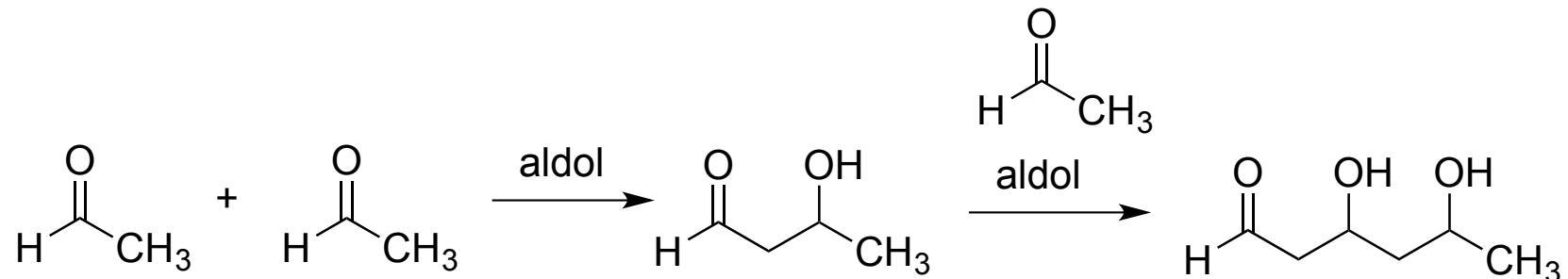


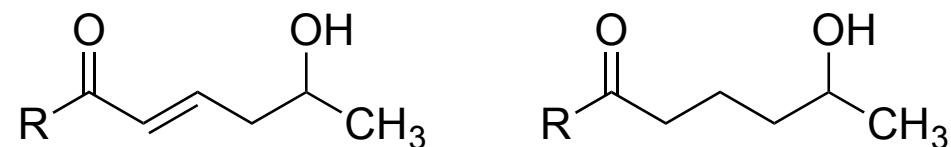
# Synthesis of Polyketide Natural Products

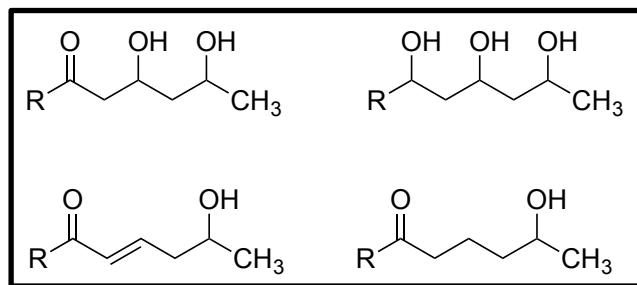
**Conceptually:**

**Use aldol reactions to assemble carbon-carbon framework**



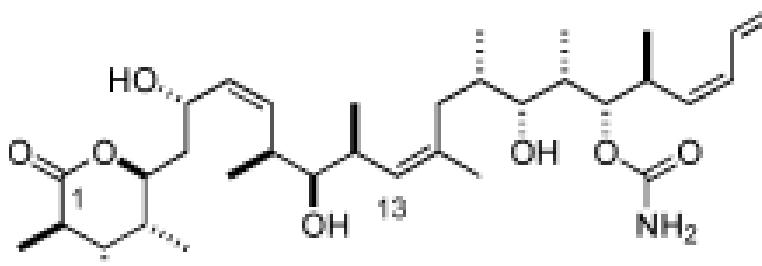
**Adjust oxidation states accordingly**





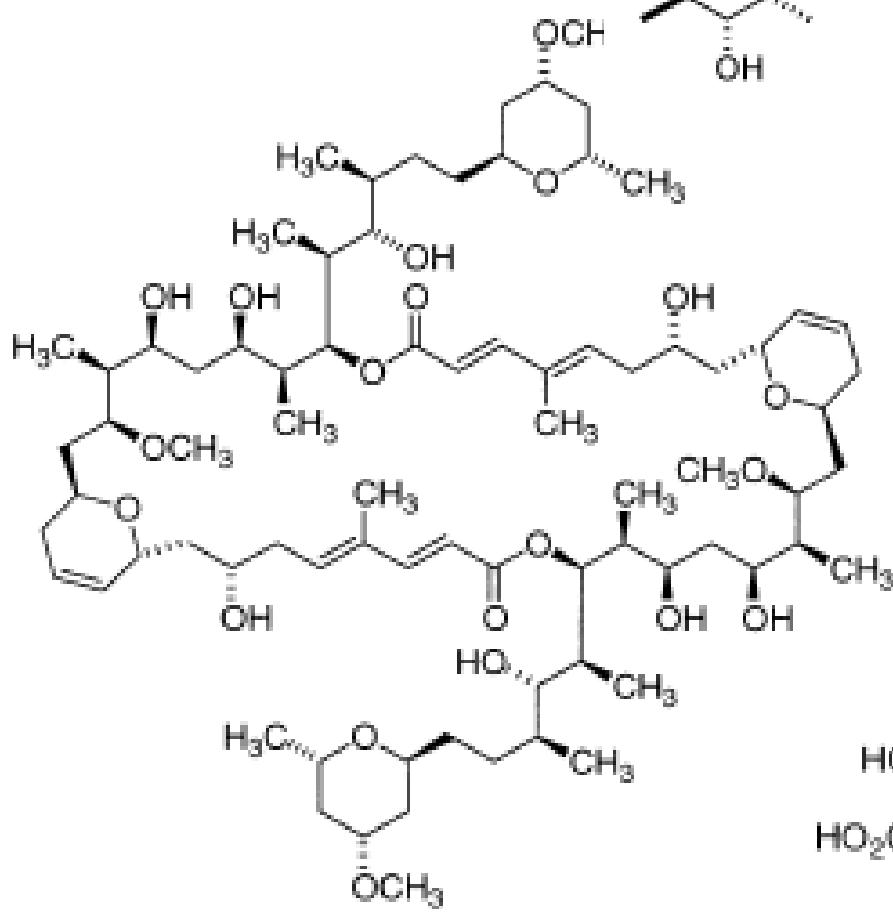
## Polyketide Natural Products

24

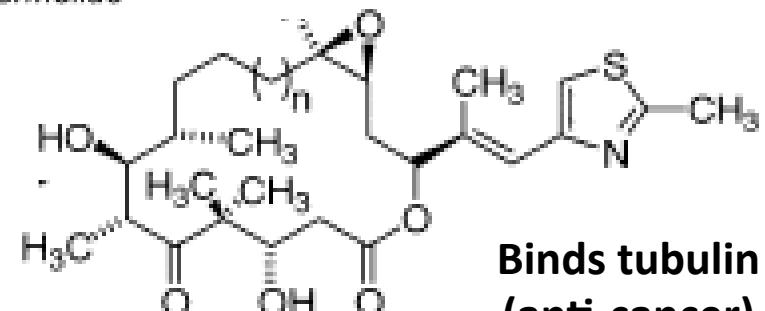


Binds tubulin  
(anti-cancer)

1: (+)-Discodermolide



**Binds actin**  
(anti-cancer)

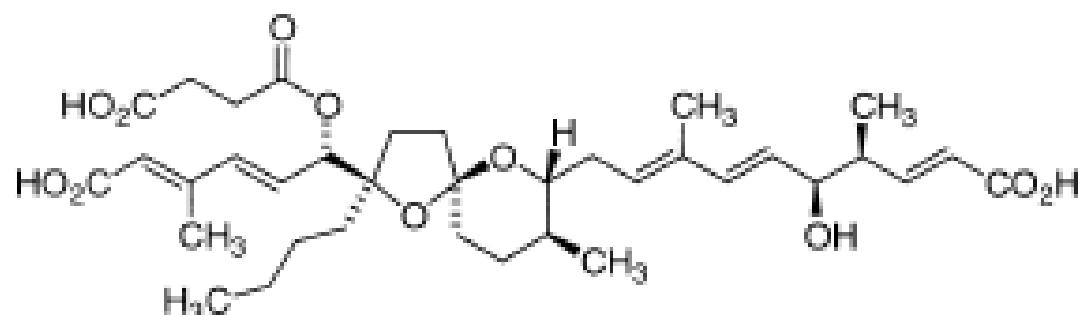


Binds tubulin  
(anti-cancer)

R = H; n=1: epothilone A (106)

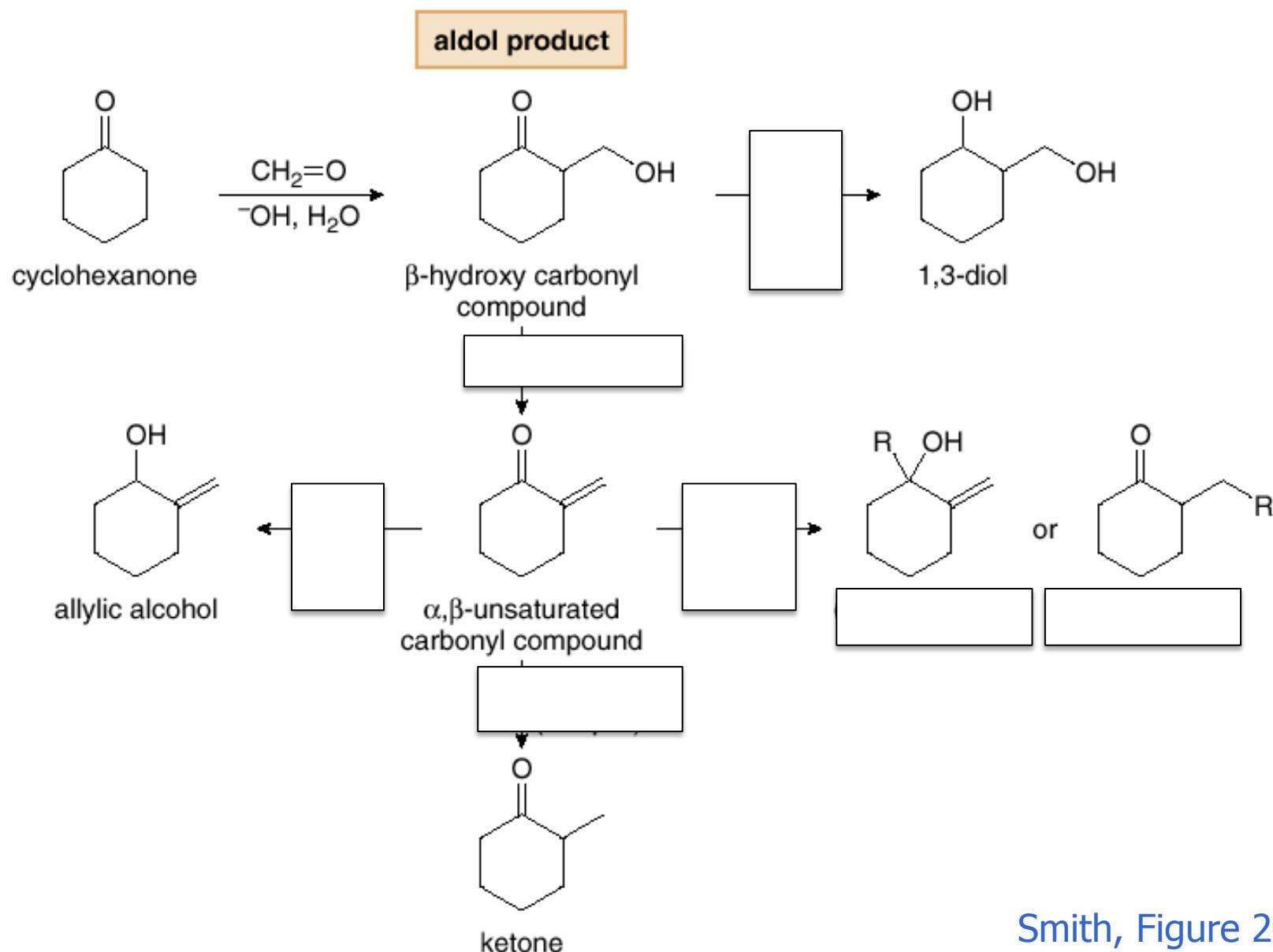
R = CH<sub>3</sub>; n=1: epothilone B (107)

n = 1-5



reveromycin B (109)  
antibiotic

## Aldol products: Useful synthetic intermediates



Smith, Figure 24.3