



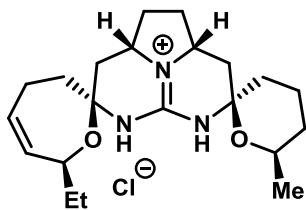
**Letters** 2002

Christian Leitner

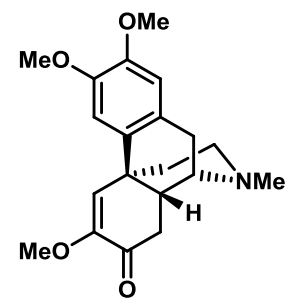
09.04.2015

# Total Syntheses

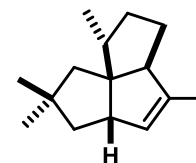
## Total Syntheses in Detail:



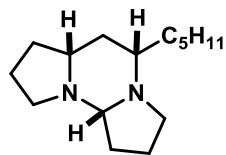
Crambescidine



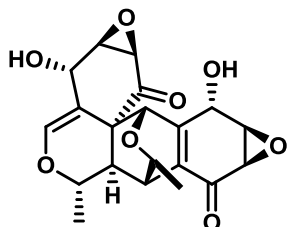
(-)-O-Methylpallidine



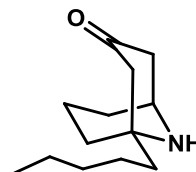
Pentalenene



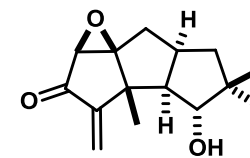
(+/-)-Tetraponerine T6



(+)-Epoxyquinol A



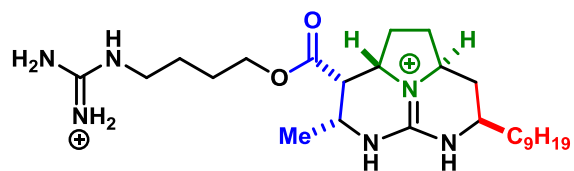
(-)-Adaline



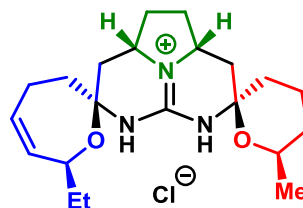
Hypnophilin

# Total Synthesis

## Nagasawa Group:



(+/-)-Batzelladine D (1)

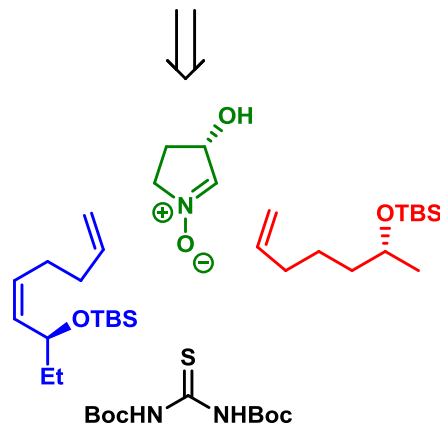


(-)-Crambescidine (2)

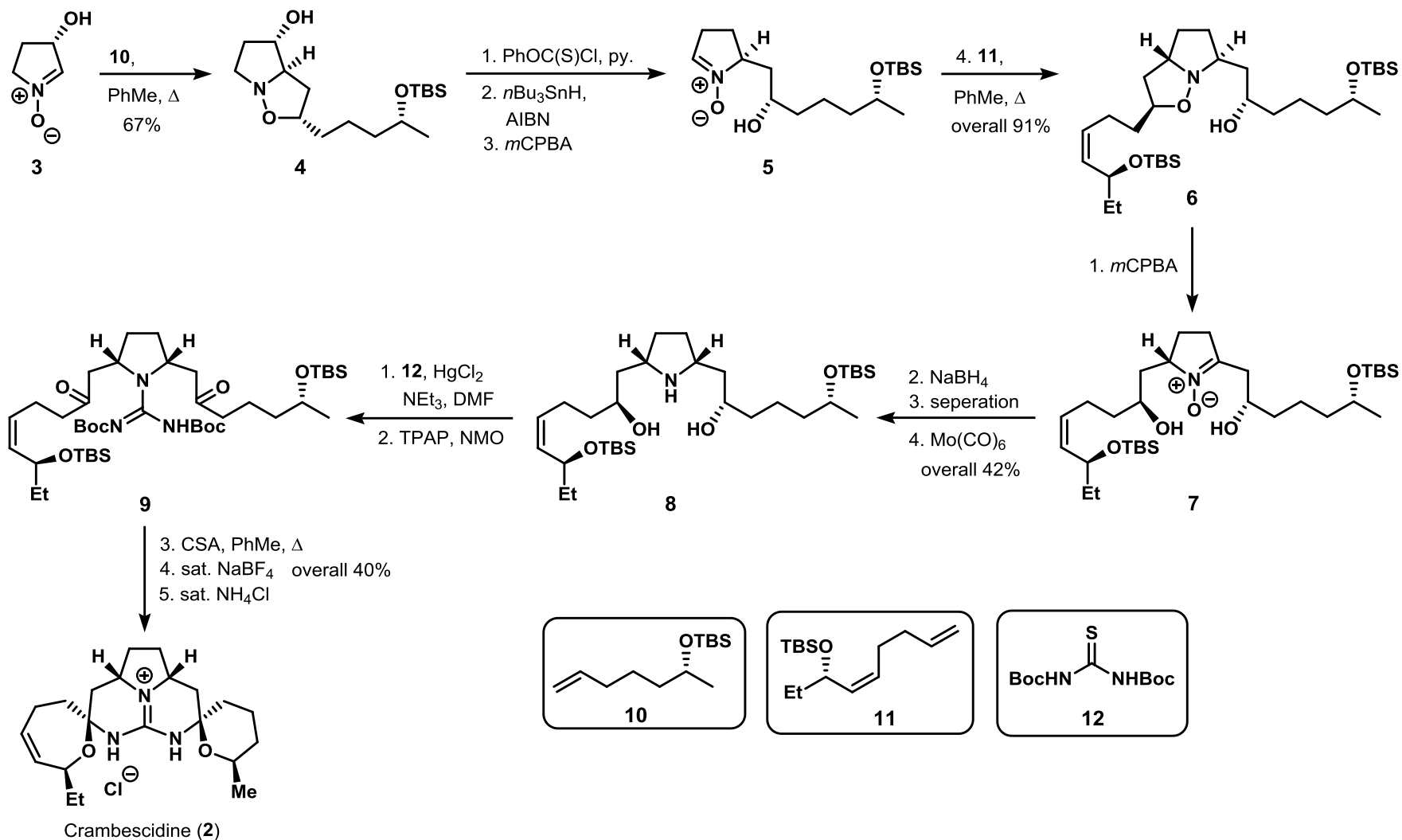


## Key Features:

- 1,3-Dipolar cycloaddition
- Nitron chemistry

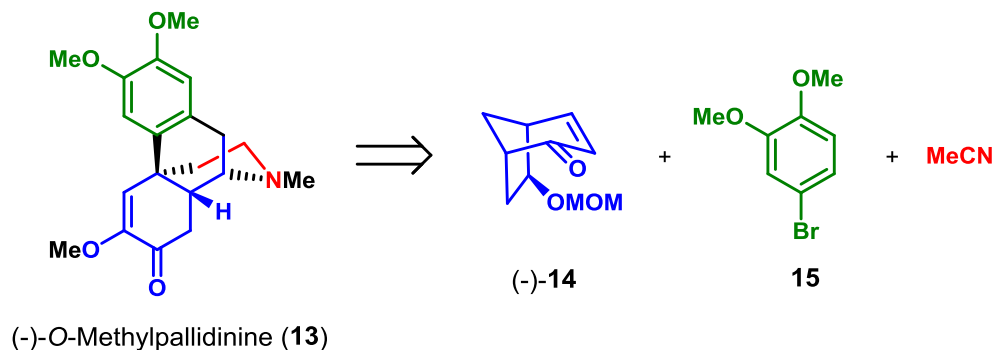


# Total Synthesis of Crambescidine 359



# Total Synthesis

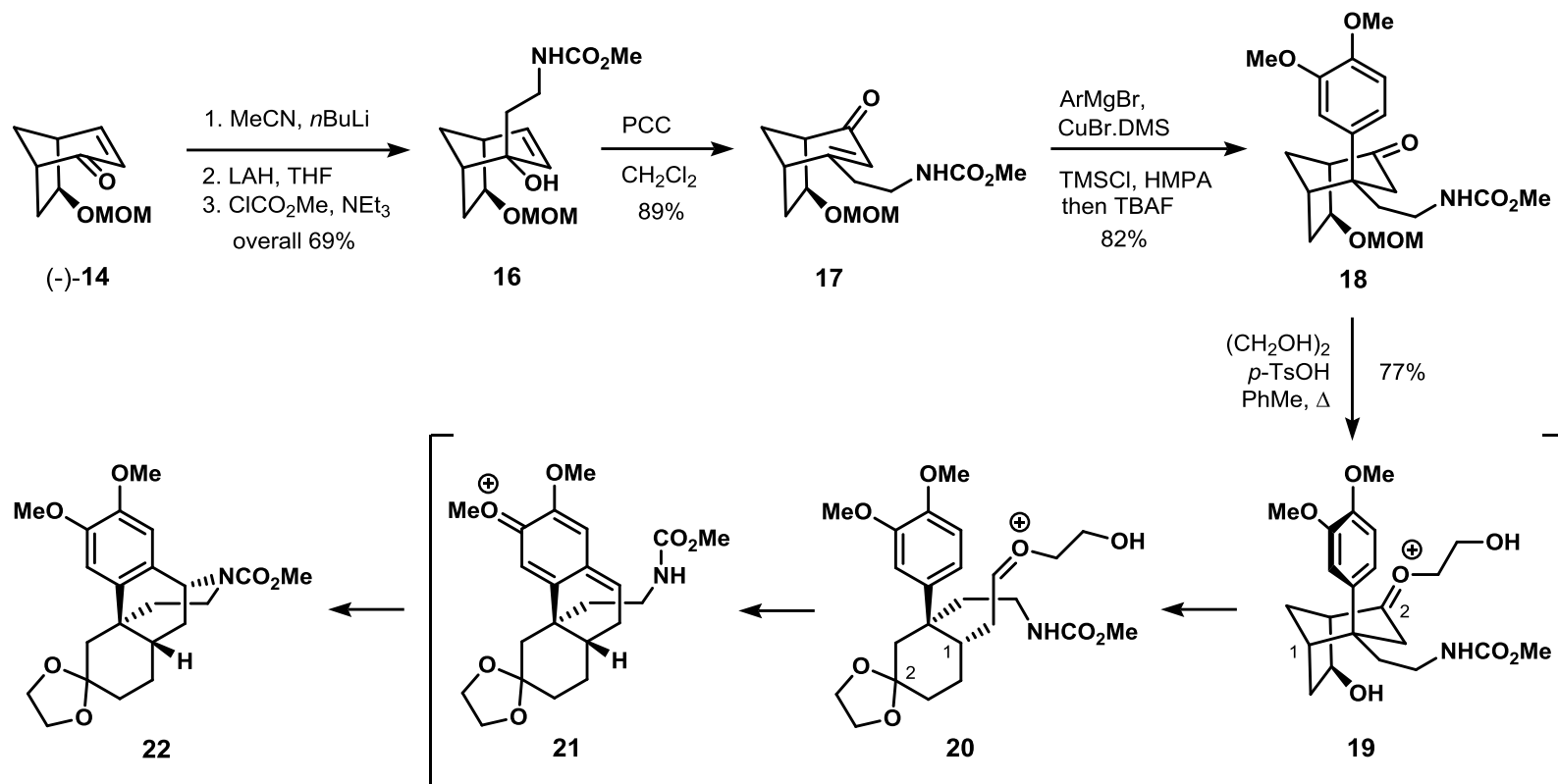
## Ogasawara Group:



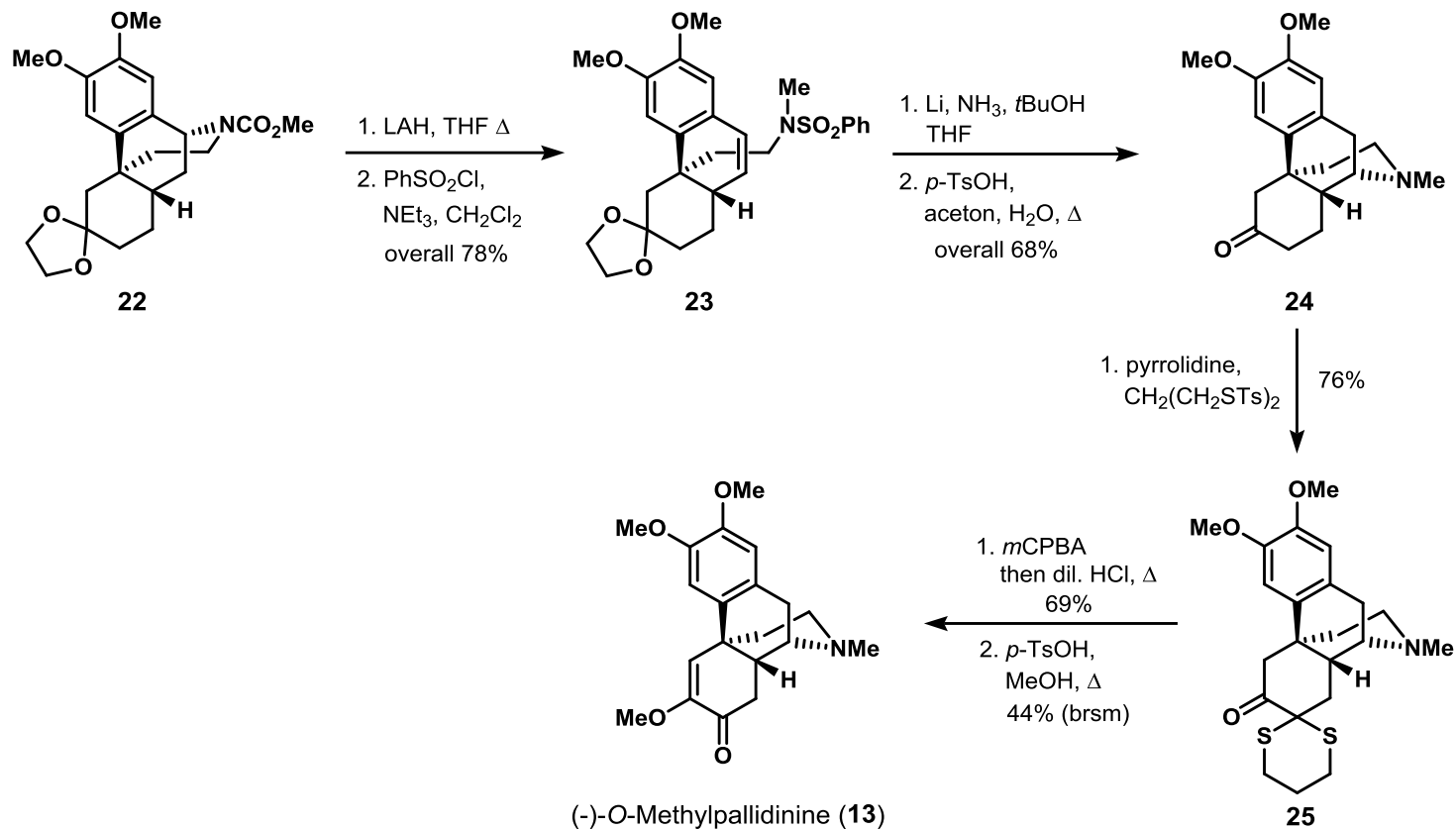
## Key Features:

- Oxonium mediated RORC cascade
- Eschenmoser elimination
- Red. homobenzylic cyclization

# Total Synthesis of O-Methylpallidine

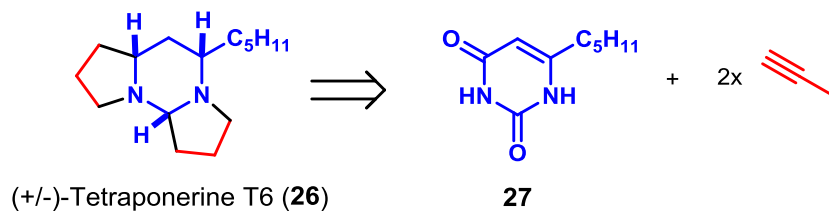


# Total Synthesis of *O*-Methylpallidine



# Total Synthesis

## Gevorgyan Group:

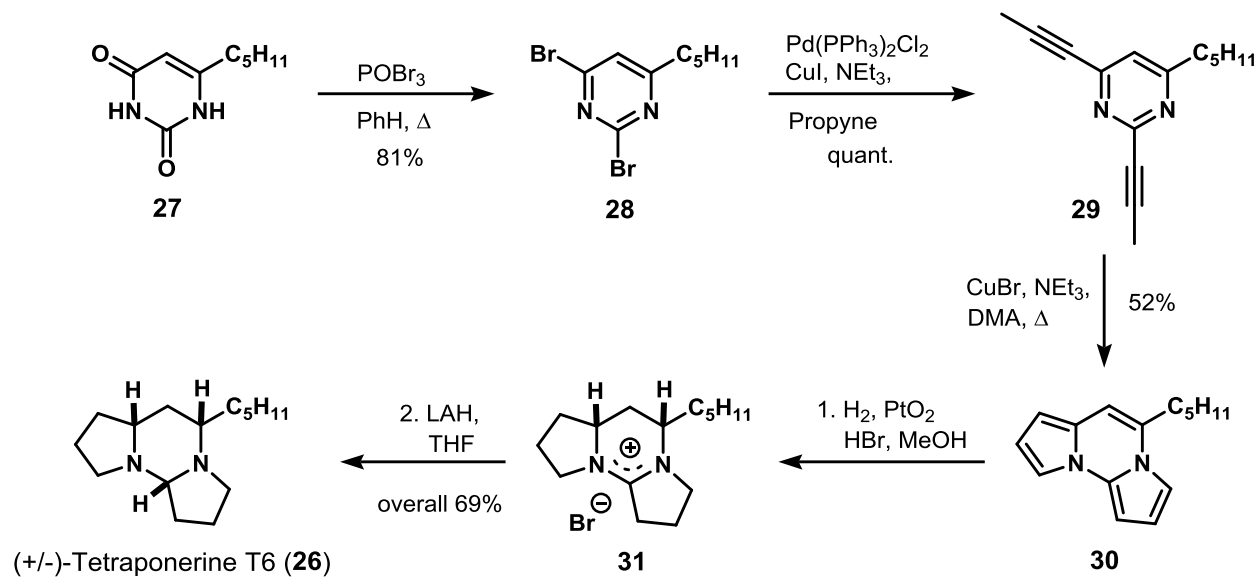


## Key Features:

- Cu mediated pyrrol synthesis



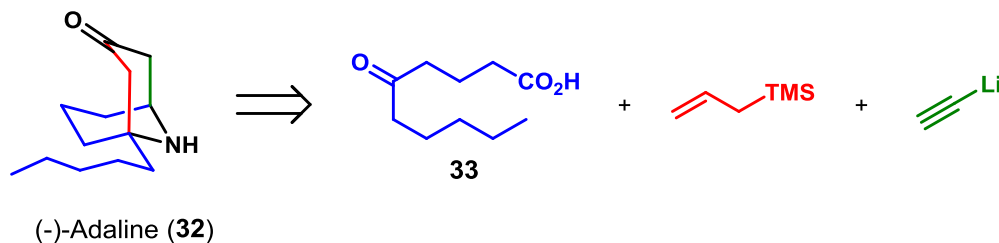
# Total Synthesis of Tetraponerine T6



# Total Synthesis

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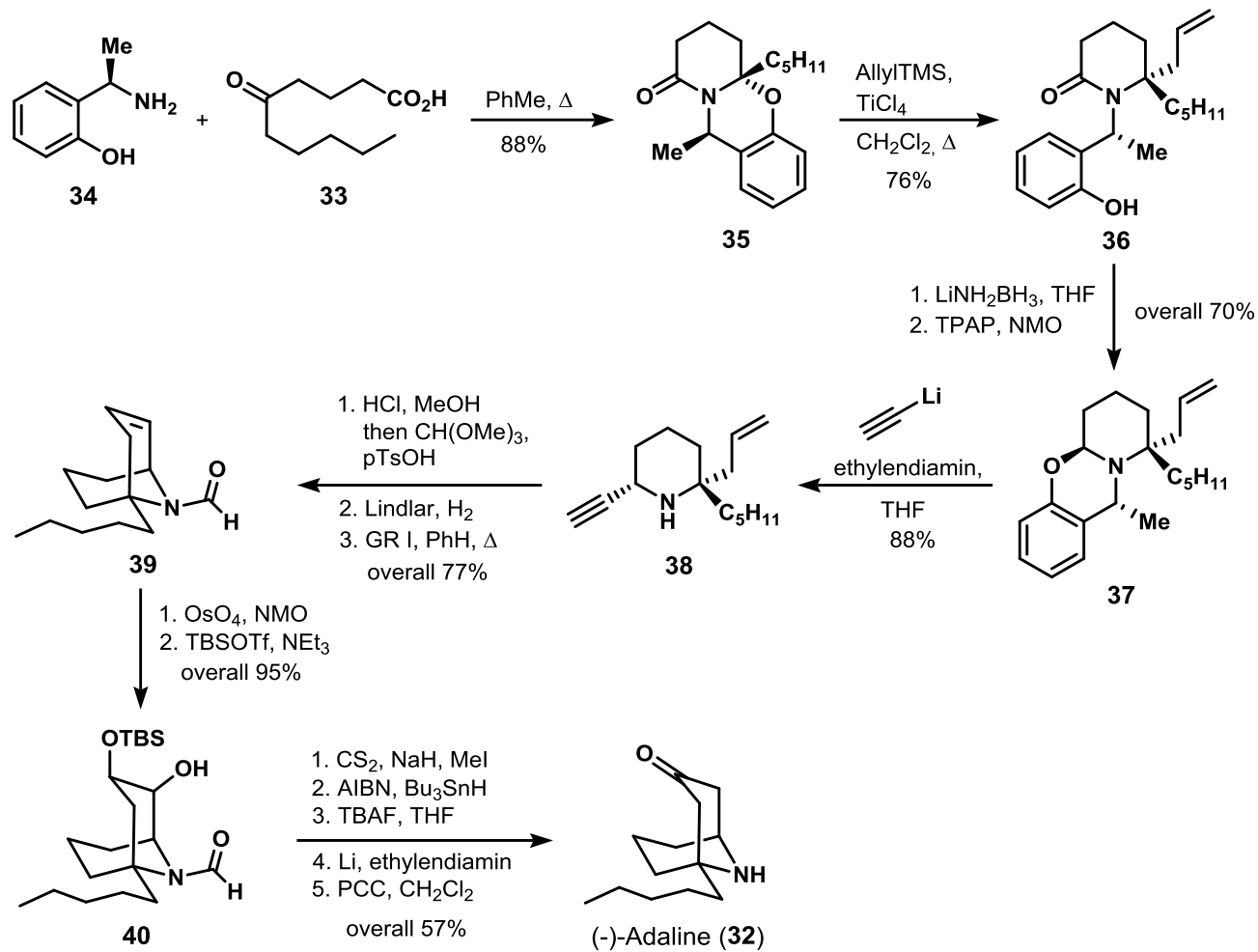
## Kibayashi Group:



## Key Features:

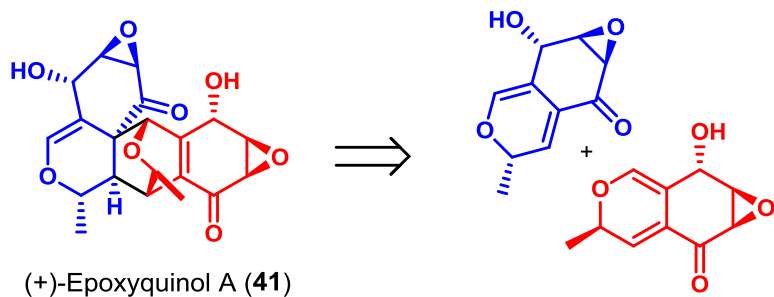
- Enantioselective C-C bond formation via chiral auxiliary
- Sakurai reaction to an Acyl-imminium Ion
- Acetylen addition to amins

# Total Synthesis of Adaline



# Total Synthesis

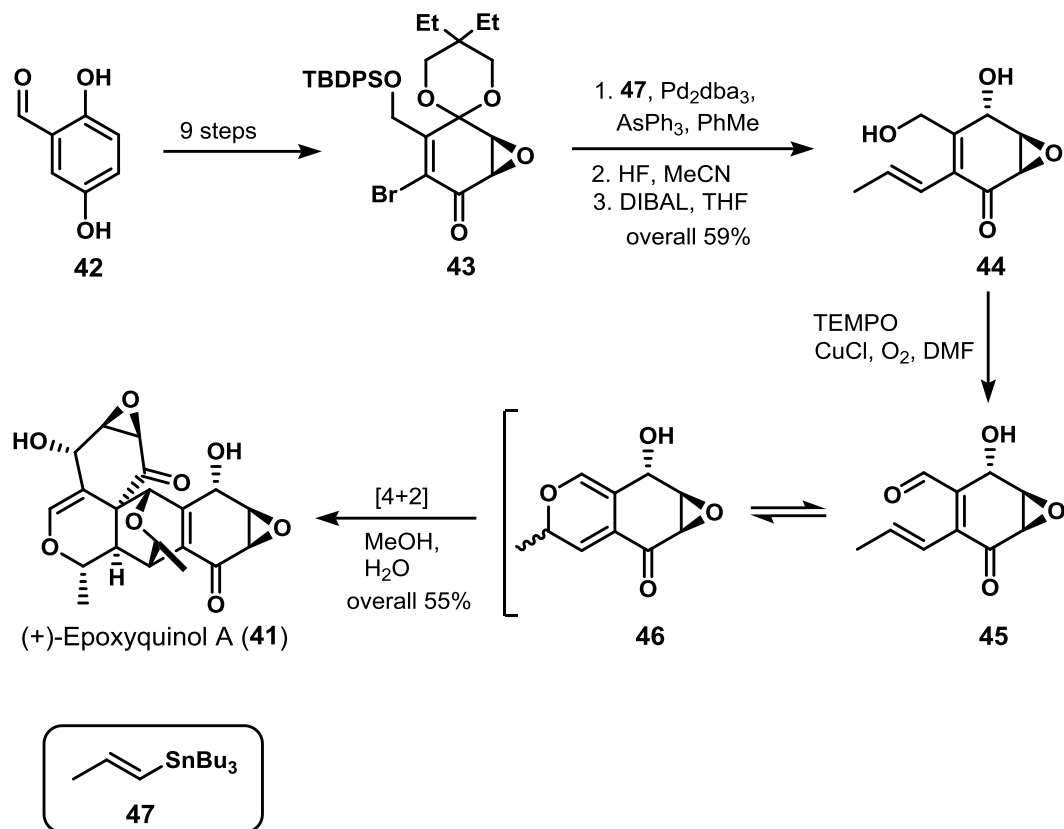
## Porco Jr. Group:



## Key Features:

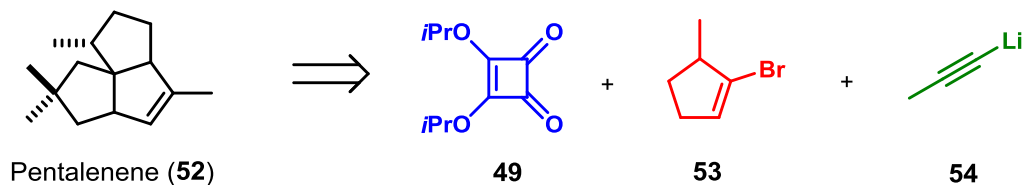
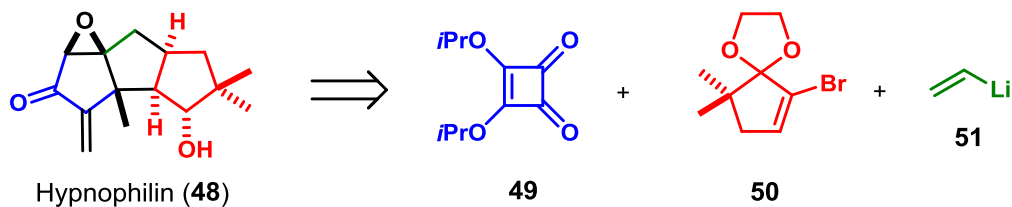
- $6\pi$  Electrocyclization D.A. cascade reaction

# Total Synthesis of Epoxyquinol A



# Total Synthesis

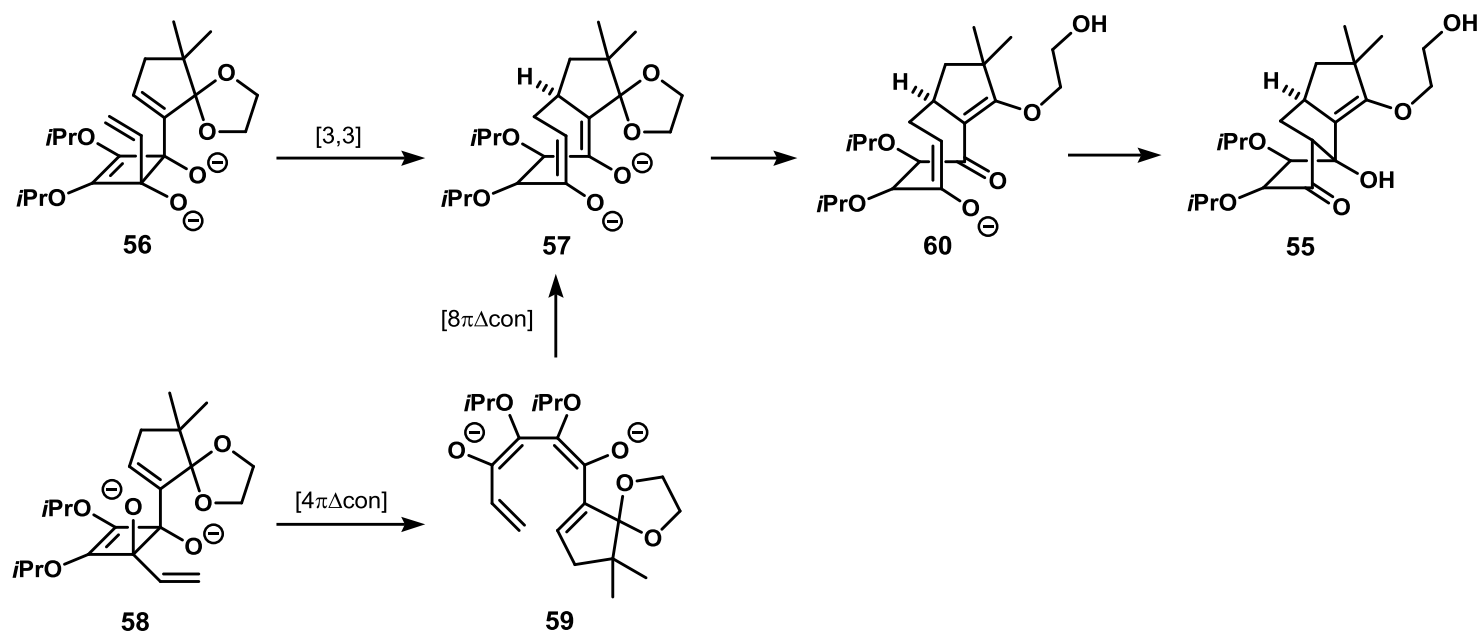
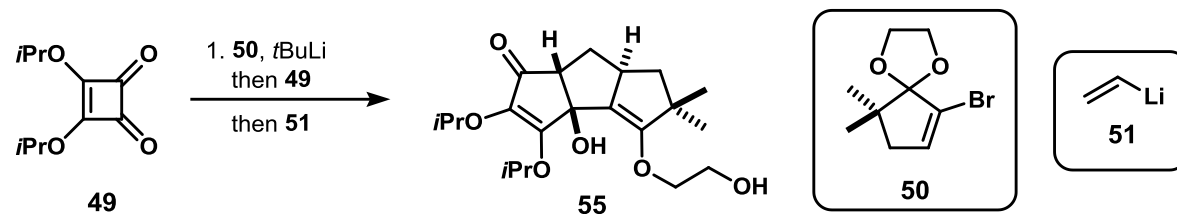
## Paquette Group:



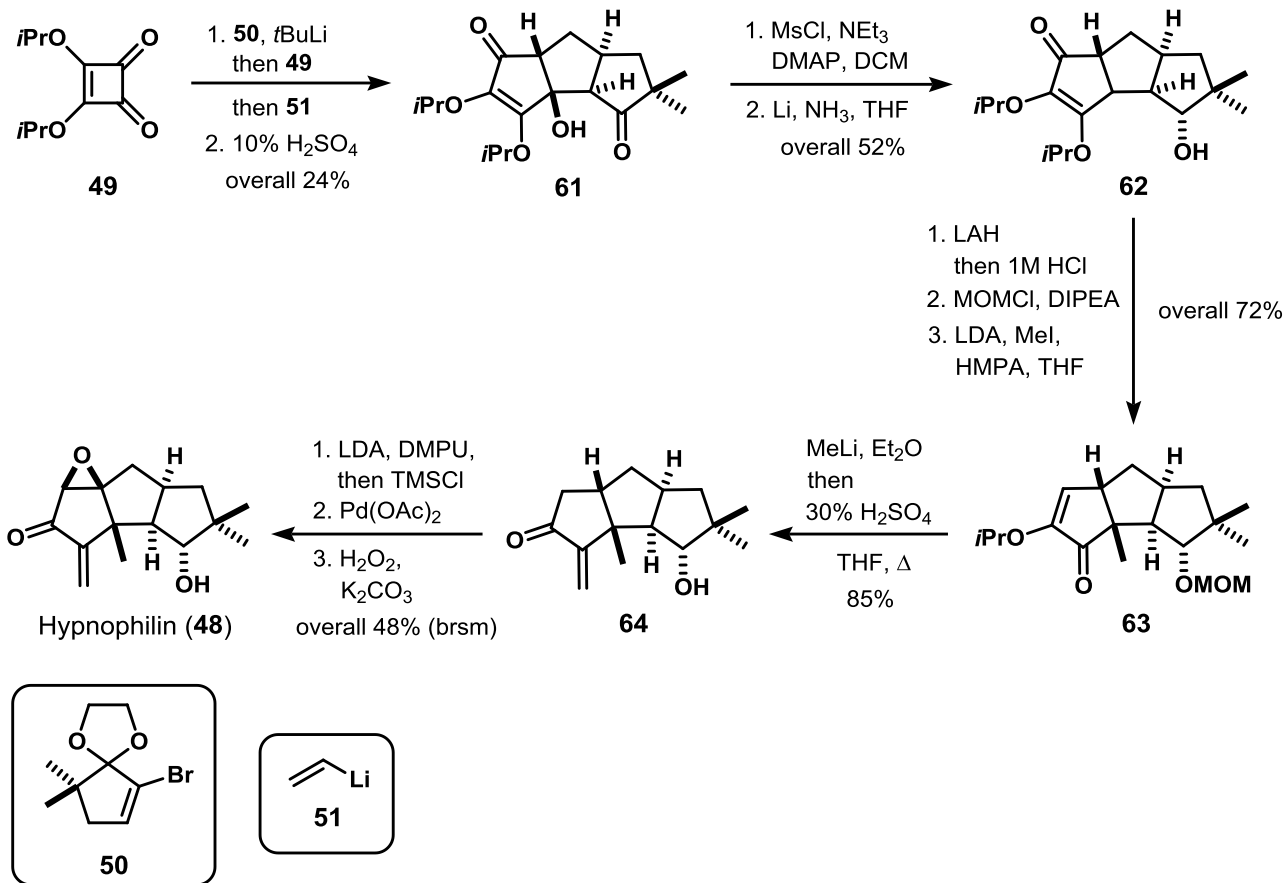
## Key Features:

- Synthesis of triquinane systems using Squarate
- Defunctionalizations under Birch conditions

# Total Synthesis of Hypnophilin

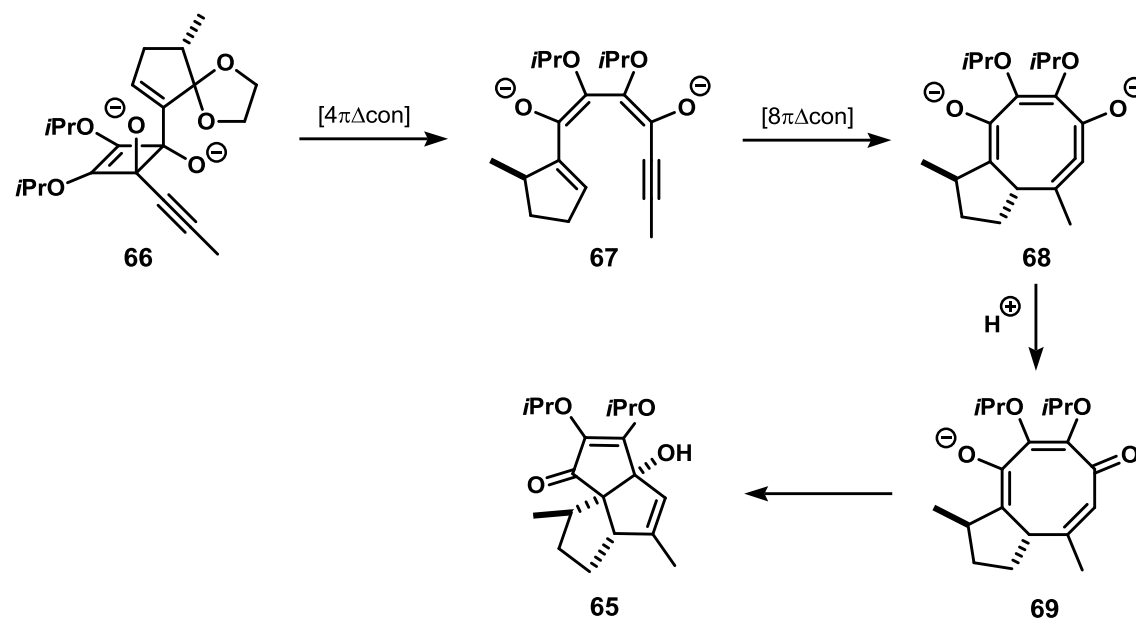
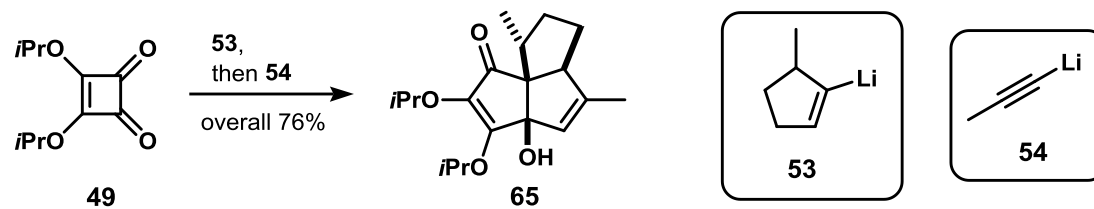


# Total Synthesis of Hypnophilin

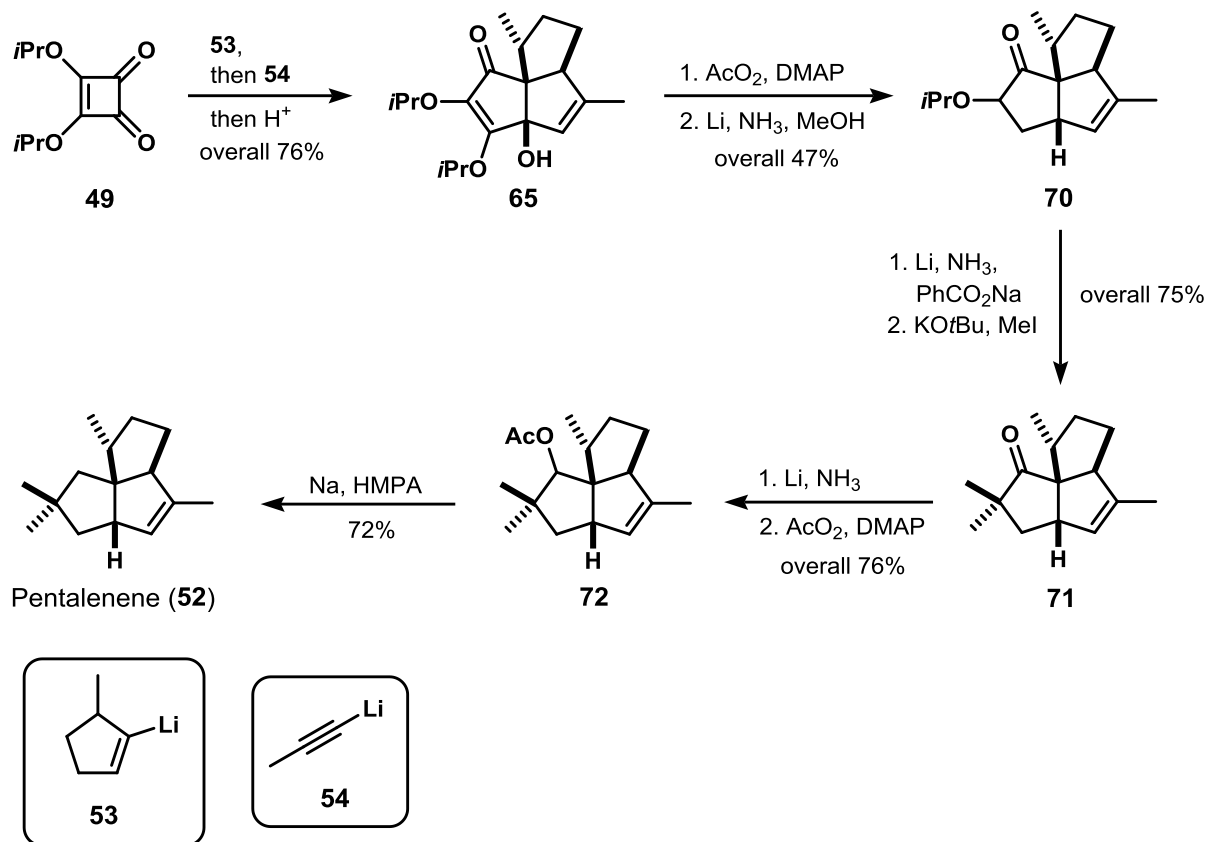




# Total Synthesis of Pentalenene

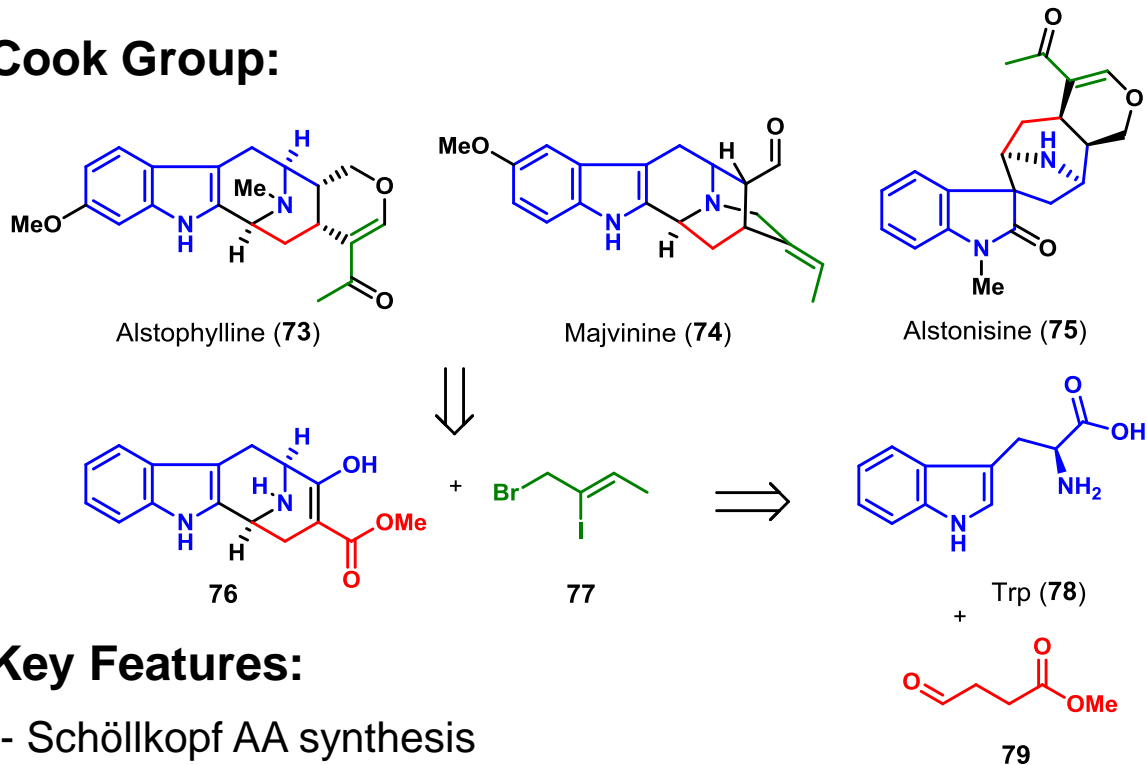


# Total Synthesis of Pentalenene



# Total Synthesis

## Cook Group:



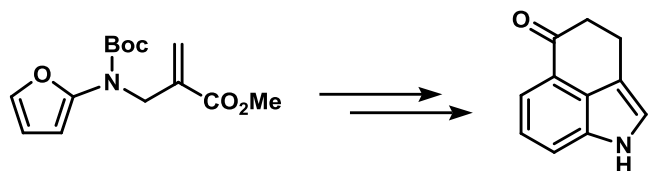
## Key Features:

- Schöllkopf AA synthesis
- Pd mediated enol coupling
- Eschenmoser elimination (Alstophylline)
- Pinacol rearrangement (Alstonisine)

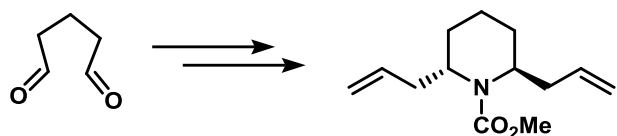
# Methodologies

## Outline:

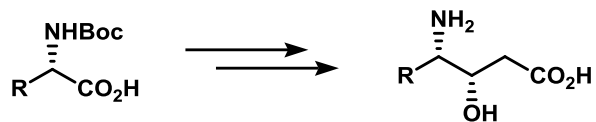
Domino D. A. reaction to annelated Indoles:



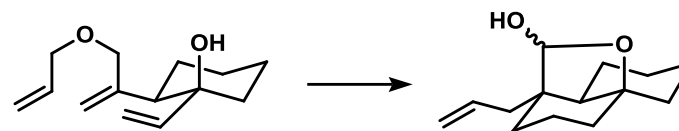
Strategy to chiral 2,6-substituted Piperidines:



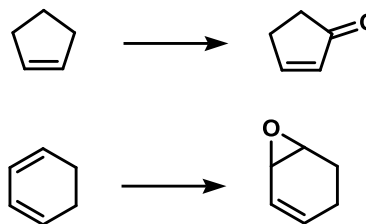
Preparation of 1,2-Hydroxylamines out of AA:



Synthesis of Decaline Skeletons:

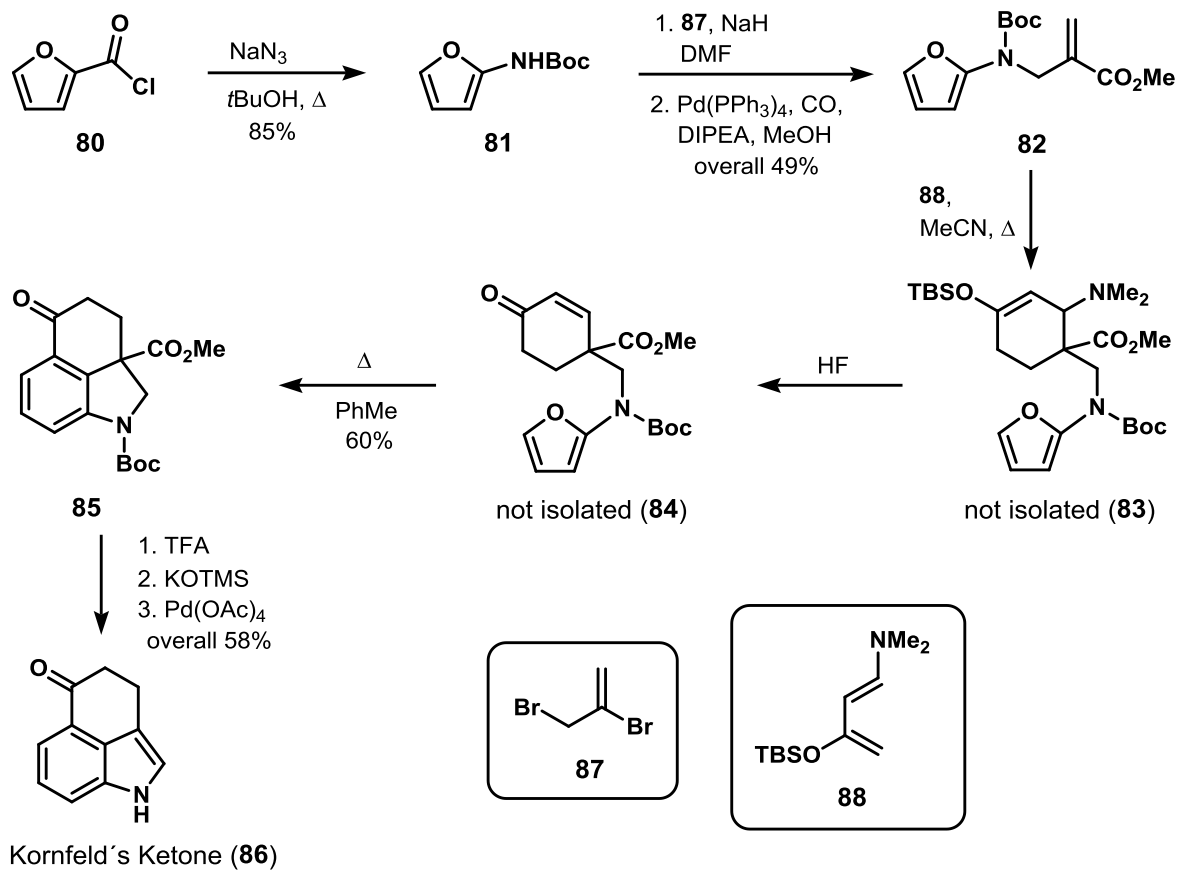


Pd mediated epoxidation and Allylic oxidation:



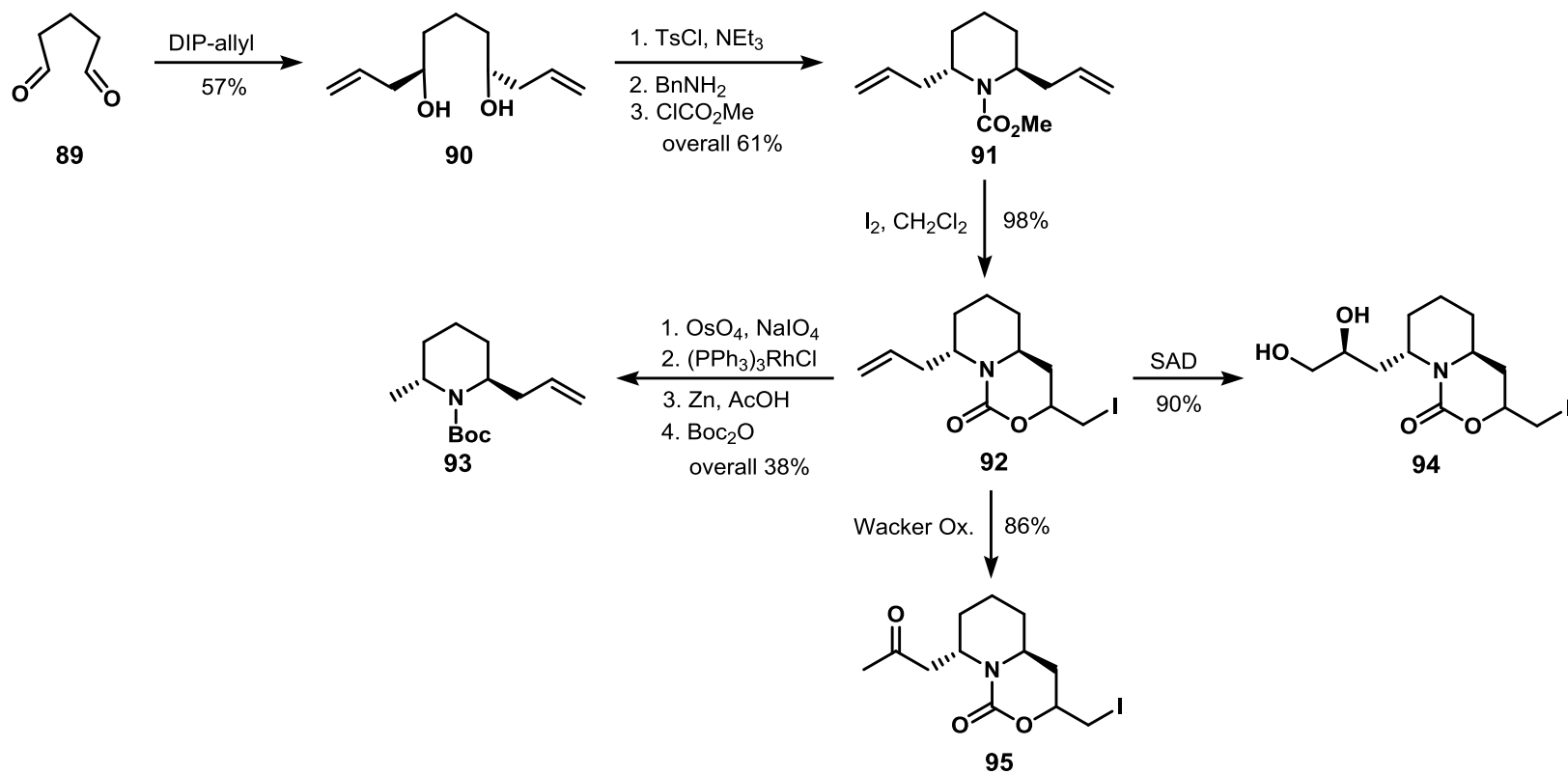
# Methodologies

## Domino D. A. reaction to annelated Indoles:



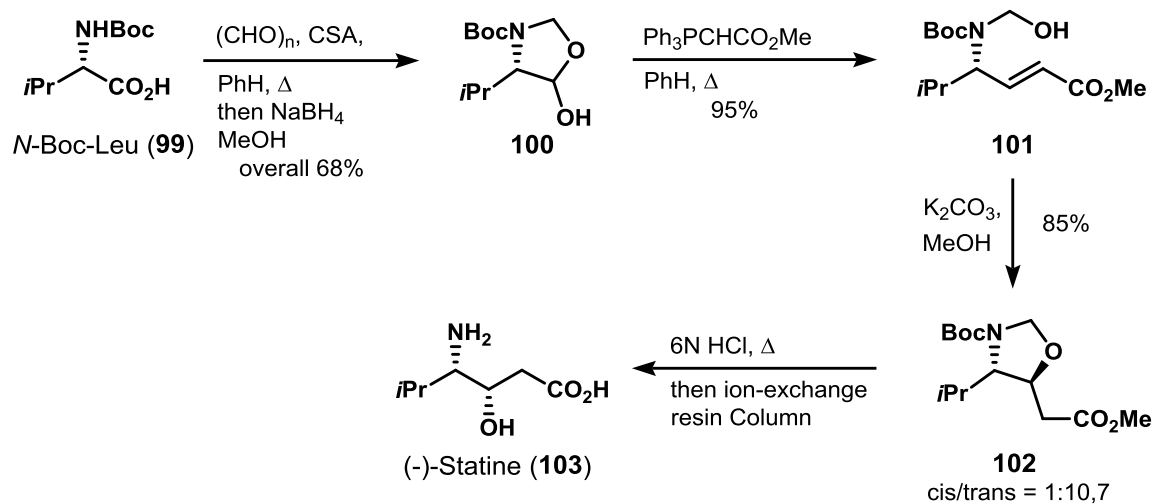
# Methodologies

## Strategy to chiral 2,6-substituted Piperidines:



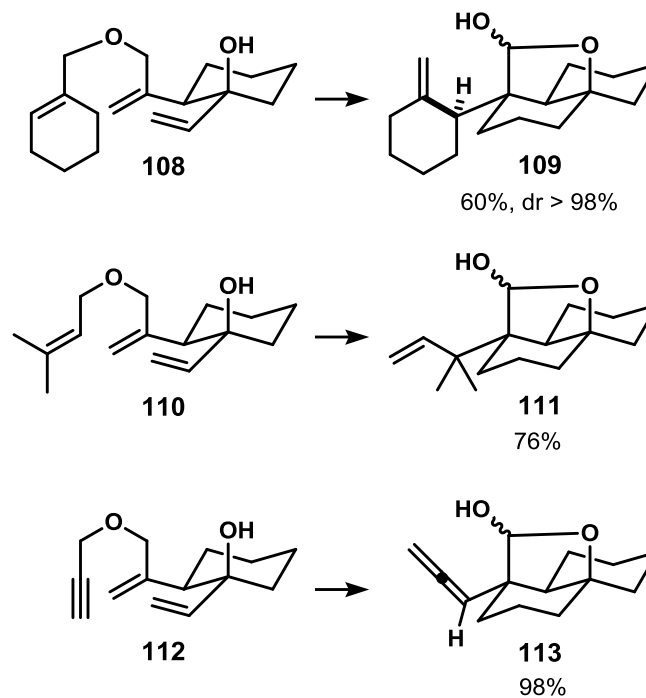
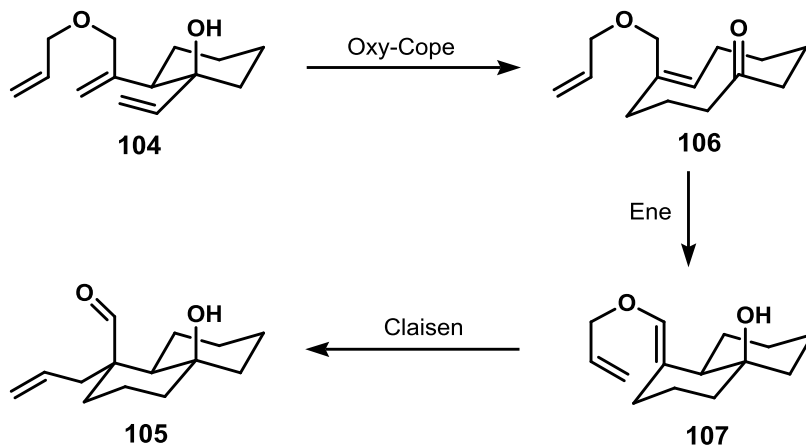
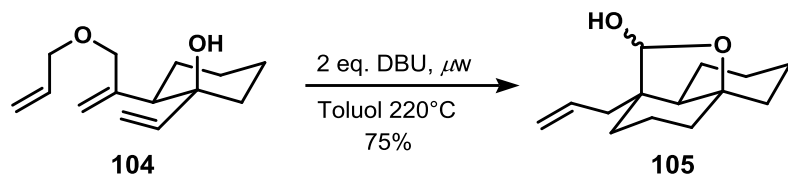
# Methodologies

## Preparation of 1,2-Amino alcohols out of AA:



# Methodologies

## Synthesis of Decaline Skeletons:





# Methodologies

## Pd mediated epoxidation and Allylic oxidation:

