

# Synthetic Year in Review: JACS 1970

## Annual Stat Sheet

Total Number of Papers Published: **1703**

### Most Cited Papers

TOLMAN CA

PHOSPHORUS LIGAND EXCHANGE EQUILIBRIA ON ZEROVALENT NICKEL - A DOMINANT ROLE FOR STERIC EFFECTS

**Times Cited:** 690

HEHRE WJ, DITCHFIELD, RADOM L, et al.

MOLECULAR ORBITAL THEORY OF ELECTRONIC STRUCTURE OF ORGANIC COMPOUNDS .5. MOLECULAR THEORY OF BOND SEPARATION

**Times Cited:** 653

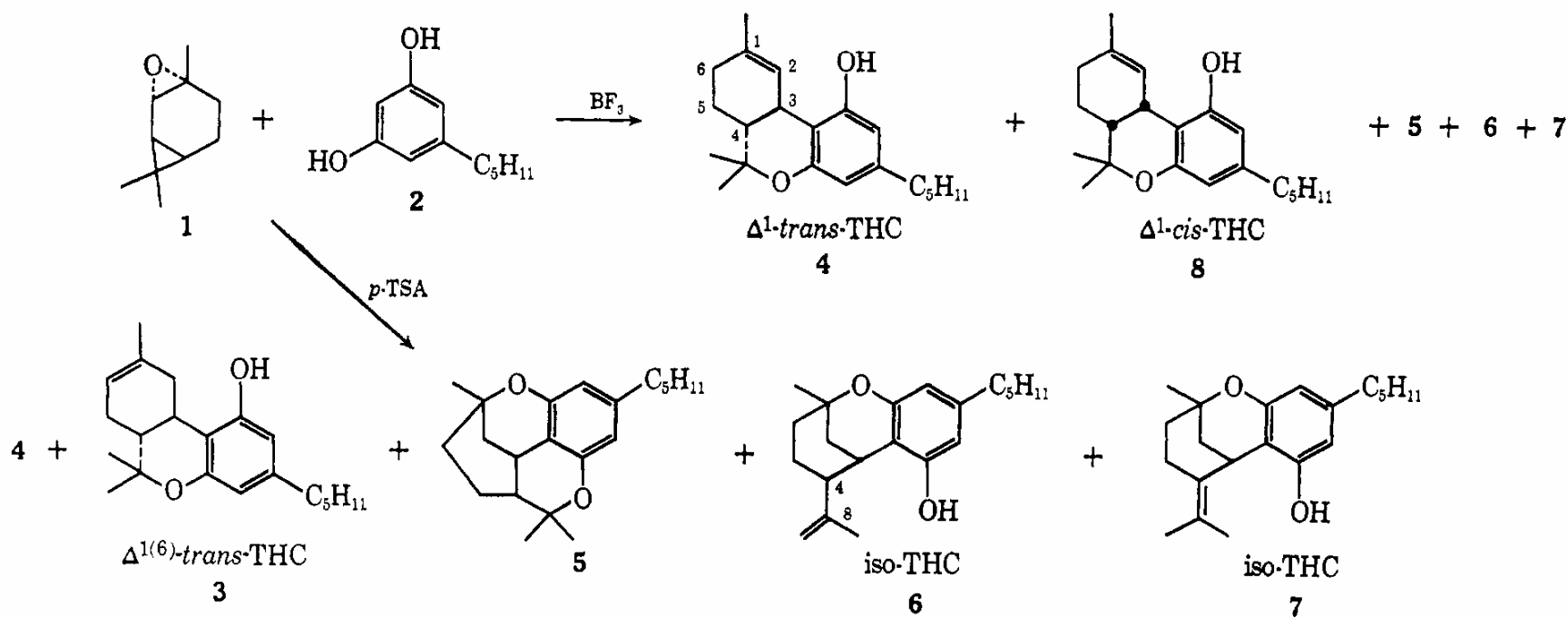
JOHNSON WS, WERTHEMEL, BARTLETT WR, et al.

A SIMPLE STEREOSELECTIVE VERSION OF CLAISEN REARRANGEMENT LEADING TO TRANS-TRISUBSTITUTED OLEFINIC BONDS . SYNTHESIS OF SQUALENE

**Times Cited:** 622

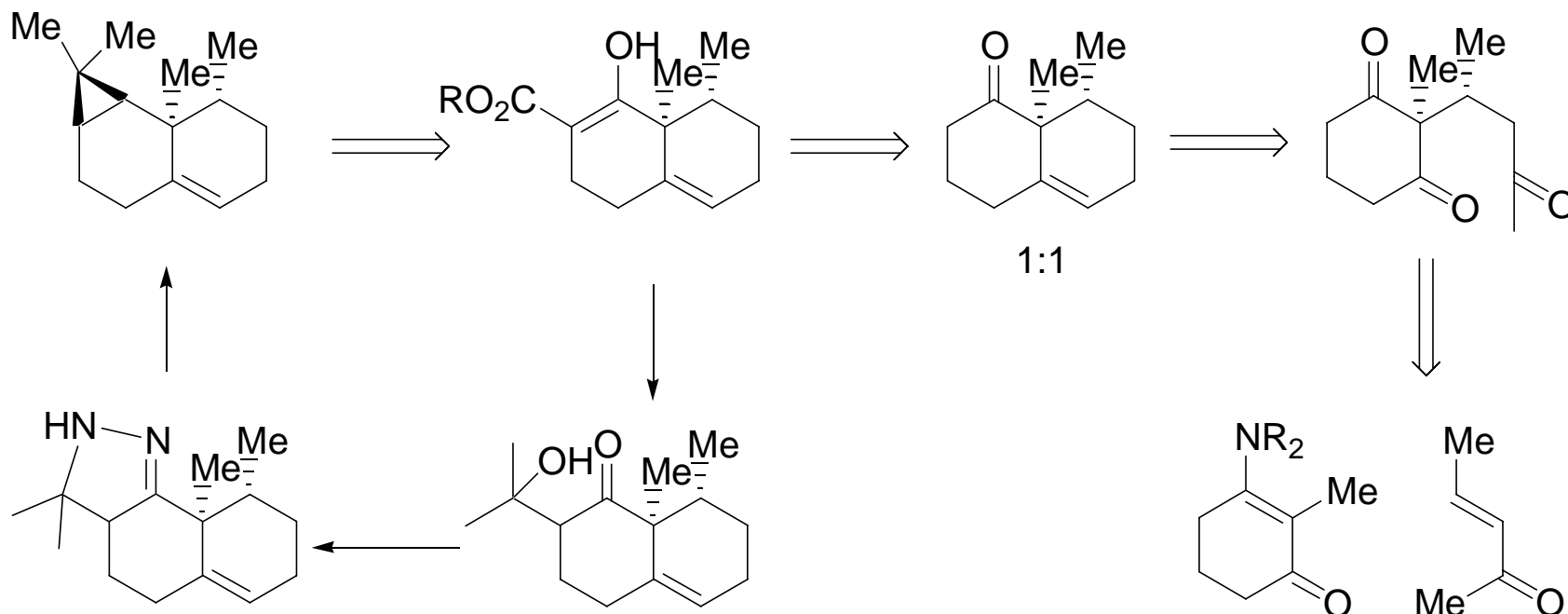
### Most Prolific Authors

BROWN, HC (25) DEWAR, MJS (15) COREY, EJ (14) SCHLEYER, PV (14) TURRO, NJ (13) OLAH, GA (12) ZIMMERMAN (12) PAQUETTE, LA (11) POPLE, JA (10) SCHRAUZER (10) ROBERTS, JD (9) WINSTEIN, S (9) BORDWELL, FG (8) BRUCE, TC (8) DAHL, LF (8) DRAGO, RS (8) BARTLETT, PD (7) BOECKELHEIM (7) CRAM, DJ (7) DJERASSI, C (7) HAMMOND, GS (7) MISLOW, K (7) PADWA, A (7) VANTAMEL (7)

**Total Syntheses****Razdan (Pharma.)-Tetrahydrocannabinols (p. 6061)****Key Points:**

- Cyclopropyl carbinyl rearrangement

Shaw (UIUC)-Calarene (p. 5657)

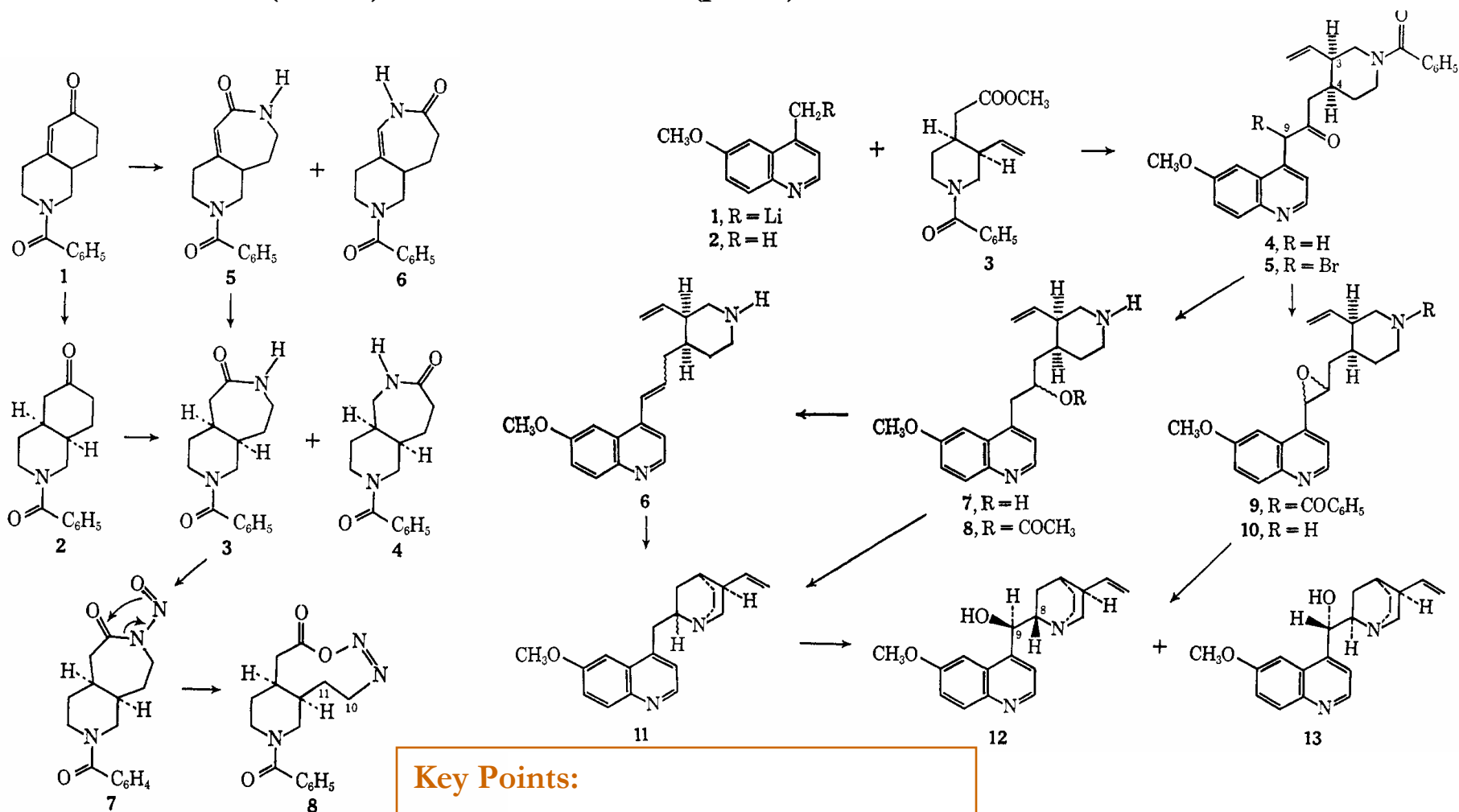


"pyrazoline method"

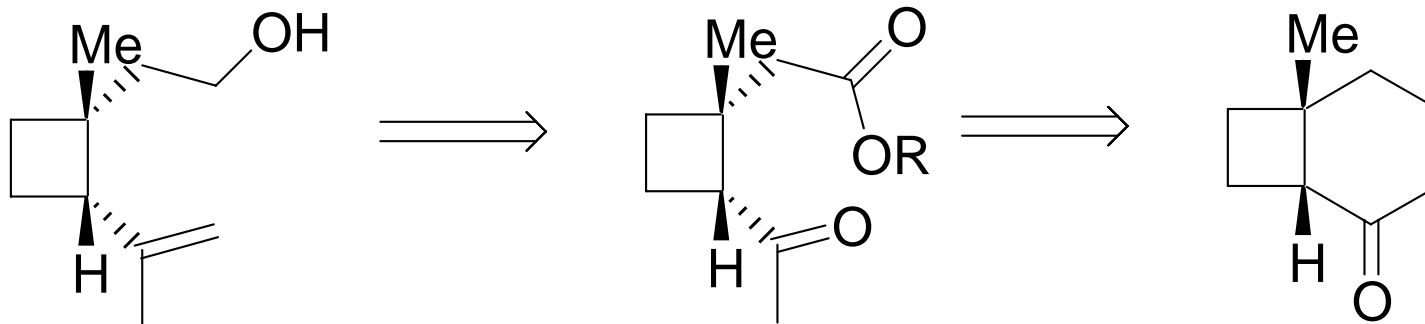
**Key Points:**

- Pyrazoline Method for installing dimethylcyclopropanes from ketones
- Mono enamine controlled Michael addition

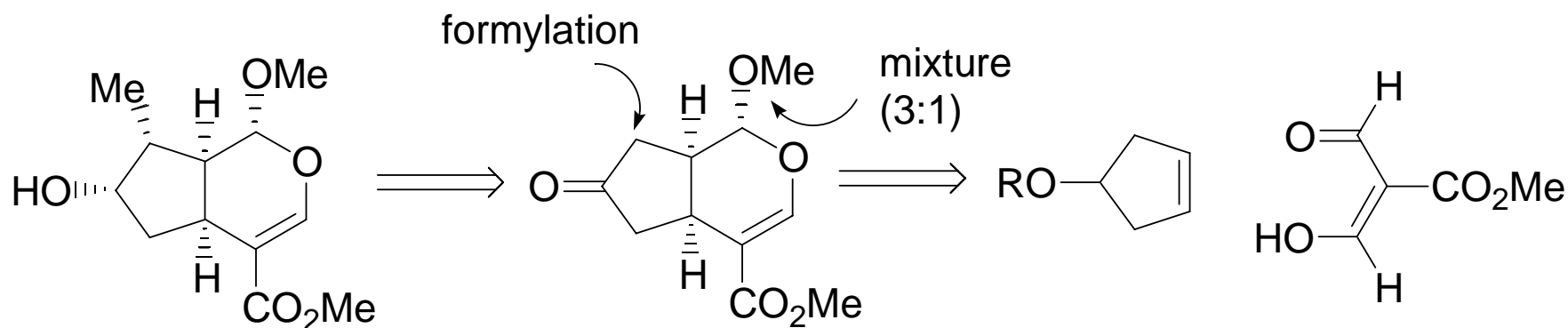
## Uskokovic (Roche)-Quinine/Quinidine (p. 203)

**Key Points:**

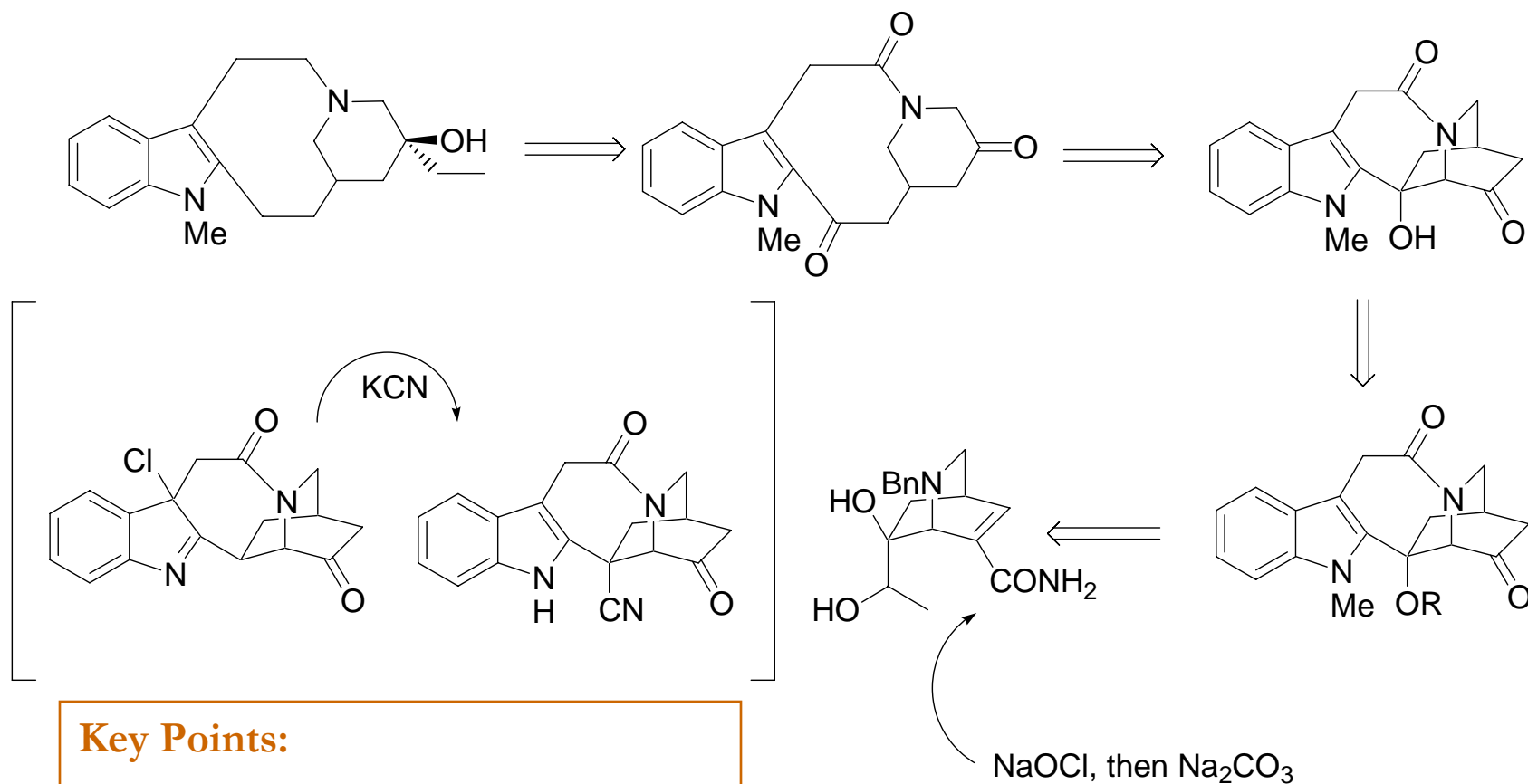
- Ease of separation of enamide vs. amide
- Nice amide ring degradation

**Zurflüh (Zoëcon)-Boll Weevil Pheromone (p. 425)****Key Points:**

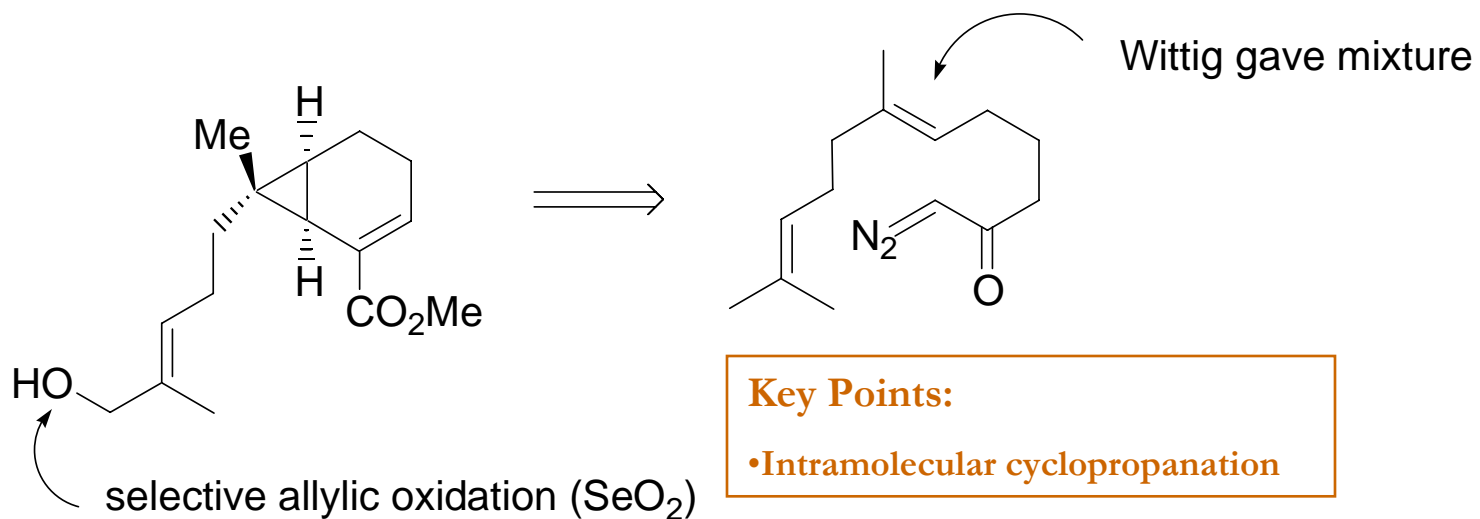
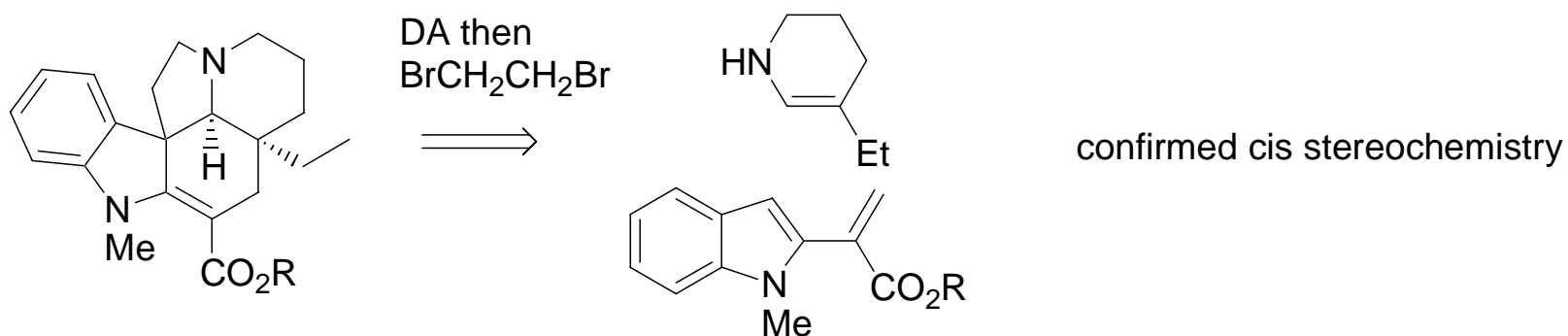
- Degradation in Synthesis

**Büchi-Loganin (p. 2165)****Key Points:**

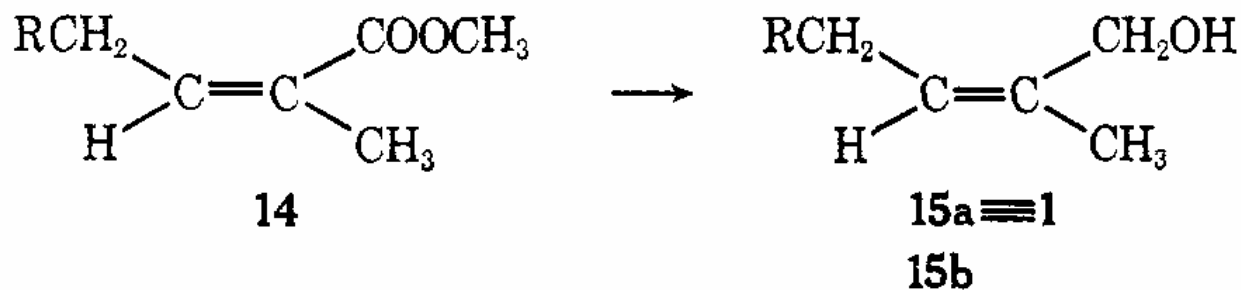
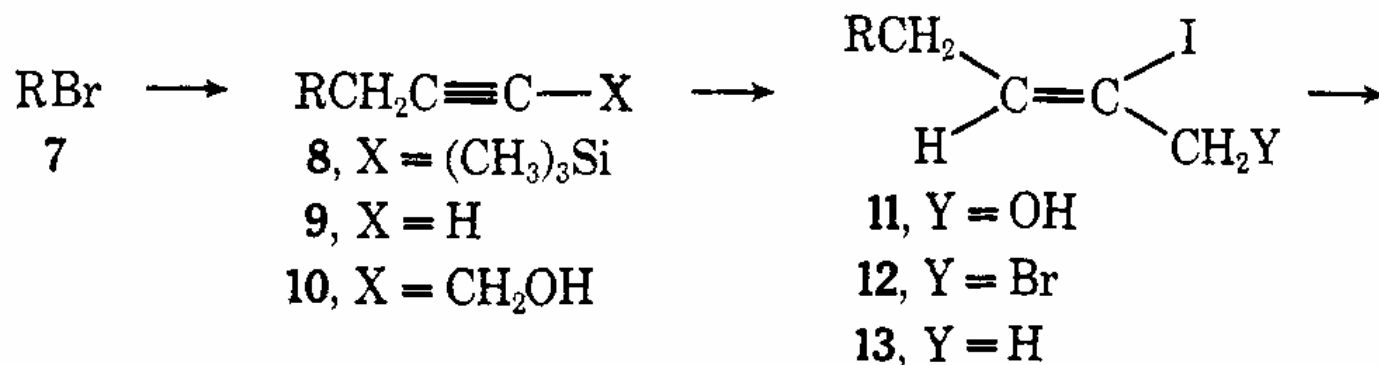
- Interesting 4+2
- Strangely selective formylation

**Büchi (MIT)-Velbenamine/Catharanthine (p. 999)****Key Points:**

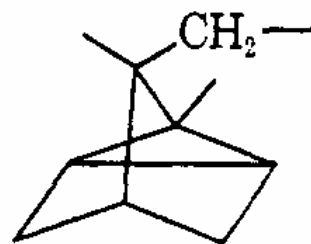
- Eneamide=Ketone
- Selective Carbonyl Differentiation
- Indole alkylation via chlorination/KCN

**Rapoport (Berkeley)-Sirenin (p. 3429)****Spitzner (Yale)-Minovine (p. 3492)**

## Corey/Katzenellenbogen-Santalol (p. 6314)

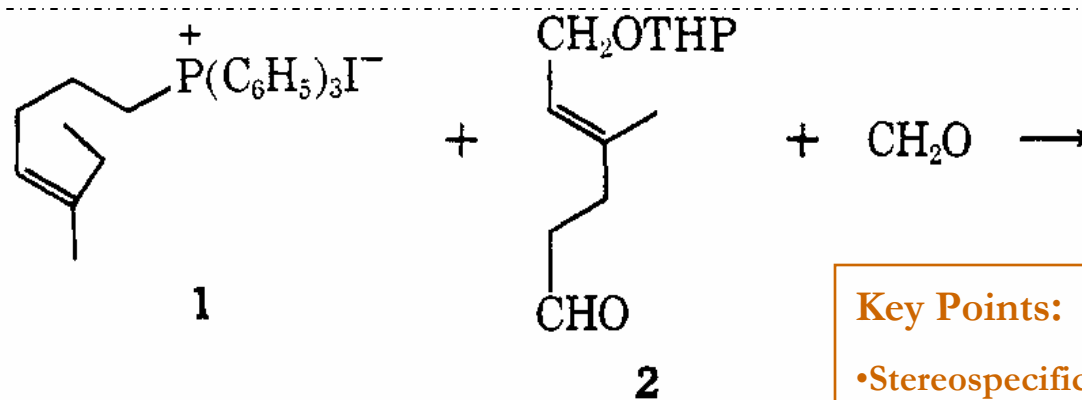
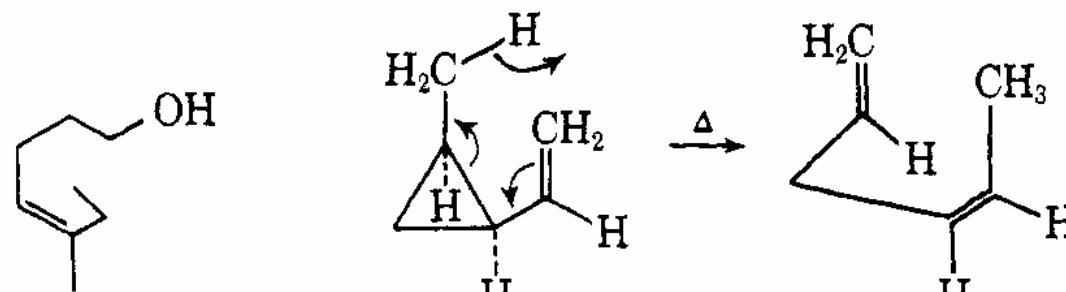


series a, R =

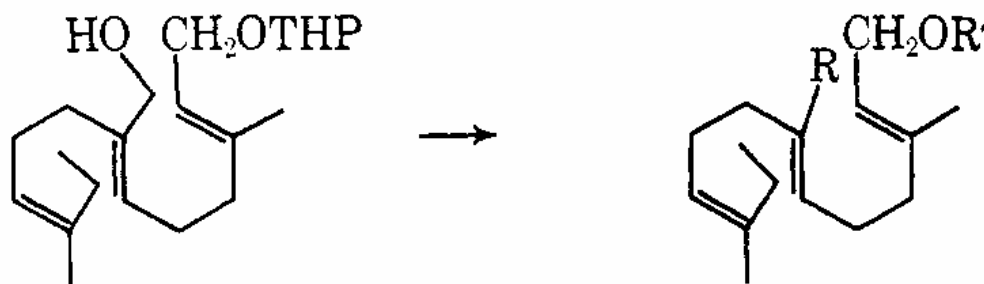
series b, R =  $n\text{-C}_6\text{H}_{13}$ **Key Points:**

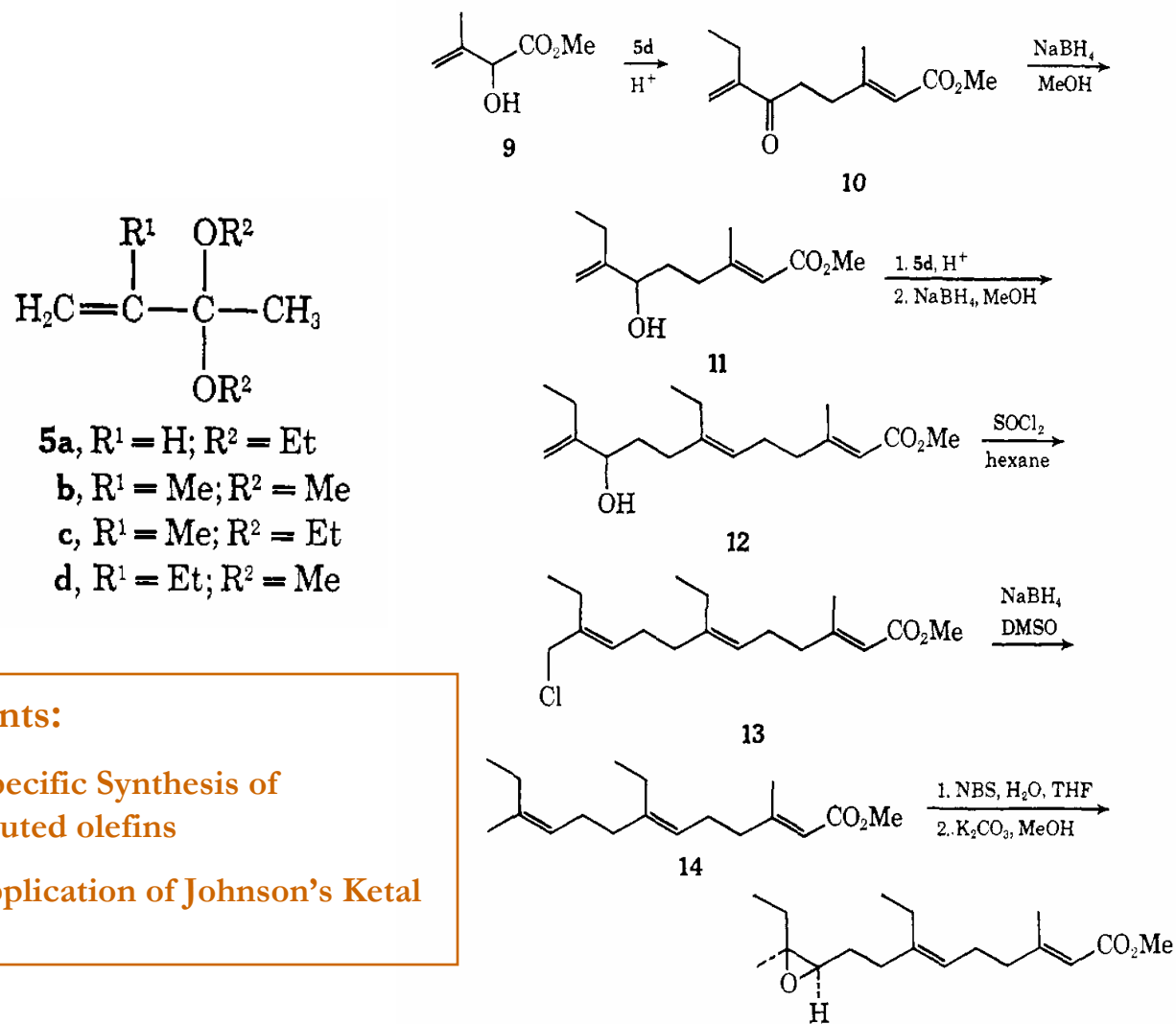
- Stereospecific Synthesis of trisubstituted olefins

## Corey/Yamamoto-Juvenile Hormone (p. 6635)

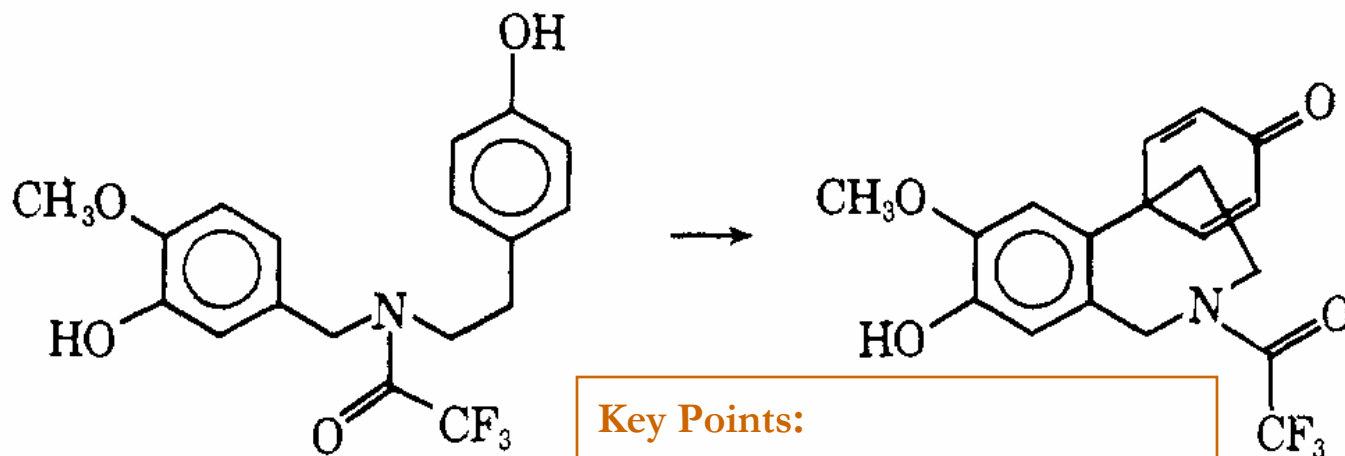
**Key Points:**

- Stereospecific Synthesis of trisubstituted olefins

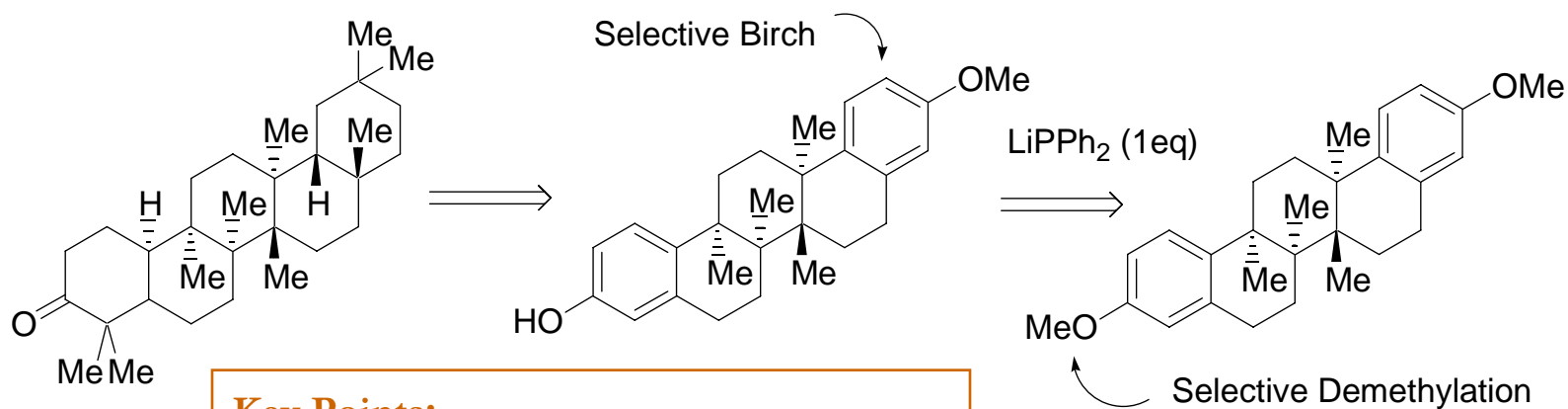


**Juvenile Hormone (Stanford)-Johnson (p. 4463)****Key Points:**

- Stereospecific Synthesis of trisubstituted olefins
- Early application of Johnson's Ketal Claisen

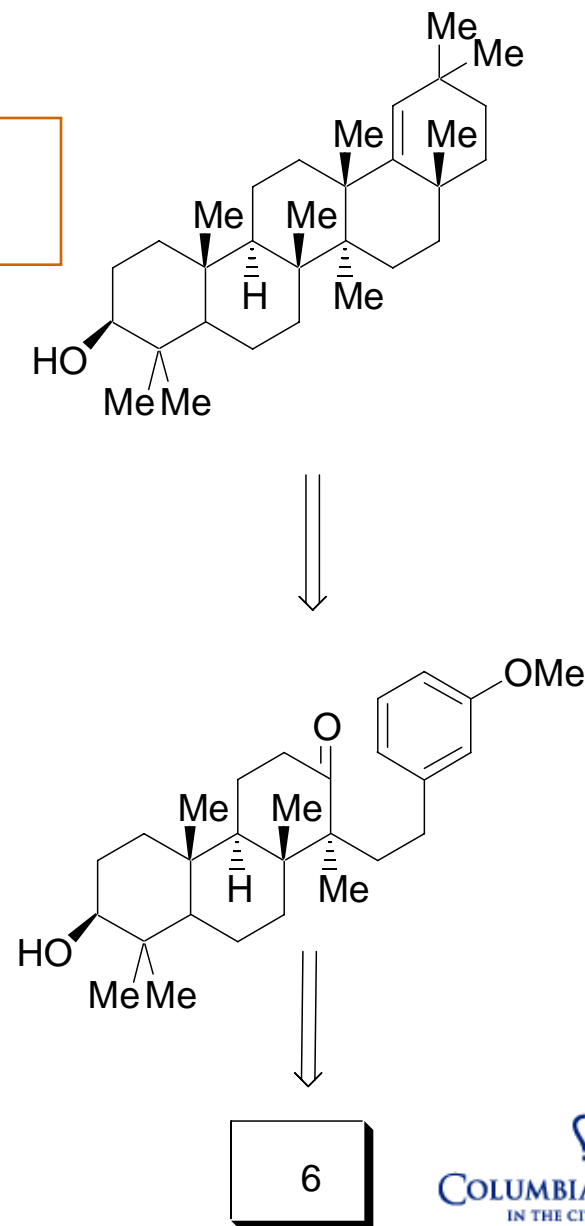
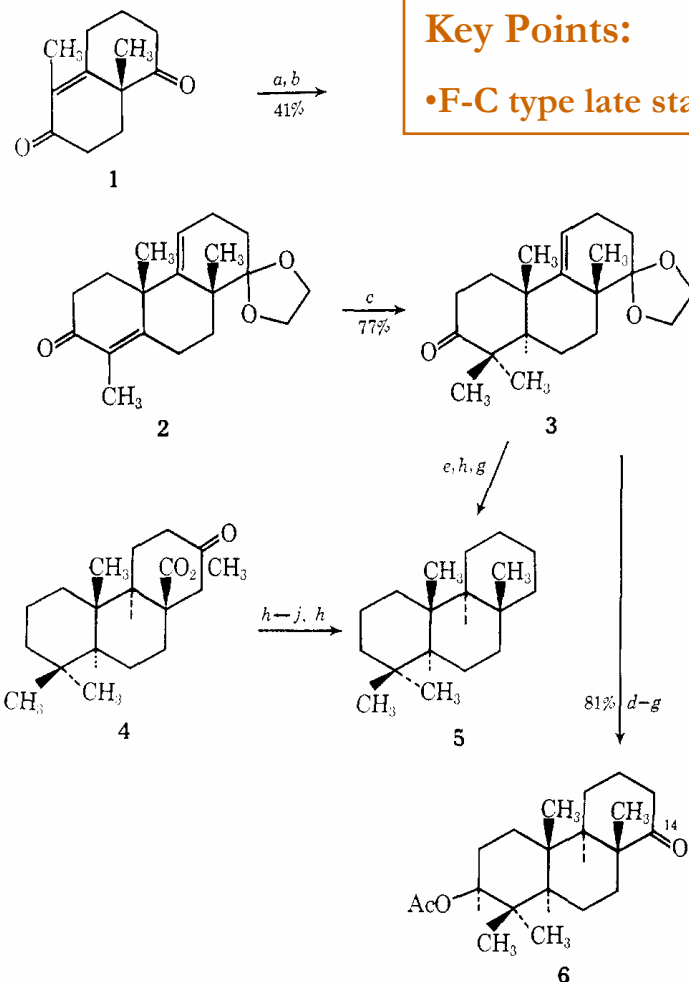
**Holton (FSU)-Maritidine Phenol Coupling (p. 1090)****Key Points:**

- Oxidative aromatic coupling with  $\text{VOCl}_3$

**Ireland-Alnusenone (p. 7232)****Key Points:**

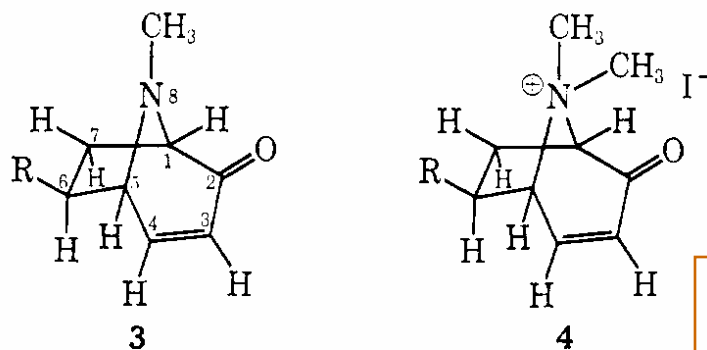
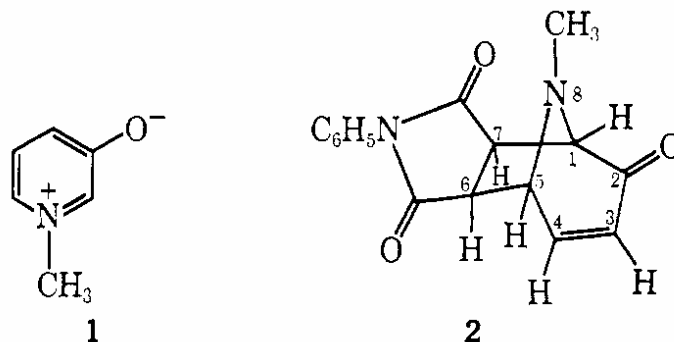
- Unexpected demethylation selectivity

## Ireland/Johnson (Caltech/)-Germanicol (p. 5743)

Chart I. Synthesis and Structure Proof of Tricyclic Intermediate 6<sup>2</sup>

1: <sup>a</sup> (CH<sub>2</sub>OH)<sub>2</sub>, H<sup>+</sup>. <sup>b</sup> C<sub>2</sub>H<sub>5</sub>COCH=CH<sub>2</sub>, NaOCH<sub>3</sub>, CH<sub>3</sub>OH. <sup>c</sup> Li, NH<sub>3</sub>, *tert*-BuOH, CH<sub>3</sub>I. <sup>d</sup> LiAl(O-*tert*-Bu)<sub>3</sub>H. <sup>e</sup> H<sub>3</sub>O<sup>+</sup>. <sup>f</sup> Ac<sub>2</sub>O, pyr. <sup>g</sup> H<sub>2</sub>, Pd-C, HOAc. <sup>h</sup> N<sub>2</sub>H<sub>4</sub>, OH<sup>-</sup>, DEG. <sup>i</sup> SOCl<sub>2</sub>, C<sub>6</sub>H<sub>6</sub>. <sup>j</sup> H<sub>2</sub>, Pd-BaSO<sub>4</sub>.

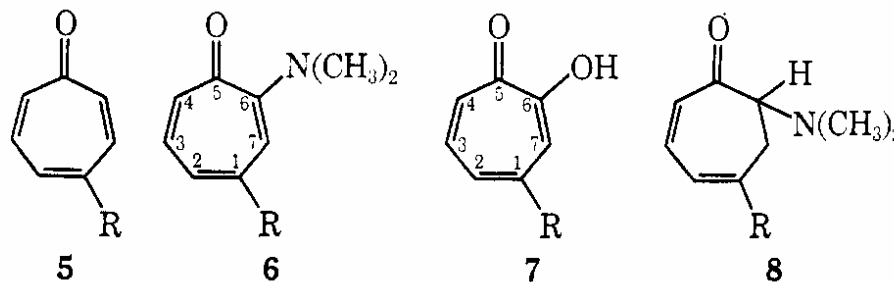
## Katritzky (U of E. Anglia)-Tropones (p. 4134)

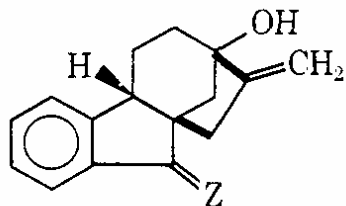
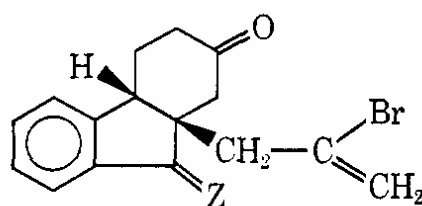
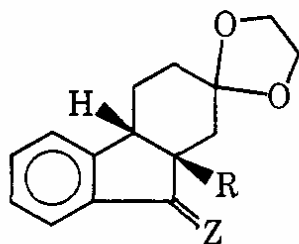
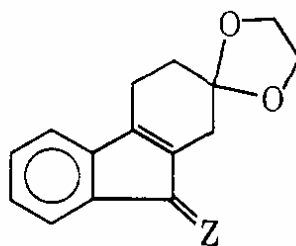
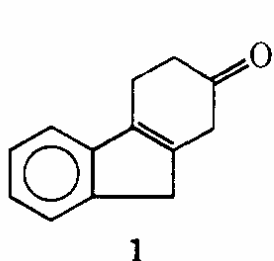


a, R = CN; b, R = CO<sub>2</sub>CH<sub>3</sub>

**Key Points:**

- 1,3 dipolar cycloaddition with betaines

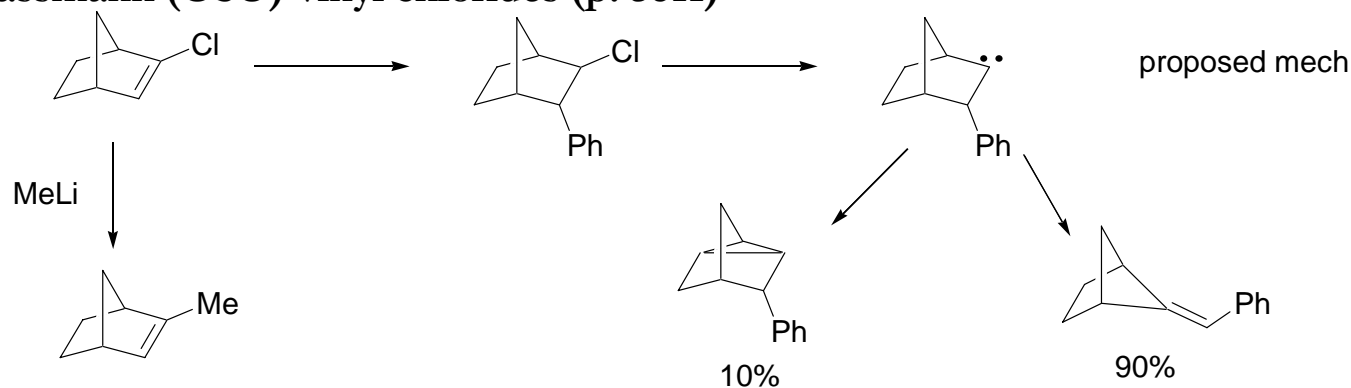
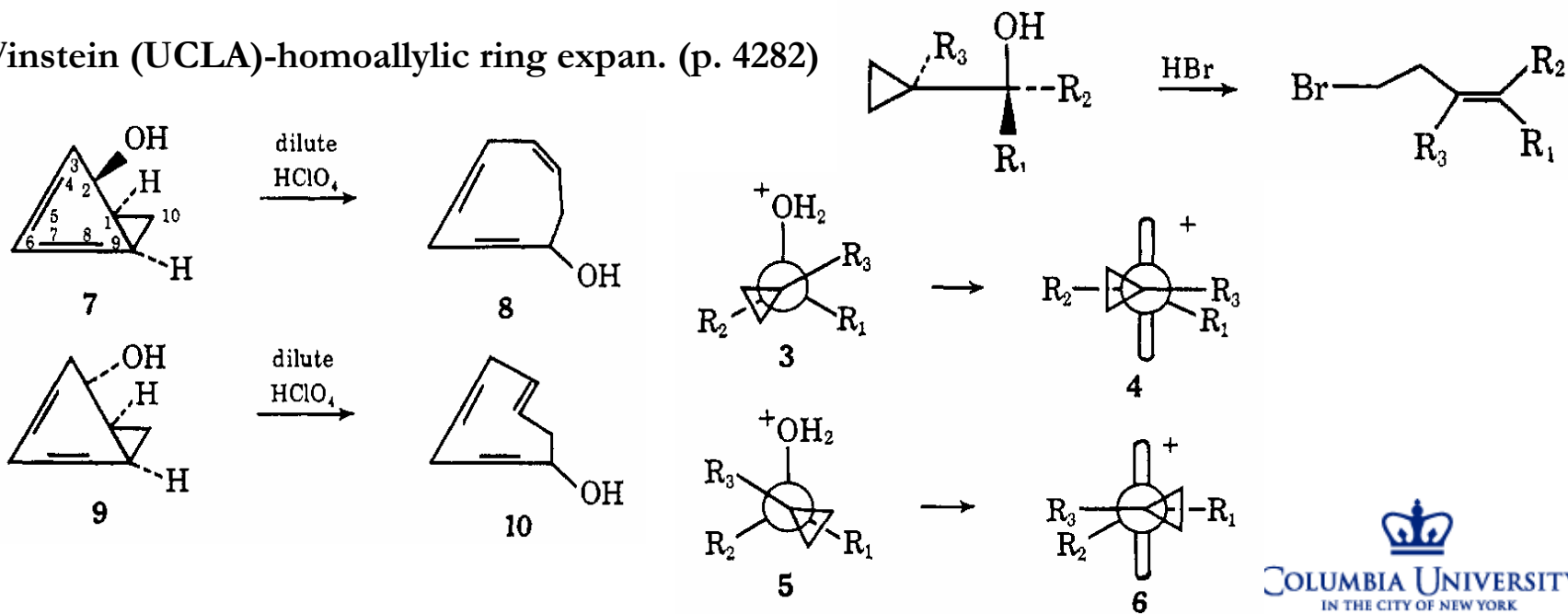


**Corey-Gibberellic Acid (progress) (p. 396)****Skipped Syntheses**

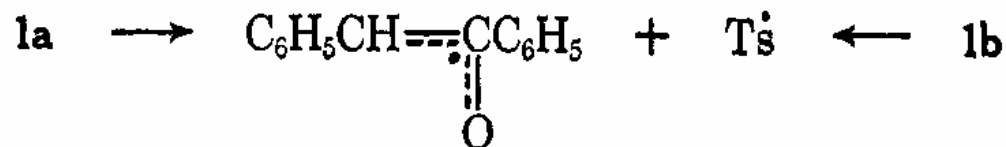
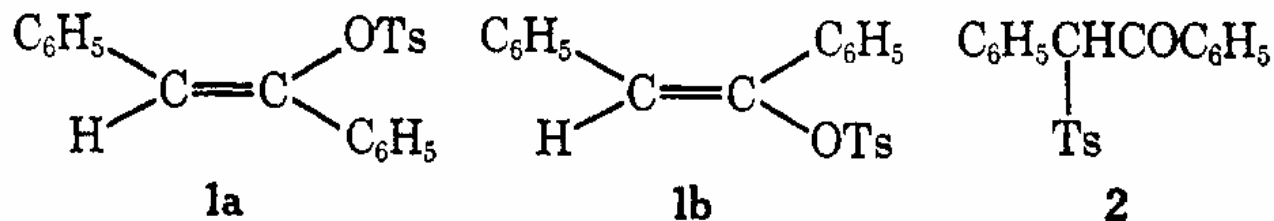
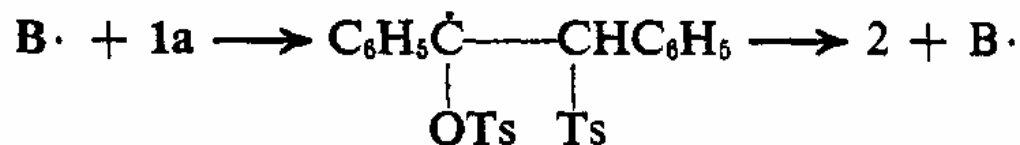
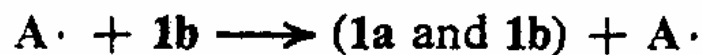
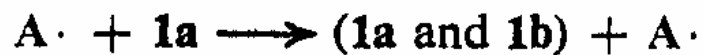
- Piers' General Alkaloid Approach (Schiff Base closure)
- Hendrickson's Haemanthidine
- Rinehart's Slaframycin and Nybomycin
- Kamada's Gibberellin
- Corey's Asymmetric Prostaglandin (resolution of SM)

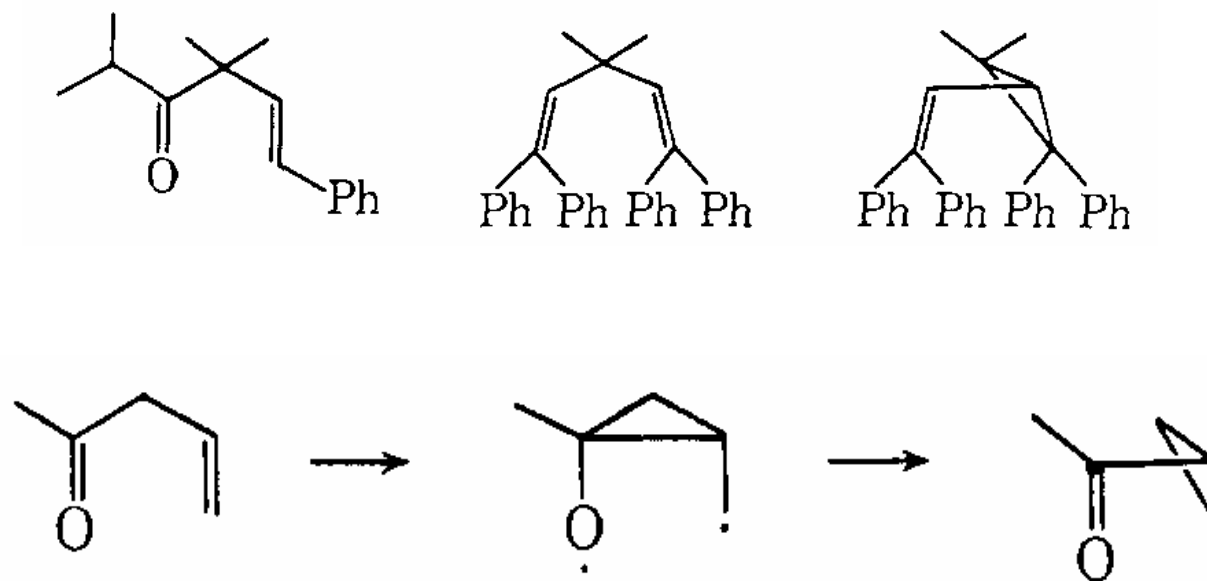
**Key Points:**

- Vinyl bromide addition to ketones

Rearrangements**Gassmann (OSU)-vinyl chlorides (p. 5811)****Winstein (UCLA)-homoallylic ring expan. (p. 4282)**

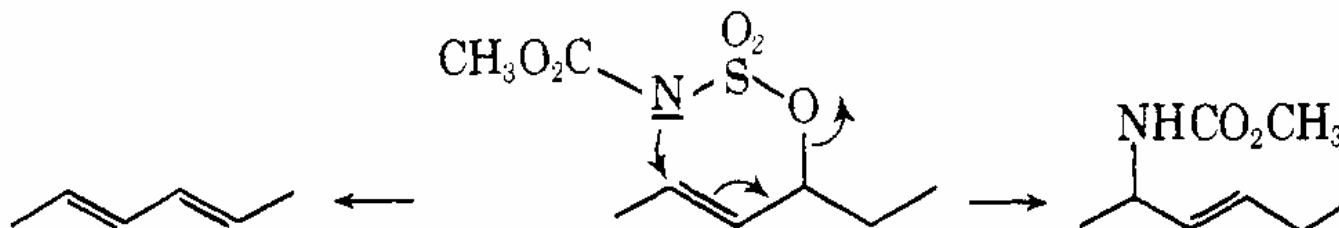
## Mazur (Weizmann Inst.)-Enol Sulfonate (n. 3203)

**A·****B·**

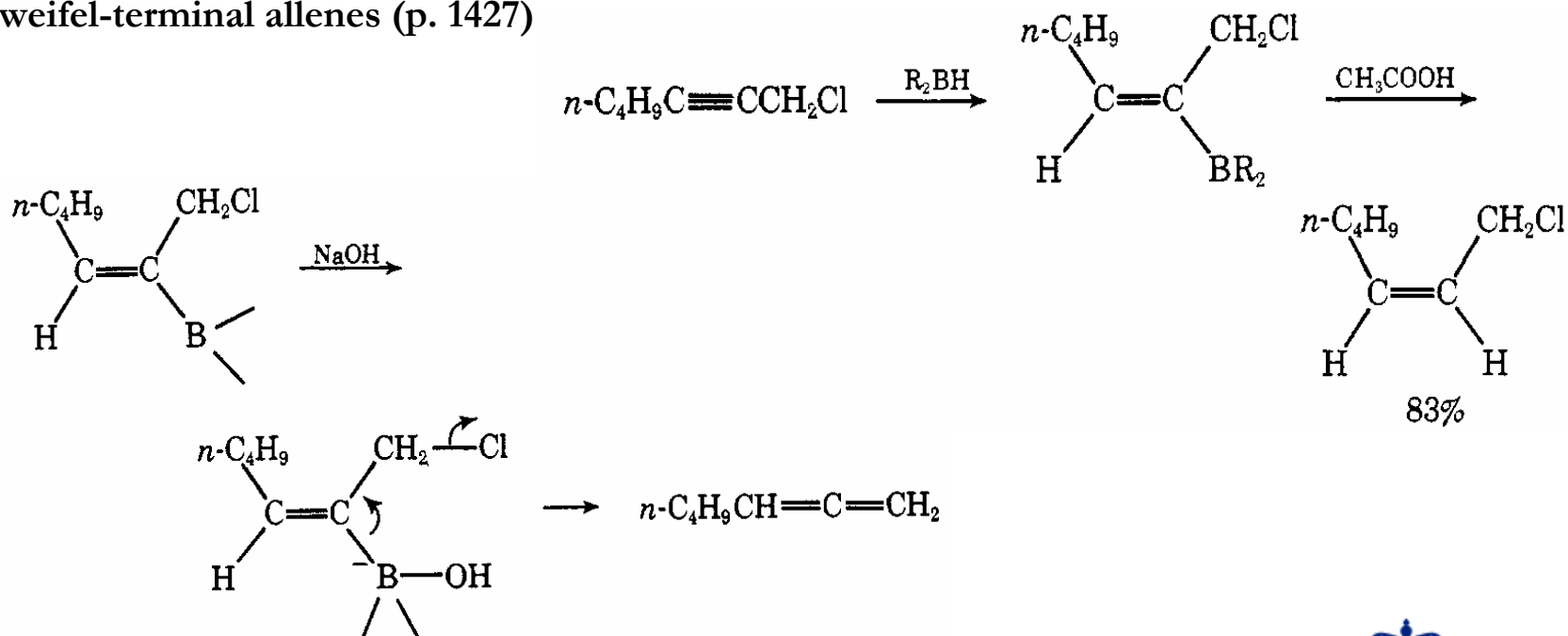
**Büchi-Dihydropyran Claisen (p. 3126)****Dauben (Berkeley)-Oxa di- $\pi$  methane (p. 1786)**

Reagents/Building Blocks

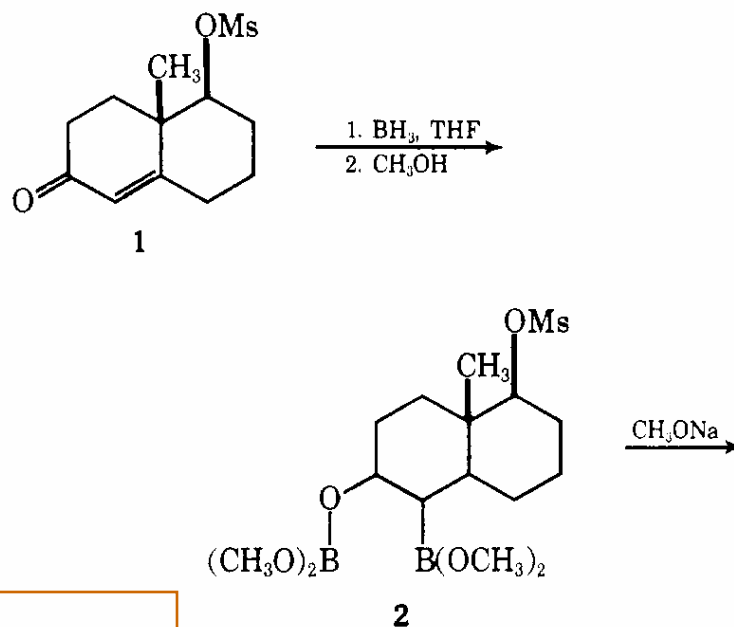
Burgess (Georgia Tech)-N-carbomethoxysulfamate esters (p. 5224)



Zweifel-terminal allenes (p. 1427)

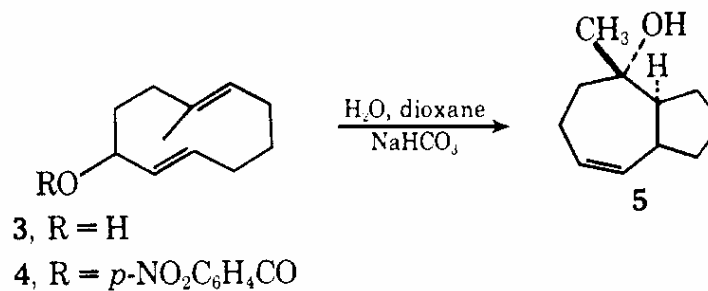


Marshall (Northwestern)-hydroazulenes (p. 6358)

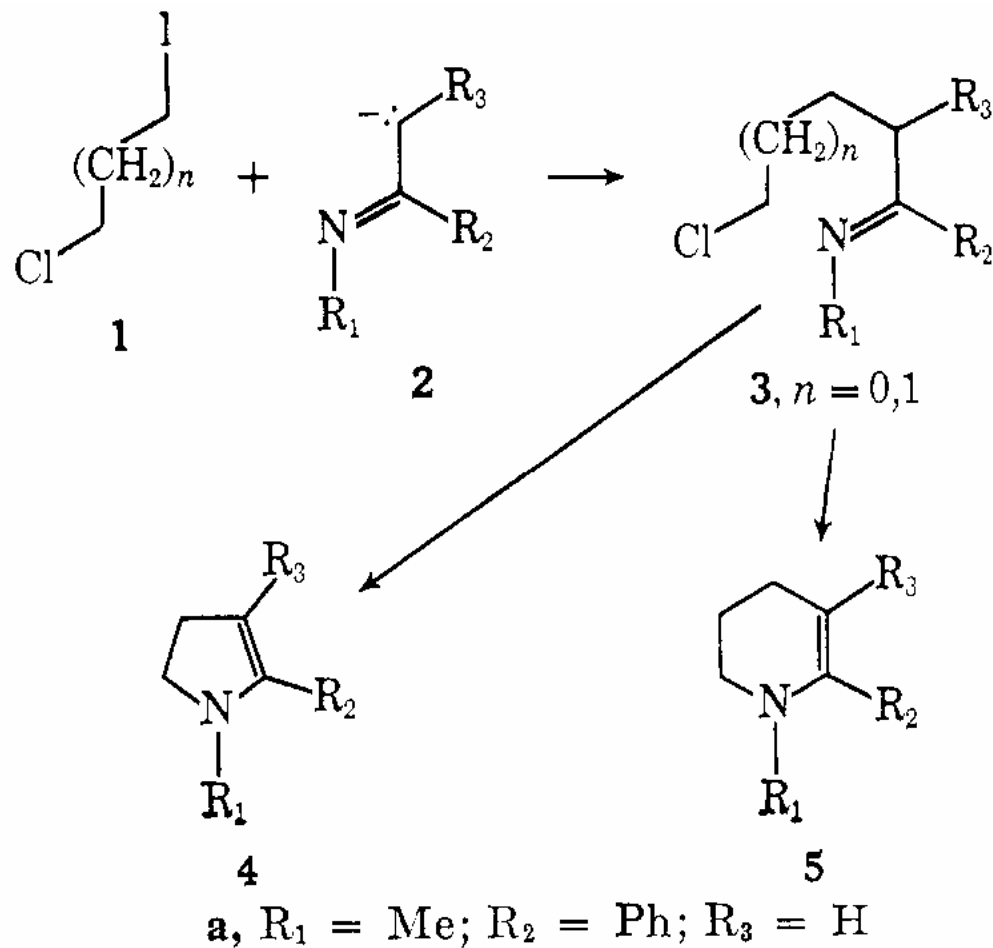


**Key Points:**

- Marshall boronate frag.

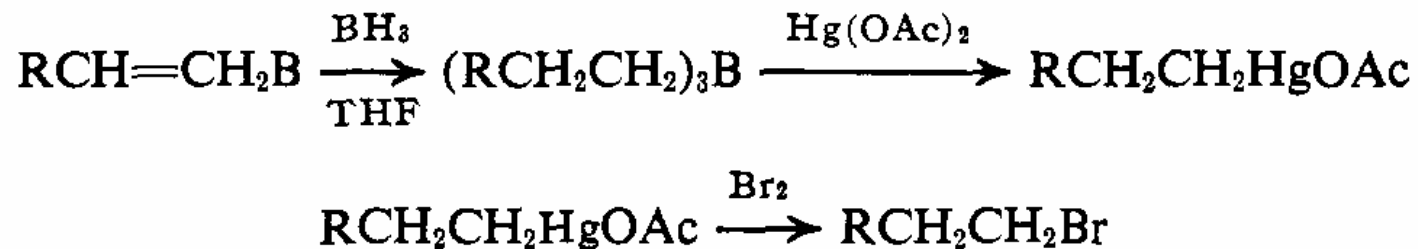


## Evans (UCLA)-Endocyclic Enamine (p. 7593)

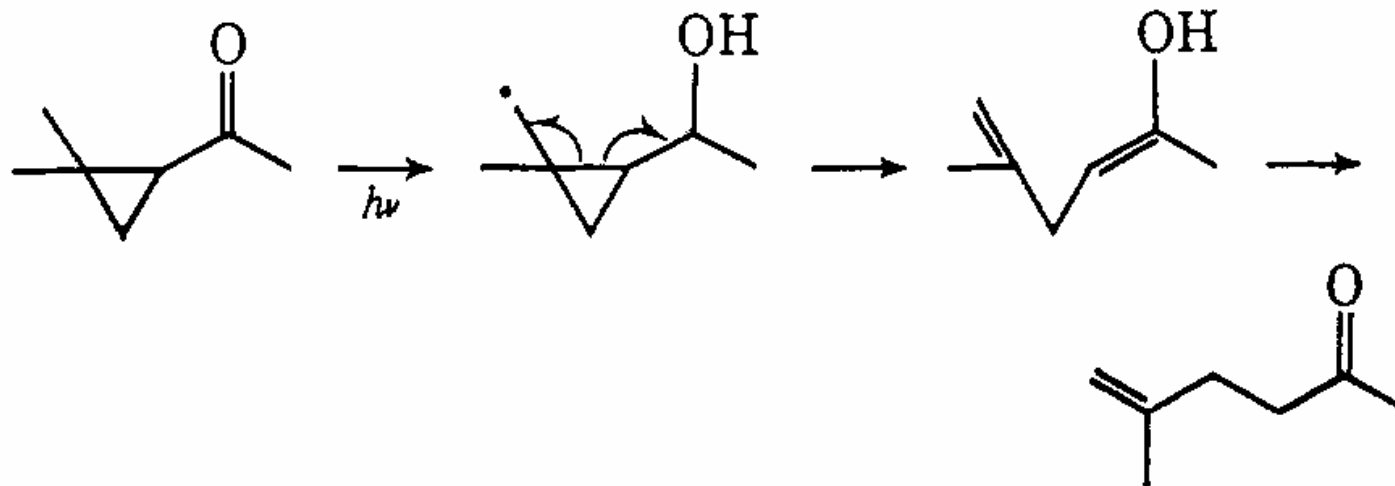




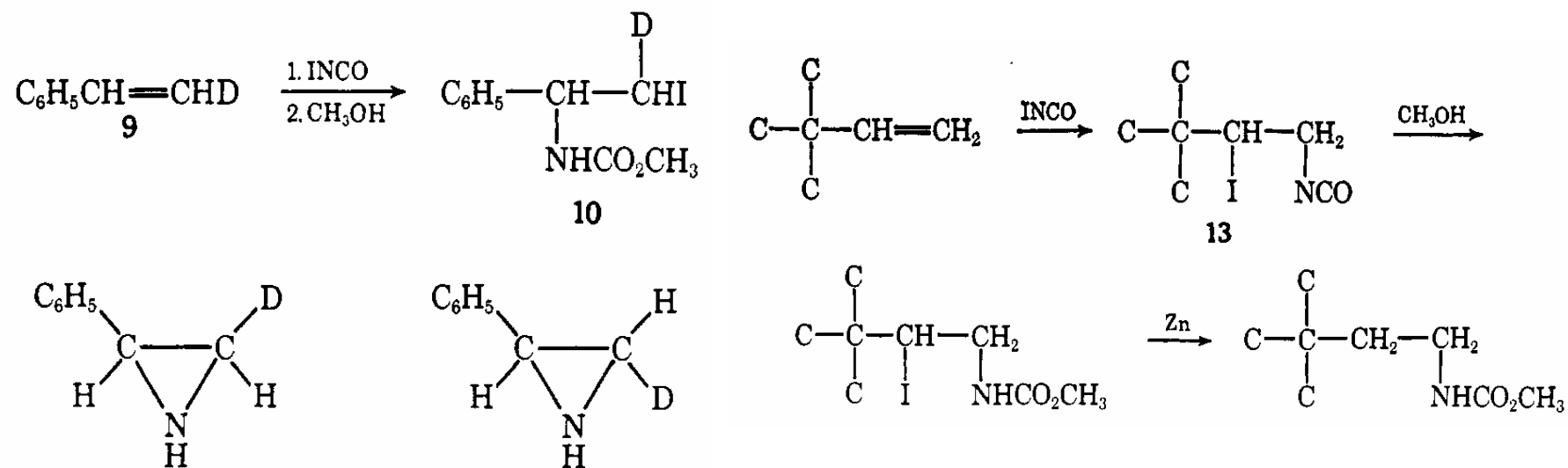
Tufariello (SUNY-Buffalo)-antiMarkovnikov hydrohalogenation (p. 3221)



Dauben-cyclopropyl ketone (p. 6273)



## Hassner (UC-Boulder)-INCO Addition (p. 1326)



## Hilfiker (SUNY-Buff)-2chloroalkenes (p. 5649)

