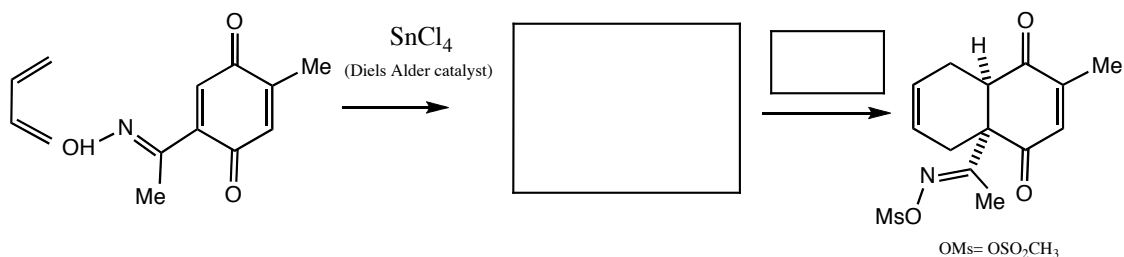
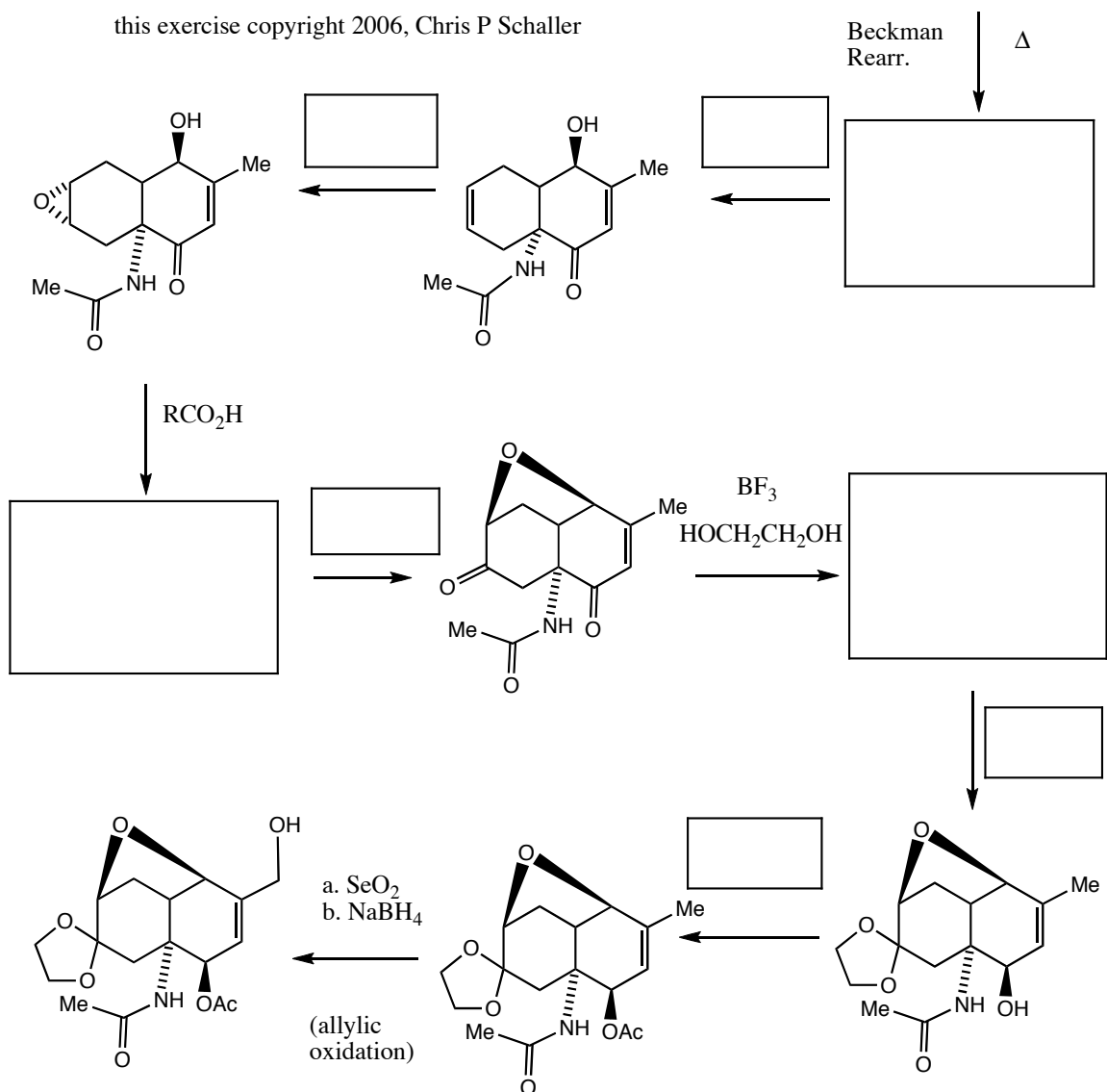


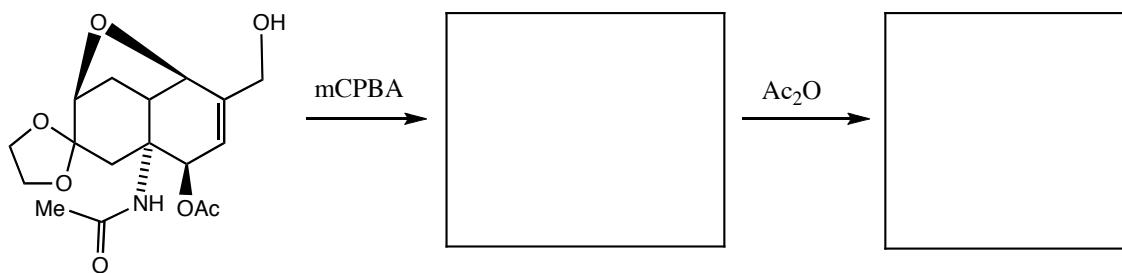
Synthesis of tetrodotoxin (Yoshito Kishi, Harvard University, 1972)

Tetrodotoxin is produced by bacteria frequently found in the gut of the pufferfish. A delicacy in Japan, pufferfish or fugu is prepared by trained chefs who ensure that no viscera remain in the fish. Mistakes are usually fatal: tetrodotoxin is a powerful inhibitor of voltage-gated sodium ion channels.



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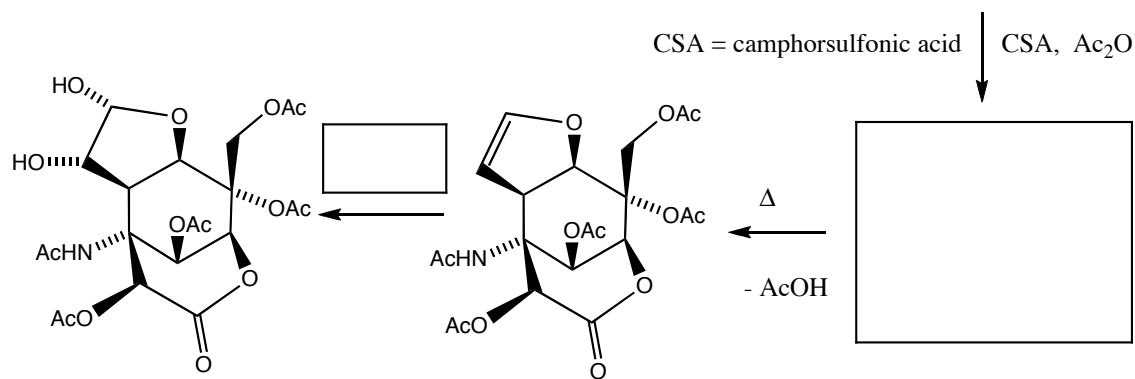
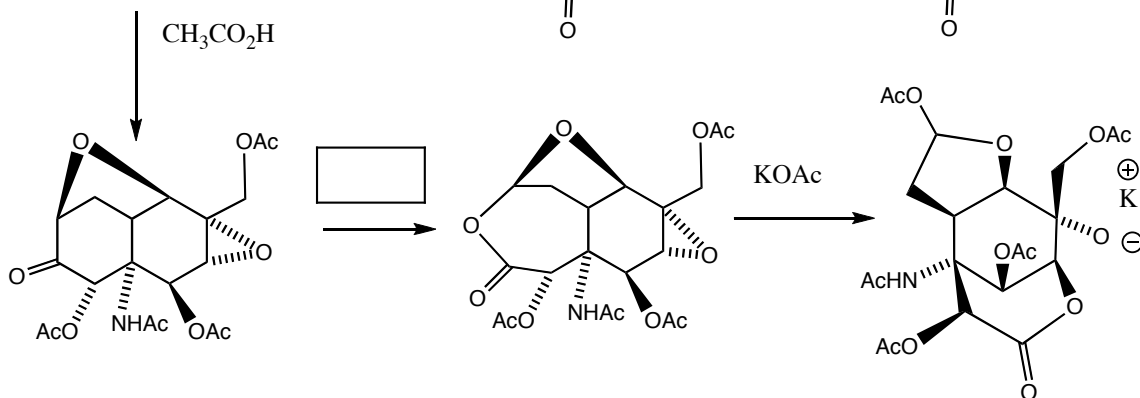
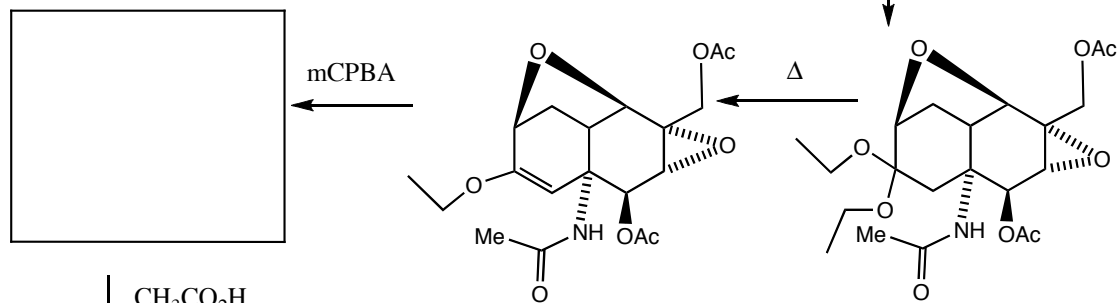


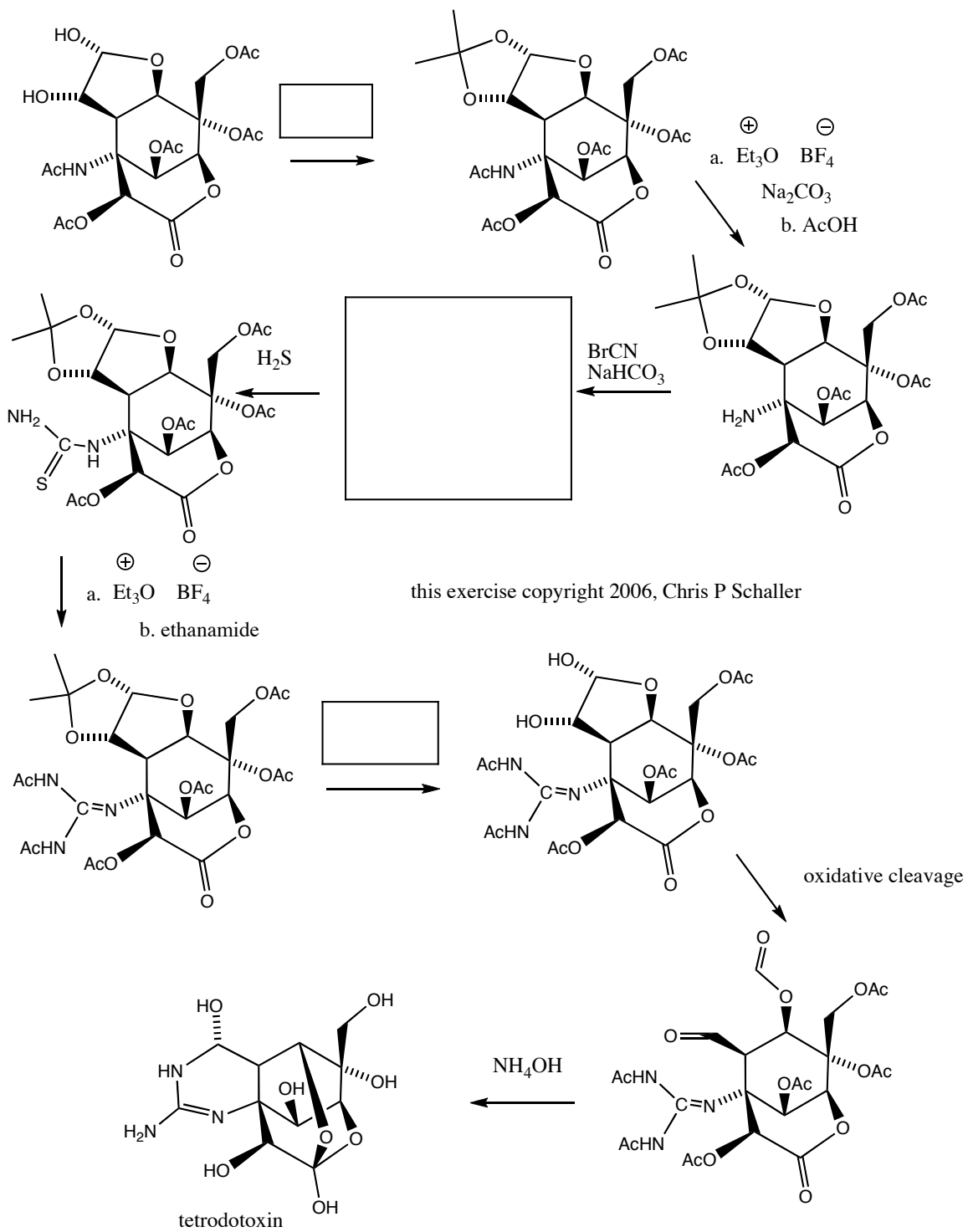


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TFA =  $\text{CF}_3\text{CO}_2\text{H}$

a. TFA,  $\text{H}_2\text{O}$   
b.  $(\text{EtO})_3\text{CH}$





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