



Chemistry of tervalent uranium preparation and properties of $\text{NH}_4\text{UBr}_4 \cdot 1.5\text{CH}_3\text{CN} \cdot 6\text{H}_2\text{O}$.

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Streszczenie

The paper presents the preparation, X-ray powder diffraction data as well as some magnetic and spectroscopic properties of a new uranium(III) complex bromide of the formula $\text{U}(\text{H}_2\text{O})_9\text{Br}_4 \cdot 1.5\text{CH}_3\text{CN} \cdot 6\text{H}_2\text{O}$ in the monoclinic system with $a = 11.877 \text{ \AA}$, $b = 6.385 \text{ \AA}$, $c = 6.815 \text{ \AA}$, $\beta = 101.29^\circ$ and $Z = 2$. In the 60-240 K range it follows the Curie-Weiss law with $\theta = -37.24$

K and $\chi_m = 3.20 \text{ B.M.}$ The IR and W-VIS absorption spectra were recorded in the $4000-400 \text{ cm}^{-1}$ and $4000-26000 \text{ cm}^{-1}$ spectral ranges respectively. Thermal decomposition at a non-static high vacuum enabled the conversion of the compound into pure and anhydrous UBr_3 .

Adres publiczny

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