

Name _____

Chemistry 4X, Sec _____

Reactions of Hydrocarbons

Experiment #2

Pre-Lab Exercise

1. How would you describe the difference between saturated and unsaturated hydrocarbons and what is a distinguishing feature of aromatic hydrocarbons.
2. Describe the relative reactivity of alkanes, alkenes and aromatic hydrocarbons with respect to their chemical reactions. You may want to give some examples in your answer.
3. Alkanes find many commercial uses. Give at least 3 commercial uses for alkanes and name one alkane that is used as you describe. You may want to give the names of 3 specific alkanes and describe how each is used.
4. Safety in the Laboratory should be read before beginning experiments for the semester. It mentions that glassware should be cleaned at the end of each experiment and gives one particular reason for doing this. What is that reason?

Blank Page

Name _____

Section _____

Reactions of Hydrocarbons Experiment #2	Data & Report Sheet
--	--------------------------------

Table 1. Observations for reactions with KMnO_4 , bromine and test for aromatic hydrocarbons.

		Part A. Baeyers Test with KMnO_4	Part B. Reaction with Bromine	Part C. Reaction with Chloroform/ AlCl_3
# 1	Hexane			*****
# 2	Cyclo- hexane			
# 3	Hexene			*****
# 4	Cyclo- hexene			
# 5	m-Xylene			
# 6	Unknown			

Unknown Number _____

Type of Hydrocarbon for Unknown _____

Answer questions on back of page

Questions

1. Did you observe any differences between the reactivity of cycloalkanes or cycloalkenes relative to the straight chain hydrocarbons in any of the tests where they were compared? Describe any differences you did observe.
2. Should the cyclic compounds behave differently in these tests compared to the straight chain compounds? Explain why or why not.
3. Do you expect the aromatic hydrocarbons to react in a similar way to the cyclic alkenes, since they are both cyclic compounds and have a double bond? Explain.