

Anomalous temperature effect on the hydrogen bond strength and phase transition in 2,4,6-trimethylpyridinium pentachlorophenolate.

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Streszczenie

The phase transition in 2,4,6-trimethylpyridinium pentachlorophenolate has been studied by differential scanning calorimetry (DSC), thermogravimetric analysis (TGA) and dielectric method as well as theoretical calculations. The crystal undergoes a first order phase transition of order-disorder type at 376 K. The transition to the high temperature phase causes anomalous hydrogen-bond shortening. Experimental and theoretical results show that the change in the mutual orientation of the phenol and pyridine rings is connected with the change of the hydrogen bond. Such an effect, which appears in the present simple hydrogen-bond complex, may be common also for the other hydrogen-bond complexes.

Słowa kluczowe

Hydrogen bond, Phase transition, molecule, lanthanides, 6-trimethylpyridinium pentachlorophenolate

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