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(54) **METHODS OF MAKING MONOLAYERS**

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This patent is subject to a terminal disclaimer.

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(52) **U.S. Cl.** **427/287**; 427/299; 427/377; 427/387; 427/389.7

(58) **Field of Classification Search** 427/240, 427/256, 287, 443.2, 299, 337, 377, 387, 427/389.7
See application file for complete search history.

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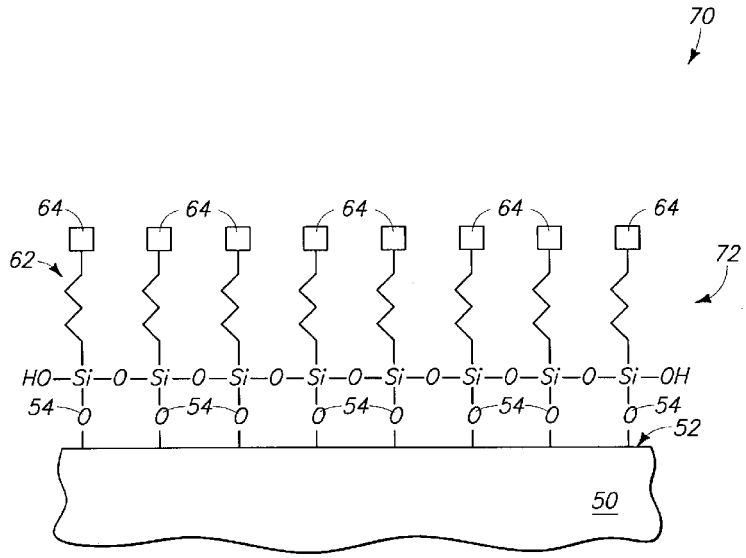
(57) **ABSTRACT**

The invention pertains to methods of forming monolayers on various surfaces. The surfaces can be selected from a wide array of materials, including, for example, aluminum dioxide, silicon dioxide, carbon and SiC. The substrates can be planar or porous. The monolayer is formed under enhanced pressure conditions. The monolayer contains functionalized molecules, and accordingly functionalizes a surface of the substrate. The properties of the functionalized substrate can enhance the substrate's applicability for numerous purposes including, for example, utilization in extracting contaminants, or incorporation into a polymeric matrix.

6 Claims, 6 Drawing Sheets