

研究报告

N-吡咯烷基-2-吡啶甲酰胺与1, 10-菲啰啉对U(VI)的协同萃取 程倩¹; 李玉²; 包伯荣³; 曹卫国³; 刘志明¹

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摘要 研究了*N*-吡咯烷基-2-吡啶甲酰胺(NPPFA)与1, 10-菲啰啉(1, 10-phenanthroline, phen)在硝酸介质中对U(VI)的协同萃取行为。以二氯乙烷为稀释剂, 考察了NPPFA的摩尔分数、水相pH值、盐析剂浓度及温度对萃取分配比的影响。结果表明, NPPFA与phen有显著的协萃作用; 当pH大于2.2时, 萃取体系易发生乳化现象; 盐析剂的加入可以大大提高萃取效率。并用斜率法确定了萃合物的组成为 $\text{UO}_2(\text{NO}_3)_2 \cdot \text{NPPFA} \cdot \text{phen}$ 。

关键词 [NPPFA](#); [1, 10-菲啰啉](#); [协同萃取](#); [U\(VI\)](#)

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Synergistic Extraction of U(VI) With NPPFA and Phen

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Abstract The synergistic extraction of U(VI) from nitric acid solution into mixture of 1-(2-pyridyl)-1-pyrrolidyl-1-methanone (NPPFA) and 1, 10-phenanthroline (phen) in dichloride ethane was studied. The influences of mole fraction of NPPFA, value of pH, the concentration of salt ing-out agent and temperature on the distribution ratio were discussed. The results show that NPPFA and phen give strong synergism and the distribution ratio of U(VI) is high by introducing salt ing-out agent. The formula of synergistic extraction compounds determined by slope analysis method is $\text{UO}_2(\text{NO}_3)_2 \cdot \text{NPPFA} \cdot \text{phen}$.

Key words [NPPFA](#); [phen](#); [synergistic extraction](#) [U\(VI\)](#)

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