



(51) International Patent Classification:
C10G 7/12 (2006.01)

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).

(21) International Application Number:
PCT/IB2017/000891

Published:

— without international search report and to be republished
upon receipt of that report (Rule 48.2(g))

(22) International Filing Date:
09 June 2017 (09.06.2017)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
62/348,583 10 June 2016 (10.06.2016) US

(71) Applicant: **NANO DISPERSIONS TECHNOLOGY INC.** [PA/PA]; Calle Ovidio Saldana, Buiding 231, 1st Floor, Tecnoparque Internacional de Panama, Panama (PA).

(72) Inventors: **ALVARADO, Alonso, A.**; c/o Nano Dispersions Technology, Inc., Calle Ovidio Saldana, Buiding 231, 1st Floor, Tecnoparque Internacional de Panama, Panama (PA). **BLANCO, Carolina**; c/o Nano Dispersions Technology, Inc., Calle Ovidio Saldana, Buiding 231, 1st Floor, Tecnoparque Internacional de Panama, Panama (PA). **BRI-CENO, Maria**; c/o Nano Dispersions Technology, Inc., Calle Ovidio Saldana, Buiding 231, 1st Floor, Tecnoparque Internacional de Panama, Panama (PA). **CASTRO, Alexandra**; c/o Nano Dispersions Technology, Inc., Calle Ovidio Saldana, Buiding 231, 1st Floor, Tecnoparque Internacional de Panama, Panama (PA). **ESPIN, Douglas**; c/o Nano Dispersions Technology, Inc., Calle Ovidio Saldana, Buiding 231, 1st Floor, Tecnoparque Internacional de Panama, Panama (PA).

(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,

(54) Title: PROCESSES AND SYSTEMS FOR IMPROVEMENT OF HEAVY CRUDE OIL USING INDUCTION HEATING

(57) Abstract: Embodiments of the present invention include a novel continuous or semi-continuous process which results in the partial or total improvement of heavy oil. The improvement of the heavy oil is a result of thermally heating the oil at an interval where visbreaking occurs, thereby reducing a viscosity of the heavy oil. The core of the heating step occurs through a heating apparatus of the packed bed type including superparamagnetic, paramagnetic, and/or magnetic materials.

