

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
01 April 2021 (01.04.2021)



(10) International Publication Number
WO 2021/061790 A1

- (51) **International Patent Classification:**
G01N 30/40 (2006.01) *G01N 30/50* (2006.01)
- (21) **International Application Number:**
PCT/US2020/052243
- (22) **International Filing Date:**
23 September 2020 (23.09.2020)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
62/905,033 24 September 2019 (24.09.2019) US
62/958,899 09 January 2020 (09.01.2020) US
- (71) **Applicant: REGENERON PHARMACEUTICALS, INC.** [US/US]; 777 Old Saw Mill River Road, Tarrytown, NY 10591 (US).
- (72) **Inventors: STAIRS, Robert;** c/o Regeneron Pharmaceuticals, Inc., 777 Old Saw Mill River Road, Tarrytown, NY 10591 (US). **REILLY, James;** c/o Regeneron Pharmaceu-

ticals, Inc., 777 Old Saw Mill River Road, Tarrytown, NY 10591 (US). **MATTILA, John;** c/o Regeneron Pharmaceuticals, Inc., 777 Old Saw Mill River Road, Tarrytown, NY 10591 (US). **WADSWORTH, Samantha;** c/o Regeneron Pharmaceuticals, Inc., 777 Old Saw Mill River Road, Tarrytown, NY 10591 (US).

(74) **Agent: PORTIS, Jason B.;** Bookoff McAndrews, PLLC, 2020 K Street, NW, Suite 400, Washington, DC 20006 (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,

(54) **Title:** SYSTEMS AND METHODS FOR CHROMATOGRAPHY USE AND REGENERATION

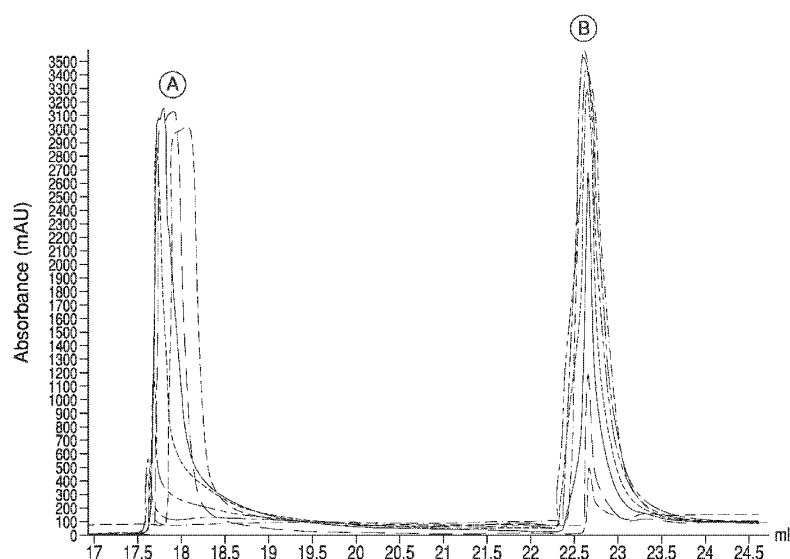


FIG. 12

(57) **Abstract:** Aspects of the present disclosure relate to a method of regenerating a hydrophobic interaction chromatography column to which a load mass has been applied, the method comprising passing one or more column volumes of an alkaline solution through hydrophobic interaction media within the column, wherein the alkaline solution exhibits a pH of between about 10 and about 14, and a conductivity of between 0.5 mS/cm and about 10 mS/cm, wherein material bound to the hydrophobic interaction media is removed. In some cases, the alkaline solution may include sodium hydroxide at a concentration of between, e.g., about 0.1 mM and 10 mM.

[Continued on next page]



WO 2021/061790 A1

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).

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))*