

Answer on Question #44140 - Chemistry - Inorganic Chemistry

Question:

Define the following:

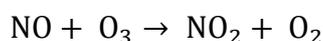
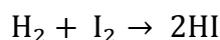
1. Unimolecular reaction
2. Bimolecular reaction
3. Elementary reaction
4. Overall reaction.

Solution:

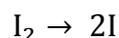
1. In unimolecular reaction, the single (elementary) step involves only one molecular entity. For example, some molecular rearrangements (isomerization) or decompositions:



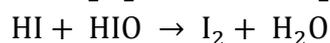
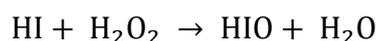
2. In bimolecular reaction, the single (elementary) step involves two molecular entities. For example, addition reactions:



3. The elementary reaction is a chemical transformation of reagents to products in one reaction step. There are no any additional reactions and formation of intermediate product in elementary reactions. For example:



4. The overall reaction is a chemical transformation of reagents to products in two or more reaction steps. There is formation of intermediate products in overall reactions. For example, reaction between hydrogen iodide and hydrogen peroxide involves two elementary steps:



The overall reaction is the following:

