

## *Supplementary Materials*

# **Fenpicoxamid-Imprinted Surface Plasmon Resonance (SPR) Sensor Based on Sulfur-Doped Graphitic Carbon Nitride and Its Application to Rice Samples**

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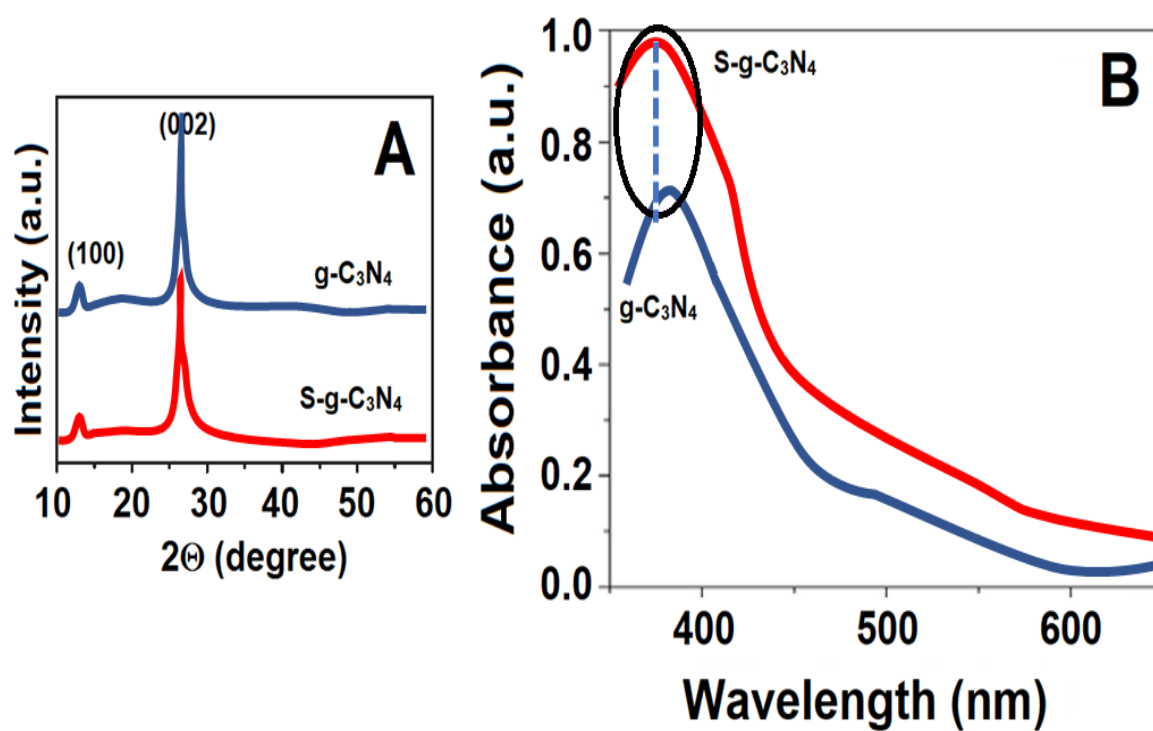
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## Sensitivity

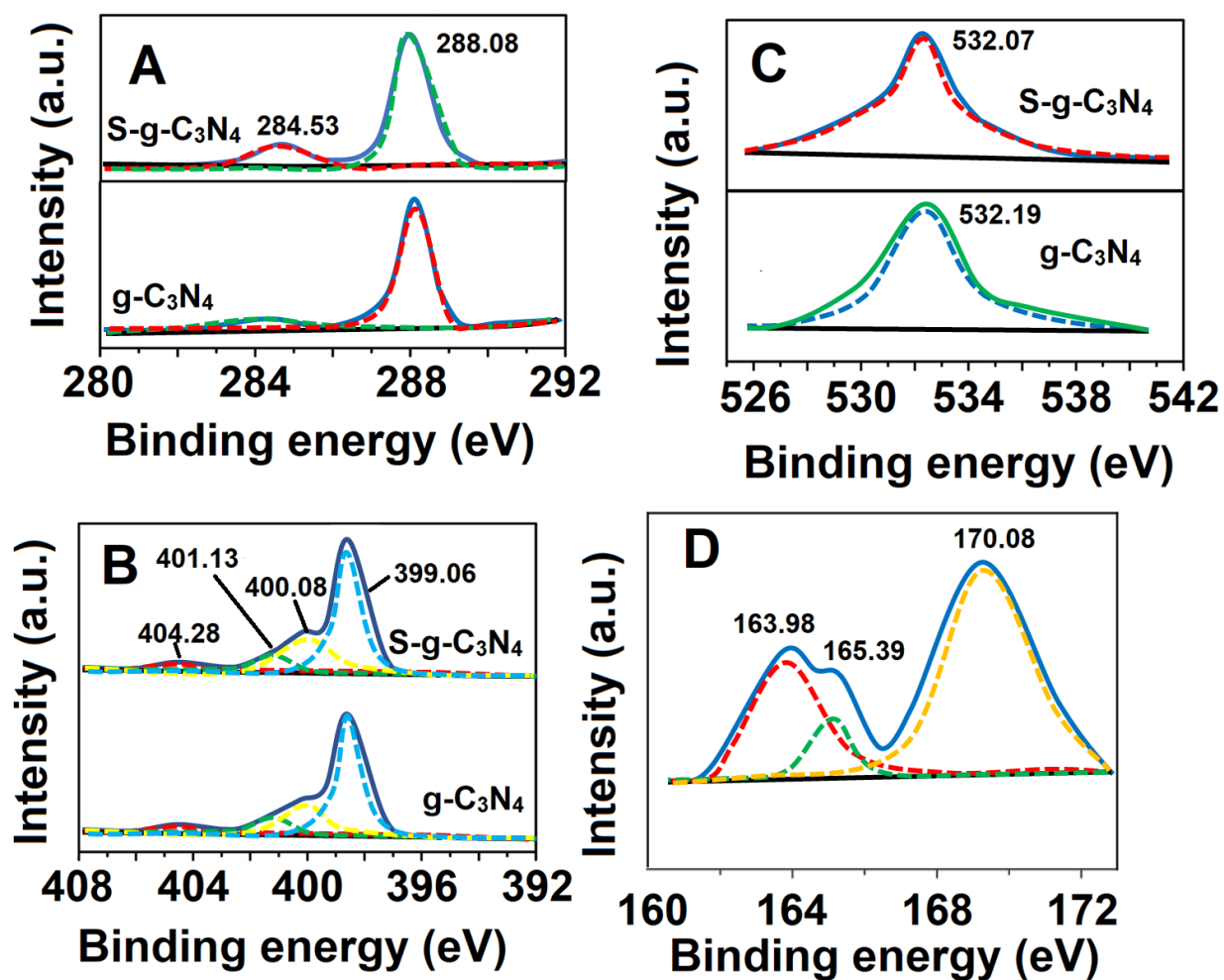
$$LOQ = 10.0 S / m$$

$$LOD = 3.3 S / m$$

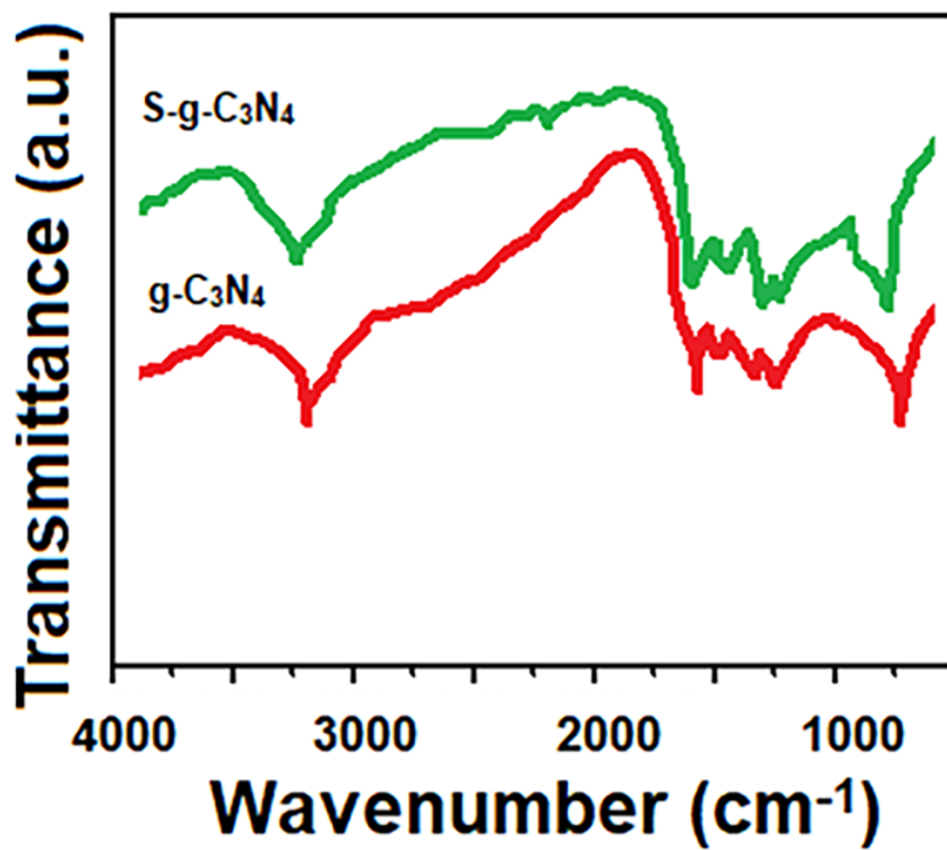
S: Standard deviation of the intercept and m: Slope of the regression line



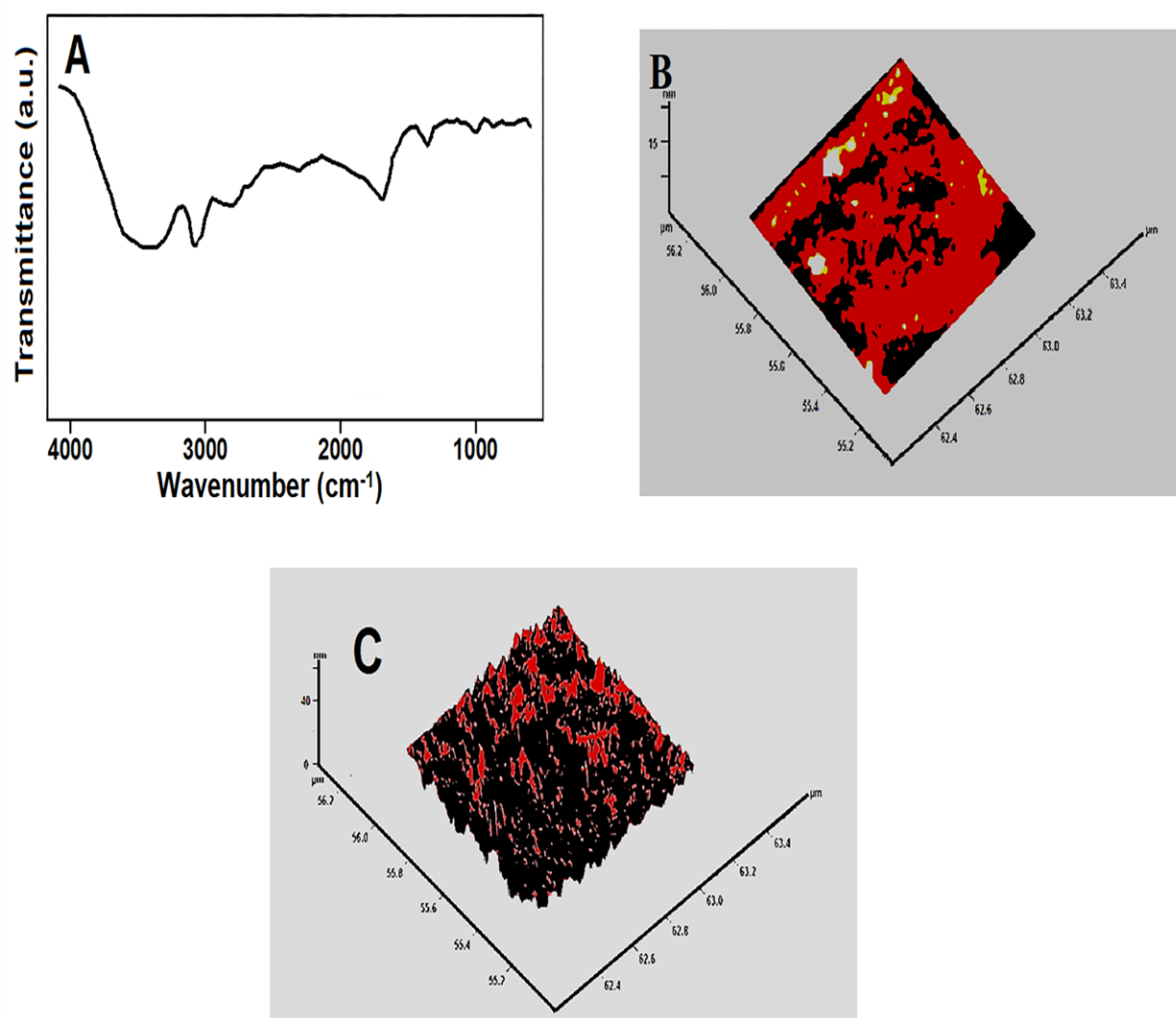
**Figure S1.** (A) XRD patterns and (B) UV-Vis spectra of S-g-C<sub>3</sub>N<sub>4</sub> and g-C<sub>3</sub>N<sub>4</sub>.



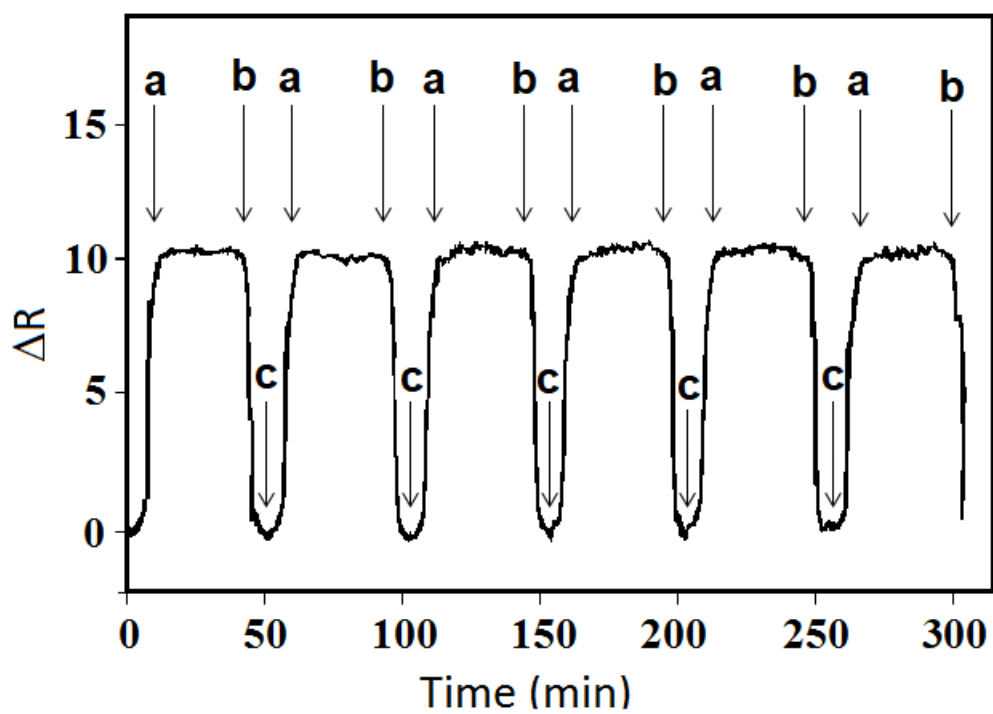
**Figure S2.** XPS spectra (A) C1s, (B) N1s (C) O1s of S-g-C<sub>3</sub>N<sub>4</sub> and g-C<sub>3</sub>N<sub>4</sub>, (D) S2p spectrum of S-g-C<sub>3</sub>N<sub>4</sub>.



**Figure S3.** FTIR spectra of S-g-C<sub>3</sub>N<sub>4</sub> and g-C<sub>3</sub>N<sub>4</sub>.



**Figure S4.** (A) FTIR spectra of FEN imprinted SPR chip based on S-g-C<sub>3</sub>N<sub>4</sub>; AFM images of (B) bare SPR chip and (C) FEN imprinted SPR chip based on S-g-C<sub>3</sub>N<sub>4</sub>.



**Figure S5.** Repeatability of MIP/S-g-C<sub>3</sub>N<sub>4</sub>/SPR chip in presence of 10.0 ng L<sup>-1</sup> FEN including pH 6.0 PBS at 25 °C. (a) adsorption; (b) desorption; (c) regeneration.

**Table S1.** Recovery results of FEN in rice grain samples (n=6)

Added FEN (ng L <sup>-1</sup> )	Found FEN (ng L <sup>-1</sup> )	*Recovery (%)
-	0.17 ± 0.05	-
2.00	2.18 ± 0.04	100.46 ± 0.05
4.00	4.19 ± 0.07	100.48 ± 0.01
6.00	6.16 ± 0.02	99.84 ± 0.03

\*Recovery = Found FEN, ng L<sup>-1</sup> / Real FEN, ng L<sup>-1</sup>

**Table S2.** k and k' values of FEN imprinted SPR chips (MIP/S-g-C<sub>3</sub>N<sub>4</sub>/SPR and NIP/S-g-C<sub>3</sub>N<sub>4</sub>/SPR) (n=6)

	MIP		NIP		k'
	$\Delta R$	k	$\Delta R$	k	
FEN	10.0 ± 0.02	-	0.20 ± 0.02	-	-
UK-2A	1.00 ± 0.01	10.00	0.10 ± 0.06	2.00	5.00
AA	0.50 ± 0.04	20.00	0.05 ± 0.03	4.00	5.00

Analyte concentrations: 10.0 ng L<sup>-1</sup> FEN, 1000.0 ng L<sup>-1</sup> UK-2A and 1000.0 ng L<sup>-1</sup> AA

k =  $\Delta R_{\text{FEN}} / \Delta R_{\text{interfering chemical}}$  and k' = k<sub>MIP</sub>/k<sub>NIP</sub>.