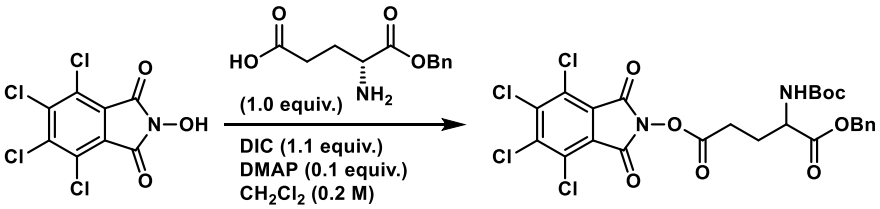
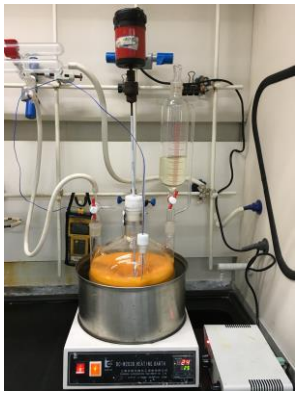
Preparation of redox active ester (RAE) (2 X 400 g)



Reactions run in 5 L four-neck round bottom flasks with mechanical stirring


Filtration of crude reaction mixture

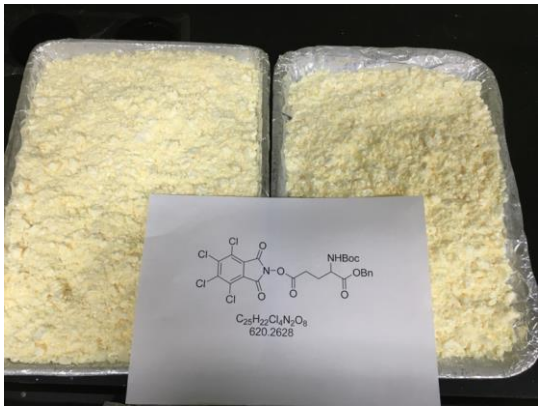
Rotary evaporation from 2 L round bottom flask

Recrystallization in 5 L four-neck round bottom flask with mechanical stirring and condenser

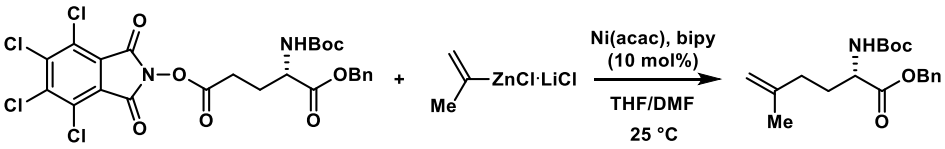

Recrystallization in 5 L four-neck round bottom flask prior to filtration

Filtration of the recrystallization solution


The recrystallized RAE product post-drying



Decarboxylative alkenylation run on 1 mole scale



Drying LiCl and ZnCl2 in two separate 1 L four-neck round bottom flask at 160 °C under vacuum

(Left) Catalyst solution of $Ni(acac)_2$ and 2,2-bipyridine in 2 L four-neck round bottom flask. (Right) Degassing the solution of redox-active ester in DMF (with molecular sieves) via nitrogen sparging in 20 L four-neck round bottom flask.

Preparation of vinylzinc reagent from commercial vinyl Grignard reagent in 10 L four-neck round bottom flask.

(Left) Pumping the solution of redox-active ester into another 20 L four-neck round bottom flask. (Middle/Right) 1.0 mol scale Ni-catalyzed vinylation reaction in 20 L four-neck round bottom flask

Extraction of aqueous layer with ethyl acetate in 50 L glass reactor.

(Left) 20 L Rotary evaporation.

(Middle/Right) Silica gel chromatography in 10 L column.



Final alkenylation product (210 g, 63%)