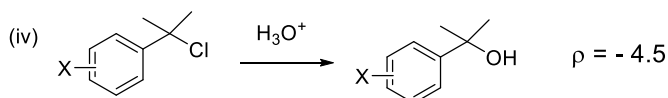
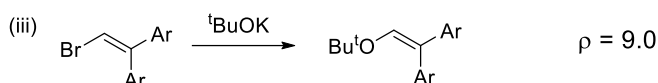
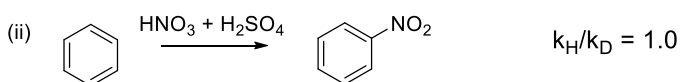
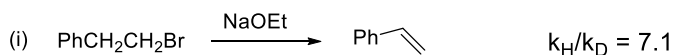




Q1. (a) Write the detailed mechanism of the following reactions based on the given information and correlate your answer with the given data. (4x2=8)



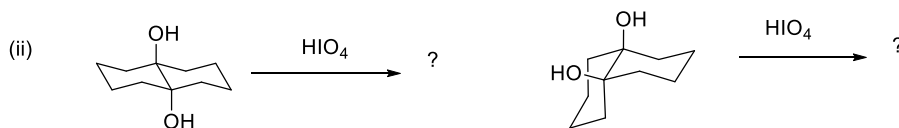
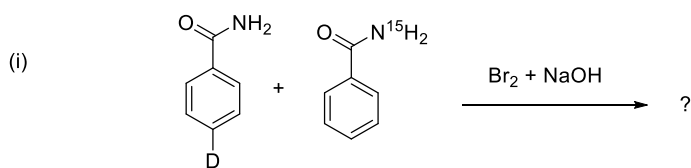
(b) Explain secondary kinetic isotope effect with an example. (2)

Q2. (a) Explain the following statements with detailed mechanism. (No marks will be given without mechanism) (2+2=4)

(i) "Pure α -D-glucose dissolved in water. The specific rotation gradually drops from an initial values of $+112^\circ$ to $+52.7^\circ$."

(ii) "For Claisen condensation reaction atleast two α -hydrogens are needed."

(b) Write the structures of the product/s and justify your answer with the mechanism. (3+3=6)

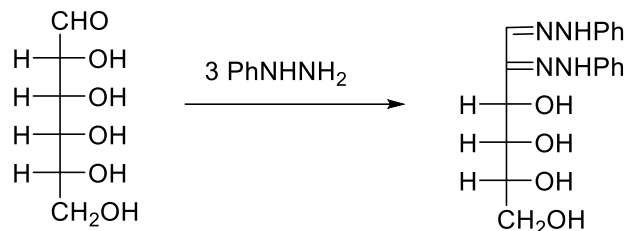


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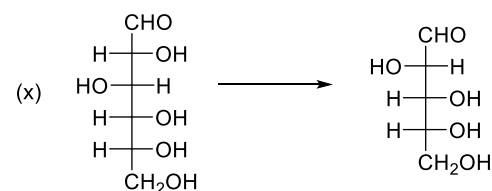
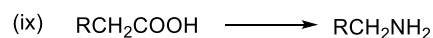
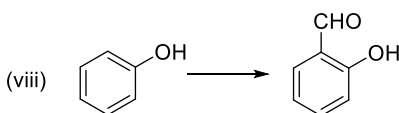
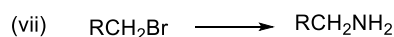
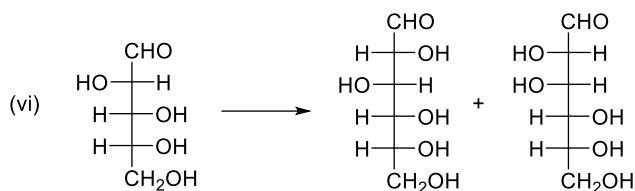
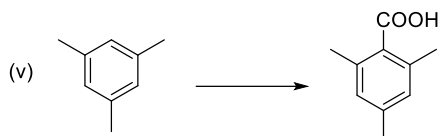
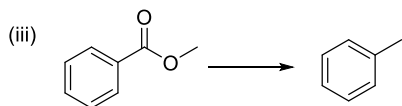
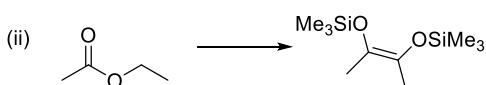
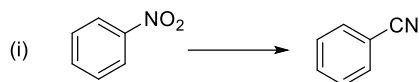
Q3. (a) Write short notes on the following reactions. For each case give one example and highlight one synthetic importance. (It must be written in three to four lines and reaction scheme; *unnecessary elaborative answer is highly discouraged*) (4x2=8)

(i) Gabriel Phthalimide reaction. (ii) Claisen condensation.

(b) Write the detailed mechanism of the following reaction. (2)



Q4. Write the reagents and conditions for the following transformations. (10x2=20)

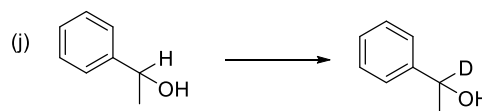
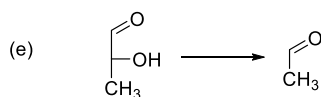
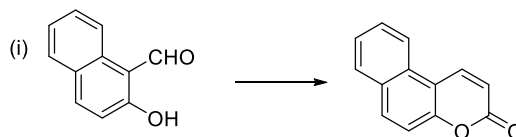
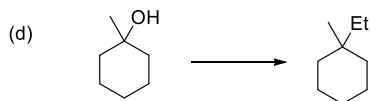
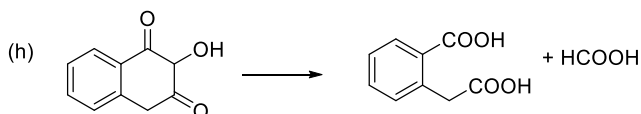
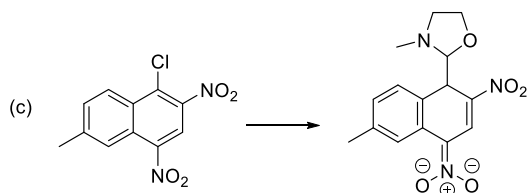
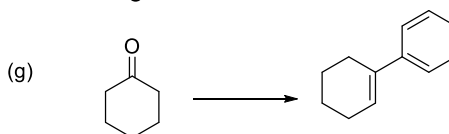
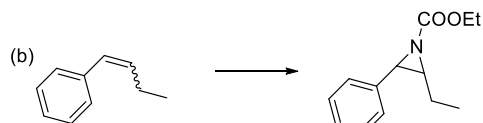
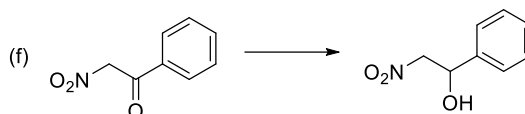
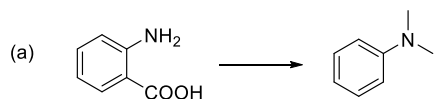


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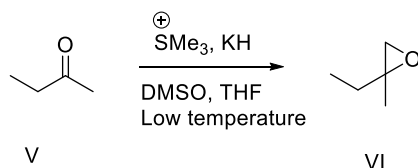
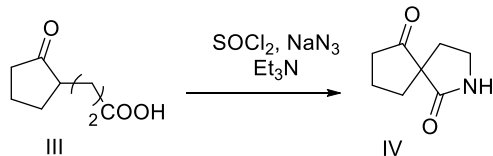
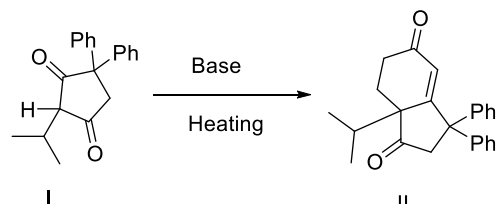
Q1. Write the reagents and conditions for the following transformations.

(10x2=20)



Q2. Explain the following transformation with correct reaction mechanism.

(4+4+2=10)



***** END *****