

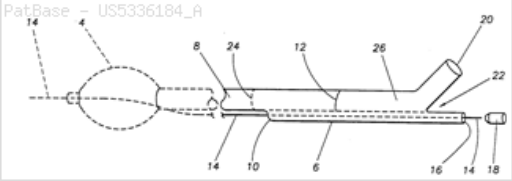
Search history

Search 1: STAC=(Catheter and guidewire and vascular and mark) (Results 13)

1) Family number: 29502808 (US5336184A)
Title: Rapid exchange catheter

Abstract:

Source: US5336184A A novel over the wire-rapid exchange **catheter** is provided comprising a novel proximal end, which works in conjunction with the distal end of a traditional rapid exchange **catheter**, having a particular arrangement as shown in Fig. 1 which serves to enhance the users ability to properly operate and maneuver the **guidewire/catheter**, and thus to more effectively carry out the catheterization procedure. Additionally, an OTW-RE **catheter** is provided with a means for rapidly removing the **guidewire** from the proximal end of the **catheter**, at the appropriate time during the procedure, while preserving the integrity of the device.



International class (IPC 8-9): A61B17/00 A61F2/84 A61F2/958 A61M25/00 A61M25/10 A61M29/00 A61M29/02 A61M31/00 A61M36/04 A61N5/00 A61N5/10 (Advanced/Invention);
A61B17/00 A61M25/00 (Advanced/Non-invention);
A61B17/00 A61F2/82 A61M25/00 A61M25/10 A61M36/00 A61N5/10 (Core/Invention)

International class (IPC 1-7): A61B17/00 A61B18/18 A61M25/00 A61M25/10 A61M29/00 A61M29/02 A61M31/00 A61M36/00 A61N5/00 A61N5/10

CPC: A61M25/0023 A61M25/0029 A61M25/0032 A61M25/1002 A61M25/104 A61M29/02 A61M2025/0177 A61M2025/0183 A61M2025/1047

A61M2025/1056 A61N5/1002 A61N2005/1003

European class: A61M25/00R1M4 A61M25/10A A61M25/10P A61M29/02 A61N5/10B1 K61M25/00R1 K61M25/00R1M4 K61M25/00R1M8 K61M25/01K K61M25/01M K61M25/10Z2 K61M25/10Z6 K61N5/10B1B

US class: 600/3 604/101.01 604/102 604/103.01 604/103.04 604/103.07 604/104 604/264 604/507 604/508 604/510 604/528 604/913 604/96.01 606/194 606/7

Family:

Publication number	Pub. date	Application number	App. date
AU199473358 A1	19950213	AU19940073358	19940715
AU199534973 A1	19960322	AU19950034973	19950828
CA2198020 AA	19970219	CA19952198020	19950828
CA2198020 C	20031014	CA19952198020	19950828
CA2321213 AA	20000818	CA19992321213	19990219
CA2321213 C	20050104	CA19992321213	19990219
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DE69534522 D1	20060223	DE19956034522	19950828
DE69534522 T2	20060706	DE19956034522T	19950828
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EP0778788 A4	19980819	EP19950931615	19950828
EP0778788 B1	20030528	EP19950931615	19950828
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EP1073496 A4	20070117	EP19990908269	19990219
EP1317945 A1	20030611	EP20030005672	19950828
EP1317945 B1	20051012	EP20030005672	19950828
JP10504980 T2	19980519	JP19960508914T	19950828
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JP2004344673 A2	20041209	JP20040207051	20040714
JP2007216047 A2	20070830	JP20070113006	20070423
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JP4323552 B2	20090902	JP20080086834	20080328
US5336184 A	19940809	US19930092332	19930715
US5468225 A	19951121	US19940197970	19940217
US5472425 A	19951205	US19940231423	19940422
US5540659 A	19960730	US19940298053	19940830
US5891091 A	19990406	US19960643788	19960506
US6196996 BA	20010306	US19980034138	19980220
US6585715 BA	20030701	US20000627920	20000728
WO9502429 A1	19950126	WO1994US07977	19940715
WO9606654 A1	19960307	WO1995US10922	19950828
WO9942162 A1	19990826	WO1999US03594	19990219

Priority: EP19950931615 19950828; JP20070113006 19950828; US19930092332 19930715; US19960643788 19960506; US19980034138 19980220; US19980034138 19980220; US19940298053 19940830; US19940197970 19940217; US19940231423 19940422; US20000627920 20000728; WO1999US03594 19990219; WO1999US03594 19990219; WO1995US10922 19950828; WO1994US07977 19940715;

Cited documents: WO9614898 A1, WO9610436 A1, WO9425106 A1, WO9217236 A1, US6196996 BA, US6099499 A, US5997571 A, US5891091 A, US5882290 A, US5851171 A, US5797948 A, US5643171 A, US5618266 A, US5556389 A, US5540659 A, US5503613 A, US5456680 A, US5443457 A, US5368567 A, US5346505 A, US5342297 A, US5336184 A, US5324269 A, US5302168 A, US5295960 A, US5267958 A, US5263963 A, US5246437 A, US5232445 A, US5226888 A, US5205822 A, US5199939 A, US5180376 A, US5180367 A, US5171222 A, US5156594 A, US5154725 A, US5147377 A, US5135535 A, US5106360 A, US5061273 A, US5053033 A, US5040548 A, US4994745 A, US4988356 A, US4983167 A, US4944745 A, US4909781 A, US4819751 A, US4771777 A, US4762129 A, US4748982 A, US4183102 A, EP0829271 A2, EP0810004 A2, DE9102312 U, DE4003458 A1, DE3625871 A1,

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Assignee(s): W L GORE AND ASSOCIATES INC ; CORDIS CORP ; GORE ENTERPRISE HOLDINGS INC
Inventor(s): (std) TEIRSTEIN PAUL S ; PAUL S TEIRSTEIN
Designated states: AT AU BE CA CH CY DE DK ES FI FR GB GR IE IT JP LU MC NL PT SE

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU199473358 A1	19950213	LSPB	+	published / reissued	
AU199534973 A1	19960322	LSPB	+	published / reissued	
CA2198020 AA	19970219	LSPB	+	published / reissued	
CA2198020 AA	19970219	LSNP	+AFNE	NATIONAL PHASE ENTRY	

CA2198020 AA	20001115	LSES	+EEER	EXAMINATION REQUEST	
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CA2321213 AA	20000818	LSPB	+	published / reissued	
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JP2002512058 T2	20040629	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20040628
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JP3616102 B2	20040715	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20040714
JP3616102 B2	20040902	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20040901
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JP3616102 B2	20041111	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20041104
JP3616102 B2	20041112	LSGT	+R150	CERTIFICATE OF PATENT OR	DESCRIPTION : JAPANESE INTERMEDIATE CODE: R150

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JP4044540 B2	20070424	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20070423
JP4044540 B2	20070522	LSSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20070521
JP4044540 B2	20071012	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20071011
JP4044540 B2	20071101	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP4044540 B2	20071113	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20071112
JP4044540 B2	20071122	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20071115
JP4044540 B2	20071122	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: R150
JP4044540 B2	20071126	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20101122 YEAR OF FEE PAYMENT : 3
JP4044540 B2	20101102	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20111122 YEAR OF FEE PAYMENT : 4
JP4044540 B2	20121101	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20121122 YEAR OF FEE PAYMENT : 5

JP4044540 B2	20121106	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20131122 YEAR OF FEE PAYMENT : 6
JP4044540 B2	20141104	LSFE	+R250	RECEIPT OF ANNUAL FEES	DESCRIPTION : JAPANESE INTERMEDIATE CODE: R250
JP4044540 B2	20150828	LSLE	-EXPY	CANCELLATION BECAUSE OF COMPLETION OF TERM	
JP4138845 B2	20080827	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4138845 B2	20080827	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4138845 B2	20070524	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20070523
JP4138845 B2	20070524	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20070523
JP4138845 B2	20071002	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20071001
JP4138845 B2	20071002	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20071001
JP4138845 B2	20080329	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20080328
JP4138845 B2	20080329	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20080328
JP4138845 B2	20080501	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP4138845 B2	20080501	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP4138845 B2	20080513	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20080512
JP4138845 B2	20080513	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20080512
JP4138845 B2	20080515	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01
JP4138845 B2	20080515	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01
JP4138845 B2	20080612	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20080605
JP4138845 B2	20080612	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20080605
JP4138845 B2	20080613	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: R150
JP4138845 B2	20080613	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: R150
JP4138845 B2	20080616	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20110613 YEAR OF FEE PAYMENT : 3

JP4138845 B2	20080616	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20110613 YEAR OF FEE PAYMENT : 3
JP4138845 B2	20110602	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20110613 YEAR OF FEE PAYMENT : 3
JP4138845 B2	20110602	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20110613 YEAR OF FEE PAYMENT : 3
JP4138845 B2	20110607	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20120613 YEAR OF FEE PAYMENT : 4
JP4138845 B2	20110607	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20120613 YEAR OF FEE PAYMENT : 4
JP4138845 B2	20120531	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20120613 YEAR OF FEE PAYMENT : 4
JP4138845 B2	20120531	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20120613 YEAR OF FEE PAYMENT : 4
JP4138845 B2	20120605	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20130613 YEAR OF FEE PAYMENT : 5
JP4138845 B2	20120605	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20130613 YEAR OF FEE PAYMENT : 5
JP4138845 B2	20150602	LSFE	+R250	RECEIPT OF ANNUAL FEES	DESCRIPTION : JAPANESE INTERMEDIATE CODE: R250
JP4138845 B2	20150602	LSFE	+R250	RECEIPT OF ANNUAL FEES	DESCRIPTION : JAPANESE INTERMEDIATE CODE: R250
JP4323552 B2	20090902	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4323552 B2	20090106	LSSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20090105
JP4323552 B2	20090404	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20090403
JP4323552 B2	20090423	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP4323552 B2	20090512	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20090511
JP4323552 B2	20090514	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01
JP4323552 B2	20090611	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20090604
JP4323552 B2	20090612	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: R150
JP4323552 B2	20090615	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20120612 YEAR OF FEE PAYMENT : 3
JP4323552 B2	20120823	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20130612 YEAR OF FEE PAYMENT : 4
JP4323552 B2	20150602	LSFE	+R250	RECEIPT OF ANNUAL FEES	DESCRIPTION : JAPANESE INTERMEDIATE CODE: R250
US5336184 A	19940809	LSGT	+	granted / extensions (spc, cpc, pte)	

US5336184 A	19940729	LSGT	PAT1	Patented Case	
US5336184 A	19970930	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5336184 A	20020208	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5336184 A	20041018	LSAS	AS	ASSIGNMENT	OWNER NAME : GORE ENTERPRISE HOLDINGS, INC., DELAWARE DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:TEIRSTEIN, PAUL S.; REEL/FRAME:015918/0416 EFFECTIVE DATE : 20040720
US5336184 A	20060209	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5336184 A	20120214	LSAS	AS	ASSIGNMENT	OWNER NAME : W. L. GORE AND ASSOCIATES, INC., DELAWARE DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GORE ENTERPRISE HOLDINGS, INC.; REEL/FRAME:027906/0508 EFFECTIVE DATE : 20120130
US5468225 A	19951121	LSGT	+	granted / extensions (spc, cpc, pte)	
US5468225 A	19951121	LSGT	PAT1	Patented Case	
US5468225 A	19990520	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5468225 A	20030520	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5468225 A	20041018	LSAS	AS	ASSIGNMENT	OWNER NAME : GORE ENTERPRISE HOLDINGS, INC., DELAWARE DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:TEIRSTEIN, PAUL S.; REEL/FRAME:015918/0416 EFFECTIVE DATE : 20040720
US5468225 A	20070521	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5468225 A	20120214	LSAS	AS	ASSIGNMENT	OWNER NAME : W. L. GORE AND ASSOCIATES, INC., DELAWARE DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GORE ENTERPRISE HOLDINGS, INC.; REEL/FRAME:027906/0508 EFFECTIVE DATE : 20120130
US5472425 A	19951205	LSGT	+	granted / extensions (spc, cpc, pte)	
US5472425 A	19951122	LSGT	PAT1	Patented Case	
US5472425 A	19990604	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5472425 A	20030604	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5472425 A	20041018	LSAS	AS	ASSIGNMENT	OWNER NAME : GORE ENTERPRISE HOLDINGS, INC., DELAWARE DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:TEIRSTEIN, PAUL S.; REEL/FRAME:015918/0416 EFFECTIVE DATE : 20040720
US5472425 A	20070605	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5472425 A	20120214	LSAS	AS	ASSIGNMENT	OWNER NAME : W. L. GORE AND ASSOCIATES, INC., DELAWARE DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GORE ENTERPRISE HOLDINGS, INC.; REEL/FRAME:027906/0508 EFFECTIVE DATE : 20120130
US5540659 A	19960730	LSGT	+	granted / extensions (spc, cpc, pte)	
US5540659 A	19960719	LSGT	PAT1	Patented Case	

US5540659 A	19980526	LSAS	AS	ASSIGNMENT	OWNER NAME : CORDIS CORPORATION, FLORIDA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:TEIRSTEIN, PAUL S.; REEL/FRAME:009207/0770 EFFECTIVE DATE : 19980508
US5540659 A	19991203	LSAS	AS	ASSIGNMENT	OWNER NAME : CORDIS CORPORATION, FLORIDA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:TEIRSTEIN, PAUL S.; REEL/FRAME:010444/0717 EFFECTIVE DATE : 19980721
US5540659 A	19991206	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5540659 A	20031217	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5540659 A	20071219	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5891091 A	19990406	LSGT	+	granted / extensions (spc, cpc, pte)	
US5891091 A	19980526	LSAS	AS	ASSIGNMENT	OWNER NAME : CORDIS CORPORATION, FLORIDA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:TEIRSTEIN, PAUL S.; REEL/FRAME:009211/0893 EFFECTIVE DATE : 19980508
US5891091 A	19990301	LSGT	PAT1	Patented Case	
US5891091 A	19991203	LSAS	AS	ASSIGNMENT	OWNER NAME : CORDIS CORPORATION, FLORIDA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:TEIRSTEIN, PAUL S.; REEL/FRAME:010444/0717 EFFECTIVE DATE : 19980721
US5891091 A	20020906	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5891091 A	20060925	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5891091 A	20100909	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US6196996 BA	20010306	LSGT	+	granted / extensions (spc, cpc, pte)	
US6196996 BA	20010215	LSGT	PAT1	Patented Case	
US6196996 BA	20040830	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6196996 BA	20080827	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6196996 BA	20120808	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US6585715 BA	20030701	LSGT	+	granted / extensions (spc, cpc, pte)	
US6585715 BA	20061222	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6585715 BA	20101203	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6585715 BA	20150701	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6585715 BA	20150727	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6585715 BA	20150818	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20150701
WO9502429 A1	19950126	LSPB	+	published / reissued	
WO9502429 A1	19970315	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : CA
WO9606654 A1	19960307	LSPB	+	published / reissued	
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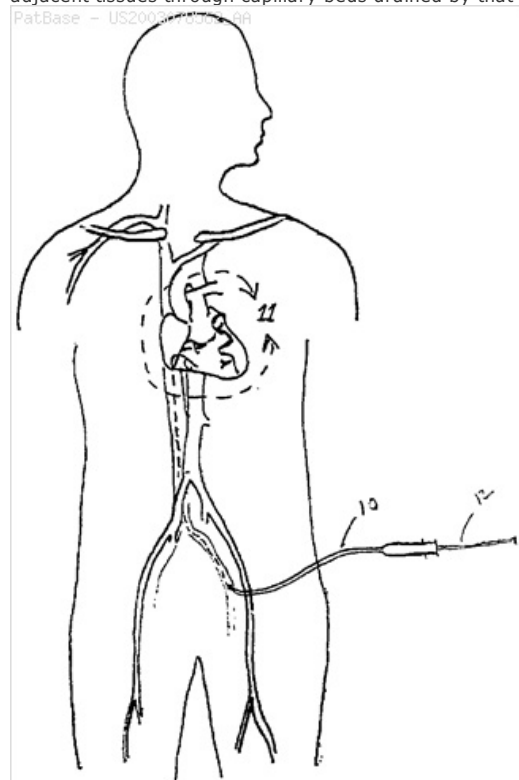
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WO9606654 A1	20030528	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1995931615 COUNTRY OF REF DOCUMENT : EP
WO9942162 A1	19990826	LSPB	+	published / reissued	
WO9942162 A1	20000817	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1999908269 COUNTRY OF REF DOCUMENT : EP
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WO9942162 A1	20010207	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1999908269 COUNTRY OF REF DOCUMENT : EP

2) Family number: 23516915 (US2003078562A)

Title: Methods and apparatus for acute or chronic delivery of substances or apparatus to extravascular treatment sites

Abstract:

Source: US2003078562A Methods and apparatus for delivery of substances or apparatus to target sites located outside blood vessels within the body of a human or animal patient. A vessel wall penetrating **catheter** is inserted into the vasculature, positioned and oriented within a blood vessel near the target extravascular site and a penetrator is advanced from the **catheter** so as to penetrate outwardly through the wall of the blood vessel in the direction of the target site. Thereafter, a delivery **catheter** is passed through a lumen of the penetrator to the target site. A desired substance or apparatus is then delivered to or obtained from the target site. In some applications, the penetrator may be retracted into the vessel wall penetrating **catheter** and the vessel wall penetrating **catheter** may be removed, leaving the delivery **catheter** in place for chronic or continuous delivery of substance(s) to and/or obtaining of information or samples from the target site. Alternatively, a delivery **catheter** having an occlusion member or balloon may be advanced into a vein or venule and the occlusion member or balloon may be used to occlude the lumen of the vein or venule during and after injection of a substance through the **catheter**, such that the substance will not be carried away by normal venous blood flow and will remain in the vein or venule for a sufficient period of time to have its intended effect (e.g. to enter adjacent tissues through capillary beds drained by that vein or venule).



International class (IPC 8-9): A61B6/00 A61B6/12 A61K35/12 A61M25/00 A61M25/01 A61M25/02 A61M25/06 A61M25/098 A61M31/00 A61M5/14 A61M5/178 (Advanced/Invention);

A61B17/00 A61B17/12 A61B18/00 A61B18/14 A61B18/24 A61M25/00 A61M25/01 (Advanced/Non-invention);
A61K35/12 A61M25/00 A61M25/02 A61M25/06 A61M25/095 A61M31/00 A61M5/14 A61M5/178 (Core/Invention);
A61B17/00 A61B17/12 A61B18/20 A61M25/00 A61M25/01 (Core/Non-invention)

International class (IPC 1-7): A61B8/14 A61M25/00 A61M25/06 A61M31/00 A61M5/14 A61M5/178

CPC: A61B17/00491 A61B17/0057 A61B17/12022 A61B17/12109 A61B17/12122 A61B17/12136 A61B17/12186 A61B18/24 A61B2017/00243
A61B2017/00575 A61M25/0102 A61M25/065 A61M2025/018 A61M25/0108 A61B6/12 A61M5/007 A61M2210/12 A61M25/007 A61B18/1477
A61B2017/00247 A61B2018/00392 A61B2018/1425 A61M25/0068 A61M25/0069 A61M25/0082 A61M2025/0042 A61M2025/0092 A61M2025/0096
A61M25/0084 A61M2025/0086 A61M2025/0087 A61M2025/009

European class: A61B17/12P5B A61B17/12P5H A61B17/12P7B A61B17/12P7Z1 A61M25/00T1 A61M25/00T10 A61M25/00T10A A61M25/00T10C
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US class: 600/407 600/424 600/431 600/433 600/434 600/435 600/439 600/439P 600/467 600/467P 604/103.01 604/164.01 604/164.010S
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604/509 604/509P 604/510 604/510P 604/510S 604/522 604/522S 604/529 604/529S

Family:

Publication number	Pub. date	Application number	App. date
AT369177 E	20070815	AT20020718838T	20020117
AT471180 E	20100715	AT20070760330T	20070409
AU2002249952 AA	20020730	AU20020249952	20020117
CA2434058 AA	20030708	CA20022434058	20020117
DE602007007202 D1	20100729	DE200760007202T	20070409
DE60221641 D1	20070920	DE20026021641	20020117
DE60221641 T2	20080521	DE20026021641T	20020117
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EP1359967 A4	20051012	EP20020718838	20020117
EP1359967 B1	20070808	EP20020718838	20020117
EP2010263 A2	20090107	EP20070760330	20070409
EP2010263 B1	20100616	EP20070760330	20070409
IL156848 A0	20040208	IL20020156848	20020117
JP2004528062 T2	20040916	JP20020557444T	20020117
JP2009533176 T2	20090917	JP20090505562T	20070409
JP4300027 B2	20090722	JP20020557444T	20020117
JP5581692 B2	20140903	JP20090505562T	20070409
MXPA03006378 A1	20040316	MX2003PA06378	20020117
US2003078562 AA	20030424	US20010766502	20010117
US2004138562 AA	20040715	US20040466622	20040301
US2005090748 AA	20050428	US20030458153	20030610
US2006173440 AA	20060803	US20060279771	20060414
US2008051756 AA	20080228	US20070927888	20071030
US2008058759 AA	20080306	US20070927874	20071030
US2010016836 AA	20100121	US20090567915	20090928
US2014288414 AA	20140925	US20140216091	20140317

US6602241 BB	20030805	US20010766502	20010117
US7357794 BB	20080415	US20020466622	20020117
US7606615 BB	20091020	US20030458153	20030610
US8090430 BB	20120103	US20090567915	20090928
US8672920 BB	20140318	US20070927888	20071030
US8979801 BB	20150317	US20060279771	20060414
WO2056937 A2	20020725	WO2002US01168	20020117
WO2056937 A3	20030403	WO2002US01168	20020117
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WO07121143 A2	20071025	WO2007US66246	20070409
WO07121143 A3	20080403	WO2007US66246	20070409

Priority: US20010766502 20010117; US20020466622 20020117; US20030458153 20030610; US20060279771 20060414;
US20070927874 20071030; US20040466622 20040301; US20070927888 20071030; WO2007US66246 20070409; US20090567915 20090928;
WO2002US01168 20020117; US20140216091 20140317;

Cited documents: WO9949910 A2, WO9949793 A1, WO9948545 A1, WO5928248, WO02056937 A2, WO0141657 A1, US9907115, US9907112, US7191015 BB, US7059330 BA, US6955657 BA, US6746464 BA, US6726677 BA, US6719725 BB, US6709444 BA, US6709427 BA, US6685672 BA, US6685648 BB, US6666844 BA, US6660024 BA, US6655386 BA, US6613026 BA, US6602241 BB, US6589238 BB, US6589232 BA, US6579311 BA, US6544230 BA, US6517519 BA, US6508824 BA, US6375615 BA, US6342520 BA, US6302875 BA, US6302870 BA, US6285903 BA, US6283951 BA, US6273886 BA, US6273875 BA, US6217527 BA, US6210376 BA, US6206847 BA, US6203533 BA, US6190353 BA, US6179809 BA, US6159225 A, US6139574 A, US6129700 A, US6106520 A, US6068638 A, US6056744 A, US5999678 A, US5993427 A, US5951547 A, US5931818 A, US5928248 A, US5925012 A, US5868733 A, US5860951 A, US5833608 A, US5830222 A, US5820568 A, US5762630 A, US5752969 A, US5752513 A, US5654864 A, US5588960 A, US5558091 A, US5538504 A, US5533516 A, US5464395 A, US5445142 A, US5370675 A, US5366490 A, US5354279 A, US5135486 A, US5085631 A, US4774949 A, US4772264 A, US4552554 A, US4530698 A, US255999678, US2009228092 AA, US2007156093 AA, US2005154416 AA, US2005148997 AA, US2005090748 AA, US2004186422 AA, US2004158143 AA, US2004138562 AA, US2004015193 AA, US2003236542 AA, US2003109809 AA, US2003032998 AA, US2002091352 AA, US2002082546 AA, US2002077594 AA, US2002052576 AA, US2002002349 AA, US2001023349 AA, JP2005531388 T2, JP2004528062 T2, JP2003250899 A2, JP2001087391 A2, CA92618,
Assignee(s): (std): CANTANESE III JOSEPH ; CHANG JOHN Y ; CATANESE III JOSEPH ; CHANG JOHN ; CATANESE JOSEPH ; MAKOWER JOSHUA ; LAMSON THEODORE C ; FLAHERTY J CHRISTOPHER ; MACAULAY PATRICK ; LAMSON THEODORE ; LAMSON THEODORE ; TRANSVASCULAR INC ; REGGIE JOHN A ; THOLFSEN DAVID R ; MEDTRONIC VASCULAR INC ; REGGIE JOHN ; THOLFSEN DAVID
Assignee(s): CANTANESE III ; TRANSVASCULAR INC A CORP OF CA ; FLAHERTY J ; CHANG JOHNY Y
Inventor(s): (std): CANTANESE III ; CANTANESE III JOSEPH ; CATANESE JOSEPH ; CATANESE III JOSEPH ; CATANESE JOSEPH III ; CANTANESE JOSEPH III ; CHANG JOHN Y ; FLAHERTY J CHRISTOPHER ; CHANG JOHNY Y ; JOSHUA MAKOWER ; FLAHERTY J C ; FLAHERTY J ; CHANG JOHN ; FLAHERTY CHRISTOPHER J ; REGGIE JOHN A ; LAMSON THEODORE C ; MAKOWER JOSHUA ; THOLFSEN DAVID R ; MACAULAY PATRICK ; LAMSON THEODORE ; THOLFSEN DAVID ; REGGIE JOHN ; LAMSOM THEODORE
Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT369177 E	20070815	LSGT	+	granted / extensions (spc, cpc, pte)	
AT369177 E	20080215	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	
AT471180 E	20100715	LSGT	+	granted / extensions (spc, cpc, pte)	
AT471180 E	20101215	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	
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CA2434058 AA	20030708	LSPB	+	published / reissued	
CA2434058 AA	20030708	LSNP	+AFNE	NATIONAL PHASE ENTRY	
CA2434058 AA	20080117	LSLE	-FZDE	DEAD	
DE60221641 D1	20080828	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60221641 T2	20080521	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1359967 A2	20031112	LSPB	+	published / reissued	
EP1359967 A2	20031112	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20030818
EP1359967 A2	20040107	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : 7A 61M 25/06 A
EP1359967 A2	20051012	LSSES	+A4	DESPATCH OF SUPPLEMENTARY SEARCH REPORT	EFFECTIVE DATE : 20050831
EP1359967 A2	20070228	LSAS	RAP1	TRANSFER OF RIGHTS OF AN EP PUBLISHED APPLICATION	PARTYTYPE : OWNER OWNER : MEDTRONIC AVE, INC.

EP1359967 A2	20070314	LSAS	RAP1	TRANSFER OF RIGHTS OF AN EP PUBLISHED APPLICATION	PARTYTYPE : OWNER OWNER : MEDTRONIC VASCULAR, INC.
EP1359967 A2	20070808	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1359967 A2	20070831	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1359967 A2	20070905	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
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EP1359967 A2	20080215	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1359967 A2	20080229	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : LI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070808
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				INFORM. FROM NAT. OFFICE TO EPO	A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070808
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EP1359967 A2	20080716	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20080509
EP1359967 A2	20080829	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : MC NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20080131
EP1359967 A2	20090630	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20081211 YEAR OF FEE PAYMENT : 8
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EP1359967 A2	20101231	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : GB NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20100117
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EP1359967 A2	20170428	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20170125 YEAR OF FEE PAYMENT : 16
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EP1359967 A2	20170531	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20170127 YEAR OF FEE PAYMENT : 16
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EP2010263 A2	20090107	LSPB	+	published / reissued	
EP2010263 A2	20090107	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20081110
EP2010263 A2	20090304	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20090129
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				NAT. OFFICE TO EPO	DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20100616
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EP2010263 A2	20160729	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20160427 YEAR OF FEE PAYMENT : 10
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EP2010263 A2	20160831	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20160425 YEAR OF FEE PAYMENT : 10
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JP2004528062 T2	20040916	LSPB	+	published / reissued	
JP2009533176 T2	20090917	LSPB	+	published / reissued	
JP4300027 B2	20090722	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4300027 B2	20050117	LSSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20050114
JP4300027 B2	20070802	LSAS	A711	NOTIFICATION OF CHANGE IN APPLICANT	TEXT : JAPANESE INTERMEDIATE CODE: A711 EFFECTIVE DATE : 20070801
JP4300027 B2	20080227	LSSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20080226
JP4300027 B2	20080524	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20080523
JP4300027 B2	20080618	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20080617
JP4300027 B2	20081015	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20081014
JP4300027 B2	20090110	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20090109
JP4300027 B2	20090217	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	TEXT : JAPANESE INTERMEDIATE CODE: A911 EFFECTIVE DATE : 20090216
JP4300027 B2	20090410	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP4300027 B2	20090415	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20090414
JP4300027 B2	20090416	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01
JP4300027 B2	20090423	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20090420
JP4300027 B2	20090424	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP4300027 B2	20090427	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP4300027 B2	20120412	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP4300027 B2	20120417	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT	YEAR OF FEE PAYMENT : 4

JP4300027 B2	20130411	LSFE	+FPAY	DATE IS RENEWAL DATE OF DATABASE) RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 4
JP4300027 B2	20130416	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 5
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JP4300027 B2	20160412	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4300027 B2	20170418	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5581692 B2	20140903	LSGT	+	granted / extensions (spc, cpc, pte)	
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JP5581692 B2	20100318	LSSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20100317
JP5581692 B2	20120228	LSSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20120227
JP5581692 B2	20120828	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20120827
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JP5581692 B2	20130605	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20130604
JP5581692 B2	20130718	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20130717
JP5581692 B2	20130723	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	TEXT : JAPANESE INTERMEDIATE CODE: A911 EFFECTIVE DATE : 20130722
JP5581692 B2	20130930	LSAL	-A912	REMOVAL OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	TEXT : JAPANESE INTERMEDIATE CODE: A912 EFFECTIVE DATE : 20130927
JP5581692 B2	20140530	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20140529
JP5581692 B2	20140703	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20140630
JP5581692 B2	20140725	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 5581692 COUNTRY OF REF DOCUMENT : JP
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US2003078562 AA	20030424	LSPB	+	published / reissued	

US2004138562 AA	20040715	LSPB	+	published / reissued	
US2005090748 AA	20050428	LSPB	+	published / reissued	
US2006173440 AA	20060803	LSPB	+	published / reissued	
US2006173440 AA	20060414	LSAS	AS	ASSIGNMENT	OWNER NAME : MEDTRONIC VASCULAR, INC., CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:LAMSON, THEODORE C.; MACAULAY, PATRICK; REEL/FRAME:017472/0338; SIGNING DATES FROM 20060412 TO 20060413
US2008051756 AA	20080228	LSPB	+	published / reissued	
US2008058759 AA	20080306	LSPB	+	published / reissued	
US2008058759 AA	20170905	LSES	ADV1	Advisory Action Mailed	
US2010016836 AA	20100121	LSPB	+	published / reissued	
US2014288414 AA	20140925	LSPB	+	published / reissued	
US2014288414 AA	20170505	LSES	ADV1	Advisory Action Mailed	
US2014288414 AA	20170719	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US6602241 BB	20030805	LSGT	+	granted / extensions (spc, cpc, pte)	
US6602241 BB	20010702	LSAS	AS	ASSIGNMENT	OWNER NAME : TRANSVASCULAR, INC., A CORP. OF CA, CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MAKOWER, JOSHUA; LAMSON, THEODORE C.; FLAHERTY, J. CHRISTOPHER; AND OTHERS; REEL/FRAME:011951/0736; SIGNING DATES FROM 20010523 TO 20010622
US6602241 BB	20030717	LSGT	PAT1	Patented Case	
US6602241 BB	20040226	LSAS	AS	ASSIGNMENT	OWNER NAME : MEDTRONIC VASCULAR, INC., CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:TRANSVASCULAR, INC.; REEL/FRAME:015000/0001 EFFECTIVE DATE : 20030909
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US6602241 BB	20150205	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US7357794 BB	20080415	LSGT	+	granted / extensions (spc, cpc, pte)	
US7357794 BB	20040226	LSAS	AS	ASSIGNMENT	OWNER NAME : MEDTRONIC VASCULAR, INC., CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:TRANSVASCULAR, INC.; REEL/FRAME:015000/0001 EFFECTIVE DATE : 20030909
US7357794 BB	20040301	LSAS	AS	ASSIGNMENT	OWNER NAME : MEDTRONIC VASCULAR, INC., CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MAKOWER, JOSHUA; LAMSON, THEODORE C.; FLAHERTY, J. CHRISTOPHER; AND OTHERS; REEL/FRAME:015131/0749; SIGNING DATES FROM 20040203 TO 20040216

US7357794 BB	20080326	LSGT	PAT1	Patented Case	
US7357794 BB	20080326	LSGT	PAT1	Patented Case	
US7357794 BB	20091117	LSRE	CC	CERTIFICATE OF CORRECTION	
US7357794 BB	20111017	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7357794 BB	20151015	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7606615 BB	20091020	LSGT	+	granted / extensions (spc, cpc, pte)	
US7606615 BB	20040226	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MEDTRONIC VASCULAR, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:TRANSVASCULAR, INC.; REEL/FRAME:015000/0001 EFFECTIVE DATE : 20030909
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US7606615 BB	20130314	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7606615 BB	20170420	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US8090430 BB	20120103	LSGT	+	granted / extensions (spc, cpc, pte)	
US8090430 BB	20111214	LSGT	PAT1	Patented Case	
US8090430 BB	20150703	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
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US8672920 BB	20140226	LSGT	PAT1	Patented Case	
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US8979801 BB	20150225	LSGT	PAT1	Patented Case	
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WO02056937 A3	20030709	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 156848 COUNTRY OF REF DOCUMENT : IL
WO02056937 A3	20030717	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : PA/A/2003/006378 COUNTRY OF REF DOCUMENT : MX
WO02056937 A3	20030717	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2002557444 COUNTRY OF REF DOCUMENT : JP
WO02056937 A3	20030813	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2002249952 COUNTRY OF REF DOCUMENT : AU
WO02056937 A3	20030818	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2002718838 COUNTRY OF REF DOCUMENT : EP
WO02056937 A3	20031112	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2002718838 COUNTRY OF REF DOCUMENT : EP

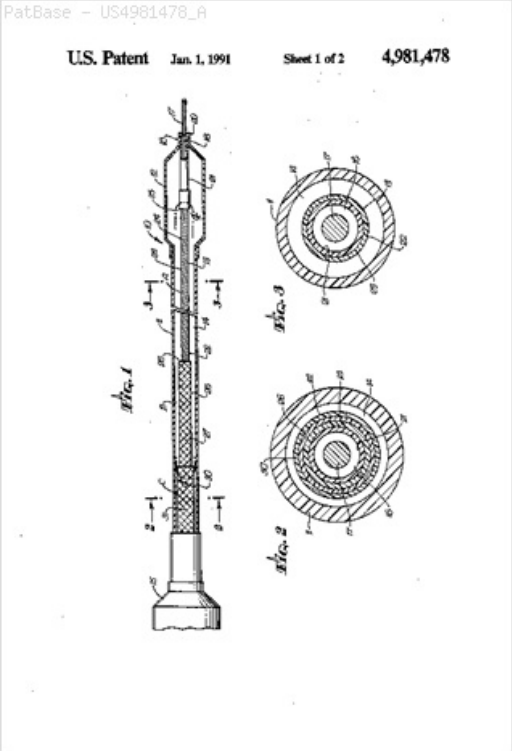
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WO02056937 A3	20040301	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 10466622 COUNTRY OF REF DOCUMENT : US
WO02056937 A3	20070808	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2002718838 COUNTRY OF REF DOCUMENT : EP
WO07121143 A2	20071025	LSPB	+	published / reissued	
WO07121143 A3	20081014	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2009505562 COUNTRY OF REF DOCUMENT : JP
WO07121143 A3	20081015	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE

3) Family number: 4398386 (US4981478A)

Title: Composite vascular catheter

Abstract:

Source: US4981478A An improved **vascular catheter** having a tubular member of composite structure with a tubular substrate and a resin-impregnated fibrous covering extending over a substantial part of the length thereof. The tubular substrate which is longitudinally flexible but relatively inextensible, is preferably polyimide tubing with a lubricious coating on the inner surface thereof defining an inner lumen. The fibrous covering is preferably epoxy-impregnated aramid or polyester (Dacron) multi-filament fibers. The strands are snugly wrapped about the tubular substrate and then impregnated with a suitable resin. One or more of the strands in the distal portion are at an angle with respect to the longitudinal axis of the tubular substrate between about 20 degrees and about 45 degrees greater than the angle of one or more strands in the proximal portion. Individual strand wraps in the distal portion are at an angle of about 60 degrees to about 85 degrees and strand wraps in such as the proximal portion are at an angle of about 30 degrees to about 60 degrees. The composite tubular member is preferably utilized in balloon dilatation **catheters** used in angioplasty procedures.



International class (IPC 8-9): A61L29/00 A61M25/00 A61M29/02 (Advanced/Invention);

A61L29/00 A61M25/00 (Core/Invention)

International class (IPC 1-7): A61L29/00 A61M25/00 A61M29/02

CPC: A61M25/005 A61M25/0053 A61M25/104

European class: A61M25/00S2 A61M25/00S2C A61M25/10P

US class: 600/585 604/282 604/526 604/527 604/913 606/194

Family:

Publication number	Pub. date	Application number	App. date
CA1328212 A1	19940405	CA19890610302	19890905
DE68922887 D1	19950706	DE19896022887	19890831
DE68922887 T2	19951207	DE19896022887T	19890831
EP0358117 A2	19900314	EP19890116136	19890831
EP0358117 A3	19900801	EP19890116136	19890831
EP0358117 B1	19950531	EP19890116136	19890831
JP2191465 A2	19900727	JP19890231341	19890906
JP2992759 B2	19991220	JP19890231341	19890906
US4981478 A	19910101	US19880241047	19880906
US5176661 A	19930105	US19910776726	19911015

Priority: CA19890610302 19890905; US19880241047 19880906; US19910776726 19911015; US19900636538 19901231;

Cited documents: WO8700442 A1, US4838268 A, US4817613 A, US4706670 A, US4702252 A, US4637396 A, US4582181 A, US4577543 A, US4572186 A, US4448195 A, US4425919 A, US3924632 A, US3773034 A, US3598126 A, US3498286 A, US3485234 A, US3416531 A, US2472485 A, US2472484 A, EP0277370 A2,

Assignee(s): (std): ADVANCED CARDEOVASCULAR SYSTEM ; ADVANCED CARDIOVASCULAR SYSTEM ; ADVANCED CARDEOVASCULAR SYST I
Assignee(s): ADVANCED CARDEOVASCULAR SYST INC ; ADOBANSUTO KAADEIOBASUKYURAA SHISUTEMUZU INC ; ADVANCED CARDIOVASCULAR SYSTEMS INC ; ADVANCED CARDIOVASCULAR SYSTEMS ; ADVANCED CARDIOVASCULAR SYSTEMS INC SANTA CLARA CALIF US ; MACHOLD TIMOTHY R ; SPAHIC KOLAR BOJANA ; EVARD PHILIP C

Inventor(s): (std): BOJIYANA SUPAHITSUKUUKOORAA ; EVARD PHILIP C ; EVARD PHILIP C EVARD ; CHIMOSHII AARU MATSUKUHOORUDO ; MACHOLD TIMOTHY R ; SPAHIC BOJANA ; SPAHIC KOLAR BOJANA ; FUJITSUPU SHII EBAADO

Inventor(s): SPAHIC KOLAR BOJANA TEMECULA CA 92390 US ; MACHOLD TIMOTHY R MOSS BEACH CA 94038 US ; EVARD PHILIP C EVARD PALO ALTO CALIFORNIA 94306 US ; BOJANA SUPAHITSUKUUKOORAA

Designated states: CH DE FR GB IT LI NL

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CA1328212 A1	19940405	LSGT	+	granted / extensions (spc, cpc, pte)	
CA1328212 A1	20030407	LSLE	-MKLA	LAPSED	
DE68922887 D1	19960627	LSGT	+8364	NO OPPOSITION DURING TERM OF	

OPPOSITION					
DE68922887 D1	20050609	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE68922887 T2	19951207	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0358117 A2	19900314	LSPB	+	published / reissued	
EP0358117 A2	19910206	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19901207
EP0358117 A2	19920506	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 19920323
EP0358117 A2	19960522	LSGT	+26N	NO OPPOSITION FILED	
EP0358117 A2	20001006	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : RN
EP0358117 A2	20010126	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : FC
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EP0358117 A2	20030415	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
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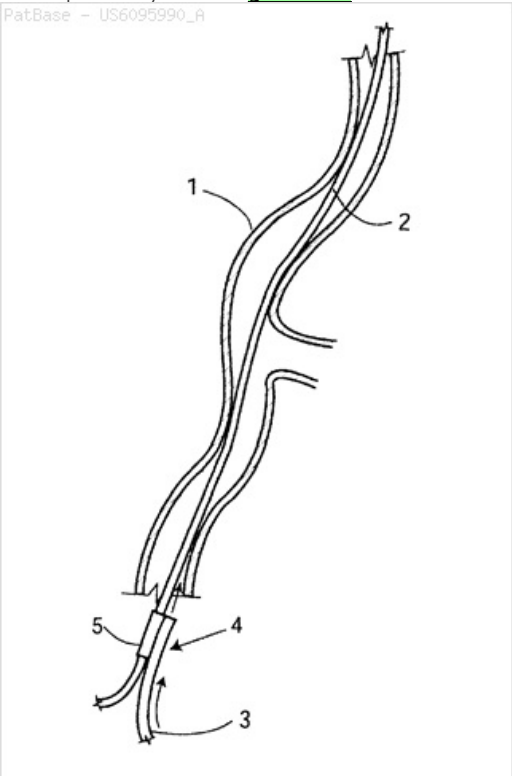
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JP2191465 A2	19900727	LSPB	+	published / reissued	
JP2992759 B2	19991220	LSGT	+	granted / extensions (spc, cpc, pte)	
JP2992759 B2	20031022	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
US4981478 A	19910101	LSGT	+	granted / extensions (spc, cpc, pte)	
US4981478 A	19890227	LSAS	AS	ASSIGNMENT	OWNER NAME : ADVANCED CARDIOVASCULAR SYSTEMS, INC., CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNORS:EVARD, PHILIP C.; MACHOLD, TIMOTHY R.; SPAHIC, BOJANA; REEL/FRAME:005024/0446; SIGNING DATES FROM 19890209 TO 19890214
US4981478 A	19901031	LSGT	PAT1	Patented Case	
US4981478 A	19940701	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US4981478 A	19980903	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US4981478 A	20020703	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5176661 A	19930105	LSGT	+	granted / extensions (spc, cpc, pte)	
US5176661 A	19921224	LSGT	PAT1	Patented Case	
US5176661 A	19960705	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5176661 A	20010107	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5176661 A	20010313	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20010105

4) Family number: 30127739 (US6095990A)

Title: Guiding device and method for inserting and advancing catheters and guidewires into a vessel of a patient in endovascular treatments

Abstract:

Source: US6095990A A guiding device and method for inserting and advancing more than one catheter and/or guidewire through the vascular tree of a patient in endovascular treatments, particularly through tortuous blood vessels, the guiding device comprising an open or close guiding channel provided at a distal end of the catheter or guidewire, whereby the catheter or guidewire may be easily advanced through the vessel over a previously installed guidewire.



International class (IPC 8-9): A61M25/00 A61M25/01 A61M25/08 (Advanced/Invention);
A61M25/00 A61M25/08 (Advanced/Non-invention);
A61M25/00 A61M25/01 A61M25/08 (Core/Invention)
International class (IPC 1-7): A61B5/00 A61M25/00 A61M25/01
CPC: A61M25/0172 A61M2025/0177
European class: A61M25/01G K61M25/01K
US class: 600/585
Family:

Publication number	Pub. date	Application number	App. date
AU199951870 A1	20000321	AU19990051870	19990819
AU199951870 A5	20000321	AU19990051870	19990819
AU763405 B2	20030724	AU19990051870	19990819
CA2342165 AA	20010222	CA19992342165	19990819
DE69928115 D1	20051208	DE19996028115	19990819
DE69928115 T2	20060727	DE19996028115T	19990819
EP1109592 A1	20010627	EP19990936901	19990819
EP1109592 B1	20051102	EP19990936901	19990819
JP2002523191 T2	20020730	JP20000567271T	19990819
JP2008080172 A2	20080410	JP20070328031	20071219
JP4237410 B2	20090311	JP20000567271T	19990819
JP4637892 B2	20110223	JP20070328031	20071219
US6095990 A	20000801	US19980143819	19980831
US6497670 BA	20021224	US20000526573	20000316
WO0012166 A1	20000309	WO1999IB01434	19990819

Priority: JP20000567271 19990819; US19980143819 19980831; US20000526573 20000316; WO1999IB01434 19990819;

Cited documents: US5728067 A, US5449362 A, US5425711 A, US5413560 A, US5395332 A, US5388590 A, US5357978 A, US5344413 A, US5306261 A, US5147377 A, US5102403 A, US5040548 A, US5024234 A, US4824435 A, US4601713 A, JP6197972 A2, JP3501337 T2, JP3222966 A2, JP10500584 T2,

Assignee(s): (std): BOSTON SCIENT CORP ; JUAN CARLOS PARODI ; PARODI JUAN C

Assignee(s): PARODI JUAN CARLOS ; PARODI JAUN C ; BOSTON SCIENTIFIC CORP

Inventor(s): (std): JUAN CARLOS PARODI ; PARODI JUAN CARLOS

Designated states: AE AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CR CU CY CZ DE DK DM EE ES FI FR GA GB GD GE GH GM GN GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LK LR LS LT LU LV MC MD MG MK ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT UA UG US UZ VN YU ZA ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU199951870 A1	20000321	LSPB	+	published / reissued	
AU199951870 A5	20000321	LSPB	+	published / reissued	
AU763405 B2	20030724	LSGT	+	granted / extensions (spc, cpc, pte)	
AU763405 B2	20000713	LSLE	-MK6	APPLICATION LAPSED SECTION	

					142(2)(F)/REG. 8.3(3) - PCT APPLIC. NOT ENTERING NATIONAL PHASE	
AU763405 B2	20031127	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)		
CA2342165 AA	20010222	LSPB	+	published / reissued		
CA2342165 AA	20010222	LSNP	+AFNE	NATIONAL PHASE ENTRY		
CA2342165 AA	20050819	LSLE	-FZDE	DEAD		
DE69928115 D1	20061123	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION		
DE69928115 T2	20060727	LSGT	+	granted / extensions (spc, cpc, pte)		
EP1109592 A1	20010627	LSPB	+	published / reissued		
EP1109592 A1	20010627	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20010307	
EP1109592 A1	20030917	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20030806	
EP1109592 A1	20050330	LSRE	RT11	TITLE (CORRECTION)	TEXT : GUIDING DEVICE FOR INSERTING AND ADVANCING CATHETERS AND GUIDEWIRES INTO A VESSEL OF A PATIENT IN ENDOVASCULAR TREATMENTS	
EP1109592 A1	20051102	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D	
EP1109592 A1	20061011	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20060803	
EP1109592 A1	20121031	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20120815 YEAR OF FEE PAYMENT : 14	
EP1109592 A1	20140423	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON- PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20130819	
EP1109592 A1	20140731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : GB NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20130819	
EP1109592 A1	20160712	LSFE	REG	REFERENCE TO A NATIONAL CODE	COUNTRY OF REF DOCUMENT : FR REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 18	
EP1109592 A1	20160930	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20160810 YEAR OF FEE PAYMENT : 18	
EP1109592 A1	20161031	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20160809 YEAR OF FEE PAYMENT : 18	
EP1109592 A1	20161031	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20160816 YEAR OF FEE PAYMENT : 18	
EP1109592 A1	20161130	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20160712 YEAR OF FEE PAYMENT : 18	
EP1109592 A1	20170714	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 19	
EP1109592 B1	20051102	LSGT	+	granted / extensions (spc, cpc, pte)		
JP2002523191 T2	20020730	LSPB	+	published / reissued		
JP2008080172 A2	20080410	LSPB	+	published / reissued		
JP4237410 B2	20090311	LSGT	+	granted / extensions		

(spc, cpc, pte)					
JP4237410 B2	20060816	LSSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20060815
JP4237410 B2	20070911	LSSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20070910
JP4237410 B2	20071220	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20071219
JP4237410 B2	20080605	LSSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20080604
JP4237410 B2	20080925	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20080924
JP4237410 B2	20081204	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP4237410 B2	20081209	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20081208
JP4237410 B2	20081211	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01
JP4237410 B2	20081225	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20081218
JP4237410 B2	20081226	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP4237410 B2	20090105	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP4237410 B2	20111215	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP4237410 B2	20111220	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 4
JP4237410 B2	20121129	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 4
JP4237410 B2	20121204	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 5
JP4237410 B2	20131203	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4237410 B2	20141209	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4237410 B2	20151208	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4237410 B2	20161206	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4637892 B2	20110223	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4637892 B2	20090417	LSSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20090416
JP4637892 B2	20090714	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20090713
JP4637892 B2	20100128	LSSES	-A131	NOTIFICATION OF	TEXT : JAPANESE INTERMEDIATE

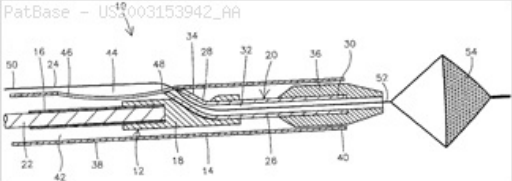
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JP4637892 B2	20101027	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP4637892 B2	20101101	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20101029
JP4637892 B2	20101104	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01
JP4637892 B2	20101202	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20101124
JP4637892 B2	20101203	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP4637892 B2	20101203	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP4637892 B2	20131203	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4637892 B2	20141209	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4637892 B2	20151208	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4637892 B2	20161206	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
US6095990 A	20000801	LSGT	+	granted / extensions (spc, cpc, pte)	
US6095990 A	20020129	LSRE	CC	CERTIFICATE OF CORRECTION	
US6095990 A	20031223	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6095990 A	20050907	LSAS	AS	ASSIGNMENT	OWNER NAME : PARODI, JAUN C., MISSOURI DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR: BOSTON SCIENTIFIC SCIMED, INC.; REEL/FRA: 016500/0233 EFFECTIVE DATE : 20050902
US6095990 A	20080801	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6095990 A	20080901	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6095990 A	20080923	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20080801
US6497670 BA	20021224	LSGT	+	granted / extensions (spc, cpc, pte)	
US6497670 BA	20021205	LSGT	PAT1	Patented Case	
US6497670 BA	20060524	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6497670 BA	20100521	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6497670 BA	20140528	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
WO0012166 A1	20000309	LSPB	+	published / reissued	
WO0012166 A1	20010104	LSWD	REG	REFERENCE TO NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : 8642
WO0012166 A1	20010222	LSNP	ENP	ENTRY INTO THE	REF COUNTRY CODE : CA

				NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2342165 KIND CODE OF REF DOCUMENT : A FORMAT OF REF DOCUMENT (F/P) : F
WO0012166 A1	20010222	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2342165 COUNTRY OF REF DOCUMENT : CA
WO0012166 A1	20010228	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 51870/99 COUNTRY OF REF DOCUMENT : AU
WO0012166 A1	20010307	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1999936901 COUNTRY OF REF DOCUMENT : EP
WO0012166 A1	20010627	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1999936901 COUNTRY OF REF DOCUMENT : EP
WO0012166 A1	20031113	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 51870/99 COUNTRY OF REF DOCUMENT : AU
WO0012166 A1	20051102	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1999936901 COUNTRY OF REF DOCUMENT : EP

5) Family number: 28928128 (US2003153942A)
Title: EMBOLIC PROTECTION DEVICE

Abstract:

Source: US2003153942A The present invention relates generally to devices and methods for treating occluded or stenoic blood vessels. More particularly, the present invention relates to devices and methods for delivering or retrieving an embolic protection device from the vasculature of a patient. In an embodiment, a catheter for retrieval or delivery of an embolic protection device comprises an inner shaft and an outer sheath. In addition, a method for retrieving and delivering an embolic protection device is disclosed.



International class (IPC 8-9): A61B17/00 A61F2/01 A61M25/00 A61M29/00 (Advanced/Invention);
A61B17/00 A61F2/01 A61M25/00 A61M29/00 (Core/Invention)
International class (IPC 1-7): A61B17/00 A61F2/01 A61M25/00 A61M29/00
CPC: A61F2002/018 A61F2230/0006 A61F2230/0067 A61F2230/0093 A61F2/013
European class: A61F2/01D
US class: 606/108 606/200
Family:

Publication number	Pub. date	Application number	App. date
AT427076 E	20090415	AT20030713277T	20030124
AU2003217240 AA	20030904	AU20030217240	20030124
AU2003217240 BB	20070913	AU20030217240	20030124
CA2475741 AA	20030821	CA20032475741	20030124
DE60326934 D1	20090514	DE20036026934	20030124
EP1474072 A1	20041110	EP20030713277	20030124
EP1474072 B1	20090401	EP20030713277	20030124
JP2005516730 T2	20050609	JP20030567295T	20030124
JP4362372 B2	20091111	JP20030567295T	20030124
US2003153942 AA	20030814	US20020075485	20020212
US2005049610 AA	20050303	US20040932716	20040902
US6997938 BB	20060214	US20020075485	20020212
WO03068106 A1	20030821	WO2003US02093	20030124

Priority: US20020075485 20020212; US20040932716 20040902; WO2003US02093 20030124;

Cited documents: WO9958068, WO9955236, WO9944542, WO9944510, WO9942509, WO9940964, WO9930766, WO9925252, WO9923976, WO9922673, WO9909895, WO9855175, WO9851237, WO9850103, WO9849952, WO9847447, WO9846297, WO9839053, WO9839046, WO9838929, WO9838920, WO9836786, WO9834673, WO9833443, WO9823322, WO9802112, WO9802084, WO9742879, WO9727808, WO9717100, WO9633677, WO9623441, WO9619941, WO9610375, WO9601591, WO9424946, WO9414389, WO9203097, WO8809683, WO09034729, WO0191824, WO0189413, WO0187183, WO0172205, WO0170326, WO0167989, WO0160442, WO0158382, WO0152768, WO0149355, WO0149215, WO0149209, WO0149208, WO0147579, WO0145590 A2, WO0143662, WO0135857, WO0126726, WO0121100, WO0121077, WO0115629, WO0110320, WO0108743, WO0108742, WO0108596, WO0108595, WO0105462, WO0067669, WO0067668, WO0067666, WO0067665, WO0067664, WO0053120, WO0049970, WO0016705, WO0009054, WO0007655, WO0007521, US7229464 BB, US6773448 BB, US6758830 BA, US6616681 BB, US6616681 BA, US6616681 B1, US6527746 BA, US6344049 BA, US6319268 BA, US6309399 BA, US6290710 BA, US6287321 BA, US6280413 BA, US6277139 BA, US6277138 BA, US6270513 BA, US6264672 BA, US6264663 BA, US6258115 BA, US6245089 BA, US6245088 BA, US6245087 BA, US6238412 BA, US6235045 BA, US6235044 BA, US6231544 BA, US6224620 BA, US6221006 BA, US6214026 BA, US6206868 BA, US6203561 BA, US6193691 BA, US6179861 BA, US6179861 B1, US6179859 BA, US6179859 B1, US6179851 BA, US6179851 B1, US6171328 BA, US6171328 B1, US6171327 BA, US6171327 B1, US6168579 BA, US6168579 B1, US6165200 A, US6152946 A, US6142987 A, US6136016 A, US6129739 A, US6117154 A, US6086605 A, US6077295 A, US6068645 A, US6066158 A, US6066149 A, US6059814 A, US6053932 A, US6051015 A, US6051014 A, US6042598 A, US6027520 A, US6013085 A, US6010522 A, US6007557 A, US6001118 A, US5997557 A, US5993469 A, US5989281 A, US5980555 A, US5954745 A, US5947995 A, US5947985 A, US5941896 A, US5941869 A, US5935139 A, US5925062 A, US5925060 A, US5925016 A, US5911734 A, US5910154 A, US5895399 A, US5876367 A, US5848964 A, US5846260 A, US5833650 A, US5833644 A, US5827324 A, US5814064 A, US5810874 A, US5800525 A, US5800457 A, US5795322 A, US5792157 A, US5779716 A, US5769816 A, US5749848 A, US5728066 A, US5720764 A, US5695519 A, US5662671 A, US5658296 A, US5549626 A, US5536242 A, US5489271 A, US5462529 A, US5456667 A, US5449372 A, US5423742 A, US5421832 A, US5376100 A, US5354310 A, US5330484 A, US5329942 A, US5224953 A, US5179851 A, US5160342 A, US5152777 A, US5152771 A, US5133733 A, US5102415 A, US5100423 A, US5071407 A, US5053008 A, US5011488 A, US5002560 A, US4998539 A, US4969891 A, US4926858 A, US4921484 A, US4921478 A, US4873978 A, US4842579 B1, US4842579 A, US4807626 A, US4794928 A, US4790813 A, US4790812 A, US4723549 A, US4706671 A, US4650466 A, US4619246 A, US4590938 A, US4425908 A, US4046150 A, US3996938 A, US3952747 A, US3472230 A, US2003023263 AA, US2002121472 AA, SU764684, JP8187294 A2, GB2020557 B2, FR2768326 A1, FR2694687, FR2666980, FR2643250 A1, FR2580504, EP1177777 A2, EP1127556 A2, EP0852132 A1, EP0784988 A1, EP0771549 A2, EP0759287 A1, EP0743046 A1, EP0737450 A1, EP0696447 A2, EP0686379 A2, EP0655228 A1, EP0533511 A1, EP0472368 A2, EP0472334 A1, EP0437121 B1, EP0427429 A2, EP0411118 A1, EP0293605 A1, EP0200688, DE4030998 A1, DE3417738, DE2821048, DE19916162, Assignee(s): (std): BOSTON SCIENT LTD ; SCIMED LIFE SYSTEMS INC ; WANG LING ; WILLARD MARTIN Assignee(s): BOSTON SCIENTIFIC LIMITED ; BOSTON SCIENTIFIC LTD ; BOSTON SCIENTIFIC SCIMED INC Inventor(s): (std): LING WANG ; MARTIN WILLARD ; WANG LING ; WILLARD MARTIN Designated states: AE AG AL AM AT AU AZ BA BB BF BG BJ BR BY BZ CA CF CG CH CI CL CN CO CR CU CY CZ DE DK DM DZ EC EE ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NL NO NZ OM PH PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT427076 E	20090415	LSGT	+	granted / extensions (spc, cpc, pte)	
AT427076 E	20091015	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	
AU2003217240 AA	20030904	LSPB	+	published / reissued	
AU2003217240 AA	20080117	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2003217240 AA	20110818	LSLE	-MK14	PATENT CEASED SECTION 143(A) (ANNUAL FEES NOT PAID) OR EXPIRED	

AU2003217240 BB	20070913	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2475741 AA	20030821	LSPB	+	published / reissued	
CA2475741 AA	20040811	LSNP	+AFNE	NATIONAL PHASE ENTRY	
CA2475741 AA	20090126	LSLE	-FZDE	DEAD	
DE60326934 D1	20100422	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
EP1474072 A1	20041110	LSPB	+	published / reissued	
EP1474072 A1	20041110	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20040825
EP1474072 A1	20060719	LSSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20060620
EP1474072 A1	20090401	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1474072 A1	20090415	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1474072 A1	20090429	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP1474072 A1	20090731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : SI DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT EFFECTIVE DATE : 20090401
EP1474072 A1	20090901	LSLE	-NLV1	NL: LAPSED OR ANNULLED DUE TO FAILURE TO FULFILL THE REQUIREMENTS OF ART. 29P AND 29M OF THE PATENTS ACT	
EP1474072 A1	20091030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : ES DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT EFFECTIVE DATE : 20090712
EP1474072 A1	20091030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : EE DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT EFFECTIVE DATE : 20090401
EP1474072 A1	20091030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : FI DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT EFFECTIVE DATE : 20090401
EP1474072 A1	20091030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : PT DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT EFFECTIVE DATE : 20090902
EP1474072 A1	20091130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : AT DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT EFFECTIVE DATE : 20090401
EP1474072 A1	20091130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : SE DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT

EFFECTIVE DATE : 20090701					
EP1474072 A1	20091130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : NL DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT EFFECTIVE DATE : 20090401
EP1474072 A1	20100129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : DK DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT EFFECTIVE DATE : 20090401
EP1474072 A1	20100226	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : BE DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT EFFECTIVE DATE : 20090401
EP1474072 A1	20100226	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : CZ DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT EFFECTIVE DATE : 20090401
EP1474072 A1	20100226	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : SK DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT EFFECTIVE DATE : 20090401
EP1474072 A1	20100310	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20100105
EP1474072 A1	20100430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : BG DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT EFFECTIVE DATE : 20090701
EP1474072 A1	20100430	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : IE PAYMENT DATE : 20100114 YEAR OF FEE PAYMENT : 08
EP1474072 A1	20100630	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : DE PAYMENT DATE : 20100129 YEAR OF FEE PAYMENT : 08
EP1474072 A1	20100831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : MC DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 20100131
EP1474072 A1	20100831	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1474072 A1	20100929	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	EFFECTIVE DATE : 20100124
EP1474072 A1	20101022	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20100930
EP1474072 A1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : CH DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 20100131
EP1474072 A1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED	REF COUNTRY CODE : FR DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES

EP1474072 A1	20101029	LSLE	-PG25	VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	EFFECTIVE DATE : 20100201 REF COUNTRY CODE : GR DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT EFFECTIVE DATE : 20090702
EP1474072 A1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : LI DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 20100131
EP1474072 A1	20101231	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : GB DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 20100124
EP1474072 A1	20110131	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : IE PAYMENT DATE : 20101216 YEAR OF FEE PAYMENT : 09
EP1474072 A1	20110331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : IT DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT EFFECTIVE DATE : 20090401
EP1474072 A1	20110531	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : DE PAYMENT DATE : 20110131 YEAR OF FEE PAYMENT : 09
EP1474072 A1	20120430	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : IE PAYMENT DATE : 20120106 YEAR OF FEE PAYMENT : 10
EP1474072 A1	20120531	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : DE PAYMENT DATE : 20120131 YEAR OF FEE PAYMENT : 10
EP1474072 A1	20120831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : CY DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT EFFECTIVE DATE : 20090401
EP1474072 A1	20120928	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : HU DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT EFFECTIVE DATE : 20091002
EP1474072 A1	20120928	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : LU DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 20100124
EP1474072 A1	20121031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : TR DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT EFFECTIVE DATE : 20090401
EP1474072 A1	20130430	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : DE PAYMENT DATE : 20130116 YEAR OF FEE PAYMENT : 11
EP1474072 A1	20130430	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : IE PAYMENT DATE : 20130110 YEAR OF FEE PAYMENT : 11
EP1474072 A1	20130430	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : DE PAYMENT DATE : 20130116 YEAR OF FEE PAYMENT : 11

EP1474072 A1	20130430	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : IE PAYMENT DATE : 20130110 YEAR OF FEE PAYMENT : 11
EP1474072 A1	20140430	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : IE PAYMENT DATE : 20140110 YEAR OF FEE PAYMENT : 12
EP1474072 A1	20140430	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : DE PAYMENT DATE : 20140122 YEAR OF FEE PAYMENT : 12
EP1474072 A1	20150312	LSAS	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R081 REF DOCUMENT NUMBER : 60326934 COUNTRY OF REF DOCUMENT : DE OWNER NAME : BOSTON SCIENTIFIC LIMITED, BM DESCRIPTION : FORMER OWNER: BOSTON SCIENTIFIC LTD., BUSH HILL, ST. MICHAEL, BB EFFECTIVE DATE : 20150202
EP1474072 A1	20150801	LSDW	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R119 REF DOCUMENT NUMBER : 60326934 COUNTRY OF REF DOCUMENT : DE
EP1474072 A1	20151030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : DE DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 20150801
EP1474072 A1	20151104	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP1474072 A1	20160129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : IE DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 20150124
EP1474072 B1	20090401	LSGT	+	granted / extensions (spc, cpc, pte)	
JP2005516730 T2	20050609	LSPB	+	published / reissued	
JP4362372 B2	20091111	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4362372 B2	20060112	LSSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20060111
JP4362372 B2	20090121	LSSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20090120
JP4362372 B2	20090623	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20090622
JP4362372 B2	20090714	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP4362372 B2	20090722	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20090721
JP4362372 B2	20090723	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01
JP4362372 B2	20090820	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20090817
JP4362372 B2	20090821	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: R150
JP4362372 B2	20090824	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL	DESCRIPTION : PAYMENT UNTIL: 20120821 YEAR OF FEE PAYMENT : 3

DATE OF DATABASE)					
JP4362372 B2	20120821	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
US2003153942 AA	20030814	LSPB	+	published / reissued	
US2005049610 AA	20050303	LSPB	+	published / reissued	
US2005049610 AA	20061106	LSAS	AS	ASSIGNMENT	OWNER NAME : BOSTON SCIENTIFIC SCIMED, INC., MINNESOTA DESCRIPTION : CHANGE OF NAME; ASSIGNOR:SCIMED LIFE SYSTEMS, INC.; REEL/FRAME:018505/0868 EFFECTIVE DATE : 20050101
US2005049610 AA	20061106	LSAS	AS	ASSIGNMENT	OWNER NAME : BOSTON SCIENTIFIC SCIMED, INC.,MINNESOTA DESCRIPTION : CHANGE OF NAME; ASSIGNOR:SCIMED LIFE SYSTEMS, INC.; REEL/FRAME:018505/0868 EFFECTIVE DATE : 20050101
US2005049610 AA	20061106	LSAS	AS	ASSIGNMENT	OWNER NAME : BOSTON SCIENTIFIC SCIMED, INC.,MINNESOTA DESCRIPTION : CHANGE OF NAME; ASSIGNOR:SCIMED LIFE SYSTEMS, INC.; REEL/FRAME:18505/868 EFFECTIVE DATE : 20050101
US2005049610 AA	20061106	LSAS	AS	ASSIGNMENT	OWNER NAME : BOSTON SCIENTIFIC SCIMED, INC.,MINNESOTA DESCRIPTION : CHANGE OF NAME; ASSIGNOR:SCIMED LIFE SYSTEMS, INC.; US- ASSIGNMENT DATABASE UPDATED:20100203; REEL/FRAME:18505/868 EFFECTIVE DATE : 20050101
US2005049610 AA	20061106	LSAS	AS	ASSIGNMENT	OWNER NAME : BOSTON SCIENTIFIC SCIMED, INC.,MINNESOTA DESCRIPTION : CHANGE OF NAME; ASSIGNOR:SCIMED LIFE SYSTEMS, INC.; US- ASSIGNMENT DATABASE UPDATED:20100209; REEL/FRAME:18505/868 EFFECTIVE DATE : 20050101
US2005049610 AA	20061106	LSAS	AS	ASSIGNMENT	OWNER NAME : BOSTON SCIENTIFIC SCIMED, INC.,MINNESOTA DESCRIPTION : CHANGE OF NAME; ASSIGNOR:SCIMED LIFE SYSTEMS, INC.; US- ASSIGNMENT DATABASE UPDATED:20100216; REEL/FRAME:18505/868 EFFECTIVE DATE : 20050101
US2005049610 AA	20061106	LSAS	AS	ASSIGNMENT	OWNER NAME : BOSTON SCIENTIFIC SCIMED, INC.,MINNESOTA DESCRIPTION : CHANGE OF NAME; ASSIGNOR:SCIMED LIFE SYSTEMS, INC.; US- ASSIGNMENT DATABASE UPDATED:20100223; REEL/FRAME:18505/868 EFFECTIVE DATE : 20050101
US2005049610 AA	20061106	LSAS	AS	ASSIGNMENT	OWNER NAME : BOSTON SCIENTIFIC SCIMED, INC.,MINNESOTA DESCRIPTION : CHANGE OF NAME; ASSIGNOR:SCIMED LIFE SYSTEMS, INC.; US- ASSIGNMENT DATABASE UPDATED:20100302; REEL/FRAME:18505/868 EFFECTIVE DATE : 20050101
US2005049610 AA	20061106	LSAS	AS	ASSIGNMENT	OWNER NAME : BOSTON SCIENTIFIC SCIMED, INC.,MINNESOTA DESCRIPTION : CHANGE OF NAME; ASSIGNOR:SCIMED LIFE SYSTEMS, INC.; US- ASSIGNMENT DATABASE UPDATED:20100309;

REEL/FRAME:18505/868
EFFECTIVE DATE : 20050101

US2005049610 AA	20061106	LSAS	AS	ASSIGNMENT	OWNER NAME : BOSTON SCIENTIFIC SCIMED, INC.,MINNESOTA DESCRIPTION : CHANGE OF NAME; ASSIGNOR:SCIMED LIFE SYSTEMS, INC.; US- ASSIGNMENT DATABASE UPDATED:20100316; REEL/FRAME:18505/868 EFFECTIVE DATE : 20050101
US2005049610 AA	20061106	LSAS	AS	ASSIGNMENT	OWNER NAME : BOSTON SCIENTIFIC SCIMED, INC.,MINNESOTA DESCRIPTION : CHANGE OF NAME; ASSIGNOR:SCIMED LIFE SYSTEMS, INC.; US- ASSIGNMENT DATABASE UPDATED:20100323; REEL/FRAME:18505/868 EFFECTIVE DATE : 20050101
US2005049610 AA	20061106	LSAS	AS	ASSIGNMENT	OWNER NAME : BOSTON SCIENTIFIC SCIMED, INC.,MINNESOTA DESCRIPTION : CHANGE OF NAME; ASSIGNOR:SCIMED LIFE SYSTEMS, INC.; US- ASSIGNMENT DATABASE UPDATED:20100330; REEL/FRAME:18505/868 EFFECTIVE DATE : 20050101
US2005049610 AA	20061106	LSAS	AS	ASSIGNMENT	OWNER NAME : BOSTON SCIENTIFIC SCIMED, INC.,MINNESOTA DESCRIPTION : CHANGE OF NAME; ASSIGNOR:SCIMED LIFE SYSTEMS, INC.; US- ASSIGNMENT DATABASE UPDATED:20100406; REEL/FRAME:18505/868 EFFECTIVE DATE : 20050101
US2005049610 AA	20061106	LSAS	AS	ASSIGNMENT	OWNER NAME : BOSTON SCIENTIFIC SCIMED, INC.,MINNESOTA DESCRIPTION : CHANGE OF NAME; ASSIGNOR:SCIMED LIFE SYSTEMS, INC.; US- ASSIGNMENT DATABASE UPDATED:20100413; REEL/FRAME:18505/868 EFFECTIVE DATE : 20050101
US2005049610 AA	20061106	LSAS	AS	ASSIGNMENT	OWNER NAME : BOSTON SCIENTIFIC SCIMED, INC.,MINNESOTA DESCRIPTION : CHANGE OF NAME; ASSIGNOR:SCIMED LIFE SYSTEMS, INC.; US- ASSIGNMENT DATABASE UPDATED:20100420; REEL/FRAME:18505/868 EFFECTIVE DATE : 20050101
US2005049610 AA	20061106	LSAS	AS	ASSIGNMENT	OWNER NAME : BOSTON SCIENTIFIC SCIMED, INC.,MINNESOTA DESCRIPTION : CHANGE OF NAME; ASSIGNOR:SCIMED LIFE SYSTEMS, INC.; US- ASSIGNMENT DATABASE UPDATED:20100504; REEL/FRAME:18505/868 EFFECTIVE DATE : 20050101
US2005049610 AA	20061106	LSAS	AS	ASSIGNMENT	OWNER NAME : BOSTON SCIENTIFIC SCIMED, INC.,MINNESOTA DESCRIPTION : CHANGE OF NAME; ASSIGNOR:SCIMED LIFE SYSTEMS, INC.; US- ASSIGNMENT DATABASE UPDATED:20100511; REEL/FRAME:18505/868 EFFECTIVE DATE : 20050101
US2005049610 AA	20061106	LSAS	AS	ASSIGNMENT	OWNER NAME : BOSTON SCIENTIFIC SCIMED, INC.,MINNESOTA DESCRIPTION : CHANGE OF NAME; ASSIGNOR:SCIMED LIFE SYSTEMS, INC.; US- ASSIGNMENT DATABASE UPDATED:20100518;

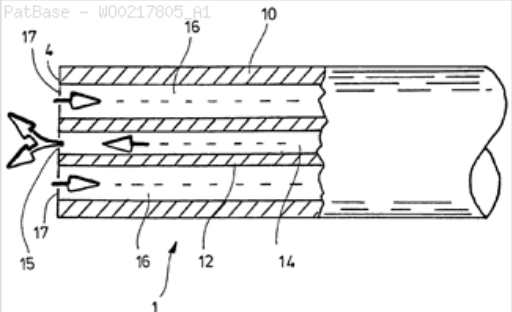
					REEL/FRAME:18505/868 EFFECTIVE DATE : 20050101
US2005049610 AA	20061106	LSAS	AS	ASSIGNMENT	OWNER NAME : BOSTON SCIENTIFIC SCIMED, INC., MINNESOTA DESCRIPTION : CHANGE OF NAME; ASSIGNOR: SCIMED LIFE SYSTEMS, INC.; US-ASSIGNMENT DATABASE UPDATED: 20100525; REEL/FRAME:18505/868 EFFECTIVE DATE : 20050101
US2005049610 AA	20110930	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US6997938 BB	20060214	LSGT	+	granted / extensions (spc, cpc, pte)	
US6997938 BB	20020227	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SCIMED LIFE SYSTEMS, INC., MINNESOTA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS: WANG, LING; WILLARD, MARTIN R.; REEL/FRAME:012655/0550; SIGNING DATES FROM 20020205 TO 20020206
US6997938 BB	20060125	LSGT	PAT1	Patented Case	
US6997938 BB	20061106	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOSTON SCIENTIFIC SCIMED, INC., MINNESOTA OLDPARTY : CHANGE OF NAME; ASSIGNOR: SCIMED LIFE SYSTEMS, INC.; REEL/FRAME:018505/0868 EFFECTIVE DATE : 20050101
US6997938 BB	20061106	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOSTON SCIENTIFIC SCIMED, INC., MINNESOTA OLDPARTY : CHANGE OF NAME; ASSIGNOR: SCIMED LIFE SYSTEMS, INC.; REEL/FRAME:018505/0868 EFFECTIVE DATE : 20050101
US6997938 BB	20061226	LSRE	CC	CERTIFICATE OF CORRECTION	
US6997938 BB	20090622	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6997938 BB	20130313	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6997938 BB	20170803	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
WO03068106 A1	20030821	LSPB	+	published / reissued	
WO03068106 A1	20040811	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2475741 COUNTRY OF REF DOCUMENT : CA
WO03068106 A1	20040812	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2003567295 COUNTRY OF REF DOCUMENT : JP
WO03068106 A1	20040812	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2003217240 COUNTRY OF REF DOCUMENT : AU
WO03068106 A1	20040825	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2003713277 COUNTRY OF REF DOCUMENT : EP
WO03068106 A1	20041110	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2003713277 COUNTRY OF REF DOCUMENT : EP

6) Family number: 23142646 (WO0217805A1)

Title: SYSTEM FOR VARICOSE VEIN TREATMENT SYSTEME PERMETTANT LE TRAITEMENT DE VEINES VARIQUEUSES

Abstract:

Source: WO0217805A1 A system for the application of thermal energy in order to cause permanent contraction of **vascular** structures comprises a **catheter** (1) and a control device (2). The **catheter** (1) is introduceable into a **vascular** structure and includes at least one lumen having an opening in the distal end region. The control device (2), to which the **catheter** (1) is connectable via its proximal end region (5), is adapted to provide a liquid, to cause heating of the liquid and to supply the liquid into a lumen of the **catheter** (1) and to apply a vacuum to a lumen of the **catheter** (1). L'invention concerne un systeme permettant l'application d'energie thermique afin de provoquer la contraction permanente de structures vasculaires. Ce systeme comprend un **catheter** (1) et un dispositif de commande (2). Le **catheter** (1) peut etre introduit dans une structure vasculaire et comprend au moins une lumiere presentant une ouverture a l'extremite distale. Le dispositif de commande (2), auquel le **catheter** (1) est raccordable par l'intermediaire de son extremite proximale (5), est concu pour fournir un liquide, pour provoquer le chauffage du liquide, pour amener le liquide dans une lumiere du **catheter** (1) et pour appliquer un vide dans une lumiere du **catheter** (1).



International class (IPC 8-9): A61B17/12 A61B18/04 A61F7/12 A61M25/00 (Advanced/Invention);
A61B17/12 A61F7/12 A61M25/00 (Advanced/Non-invention);
A61B17/12 A61B18/04 A61F7/12 A61M25/00 (Core/Invention);
A61F7/12 (Core/Non-invention)

International class (IPC 1-7): A61B17/12 A61B18/04 A61F7/12 A61M25/00 A61M25/01

CPC: A61B18/04 A61B2018/046 A61F2007/126

European class: A61B18/04 K61B18/04C2 K61F7/12D

Family:

Publication number	Pub. date	Application number	App. date
AU200189644 A5	20020313	AU20010089644D	20010711
AU783533 B2	20051103	AU20010089644	20010711
CA2388096 AA	20020418	CA20012388096	20010711
DE10042493 A1	20020314	DE20001042493	20000830
EP1263340 A1	20021211	EP20010969369	20010711
JP2004507315 T2	20040311	JP20020522783T	20010711
JP4818566 B2	20111116	JP20020522783	20010711
WO0217805 A1	20020307	WO2001EP08016	20010711

Priority: DE20001042493 20000830; WO2001EP08016 20010711;

Cited documents: WO9912489 A2, WO9903413 A1, WO9639961 A1, US6014589 A, US5891094 A, US5827268 A, US5709224 A, US5273524 A, US5222938 A, US3301258 A, JP4501821 T2, JP4501821, JP2001515368 T2, JP2001515368, EP0449472 A1,
Assignee(s): (std): ETHICON ENDO SURGERY EUROP GMB ; ETHICON ENDO SURGERY EUROPE ; LONGO ANTONIO ; NEUROHR MARK
Assignee(s): ETHICON ENDO SURGERY EUROPE GMBH ; ETHICON ENDO SURGERY GMBH
Inventor(s): (std): ANTONIO LONGO ; LONGO ANTONIO ; NEUROHR MARK ; MARK NEUROHR
Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EE ES FI FR GA GB GD GE GH GM GN GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Legal status (INPADOC)

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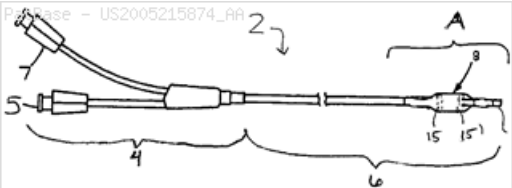
Patent	Date recorded	Event group	Code	Event	Details
AU200189644 A5	20020313	LSPB	+	published / reissued	
AU783533 B2	20051103	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2388096 AA	20020418	LSPB	+	published / reissued	
CA2388096 AA	20020418	LSNP	+AFNE	NATIONAL PHASE ENTRY	
CA2388096 AA	20060710	LSES	+EEER	EXAMINATION REQUEST	
CA2388096 AA	20160317	LSLE	-FZDE	DEAD	EFFECTIVE DATE : 20160204
DE10042493 A1	20020314	LSPB	+	published / reissued	
DE10042493 A1	20020314	LSES	+OP8	REQUEST FOR EXAMINATION AS TO PARAGRAPH 44 PATENT LAW	
DE10042493 A1	20110926	LSRV	-R002	REFUSAL DECISION IN EXAMINATION/REGISTRATION PROCEEDINGS	
DE10042493 A1	20120223	LSRV	-R003	REFUSAL DECISION NOW FINAL	EFFECTIVE DATE : 20111101
EP1263340 A1	20021211	LSPB	+	published / reissued	
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EP1263340 A1	20030326	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE :

20030205					
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JP2004507315 T2	20040311	LSPB	+	published / reissued	
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JP2004507315 T2	20110618	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20110617
JP2004507315 T2	20110725	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2004507315 T2	20110803	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20110802
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JP2004507315 T2	20110908	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20110831
JP2004507315 T2	20110909	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20140909 YEAR OF FEE PAYMENT : 3
JP2004507315 T2	20110909	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: R150
JP4818566 B2	20111116	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4818566 B2	20080712	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20080711
JP4818566 B2	20110618	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20110617
JP4818566 B2	20110803	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20110802
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WO0217805 A1	20020307	LSPB	+	published / reissued	
WO0217805 A1	20020415	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2001969369 COUNTRY OF REF DOCUMENT : EP
WO0217805 A1	20020417	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 89644/01 COUNTRY OF REF

						DOCUMENT : AU
WO0217805 A1	20020418	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2388096 COUNTRY OF REF DOCUMENT : CA	
WO0217805 A1	20020426	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : JP REF DOCUMENT NUMBER : 2002 522783 KIND CODE OF REF DOCUMENT : A FORMAT OF REF DOCUMENT (F/P) : F	
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WO0217805 A1	20030710	LSWD	REG	REFERENCE TO NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : 8642	
WO0217805 A1	20050514	LSRV	-WWR	WIPO INFORMATION: REFUSED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2001969369 COUNTRY OF REF DOCUMENT : EP	
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WO0217805 A1	20060216	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 89644/01 COUNTRY OF REF DOCUMENT : AU	

7) Family number: 32272638 (US2005215874A)
Title: MRI AND X-RAY VISUALIZATION

Abstract:
Source: US2005215874A **Markers** that are visible under magnetic resonance imaging (MRI) and fluoroscopy and related medical devices are disclosed.



International class (IPC 8-9): A61B17/12 A61B19/00 A61F2/82 A61F2/84 A61M25/00 A61M25/01 A61M25/09 A61M25/095 A61N1/05 G01R33/28 (Advanced/Invention);
A61F2/06 A61F2/82 A61M25/00 A61M25/10 (Advanced/Non-invention)
International class (IPC 1-7): A61B19/00 A61B5/05
CPC: A61M25/0108 A61F2/82 A61M2025/0058 G01R33/286 A61B90/39 A61B2090/3954 A61B2090/3966 A61B2090/3995
European class: A61B19/54 A61M25/01C1 G01R33/28H1 K61B19/54L K61B19/54R K61F2/06S K61F2/82 K61M25/00S6
US class: 600/407 600/407P 600/414 600/414S 600/426 600/426S 600/427 600/435 623/1.16 623/1.34 623/1.42
Family:

Publication number	Pub. date	Application number	App. date
DE602005048052 D1	20160121	DE200560048052T	20050310
EP1722706 A1	20061122	EP20050727200	20050310
EP1722706 B1	20151209	EP20050727200	20050310
JP2007528779 T2	20071018	JP20070502935T	20050310
JP5144251 B2	20130213	JP20070502935T	20050310
US2005215874 AA	20050929	US20040799094	20040312
US7761138 BB	20100720	US20040799094	20040312
WO05089664 A1	20050929	WO2005US07644	20050310

Priority: EP20050727200 20050310; US20040799094 20040312; WO2005US07644 20050310;

Cited documents: US6884234 BB, US6612998 BB, US6589286 BA, US6585755 BB, US6574497 BA, US6545097 BB, US6463317 BA, US6436056 BA, US6423296 BA, US6340367 BA, US6334871 BA, US6280385 BA, US6272370 BA, US6263229 BA, US6245104 BA, US6236229 BA, US6217607 BA, US6207134 BA, US6123920 A, US6042605 A, US6026316 A, US5964705 A, US5961705 A, US5908410 A, US5817017 A, US5744958 A, US5738632 A, US5728079 A, US5725570 A, US5702682 A, US5699801 A, US5628787 A, US5447156 A, US5271400 A, US5270086 A, US5154179 A, US4989608 A, US4985233 A, US4976690 A, US4895233 A, US4796690 A, US4572198 A, US2007093142 AA, US2006111646 AA, US2005255317 AA, US2005215885 AA, US2005131522 AA, US2005124976 AA, US2004193140 AA, US2004186377 AA, US2003181972 AA, US2003163117 AA, US2003100830 AA, US2003099764 AA, US2003004563 AA, US2002165523 AA, JP8173545 A2, JP8173543 A2, JP2002119599 A2, JP2001293090 A2, JP2001137248 A2, **Assignee(s):** (std); BOSTON SCIENT LTD ; BOSTON SCIENT SCIMED INC ; WANG LIXIAO ; WEBER JAN
Assignee(s): BOSTON SCIENTIFIC LIMITED ; BOSTON SCIENTIFIC LTD ; BOSTON SCIENTIFIC SCIMED INC ; SCIMED LIFE SYSTEMS INC
Inventor(s): (std); WANG LIXIAO ; WEBER JAN
Inventor(s): WEBER JAN 6228 GJ ; WANG LIXIAO LONG LAKE
Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

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Patent	Date recorded	Event group	Code	Event	Details
EP1722706 A1	20061122	LSPB	+	published / reissued	
EP1722706 A1	20061122	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20060905
EP1722706 A1	20111130	LSSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20111028
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EP1722706 A1	20131225	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : A61M 25/01 20060101ALI20131120BHPEP
EP1722706 A1	20131225	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : G01R 33/28 20060101ALI20131120BHPEP
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EP1722706 A1	20150415	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : G01R 33/28 20060101ALI20150312BHPEP

EP1722706 A1	20150415	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : A61F 2/82 20130101ALN20150312BHEP
EP1722706 A1	20150415	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : A61B 19/00 20060101AFI20150312BHEP
EP1722706 A1	20150415	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : A61M 25/01 20060101ALI20150312BHEP
EP1722706 A1	20150422	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : A61B 19/00 20060101AFI20150317BHEP
EP1722706 A1	20150422	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : G01R 33/28 20060101ALI20150317BHEP
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EP1722706 A1	20150708	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : A61M 25/01 20060101ALI20150603BHEP
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EP1722706 A1	20160121	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602005048052 COUNTRY OF REF DOCUMENT : DE
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EP1722706 A1	20161123	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20160310
EP1722706 A1	20161130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : SI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20151209
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EP1722706 A1	20161230	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20161130
EP1722706 A1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : FR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160331
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EP1722706 A1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : LI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160331
EP1722706 A1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : GB NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160310
EP1722706 A1	20170428	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20170307 YEAR OF FEE PAYMENT : 13
EP1722706 A1	20170531	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20170309 YEAR OF FEE PAYMENT : 13
EP1722706 B1	20151209	LSGT	+	granted / extensions (spc, cpc, pte)	

JP2007528779 T2	20071018	LSPB	+	published / reissued	
JP2007528779 T2	20080304	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20080303
JP2007528779 T2	20100908	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20100907
JP2007528779 T2	20101207	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20101206
JP2007528779 T2	20110427	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20110426
JP2007528779 T2	20110727	LSRE	A524	WRITTEN SUBMISSION OF COPY OF AMENDMENT UNDER SECTION 19 (PCT)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A524 EFFECTIVE DATE : 20110726
JP2007528779 T2	20110727	LSRE	A524	WRITTEN SUBMISSION OF COPY OF AMENDMENT UNDER SECTION 19 (PCT)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A524 EFFECTIVE DATE : 20110726
JP2007528779 T2	20120201	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20120131
JP2007528779 T2	20120428	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20120427
JP2007528779 T2	20121026	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2007528779 T2	20121031	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20121030
JP2007528779 T2	20121101	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01
JP2007528779 T2	20121129	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20121122
JP2007528779 T2	20121130	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20151130 YEAR OF FEE PAYMENT : 3
JP2007528779 T2	20121130	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: R150
JP5144251 B2	20130213	LSGT	+	granted / extensions (spc, cpc, pte)	
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JP5144251 B2	20100908	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20100907
JP5144251 B2	20101207	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20101206
JP5144251 B2	20110427	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20110426
JP5144251 B2	20110727	LSRE	A524	WRITTEN SUBMISSION OF COPY OF AMENDMENT UNDER SECTION 19 (PCT)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A524 EFFECTIVE DATE : 20110726

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JP5144251 B2	20120428	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20120427
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JP5144251 B2	20121129	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20121122
JP5144251 B2	20121130	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20151130 YEAR OF FEE PAYMENT : 3
JP5144251 B2	20121130	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: R150
JP5144251 B2	20161101	LSFE	+R250	RECEIPT OF ANNUAL FEES	DESCRIPTION : JAPANESE INTERMEDIATE CODE: R250
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US2005215874 AA	20040610	LSAS	AS	ASSIGNMENT	OWNER NAME : SCIMED LIFE SYSTEMS, INC., MINNESOTA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WANG, LIXIAO; WEBER, JAN; REEL/FRAME:014716/0109; SIGNING DATES FROM 20040220 TO 20040308
US2005215874 AA	20061106	LSAS	AS	ASSIGNMENT	OWNER NAME : BOSTON SCIENTIFIC SCIMED, INC.,MINNESOTA DESCRIPTION : CHANGE OF NAME; ASSIGNOR:SCIMED LIFE SYSTEMS, INC.; US-ASSIGNMENT DATABASE UPDATED:20100203; REEL/FRAME:18505/868 EFFECTIVE DATE : 20050101
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US2005215874 AA	20061106	LSAS	AS	ASSIGNMENT	OWNER NAME : BOSTON SCIENTIFIC SCIMED, INC.,MINNESOTA DESCRIPTION : CHANGE OF NAME; ASSIGNOR:SCIMED LIFE SYSTEMS, INC.; US-ASSIGNMENT DATABASE UPDATED:20100216; REEL/FRAME:18505/868 EFFECTIVE DATE : 20050101
US2005215874 AA	20061106	LSAS	AS	ASSIGNMENT	OWNER NAME : BOSTON SCIENTIFIC SCIMED, INC.,MINNESOTA DESCRIPTION : CHANGE OF NAME; ASSIGNOR:SCIMED LIFE SYSTEMS, INC.; US-ASSIGNMENT DATABASE UPDATED:20100223; REEL/FRAME:18505/868 EFFECTIVE DATE : 20050101
US2005215874 AA	20061106	LSAS	AS	ASSIGNMENT	OWNER NAME : BOSTON

SCIENTIFIC SCIMED,
INC.,MINNESOTA
DESCRIPTION : CHANGE OF
NAME; ASSIGNOR:SCIMED LIFE
SYSTEMS, INC.; US-ASSIGNMENT
DATABASE UPDATED:20100302;
REEL/FRAME:18505/868
EFFECTIVE DATE : 20050101

US2005215874 AA 20061106 LSAS AS ASSIGNMENT OWNER NAME : BOSTON
SCIENTIFIC SCIMED,
INC.,MINNESOTA
DESCRIPTION : CHANGE OF
NAME; ASSIGNOR:SCIMED LIFE
SYSTEMS, INC.; US-ASSIGNMENT
DATABASE UPDATED:20100309;
REEL/FRAME:18505/868
EFFECTIVE DATE : 20050101

US2005215874 AA 20061106 LSAS AS ASSIGNMENT OWNER NAME : BOSTON
SCIENTIFIC SCIMED,
INC.,MINNESOTA
DESCRIPTION : CHANGE OF
NAME; ASSIGNOR:SCIMED LIFE
SYSTEMS, INC.; US-ASSIGNMENT
DATABASE UPDATED:20100316;
REEL/FRAME:18505/868
EFFECTIVE DATE : 20050101

US2005215874 AA 20061106 LSAS AS ASSIGNMENT OWNER NAME : BOSTON
SCIENTIFIC SCIMED,
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DESCRIPTION : CHANGE OF
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SYSTEMS, INC.; US-ASSIGNMENT
DATABASE UPDATED:20100323;
REEL/FRAME:18505/868
EFFECTIVE DATE : 20050101

US2005215874 AA 20061106 LSAS AS ASSIGNMENT OWNER NAME : BOSTON
SCIENTIFIC SCIMED,
INC.,MINNESOTA
DESCRIPTION : CHANGE OF
NAME; ASSIGNOR:SCIMED LIFE
SYSTEMS, INC.; US-ASSIGNMENT
DATABASE UPDATED:20100330;
REEL/FRAME:18505/868
EFFECTIVE DATE : 20050101

US2005215874 AA 20061106 LSAS AS ASSIGNMENT OWNER NAME : BOSTON
SCIENTIFIC SCIMED,
INC.,MINNESOTA
DESCRIPTION : CHANGE OF
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SYSTEMS, INC.; US-ASSIGNMENT
DATABASE UPDATED:20100406;
REEL/FRAME:18505/868
EFFECTIVE DATE : 20050101

US2005215874 AA 20061106 LSAS AS ASSIGNMENT OWNER NAME : BOSTON
SCIENTIFIC SCIMED,
INC.,MINNESOTA
DESCRIPTION : CHANGE OF
NAME; ASSIGNOR:SCIMED LIFE
SYSTEMS, INC.; US-ASSIGNMENT
DATABASE UPDATED:20100413;
REEL/FRAME:18505/868
EFFECTIVE DATE : 20050101

US2005215874 AA 20061106 LSAS AS ASSIGNMENT OWNER NAME : BOSTON
SCIENTIFIC SCIMED,
INC.,MINNESOTA
DESCRIPTION : CHANGE OF
NAME; ASSIGNOR:SCIMED LIFE
SYSTEMS, INC.; US-ASSIGNMENT
DATABASE UPDATED:20100420;
REEL/FRAME:18505/868
EFFECTIVE DATE : 20050101

US2005215874 AA 20061106 LSAS AS ASSIGNMENT OWNER NAME : BOSTON
SCIENTIFIC SCIMED,
INC.,MINNESOTA
DESCRIPTION : CHANGE OF
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SYSTEMS, INC.; US-ASSIGNMENT
DATABASE UPDATED:20100504;
REEL/FRAME:18505/868
EFFECTIVE DATE : 20050101

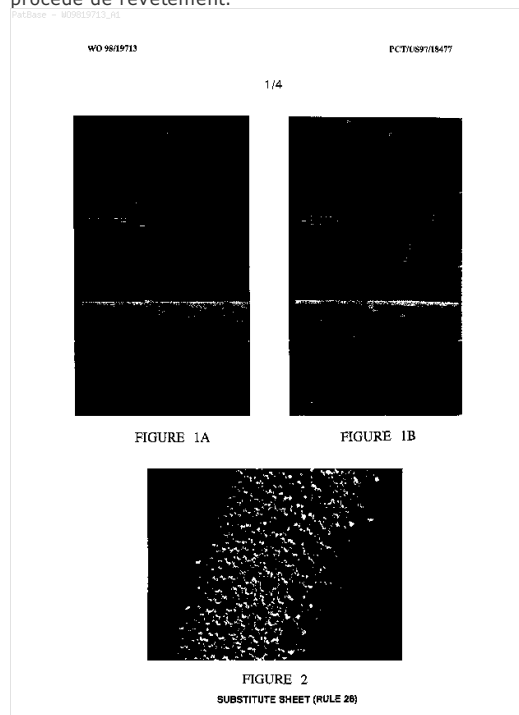
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DESCRIPTION : CHANGE OF
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SYSTEMS, INC.; US-ASSIGNMENT
DATABASE UPDATED:20100511;
REEL/FRAME:18505/868
EFFECTIVE DATE : 20050101

US2005215874 AA	20061106	LSAS	AS	ASSIGNMENT	OWNER NAME : BOSTON SCIENTIFIC SCIMED, INC.,MINNESOTA DESCRIPTION : CHANGE OF NAME; ASSIGNOR:SCIMED LIFE SYSTEMS, INC.; US-ASSIGNMENT DATABASE UPDATED:20100518; REEL/FRAME:18505/868 EFFECTIVE DATE : 20050101
US2005215874 AA	20061106	LSAS	AS	ASSIGNMENT	OWNER NAME : BOSTON SCIENTIFIC SCIMED, INC.,MINNESOTA DESCRIPTION : CHANGE OF NAME; ASSIGNOR:SCIMED LIFE SYSTEMS, INC.; US-ASSIGNMENT DATABASE UPDATED:20100525; REEL/FRAME:18505/868 EFFECTIVE DATE : 20050101
US2005215874 AA	20061106	LSAS	AS	ASSIGNMENT	OWNER NAME : BOSTON SCIENTIFIC SCIMED, INC., MINNESOTA DESCRIPTION : CHANGE OF NAME; ASSIGNOR:SCIMED LIFE SYSTEMS, INC.; REEL/FRAME:018505/0868 EFFECTIVE DATE : 20050101
US7761138 BB	20100720	LSGT	+	granted / extensions (spc, cpc, pte)	
US7761138 BB	20040610	LSAS	AS	ASSIGNMENT	OWNER NAME : SCIMED LIFE SYSTEMS, INC., MINNESOTA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WANG, LIXIAO; WEBER, JAN; REEL/FRAME:014716/0109; SIGNING DATES FROM 20040220 TO 20040308
US7761138 BB	20040610	LSAS	AS	ASSIGNMENT	OWNER NAME : SCIMED LIFE SYSTEMS, INC., MINNESOTA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WANG, LIXIAO; WEBER, JAN; SIGNING DATES FROM 20040220 TO 20040308; REEL/FRAME:014716/0109
US7761138 BB	20040610	LSAS	AS	ASSIGNMENT	OWNER NAME : SCIMED LIFE SYSTEMS, INC.,MINNESOTA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WANG, LIXIAO; WEBER, JAN; SIGNED BETWEEN 20040220 AND 20040308; REEL/FRAME:14716/109
US7761138 BB	20061106	LSAS	AS	ASSIGNMENT	OWNER NAME : BOSTON SCIENTIFIC SCIMED, INC.,MINNESOTA DESCRIPTION : CHANGE OF NAME; ASSIGNOR:SCIMED LIFE SYSTEMS, INC.; REEL/FRAME:018505/0868 EFFECTIVE DATE : 20050101
US7761138 BB	20061106	LSAS	AS	ASSIGNMENT	OWNER NAME : BOSTON SCIENTIFIC SCIMED, INC.,MINNESOTA DESCRIPTION : CHANGE OF NAME; ASSIGNOR:SCIMED LIFE SYSTEMS, INC.; REEL/FRAME:18505/868 EFFECTIVE DATE : 20050101
US7761138 BB	20061106	LSAS	AS	ASSIGNMENT	OWNER NAME : BOSTON SCIENTIFIC SCIMED, INC., MINNESOTA DESCRIPTION : CHANGE OF NAME; ASSIGNOR:SCIMED LIFE SYSTEMS, INC.; REEL/FRAME:018505/0868 EFFECTIVE DATE : 20050101
US7761138 BB	20100630	LSGT	PAT1	Patented Case	
US7761138 BB	20131227	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
WO05089664 A1	20050929	LSPB	+	published / reissued	
WO05089664 A1	20060905	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2005727200 COUNTRY OF REF DOCUMENT : EP

WO05089664 A1	20060912	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2007502935 COUNTRY OF REF DOCUMENT : JP
WO05089664 A1	20060913	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO05089664 A1	20060913	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : DE
WO05089664 A1	20061122	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2005727200 COUNTRY OF REF DOCUMENT : EP

8) Family number: 30148311 (WO9819713A1)**Title:** ECHOGENIC COATING CONTAINING GASEOUS SPACES FOR ULTRASONOGRAPHY REVETEMENT ECHOGENIQUE CONTENANT DES ESPACES GAZEUX POUR UNE ULTRASONOGRAPHIE**Abstract:**

Source: WO9819713A1 Coatings to enhance the echogenicity of materials are especially useful for medical devices wherein the practitioner desires to locate or visualize a device by ultrasonic imaging when the device is inserted into a body cavity. These coatings can be applied to any device of virtually any composition. To accomplish this, a polymer matrix is formed containing an entrapped gas in enclosed bubbles or open surface channels or cavities. Coated needles are visible in ultrasound when inserted in animals. A pre-coat or base coat may be applied to condition the surface to enhance adhesion. A finish coat or top coat may be applied to improve durability, smoothness, and biocompatibility, lubricity, antibiotic, antimicrobial, antithrombogenic activity, and other desirable properties for the finished product. Coating liquids and methods for preparing and applying such coatings are disclosed, including forming bubbles by chemical reaction during the coating process. L'invention concerne des revetements permettant d'améliorer l'échogénicité de matières données. Ces revetements s'utilisent en particulier sur des instruments médicaux dans des cas où un praticien désire localiser ou visualiser un instrument par formation d'images ultrasoniques lorsque l'instrument est introduit dans une cavité du corps. Ces revetements peuvent être appliqués sur n'importe quel instrument présentant un peu près n'importe quelle composition. Pour réaliser ces revetements, on forme une matrice de polymère contenant un gaz piégé dans des bulles intérieures ou des conduits ou cavités à surface ouverte. Des aiguilles recouvertes du revêtement sont visibles par ultrasons lorsqu'elles sont introduites dans le corps d'animaux. On peut appliquer une précouche ou couche de base pour conditionner la surface afin d'améliorer l'adhérence. On peut appliquer une couche de finition pour augmenter la durabilité, le lisse, la biocompatibilité, le pouvoir lubrifiant, l'activité antibiotique, antimicrobienne, anti-thrombogénique, et d'autres propriétés voulues du produit fini. L'invention concerne également des liquides de revêtement et des procédés de préparation et d'application de tels revêtements, y compris la formation de bulles par réaction chimique pendant le procédé de revêtement.



International class (IPC 8-9): A61B8/00 A61B8/00 A61K49/00 A61K49/04 A61K49/22 A61L27/28 A61L29/00 A61L29/08 A61L29/14 A61L31/00 A61L31/08 A61L31/10 A61L31/14 A61L31/18 (Advanced/Invention); A61B8/00 A61K49/00 A61K49/04 A61L31/08 (Advanced/Non-invention); A61K49/00 A61K49/04 A61K49/22 A61L27/00 A61L29/00 A61L31/08 A61L31/14 (Core/Invention); A61B8/00 (Core/Non-invention)

International class (IPC 1-7): A61K49/00 A61K49/04 A61L27/28 A61L29/00 A61L29/08 A61L31/00 A61L31/08 B01J19/10

CPC: A61B8/481 A61K49/223 A61L29/085 A61L29/14 A61L31/10 A61L31/14 A61L31/18

European class: A61K49/22P4 A61L29/08B A61L29/14 A61L31/10 A61L31/14 A61L31/18 K61B8/48B

Family:

Publication number	Pub. date	Application number	App. date
AT279213 E	20041015	AT19970946248T	19971106
AU199851460 A1	19980529	AU19980051460	19971106
AU735761 B2	20010712	AU19980051460	19971106
CA2271205 AA	19990505	CA19972271205	19971106
CN1236322 A	19991124	CN19971099476	19971106
DE69731223 D1	20041118	DE19976031223	19971106
DE69731223 T2	20060112	DE19976031223T	19971106
EP0941128 A1	19990915	EP19970946248	19971106
EP0941128 B1	20041013	EP19970946248	19971106
IL129518 A0	20000229	IL19970129518	19971106
IL129518 A1	20040328	IL19970129518	19971106
JP2001504101 T2	20010327	JP19980521409T	19971106
RU2222350 C2	20040127	RU19990112126	19971106
RU99112126 A	20010520	RU19990112126	19971106
WO9819713 A1	19980514	WO1997US18477	19971106

Priority: US19960744582 19961106; WO1997US18477 19971106;

Cited documents: US289831 A, US4805628 A, US4582061 A, EP0624342 A1,

Assignee(s): (std) LANZAFAME JOHN R ; LYDON MARGARET ; STS BIOPOLYMERS INC ; VIOLANTE MICHAEL R PH D ; WHITBOURNE RICHARD J ; S T S BIOPOLYMER INC ; STS BIOPOLYMER INC ; ANGIOTECH BIOCOATINGS CORP

Assignee(s): ANGIOTECH BIOCOATINGS CORP HENRIETTA ; ANGIOTECH PHARMACEUTICALS INC ; ANGIOTECH PHARMACEUTICALS US INC ; JOHN R LANZAFAME ; VIOLANTE MICHAEL R ; RICHARD J WHITBOURNE ; MARGARET LYDON ; MICHAEL R VIOLANTE

Inventor(s): (std) JOHN R LANZAFAME ; MARGARET LYDON ; MICHAEL R PH D VIOLANTE ; MICHAEL R VIOLANTE ; MICHAEL R VIOLANTE PHD ; RICHARD J WHITBOURNE ; WHITBOURNE RICHARD J ; WHITBOURNE J ; VIOLANTE R ; VIOLANTE MICHAEL R PH D ; LYDON MARGARET ; LANZAFAME R ; LANZAFAME JOHN R ; VITBURN RICHARD DZH ; VIOLANTE MICHAEL R ; VIOLANTE MAJL R ; MICHAEL R VIOLANTE PH D ; LANZAFEJM DZHON R ; LAJDON MARGARET

Inventor(s): VIOLANTE MICHAEL R PHD

Designated states: AL AM AT AU AZ BB BE BF BG BJ BR BY CA CF CG CH CI CN CZ DE DK EE ES FI FR GB GE GR GH HU IE IL IS IT JP KE KG KP KR KZ LI LK LR LS LT LU LV MC MD MG MK MN MW MX NL NO NZ PL PT RO RU SD SE SG SI SK SZ TJ TM TR TT UA UG US UZ VN ZW

Legal status (INPADOC)
[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
AT279213 E	20041015	LSGT	+	granted / extensions (spc, cpc, pte)	
AT279213 E	20050415	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	
AU199851460 A1	19980529	LSPB	+	published / reissued	
AU735761 B2	20010712	LSGT	+	granted / extensions (spc, cpc, pte)	
AU735761 B2	20011108	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU735761 B2	20030605	LSLE	-MK14	PATENT CEASED SECTION 143(A) (ANNUAL FEES NOT PAID) OR EXPIRED	
CA2271205 AA	19990505	LSPB	+	published / reissued	
CA2271205 AA	19990505	LSNP	+AFNE	NATIONAL PHASE ENTRY	
CA2271205 AA	19991208	LSES	+EEER	EXAMINATION REQUEST	
CA2271205 AA	20030715	LSLE	-FZDE	DEAD	
CN1236322 A	19991124	LSPB	+	published / reissued	
CN1236322 A	19991124	LSPB	+C06	PUBLICATION	
CN1236322 A	20090909	LSDW	-C20	PATENT RIGHT OR UTILITY MODEL DEEMED TO BE ABANDONED OR IS ABANDONED	
DE69731223 D1	20050929	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	OWNER NAME : ANGIOTECH BIOCOATINGS CORP., HENRIETTA, N.Y., US
DE69731223 D1	20070606	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE69731223 T2	20060112	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0941128 A1	19990915	LSPB	+	published / reissued	
EP0941128 A1	19990915	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19990506
EP0941128 A1	20010425	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20010308
EP0941128 A1	20041013	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : AT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20041013
EP0941128 A1	20041013	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : BE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20041013
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EP0941128 A1	20041013	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : SE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT

LAPSED DATE : 20041013					
EP0941128 A1	20041013	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP0941128 A1	20041015	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP0941128 A1	20041117	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP0941128 A1	20050113	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : DK NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20050113
EP0941128 A1	20050113	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : GR NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20050113
EP0941128 A1	20050124	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : ES NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20050124
EP0941128 A1	20050531	LSAS	REG	REFERENCE TO A NATIONAL CODE	PARTY TYPE : OWNER REF COUNTRY CODE : CH OWNER : ANGIOTECH BIOCOATINGS CORP. REF LEGAL EVENT CODE : PFA OLD PARTY : STS BIOPOLYMERS, INC. #SUITE 1,336 SUMMIT POINT DRIVE #HENREITTA, NY 14467 (US) -TRANSFER TO- ANGIOTECH BIOCOATINGS CORP. #336 SUMMIT POINT DRIVE, P.O. BOX 349 #HENREITTA, NY 14467 (US)
EP0941128 A1	20050729	LSAS	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : CD
EP0941128 A1	20051005	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20050714
EP0941128 A1	20080102	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : PT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20050313
EP0941128 A1	20130315	LSAS	REG	REFERENCE TO A NATIONAL CODE	PARTY TYPE : OWNER REF COUNTRY CODE : CH OWNER : ANGIOTECH PHARMACEUTICALS (US), INC., US REF LEGAL EVENT CODE : PUE OLD PARTY : FORMER OWNER: ANGIOTECH BIOCOATINGS CORP., US
EP0941128 A1	20130424	LSAS	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : NL REF LEGAL EVENT CODE : SD EFFECTIVE DATE : 20130418
EP0941128 A1	20130627	LSAS	REG	REFERENCE TO A NATIONAL CODE	PARTY TYPE : OWNER REF COUNTRY CODE : DE OWNER : ANGIOTECH PHARMACEUTICALS (US), INC. (N. D. GE, US REF LEGAL EVENT CODE : R081 REF DOCUMENT NUMBER : 69731223 COUNTRY OF REF DOCUMENT : DE

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EP0941128 A1	20130627	LSAS	REG	REFERENCE TO A NATIONAL CODE	PARTYTYPE : OWNER REF COUNTRY CODE : DE OWNER : ANGIOTECH PHARMACEUTICALS, INC., CA REF LEGAL EVENT CODE : R081 REF DOCUMENT NUMBER : 69731223 COUNTRY OF REF DOCUMENT : DE OLDPARTY : FORMER OWNER: ANGIOTECH BIOCOATINGS CORP., HENRIETTA, US EFFECTIVE DATE : 20130507
EP0941128 A1	20130627	LSAS	REG	REFERENCE TO A NATIONAL CODE	PARTYTYPE : OWNER REF COUNTRY CODE : DE OWNER : ANGIOTECH PHARMACEUTICALS, INC., VANCOUVER, CA REF LEGAL EVENT CODE : R081 REF DOCUMENT NUMBER : 69731223 COUNTRY OF REF DOCUMENT : DE OLDPARTY : FORMER OWNER: ANGIOTECH BIOCOATINGS CORP., HENRIETTA, N.Y., US EFFECTIVE DATE : 20130507
EP0941128 A1	20140424	LSAS	REG	REFERENCE TO A NATIONAL CODE	PARTYTYPE : OWNER REF COUNTRY CODE : DE OWNER : ANGIOTECH PHARMACEUTICALS, INC., CA REF LEGAL EVENT CODE : R081 REF DOCUMENT NUMBER : 69731223 COUNTRY OF REF DOCUMENT : DE OLDPARTY : FORMER OWNER: ANGIOTECH PHARMACEUTICALS (US), INC. (N. D. GES. D. STAATES WASHINGTON), WHEELING, US EFFECTIVE DATE : 20140318
EP0941128 A1	20140424	LSAS	REG	REFERENCE TO A NATIONAL CODE	PARTYTYPE : OWNER REF COUNTRY CODE : DE OWNER : ANGIOTECH PHARMACEUTICALS, INC., VANCOUVER, CA REF LEGAL EVENT CODE : R081 REF DOCUMENT NUMBER : 69731223 COUNTRY OF REF DOCUMENT : DE OLDPARTY : FORMER OWNER: ANGIOTECH PHARMACEUTICALS (US), INC. (N. D. GES. D. STAATES WASHINGTON), WHEELING, ILL., US EFFECTIVE DATE : 20140318
EP0941128 A1	20151117	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 19
EP0941128 A1	20160129	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20151130 YEAR OF FEE PAYMENT : 19
EP0941128 A1	20160129	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20151127 YEAR OF FEE PAYMENT : 19
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EP0941128 A1	20160229	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20151126 YEAR OF FEE PAYMENT : 19
EP0941128 A1	20160229	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20151117 YEAR OF FEE PAYMENT : 19
EP0941128 A1	20170601	LSDW	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R119 REF DOCUMENT NUMBER : 69731223 COUNTRY OF REF DOCUMENT : DE
EP0941128 A1	20170630	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP0941128 A1	20170726	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20161106
EP0941128 A1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : LI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20161130
EP0941128 A1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : CH NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20161130
EP0941128 A1	20170825	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20170731
EP0941128 B1	20041013	LSGT	+	granted / extensions (spc, cpc, pte)	
IL129518 A0	20080106	LSFE	+KB	PATENT RENEWED	
IL129518 A0	20151130	LSFE	+KB	PATENT RENEWED	
IL129518 A1	20040328	LSPB	+	published / reissued	
JP2001504101 T2	20010327	LSPB	+	published / reissued	
JP2001504101 T2	20041125	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20041108
JP2001504101 T2	20041125	LSER	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20041108
JP2001504101 T2	20050217	LSAS	A72	NOTIFICATION OF CHANGE IN NAME OF APPLICANT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A721 EFFECTIVE DATE : 20050127
JP2001504101 T2	20080603	LSER	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20080603
JP2001504101 T2	20081127	LSRV	-A313	FINAL DECISION OF REJECTION WITHOUT A DISSENTING RESPONSE FROM THE APPLICANT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A313 EFFECTIVE DATE : 20081028
JP2001504101 T2	20090224	LSRV	-A02	DECISION OF REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20090224
RU2222350 C2	20040127	LSGT	+	granted / extensions (spc, cpc, pte)	
RU2222350 C2	20050610	LSAS	PD4A	CORRECTION OF NAME OF PATENT OWNER	
RU2222350 C2	20100920	LSLE	-MM4A	THE PATENT IS INVALID DUE TO NON-PAYMENT OF FEES	EFFECTIVE DATE : 20091107
RU99112126 A	20010520	LSPB	+	published / reissued	
WO9819713 A1	19980514	LSPB	+	published / reissued	
WO9819713 A1	19990505	LSNP	ENP	ENTRY INTO THE	REF DOCUMENT NUMBER :

				NATIONAL PHASE IN:	2271205 COUNTRY OF REF DOCUMENT : CA
WO9819713 A1	19990506	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : JP REF DOCUMENT NUMBER : 1998 521409 KIND CODE OF REF DOCUMENT : A FORMAT OF REF DOCUMENT (F/P) : F
WO9819713 A1	19990506	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1997946248 COUNTRY OF REF DOCUMENT : EP
WO9819713 A1	19990604	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 51460/98 COUNTRY OF REF DOCUMENT : AU
WO9819713 A1	19990909	LSWD	REG	REFERENCE TO NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : 8642
WO9819713 A1	19990915	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1997946248 COUNTRY OF REF DOCUMENT : EP
WO9819713 A1	20011025	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 51460/98 COUNTRY OF REF DOCUMENT : AU
WO9819713 A1	20041013	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1997946248 COUNTRY OF REF DOCUMENT : EP

9) Family number: 65584077 (CN206138552U)

Title: Endoscopic cannula vascular system (Machine translation)

Abstract:

Source: CN206138552U An endoscopic cannula system, including **vascular** puncture needle, the puncture needle includes a needle body, tip and needle handle, the needle handle disposed at both ends of the needle tip and needle body, the needle body suit has a needle sheath and handle needle sheath, the needle sheath handle mounted in the tail of the needle sheath, the needle handle disposed adjacent the needle body and needle handle is a hollow structure, said needle sheath seal mounted on the needle body, the needle body located at the front end of the needle sheath outer side of the side wall is provided with a side hole; Further comprises a **guidewire** and **vascular** puncture indwelling tube, the guide wire is provided on the length of the **mark**; The **vascular catheter** tube side provided with a through hole, the front end of the length of the **mark**. The utility model can be completely pulled out, the use of **vascular** puncture needle puncture indwelling **catheter** indwelling in a blood vessel, to avoid the sharp needle pierced the blood vessels wall caused by various hazards, use more secure.



International class (IPC 8-9): A61M25/01 A61M25/06 (Advanced/Invention)

Family:

Publication number	Pub. date	Application number	App. date
CN206138552 U	20170503	CN201620647165U	20160617

Priority: CN201620647165U 20160617;

Assignee(s): INDIA LI

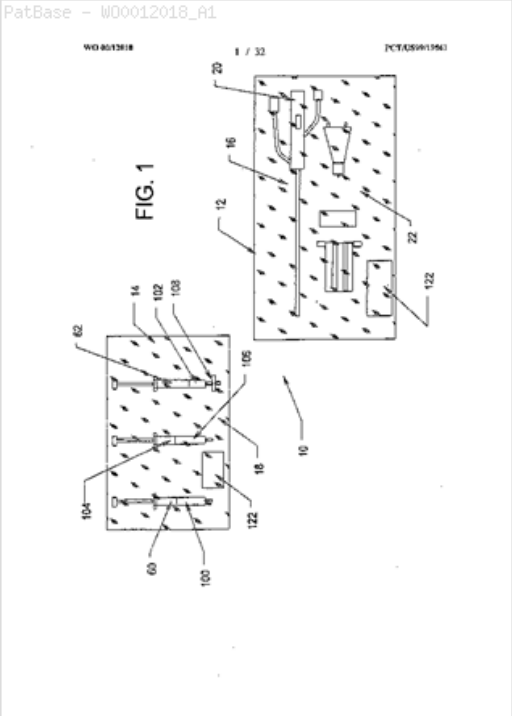
Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CN206138552 U	20170503	LSGT	+	granted / extensions (spc, cpc, pte)	
CN206138552 U	20170503	LSGT	+GR01	PATENT GRANT	

10) Family number: 31805905 (WO0012018A1)
Title: COMPOSITIONS, SYSTEMS, AND METHODS FOR CREATING IN SITU, CHEMICALLY CROSS-LINKED, MECHANICAL BARRIERS OR COVERING STRUCTURES COMPOSITIONS, SYSTEMES ET PROCEDES SERVANT A FORMER IN SITU DES BARRIERES MECANQUES OU DES STRUCTURES COUVRANTES RETICULEES CHIMIQUEMENT

Abstract:
Source: WO0012018A1 A biocompatible and biodegradable material is applied to a tissue region, e.g., to seal a **vascular** puncture site, or to arrest the flow of blood or fluid from body tissue, or to arrest diffuse bleeding. The material preferably includes a protein comprising recombinant or natural serum albumin, which is mixed with a polymer that comprises poly(ethylene) glycol (PEG), and, most preferably, a multi-armed PEG polymer. L'invention concerne une matiere biocompatible et biodegradable qui s'applique sur une zone de tissu, p. ex. pour obturer un site de perforation vasculaire, ou pour arreter l'ecoulement de sang ou de fluide provenant du tissu corporel, ou pour arreter un saignement diffus. La matiere renferme de preference une proteine comportant de l'albumine de serum naturelle ou recombinee, qui est melangee a un polymere contenant du poly(ethylene) glycol (PEG) et, idealement, un polymere de PEG a bras multiples.



International class (IPC 8-9): A61B17/00 A61K31/77 A61K38/00 A61L24/00 A61L24/04 A61L24/10 A61L31/00 A61M25/06 A61M37/00 A61P7/04 C08G65/329 (Advanced/Invention);
A61B17/34 A61B18/14 A61K38/00 (Advanced/Non-invention);
A61B17/00 A61K31/74 A61K38/00 A61L24/00 A61L31/00 A61M25/06 A61P7/00 C08G65/00 (Core/Invention);
A61B17/34 A61B18/14 (Core/Non-invention)
International class (IPC 1-7): A61B17/00 A61B17/36 A61K31/77 A61K38/00 A61L24/00 A61L24/10 A61L31/00 A61M37/00 A61P7/04 C08G65/329
CPC: B01F5/0606 B01F5/0608 B01F13/0023 A61B17/00491 A61B17/3415 A61B18/1482 A61B18/1487 A61B2017/00084 A61B2017/005
A61B2017/3492 A61M25/0662 A61B2090/064 A61B17/0057 A61B2017/00495 A61B2017/00637 A61B2017/0065
European class: A61B17/00L A61B17/00P A61M25/06H K61B17/00C1T K61B17/00L2 K61B17/00L4 K61B17/00P11A K61B17/00P7 K61B17/34E K61B17/34R4 K61B18/14R K61B18/14T K61B19/46H
Family:

Publication number	Pub. date	Application number	App. date
AU199955870 A1	20000321	AU19990055870	19990825
AU199955870 A5	20000321	AU19990055870	19990825
AU759991 B2	20030501	AU19990055870	19990825
CA2340648 AA	20010214	CA19992340648	19990825
DE69931170 D1	20060608	DE19996031170	19990825
DE69931170 T2	20070215	DE19996031170T	19990825
EP1107813 A1	20010620	EP19990942511	19990825
EP1107813 A4	20030910	EP19990942511	19990825
EP1107813 B1	20060503	EP19990942511	19990825
JP2002525137 T2	20020813	JP20000571017T	19990825
JP4860817 B2	20120125	JP20000571017T	19990825
WO0012018 A1	20000309	WO1999US19561	19990825
WO0012018 C2	20000622	WO1999US19561	19990825

Priority: US19980140017 19980826; US19980187384 19981106; US19980188083 19981106; VLF30511792 ; US19990283535 19990401; WO1999US19561 19990825;

Cited documents: WO9835631 A1, WO9722371 A1, WO9629370 A2, WO9621469 A1, WO9403155 A1, WO9317669 A1, US5583114 A, US5520885 A, US5410016 A, US5207670 A, JP9099052 A2, JP6218035 A2,
Assignee(s): (std): ADVANCED CLOSURE SYSTEMS INC ; CRUISE GREGORY M ; EDWARDS STUART D ; GOUGH EDWARD ; HNOJEWYJ OLEXANDER ; NEOMEND INC
Assignee(s): NEO MEND INC
Inventor(s): (std): CRUISE GREGORY M ; EDWARD GOUGH ; EDWARDS D ; EDWARDS STUART D ; GOUGH EDWARD ; GREGORY M CRUISE ; HNOJEWYJ OLEXANDER ; OLEXANDER HNOJEWYJ ; STUART D EDWARDS
Designated states: AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CU CY CZ DE DK EE ES FI FR GA GB GD GE GH GM GN GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MC MD MG MK ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TI TM TR TT UA UG US UZ VN YU ZW

Legal status (INPADOC)
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Patent	Date recorded	Event group	Code	Event	Details
AU199955870 A1	20000321	LSPB	+	published / reissued	
AU199955870 A5	20000321	LSPB	+	published / reissued	

AU759991 B2	20030501	LSGT	+	granted / extensions (spc, cpc, pte)	
AU759991 B2	20011011	LSAS	TC	CHANGE OF APPLICANT'S NAME (SEC. 104)	PARTYTYPE : OWNER OWNER : NEOMEND, INC. OLDPARTY : FORMER NAME: ADVANCED CLOSURE SYSTEMS, INC.
AU759991 B2	20030918	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
CA2340648 AA	20010214	LSPB	+	published / reissued	
CA2340648 AA	20010214	LSNP	+AFNE	NATIONAL PHASE ENTRY	
CA2340648 AA	20040518	LSLE	-FZDE	DEAD	
DE69931170 D1	20060727	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	OWNER NAME : NEOMEND, INC., IRVINE, CALIF., US
DE69931170 D1	20070614	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE69931170 T2	20070215	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1107813 A1	20010620	LSPB	+	published / reissued	
EP1107813 A1	20010620	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20010322
EP1107813 A1	20030507	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : 7A 61M 37/00 A
EP1107813 A1	20030507	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : 7A 61L 24/10 B
EP1107813 A1	20030507	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : 7A 61B 17/00 B
EP1107813 A1	20030507	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : 7C 08G 65/329 B
EP1107813 A1	20030910	LSES	+A4	DESPATCH OF SUPPLEMENTARY SEARCH REPORT	EFFECTIVE DATE : 20030723
EP1107813 A1	20050413	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20050224
EP1107813 A1	20051019	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : 7A 61B 17/00 A
EP1107813 A1	20051019	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : 7A 61L 24/10 B
EP1107813 A1	20051019	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : 7C 08G 65/329 B
EP1107813 A1	20051019	LSRE	RTI1	TITLE (CORRECTION)	TEXT : KIT FOR CREATING IN SITU, CHEMICALLY CROSS- LINKED, MECHANICAL BARRIERS OR COVERING STRUCTURES FOR VASCULAR PUNCTURE SITES
EP1107813 A1	20060503	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : AT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20060503
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EP1107813 A1	20060503	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1107813 A1	20060515	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1107813 A1	20060524	LSAS	RAP2	TRANSFER OF RIGHTS OF AN EP GRANTED PATENT	PARTYTYPE : OWNER OWNER : NEOMEND, INC.
EP1107813 A1	20060614	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP1107813 A1	20060803	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20060803
EP1107813 A1	20060803	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : SE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20060803
EP1107813 A1	20060814	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : ES NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20060814
EP1107813 A1	20060825	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : IE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON- PAYMENT OF DUE FEES LAPSED DATE : 20060825

EP1107813 A1	20060831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : MC NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20060831
EP1107813 A1	20061003	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : PT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20061003
EP1107813 A1	20061101	LSLE	-NLV1	NL: LAPSED OR ANNULLED DUE TO FAILURE TO FULFILL THE REQUIREMENTS OF ART. 29P AND 29M OF THE PATENTS ACT	REF COUNTRY CODE : EP
EP1107813 A1	20061115	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1107813 A1	20070502	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20070206
EP1107813 A1	20080430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : GR NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20060804
EP1107813 A1	20080731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : LU NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20060825
EP1107813 A1	20081128	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : CY NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20060503
EP1107813 A1	20110531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : IT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20100825
EP1107813 A1	20110729	LSRE	+PGRI	POSTGRANT: PATENT REINSTATED IN CONTRACTING STATE	COUNTRY OF REF DOCUMENT : IT REINSTATED DATE : 20110616
EP1107813 A1	20160712	LSFE	REG	REFERENCE TO A NATIONAL CODE	COUNTRY OF REF DOCUMENT : FR REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 18
EP1107813 A1	20161031	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20160816 YEAR OF FEE PAYMENT : 18
EP1107813 A1	20161031	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20160824 YEAR OF FEE PAYMENT : 18
EP1107813 A1	20161031	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20160822 YEAR OF FEE PAYMENT : 18
EP1107813 A1	20161130	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20160712

YEAR OF FEE PAYMENT : 18					
EP1107813 A1	20170714	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 19
EP1107813 B1	20060503	LSGT	+	granted / extensions (spc, cpc, pte)	
JP2002525137 T2	20020813	LSPB	+	published / reissued	
JP2002525137 T2	20100309	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20100308
JP2002525137 T2	20100821	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20100820
JP2002525137 T2	20101020	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20101019
JP2002525137 T2	20110120	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20110119
JP2002525137 T2	20111006	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2002525137 T2	20111012	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20111011
JP2002525137 T2	20111013	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01
JP2002525137 T2	20111110	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20111104
JP2002525137 T2	20111111	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: R150
JP2002525137 T2	20111114	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20141111 YEAR OF FEE PAYMENT : 3
JP4860817 B2	20120125	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4860817 B2	20060711	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20060710
JP4860817 B2	20161101	LSFE	+R250	RECEIPT OF ANNUAL FEES	DESCRIPTION : JAPANESE INTERMEDIATE CODE: R250
WO0012018 A1	20000309	LSPB	+	published / reissued	
WO0012018 C2	20010209	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 55870/99 COUNTRY OF REF DOCUMENT : AU
WO0012018 C2	20010214	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : CA REF DOCUMENT NUMBER : 2340648 KIND CODE OF REF DOCUMENT : A FORMAT OF REF DOCUMENT (F/P) : F
WO0012018 C2	20010214	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2340648 COUNTRY OF REF DOCUMENT : CA
WO0012018 C2	20010320	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1999942511 COUNTRY OF REF DOCUMENT : EP
WO0012018 C2	20010620	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN	REF DOCUMENT NUMBER : 1999942511

				NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : EP
WO0012018 C2	20010628	LSWD	REG	REFERENCE TO NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : 8642
WO0012018 C2	20030904	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 55870/99 COUNTRY OF REF DOCUMENT : AU
WO0012018 C2	20060503	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1999942511 COUNTRY OF REF DOCUMENT : EP

EP1765451 A2	20150408	LSES	+A4	DESPATCH OF SUPPLEMENTARY SEARCH REPORT	EFFECTIVE DATE : 20150311
EP1765451 A2	20150408	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : A61M 31/00 20060101AFI20150305BHEP
EP1765451 A2	20150408	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : A61B 17/11 20060101ALI20150305BHEP
EP1765451 A2	20150715	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20150612
JP2008502453 T2	20080131	LSPB	+	published / reissued	
JP5178194 B2	20130410	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5178194 B2	20080520	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20080519
JP5178194 B2	20080520	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20080519
JP5178194 B2	20101207	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20101206
JP5178194 B2	20110401	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20110331
JP5178194 B2	20110426	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20110425
JP5178194 B2	20110706	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20110705
JP5178194 B2	20110819	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	TEXT : JAPANESE INTERMEDIATE CODE: A911 EFFECTIVE DATE : 20110818
JP5178194 B2	20111011	LSAL	-A912	REMOVAL OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	TEXT : JAPANESE INTERMEDIATE CODE: A912 EFFECTIVE DATE : 20111007
JP5178194 B2	20121120	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20121119
JP5178194 B2	20130117	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20130108
JP5178194 B2	20160126	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5178194 B2	20170117	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
US2005277964 AA	20051215	LSPB	+	published / reissued	
US2005277964 AA	20050712	LSAS	AS	ASSIGNMENT	OWNER NAME : ROX MEDICAL, INC., CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BRENNEMAN, RODNEY; CALI, DOUGLAS S.; FLAHERTY, J. CHRISTOPHER; REEL/FRAME:016251/0696; SIGNING DATES FROM 20050609 TO 20050613
US2005277965 AA	20051215	LSPB	+	published / reissued	
US2005277967 AA	20051215	LSPB	+	published / reissued	
US2005277967 AA	20050712	LSAS	AS	ASSIGNMENT	OWNER NAME : ROX MEDICAL, INC., CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST;

					ASSIGNORS:BRENNEMAN, RODNEY; CALI, DOUGLAS S.; FLAHERTY, J. CHRISTOPHER; REEL/FRAME:016251/0723; SIGNING DATES FROM 20050609 TO 20050613
US8016782 BB	20110913	LSGT	+	granted / extensions (spc, cpc, pte)	
US8016782 BB	20050712	LSAS	AS	ASSIGNMENT	OWNER NAME : ROX MEDICAL, INC., CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BRENNEMAN, RODNEY; CALI, DOUGLAS S.; FLAHERTY, J. CHRISTOPHER; REEL/FRAME:016251/0723; SIGNING DATES FROM 20050609 TO 20050613
US8016782 BB	20050712	LSAS	AS	ASSIGNMENT	OWNER NAME : ROX MEDICAL, INC., CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BRENNEMAN, RODNEY; CALI, DOUGLAS S.; FLAHERTY, J. CHRISTOPHER; SIGNING DATES FROM 20050609 TO 20050613; REEL/FRAME:016251/0723
US8016782 BB	20110824	LSGT	PAT1	Patented Case	
US8016782 BB	20150311	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8236014 BB	20120807	LSGT	+	granted / extensions (spc, cpc, pte)	
US8236014 BB	20050712	LSAS	AS	ASSIGNMENT	OWNER NAME : ROX MEDICAL, INC., CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BRENNEMAN, RODNEY; CALI, DOUGLAS S.; FLAHERTY, J. CHRISTOPHER; REEL/FRAME:016251/0696; SIGNING DATES FROM 20050609 TO 20050613
US8236014 BB	20050712	LSAS	AS	ASSIGNMENT	OWNER NAME : ROX MEDICAL, INC., CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BRENNEMAN, RODNEY; CALI, DOUGLAS S.; FLAHERTY, J. CHRISTOPHER; SIGNING DATES FROM 20050609 TO 20050613; REEL/FRAME:016251/0696
US8236014 BB	20120718	LSGT	PAT1	Patented Case	
US8236014 BB	20160208	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8641747 BB	20140204	LSGT	+	granted / extensions (spc, cpc, pte)	
US8641747 BB	20050712	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ROX MEDICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BRENNEMAN, RODNEY; CALI, DOUGLAS S.; FLAHERTY, J. CHRISTOPHER; REEL/FRAME:016251/0716; SIGNING DATES FROM 20050609 TO 20050613
US8641747 BB	20050712	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ROX MEDICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BRENNEMAN, RODNEY; CALI, DOUGLAS S.; FLAHERTY, J. CHRISTOPHER; SIGNING DATES FROM 20050609 TO 20050613; REEL/FRAME:016251/0716
US8641747 BB	20140115	LSGT	PAT1	Patented Case	
US8641747 BB	20150811	LSRE	CC	CERTIFICATE OF CORRECTION	

US8641747 BB	20170804	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
WO05122919 A2	20051229	LSPB	+	published / reissued	
WO05122919 A3	20061211	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2007527738 COUNTRY OF REF DOCUMENT : JP
WO05122919 A3	20061212	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2005757868 COUNTRY OF REF DOCUMENT : EP
WO05122919 A3	20061215	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO05122919 A3	20061215	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : DE
WO05122919 A3	20070328	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2005757868 COUNTRY OF REF DOCUMENT : EP

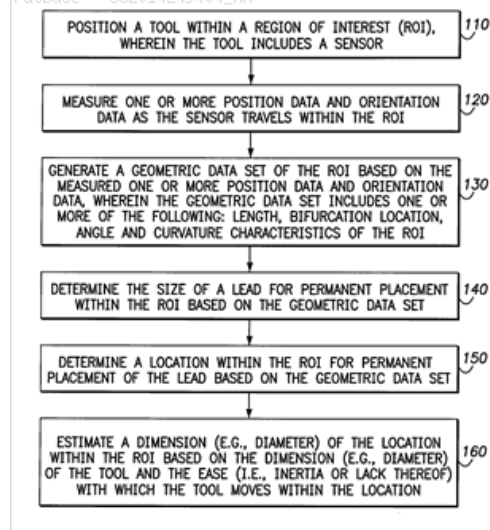
12) Family number: 57312398 (US2014249404A)

Title: VASCULAR BRANCH CHARACTERIZATION

Abstract:

Source: US2014249404A An apparatus and method for characterizing a region of interest (ROI) including measuring position and orientation data within the ROI; and generating a geometric data set to include one or more of: length, bifurcation location, angle and curvature characteristics of the ROI. Also, sequentially taking an image of a tool within the ROI; comparing tool dimensions with ROI dimensions; and estimating diameter, length, take-off angle, and/or tortuosity characteristics based on the comparisons.

PatBase - US2014249404_AA



International class (IPC 8-9): A61B5/00 A61B5/02 A61B5/05 A61B5/06 A61B5/107 A61B5/11 A61B5/113 A61B6/12 A61B8/08 (Advanced/Invention); A61B5/042 A61B6/00 A61B8/00 A61N1/37 (Advanced/Non-invention)

CPC: A61B5/05 A61B5/042 A61B5/06 A61B6/12 A61B6/469 A61B6/504 A61B6/5217 A61B8/0841 A61B8/0883 A61B8/0891 A61B8/469 A61B8/5223 A61N1/371 A61B5/02007 A61B5/1102 A61B5/113 A61B5/4887 A61B5/1076 A61B5/061 A61B5/065 A61B5/066

US class: 1/1 600/407 600/424 600/484 600/500 600/534

Family:

Publication number	Pub. date	Application number	App. date
US2014249404 AA	20140904	US20130783014	20130301
US2016150980 AA	20160602	US20160017283	20160205
US9282916 BB	20160315	US20130783014	20130301

Priority: US20130783014 20130301; US20160017283 20160205;

Cited documents: US8285377 BB, US2014121470 AA, US2013218054 AA, US2013066399 AA, US2012158079 AA, US2012143278 AA, US2011066201 AA, US2011054559 AA, US2010171819 AA, US2010168561 AA, US2010082087 AA, US2010076503 AA, US2009118610 AA, US2008221439 AA, US2007265813 AA, US2007038062 AA, US2006095022 AA, US2005222554 AA, US2005192671 AA, US2005124864 AA, US2005033164 AA, US2005033135 AA, US2004158211 AA, US2003023198 AA, US2002120188 AA,

Assignee(s): (std): PACESETTER INC

Inventor(s): (std): BENSER MICHAEL E ; HEWITT CRAIG A ; KARST EDWARD ; LEE KWANGDEOK ; MORE ROHAN ; QU FUJIAN ; RAZAVI HODA ; ROSENBERG STUART ; HEWITT CRAIG

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US2014249404 AA	20140904	LSPB	+	published / reissued	
US2014249404 AA	20130701	LSAS	AS	ASSIGNMENT	OWNER NAME : PACESETTER, INC., CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:LEE, KWANGDEOK; KARST, EDWARD; BENSER, MICHAEL E.; AND OTHERS; SIGNING DATES FROM 20130225 TO 20130528; REEL/FRAME:030723/0495
US2016150980 AA	20160602	LSPB	+	published / reissued	
US2016150980 AA	20170324	LSSES	NFA1	Non Final Action Mailed	
US9282916 BB	20160315	LSGT	+	granted / extensions (spc, cpc, pte)	
US9282916 BB	20160224	LSGT	PAT1	Patented Case	

13) Family number: 28262627 (US2002161114A)
Title: SHAPE MEMORY POLYURETHANE OR POLYURETHANE-UREA POLYMERS
Abstract:

Source: US2002161114A A shape memory polyurethane or polyurethane-urea polymer including a reaction product of: (A) (a) silicon-based macrodiol, silicon-based macrodiamine and/or polyether of the formula (I): A-[(CH2)m-O]n-(CH2)m-A', wherein A and A are endcapping groups; m is an integer of 6 or more; and n is an integer of 1 or greater; (b) a diisocyanate; and (c) a chain extender; or (B) (b) a diisocyanate: and (c) a chain extender, said polymer having a glass transition temperature which enables the polymer to be formed into a first shape at a temperature higher than the glass transition temperature and maintained in said first shape when the polymer is cooled to a temperature lower than the glass transition temperature, said polymer then being capable of resuming its original shape on heating to a temperature higher than the glass transition temperature. The present invention also relates to a shape memory composition which includes a blend of two or more of the shape memory polyurethane or polyurethane-urea polymers defined above or at least one shape memory polyurethane or polyurethane-urea polymer defined above in combination with another material. The present invention further relates to processes for preparing materials having improved mechanical properties, clarity, processability, biostability and/or degradation resistance and devices or articles containing the shape memory polyurethane or polyurethane-urea polymer and/or composition defined above.

International class (IPC 8-9): A61L27/00 A61L27/18 A61L27/26 A61L27/50 A61L29/00 A61L29/04 A61L29/06 A61L29/14 A61L31/00 A61L31/04 A61L31/06 A61L31/14 C08G18/38 C08G18/48 C08G18/61 C08G18/66 C08J5/00 C08L101/00 C08L75/00 C08L75/04 (Advanced/Invention); A61L27/00 A61L29/00 A61L31/00 A61L31/04 A61L31/14 C08G18/00 C08J5/00 C08L101/00 C08L75/00 (Core/Invention)

International class (IPC 1-7): A61L27/00 A61L29/00 A61L31/00 C08F8/00 C08G18/00 C08G18/48 C08G18/61 C08G18/66 C08G77/38 C08J5/00 C08K5/54 C08L101/00 C08L75/00

CPC: Y10S525/937 C08G18/6674 A61L27/18 A61L27/26 A61L27/50 A61L29/049 A61L29/06 A61L29/14 A61L31/041 A61L31/06 A61L31/14 A61L2400/16 C08G18/3893 C08G18/4858 C08G18/61 C08G2280/00 C08L75/04

European class: A61L27/18 A61L27/26 A61L27/50 A61L29/04M A61L29/06 A61L29/14 A61L31/04B A61L31/06 A61L31/14 C08G18/38N C08G18/48J C08G18/61 C08G18/66P2A C08L75/04 K61L400/16 M08G280/00

US class: 525/100 525/100P 525/452 525/464 525/474 525/477 525/937 528/68 528/76 528/85

Family:

Publication number	Pub. date	Application number	App. date
AU170799 A0	19990812	AU1999PQ01707	19990720
AU200057974 A5	20010213	AU20000057974D	200000718
AU776330 B2	20040902	AU20000057974	200000718
BRPI0012571 A	20020416	BR2000PI12571	200000718
CA2380706 AA	20020114	CA20002380706	200000718
CN1361799 A	20020731	CN20008010616	200000718
EP1203038 A1	20020508	EP20000943480	200000718
EP1203038 A4	20021030	EP20000943480	200000718
JP2003505562 T2	20030212	JP20010512580T	200000718
US2002161114 AA	20021031	US20020054742	20020122
US6858680 BB	20050222	US20020054742	20020122
WO0107499 A1	20010201	WO2000AU00863	200000718

Priority: AU1999PQ01707 19990720; AU20000057974 20000718; WO2000AU00863 20000718;

Cited documents: WO9903863 A1, WO9854242 A1, WO9813405 A1, WO8603980 A1, US5911737 A, US5814705 A, US5430121 A, US5393858 A, US5221724 A, US5139832 A, US5049591 A, US4786657 A, US4647643 A, JPS63179916, JPH07224138, JPH04248826, JP7224138 A2, JP63179916 A2, JP4248826 A2, EP0450177 A1, EP0367014 A2, AU4192497 A1,

Assignee(s): (std): ADHIKARI RAJU ; AORTECH BIOMATERIALS PTY LTD ; AOTEC BIOLOG MATERIAL HOLDINGS ; GUNATILLAKE PATHIRAJA A ; MCCARTHY SIMON J ; MEIJS GORDON F ; ELASTOMEDIC PTY LTD ; CARDIAC CRC NOMINEES PTY LTD

Assignee(s): ELASTOMEDIC PTY LIMITED ; AOTEC BIOLOGICAL MATERIAL HOLDINGS PTY LTD

Inventor(s): (std): GF MEIJS ; GORDON F MEIJS ; GUNATILLAKE P A ; GUNATILLAKE PATHIRAJA A ; MCCARTHY S J ; MCCARTHY SIMON J ; MEIJS G F ; MEIJS GORDON F ; PA GUNATILLAKE ; PATHIRAJA A GUNATILLAKE ; RAJU ADHIKARI ; ADHIKARI RAJU ; SIMON J MCCARTHY ; SJ MCCARTHY

Inventor(s): G F MEIJS ; S J MCCARTHY ; P A GUNATILLAKE

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY BZ CA CF CG CH CI CM CN CR CU CY CZ DE DK DM DZ EE ES FI FR GA GB GD GE GH GM GN GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU170799 A0	20010426	LSAP	NAA1	APPLICATION DESIGNATING AUSTRALIA AND CLAIMING PRIORITY FROM AUSTRALIAN DOCUMENT	REF DOCUMENT NUMBER : 5797400 COUNTRY OF REF DOCUMENT : AU
AU200057974 A5	20010213	LSPB	+	published / reissued	
AU776330 B2	20040902	LSGT	+	granted / extensions (spc, cpc, pte)	
BRPI0012571 A	20020416	LSPB	+	published / reissued	
BRPI0012571 A	20031223	LSRV	-FA10	DISMISSAL: DISMISSAL - ARTICLE 33 OF INDUSTRIAL PROPERTY LAW	
BRPI0012571 A	20040817	LSRV	-B11Y	DEFINITIVE DISMISSAL ACC. ARTICLE 33 OF IPL - EXTENSION OF TIME LIMIT FOR REQUEST OF EXAMINATION EXPIRED	
CA2380706 AA	20020114	LSPB	+	published / reissued	
CA2380706 AA	20020114	LSNP	+AFNE	NATIONAL PHASE	

CA2380706 AA	20050608	LSES	+EEER	ENTRY EXAMINATION REQUEST	
CA2380706 AA	20090720	LSLE	-FZDE	DEAD	
CN1361799 A	20020731	LSPB	+	published / reissued	
CN1361799 A	20020731	LSPB	+C06	PUBLICATION	
CN1361799 A	20060419	LSDW	-C02	DEEMED WITHDRAWAL OF PATENT APPLICATION AFTER PUBLICATION (PATENT LAW 2001)	
EP1203038 A1	20020508	LSPB	+	published / reissued	
EP1203038 A1	20020508	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20020220
EP1203038 A1	20021030	LSES	+A4	DESPATCH OF SUPPLEMENTARY SEARCH REPORT	EFFECTIVE DATE : 20020913
EP1203038 A1	20021030	LSRE	RIC1	CLASSIFICATION (CORRECTION)	DESCRIPTION : 7C 08G 18/61 A, 7C 08G 18/48 B, 7A 61L 27/00 B, 7A 61L 29/00 B, 7A 61L 31/00 B, 7C 08G 18/00 B, 7C 08K 5/54 B
EP1203038 A1	20030924	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20030808
EP1203038 A1	20060315	LSAS	RAP1	TRANSFER OF RIGHTS OF AN EP PUBLISHED APPLICATION	OWNER NAME : AORTECH BIOMATERIALS PTY LTD
EP1203038 A1	20070314	LSDW	-18D	DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20060922
JP2003505562 T2	20030212	LSPB	+	published / reissued	
US2002161114 AA	20021031	LSPB	+	published / reissued	
US2002161114 AA	20090323	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6858680 BB	20050222	LSGT	+	granted / extensions (spc, cpc, pte)	
US6858680 BB	20020528	LSAS	AS	ASSIGNMENT	OWNER NAME : AORTECH BIOMATERIALS PTY LTD., AUSTRALIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GUNATILLAKE, PATHIRAJA A.; MCCARTHY, SIMON J.; MEIJS, GORDON F.; AND OTHERS; REEL/FRAME:012927/0591; SIGNING DATES FROM 20020408 TO 20020422
US6858680 BB	20051229	LSAS	AS	ASSIGNMENT	OWNER NAME : AORTECH BIOMATERIALS PTY LTD., AUSTRALIA DESCRIPTION : ADDRESS CHANGE; ASSIGNOR:AORTECH BIOMATERIALS PTY LTD.; REEL/FRAME:017145/0658 EFFECTIVE DATE : 20021101
US6858680 BB	20061017	LSRE	CC	CERTIFICATE OF CORRECTION	
US6858680 BB	20090222	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6858680 BB	20090414	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20090222
WO0107499 A1	20010201	LSPB	+	published / reissued	
WO0107499 A1	20020108	LSNP	+WWE	WIPO INFORMATION:	REF DOCUMENT NUMBER : 57974/00

				ENTRY INTO NATIONAL PHASE	COUNTRY OF REF DOCUMENT : AU
WO0107499 A1	20020114	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2380706 COUNTRY OF REF DOCUMENT : CA
WO0107499 A1	20020121	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 008106169 COUNTRY OF REF DOCUMENT : CN
WO0107499 A1	20020122	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 10054742 COUNTRY OF REF DOCUMENT : US
WO0107499 A1	20020220	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2000943480 COUNTRY OF REF DOCUMENT : EP
WO0107499 A1	20020508	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2000943480 COUNTRY OF REF DOCUMENT : EP
WO0107499 A1	20020523	LSWD	REG	REFERENCE TO NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : 8642
WO0107499 A1	20041216	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 57974/00 COUNTRY OF REF DOCUMENT : AU
WO0107499 A1	20060922	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2000943480 COUNTRY OF REF DOCUMENT : EP