Arene Chemistry. Reaction Mechanisms and Methods for Aromatic Compounds

Description: Arenes, or aromatic compounds, have tremendous importance in industrial chemical applications used across such diverse industries as pharmaceuticals, dyes, and polymers. Given the utility of aromatic reactions, there is real need for a book focusing on mechanisms and strategies for aromatic reactions.

Stepping up to meet that demand, Arene Chemistry: Reaction Mechanisms and Methods for Aromatic Compounds surveys the main methods used for preparing these compounds and their transformations. Organized to enable students and synthetic chemists to understand and expand on aromatic reactions, the book helps those readers apply aromatic reactions in a practical context by designing syntheses. The book has 10 parts, divided into 32 chapters organized according to the types of mechanisms rather than by the conditions under which a reaction is executed. The topics covered include electrophilic aromatic substitution, nucleophilic aromatic substitution, aryne chemistry, reduction, oxidation, and de-aromatization reactions, aromatic rearrangement reactions, transition metal mediated coupling, C-H bond functionalization, directed metatation and photochemical reactions, and biotransformations.

Featuring the perspectives and expertise of leading researchers from around the world, Arene Chemistry offers a valuable reference and resource for the organic chemistry community.

Key benefits include:

- A thorough and accessible mechanistic explanation of aromatic reactions of arene compounds
- Connection of reactivity and methodology with mechanism, at the interface of synthesis and physical organic chemistry
- Essential information about techniques used to determine reaction mechanisms
- Synthetic applications

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