

Ferroelectric properties of [4-NH₂C₅H₄NH][SbCl₄].

<u>Autorzy</u>	<u>Streszczenie</u>
Ryszard Jakubas Zbigniew Ciunik Grażyna Bator	A ferroelectric crystal [4-NH ₂ C ₅ H ₄ NH][SbCl ₄] has been synthesized. The x-ray diffraction studies indicate that it is made of polyanionic chains of (SbCl ₄) ⁻ forming a tunnel-like structure and the 4-aminopyridinium cations connected via weak hydrogen bonds to the chlorine atoms. The x-ray and differential scanning calorimetry studies show that the crystal undergoes a complex sequence of phase transitions: P2 ₁ K(Cc) $\sqrt{2} \times \sqrt{2} \times \sqrt{2}$ at 248.5/250 K, KCc $\sqrt{2} \times \sqrt{2} \times \sqrt{2}$ at 270.5/271 K, and KC2/c $\sqrt{2} \times \sqrt{2} \times \sqrt{2}$ at 304/304 K. The pyroelectric measurements reveal that [4-NH ₂ C ₅ H ₄ NH][SbCl ₄] becomes ferroelectric below 270.5 K with the spontaneous polarization of the order of 3.5 mC/m ² measured along the a -axis. The dielectric results confirm the order-disorder nature of the paraelectric-ferroelectric phase transition. The dynamics of the 4-aminopyridinium cations plays an essential role in the ferroelectric phase transition mechanism.
<u>Rok wydania</u>	
2003	
<u>Czasopismo</u>	
Physical Review B	
<u>Numer woluminu</u>	
67	
<u>Strony</u>	<u>Adres publiczny</u>
024103/1-024103/6	https://doi.org/10.1103/PhysRevB.67.024103
<u>DOI</u>	
10.1103/PhysRevB.67.024103	
<u>Kolekcja</u>	
Naukowa	
<u>Język</u>	
Angielski	
<u>Typ publikacji</u>	
Artykuł	