

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

(19) World Intellectual Property
Organization

International Bureau

(43) International Publication Date
04 June 2020 (04.06.2020)



(10) International Publication Number
WO 2020/112899 A1

(51) International Patent Classification:

B01D 53/22 (2006.01) *B01J 31/16* (2006.01)
B01J 20/22 (2006.01)

(21) International Application Number:

PCT/US2019/063442

(22) International Filing Date:

26 November 2019 (26.11.2019)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

62/771,537 26 November 2018 (26.11.2018) US

(71) Applicant: **THE REGENTS OF THE UNIVERSITY OF CALIFORNIA** [US/US]; 1111 Franklin Street, 12th Floor, Oakland, California 94607 (US).

(72) Inventors: **YAGHI, Omar M.**; 2150 Shattuck Ave., Suite 510, Berkeley, California 94704 (US). **HANIKEL, Nikita**; 2150 Shattuck Ave., Suite 510, Berkeley, California 94704 (US). **LYU, Hao**; 2150 Shattuck Ave., Suite 510, Berkeley, California 94704 (US).

(74) Agent: **OSMAN, Richard Aron**; 530 Lawrence Expy #332, Sunnyvale, California 94085 (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, 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, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, 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))

(54) Title: MULTIVARIATE AND OTHER METAL-ORGANIC FRAMEWORKS, AND USES THEREOF

(57) Abstract: Compositions comprising multivariate metal-organic frameworks and other single-linker metal-organic frameworks are used for containing and storing a gas or fluid or for water harvesting or water purification applications.



WO 2020/112899 A1