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**بسم الله الرحمن الرحيم**

**Final Exam Period 2**

**Chem. 145 / Group 24593**

**Date: 12/02/1431- 27/01/2010**

**Student Name:----------------------------------------------------------------------**

**Student’s Id. No.:-------------------------------**

1. The correct IUPAC name for the following compound is



a**) *N*,*N*-diethyl-3-amino-2-pentanone** b) Diethylbut-2-one-3-amine

c) Diethylbut-4-one-3-amine d) *N*,*N*-diethyl-3-amino-4-pentanone

1. Which is the most reactive compound in the electrophilic aromatic substitution? **d)**



1. Addition of Grignard reagent to any ketone will give :

a) Primary alcohol b) Secondary alcohol **c) Tertiary alcohol** d) Carboxylic acid

1. The correct IUPAC name for the following compound is



a) Isobutanoyl chloride **b) 3-Methyl-butanoyl chloride**

c) 1-Chloro-3-methylbutanone d) 2-Methyl-butanoyl chloride

1. Which of the following is a correct name according to IUPAC rules?

a) 2-Methylcyclohexane b) 2-Ethyl-2-methylpentane

b) 3,4-Dimethylpentane **d) 3-Ethyl-2-methylpentane**

1. The structure of Styrene is **C**



1. Which of the following amines is the most basic **d**



1. How are these compounds related?



a) The same b) Geometrical isomers

**c) Structural isomers** d) Not related at all

1. All of the following compounds can form intermolecular hydrogen bonds except

a) Acids b) Alcohols

c) Thiols  **d) Aldehydes**

1. What is the product of this reaction? **a)**



1. The compound of the highest acidity is **a)**



1. 2,3-Dimethyl-2-butene undergoes catalytic hydrogenation to give: **a)**

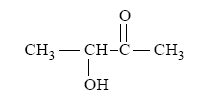
a) 2,3-Dimethylbutane b) 2-Methylpentane

c) 2,2-Dimethylbutane d) 3-Methylpentane

1. The main product of the following reaction is **b)**





1. The correct IUPAC name of the following compound is

a) 2-Hydroxy-butanal b) 2-Hydroxy-butan-3-one

**c) 3-Hydroxy-butan-2-one** d) 3-Oxo-2-butanol

1. 3-Cyclopentene carboxylic acid is **d)**



1. Which of the following compounds will show geometrical isomerism?

a) CH2=CHCl2 **b) ClCH=CHBr**

c) CH2=CHCl d) Cl2C=CBr2

1. Which of the following is ketal **b)**



1. The structure of vinyl bromide is **c)**



1. What is the best name for the following compound? **d)**



a) 3-Methylenehexane b) 2-Propyl-1-butene

c) 4-Ethyl-4-pentene d) 2-Ethyl-1-pentene

1. Amines can be prepared by the reaction of **b)**

a) Acid + Alcohol b) Alkyl halides + Ammonia

c) Acid +Base d) Two molecules of alcohols

1. The molecule of the highest boiling point is

a) CH3-CH2-CH2-CHO b) CH3CH2­CH2CH2OH

c) CH3CH2OCH3CH2  **d) CH3CH2CH2COOH**

1. The main product of the following reaction is **b)**



1. Which of the following compounds **is not aromatic** b)



1. What is the major product expected from the following reaction? **a**



1. What is the major product of the following reaction? **c)**



1. What is the major product of the following reaction? **b)**



1. The structure of 2-butyne-1,4-dioic acid is **a)**



1. The correct name for the following structure is:



a) 1-Chloro-3-ethyl-4-methylcyclohexane **b) 4-Chloro-2-ethyl-1-methylcyclohexane**

c) 1-Methyl-2-ethyl-4-chlorocyclohexane d) 5-Chloro-1-ethyl-2-methylcyclohexane

1. The product of the following Coery-House synthesis is: **d**



a) *n*-Butane b) *n*-Hexane c) Isobutane d) *n*-Propane

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1. What is the major product of the following reaction? **b)**



1. Which compound of the following **would not** give Aldol condensation reaction **d)**



1. The correct IUPAC name of the following compound is **b)**



a) Ethoxypropanone b) Ethyl propanoate

c) Ethyl propyl ether d) Ethyl propyl anhydride

1. The major product for the following reaction is: **c)**
2. The alkyl bromide of the highest boiling point is: **d)**



1. Alkenes can be converted to epoxides using **d)**

a) CH3COOH b) CH3COCH3  c) CH3CHO d) CH3COOOH

1. Which amine of the following is tertiary amine **a)**



1. The major product of this reaction is: **a)**



1. The following compound is considered as **a)**



a) Aldol product b) Enol c) Cyanohydrine d) Acetal

1. The structure of phthalic acid is **a)**



1. The correct IUPAC name of the following compound is



a) 3-Methyl-5-Hexenal b) 1-Heptenal

**c) 4-Methyl-5-hexenal**  d) 4-Methyl-5-hexyneal

1. **The main products of the following reactions are:**

**i. a)**



a) CH3CH2COONa + CHI3 b) CH3CH2COOH + CHI3

c) CH3CH2COOCOCH2CH3 + CHI3 d) CH3CH2CHO + CHI3



ii. **b)**

a) CH3COOH b) CH3CHO c) CH3CH2OH d) CH3OCH3

iii. **d**







iv. **c**



v. **a**







**vi. c**



vii. **d)**



viii. **c**

a) CH3CN b) CH3CH2NH2 c) CH3NH2 d) CH3COOH

ix**. b**



x**. What is the major product of the following reaction? d)**

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وبالله التوفيق،،،

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