(19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 29 November 2007 (29.11.2007)

(10) International Publication Number WO 2007/136439 A3

- (51) International Patent Classification: A61B 5/055 (2006.01)
- (21) International Application Number:

PCT/US2007/004654

(22) International Filing Date:

21 February 2007 (21.02.2007)

(25) Filing Language: **English**

(26) Publication Language: English

(30) Priority Data:

60/775,196 21 February 2006 (21.02.2006) US 60/802,699 23 May 2006 (23.05.2006) US

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- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- (88) Date of publication of the international search report: 23 October 2008

(54) Title: HYPERPOLARIZATION METHODS, SYSTEMS AND COMPOSITIONS

(57) Abstract: The invention provides various methods and systems for providing hyperpolarized materials as well as the hyperpolarized materials so provided. In addition, a method of providing hyperpolarized materials, such as agents, to end users from a remote location is also provided.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US07/04654

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A. CLASSIFICATION OF SUBJECT MATTER IPC: A61B 5/055(2006.01)			
USPC: 424/9.37,93 According to International Patent Classification (IPC) or to both national classification and IPC			
B. FIELDS SEARCHED			
Minimum documentation searched (classification system followed by classification symbols) U.S.: 424/9.37, 93			
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched			
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) EAST			
C. DOCI	JMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where ap	ppropriate, of the relevant passages	Relevant to claim No.
A	US 6,453,188 (ARDENKJAER-LARSEN et al.) 17 S	EPTEMBER 2002.	1-286
Α	US 6,872,380 (AXELSSON et al.) 29 MARCH 2005.		1-286
Α	US 7,385,395 (PINES et al.) 10 JUNE 2008.		1-286
Α	US 5,545,396 (ALBERT et al.) 13 AUGUST 1996.		1-286
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"P" document published prior to the international filing date but later than the priority date claimed		"&" document member of the same patent family	
Date of the actual completion of the international search		Date of mailing of the international search report 0 7 JUL 2008	
22 Julie 2000 (22:00:2000)			
Name and mailing address of the ISA/US		Authorized officer	
Mail Stop PCT, Attn: ISA/US Commissioner for Patents		B.J. Sines	
P.O. Box 1450 Alexandria, Virginia 22313-1450		B.J. Sines Telephone No. (866) 217-9197	
Alexandria, Virginia 22313-1430 Facsimile No. (571) 273-3201		-	- 00 -

Facsimile No. (571) 273-3201
Form PCT/ISA/210 (second sheet) (April 2007)