Electronic Supplementary Information

Shape-Controllable Hydrothermal Synthesis of NaTbF₄:Eu³⁺ Microcrystals with Energy Transfer from Tb to Eu and Multicolor Luminescent Properties

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Table s1. The doping rate of Eu³⁺ in the NaTbF₄:x% Eu³⁺ (x = 0-1).

<table>
<thead>
<tr>
<th>Sample</th>
<th>Nominal doping concentration of Eu-ion (mole percent)</th>
<th>Doping quality of Eu-ion (μg)</th>
<th>Residual concentration of Eu-ion (μg/ml)</th>
<th>Residual quality of Eu-ion (μg)</th>
<th>Real doping rate of Eu-ion (percent)</th>
<th>Real doping concentration of Eu-ion (mole percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.01%</td>
<td>15.19</td>
<td>0.01</td>
<td>0.3</td>
<td>98.03%</td>
<td>0.0098%</td>
</tr>
</tbody>
</table>
| 2      | 0.03%                                                | 45.57                         | 0.00 (<0.01)                            | 0.0 (<0.3)                   | 100% (>

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There are a few of residual Eu-ions (0.3 μg) in the supernatant in sample 1. The doping rate of Eu-ions was calculated by \(doping\ rate = (doping\ quality - residual\ quality) / doping\ quality\). It can be seen from the table that there is no traces of Eu-ions in the supernatant of other four samples. However, due to the minimum detection limit of the ICP-AES, the Eu-ions concentration under 0.01 μg/ml cannot be detected. So, we used 0.01μg/ml as a critical value to calculate the corresponding doping rate (data in brackets). The Eu-ions doping rates of the five samples are high (almost equal to 100%), thus, the real content of the Eu-ions is consistent with the nominal composition (see the above table).