

RESEARCH PAPERS

大环内酯类抗生素的中性络合萃取和协同萃取

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摘要 Based on the theory of reactive extraction, new solvent systems were developed to replace butylacetate for extraction of macrolide antibiotics (erythromycin, kitasamycin, spiramycin meleumycin etc.). A new neutral complex solvent extraction system, fatty alcohol-kerosene (marked by E1), was used for extraction of erythromycin, one of the macrolide antibiotics. The extraction equilibrium equation is obtained, and the extraction distribution is as follows. The effects of several parameters on extraction equilibrium were investigated. Furthermore, a new synergistic extraction system (marked by E2) was developed, in which another solvent was used as synergistic agent to replace the diluent kerosene in the neutral complex extraction system. Based on these new extraction systems, an improved process for extraction of erythromycin was developed, showing remarkable advantages in technology and economics owing to its low solvent consumption of 3kg per billion unit compared with 9-10 for butylacetate. The recovery process of solvent from raffinate may be eliminated.

关键词 [macrolide antibiotics](#) [erythromycin](#) [neutral complex extraction](#) [synergistic extraction](#)

分类号

Neutral Complex Extraction and Synergistic Extraction of Macrolide Antibiotics

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Abstract

Based on the theory of reactive extraction, new solvent systems were developed to replace butylacetate for extraction of macrolide antibiotics (erythromycin, kitasamycin, spiramycin meleumycin etc.). A new neutral complex solvent extraction system, fatty alcohol-kerosene (marked by E1), was used for extraction of erythromycin, one of the macrolide antibiotics. The extraction equilibrium equation is obtained, and the extraction distribution is as follows. The effects of several parameters on extraction equilibrium were investigated. Furthermore, a new synergistic extraction system (marked by E2) was developed, in which another solvent was used as synergistic agent to replace the diluent kerosene in the neutral complex extraction system. Based on these new extraction systems, an improved process for extraction of erythromycin was developed, showing remarkable advantages in technology and economics owing to its low solvent consumption of 3kg per billion unit compared with 9-10 for butylacetate. The recovery process of solvent from raffinate may be eliminated.

Key words [macrolide antibiotics](#) [erythromycin](#) [neutral complex extraction](#) [synergistic extraction](#)

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