

Supplementary Material

Fluorescent Alloyed CdZnSeS/ZnS Nanosensor for Doxorubicin Detection

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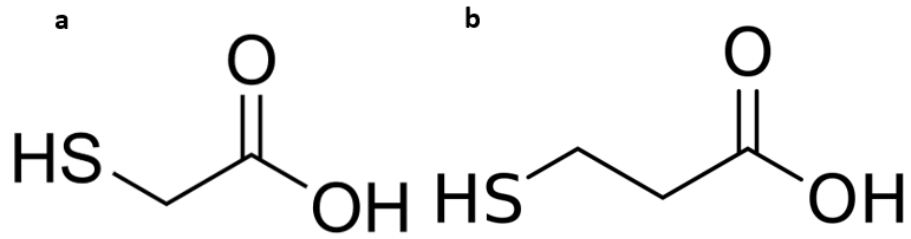


Figure S1. Formulas of (a) Thioglycolic acid and (b) 3-mercaptopropionic acid.

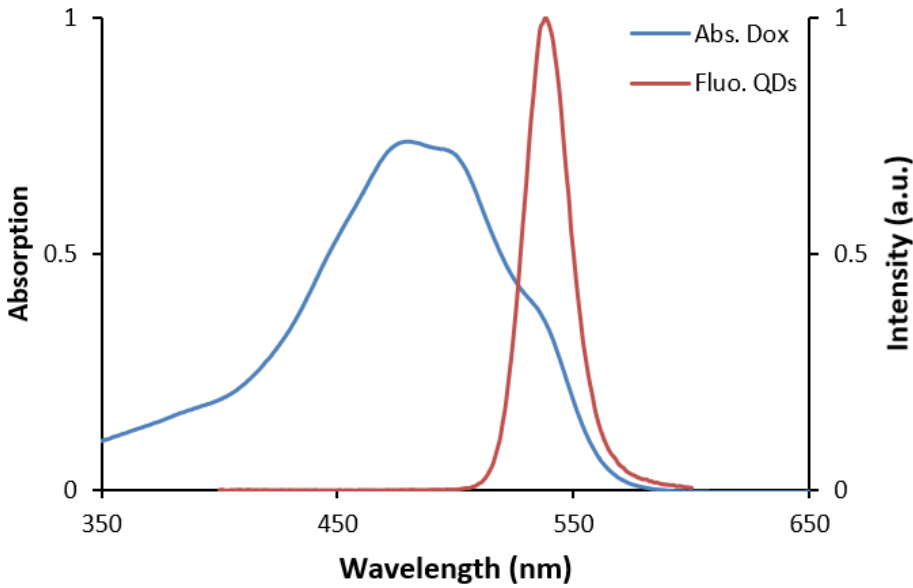


Figure S2. An overlap between the QDs fluorescence spectrum (red) and DOX absorption spectrum (blue).

Table S1. Correspondence of DOX concentration in $\mu\text{g/mL}$ and μM (DOX Molecular Weight 543.5).

$\mu\text{g/mL}$	0	0.25	0.05	0.75	1	2.5	5	10	25	50	100	250	500
μM	0	0.46	0.92	1.38	1,8	4.6	9.2	18.4	45.6	92	184	460	920

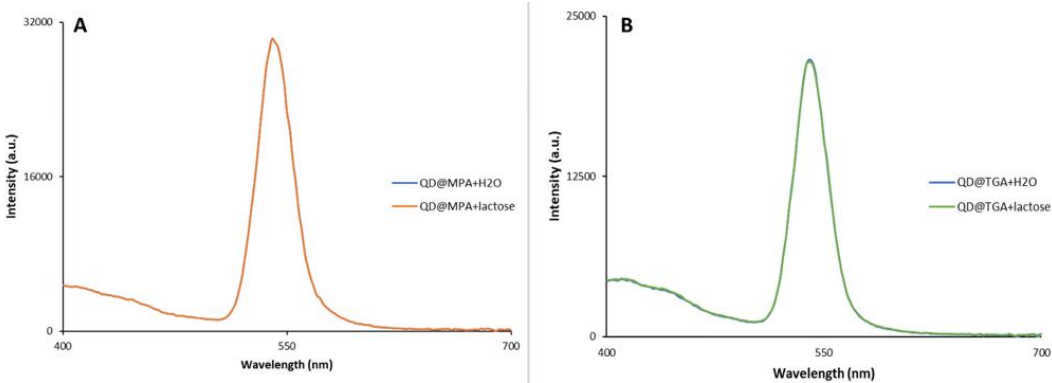


Figure S3. Fluorescence spectra of QDs stabilized with 3-mercaptopropionic acid (A) and thioglycolic acid (B) with and without lactose.

Two approaches were used for LOD calculations:

Formula S1

$$\text{LOD} = I_0 - 3\sigma$$

I_0 – QDs fluorescence intensity in the absence of DOX, middle for 11 measurements

σ - standard deviation of QDs fluorescence intensity in the absence of DOX

Because of in our case we have signal decreasing we have used minus in the formula

Formula S2

$$\text{LOD} = 3.3\sigma/S,$$

σ is the standard deviation of response

S is the slope of calibration curve ΔI vs C_{DOX} .

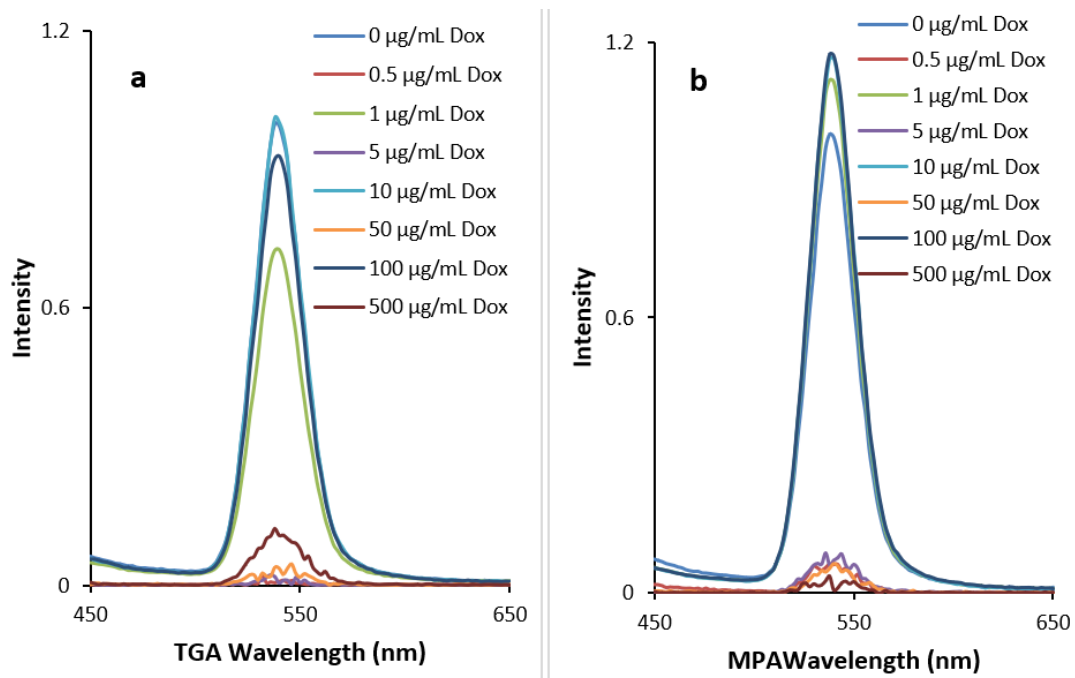


Figure S4. Fluorescence spectra of QDs stabilized with 3-mercaptopropionic acid (a) and thioglycolic acid (b) in X10 diluted plasma, spiked with DOX.