

Practical and High Sensitive C₃N₄-TYR Fluorescent Probe for Convenient Detection of Dopamine

Supporting information

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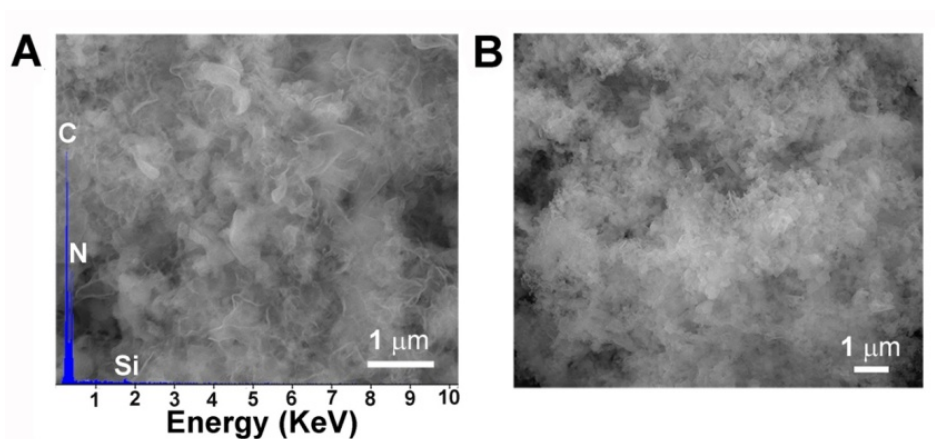


Figure S1. (a) Scanning electron microscopy (SEM) image and energy-dispersive X-ray (EDX) spectrum (shown as the blue overlay at the bottom portion of the panel) of C₃N₄. (b) SEM image of C₃N₄-TYR.

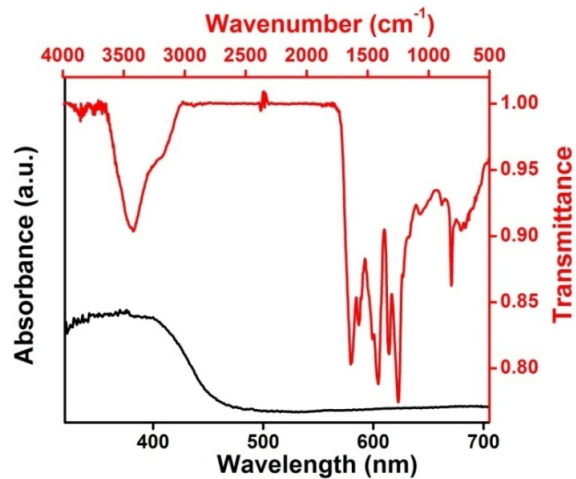


Figure S2. UV/Vis absorption spectrum (black line) and FTIR spectrum (red line) of C_3N_4 .

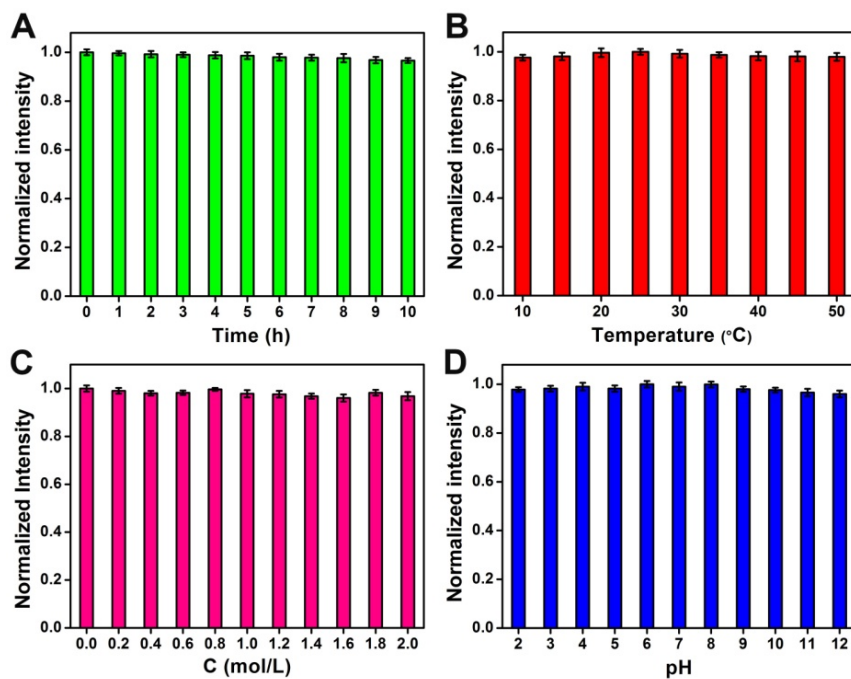


Figure S3. (A) Dependence of PL intensity on UV-light illumination time for C_3N_4 . Normalized fluorescence intensity of C_3N_4 against temperature (B) ionic strength (C) and pH (D).

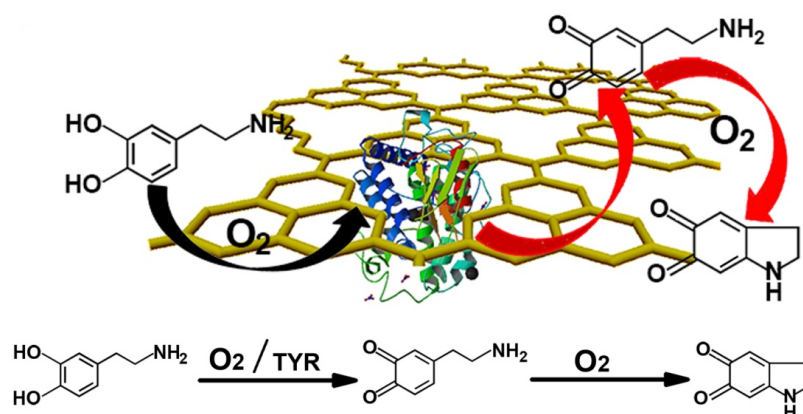


Figure S4 The possible mechanism of the quenching of C₃N₄ fluorescence and the corresponding chemical equation.

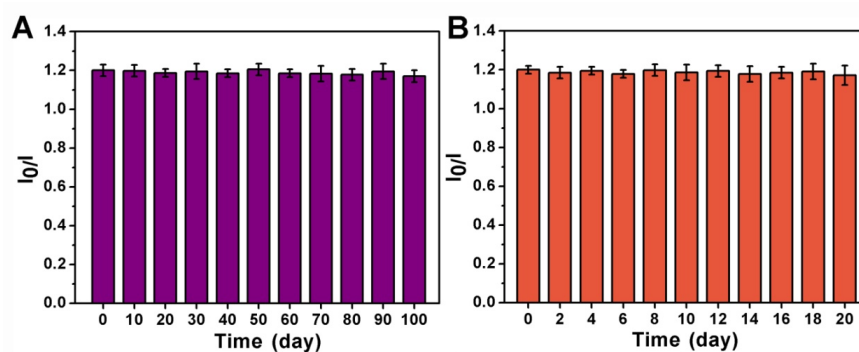


Figure S5 (A) The lifetime of the C₃N₄-TYR hybrid as fluorescence probes at 4 °C. (B) The lifetime of the C₃N₄-TYR hybrid as fluorescence probes at room temperature.

Table S1 Comparison of detection limit and detection range between the proposed method with other methods for DOPA detection

method	reagent	detection limit (μM)	detection range (μM)	ref
Fluorimetry	CdTe-TYR	0.05	50-1000	10
Colorimetric	Gold nanoparticles	0.2	0.5-10	35
Capillary electrophoresis	Palladium nanoparticles modified carbon fiber microdisk electrode	0.1	0.2-100	36
Colorimetric	Single molecular functionalized gold nanoparticles	0.07	0.2-1.1	37
Microwave treatment	Potassium ferricyanide-Fe(III)	2.64	10.5-105	38
Fluorimetry	C_3N_4 -TYR	0.03	0.03-1000	this work