

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
28 December 2006 (28.12.2006)

PCT

(10) International Publication Number  
**WO 2006/138226 A3**

(51) International Patent Classification:  
**G01N 21/00** (2006.01)

(21) International Application Number:  
PCT/US2006/022840

(22) International Filing Date: 13 June 2006 (13.06.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/689,546 13 June 2005 (13.06.2005) US  
11/239,122 30 September 2005 (30.09.2005) US

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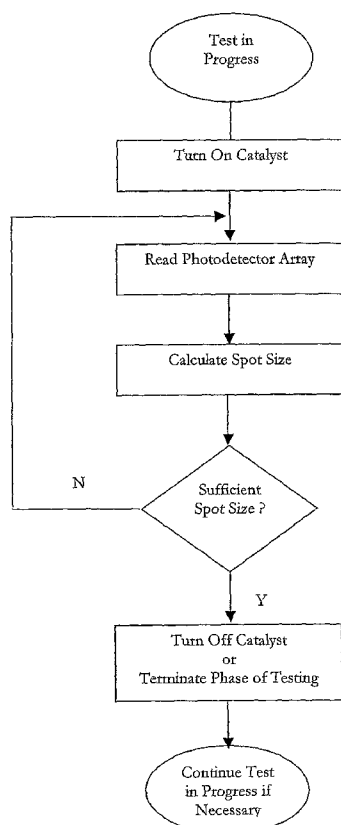
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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, 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).

[Continued on next page]

(54) Title: ANALYTE DETECTION DEVICES AND METHODS WITH HEMATOCRIT/VOLUME CORRECTION AND FEEDBACK CONTROL



(57) Abstract: An arrangement (10) for measuring the concentration of an analyte contained in a sample of body fluid includes: an assay pad (40) comprising at least one chemical reagent capable of producing a detectable signal in the form of a reaction spot (50) formed upon reaction with the analyte; a light source (32); a detector array (20); a processor (84); and a memory (80) in communication with the processor. The memory (80) includes at least one value indicative of one or more of: (i) the level of hematocrit contained in the sample; (ii) the volume of the sample applied to the assay pad; or (iii) imperfections present in the reaction spot; and further including at least one algorithm for calculating the concentration of the analyte contained in the sample. Alternatively, an arrangement (10) is described for measuring the concentration of an analyte contained in a sample of body fluid, the arrangement including: an assay pad (40) comprising at least one chemical reagent capable of producing a detectable signal in the form of a reaction spot (50) formed upon reaction with the analyte; a light source (32); a detector array (20); a processor (84); a memory (80) in communication with the processor; and at least one catalyst device constructed and arranged to be responsive to control signals.

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**Declarations under Rule 4.17:**

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

**Published:**

- *with international search report*

**(88) Date of publication of the international search report:**  
30 April 2009

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US06/22840

## A. CLASSIFICATION OF SUBJECT MATTER

IPC: G01N 21/00( 2006.01)

USPC: 422/82.05,82.08,82.09;436/164,169

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. : 422/82.05, 82.08, 82.09; 436/ 164, 169

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 search terms: glucose; heat\$3 or vibrat\$4 or vacuum; hematocrit; correct\$4 or compensat\$4

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 2003/0207441 A1 (EYSTER et al) 06 November 2003 (06.11.2003), Figure 6, paragraphs 0040, 0046, 0047, 0049, 0088, 0090 and 0107.	1-5, 9-11, 13, 16-20, 24-26, 35 ----- 6-8, 12, 14-15, 21-23, 27-34, 36
Y	US 6,061,128 A (ZWEIG et al) 09 May 2000 (09.05.2000), column 8, lines 64-65.	6-8, 28-31, 33-34, 36
Y	US 2003/0083686 (FREEMAN et al) 01 May 2003 (01.05.2003), Figures 4 and 12.	12, 14-15, 21-23, 27, 32



Further documents are listed in the continuation of Box C.



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"&"

document member of the same patent family

Date of the actual completion of the international search

06 January 2008 (06.01.2008)

Date of mailing of the international search report

16 JAN 2008

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US

Commissioner for Patents

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