California State Polytechnic University, Pomona
Organic Chemistry II, CHM 3150, Dr. Laurie S. Starkey
Chapters 17-18 Outline (Klein)
Aromaticity & Aromatic Substitution Reactions

I. Benzene (17.3)
II. Aromaticity
A) definition and rules (17.1, 17.4, **SB 17.2**)
B) common aromatic compounds (17.5, **SB 17.3**)
C) nomenclature (17.2, **SB 17.1**)
D) Bucky Balls and nanotubes (Practically Speaking sidebar)

Step 1

III. Electrophilic Aromatic Substitution, EAS (18.1, 18.15)
IV. EAS on substituted benzenes (18.7 – 18.11, **SB 18.1**, **SB 18.2**, **SB 18.3**)

Step 2

V. Electrophiles for EAS (18.2 – 18.6)
Br/Cl (18.2), sulfonation (18.3, **SB 18.4**),
nitration (18.4), Friedel-Crafts alkylation (18.5) and acylation (18.6)

Step 3

VI. Diazonium Salts, ArN_2^+ (22.10, 22.11)
VII. Aromatic synthesis (combination of IV – VI, 18.12, **SB 18.4, SB 18.5**, **SB 18.6**)
Protective groups (22.8) and blocking groups (**SB 18.4**)
VIII. Nucleophilic Aromatic Substitution, S_NAr (18.13, 18.15, **SB 18.7**)
IX. Reactions of benzylic carbon atoms (17.6, **SB 17.4**)

Step 4

SB = SkillBuilder

SKIP Sections: Spectroscopy (17.8), Birch Reduction (17.7, **SB 17.5**)
Benzyne (18.14), Oxidation of phenols (12.12)

Suggested textbook problems (Klein, 4th edition)

Ch. 17 Aromaticity problems 1–56, 60 (skip 7, 16, 20-23, 26-29, 43-46)

Ch. 18 Aromatic Reactions problems 1–80 (skip 1-3, 33, 34, 35a, 36, 56)
ADD problems from Chapters 20-22: 20.43, 20.50, 20.59, 21.34, 22.26, 22.66, 22.68c