

Section 5 (Chapters 11,12 and 14)

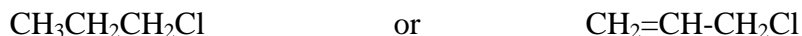
30 points

Everyone must do this section!

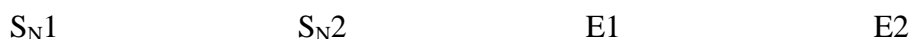
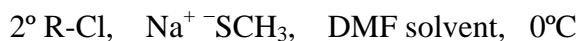
1. (2) Circle the more nucleophilic reagent within each pair:



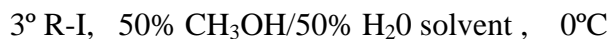
2. (2) Circle the better leaving group within each pair:

3. (2) Circle the alkyl halide that would react faster by an $\text{S}_{\text{N}}1$ mechanism:4. (2) Circle the alkyl halide that would react faster by an $\text{S}_{\text{N}}2$ mechanism:5. (2) Circle the solvent that promotes $\text{S}_{\text{N}}1$ mechanisms by its high dielectric constant:

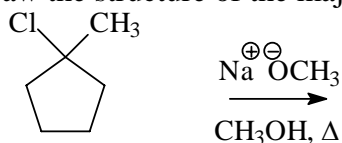
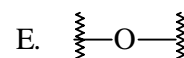
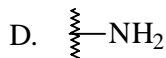
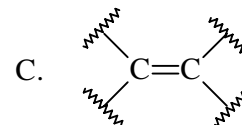
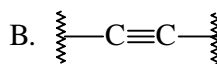
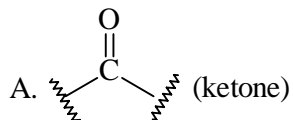
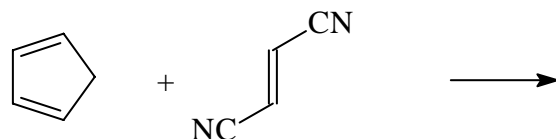
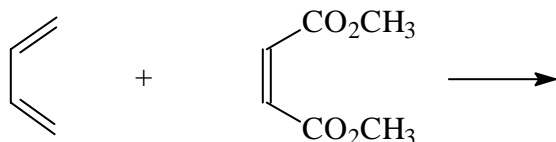
6. (2) Circle the reaction type that would predominate under the following conditions:



7. (2) Circle the reaction type that would predominate under the following conditions:



8. (2) Draw the structure of the major organic product of the following reaction:

9. (2) Put the letter of the appropriate functional group next to the infrared frequency (-ies):_____ 1710 cm^{-1} _____ 3400 cm^{-1} _____ 2250 cm^{-1} _____ 1660 cm^{-1} 10. (4) Draw the structure of the major product of each of the following, showing all aspects of the stereochemistry:

11. (2) Kinetic control of a reaction leads to the predominance of the (most stable, fastest formed, least stable, nonconjugated) product. [circle the best choice]
12. (2) Thermodynamically controlled reactions are (reversible, not reversible). [circle the best choice]
13. (2) Describe two special properties of conjugated dienes as compared to isolated dienes.
14. (2) Draw the structure of both the 1,2- and the 1,4-addition products of HBr to 1,3-butadiene.