CHEM 542       Organic Chemistry II Winter 99-00

Stereochemistry, Asymmetric Synthesis, Conformational Theory, and Relationships
between Geometry and Reactivity

References:


Additional:

(a) Topics in Stereochemistry, E. Eliel Ed., 20 volumes
(b) Stereochemistry of Carbon Compounds, E. Eliel (1962)
(c) Conformational Analysis, E. Eliel Ed., (1965)
(d) Organic Stereochemistry, Kagan (1979)
(e) Asymmetric Organic Reactions, Morrison (1971)
(f) Stereo-Differentiating Reactions, Izumi (1977)
(g) Asymmetric Synthesis, Morrison, Ed. 5 volumes (1983-85)
(h) tape cassettes, "stereochemistry"
(k) Stereochemistry & Conformational Analysis, Juaristi (1991)

Recommended: molecular models (book store)

Topics:

I. Static or "Classical" Stereochemistry

(a) external concepts of stereochemistry, stereoisomerism, chirality, stereogenicity, chirotopicity
(b) internal stereoisomerism, homo- and heterotopic groups, prochirality, applications to nmr, asymmetric synthesis, biochemical problems (i.e. enzymes, configurational correlations)

II. Dynamic Stereochemistry

(a) conformations and conformational analysis
(b) structure, geometry and reactivity relationships

Exams: there will be two exams of equal weight (100 pts). Also a problem set (ungraded).