**chain transfer**

The abstraction, by the radical end of a growing chain-polymer, of an atom from another molecule. The growth of the polymer chain is thereby terminated but a new radical, capable of chain propagation and polymerization, is simultaneously created. For the example of alkene polymerization cited for a chain reaction, the reaction:

\[
\text{R} - \cdot + \text{CCl}_4 \rightarrow \text{R} - \cdot \text{Cl} + \text{Cl}_3 \cdot \text{C}.
\]

represents a chain transfer, the radical Cl\(_3\)C\(\cdot\) inducing further polymerization:

\[
\text{Cl}_3 \cdot \text{C} + \text{CCl}_3 \rightarrow \text{CCl}_3 - \cdot \text{C}.
\]

The phenomenon occurs also in other chain reactions such as cationic polymerization. See also: telomerization

**Source:**
PAC, 1994, 66, 1077 (Glossary of terms used in physical organic chemistry (IUPAC Recommendations 1994)) on page 1094