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(54) **PATTERNING OF FRAGILE OR NON-PLANAR SURFACES FOR CELL ALIGNMENT**

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(58) **Field of Classification Search**

None

See application file for complete search history.

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(57) **ABSTRACT**

A construct that supports cell attachment and alignment including a substrate that is incompatible with photolithography conditions, containing a physical pattern in at least part of one surface, the physical pattern optionally bearing a coating of a metal alkoxide, oxide or mixed oxide-alkoxide thereon and a Self-Assembled Monolayer of Phosphonate (SAMP) covalently attached thereto, which phosphonate contains functionality adapted for cell binding. The construct optionally also contains cells attached thereto. Also disclosed are methods of preparing such a construct.

37 Claims, 23 Drawing Sheets

