

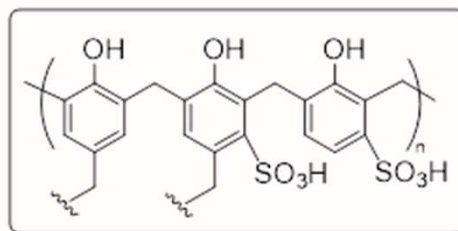
Catalyst

Immobilized Acid Catalyst

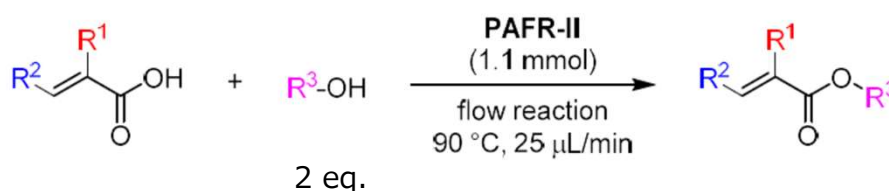
PAFR-II

Features

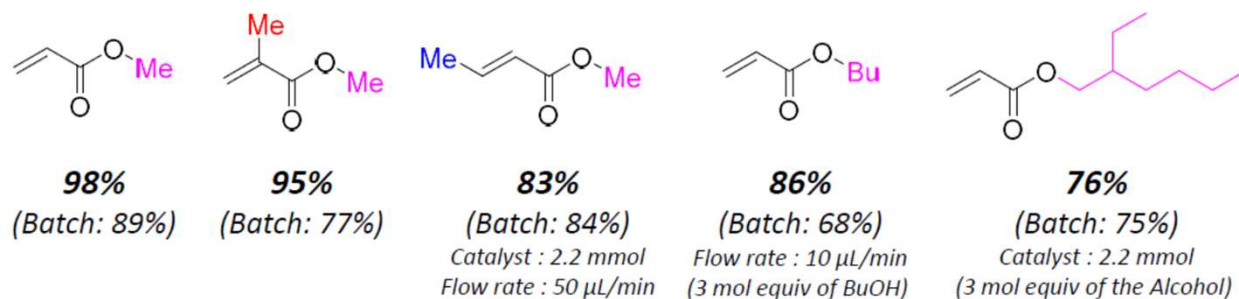
- ◆ Black immobilized catalyst including sulfonic acid
- ◆ Accomplishes esterification without removing water in a batch reaction.
- ◆ Possible to recover and reuse.
- ◆ Can synthesize esters at a high yield in a continuous flow reaction.



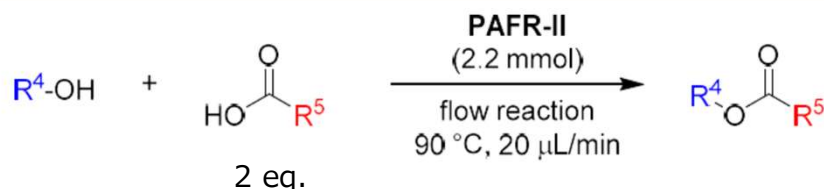
Esterification of Acrylic Acids and Various Alcohols (Flow)



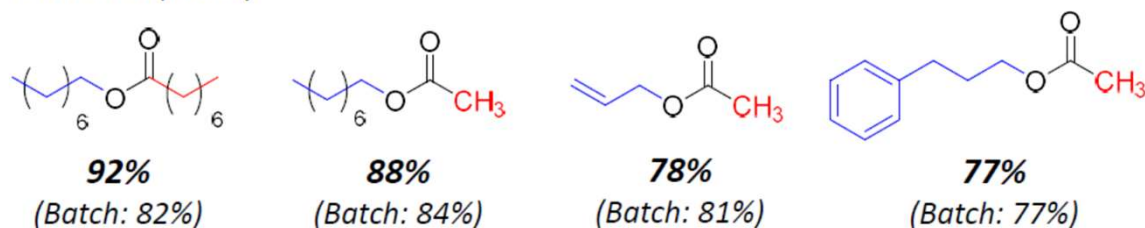
Product (Yield)



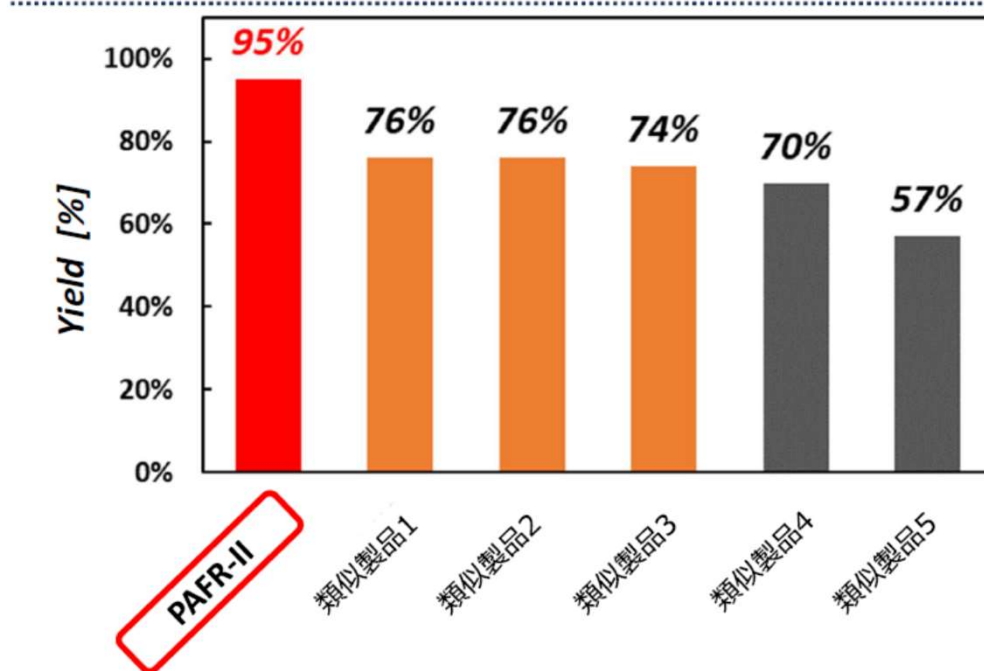
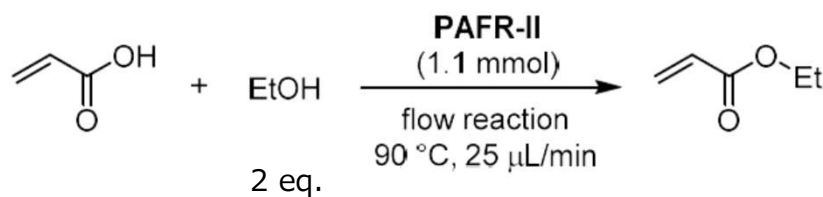
Esterification of Various Carboxylic Acids and Alcohols (Flow)



Product (Yield)



Comparison of Catalytic Activity with Commercial Ion-Exchange Resins and PAFR-II Using Continuous-Flow Reaction



<References>

Hu, H., Ota, H., Baek, H., Shinohara, K., Mase, T., Uozumi, Y. and Yamada, Y. M. A. : *Org. Lett.*, **22**, 1, 160 (2020).

Code No.	Product Name	Grade	Package Size
162-28971	PAFR-II	for Organic Synthesis	1g
168-28973			5g

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