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Study of properties of extraction-chromatographic material TBP-PAN

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This project focuses on studying properties of extraction-chromatographic material prepared by embedding of tributylphosphate (TBP) into the matrix of polyakrylonitrile (PAN). After elementary characterization of the prepared materials, the kinetics of uranium extraction from $3 \text{ mol} \cdot \text{L}^{-1} \text{ HNO}_3$ was examined. The influence of nitrates and nitric acid concentration on the values of weight distribution coefficient D_g as well as “extraction izoterm” was specified. For determination of ^{233}U in aqueous solution, liquid scintillation spectrometry was used. After evaluation of all experiments it can be concluded that TBP-PAN material behaves like TBP in liquid-liquid extraction.

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