Bis(glycine) lithium nitrate - a new non-centrosymmetric crystal: X-ray structure, vibrational spectra and DSC investigations.

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Streszczenie

A new complex of glycine with lithium nitrate in the molecular ratio 2:1 (bis(glycine) lithium nitrate; abbreviated as BGLiN) was obtained. Its crystal belongs to the $Pca2_1$ space group of the orthorhombic system; $Z = 4$. The lattice parameters are as follows: $a = 10.224(12)$, $b = 5.0343(6)$ and $c = 17.051(2)$ Å. The structure is built up of the layers being parallel to the *ab* crystallographic plane. The lithium cations are surrounded by four oxygen atoms deriving from the glycine zwitterions. The structure and vibrational spectra (IR and Raman) of the title crystal are discussed with respect to one other and to those of glycine lithium nitrate (GLiN) and glycine sodium nitrate (GNaN) crystals.

The DSC investigations do not show any low temperature phase transition (till ca. 110 K) neither for the BGLiN nor the GLiN crystals. At high temperatures the discontinuous weak phase transition followed by the melting is observed for both these complexes.

Słowa kluczowe

Bis(glycine) lithium nitrate, X-ray structure, Vibrational spectra, DSC

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