

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
29 June 2023 (29.06.2023)



(10) International Publication Number
WO 2023/122420 A1

(51) International Patent Classification:

A61B 5/145 (2006.01) G01N 27/30 (2006.01)
A61B 5/1473 (2006.01) G01N 27/327 (2006.01)
A61B 5/1486 (2006.01)

(21) International Application Number:

PCT/US2022/080963

(22) International Filing Date:

06 December 2022 (06.12.2022)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/293,729 24 December 2021 (24.12.2021) US
22151916.8 18 January 2022 (18.01.2022) EP

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

(71) Applicant (for DE only): **ROCHE DIABETES CARE GMBH** [DE/DE]; Sandhoferstrasse 116, 68305 Mannheim (DE).

(72) Inventor; and

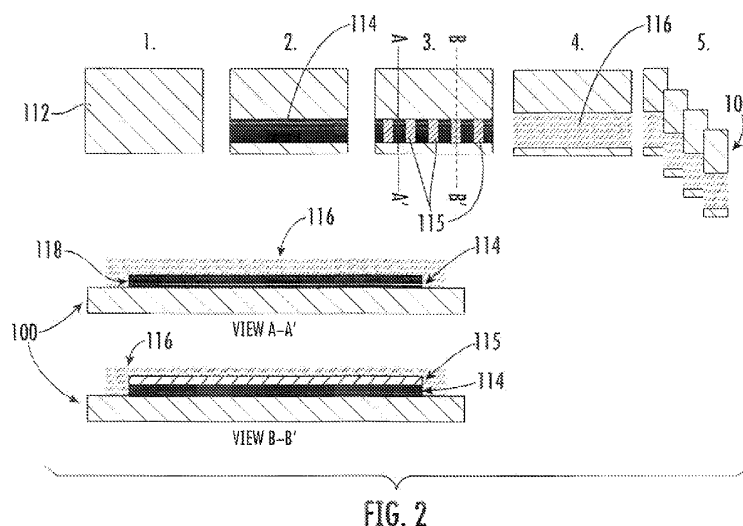
(71) Applicant (for all designated States except DE, US):
F. HOFFMAN-LA ROCHE AG [CH/CH]; Grenzacherstrasse 124, 4070 Basel (CH).

(72) Inventors: **SLIOZBERG, Kirill**; C/o Roche Diabetes Care GmbH, Sandhoferstrasse 116, 68305 Mannheim (DE).
STECK, Alexander; C/o Roche Diabetes Care GmbH, Sandhoferstrasse 116, 68305 Mannheim (DE).

(74) Agent: **KNAUER, Richard, T.** et al.; Roche Diabetes Care, Inc., 9115 Hague Road, Indianapolis, IN 46250-0457 (US).

(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, 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.

(54) Title: ANALYTE SENSOR AND METHOD FOR MANUFACTURING AN ANALYTE SENSOR



(57) Abstract: The disclosure relates to an analyte sensor comprising a substrate, at least one working electrode, at least one second electrode and a membrane, wherein the membrane is located on top of the second electrode, and the second electrode has at least one first silver layer and at least one second silver layer which partially overlap with one another and have the same composition. The first and second silver layers intersect with one another to form a + or a T shape design. The sensor includes at least one exposed area of the first silver layer disposed on the exterior of the sensor to provide for direct contact with body fluid when implanted. The disclosure further relates to a process for manufacturing an analyte sensor.

[Continued on next page]

(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, 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).

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 (Art. 21(3))*