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-C₃N₄ (a) and carboxylated g-C₃N₄.
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-galactosyltransferase 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.

<table>
<thead>
<tr>
<th>Probe</th>
<th>Linear range (mU/mL⁻¹)</th>
<th>Detection limit (mU/mL⁻¹)</th>
<th>Refs</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELISA</td>
<td>0.5 - 2</td>
<td>0.5</td>
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fluorescence 0.94-15 0.94 2
HPLC
ECL 0.5 - 50 0.07 This work

References