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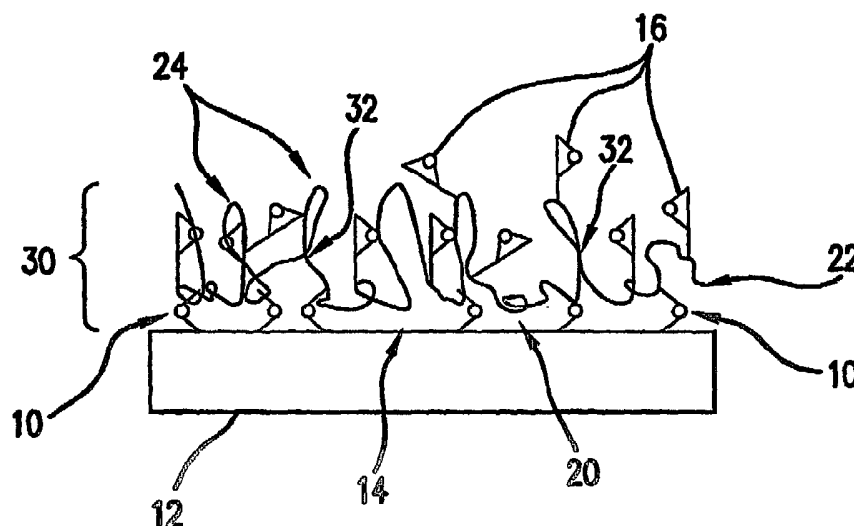
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[Continued on next page]

(54) Title: SURFACE MODIFICATION OF SUBSTRATES



(57) Abstract: The present invention is directed to a practically universal surface modification process and the materials thereby obtained. In general, the process includes initial epoxy modification of a surface (14) of a substrate (12) by attachment of an epoxy-containing polymer to the surface at random multiple points (16). Following attachment of the polymer, still-existing epoxy groups on the polymer may then cross-link (32) the polymer to form a unified anchoring layer (30) on the surface. The individual polymer can also form trains (20), tails (22) and loops (24) that can extend the height of the polymer above the substrate surface providing a depth to the anchoring layer (30). Other epoxy groups (16) in the anchoring layer, not utilized in forming the layer, may be used to graft surface modifying materials to the surface. For instance, macromolecules, biomolecules, polymers, and polymerization initiators may be grafted to the surface via the anchoring layer.

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INTERNATIONAL SEARCH REPORT

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. :

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EAST

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,503,933 A (AFEYAN et al) 2 April 1996 (02.04.1996) Abstract, Col. 1, line 58 - Col. 2, line 6; Col. 3, line 49-Col. 4, line 5, Figures.	1, 14-16, 28-32, and 39-42
Y	US 2002/0018860 A1 (see US 6,706,320 B2) (FILIPPOU et al) 14 February 2002 (14.02.2002), Abstract, Col. 2-3, Col. 5, lines 15-19; Col. 6, lines 13-67; Col. 10, lines 46-65; Col. 12, Col. 14, line 45-Col. 15, line 9; Col. 17, lines 24-53; Col. 20; Col. 22, lines 1-52, Col. 23; Col. 25; Examples.	1-48
A	US 6,649,672 A (DUCOFFRE et al) 18 November 2003 (18.11.2003)	
A	US 5,405,700 A (WEINKAUF et al) 11 April 1995 (11.04.1995)	

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

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