Synthesis, spectroscopic, and magnetic properties of rubidium heptachlorodiuranate(III).

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Rok wydania

1996

Czasopismo

Journal of Solid State Chemistry

Numer woluminu

121

Strony

312-318

DOI

10.1006/jssc.1996.0042

Kolekcja

Naukowa

Język

Angielski

Typ publikacji

Artykuł

Streszczenie

The synthesis of rubidium heptachlorodiuranate(III) together with some of its structural, spectroscopic, and magnetic properties are reported. Unit cell parameters were determined from X-ray powder diffraction data. Uranium(3+) doped single crystals of RbY_2Cl_7have been grown by the Bridgman–Stockbarger method. The Raman and infrared spectra of RbU_2Cl_7as well as the electronic absorption spectrum of RbY_2Cl_7: U^{3+}(1%) at 4.2 K have been recorded and are discussed. Magnetic susceptibility measurements were carried out by the Faraday method in the 4.2–300 K range. The Curie–Weiss law is followed in the 210–300 K range with the paramagnetic constants μ_{eff}= 3.74 μ_B,C= 1.750 emu·K·mole^{-1}, and θ = −80 K.

Adres publiczny

https://doi.org/10.1006/jssc.1996.0042

Strona internetowa wydawcy

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