MicroRx™

A division of CSU Ventures, Inc.,
an affiliate of Colorado State University.

New Linkers for Solid-Phase Organic Synthesis

Scientists at Colorado State University (CSU) have developed a new linker that can be used to reversibly bind target molecules to a polymeric support through a variety of functional groups (carboxylic acids, amines, alcohols, phenols). The linkage displays excellent stability under a variety of common reactions conditions (e.g., unaffected by most Brønsted and Lewis acids, Brønsted bases, nucleophiles, or UV light) and may be selectively cleaved with a mild 20% TFA solution in less than one hour. Furthermore, the linker is easily regenerated, allowing for multiple uses.

This new linker provides unprecedented advantages for polymer-supported synthesis. The exceptional stability of the new linkage allows for a diverse set of reactions to be performed on the bound target molecules, making it amenable to complex, multi-step syntheses. Furthermore, the linkage can be cleaved under mild conditions which will not degrade the products. These characteristics enhance the advantages already present with solid-phase synthesis (e.g., delivery of complex target molecules in high yield and purity, development of drug-screening libraries, protection of reactive functional groups).

These new linkers should be a valuable asset for polymer-supported organic synthesis.

ID: CSURF 07-037

Inventor Information
Dr. Dean Crick
Dr. Michio Kurosu

Publications
"Polymer-Supported (2, 6-Dichloro-4-alkoxyphenyl) (2,4-dichlorophenyl) methanol: A New Linker for Solid Phase Organic Synthesis"

Features and Benefits

- Binds target molecules with carboxylic acid, amine, alcohol, or phenol functional groups to polymer support.
- Stable under a diverse set of reaction conditions, but can be cleaved under mild conditions that do not degrade the products.
- Useful for complex syntheses, generation of drug-screening libraries, as a protecting group.
- Versatile and reusable.

Contact Information:
Rod Tompkins
Phone: 970.491.8316
Email: rod@microrx.org
www.MicroRx.org

Colorado State University