

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
28 April 2022 (28.04.2022)

WIPO | PCT

(10) International Publication Number

WO 2022/087003 A9

(51) International Patent Classification:

C12N 1/20 (2006.01) *C12P 7/6427* (2022.01)
C12N 1/12 (2006.01) *C12N 5/00* (2006.01)
C12N 1/16 (2006.01) *C12P 1/04* (2006.01)
C12N 1/38 (2006.01)

(72) **Inventors:** **SCHIFF-DEB, Celine**; c/o Calysta, Inc., 1140 O'Brien Drive, Suite B, Menlo Park, California 94025 (US). **GIVER, Lorraine Joan**; c/o Calysta, Inc., 1140 O'Brien Drive, Suite B, Menlo Park, California 94025 (US). **SAVILLE, Renee Michelle**; c/o Calysta, Inc., 1140 O'Brien Drive, Suite B, Menlo Park, California 94025 (US). **NEWMAN, Lisa Marie**; c/o Calysta, Inc., 1140 O'Brien Drive, Suite B, Menlo Park, California 94025 (US). **KWAN, Warren**; c/o Calysta, Inc., 1140 O'Brien Drive, Suite B, Menlo Park, California 94025 (US). **HWANG, Chien-Seng**; c/o Calysta, Inc., 1140 O'Brien Drive, Suite B, Menlo Park, California 94025 (US). **LUNING, Eric**; c/o Calysta, Inc., 1140 O'Brien Drive, Suite B, Menlo Park, California 94025 (US).

(21) International Application Number:

PCT/US2021/055663

(22) International Filing Date:

19 October 2021 (19.10.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/094,250 20 October 2020 (20.10.2020) US

(71) **Applicant:** **CALYSTA, INC.** [US/US]; 1140 O'Brien Drive, Suite B, Menlo Park, California 94025 (US).

(74) **Agent:** **PURUSHE, Janaki** et al.; Seed Intellectual Property Law Group LLP, Suite 5400, 701 Fifth Avenue, Seattle, Washington 98104-7064 (US).

(54) Title: HEME-CONTAINING CELL CULTURE MEDIA AND USES THEREOF

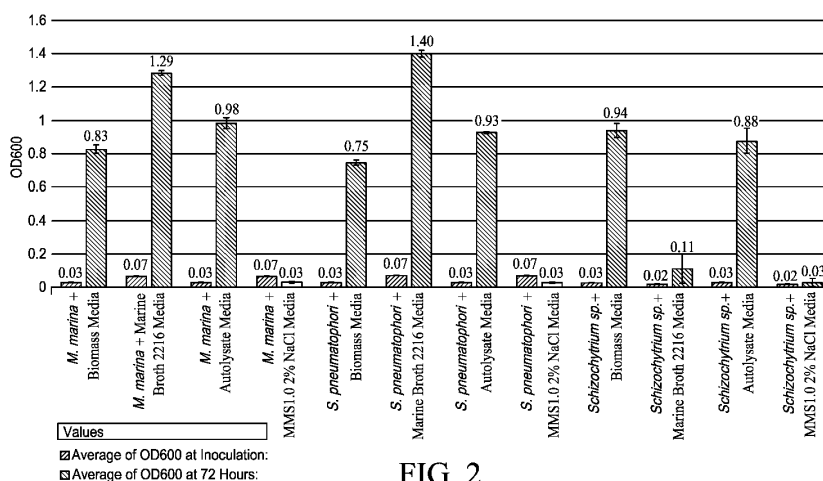


FIG. 2

(57) **Abstract:** The present disclosure provides culture or fermentation media including a biomass or derivative thereof of a hemoprotein-producing C1 metabolizing non-photosynthetic bacterium, methods of culturing cells or tissue with the culture or fermentation medium, and products produced by the culturing methods including food products, food ingredients, phytoprotective bacterial cell products, and other products of interest such as vitamins, fatty acids, amino acid, carotenoids, etc.

[Continued on next page]

(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).

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 revised international search report:

21 July 2022 (21.07.2022)

(15) Information about Correction:

see Notice of 21 July 2022 (21.07.2022)