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Title: Dual recognition of  $Zn^{2+}$  and  $Al^{3+}$  ions by a novel probe containing two fluorophore through different signaling mechanisms

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# Dual recognition of $Zn^{2+}$ and $Al^{3+}$ ions by a novel probe containing two fluorophore through different signaling mechanisms

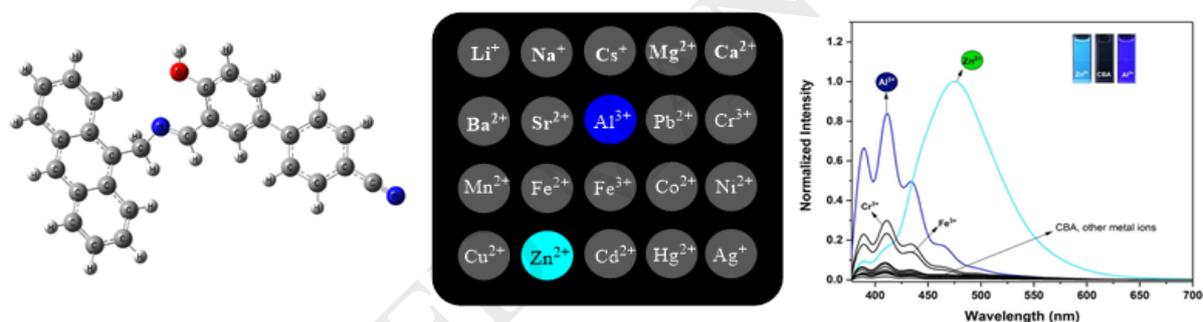
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## Graphical Abstract



## Highlights

- A new fluorescent sensor (CBA) containing 4-cyanobiphenyl and anthracene was designed and synthesized
- CBA was characterized by using  $^1H$ ,  $^{13}C$ , COSY, FT-IR, elemental, Fluorescence and UV-vis data.
- CBA exhibited an effectively selective and sensitive recognition toward  $Zn^{2+}$  and  $Al^{3+}$  ions through two different mechanisms
- Test paper strips of CBA was also produced for rapid and selective detection of  $Zn^{2+}$  and  $Al^{3+}$

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