

Supporting Information

**Sensitive Electrogenerated Chemiluminescence Biosensor for
Galactosyltransferases Activity Analysis Based on Graphitic Carbon Nitride
Nanosheet Interface and Polystyrene Microsphere Enhanced Responses**

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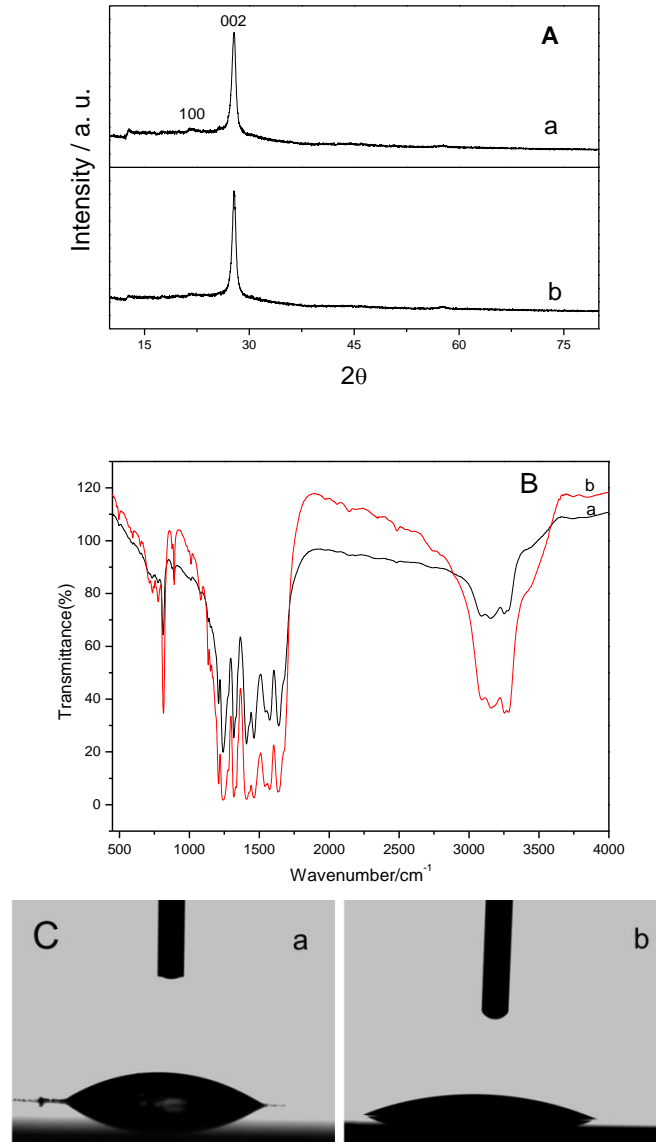


Figure S1 The XRD (A), FT-IR spectra (B) and Contact angle patterns (C) of bulk $g\text{-C}_3\text{N}_4$ (a) and carboxylated $g\text{-C}_3\text{N}_4$.

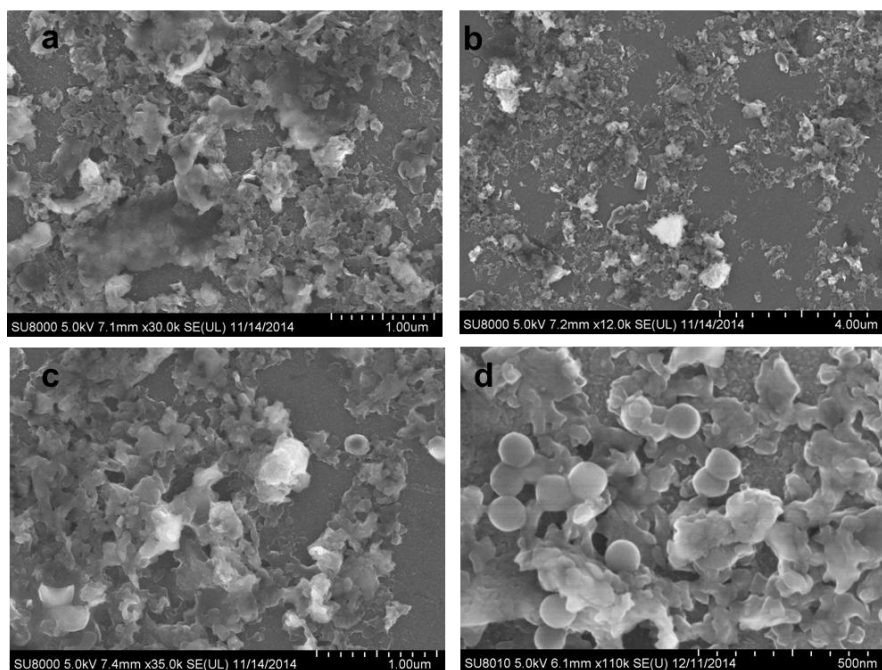


Figure S2 The SEM pictures of g-C₃N₄/GCE(a), (b) GlcNAc-BSA/g-C₃N₄/GCE, (c) PSM-AIA/GlcNAc-BSA/g-C₃N₄/GCE, and (d) PSM-AIA/Gal/GlcNAc-BSA/g-C₃N₄/GCE, The concentration of β -1,4-galactosyl-transferase was 0.01 U mL⁻¹.

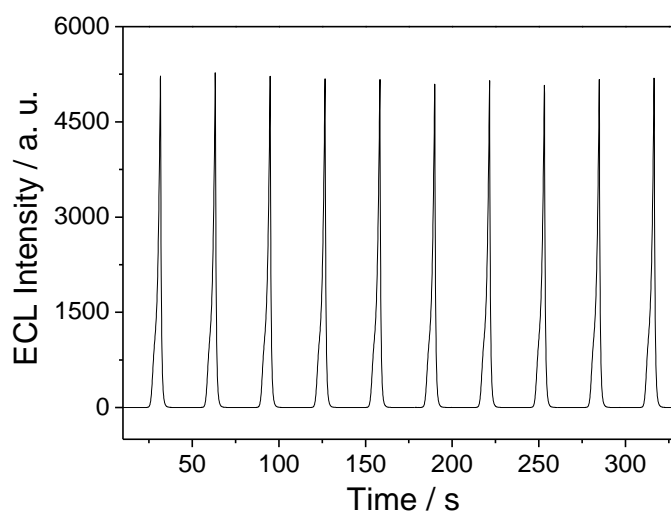


Figure S3 The ECL response of PSM-AIA/Gal/GlcNAc-BSA/g-C₃N₄/GCE under continuous scanning for 10 cycles in 0.1 M PBS containing 20 mM K₂S₂O₈ and 0.1 M KCl. The concentration of β -1,4-galactosyltransferase is 0.01 U mL⁻¹. The PMT voltage is 600 V

Table 1. Comparison of the linear range and detect limit for Gal T using different methods.

Probe	Linear range (mUmL ⁻¹)	Detection limit (mUmL ⁻¹)	Refs
ELISA	0.5 - 2	0.5	1

fluorescence	0.94-15	0.94	2
HPLC			
ECL	0.5 - 50	0.07	This work

References

1. M. Oubihi, K. Kitajima, K. Kobayashi, T. Adachi, N. Aoki, T. Matsuda, *Anal. Biochem.*, 257 (1998) 169-175.
2. K. R. Anumula, *Glycobiology*, 22 (2012) 912-917.