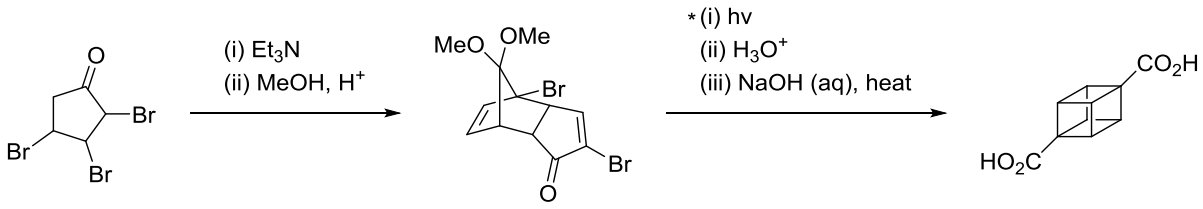
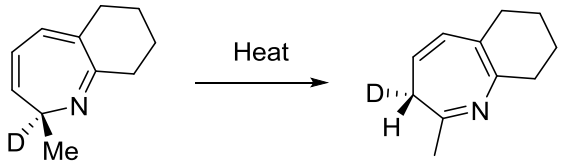
EAA group problems 07/02/17

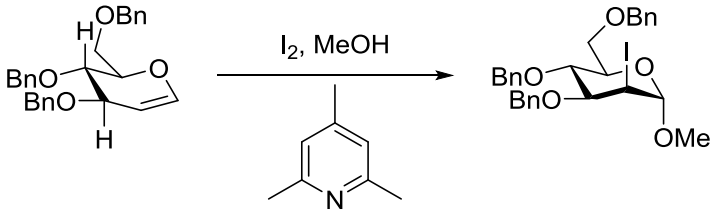
1) Please provide mechanistic rationale for all steps, include a full orbital analysis for the step highlighted * (Woodward–Hoffmann or FMO analysis).

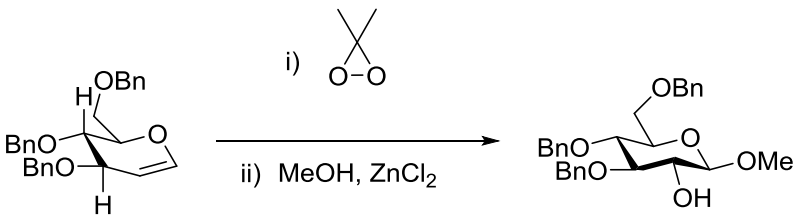


2) Please provide full mechanistic rationale for the following transformation. Explain using full orbital analysis (Woodward–Hoffmann or FMO) the stereochemical outcome of the reaction. Clearly state the class of pericyclic reaction.

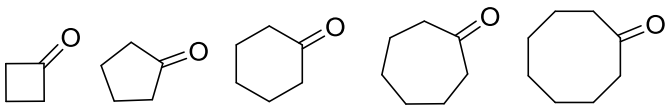


3) Please provide full mechanistic rationale for the following transformation.





4) Explain the relative rates for the reduction of the following cyclic ketones with sodium borohydride at 0° C in isopropanol.



k_{rel}	266	7	161	1	0.08