Structural and photophysical properties of lanthanide complexes with *N*-(diphenylphosphoryl)-4-methylbenzenesulfonamide.

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Streszczenie

Lanthanide complexes with *N*-(diphenylphosphoryl)-4-methylbenzenesulfonamide (HPMSP) as new sensitizers of visible luminescence were obtained. The series of stable lanthanide complexes $Na[Ln(PMSP)_4]$, where Ln = Eu^{3+}, Gd^{3+}, Tb^{3+} were characterized by X-ray diffraction, IR, absorption, emission, and excitation spectra at 295 and 77 K as well as luminescence decay times and intrinsic emission quantum yields. The Tb complex, exhibiting relatively efficient ligand-to-metal energy transfer and strong metal-centred emission, is a promising candidate for effective UV-to-visible energy converters. Temperature dependent quenching of sensitized $^5D_0$ europium emission and presence of $^5D_1$ emission are discussed.

Słowa kluczowe

Terbium, Europium, Luminescence, Energy transfer, Charge transfer state, N-(diphenylphosphoryl)-4-methylbenzenesulfonamide

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