Adv. Chem. Aromatic Worksheet

Name:
Date:

1. Draw structures for the following aromatic compounds

a. 3-nitrobenzoic acid

b. *p*-bromotoluene

c. *o*-dibromobenzene

d. *m*-dinitrobenzene

e. 3,5-dinitrophenol

f. *p*-nitrobenzoic acid

g. 3-chloro-1-ethoxybenzene

h. *p*-chlorobenzenesulfonic acid

i. benzyl bromide

j. *p*-nitroaniline

k. *o*-xylene

l. tert-butylbenzene

m. *p*-cresol

n. 3-phenylcyclohexanol

o. 2-methyl-3-phenyl-1-butanol

2. Draw and name the major product (or products) that would be obtained when each of the following compounds is subjected to chlorination in the presence of $FeCl_3$.

a. ethylbenzene

b. nitrobenzene

c. anisole

3. Draw and name the major product(s) formed from nitration with the following compounds

a. phenyl acetate

b. 4-chlorobenzoic acid

4. Starting with benzene, outline a synthesis of each of the following: (include all structures and names)

a. isopropylbenzene

b. 1-*tert*-butyl-4-chlorobenzene

c. *m*-dinitrobenzene

d. *p*-bromonitrobenzene

5. Starting with styrene, outline a synthesis of each of the following (include all structures and names)

a. $C_6H_5CHClCH_2Cl$

b. ethylbenzene

c. $C_6H_5CHOHCH_3$

6. Starting with toluene, outline a synthesis of each of the following (include all structures and names)

a. *p*-acetyltoluene

b. 2-bromo-4-nitrotoluene

c. 2,4,6-trinitrotoluene

d. 1-chloro-3-(trichloromethyl)benzene (a little trickier, needing to go back to reactions of alkanes)