

Electronic Supplementary Material

A fluorescent sensor based on silicon quantum dots/chitosan nanocomposite for tetracycline monitoring in serum samples

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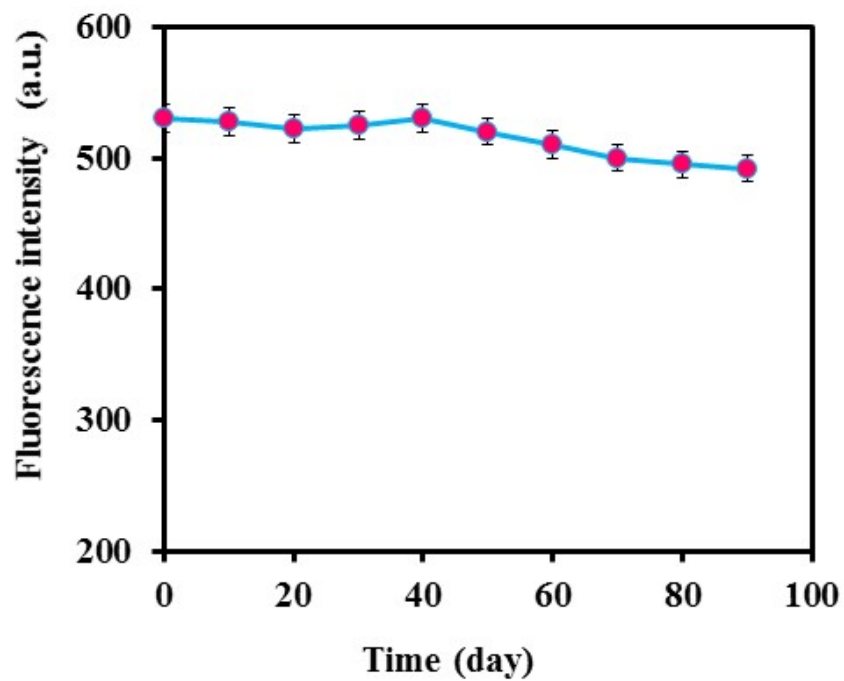


Fig. S1. Study of long-term stability of the presented fluorescent sensor

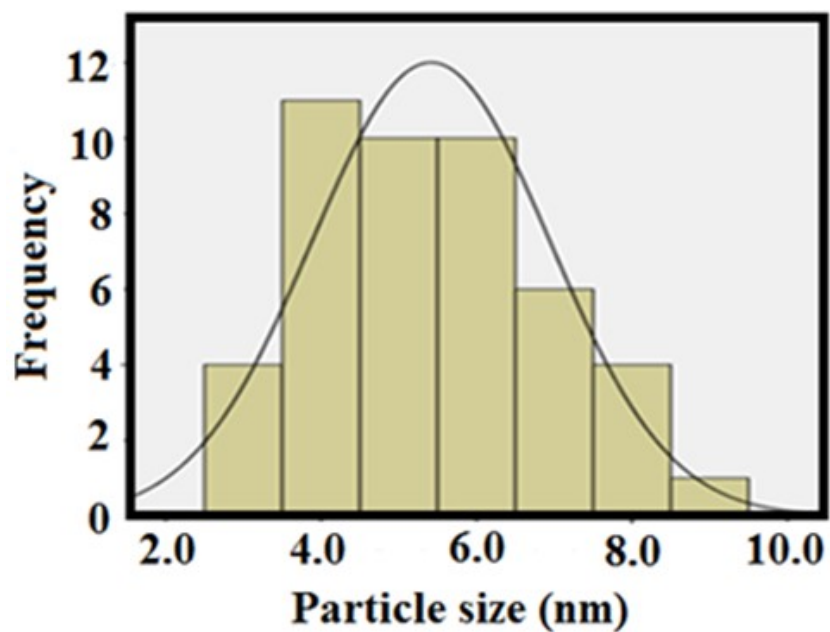


Fig. S2. Particle size distribution of SiQDs/CS obtained from DLS analysis

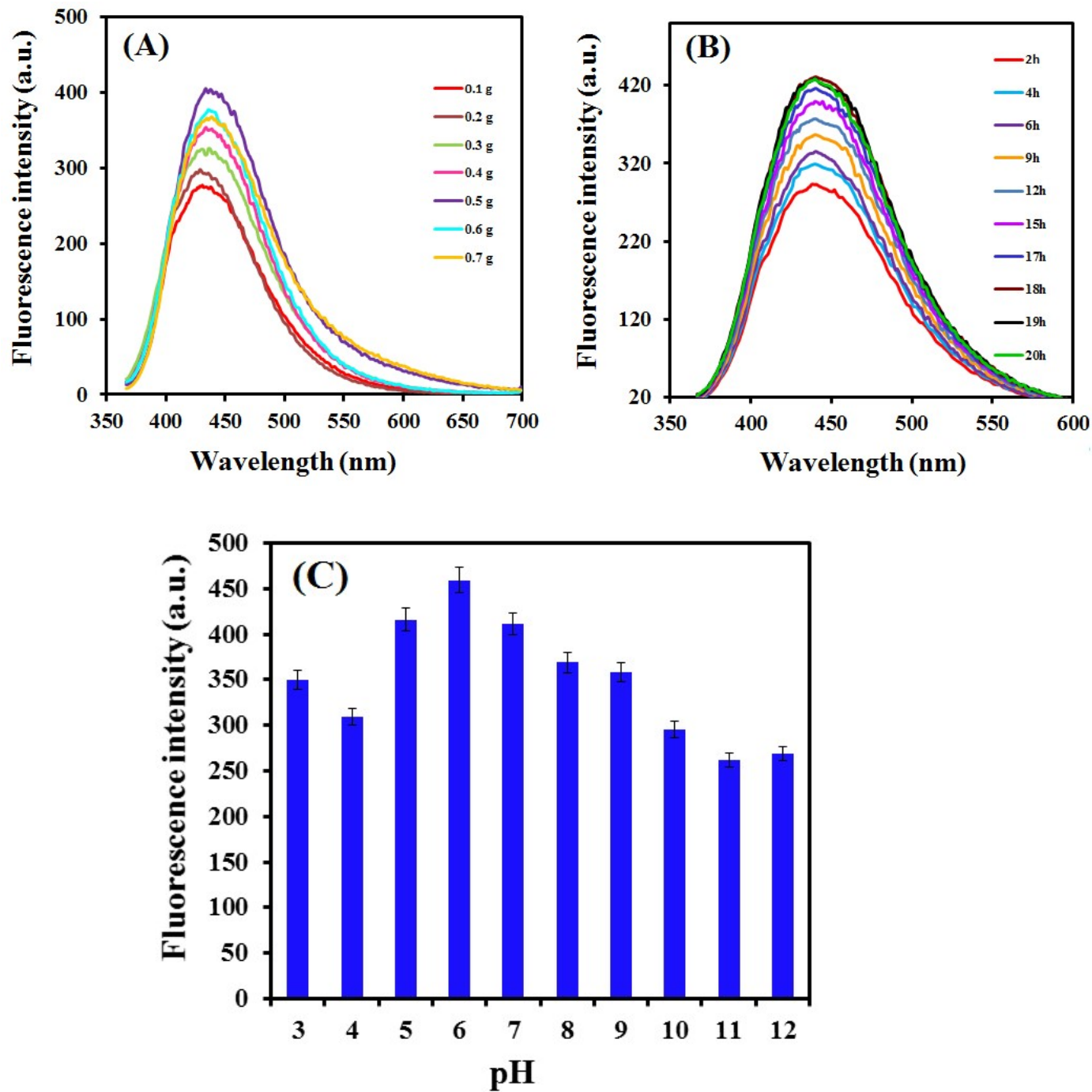


Fig. S3. Effect of (A) dosage of chitosan, (B) interaction time, and (C) pH on the synthesis of SiQDs/CS

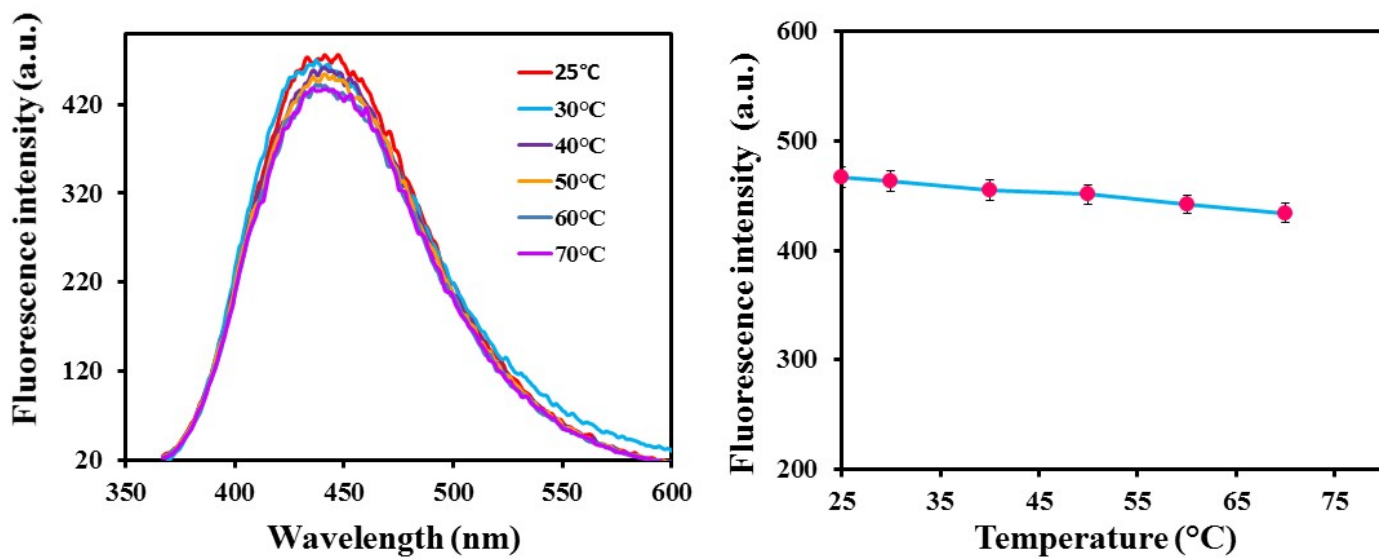


Fig. S4. Effect of temperature on the synthesis of SiQDs/CS

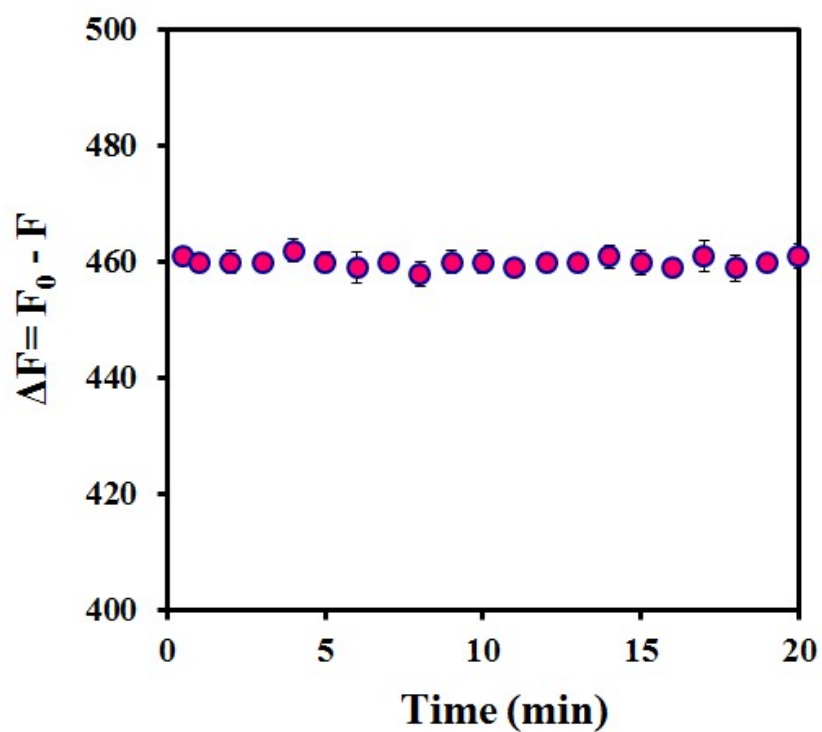


Fig. S5. Effect of incubation time on the analytical signal

Table S1. The calculated values regarding the effect of IFE in fluorescence quenching of SiQDs/CS by TC

TC concentration ($\mu\text{g L}^{-1}$)	A_{ex}	A_{em}	F_{obsd}	F_{cor}	E_{obsd}	E_{cor}
0.0	0.035	0.00554	530.023	555.347	0.000	0.000
0.7	0.044	0.006243	522.157	553.251	0.014	0.0037
1.0	0.057	0.007120	517.046	556.658	0.024	0.0023
2.0	0.070	0.008586	508.112	556.227	0.041	0.0015
3.0	0.0835	0.009627	500.709	557.376	0.055	0.0036
5.0	0.101	0.012354	485.226	552.867	0.084	0.0044
10.0	0.172	0.015589	444.515	551.671	0.161	0.0066

$E_{\text{obs}} = 1 - (F_{\text{obsd}}/F_{\text{obsd},0})$. $F_{\text{obsd},0}$ and F_{obsd} are the observed fluorescence intensities of SiQDs/CS in the absence and presence of TC, respectively.

$E_{\text{cor}} = 1 - (F_{\text{cor}}/F_{\text{cor},0})$. $F_{\text{cor},0}$ and F_{cor} are the corrected fluorescence intensities of SiQDs/CS in the absence and presence of TCc, respectively.

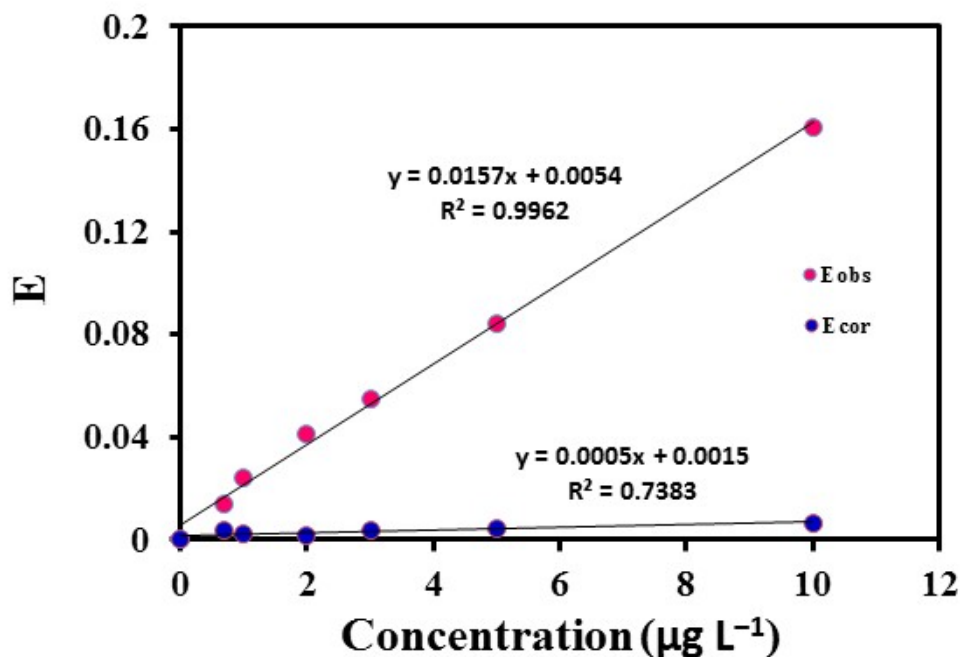


Fig. S6. The observed and corrected fluorescence quenching efficiencies (E_{obs} and E_{cor}) versus TC concentration