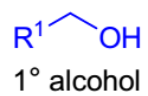
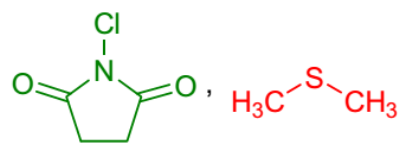
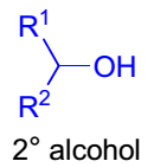


# **COREY-KIM OXIDATION**

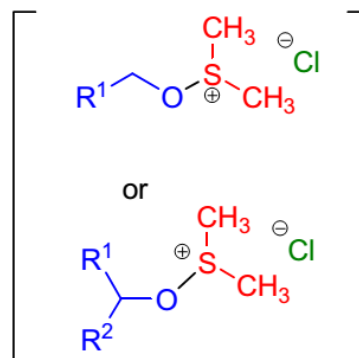


or



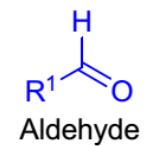
toluene or  $CH_2Cl_2$ ,  $-25\text{ }^\circ\text{C}$

$R^1, R^2 = \text{H, alkyl, aryl}$

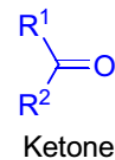


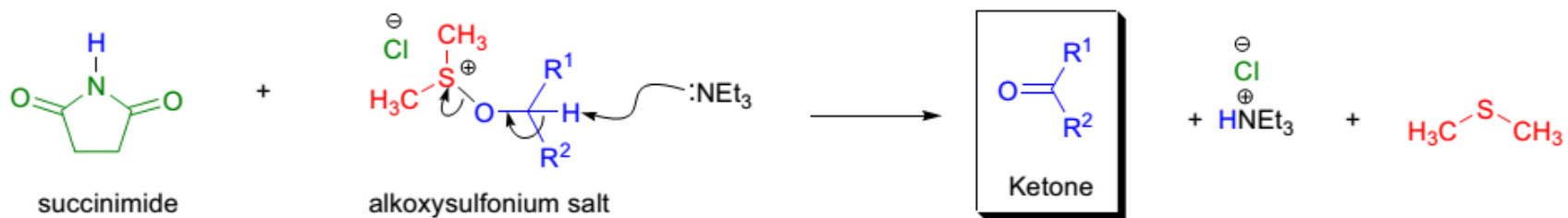
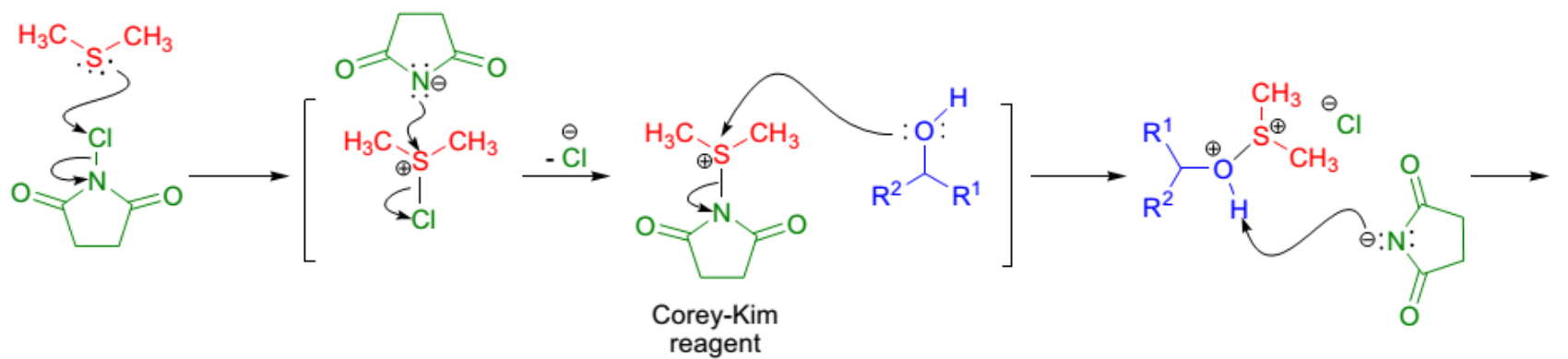
alkoxysulfonium salts  
(alkylsulfoxinium salts)

then add  $Et_3N$

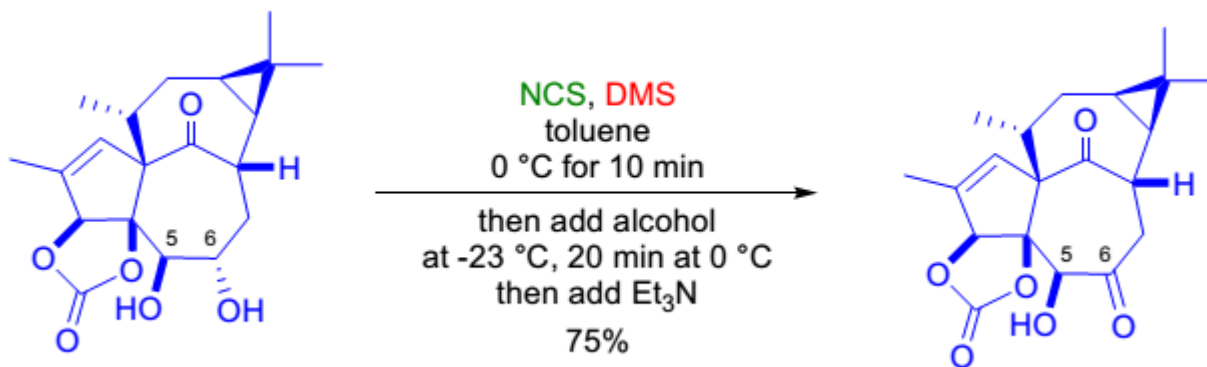


or

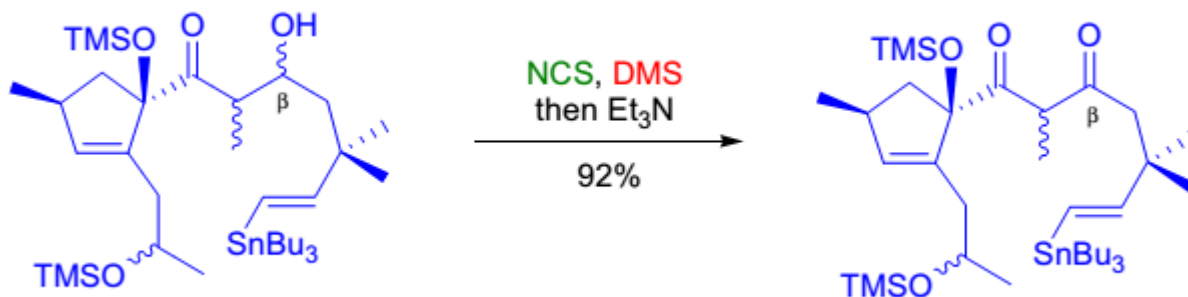




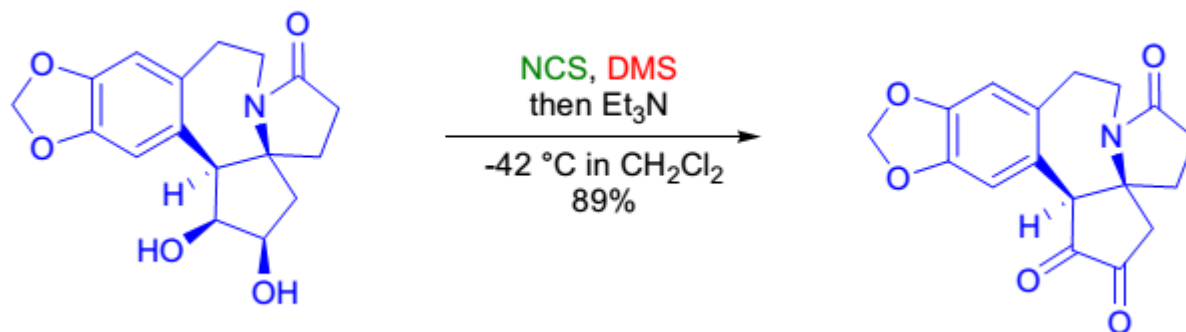
During the total synthesis of ( $\pm$ )-ingenol by I. Kuwajima and co-workers, an advanced tricyclic diol intermediate was selectively converted to the corresponding  $\alpha$ -ketol utilizing the *Corey-Kim oxidation*.<sup>10</sup> The diol was oxidized only at the less hindered C6 hydroxyl group.



In the laboratory of L.S. Hegedus, the total synthesis of ( $\pm$ )-*epi-jatrophone* was accomplished using a *palladium-catalyzed carbonylative coupling* as the key step.<sup>11</sup> In the endgame of the synthesis, a  $\beta$ -hydroxy ketone moiety was oxidized in excellent yield to the corresponding 1,3-dione using the mild *Corey-Kim protocol*.



In the final stages of the total synthesis of ( $\pm$ )-cephalotaxine by M.E. Kuehne et al., a tetracyclic *cis*-vicinal diol was oxidized to the  $\alpha$ -diketone.<sup>12</sup> Using PCC, pyridine/SO<sub>3</sub> or the Swern protocol did not yield the desired product. However, by applying the *Corey-Kim protocol*, NCS-DMS in dichloromethane at -42 °C, afforded the diketone in 89% yield.



In the laboratory of L.S. Hegedus, the total synthesis of ( $\pm$ )-*epi*-jatrophone was accomplished using a *palladium-catalyzed carbonylative coupling* as the key step.<sup>11</sup> In the endgame of the synthesis, a  $\beta$ -hydroxy ketone moiety was oxidized in excellent yield to the corresponding 1,3-dione using the mild *Corey-Kim protocol*.

