Electronic Supplementary Material (ESI) for Analytical Methods.

Supporting Information

Fluorescent Organic Nanoparticles of Tripodal Receptor as Sensor for HSO_4^- in Aqueous Medium: Application to Real Sample Analysis

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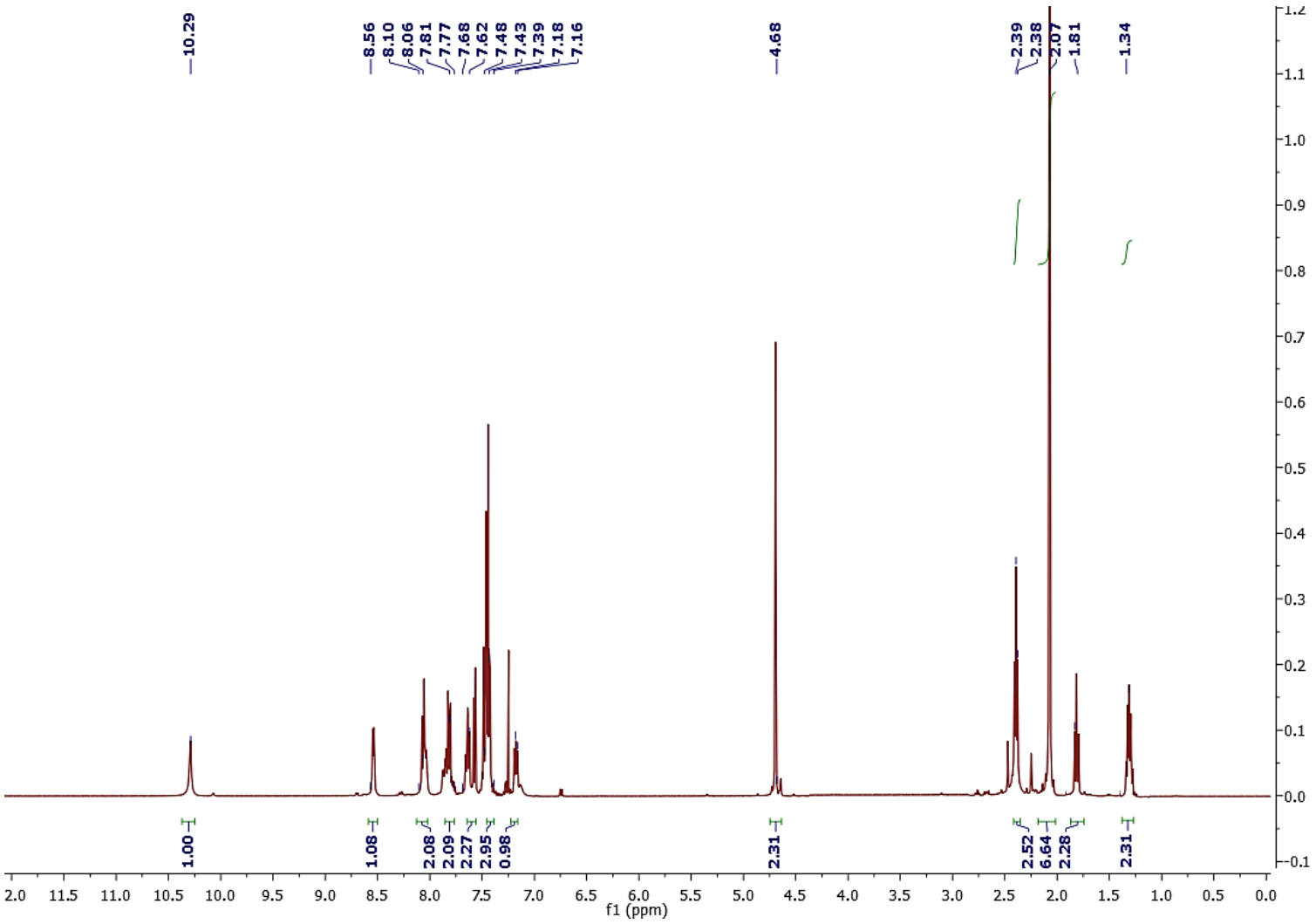

Figure S1. ^{1}H NMR spectrum of compound 1.

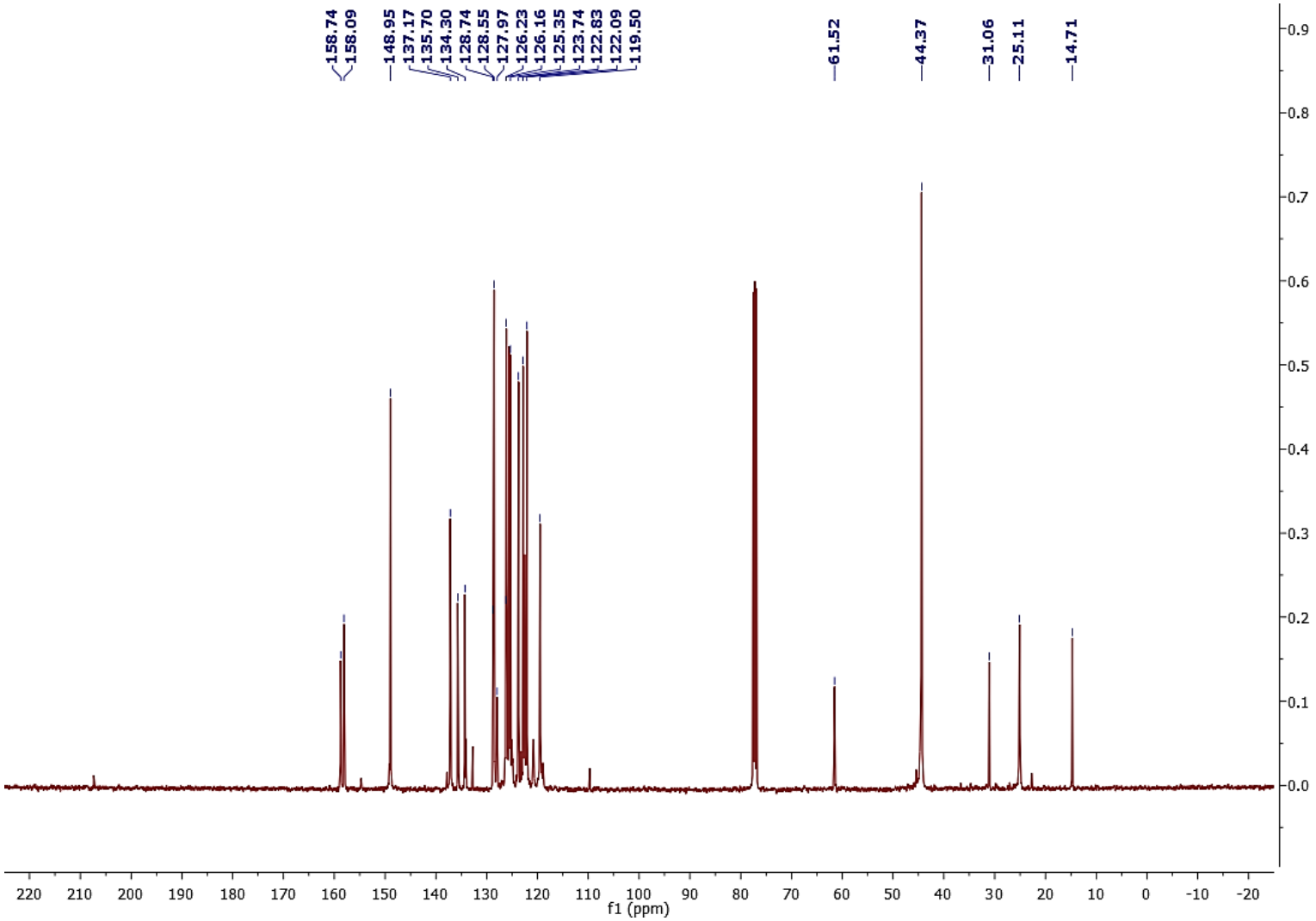

Figure S2. ^{13}C NMR spectrum of compound 1.

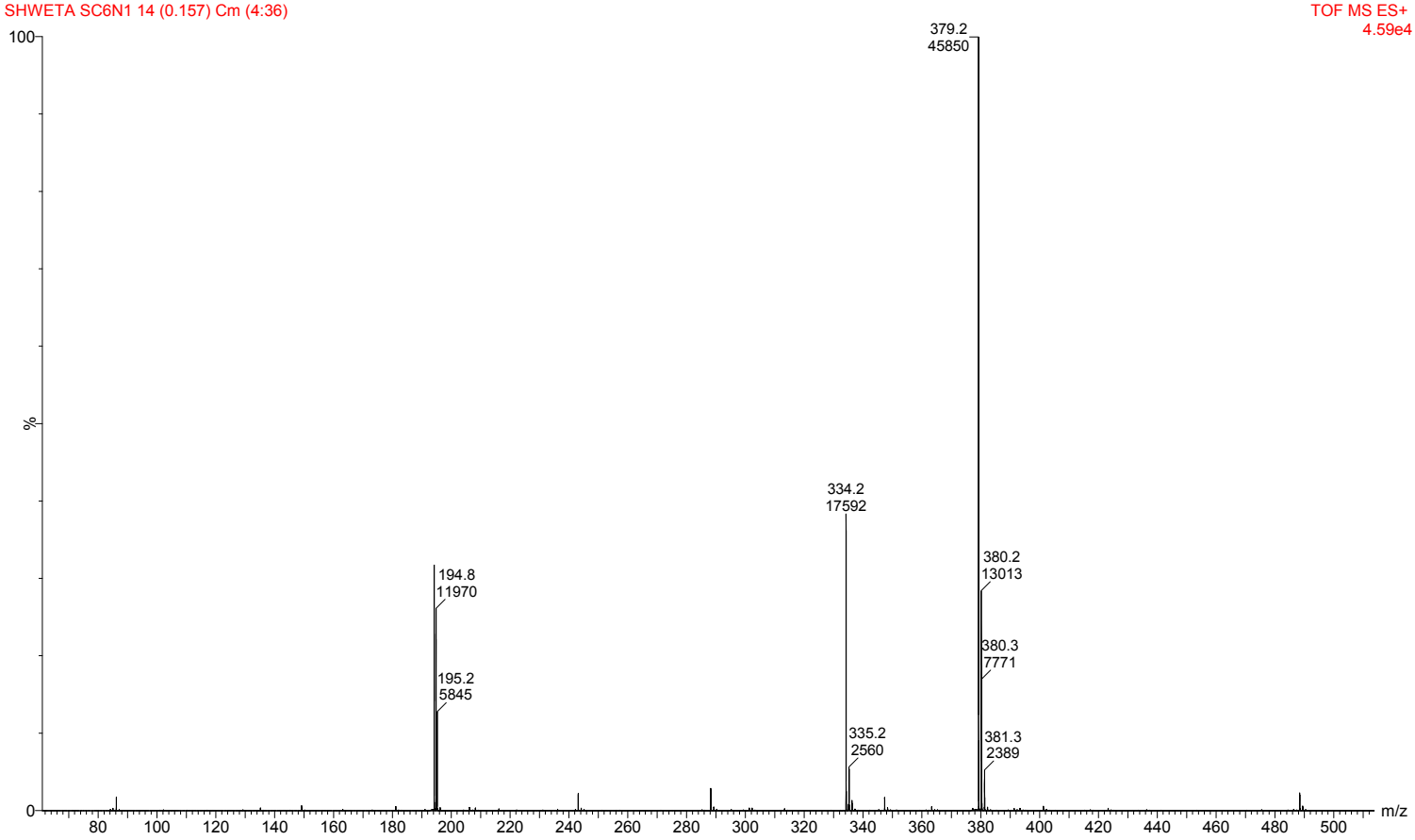

Figure S3: Mass Spectra of Compound 1

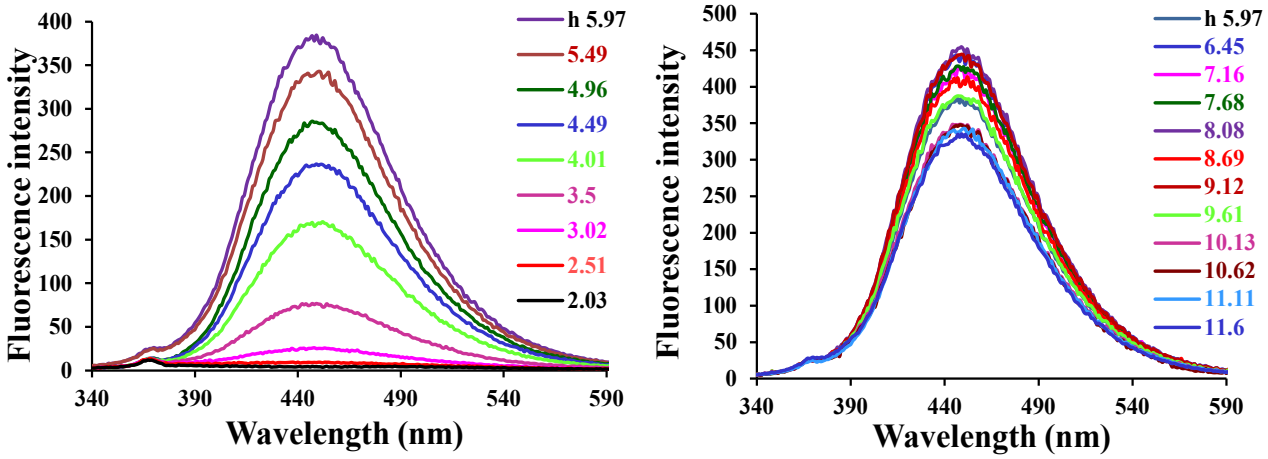

Figure S4: Fluorescence spectrum of nano-aggregates of **1** at different pH values.

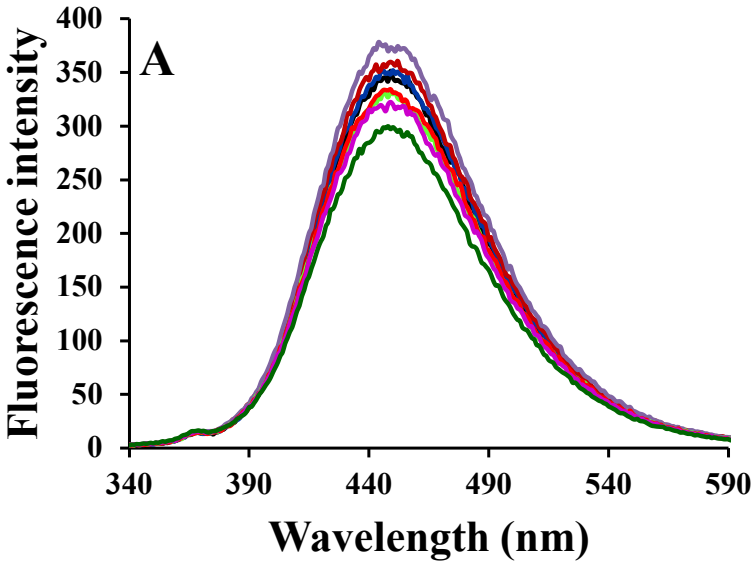

Figure S5: Change in fluorescence spectrum of **1** upon addition of 0-100 equiv. of TBA perchlorate.

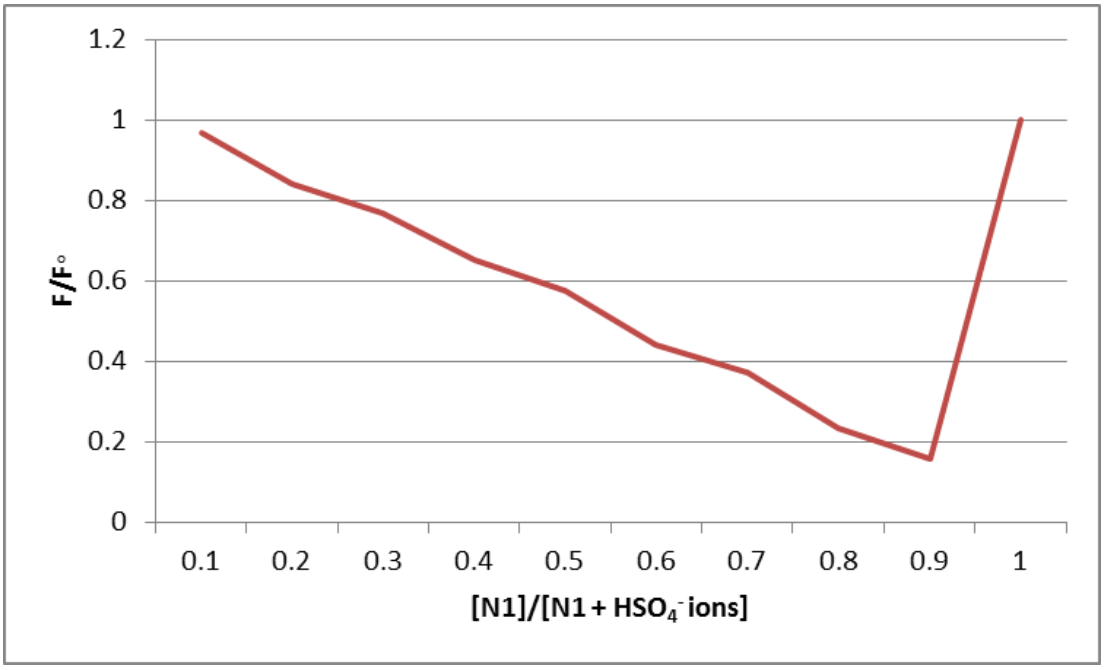

Figure S6: Job's Plot for determination of complex stoichiometry between ONPs of **N1** and HSO_4^- ions

Table S1: A comparison of sensor **N1** with the available sensors.

S.No.	Name of Journal	Medium of studies	Detection Limit	Detection Range	Response time	Practical Application
1.	A novel colorimetric HSO_4^- sensor in aqueous media ; Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy 90 (2012) 152– 157.	H_2O/ DMSO = 3.8/6.2 (v/v)	2.0 x 10^{-6} mol L^{-1}	-----	---	the practical application of receptor was investigated using colorimetric paper-made test strips prepared by immersing filter papers into a H2O/DMSO (3.8:6.2, v/v) solution of receptor
2.	Colorimetric as well as dual switching fluorescence 'turn on' chemosensors for exclusive recognition of Zn^{2+} and HSO_4^- in aqueous solution: experimental and theoretical studies; Tetrahedron Letters 54 (2013) 6892–6896.	CH_3CN-H_2O= (1:1, v/v, pH=7.2) .	1.9 x 10^{-8} M	---	---	-----
3.	Coumarin based dual switching fluorescent 'turn on' chemosensor for selective detection of $Zn^{2+}$and HSO_4^-: an experimental and theoretical study; RSC Adv., 2014, 4, 25341-47.	CH_3CN-H_2O= 1:1, v/v	0.274 x 10^{-6} M	----	----	----
4.	Development of a cell permeable ratiometric chemosensor and biomarker for hydrogen sulphate ions in aqueous solution; RSC Adv., 2014, 4, 15356-62.	HEPES buffer (1mM, water:ethanol (v/v), 98:2	5.5 x 10^{-7} M	--	----	examined the utility of the probe in biological systems for live cell imaging by application of human cervical cancer HeLa cell
5.	Ferrocenylbenzobisimidazoles for Recognition of Anions and Cations; Inorg.	EtOH solution	1.57 x 10^{-6} M	-----	----	-----

	Chem. 2013, 52, 7487−7496.					
6.	A polymeric film probe with a turn-on fluorescence response to hydrogen sulfate ions in aqueous media; J. Mater. Chem. B, 2013, 1, 5014-5020.	DMSO–THF (1:4, v/v)	5 x 10^{-5} M	---	----	----
7.	Fluorescence turn-on sensors for HSO_4^-; Chem. Commun., 2009, 7128–7130.	CH_3CN-H_2O (1:1)	3.75 × 10^{-6} M			Practical application of the proposed HSO_4^- ion-selective electrode was tested by employing it as an indicator electrode during the potentiometric titration.

The sensor N1 reported in the present paper works in DMF:water (1:99, v/v) system i.e. aqueous solution covering the need of their applications on real samples by employing fluorescent organic nanoparticles which offers good water solubility in comparison to the available sensors. Response time is less. Also the reported sensor N1 performed well with all the tested samples for real sample analysis.