An insertion is an addition in which an atom in one reactant is inserted between two atoms bound to each other by a covalent bond in the other reactant.

\[ \text{A} - \text{B} \quad + \quad \text{X} \quad \rightarrow \quad \text{A} - \text{X} - \text{B} \]

If the bond connecting the two atoms between which an atom is inserted is a pi bond, the insertion leads to a three-membered ring.

\[ \text{A} - \text{B} \quad + \quad \text{X} \quad \rightarrow \quad \text{A} - \text{B} - \text{X} \]

eg. 1:

\[ \text{CH}_3 - \text{Br} \quad + \quad \text{Mg} \quad \rightarrow \quad \text{CH}_3 - \text{Mg} - \text{Br} \]

eg. 2:

\[ \text{CH}_2 - \text{CH}_2 \quad + \quad \text{CH}_2 \quad \rightarrow \quad \text{C}_{\text{sp2}} \]

see also oxidative insertion

Contributors

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