

New Luminescent Lanthanide Tetrakis-Complexes $\text{NEt}_4 [\text{LnL}_4]$ Based on Dimethyl-N-Benzoylamidophosphate

Autorzy

Nataliia S. Kariaka
Victor A. Trush
Viktoriya V. Dyakonenko
Svitlana V. Shishkina
Sergii S. Smola
Nataliia V. Rusakova
Tetiana Y. Sliva
Paula Gawryszewska
Albano N. Carneiro Neto
Oscar L. Malta
Vladimir M. Amirkhanov

Rok wydania

2022

Czasopismo

ChemPhysChem

Numer woluminu

23

Strony

e202200129/1-
e202200129/14

DOI

10.1002/cphc.202200129

Kolekcja

Naukowa

Streszczenie

New lanthanide dimethyl-N-benzoylamidophosphate (HL) based tetrakis-complexes $\text{NEt}_4[\text{LnL}_4]$ ($\text{Ln}^{3+}=\text{La}, \text{Nd}, \text{Sm}, \text{Eu}, \text{Gd}, \text{Tb}, \text{Dy}$) are reported. The complexes are characterized by means of NMR, IR, absorption, and luminescent spectroscopy as well as by elemental, X-Ray, and thermal gravimetric analyses. The phenyl groups of the four ligands of the complex anion are directed towards one side, while the methoxy groups are directed in the opposite side, which makes the complexes under consideration structurally similar to calixarenes. The effect of changing the alkali metal counterion to the organic cation NEt_4^+ on the structure and properties of the tetrakis-complex $[\text{LnL}_4]^-$ is analyzed. The complexes exhibit bright characteristic for respective lanthanides luminescence. Rather high intensity of the band of $^5\text{D}_0 \rightarrow ^7\text{F}_4$ transition, observed in the luminescence spectrum of $\text{NEt}_4[\text{EuL}_4]$, is discussed based on theoretical calculations.

Słowa kluczowe

Lanthanide, carbacylamidophosphate, coordination compounds, luminescence, thermal gravimetric analysis

Adres publiczny

<http://dx.doi.org/10.1002/cphc.202200129>

Strona internetowa wydawcy

onlinelibrary.wiley.com

Język

Angielski

Typ publikacji

Artykuł

Plik został wygenerowany dnia 2026-08-25 18:42:41

Adres w repozytorium <https://old.chem.uni.wroc.pl/pl/repozytorium/EGbZqhl>.