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- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

(88) Date of publication of the international search report:

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(54) Title: ANEURYSM OCCLUSION DEVICE CONTAINING BIOACTIVE AND BIOCOMPATIBLE COPOLYMER SHELL AND A LIQUID EMBOLIC AGENT AND A BIOCOMPATIBLE METALLIC FRAME MEMBER

(57) Abstract: An endovascular device for occluding a vascular aneurysm is disclosed. The device includes a polymeric shell member that, in one embodiment, may be constructed from a bioactive and biocompatible polyurethane-diol-glycosaminoglycan copolymer, and a liquid embolic agent. The copolymer is sufficiently flexible and strong for endovascular delivery into a vascular aneurysm and for use as a polymeric shell for receiving the liquid embolic agent. Upon activation inside of the polymeric shell within the aneurysm, the liquid embolic agent solidifies enabling biological isolation of the aneurysm and improved patient outcomes. An endovascular medical device comprising a polymeric member defining an interior chamber and a biocompatible metallic NiTi alloy frame member having a transformation temperature below a patient's body temperature.



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## INTERNATIONAL SEARCH REPORT

International application No

PCT/US2008/061503

## A. CLASSIFICATION OF SUBJECT MATTER

INV. A61K31/75 A61K47/34 A61K47/36 A61L27/00 A61L29/00  
C08L5/00 C08L75/04 A61F2/02 C08L5/10

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)

A61K A61L C08L A61F

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

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2004/039422 A (HUDAK ISTVAN [HU]; DOCZI TAMAS [HU]) 13 May 2004 (2004-05-13) page 11; claims 1,8; examples -----	1-34
X	WO 2006/000763 A (UNIV GLASGOW [GB]; WHEATLEY DAVID JOHN [GB]) 5 January 2006 (2006-01-05) claims 1,8-26 -----	1-34
X	US 6 197 051 B1 (ZHONG SHENG-PING [US]) 6 March 2001 (2001-03-06) claims 1,7,12-14,18; example 2 -----	1-34
X	US 5 342 348 A (KAPLAN AARON V [US]) 30 August 1994 (1994-08-30) claims 1,9,10,14,16 -----	1-34
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☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

## \* Special categories of cited documents :

\*A\* document defining the general state of the art which is not considered to be of particular relevance

\*E\* earlier document but published on or after the international filing date

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\*O\* document referring to an oral disclosure, use, exhibition or other means

\*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*&amp;\* document member of the same patent family

Date of the actual completion of the international search

27 March 2009

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# INTERNATIONAL SEARCH REPORT

International application No

PCT/US2008/061503

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2005/267510 A1 (RAZACK NASSER [US]) 1 December 2005 (2005-12-01) paragraphs [0028], [0054]; claims 1,16,17 -----	1-34
X	WO 2007/016251 A (COOK INC [US]) 8 February 2007 (2007-02-08) paragraphs [0067], [0082], [0096], [0098] - [0101], [0118], [0142] -----	1-34
A	WO 01/28434 A (MICROVENTION INC [US]) 26 April 2001 (2001-04-26) claims 1,4,9,10 -----	1-34

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US2008/061503

## Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

see annex

### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-34

endovascular medical device comprising (1) a polymeric member defining an interior chamber and (2) a liquid embolic agent  
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2. claims: 35-70

endovascular medical device comprising (1) a polymeric member defining an interior chamber and (3) a biocompatible metallic frame member  
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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2008/061503

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
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