

Functionalized Lipid Modification of Polymer Surfaces

Description:

This technology from Clemson University utilizes polymer fibers modified with lipids for use in high performance liquid chromatography (HPLC). Polymers have been used as stationary phases for some time, as their small pore sizes allow for better separation of particles. The key factor of this invention is in the modification of the fiber surfaces. Due to the polymer's high level of hydrophobicity, the hydrophobic tails of lipids can adsorb to its surface very easily, leaving the phosphate head to bind with unwanted particles. Since many types of phosphate heads exist, users can remove very specific types of particles with a simple fiber modification technique.

Applications:

- High performance liquid chromatography
- Selective bioassays

Benefits:

- Chemical robustness
- Ease of chemical derivatization
- Improved mass transfer due to nonporous nature of the solid
- Convection diffusion throughout the column structure

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Protection Status: Patent application filed
Licensing Status: Available for licensing
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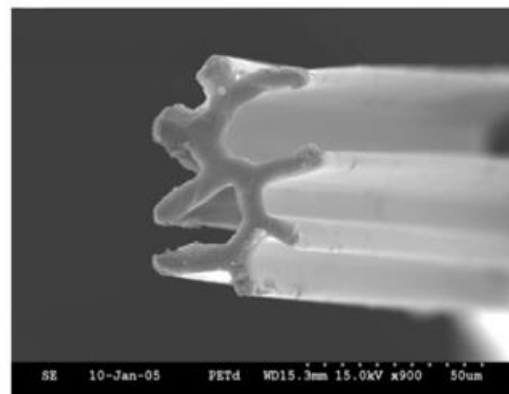


Figure 1: Cross section of a capillary-channeled polymer (C-CP) fiber.