

## CY-513 ORGANIC SYNTHESIS

**Carbon-Carbon Bond Formation Reactions (CCBF):** Ortho strategy for aromatic compounds.

**Carbon-Carbon Double Bonds:** Synthesis of double bonds of defined stereochemistry, stereo-controlled vinyl anion equivalents, electrophilic attacks on alkenes, vinylcations, palladium-catalyzed C-C coupling, allyl alcohols, allyl equivalents.

**Stereochemistry:** Asymmetric induction I-III: Reagent-based strategy, asymmetry catalysis, formation of C-H, C-C, C-O and C-N bonds, substrate-based strategy, stereo chemical control.

**Rearrangement in Synthesis:** Nucleophilic, electrophilic and free-radical rearrangements, thermal rearrangement of amino ketones.

**Pericyclic Reactions in Synthesis:** Electrocyclic reactions, cycloaddition reactions, sigma tropic rearrangements, stereochemistry.

**Synthesis of Natural Products using Retrosynthesis:** Synthesis of five or more natural products from recent research journals.