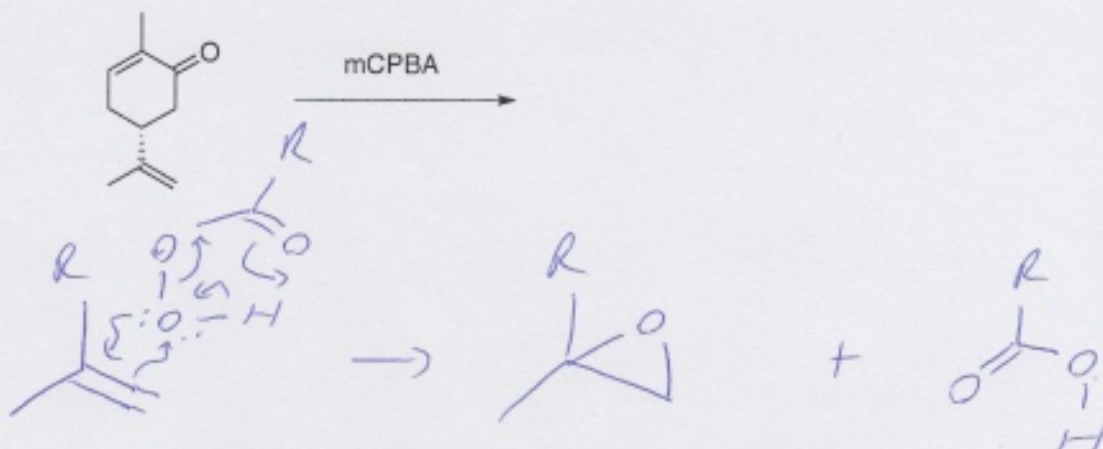
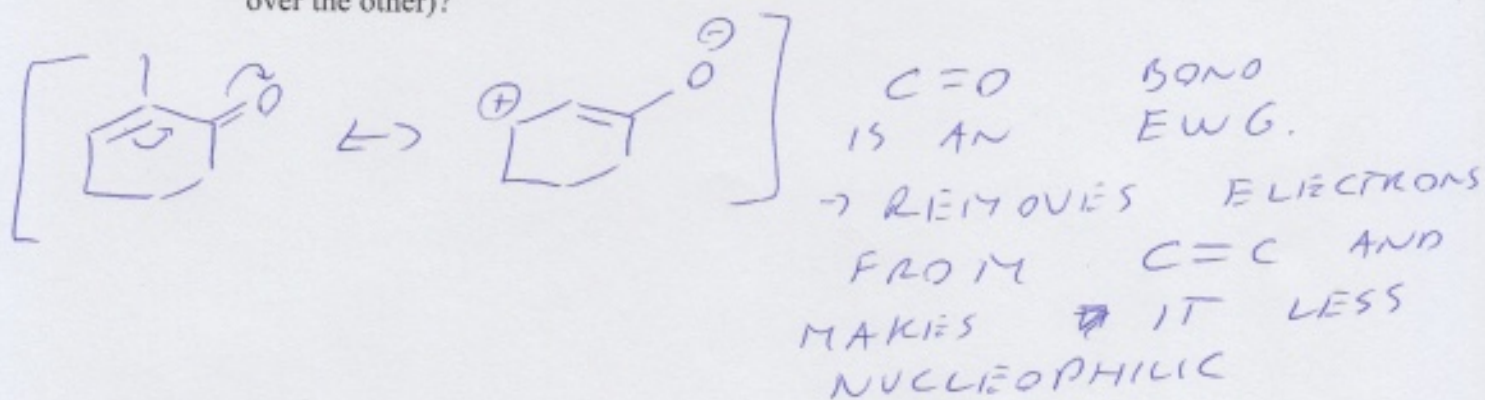


21.

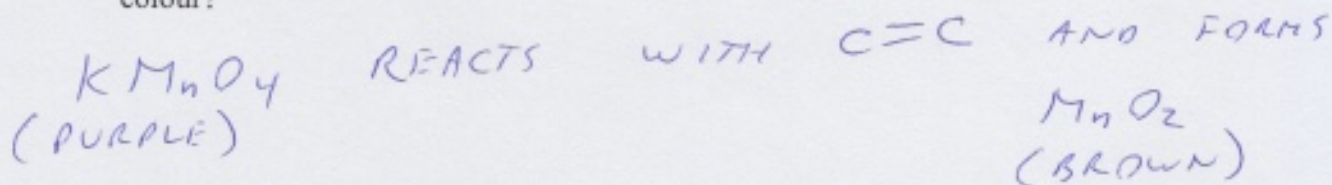
a. Draw the mechanism for the reaction of carvone with mCPBA.



b. Explain the regioselectivity of the reaction (i.e. why does one π bond react preferentially over the other)?



c. When you did a TLC of the reaction mixture, you dipped the TLC plate in a solution of potassium permanganate (the purple solution). Why did the spots on the TLC change colour?



d. This (R) enantiomer of carvone smells like spearmint, while the (S) enantiomer smells like caraway (a spice). Explain why there is a difference in smells when the structures are so similar.

\rightarrow RECEPTORS IN YOUR NOSE ARE CHIRAL. WHEN CARVONE BINDS, R + S ISOMERS FORM DIASTEREOMERS WITH RECEPTORS