

INDIAN INSTITUTE OF TECHNOLOGY GANDHINAGAR

Reactions and Mechanisms in Organic Chemistry - CH 512

[Mid-Sem Exam]

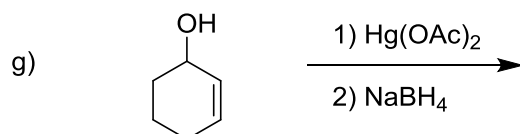
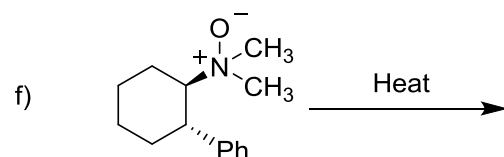
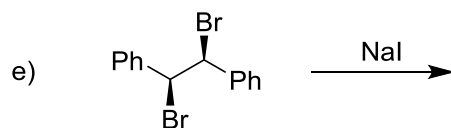
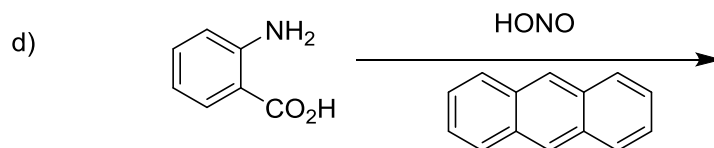
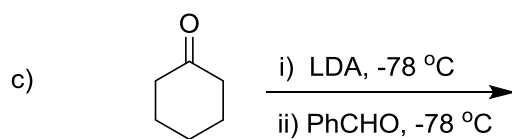
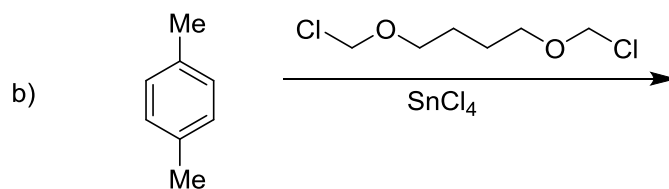
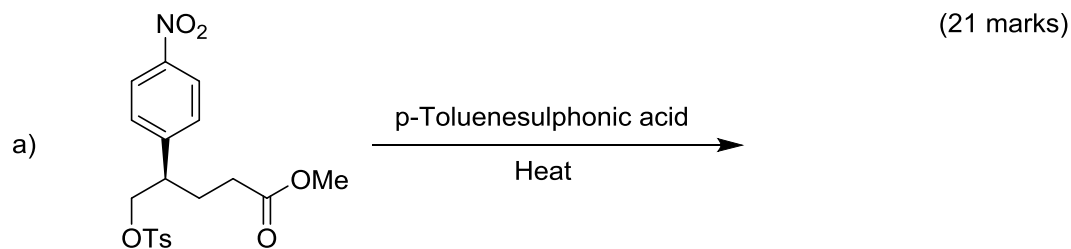
Date: 22/02/2017

Marks: [50]

Duration: 2 h

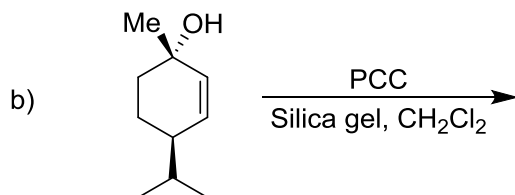
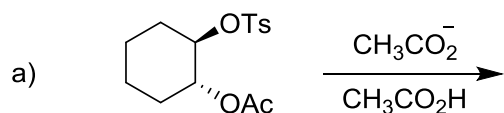
Answer all questions

1. Write the major products of the following reactions with relevant stereochemistry.



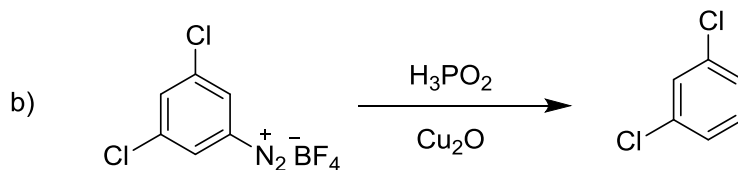
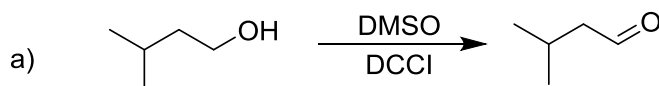
2. Write the major product of the following reactions with relevant stereochemistry and assign 'R' and 'S' configuration of the products.

(6 marks)



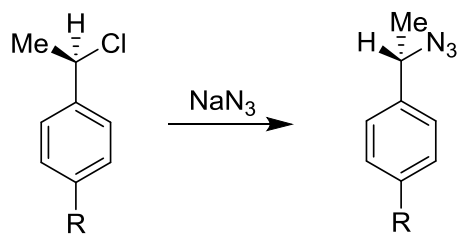
3. Write suitable mechanism for the formation of products in the following reactions.

(8 marks)



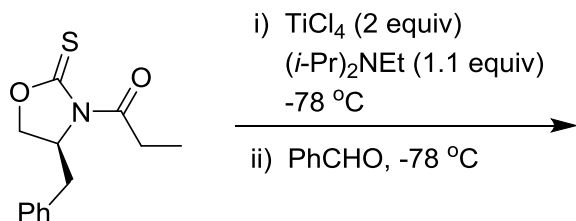
4. The following reaction shows a positive ' ρ ' value in hammett plot. Predict its transition state structure.

(3 marks)



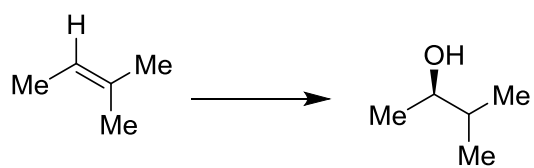
5. Write the major products of the following reactions with relevant stereochemistry and predict the possible transition state that is responsible for the stereoselectivity.

(4 marks)



6. Predict appropriate chiral reagent for the following transformation (one step).

(3 marks)



7. Predict appropriate reagents and products for the following transformations.

(5 marks)

