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Functionalized lipid modification of solid phase surfaces for use in chromatography

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(54) **FUNCTIONALIZED LIPID MODIFICATION OF SOLID PHASE SURFACES FOR USE IN CHROMATOGRAPHY**

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(Continued)

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(57) **ABSTRACT**

A solid phase for use in separation has been modified using an aqueous phase adsorption of a headgroup-modified lipid to generate analyte specific surfaces for use as a stationary phase in separations such as high performance liquid chromatography (HPLC) or solid phase extraction (SPE). The aliphatic moiety of the lipid adsorbs strongly to a hydrophobic solid surface, with the hydrophilic and active headgroups orienting themselves toward the more polar mobile phase, thus allowing for interactions with the desired solutes. The surface modification approach is generally applicable to a diversity of selective immobilization applications such as protein immobilization clinical diagnostics and preparative scale HPLC as demonstrated on capillary-channeled fibers, though the general methodology could be implemented on any hydrophobic solid support material.

9 Claims, 9 Drawing Sheets

