

Electronic Supporting Information

Tri-armed Schiff Base Fluorescent Sensor for Rapid Recognition of Zn(II): Application for Live Cell Images, Test strips and TLC

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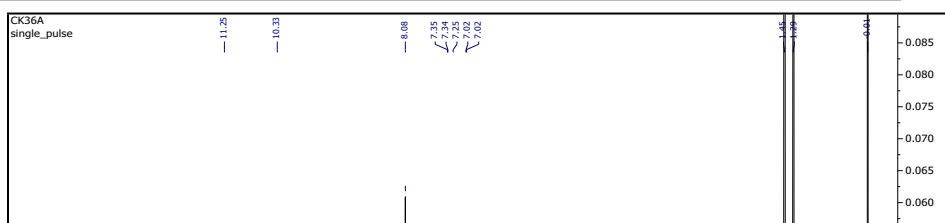
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Sl. No.	Contents	Figure
01	¹ H-NMR and ¹³ C-NMR of THDBP	S1 & S2
02	ESI-MS Spectrum of THDBP	S3
03	ESI-MS Spectrum of Zn(II)-THDBP	S4
04	FT-IR Spectra of THDBP	S5
05	FT-IR Spectra of Zn(II)-THDBP	S6
06	¹ H-NMR titration of THDBP with Zn(II)	S7
07	Job's plot	S8
08	Study of pH	S9
09	Reversibility study of THDBP	S10
10	MTT assay	S11
11	SEM images	S12



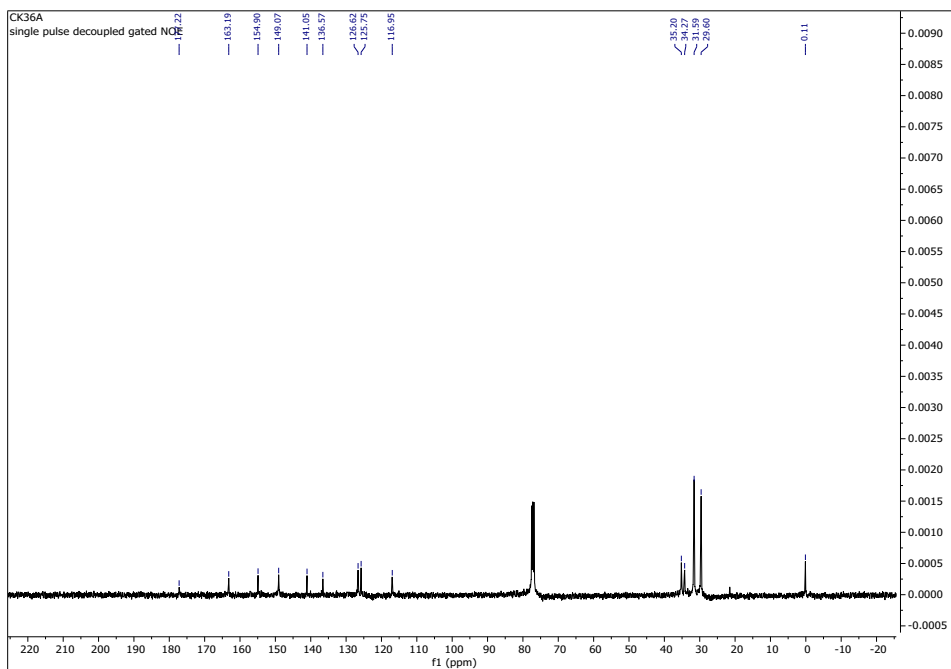
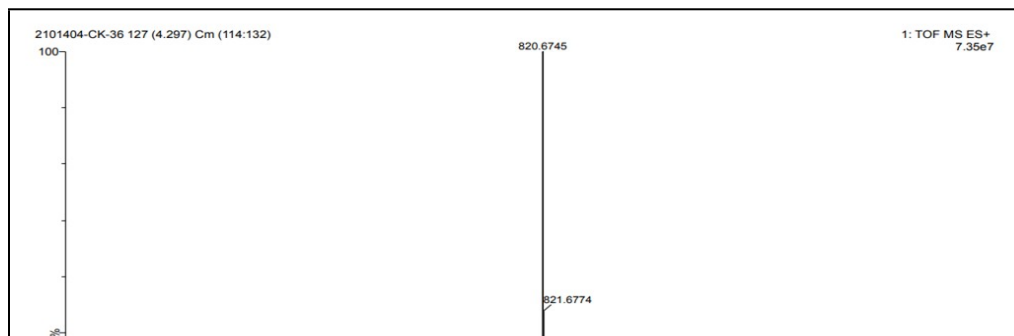


Fig. S2 ^{13}C - NMR spectrum of THDBP.



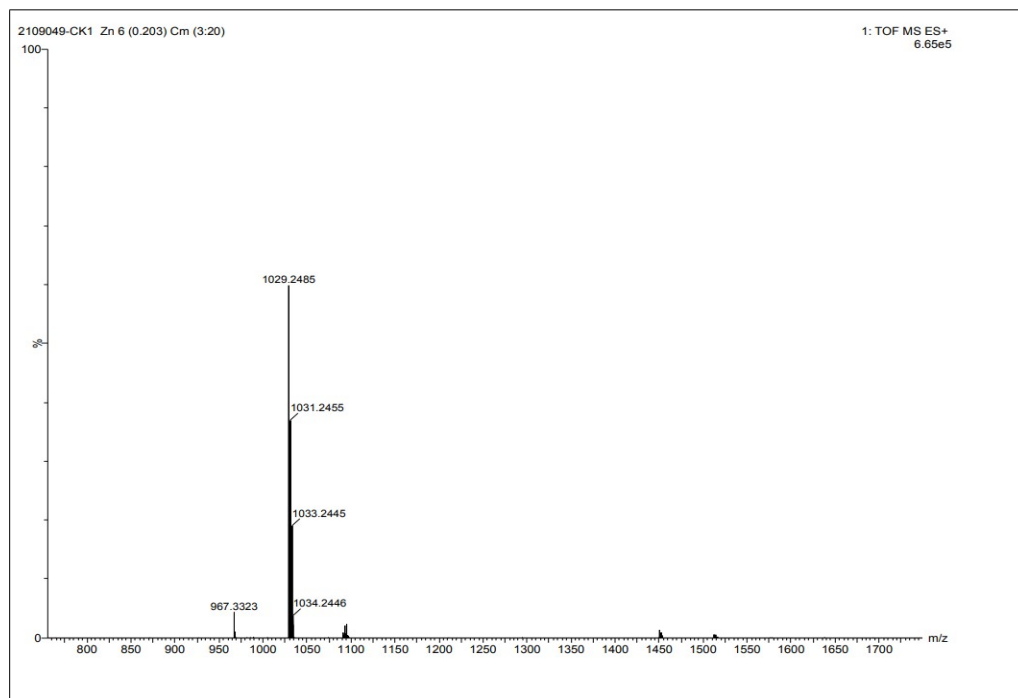
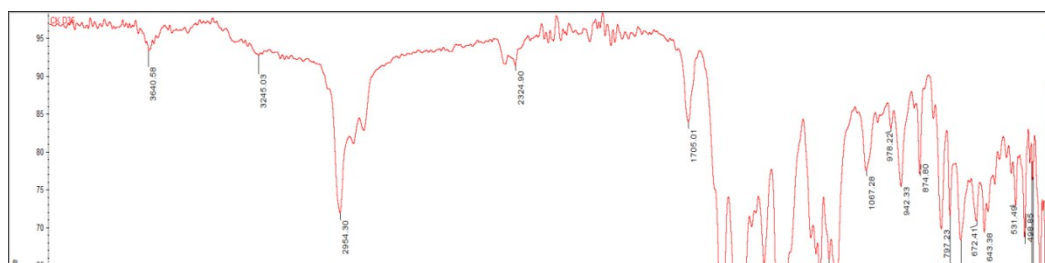


Fig. S4 ESI-MS spectrum of Zn(II)-THDBP complex.



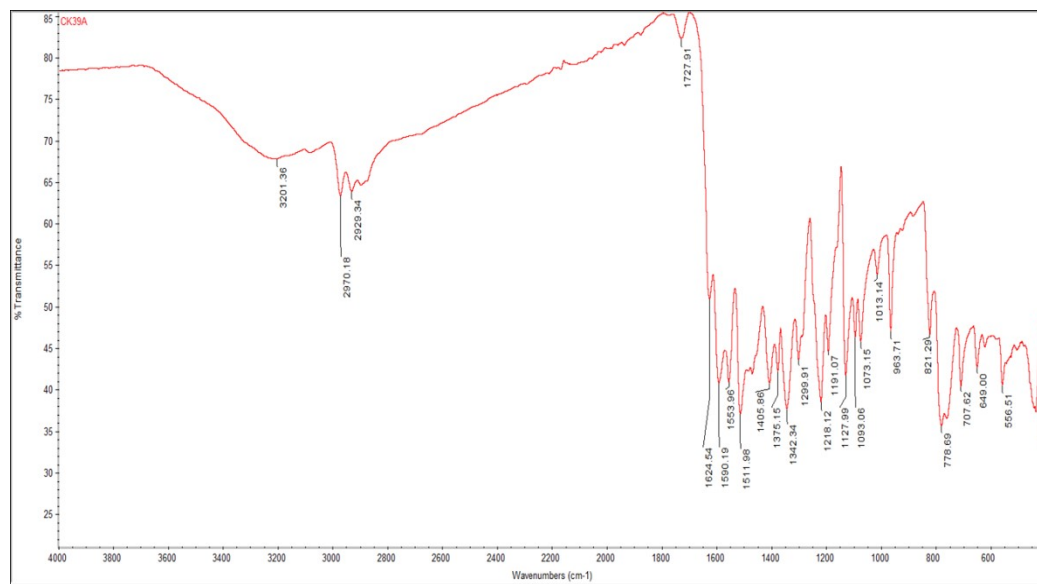
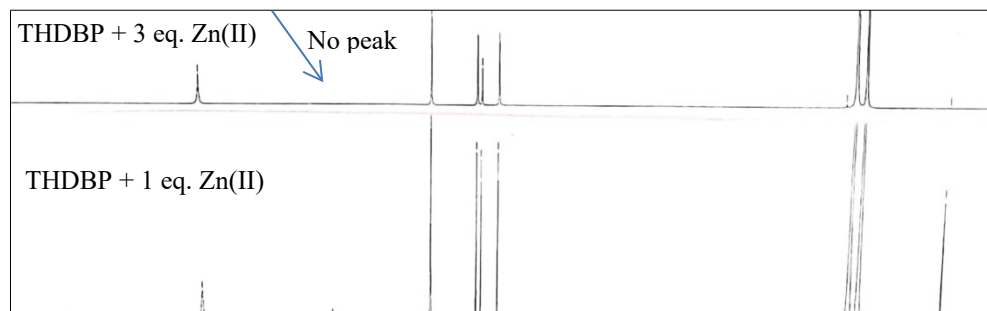


Fig. S6 FT-IR Spectrum of Zn(II)-THDBP complex.



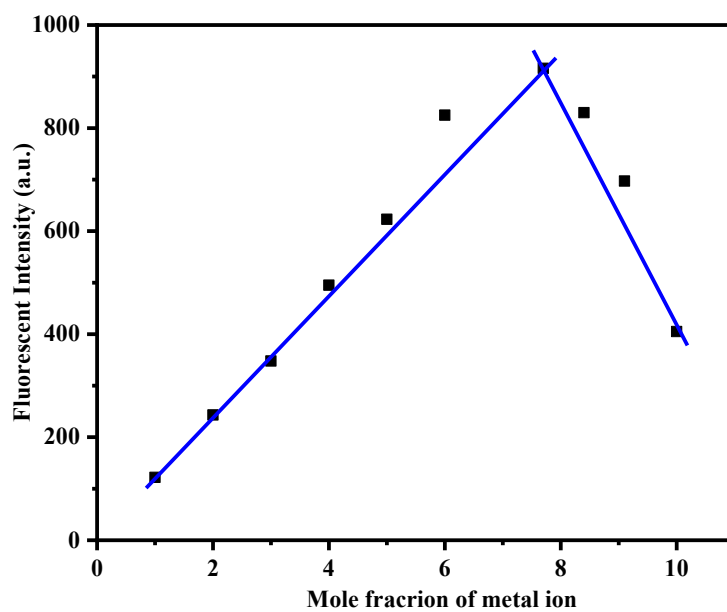
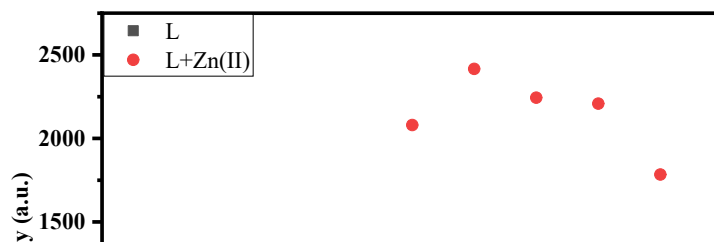


Fig. S8 Job's plot demonstrating the 1:3 stoichiometry between THDBP and Zn(II). The mole ratio of $[\text{Zn(II)}]/\{[\text{THDBP}] + [\text{Zn(II)}]\}$ was demonstrated.



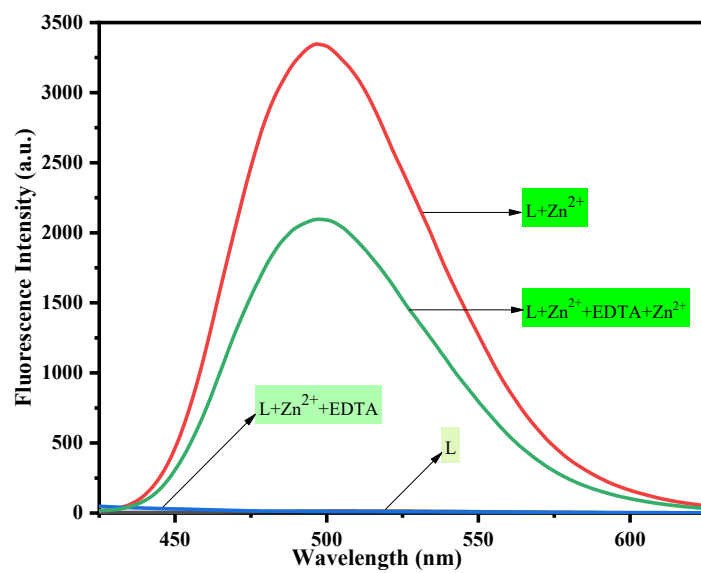
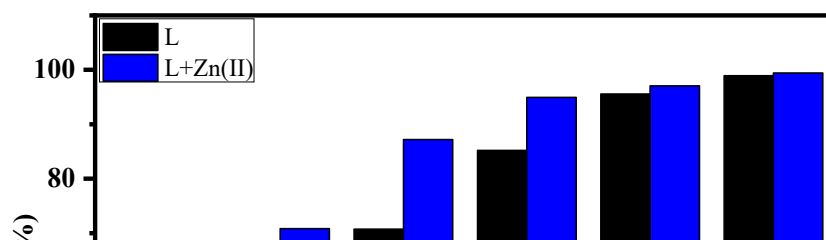
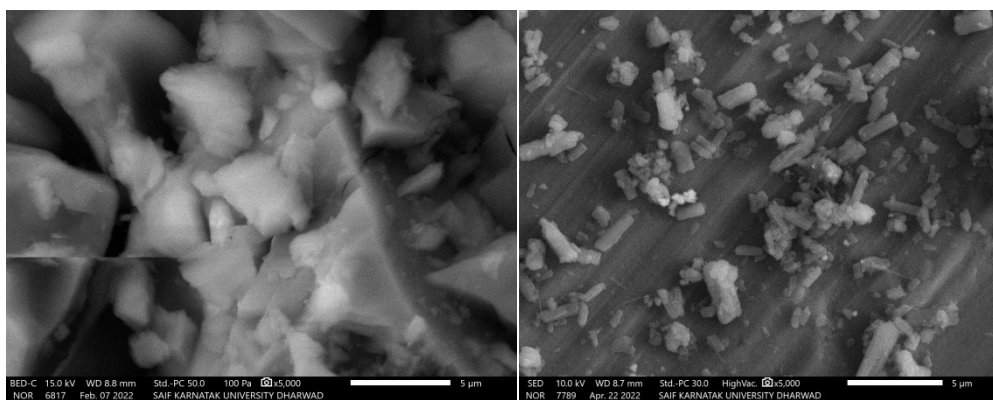


Fig. S10 Reversible investigations of THDBP with EDTA in aq. acetonitrile.



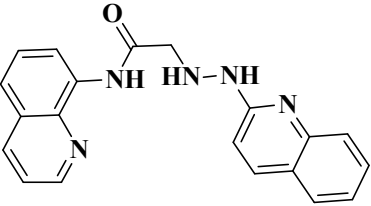
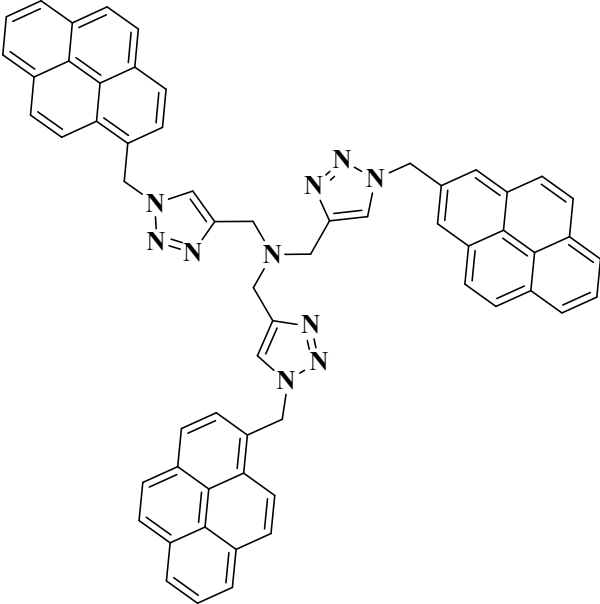
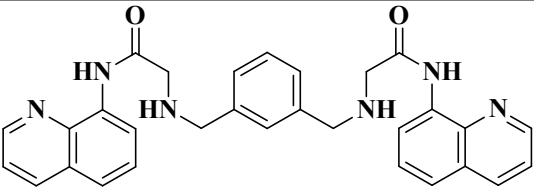
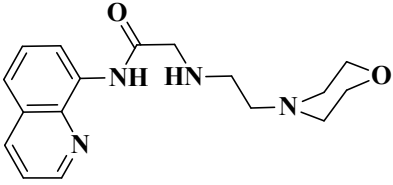
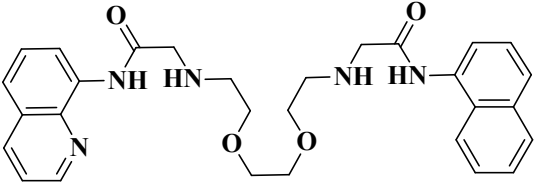


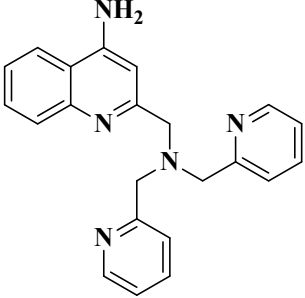
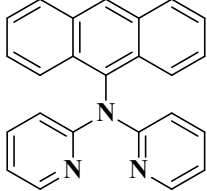
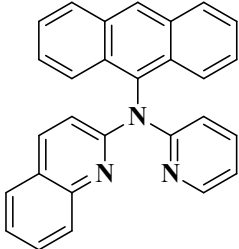
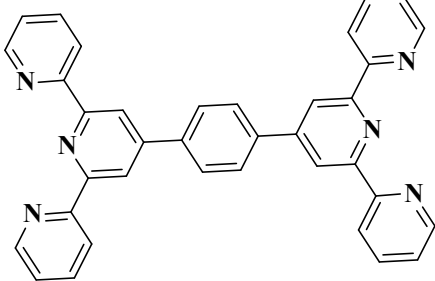
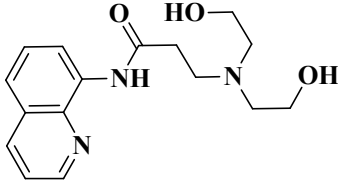
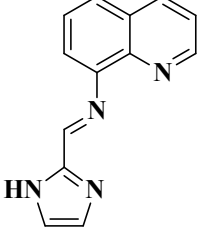
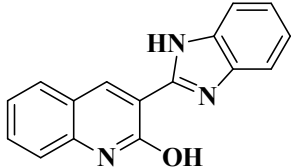
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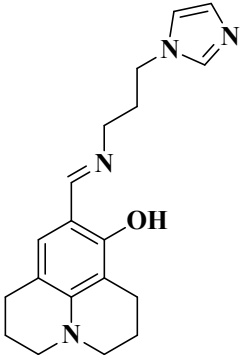
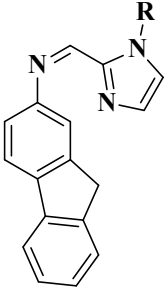
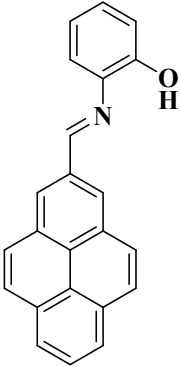
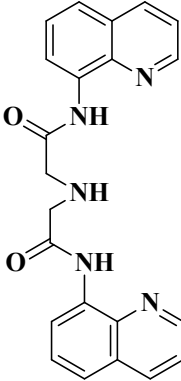
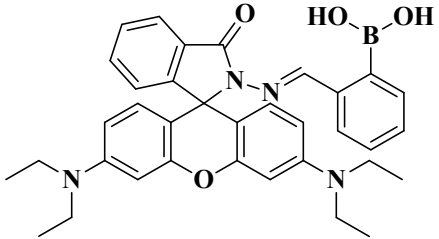
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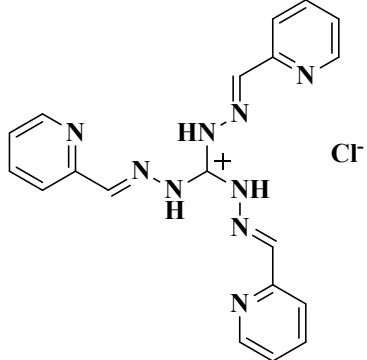
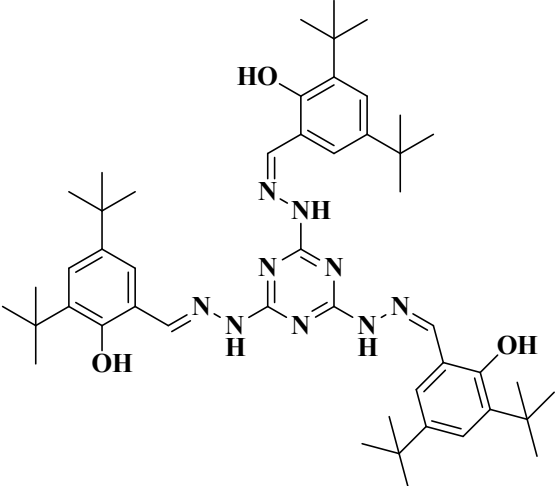
Fig. S12 SEM images of surface morphology structures; (A) THDBP, (B) Zn(II)-THDBP.

Table S1 The comparison of sensor THDBP with previously reported sensors for recognition of Zn(II).

Sl. No.	Structure of the receptor	Detection Limit (M)	Binding Constant (M ⁻¹)	Application	Reference
01		0.07×10^{-6}	1.14×10^{10}	Test strips, bio-imaging and real water sample analysis	[33]
02		2.0×10^{-7}	7.0×10^5	-	[34]
03		0.53×10^{-6}	3.0×10^3	Test strips and real water sample analysis	[35]
04		0.63×10^{-7}	1.13×10^5	Test strips and cell imaging	[36]
05		0.27×10^{-6}	-	Test strips, bio-imaging and real water sample analysis	[37]

06		1.98×10^{-7}	7.41×10^5	-	[38]
07		2.06×10^{-6}	1.0×10^5	-	[39]
08		2.4×10^{-6}	1.0×10^6	-	[40]
09		9.76×10^{-6}	1.85×10^4	Cell imaging	[41]
10		4.48×10^{-6}	1.4×10^4	Real sample analysis	[42]
11		5.81×10^{-6}	1.69×10^4	Logic gate and real sample analysis	[43]
12		15.0×10^{-6}	1.53×10^4	Real sample analysis	[44]

13		15.6×10^{-6}	-	-	[45]
14		10.0×10^{-6}	6.8×10^4	-	[46]
15		3.29×10^{-7}	1.25×10^5	-	[47]
16		2.0×10^{-8}	8.69×10^5	Logic gate	[48]
17		6.64×10^{-7}	1.53×10^3	Real sample analysis	[49]

18		2.5×10^{-6}	6.1×10^3	Cell imaging	[50]
19		1.03×10^{-10}	2.33×10^8	Test strips and cell imaging	Present work