Title: HYDROXYPHENYL CROSS-LINKED MACROMOLECULAR NETWORK AND APPLICATIONS THEREOF

Abstract: A dihydroxyphenyl cross-linked macromolecular network is provided that is useful in artificial tissue and tissue engineering applications, particularly to provide a synthetic, implantable tissue matrix material for a wide variety of tissue types. In particular, artificial or synthetic cartilage, vocal cord material, vitreous material, soft tissue material and mitral valve material are described. In an embodiment, the network is composed of tyramine-substituted and cross-linked hyaluronan molecules, wherein cross-linking is achieved via peroxidase-mediated diimine linkages that can be performed in vivo. The diimine bonds provide a stable, coherent hyaluronan-based hydrogel with desired physical properties.
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
IPC: C08L 89/00(2006.01); C08G 63/48(2006.01), 63/91 (2006.01)
USPC: 525/54.1, 326.1, 420, 340, 54.2; 527/600, 521/99
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.: 525/54.1, 326.1, 420, 540, 54.2; 527/600, 521/99

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)
STN, EAST, Google (structure search, inventor name search, hydroxyphenyl, implants, hyaluronic, hydrogel)

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>A</td>
<td>WO 03/006068 A1 (CLEAR SOLUTIONS BIOTECH, INC.) 23 January 2003, entire document</td>
<td>1-37</td>
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☐ Further documents are listed in the continuation of Box C.  ☐ See patent family annex.

Date of the actual completion of the international search
06 April 2006 (06.04.2006)

Name and mailing address of the ISA/US
Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
Facsimile No. (571) 273-3201

Authorized officer
Irina S. Zemel
TelephoneNumber No. 0000

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