

A novel 3D architecture of GdPO₄ nanophosphors:

Multicolor and white light emission.

Ana I. Becerro,¹ Sonia Rodríguez-Liviano,¹

Alberto J. Fernández-Carrión,^{1,2} and Manuel Ocaña¹

¹*Instituto de Ciencia de Materiales de Sevilla (CSIC-Universidad de Sevilla). c/
Américo Vespucio, 49. 41092 Sevilla (Spain)*

²*Departamento de Química Inorgánica (Universidad de Sevilla). c/ Profesor García-
González, 1. 41071 Sevilla (Spain)*

¹ Corresponding author: Ana Isabel Becerro. Instituto de Ciencia de Materiales de Sevilla. c/ Américo Vespucio, 49. 41092 Sevilla (Spain). Tel no.: 34 954489545. Fax no. 34 954460665. Email address: anieto@icmse.csic.es. Web address: <http://colmat.icmse.csic.es/>

Figure S1: SEM micrographs of GdPO_4 samples prepared using a polyol/ H_2O ratio = 90/10 and the following experimental conditions: a) $\text{Gd}(\text{NO}_3)_3$, H_3PO_4 , EG, 180°C , 30 minutes; b) Gadolinium acetylacetonate, HNa_2PO_4 , EG, 180°C , 30 minutes; c) Gadolinium acetylacetonate, H_3PO_4 , DEG, 180°C , 30 minutes; d) Gadolinium acetylacetonate, H_3PO_4 , EG, 120°C , 30 minutes.

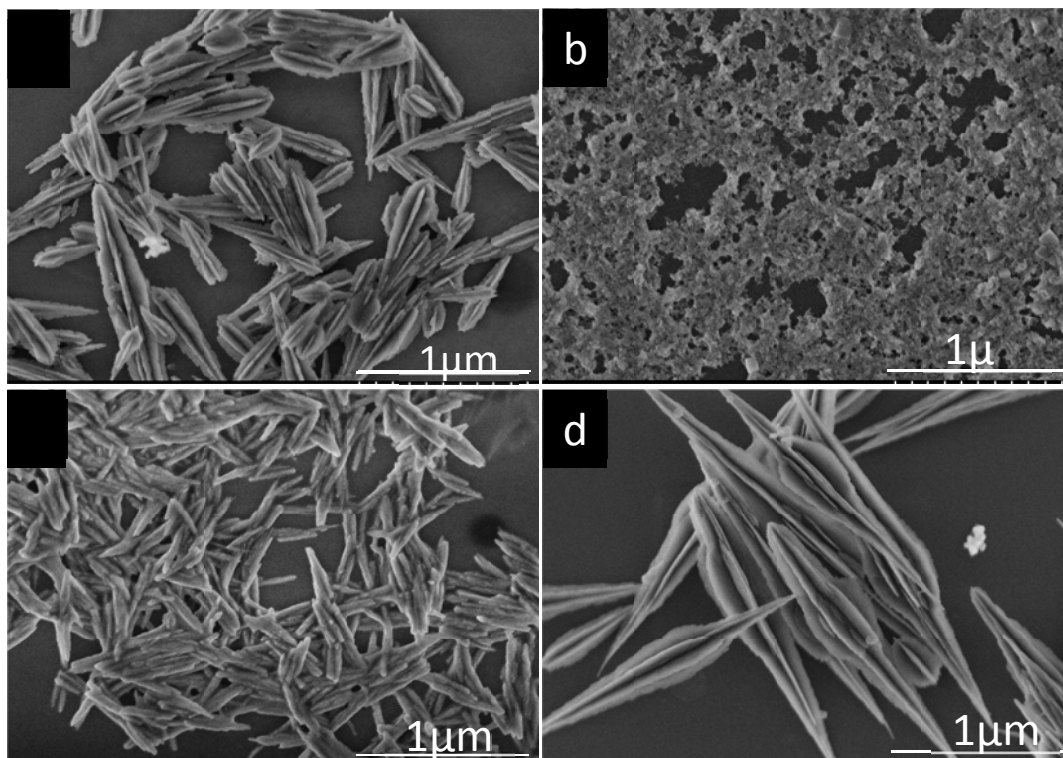


Figure S2: SEM micrographs of GdPO_4 samples prepared using a polyol/ H_2O ratio = 80/20 and the following experimental conditions: a) $\text{Gd}(\text{NO}_3)_3$, H_3PO_4 , EG, 180°C, 30 minutes; b) Gadolinium acetylacetonate, HNa_2PO_4 , EG, 180°C, 30 minutes; c) Gadolinium acetylacetonate, H_3PO_4 , DEG, 180°C, 30 minutes; d) Gadolinium acetylacetonate, H_3PO_4 , EG, 120°C, 30 minutes.

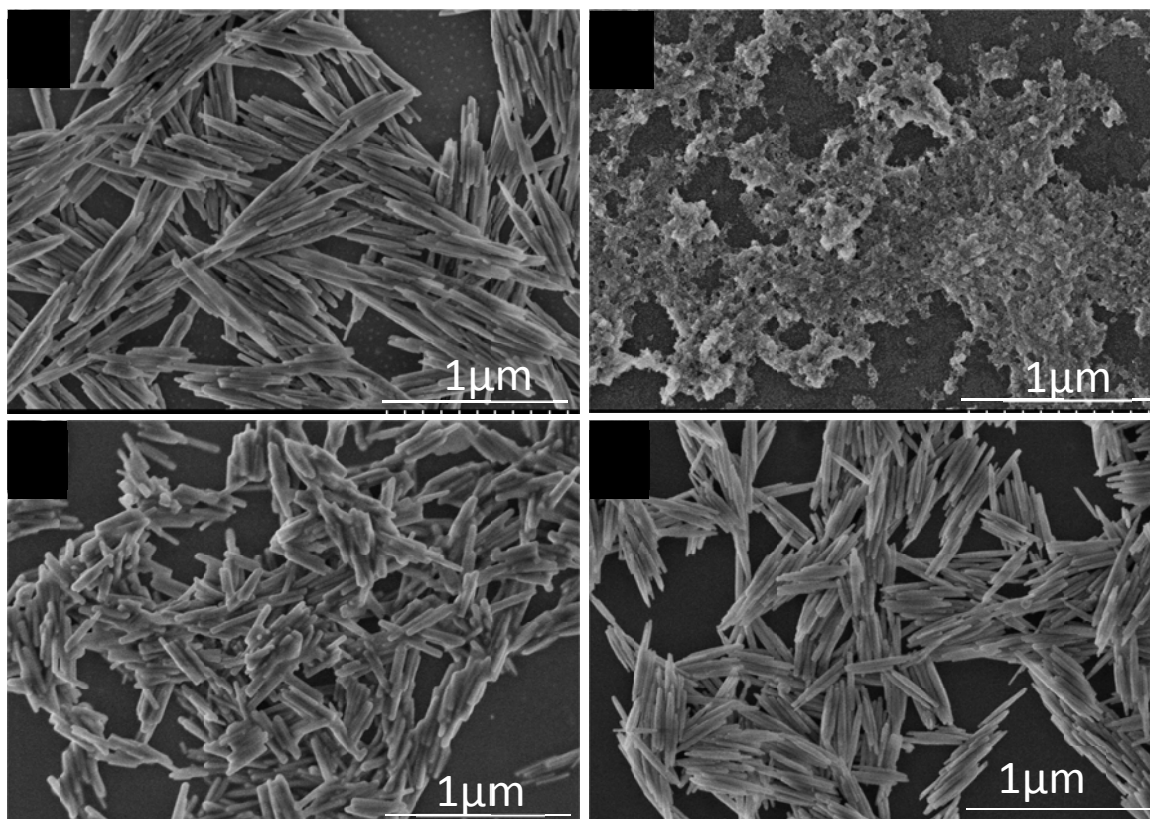


Figure S3: SEM micrographs of 5% Ln-doped GdPO_4 particles synthesized from Gadolinium acetylacetonate and H_3PO_4 at 180 °C for 30 minutes using a EG/ H_2O volumetric ratio of 90/10 (top) and 80/20 (down).

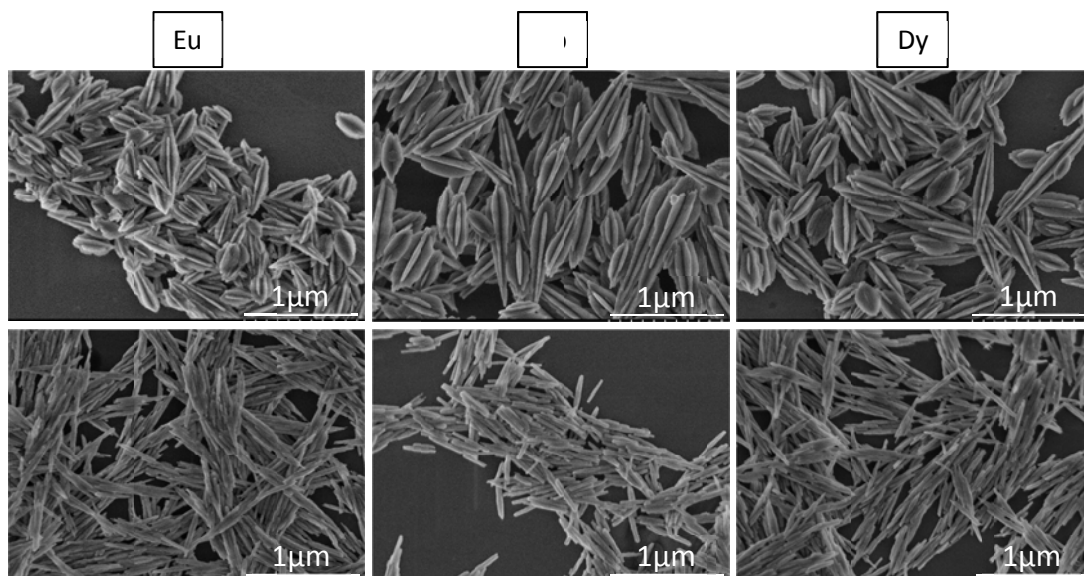


Figure S4: IR spectra of GdPO₄ samples synthesized from Gd(acac)₃ and H₃PO₄ at 180°C for 30 minutes using an EG/H₂O ratio of 90/10. (a) GdPO₄ (b) 10%-doped Eu GdPO₄.

