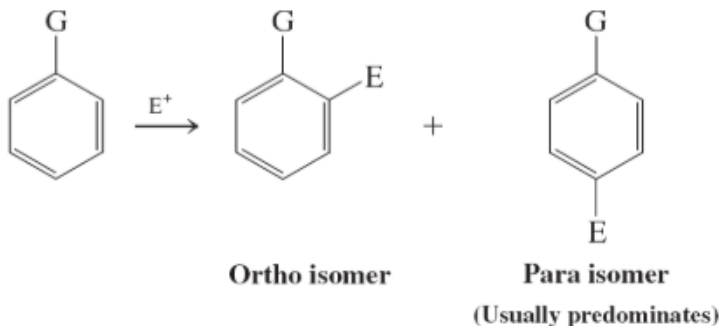


New Reactions

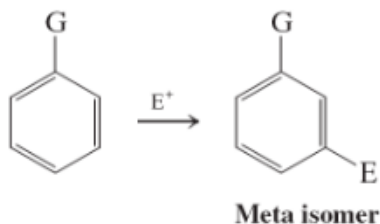
Electrophilic Substitution of Substituted Benzenes

1. Ortho- and Para-Directing Groups ([Sections 16-1](#) through [16-3](#))



G = NH₂, OH; strongly activating
= NHCOR, OR; moderately activating
= alkyl, aryl; weakly activating
= halogen; weakly deactivating

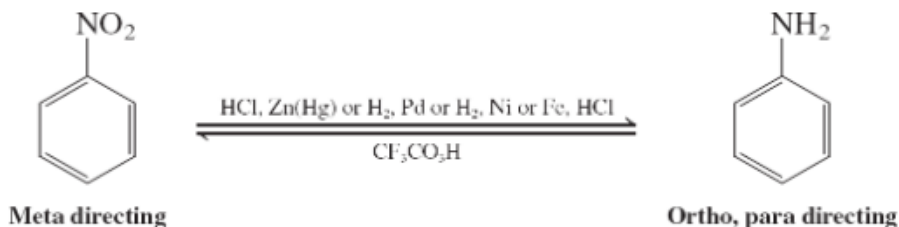
2. Meta-Directing Groups ([Sections 16-1](#) through [16-3](#))



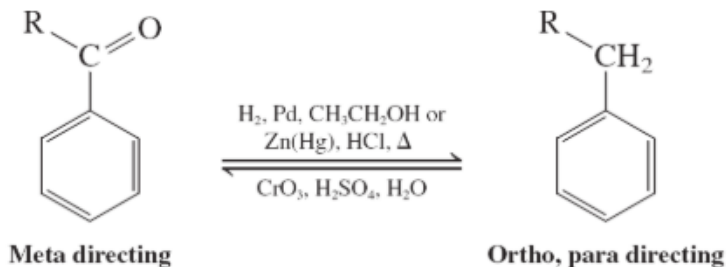
$G = \overset{+}{N}(CH_3)_3, NO_2, CF_3, C\equiv N, SO_3H$; very strongly deactivating
= $CHO, COR, COOH, COOR, CONH_2$; strongly deactivating

Synthetic Planning: Switching and Blocking of Directing Power

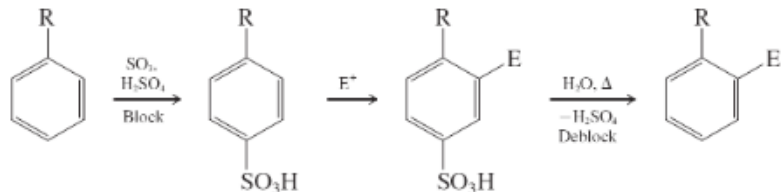
3. Interconversion of Nitro and Amino Groups ([Section 16-5](#))



4. Interconversion of Acyl and Alkyl ([Section 16-5](#))



5. Blocking by Sulfonation ([Section 16-5](#))



6. Moderation of Strong Activators by Protection ([Section 16-5](#))

