

## **Photoluminescent polymer composites based on new Tb(III) and Eu(III) – Maleimide complexes**

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The paper reports the preparation of photoluminescent polymer composites through embedding two new prepared Tb(III) and Eu(III) complexes using maleimide as ligand in poly(4-styrenesulfonic acid) matrices. In the first stage, the photoluminescent complexes were prepared at 1:3 metal to ligand ratio. Prior to embedment in the polymer matrix, the complexes were investigated through chemical and thermal analysis, FT-IR, powder X-ray diffraction, fluorescence spectroscopy. The prepared composites retain the photoluminescent properties of the complexes, long term stability being achieved as well. Thin films of the composites were spin coated on glass slides and investigated through SEM and AFM. The remarkable photoluminescent properties of the composites prepared in bulk or deposited in thin films on various substrates, may recommend them for applications in optical devices, as photonic conversion mediums.