# 以連續式填充床反應器探討月桂酸己酯之最優化酵素合成


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**摘 要**

己醇酯類，為一種帶“ 青味 ”且具有水果般的芳香的合成酯類，廣泛應用於食品、化妝品及香料工業。生物反應器，具有普遍、容易操作、連續式與適合長期反應等優點。為滿足消費者喜好 ”天然 ”的需求，以脂解酵素合成己醇酯類已為必然的趨勢。再配合生物反應器連續式合成並加以量化生產。不但可符合大眾對“ 天然 ”之需求，使消費者無安全上之顧慮，又可符合工業界對“ 成本 ”的考量。 故本研究主要選擇脂解酵素IM77催化正己醇(Hexanol)與月桂酸(Lauric acid)，並配合填充床生物反應器分別在有溶劑與無溶劑系統中進行酯化反應，合成月桂酸己酯，並利用反應曲面法(Response Surface Methodology, RSM)及三階層三變數部分因子實驗設計法(Fractional factorial Design)分別探討反應溫度、基質莫耳數比及反應流速等反應參數對莫耳轉換率及生產速率之影響，以求得月桂酸己酯之最優化合成條件。



關鍵詞 : 酯化反應 ; 己醇酯類 ; 脂解酵素 ; 填充床反應器 ; 反應曲面法


**目錄**



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