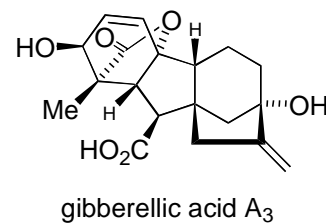
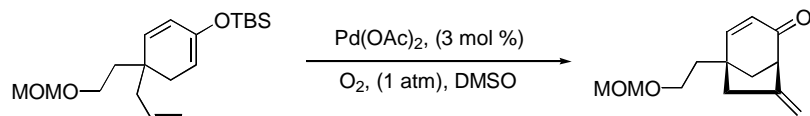


1. Shown below is one step in a recent synthesis of the gibberellin skeleton. Gibberellins are fungal metabolites that have strong and varied effects on plant growth, and are thus of much interest to synthetic organic chemists. One example, gibberellic acid A₃, is shown as an example of these complex polycyclic structures. Provide a reasonable mechanism for the reaction shown.



2. Shown below is part of the preparative route for a recently-synthesized that was designed as an approximation of the S_N2 transition state. Provide a reasonable mechanism for the first of the two steps given.

