Some nucleophilic aliphatic substitution reactions that are overall intermolecular evidently begin with a nucleophilic atom in the substrate reacting intramolecularly with the carbon atom bearing the leaving group expelling the leaving group. The resultant intermediate then reacts with the external nucleophile giving the observed substitution product, which is an intermolecular nucleophilic substitution. The role of the nucleophilic atom in the substrate in the overall reaction is known as neighboring group participation or anchimeric assistance.

eg:

The net reaction is a nucleophilic substitution in which 1 is the substrate and 2 the substitution product. If the reaction were to proceed via SN1 mechanism, it would yield, as substitution products, 2, with retention of configuration at the chiral center, and its enantiomer (3), with inversion of configuration.

If the reaction were to proceed via SN2 mechanism, it would occur with inversion of configuration at the chiral center, yielding 3 as the only substitution product. The formation of 2 as the only substitution product indicates that the reaction is not a simple intermolecular nucleophilic aliphatic substitution that follows either SN1 or SN2 path. Neighboring group participation is invoked to explain the course of the reaction.
Contributors

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