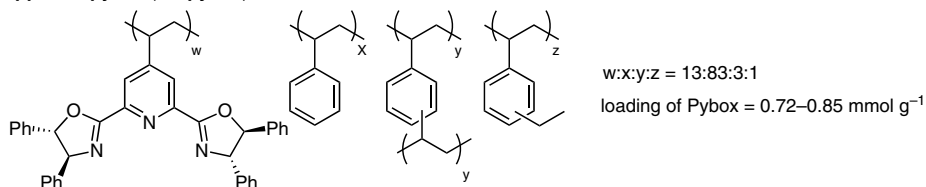
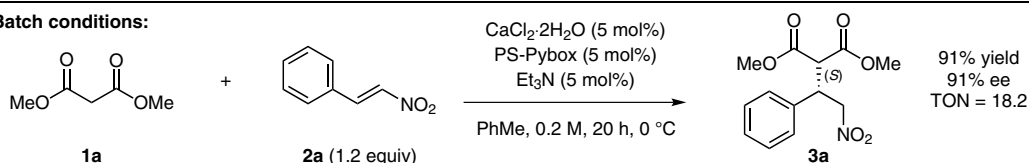


# Asymmetric 1,4-Addition with a Chiral Calcium–Pybox Catalyst

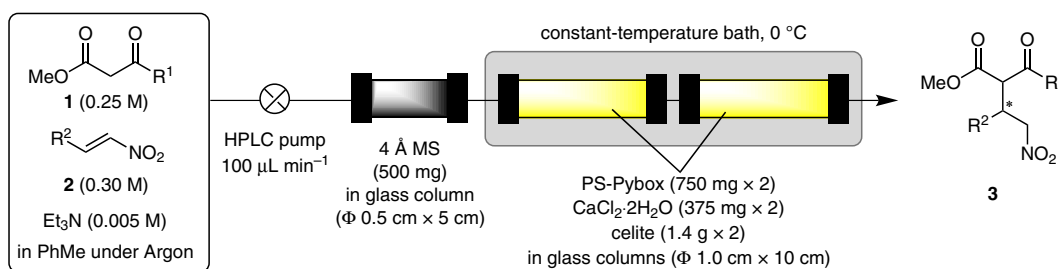
## Polymer-supported pybox (PS-pybox)



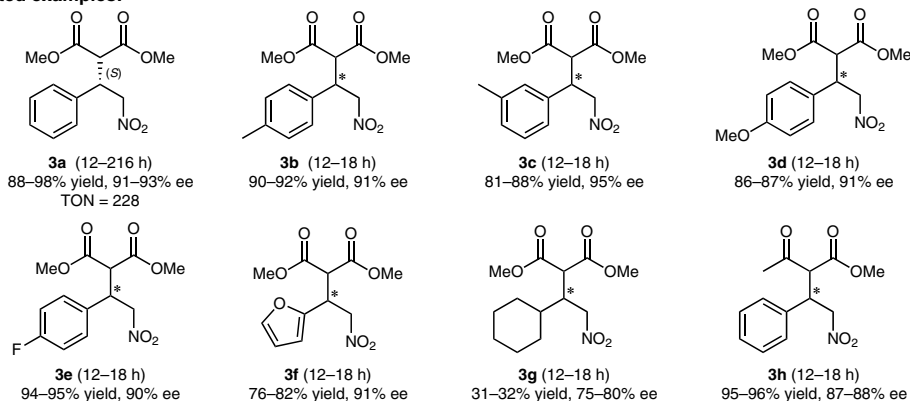
## Batch conditions:



## Flow conditions:



## Selected examples:



**Significance:** A polymer-supported homochiral Pybox–calcium chloride complex catalyzed the asymmetric 1,4-addition of 1,3-dicarbonyl compounds **1** to nitroalkenes **2**, to afford the corresponding adducts **3** in up to 98% yield and 95% ee under batch or flow conditions.

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**Comment:** The flow system worked for 204 hours without significant loss of catalytic activity to give **3a** in 95.5% yield with 92.0% ee on average. The total amount of product was 291.4 mmol and the turn-over number (TON) reached 228.