

在HCl介质中DCH(二环己基)系列的五种冠醚对U(VI)的萃取

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收稿日期 1984-4-17 修回日期 网络版发布日期:

摘要 本工作主要研究了26种不同结构的冠醚对 UO_2Cl_2 的萃取,重点研究了DCH-18-C-6,DCH-21-C-7,DCH-24-C-8,DCH-27-C-9及DCH-30-C-10的二氯乙烷溶液在HCl体系中萃取 UO_2Cl_2 的条件。实验结果表明,几种DCH系列冠醚萃取U(VI)的D(分配比)均随着HCl浓度的增加而增加,当HCl浓度为7.0 N时,呈现最大值。再继续增加时又显著下降。该体系中U(VI)与五种冠醚的络合物组成均为1:2。在其它条件相同时,萃取U(VI)用HCl体系比用HNO₃体系的D大约大二个数量级。用稀酸或水反萃一次即完全。

关键词 [冠醚络合物](#) [萃取](#) [UO₂Cl₂](#)

分类号

EXTRACTION OF URANIUM(VI) WITH A SERIES OF FIVE DCH(DICYCLOHEXYL) CROWN ETHERS IN HCl MEDIUM

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Abstract This paper reports the extraction of UO_2Cl_2 by 26 crown ethers of different structure from HCl solution, with the emphasis on the following five crown ethers: DCH-18-C-6, DCH-21-C-7, DCH-24-C-8, DCH-27-C-9 and DCH-30-C-10 in the 1,2-dichloroethane solution. Experimental results show that distribution coefficients(D) of U(VI) increase with the increase of HCl concentration, approach a maximum in 7 N HCl, and then sharply decrease. The stoichiometric ratio of U(VI) to crown ethers in the complexes is 1:2. When other conditions are the same, the distribution coefficients in HCl medium are two orders of magnitude higher than those in HNO₃ medium. Extracted U(VI) can be completely stripped from the organic phase by a single bed-extraction process with dilute acids or water.

Key words [Complexes](#) [Crown ethers](#) [Extraction](#) [UO₂Cl₂](#)

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