

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
24 October 2002 (24.10.2002)

PCT

(10) International Publication Number
WO 02/084261 A3

- (51) **International Patent Classification⁷:** **G01N 21/27**, 33/487, A61B 5/00, G01N 21/35
- (21) **International Application Number:** PCT/US02/09470
- (22) **International Filing Date:** 27 March 2002 (27.03.2002)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
09/832,608 11 April 2001 (11.04.2001) US
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- (81) **Designated States (national):** AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW.
- (84) **Designated States (regional):** ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (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:**
7 August 2003
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) **Title:** OPTICALLY SIMILAR REFERENCE SAMPLES AND RELATED METHODS FOR MULTIVARIATE CALIBRATION MODELS USED IN OPTICAL SPECTROSCOPY

(57) **Abstract:** Systems and methods for establishing and/or maintaining the prediction capability over time of a multivariate calibration model designed for quantitative optical spectroscopic measurement of attributes or analytes in bodily tissues, bodily fluids or other biological samples, which are particularly useful when the spectral absorbance of the attribute or analyte is small relative to the background. The present invention provides an optically similar reference sample to capture the characteristics of instrument and environmental variation and to reduce the effect of such variation of the measurement capability of the model. The optically similar reference is preferably stable over time and is designed such that its optical properties are sufficiently matched to the sample of interest that instrument and environmental variations are captured in the same manner in both the test sample of interest and the optically similar reference sample. The optically similar reference sample may include one or more physical components which are spectroscopically measured in a manner which closely mimics the spectroscopic measurement of the test sample of interest. Spectral similarity may also be achieved by using alternative components with spectral characteristics similar to the components contained in the test sample of interest.



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INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 02/09470

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G01N21/27 G01N33/487 A61B5/00 G01N21/35

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)

IPC 7 A61B 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)

INSPEC, EPO-Internal, PAJ, WPI Data, BIOSIS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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Y	column 3, line 61 - line 65 column 4, line 37 - line 47 column 7, line 31 - line 35 column 7, line 61 - column 8, line 1 column 8, line 7 - line 16 column 11, line 32 - line 43 --- -/--	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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Date of the actual completion of the international search

4 April 2003

Date of mailing of the international search report

15/04/2003

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INTERNATIONAL SEARCH REPORT

Int. Patent Application No.
PCT/US 02/09470

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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PCT/US 02/09470

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