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# 溶剂萃取分离锂同位素研究Ⅱ.苏丹Ⅰ-中性配位体协萃体系萃取分离锂同位素效应探讨

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摘要 文章讨论了苏丹I-中性配位体协萃体系萃取分离锂同位素中螯合剂和协萃剂的结构效应。为了获得高的同位素分离效应,螯合剂必须是弱酸性的(PK_α>11),具有强的分子内氢键及易于形成六元螯合环。协萃剂结构不仅要求无空间位阻,而且具有强的配位基。α随配位基的碱性增大而相应提高。萃取络合物中螯合环的增多亦有利于体系α的提高。此外本文还讨论了一些萃取体系的同位素富集方向和萃锂体系用于分离同位素的前景。

关键词 锂 锂同位素分离效应 协同萃取

分类号



# STUDIES ON SEPARATION OF LITHIUM ISOTOPES BY SOLVENT EXTRACTION Ⅱ. STUDY ON THE SEPARATION EFFECTS OF LITHIUM ISOTOPES BY SUDAN I-NEUTRAL LIGAND SYNEGETC EXTRACTION SYSTEMS

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**Abstract** The effect of the struture of chelating agent and synergetic agent on theextraction separation of lithium isotopes by Sudan I-neutral ligand synergeticextraction systems were discussed in this paper. In order to obtain higher isotopiceffect, the chelating agent must possess weaker acidity (pK_a>11), strongerintramolecular hydrogen bonding and a greater tendency to from a six-membereredchelating ring. In the synergetic agent, there must be a functional group possessingstrong coordination ability without steric hindrance. The separation effect (α)increased with the increase in the basicity of the coordinating group. The increaseof the number of chelating rings in the extractable complex was of benefit to theenhancement of α. Further discussions are also made on the enrichment directionof extraction systems and the prospects of different systems to be used for isotopeseparation.

**Key words** Lithium-6 Isotope seperation Synergic extraction

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