## Supporting Information

## A Supramolecule based Fluorescence Turn-on and Ratiometric Sensor for ATP in Aqueous Solution

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**Figure S1:** Steady state emission spectrum ( $\lambda ex = 410$  nm) of ThT (21  $\mu$ M) at varying concentrations of SCD (12.2  $\mu$ M). Inset: variation of emission intensity at 545nm with increasing concentration of SCD.



**Figure S2:** Normalized ground state absorption spectrum of ThT (21  $\mu$ M) in water (dashed) and in the presence of SCD (12.2 $\mu$ M) (solid).



Transient Decay of ThT (21  $\mu$ M) ( $\lambda_{ex}$  = 406 nm ,  $\lambda_{em}$  =545 nm) in (1) water (blue) (2) 12.2  $\mu$ M of SCD (red). The solid black line represents instrument response function (IRF).

S No	Probe/System	Commercial	Detection Limit	Ratiometric	References
1	Aptamer Beacon	Synthesized	0.019 mM	No	Ref 1
	Covalently Linked to	~ )			
	Graphene Oxide				
2	QF-MABs	Synthesized	2 mM	No	Ref 2
	(MB-based				
2	011gonucleotide)	Synthesized	2M	No	Dof 2
5	-CuInS2 QDs	Synthesized	3 μινι	INO	Kel 3
4	Aptamer DNA-tem-	Synthesized	0.44 and 0.65	No	Ref 4
	plated silver		mM		
_	nanoclusters (Ag NCs)				
5	Gold nanocrosses and	Synthesized	0.27 mM	No	Ref 5
6	S1 puelease EAM	Synthesized	2.2 µM	No	Def 6
0	labeled ssDNA (DNA.	Synthesized	5.2 µlvi	INU	Kel 0
	F) and graphene oxide				
7	Cysteamine capped CdS	Synthesized	17 μM	No	Ref 7
	quantum dots	5			
8	Sensor 1 (pincer-like	Synthesized		Yes	Ref 8
	benzene-bridged sensor				
	1 with a pyrene excimer				
	as a signal source and				
	as a phosphate apion				
	receptor)				
9	Pyrene-based zinc	Synthesized		Yes	Ref 9
	complexes (Compound				

Table T1: Comparison of performance of the various fluorescence based sensors for ATP<sup>1-11</sup>

	1 and Compound 2)				
10	4-(9-anthryl)phenyl terpyridine	Synthesized		Yes	Ref 10
11	KMG-301 (rosamine probe)	Synthesized		Yes	Ref 11
12	Thioflavin-T-Sulfated beta cyclodextrin-Zn <sup>2+</sup> system	Commercial	1.3 μM	Yes	Present Work

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