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Title:	Light-controlled shape-changing azomacrocycles exhibiting reversible modulation of pyrene fluorescence emission
Authors:	Srivastava, Anjali (/jspui/browse?type=author&value=Srivastava%2C+Anjali) Grewal, Surbhi (/jspui/browse?type=author&value=Grewal%2C+Surbhi) Bari, Naimat K. (/jspui/browse?type=author&value=Bari%2C+Naimat+K.) Saraswat, Mayank (/jspui/browse?type=author&value=Saraswat%2C+Mayank) Sinha, Sharmistha (/jspui/browse?type=author&value=Sinha%2C+Sharmistha) Venkataramani, Sugumar (/jspui/browse?type=author&value=Venkataramani%2C+Sugumar)
Keywords:	azomacrocycles exhibiting reversible modulation of pyrene fluorescence emission
Issue Date:	2022
Publisher:	Royal Society of Chemistry
Citation:	Organic and Biomolecular Chemistry, 20(26), 5284-5292.
Abstract:	We report the design, synthesis, and study of light-induced shape-changing azomacrocycles. These systems have been incorporated with azobenzene photoswitches using alkoxy tethers and triazole units to afford flexibility and binding. We envision that such azomacrocycles are capable of reversibly binding with the guest molecule. Remarkably, we have demonstrated fully light-controlled fluorescence quenching and enhancement in the monomeric emission of pyrene (guest). Such modulations have been achieved by the photoisomerization of the azomacrocycle and, in turn, host-guest interactions. Also, the azomacrocycles tend to aggregate and can also be controlled by light or heat. We uncovered such phenomena using spectroscopic, microscopic, and isothermal titration calorimetry (ITC) studies and computations.
Description:	Only IISER Mohali authors are available in the record.
URI:	<a href="https://doi.org/10.1039/d2ob00866a">https://doi.org/10.1039/d2ob00866a</a> ( <a href="https://doi.org/10.1039/d2ob00866a">https://doi.org/10.1039/d2ob00866a</a> ) <a href="http://hdl.handle.net/123456789/4902">http://hdl.handle.net/123456789/4902</a> ( <a href="http://hdl.handle.net/123456789/4902">http://hdl.handle.net/123456789/4902</a> )
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