Supporting Information

A ratiometric nanoprobe based on carboxylated graphitic carbon nitride nanosheets and Eu³⁺ for the detection of tetracyclines

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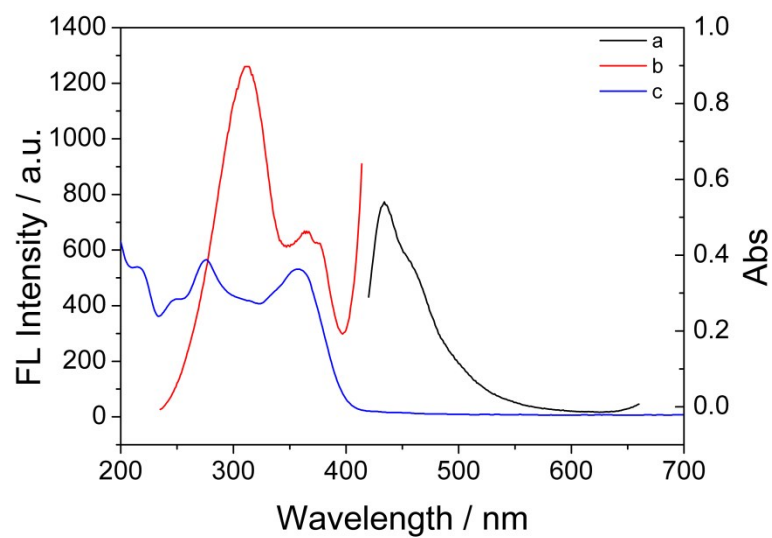
E-mail address: wuli@ucas.ac.cn (L. Wu), yuanlongfei@ioz.ac.cn (L. Yuan), heyujian@ucas.ac.cn (Y. He).
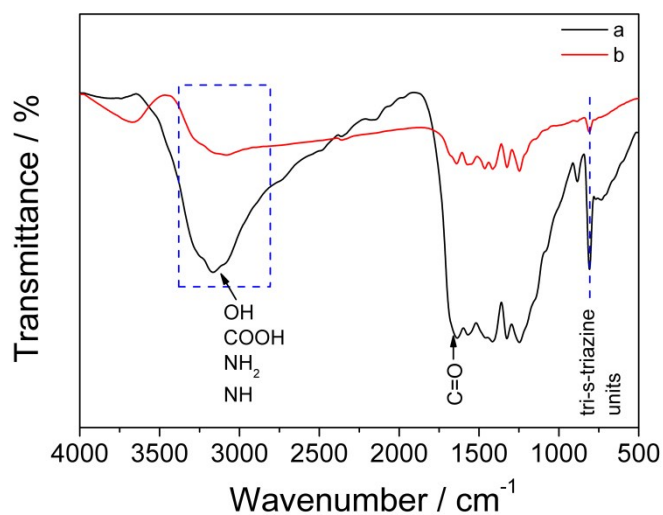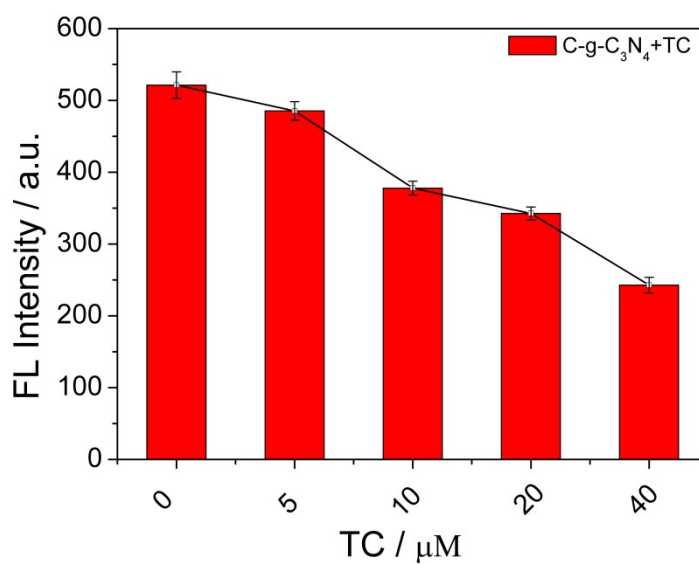
Fig. S1 FT-IR spectrum of C-g-C$_3$N$_4$ (a) and g-C$_3$N$_4$ (b).
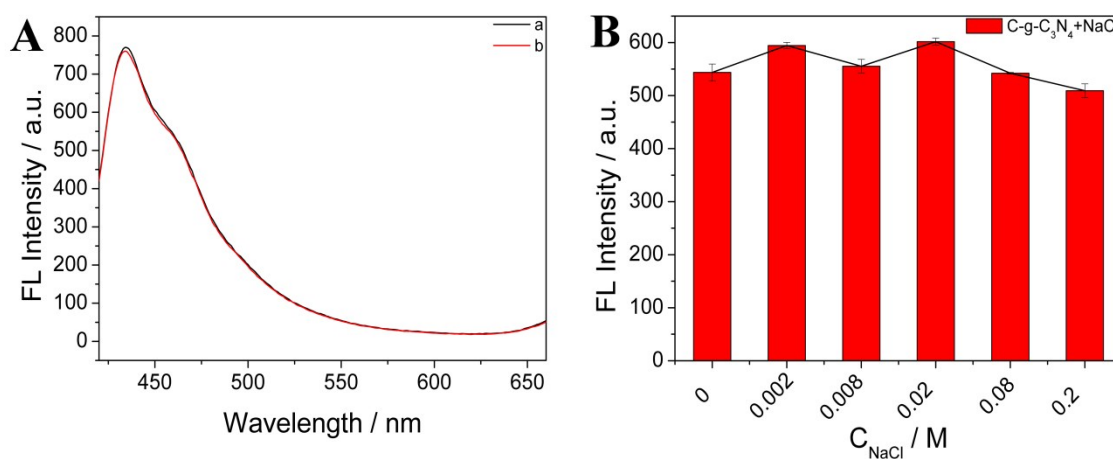
Fig. S2 (A) Long storage stability of the C-g-C$_3$N$_4$: freshly prepared (a) and after two month (b). (B) Effect of ionic strength on the fluorescence response of the C-g-C$_3$N$_4$. Error bars represent the standard deviation of three measurements.

Fig. S3 Emission (a) and excitation (b) spectra of C-g-C_3N_4 and UV-vis absorption of TC (c).

Fig. S4 Effects of TC on the fluorescence intensity of the C-g-C_3N_4 ([C-g-C_3N_4] = 1.45μg/mL, λ_{ex} = 360 nm).

Table S1　Comparison of various methods for the detection of TC.

Analytical methods	Material	Linear range (μM)	LOD (nM)	Real sample	Ref
FL enhancement	AgNPs	0.01 - 10	4	Milk	[1]
CE	Phenyl silica adsorbent	0.06 - 0.6	20	Milk	[2]
Ratiometric FL	GQDs	0 - 20	8.2	River water and Milk	[3]
FL quenching	Carbon nanoparticles	0.06 - 8	7.5	Urine and Pharmaceutical preparations	[4]
FL enhancement	DNA-AuNCs	0.01 - 5	4	Human urine and Milk	[5]
Photoelectrochemical	C_3N_4-CdS quantum dots	0.01 - 0.25	5.3	Environmental water	[6]
Ratiometric FL	CDs	0 - 7.87	11.7	Tap water and Lake water	[7]
Ratiometric FL	SiNPs	0.2 - 20	3	Nature water samples and Milk	[8]
Ratiometric FL	AuNCs	0.01 - 60	4	human serum and water	[9]
FL enhancement	AgNPs-SiO_2	0 - 6	83.1	tap water	[10]
Ratiometric FL	Dye@UiO-66@SiO_2-Cit-Eu	0.1 - 6	17.9	Milk and Honey	[11]
Ratiometric FL	C-g-C_3N_4	0.01 - 40	7.7	Milk and Soil	This work

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