

# Organic Reaction Mechanisms II

4 Lectures TT 2003 – Illustrating the Importance of Mechanism

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## 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

### Handout 1 CATALYSIS

- A review of acid/base catalysis
- Illustrative examples of catalysis
- Catalysis through non-covalent binding
- Catalysis in biology
- Crafting catalysts from scratch: catalytic antibodies

