

## Accepted Manuscript

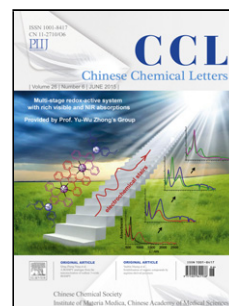
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Communication

## An amino acid-based gelator for injectable and multi-responsive hydrogel

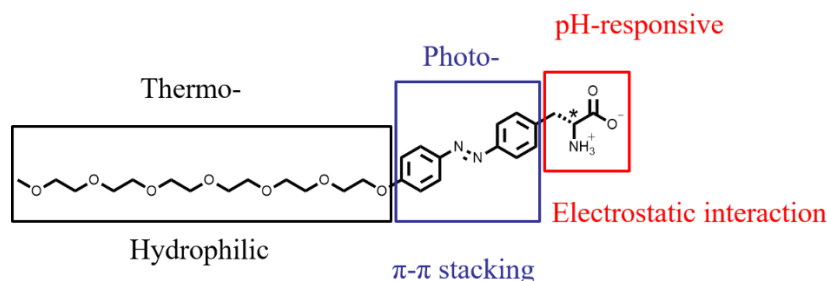
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## Graphical Abstract



A novel multi-responsive amino acid-based gelator is developed.

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## ABSTRACT

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Hydrogels formed by gelators have attracted growing attention for their promising application in biomaterials and biotechnology. We describe in this paper the generation and characterization of a novel photo-, thermal- and pH-responsive hydrogel based on an amino acid gelator AA-Azo-EG<sub>6</sub>. Specifically, the gelator bears an amino acid head, an azobenzene (Azo) linker, and a short oligoethylene glycol tail (EG<sub>6</sub>). The resulting AA-Azo-EG<sub>6</sub> hydrogel is injectable and exhibits interesting helical self-assembled structures. Meanwhile, the hydrogel is able to experience a gel-sol or gel-precipitate phase transition responding to external stimuli. Thus, this AA-Azo-EG<sub>6</sub> gelator is a promising building block for intelligent materials and drug delivery.

Hydrogels are a kind of soft materials containing large amount of water within small-molecular or polymeric networks that are crosslinked by either physical association or chemical bonding. Because of their unique viscoelastic and biomimetic properties, hydrogels are promising biomaterials [1] for applications such as tissue engineering, regenerative medicine [2],

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