Title:	Synthesis, Characterization and Photoisomerization Studies of Photo switchable Probe as Molecular Tweezers
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Abstract:	Photoswitchable molecular tweezers possess the remarkable ability to alter their structure and function in response to light stimuli, akin to the opening and closing of a pair of tweezers. We have hereby synthesized and characterised a photo switchable molecular tweezer comprising bispidone and azo moieties. Using a multi-step Mannich reaction for the synthesis of core bispidone and acid amine coupling followed by azo coupling for the synthesis of photoisomerizable azobenzene arms, resulted in a molecular tweezer that facilitates the incorporation of guest material. The unique binding quality of bispidone along with azobenzene's photo responsive feature enables precise manipulation and control at the molecular level, holding immense promise for applications ranging from drug delivery and sensing to materials science and beyond. The characterization and photoswitching studies were investigated further through NMR and other spectroscopic techniques. The coupling of bispidone and azo moieties provides a framework for the building of flexible molecular systems with potential applications in a variety of domains.
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