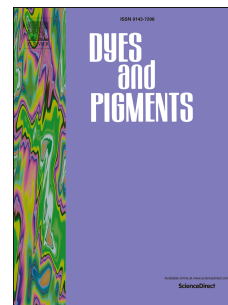


Accepted Manuscript

Red upconverted luminescence in controllable self-assembled $\text{RE}_2\text{O}_3: \text{Yb}^{3+}/\text{Er}^{3+}$
(RE = Gd, Y) 3D nanoflowers

Xiaoqi Zhao, Hao Suo, Zhiyu Zhang, Liangliang Zhang, Chongfeng Guo



PII: S0143-7208(17)31002-1

DOI: [10.1016/j.dyepig.2017.06.060](https://doi.org/10.1016/j.dyepig.2017.06.060)

Reference: DYPI 6081

To appear in: *Dyes and Pigments*

Received Date: 2 May 2017

Revised Date: 11 June 2017

Accepted Date: 23 June 2017

Please cite this article as: Zhao X, Suo H, Zhang Z, Zhang L, Guo C, Red upconverted luminescence in controllable self-assembled $\text{RE}_2\text{O}_3: \text{Yb}^{3+}/\text{Er}^{3+}$ (RE = Gd, Y) 3D nanoflowers, *Dyes and Pigments* (2017), doi: 10.1016/j.dyepig.2017.06.060.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Red Upconverted Luminescence in Controllable Self-assembled RE₂O₃:

Yb³⁺/Er³⁺ (RE = Gd, Y) 3D Nanoflowers

Xiaoqi Zhao,[†] Hao Suo,[†] Zhiyu Zhang,[†] Liangliang Zhang,[‡] and Chongfeng Guo^{*,†}

[†]National Key Laboratory of Photoelectric Technology and Functional Materials (Culture Base) in Shaanxi Province, National Photoelectric Technology and Functional Materials & Application of Science and Technology International Cooperation Base, Institute of Photonics & Photon-Technology, Northwest University, Xi'an, 710069, China;

[‡]State key Laboratory for Manufacturing Systems Engineering, Xi'an Jiaotong University, Xi'an 710049, China

*Author to whom correspondence should be addressed

E-mail: guocf@nwu.edu.cn (Prof. Guo);

Tel & Fax: ±86-29-88302661

Abstract:

Self-assembled three-dimensional RE₂O₃: Yb³⁺/Er³⁺ (RE = Gd and Y) nanoflowers were synthesized after heating the gadolinium or yttrium carbonate hydrate precursor at high temperature, in which precursors were obtained by a facile co-precipitation process. The precursors and the final products were characterized by X-ray diffraction (XRD), Fourier transform infrared (FTIR) spectra, scanning electron microscopy (SEM), transmission electron microscopy (TEM), and photoluminescence (PL) spectra. The factors those affect the morphology of the final products, including RE-to-urea ratio, pH value of initial solution, reactive temperature and time, were optimized. The formation process of 3D flower-like structure was demonstrated as

Download English Version:

<https://daneshyari.com/en/article/4765574>

Download Persian Version:

<https://daneshyari.com/article/4765574>

[Daneshyari.com](https://daneshyari.com)