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Coumarin-based multifunctional chemosensor for arginine/lysine and $\text{Cu}^{2+}/\text{Al}^{3+}$ ions and its Cu^{2+} complex as colorimetric and fluorescent sensor for biothiols

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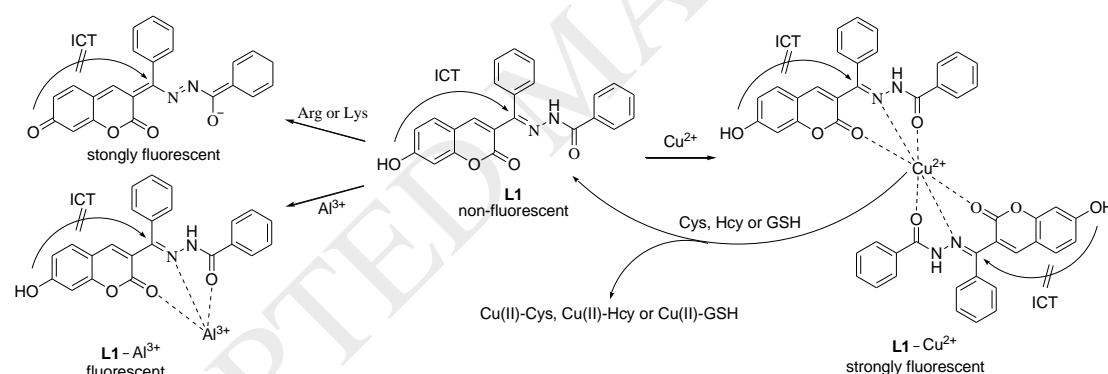
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Graphical Abstract

A coumarin-based multifunctional sensor has been developed for colorimetric and fluorogenic dual-signal sensing of arginine, lysine and Cu^{2+} and fluorescent detection of Al^{3+} . Its Cu^{2+} complex serves as colorimetric and fluorometric probe for highly selective and sensitive detection of cysteine, homocysteine and glutathione over other common amino acids.



Highlights

- A coumarin-based multifunctional chemosensor has been developed.
- It is useful for chromogenic and fluorogenic detection of Arg and Lys.
- It serves as colorimetric and fluorimetric probe for selective detection of Cu^{2+} .
- It can be utilized for fluorescent sensing of Al^{3+} .

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