

(51) International Patent Classification:

C10L 1/00 (2006.01)

(21) International Application Number:

PCT/US2012/040746

(22) International Filing Date:

4 June 2012 (04.06.2012)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/492,910

3 June 2011 (03.06.2011)

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, 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,

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(54) Title: PRODUCTION OF ORGANIC MATERIALS USING AN OXIDATIVE HYDROTHERMAL DISSOLUTION METHOD

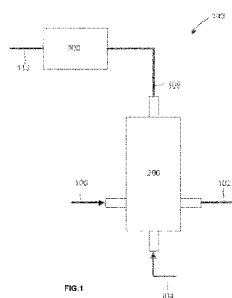


FIG. 1

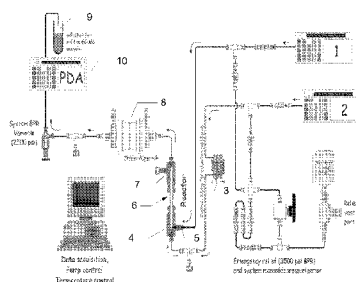


FIG. 2

(57) Abstract: Methods of producing organic materials such as petroleum materials and aromatic acids, phenols, and aliphatic poly-carboxylic acids using an oxidative hydrothermal dissolution (OHO) process are disclosed. The OHD method includes contacting an organic solid with an oxidant in a reactor containing superheated water to form at least one solubilized organic solute. The reaction breaks down the macromolecular structure of the organic solid into lower molecular weight fragments. These lower molecular weight fragments are soluble in water. These water-soluble fragments are referred to as dissolved organic solids, solubilized organics, or solubilized organic solutes. The solubilized fragments can then be used as raw materials for various chemical processes or as liquid fuels. If the solubilized fragments are dissolved carbohydrates such as low molecular weight sugars or oxidized low molecular weight sugars, the dissolved carbohydrates may be fermented to produce alcohols or used in other processes to produce a variety of other products.



TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, **Published:**
ML, MR, NE, SN, TD, TG).

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