Resonance Structures

Talk to a Teacher
http://spoken-tutorial.org
National Mission on Education through ICT
http://sakshat.ac.in

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Learning Objectives

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- **Use different types of arrows to represent chemical reactions**

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- **Use different types of arrows to represent chemical reactions**
- **Add charge and electron pairs on an atom**

System Requirement

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- **Ubuntu Linux OS v 12.04**

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- **GChemPaint v 0.12.10**

Pre-requisites

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- **If not, for relevant tutorials, please visit**
  http://spoken-tutorial.org

Resonance Structures of Benzene

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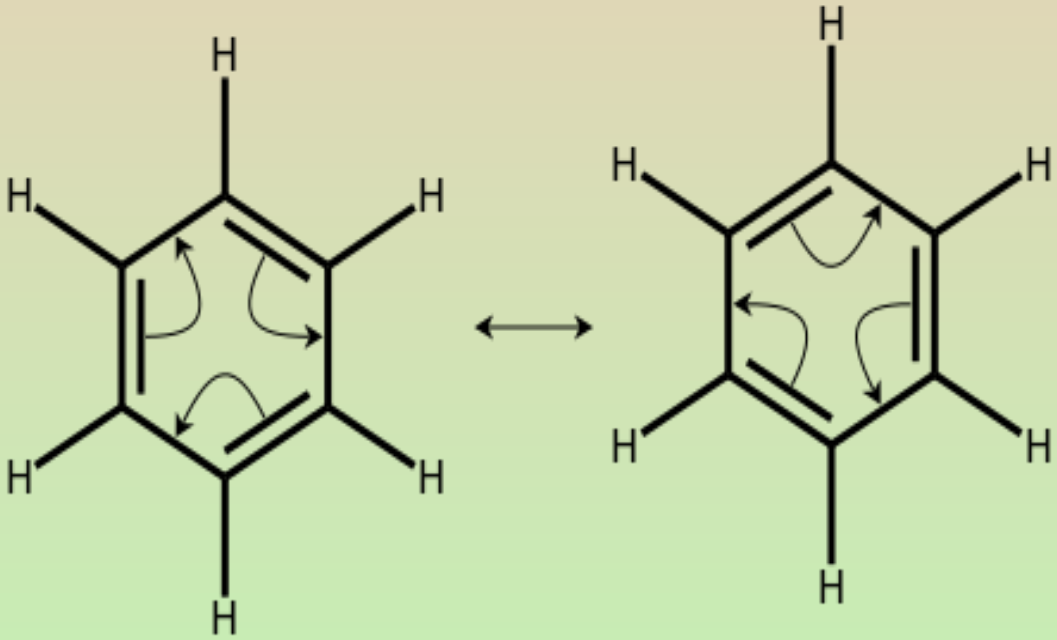
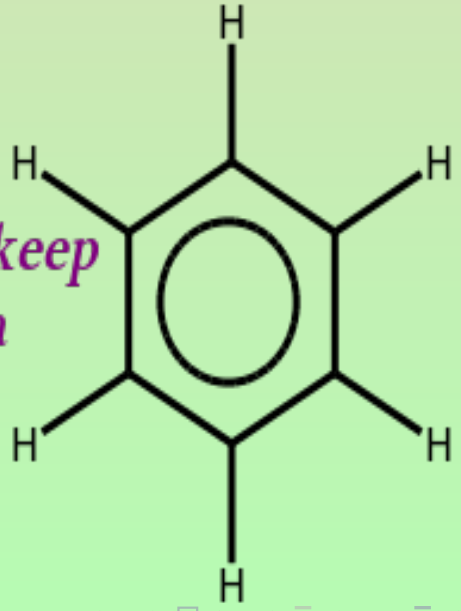


Delocalized electrons in Canonical forms keep shifting continuously. Actual structure is a Resonance Hybrid of the contributing Canonical forms



Summary I

We have learnt to,

- **Show** *electron shifts* **using curved arrows**
- **Attach** *reaction conditions* **to reaction arrow**
- *Create* **and** *destroy* **reaction pathway using a reaction arrow**

Summary II

- **Create a new *mesomery* relationship using double headed arrow**
- **Create a *retrosynthetic* pathway using retrosynthetic arrow**

Assignment

Using arrow properties

1. *Create a reaction pathway for the reaction of Bromoethane & Sodium with solvent Dryether to get Butane & Sodiumbromide*
2. *Add Stoichiometry coefficients to reaction molecules*
3. *Draw resonance structures of Naphtalene, Anthracene & Carbondioxide*

About the Spoken Tutorial Project

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Spoken Tutorial Workshops

The Spoken Tutorial Project Team

- **Conducts workshops using spoken tutorials**
- **Gives certificates to those who pass an online test**
- **For more details, please write to contact@spoken-tutorial.org**

Acknowledgements

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- It is supported by the National Mission on Education through ICT, MHRD, Government of India
- More information on this Mission is available at http://spoken-tutorial.org/NMEICT-Intro