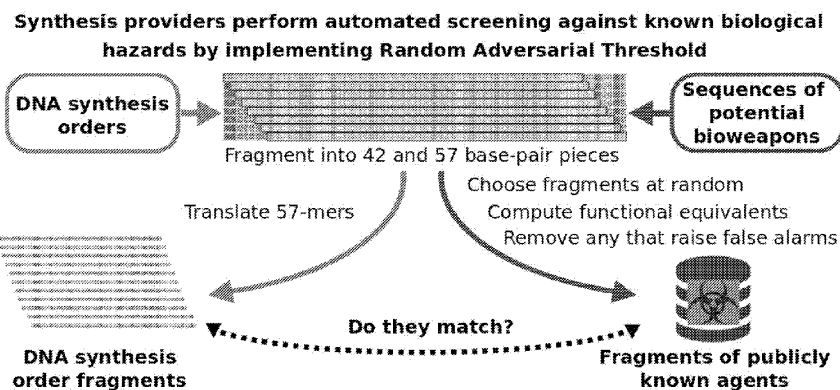




- (51) **International Patent Classification:**
G16B 35/10 (2019.01) *G16B 50/00* (2019.01)
G16B 35/20 (2019.01)
- (21) **International Application Number:**
PCT/US2021/014814
- (22) **International Filing Date:**
23 January 2021 (23.01.2021)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
62/965,138 23 January 2020 (23.01.2020) US
- (71) **Applicant:** MASSACHUSETTS INSTITUTE OF TECHNOLOGY [US/US]; 77 Massachusetts Avenue, Cambridge, MA 02139 (US).
- (72) **Inventors:** ESVELT, Kevin, Michael; MIT Media Lab, 77 Massachusetts Avenue, E15-354, Cambridge, MA 02139-4307 (US). GREYTON, Dana; MIT Media Lab, 77 Massachusetts Avenue, E15-354, Cambridge, MA 02139-4307 (US).
- (74) **Agent:** ANDERSON, MaryDilys, S.; Pierce Atwood LLP, 100 Summer Street, Suite 2250, Boston, MA 02110 (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, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, IT, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, 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, 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, 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:** METHODS OF FUNCTIONALLY SCREENING BIOLOGICAL SEQUENCE FRAGMENTS

Figure 1



(57) **Abstract:** The invention relates, in part, to methods of accurately and reliably detecting biological sequences corresponding to a particular function.

[Continued on next page]

Published:

- with international search report (Art. 21(3))
- with sequence listing part of description (Rule 5.2(a))