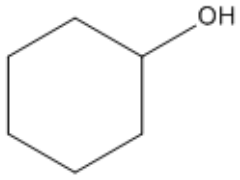
CONCEPT: OXIDIZING AGENT

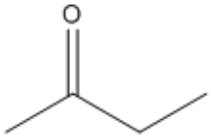
□ Oxidizing agents are used to oxidize molecules

- Many of these reagents eliminate α-hydrogens. Molecules without α-hydrogens ***cannot*** be oxidized.

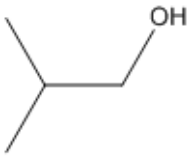
EXAMPLE: Which of the following compounds could be oxidized?



①



②



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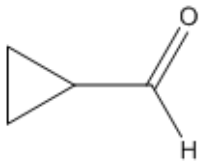


④

□ Most oxidizing agents eliminate *ALL* α-hydrogens present. Multiple equivalents of oxygen will react.

- These are ***strong*** oxidizing agents. They include $KMnO_4$ and the Cr^{6+} reagents ($H_2Cr_2O_4$, CrO_3, $K_2Cr_2O_7$, etc.)

EXAMPLE: Draw the products of the previous molecules with a strong oxidizing agent

①

②

③

④

□ PCC is a ***weak*** oxidizing agent. It can only add ____ equivalent of oxygen and cannot yield _____ _____

①

②

③

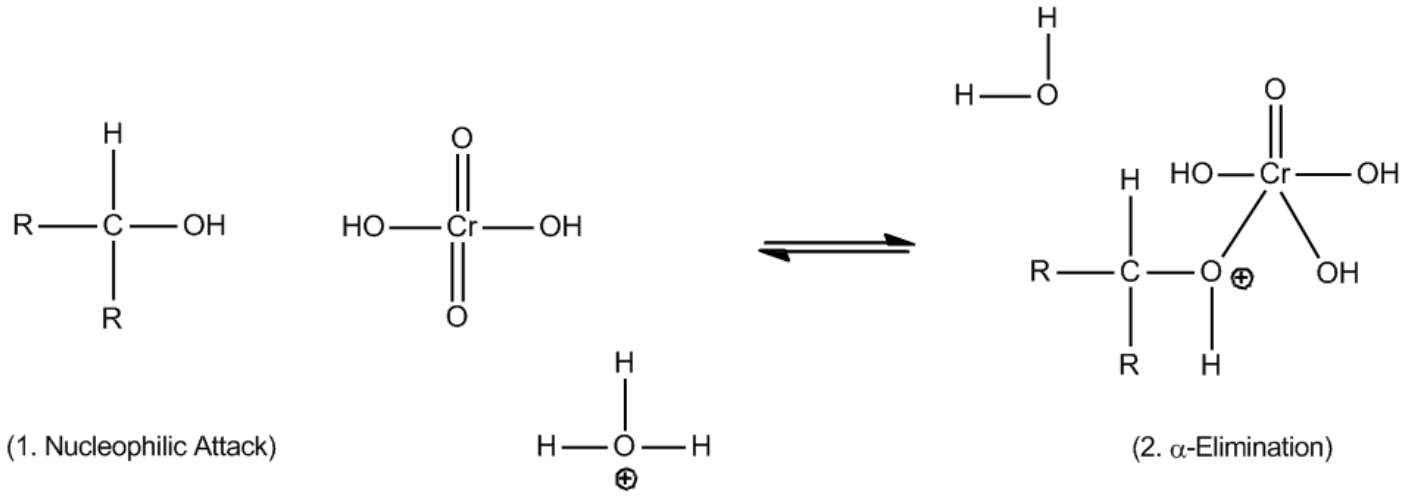
④

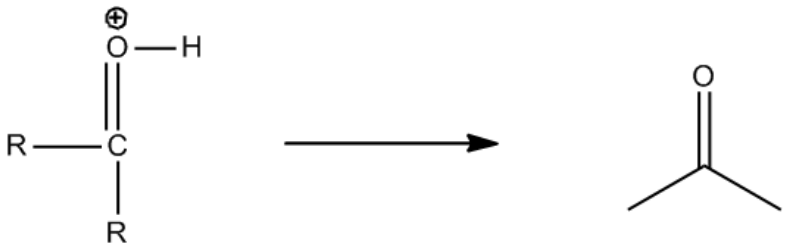
CONCEPT: OXIDATION MECHANISMS

□ One of the most popular oxidizing agents is the Jones Reagent.

- It can be generated through combination of a strong acid with a Cr^{6+} reagent.

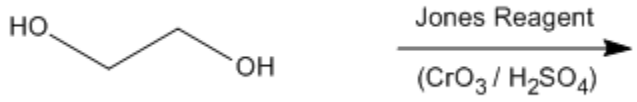
Mechanism:



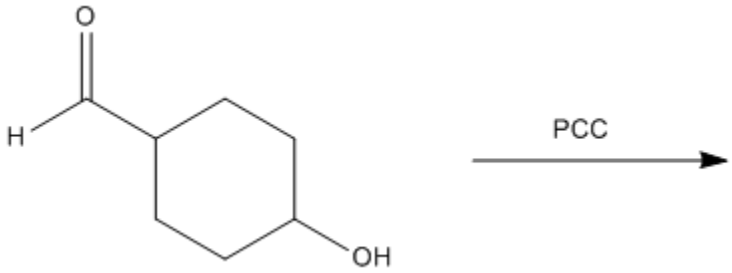


PRACTICE: Predict the product of the following reactions

a.



b.



c.