

Aspidosperma alkaloids are indole alkaloids isolated from Aspidosperma trees

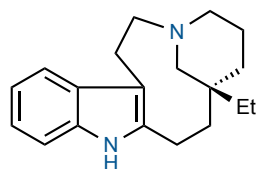
Shown to inhibit smooth muscle contraction

Despite many previous synthetic pursuits, Hoveyda, et al. wanted to test the limits of alkene metathesis

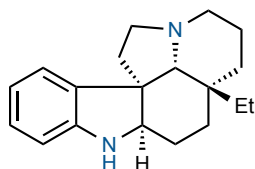


Aspidosperma Quebracho

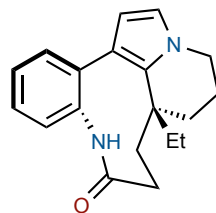
## Aspidosperma Alkaloids:



(-)-quebrachamine

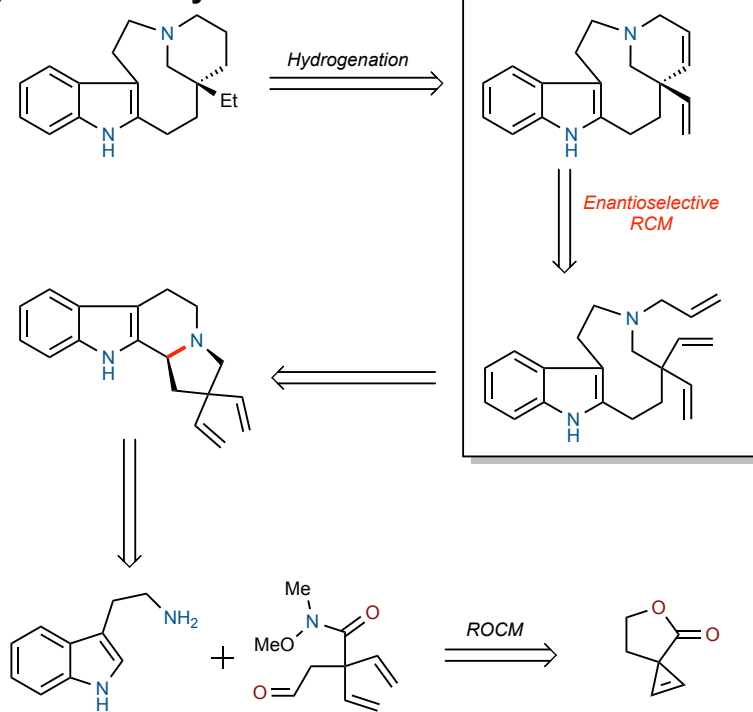


(+)-Aspidospermidine

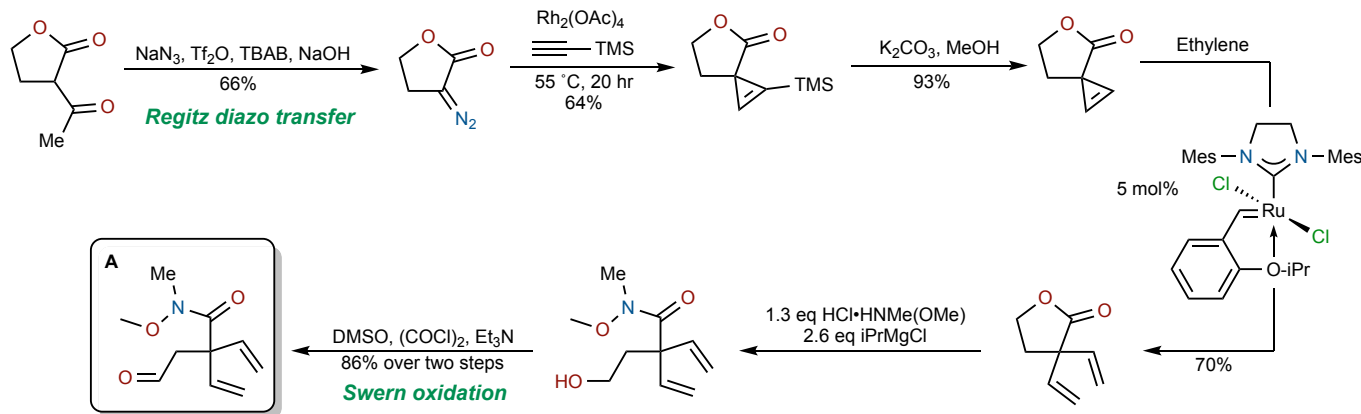


(-)-rhazinilam

## Retrosynthetic Analysis



## Synthesis of Diene A



## Previous Syntheses

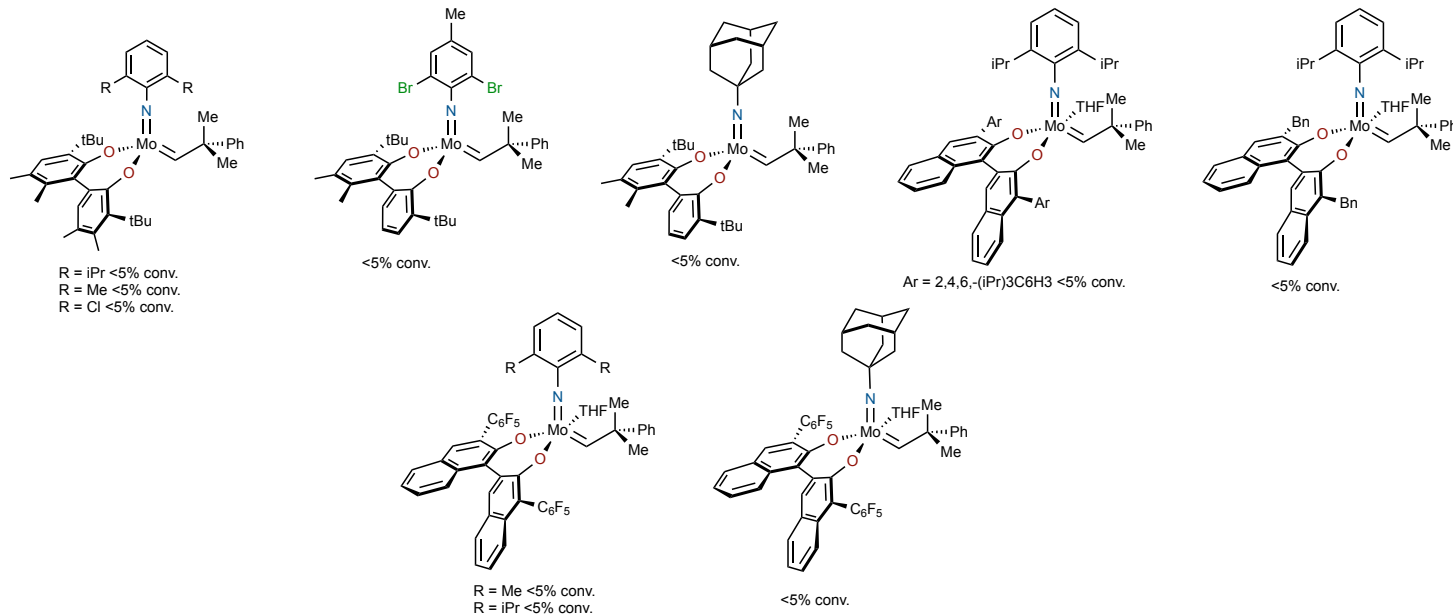
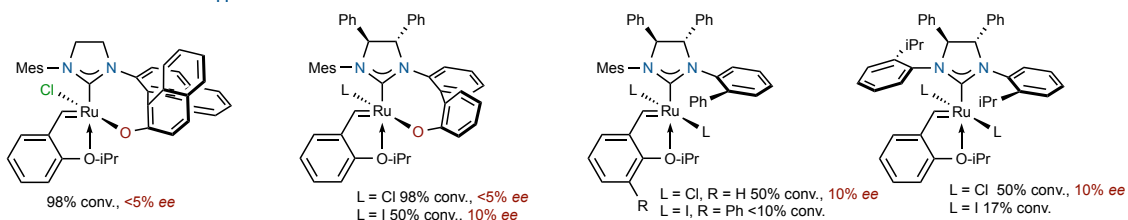
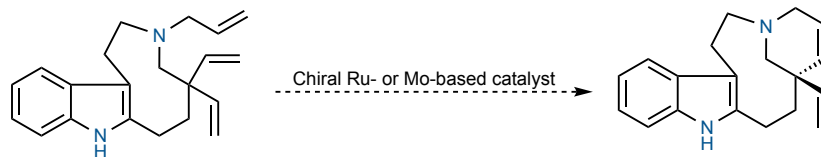
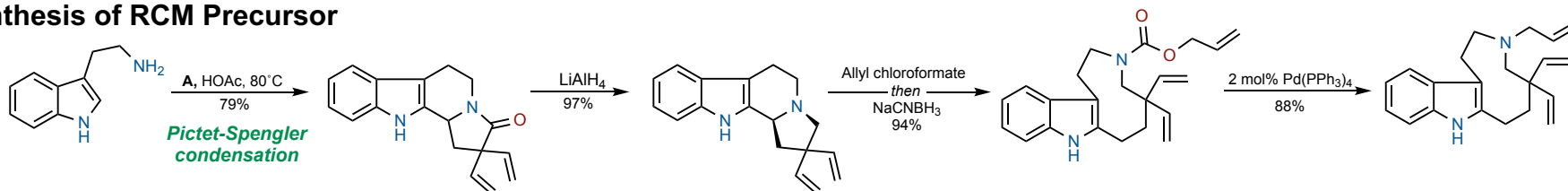
### Racemic:

- Stork, G.; *JACS*, 1963, **85**, 2872
- Wenker, E.; *Can. J. Chem.* 1964, **42**, 489
- Kutney, J. P.; *JACS* 1966, **88**, 3656
- Ziegler, F. E.; *JACS* 1969, **91**, 2342
- Takano, S.; *JACS* 1979, **101**, 6414
- Wenkert, E.; *Tetrahedron* 1981, **37**, 4017
- Ban, Y *JACS* 1981, **103**, 6990
- Coldham, I *ACIEE* 2007, **46**, 6159

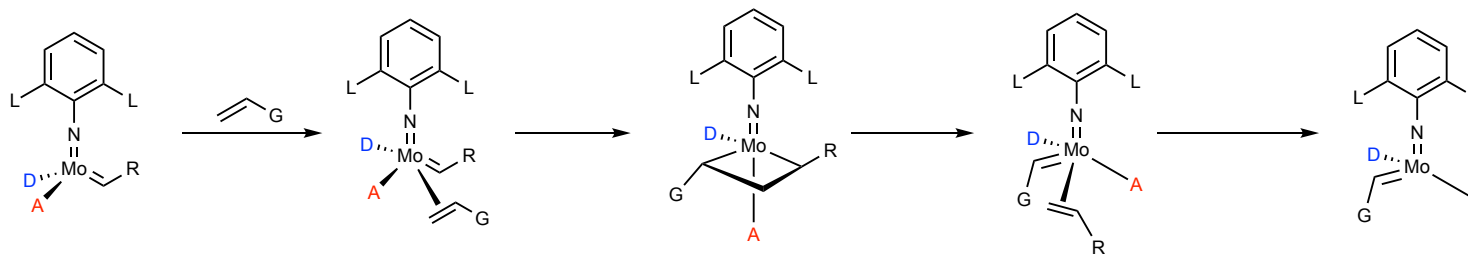
### Enantioselective:

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- Node, M.; *JACS* 1987, **109**, 7901
- Temme, O.; *J. Org. Chem.* 1998, **63**, 6007
- Rawal, V. H. *JACS* 2002, **124**, 4628

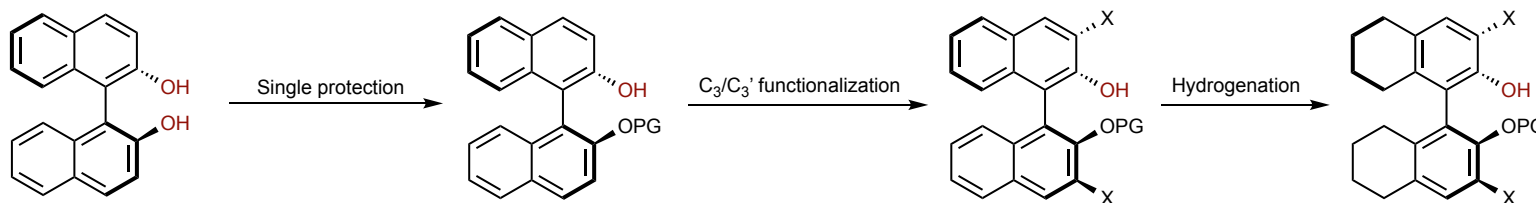
## Synthesis of RCM Precursor



## Novel Catalysts for Enantioselective RCM



## Monodentate Binaphthols



## Completion of the Synthesis

