Content FRO-II 2025:

The Chemistry of Aromatic and Heteroaromatic Compounds

1) Hückel-Theory, Aromaticity, Anti-aromaticity, Frost-Cycle, Trivial Names
2) Reaction Principle SE_{Ar}, Different Electrophiles, Preparative Aspects
3) Diazo-compounds, FC Acylation, FC Alkylation, Formylations.
4) Hammett Equation, Synthesis of polyfunctional compounds.
5) Sandmeyer, SN_{Ar}
6) Birch-reduction, [2+2+2]-cycloaddition.
7) Heterocycles I: Trivial names, Structure, Nomenclature, Pharmaceutical Importance; Reactivity, Substitution reactions
8) Heterocycles II: Synthesis: 5-ring heterocycles, Indole, Pyrrole, Thiophene, Furane
9) Heterocycles III: Synthesis; Pyridine, Quinoline, Isoquinoline

Cycloadditions and Rearrangements

10) Diels-Alder Cycloadditions: Regiochemistry, Geometry, endo/exo and kinetic/thermodynamic control, Dienophile and Diene components; Retro-Diels-Alder, Hetero Diels Alder
11) [2+3]-cycloadditions, Ozonolysis, “Click-chemistry”.
12) Sigmatropic Rearrangements, Cope, Claisen,
13) Electocyclization, Nazarov-Reaction, Ene-reaction