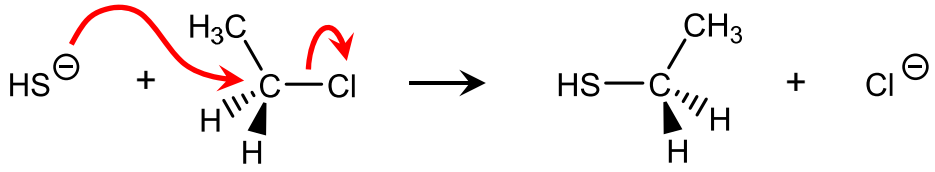
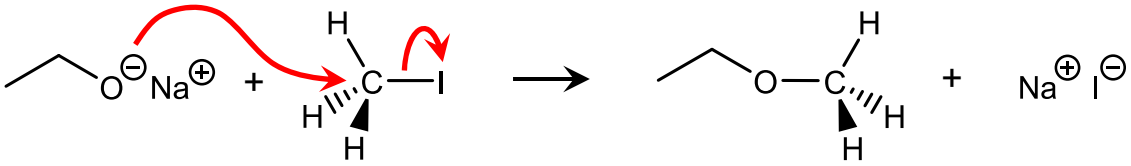
Chemistry 2301 Wednesday, July 2

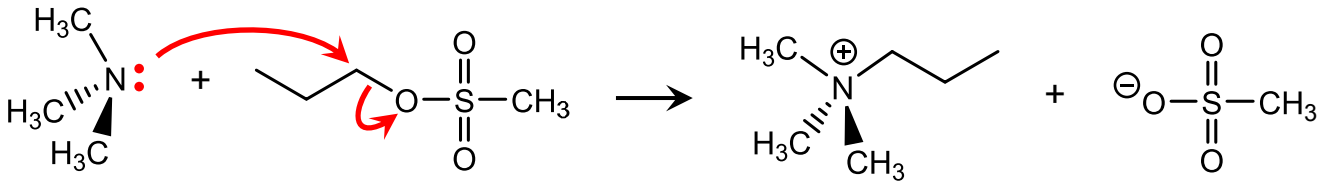
In-Class Solutions:
S_N2 Mechanisms

Important: each of your curved arrows should begin at a pair of electrons, and should end at a nucleus that the pair will be newly associated with. In the case of atoms with a negative charge, you can either draw electrons on the atom and push them, or you can begin your arrow at the charge symbol (because it usually signifies that the atom has electrons to give).





Above, the sodium ion is just a spectator, the counterion to whatever has the negative charge. In mechanisms, we sometimes leave out spectators, but here I've drawn this one in. Feel free to omit or include spectators in your mechanisms.



nucleophile *electrophile*

The challenge in the third problem was analyzing the electrophile to figure out what the leaving group is. The leaving group has to have an electronegative atom attached to a carbon by a single bond, and be willing to accept the electrons from that bond when leaving. I think the oxygen atom on the left is in the best spot to do this, and is the most

electronegative (and produces a negative charge that is stabilized by resonance), so it will leave.