



- (51) **International Patent Classification:**
G01N 33/68 (2006.01) *C12Q 1/6869* (2018.01)
- (21) **International Application Number:**
PCT/US2022/081392
- (22) **International Filing Date:**
12 December 2022 (12.12.2022)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
63/289,261 14 December 2021 (14.12.2021) US
63/326,382 01 April 2022 (01.04.2022) US
- (71) **Applicant: GLYPHIC BIOTECHNOLOGIES, INC.**
[US/US]; 169 Madison Ave. #2216, New York, New York
10016 (US).
- (72) **Inventors: ESTANDIAN, Daniel Masao;** 169 Madison
Ave. #2216, New York, New York 10016 (US). **WASSIE,**
Asmamaw; 169 Madison Ave. #2216, New York, New
York 10016 (US). **HUA, Boyang;** 169 Madison Ave.
#2216, New York, New York 10016 (US). **PRAKASH,**
Jai; 169 Madison Ave. #2216, New York, New York 10016
(US).

- (74) **Agent: BEAUSOLEIL, Lauren;** Wilson Sonsini Goodrich
& Rosati, 650 Page Mill Road, Palo Alto, California 94304
(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.

- (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).

- (54) **Title: SINGLE-MOLECULE PEPTIDE SEQUENCING THROUGH MOLECULAR BARCODING AND EX-SITU ANALYSIS**

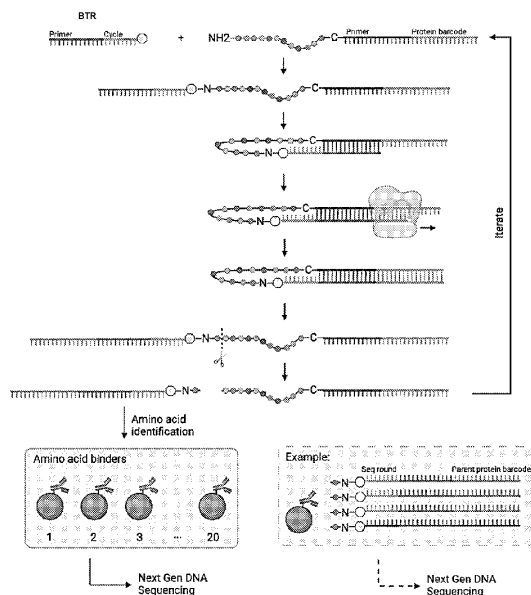


FIG. 1

- (57) **Abstract:** The present disclosure provides systems and methods directed towards single molecule protein sequencing, through use of a barcode transfer reagent. Systems and methods described herein allow for massively parallel single-molecule protein sequencing through molecular barcoding and ex-situ analysis.

Declarations under Rule 4.17:

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

Published:

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

(88) Date of publication of the international search report:

27 July 2023 (27.07.2023)