



Crystal structure and phase transitions in dipropylammonium hexachloroantimonate(V): $[N(C_3H_7)_2H_2][SbCl_6]$.

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The crystal structure of dipropylammonium hexachloroantimonate(V), $[N(C_3H_7)_2H_2][SbCl_6]$ (DPACA) has been determined by means of X-ray diffraction at 290 K. The compound crystallizes in the monoclinic space group: $P2_1/n$. The crystal undergoes three structural phase transitions: two first-order type at 388/376 K (heating-cooling) from phase (I) to (II) and at 157/144 K from phase (III) to (IV), and one second-order type at 210 K from phase (II) to (III). The dielectric relaxation process has been found to appear in a kilohertz frequency region over the phases (II) and (III) with the activation energy ca. 28 kJ mol^{-1} . A polydispersive character of the dielectric dispersion indicates a presence of complex molecular motions of dipolar groups in the crystal. The mechanism of the phase transitions in DPACA is proposed.

Słowa kluczowe

Chloroantimonates(V), Phase transitions, DSC, Dielectric relaxation

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