

## Organic Reaction Mechanisms II

4 Lectures TT 2003 – Illustrating the Importance of Mechanism

Ben Davis (Ben.Davis@chem.ox.ac.uk)

### Prior Knowledge Required

- 1<sup>st</sup> year Biological Chemistry course: basic enzyme catalysis principles; basics of protein structure;
- 2<sup>nd</sup> year Organic Reaction Mechanisms I.

### Books

Primers **36** (Kirby), **67** (Fleming), **81** (Maskill)

Isaacs, *Physical Organic Chemistry*, Longman, 2<sup>nd</sup> Edition, (1996) Ch 9 & 12

Jones, *Physical and Mechanistic Organic Chemistry*, CUP, 2<sup>nd</sup> Edition (1984)

Advanced Biological Aspects: Fersht, *Enzyme Structure and Mechanism*;

Advanced Pericyclics: Fleming, *Frontier orbitals and organic chemical reactions*, Wiley, (1976).

### Topics to be Covered

- Catalysis
- Conservation of Orbital Symmetry
- Exploiting Mechanism in Nature

#### Handouts 2/3

#### ORBITAL SYMMETRY

- Quick bonding recap
- Pericyclic reaction classes
- Correlation diagrams for Electrocyclic reactions
- Frontier Orbitals
- Woodward-Hoffmann Rule
- Examples of applications

