

REVIEW ON UNDERSTANDING AND PREDICTING MECHANISMS

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ABSTRACT

We may know certain things about a reaction, for example, that it is acid-catalyzed. We may then do some additional experiments - perhaps spectroscopic - to determine what position on the molecule is protonated by the acid (alas, two of the common functional groups, OH and C=O, have similar basicities). Examining all the reagents that could affect the rate gives us the composition of the reacting "activated complex" at the transition state. Then we sit down with a piece of paper and a pencil and propose a theory for how the reaction occurs, showing the transformation of starting material into products as a series of discreet steps, each of which produces a distinct intermediate compound or ion, called an "intermediate".

KEYWORDS: Mechanism, Reaction, Intermediate, Organic