

Laboratory Report (109 chem)
Experiment 3&4: Hydrocarbons (Aliphatic & Aromatics)

Student Names: Section No:

Part (1): Hydrocarbons (Aliphatic)

Name		Structure formula
class		
Functional group		
Molecular formula		

Tube no.	Test	Observation	Conclusion
1	<u>Addition of Bromine to an Alkane:</u> 1. Addition of bromine to cyclohexane	The orange-red color of bromine is persisting.	
	2. In sunlight	In sun light, orange-red color of bromine disappeared	
	3. Test for the presence of HBr by NH ₄ OH	white fumes appeared over the tube mouth.	
2	<u>Oxidation of alkane:</u> 1. 0.5ml cyclohexane+1 drop KMnO ₄		

1) Write the chemical equations for the addition of bromine to cyclohexane in the presence sunlight.

2) Write the chemical equation for the oxidation of cyclohexane by KMnO₄.

Name		Structure formula
class		
Functional group		
Molecular formula		

Tube no.	Test	Observation	Conclusion
1	<u>Addition of Bromine to an Alkene:</u> 1. Addition of bromine to cyclohexene	orange-red color of bromine disappeared.	
	2. Test for the presence of HBr by NH ₄ OH	No white fumes appeared over the tube mouth	
2	<u>Oxidation of alkene:</u> 1. 0.5ml cyclohexene+1drop KMnO ₄		

- 1) Write the chemical equation for the addition of bromine to 2-pentene.
- 2) Write the equation for the oxidation of propene.
- 3) Can HBr be produced from the reaction of bromine with alkene? And Why?

Part (2): Hydrocarbons (Aromatics)

Name		Structure formula	
class			
Functional group			
Molecular formula			
Tube no.	Test	Observation	Conclusion
1	<u>Addition of Bromine to a benzene:</u> 1. without Fe powder	No reaction	
	2. With Fe powder	The color of bromine disappeared	
2	<u>Oxidation of benzene:</u> 1. benzene with dil- KMnO ₄	No reaction	
3	<u>Nitration of benzene:</u>	Appearance of faint yellow color,	

1) Write the equation for the reaction of benzene with bromine?

2) What is the difference between the oxidation test for Methoxy-t benzene and p-Methoxy-Toluene with dil. KMnO₄ and Why?