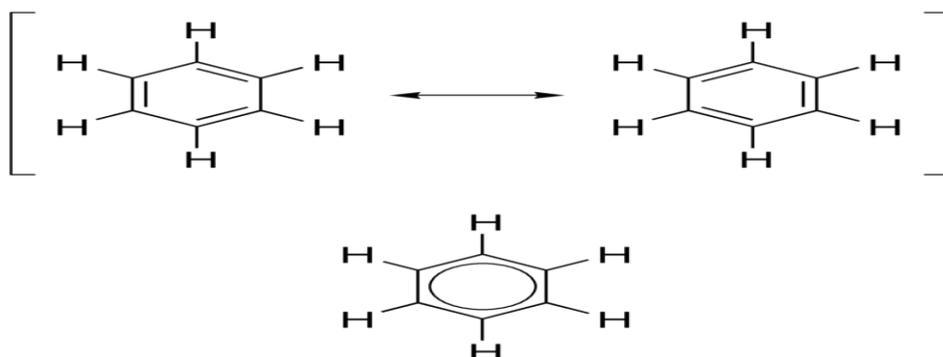


## Aromaticity in Benzenoid Compounds

In organic chemistry, **aromaticity** is a property of cyclic (ring-shaped), planar (flat) structures with a ring of resonance bonds that gives increased stability compared to other geometric or connective arrangements with the same set of atoms. Aromatic molecules are very stable, and generally undergo electrophilic substitutions rather than addition. Since the most common aromatic compounds are derivatives of benzene (an aromatic hydrocarbon common in petroleum and its distillates).

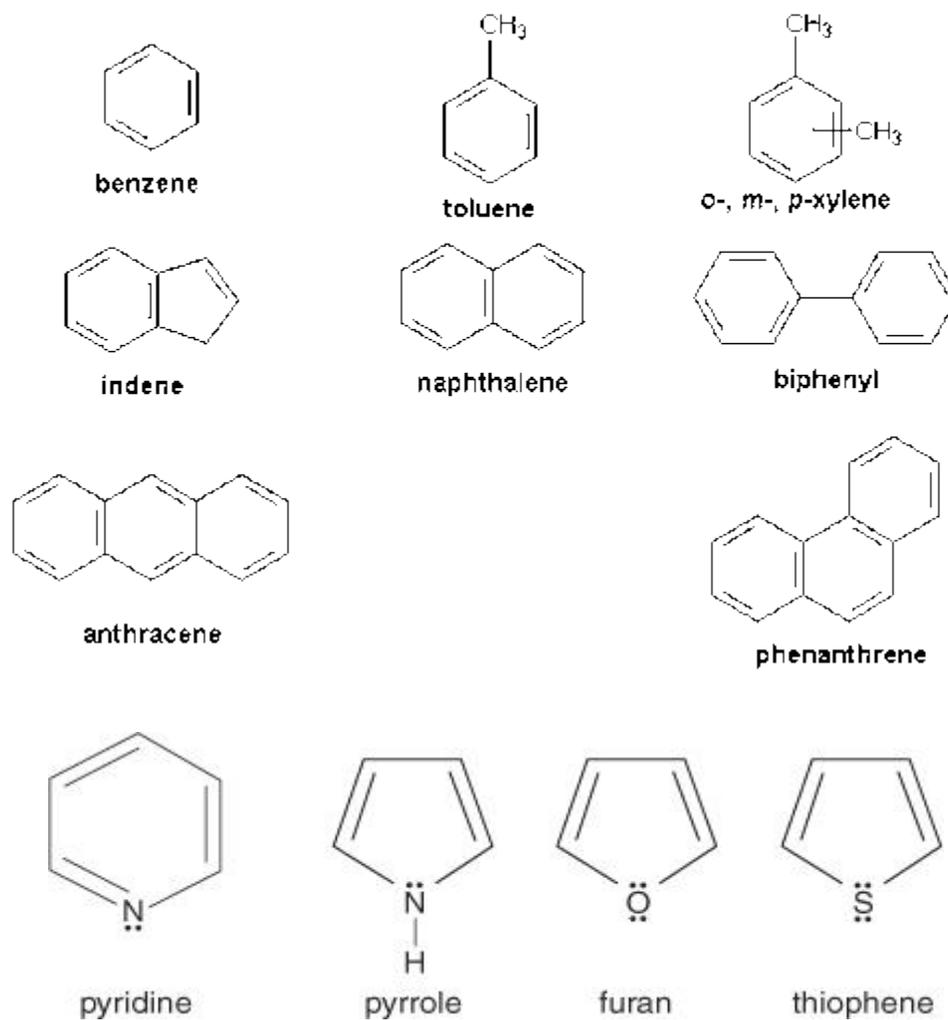


Two different resonance forms of benzene (top) combine to produce an average structure (bottom).

For resonance diagrams, the use of a double-headed arrow indicates that two structures are not distinct entities but merely hypothetical possibilities. Neither is an accurate representation of the actual compound, which is best represented by a hybrid (average) of these structures.



the other in the plane of the ring (analogous to the C–H bond in the other positions). There are 6  $\pi$ -electrons, so furan is aromatic.



Examples of benzenoid compounds