

Structure and phase transition in the $(C_5H_{10}NH_2)SbCl_6 \cdot (C_5H_{10}NH_2)Cl$ crystal.

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Differential scanning calorimetry, dilatometric, dielectric dispersion and linear birefringence measurements have been used to study the phase transition at 202 K in the $(C_5H_{10}NH_2)SbCl_6 \cdot (C_5H_{10}NH_2)Cl$ crystal. The x-ray studies show that at room temperature it crystallizes in the orthorhombic symmetry (space group $Pccn$), whereas below 202 K the structure changes its symmetry to monoclinic ($P2_1/c$). The mechanism of the phase transition is connected both with the disordering of the piperidinium cations and the essential change in the $NH...Cl$ hydrogen bond system. The title crystal exhibits the ferroelastic domain structure in the monoclinic phase.

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