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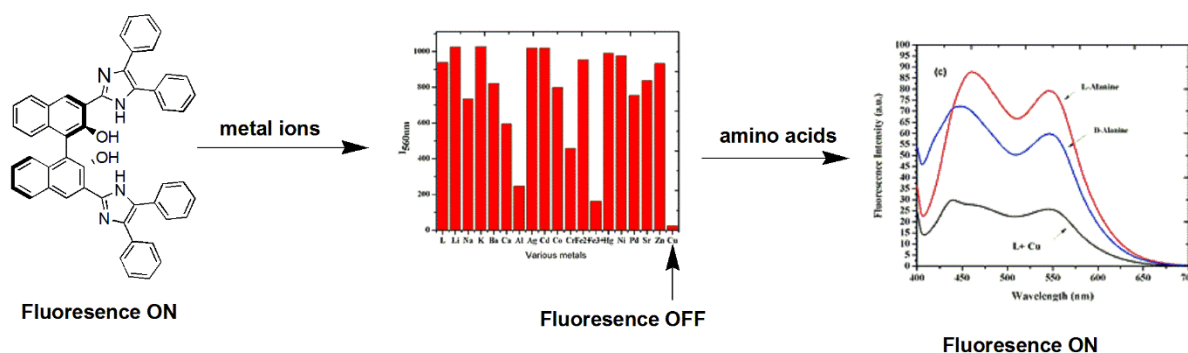
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# Enantioselective Recognition of Unmodified amino acids by Ligand-Displacement Assays with *In Situ* Generated 1:1 Cu(II)- BINOL Imidazole complex

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Graphical Abstract



## Highlights

- BINOL based fluorescent sensors are generally composed of a fluorophore and a binding site, and are incorporated with a signaling mode for the fluorophore in response to the event at the binding sites. As BINOL has chirality into the binding site, the resulting fluorescent sensor could carry out the enantioselective recognition of chiral organic molecules. We captivated this property of BINOL and synthesized minor groove imidazole functionalized (S)-BINOL starting from (S)-BINOL. The developed sensor can serve as turn off sensor for Cu(II) with high selectivity among metal ions tested. The in situ generated Cu(II)-1 complex exhibit remarkable fluorescent chiral discrimination toward unmodified  $\alpha$ -amino acids in protic solution via ligand displacement mechanism

## Abstract

We have synthesized minor groove imidazole functionalized (S)-BINOL from (S)-BINOL. The molecule has been designed in such a way that this molecule introduces new opportunities in the field of chiral recognition and Cu(II) sensing. The developed sensor has high selectivity for Cu(II) among the metal ions tested by fluorescence turn off manner. The fluorescence chiral discrimination towards unmodified  $\alpha$ -aminoacids has been studied for the in situ generated

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