

## Bis-anthracene derived bis-pyridine: selective fluorescent sensing of Al<sup>3+</sup> ion

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Page No.

1. <sup>1</sup> H NMR spectrum of <b>2</b> -----	S2
2. <sup>1</sup> H NMR spectrum of receptor <b>APC</b> -----	S2
3. <sup>13</sup> C-NMR spectrum of receptor <b>APC</b> -----	S3
4. Mass Spectrum (ESI-MS) of receptor <b>APC</b> -----	S3
5. UV-Visible absorption spectrum of receptor <b>APC</b> -----	S4
6. Effect of pH studies of receptor <b>APC</b> and receptor <b>APC+Al<sup>3+</sup> ion</b> -----	S4
7. Fluorescence spectra at different pH of (a) Receptor <b>APC</b> , (b) Receptor <b>APC-Al<sup>3+</sup> ion</b> . (c) Merge image of (a) and (b) -----	S5
7. Effect of time response of receptor <b>APC+Al<sup>3+</sup> ion</b> -----	S5
8. Mass Spectrum (ESI-MS) of receptor <b>APC+Al<sup>3+</sup> ion</b> -----	S6
9. Particle size distribution of a) Receptor <b>APC</b> b) Receptor <b>APC+Al<sup>3+</sup> ion</b> -----	S6
10. Cell viability graph of receptor <b>APC</b> using <i>E. Coli</i> cells by MTT assay -----	S7
11. Comparison of LOD with other reported sensors available in the literature-----	S7

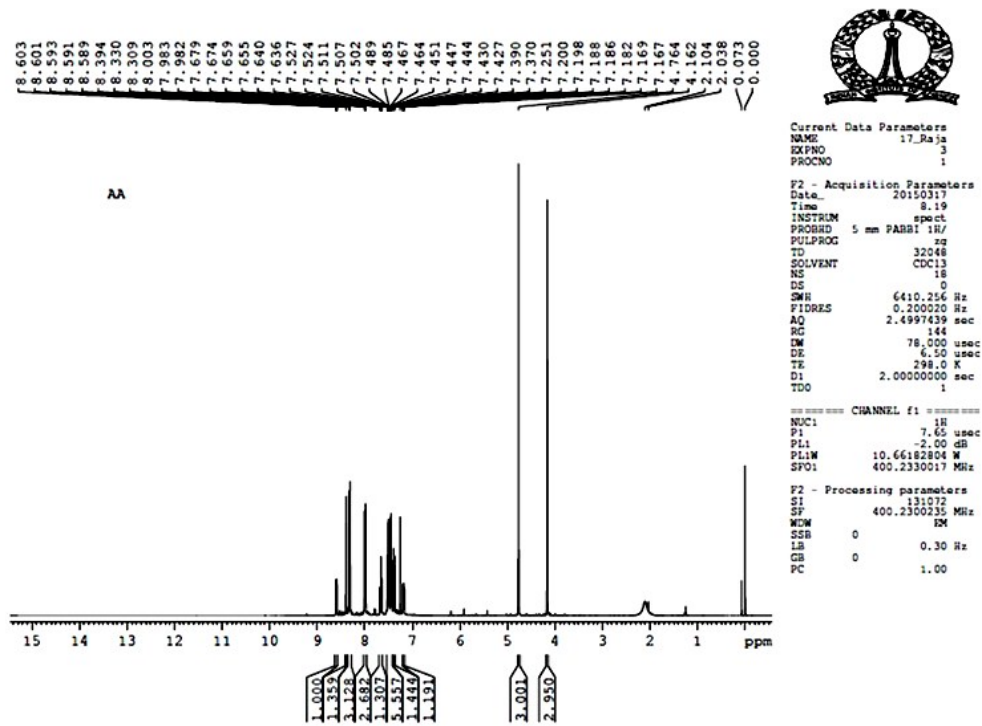


Fig. S1. <sup>1</sup>H NMR Spectrum of 2

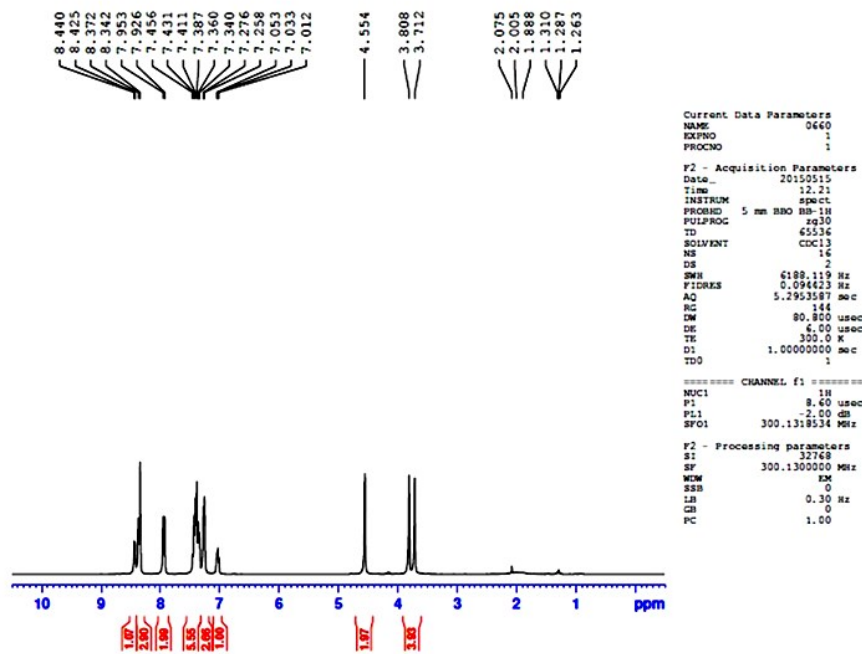


Fig. S2. <sup>1</sup>H NMR Spectrum of receptor APC

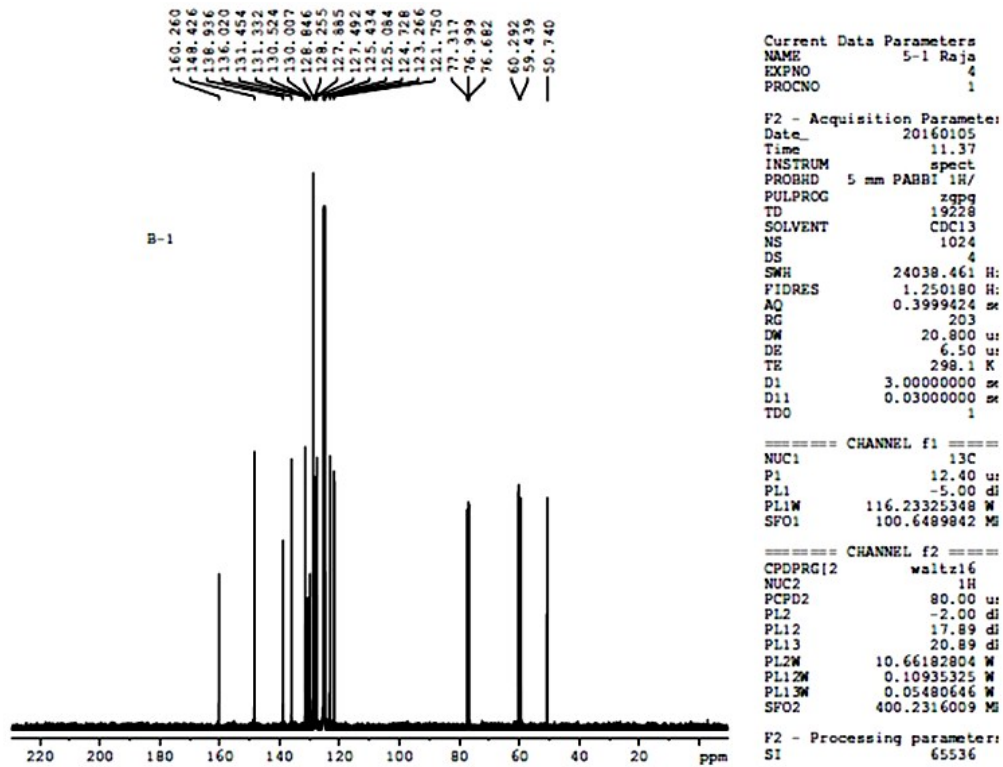


Fig. S3. <sup>13</sup>C NMR Spectrum of receptor APC

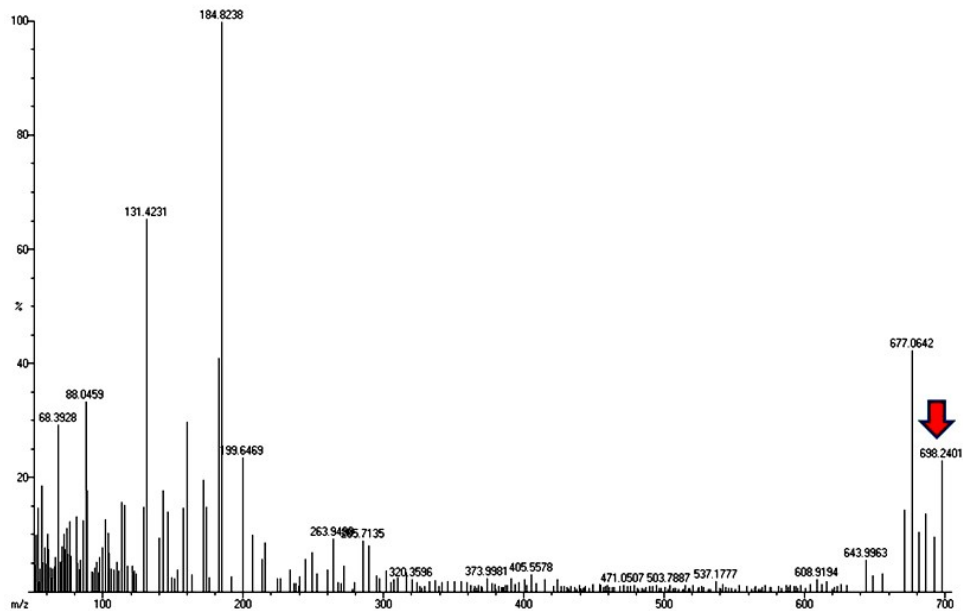


Fig. S4. Mass Spectrum of receptor APC

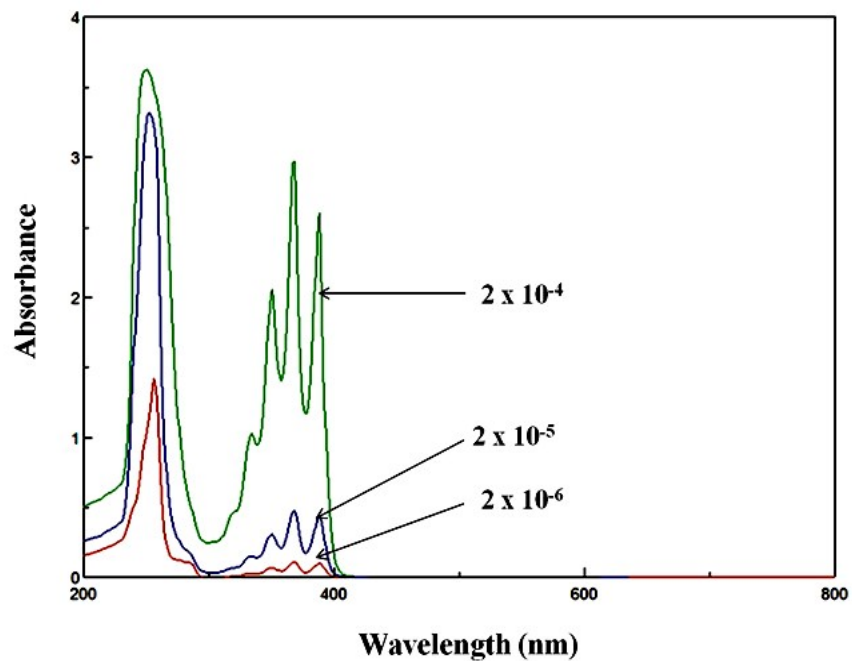


Fig. S5. UV-visible absorption changes of receptor APC in THF-H<sub>2</sub>O solution (1:1 v/v, HEPES=50 mM, pH=7.4)

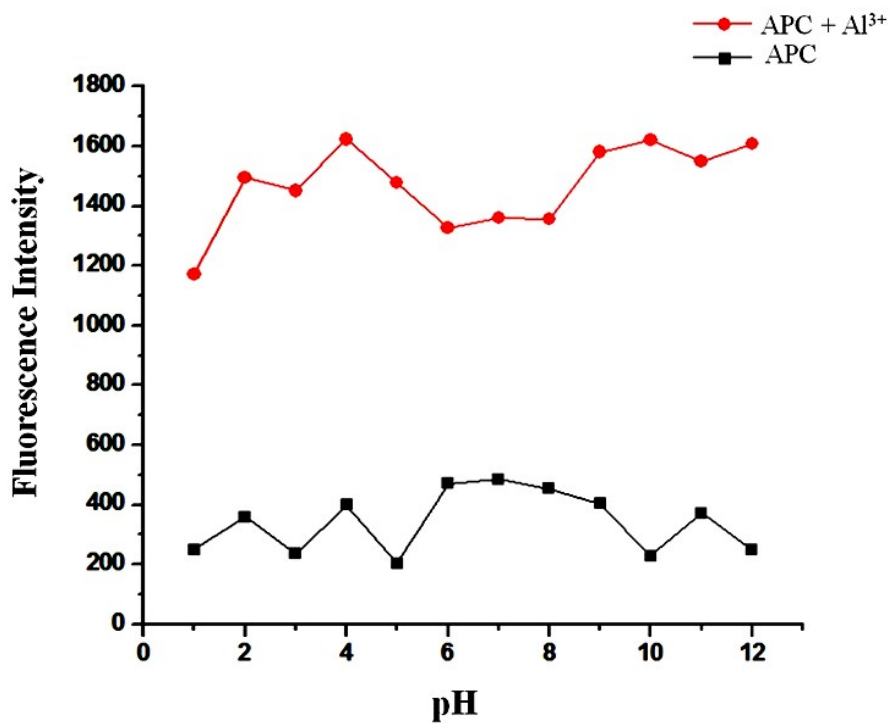
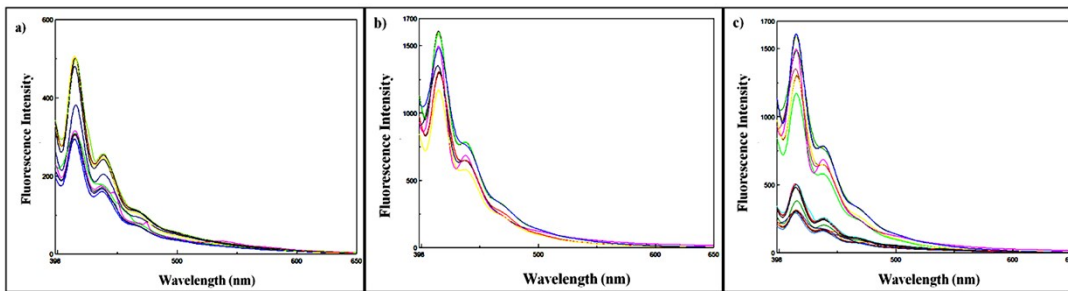
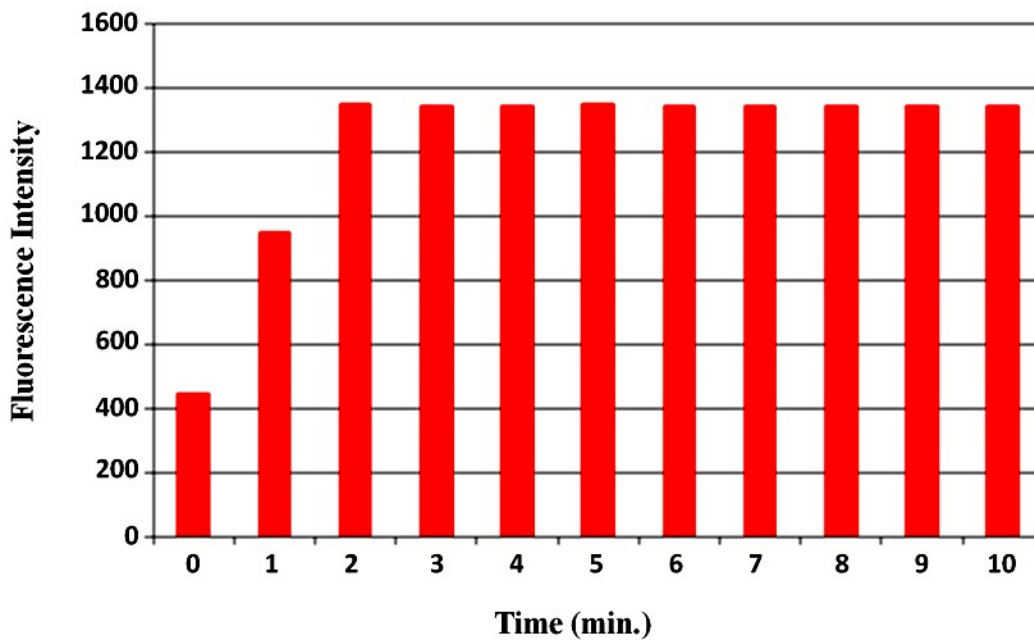


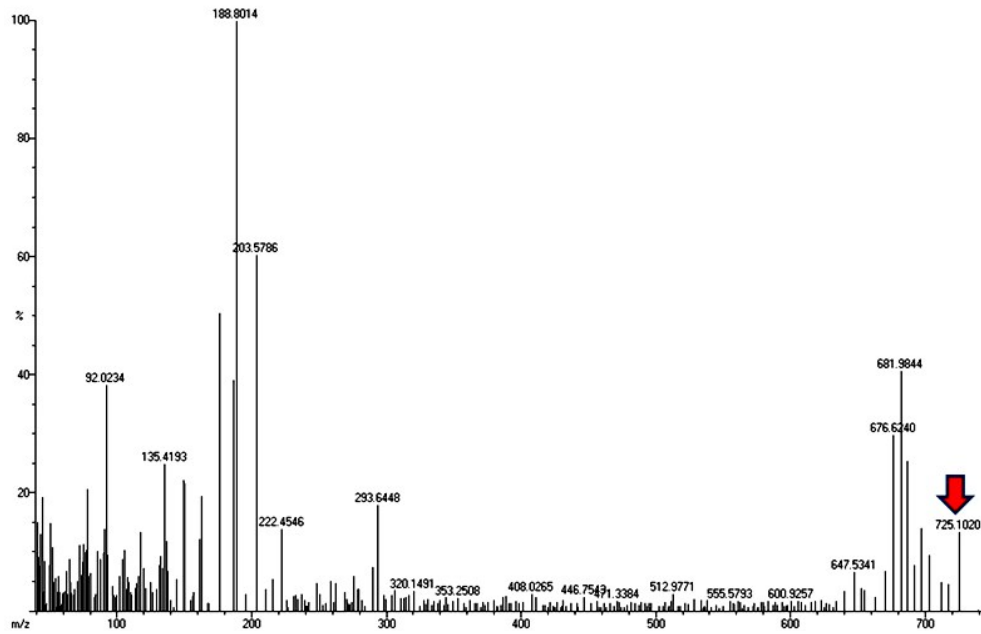
Fig. S6. The effect of pH of receptor APC and receptor APC+Al<sup>3+</sup> in THF-H<sub>2</sub>O solution



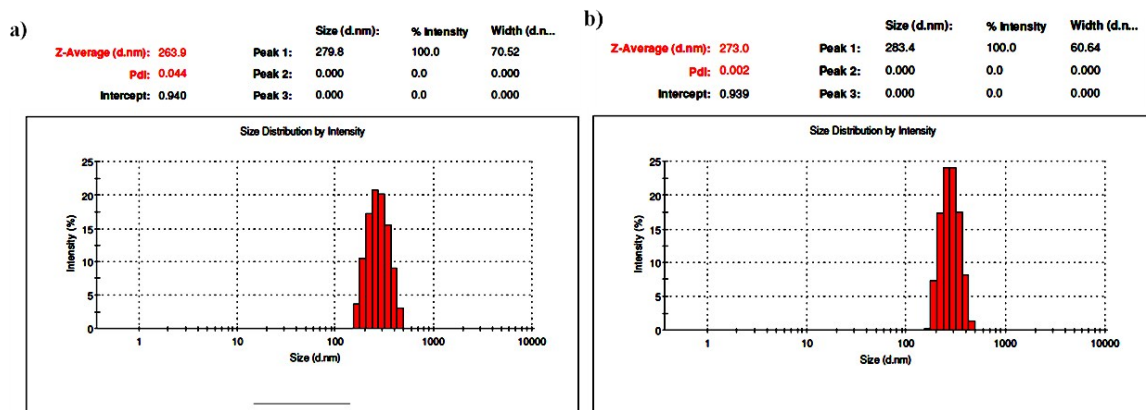
**Fig. S7. Fluorescence spectra at different pH of (a) Receptor APC, (b) Receptor APC-Al<sup>3+</sup>.  
(c) Merge image of (a) and (b).**



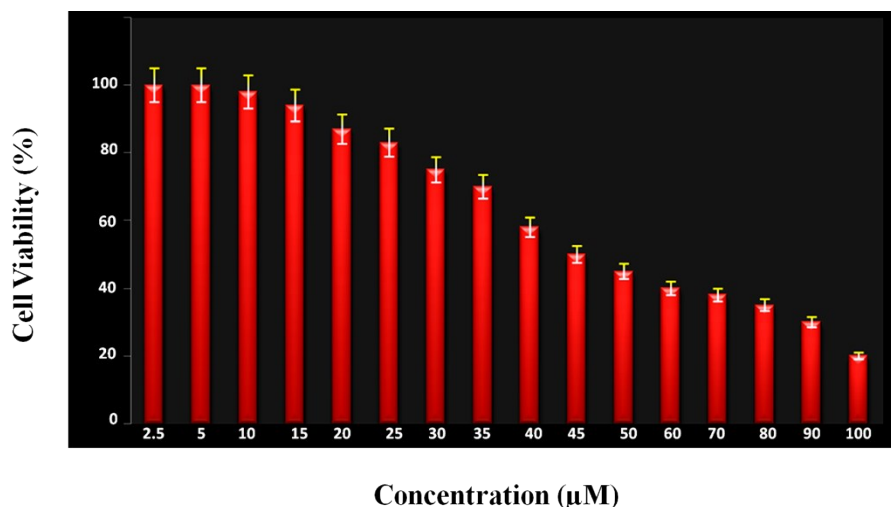
**Fig. S8. The effective time response of receptor APC and receptor APC+Al<sup>3+</sup> in THF-H<sub>2</sub>O solution (1:1 v/v, HEPES= 50 mM, pH=7.4)**



**Fig. S9. Mass Spectrum of receptor APC+Al<sup>3+</sup>**



**Fig. S10. Particle size distribution of a) Receptor APC b) Receptor APC+Al<sup>3+</sup>.**



**Fig. S11.** Cell viability graph of receptor APC using *E. Coli* cells by MTT assay.

**Table S1.** Comparison of LOD with other reported sensors available in the literature

Refs	Detected Elements	LOD	Methods of Detections
[1]	Al <sup>3+</sup>	$0.99 \times 10^{-6}$ M	Fluorescence
[2]	Al <sup>3+</sup>	$2 \times 10^{-6}$ M	Fluorescence
[3]	Al <sup>3+</sup>	$3.60 \times 10^{-6}$ M	Fluorescence
[4]	Al <sup>3+</sup>	$0.05 \times 10^{-6}$ M	Fluorescence
This work (APC)	Al <sup>3+</sup>	$0.89 \times 10^{-6}$ M	Fluorescence

## References

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