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Highly Sensitive naphthalimide Based Schiff base for the Colorimetric / Fluorimetric detection of Fe³⁺

Dhanapal Jothi^a, Sathishkumar Munusamy^b, Sathish Sawminathan^a, and Sathiyanarayanan

KulathuIyer^a*

^aDepartment of Chemistry, School of Advanced Sciences and Vellore Institute of Technology,

Vellore-632014, India. *E-mail: <u>sathiya_kuna@hotmail.com</u>

^bInstitute of chemical biology and nanomedicine, State key laboratory of chemo/Bio-sensing and Chemometrics, College of Chemistry and Chemical Engineering, Hunan University, Changsha 410082, P.R.China. E-mail: <u>pra3sat@gmail.com</u>

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Scheme S1. Stepwise synthesis of NDSM



SI Figure S1 ¹H NMR spectra of compound NDSM



SI Figure S2 ¹³C NMR spectra of compound NDSM



SI Figure S3 HRMS spectrum of compound NDSM



SI Figure S4 Absorption spectrum of NDSM with Fe^{3+} metal ion



SI Figure S5 Metal ion selectivity of NDSM (2 x 10^{-5} M) observed by fluorescence study.



SI Figure S6 Linear plot for determination of LOD for NDSM with Fe^{3+} ions. The calculated limit of detection of NDSM is 0.81 μ M.



SI Figure S7 (a) Cyclic Volmmotogram of **GCE-NDSM** phosphate buffer (PBS) solution at a scan rate of 50 mV/s under a nitrogen atmosphere (b) UV-vis absorption spectrum and Tauc plot (inset).



SI Figure S8. NDSM + Fe³⁺ molecular structure.



SI Figure S9. FTIR spectra changes of NDSM upon the addition of Fe^{3+} ion

Qualitative Analysis Report

Integrat	tion Peak	List				
Peak	Start	RT	End	Height	Area	Area %
1	7.518	7.62	7.722	94645.23	580396.17	100

Spectra

Spectrum Source	Fragmentor	Collision	Ionization
	Voltage	Energy	Mode
Peak (1) in "+ EIC(679.1) Scan"	380	0	ESI





SI Figure S10 LC- ESI-MS spectrum of NDSM + Fe³⁺.