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A selective 'turn-on' fluorescent chemosensor for detection of Al³⁺ in aqueous medium: experimental and theoretical studies

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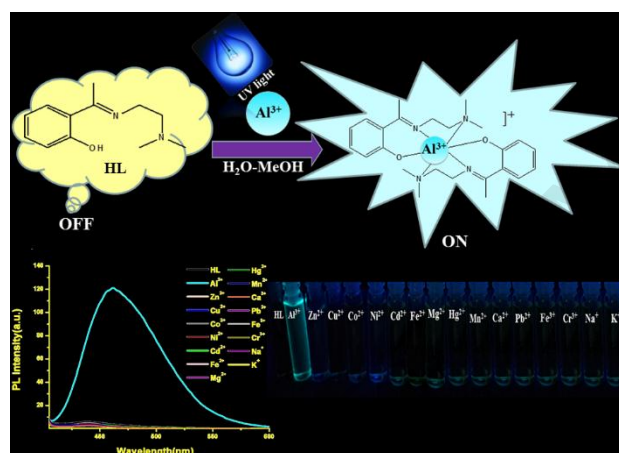
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Graphical abstract



Highlights

- A Schiff base chemosensor, HL, give cyan fluorescent response upon binding Al³⁺.
- The chemosensor show good selectivity to Al³⁺ compared other competing metal ions.
- The compound binds Al³⁺ in 2:1 ratio with a binding constant of $2.1 \times 10^4 \text{ M}^{-1}$.
- Limit of detection of HL for Al³⁺ is found to be as low as $4.32 \times 10^{-6} \text{ M}$.
- The probe serves as an efficient fluorescent sensor at pH range 4.

Abstract

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