Electronic Supplementary Information

Enhancing the Antibacterial Efficacy of Low-Dose Gentamicin with 5 Minutes Assistance of Photothermy at 50 °C

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<table>
<thead>
<tr>
<th>Samples</th>
<th>S 2p (%)</th>
<th>Mo 3d (%)</th>
<th>C 1s (%)</th>
<th>O 1s (%)</th>
<th>N 1s (%)</th>
<th>Ti 2p (%)</th>
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<tr>
<td>PEG/MoS₂-Ti</td>
<td>23.7</td>
<td>10.28</td>
<td>41.18</td>
<td>24.25</td>
<td>0</td>
<td>0.59</td>
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<tr>
<td>CS/PEG/MoS₂-Ti</td>
<td>10.12</td>
<td>4.75</td>
<td>44.76</td>
<td>25.4</td>
<td>14.45</td>
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<td>Gent/PEG/MoS₂-Ti</td>
<td>8.64</td>
<td>3.91</td>
<td>47.53</td>
<td>26.64</td>
<td>12.78</td>
<td>0.5</td>
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<td>CS/Gent/PEG/MoS₂-Ti</td>
<td>7.05</td>
<td>3.58</td>
<td>49.27</td>
<td>27.14</td>
<td>12.51</td>
<td>0.45</td>
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</table>
Fig. S1 Cross-sectional SEM images of PEG/MoS$_2$-Ti.
Fig. S2 X-ray photoelectron spectrum of the (a) Mo 3d region and (b) S 2p region.
Fig. S3 Infrared thermography of pure Ti, PEG/MoS$_2$-Ti, and CS/Gent/PEG/MoS$_2$-Ti under 808 nm irradiation (0.5 W cm$^{-2}$).
Fig. S4 Photographs of *S. aureus* and *E. coli* colonies growing on LB medium on pure Ti, PEG/MoS$_2$-Ti, CS/PEG/MoS$_2$-Ti, Gent, and CS/Gent/PEG/MoS$_2$-Ti without NIR irradiation or keeping 50 °C under NIR irradiation for 5 min;
Fig. S5 Photographs of the colors of ONPG after hydrolysis.
MTT assay of cell viabilities cultured in the medium with different samples after 1, 3, and 7 days under NIR irradiation (0.5 W cm$^{-2}$). The error bar indicates means ± standard deviations (n=3): *$p < 0.05$. 

Fig. S6
Fig. S7 (a) Photographs of spread plate and (b) corresponding antibacterial rate of pure Ti and CS/Gent/PEG/MoS$_2$-Ti at day 1, 3, 7. The error bar indicate means ± standard deviations (n=3) : *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$. (c) H&E staining (scale bar = 50 $\mu$m) and Giemsa staining (scale bar = 50 $\mu$m) images of tissues at day 1, 3, 7.
Histological sections (scale bar = 50 μm) of heart, liver, spleen, lung and kidney obtained from the mice implanted with pure Ti, pure Ti+NIR, CS/Gent/PEG/MoS$_2$-Ti, and CS/Gent/PEG/MoS$_2$-Ti+NIR at day 7.