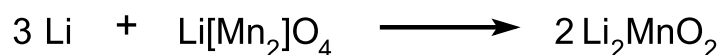


topochemical reaction

Synonym: topotactic reaction

A reversible or irreversible reaction that involves the introduction of a guest species into a host structure and that results in significant structural modifications to the host, for example, the breakage of bonds. Example: The insertion of lithium at 50 °C into the spinel $\text{Li}[\text{Mn}_2]\text{O}_4$ with symmetry $Fd\bar{3}m$ to yield a layered structure with symmetry $P\bar{3}m1$.



Alternative terms: topotactic reaction, insertion reaction.

Source:

PAC, 1994, 66, 577 (*Definitions of terms relating to phase transitions of the solid state (IUPAC Recommendations 1994)*) on page 592