Title:	Simple ratiometric push–pull with an ‘aggregation induced enhanced emission’ active pyrene derivative: a multifunctional and highly sensitive fluorescent sensor
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Abstract:	A simple ratiometric push–pull and ‘aggregation-induced emission enhancement (AIEE)’ active pyrene based compound, 2-(pyren-1-yl)pyridine (L), was synthesized and characterized by 1H NMR, HRMS and SXRD. The synthesized compound was established as a highly selective and sensitive multi-functional sensor that exhibits a ratiometric fluorescent response, detecting picric acid, H+ and Al3+ [observed sensitivity: 56 nM (12.82 ppb) for picric acid; 2.4 nM (0.27 ppb) for trifluroacetic acid; 2.3 nM (0.86 ppb) for Al3+]. Both L and LH+ have shown emission tuning ability on varying their concentration in solution. Computational calculations (DFT and TD-DFT) have been correlated with the experimental spectroscopic properties.
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