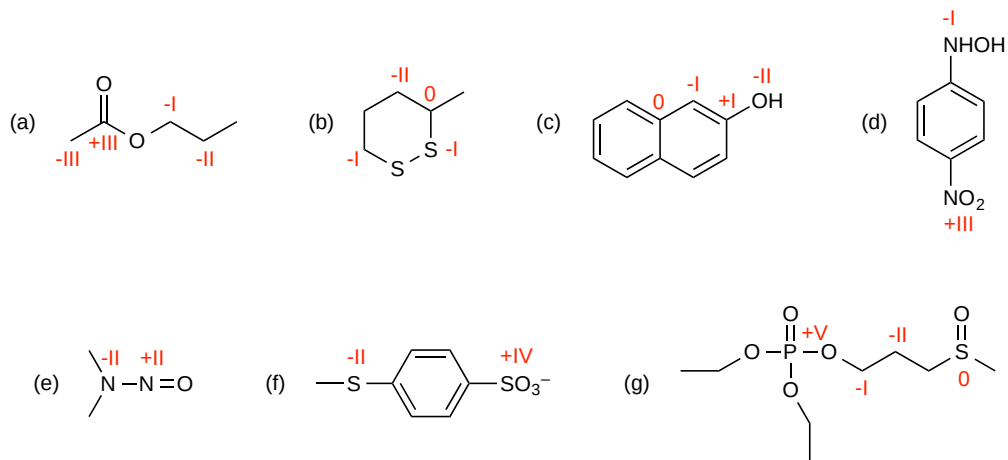


Chapter 2

Background Knowledge on Organic Chemicals

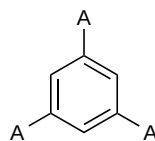
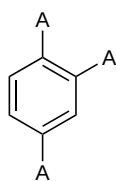
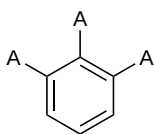
Solutions

Problem 2.1 *Determining the Oxidation State of the Atoms in an Organic Molecule*

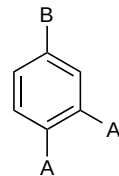
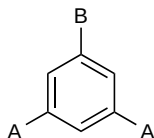
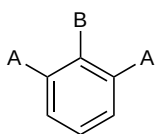
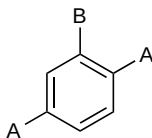
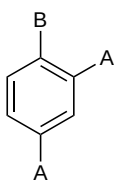
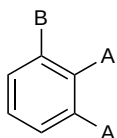


Problem 2.2 Assessing the Number of Isomers of Substituted Benzenes

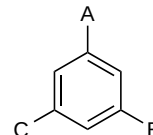
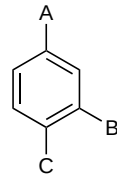
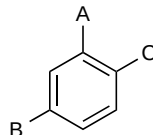
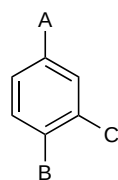
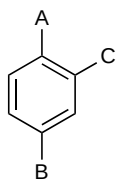
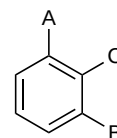
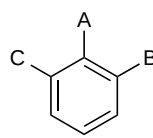
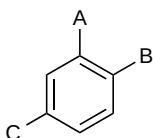
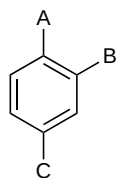
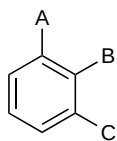
AAA



AAB



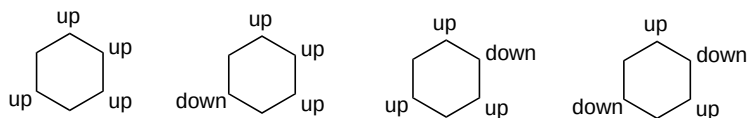
ABC



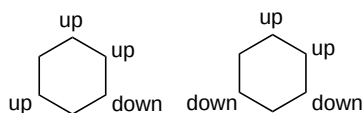
Problem 2.3 Assessing the Number of Stereoisomers in Substituted Cyclohexanes

1,2,3,5-tetrachlorocyclohexane

stereoisomers containing a symmetry plane, therefore, *not chiral*:

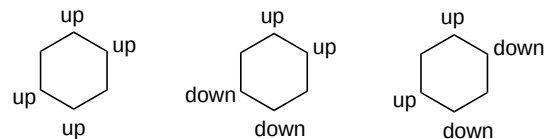


stereoisomers containing only a symmetry axis, therefore, *chiral*:



1,2,4,5-tetrachlorocyclohexane

stereoisomers containing one or two symmetry planes, therefore, *not chiral*:



stereoisomers containing a symmetry axis or no symmetry, *chiral*:

