EXPERIMENT 4: REACTIONS OF ALIPHATIC AND AROMATIC HYDROCARBONS

******* POST LAB EXPERIMENT 4 *******

RESULTS

Match the answer by using suggested answer given by drag and drop and complete the sentences given.

Cyclohexene is alkene that undergoes electrophilic addition reaction with the present of C-C double	Toluene is arene that undergoes free radical substitution reaction with the present of benzylic hydrogen	Cyclohexane is alkane that undergoes free radical substitution with the present of sunlight.
Cyclohexane is alkane cannot undergo oxidation reaction bond.	Cyclohexene is alkene can undergo oxidation reaction by the present of C-C double bond.bond.	Toluene is arene can undergo oxidation reaction by the present benzylic Hydrogen.

Test	Hydrocarbon	Observation	Deduction
A) Bromine test	Cyclohexane	**Test tube with wrap** Reddish brown colour of bromine solution _____.	
		Test tube without wrap Reddish brown colour of bromine solution _____.	

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	Cyclohexene	**Test tube with wrap** Reddish brown colour of bromine solution _____.	
		Test tube without wrap Reddish brown colour of bromine solution _____.	
	Toluene	**Test tube with wrap** Reddish brown colour of bromine solution _____.	
		Test tube without wrap Reddish brown colour of bromine solution _____.	

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B) Baeyer's Test	Cyclohexane	Purple colour of $KMnO_4$ solution remain unchanged.	
	Cyclohexene	Purple colour of $KMnO_4$ solution decolorized.	
	Toluene	Purple colour of $KMnO_4$ solution decolorized..	

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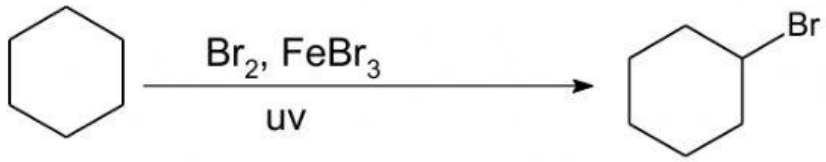
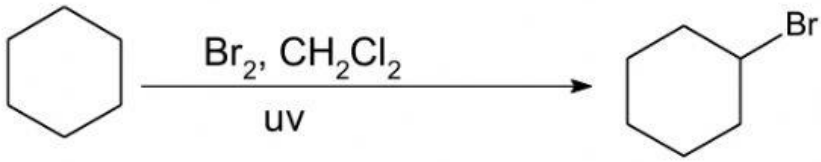
DISCUSSION

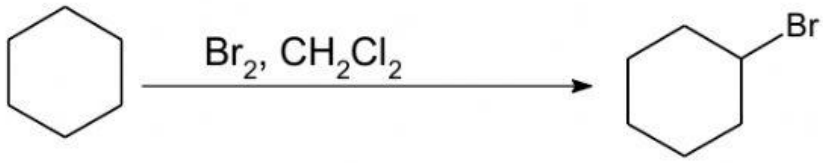
A) Bromine in CH_2Cl_2

i) Cyclohexane is a _____ (saturated/ unsaturated) hydrocarbon that undergoes _____ reaction only in the presence of _____

ii) Which of the following is chemical equation bromination of cyclohexane.







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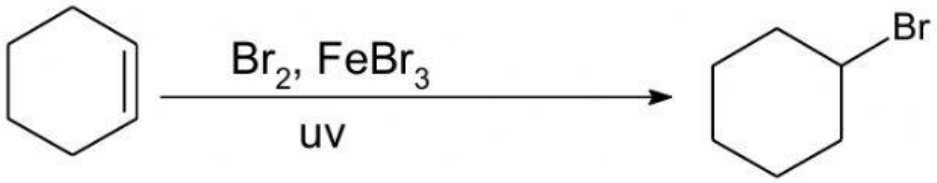
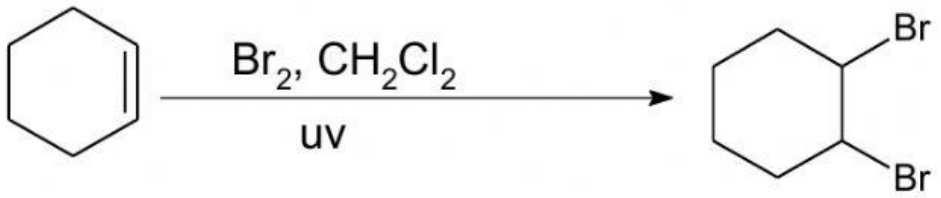
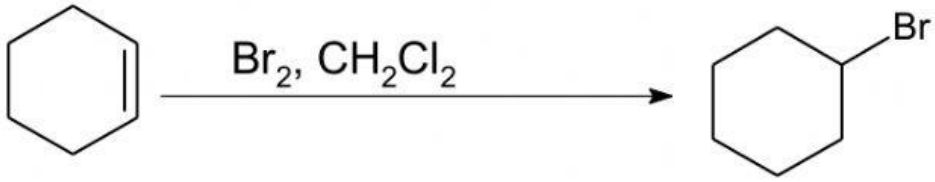
iii) Cyclohexene is an _____ (saturated/ unsaturated) hydrocarbon that can easily undergoes _____

iv) Which of the following is **chemical equation bromination of cyclohexene under sunlight & in the dark)**

reaction in sunlight







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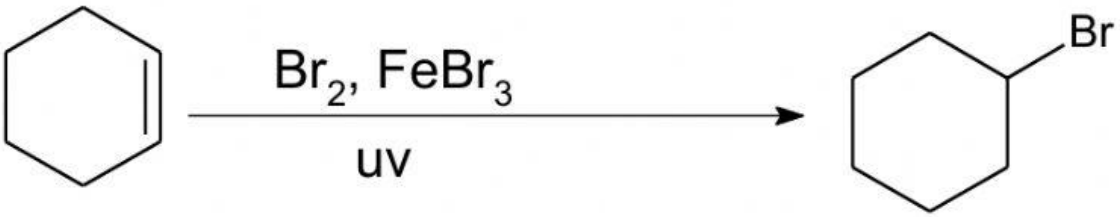
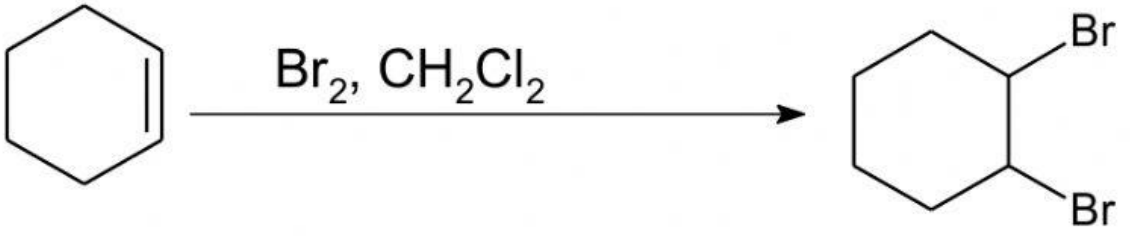
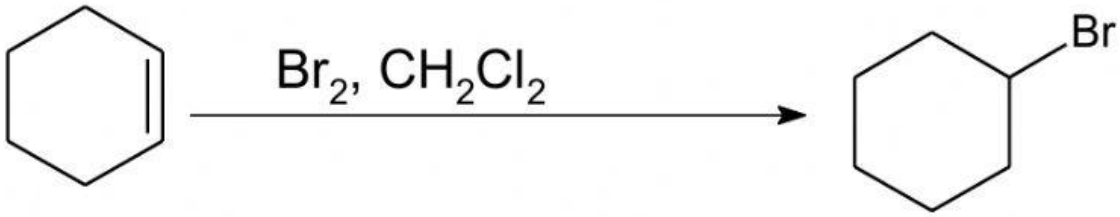
v) Which of the following is **chemical equation bromination of cyclohexene in the dark)**

reaction in dark







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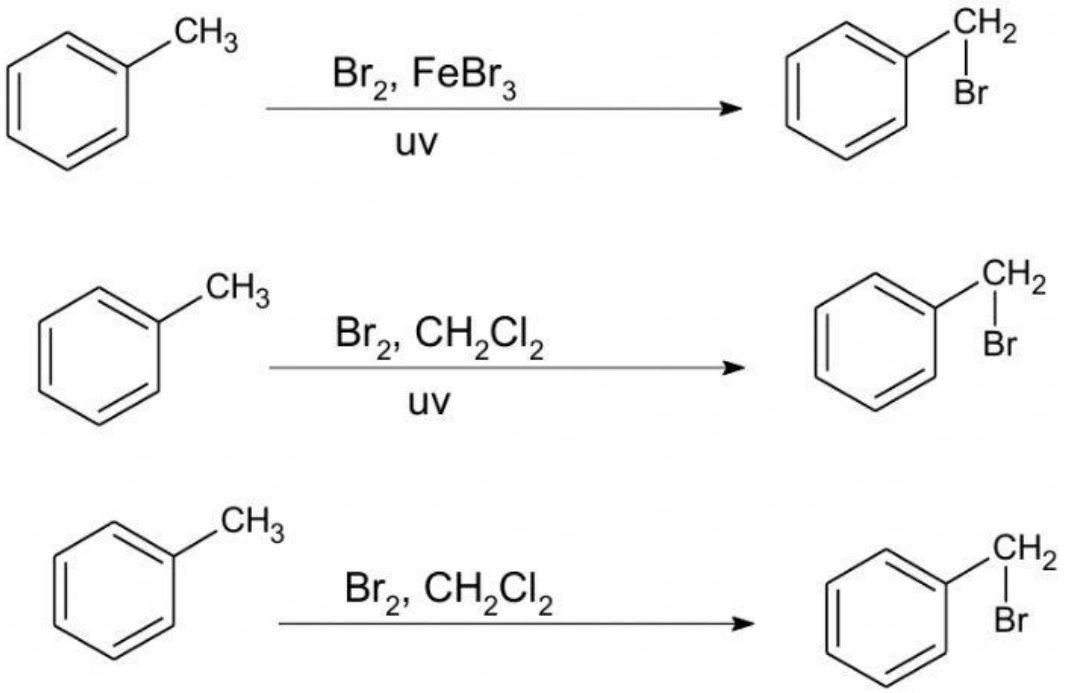
vi) Toluene undergoes _____

_____

Chemical equation bromination of toluene.



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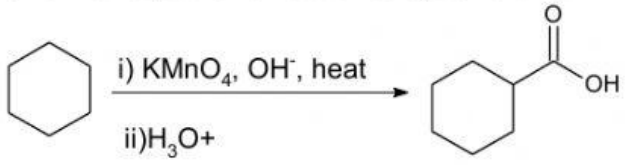
B) BAEYER'S TEST

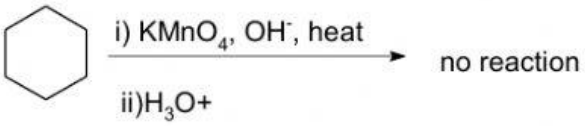
_____ and _____undergoes oxidation while _____ cannot be oxidised.

Cyclohexene is oxidized to form _____

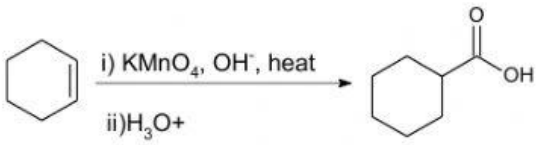
Toluene is oxidized to form _____

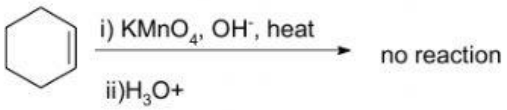
i) **Chemical equation oxidation of cyclohexane.**

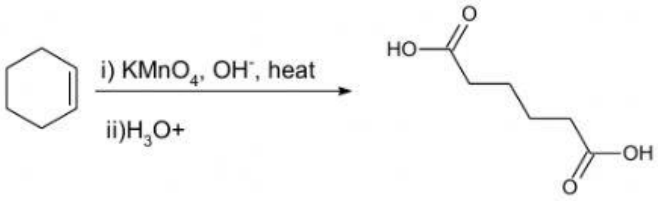




ii) **Chemical equation oxidation of cyclohexene.**







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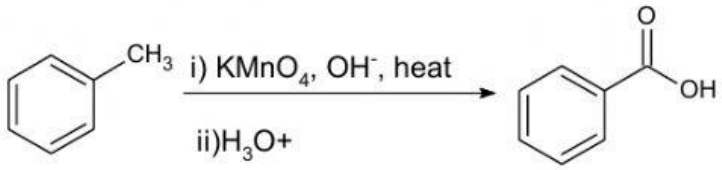
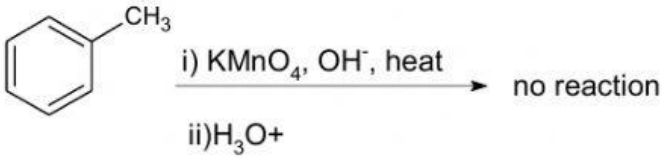
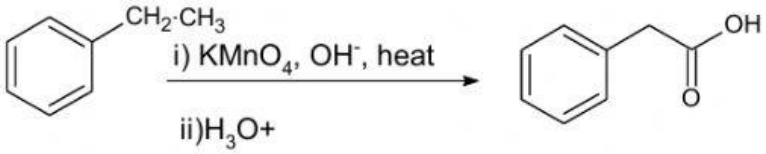
ii) **Chemical equation oxidation of toluene**







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