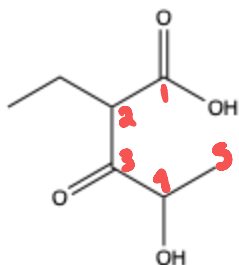
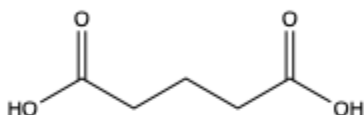


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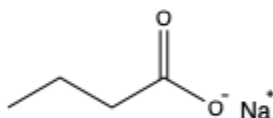
1. Name/Draw the following molecules



2-ethyl-1-hydroxy-3-oxopentanoic acid

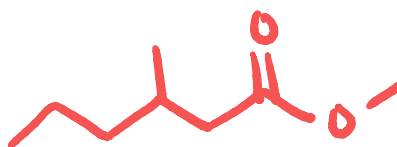


(glutaric acid)
pentanedioic acid

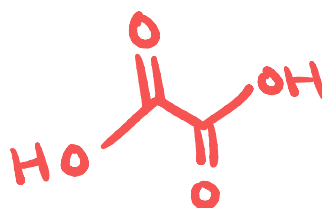


sodium butanoate

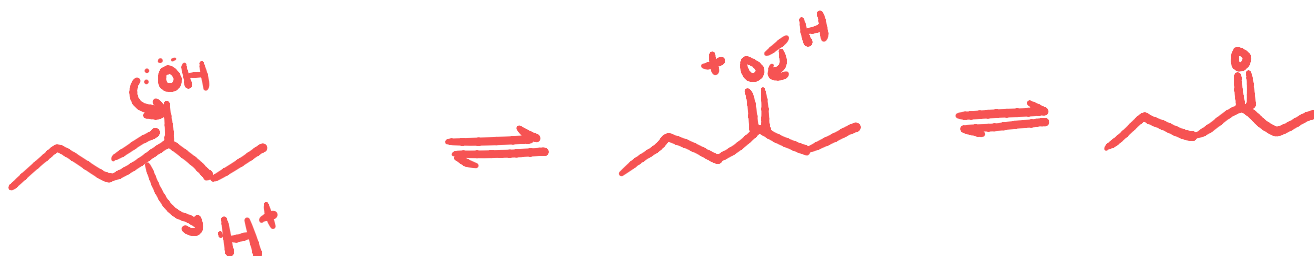
methyl 3-methylhexanoate



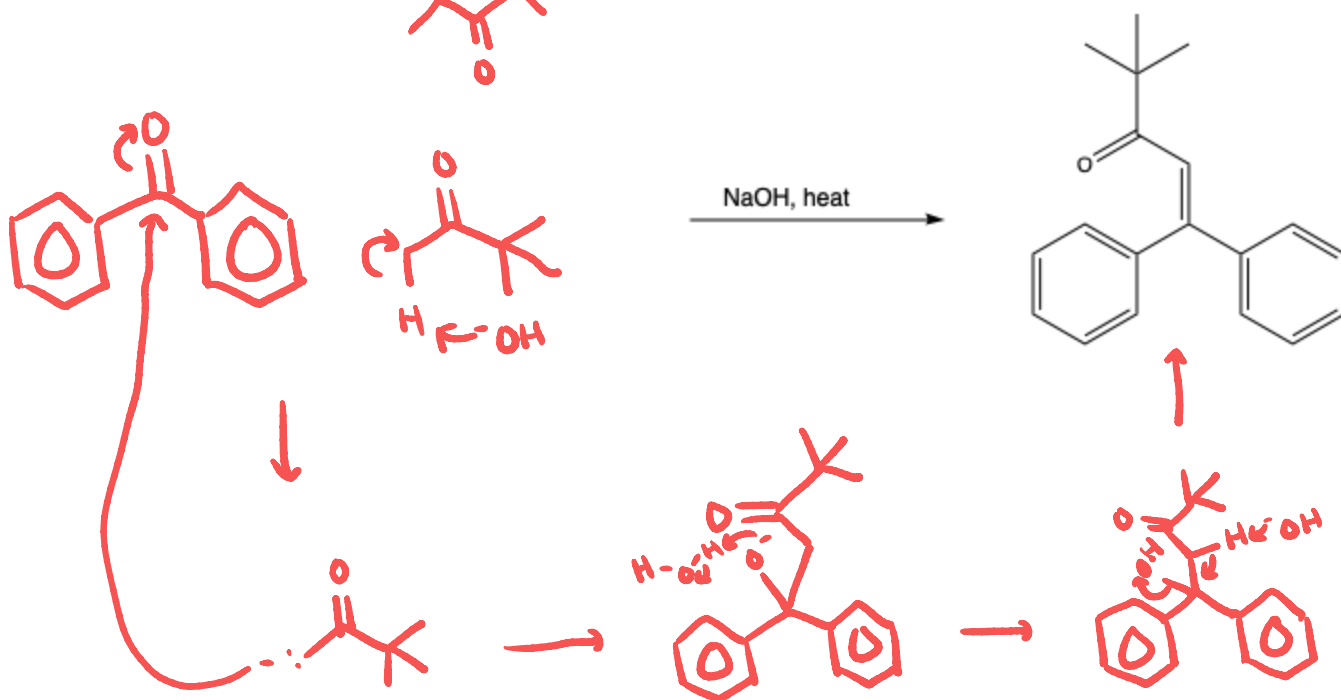
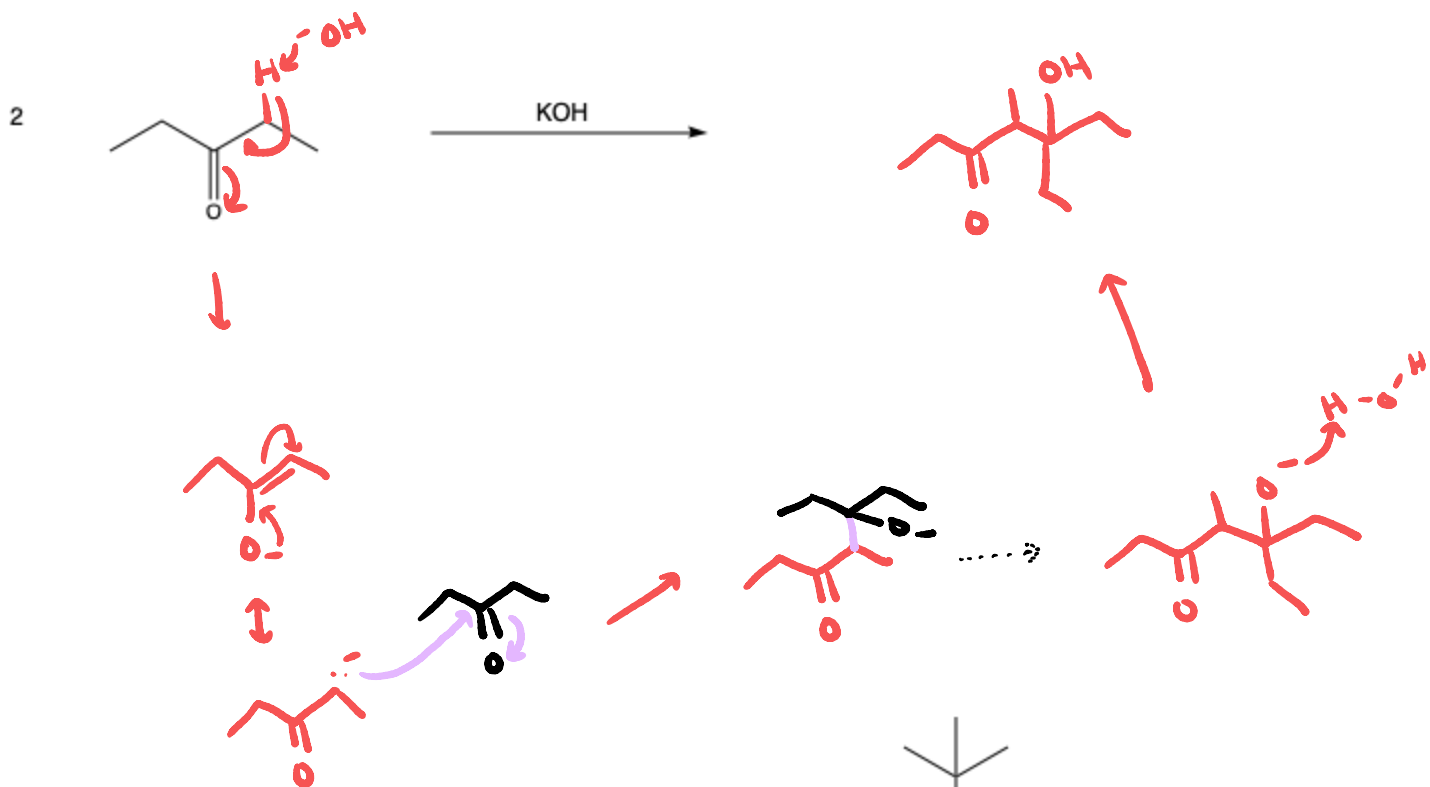
oxalic acid



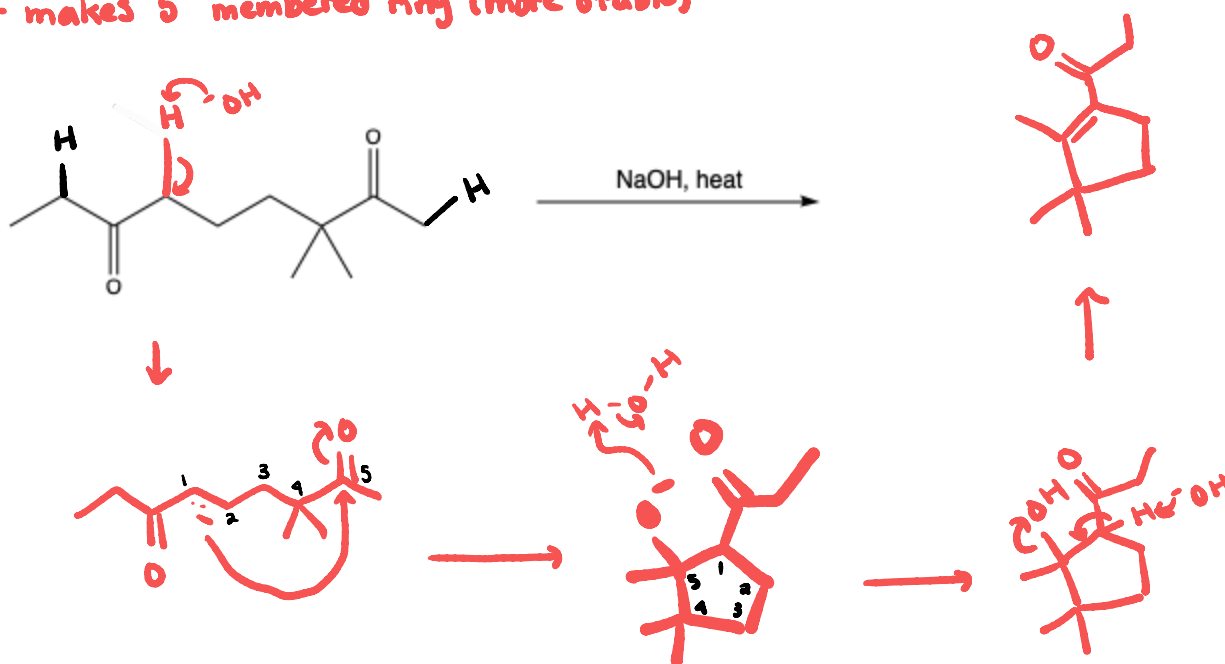
2. Draw the mechanism from (Z)-hex-3-en-3-ol to 3-hexanone with acidic conditions



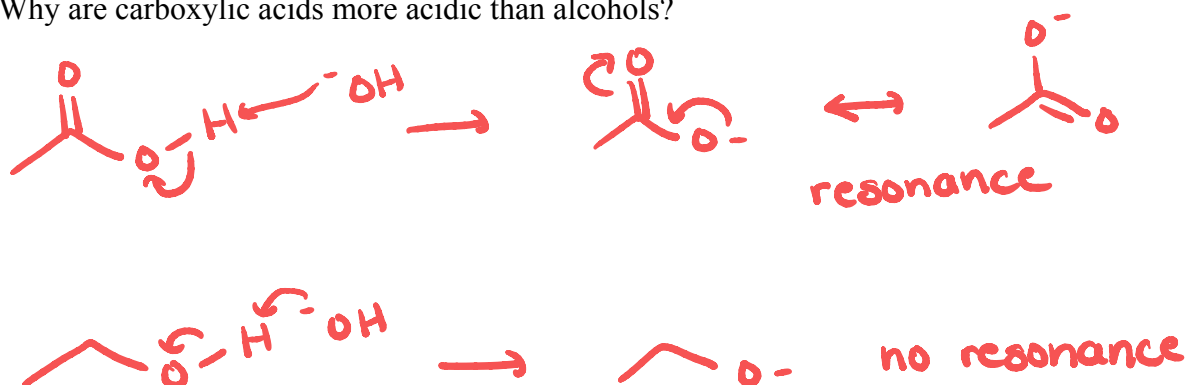
3. Give either the starting material or product to the following aldol reactions, draw the mechanism



- makes 7 membered ring
- makes 5 membered ring (more stable)



4. Why are carboxylic acids more acidic than alcohols?



5. Give the product for the following reactions. Draw the mechanism for the second one

