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# (54) Title: MEDICAL DEVICES HAVING POLYMERIC REGIONS BASED ON STYRENE-ISOBUTYLENE COPOLY-MERS

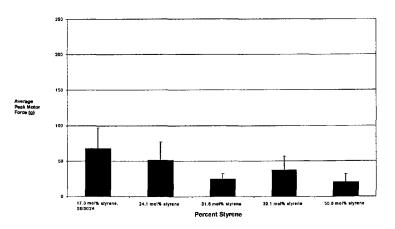


Fig. 4

(57) Abstract: According to an aspect of the present invention, implantable or insertable medical devices are provided, which contain one or more polymeric regions. These polymeric regions, in turn, contain one or more polymers, at least one of which is a copolymer that includes a styrene monomer and an isobutylene monomer. Moreover, the styrene monomer content of the copolymer typically ranges from 25 to 50 mol %.



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PCT/US2008/002504 CLASSIFICATION OF SUBJECT MATTER NV. A61F2/82 A61L2 A61L27/16 A61L27/34 INV. A61L29/04 A61L29/08 A61L31/10 A61L31/04 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) A61F A61L 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 practical, search terms used) EPO-Internal, WPI Data, EMBASE, BIOSIS C. DOCUMENTS CONSIDERED TO BE RELEVANT Category\* Citation of document, with indication, where appropriate, of the relevant passages Relevant to claim No. X WO 02/47731 A (SCIMED LIFE SYSTEMS INC 1 - 19[US]) 20 June 2002 (2002-06-20) page 2, lines 4-20 page 7, lines 9-13 claims 8,11-13,20,21,25,29,39 X US 2006/178733 A1 (PINCHUK LEONARD [US] ET 1-3,5,6,AL) 10 August 2006 (2006-08-10) 10,11, 13,14, 16-19 page 1, paragraphs 3,18 page 4, paragraph 50-59 claims 16,39 X X Further documents are listed in the continuation of Box C. See patent family annex. Special categories of cited documents: \*T\* later document published after the international filing date or priority date and not in conflict with the application but document defining the general state of the art which is not considered to be of particular relevance cited to understand the principle or theory underlying the invention earlier document but published on or after the international \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention citation or other special reason (as specified) cannot be considered to involve an inventive step when the document is combined with one or more other such docu-"O" document referring to an oral disclosure, use, exhibition or ments, such combination being obvious to a person skilled document published prior to the international filing date but later than the priority date claimed "&" document member of the same patent family Date of the actual completion of the international search Date of mailing of the international search report

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## INTERNATIONAL SEARCH REPORT

International application No PCT/US2008/002504

2.0	TOO WELL ON THE POPULATION OF THE PARTY	101700200	J8/ UUZ5U4
C(Continua	Ition). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages		Relevant to claim No.
X	WO 2006/065837 A (INNFOCUS LLC [US]; PINCHUK LEONARD [US]) 22 June 2006 (2006-06-22) page 2, paragraphs 6,10 page 5, paragraph 24 page 6, paragraph 26		1-3, 9-11,13, 16,17
X	US 2005/125003 A1 (PINCHUK LEONARD [US] ET AL PINCHUK LEONARD [US] ET AL) 9 June 2005 (2005-06-09) page 1, paragraph 3 page 3, paragraphs 37,38,42-45 page 4, paragraph 46		1-5, 9-11,16
Ρ,Χ	WO 2007/062320 A (INNOVIA LLC [US]; PINCHUK LEONARD [US]) 31 May 2007 (2007-05-31) page 1, paragraph 1 page 7, paragraph 38 page 8, paragraph 43 page 11, paragraph 50 page 14, paragraph 63 page 15, paragraph 67-69		1-7,9-19
E	WO 2008/027107 A (BOSTON SCIENT SCIMED INC [US]; STRICKLER FREDERICK H [US]) 6 March 2008 (2008-03-06) page 4, paragraph 14-16 page 9, paragraph 31 page 17, paragraphs 58,59 page 20, paragraph 62 figure 1		1-19

## INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/US2008/002504

Patent document cited in search report		Publication date	Patent family member(s)		Publication date	
WO 0247731	Α	20-06-2002	AU CA DE EP JP US	3085102 2002230851 2447900 60121992 1341565 2004533409 2003171496 2002107330	B2 A1 T2 A2 T A1	24-06-2002 27-07-2006 20-06-2002 05-04-2007 10-09-2003 04-11-2004 11-09-2003 08-08-2002
US 2006178733	A1	10-08-2006	NONE			
WO 2006065837	Α	22-06-2006	EP US	1824418 2006136070		29-08-2007 22-06-2006
US 2005125003	A1	09-06-2005	NONE			
WO 2007062320	Α	31-05-2007	EP US	1948088 2007118210		30-07-2008 24-05-2007
WO 2008027107	A	06-03-2008	CA EP US	2666044 2054100 2008051542	A2	06-03-2008 06-05-2009 28-02-2008