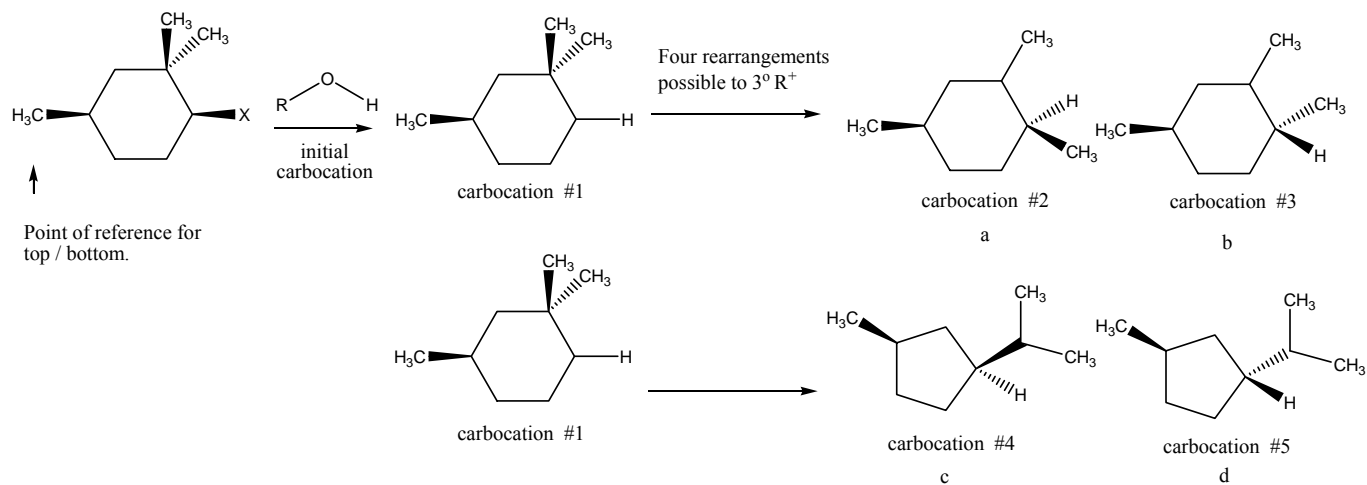
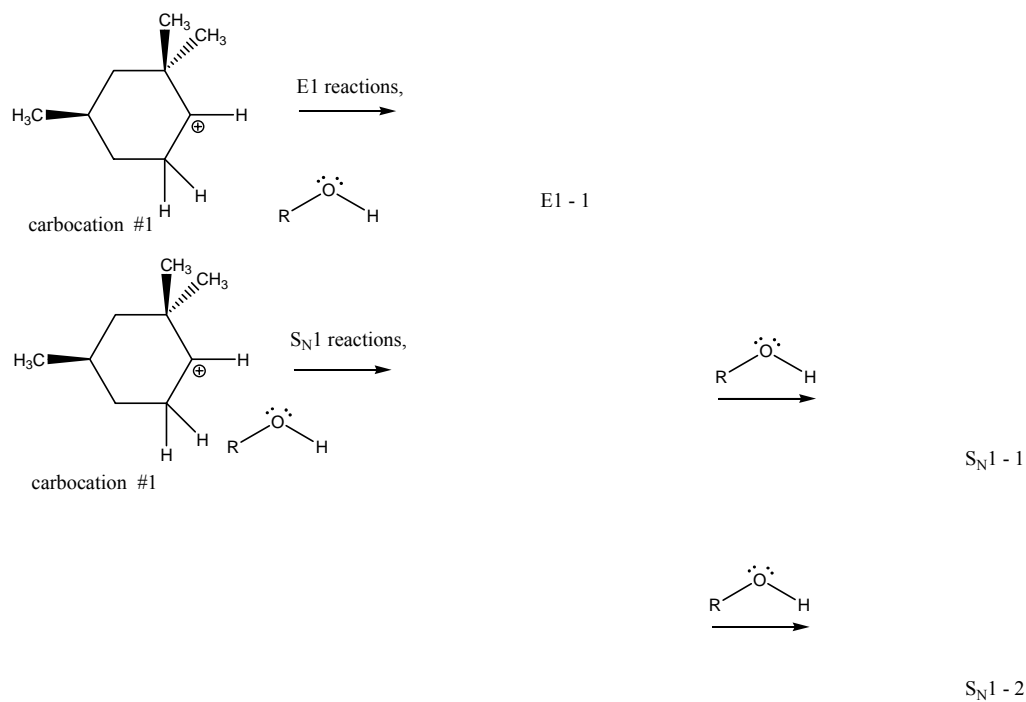
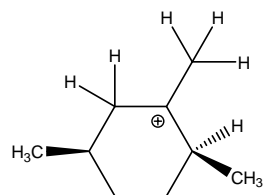


S_N1, E1 and Rearrangement Worksheet

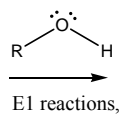
The purpose of the following worksheet is to give you practice pushing arrows in typical carbocation reactions.

1. addition of nucleophiles, from 2 possible faces,
2. loss of any adjacent β hydrogen, always from carbon in this example, (but other atoms are possible) and
3. rearrangement to a similar or more stable carbocation.

**E1 and S_N1 reactions of initial carbocation #1**

E1 and S_N1 reactions of rearrangement #2 carbocation (methyl on top), and another rearrangement to carbocation #6

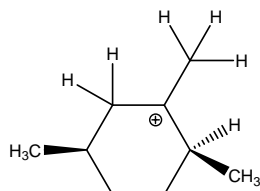
carbocation #2



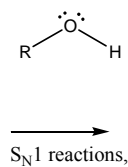
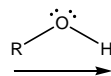
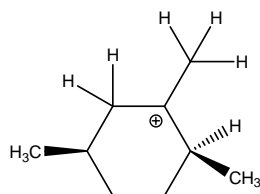
E1 - 3

E1 - 4

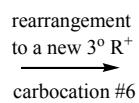
E1 - 5



carbocation #2

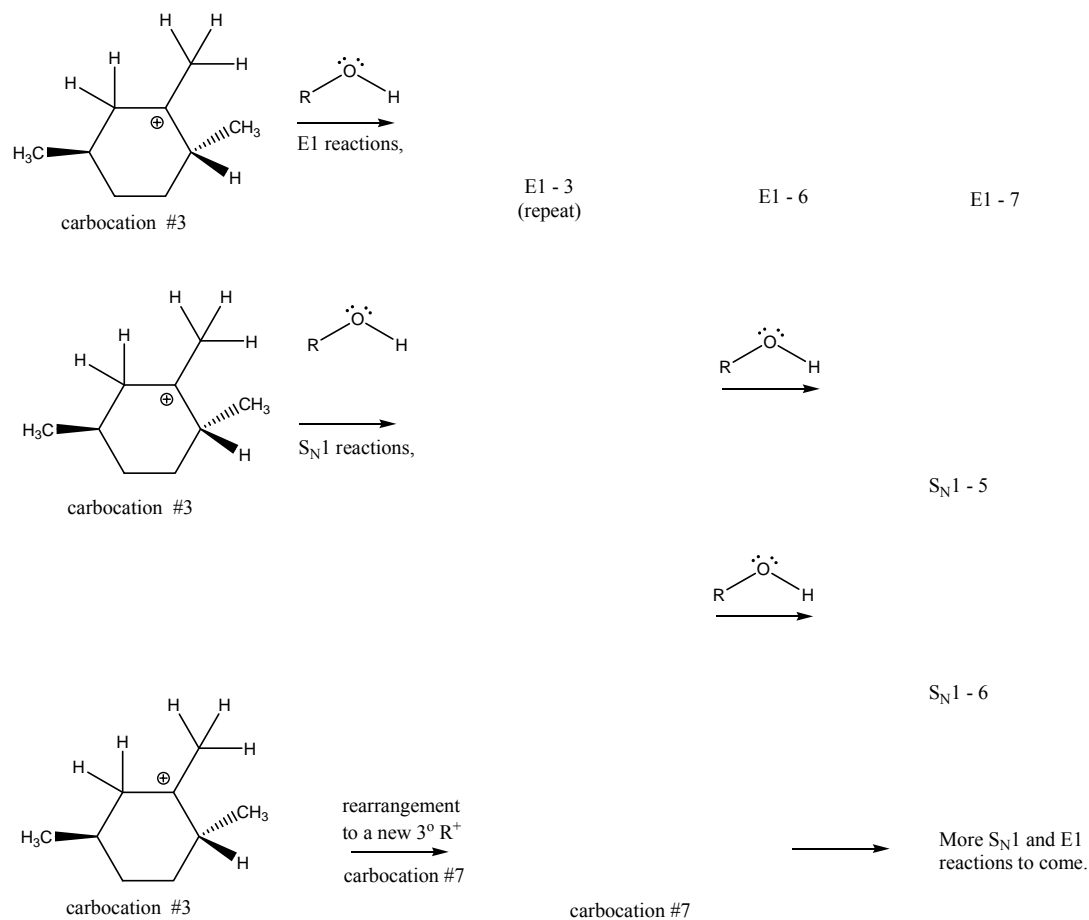
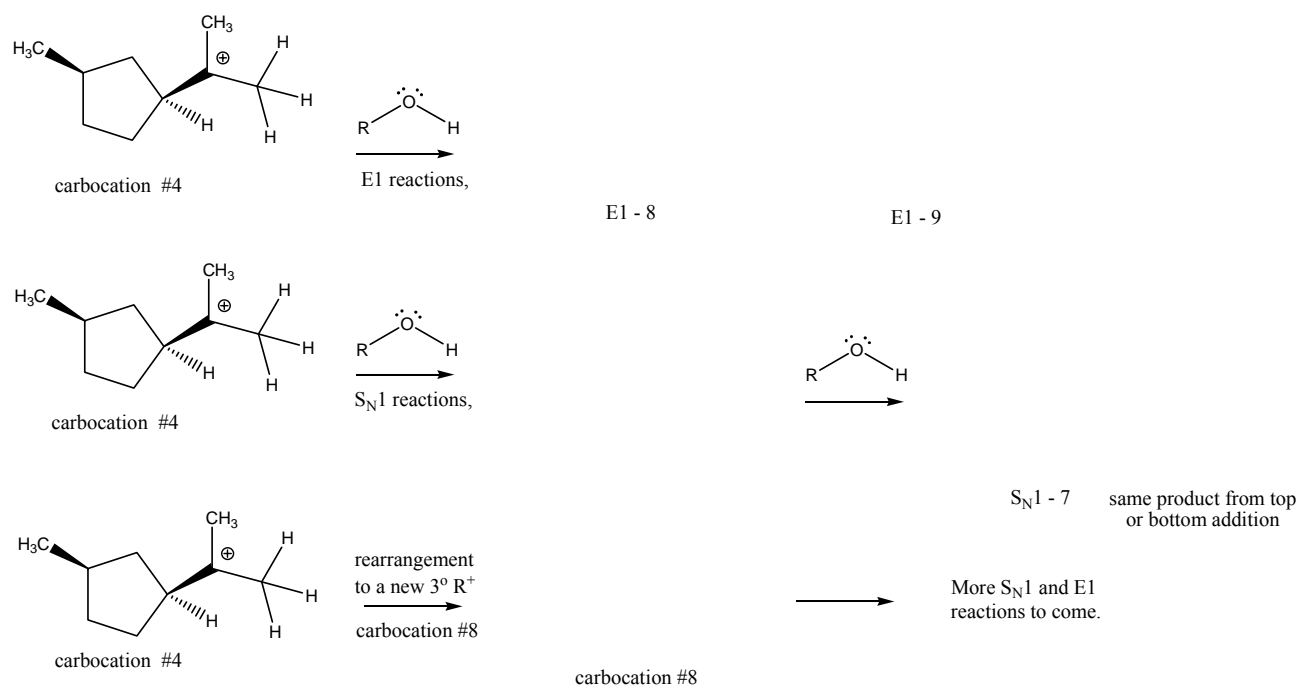
S_N1 - 3S_N1 - 4

carbocation #2

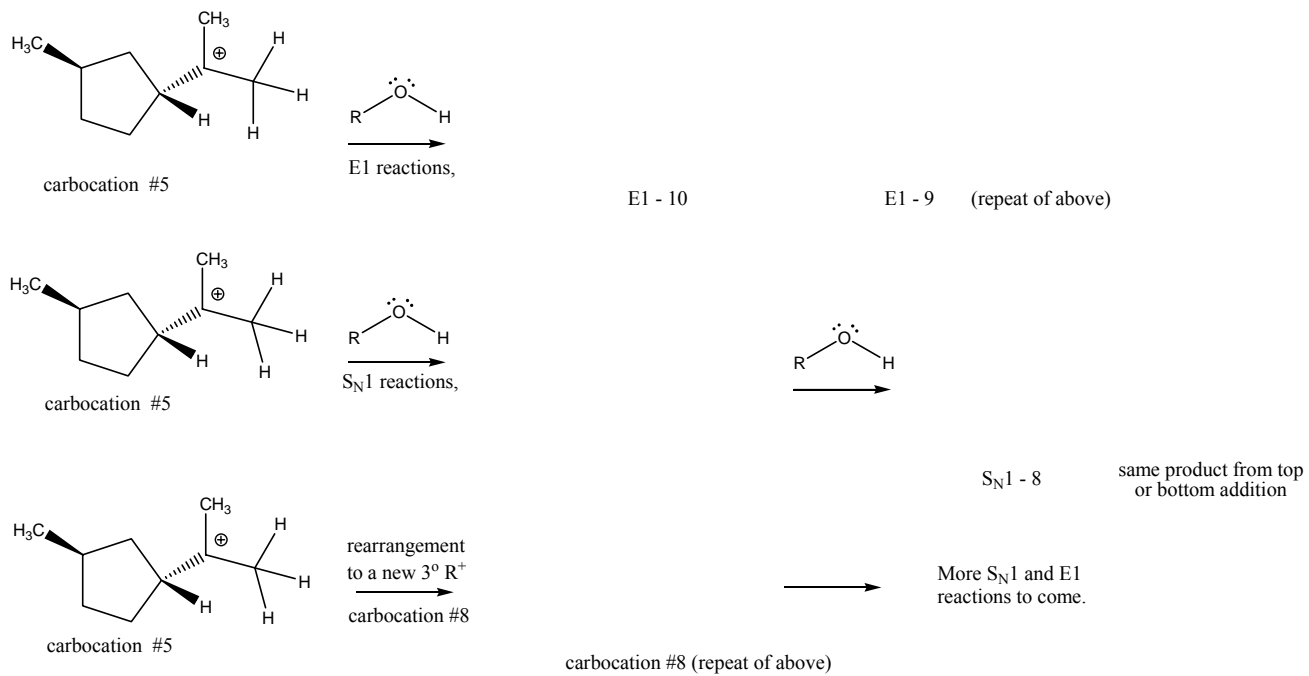


carbocation #6

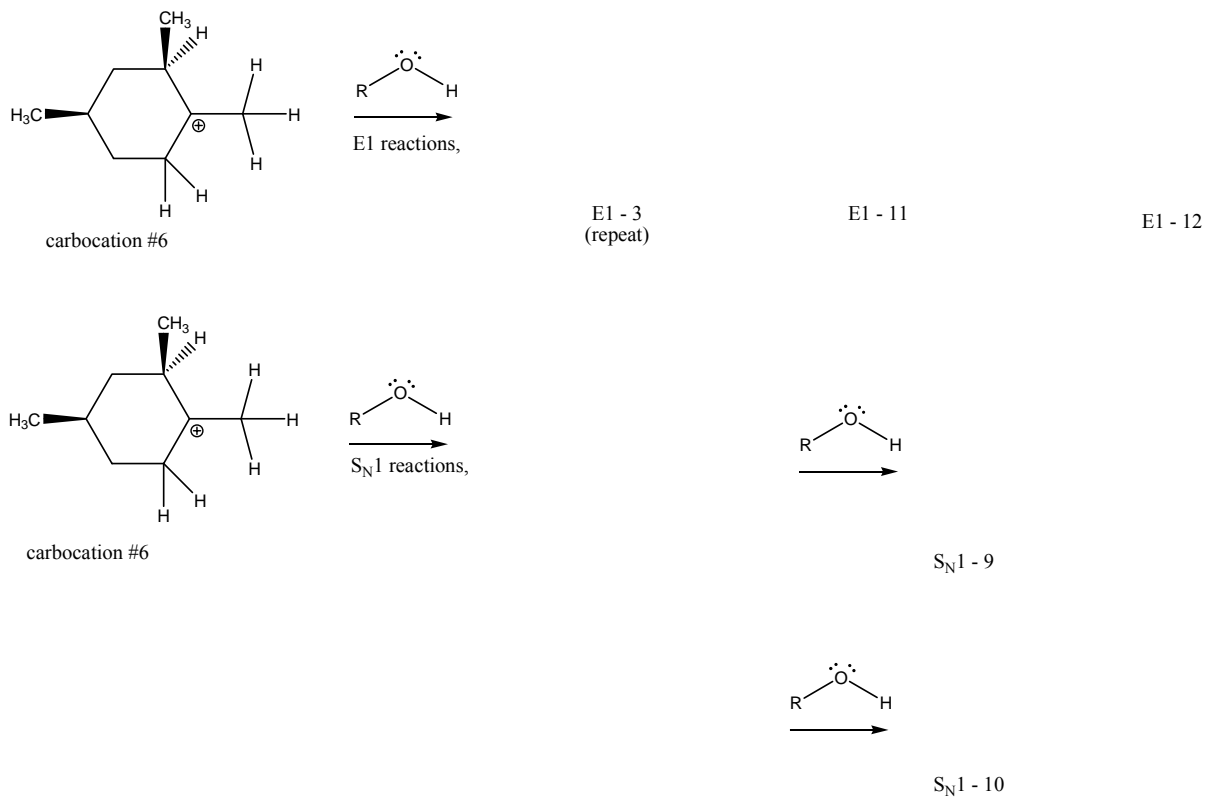
More S_N1 and E1
reactions to come.

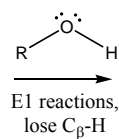
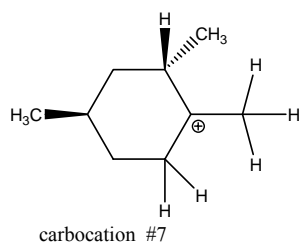
E1 and S_N1 reactions of rearrangement #3 carbocation (methyl on top), and another rearrangement to carbocation #7E1 and S_N1 reactions of rearrangement #4 carbocation (methyl on top), and another rearrangement (carbocation #8)

E1 and S_N1 reactions of rearrangement #5 carbocation (methyl on top), and another rearrangement (carbocation #8, repeat)



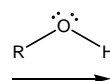
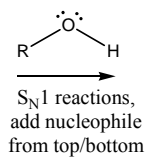
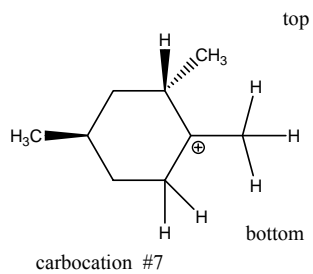
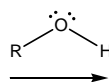
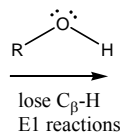
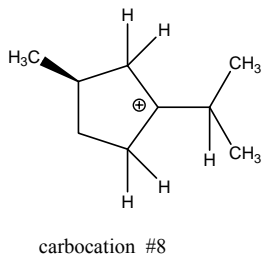
E1 and S_N1 reactions of rearrangement #6 carbocation (methyl on top)



E1 and S_N1 reactions of rearrangement #7 carbocation (methyl on top)E1 - 3
(repeat of above)

E1 - 13

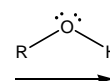
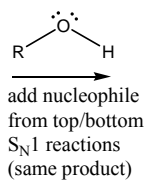
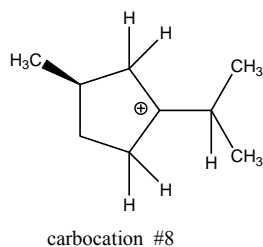
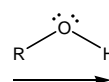
E1 - 14

S_N1 - 11S_N1 - 12E1 and S_N1 reactions of rearrangement #8 carbocation (methyl on top)

E1 - 15

E1 - 9
(repeat of above)

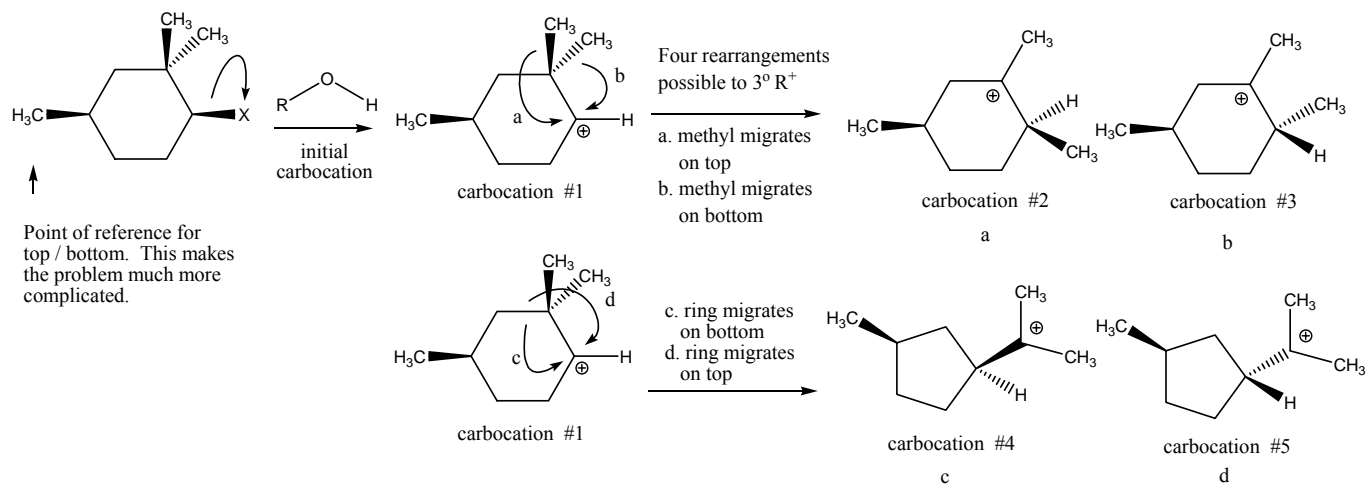
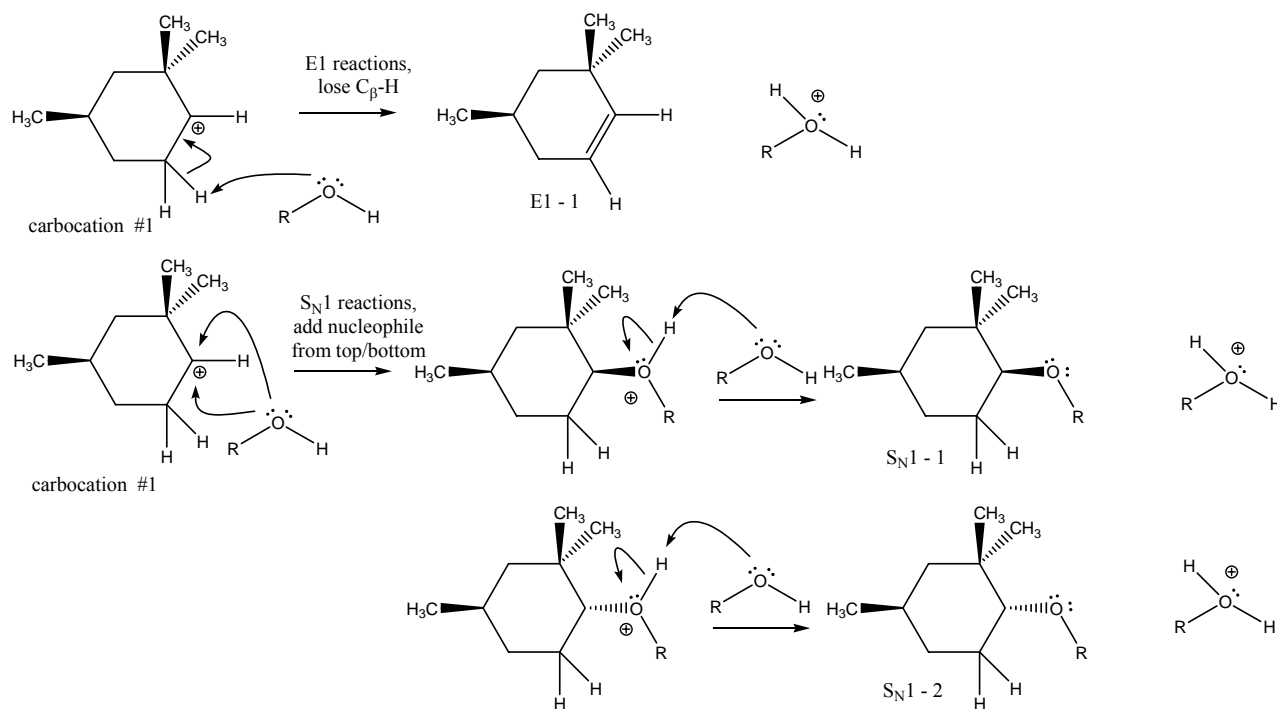
E1 - 16

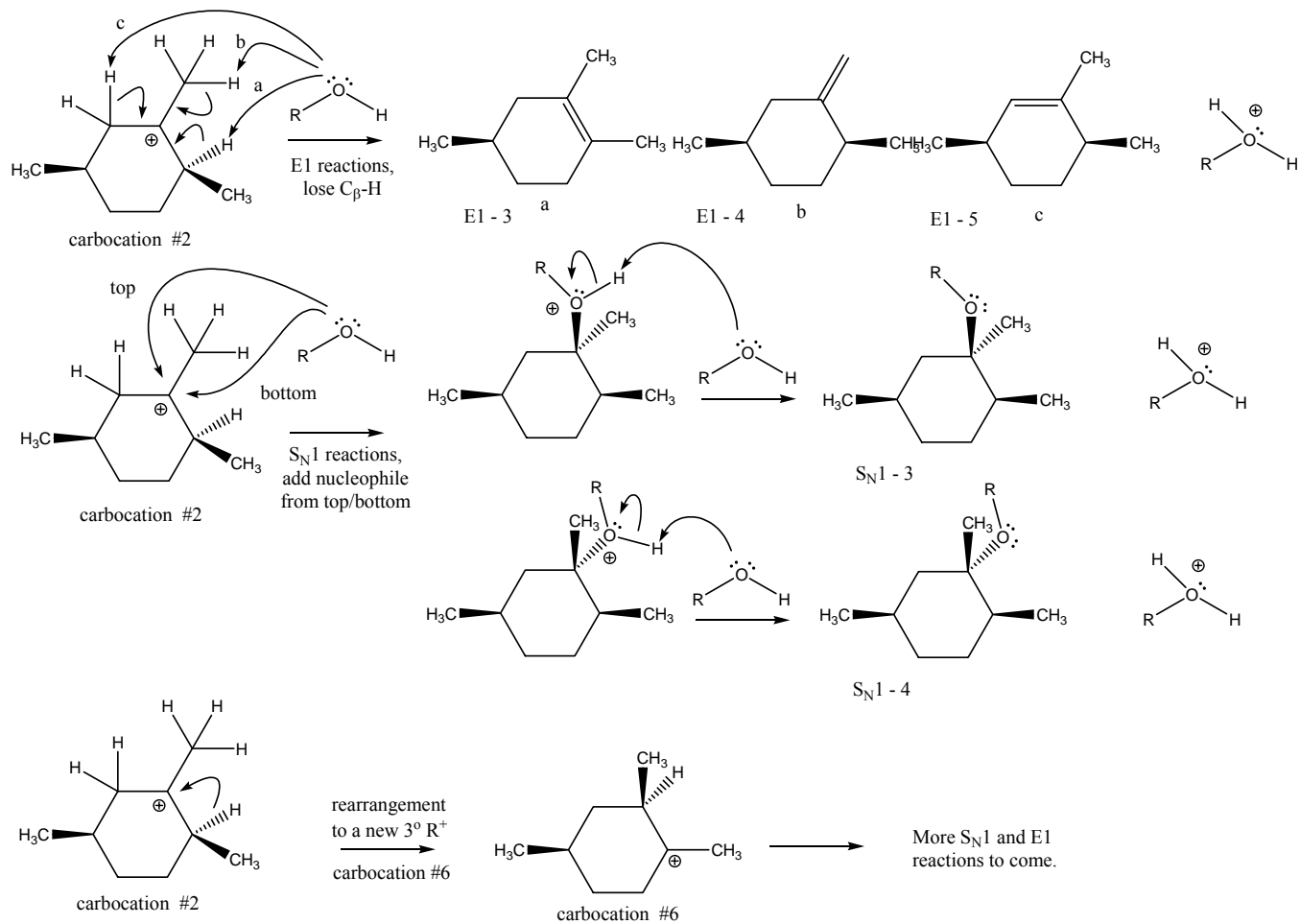
S_N1 - 13S_N1 - 14

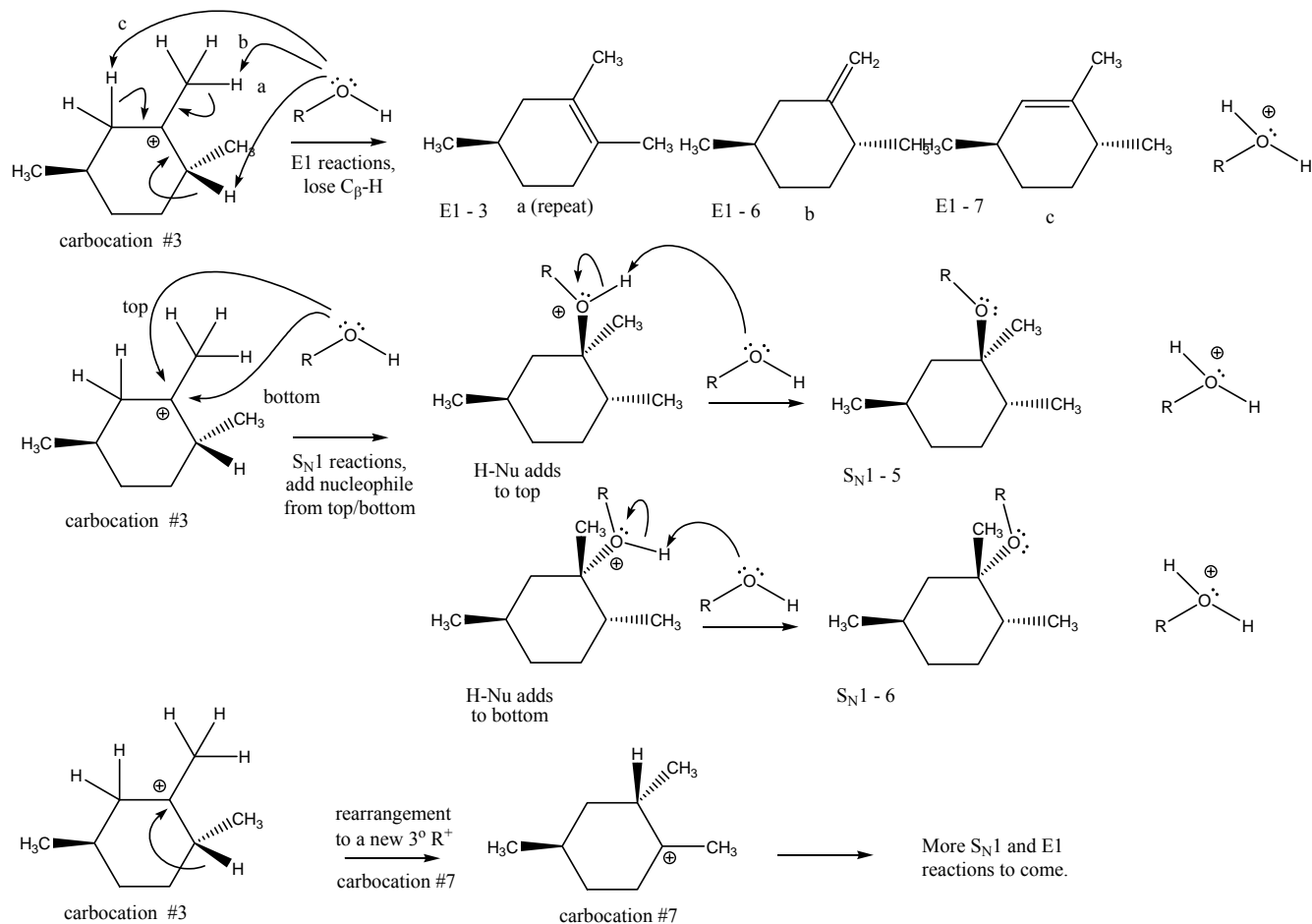
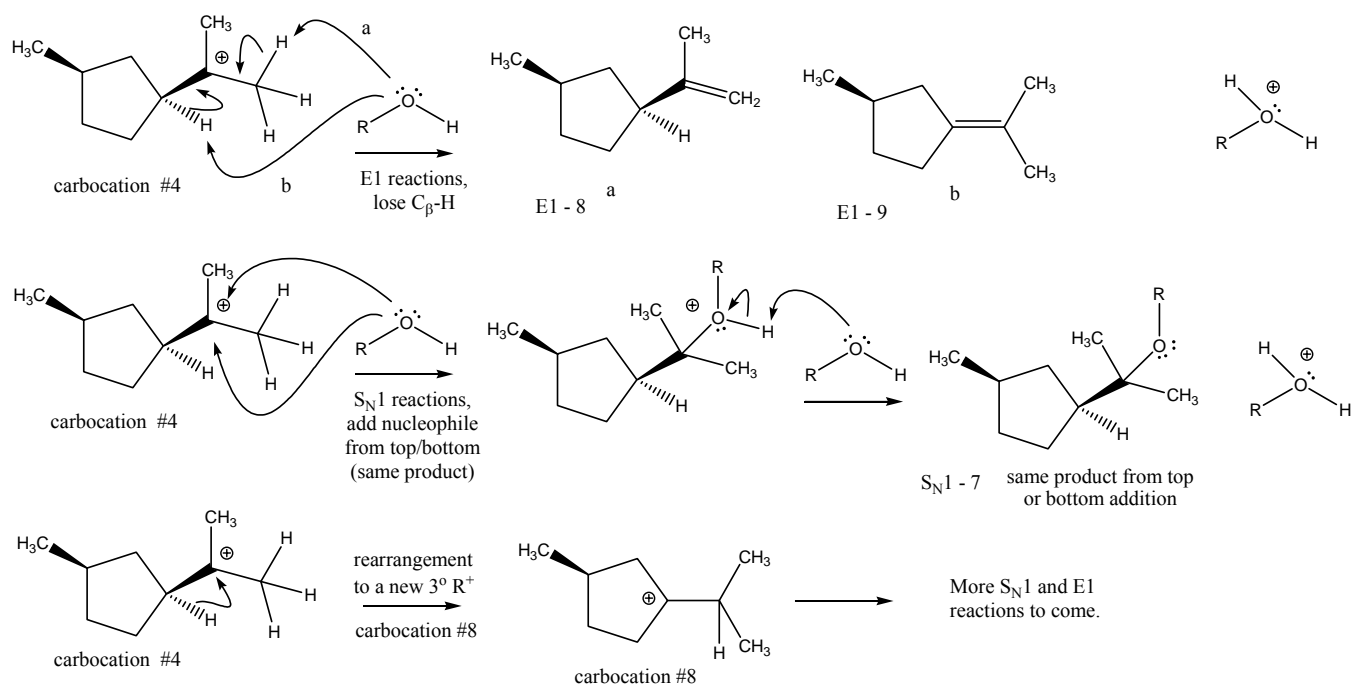
S_N1, E1 and Rearrangement Worksheet (possible key)

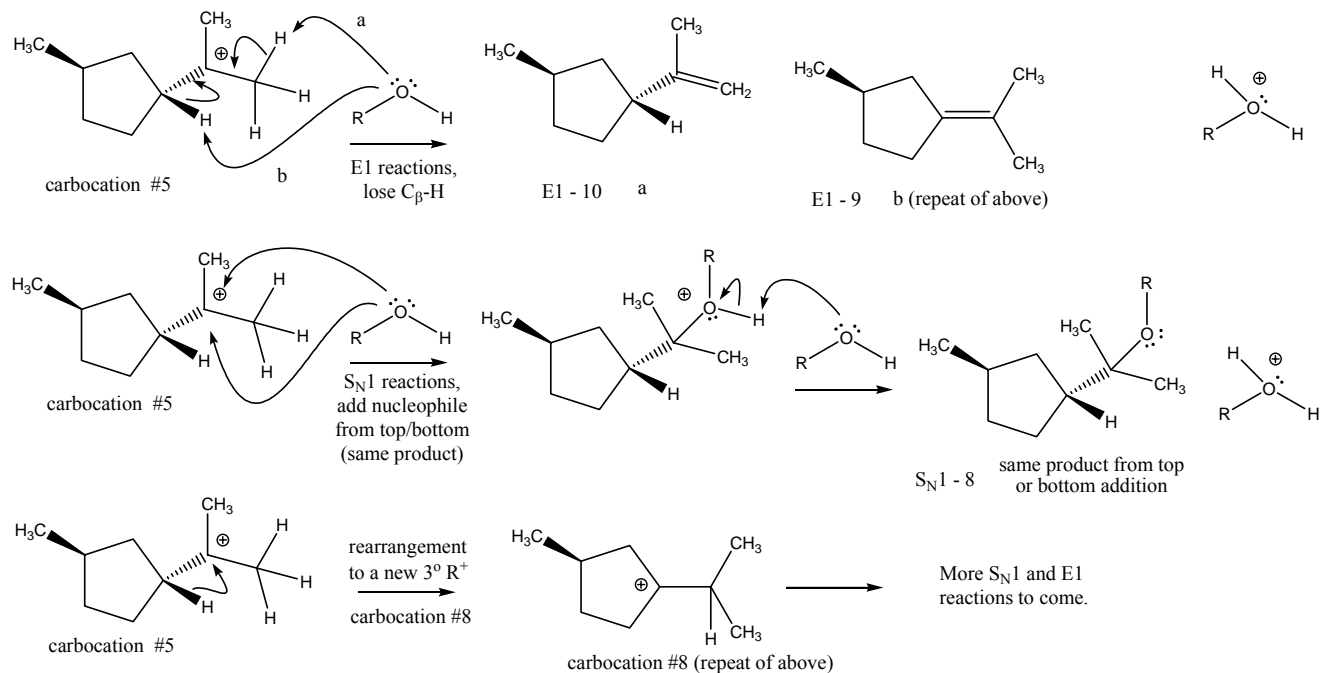
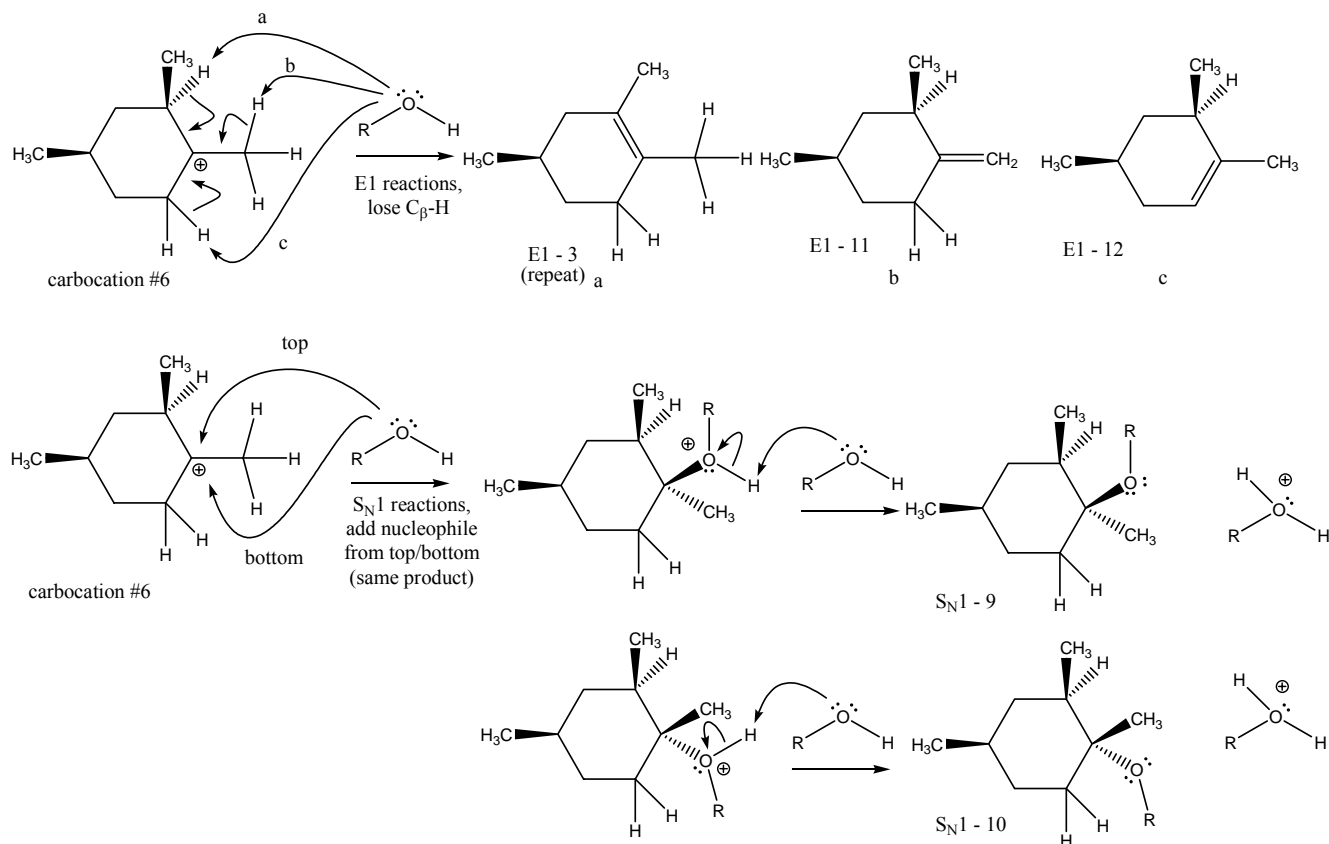
The purpose of the following worksheet is to give you practice pushing arrows in typical carbocation reactions.

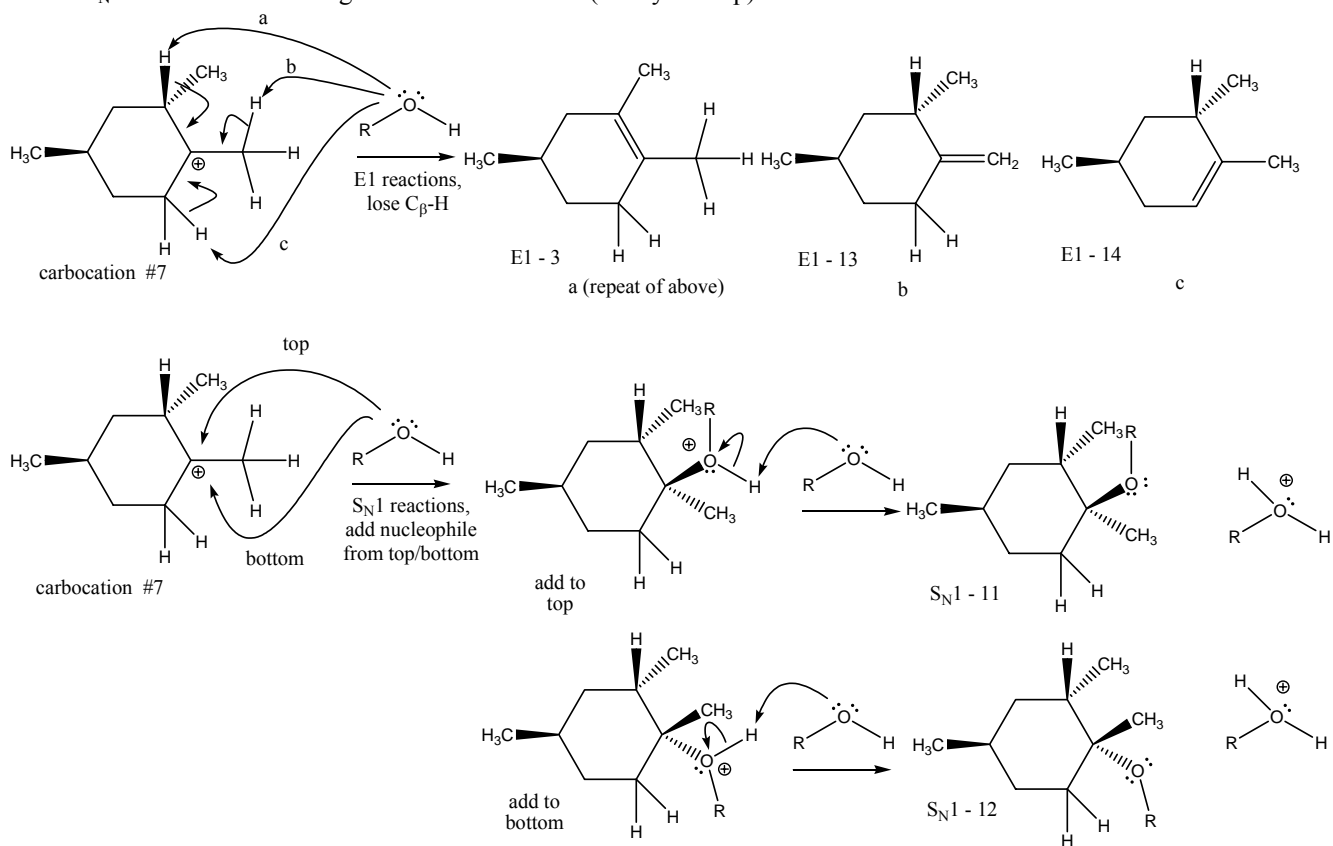
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E1 and S_N1 reactions of rearrangement #5 carbocation (methyl on top), and another rearrangement (carbocation #8, repeat)E1 and S_N1 reactions of rearrangement #6 carbocation (methyl on top)

E1 and S_N1 reactions of rearrangement #7 carbocation (methyl on top)E1 and S_N1 reactions of rearrangement #8 carbocation (methyl on top)