

Supporting Informations for

A metal complex based fluorescent chemodosimeter for selective detection of 2,4-dinitrophenol and picric acid in aqueous medium[†]

Abhishek Pramanik,^a Samit Majumder,^{*b} Hazel A. Sparkes,^c and Sasankasekhar Mohanta^{*a}

^a *Department of Chemistry, University of Calcutta, 92 A. P. C. Road, Kolkata 700 009, India, Fax: 91-33-23519755, E-mail: sm_cu_chem@yahoo.co.in.*

^b *Department of Chemistry, BhairabGanguly College, Feeder Road, Belghoria, Kolkata 700056, West Bengal, India. E-mail: samitmaj@gmail.com*

^c *School of Chemistry, University of Bristol, United Kingdom.*

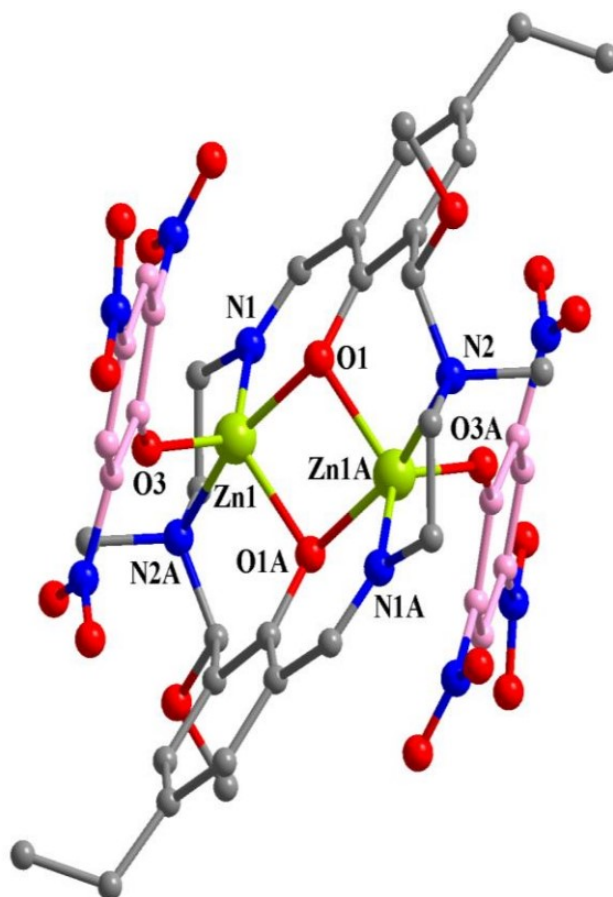


Fig. S1. The crystal structure of $[\text{Zn}_2\text{L}'(\text{picrate})_2]$ (**3**). All the H-atoms are omitted for clarity.

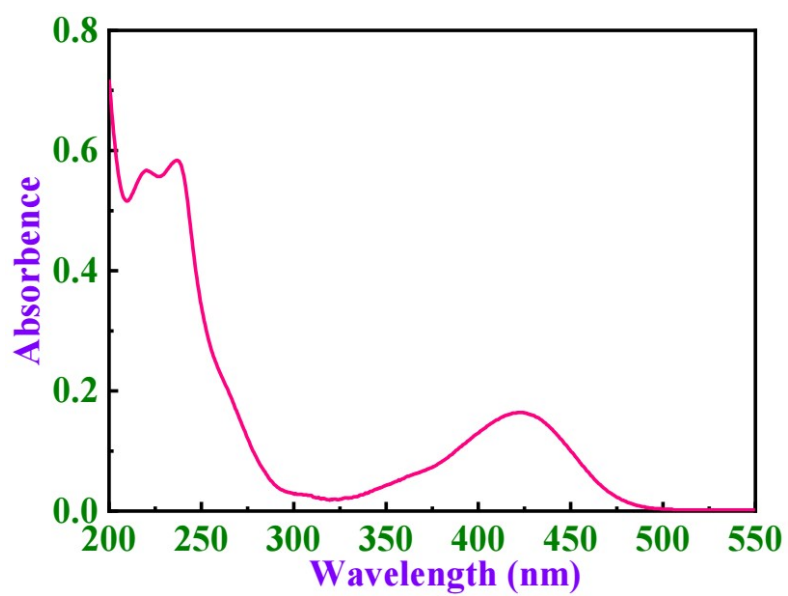


Fig.S2. Electronic spectra of complex $[\text{Zn}^{\text{II}}_2\text{L}(\mu_{1,1}\text{-N}_3)(\text{N}_3)_2]$ (**1**) in H_2O .

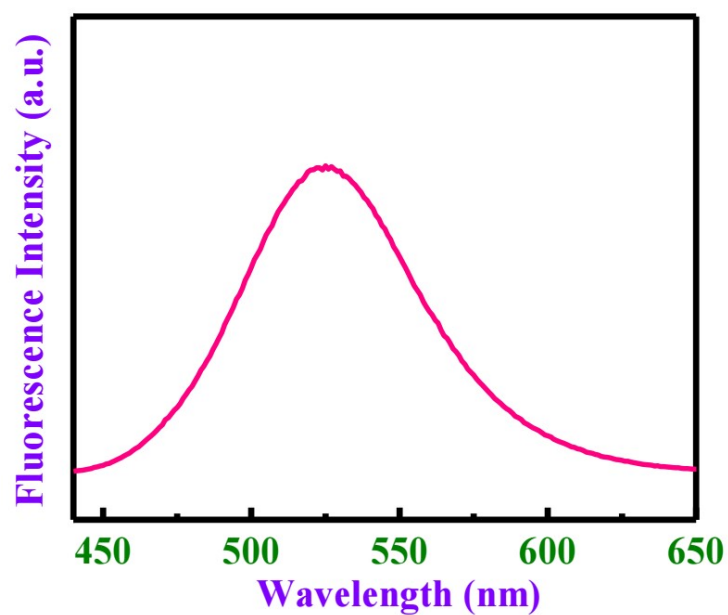


Fig. S3. The fluorescence spectra (20 μM, λ_{ex} = 423 nm) of [Zn^{II}₂L(μ_{1,1}-N₃)(N₃)₂] (1) in H₂O.

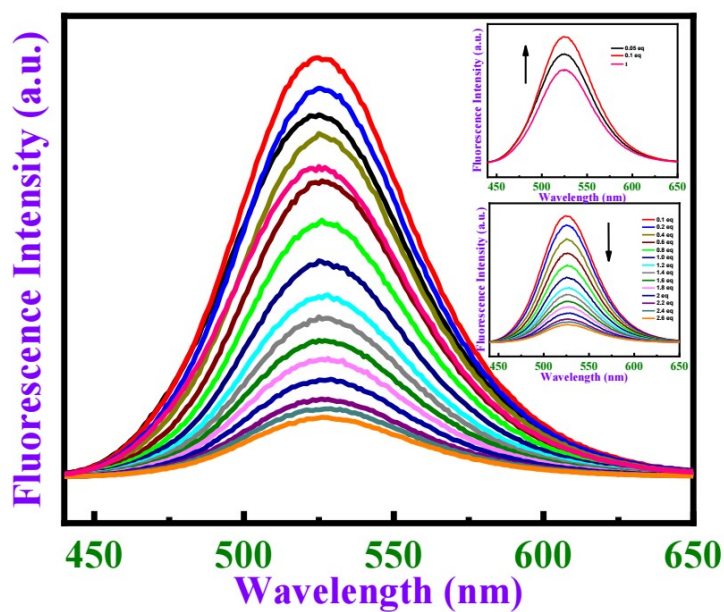


Fig. S4. The change in fluorescence intensity of [Zn^{II}₂L(μ_{1,1}-N₃)(N₃)₂] (1) (20 μM, λ_{ex} = 423 nm) in water with the incremental addition of picric acid (PA) in MeOH (H₂O:MeOH = 95:5). The inset shows turn on emission (right) up to 0.1 equivalent of PA and turn off emission (right) below for more than 0.1 equivalent of PA.

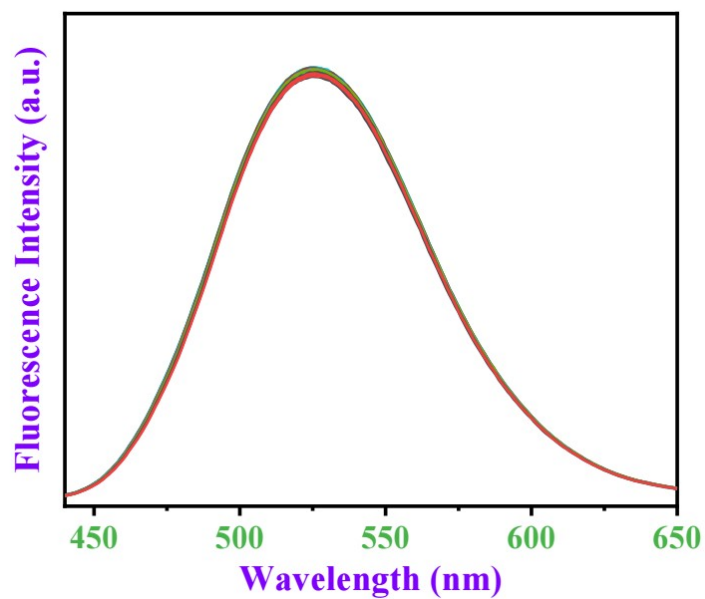


Fig. S5. The fluorescence spectra of 3 mL 20 μ M aqueous solution (Solution A) of $[\text{Zn}^{\text{II}}_2\text{L}(\mu_{1,1}\text{-N}_3)(\text{N}_3)_2]$ (**1**) and Solution A + methanol (0.0015–0.078 mL) where methanol was added in incremental way from 0.0015 to 0.078 mL.

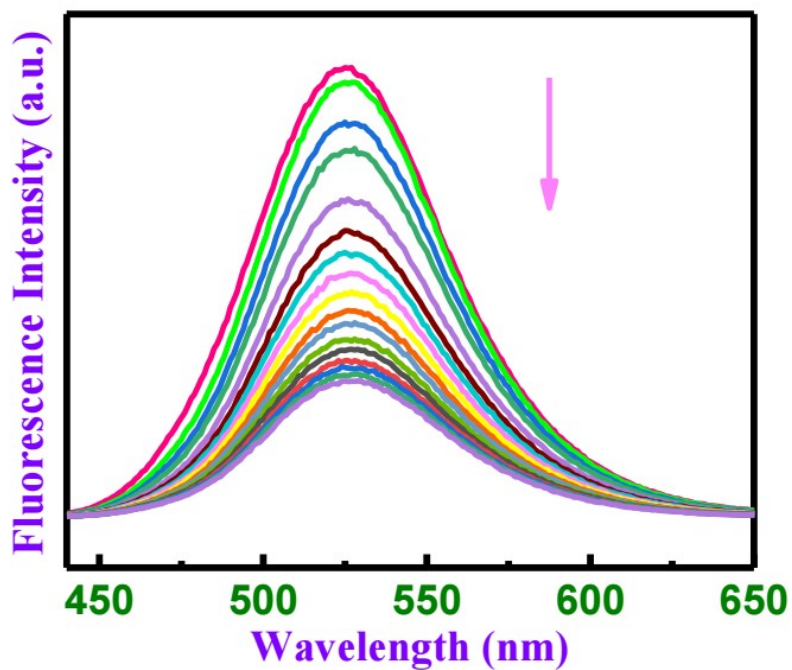


Fig. S6. The change in fluorescence intensity of $[\text{Zn}^{\text{II}}_2\text{L}(\mu_{1,1}\text{-N}_3)(\text{N}_3)_2]$ (**1**) (20 μ M, $\lambda_{\text{ex}} = 423$ nm) with the incremental addition of trifluoroacetic acid (TFA) ($\text{H}_2\text{O}:\text{MeOH} = 95:5$).

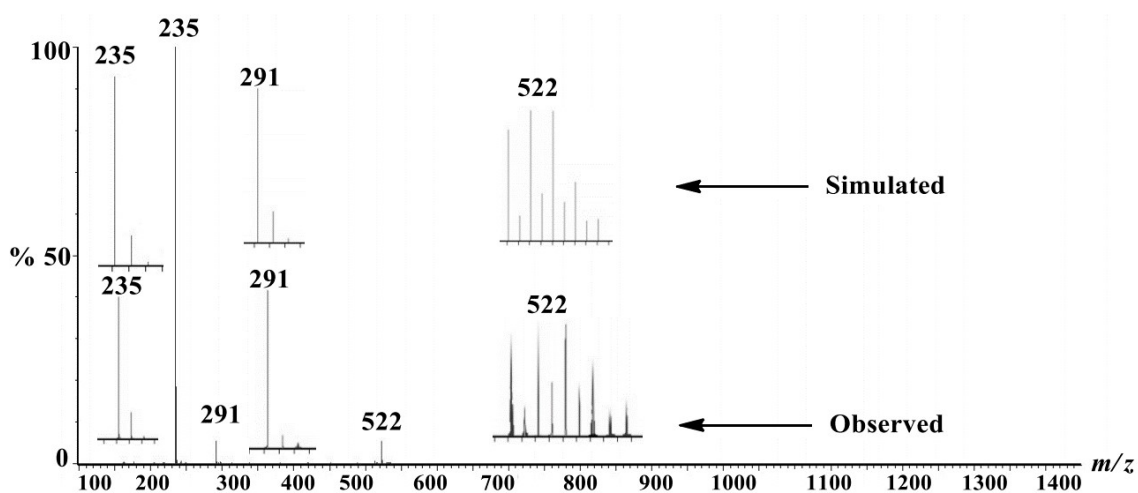


Fig. S7. Electrospray ionization mass spectrum (ESI-MS positive) of $[\text{Zn}^{\text{II}}_2\text{L}(\mu_{1,1}\text{-N}_3)(\text{N}_3)_2]$ (**1**) in water showing observed and simulated isotopic distribution patterns.

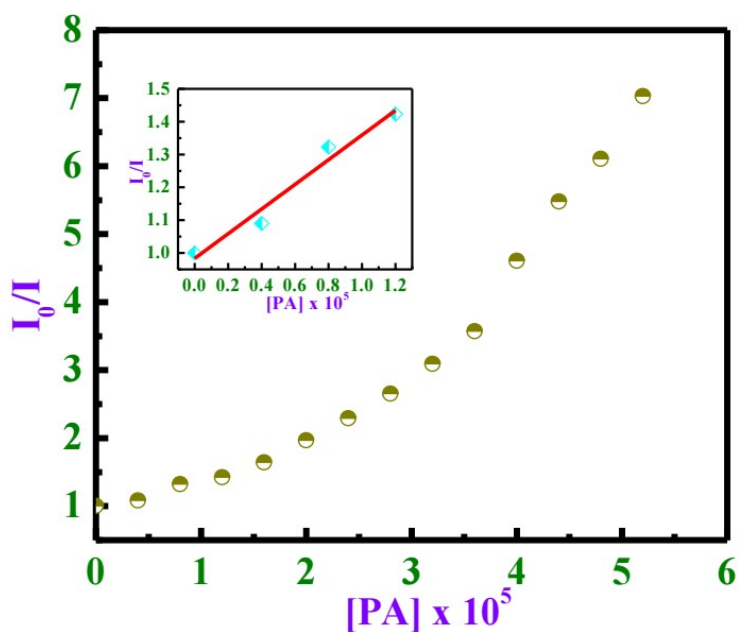


Fig. S8. Stern-Volmer plot of the fluorescence quenching response of $[\text{Zn}^{\text{II}}_2\text{L}(\mu_{1,1}\text{-N}_3)(\text{N}_3)_2]$ (**1**) in water upon addition of picric acid (PA) in MeOH. Inset shows the linear part of the same plot in low concentration region.

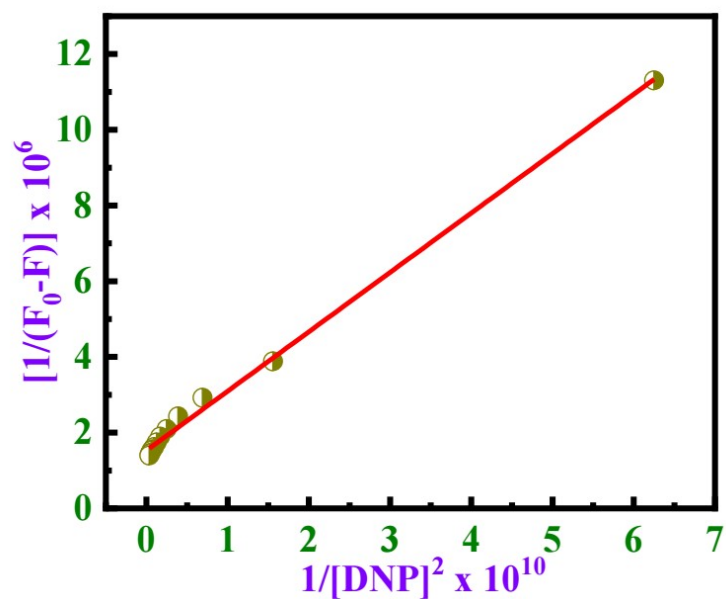


Fig. S9. Benesi-Hildebrand (B-H) plot for 1:2 association complexation between $[Zn^{II}_2L(\mu_{1,1}-N_3)(N_3)_2]$ (**1**) and 2,4-dinitrophenol (DNP).

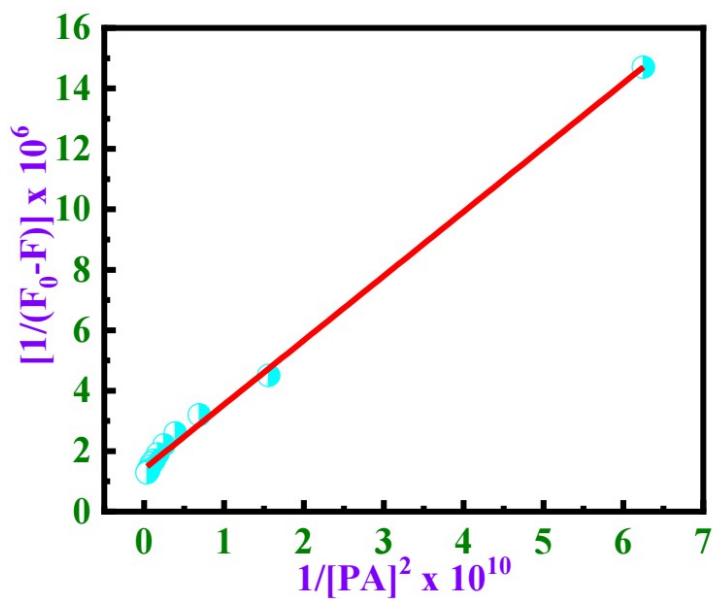


Fig.S10. Benesi-Hildebrand (B-H) plot for 1:2 association complexation between $[Zn^{II}_2L(\mu_{1,1}-N_3)(N_3)_2]$ (**1**) and picric acid (PA).

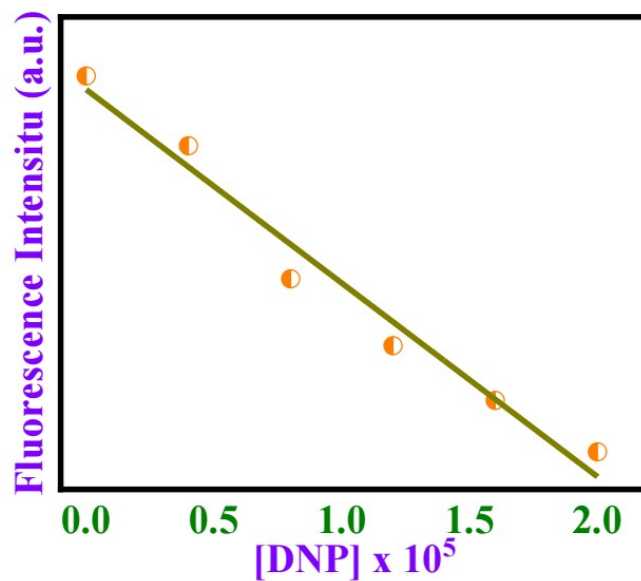


Fig.S11. Plot of limit of detection of complex $[\text{Zn}^{\text{II}}_2\text{L}(\mu_{1,1}\text{-N}_3)(\text{N}_3)_2]$ (**1**) toward 2,4-dinitrophenol (DNP) in water-methanol (95:5).

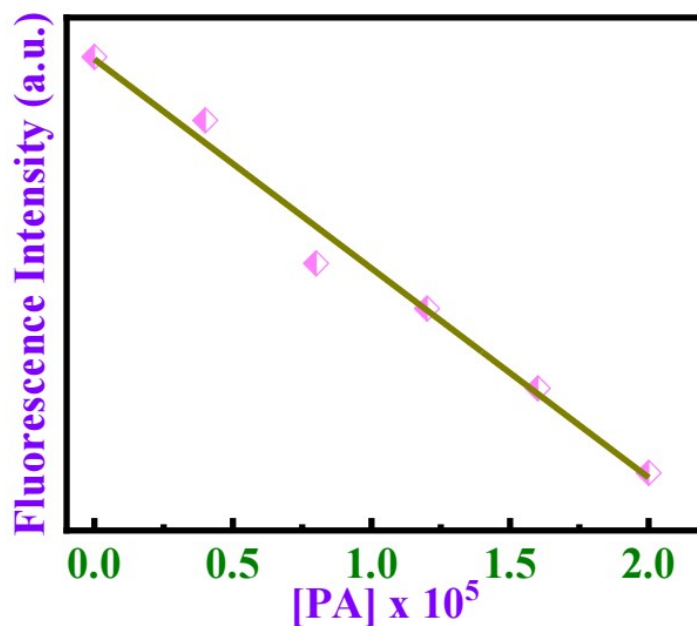


Fig.S12. Plot of limit of detection of complex $[\text{Zn}^{\text{II}}_2\text{L}(\mu_{1,1}\text{-N}_3)(\text{N}_3)_2]$ (**1**) toward picric acid (PA) in water-methanol (95:5).

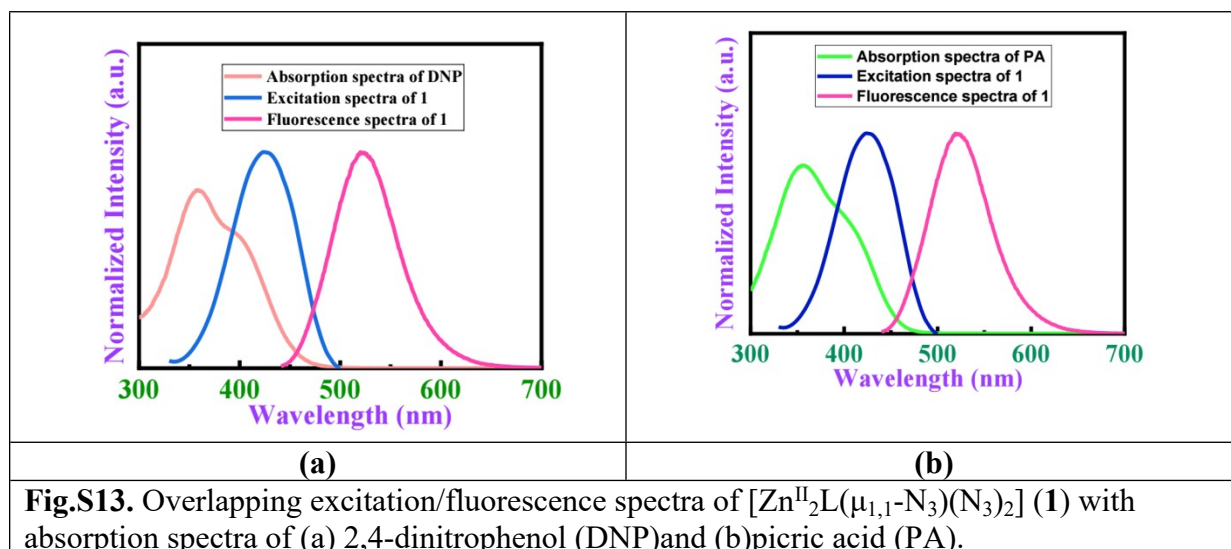


Fig.S13. Overlapping excitation/fluorescence spectra of $[Zn^{II}_2L(\mu_{1,1}-N_3)(N_3)_2]$ (1) with absorption spectra of (a) 2,4-dinitrophenol (DNP) and (b) picric acid (PA).

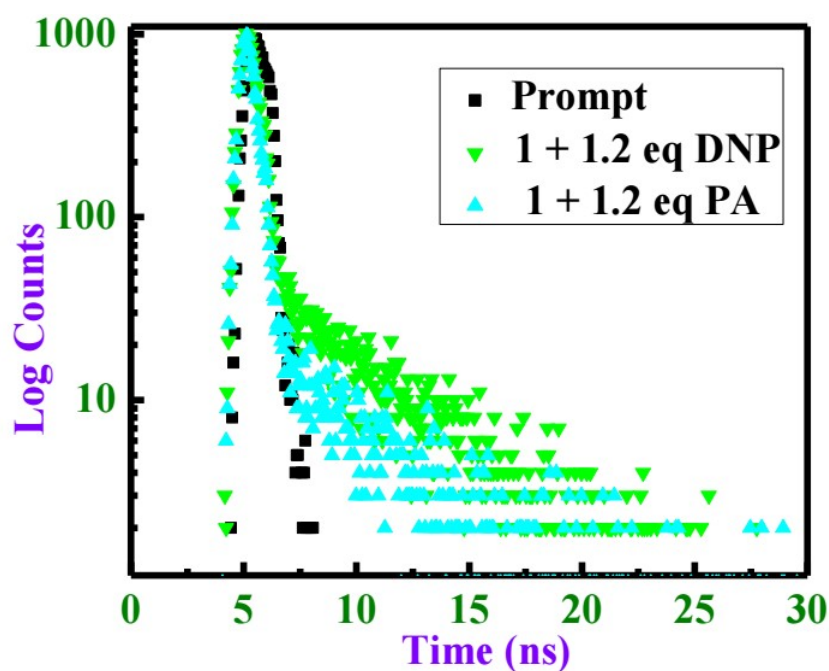


Fig. S14. Time resolved fluorescence decays of $[Zn^{II}_2L(\mu_{1,1}-N_3)(N_3)_2]$ (1) (20 μ M) before and after addition of 2,4-dinitrophenol (DNP)/picric acid (PA). The fluorescence was monitored at 525 nm.

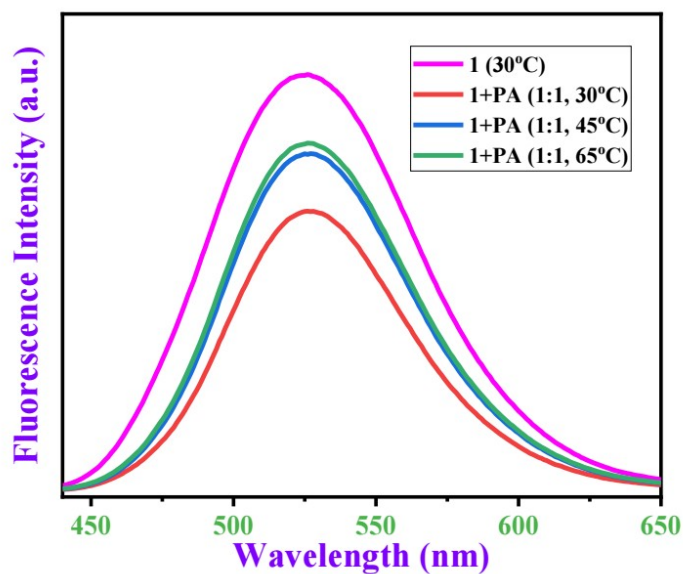


Fig. S15. Fluorescence spectrum of 20 μM aqueous solution of $[\text{Zn}^{\text{II}}_2\text{L}(\mu_{1,1}\text{-N}_3)(\text{N}_3)_2]$ (**1**) at 30 $^\circ\text{C}$ and temperature-dependent fluorescence spectra of 1:1 mixture of **1** (20 μM) and picric acid (PA) in water-methanol (95:5). $\lambda_{\text{ex}} = 423 \text{ nm}$.

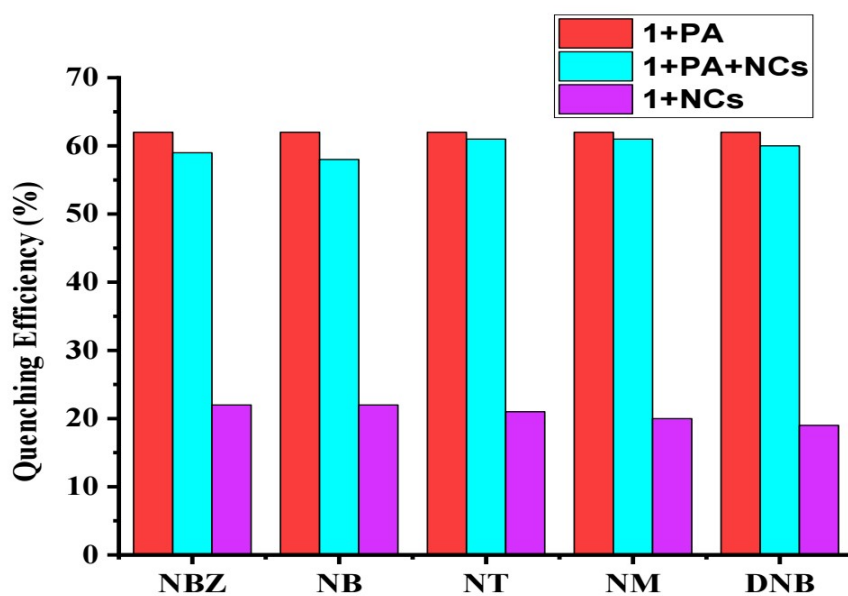


Fig. S16. Bar diagram showing the competition or anti-interference study: relative fluorescence quenching of $[\text{Zn}^{\text{II}}_2\text{L}(\mu_{1,1}\text{-N}_3)(\text{N}_3)_2]$ (**1**; 20 μM) by 2 equivalents picric acid (PA), 2 equivalents some other nitro compounds (NCs) and mixture of 2 equivalents PA and 2 equivalents NC in water-methanol (95:5). $\lambda_{\text{ex}} = 423 \text{ nm}$.

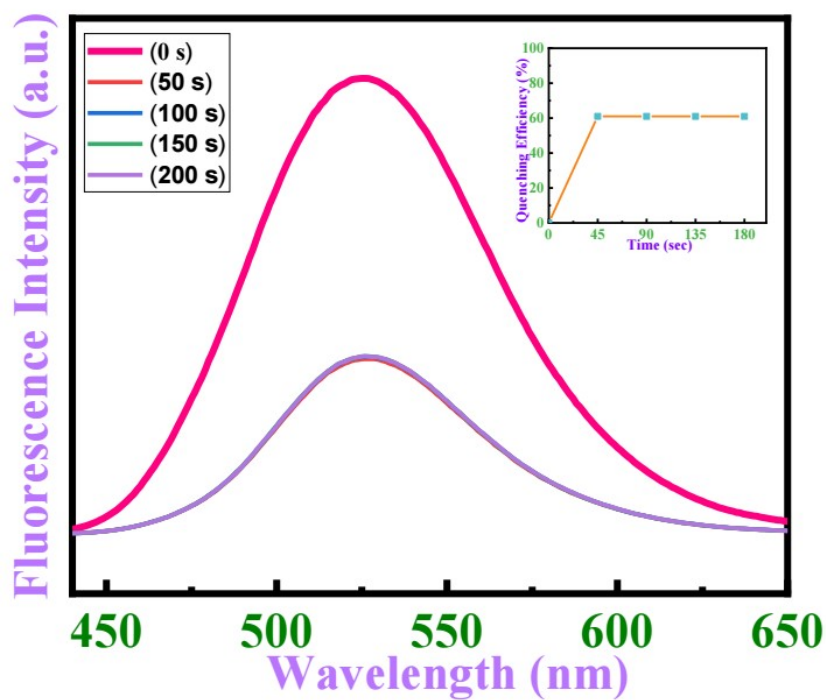


Fig.S17. Time-dependent fluorescence spectra of $[\text{Zn}^{\text{II}}_2\text{L}(\mu_{1,1}\text{-N}_3)(\text{N}_3)_2]$ (**1**; 20 μM) upon addition of 2 equivalent of picric acid (PA). Inset shows fluorescence quenching efficiency as a function of time. $\lambda_{\text{ex}} = 423 \text{ nm}$.

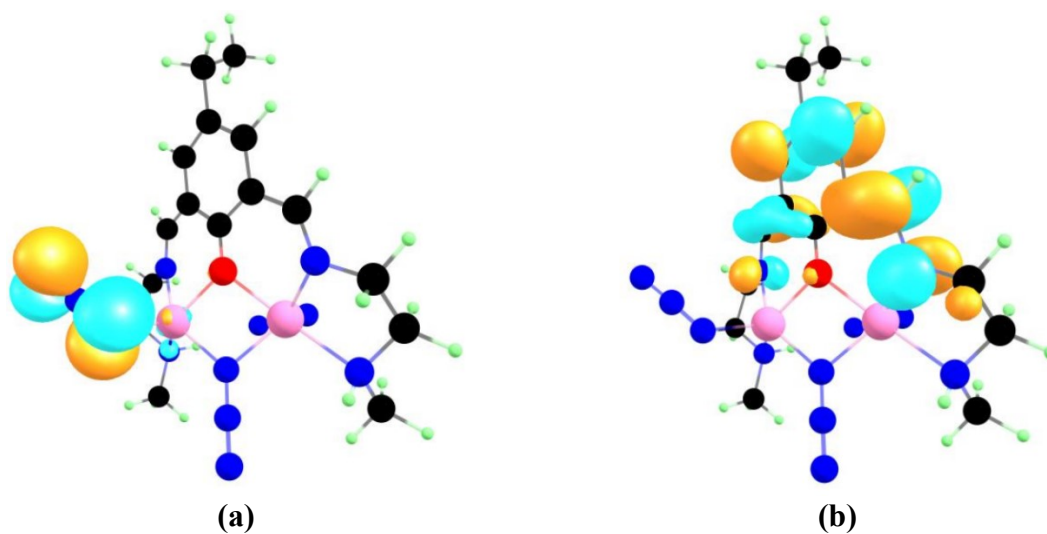
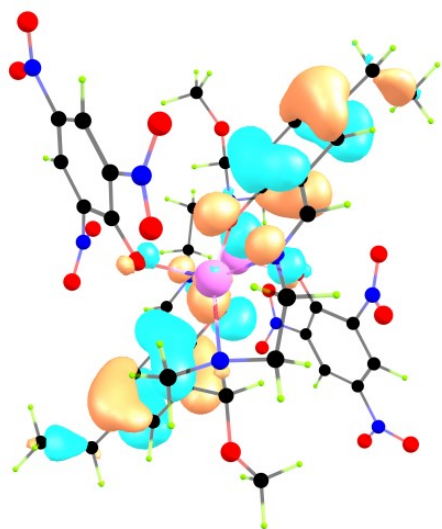
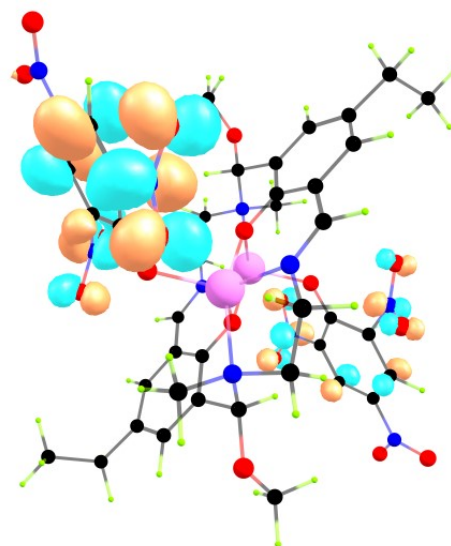


Fig.S18. (a) HOMO and (b) LUMO of $[\text{Zn}^{\text{II}}_2\text{L}(\mu_{1,1}\text{-N}_3)(\text{N}_3)_2]$ (**1**).



(a)



(b)

Fig.S19. (a) HOMO and (b) LUMO of $[\text{Zn}_2\text{L}'(\text{picrate})_2]$ (**3**).

Table S1. Crystallographic data for [Zn^{II}₂L(μ_{1,1}-N₃)(N₃)₂] (**1**), [Zn₂L'(2,4-dinitrophenolate)₂] (**2**) and [Zn₂L'(picrate)₂] (**3**)

Compound	1	2	3
Empirical formula	C ₁₆ H ₂₅ N ₁₃ OZn ₂	C ₄₀ H ₄₂ N ₁₀ O ₁₈ Zn ₂	C ₄₀ H ₄₄ N ₈ O ₁₄ Zn ₂
Formula weight	546.23	1081.57	991.57
Crystal system	monoclinic	triclinic	triclinic
Space group	P2 ₁ /c	P-1	P-1
<i>a</i> (Å)	14.3387(7)	9.8225(14)	9.348(2)
<i>b</i> (Å)	10.7536(6)	10.8321(16)	11.044(3)
<i>c</i> (Å)	14.2438(8)	12.0244(18)	12.043(3)
<i>α</i> (°)	90	70.529(2)	68.942(2)
<i>β</i> (°)	90.723(3)	68.630(2)	67.591(2)
<i>γ</i> (°)	90	76.180(2)	89.678(2)
<i>V</i> (Å ³)	2196.1(2)	1113.2(3)	1060.1(5)
<i>Z</i>	4	1	1
<i>D</i> (calculated, g cm ⁻³)	1.652	1.613	1.553
<i>λ</i> (Mo K _α), Å	0.71073	0.71073	0.71073
<i>μ</i> (mm ⁻¹)	2.223	1.167	1.209
<i>T</i> (K)	100 (2)	273(2)	273(2)
<i>F</i> (000)	1120.0	556	512
2 <i>θ</i> range for data collection (°)	2.84 to 50.7	3.78–60.276	5.714–57.164
Index ranges	-17 ≤ <i>h</i> ≤ 17	-13 ≤ <i>h</i> ≤ 13	-12 ≤ <i>h</i> ≤ 12
	-12 ≤ <i>k</i> ≤ 12	-15 ≤ <i>k</i> ≤ 15	-14 ≤ <i>k</i> ≤ 14
	-17 ≤ <i>l</i> ≤ 17	-16 ≤ <i>l</i> ≤ 16	-16 ≤ <i>l</i> ≤ 16
No. measured reflections	29945	25796	20322
No. independent reflections	4022	6160	5385
<i>R</i> _{int}	0.0673	0.0229	0.0402
No. refined parameters	353	319	302
No. observed reflections, <i>I</i> ≥ 2σ (<i>I</i>)	3396	5705	4100
Goodness-of-fit on <i>F</i> ² , <i>S</i>	1.163	1.016	1.017
<i>R</i> ₁ ^{<i>a</i>} , <i>wR</i> ₂ ^{<i>b</i>} [<i>I</i> ≥ 2σ (<i>I</i>)]	0.0544, 0.1212	0.0308, 0.1118	0.0386, 0.1008
<i>R</i> ₁ ^{<i>a</i>} , <i>wR</i> ₂ ^{<i>b</i>} [all data]	0.0663, 0.1262	0.0335, 0.1153	0.0607, 0.1146
Max., min. electron density (eÅ ⁻³)	0.725, -0.801	0.830, -0.493	0.343, -0.353

$$^a R_1 = [\sum ||F_o| - |F_c|| / \sum |F_o|]. \quad ^b wR_2 = [\sum w(F_o^2 - F_c^2)^2 / \sum w(F_o^2)^2]^{1/2}$$

Table S2. Fluorescence life time (τ_{av}) of complex $[Zn^{II}_2L(\mu_{1,1}-N_3)(N_3)_2]$ (**1**) in absence or presence of 2,4-dinitrophenol (DNP)/picric acid (PA) in water.

Entry	τ_{av} (ns)
Complex 1	4.61
Complex 1 + 0.1 equivalent DNP/PA	0.53/0.62
Complex 1 + 1.2 equivalent DNP/PA	0.51/0.69

Table S3. The ESI-MS positive spectra of $[\text{Zn}^{\text{II}}\text{L}(\mu_{1,1}\text{-N}_3)(\text{N}_3)_2]$ (**1**) and mixture of $[\text{Zn}^{\text{II}}\text{L}(\mu_{1,1}\text{-N}_3)(\text{N}_3)_2]$ (**1**) and picric acid (PA) in water-methanol.

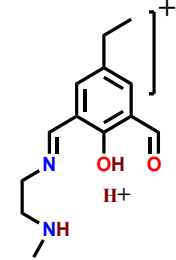
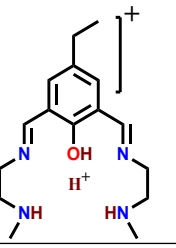
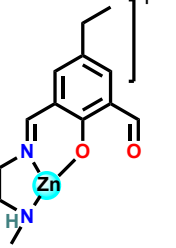
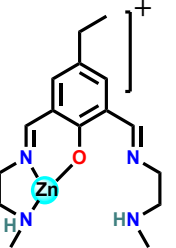
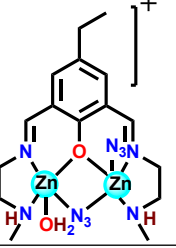
Species illustration	m/z	Species formula	Empirical formula	Relative peak intensity	
				1	Mixture
	235	$[(\text{HL})^+ + \text{H}^+]$	$\text{C}_{13}\text{H}_{19}\text{N}_2\text{O}_2$	100%	100%
	291	$[(\text{HL}) + \text{H}^+]$	$\text{C}_{16}\text{H}_{27}\text{N}_4\text{O}_1$	5%	–
	297	$[\text{ZnL}']^+$	$\text{C}_{13}\text{H}_{17}\text{N}_2\text{O}_2\text{Zn}$	–	8%
	353	$[\text{ZnL}]^+$	$\text{C}_{16}\text{H}_{25}\text{N}_4\text{O}_1\text{Zn}$	–	8%
	522	$[\text{Zn}_2^{\text{II}}\text{L}(\mu\text{-N}_3)(\text{N}_3)_2(\text{H}_2\text{O})]^+$	$\text{C}_{16}\text{H}_{27}\text{N}_{10}\text{O}_2\text{Zn}_2$	8%	5%

Table S4. Comparison of Stern-Volmer constant (K_{sv}), detection limit (LOD) and association constant (K_a) of different fluorescence probes reported for the detection of explosive nitro aromatics.

Sl. No.	Fluorescent Probe	Type	SC-XRD of Probe	SC-XRD of [Probe-NACs] complex	$K_{sv} (M^{-1})$	K_a	Detection Limit (μM), LOD	Solvent System	Ref.
1	3,5-bis(acetal)BODIPY	Organic-Chemodosimeter	No	No	–	$9.2 \times 10^6 M^{-1}$	0.71 μM , 162 ppb (PA)	(1:9) H ₂ O: CH ₃ CN	1
2	[Zn ^{II} ₂ L($\mu_{1,1}$ -N ₃)(N ₃) ₂]	Discrete metallo-organic Chemodosimeter	Yes	Yes	5.55 $\times 10^4$ (DNP)	$9.74 \times 10^9 M^{-2}$ (DNP)	1.85 μM , 0.423 ppm (DNP)	(95:5) H ₂ O:MeOH	This Work
					3.5 $\times 10^4$ (PA)	$6.65 \times 10^9 M^{-2}$ (PA)	2.21 μM , 0.506ppm (PA)		
3	Polyhedral oligosilsesquioxane	Organic-inorganic hybriide nanomaterial	No	No	170000 (PA)		2.84 μM , 0.65 ppm (PA)	(1:9) THF:Water	2
					2790 (DNP)		28.38 μM , 6.5 ppm (DNP)		
4	Organic molecule	Chemosensor	No	No	3 $\times 10^4$ (PA)		0.001 μM , 0.29 ppb (PA)	(1:9) THF:Water	3
					8 $\times 10^4$ (DNP)		0.005 μM , 1.14 ppb (DNP)		
5	[Hg(L ¹) ₂ (ClO ₄) ₂] _n	Coordination polymer Chemosensor	Yes	No	3.25 $\times 10^5$ (PA)		2.4 μM , 0.55 ppm (PA)	Aqueous	4
					2.11 $\times 10^5$ (DNP)		3.1 μM , 0.57 ppm (DNP)		
					7.5 $\times 10^4$ (PNP)		4.5 μM , 0.63 ppm (PNP)		
					2.04 $\times 10^4$ (3-NP)		12.1 μM , 1.68 ppm (3-NP)		
					6.33 $\times 10^4$ (4-NA)		5.2 μM , 0.72 ppm (4-NA)		
					4.75 $\times 10^4$ (4-ANP)		5.9 μM , 0.91 ppm (4-ANP)		
					3.86 $\times 10^4$ (2-NP)		7.5 μM , 1.04 ppm (2-NP)		
					2.81 $\times 10^4$ (2-NA)		7.9 μM , 1.09 ppm (2-NA)		
					1.95 $\times 10^4$ (CDNB)		12.4 μM , 2.50		

							ppm (CDNB)		
					1.62×10^4 (CNB)		13.5 μ M, 2.12 ppm (CNB)		
					7.25×10^3 (NPA)		29.04 μ M, 4.79 ppm (NPA)		
6	MoS ₂ Quantum dots	Chemosensor	No	No	7.4310×10^5 (PA)	–	8.90 μ M, 2.04 ppm (PA)	Aqueous pH 7.0	5
					1.0012×10^5 (1,2-DNB)				
					9.8121×10^4 (1,3-DNB)				
					1.6179×10^5 (1,4-DNB)				
					1.0011×10^5 (2,6-DNT)				
					1.0643×10^5 (2-NT)				
					1.0161×10^5 (4-NT)				
					1.1150×10^5 (NB)				
7	[Cu ₂ L ² (μ -Cl) ₂]Cl·4.5H ₂ O	Chemosensor	Yes	Yes	1.1×10^5 (PA)	$4.64 \times 10^{10} \text{M}^{-2}(\text{PA})$	4.8 μ M (1.099 ppm)	Pure water	6
8	Amphiphilic Carbon dots	Chemosensor	No	No	1.22×10^4 (PA)	–	(0.23–1.31) μ M, (0.05–0.3) ppm (PA)	Various solvent including water	7
9	[Zn ₂ (L ³) ₂ (bpy)]·(G _s) _x	MOF-Chemosensor	Yes	Yes	11.6257×10^3 (NT)	–	–	Ethanol	8
					5.093×10^3 (DNT)				
					4.499×10^3 (TNT)				
					3.05×10^3 (NB)				
					1.548×10^3 (DNB)				
					4.224×10^3 (PA)				
10	Π -conjugated organic copolymers	Chemosensor			$2.84\text{--}6.4 \times 10^4$ (PA)	–	0.525–0.951 μ M, 0.12–0.22	Chloroform	9
					$1.71\text{--}2.45 \times$				

			No	No	$10^4(\text{DNP})$ $(2.58\text{--}4.40) \times 10^3$ (NB) $(2.03\text{--}2.21) \times 10^3$ (NT) $(1.15\text{--}1.23) \times 10^4$ (NBA) $(1.33\text{--}1.45) \times 10^4$ (PNP) $(1.91\text{--}2.66) \times 10^4$ (2,6-DNT)				
11	Organic molecule	Chemosensor	Yes	Yes	4.31×10^4 (PA)	–	2.18 μM , 500 ppb (PA)	THF	10
12	$[\text{PbL}^4(\text{OAc})]$	Discrete metallo-organic Chemosensor	Yes	No	5.7×10^3 (1,3 DNB) 1.4×10^3 (4-NT) 2.4×10^3 (4-NBA) 1.1×10^3 (2,6-DNT)		20.55 μM , 5.84 ppm (1,3 DNB) 30.54 μM , 8.11 ppm (4-NT) 7.72 μM , 17.64 ppm (4-NBA) 1.16 μM , 265.4 ppb (2,6-DNT)	(6:4) DMSO:Water	11
13	Trimethylsilylethynyl functionality based organic molecule	Chemosensor	No	No	$(1.1 \times 10^4\text{--}2.15 \times 10^5)(\text{PA})$ $(1.4 \times 10^3\text{--}1.97 \times 10^4)(\text{TNT})$	–	0.0345 μM , 8 ppb (PA) –	CHCl_3 :MeOH	12
14	$[\text{Zn}_2\text{L}^5\text{Cl}_2(\text{H}_2\text{O})]$	Discrete metallo-organic Chemosensor	Yes	No	8.063×10^4 (PA)	–	0.003986 μM , 912 ppt (PA)	MeOH	13
15	$[\text{Zn}_2\text{L}^5(\text{SCN})_2(\text{H}_2\text{O})] \cdot \text{H}_2\text{O}$	Discrete metallo-organic Chemosensor	Yes	No	7.987×10^4 (PA)	–	0.003974 μM , 910 ppt (PA)	MeOH	
16	$[\text{Zn}_2\text{L}^5(\text{N}_3)(\text{CH}_3\text{CO}_2)]$	Discrete metallo-organic Chemosensor	Yes	No	8.51×10^4 (PA)	–	0.003914 μM , 896 ppt (PA)	MeOH	
17	$[\text{BiL}^6(\text{NO}_3)]_n$	Polymeric metallo-organic Chemosensor	Yes	No	2.96×10^6 (NB) 3.22×10^5 (4-NP)		0.11 μM (25.19 ppb) (NB) 0.147 μM (33.66 ppb) (4-NP)	DMF	14

					4.16×10^5 (DNP)		0.638 μ M (146.1 ppb) (2,4-DNP)		
					1.87×10^6 (PA)		0.0968 μ M (22.16 ppb) (PA)		
	[BiL ⁷ (NO ₃) ₃]	Discrete metallo-organic Chemosensor	No	No	1.83×10^5 (DNP)		0.131 μ M (30 ppb) (DNP)	DMF	
					4.58×10^5 (PA)		0.0924 μ M, (21.16 ppb) (PA)		
18	[Zn ₂ L ⁸ ($\mu_{1,5}$ -dca) ₂ (μ_1 -dca)] _n	Multinuclear Zn Complex Chemosensor	Yes	No	1.542×10^4 (PA)		0.43 μ M, 0.0985 ppm (PA)	DMF	15
19	[Cd(cis-chdc)(anti-bpe)(H ₂ O)] _n	MOF-Chemosensor	Yes	No	2.64×10^4 (4-NT)	–	–	DMF	16
					5.04×10^3 (NB)				
					4.43×10^3 (1,3-DNB)				
					6.21×10^3 (2,4-DNT)				
					3.87×10^3 (2,6-DNT)				
					3.10×10^3 (TNT)				
20	[(Zn ₄ O)(H ₂ O) ₂ (TPA) ₂]-8DMA	MOF-Chemosensor	Yes	No	3.95×10^2 (NB)	–	175 μ M, 40.07 ppm (NB)	N,N-dimethylacetamide (DMA)	17
					2.70×10^3 (1,2-DNB)		25.6 μ M, 5.86 ppm (1,2-DNB)		
					2.34×10^3 (1,3-DNB)		29.5 μ M, 6.76 ppm (1,3-DNB)		
					8.35×10^3 (TNB)		8.26 μ M, 1.89 ppm (TNB)		
					1.14×10^5 (PA)		0.6 μ M, 0.137 ppm (PA)		
21	[Ag(HMCTCA)(H ₂ MCTCA)]	Discrete metallo-organic Chemosensor	Yes	No	9.15×10^4 (PA)	–	0.88 μ M, 0.2015 ppm (PA)	EtOH	18
					1.37×10^5 (PNA)		0.59 μ M, 0.135 ppm (PNA)		
					4.03×10^4 (PNP)		2.03 μ M, 0.4649 ppm (PNP)		
					6.63×10^4 (PNT)		1.22 μ M,		

					6.96 × 10 ⁴ (NB)		0.2794 ppm (PNT) 1.17 μM, 0.267 ppm (NB)		
22	Organometallic Pt ₃ based Nanoscopic Prism	Chemosensor	Yes	No	48.1 × 10 ³ (PA) 19.6 × 10 ³ (TNT)	–	–	(4:1) CH ₂ Cl ₂ :DMF	19
23	Pd ^{II} -Organometallic Molecular rectangles	Chemosensor	Yes	No	(1.9–3.1) × 10 ⁴ (PA)	–	–	THF/CHCl ₃	20
24	TAPB	Organic-supramolecular Chemosensor	Yes	Yes	1.2×10 ⁵ (PA) 4.0×10 ³ (TNT) 2.6×10 ³ (<i>m</i> -DNB) 8.3×10 ³ (DNT) 8.0×10 ³ (<i>p</i> -DNB)	– – – – –	– – – – –	CH ₃ CN	21,22
25	([(N,N)Me ₂] ₃ TAPB)	Discrete Organic Chemosensor	No	Yes	3.31×10 ⁵ (PA) 1.90×10 ³ (TNT) 3.03×10 ³ (<i>m</i> -DNB) 1.23×10 ³ (DNT) 5.44×10 ³ (<i>p</i> -DNB)	2.0×10 ⁸ 9.0×10 ⁵ 6.7×10 ⁵ 6.0×10 ⁵ 2.5×10 ⁶	6.55 μM, 1.50 ppm (PA)	CH ₃ CN	23
26	[NHMe] ₃ TAPB	Organic Chemosensor	Yes	No	2.8 × 10 ⁵ (PA) 1.1 × 10 ³ (TNT) 1.7 × 10 ³ (<i>m</i> -DNB) 4.4 × 10 ³ (DNT) 7.0 × 10 ³ (<i>p</i> -DNB)	–	–	CH ₃ CN	24
27	Ti ₆ (μ ₃ -O) ₆ (μ ₂ -OH) ₆ (L ⁹) ₂ (DMF) ₂	MOF-Chemosensor	Yes	No	2.26 × 10 ⁴ (PA)	–	2.37 μM, 0.54 ppm (PA)	Ethanol suspension	25
28	[{Cu ₂ (L ¹⁰)(oba) ₂ }·DMF·H ₂ O] _α	MOF-Chemosensor	Yes	No	1.49 × 10 ⁵ (4-NA) 1.34 × 10 ⁵ (4-NPH) 0.31 × 10 ⁵ (PA)	–	14.07 μM, 3.2 ppm (4-NA) 18.76 μM, 4.30 ppm (4-NPH) 22.65 μM, 5.19 ppm (PA)	DMF	26
29	[(Zn ₂ (NDC) ₂ (bpy)·Gx]	MOF-Chemosensor	Yes	No	1.5 × 10 ⁴ (2,4-DNP) 3.32 × 10 ⁴ (2NT)		0.284μM, 0.065 ppm (2,4-DNP) 0.315μM, 0.072 ppm (2NT)	Ethanol	27

					1.06 × 10 ⁴ (4-NP)		0.347 μM, 0.079 ppm (4-NP)		
					4.65 × 10 ⁴ (NB)		0.322 μM, 0.074 ppm (NB)		

K_a = Association constant; K_{SV} = Stern-Volmer quenching constant

HL = 2,6-bis[2-(methylamino)ethyliminomethyl]-4-ethylphenol; L¹ = 1,3,5-tris(benzimidazolelylmethyl)benzene; HL² = 2,6-bis[N-(2-pyridylethyl)formidoyl]-4-ethylphenol; L³ = 2,6-naphthalenedicarboxylic acid; bpy = 4,4'-bipyridine; G_s = guest solvent molecule; HL⁴ = 2[(3,5 Dichloro 2 hydroxy benzylidene)amino] 2hydroxymethyl propane-1,3-diol; H₂L⁵ = N,N'-dimethyl-N,N'-bis(2-hydroxy-3-methoxy-5-methylbenzyl)ethylenediamine; H₂L⁶ = (1: 2 condensation product of 2,6-diformylpyridine and pyridine-4-carbohydrazide); L⁷ = (1: 2 condensation product of 2,6-diformylpyridine and 4-aminoantipyrine); H₂L⁸ = N,N'-bis(3-ethoxysalicylidene)-2,2-dimethyl-1,3-propanediamine; H₂chdc = 1,4-cyclohexanedicarboxylic acid; bpe = 1,2-bis(4-pyridyl)ethane; H₃TPA = 4,4',4''-nitrilotribenzoic acid, DMA = N,N'-dimethylacetamide; H₂MCTCA = 5-Methyl-1-(4-carboxylphenyl)-1H-1,2,3-triazole-4-carboxylic acid; TAPB = 1,3,5-tris(4'-aminophenyl)benzene; H₃L⁹ = 1,3,5-(4-carboxyphenyl)benzene; L¹⁰ = N²,N⁶-di(pyridine-4-yl)naphthalene-2,6-dicarboxamide; oba = 4,4'-oxybis(benzoate); NDC = 2,6-naphthalene dicarboxylic acid.

PA = 2,4,6-trinitrophenol; DNP = 2,4-dinitrophenol; PNA = p-nitroaniline; PNP = p-nitrophenol; 2-NP = 2-nitrophenol; 3-NP = 3-nitrophenol; PNT = p-nitrotoluene; NT = Nitrotoluene; NB = nitrobenzene; 1,2-DNB = 1,2-dinitrobenzene; *m*-DNB or 1,3-DNB = 1,3-dinitrobenzene; *p*-DNB or 1,4-DNB = 1,4-dinitrobenzene; TNB = 1,3,5-trinitrobenzene; 2-NT = 2-nitrotoluene; 4-NT = 4-nitrotoluene; 2,4-DNT = 2,4-dinitrotoluene; 2,6-DNT = 2,6-dinitrotoluene; TNT = 2,4,6-trinitrotoluene; NBA = Nitrobenzoic acid; 2-NA = 2-nitroaniline; 4-NA = 4-nitroaniline; 4-ANP = 2-amino-4-nitrophenol; CDNB = 1-chloro-2,4-dinitrobenzene; CNB = 1-chloro-4-nitrobenzene; NPA = 4'-nitroacetophenone; 4-NA = 4-nitroaniline; 4-NPH = 4-nitrophenylhydrazine; 4-NP = 4-nitrophenol

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