Supporting Information

Mesoporous Hollow TiO$_2$ Microspheres with Enhanced Photoluminescence

Prepared by Smart Template of Amino Acid

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Fig. S1 The XRD pattern (a) and SEM morphology (b) of TiO$_2$ obtained with n-octane as solvent.
Fig. S2 The SEM images of TiO$_2$ microspheres obtained with n-butanol (a) and isopropanol (b) as solvent.

Fig. S3 The typical TEM images (a-b), XRD pattern (c) and EDS spectrum (d) of the Eu-doped TiO$_2$ hollow spheres.
Fig. S4 The SEM morphology (a), TEM image (a, inset) and XRD pattern (b) of the Eu-doped TiO$_2$ sample prepared by conventional hydrothermal method.

![SEM morphology](image), ![TEM image](image), ![XRD pattern](image)

Table S1. Preparation conditions of different Eu-doped TiO$_2$ sample.

<table>
<thead>
<tr>
<th>Sample</th>
<th>Reagents</th>
<th>Reaction</th>
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<tr>
<td>Hollow sphere</td>
<td>30mL EtOH + 1mL TNB + 0.06g Eu(NO$_3$)$_3$ + 0.8g glycine</td>
<td>200°C(20h) in autoclave and 450°C(5h) for heat treatment</td>
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<tr>
<td>Nanoparticle</td>
<td>30mL EtOH + 1mL TNB + 0.06g Eu(NO$_3$)$_3$ + 2mL H$_2$O</td>
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