

目录

4-二甲胺基丁醛二乙基缩醛的合成

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摘要:

4-二甲胺基丁醛二乙基缩醛是制备治疗偏头痛的曲坦类药物的关键中间体, 其合成工艺的优劣对药物的合成成本有重要影响。本文以1-溴-3-氯丙烷为起始原料, 与二甲胺水溶液经相转移催化剂聚乙二醇催化得到3-二甲胺基-1-氯丙烷, 然后于2-甲基四氢呋喃中与镁反应制得格氏试剂, 而后与原甲酸三乙酯反应得到目标化合物。该路线总收率70.11%, 路线简单、污染低、易操作、收率高。

关键词: 4-二甲胺基丁醛二乙基缩醛 合成 舒马曲坦

4-Dimethylaminobutyraldehyde diethyl acetal

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Abstract:

4-Dimethylaminobutyraldehyde diethyl acetal is a key intermediate for the preparation of anti-migraine drugs. Its synthesis technique significantly affects the production cost of anti-migraine drugs. We catalyzed the reaction of 1-bromo-3-chloro propane and dimethylamine solution with PEG as a phase transfer catalyst, and obtained 3-dimethylamino-1-chloro propane. 3-dimethylamino-1-chloro propane reacted with magnesium and Grignard reagent was acquired. We eventually obtained our target compound by the reaction of Grignard reagent and triethyl orthoformate. The total recovery rate of our target compound was 70.11%. The advantages of this method are simple operation, low environment pollution, high recovery rate and easy implementation.

Keywords: 4-dimethylaminobutyraldehyde diethyl acetal synthesis Sumatriptan

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