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(54) Title: HYDROXYPHENYL CROSS-LINKED MACROMOLECULAR NETWORK AND APPLICATIONS THEREOF

(57) 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 dityramine-linkages that can be performed *in vivo*. The dityramine bonds provide a stable, coherent hyaluronan-based hydrogel with desired physical properties.

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US05/24391

A. CLASSIFICATION OF SUBJECT MATTER

IPC: C08L 89/00(2006.01);C08G 63/48(2006.01),63/91(2006.01)

USPC: 525/54.1,326.1,420,540,54.2;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, implats, hyaluronan, hydrogel,)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 02/18450 A1 (FIDIA ADVANCED BIOPOLYMERS S.R.L.) 7 March 2002, entire document	1-37
A	WO 03/006068 A1 (CLEAR SOLUTIONS BIOTECH, INC.) 23 January 2003, entire document	1-37
A	WO 03/018033 A1 (THE UNIVERSITY OF BRITICH COLUMBIA) 6 March, 2003, entire document	1-37

<input type="checkbox"/> Further documents are listed in the continuation of Box C.	<input type="checkbox"/> See patent family annex.
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