the prime classes of molecular photoswitches and have wide applications in various fields like non-linear optical applications, dye industry, molecular motors, solar thermal storage etc. The E-to Z-isomerization of azobenzene happens under UV irradiation. Azobenzene, with two phenyl rings separated by an azo ( $-N=N-$ ) bond, serves as the core for a broad range of aromatic azo compounds. Other than azobenzene, diarylethenes, fulgides, stilbenes are known to show efficient photoisomerization as well as long half-life for thermally unstable photoisomer. Herein, we have designed and synthesized a series of alkyl carboxylic acid tethered through amide functional groups in the photoswitchable azobenzene and attempted to make them switchable in aqueous conditions. Apart from that, we intended to bring supramolecular assemblies with the help of metal salts. All the target molecules have been synthesized and characterized with the help of NMR and IR spectroscopy. Photoswitching of the target compounds have been investigated through UV-vis spectroscopy. Through these studies, we have rationalized the effect of alkyl chain photoswitching and thermal stability of the photoisomers.
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