



(51) International Patent Classification:

C12N 1/20 (2006.01) C12N 9/10 (2006.01)
C12P 1/04 (2006.01)

(21) International Application Number:

PCT/FI2022/050229

(22) International Filing Date:

07 April 2022 (07.04.2022)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

20215494 28 April 2021 (28.04.2021) FI

(71) Applicant: **SOLAR FOODS OY** [FI/FI]; Laserkatu 6, 53850 Lappeenranta (FI).

(72) Inventors: **JÄMSÄ, Tytti**; c/o Solar Foods Oy, Laserkatu 6, 53850 Lappeenranta (FI). **PITKÄNEN, Juha-Pekka**; c/o Solar Foods Oy, Laserkatu 6, 53850 Lappeenranta (FI). **SALUSJÄRVI, Laura**; c/o VTT Technical Research Centre of Finland Ltd, Tekniikantie 21, 02150 Espoo (FI).

(74) Agent: **MOOSEDOG OY**; Vähäheikkiläntie 56 C, 20810 Turku (FI).

(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, JM, 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: VARIANT BACTERIAL STRAINS AND PROCESSES FOR PROTEIN OR BIOMASS PRODUCTION

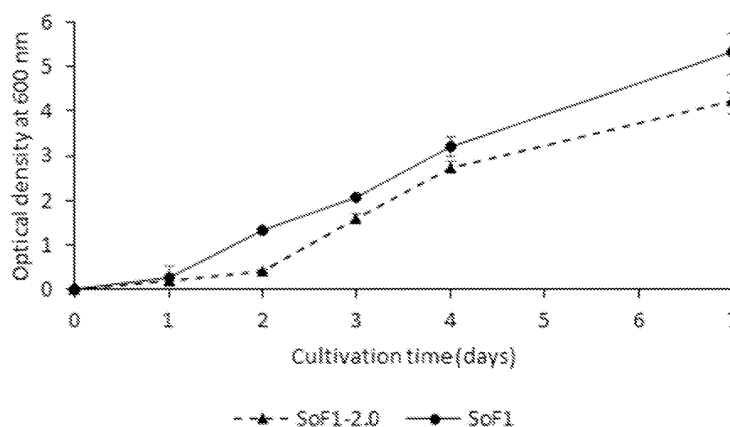


Fig. 3

(57) Abstract: The invention relates to variant chemoautotrophic bacteria of the genus *Xanthobacter* comprising a genetic modification that reduces the bacterial production of polyhydroxyalkanoic acids. Furthermore, the invention relates to continuous culture processes for the production of protein or biomass using variant chemoautotrophic bacteria, said process comprising supply of gases and minerals to the cells. The invention also relates to the products of these processes and use of these products in e.g. food or feed.

[Continued on next page]

Published:

- *with international search report (Art. 21(3))*
- *with (an) indication(s) in relation to deposited biological material furnished under Rule 13bis separately from the description (Rules 13bis.4(d)(i) and 48.2(a)(viii))*
- *with sequence listing part of description (Rule 5.2(a))*