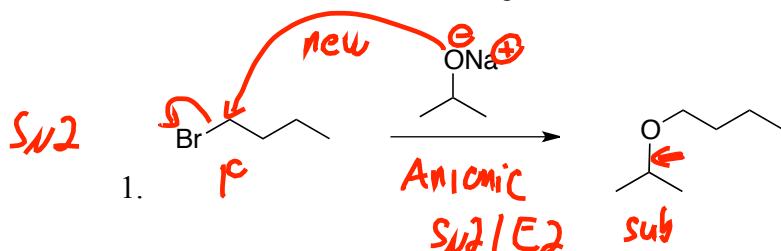


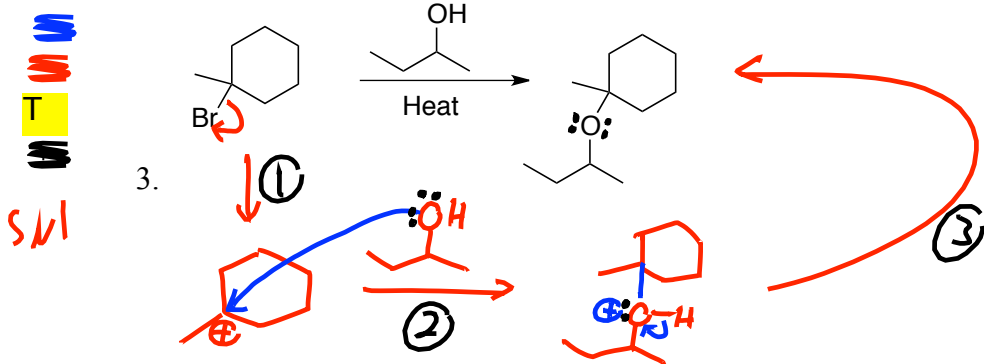
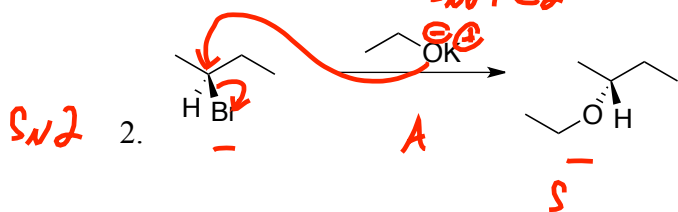
Organic Chemistry I
Test 2 Extra Mechanism Practice Problems

Answers

Note: In each of these cases, I am asking you to draw the mechanism for the product shown. In some cases where both elimination and substitution may occur, there may be another product in addition to the one shown. And in cases where elimination is happening, there may be an additional structural isomer that could form. Regardless, you should be able to draw the mechanism for how the product that IS shown would have actually formed.

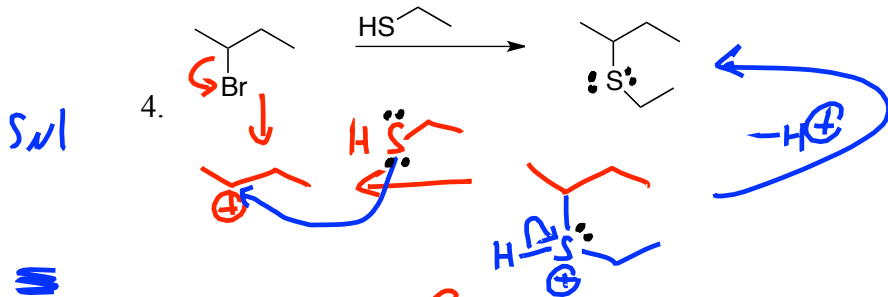


SN2: No intermediates



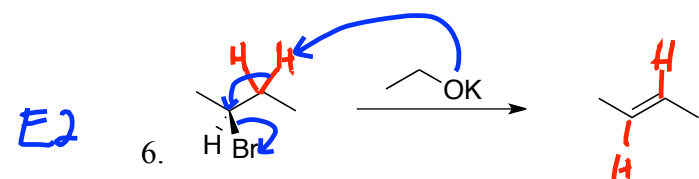
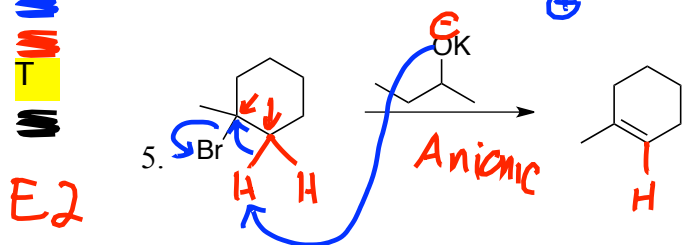
SN1: 3 steps

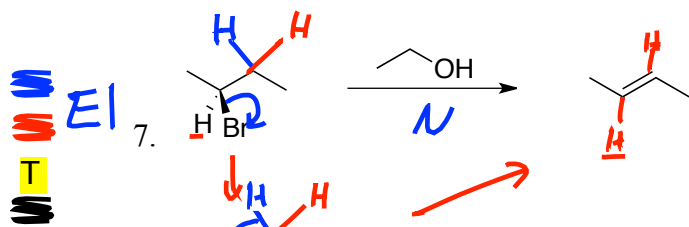
1. Cation formation
2. Cation Capture
3. Loss of proton



Mech explains changes in:

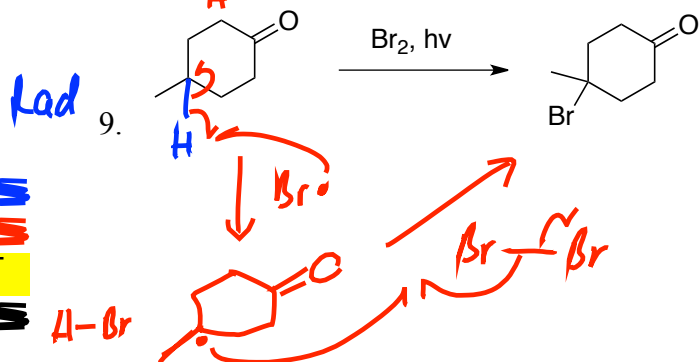
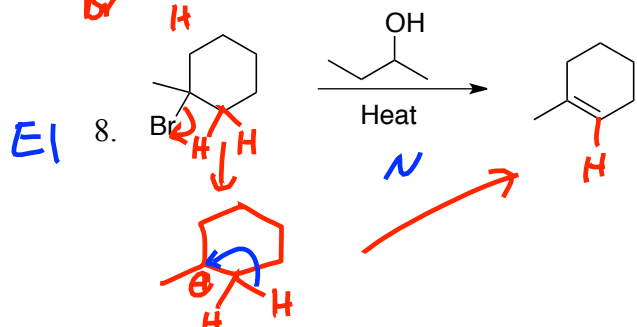
1. Bonds
2. Lone pairs
3. Formal charges





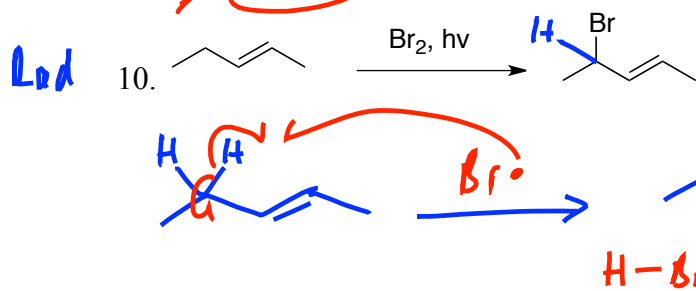
E1:

1. Cation formation
2. Loss of a neighbor H



Radical Bromination:

1. Abstract H using Br radical
2. Attach Br to carbon radical



Br•

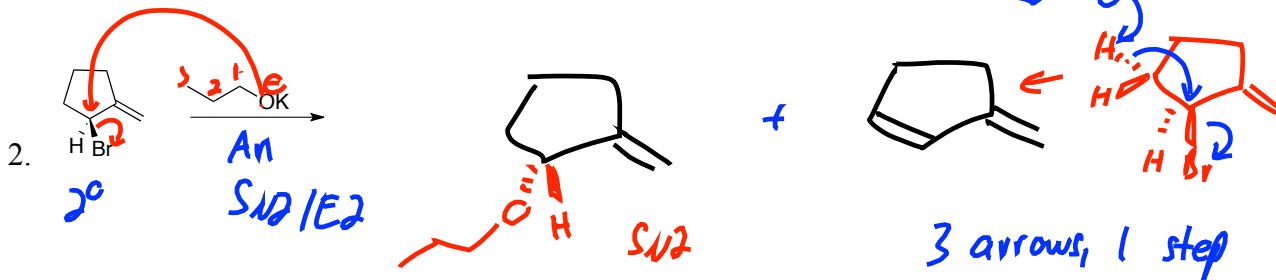


In these problems, both predict the major product and draw the mechanism for its formation. If you expect both substitution and elimination to occur, draw both (bit if there is more than one alkene isomer possible, just draw the one that would form to greater extent,) and draw the mechanism for both. ASSUME ANYTHING THAT STARTS CHIRAL IS OPTICALLY ACTIVE TO START.

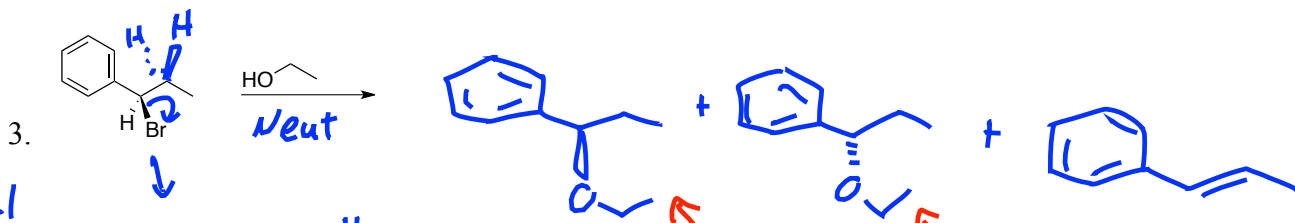
~~SN2/E2~~



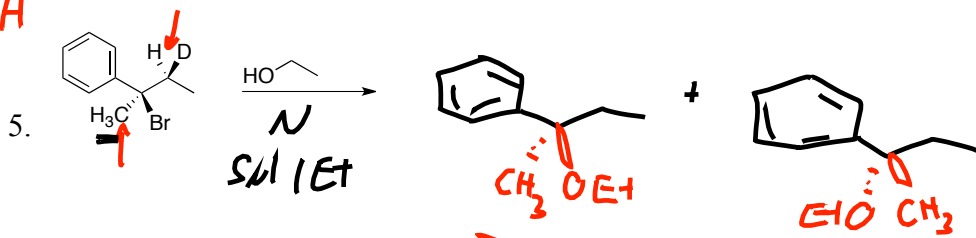
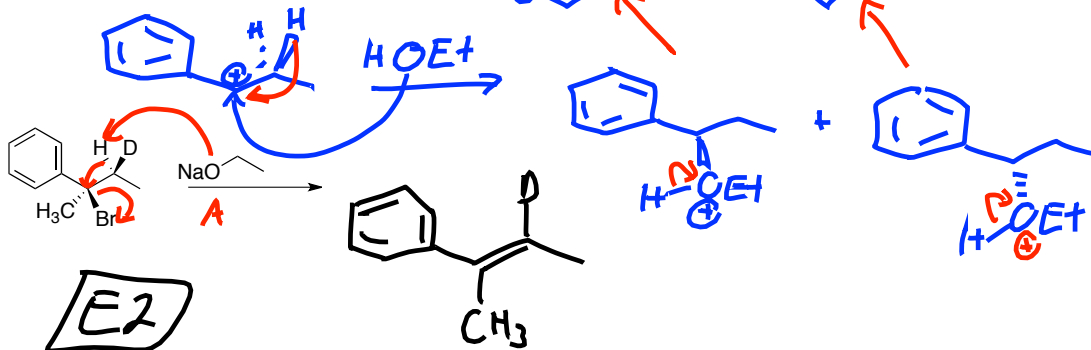
SN2 + E2



SN1/E1



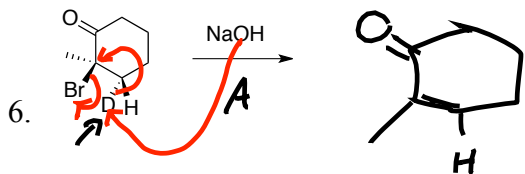
~~SN1/E2~~
Must have trans H



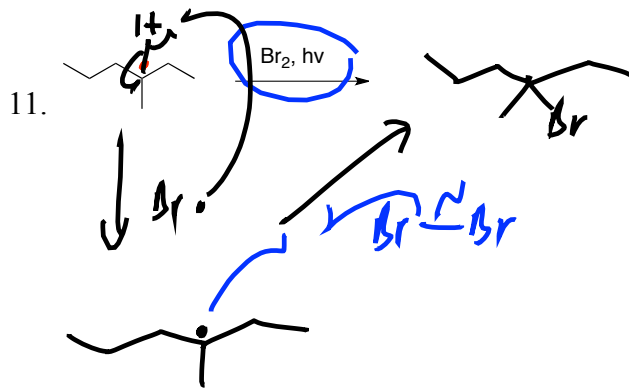
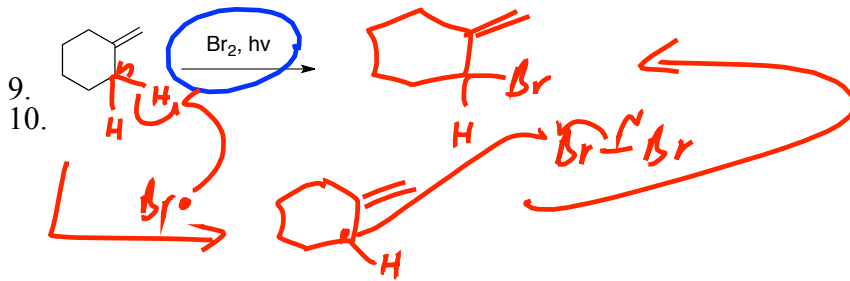
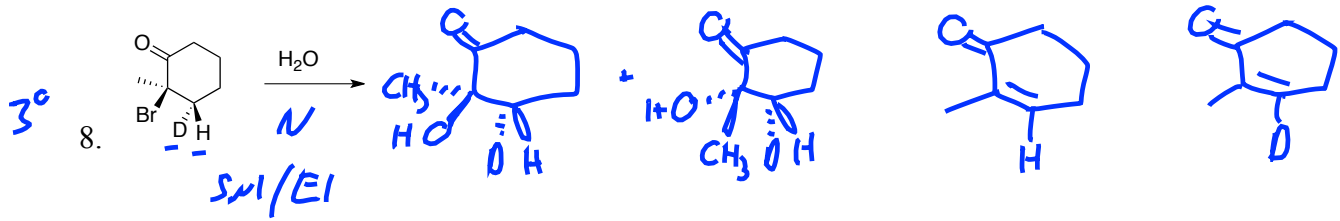
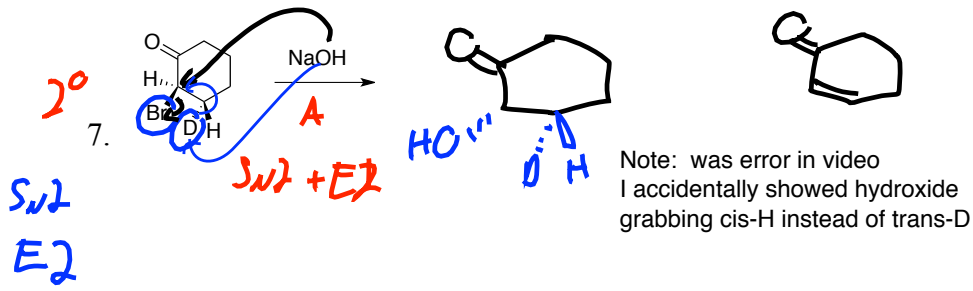
Mixture

SN1 racemic

E2
↓ 3°
trans



1
2
3
4
5
6



1
2
3
4
5
6