

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
30 May 2025 (30.05.2025)



(10) International Publication Number
WO 2025/109050 A1

(51) International Patent Classification:
G16H 40/40 (2018.01) *A61B 5/00* (2006.01)

(21) International Application Number:
PCT/EP2024/083076

(22) International Filing Date:
21 November 2024 (21.11.2024)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
23211558.4 22 November 2023 (22.11.2023) EP

(71) Applicant (for DE only): **ROCHE DIAGNOSTICS GMBH** [DE/DE]; Sandhofer Strasse 116, 68305 Mannheim (DE).

(71) Applicant (for all designated States except DE, US): **F. HOFFMANN-LA ROCHE AG** [CH/CH]; Grenzacherstrasse 124, 4070 Basel (CH).

(71) Applicant (for US only): **ROCHE DIAGNOSTICS OPERATIONS, INC.**, [US/US]; 9115 Hague Road, Indianapolis, Indiana 46250-0457 (US).

(72) Inventors: **DAGDELEN, Oezguer**; c/o Roche Diagnostics GmbH, Sandhofer Strasse 116, 68305 Mannheim (DE). **DOERR, Christopher**; c/o Roche Diagnostics GmbH, Sandhofer Strasse 116, 68305 Mannheim (DE). **LEICHSENRING, Ingrid**; c/o Roche Diagnostics GmbH, Sandhofer Strasse 116, 68305 Mannheim (DE). **STICKEL, Manfred**; c/o Roche Diagnostics GmbH, Sandhofer Strasse 116, 68305 Mannheim (DE). **WEISSER, Steffen**; c/o Roche Diagnostics GmbH, Sandhofer Strasse 116, 68305 Mannheim (DE).

(54) Title: A MULTI-SIGNAL METHOD FOR CALIBRATING AT LEAST ONE ANALYTE SENSOR FOR DETECTING AT LEAST ONE ANALYTE IN A SAMPLE

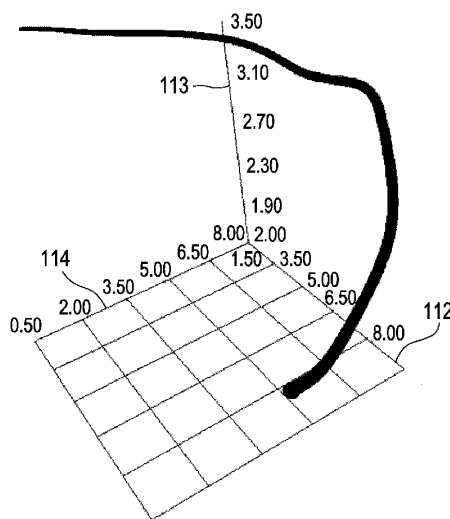


Fig. 4

(57) Abstract: A method for calibrating at least one analyte sensor for detecting at least one analyte in a sample is proposed. The analyte sensor comprises at least one measurement unit configured for generating at least two at least partially independent sensor signals. Each of the independent sensor signals is dependent on a concentration of the analyte. The method comprises the following steps: a) (110) measuring at least two at least partially independent sensor signals (112, 114) by using the measurement unit on at least one reference sample having a known analyte concentration; b) (116) determining a multidimensional calibration trajectory (118) by combining the measured at least two at least partially independent sensor signals (112, 114) by using at least one processing unit.

[Continued on next page]

(74) **Agent:** STÖBEL, Matthias; ALTMANN STÖSSEL
DICK PATENTANWÄLTE PARTG MBB, Theodor-
Heuss-Anlage 2, 68165 Mannheim (DE).

(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, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, MG, MK, MN, MU, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

(84) **Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, CV, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, ME, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))