

Search history

Search 1: transesterif* and biodiesel and supercritic* and mol* and ratio (Results 347)
Search 2: 1 and (Alcohol or ethanol or methanol) (Results 335)
Search 3: 2 and triglyceride* and temperature and cool* and distilla* (Results 151)
Search 4: 3 and pressure (Results 148)
Search 5: 4 and tac=(biodiesel and supercritic*) (Results 14)

Title: BIO-DIESEL MANUFACTURE WITH A MICRO-REACTOR

Abstract: Methods and apparatus for producing bio-diesel from **triglycerides** and lower **alcohols**, desirably in the presence of liquid or **supercritical** CO₂, are provided. The apparatus are designed to enhance the miscibility of the **triglycerides** with lower **alcohols**.

Classifications:

International (IPC 8-9): B01F7/00 C10L1/02 C10L1/16

C10L1/18 (Advanced/Invention);

C10L1/10 (Core/Invention)

CPC: Y02W30/74 B01F13/0059 C11B13/00 C11C3/003 C10L1/19

B01F7/00875 B01J3/008 B01J19/0093 B01J2219/00006

B01J2219/00783 B01J2219/00889 B01J2219/00891 B01J2219/00984

C10L1/026 Y02E50/13 Y02P20/544 C10G2300/1011 C11C3/00

Y02P30/20

European: B01F13/00M B01F7/00H1B B01J19/00R B01J3/00S

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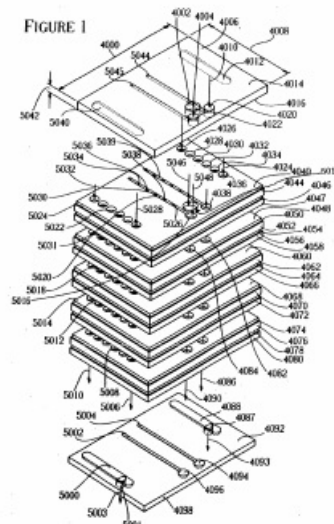
US: 366/292 366/292S 366/297 366/297S 44/307 44/307P 44/308

44/308P

PatBase - US2007214712_AA

Patent Application Publication Sep. 20, 2007 Sheet 1 of 15 US 2007/0314712 A1

FIGURE 1



Family:

Publication number	Publication date	Application number	Application date
US2007214712 AA	20070920	US20060490861	20060721
US2009000184 AA	20090101	US20080125847	20080522
US2012060409 AA	20120315	US20100884114	20100916

Priority:

US20060783963P 20060320	US20060786959P 20060329	US20060799515P 20060511
US20060490861 20060721	US20070931837P 20070525	US20070950249P 20070717
US20070953741P 20070803	US20070967658P 20070906	US20080125847 20080522
US20100884114 20100916		

Probable Assignee: AMERICAN BEEF PROC LLC

Assignee(s): (std): AMERICAN BEEF PROC LLC ; GARWOOD ANTHONY J

Assignee(s): AMERICAN BEEF PROCESSING LLC

Inventor(s): (std): GARWOOD ANTHONY J

Agent(s): FOLEY AND LARDNER LLP

Title: METHODS AND APPARATUS FOR PRODUCING ALKYL ESTERS FROM LIPID FEED STOCKS AND SYSTEMS INCLUDING SAME

Abstract: The present invention relates to methods and apparatus for producing alkyl esters from lipid feed stocks, such as plant oils and/or animal fats, and systems including the same. In an embodiment, the invention includes a process for producing alkyl esters including mixing a lipid feed stock with an **alcohol** to form a reaction mixture; and contacting the reaction mixture with a catalyst under **supercritical** conditions for the **alcohol**, the catalyst comprising an unmodified metal oxide selected from the group consisting of alumina, titania, zirconia, and hafnia, and removing residual free fatty acids from the reaction mixture. Other embodiments are included herein.

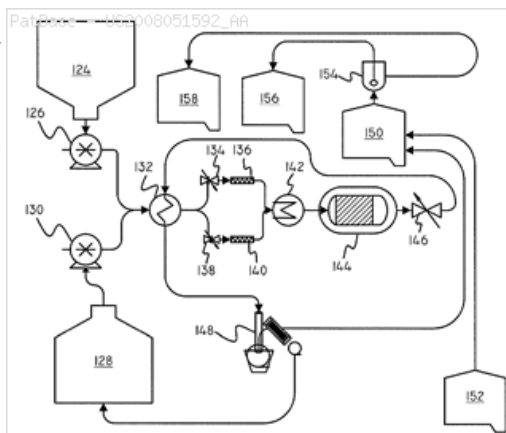
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WO10144597 A1	20101216	WO2010US38000	20100609

Priority:

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Probable Assignee: MCNEFF RESEARCH CONSULTANTS INC

Assignee(s): (std): GYBERG ARLIN E ; KROHN BRIAN ; MCNEFF CLAYTON V ; MCNEFF LARRY C ; MCNEFF RES CONSULTANTS INC ; YAN BINGWEN ; SARTEC CORP ; NOWLAN DANIEL THOMAS

Assignee(s): MCNEFF RESEARCH CONSULTANTS INC

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Inventor(s): NOWLAN DANIEL ; MCNEFF LARRY ; LARRY C MCNEFF ; MCNEFF CLAYTON ; ARLIN E GYBERG ; BINGWEN YAN ; BRIAN JAMES KROHN ; CLAYTON V MCNEFF ; DANIEL THOMAS NOWLAN ; GYBERG ARLIN

Agent(s): SIM AND MCBURNEY; AIRD AND BERLIS IP PARTNERSHIP LTD; LARCHER DOMINIQUE; PAULY DEVRIES SMITH AND DEFFNER LLC; PAULY DEVRIES SMITH AND DEFFNER L L C; PAULEY DEVRIES SMITH AND

DEFFNER LLC; DEFFNER MARK E

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU
CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL
IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT
MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST
SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: INTEGRATED MULTISTAGE **SUPERCRITICAL** TECHNOLOGY TO PRODUCE HIGH QUALITY VEGETABLE OILS AND BIOFUELS

Abstract: The present invention relates to a power generation system, which includes a source of a seed oil, a source of **alcohol**, and a reactor in communication with the source of seed oil and the source of **alcohol**. The reactor produces a biofuel product. The system has a power source that operates on a biofuel energy source to produce heated exhaust. The power source is in communication with the reactor to utilize a portion of the biofuel product as its biofuel energy source. The system has a heat transfer mechanism that transfers heat from the exhaust manifold to the reactor. The power source also converts mechanical power into electrical power. Also disclosed is a system that involves extraction of oil from an oilseed product. A method of extracting oil from an oilseed product, a method of making a **transesterified** seed oil, and a method of making a biofuel are also disclosed, as are products obtained thereby.

Classifications:

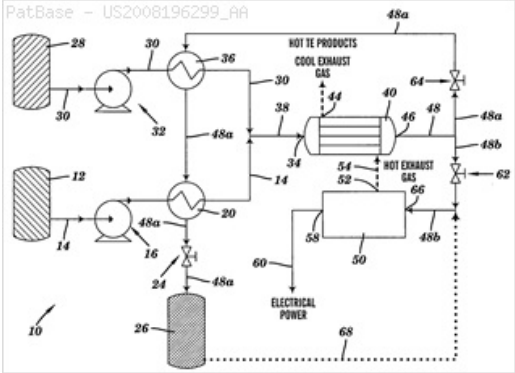
International (IPC 8-9): C10G3/00 C10L1/02 C10L1/08 C10L1/14 C10L1/18 C10L1/24 C10L5/00 C11C3/00 F02M43/00 (Advanced/Invention);

C10L1/00 C10L1/10 (Core/Invention)

CPC: C10L1/02 C10G2300/1011 C10L1/026 C11C3/00 Y02E50/13 Y02P30/20

European: C10L1/02D M10G300/10B Y02E50/13

US: 123/304 123/304S 290/4.00RS 290/4R 422/199 422/199S 44/308 44/308P 44/388 44/639



Family:

Publication number	Publication date	Application number	Application date
CA2678338 AA	20090814	CA20082678338	20080215
EP2121877 A2	20091125	EP20080730026	20080215
EP2121877 A4	20131002	EP20080730026	20080215
US2008196299 AA	20080821	US20080032391	20080215
US2014196359 AA	20140717	US20140225615	20140326
US8690967 BB	20140408	US20080032391	20080215
US9725664 BB	20170808	US20140225615	20140326
WO08101200 A2	20080821	WO2008US54141	20080215
WO08101200 A3	20081023	WO2008US54141	20080215

Priority:

US20070890065P 20070215 US20080032391 20080215 WO2008US54141 20080215
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Probable Assignee: SYRACUSE UNIV

Assignee(s): (std): ANITESCU GHEORGHE ; TAVLARIDES LAWRENCE L ; UNIV SYRACUSE

Assignee(s): SYRACUSE UNIV ; SYRACUSE UNIVERSITY

Inventor(s): (std): ANITESCU GHEORGHE ; TAVLARIDES LAWRENCE L

Agent(s): RICHES MCKENZIE AND HERBERT LLP; BRUNNER MICHAEL JOHN; NIXON PEABODY LLP - PATENT GROUP; NIXON PEABODY LLP PATENT GROUP; BOND SCHOENECK AND KING PLLC; FREDERICK J M; DAVID L; DAVID; GEORGE; MERKEL EDWIN V ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: APPARATUS AND METHOD FOR GENERATING CAVITATIONAL FEATURES IN A FLUID MEDIUM

Abstract: A nano-cavitational generator for generating cavitation features in a fluidic medium. The generator is a static device that includes a series of chambers having varying diameters and flow areas to create variations in fluid velocity and **pressure**. The variations in fluid **pressure** create cavitation bubbles and eddies of internal **pressure**, which result in long-term, stable and ultra-thin emulsions and dispersions of the fluidic medium. The gas-liquid interface around the cavitation bubbles provides increased surface area for process reactions.

Classifications:

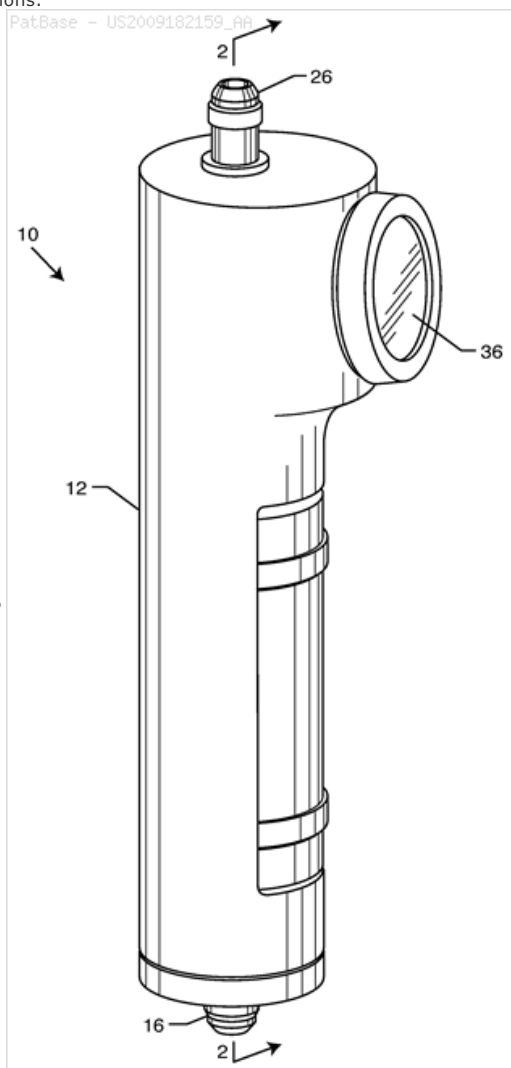
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International (IPC 1-7): B01F7/10

CPC: B01F5/0268 B01F5/0603 B01F5/0656 B01F5/0657 B01F13/1013 B01F13/1016 B01J19/26 B01F5/0604 B01F5/0606 B01F2005/0017 C12M43/02 C12M47/06 C10L1/1802 A23D9/04 C10G9/007 C10G31/00 C10G31/06 C10G21/00 C10G29/00 C10G31/08 C07C67/03 C10G2300/1011 C10L1/026 C11B13/00 Y02E50/13 C10L1/02 C10G1/002 B01J19/088 B01J19/087 B01J19/123 B01J19/10 B01J2219/0877 B01J2219/1203 B01J2219/0849 B01J2219/085 B01J2219/08 C10G15/08 C10G17/00 C10G11/00 C12N1/38 Y02W30/74 C12P2203/00 Y02P30/20 C12P7/04 Y02E50/16 Y02E50/17 A23J7/00 C11B3/005 A23L2/44 A23L2/50 A23L2/70 C12H1/16 A23K10/37 A23K50/10 B01F5/0644 B01F5/0646 B01F5/0652 B01F5/0653 B01F5/0682 B01F5/0688 B01F13/1025 B01F13/1027 B01J10/002 B01J19/0066 B01J19/008 B01J19/02 B01J19/2415 B01J2219/0218 B01J2219/0231 B01J2219/0245 C10L1/023 C11B3/001 C11B3/006 C11B3/04 C11B3/16 C11C3/003 C12M27/00 C12M45/06 Y02P60/877 C10G11/05 C10G11/14 C12M21/18 B01F11/0283 B01F5/0413 B01F2215/0073 C12P19/14 C12P7/10 C12P19/02 C12P2201/00

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Family:

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Priority:

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Probable Assignee: CAVITATION TECHNOLOGIES INC

Assignee(s): (std): CAVITATION TECH INC ; CAVITATION TECHNOLOGIES INC ; GORDON ROMAN ; GORODNITSKY IGOR ; LEBID SERGIO J ; GRICHKO VARVARA ; PROMTOV MAXIM

Assignee(s): HYDRODYNAMIC TECHNOLOGY INC ; CAVITATION TECHNOLOGIES INC

Inventor(s): (std): MOHOLKAR VIJAYANAND SURYAKANT ; PROMTOV MAXIM ; VARVARA GRICHKO ; ROMAN GORDON ; IGOR GORODNITSKY ; PROMTOV MAXIM A ; LEBID SERGIO J ; GORODNITSKY IGOR ; GORDON ROMAN ; GRICHKO VARVARA ; GRITCHKO VARVARA

Inventor(s): MAXIM PROMTOV

Agent(s): GOWLING LAFLEUR HENDERSON LLP; GOWLING WLG CANADA LLP; RICHTER WERDERMANN GERBAULET HOFMANN; BRUNETTI FABRIZIO; KELLY LOWRY AND KELLEY LLP; KELLY AND KELLEY LLP; KELLEY AND KELLEY LLP; DINARDO MICHAEL A; DINARDO MICHAEL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: SYSTEMS AND METHODS FOR PRODUCING BIOFUELS FROM ALGAE

Abstract: The invention provides systems and methods for producing biofuel from algae that use cultured fish to harvest algae from an algal culture. The methods further comprise gathering the fish, extracting lipids from the fish, and processing the lipids to form biofuel. The multi-trophic systems of the invention comprises at least one enclosure that contains the algae and the fishes, and means for controllably feeding the algae to the fishes. The lipid compositions extracted from the fishes are also encompassed.

Classifications:

International (IPC 8-9): A01G33/00 A01K61/00 A23K1/18 B01J19/00 C08G63/48 C10L1/02 C10L1/06 C10L1/08 C10L1/188 C11B1/10 C12P5/00 C12P7/64 (Advanced/Invention);

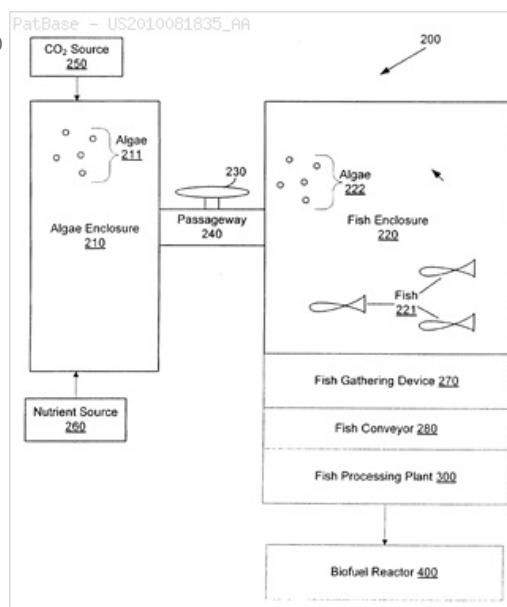
C12R1/89 (Advanced/Non-invention);

A01K61/00 B01J19/00 C08G63/00 C10L1/10 C11B1/00 C12P5/00 C12P7/64 (Core/Invention)

CPC: C11B1/00 C12P7/6472 C12P7/649 C12N1/12 C11B1/10 C10L1/02 A01G33/00 C10L2200/0484 C12P7/6427 A23K50/80 A23K10/18 C10L1/026 C10L1/04 C10L1/19 C11C3/003 Y02E50/13 A01K61/10 A01K61/20 A01K61/50 A01K61/80 Y02A40/81

European: A23K1/00C2B A23K1/18S C10L1/02D C10L1/04 C10L1/19 C11B1/00 C11C3/00B C12P7/64C4 C12P7/64E2F C12P7/64E4 Y02E50/13

US: 119/215 119/215S 119/230 422/129 422/129S 435/134 435/134S 44/307 44/385 44/385P 554/1 554/1S 554/224 554/8 554/8P 554/8S

**Family:**

Publication number	Publication date	Application number	Application date
EP2342347 A1	20110713	EP20090816569	20090923
EP2550364 A1	20130130	EP20110760111	20110323
EP2550364 A4	20141126	EP20110760111	20110323
JP2012503476 T2	20120209	JP20110527833T	20090923
US2010081835 AA	20100401	US20090565612	20090923
US2010236137 AA	20100923	US20100731024	20100324
US2015056672 AA	20150226	US20140505427	20141002
WO10036333 A1	20100401	WO2009US05282	20090923
WO11119677 A1	20110929	WO2011US29537	20110323

Priority:

US20080099503P 20080923 US20090565612 20090923 WO2009US05282 20090923
 US20100731024 20100324 WO2011US29537 20110323 US20140505427 20141002

Probable Assignee: LIVEFUELS INC

Assignee(s): (std): JONES DAVID VANCOTT ; LIVEFUELS INC ; MORGENTHALER GAYE ELIZABETH ; STEPHEN DAVID ; WU BENJAMIN CHIAU PIN

Inventor(s): (std): JONES DAVID VANCOTT ; MORGENTHALER GAYE ELIZABETH ; STEPHEN DAVID ; WU BENJAMIN CHIAU PIN

Agent(s): WEBER MARTIN; Jones Day; JONES DAY; STERN GIDON D ET AL; PETERSON JAMES W ET AL

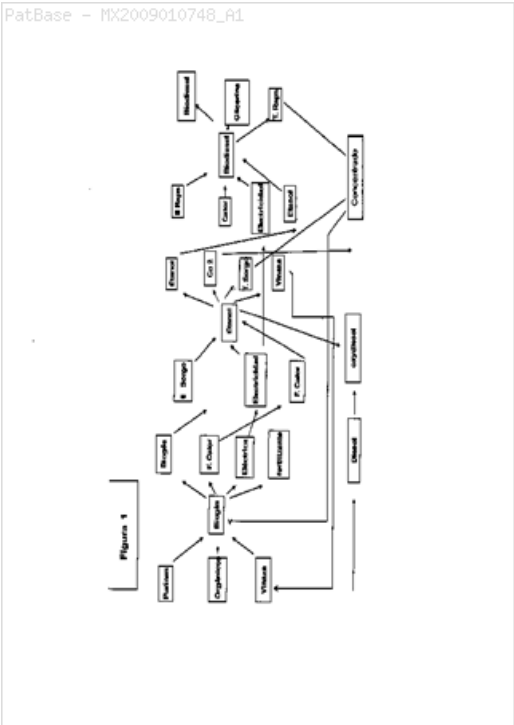
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Title: INTEGRATED ENERGETIC SYSTEM AND BIO-REFINERY.

Abstract: DESCRIBED IS THE RELATIONSHIP OCCURRED BETWEEN THE ROW MATERIALS AND THE DIFFERENT INDUSTRIAL PLANTS. - BIOGAS PLANT: INCLUDES THE FOLLOWING ROW MATERIALS; 1 PURINES, 2 VINASSES (RESULTING FROM THE **ETHANOL** PLANT) AND 3 ORGANIC WASTES (LIQUID AND SOLID). ON THE OTHER HAND, THIS PLANT GENERATES THE FOLLOWING: 1. ELECTRIC POWER (USED IN THE **ETHANOL** AND **BIODIESEL** PLANTS), 2. A HEAT SOURCE (TRANSPORTED TO THE SILOS AND WAREHOUSES WHERE THE ROW MATERIAL OF THE **ETHANOL** AND **BIODIESEL** PLANTS ARE RECEIVED), 3. BIO-FERTILIZERS WHICH MAY BE SELL IN A DIRECT FORM OR MAY BE REFINED FOR WHICH A CALCAREOUS SOURCE MAY BE

Classifications:

International (IPC 8-9): H02P31/00 (Core/Invention)



Family:

Publication number	Publication date	Application number	Application date
MX2009010748 A1	20110504	MX20090010748	20091002

Priority:

MX20090010748 20091002

Probable Assignee: SALAZAR CRISTIAN AUGUSTO ROMERO

Assignee(s): (std): SALAZAR CRISTIAN AUGUSTO ROMERO

Assignee(s): CRISTIAN AUGUSTO ROMERO SALAZAR

Inventor(s): (std): SALAZAR CRISTIAN AUGUSTO ROMERO

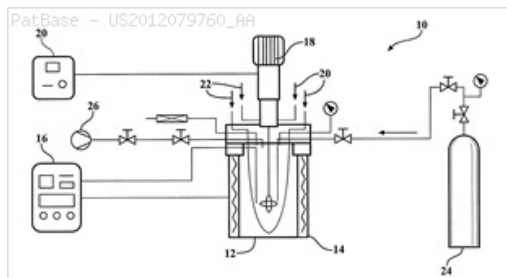
Inventor(s): CRISTIAN AUGUSTO ROMERO SALAZAR

Title: METHOD OF PRODUCING **BIODIESEL** FROM A WET BIOMASS

Abstract: A method of producing a **biodiesel** from a wet biomass is provided. The method includes providing the wet biomass that includes water and biomass solids. The method also includes heating the wet biomass at a first **temperature** and a first **pressure** for a time period ranging from 10 to 480 minutes to form an aqueous solution and a solid agglomerate containing a hydrolyzed lipid component. The method also includes step of **transesterifying** the hydrolyzed lipid component to form **biodiesel**.

Classifications:

International (IPC 8-9): C10L1/18 C10L1/19 (Advanced/Invention)
CPC: C10L2200/0476 C10G2300/1011 Y02E50/13 C10G2300/4006
C11C3/02 C11C3/003 C10L1/026 Y02P30/20
US: 435/134 44/388 44/388P 554/174



Family:

Publication number	Publication date	Application number	Application date
US2012079760 AA	20120405	US20110224872	20110902
US8673028 BB	20140318	US20110224872	20110902

Priority:

US20100379648P 20100902 US20110224872 20110902

Probable Assignee: THE UNIV OF MICHIGAN

Assignee(s): (std): LEVINE ROBERT ; PINNARAT TANAWAN ; SAVAGE PHILLIP E ; UNIV MICHIGAN

Assignee(s): THE UNIV OF MICHIGAN

Inventor(s): (std): LEVINE ROBERT ; PINNARAT TANAWAN ; SAVAGE PHILLIP E

Agent(s): HOWARD AND HOWARD ATTORNEYS PLLC

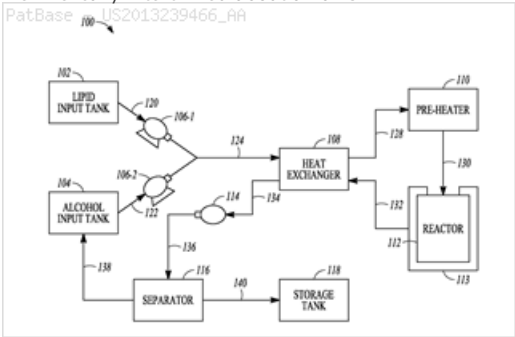
Inventor(s): (std): KYLE A RANEY ; RANEY KYLE A ; REBECCA A TIMMONS ; TIMMONS REBECCA ; TIMMONS REBECCA A
Inventor(s): REBECCA TIMMONS
Agent(s): PIZZEYS PATENT AND TRADE MARK ATTORNEYS; PIZZEYS PATENT AND TRADE MARK ATTORNEYS PTY LTD; STIKEMAN ELLIOTT SENCRL SRL LLP; AUERBACH JONATHAN N; JUAN FRANCISCO REYES TAHA; ALVARO CORREA ORDONEZ; GRUENECKER KINKELDEY STOCKMAIR AND SCHWANHAEUSSER; HIROE AND ASSOCIATES PATENT PROFESSIONAL CORP; KILYK AND BOWERSOX PLLC; VALERIE L; SISK TYLER J
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **BIODIESEL** PRODUCTION

Abstract: A reactor includes a shell having an input port configured to receive a reaction mixture and an output port configured to discharge a reaction product and a plug within the shell, the sintered plug having a first catalyst configured to transform the reaction mixture into the reaction product, the plug having pores of at least 0.01 micrometers (mum) diameter. A conduit includes a first and second lumen, the first lumen configured to carry a first fluid in a first direction and the second lumen configured to carry a second fluid in a second direction, the first lumen helically twisted relative to the second lumen, and the first lumen configured to conductively transfer thermal energy to the second lumen. A system includes a reactor with a sintered plug and a heat exchanger including a first and a second lumen helically intertwined about an axis.

Classifications:

International (IPC 8-9): C10G3/00 C10L1/02
C10L1/32 (Advanced/Invention)
CPC: C10L1/02 B01J3/008 C10L1/026 C11C3/003 Y02E50/13
B01J8/02 B01J2208/00061 B01J2208/00203 B01J2208/0053
B01J2208/025 Y02P30/20
US: 165/165 422/198 44/385



Family:

Publication number	Publication date	Application number	Application date
US2013239466 AA	20130919	US20130794432	20130311
WO13138788 A1	20130919	WO2013US32629	20130315

Priority:

US20120611719P 20120316 US20130794432 20130311

Probable Assignee: MOWRY GREGORY

Assignee(s): (std): MOWRY GREGORY

Inventor(s): (std): MOWRY GREGORY

Agent(s): MADDEN ROBERT B ET AL

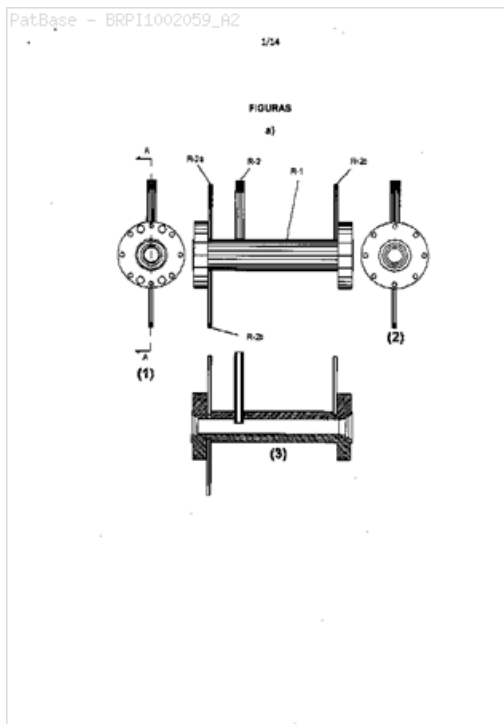
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Title: REATOR PARA SINTESES EM CONDICÖES **SUPERCRITICAS**

Abstract: Source: BRPI1002059A [PT] 1 RESUMO "REATOR PARA SINTESES EM CONDICÖES **SUPERCRITICAS**" A materia descrita refere-se a um reator robusto, pratico e versatil, para sinteses diversas em condicoes **supercriticas**. O sistema constituido pelo reator e pelos acessorios permite o seu uso em tres configuracoes diferentes para sinteses em batelada. Este equipamento pode ser usado para pesquisa, desenvolvimento e inovacao nos processos de sintese em estado **supercritico**, bem como para otimizacao das variaveis de processo, tais como: temperatura, pressao, tempo de reacao e composicao do meio reacional. Como exemplo nao limitante de aplicacao da tecnologia **supercritica** como meio de reacao tem-se a sintese **supercritica** de **biodiesel**. A sintese envolve reacoes de **transesterificacao** de Triglicerideos - TG e esterificacao de Acidos Graxos Livres - AGL presentes nos oleos vegetais e gorduras animais e podera ser utilizada industrialmente em larga escala. **Machine translation:** 1 SUMMARY "REACTOR FOR syntheses CONDITIONS **supercritical**" The matter described refers to a robust reactor, practical and versatile for various syntheses in **supercritical** conditions. The composed system by the reactor and the accessories allows its use in three different configurations for syntheses batch. This equipment can be used for research, development and innovation in the synthesis processes in **supercritical** state as well as for optimization of the variables of process, such as: **temperature, pressure**, reaction time and composition of the reaction medium As a non-limiting example of application of **supercritical** technology as the reaction medium there is the **supercritical biodiesel** synthesis. The synthesis involves reactions of **transesterification Triglycerides** - TG and esterification of fatty acids Free -. AGL present in vegetable oils and animal fats and will be able to be used industrially on a large scale

Classifications:

International (IPC 8-9): B01J19/18 (Advanced/Invention)



Family:

Publication number	Publication date	Application number	Application date
BRPI1002059 A2	20140128	BR2010PI02059	20100611
BRPI1002059 B1	20180130	BR2010PI02059	20100611

Priority:

BR2010PI02059 20100611

Probable Assignee: UNIV MINAS GERAIS

Assignee(s): (std): UNIV MINAS GERAIS

Assignee(s): UNIVERSIDADE FEDERAL DE MINAS GERAIS

Inventor(s): (std): DO VALLE PEDRO WALLACE DE PAULA AMARAL ; FORTES ISABEL CRISTINA PEREIRA ; PASA VANYA MARCIA DUARTE

Inventor(s): PEDRO WALLACE DE PAULA AMARAL DO VALLE ; VANYA MARCIA DUARTE PASA ; ISABEL CRISTINA PEREIRA FORTES

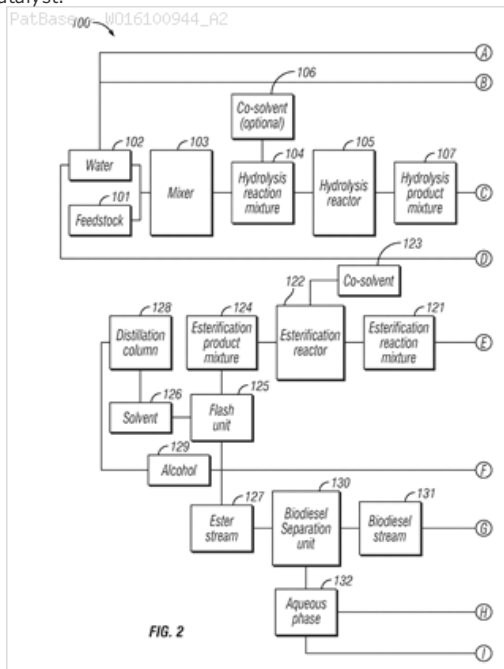
Title: SYSTEMS AND METHODS FOR THE NON-CATALYTIC PRODUCTION OF **BIODIESEL** FROM OILS

Abstract: In alternative embodiments, provided are systems and processes for the preparation of high-quality **biodiesel** and high-quality glycerol from oils: e.g., natural oils: corn oil, distillers corn, linseed, flaxseed, cottonseed, rapeseed (canola), peanut, sunflower, safflower, coconut, palm, soybean, comprising a high percentage (e.g. >10 percent) of organic acids, e.g. free fatty acids. In alternative embodiments, provided are systems and processes for the production of **biodiesel** meeting or exceeding the specifications for B100 **biodiesel** set forth in ASTM Specification D6751-14, as well as a glycerol co-product meeting or exceeding the standards for U.S. Pharmacopeial Convention (USP)-grade glycerol from natural oil feedstocks comprising high percentages of organic acids. In alternative embodiments, natural oil feedstocks with high organic acid content are subjected to a **transesterification** reaction with an **alcohol** under conditions at or above the critical **temperature** and **pressure** of the **alcohol** in the absence of any catalyst.

Classifications:

International (IPC 8-9): C07C27/02 C11C3/10 (Advanced/Invention)

CPC: C07C67/03 C07C67/08 C11C3/003 C10L1/026 Y02E50/13



Family:

Publication number	Publication date	Application number	Application date
EP3234084 A2	20171025	EP20150871253	20151218
WO16100944 A2	20160623	WO2015US66932	20151218
WO16100944 A3	20160818	WO2015US66932	20151218

Priority:

US20140094333P 20141219
WO2015US66932 20151218

US20150160156P 20150512

US20150212855P 20150901

Probable Assignee: INVENTURE RENEWABLES INC

Assignee(s): (std): INVENTURE RENEWABLES INC

Inventor(s): (std): GRAY III LESTER TRUMMER ; LONG RYAN ; SAWYER HAYDEN ; SUTTERLIN WILLIAM RUSTY

Agent(s): GHIRARDI VALERIA; EINHORN GREGORY P ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: AN EXPERIMENTAL ANALYSIS ON **BIODIESEL** PRODUCTION FROM MEDICINAL CEDON WOOD OIL AND ITS PERFORMANCE TESTING

Abstract: Medicinal cedar wood oil used for inventing **biodiesel** and far fuelling diesel engine is new and quite innovative concept. The Botanical name of Himalayan cedar wood tree is Cedrus Deodara. In India it is found in the Himalayan region and it is also known as devdar tree. Till now this oil is used for making antiseptic, diaphoretic, depurative and diuretic medicines for treating diseases like leprosy, syphilis, skin diseases, wounds and ulcers, fevers and strangury.

Transesterification process is used for making **biodiesel** from cedar wood oil. Produced **biodiesel** is then used as a fuel in different types of four stroke diesel engines. Parameters like brake thermal efficiency, brake specific fuel consumption and emissions like CO, HC, NOx and smoke opacity is also measured with the help of AVL-Di gas analyser which is connected with the engine exhaust. Gas chromatography (GC) technique is used for finding the fatty acid profile of the **biodiesel** and identifies six types of fatty acids. Physio-chemical properties of the **biodiesel** is also measured by using the equipments.

Classifications:

International (IPC 8-9): C11C3/00 (Advanced/Invention)

Family:

Publication number	Publication date	Application number	Application date
IN201611011982 A	20171013	IN201611011982	20160405

Priority:

IN201611011982 20160405

Probable Assignee:

TARUN MEHRA

Assignee(s):

TARUN MEHRA

Inventor(s):

TARUN MEHRA