Supporting Information for:

Eu^{3+} and Tb^{3+} doped $LaPO_4$ nanorods, modified with luminescent organic compound, exhibiting tunable multicolour emission

Marcin Runowski[1], Tomasz Grzyb[1], Anna Zep[2], Paulina Krzyczkowska[2], Ewa Gorecka[2], Michael Giersig[1,3] and Stefan Lis[1*]

[1]*Adam Mickiewicz University, Faculty of Chemistry, Umultowska 89b, 61-614 Poznań, Poland*

[2]*University of Warsaw, Faculty of Chemistry, Laboratory of Physical Chemistry of Dielectrics and Magnetics, Żwirki i Wigury 101, 02-089 Warszawa, Poland*

[3]*Freie Universität Berlin, Institute of Experimental Physics, Arnimallee 14, 14195 Berlin, Germany*

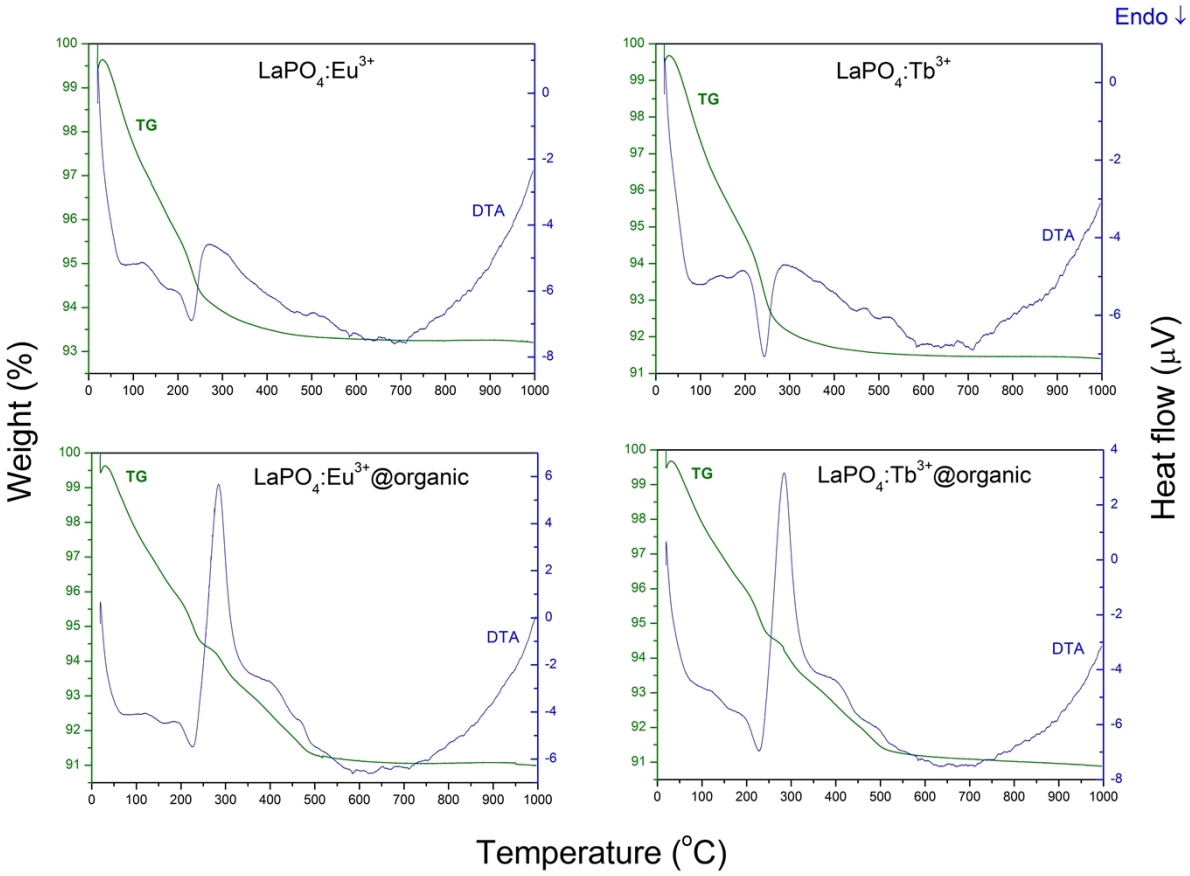

Fig. S1 TG-DTA curves of the $LaPO_4:Eu^{3+}$ 10%, $LaPO_4:Tb^{3+}$ 10%, surface modified $LaPO_4:Eu^{3+}$10%@organic and $LaPO_4:Tb^{3+}$10%@organic nanomaterials.

In order to investigate the stability of the organic surface layer and confirm the composition of the nanomaterials obtained, thermogravimetry–differential thermal analysis (TG–DTA) measurements were performed. Below 120°C the first weight loss assigned to the moisture (absorbed water

molecules) evaporation was observed. At around 170^{o}C and 230^{o}C two other endothermic peaks were observed. They are related to the release of structural water (zeolitically bound water) from the lanthanide phosphates. The mentioned peaks were observed in all samples. In the case of the surface modified products - $LaPO_4:Eu^{3+}$10%@organic and $LaPO_4:Tb^{3+}$10%@organic, the very intensive exothermic peaks at 285^{o}C were observed. They were followed by the significant weight loss because of the decomposition of the organic surface modifier. The recorded change in mass was about 3 wt. %, which was close to the value obtained by elemental analysis (about 2.8 wt. %).