

19: Cyclization and Pericyclic Reactions (Not Posted)

Reactions That Make Rings

Cyclization Reactions

Enolate Ion Intermediates

- Intramolecular Aldol Reaction.*
- Dieckmann Condensation.*
- Malonic and Acetoacetic Ester Syntheses.*
- Robinson Annulation.*
- Favorskii Rearrangement.*

Organometallic Intermediates

- Intramolecular Grignard Reactions.*
- Intramolecular Wurtz Reactions.*
- Intramolecular Wittig Reaction.*

Cationic Intermediates

- Friedel-Crafts Reactions.*
- Carbocation Addition to Alkenes.*
- Carbocation Ring Contraction and Expansion.*
- Ring Expansion of Cyclic Ketones.*

Radical Intermediates

- Intramolecular Addition of Carbon Radicals to C=C.*
- Acyloin Ester Condensation.*

Carbene and Carbenoid Intermediates

- Methylene.*
- Alkylcarbenes.*
- Dihalocarbenes.*
- Carbenoid Species.*

Pericyclic Reactions

Cycloaddition Reactions

- The Diels-Alder Reaction (2 + 4 cycloaddition).*
- Alkene Dimerization (2 + 2 Cycloaddition of Alkenes).*

Theoretical Considerations of Cycloaddition Reactions

- The Möbius-Hückel Method.*
- Frontier Orbital Method.*

Electrocyclic Rearrangements

- Electrocyclic Ring Closure.*
- Electrocyclic Ring Opening.*

Sigmatropic Rearrangements

- The Cope Rearrangement.*
- The Claisen Rearrangement.*
- Hydrogen Migration.*
- Pericyclic Rules for Sigmatropic H Migrations.*
- Sigmatropic C Migrations.*
- Pericyclic Rules and the Cope and Claisen Rearrangements.*