Chapter 5 Quiz Questions

1. Which elements are highlighted at the beginning of Chapter 5?
2. What is the title of Chapter 5?
3. Provide both aromatic definitions.
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4. Which organic compound is found in cherries, peaches, and almonds?
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    b. Phenol
    c. Aniline
    d. Acetophenone
    e. Benzaldehyde
    f. Benzoic Acid
    g. Benzonitrile
    h. *ortho*-xylene
    i. *meta*-xylene
    j. *para*-xylene
    k. benzyl group
    l. phenyl group
16. The prefix *ortho-* is abbreviated as _____.
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19. Explain how an aromatic compound can be named with only the numbers 2, 4, 6, if they are numbered so that each substituent on the ring so that the lowest possible numbers. *(Benzene with more than two substituents are named by numbering the position of each substituent on the ring so that the lowest possible numbers are used. The substituents are listed alphabetically when writing the name. When parent names are used other than –benzene, the parent name's principal substituent is assumed to be on carbon 1.)*

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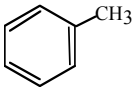
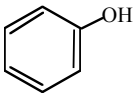
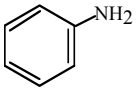
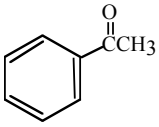
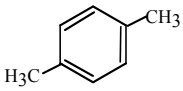
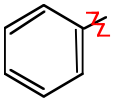
a. 

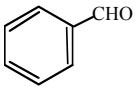
b. 

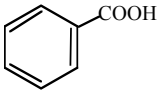
c. 

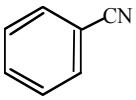
d. 

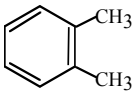
e. 

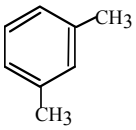
f. 

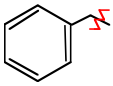
g. 

h. 

i. 

j. 

k. 

l. 

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    a. **Halogenation:**
    b. **Nitration:**
    c. **Sulfonation:**
    d. **Friedel-Crafts Alkylation:**
    e. **Friedel-Crafts Acylation:**
    f. **Oxidation:**
    g. **Reduction:**
22. Identify the following groups:
    a. $-NO_2$
    b. $-SO_3H$
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23. Draw the energy diagram for electrophilic bromination of benzene. Show addition and substitution reactions along with reactants, products, and carbocations.
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26. Draw an aryl halide.
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33. Substituents affect the _____ of the aromatic ring and the _____ of the reaction.
34. Benzene is given the number _____ in the relative reactivity rate chart.
35. Activators _____ electrons to the ring
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37. Classify the following as an *ortho-/para-* activator, *ortho-/para-* deactivator, *meta-* activator, or *meta-* deactivator.
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38. Explain why fluorine is more of an activator than iodine if fluorine is more electronegative.

39. **Draw the intermediate resonance structures for *o-, m-,* and *p-* attacks for chlorination of the following compounds:**
    a. **aniline**
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40. **Explain why meta directors are deactivators.**
41. The compound found in mothballs in known as _____.
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43. Benz(α)pyrene, found in chimney soot, cigarette smoke, and charcoal-broiled meat, is well known because it is _____.
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45. Pyridine and pyrrole are aromatic compounds that contain the element _____.
46. Explain why nitrogen-containing compounds can also be aromatic.

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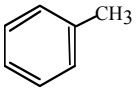
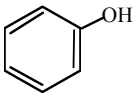
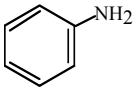
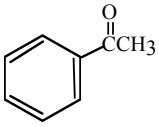
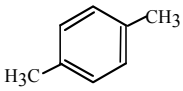
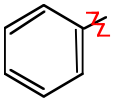
a. 

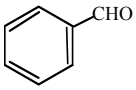
b. 

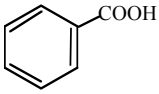
c. 

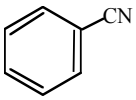
d. 

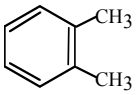
e. 

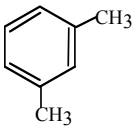
f. 

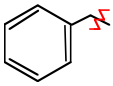
g. 

h. 

i. 

j. 

k. 

l. 

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