Title:	Structural Understanding, Photoswitchability, and Supergelation of a New Class of Four Ring-Based Bent-Shaped Liquid Crystal
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Abstract:	Herein, we report a new type of azobenzene-based unsymmetrical bent-core molecules exhibiting photoswitchability in the liquid crystalline state, solid state, and solution state and in mixture upon UV irradiation and intense visible light. The compounds exhibited solid-state photochromism upon exposure to UV light, whereas in liquid crystalline state, reversible phase transitions were observed via both UV irradiation and intense visible light exposure. Crystal structure analysis reveals the basic structural understanding such as nonplanar bent molecular shape, antiparallel arrangement of the polar bent molecules, intra- and intermolecular hydrogen bonding, and different π–π interactions and interdigitation of long alkyl chains. The compounds are also found to act as supergelator toward various organic solvents. Hence, this is an excellent example of such potential bent-shaped liquid crystals that promise an immense perspective for device applications such as optical storage, molecular switches, etc.
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