A nucleophilic aromatic substitution is a nucleophilic substitution reaction in which it is a leaving group on an aromatic ring that is replaced by the nucleophile.

eg. 1:

\[
\begin{array}{c}
\text{Br} \\
\text{NH}_2 \\
\end{array}
\text{NaNH}_2
\text{solvent: NH}_3 \text{ (l)}
\]

net reaction:

\[
\begin{array}{c}
\text{Br} \\
\text{NH}_2 \\
\end{array}
\text{NH}_3 \\
\text{nucleophile}
\]

eg. 2:

\[
\begin{array}{c}
\text{Cl} \\
\text{NO}_2 \\
\end{array}
\text{NaOH}
\text{solvent: H}_2\text{O}
\]

net reaction:

\[
\begin{array}{c}
\text{Cl} \\
\text{NO}_2 \\
\end{array}
\text{OH} \\
\text{nucleophile}
\]

see also benzine mechanism, SnAr mechanism, nucleophilic aliphatic substitution

Contributors

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