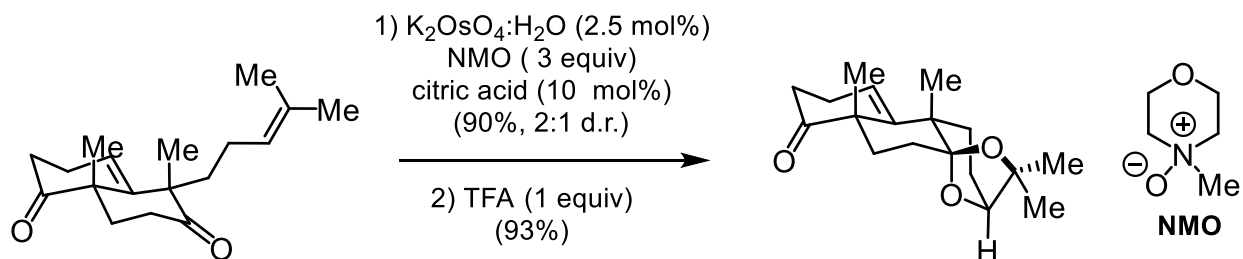


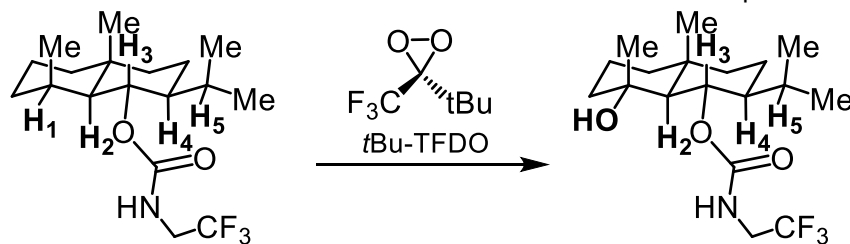
## Problem Set #012 (Digal)

- (1) The dihydroxylation step listed below renders a ketalized intermediate for the total synthesis of paspaline A and emindole PB. Provide a mechanism.



Kim, D. E.; Zweig, J. E.; Newhouse, T. R. *J. Am. Chem. Soc.* **2019**, 141, 1479.

- (2) Selective C–H oxidation was studied both computationally and experimentally using a specific dioxirane reagent, *t*Bu-TFDO. Provide a mechanism and rationale of the selective oxidation step.



Zou, L.; Paton, R. S.; Eschenmoser, A.; Newhouse, T. R.; Baran, P. S.; Houk, K. N. *J. Org. Chem.* **2013**, 78, 4037.