Electronic Supplementary Material (ESI) for New Journal of Chemistry.

Supportive information

Self-agglomerated crystalline needles harnessing ESIPT and AIEE features for the 'turn-on' fluorescence detection of Al^{3+} ions at nanomolar level

Pranshu Puri, Gulshan Kumar, Kamaldeep Paul and Vijay Luxami*

School of Chemistry and Biochemistry, Thapar University, Patiala

E-mail: vluxami@thapar.edu

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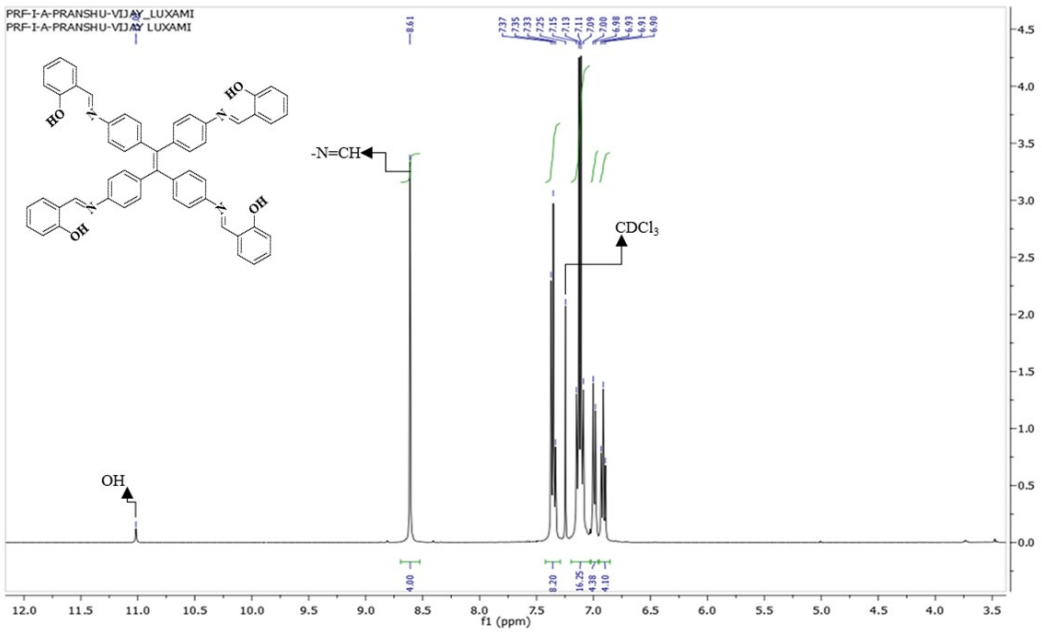

Figure S1. ^{1}H-NMR of Probe **2**

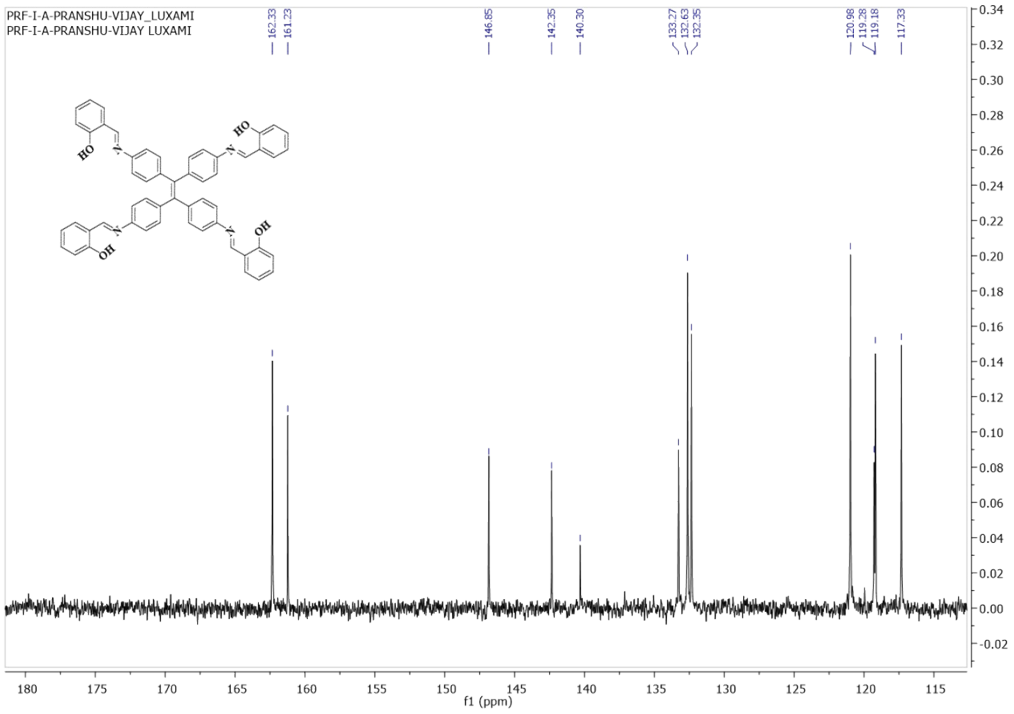

Figure S2. ^{13}C NMR of Probe **2**

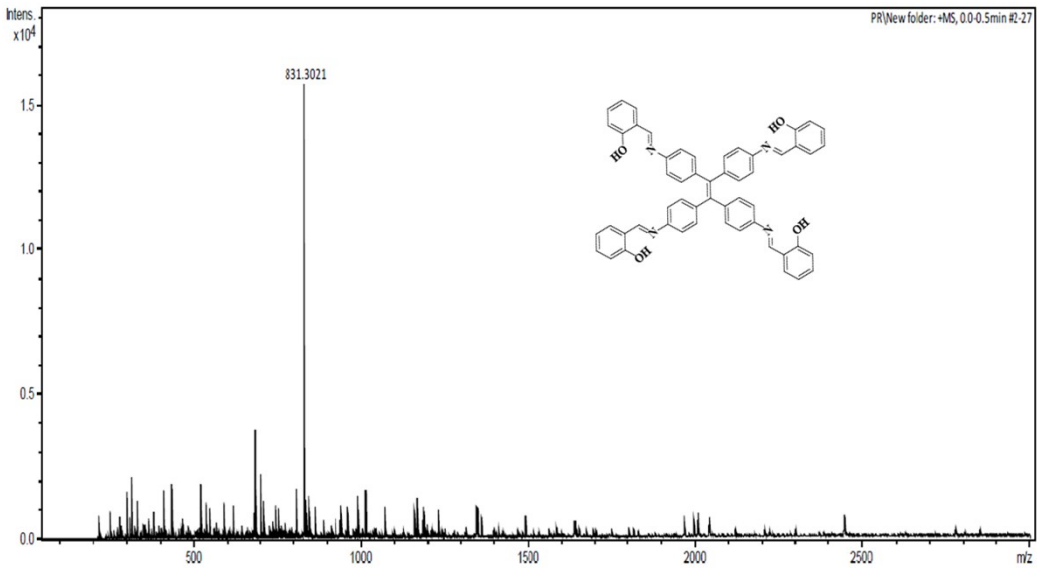

Figure S3. HR-MS spectrum of Probe **2**

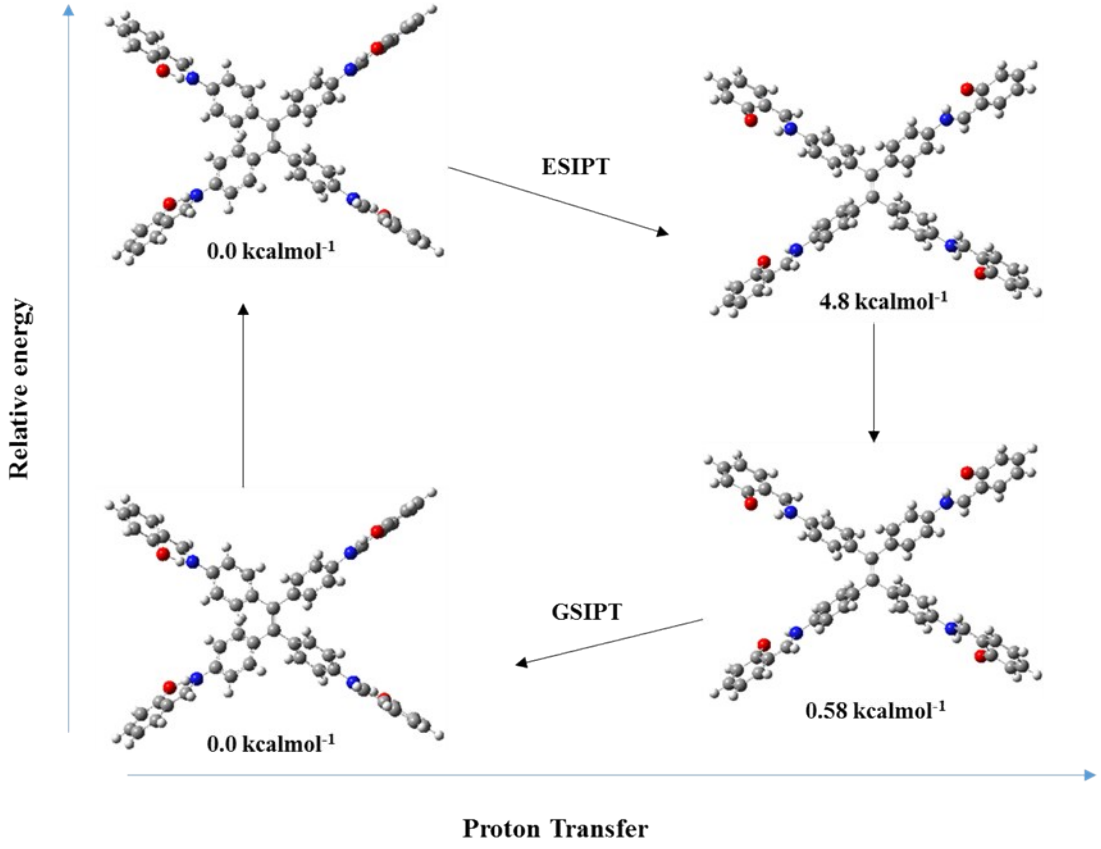

Figure S4. Optimized structures of probe **2** in ground and excited States

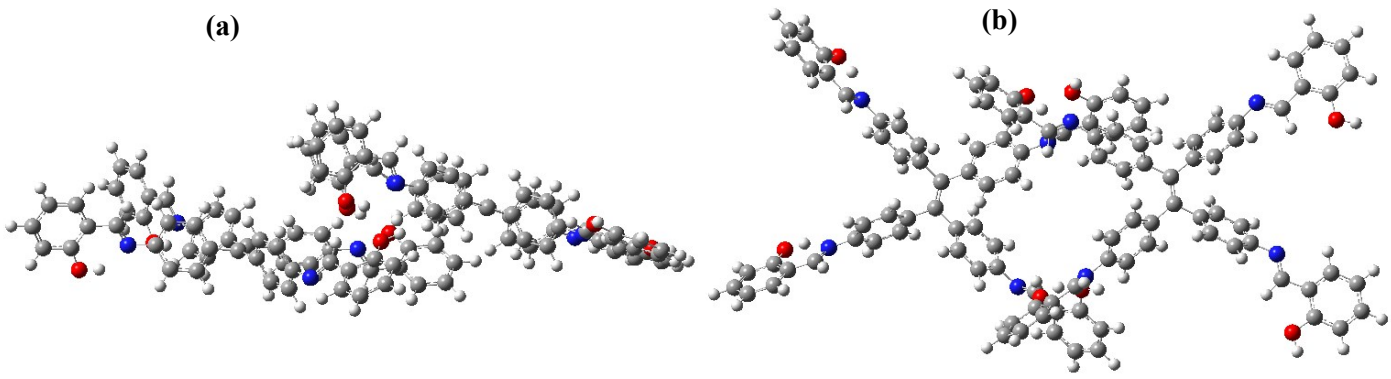

Figure S5. Optimized structure of probe **2** as dimer get insight of aggregation with (a) side and (b) front view.

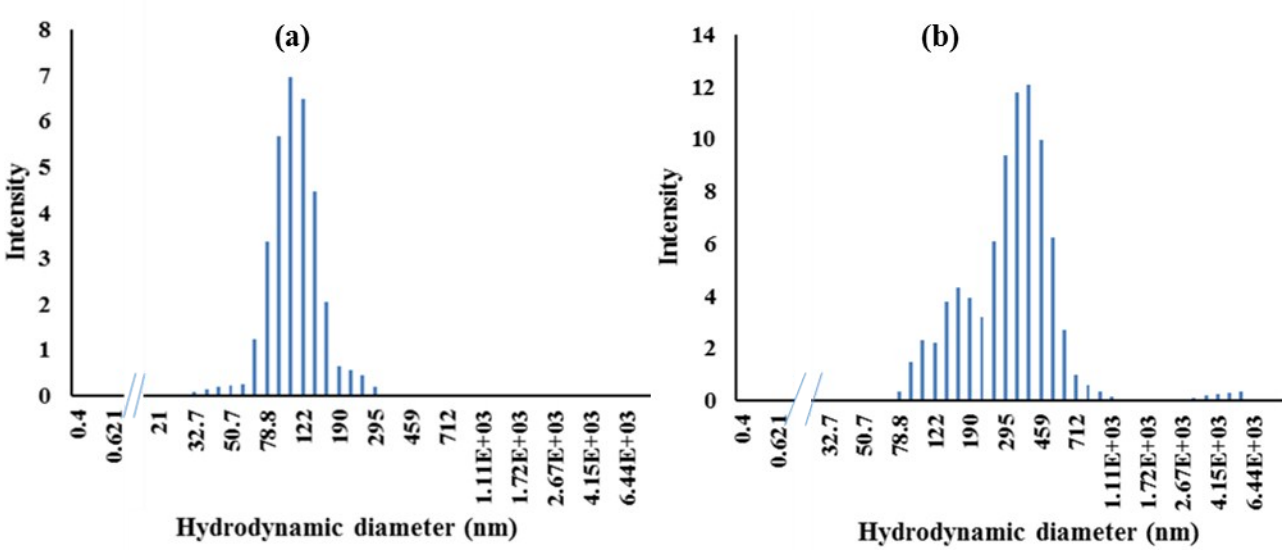

Figure S6. DLS histogram for hydrodynamic diameter of Probe **2** in (a) THF; (b) 90% H_2O-THF

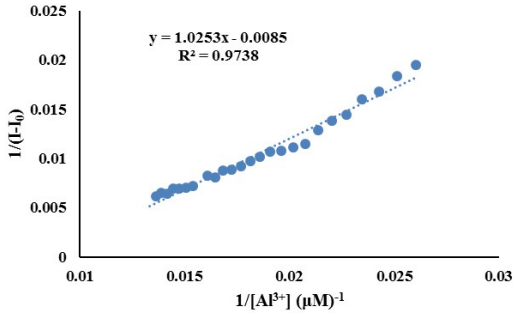

Figure S7. Plot for determination of binding constant of Probe **2** (Benesi Hildebrand plot)

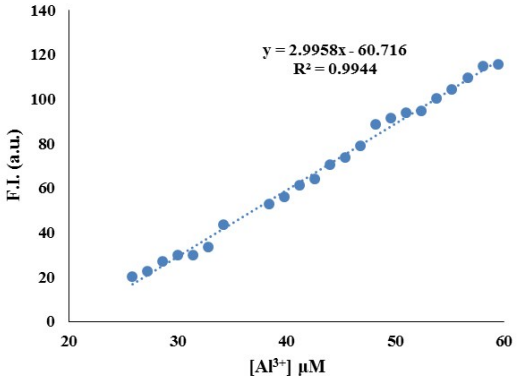

Figure S8. The linear response of probe **2** for Al^{3+} ions

Table S1. A comparison of literature reported Al^{3+} selective receptors				
Group	**Detection limit**	**Emission Response**	**Mechanism**	**Ref.**
Gui *et al.*	21.6 nM	"Turn-on"	AIE	1
Misra et al.	8.6 nM	"Turn-on"	PET-AIE	2
Tang *et al.*	21.7 µM	"Turn-on"	ESIPT	3
Lee *et al.*	24 nM	"Turn-on"	ESIPT	4
Luxami et al	0.27 µM	"Turn-on"	AIE+ESIPT	5
Pang *et al.*	0.5 nM	"Turn-on"	ESIPT	6
Chen *et al.*	2.2 µM	"Turn-on"	AIE-ESIPT	7
Present Work	**10 nM**	**"turn-on"**	**AIE+ESIPT**	

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