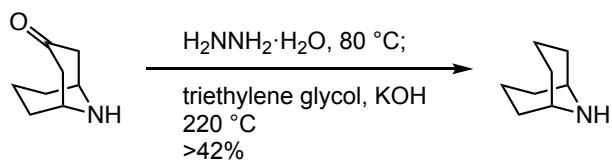
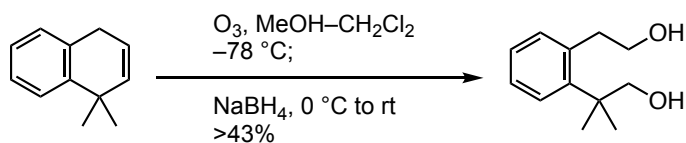


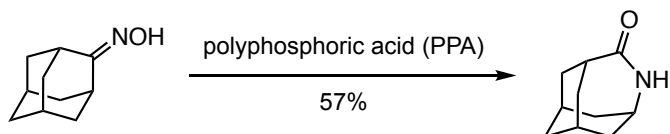
Propose reaction mechanism for each of the following reactions.



Y. Iwabuchi, *et al. J. Org. Chem.* **2009**, *74*, 4619–4622.

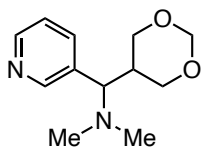


S. Nagayama, B.S. thesis, Tohoku University (2020).



J. G. Korsloot, V. G. Keizer, *Tetrahedron Lett.* **1969**, *10*, 3517–3520.

Propose a synthetic plan for each of the following molecules from commercially available materials.



Propose a synthetic route for compound **2** starting from compound **1**.

