HIGHLY CONVERTIBLE ENDOUMENAL PROSTHESSES AND METHODS OF MANUFACTURE

Abstract: Endolumenal prostheses that readily and extensively convert from a delivery configuration to a deployed configuration are disclosed. Endolumenal prostheses may be fabricated from one or more shape memory polymers, a high modulus elastomer, a polymer that is both elastomeric and exhibits shape memory behavior, a hydrogel, or some combination thereof. Polymers used to fabricate the prostheses are selectively synthesized to exhibit desired characteristics such as crystallinity, strain fixity rate, strain recovery rate, elasticity, tensile strength, mechanical strength, cross-linking density, extent, physical cross-linking, extent of covalent cross-linking, extent of interpenetrating networks, rate of erosion, heat of fusion, crystallization temperature, and acidity during erosion. The endolumenal prostheses convert to the deployed configuration following delivery to a treatment site, upon exposure to an initiator either present within the body naturally or introduced into the body.
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A61F 02/06
US CL : 623/1.18, 1.19

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 623/1.18, 1.19

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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>US 5,919,225 A (Lau et al.) 06 July 1999 (06.07.1999), Abstract, column 14, lines 57-67, column 15, lines 1-67, column 16 and lines 1-25.</td>
<td>1-36</td>
</tr>
<tr>
<td>X</td>
<td>US 6,240,978 B1 (Gianotti) 05 June 2001 (05.06.2001), Abstract, column 4 lines 34-67, column 5, lines 1-67, column 6 and lines 1-29.</td>
<td>37-62</td>
</tr>
</tbody>
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Further documents are listed in the continuation of Box C.

Date of the actual completion of the international search

16 May 2005 (16.05.2005)

Name and mailing address of the ISA/US

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13 JUN 2005

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