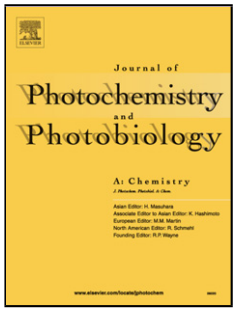

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Pyrene based chalcone as a reversible fluorescent chemosensor for Al^{3+} ion and its biological applications

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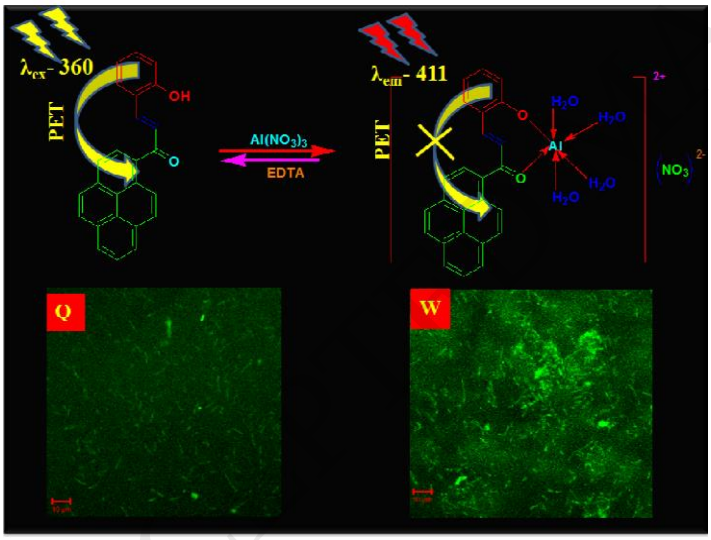
Graphical abstract



Research Highlights

- Pyrene saliscylaldehyde conjugate as a fluorescent probe for Al^{3+} ion
- A PET mechanism has been proposed with a 1:1 binding stoichiometry
- Reversibility of the sensor is proved by experiments with EDTA
- Detection and Electrosorptive removal the Al^{3+} ion in real water samples analyses
- Several biological applications including the bio-imaging of bacterial cells