Supporting Information

Turn-on Fluorescent Dopamine Sensing Based on in situ Formation of Visible Light Emitting Polydopamine Nanoparticles

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We have provided a table comparing performance of the assay with previous assays, time dependent UV-Vis spectra of dopamine oxidation solution, \textit{in situ} fluorescence spectra of dopamine solutions which were oxidized at different basic conditions and a graph showing the sensitivity of absorption based assay.
S1. Supporting Table

Table S1. Comparison of sensitivity of the current assay with the previous dopamine oxidation based assays.

<table>
<thead>
<tr>
<th>Method</th>
<th>Reagents</th>
<th>LOD (µM)</th>
<th>LOQ (µM)</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absorption</td>
<td>NaOH</td>
<td>0.76</td>
<td>2.5</td>
<td>1</td>
</tr>
<tr>
<td>Absorption</td>
<td>NaOH</td>
<td>7.5</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>Absorption</td>
<td>NaOH</td>
<td>-</td>
<td>3.5</td>
<td>3</td>
</tr>
<tr>
<td>Absorption</td>
<td>Enzyme</td>
<td>30</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>Absorption</td>
<td>Potassium ferricyanide</td>
<td>2.6</td>
<td>-</td>
<td>5</td>
</tr>
<tr>
<td>Fluorescence</td>
<td>NaOH and HCl</td>
<td>0.04</td>
<td>0.12</td>
<td>This study</td>
</tr>
</tbody>
</table>

S2. Supporting Figures

Figure S1. Time dependent UV-Vis absorption spectra of 1 mM DA solution. Oxidization is started using 20 mM (final concentration) NaOH. The broad band increase in the absorption indicates PDA formation. Inset shows the peak formed around 470 nm at the first stages of polymerization.
Figure S2. *In situ* fluorescence measurements of 100 µM DA solutions which were oxidized at different conditions. (a) 10 mM Tris (pH 9.6), (b) 0.5 mM NaOH (pH 9.6), (c) 10 mM NaOH and (d) 20 mM NaOH.
Figure S3. Absorption of DA oxidization solutions at 360 nm with respect to DA concentration.

REFERENCES


(4) Da Cruz Vieira, I.; Fatibello-Filho, O. Talanta 1998, 46, 559-564.