When a Group-1A metal dissolves in liquid ammonia, metal atoms lose electrons, which are solvated by ammonia.

\[
\text{eg: } \quad \text{Na} + \text{NH}_3 (l) \rightarrow \text{Na}^+ + e^{-}(\text{NH}_3)
\]

Reduction of organic compounds using the solution of electrons in ammonia is known as dissolving-metal reduction.

\[
\text{eg: } \quad \text{CH}_3-\text{C}==\text{C}-\text{CH}_3 + \text{Na} \rightarrow \text{CH}_3-\text{C}==\text{C}-\text{CH}_3
\]

**mechanism:**

see also Lindlar catalyst, radical anion, Birch reduction

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**Contributors and Attributions**

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