



Crystal structure thermal, dielectric and vibrational studies of the [4-C₂H₅PyH]₄[Sb₂Cl₁₀] crystal.

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Streszczenie

Crystal structure of tetra(4-ethylpyridinium) decachlorodiantimonate(III), [4-C₂H₅PyH]₄[Sb₂Cl₁₀], has been determined at 245 K by X-ray diffraction (tetragonal, space group). DSC and dilatometric studies indicate a presence of two reversible phase transitions of the first order type, at 370/373 and 233/238 K (cooling/heating) with and 10.1 J mol⁻¹ K⁻¹, respectively. Infrared spectra of polycrystalline [4-C₂H₅PyH]₄[Sb₂Cl₁₀] have been studied in the temperature range 20–306 K. Substantial changes in the temperature evolution of frequencies of internal modes of the 4-ethylpyridinium cations near 233 K are due to the ordering of the cationic sublattice. The experimental results indicate that both phase transitions may be classified as the order–disorder ones.

Słowa kluczowe

Chloroantimonates(III), Phase transitions, X-ray diffraction, Dielectric properties, Infrared spectra, FT-Raman spectra

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