Electronic Supplementary Information to

A Novel Biosensor Array with a Wheel-like Pattern for Glucose, Lactate and Choline Detection Based on Electrochemiluminescence Imaging

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**Fig. S-1** The effect of volume ratio of luminol versus glucose on gray value of ECL (blue) and CL (green) images in 0.1 M PBS (pH 7.4). The concentrations of luminol and glucose solutions are 10 mM and 1 mM, respectively.

**Fig. S-2** Calibration curve for choline detection using the ECL biosensor array. The solution was 0.1 M PBS (pH 7.4) containing 1.3 mM luminol.
Fig. S-3 Calibration curve for lactate detection using the ECL biosensor array. The solution was 0.1 M PBS (pH 7.4) containing 1.3 mM luminol.

Table S-1 Analytical performance of the biosensor array to three kinds of biological compounds

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Regression equation</th>
<th>Linear range (mM)</th>
<th>LOD (mM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>choline chloride</td>
<td>$G = 4.2313 + 38.74c$ (mM)   [R = 0.9990]</td>
<td>0.10 – 1</td>
<td>0.097</td>
</tr>
<tr>
<td>glucose</td>
<td>$G = 0.8035 + 105.76c$ (mM)   [R = 0.9944]</td>
<td>0.02 – 2</td>
<td>0.014</td>
</tr>
<tr>
<td>lactate</td>
<td>$G = 28.539 + 94.58c$ (mM)   [R = 0.9882]</td>
<td>0.04 – 2</td>
<td>0.040</td>
</tr>
</tbody>
</table>