

Spectra and details of the structure of europium aliphatic carboxylates with 1,10-phenanthroline derivatives.

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Streszczenie

Luminescence, excitation of luminescence, IR and Raman spectra of a variety of carboxylates $\text{Eu}(\text{RCOO})_3\cdot\text{Phen}$ (Phen–1,10-phenanthroline) consisting of acetate, propionate, lactate, capronate compounds, and $\text{Eu}(\text{CH}_3\text{COO})_3\cdot\text{Ph}$ (Ph–six 1,10-phenanthroline derivatives) were examined. Crystal field parameters for model compounds were calculated. The crystal structure of the europium acetate $\text{Eu}(\text{CH}_3\text{COO})_3\cdot\text{Phen}$ was solved by X-ray method. Dependence of the spectroscopic characteristics on variation of both types of ligands, indicating details of the structure of compounds, was examined. Reciprocal influence of inequivalent ligands in europium carboxylates was analysed. It was demonstrated that steric factors are as significant as the donor–acceptor properties of the ligands in creation of the structure of compounds under investigation.

Słowa kluczowe

Crystal and ligand fields, Electron–phonon interaction,
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Adres publiczny

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