

## Back to Basics: Alkenes

### Eliminations

#### Unimolecular Elimination E1 and Bimolecular Elimination E2

Give mechanisms for both reactions and explain.

Which is the rate determining step?

What is the stereochemistry of the product?

Explain the Seytzeff/Hofmann Rule.

Explain the competition between elimination and substitution reactions. Which factors can influence the outcome?

#### The E1cb Reaction

What is the mechanism of this reaction?

Give other (name) reactions and their mechanisms for the stereoselective synthesis of alkenes.

### Addition reactions

Give the mechanism of the catalytic hydrogenation of an alkene

Explain the mechanism of the electrophile addition and the stereochemistry of the product.

What is the rule of Markovnikov? Explain!

Give the mechanism of the bromination of an alkene.

What is the mechanism of the synthesis of cyclopropane?

Give example(s) of how to synthesise vicinal diols (syn and anti)

What is the mechanism of the ozonolysis?

Give the reaction mechanism for the synthesis of PVC (polyvinyl chloride).