

國立高雄科技大學 109 學年度碩士班 招生考試 試題紙

系所別：化學工程與材料工程系碩士班

組別：乙組

考科代碼：1013

考科：有機化學

注意事項：

1、各考科一律可使用本校提供之電子計算器，**考生不得使用自備計算器**，違者該科不予計分。

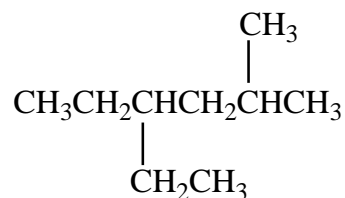
2、請於**答案卷上**規定之範圍作答，違者該題不予計分。

一、Give IUPAC names for the following compounds: (每題 3 分，共 30 分)

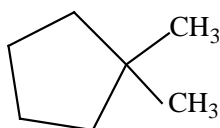
1.



2.



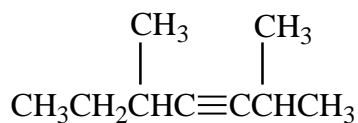
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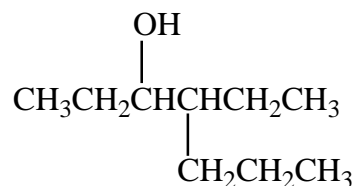
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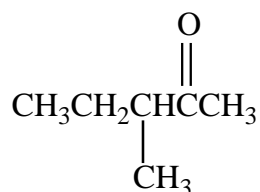
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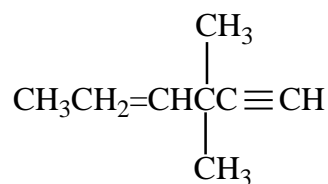
6.



7.



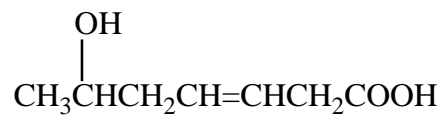
8.



9.

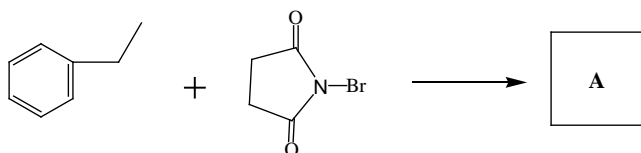


10.

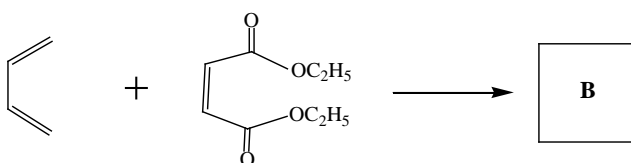


二、Finish the following reactions (每題 3 分，共 30 分)

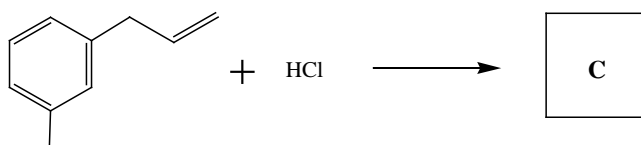
1.



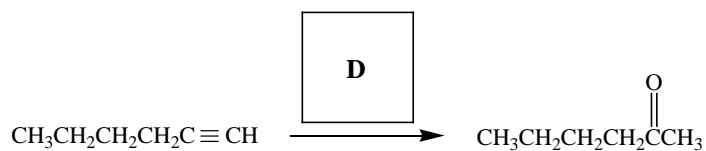
2.



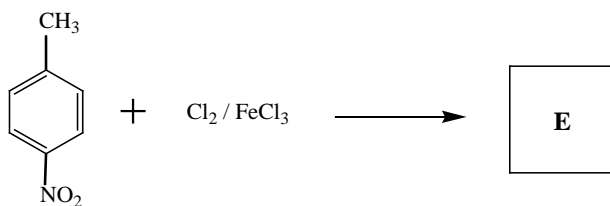
3.



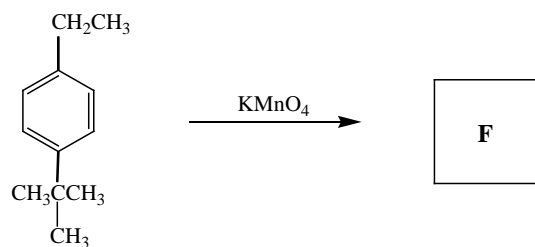
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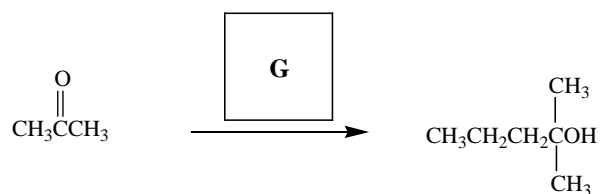
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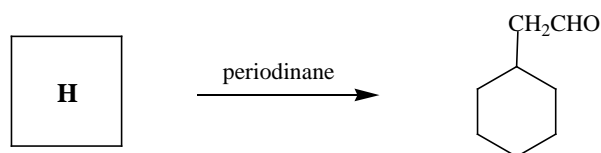
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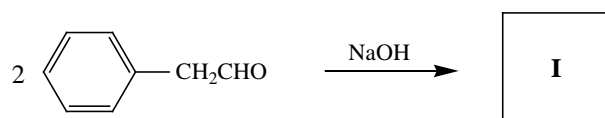
7.



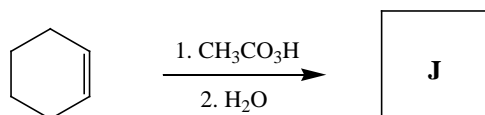
8.



9.



10.



三、What product would you expect from the SN1 reaction of (S)-3-methylnonan-3-ol with HBr ?

Show the mechanism and stereochemistry of both starting material and product. (10 分)

四、Predict the product of the reaction of 1,2-diethylcyclohexene with the following: (10 分)

(a)  $\text{KMnO}_4, \text{H}_3\text{O}^+$       (b)  $\text{KMnO}_4, \text{OH}^-, \text{H}_2\text{O}$

五、Show the mechanism of the reaction of benzene with fuming sulfuric acid. (10 分)

六、How would you prepare cis-but-2-ene starting from propyne,  $\text{CH}_3\text{Br}$ , and any other reagents needed ? (You'll have to carry out more than one reaction) (10 分)