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SUPPLEMENTARY EUROPEAN SEARCH REPORT

Application number:
EP 16 82 85 94

Classification of the application (IPC):
A61N 1/36, A61N 1/372, A61N 1/378

Technical fields searched (IPC):
A61N

DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim
X	US 2011160810 A1 (GRIFFITH PAUL JAMES [US])	1, 2, 7-9
Y	30 June 2011 (2011-06-30) * abstract; claims 1,4,7; figures 9-11 * * paragraphs [0049] - [0096] *	3-6
X	US 2014364920 A1 (DOAN QUE T [US] ET AL) 11 December 2014 (2014-12-11) * the whole document *	1
X	US 2014277281 A1 (GRANDHE SARVANI [US]) 18 September 2014 (2014-09-18) * the whole document *	1
X	US 2014257428 A1 (ZHU CHANGFANG [US]) 11 September 2014 (2014-09-11) * the whole document *	1
X	US 2014243924 A1 (ZHU CHANGFANG [US] ET AL) 28 August 2014 (2014-08-28) * the whole document *	1
X	US 2014243923 A1 (DOAN QUE T [US] ET AL) 28 August 2014 (2014-08-28) * the whole document *	1
X	US 2010125313 A1 (LEE DONGCHUL [US] ET AL) 20 May 2010 (2010-05-20) * the whole document *	1
X	US 2015180271 A1 (ANGARA RAGHAVENDRA [US] ET AL) 25 June 2015 (2015-06-25) * the whole document *	1

The supplementary search report has been based on the last set of claims valid and available at the start of the search.

Place of search Munich	Date of completion of the search 21 June 2018	Examiner Pereda Cubián, David
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CATEGORY OF CITED DOCUMENTS

X: particularly relevant if taken alone	P: intermediate document
Y: particularly relevant if combined with another document of the same category	T: theory or principle underlying the invention
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DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim
X	US 2014277260 A1 (KHALIL SAIF [US] ET AL) 18 September 2014 (2014-09-18) * the whole document *	1
Y	US 2010042187 A1 (WERDER JONATHAN C [US] ET AL) 18 February 2010 (2010-02-18) * abstract; claim 1; figures 7,9 * * paragraphs [0023] - [0089] *	3-6
Y	US 2004260214 A1 (ECHT DEBRA S [US] ET AL) 23 December 2004 (2004-12-23) * abstract; claim 22; figure 9a * * paragraph [0082] *	4

The supplementary search report has been based on the last set of claims valid and available at the start of the search.

Place of search Munich	Date of completion of the search 21 June 2018	Examiner Pereda Cubián, David
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CATEGORY OF CITED DOCUMENTS

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2011160810 A1	30-06-2011	AU 2010336976 A1	12-07-2012
		CA 2785799 A1	07-07-2011
		EP 2519308 A1	07-11-2012
		JP 5802218 B2	28-10-2015
		JP 2013516233 A	13-05-2013
		US 2011160810 A1	30-06-2011
		US 2014074190 A1	13-03-2014
		US 2015328462 A1	19-11-2015
		US 2017001014 A1	05-01-2017
		WO 2011082071 A1	07-07-2011
		US 2014364920 A1	11-12-2014
EP 3003472 A1	13-04-2016		
US 2014364920 A1	11-12-2014		
WO 2014197596 A1	11-12-2014		
US 2014277281 A1	18-09-2014	AU 2014237683 A1	29-10-2015
		CN 105163802 A	16-12-2015
		EP 2968932 A1	20-01-2016
		US 2014277281 A1	18-09-2014
		US 2017281948 A1	05-10-2017
		WO 2014149895 A1	25-09-2014
US 2014257428 A1	11-09-2014	US 2014257428 A1	11-09-2014
		US 2016106985 A1	21-04-2016
		US 2017143964 A1	25-05-2017
		US 2017266447 A1	21-09-2017
US 2014243924 A1	28-08-2014	AU 2014218716 A1	10-09-2015
		AU 2018200348 A1	08-02-2018
		CN 105188838 A	23-12-2015
		EP 2958619 A2	30-12-2015
		ES 2617708 T3	19-06-2017
		JP 2016507335 A	10-03-2016
		US 2014243924 A1	28-08-2014
		US 2016243366 A1	25-08-2016
		WO 2014130865 A2	28-08-2014
US 2014243923 A1	28-08-2014	AU 2014218709 A1	10-09-2015
		CN 105163801 A	16-12-2015
		EP 2958618 A1	30-12-2015
		JP 2016507334 A	10-03-2016
		US 2014243923 A1	28-08-2014
		US 2016008604 A1	14-01-2016
		US 2017036030 A1	09-02-2017
		WO 2014130858 A1	28-08-2014



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The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
US 2010125313	A1	20-05-2010	US	2010125313 A1	20-05-2010
			US	2013296975 A1	07-11-2013
US 2015180271	A1	25-06-2015	US	2015180271 A1	25-06-2015
			US	2018123380 A1	03-05-2018
US 2014277260	A1	18-09-2014	EP	2968941 A1	20-01-2016
			JP	2016511128 A	14-04-2016
			US	2014277260 A1	18-09-2014
			US	2014277263 A1	18-09-2014
			US	2014277264 A1	18-09-2014
			US	2014277265 A1	18-09-2014
			US	2014277266 A1	18-09-2014
			US	2015196763 A1	16-07-2015
			US	2015321002 A1	12-11-2015
			US	2016250471 A1	01-09-2016
			US	2016339246 A1	24-11-2016
			US	2017014628 A1	19-01-2017
			US	2017151434 A1	01-06-2017
			US	2017173336 A1	22-06-2017
			WO	2014151160 A1	25-09-2014
US 2010042187	A1	18-02-2010	US	2010042187 A1	18-02-2010
			WO	2010019867 A1	18-02-2010
US 2004260214	A1	23-12-2004	NONE		