

Supporting Information

“Turn-On” Pb²⁺ sensing and rapid detection of biothiols in aqueous medium and real samples

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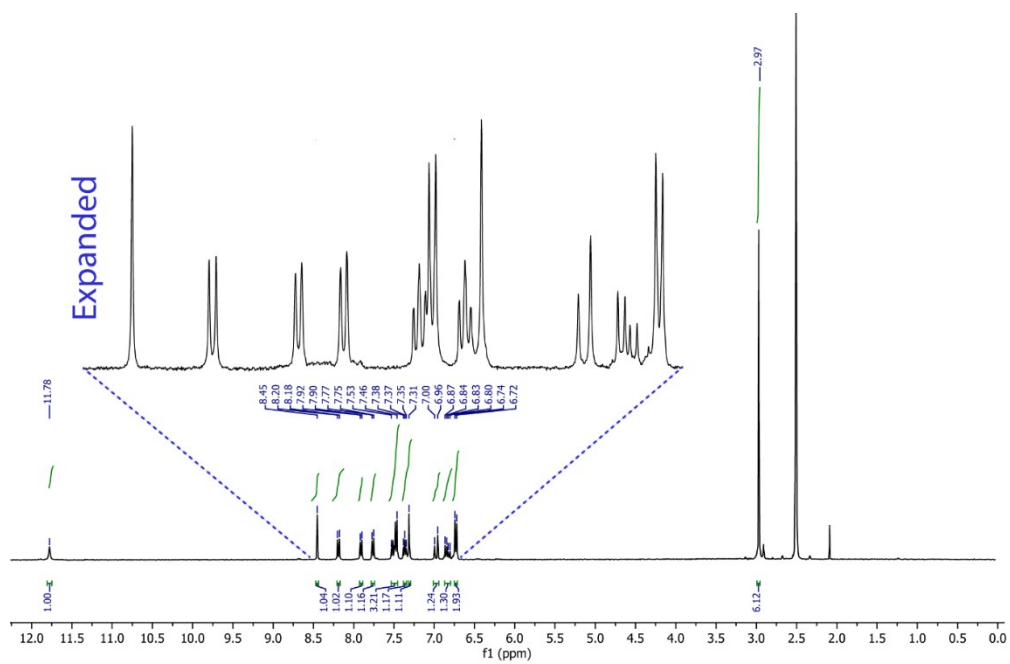


Figure S1: ^1H NMR of L

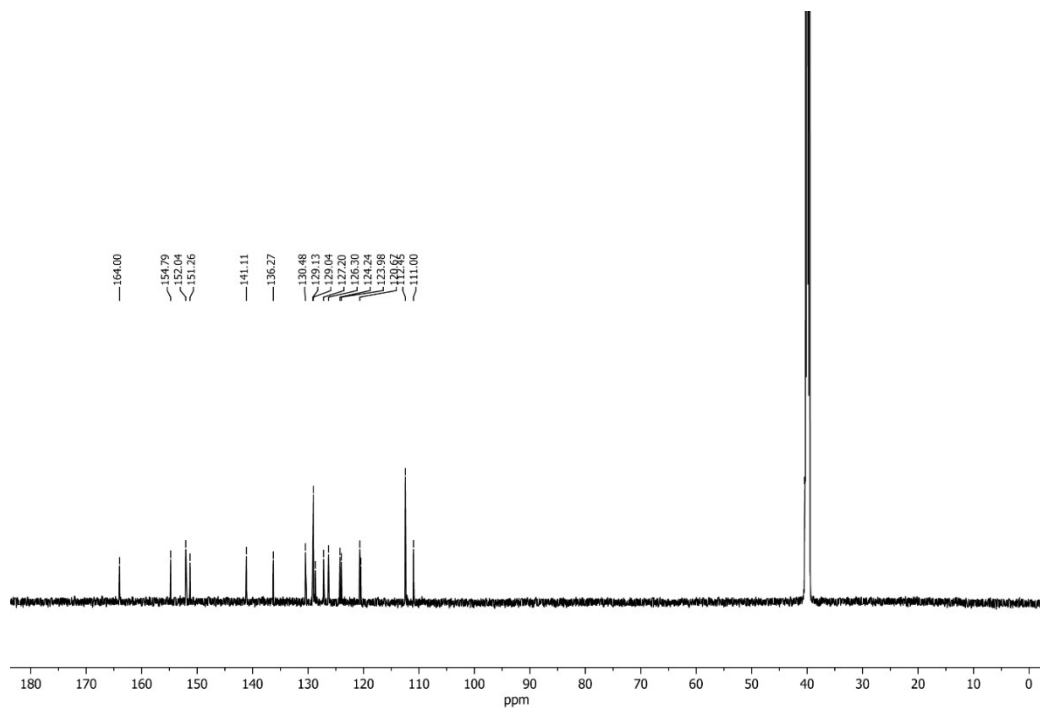


Figure S2: ^{13}C NMR of L

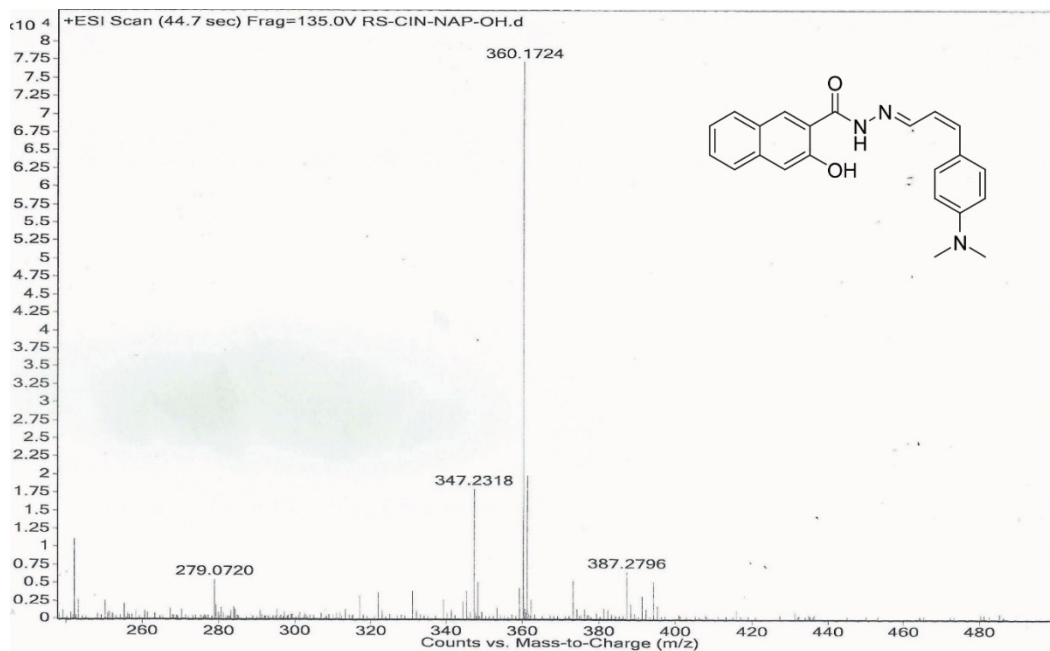


Figure S3: ESI Mass spectrum of L

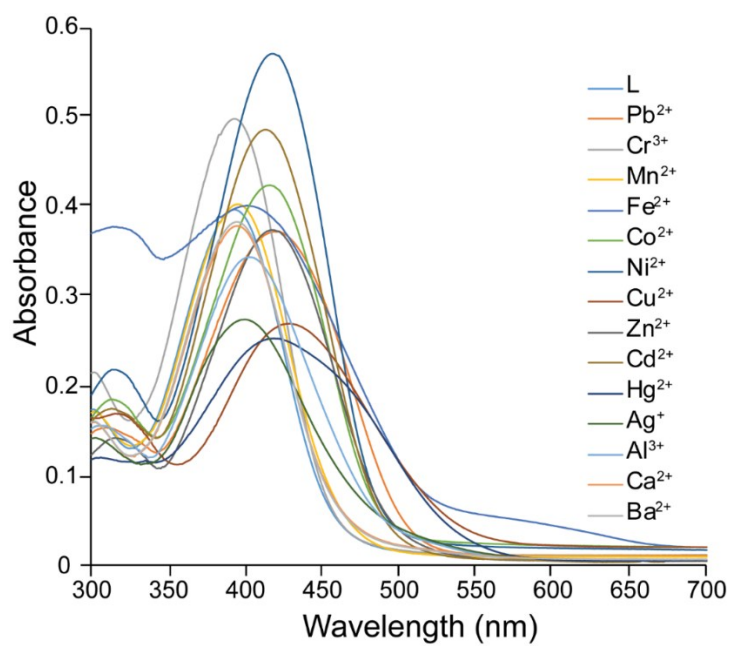


Figure S4: UV-Visible selectivity profile of L in the presence of different metal ions

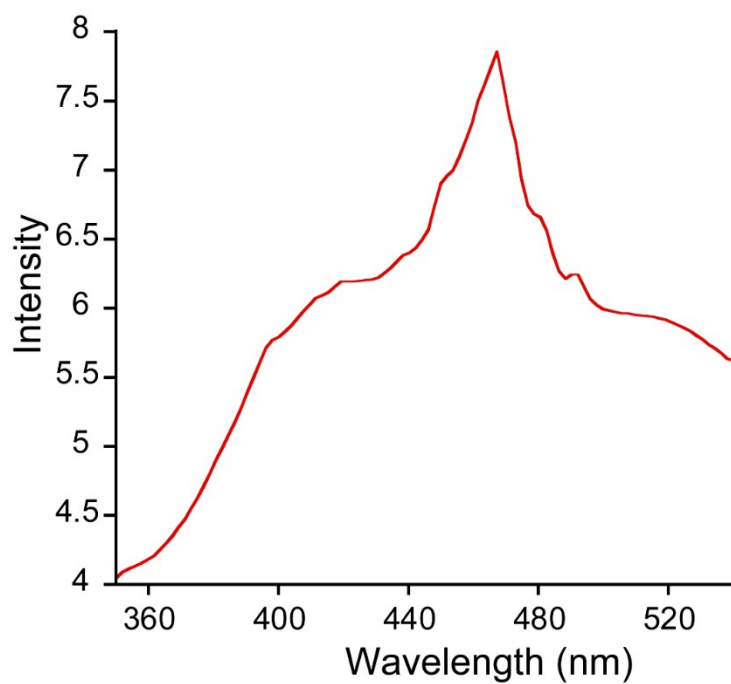


Figure S5: Excitation spectrum of L-Pb²⁺ complex for 560 nm (Slit 3/3 nm)

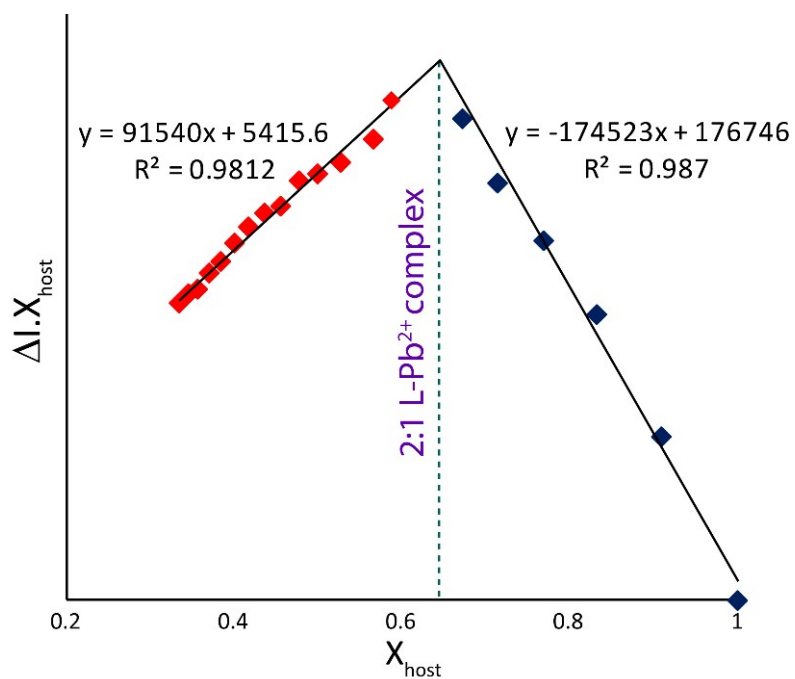


Figure S6: Job's plot for L-Pb²⁺ complexation from fluorescence emission spectrum

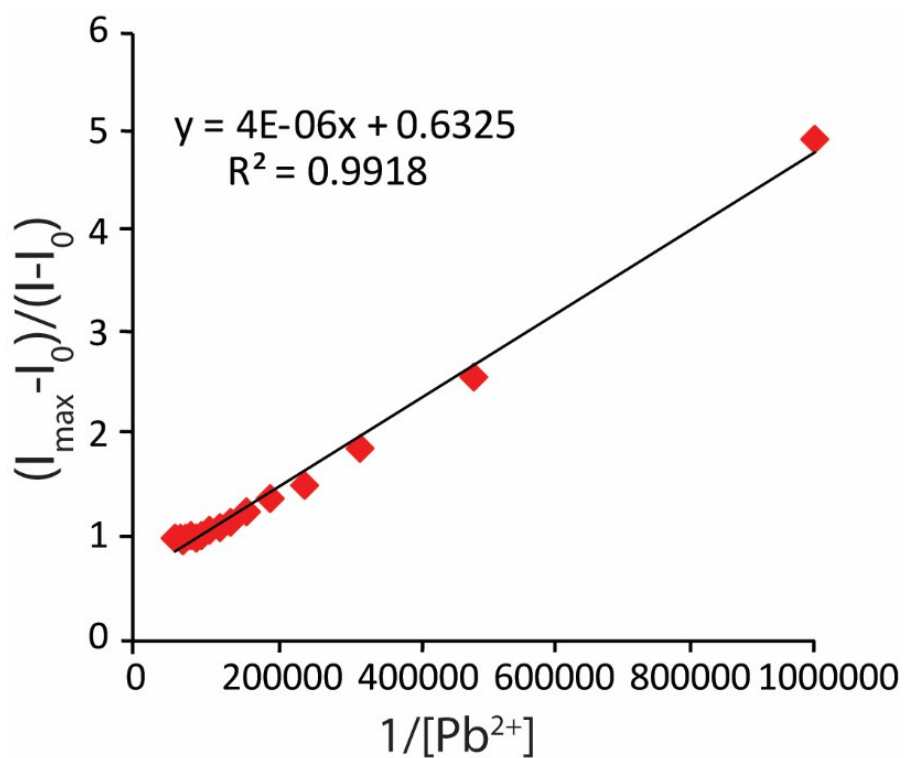


Figure S7: Benesi-Hildebrand plot between L and Pb^{2+} from the fluorescence titration experiment

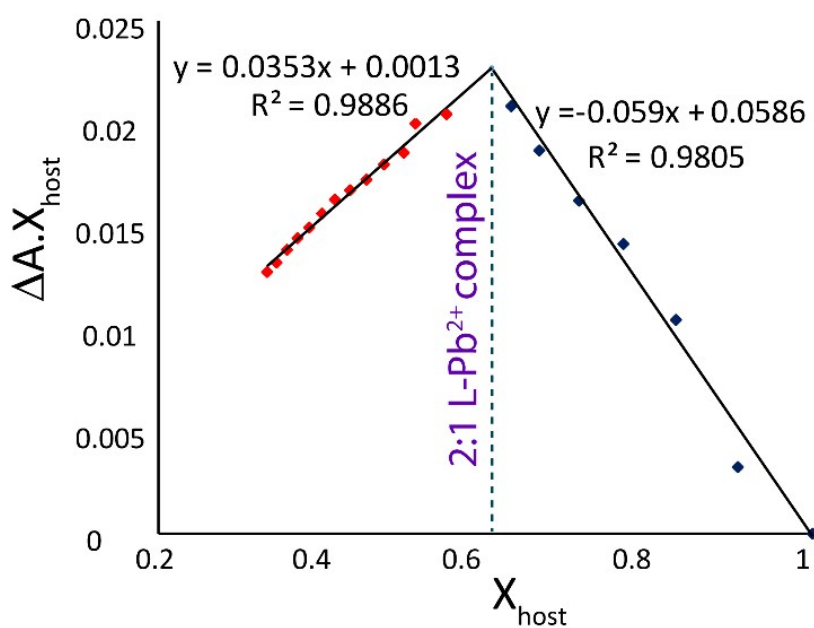


Figure S8: Job's plot for L- Pb^{2+} complexation from the UV titration plot

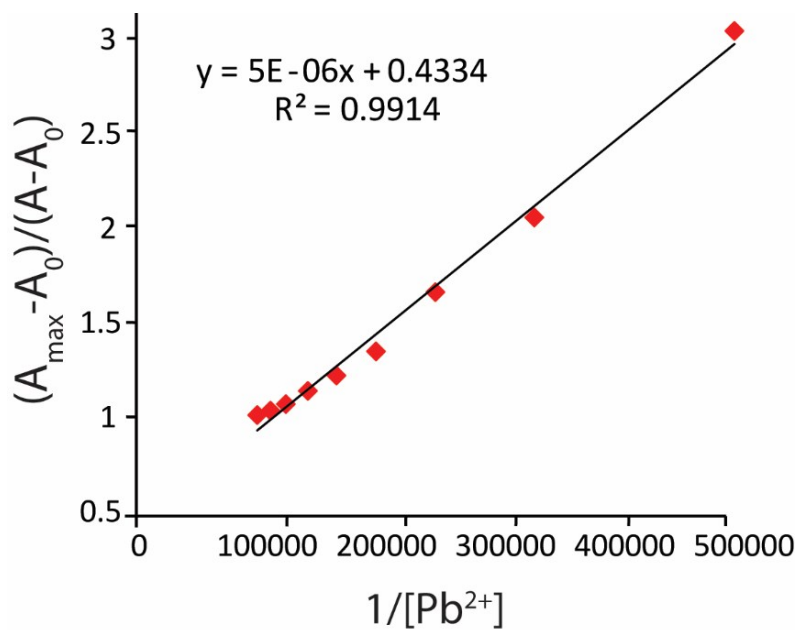


Figure S9: Benesi-Hildebrand plot between L and Pb^{2+} from the UV titration experiment

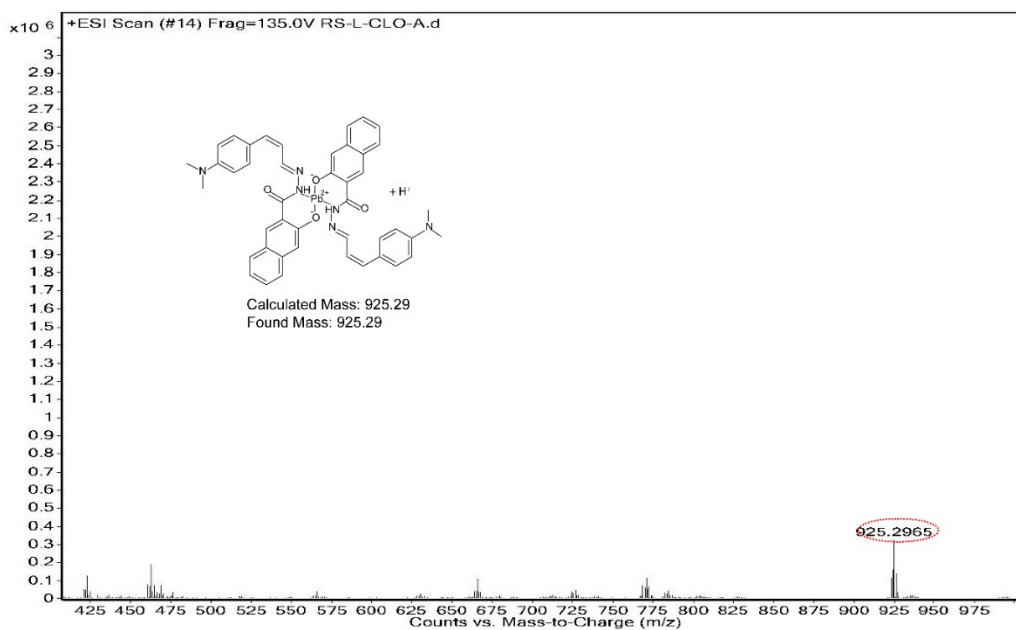


Figure S10: ESI Mass spectrum of 2:1 stoichiometric L- Pb^{2+} complex

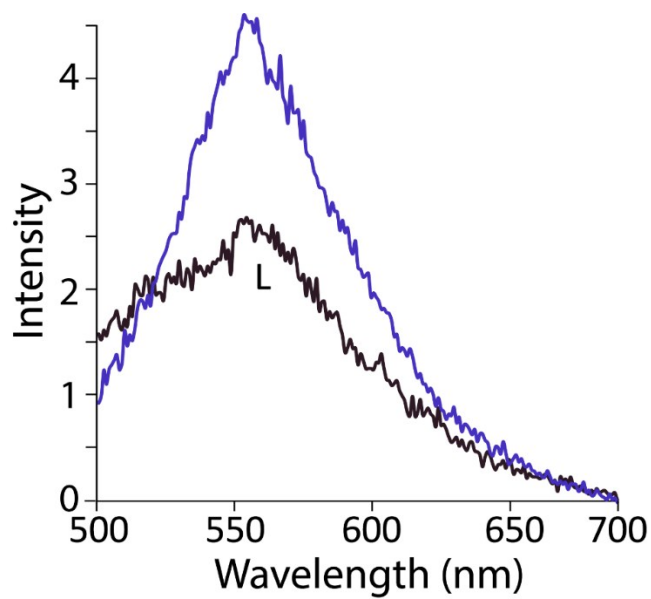


Figure S11: Fluorescence emission spectrum of L (1 μM) in the presence of 0.5 μM of Pb^{2+} ions

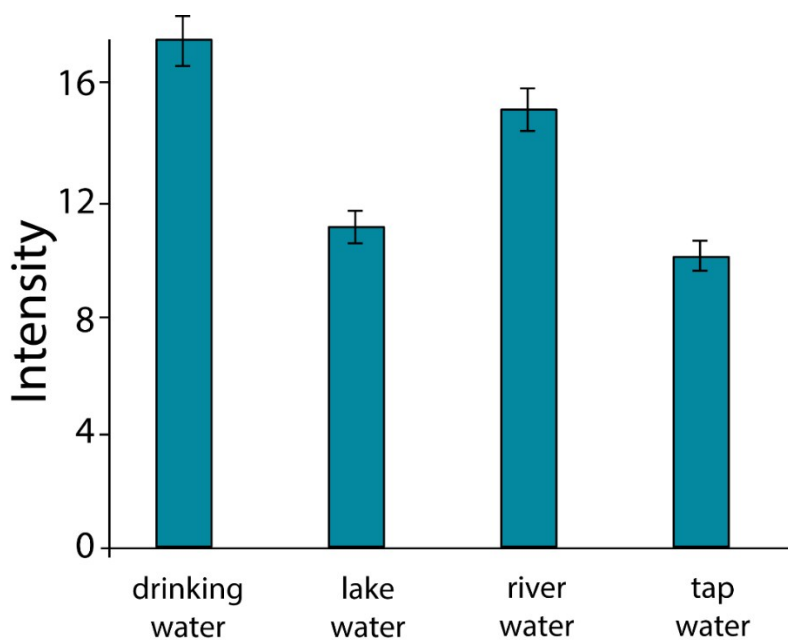


Figure S12: Fluorescence intensity changes of L after addition of spiked Pb^{2+} at 560 nm in different water samples.

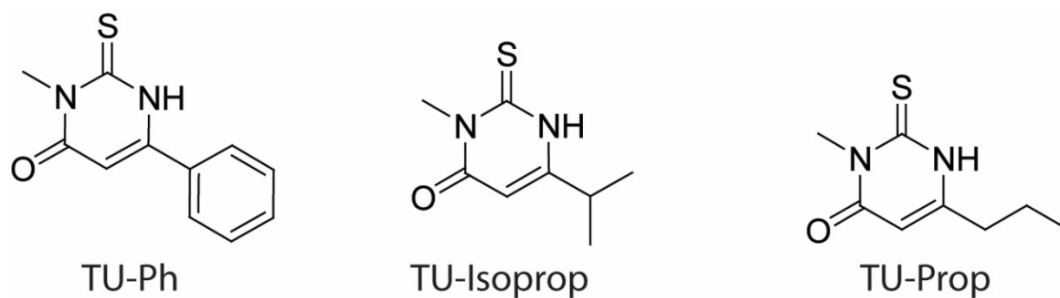


Figure S13. Substituted thiouracils used as analytes*

*Laxminarayana, B.; Kundu, L.M.; *Synth. Commun.*, 2015, **45**, 1342-1353.

Table 1: Quantitative recovery percentage of Pb²⁺ ions from different spiked water samples.

Water Sample	Pb ²⁺ spiked (μM)	Recovery(%)
tap	4	76.68
drinking	4	88.92
lake	4	56.09
river	4	51.05

Table 2: Comparison of detection limits for Pb²⁺ for some of the recently reported probes.

Sl. No.	References	LOD for Pb ²⁺	Emission wavelength	Solvnt system
1	Present work (L)	0.5x10 ⁻⁶ M	560 nm	4:1 v/v, MeOH-HEPES buffer (1mM, pH 7.4)
2	Tianqi Liua, Xuejuan Wana, Youwei Yao, Sens. Actuators B, 2018, 254, 1094	0.83x10 ⁻⁶ M	461 nm	1:5 v/v, Ethanol-HEPES buffer (pH 7.4)
3	Xiaodong Yang, Weifeng Zeng, Lei Wang, Xinwei Lu, Yichen Yan, Jinqing Qu and Ruiyuan Liu, RSC Adv., 2014, 4, 22613	3.41x10 ⁻⁶ M	595 nm	9:1 v/v, CH ₃ CN–water mixture
4	Soham Samanta, Barun Kumar Datta, Madhurima Boral, Abhijit Nandan and Gopal Das, Analyst, 2016, 141, 4388	3.23x10 ⁻⁶ M	582 nm	4:1 v/v, CH ₃ OH-HEPES buffer (5 mM, pH ~ 7.3)