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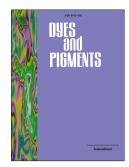
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ACCEPTED MANUSCRIPT

Lanthanide complexes with phosphorylated 2-naphthylsulfonamides ligands as electromagnetic radiation converters

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The lanthanide complexes of the type Na[Ln(L)₄] (**LnL1**) (Ln = Nd³⁺, Eu³⁺, Tb³⁺, Yb³⁺), with di(4-methylphenyl) 2-naphthylsulfonylamidophosphate (HL¹), as well as sodium salt (**NaL**), were synthesized. Single-crystal X-ray diffraction, IR, absorption and emission spectroscopies at 300, 77 and 4K were used to characterize the compounds. The ligand-to-metal energy transfer processes were analyzed. The dominant role of the ligand singlet state in intramolecular energy transfer processes was discussed and the main channels of the ligand-to-metal energy transfer for **EuL1** are proposed as $S_1 \rightarrow {}^5G_3$, 5G_6 , 5D_4 , 5L_6 with a fast

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