



(51) International Patent Classification:

C12R 1/89 (2006.01) *C12P 7/64* (2006.01)
C11B 1/10 (2006.01)

(21) International Application Number:

PCT/US2011/059152

(22) International Filing Date:

3 November 2011 (03.11.2011)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

13/081,197 6 April 2011 (06.04.2011) US
13/286,889 1 November 2011 (01.11.2011) US

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(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, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, 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, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, 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, ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))

(54) Title: EXTRACTION OF POLAR LIPIDS BY A TWO SOLVENT METHOD

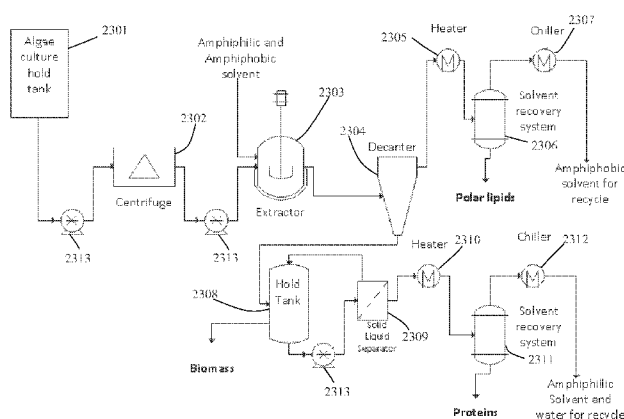


FIG. 23

(57) Abstract: A method for separating polar lipids from plant material, in particular, intact algal cells, using an amphipathic solvent set and a hydrophobic solvent set. Some embodiments include dewatering intact algal cells and then extracting polar lipids from the algal cells. The methods provide for single and multistep extraction processes which allow for efficient separation of algal polar lipids from a wet algal biomass while avoiding emulsification of extraction mixtures. These polar lipids are high value products which can be used as surfactants, detergents, and food additives. Neutral lipids remaining in the algal biomass after extraction of polar lipids can be used to generate renewable fuels.

