

## 1992

- international space year (UN)
- space shuttle *Endeavour* first launched in May
- first confirmed detection of extrasolar planet
- Rudolph A. Marcus won the Nobel prize in Chemistry for ET theory

## overview: JACS-1992 (Vol. 114)

- 11209 pages
- 1332 articles, 835 commu.
- ca. 57 total synthesis

 **the article of the year**

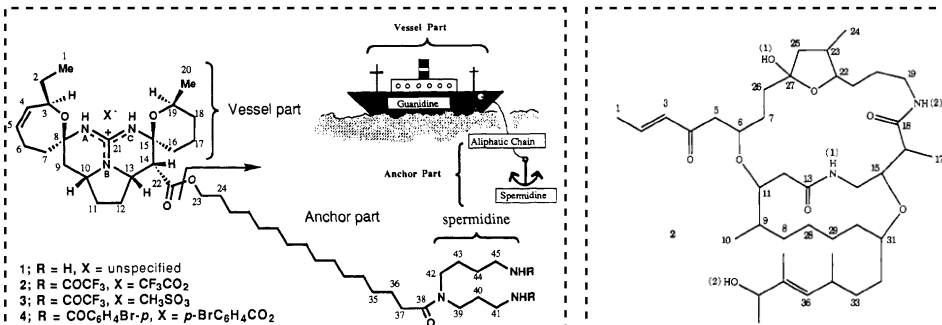
**a new family of mesoporous  
molecular sieves prepared  
with liquid-crystal templates**

Beck, Vartuli, Roth, Leonowicz,  
Kresge et al. 10934-10843

time cited 6311 (web of science),  
rank 4<sup>th</sup> JACS most cited of all  
time (01/13/2012)

## publication record (total syn.)

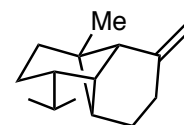
Nicolaou, 12 (5)  
Trost, 12 (1)  
Smith III, 11 (5)  
Paquette, 9 (2)  
Danishefsky, 8 (2)  
Magnus, 8 (0)  
Evans, 6 (2)  
Grubbs, 6 (0)  
Myers, 6 (0)  
Corey, 5 (1)  
Schreiber, 4 (2)  
Boger, 3 (1)  
Kishi, 2 (2)  
Yamamoto, 2 (0)  
Sharpless, 2 (0)



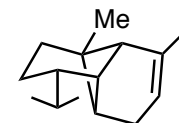
**structure determination: ptilomycalin A**  
Kusumi, Kashman *et al.* 8472-8479

**revision: bistramide A**  
Ireland *et al.* 1110-1111

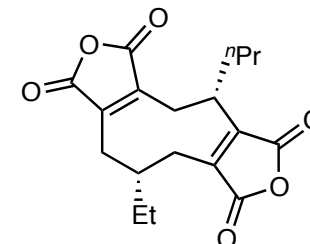
## syntheses partly or fully discussed



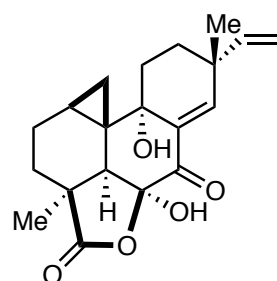
(±)-β-copaene



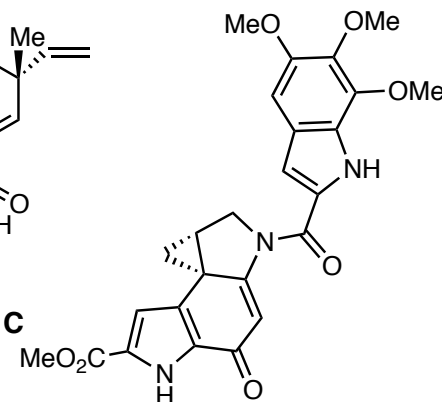
(±)-α-copaene



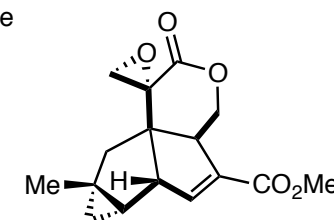
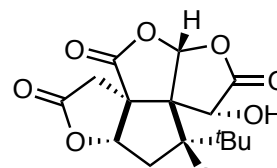
(±)-byssochlamic acid



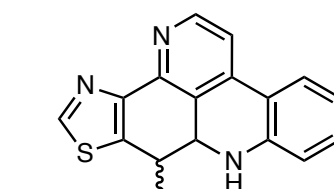
myrocin C



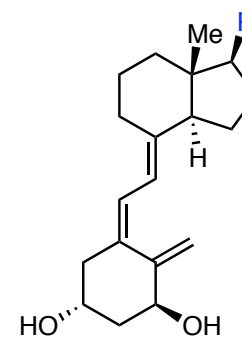
(+)duocarmycin SA

pentalenolactone P  
methyl ester

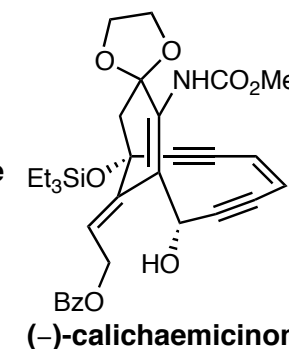
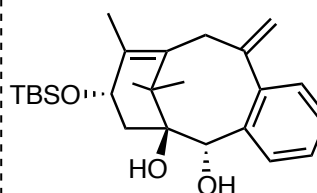
(±)-bilobalide



kuanoniamine D

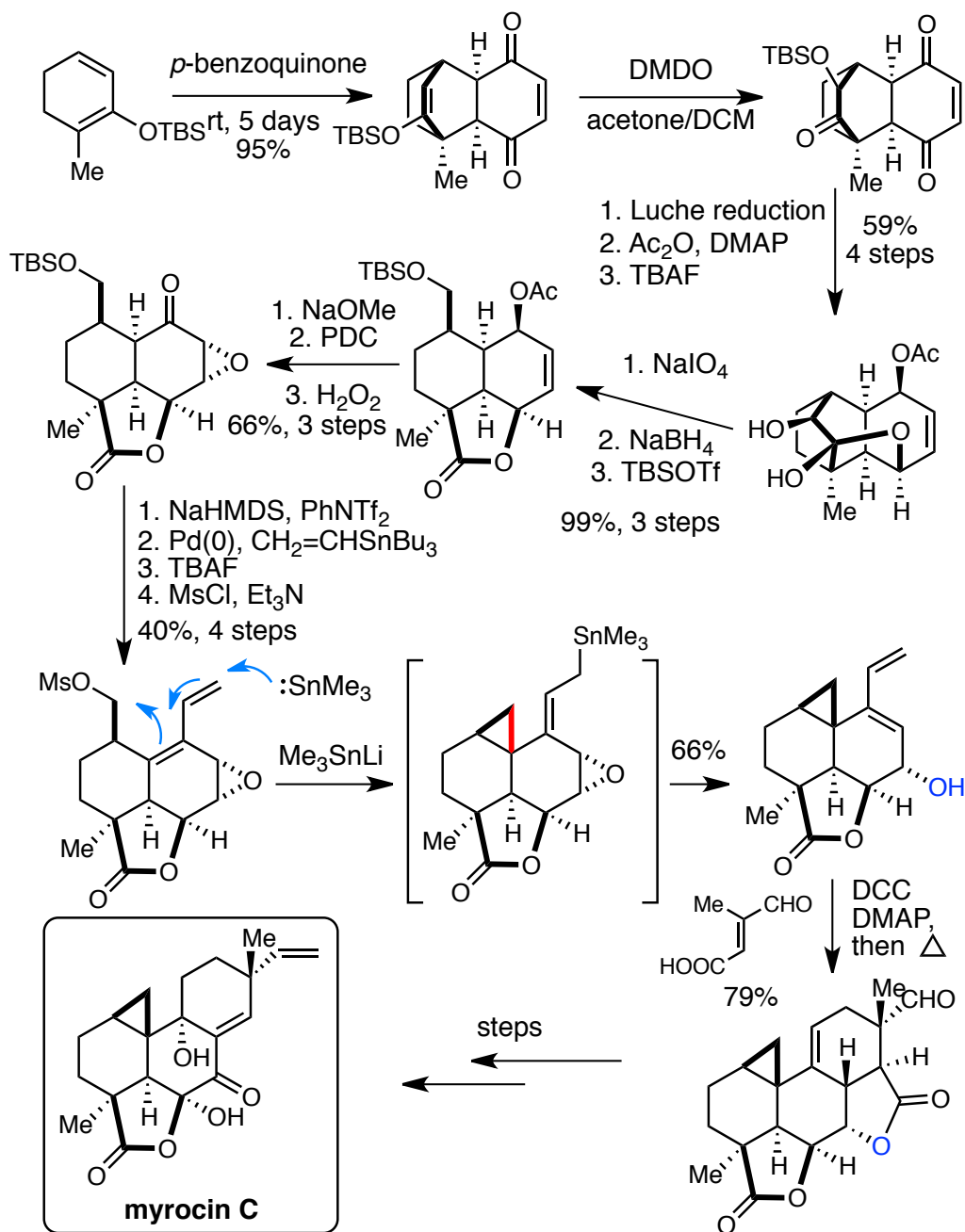


a vitamin D metabolite

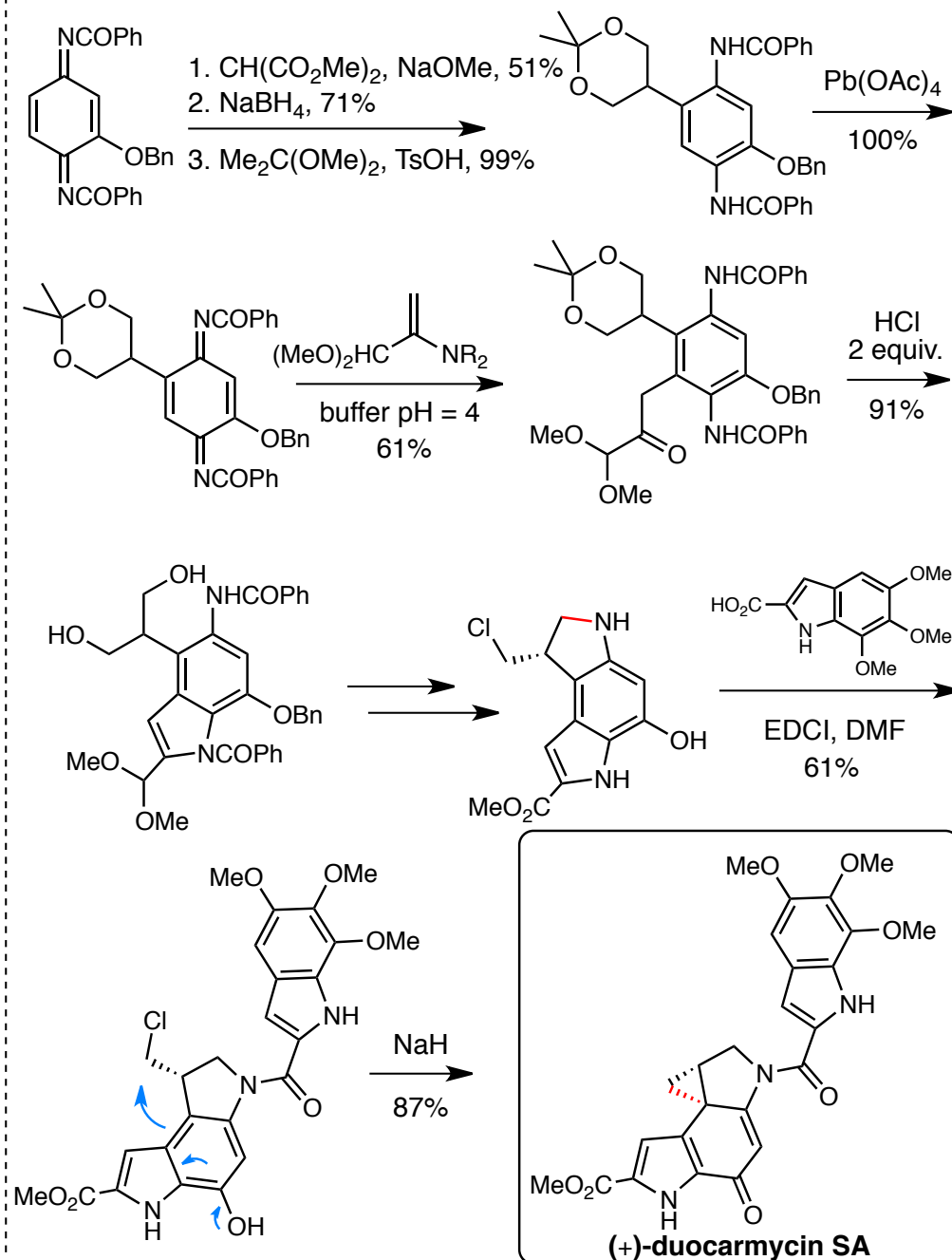


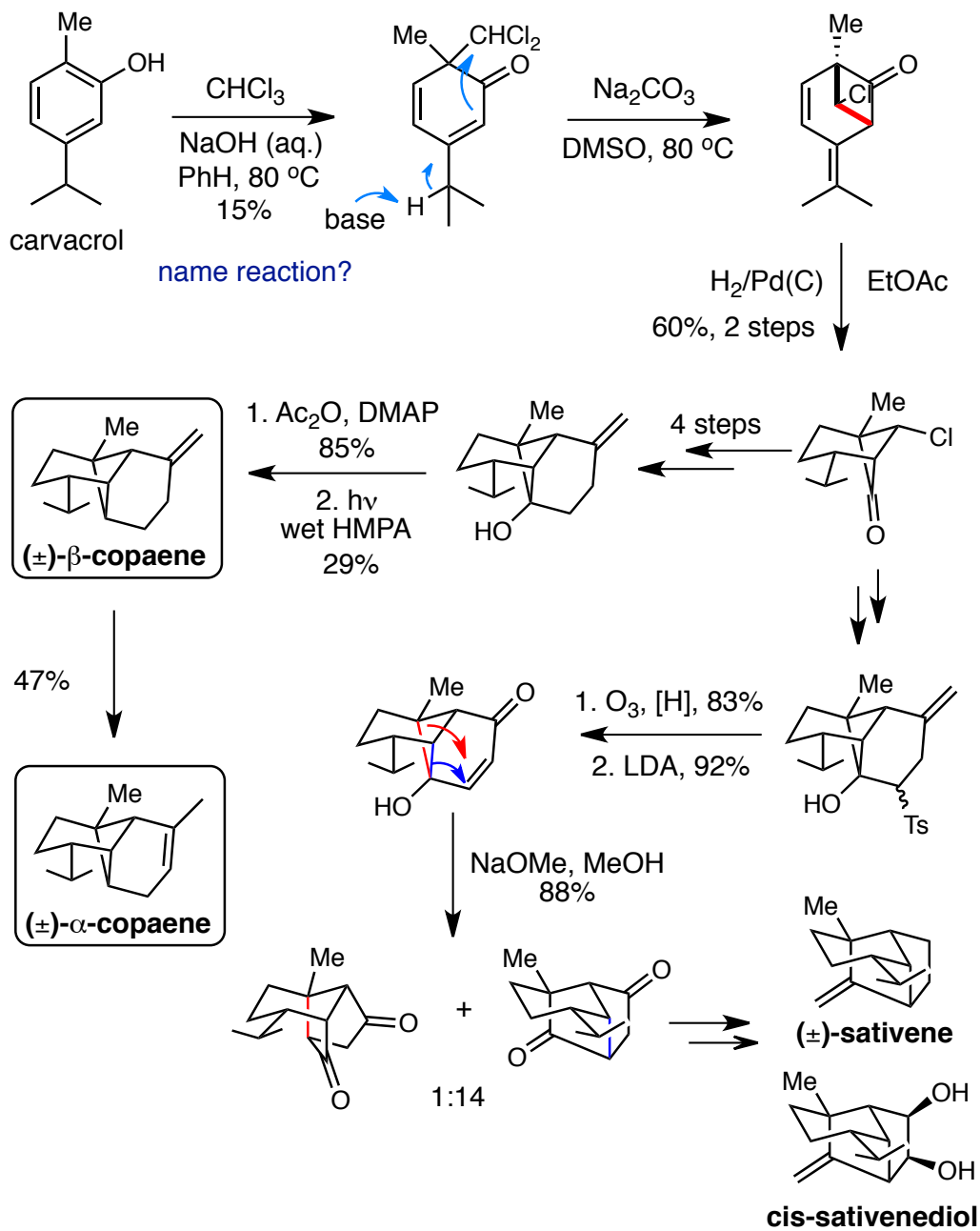
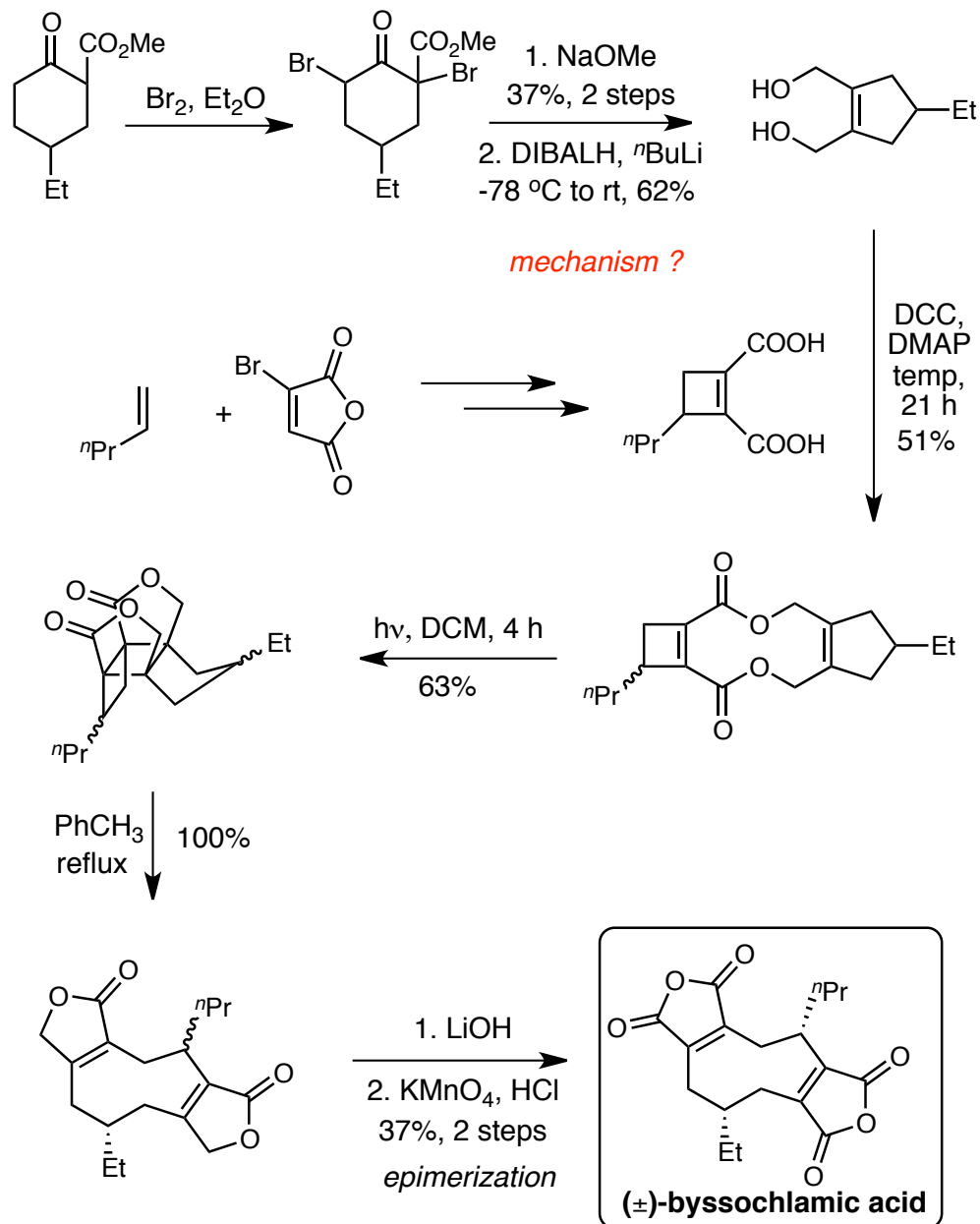
(-)-calichaemicinone

## myrocin C, Chu-Moyer and Danishefsky, 8333-8334

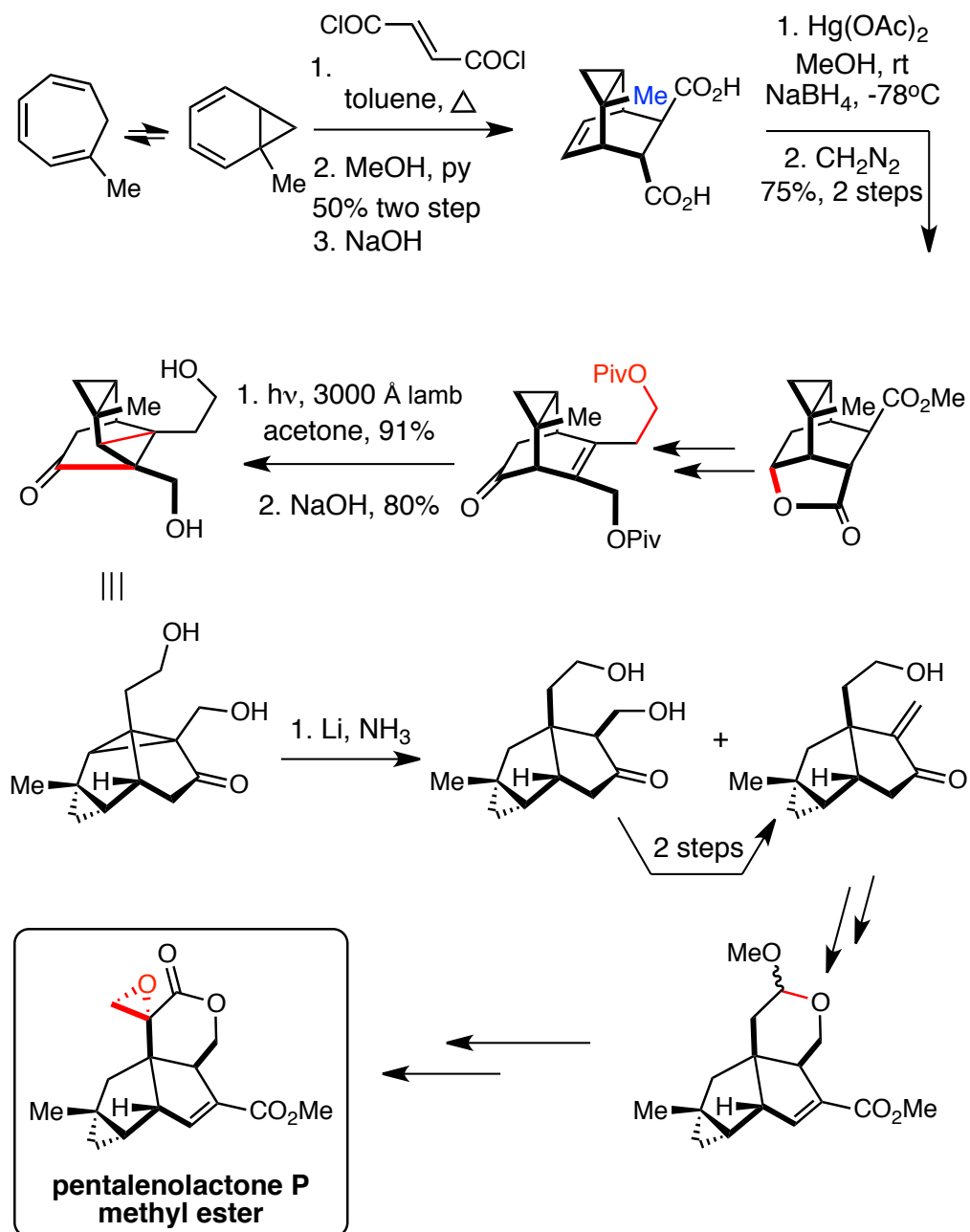


## (+) -duocarmycin SA, Boger, 10056-10058

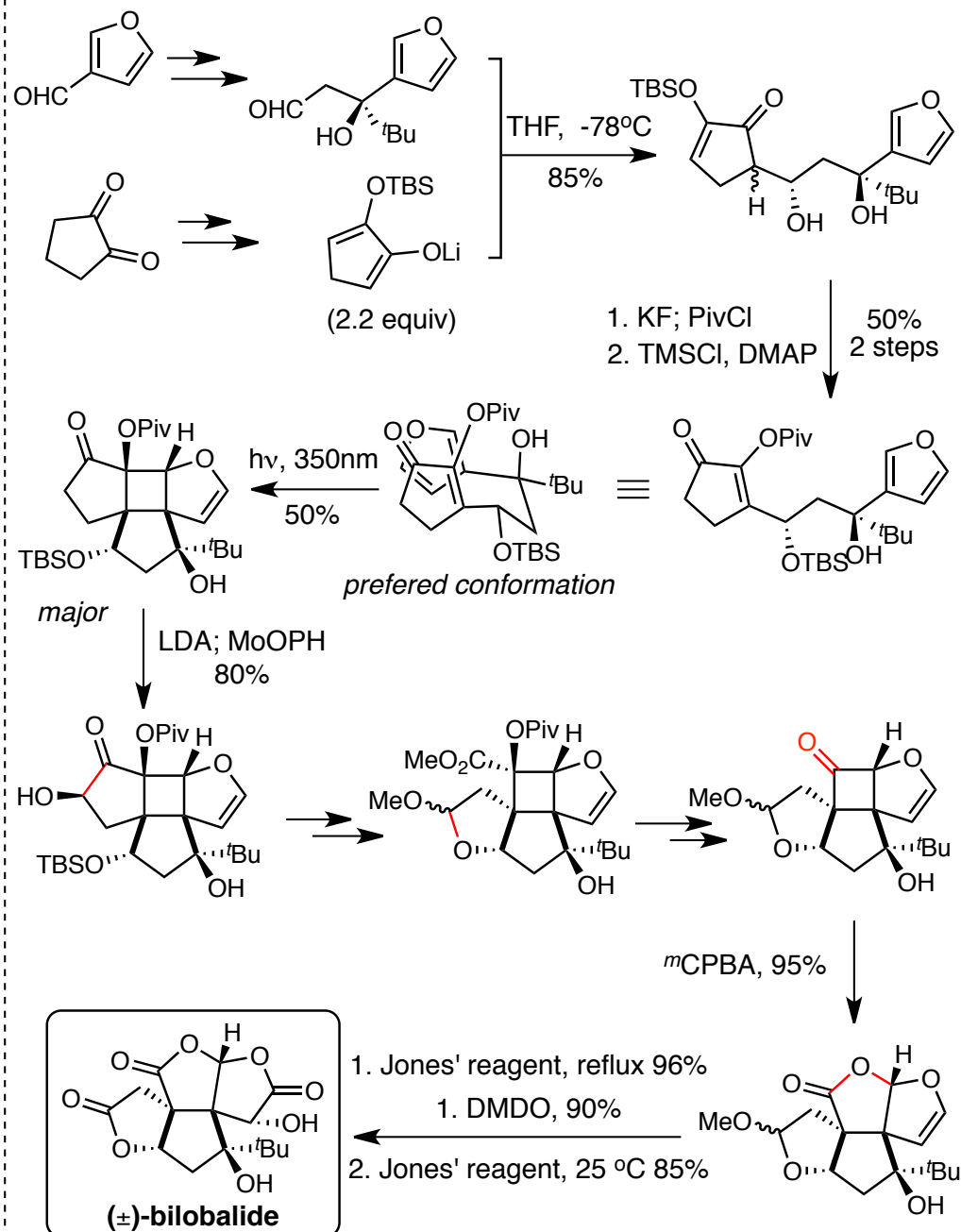


**(±)-α/β-copaene**, and related compounds, Wenkert, 644-654**(±)-byssochlamic acid**, White, 9673-9674

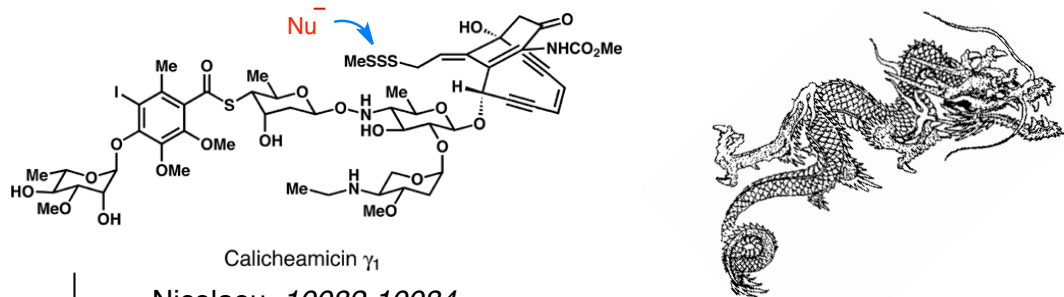
## pentalenolactone P, Paquette, 7387-7395



## (±)-bilobalide, Crimmins, 5445-5447

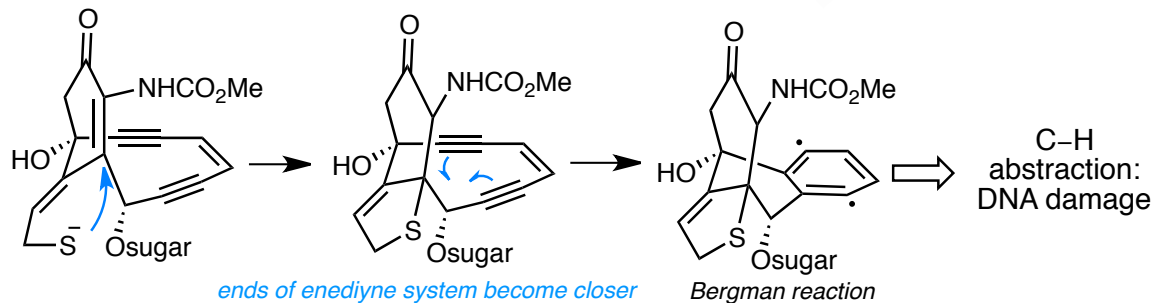




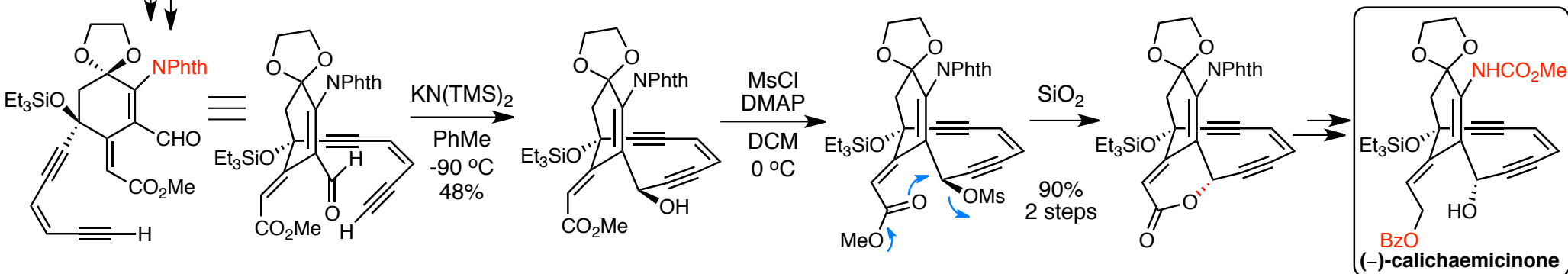
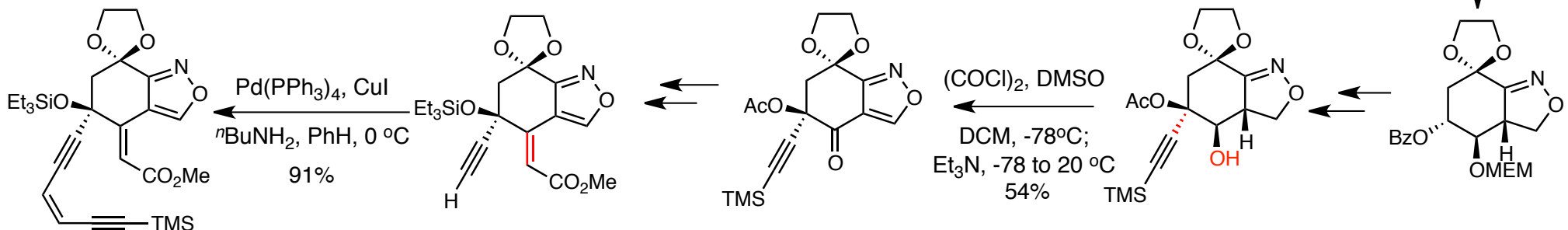
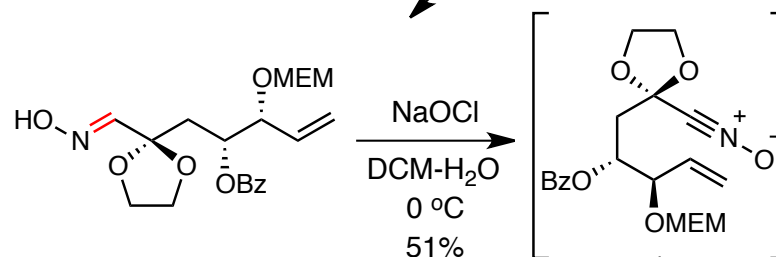
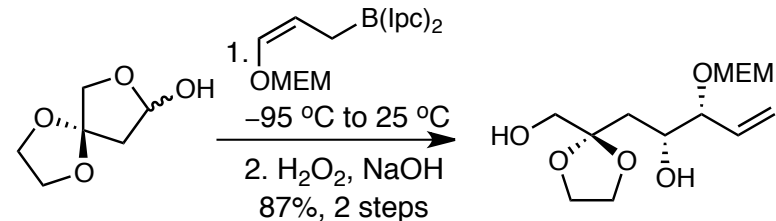


Nicolaou, 10082-10084

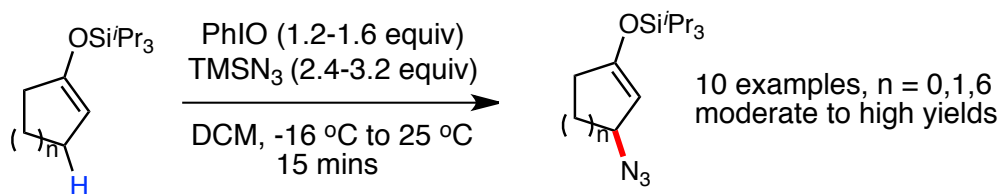
**mechanism of action**



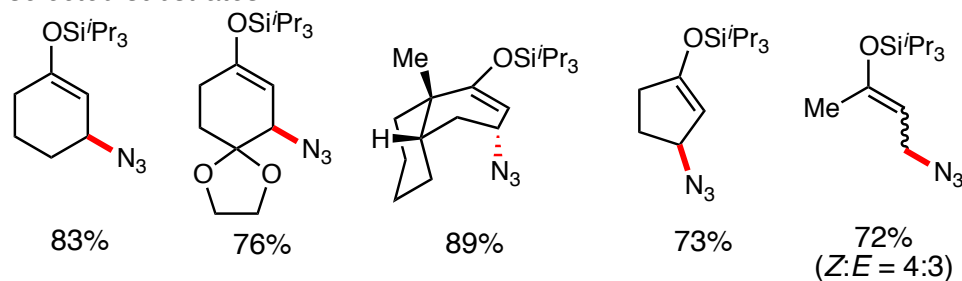
(-)-calichaemicinone, Nicolaou, 3134-3136



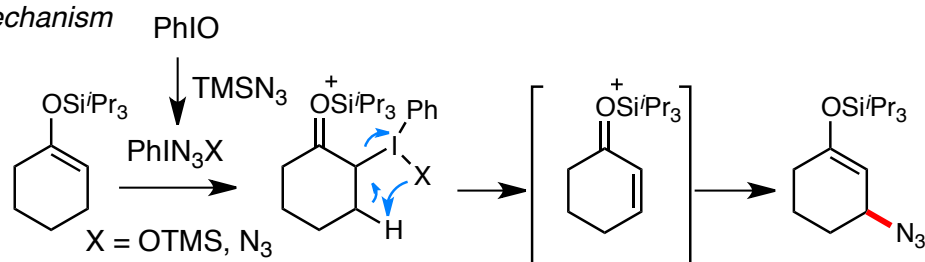
**direct  $\beta$ -azido functionalization of triisopropylsilyl enol ethers,**  
Magnus, 767-769, and 3993-3994 (transformation to other functions)



**selected substrates**

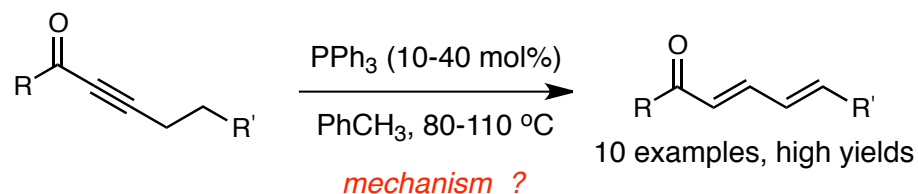


**mechanism**



**internal redox catalyzed by  $\text{PPh}_3$**

Trost, 7933-7935

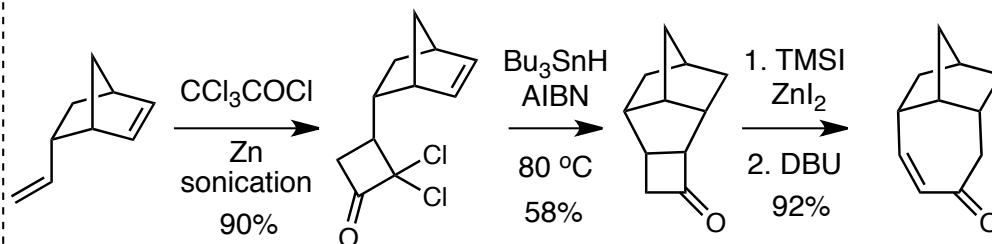


reactivity: ketone > ester > amide

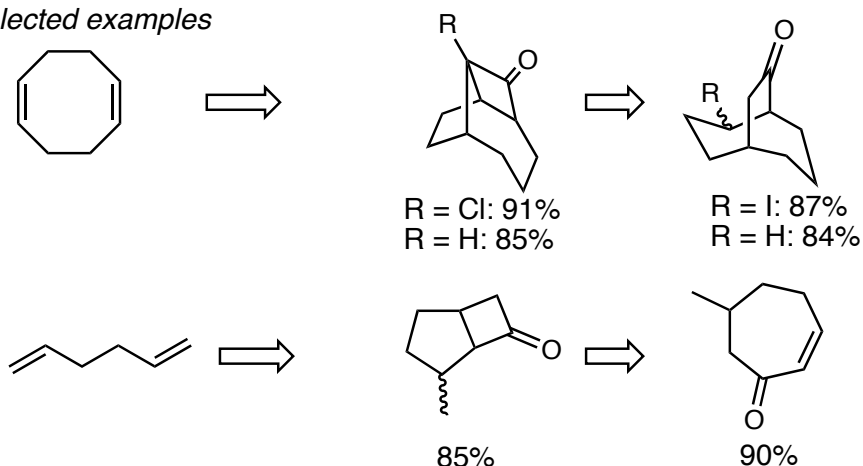
acetic acid as additive (50 mol%) in cases of esters and amides

$\text{Et}_3\text{N} : \text{NR}$

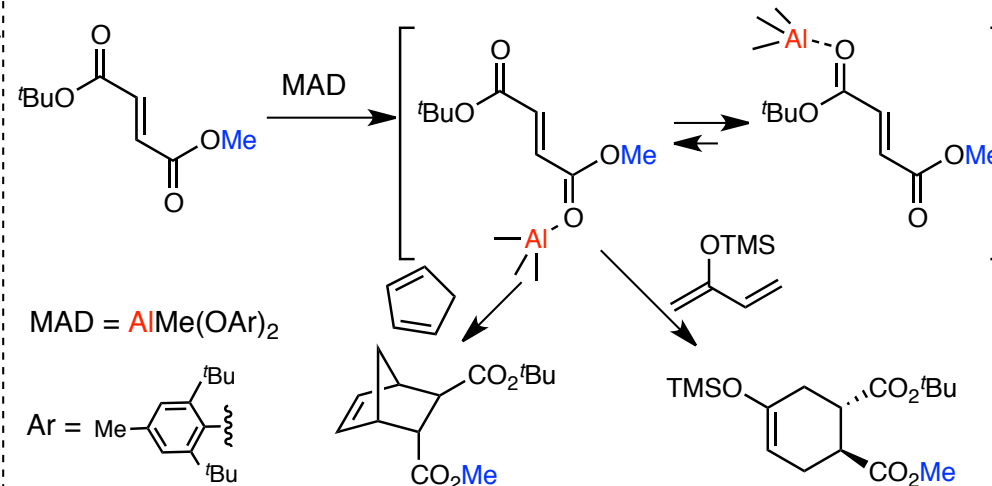
**novel free radical ring-forming reaction of dichlorocyclobutanones and sequential ring expansion, Dowd, 10084-10085**



**selected examples**

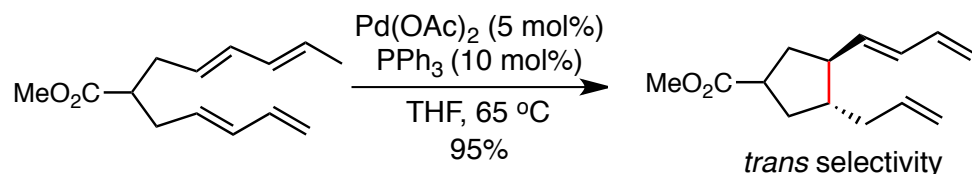


**discrimination of two different ester carbonyls, Yamamoto, 1089-1090**

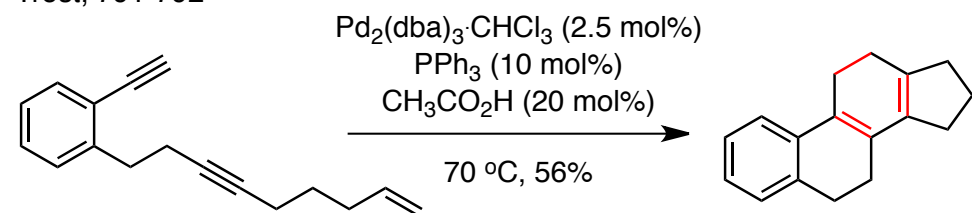


## palladium catalyzed cyclization

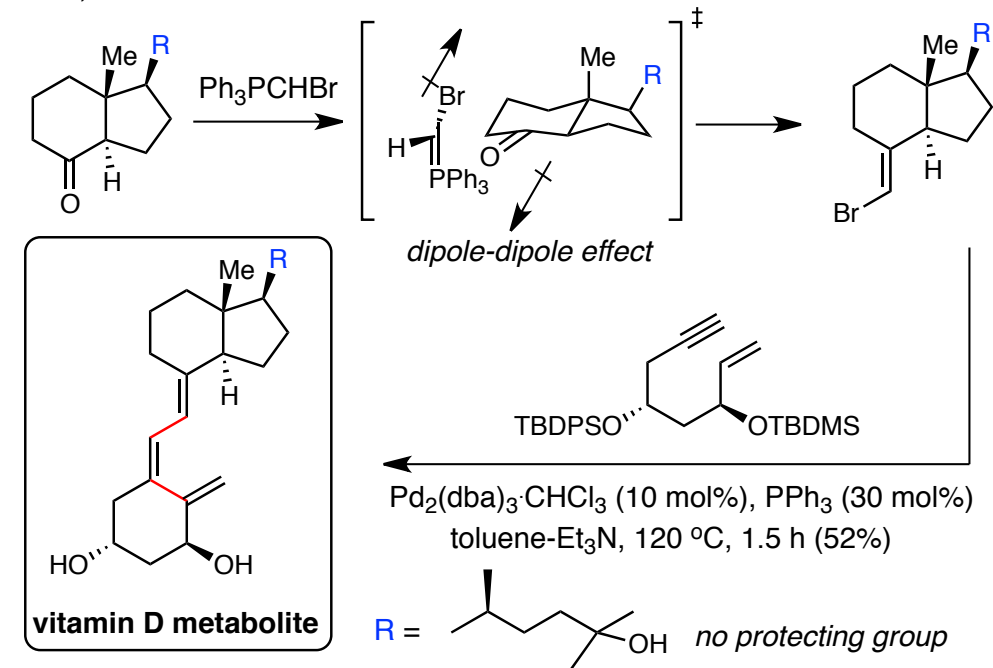
Takacs, 773-774



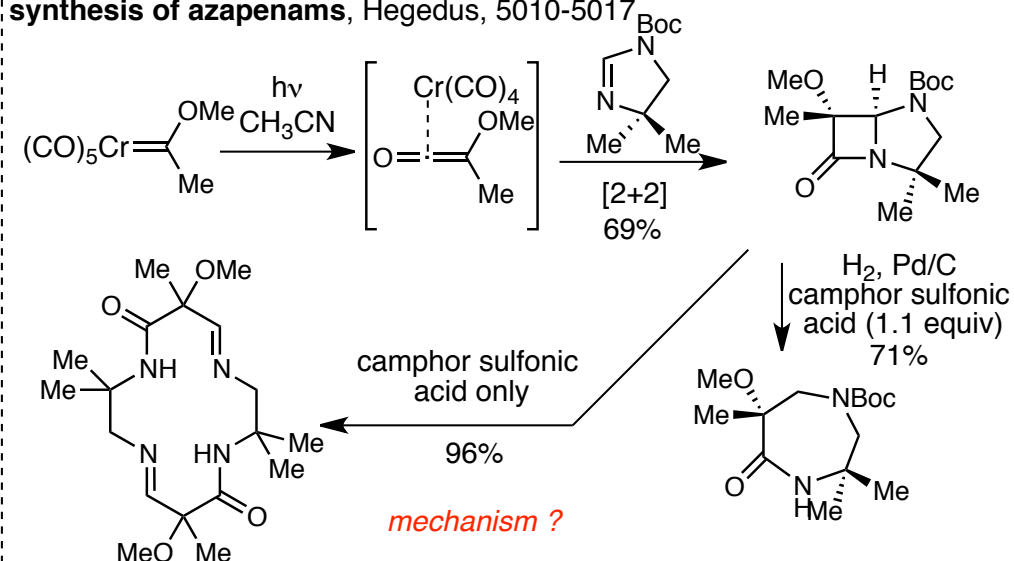
Trost, 791-792



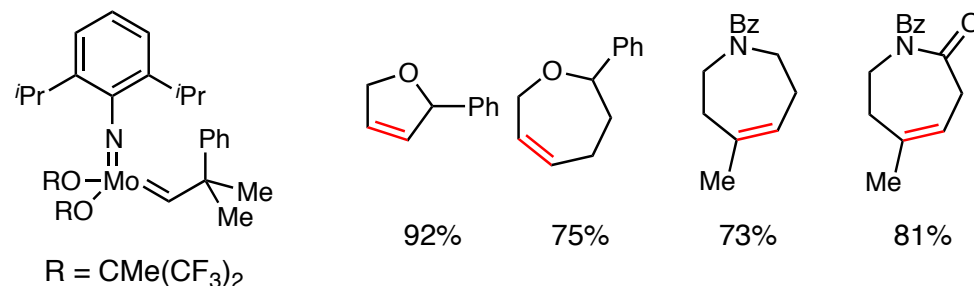
Trost, 1924-1925



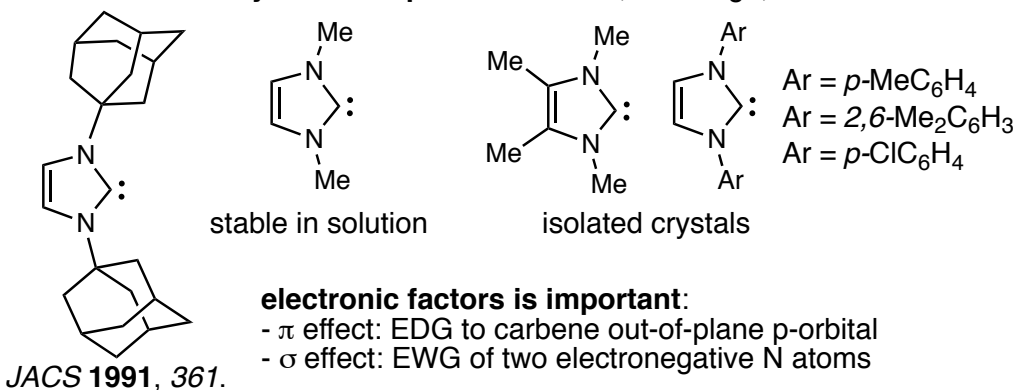
## synthesis of azapenams, Hegedus, 5010-5017



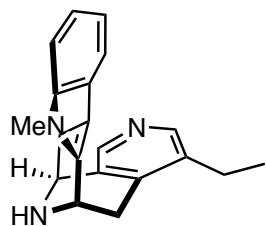
## olefin metathesis, Grubbs and Fu, 5426-5427 and 7324-7325



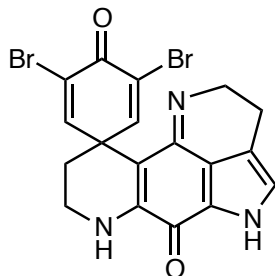
## electronic stability of nucleophilic carbenes, Arduengo, 5530-5534



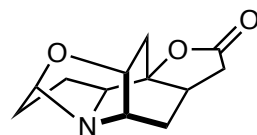
## list of some other interesting molecules (not covered)



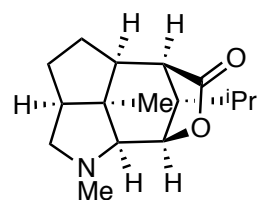
**(-)-suaveoline**  
Cook, 6910-6912



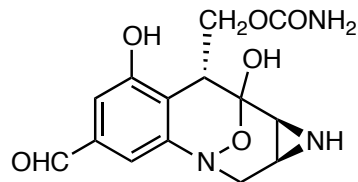
**discorhabdin C**  
Kita, 2175-2180



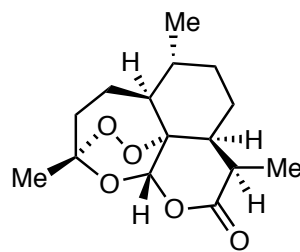
**nirurine**  
Magnus, 382-383



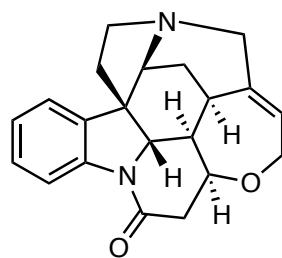
**dendrobine**  
Livinghouse, 4089-4095



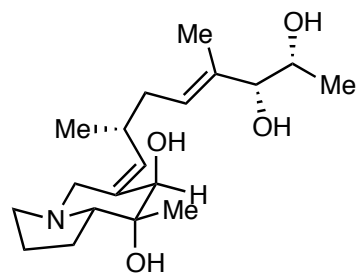
**(±)-FR-900482**  
Fukuyama, 383-385



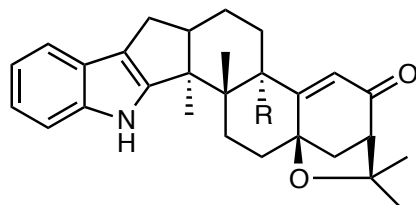
**(+)-artemisinin (qinghaosu)**  
Avery, 974-979



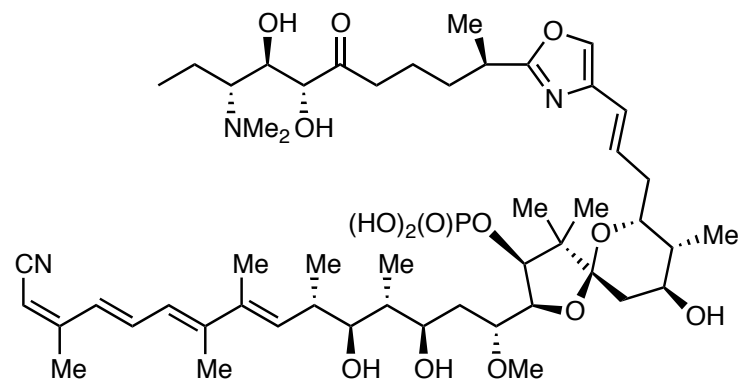
**strychnine**  
Magnus, 4403-4405



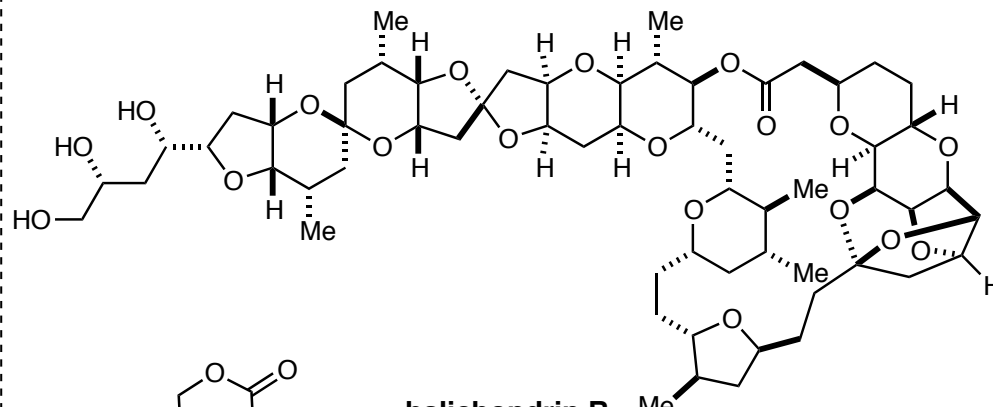
**(+)-allopumiliotoxin 339A**  
Overman, 368-369



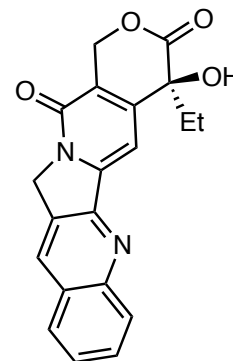
R = H **(+)-paspalicine**  
R = OH **(+)-paspalinine**  
Smith III, 1438-1449



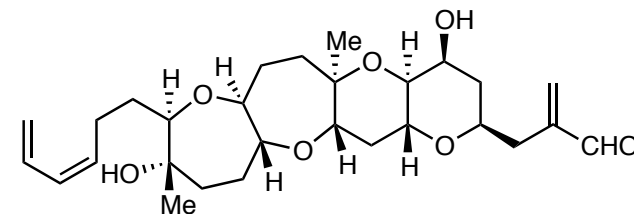
**(+)-calyculin A**  
Evans, 9424-9453



**halichondrin B**  
Kishi, 3162-3164



**camptothecin**  
Curran, 5863-5864  
Comins, 10971-10972



**hemibrevetoxin B**  
Nicolaou, 7935-7936