Supporting information
to
Carbon dot–hemoglobin complex-based biosensor for cholesterol detection

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Figure SI 1. Molecular structures of (a) heme and (b) cholesterol.

Table SI 1. The linear range and LOD of different methods of cholesterol detection

<table>
<thead>
<tr>
<th>Cholesterol sensor</th>
<th>Type of sensor</th>
<th>Linear range (mM)</th>
<th>LOD(^a) (mM)</th>
<th>Sample type</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>ChOx/SPE with PB</td>
<td>Electrochemical</td>
<td>2–16</td>
<td>1.29</td>
<td>-</td>
<td>[1]</td>
</tr>
<tr>
<td>ChEt-ChOx/Ufm-Cu(_2)O-CS/ITO bioelectrode</td>
<td>Electrochemical</td>
<td>0.259 – 11.65 (10 – 450 mg/dl)</td>
<td>0.411 (15.97 mg/dl cm(^2))</td>
<td>Human serum</td>
<td>[2]</td>
</tr>
<tr>
<td>Alginate silica/PtOEP/ChOx</td>
<td>Fluorimetry</td>
<td>1.25–10</td>
<td>1.25</td>
<td>Hypercholesterolemia</td>
<td>[3]</td>
</tr>
<tr>
<td>CdSe/Zn quantum dots</td>
<td>Fluorimetry</td>
<td>0–9.1</td>
<td>0.01</td>
<td>-</td>
<td>[4]</td>
</tr>
<tr>
<td>CD/Hb</td>
<td>Fluorimetry</td>
<td>0–0.8</td>
<td>0.056</td>
<td>Human serum</td>
<td>This work</td>
</tr>
</tbody>
</table>

LOD\(^a\): limit of detection.
ChOx/SPE with PB: Cholesterol oxidase/ screen-printed electrode with Prussian blue
ChEt-ChOx/Ufm-Cu\(_2\)O-CS/ITO bioelectrode: Cholesterol esterase-cholesterol oxidase/ Ultrafine monodispersed cuprous oxide-chitosan/ indium tin-oxide.
Alginate silica/PtOEP/ChOx: Alginate silica/oxygen sensitive metallo-porphyrin/cholesterol oxidase biosensor.

References

