CO20. Conjugate Addition & Elimination in Aromatics

In conjugate addition, a carbonyl group turns a neighbouring alkene into an electrophilic site. An enone, such as the one below, has two electrophilic positions.

![Conjugate Addition Example](image)

A similar situation happens when pi-acceptors such as nitro groups are attached to aromatic rings.

![Nitro Group Addition](image)

The key step in the mechanism is the loss of the halide ion, which allows the aromaticity to be restored.

![Loss of Halide Ion](image)

**Problem CO20.2.**

The location of the halogen and the electron-withdrawing group matters. Explain why the reaction occurs if the groups are in the 1 and 2 positions (ortho to each other) or the 1 and 4 positions (para to each other), but not if they are in the 1 and 3 positions (meta to each other).
Problem CO20.3.

Explain why the reaction is faster if additional electron-withdrawing groups are present.

Contributors

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