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- (81) **Designated States (unless otherwise indicated, for every kind of national protection available):** AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ,

CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, 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, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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— with international search report (Art. 21(3))  
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(54) **Title:** ANALYTE SENSOR

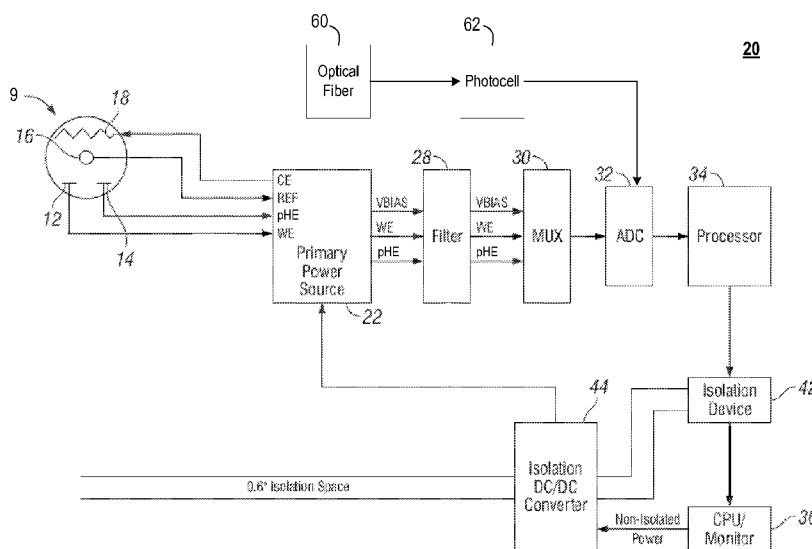


FIG. 2

(57) **Abstract:** The present disclosure relates generally to an electrochemical sensor comprising a membrane layer comprising one or both of an active enzymatic portion and an inactive-enzymatic or non-enzymatic portion, at least one electrode disposed beneath the membrane and either at least one pH sensor or a hematocrit sensor. The present disclosure also relates to methods of adjusting analyte concentration values using a correction factor based on measured pH values and/or measured hematocrit levels.

# INTERNATIONAL SEARCH REPORT

International application No PCT/US2011/042151
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<b>A. CLASSIFICATION OF SUBJECT MATTER</b> INV. C12Q1/00 G01N27/327 ADD.		
According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b> Minimum documentation searched (classification system followed by classification symbols) C12Q G01N		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, BIOSIS, EMBASE, WPI Data		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2007/158213 A1 (HSIUNG SHEN-KAN [TW] ET AL) 12 July 2007 (2007-07-12) abstract; claim 1; figure 3 -----	1-13
X	EP 0 228 259 A2 (SEITAIKINOURIYOU KAGAKUHIN SIN [JP]) 8 July 1987 (1987-07-08) page 16; figure 6 -----	1-13
X	US 2005/130292 A1 (AHN CHONG H [US] ET AL) 16 June 2005 (2005-06-16) paragraph [0081]; figure 5b -----	1-13
X	WO 02/097419 A1 (INSTRUMENTATION LAB CO [US]) 5 December 2002 (2002-12-05) page 2, paragraph 4 - page 3, paragraph 1; figure 2 -----	1-13
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <span style="margin-left: 100px;"><input checked="" type="checkbox"/> See patent family annex.</span>		
* Special categories of cited documents :		
"A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. "&" document member of the same patent family	
Date of the actual completion of the international search	Date of mailing of the international search report	
28 October 2011	14/02/2012	
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer  Gundlach, Björn	

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US2011/042151

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

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

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

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

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

see additional sheet

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

1-13

### Remark on Protest

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

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

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

1. claims: 1-13

An analyte sensor comprising at least one pH sensor and two electrodes beneath a membrane

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2. claims: 14-24

A method using an analyte sensor comprising a pH sensor and at least one electrode beneath a membrane

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3. claim: 25

A system comprising an intravenous sensor with at least one electrode and a pH sensor

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/US2011/042151
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2007158213 A1	12-07-2007	TW 1318107 B US 2007158213 A1	11-12-2009 12-07-2007
EP 0228259 A2	08-07-1987	DE 3687790 D1 DE 3687790 T2 EP 0228259 A2 US 4894339 A	25-03-1993 09-06-1993 08-07-1987 16-01-1990
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