

## CHEM UN2045 – TPS 2

key

Circle the Date: Feb 20<sup>th</sup> 2024 / Feb 22<sup>nd</sup> 2024

*Instructions: You have 10 min to work on the questions individually. This will be followed by another 10 minutes where you may discuss with a partner the questions, change answers if needed, and submit one copy of your copies together. You may only use pen or pencil, and paper. **Clarity in your 3-D drawings is required – ambiguous or unclear drawings will be given no credit.** It is strongly suggested that you work your answers out on scratch paper and then transfer them to the test packet.*

Names (please print):

Honor pledge: We have neither given nor received aid on this examination.

Signatures: \_\_\_\_\_

1. (10 pts): \_\_\_\_\_

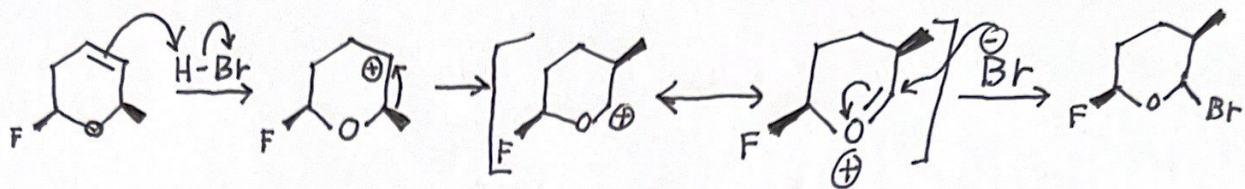
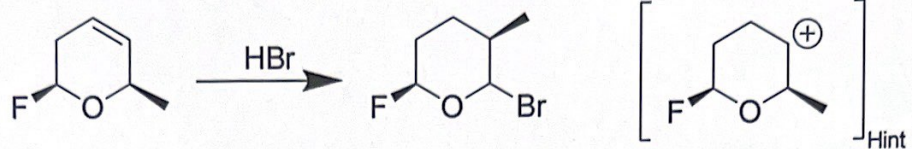
2. (10 pts): \_\_\_\_\_

3. (10 pts): \_\_\_\_\_

TOTAL (30 pts): \_\_\_\_\_

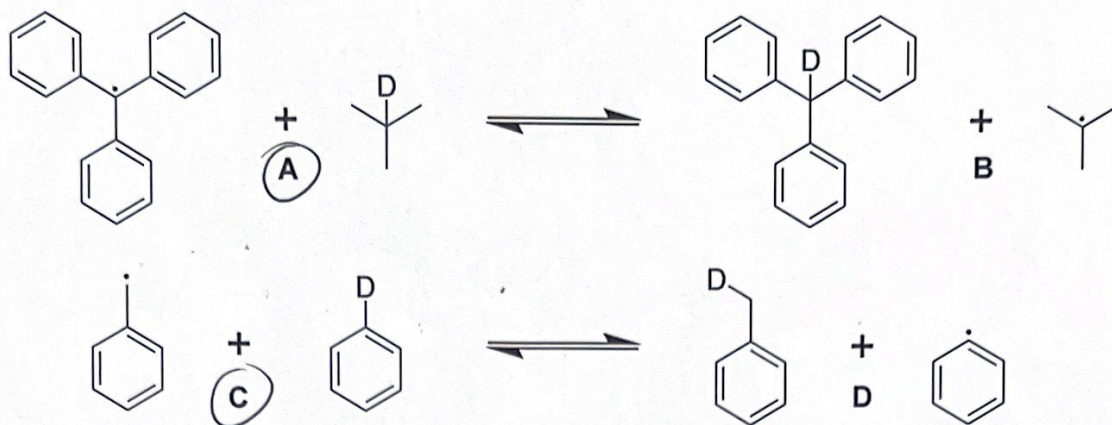


(1) Inspect the following reaction. Propose a suitable mechanism for the reaction below. A key intermediate is shown in brackets. (10 pts)





(2) The reactions below are known as disproportionation reactions. Circle the sides of the equilibria that are favored. Once you have done this, compare the two equilibria. Which of the two equilibria below is stronger and why? (10 pts)



A & C both have resonance stabilized radicals while B & D don't.

A is capable of more resonance stabilization than C, thus making the top equilibrium stronger.



(3) Complete the following reactions by filling out the boxes with the reactant, reagent, or product.  
(10 pts)

