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研究快报

在微流控芯片上合成对甲氧基苯甲醛肟

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摘要 本文用负压进样的方法, 在自制的玻璃微流控芯片中进行了对甲氧基苯甲醛和盐酸羟胺合成对甲氧基苯甲醛肟的相转移反应. 测定了不同反应时间的产率, 并与常规方法进行了比较. 讨论了相接触面积和塞流对产率的影响.

关键词 微流控芯片 相转移反应 对甲氧基苯甲醛肟

分类号 0621

Synthesis of 4-Methoxybenzaldehyde Oxime in a Microfluidic Chip

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Abstract In this paper the design and development of a novel experiment system and method for organic synthesis in a microfluidic were described chip. The phase-transfer reaction for the synthesis of 4-methoxy-benzaldehyde oxime from 4-methoxybenzaldehyde and hydroxylammonium chloride was carried out in glass microfluidic chips by using a negative pressure system to control the transformation reactants through the microchannels at a constant flow rate. The effect of reaction time on the yield was determined and compared with the standard batch system. The demonstrated advantages of organic synthesis in microfluidic chip included faster reaction rate, less consumption of reactants and labor contaminant, which proved microfluidic chip to be a powerful tool for synthetic applications.

Key words Microfluidic chip Phase transfer reaction 4-Methoxybenzaldehyde oxime

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