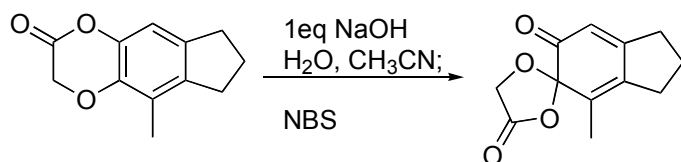


PROBLEMS
JUNE 16, 2009.

1.- In 1979, Deslongchamps and his team of students at University of Sherbrooke in Canada disclosed a beautiful synthesis of the poly-oxygenated diterpene, (+)-ryanodol. An important transformation that established a mono-protected cetoquinone intermediate is illustrated.

Please provide a mechanism for this transformation.



2.- The following transformation is a key step in Boeckman's synthesis of laurenyne. Provide a mechanism.

