

neighbouring group participation

The direct interaction of the reaction centre (usually, but not necessarily, an incipient *carbenium centre*) with a lone pair of electrons of an atom or with the electrons of a σ - or π -bond contained within the parent molecule but not conjugated with the reaction centre. A distinction is sometimes made between n-, σ - and π -participation.

A rate increase due to neighbouring group participation is known as ‘anchimeric assistance’. ‘Synartetic acceleration’ is the special case of anchimeric assistance ascribed to participation by electrons binding a substituent to a carbon atom in a β -position relative to the leaving group attached to the α -carbon atom. According to the underlying model, these electrons then provide a three-centre bond (or ‘bridge’) ‘fastening together’ (as the word ‘synartetic’ is intended to suggest) the α - and β -carbon atoms between which the charge is divided in the intermediate *bridged ion* formed (and in the *transition state* preceding its formation). The term synartetic acceleration is not widely used.

See also *intramolecular catalysis, multi-centre bond*.

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