

CRYSTAL STRUCTURE OF $\text{K}_2[\text{Pd}(\text{NO}_2)_4] \cdot 2\text{H}_2\text{O}$

S. A. Gromilov, S. P. Khramenko, I. A. Baidina,
and N. V. Kuratieva

UDC 546.98+548.736

The crystal structure of $\text{K}_2[\text{Pd}(\text{NO}_2)_4] \cdot 2\text{H}_2\text{O}$ was investigated at 150 K (X8 APEX Bruker automated diffractometer, MoK_α radiation, graphite monochromator, CCD detector, $\theta/2\theta$ scan mode in the θ range from 3.35° to 31.23° , 3280 reflections collected for 1654 independent reflections; $R = 0.0245$), $a = 6.5087(13) \text{ \AA}$, $b = 6.9972(14) \text{ \AA}$, $c = 7.1500(14) \text{ \AA}$, $\alpha = 118.67(3)^\circ$, $\beta = 101.24(3)^\circ$, $\gamma = 98.11(3)^\circ$, $V = 269.63(9) \text{ \AA}^3$, space group $P\bar{1}$, $Z = 1$, $d_{\text{calc}} = 2.492 \text{ g/cm}^3$. The structure is built of $[\text{Pd}(\text{NO}_2)_4]^{2-}$ centrosymmetric complex anions, K^+ cations, and crystallization water molecules. The Pd–N bond lengths are $2.0284(18) \text{ \AA}$ and $2.052(2) \text{ \AA}$, $\angle \text{N–Pd–N } 91.20(8)^\circ$. It is shown that the single crystal faceting (pseudo-hexagonal plates) is due to the pseudo-hexagonal motif of the structure.

Keywords: palladium, nitrites, coordination compounds, crystal structure, crystal chemistry.