

On structural phase transitions in 4-aminopyridinium fluoroborate, $[4\text{-NH}_2\text{C}_5\text{H}_5\text{N}][\text{BF}_4]$: differential scanning calorimetry, dielectric and infrared studies.

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Streszczenie

Crystal structure of the 4-aminopyridinium tetrafluoroborate, $[4\text{-NH}_2\text{C}_5\text{H}_5\text{N}][\text{BF}_4]$, has been determined at 293 K by means of X-ray diffraction as monoclinic space group, C2. The crystal shows a reach sequence of phase transition, four solid-solid transitions: at 250, 281, 388 and 485 K on heating. Most of the phase transitions, except that at 388 K, are clearly of first order and classified as an 'order-disorder' type. The rotational disorder both of cations and anions was studied by differential scanning calorimetry, dielectric and infrared spectroscopy. The low temperature phase transitions are associated with plastic crystal behavior.

Słowa kluczowe

Tetrafluoroborate, Plastic crystals, Phase transition Differential Scanning Calorimeter, Dielectric, Infrared, X-ray

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