

Surname: _____ Initials: _____

Student Number: _____ Marks: 4

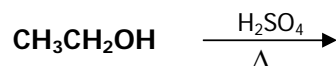
CHEM 120 - Quiz 4 – 22nd September 2011

Answer the following multiple choice questions by circling the correct answer.

1. Which of the following is not normally considered to be an electrophile?

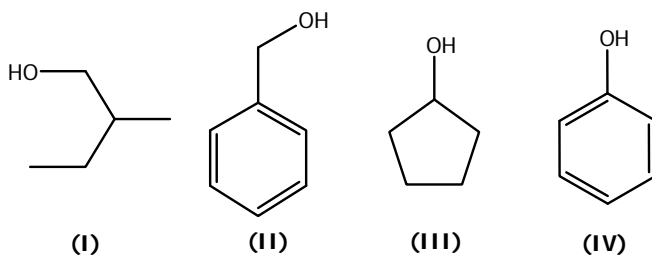
- (A) NH_4^+
- (B) CH_3CH_2^+
- (C) CN^-
- (D) CH_4

2. Which of the following are the elimination products of the reaction shown below?



- (A) $\text{CH}_3\text{CH}_3 + \text{CO}_2$
- (B) $\text{CH}_2=\text{CHOH} + \text{H}_2\text{O}$
- (C) $\text{CH}_2=\text{CH}_2 + \text{H}_2\text{O}$
- (D) $\text{HOCH}_2\text{CH}_2\text{OH} + \text{CO}_2$

3. Which of the following alcohols is oxidised to a ketone by chromic acid?



- (A) I
- (B) II
- (C) III
- (D) IV

4. Which of the following will undergo an addition reaction with bromine?

- (A) $\text{CH}_3\text{-CH}_2\text{-OH}$
- (B) $\text{CH}_3\text{-CH}_2\text{-ONa}$
- (C) $\text{CH}_2=\text{CH-CH}_3$
- (D) $\text{CH}_3\text{-CH}_2\text{-COOH}$ (propanoic acid)

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Answer the following multiple choice questions by circling the correct answer.

1. Which of the following is not normally considered to be a nucleophile?

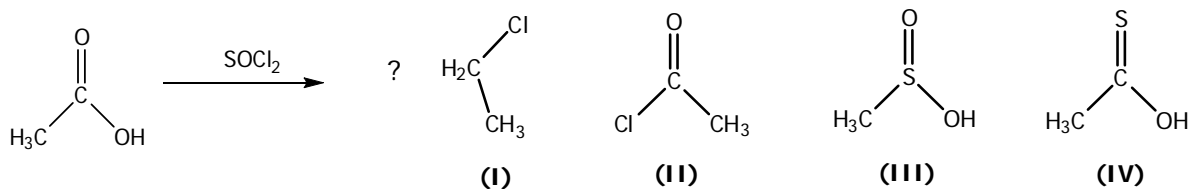
- (A) NH_3
- (B) CH_3CH_2^+
- (C) CN^-
- (D) NH_2CH_3

2. Which of the following are the substitution products of the reaction shown below?



- (A) $\text{CH}_3\text{CH}_2\text{BrH} + \text{O}^-$
- (B) $\text{CH}_2=\text{CHOH} + \text{H}_2\text{O}$
- (C) $\text{HOCH}_2\text{CH}_2\text{Br}$
- (D) $\text{CH}_3\text{CH}_2\text{OH} + \text{Br}^-$

3. What is the product of the following reaction?



- (A) I (B) II (C) III (D) IV

4. The ester linkage (functional group) in an organic molecule is formed by the reaction between

- (A) two acids.
- (B) two alcohols.
- (C) an acid and an alcohol.
- (D) an amine and an acid