Homolysis or homolytic bond cleavage is the breakage of a single bond with the two electrons in the bond distributed equally between the two atoms bound by the bond.

\[
\text{A} \quad \text{B} \quad \rightarrow \quad \text{A} \cdot + \cdot \text{B}
\]

eg. 1:

\[
\begin{array}{c}
\text{Br} \quad \text{Br} \\
\end{array} \quad \rightarrow \quad \begin{array}{c}
2 \cdot \text{Br} \\
\end{array}
\]

eg. 2:

\[
\begin{array}{c}
\text{H} \\
\end{array} \quad \text{CH}_3 \quad \rightarrow \quad \begin{array}{c}
\text{H} \\
\end{array} + \begin{array}{c}
\cdot \text{CH}_3 \\
\end{array}
\]

see also simple homolysis, assisted homolysis, heterolysis

Contributors

- Gamini Gunawardena from the OChemPal site (Utah Valley University)