

RESEARCH NOTES

以葡辛胺为拆分剂拆分酮基布洛芬

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摘要 The process of resolution of racemic ketoprofen using n-octyl-d-glucamine as an optical resolution agent was investigated. The process consists of preparation of the diastereomer salt of ketoprofen with n-octyl-d-glucamine, liberation of S- (+) -ketoprofen from its diastereomer salt and recovery of the remaining ketoprofen and n-octyl-d- glucamine. The suitable conditions for preparation of the diastereomer salt were methanol and ethyl acetate (1: 1 by volume) as the solvent, the ratio of solvent volume to ketoprofen mass at 8 ml: 1 g, and the molar ratio of ketoprofen to n-octyl-d- glucamine at 1: 1. The preferred approach to liberate S- (+) -ketoprofen from its diastereomer salt was alkali dissolution, acid adjustment and ethyl acetate extraction. Racemization of the recovered ketoprofen could be achieved by reacting the recovered ketoprofen with 10% NaOH at 507kPa for 6h. The recovered n-octyl-d- glucamine could be refined by acid dissolution and alkali adjustment. S- (+) -ketoprofen can be obtained with high optical purity and yield, showing that the present process is a practical and efficient one which can be used in industrial scale for preparation of S- (+) -ketoprofen.

关键词 酮基布洛芬, 葡辛胺, 拆分剂, 拆分工艺, 手性药物

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Resolving Ketoprofen Using n-Octyl-d-glucamine as an Optical Resolution Agent

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Abstract The process of resolution of racemic ketoprofen using n-octyl-d-glucamine as an optical resolution agent was investigated. The process consists of preparation of the diastereomer salt of ketoprofen with n-octyl-d-glucamine, liberation of S- (+) -ketoprofen from its diastereomer salt and recovery of the remaining ketoprofen and n-octyl-d- glucamine. The suitable conditions for preparation of the diastereomer salt were methanol and ethyl acetate (1: 1 by volume) as the solvent, the ratio of solvent volume to ketoprofen mass at 8 ml: 1 g, and the molar ratio of ketoprofen to n-octyl-d- glucamine at 1: 1. The preferred approach to liberate S- (+) -ketoprofen from its diastereomer salt was alkali dissolution, acid adjustment and ethyl acetate extraction. Racemization of the recovered ketoprofen could be achieved by reacting the recovered ketoprofen with 10% NaOH at 507kPa for 6h. The recovered n-octyl-d- glucamine could be refined by acid dissolution and alkali adjustment. S- (+) -ketoprofen can be obtained with high optical purity and yield, showing that the present process is a practical and efficient one which can be used in industrial scale for preparation of S- (+) -ketoprofen.

Key words ketoprofen; resolution; n-octyl-d-glucamine

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