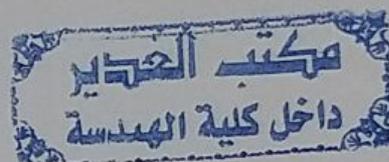


<p>2- Potassium Permanganate Test: In a test tube put 1ml of cyclohexane + few drops of dilute acidic KMnO_4 with shaking.</p>	<p>The violet color of the KMnO_4 dose not changes.</p>	<p>It is saturated compound.</p>
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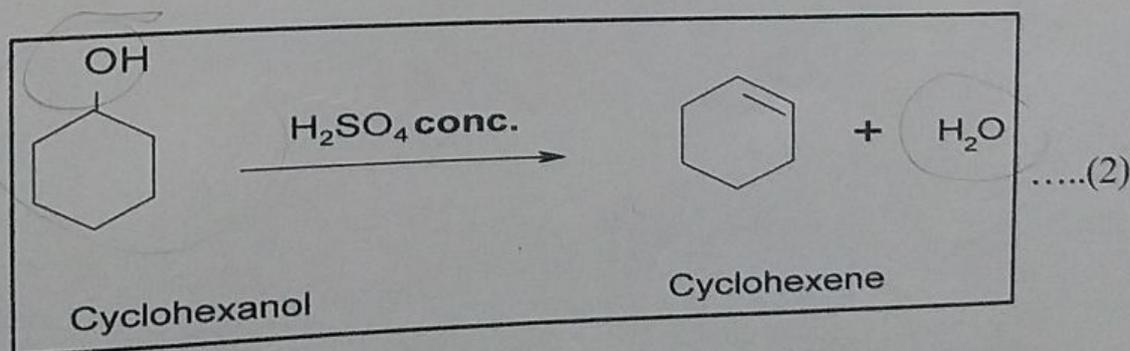
Alkenes R-CH=CH-R :

- Alkenes are unsaturated hydrocarbon compounds containing double bond .
- They are reactive compounds because they contains weak π bond .
- The general formula of alkenes is C_nH_{2n} .
- Example: Cyclohexene 



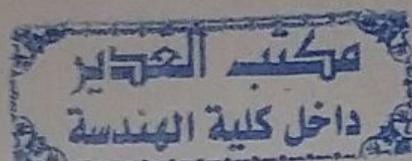
Preparation of cyclohexene:

Put 3ml of cyclohexanol in dry test tube + 0.5 ml of conc. H_2SO_4 (2) and then perform the following tests :



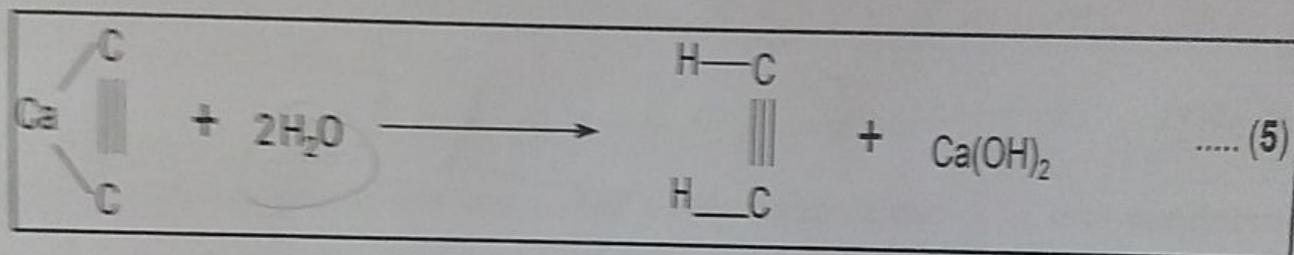
Alkynes (Acetylenes) :

- Alkynes are unsaturated hydrocarbon compounds containing triple bond .
- The alkynes are also reactive compounds because they contains weak π bonds .
- The general formula of alkynes is C_nH_{2n-2}
- Example: Acetylenes



Preparation of Acetylene :

Acetylene gas prepared by adding water to calcium carbide CaC_2 :

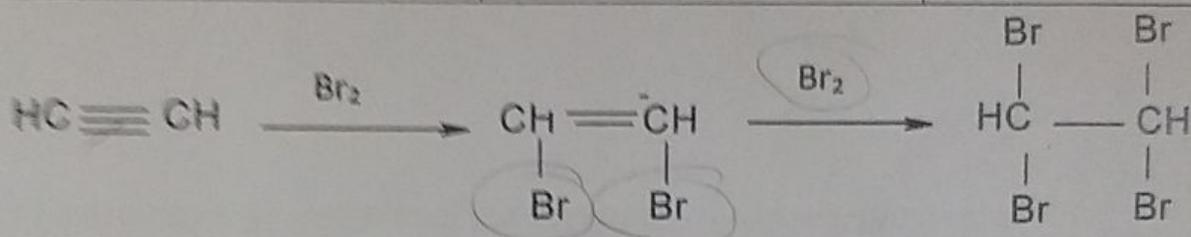


Procedure:

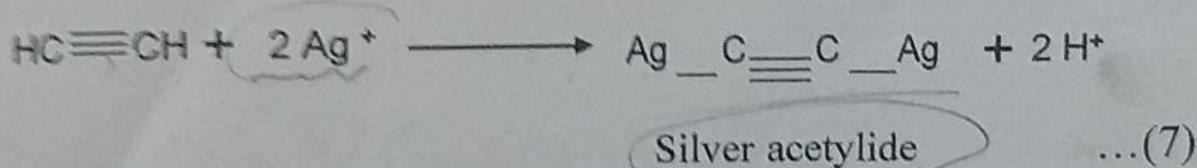
Put 0.25 gm from calcium carbide in dry test tube add 1ml of water and note the evolution of acetylene gas, perform the following experiments on it:

تفتيح

Test	Observation	Result
<p>1-Bromination Test :</p> <p>Pass the acetylene gas on the test tube contains bromine.</p>	<p>The orange color of the bromine disappears immediately.</p>	<p>It is unsaturated compound (6).</p>



<p>2- Potassium Permanganate Test :</p> <p>Pass the acetylene gas on the test tube contains dilute acidic KMnO_4 with shaking.</p>	<p>The violet color of the KMnO_4 disappears immediately .</p>	<p>It is unsaturated compound.</p>
<p>3- Pass the acetylene gas on the test tube contains ammonical silver nitrate.</p>	<p>White precipitate forms.</p>	<p>The white precipitate is Silver acetylide (7).</p>



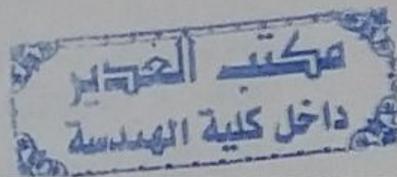
مكتب التحرير
داخل كلية الهندسة

HYDROCARBONS

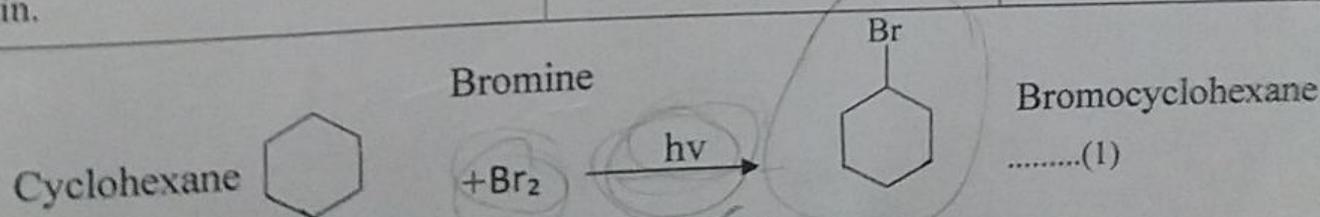
Compound containing only Carbon and Hydrogen and classified into:

Alkanes R-H :

- Alkanes are saturated hydrocarbon compounds.
- Chemically, alkanes are unreactive compounds because they are saturated compounds, all the bonds are strong sigma bonds.
- The general formula of alkanes is C_nH_{2n+2}
- Example: Cyclohexane 



Test	Observation	Result
<p>1-Bromination Test :</p> <p>In two test tubes put 1ml of cyclohexane + 1ml of bromine and shake both well.</p> <p>Protect one from light and expose the second to sun light for 15 min.</p>	<p>The orange color of bromine is not disappears from the first tube.</p> <p>The color of the second tube disappears.</p>	<p>It is saturated compound formed via displacement reaction by the effect of sunlight (1).</p>



Handwritten Arabic notes:
 في ضوء الشمس
 في الظل