

PatBase - Search results 23 May 2015

Search query (3): [SP]: 1-16. (canceled) 17. a system configured to facilitate production of biomass from photosynthesizing microorganisms by way of photobioreactors, the system comprising: a plurality of cultivation photobioreactors configured to be in fluid communication with a gas supply by parallel connection, the gas supply being configured to provide gas to individual ones of the cultivation photobioreactors, wherein a given photobioreactor comprises: a panel formed by two transparent planar sheets separated by vertical partitions that define vertical cells between the two sheets, the cells being open at the top and bottom so that the cells are in fluid communication at the top and bottom of the given photobioreactor and a plurality of gas injectors configured to introduce gas from the gas supply to the given photobioreactor, individual ones of the injectors being disposed proximal to the bottom of some but not all of the cells such that (1) fluid travels upward within a cell having a gas injector disposed proximal to its bottom due to gas rising through that cell and (2) fluid travels downward within a cell with no gas injector disposed proximal to its bottom. 18. the system of claim 1, wherein the panel has a thickness that is less than 2 centimeters. 19. the system of claim 2, wherein the panel has a thickness that is about 1.2 centimeters. 20. the system of claim 1, wherein the two transparent planar sheets are at least 90 percent transparent. 21. the system of claim 1, further comprising one or more collection tanks in fluid communication with the given cultivation photobioreactor, a given collection tank being configured to receive and store biomass produced in the given cultivation photobioreactor. 22. the system of claim 1, wherein the gas comprises carbon dioxide. 23. the system of claim 1, further comprising a nutrients supply configured to provide nutrients to the plurality of cultivation photobioreactors. 24. the system of claim 7, wherein the nutrients supply comprises a supply reservoir configured to receive and store nutrients and water. 25. the system of claim 7, wherein the nutrients supply comprises an array of nutrient distribution pipes in fluid communication with the plurality of cultivation photobioreactors by parallel connection. 26. a cultivation photobioreactor configured to facilitate production of biomass from photosynthesizing microorganisms, the cultivation photobioreactor comprising: a panel formed by two transparent planar sheets separated by vertical partitions that define vertical cells between the two sheets, the cells being open at the top and bottom so that the cells are in fluid communication at the top and bottom of the given photobioreactor and a plurality of gas injectors configured to introduce gas from a gas supply to the given photobioreactor, individual ones of the injectors being disposed proximal to the bottom of some but not all of the cells such that (1) fluid travels upward within a cell having a gas injector disposed proximal to its bottom due to gas rising through that cell and (2) fluid travels downward within a cell with no gas injector disposed proximal to its bottom. 27. the cultivation photobioreactor of claim 10, wherein the cultivation photobioreactor is configured to be among a plurality of cultivation photobioreactors in fluid communication with the gas supply by parallel connection, the gas supply being configured to provide gas to individual ones of the cultivation photobioreactors. 28. the cultivation photobioreactor of claim 10, wherein the panel has a thickness that is less than 2 centimeters. 29. the cultivation photobioreactor of claim 12, wherein the panel has a thickness that is about 1.2 centimeters. 30. the cultivation photobioreactor of claim 10, wherein the two transparent planar sheets are at least 90 percent transparent. 31. the cultivation photobioreactor of claim 10, wherein the cultivation photobioreactor is configured to be in fluid communication with one or more collection tanks, a given collection tank being configured to receive and store biomass produced in the cultivation photobioreactor. 32. the cultivation photobioreactor of claim 10, wherein the gas comprises carbon dioxide. 33. the cultivation photobioreactor of claim 10, wherein the cultivation photobioreactor is configured to be in fluid communication with a nutrients supply, the nutrients supply being configured to provide nutrients to the cultivation photobioreactor. 34. the cultivation photobioreactor of claim 17, wherein the nutrients supply comprises a supply reservoir configured to receive and store nutrients and water. 35. the cultivation photobioreactor of claim 17, wherein the nutrients supply comprises a nutrient distribution pipe in fluid communication with the cultivation photobioreactor. 36. a method for producing biomass from photosynthesizing microorganisms by way of photobioreactors, the method comprising: incubating microorganisms in a growth culture disposed in a cultivation photobioreactor comprising: a panel formed by two transparent planar sheets separated by vertical partitions that define vertical cells between the two sheets, the cells being open at the top and bottom so that the cells are in fluid communication at the top and bottom of the given photobioreactor and a plurality of gas injectors configured to introduce gas from a gas supply to the given photobioreactor, individual ones of the injectors being disposed proximal to the bottom of some but not all of the cells such that (1) fluid travels upward within a cell having a gas injector disposed proximal to its bottom due to gas rising through that cell and (2) fluid travels downward within a cell with no gas injector disposed proximal to its bottom.

Results: 10

yenny campos

Search history

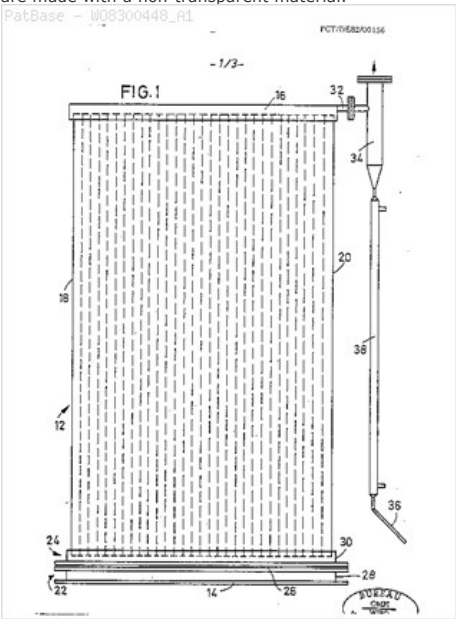
- Search 1: TAC=(photosynthetic microorganisms and photobioreactor) (Results 64)
- Search 2: TAC=(photosynthetic microorganisms and photobioreactor and gas distribution tube) (Results 1)
- Search 3: [SP]: 1-16. (canceled) 17. a system configured to facilitate production of biomass from photosynthesizing microorganisms by way of photobioreactors, the system comprising: a plurality of cultivation photobioreactors configured to be in fluid communication with a gas supply by parallel connection, the gas supply being configured to provide gas to individual ones of the cultivation photobioreactors, wherein a given photobioreactor comprises: a panel formed by two transparent planar sheets separated by vertical partitions that define vertical cells between the two sheets, the cells being open at the top and bottom so that the cells are in fluid communication at the top and bottom of the given photobioreactor and a plurality of gas injectors configured to introduce gas from the gas supply to the given photobioreactor, individual ones of the injectors being disposed proximal to the bottom of some but not all of the cells such that (1) fluid travels upward within a cell having a gas injector disposed proximal to its bottom due to gas rising through that cell and (2) fluid travels downward within a cell with no gas injector disposed proximal to its bottom. 18. the system of claim 1, wherein the panel has a thickness that is less than 2 centimeters. 19. the system of claim 2, wherein the panel has a thickness that is about 1.2 centimeters. 20. the system of claim 1, wherein the two transparent planar sheets are at least 90 percent transparent. 21. the system of claim 1, further comprising one or more collection tanks in fluid communication with the given cultivation photobioreactor, a given collection tank being configured to receive and store biomass produced in the given cultivation photobioreactor. 22. the system of claim 1, wherein the gas comprises carbon dioxide. 23. the system of claim 1, further comprising a nutrients supply configured to provide nutrients to the plurality of cultivation photobioreactors. 24. the system of claim 7, wherein the nutrients supply comprises a supply reservoir configured to receive and store nutrients and water. 25. the system of claim 7, wherein the nutrients supply comprises an array of nutrient distribution pipes in fluid communication with the plurality of cultivation photobioreactors by parallel connection. 26. a cultivation photobioreactor configured to facilitate production of biomass from photosynthesizing microorganisms, the cultivation photobioreactor comprising: a panel formed by two transparent planar sheets separated by vertical partitions that define vertical cells between the two sheets, the cells being open at the top and bottom so that the cells are in fluid communication at the top and bottom of the given photobioreactor and a plurality of gas injectors configured to introduce gas from a gas supply to the given photobioreactor, individual ones of the injectors being disposed proximal to the bottom of some but not all of the cells such that (1) fluid travels upward within a cell having a gas injector disposed proximal to its bottom due to gas rising through that cell and (2) fluid travels downward within a cell with no gas injector disposed proximal to its bottom. 27. the cultivation photobioreactor of claim 10, wherein the cultivation photobioreactor is configured to be among a plurality of cultivation photobioreactors in fluid communication with the gas supply by parallel connection, the gas supply being configured to provide gas to individual ones of the cultivation photobioreactors. 28. the cultivation photobioreactor of claim 10, wherein the panel has a thickness that is less than 2 centimeters. 29. the cultivation photobioreactor of claim 12, wherein the panel has a thickness that is about 1.2 centimeters. 30. the cultivation photobioreactor of claim 10, wherein the two transparent planar sheets are at least 90 percent transparent. 31. the cultivation photobioreactor of claim 10, wherein the cultivation photobioreactor is configured to be in fluid communication with one or more collection tanks, a given collection tank being configured to receive and store biomass produced in the cultivation photobioreactor. 32. the cultivation photobioreactor of claim 10, wherein the gas comprises carbon dioxide. 33. the cultivation photobioreactor of claim 10, wherein the cultivation photobioreactor is configured to be in fluid communication with a nutrients supply, the nutrients supply being configured to provide nutrients to the cultivation photobioreactor. 34. the cultivation photobioreactor of claim 17, wherein the nutrients supply comprises a supply reservoir configured to receive and store nutrients and water. 35. the cultivation photobioreactor of claim 17, wherein the nutrients supply comprises a nutrient distribution pipe in fluid communication with the cultivation photobioreactor. 36. a method for producing biomass from photosynthesizing microorganisms by way of photobioreactors, the method comprising: incubating microorganisms in a growth culture disposed in a cultivation photobioreactor comprising: a panel formed by two transparent planar sheets separated by vertical partitions that define vertical cells between the two sheets, the cells being open at the top and bottom so that the cells are in fluid communication at the top and bottom of the given photobioreactor and a plurality of gas injectors configured to introduce gas from a gas supply to the given photobioreactor, individual ones of the injectors being disposed proximal to the bottom of some but not all of the cells such that (1) fluid travels upward within a cell having a gas injector disposed proximal to its bottom due to gas rising through that cell and (2) fluid travels downward within a cell with no gas injector disposed proximal to its bottom. (Results 10)

Title: METHOD AND INSTALLATION FOR CARRYING OUT PHOTOCHEMICAL OPERATIONS

Abstract: During the process, the agents participating to the reaction are transported by a liquid stream on a long run which closes on itself and are subjected to the light effect. The installation for carrying out such method contains a chamber (12) wherein a backward and forward motion is set by means of intermediary walls. The chamber is transparent. On the bottom of the chamber there is provided a porous plate (26) through which air is introduced. Bubbles pass through the plate into the chamber and create, while rising, the desired liquid stream. The installation may be used for carrying out fermentation operations; in such case, the walls of the chamber are made with a non-transparent material.

Classifications:

International (IPC 8-9): B01J10/00 B01J19/12 C12M1/00 C12N1/12 (Advanced/Invention);
B01J10/00 B01J19/12 C12M1/00 C12N1/12 (Core/Invention)
International (IPC 1-7): A01H13/00 B01J10/00 B01J19/12 C12M1/00 C12M1/18 C12N1/12
CPC: C12M21/02 C12M23/04 C12M27/20 C12M31/02 C12M41/26 C12N1/12
European: C12M21/02 C12M23/04 C12M27/20 C12M31/02 C12M41/26 C12N1/12



Family:

Publication number	Publication date	Application number	Application date
AT18862 E	19860415	AT19820902349T	19820729
AU198287653 A1	19830222	AU19820087653	19820729
AU556864 B2	19861120	AU19820087653	19820729
BR8207842 A	19830906	BR19820007842	19820729
DE3130105 A1	19830217	DE19813130105	19810730
DE3270258 D1	19860507	DE19823270258	19820729
EP0085688 A1	19830817	EP19820902349	19820729
EP0085688 B1	19860402	EP19820902349	19820729
ES276944 U	19840616	ES19820276944U	19820729
ES276944 Y	19850101	ES19820276944U	19820729
ES276944 Y1	19850129	ES19820276944U	19820729
ES522847 A1	19840316	ES19830522847	19830531
ES8403329 A1	19840616	ES19830522847	19830531
IT1212175 A	19891122	IT19820012600	19820729
IT8212600 A0	19820729	IT19820012600	19820729
JP58501212 T2	19830728	JP19820502356T	19820729
WO8300448 A1	19830217	WO1982DE00156	19820729

Priority:

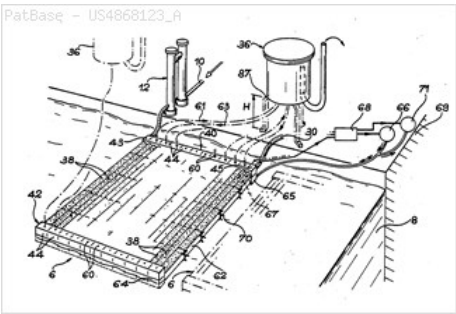
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WO1982DE00156 19820729

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Assignee(s): HUBERT SCHICK JOSEF ; SCHICK JH
Inventor(s): (std): SCHICK J H ; SCHICK JOSE HUBERT ; SCHICK JOSEF HUBERT ; HUBERT SCHICK JOSEF
Inventor(s): VERZICHT DES ERFINDERS AUF NENNUNG ; JOSEF HUBERT SCHICK
Designated states: AT AU BE BR CH DE FR GB JP LI LU NL SE US

Title: Apparatus for the intensive, controlled production of microorganisms by photosynthesis

Abstract: Source: US4868123A Apparatus for the intensive, controlled production of microorganisms by photosynthesis. This apparatus comprises at least one photobioreactor (6) to be placed on an expanse of water (8), which has first group of flexible tubes (38), which are transparent to light and in which circulates the culture medium and a second group of inflatable tubes (62), disposed and maintained beneath the first group by means of detachable Y-shaped interpolated members (70), which are regularly spaced. At least one two-column carbonator (12) connected to the photobioreactor intake (43) for charging the liquid medium with the CO2 necessary for photosynthesis is provided. Two degassing means (36) connected to the two ends of the photobioreactor are provided for eliminating the oxygen produced by the microorganisms from the liquid medium. There is at least one expansion tank (2) connected to the photobioreactor (6) for reducing possible volume variations in the photobioreactor (6).

Classifications:
International (IPC 8-9): C12M1/00 C12M3/00 (Advanced/Invention);
C12M3/00 (Advanced/Non-invention);
C12M1/00 C12M3/00 (Core/Invention)
International (IPC 1-7): C12M1/00 C12M1/02 C12M1/04 C12M1/24 C12M1/38
C12M3/00 C12N1/00 C12N5/02
CPC: C12M21/02 C12M23/06 C12M23/56 C12M29/22
European: C12M21/02 C12M23/06 C12M23/56 C12M29/22
US: 210/149 210/180 210/181 210/242.1 435/286.2 435/286.6 435/290 435/292.1



Family:

Publication number	Publication date	Application number	Application date
AU198822947 A1	19890427	AU19880022947	19880928
AU614241 B2	19910822	AU19880022947	19880928
DE3888274 D1	19940414	DE19883888274	19880930
DE3888274 T2	19940929	DE19883888274T	19880930
EP0310522 A1	19890405	EP19880402482	19880930
EP0310522 B1	19940309	EP19880402482	19880930
FR2621323 A1	19890407	FR19870013647	19871002
FR2621323 B1	19900615	FR19870013647	19871002
IL87832 A0	19890331	IL19880087832	19880922
IL87832 A1	19920329	IL19880087832	19880922
JP1108973 A2	19890426	JP19880247251	19880930
US4868123 A	19890919	US19880252186	19880930

Priority:
FR19870013647 19871002

Assignee(s): (std): COMMISSARIAT ENERGIE ATOMIQUE

Assignee(s): COMMIS RIAT A L ENERGIE ATOMIQUE SA ; COMMISS ENERG ATOM ; COMMISSARIAT A ENERGIE ATOMIQUE ; COMMISSARIAT A L ENERGIE ATOMIQUE ; COMMISSARIAT A L ENERGIE ATOMIQUE PARIS FR ; COMMISSARIAT A LENERGIE ATOMIQUE ; COMMISSARIAT A L'ENERGIE ATOMIQUE

Inventor(s): (std): BERSON XAVIER ; BOUYSSOU MICHEL ; CHAUMONT DANIEL ; CASTEL YVES ; DANIERU SHIYOMON ; GUDIN CLAUDE ; GUZABIE BERUSON ; IBU KASUTERU ; KUROODO GIYUDAN ; MISHIERU BUISU

Inventor(s): XAVIER BERSON ; YVES CASTEL ; MICHEL BOUYSSOU ; GUDIN CLAUDE F 13100 AIX EN PROVENCE FR ; CASTEL YVES F 13290 LES MILLES FR ; CHAUMONT DANIEL F 13770 VENELLES FR ; CLAUDE GUDIN ; DANIEL CHAUMONT ; BOUYSSOU MICHEL F 83560 VINON SUR VERDON FR ; BERSON XAVIER F 13490 JOUQUES FR

Designated states: DE FR GB IT

Title: FLAT PANEL PHOTOBIOREACTOR

Abstract: The invention relates to a photobioreactor for cultivating algae comprising a disposable element for holding the cultivation medium and a cage-like component supporting the disposable element. The algae may comprise both marine and fresh water algae. The photobioreactor is especially advantageous for algae which are difficult to cultivate due to contamination problems.

Classifications:

International (IPC 8-9): A01G33/02 A01G7/00 C12M1/00

C12N1/12 (Advanced/Invention);

A01G (Subclass/Invention)

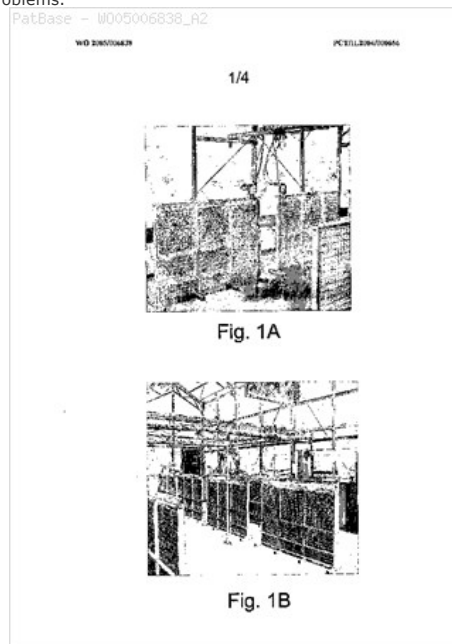
International (IPC 1-7): A01G7/00 C12M1/00

CPC: C12M21/02 C12M23/14 C12M23/28 C12M23/44 C12M23/48 C12M23/58

C12M37/02 C12M41/18 C12N1/12

European: C12M21/02 C12M23/14 C12M23/28 C12M23/44 C12M23/48 C12M23/58

C12M37/02 C12M41/18 C12N1/12



Family:

Publication number	Publication date	Application number	Application date
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WO05006838 A3	20050804	WO2004IL00666	20040721

Priority:

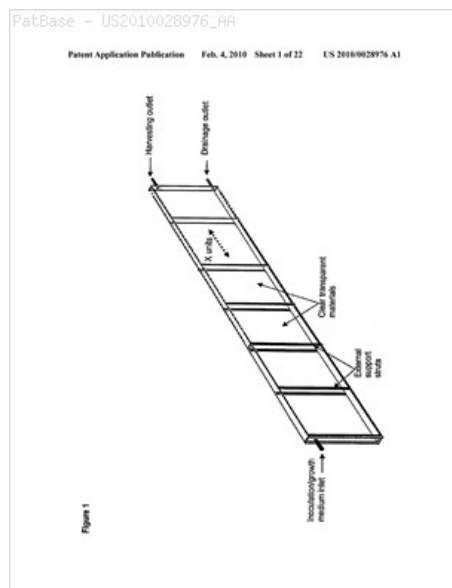
US20030488876P 20030721

Assignee(s): (std): BOUSSIBA SAMMY ; UNIV BEN GURION ; ZARKA ALIZA

Assignee(s): BEN GURION UNIV NEGEV ; BEN GURION UNIV OF NEGEV ; BEN GURION UNIVERSITY OF THE NEGEV

Inventor(s): (std): BOUSSIBA SAMMY ; ZARKA ALIZA

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

Title: PHOTOBIOREACTOR AND USES THEREFOR**Abstract:** Source: US2010028976A The present invention provides novel photobioreactors, modules thereof, and methods for use in culturing and harvesting algae and cyanobacteria.**Classifications:****International (IPC 8-9):** A01G7/00 C12M1/00 C12M1/02 C12M1/36 C12M1/42 C12M3/00 C12N1/12 (Advanced/Invention); C12M1/02 C12N1/12 (Core/Invention)**International (IPC 1-7):** C12N1/12**CPC:** C12M21/02 C12M23/02 C12M23/04 C12M23/44 C12M23/50 C12M41/12 C12M23/58 C12M33/00 C12M47/02**European:** C12M21/02 C12M23/02 C12M23/04 C12M23/44 C12M23/50 C12M23/58 C12M33/00 C12M41/12 C12M47/02**US:** 435/257.1 435/257.100P 435/286.5 435/286.6 435/292.1 435/292.100S 47/1.4**Family:**

Publication number	Publication date	Application number	Application date
AU2007217821 AA	20070830	AU20070217821	20070220
AU2007217821 BB	20120614	AU20070217821	20070220
AU2012203478 AA	20120705	AU20120203478	20120614
AU2012203478 BB	20130606	AU20120203478	20120614
CN101405385 A	20090408	CN200780009753	20070220
IN07687DN2008 A	20081024	IN2008DN07687	20080911
MX2008010770 A1	20090306	MX20080010770	20080821
US2010028976 AA	20100204	US20070280338	20070220
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US2012315692 AA	20121213	US20120561777	20120730
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US8241895 BB	20120814	US20110273161	20111013
US8361786 BB	20130129	US20120561777	20120730
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WO07098150 A3	20071213	WO2007US04351	20070220

Priority:

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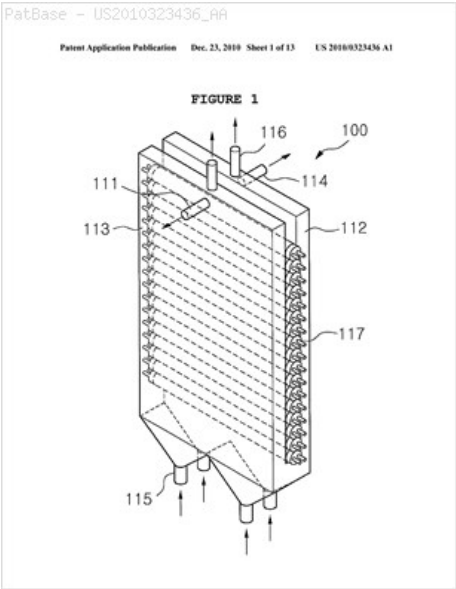
Assignee(s): (std): SOMMERFELD MILTON ; UNIV ARIZONA STATE ; UNIV ARIZONA ; HU QIANG ; SUMMERFELD MILTON**Assignee(s):** LV ADMINISTRATIVE SERVICES INC ; THE ARIZONA BOARD OF REGENTS A BODY CORPORATE ACTING ON BEHALF OF ARIZONA STATE UNIVERSITY ; THE ARIZONA BOARD OF REGENTS ACTING ON BEHALF OF ARIZONA STATE UNIVERSITY ; THE ARIZONA BOARD OF REGENTS A BODY CORPORATE ACTIN ON BEHALF OF ARIZONA STATE UNIVERSITY ; ARIZONA BOARD OF REGENTS ACTING ON BEHALF OF ARIZONA STATE UNIV ; ARIZONA BOARD OF REGENTS ACTING ON BEHALF OF ARIZONA STATE UNIV ; ARIZONA BOARD OF REGENTS ; ARIZONA BOARD OF REGENTS A BODY CORPORATE ACTIN ON BEHALF OF ARIZONA STATE UNIV ; ARIZONA BOARD OF REGENTS A BODY CORPORATE ACTING O ; ARIZONA BOARD OF REGENTS A BODY CORPORATE ACTING ON BEHALF OF ARIZONA STATE UNIV ; THE ARIZONA BOARD OF REGENTS A BODY CORPORATE ACTI**Inventor(s):** (std): HU QIANG ; SOMMERFELD MILTON ; SUMMERFELD MILTON ; QIANG HU ; MILTON SUMMERFELD**Agent(s):** DAVIS WRIGHT TREMAINE LLP - SAN FRANCISCO; DAVIS WRIGHT TREMAINE LLP SAN FRANCISCO; TOM; JUSTIN; COLLEEN**Designated states:** AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM 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 LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR 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: PHOTOBIOREACTOR FOR LARGE-SCALE CULTURE OF MICROALGAL

Abstract: Source: US2010323436A A photobioreactor for a large-scale microalgal culture. The photobioreactor includes a plurality of surface-light-source assemblies using a light emitting diode (LED) element, an organic light emitting diode (OLED) element, or a flexible LED sheet as a light source. The surface-light-source assemblies have the shape of a flat plate or a cylinder, are installed at predetermined intervals in the interior space of a reaction tank having the shape of a cube or a cylinder, and emit light for culturing microalgae in an internally illuminated fashion. Here, the surface-light-source assemblies are installed in such a manner that they are alternately in contact with first and second walls of the reaction tank disposed in parallel to each other in a symmetrical shape, and serve as partitions that portion the interior space of the reaction tank and increase a flow distance of gas.

Classifications:

International (IPC 8-9): C12M1/00 C12M1/18 C12M1/24 C12M1/38 C12M3/00 (Advanced/Invention); C12M1/00 C12M1/24 C12M1/38 C12M3/00 (Advanced/Non-invention); C12M1/00 C12M1/24 C12M1/36 C12M3/00 (Core/Invention)
CPC: C12M31/10 C12M21/02 C12M27/20 C12M1/002 C12M23/44
European: C12M21/02 C12M27/20 C12M31/10
US: 435/292.1 435/292.100P



Family:

Publication number	Publication date	Application number	Application date
ES2377619 AA	20120329	ES20090050030	20081128
ES2377619 BB	20131030	ES20090050030	20081128
JP2010511411 T2	20100415	JP20090543967T	20081128
JP5345071 B2	20131120	JP20090543967T	20081128
KR100933741 B1	20091224	KR20070121948	20071128
KR100945153 B1	20100308	KR20070121949	20071128
KR20090055169 A	20090602	KR20070121948	20071128
KR20090055170 A	20090602	KR20070121949	20071128
US2010323436 AA	20101223	US20080516112	20081128
WO09069967 A2	20090604	WO2008KR07046	20081128
WO09069967 A3	20090723	WO2008KR07046	20081128

Priority:

KR20070121948 20071128 KR20070121949 20071128 WO2008KR07046 20081128

Assignee(s): (std): HONDA MOTOR CO LTD ; INHA IND PARTNERSHIP INST ; KIM Z HUN ; LEE CHOUL GYUN

Assignee(s): INHA INDUSTRY PARTNERSHIP INSTITUTE ; HONDA MOTOR CO

Inventor(s): (std): KIM Z HUN ; LEE CHOUL GYUN

Inventor(s): Z HUN KIM ; CHOUL GYUN LEE

Agent(s): MAIER AND MAIER PLLC; LEE WON HEE

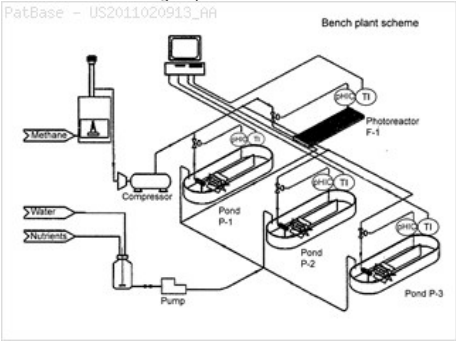
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Title: PROCESS FOR THE PRODUCTION OF ALGAL BIOMASS WITH A HIGH LIPID CONTENT

Abstract: Source: US2011020913A The invention relates to a process for the production of algal biomass with a high lipid content, comprising: (a) the production of inocula in order to effect phase (b), in photoreactors; (b) the massive cultivation of the algal biomass in open ponds, inoculated with phase (a); (c) a thickening phase of the algal biomass, effected blandly; (d) an induction phase of the lipid production, wherein modules are used consisting of photoreactors or open ponds; (e) a separation phase of the biomass with a high lipid content.

Classifications:

International (IPC 8-9): C12N C12N1/12 (Advanced/Invention); C12N1/12 (Core/Invention); C12N (Subclass/Invention)
CPC: C12N1/12 C12M21/02 C12M23/18 C12M29/02 C12M43/04 C12M47/02 C12M47/06
European: C12M21/02 C12M23/18 C12M29/02 C12M43/04 C12M47/02 C12M47/06 C12N1/12
US: 435/257.1 435/257.100P



Family:

Publication number	Publication date	Application number	Application date
AU2008337959 AA	20090625	AU20080337959	20081203
AU2008337959 BB	20140123	AU20080337959	20081203
BRPI0820895 A2	20141104	BR2008PI20895	20081203
CN101918534 A	20101215	CN200880124455	20081203
EG26012 A	20121210	EG20100061000	20100614
IL206363 A0	20101230	IL20100206363	20100614
ITMI20072343 A1	20090615	IT2007MI02343	20071214
MA31996 B1	20110103	MA20100032983	20100705
MX2010006544 A1	20100922	MX20100006544	20100614
NZ586314 A	20120224	NZ20080586314	20081203
US2011020913 AA	20110127	US20080747990	20081203
WO09077087 A1	20090625	WO2008EP10291	20081203

Priority:

IT2007MI02343 20071214 WO2008EP10291 20081203

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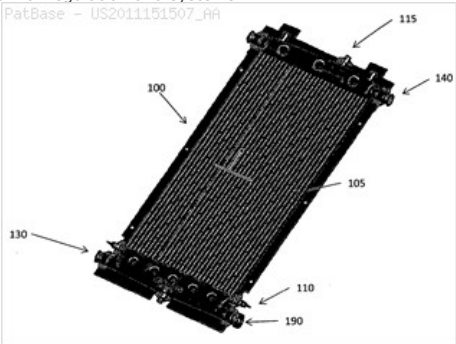
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Title: SOLAR BIOFACTORY, PHOTOBIOREACTORS, PASSIVE THERMAL REGULATION SYSTEMS AND METHODS FOR PRODUCING PRODUCTS

Abstract: Source: US2011151507A The invention described herein relates to photobioreactors, methods, assembly and use of such apparatus for culturing light-capturing organisms in a cost-effective manner. Various embodiments provide for a passive thermal regulation system employing selected microorganisms in a photobioreactor apparatus and methods for biological production of various fuel and chemical products from these organisms. Additional embodiments provide a solar biofactory system capable of culturing light capturing organisms to an areal productivity of 3.3 grams per square metre/hr. Further embodiments are directed to a photobioreactor capable of culturing light capturing organisms to an OD730 of about 14 g/L DCW. Such embodiments incorporate passive thermal regulation and systems.

Classifications:

International (IPC 8-9): C12M C12M1/00 C12M1/38 C12N1/10 C12N1/12 C12P1/00 (Advanced/Invention); C12M1/00 C12M1/36 C12N1/10 C12N1/12 (Core/Invention); C12M (Subclass/Invention)
CPC: Y02E50/10 Y02E50/13 C12M21/02 C12M21/12 C12M23/04 C12N1/12 C12N1/20 C12N13/00 C12P5/02 C12P7/02 C12P7/065 C12P7/16 C12P7/40 C12P7/649 Y02E50/17 C12M41/20
European: C12M21/02 C12M21/12 C12M23/04 C12M41/18 C12N1/12 C12N1/20 C12N13/00 C12P5/02 C12P7/02 C12P7/06D C12P7/16 C12P7/40 C12P7/64E4 Y02E50/17
US: 435/292.1 435/41 435/41P



Family:

Publication number	Publication date	Application number	Application date
CN102245754 A	20111116	CN200980149374	20091211
EP2373778 A2	20111012	EP20090804084	20091211
IL213254 A0	20110731	IL20110213254	20110531
IN04077DN2011 A	20130927	IN2011DN04077	20110531
MX2011006177 A1	20110627	MX20110006177	20110609
US2011151507 AA	20110623	US20090061116	20091211
US2013224853 AA	20130829	US20120651078	20121012
US8304209 BB	20121106	US20090061116	20091211
WO10068288 A2	20100617	WO2009US06516	20091211
WO10068288 A3	20101007	WO2009US06516	20091211

Priority:

US20080201548P 20081211 US20090216949P 20090521 WO2009US06516 20091211
US20090061116 20091211 US20120651078 20121012 US20110061116 20110225

Assignee(s): (std): JACOBSON STUART A ; JOULE BIOTECHNOLOGIES INC ; MCINTIRE JAMES R ; JOULE UNLTD TECHNOLOGIES INC ; VAN WALSEM JOHAN ; MORGAN FRITZ ; MICHONSKI SCOTT A ; PONZEL RAINER ; POSNER ANDREW ; MORGAN FREDERICK ; JOULE UNLTD INC ; MCLNTIRE JAMES R

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Inventor(s): MICHONSKI SCOTT ; MORGAN FRITZ ; MCINTIRE JAMES ; JACOBSON STUART

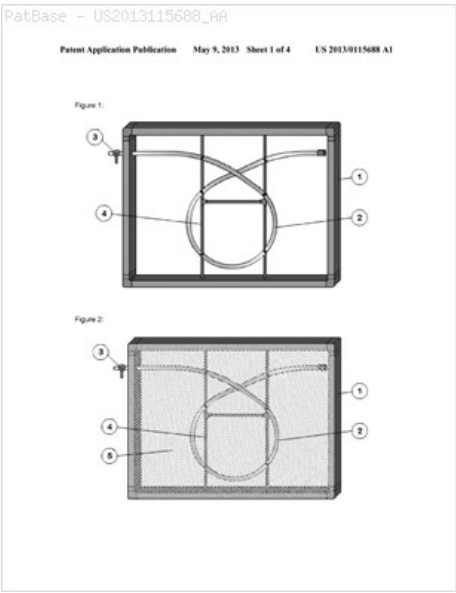
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Title: LAMINAR PHOTOBIOREACTOR FOR THE PRODUCTION OF MICROALGAE

Abstract: Source: US2013115688A A modular photobioreactor for the production of microalgae particularly suited for absorber emission gases with a high carbon dioxide (CO2) content. It is based on the continuous recirculation of a microalgae-containing liquid medium through sheets of fabric facilitating CO2 absorption and microalgae illumination. The photobioreactor enables supplying the gases to the culture from inside the chamber. It provides highly efficient algae illumination, allows easy exchange of CO2 from the emission gases to the culture and can be used at a low cost on a large scale.

Classifications:
International (IPC 8-9): C12M C12M1/00 C12M3/00 (Advanced/Invention)
CPC: C12M21/02 C12M23/04 C12M23/48 C12M29/00 C12M33/22 C12M41/00 C12M3/00
European: C12M21/02 C12M23/04 C12M23/48 C12M29/00 C12M33/22 C12M41/00
US: 435/292.1



Family:

Publication number	Publication date	Application number	Application date
CL2012003035 A1	20130906	CL20120003035	20121029
CO6630155 A2	20130301	CO20120190979	20121025
EP2568038 A1	20130313	EP20110777300	20110407
ES2347515 AA	20101029	ES20100030651	20100503
ES2347515 BB	20110520	ES20100030651	20100503
IL222834 A0	20130101	IL20120222834	20121101
MX2012012569 A1	20130318	MX20120012569	20121029
US2013115688 AA	20130509	US20110695709	20110407
WO11138477 A1	20111110	WO2011ES00104	20110407

Priority:
ES20100030651 20100503 WO2011ES00104 20110407

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Inventor(s): JESUS FERNANDEZ GONZALEZ

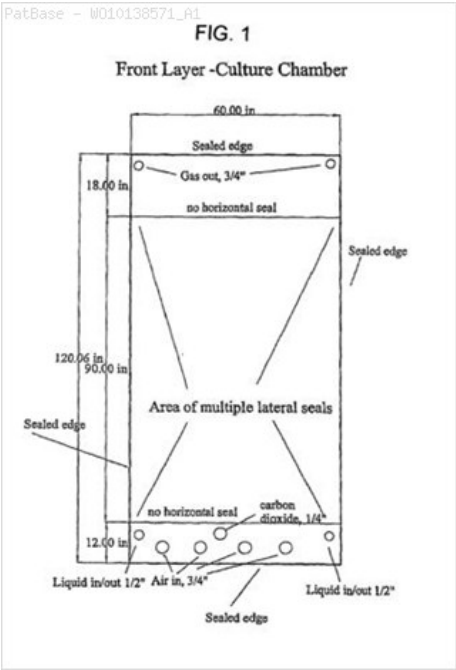
Agent(s): CARVAJAL Y URQUIJO ISABEL; UNIVERSIDAD POLITECNICA DE MADRID

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: PHOTOBIOREACTOR AND METHOD FOR CULTURING AND HARVESTING MICROORGANISMS

Abstract: This disclosure relates to a photobioreactor and methods for culturing and harvesting a microorganism culture and biomass. The photobioreactor comprises a container having at least a front wall, a rear wall and an interior volume. At least a portion of the front wall and the rear wall is transparent to light. The container has at least a top portion, a bottom portion, and a plurality of parallel passageways extending from the bottom portion to the top portion for the throughflow of a liquid medium. The container has one or more liquid medium inlet openings at the bottom portion for introducing at least liquid medium into the container; one or more product outlet openings at the bottom portion for removing at least product from the container; one or more gas inlet openings at the bottom portion for introducing at least carbon dioxide gas and optionally other gases into the container; and one or more gas outlet openings at the top portion for removing at least one of excess gas and waste gases from the container. A heat exchanger system can be used for controlling the temperature of the photobioreactor. The gas supply source can be sequestered carbon dioxide. The microorganism culture can be used in biofuel production, aquaculture food production, mammalian food production, and recombinant protein synthesis.

Classifications:
International (IPC 8-9): C12C1/15 (Advanced/Invention)
CPC: C12M21/02 C12M23/04 C12M23/20 C12M23/22 C12M29/08 C12M29/20
European: C12M21/02 C12M23/04 C12M23/20 C12M23/22 C12M29/08 C12M29/20



Family:

Publication number	Publication date	Application number	Application date
WO10138571 A1	20101202	WO2010US36178	20100526

Priority:

US20090181790P 20090528 US20090233549P 20090813

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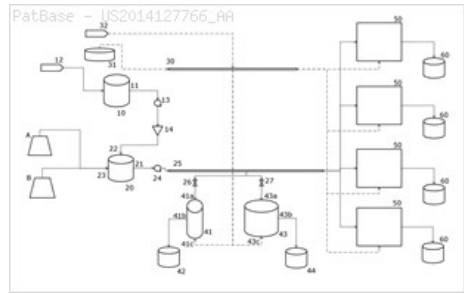
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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KZ LA LC LK LR LS LT LU 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: SYSTEM FOR OBTAINING BIOMASS

Abstract: Source: US2014127766A This invention is a system for the production of biomass from photosynthesizing microorganisms that includes a photobioreactor comprising a transparent panel made from two transparent sheets with a separation between them, with top and bottom openings and with transparent, parallel subdivisions that form a panel of vertically arranged, transparent cells, where each transparent cell has a top opening and a bottom opening; a lower recirculation chamber in fluid contact with the bottom openings of the transparent panel; an upper recirculation chamber in fluid contact with the top openings of the transparent panel; a gas distribution tube externally arranged along the edge of said transparent panel; where said gas distribution tube comprises gas injectors arranged in fluid contact with the interior of a plurality of transparent cells; and a supporting structure that supports the transparent panel, the lower recirculation chamber, the upper recirculation chamber and the air distribution tube.

Classifications:
International (IPC 8-9): C12M1/00 C12M1/08 C12P7/64 (Advanced/Invention);
C12M (Subclass/Invention)
CPC: C12M23/04 C12M23/22 C12M23/48 C12M23/58 C12M29/14 C12P7/64 C12M27/18
C12M29/00 C12M21/02 C12M29/08
US: 435/134 435/292.1



Family:

Publication number	Publication date	Application number	Application date
EP2725090 A1	20140430	EP20110868266	20110624
EP2725090 A4	20150401	EP20110868266	20110624
HK1197263 A1	20150109	HK20140110852	20141029
HK1197263 A2	20150109	HK20140110852	20141029
MX2014000193 A1	20140714	MX20140000193	20140107
US2014127766 AA	20140508	US20110129088	20110624
WO12176021 A1	20121227	WO20111B52798	20110624

Priority:

WO20111B52798 20110624

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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