## **Electronic Supplementary Information**

## A fluorescent chemsensor based on imidazo[1,2-a]quinoline for Al<sup>3+</sup>

## and Zn<sup>2+</sup> in respective solutions

Junhua Sun, Zheng Liu, Ying Wang, Shihua Xiao, Meishan Pei, Xiuxian Zhao, and Guangyou Zhang\*

School of Chemistry and Chemical Engineering, University of Jinan, Jinan 250022, China.

\*Corresponding author:

Guangyou Zhang, Ph.D, Professor

School of Chemistry and Chemical Engineering, University of Jinan

Jinan 250022, China

E-mail address:chem\_zhanggy@hotmail.com



Fig S1: <sup>1</sup>H-NMR spectra of L1 in DMSO.



Fig S2: <sup>13</sup>C-NMR spectra of L1 in DMSO.



Fig. S3: The mass spectra of L1.



Fig S4: <sup>1</sup>H-NMR spectra of L2 in DMSO.











Fig. S7: FT-IR spectra of L1.



Fig. S8: FT-IR spectra of L2.



Fig. S9: Time dependent fluorescence response of L2 (20  $\mu$ M) at  $\lambda$ =450 nm ( $\lambda$ ex=305nm) in the presence of Al<sup>3+</sup> (10equiv), in DMSO/H<sub>2</sub>O HEPES buffer (10 mM, pH=7.4, 9:1, v/v).



**Fig. S10:** Fluorescence intensity of L2 (20 $\mu$ M) at  $\lambda$ =450 nm upon the different concentration of Al<sup>3+</sup> in DMSO/H<sub>2</sub>O HEPES buffer (10 mM, pH=7.4, 9:1, v/v).



**Fig. S11:** Fluorescence intensity of L2 (20  $\mu$ M) at  $\lambda$ =489 nm upon the different concentration of Zn<sup>2+</sup> in EtOH/H<sub>2</sub>O HEPES buffer (10 mM, pH=7.4, 9:1, v/v).



**Fig. S12:** Competitive selectivity of L2 (20  $\mu$ M) toward Al<sup>3+</sup> (1 equiv) in the prescence of other metal ions (1 equiv) in DMSO/H<sub>2</sub>O HEPES buffer (10 mM, pH=7.4, 9:1, v/v), the intensities were recorded at 450 nm.  $\lambda$ ex=305nm.



**Fig. S13:** Competitive selectivity of L2 (20  $\mu$ M) toward Zn<sup>2+</sup> (1 equiv) in the prescence of other metal ions (1 equiv) in EtOH/H<sub>2</sub>O HEPES buffer (10 mM, pH=7.4, 9:1, v/v), the intensities were recorded at 489 nm.  $\lambda$ ex=315nm.



Fig. S14: Absorption spectra of L2 in DMSO/H<sub>2</sub>O HEPES buffer (20  $\mu$ M) in the prescence of 10 equiv. of various metal ions.



Fig. S15: Absorption spectra of L2 in EtOH/H<sub>2</sub>O HEPES buffer (20  $\mu$ M) in the prescence of 7 equiv. of various metal ions.



**Fig. S16:** Fluorescence intensity recorded for L2 and L2+Al<sup>3+</sup> complex in DMSO/H<sub>2</sub>O HEPES buffer at various pH values shown at the slit width value of 5 nm.



**Fig. S17:** Fluorescence intensity recorded for L2 and L2+Zn<sup>2+</sup> complex in EtOH/H<sub>2</sub>O HEPES buffer at various pH values shown at the slit width value of 10 nm.