

Search history

Search 1: sequential or successive or consecutive (Results 1000000)
Search 2: fermentation and co-fermentation (Results 852)
Search 3: 1 and 2 (Results 340)
Search 4: acid w1 propionic (Results 123223)
Search 5: 3 and 4 (Results 219)
Search 6: sugar and lactate (Results 48409)
Search 7: 5 and 6 (Results 21)

Title: PRODUCTION OF CHEMICALS FROM LIGNOCELLULOSE, BIOMASS OR **SUGARS**

Abstract: The subject invention relates to newly isolated organisms from nature that produce L(+)-lactic acid high yield from hexose and pentose **sugars** found in biomass. Organisms and processes or methods for the production of lactic acid and other industrially important chemicals from cellulose and hemicellulose are also provided.

Classifications:

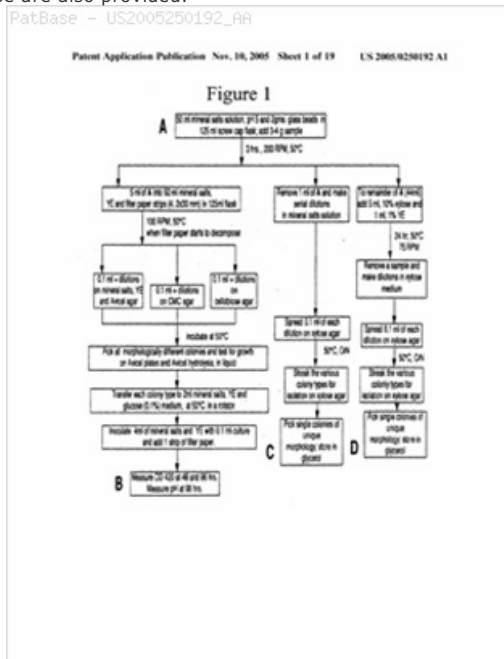
International (IPC 8-9): C12N1/20 C12N15/52 C12N9/10 C12P7/10 C12P7/18 C12P7/46 C12P7/56 (Advanced/Invention); C12R1/07 (Advanced/Non-invention); C12N1/20 C12N15/52 C12N9/10 C12P7/02 C12P7/40 (Core/Invention)

International (IPC 1-7): C12N1/20 C12P7/56

CPC: C12P7/56 C12N9/1029 C12N15/52 C12P7/10 C12P7/18 C12P7/46 C12R1/07 Y02E50/16

European: C12N15/52 C12N9/10C1 C12P7/10 C12P7/18 C12P7/46 C12P7/56 C12R1/07 Y02E50/16

US: 435/139 435/139P 435/252.1 435/252.31 435/252.310S 435/252.5



Family:

Publication number	Publication date	Application number	Application date
US2005250192 AA	20051110	US20040793568	20040304
US7098009 BB	20060829	US20040793568	20040304
WO05086670 A2	20050922	WO2005US06774	20050302
WO05086670 A3	20070315	WO2005US06774	20050302

Priority:

US20040793568 20040304

Probable Assignee: FLORIDA RESEARCH FOUNDATION INC UNIV OF

Assignee(s): (std): HARBRUCKER ROBERTA ; INGRAM LONNIE O NEAL ; UNIVERISTY OF FLORIDA RES FOUN ; OU MARK S ; PATEL MILIND A ; SHANMUGAM KEELNATHAM T ; UNIV FLORIDA

Assignee(s): PLAINFIELD DIRECT INC ; OF FLORIDA RESEARCH FOUNDATION INC UNIV ; UNIVERSITY OF FLORIDA RESEARCH FOUNDATION INC ; UNITED STATES DEPARTMENT OF ENERGY ; OF FLORIDA UNIV ; FLORIDA RESEARCH FOUNDATION INC ; FLORIDA RESEARCH FOUNDATION INC UNIV OF ; MYRIANT TECHNOLOGIES LLC ; UNIVERISTY OF FLORIDA RESEARCH FOUNDATION INC

Inventor(s): (std): HARBRUCKER ROBERTA ; INGRAM LONNIE O ; INGRAM LONNIE O NEAL ; OU MARK S ; PATEL MILIND A ; SHANMUGAM KEELNATHAM T

Inventor(s): SHANMUGAM KEELNATHAM ; PATEL MILIND ; OU MARK ; INGRAM LONNIE

Agent(s): SALIWANCHIK LLOYD AND SALIWANCHIK, A PROFESSIONAL ASSOCIATION; SALIWANCHIK LLOYD AND SALIWANCHIK A PROFESSIONAL ASSOCIATION; SALIWANCHIK LLOYD AND SALIWANCHIK

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 SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Title: PROCESS FOR PREPARING ETHANOL FROM CRUDE GLYCEROL USING NOVEL BACTERIA

Abstract: The invention provides an isolated microorganism, i.e., *Kluyvera cryocrescens* (ATCC Deposit Designation No. PTA-10600) capable of growing on crude glycerol as a sole carbon source, which is capable of producing ethanol with high yield and high productivity from crude glycerol or a range of other carbon feedstocks. The present invention further provides for anaerobic and aerobic reaction mixtures and reaction conditions for ethanol production using the isolated *Kluyvera cryocrescens* bacterial strain.

Classifications:

International (IPC 8-9): C12N1/16 C12N1/20 C12P7/02 (Advanced/Invention)

CPC: Y02E50/17 C12R1/01 C12P7/065 C12P7/14 C12P39/00

European: C12P39/00 C12P7/06D C12P7/14 C12R1/01



Family:

Publication number	Publication date	Application number	Application date
WO11123055 A1	201111006	WO2010SG00121	20100329

Priority:

WO2010SG00121 20100329

Probable Assignee: AGENCY SCIENCE TECH AND RES

Assignee(s): (std): AGENCY SCIENCE TECH AND RES ; CHOI WON JAE

Assignee(s): AGENCY FOR SCIENCE TECHNOLOGY AND RESEARCH

Inventor(s): (std): CHOI WON JAE

Agent(s): YU SARN AUDREY AND PARTNERS

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 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

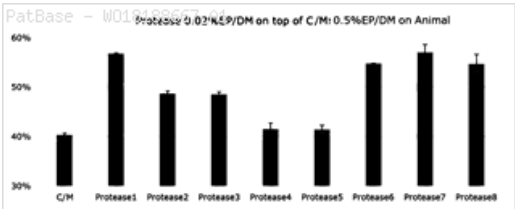
Title: PROCESSES FOR SOLUBILIZING MUNICIPAL SOLID WASTE WITH ENZYME COMPOSITIONS COMPRISING PROTEASE AND ENZYME COMPOSITIONS THEREOF

Abstract: A processes for solubilization or hydrolysis of a municipal solid waste with an Enzyme composition, comprising: (i) a cellulolytic enzyme composition, and (ii) a protease selected from the group consisting of: (a) a protease having at least 50 percent, 55 percent, 60 percent, 65 percent, 70 percent, 75 percent, 80 percent, 85 percent, 90 percent, 95 percent or 100 percent identity to amino acids 1 to 177 of SEQ ID NO: 1 or a fragment thereof having protease activity; (b) a protease having at least 50 percent, 55 percent, 60 percent, 65 percent, 70 percent, 75 percent, 80 percent, 85 percent, 90 percent, 95 percent or 100 percent identity to SEQ ID NO: 5; (c) a protease having at least 50 percent, 55 percent, 60 percent, 65 percent, 70 percent, 75 percent, 80 percent, 85 percent, 90 percent, 95 percent or 100 percent identity to SEQ ID NO: 32 or a variant thereof; (d) a protease having at least 50 percent, 55 percent, 60 percent, 65 percent, 70 percent, 75 percent, 80 percent, 85 percent, 90 percent, 95 percent or 100 percent identity to SEQ ID NO: 33; and (e) a protease having at least 50 percent, 55 percent, 60 percent, 65 percent, 70 percent, 75 percent, 80 percent, 85 percent, 90 percent, 95 percent or 100 percent identity to amino acids 199 to 564 of SEQ ID NO: 36.

Classifications:

International (IPC 8-9): B09B3/00 C02F11/04 C12N9/42 C12N9/50 C12N9/88 C12P1/00 (Advanced/Invention)

CPC: B09B3/00 C02F11/04 C12N9/24 C12N9/52 C12P1/00 C02F3/341



Family:

Publication number	Publication date	Application number	Application date
WO18188667 A1	20181018	WO2018CN083129	20180414

Priority:

WO2017CN080569 20170414

Probable Assignee: NOVOZYMES INC

Assignee(s): (std): HUANG HONGZHI ; NOVOZYMES AS

Assignee(s): NOVOZYMES A S ; NOVOZYMES INC

Inventor(s): (std): HUANG HONGZHI ; WANG YUN ; XU WANGHUI

Agent(s): WU FENG AND ZHANG

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 DJ 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 JO JP KE KG KH KM KN KP KR KW 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 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: PRODUCTION OF ORGANIC ACIDS FROM XYLOSE RICH HYDROLYSATE BY BACTERIAL **FERMENTATION**

Abstract: This invention relates to the metabolic evolution of a microbial organism previously optimized for producing an organic acid in commercially significant quantities under fermentative conditions using a hexose **sugar** as sole source of carbon in a minimal mineral medium. As a result of this metabolic evolution, the microbial organism acquires the ability to use pentose **sugars** in non-detoxified lignocellulosic hydrolysate for its growth while retaining the original growth kinetics, the rate of organic acid production and the ability to use hexose **sugars** as a source of carbon. More specifically, this invention provides bacterial strains that have the ability to produce succinic acid using non-detoxified lignocellulosic hydrolysate as the source of organic carbon. This invention also discloses the genetic changes in the microorganism that arise during the course of metabolic evolution in the presence of non-detoxified lignocellulosic hydrolysate.

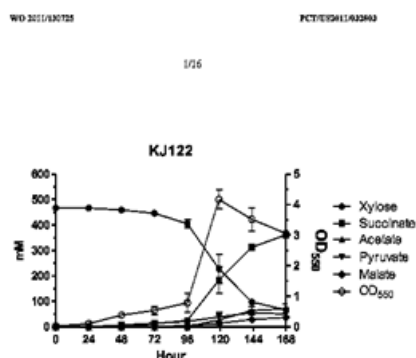
Classifications:

International (IPC 8-9): C12N1/20 C12N1/21 C12N15/31 C12N15/52 C12P7/40 C12R1/01 (Advanced/Invention); C12R1/01 (Advanced/Non-invention)

CPC: C07K14/245 C12N9/1205 C12P7/40 C12P7/42 C12P7/46 C12P7/56 C12P7/58 C12P13/14 C12P13/20

European: C07K14/245 C12N9/12C C12P13/14 C12P13/20 C12P7/40 C12P7/42 C12P7/46 C12P7/56 C12P7/58

PatBase - WO11130725_A2

**Figure 1****Family:**

Publication number	Publication date	Application number	Application date
BR112012026539 A2	20150922	BR20121126539	20110416
WO11130725 A2	20111020	WO2011US32803	20110416
WO11130725 A3	20120419	WO2011US32803	20110416

Priority:

US20100342695P 20100416 WO2011US32803 20110416

Probable Assignee: MYRIANT TECHNOLOGIES INC

Assignee(s): (std): GRABAR TAMMY B ; HOUSER WILLIAM ; MYRIANT CORP ; MYRIANT TECHNOLOGIES INC

Inventor(s): (std): GRABAR TAMMY B ; HOUSER WILLIAM

Inventor(s): TAMMY B GRABAR ; WILLIAM HOUSER

Agent(s): MANNAN RAMASAMY M

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 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: METABOLIC EVOLUTION OF ESCHERICHIA COLI STRAINS THAT PRODUCE ORGANIC ACIDS

Abstract: This invention relates to the metabolic evolution of a microbial organism previously optimized for producing an organic acid in commercially significant quantities under fermentative conditions using a hexose **sugar** as sole source of carbon in a minimal mineral medium. As a result of this metabolic evolution, the microbial organism acquires the ability to use pentose **sugars** derived from cellulosic materials for its growth while retaining the original growth kinetics, the rate of organic acid production and the ability to use hexose **sugars** as a source of carbon. This invention also discloses the genetic change in the microorganism that confers the ability to use both the hexose and pentose **sugars** simultaneously in the production of commercially significant quantities of organic acids.

Classifications:

International (IPC 8-9): C07H21/04 C07K14/245 C12N1/00 C12N1/20 C12N1/21 C12N15/00 C12N15/09 C12N15/31 C12N15/52 C12N15/74 C12N9/12 C12P7/00 C12P7/40 C12P7/42 C12P7/46 C12P7/54 C12R1/01 C12R1/19 (Advanced/Invention); C12R1/01 C12R1/19 (Advanced/Non-invention)

International (IPC 1-7): C12N1/21 C12N15/31 C12P7/00 C12R1/01 C12R1/19

CPC: C07K14/245 C12P7/40 C12P7/46 C12P7/54 C12N15/74 C12N9/12 C12Y101/01037 C12Y101/01082 C12Y401/01031 C12Y604/01001

European: C07K14/245 C12P7/40 C12P7/46 C12P7/54

US: 435/136 435/136P 435/145 435/243 435/252.3 435/252.300S 435/252.31 435/252.310S 435/252.32 435/252.320S 435/252.33 435/252.330S 435/252.34 435/252.340S 435/252.35 435/252.350S 435/471 536/23.2

JP F-Term: 4B024 4B024/AA03 4B024/AA05 4B024/BA80 4B024/CA01 4B024/CA09 4B024/CA11 4B024/CA20 4B024/DA06 4B024/EA04 4B024/FA02 4B024/GA11 4B024/HA01 4B024/HA11 4B064 4B064/AD01 4B064/CA02 4B064/CA19 4B064/CC24 4B064/DA10 4B064/DA16 4B065 4B065/AA01 4B065/AA26 4B065/AB01 4B065/AC14 4B065/BA01 4B065/BB14 4B065/CA10 4B065/CA41

JP F-Index: C12N1/21/ZNA C12N15/00/A C12P7/40 C12P7/42

PatBase - US2012202259_AA

Patent Application Publication Aug. 9, 2012 Sheet 1 of 11 US 2012/0202259 A1

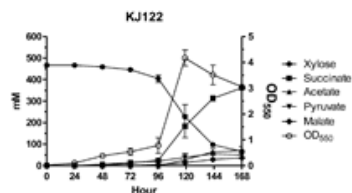


Figure 1

Family:

Publication number	Publication date	Application number	Application date
AU2010349739 AA	20111006	AU20100349739	20101117
AU2010349739 BB	20141016	AU20100349739	20101117
BR112012011835 A2	20150929	BR20121111835	20101117
CA2775971 AA	20111006	CA20102775971	20101117
CA2775971 C	20170502	CA20102775971	20101117
CN102686718 A	20120919	CN201080052405	20101117
CN102686718 B	20141224	CN201080052405	20101117
DE602010045136 D1	20171019	DE201060045136T	20101117
EP2501798 A2	20120926	EP20100849167	20101117
EP2501798 A4	20130417	EP20100849167	20101117
EP2501798 B1	20170906	EP20100849167	20101117
ES2644820 T3	20171130	ES20100849167T	20101117
IN02913DN2012 A	20131115	IN2012DN02913	20120404
IN296761 B	20180518	IN2012DN02913	20120404
JP2013511276 T2	20130404	JP20120540023T	20101117
JP5939986 B2	20160629	JP20120540023T	20101117
KR101695605 B1	20170111	KR20167016498	20101117
KR20120103645 A	20120919	KR20127015610	20101117
KR20160079897 A	20160706	KR20167016498	20101117
MX2012005751 A1	20120619	MX20120005751	20101117
MY158175 A	20160915	MY20120001641	20101117
TR201718146 T4	20171221	TR20170018146T	20101117
US2012202259 AA	20120809	US20100394176	20101117
US8871489 BB	20141028	US20100394176	20101117
VN15517 A1	20160627	VN20120001002	20101117
WO11123154 A2	20111006	WO2010US57111	20101117
WO11123154 A3	20111215	WO2010US57111	20101117

Priority:

US20000281483P 20001118 US20090281483P 20091118 EP20100849167 20101117
WO2010US57111 20101117 US20100394176 20101117

Probable Assignee: MYRIANT CORP

Assignee(s): (std): GONG WEI ; GRABAR TAMMY ; MYRIANT CORP ; MYRIANT TECH LLC ; MYRIANT TECHNOLOGIES LLC ; YOCUM R ROGERS

Assignee(s): PTT GLOBAL CHEMICAL PUBLIC CO LTD ; PTTGC INNOVATION AMERICA CORP ; PTTGC INNOVATION AMERICA CORP ; MYRIANT CORP QUINCY

Inventor(s): (std): YOCUM R ROGERS ; GONG WEI ; WEI GONG ; TAMMY GRABAR ; ROGERS YOCUM R ; GRABAR TAMMY

Inventor(s): GONG WEI WOBURN ; R ROGERS YOCUM ; GRABAR TAMMY READING ; YOCUM R ROGERS ; YOCUM ROGERS R ; YOCUM R ROGERS LEXINGTON

Agent(s): SPRUSON AND FERGUSON; MBM INTELLECTUAL PROPERTY LAW LLP; MUELLER BORE AND PARTNER

PATENTANWALTE PARTG MBB; MUELLER BORE AND PARTNER PATENTANWALTE; CURELL MIREIA;
YAMAZAKI HIROSHI; TANAKA MITSUO; TOMITA KENJI; YESIM METIN; RAMASAMY; MANNAN RAMASAMY
M

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: IMPROVED YEAST FOR ETHANOL PRODUCTION

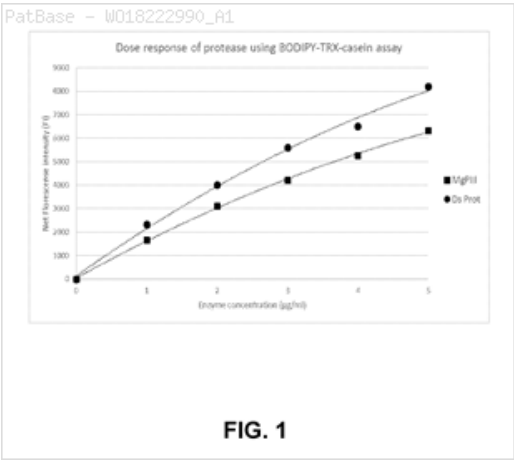
Abstract: Described herein are recombinant fermenting organisms having a heterologous polynucleotide encoding a protease. Also described are processes for producing a **fermentation** product, such as ethanol, from starch or cellulosic-containing material with the recombinant fermenting organisms.

Classifications:

International (IPC 8-9): C12N1/16 C12P7/06

C12P7/10 (Advanced/Invention)

CPC: C12P7/06 C12N1/16 C12P7/10



Family:

Publication number	Publication date	Application number	Application date
WO18222990 A1	20181206	WO2018US35596	20180601

Priority:

US20170514636P 20170602

Probable Assignee: NOVOZYMES INC

Assignee(s): (std): HOGSETT DAVID ; NOVOZYMES AS

Assignee(s): NOVOZYMES A S ; NOVOZYMES INC

Inventor(s): (std): CATLETT MICHAEL GLENN ; HARRIS PAUL VINCENT ; HOGSETT DAVID ; SOONG CHEE LEONG ; TASSONE MONICA

Agent(s): FECHTER ERIC J 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 DJ 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 JO JP KE KG KH KM KN KP KR KW 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 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: POLYPEPTIDES WITH PERMEASE ACTIVITY

Abstract: The invention relates to a polypeptide having a mutation at one or more position corresponding to T219 of SEQ ID NO: 55, wherein the polypeptide has at least 50 percent sequence identity with SEQ ID NO: 55, and wherein the polypeptide has permease activity.

Classifications:

International (IPC 8-9): C07H21/04 C07K1/00 C07K14/395 C12N1/00 C12N1/16 C12N1/18 C12N1/19 C12N15/00 C12N15/09 C12N15/31 C12N15/52 C12N15/81 C12N9/12 C12P1/02 C12P19/14 C12P19/18 C12P19/34 C12P21/06 C12P7/06 C12P7/08 C12P7/10 C12P7/14 C12P7/16 C12P7/40 C12P7/56 (Advanced/Invention); C12N1/18 C12N9/12 (Core/Invention)
International (IPC 1-7): C07K14/395 C12N1/18 C12N9/12 C12P7/08
CPC: C12P7/06 C12N9/1205 C07K14/395 C12P7/10 Y02E50/16 Y02E50/17 C12N15/81

European: C07K14/395 C12P7/10

US: 1/1 435/108 435/109 435/113 435/115 435/139 435/140 435/144 435/145 435/146 435/158 435/159 435/160 435/161 435/162 435/167 435/189 435/193 435/194 435/198 435/200 435/201 435/209 435/219 435/232 435/254.11 435/254.2 435/254.21 435/320.1 435/43 435/471 435/69.1 435/91.1 435/97 530/350 536/23.1 536/23.2

JP F-Term: 4B024 4B024/AA17 4B024/CA04 4B024/DA12 4B024/FA01 4B024/GA11 4B064 4B064/AC03 4B064/CA06 4B064/CA19 4B064/CC24 4B064/DA16 4B065 4B065/AA72 4B065/CA06 4B065/CA55 4B024/AA03 4B024/BA80 4B024/CA02 4B024/CA20 4B024/EA04 4B024/GA19 4B024/GA25 4B024/HA01 4B064/AC04 4B064/AD01 4B064/AD33 4B064/BJ01 4B064/BJ04 4B064/CA21 4B064/CB07 4B064/CC03 4B064/CD09 4B064/CD22 4B064/CD24 4B064/DA01 4B064/DA11 4B065/AA81 4B065/AB01 4B065/AC14 4B065/BA01 4B065/BD43 4B065/CA10 4B065/CA19 4B065/CA44 4B065/CA60 4H045 4H045/AA10 4H045/BA09 4H045/CA10 4H045/DA50 4H045/EA07 4H045/EA20 4H045/EA60 4H045/FA74

JP F-Index: C12N1/19/ZNA C12N15/00/A C12N15/81/P C12N15/81/Z C12P7/06 C12P7/10 C07K14/395/ZNA C12N1/19 C12P19/14/A C12P7/16 C12P7/40 C12P7/56

PatBase - US2013236932_AA

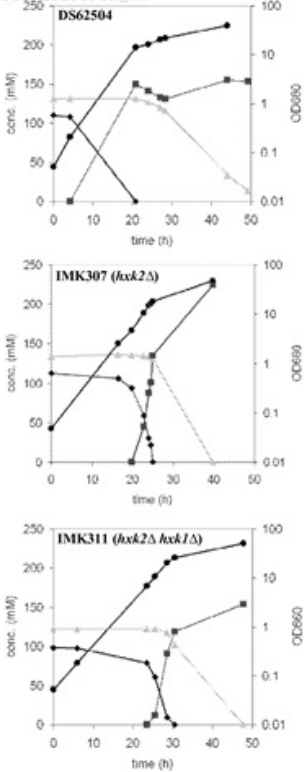


Fig. 1

Family:

Publication number	Publication date	Application number	Application date
AR083447 AA	20130227	AR2011P103810	20111013
AR083448 AA	20130227	AR2011P103811	20111013
AR083449 AA	20130227	AR2011P103812	20111013
AU2011315569 AA	20120419	AU20110315569	20111011
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AU2011315572 BB	20150903	AU20110315572	20111011
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BR112013009157 A2	20160726	BR20131109157	20111011
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CA2813531 AA	20130403	CA20112813531	20111011
CN103154234 A	20130612	CN201180049788	20111011
CN103154234 B	20160817	CN201180049788	20111011
CN103189505 A	20130703	CN201180049832	20111011
DE602011037851 D1	20170622	DE201160037851T	20111011
DK2627765 T3	20170828	DK20110767263T	20111011
EA201300454 A1	20130930	EA20130000454	20111011
EA201300455 A1	20130930	EA20130000455	20111011
EP2627765 A2	20130821	EP20110767263	20111011
EP2627765 B1	20170510	EP20110767263	20111011
EP2627767 A1	20130821	EP20110767265	20111011
ES2629252 T3	20170808	ES20110767263T	20111011
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IN02506DN2013 A	20141031	IN2013DN02506	20130320
JP2013539655 T2	20131028	JP20130533186T	20111011
JP2013542724 T2	20131128	JP20130533187T	20111011
JP5961886 B2	20160803	JP20130533186T	20111011
KR20130100169 A	20130909	KR20137012087	20111011
KR20140005883 A	20140115	KR20137012114	20111011
MX2013004121 A1	20140227	MX201300004121	20111011
MX2013004127 A1	20130520	MX201300004127	20111011
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TH135751 A	20140728	TH20131002005	20111011
US2013236932 AA	20130912	US20110822288	20111011
US2013273601 AA	20131017	US20110822285	20111011

US9034608 BB	20150519	US20110822288	20111011
US9353376 BB	20160531	US20110822285	20111011
WO12049170 A2	20120419	WO2011EP67720	20111011
WO12049170 A3	20120614	WO2011EP67720	20111011
WO12049173 A1	20120419	WO2011EP67726	20111011
WO12049179 A2	20120419	WO2011EP67738	20111011
WO12049179 A3	20120614	WO2011EP67738	20111011

Priority:

EP20100075710 20101013 US20100392617P 20101013 EP20110767263 20111011
EP20110767265 20111011 US20110822288 20111011 US20110822285 20111011
WO2011EP67720 20111011 WO2011EP67726 20111011

Probable Assignee: ROYAL DSM NV

Assignee(s): (std): DSM IP ASSETS BV ; JONG DE RENE MARCEL ; KLAASSEN PAUL ; PRONK JACOBUS THOMAS ; MARIS VAN ANTONIUS JEROEN ADRIAAN ; WISSELINK HENDRIK WOUTER ; VAN MARIS ANTONIUS JEROEN ADRIAAN ; PRONK JACOBUS THOMAS JAN ; ROYAL DSM NV ; DE JONG RENE MARCEL ; DSM IP ASSESTS B V ; DSM IP ASSESTS BV

Assignee(s): DSM IP ASSETS B V

Inventor(s): (std): KLAASSEN PAUL ; PRONK JACOBUS THOMAS ; WISSELINK HENDRIK WOUTER ; MARIS VAN ANTONIUS JEROEN ADRIAAN ; JONG DE RENE MARCEL ; DE JONG RENE MARCEL ; MARIS ANTONIUS JEROEN ADRIAAN VAN ; JONG RENE MARCEL DE ; PRONK JACOBUS ; VAN MARIS ANTONIUS ; WISSELINK HENDRIK ; PRONK JACOBUS THOMAS JAN ; VAN MARIS ANTONIUS JEROEN ADRIAAN

Inventor(s): DE JONG REN MARCEL ; ANTONIUS JEROEN ADRIAAN VAN MARIS ; RENE MARCEL DE JONG ; PAUL KLAASSEN ; JACOBUS THOMAS PRONK ; HENDRIK WOUTER WISSELINK

Agent(s): PHILLIPS ORMONDE FITZPATRICK; SMART AND BIGGAR; KLEIBORN PAUL ERIK; LEHMANN MARIA ISABEL; MILES AND STOCKBRIDGE PC; MCBEE MOORE WOODWARD AND VANIK IP LLC; KLEIBORN PAUL ERIK 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 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: METHOD FOR PRODUCTION OF N-PROPANOL AND OTHER C3-CARBON CONTAINING PRODUCTS FROM SYNGAS BY SYMBIOTIC ARRANGEMENT OF C1-FIXING AND C3-PRODUCING ANAEROBIC MICROORGANISM CULTURES

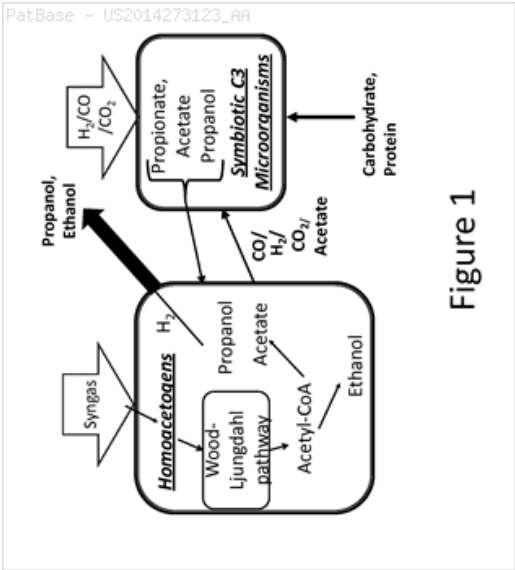
Abstract: This invention provides methods and systems for the production of propanol. Specifically, the methods and systems of the present invention use symbiotic arrangement of anaerobic microorganism cultures for the production of propanol from syngas.

Classifications:

International (IPC 8-9): C 12P7/04 (Advanced/Invention)

CPC: C 12P7/04

US: 435/157 435/294.1



Family:

Publication number	Publication date	Application number	Application date
CN105722987 A	20160629	CN201480014307	20140314
US2014273123 AA	20140918	US20130802916	20130314
WO14140336 A1	20140918	WO2014EP55198	20140314

Priority:

US20130802916 20130314 WO2014EP55198 20140314

Probable Assignee: SYNATA BIO INC

Assignee(s): (std): TOBEY RICHARD ; LEVINSON WILLIAM ; DATTA RATHIN ; HICKEY ROBERT ; ENZIEN MICHAEL ; COSKATA INC ; TOTAL RES AND TECHNOLOGY FELUY

Assignee(s): VINOD KHOSLA AND NEERU KHOSLA TRUSTEES OF KFT TRUST DATED NOVEMBER 17 1986 ; ADVANCED TECHNOLOGY VENTURES VII B LP ; ADVANCED TECHNOLOGY VENTURES VII C LP ; ADVANCED TECHNOLOGY VENTURES VII LP ; ATV ENTREPRENEURS VII LP ; KHOSLA VENTURES III LP ; SYNATA BIO INC ; TOTAL RESEARCH AND TECHNOLOGY FELUY

Inventor(s): (std): DATTA RATHIN ; ENZIEN MICHAEL ; HICKEY ROBERT ; LEVINSON WILLIAM ; TOBEY RICHARD

Agent(s): LEYDER FRANCIS

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 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: METHOD FOR PRODUCTION OF N-PROPANOL AND OTHER C3-CONTAINING PRODUCTS FROM SYNGAS BY SYMBIOTIC CO-CULTURES OF ANAEROBIC MICROORGANISMS

Abstract: This invention provides methods and systems for the production of propanol. Specifically, the methods and systems of the present invention use symbiotic co-cultures for the production of propanol from syngas.

Classifications:

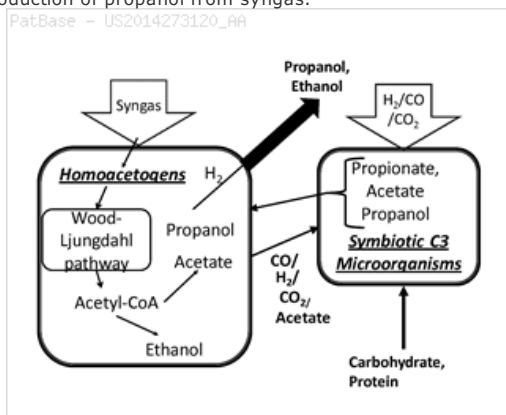
International (IPC 8-9): C12N1/20 C12N7/04 C12P39/00 C12P7/04

C12P7/52 C12R1/145 (Advanced/Invention);

C12R1/145 (Advanced/Non-invention)

CPC: C12P7/04 C12P7/52 C12N1/20 C12P39/00

US: 435/141 435/157 435/252.4 435/252.7



Family:

Publication number	Publication date	Application number	Application date
CN105899669 A	20160824	CN201480014261	20140314
US2014273120 AA	20140918	US20130802905	20130314
US9650651 BB	20170516	US20130802905	20130314
WO14140335 A1	20140918	WO2014EP55197	20140314

Priority:

US20130802905 20130314

WO2014EP55197 20140314

Probable Assignee: COSKATA INC

Assignee(s): (std): ENZIEN MICHAEL ; LEVINSON WILLIAM ; DATTA RATHIN ; HICKEY ROBERT ; COSKATA INC ; TOTAL RES AND TECHNOLOGY FELUY ; TOTAL RES AND TECH FELUY

Assignee(s): VINOD KHOSLA AND NEERU KHOSLA TRUSTEES OF KFT TRUST DATED NOVEMBER 17 1986 ; ADVANCED TECHNOLOGY VENTURES VII B LP ; ADVANCED TECHNOLOGY VENTURES VII C LP ; ADVANCED TECHNOLOGY VENTURES VII LP ; ATV ENTREPRENEURS VII LP ; KHOSLA VENTURES III LP ; SYNATA BIO INC ; COSKATA LLC ; TOTAL RESEARCH AND TECHNOLOGY FELUY

Inventor(s): (std): DATTA RATHIN ; ENZIEN MICHAEL ; HICKEY ROBERT ; LEVINSON WILLIAM

Agent(s): MCDONNELL BOEHNNEN HULBERT AND BERGHOFF LLP; LEYDER FRANCIS

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 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: METHOD FOR PRODUCTION OF N-PROPANOL AND OTHER C3-CONTAINING PRODUCTS FROM SYNGAS USING MEMBRANE SUPPORTED BIOREACTOR

Abstract: This invention provides methods for the production of n-propanol. Specifically, the methods and systems of the present invention use symbiotic co-cultures operating in a membrane supported bioreactor for the production of n-propanol from syngas.

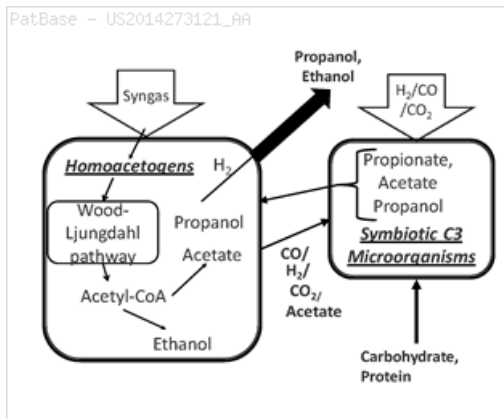
Classifications:

International (IPC 8-9): C12P7/04 C12P7/06

C12P7/52 (Advanced/Invention)

CPC: C12P7/52 C12P7/04 C12P39/00 Y02E50/17

US: 435/141 435/157



Family:

Publication number	Publication date	Application number	Application date
US2014273121 AA	20140918	US20130802924	20130314
WO14140339 A1	20140918	WO2014EP55201	20140314
WO14140339 A4	20141030	WO2014EP55201	20140314

Priority:

US20130802924 20130314

Probable Assignee: SYNATA BIO INC

Assignee(s): (std): DO YOUNG ; LEVINSON WILLIAM ; DATTA RATHIN ; ENZIEN MICHAEL ; COSKATA INC ; TOTAL RES AND TECHNOLOGY FELUY ; XU JIAN

Assignee(s): TOTAL RESEARCH AND TECHNOLOGY FELUY ; VINOD KHOSLA AND NEERU KHOSLA TRUSTEES OF KFT TRUST DATED NOVEMBER 17 1986 ; ADVANCED TECHNOLOGY VENTURES VII B LP ; ADVANCED TECHNOLOGY VENTURES VII C LP ; ADVANCED TECHNOLOGY VENTURES VII LP ; ATV ENTREPRENEURS VII LP ; KHOSLA VENTURES III LP ; SYNATA BIO INC

Inventor(s): (std): XU JIAN ; LEVINSON WILLIAM ; ENZIEN MICHAEL ; DO YOUNG ; DATTA RATHIN

Agent(s): LEYDER FRANCIS

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 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: METHOD FOR PRODUCTION OF N-PROPANOL AND/OR ETHANOL BY **FERMENTATION** OF MULTIPLE SUBSTRATES IN A SYMBIOTIC MANNER

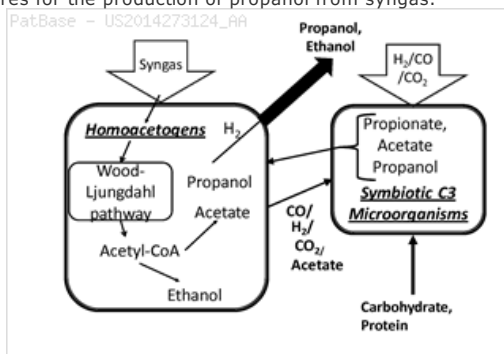
Abstract: This invention provides methods and systems for the production of n-propanol and ethanol. Specifically, the methods and systems of the present invention use symbiotic co-cultures for the production of propanol from syngas.

Classifications:

International (IPC 8-9): C12P7/04 C12P7/14 (Advanced/Invention)

CPC: C12P7/14 C12P7/04

US: 435/157 435/158 435/162



Family:

Publication number	Publication date	Application number	Application date
US2014273124 AA	20140918	US20130802930	20130314
US2016153011 AA	20160602	US20150958159	20151203
WO14140340 A1	20140918	WO2014EP55202	20140314

Priority:

US20130802930 20130314 US20150958159 20151203

Probable Assignee: SYNATA BIO INC

Assignee(s): (std): ENZIEN MICHAEL ; LEVINSON WILLIAM ; HICKEY ROBERT ; COSKATA INC ; TOTAL RES AND TECHNOLOGY FELUY ; VERMEIREN WALTER

Assignee(s): VINOD KHOSLA AND NEERU KHOSLA TRUSTEES OF KFT TRUST DATED NOVEMBER 17 1986 ; KHOSLA VENTURES III LP ; SYNATA BIO INC ; TOTAL RESEARCH AND TECHNOLOGY FELUY ; ADVANCED TECHNOLOGY VENTURES VII B LP ; ADVANCED TECHNOLOGY VENTURES VII C LP ; ADVANCED TECHNOLOGY VENTURES VII LP ; ATV ENTREPRENEURS VII LP

Inventor(s): (std): ENZIEN MICHAEL ; HICKEY ROBERT ; LEVINSON WILLIAM ; VERMEIREN WALTER

Agent(s): LEYDER FRANCIS

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 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

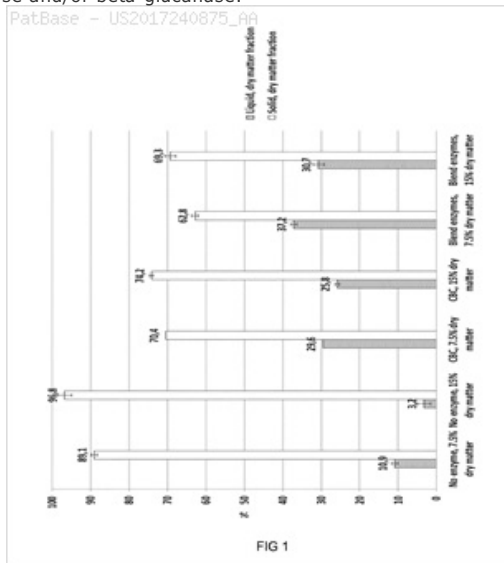
Title: SOLUBILIZATION OF MSW WITH BLEND ENZYMES

Abstract: The present invention relates to a method for solubilisation or hydrolysis of Municipal Solid Waste (MSW) with an enzyme blend and an enzyme composition for solubilization of Municipal Solid Waste (MSW), the enzyme composition comprising a cellulolytic background composition and a protease, lipase and/or beta-glucanase.

Classifications:

International (IPC 8-9): B09B3/00 C05F11/10 C05F9/00 C11D3/386 C12N9/16 C12N9/20 C12N9/24 C12N9/26 C12N9/42 C12N9/48 C12N9/50 C12N9/88 C12P1/00 C12P5/02 C12P7/08 (Advanced/Invention); C02F11/04 (Advanced/Non-invention)

International (IPC 1-7): C11D3/386 C12N9/24 C12N9/42
CPC: C12N9/2434 Y02E50/343 C12N9/88 C12N9/2488 C12N9/2411 C12P5/023 C12P7/08 C12Y302/01073 C12Y302/01006 C12Y304/23028 C12Y304/23023 C12Y304/21004 C12Y304/11001 C12Y302/01 C12N9/2448 C12Y301/01 C12N9/485 C12N9/20 C12N9/50 C11D3/38627 C11D3/38645 C05F9/00 C05F11/10 Y02A40/214 C11D3/38618 C12N9/244

**Family:**

Publication number	Publication date	Application number	Application date
BR112017003483 A2	20180116	BR20171103483	20150827
BR112017003847 A2	20180227	BR20171103847	20150827
CA2958034 AA	20170213	CA20152958034	20150827
EP3186372 A1	20170705	EP20150759712	20150827
EP3186373 A1	20170705	EP20150763229	20150827
ID201802530 A	20180316	ID2017P0001919	20150827
IN201717007963 A	20170714	IN201717007963	20170307
US2017240875 AA	20170824	US20150506881	20150827
US2017306270 AA	20171026	US20150507648	20150827
WO16030472 A1	20160303	WO2015EP69676	20150827
WO16030480 A1	20160303	WO2015EP69685	20150827

Priority:

EP20140182698 20140828 WO2015EP69676 20150827 WO2015EP69685 20150827

Probable Assignee: NOVOZYMES INC

Assignee(s): (std): NOVOZYMES AS ; RENESCIENCE AS

Assignee(s): WAWRZYNCZYK JOANNA ; ROSGAARD LISA ; SOERENSEN HANNE RISBJERG ; RENESCIENCE A S ; NOVOZYMES INC ; RENESCIENCE A S ; BAEKGAARD LONE ; NIELSEN HENRIK B ; NOVOZYMES A S

Inventor(s): (std): BAEKGAARD LONE ; HANNE R SOERENSEN ; HENRIK B NIELSEN ; JOANNA WAWRZYNCZYK ; LISA ROSGAARD ; HANNE RISBJERG SOERENSEN ; ROSGAARD LISA ; NIELSEN HENRIK B ; WAWRZYNCZYK JOANNA ; SOERENSEN HANNE R ; SOERENSEN HANNE RISBJERG ; NIELSEN HENRIK BANGSOE ; SOERENSEN HANNE ; LONE BAEKGAARD

Agent(s): BENOIT AND COTE INC; PLOUGMANN VINGTOFT A S; ANNISA AM BADAR SH LLM

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: PROCESS FOR MANUFACTURING PROPIONATE PRODUCTS

Abstract: A process for manufacturing propionate products through **fermentation**, including the steps of fermenting a carbon source selected from **sugars** and **lactate** in a **fermentation** medium by means of a **propionic acid** producing microorganism to provide a first **fermentation** broth comprising a propionate salt, recovering **propionic acid** producing microorganism from the first **fermentation** broth, subjecting the first **fermentation** broth from which **propionic acid** producing microorganism have been recovered to a water removal step to form a first propionate salt product, fermenting a carbon source comprising glycerol with the **propionic acid** producing microorganism recovered from the first **fermentation** broth in the presence of an inorganic alkaline salt to provide a second **fermentation** broth comprising a propionate salt, subjecting the second **fermentation** broth to a purification step comprising at least one precipitation step, to form a second propionate salt product. The process allows efficient manufacture of propionate salts products.

Classifications:

International (IPC 8-9): C 12P7/52 (Advanced/Invention)

CPC: C 12P7/52

Family:

Publication number	Publication date	Application number	Application date
BR112017019487 A2	20180515	BR20171119487	20160317
CA2979586 AA	20170913	CA20162979586	20160317
CL2017002290 A1	20180316	CL20170002290	20170911
CN107438673 A	20171205	CN201680016068	20160317
CO20170009093 A2	20171130	CO20170009093	20170906
EP3070173 A1	20160921	EP20150159568	20150318
EP3271466 A1	20180124	EP20160710201	20160317
EP3271466 B1	20181219	EP20160710201	20160317
IN201747032137 A	20170915	IN201747032137	20170911
KR20170131498 A	20171129	KR20177029477	20160317
MX2017011424 A1	20180517	MX20170011424	20160317
US2018073044 AA	20180315	US20160558842	20160317
WO16146721 A1	20160922	WO2016EP55753	20160317

Priority:

EP20150159568 20150318 WO2016EP55753 20160317

Probable Assignee: PURAC BIOCHEM BV

Assignee(s): (std): PURAC BIOCHEM BV

Assignee(s): SOARES MENDES FILIPA CRISTINA ; VISSER DIANA ; MEIJER JASPER

Inventor(s): (std): DIANA VISSER ; FILIPA CRISTINA SOARES MENDES ; JASPER MEIJER ; VISSER DIANA ; SOARES MENDES FILIPA CRISTINA ; MEIJER JASPER

Agent(s): NORTON ROSE FULBRIGHT CANADA LLP SENCRL SRL; JARRY IP JARRY IP SPA; JUAN CARLOS CUESTA QUINTERO; HESSELINK DINAH ELISABETH; DE VRIES AND METMAN; DE VRIES AND METMAN ET AL

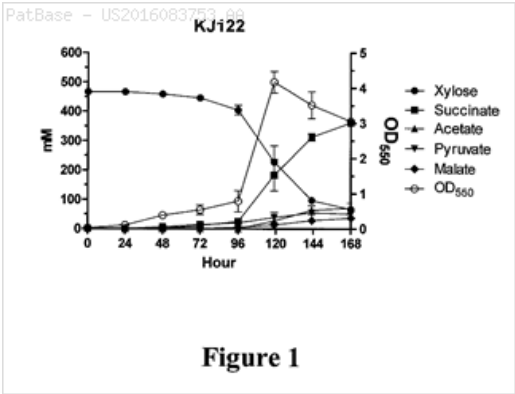
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW 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: METABOLIC EVOLUTION OF ESCHERICHIA COLI STRAINS THAT PRODUCE ORGANIC ACIDS

Abstract: This invention relates to the metabolic evolution of a microbial organism previously optimized for producing an organic acid in commercially significant quantities under fermentative conditions using a hexose **sugar** as sole source of carbon in a minimal mineral medium. As a result of this metabolic evolution, the microbial organism acquires the ability to use pentose **sugars** derived from cellulosic materials for its growth while retaining the original growth kinetics, the rate of organic acid production and the ability to use hexose **sugars** as a source of carbon. This invention also discloses the genetic change in the microorganism that confers the ability to use both the hexose and pentose **sugars** simultaneously in the production of commercially significant quantities of organic acids.

Classifications:

International (IPC 8-9): C12N9/00 C12N9/88
C12P7/46 (Advanced/Invention)
CPC: C12P7/46 C12N9/93 C12N9/88 C12Y604/01001
C12Y401/01032 C12P2203/00 C12Y207/03009 C12Y401/01031
US: 435/145 435/252.1 435/252.2 435/252.3 435/252.5 435/252.8
435/253.2 435/253.3 435/253.5



Family:

Publication number	Publication date	Application number	Application date
US2016083753 AA	20160324	US20140491073	20140919
US10017793 BB	20180710	US20140491073	20140919

Priority:

US20090281483P 20091118 US20120394176 20120305 US20140491073 20140919

Probable Assignee: MYRIANT CORP
Assignee(s): (std): MYRIANT CORP
Assignee(s): PTTGC INNOVATION AMERICA CORP
Inventor(s): (std): GONG WEI ; GRABAR TAMMY ; YOCUM R ROGERS
Agent(s): ADAM P

Title: PROCESS FOR PRODUCING PROPYLENE FROM SYNGAS VIA FERMENTATIVE PROPANOL PRODUCTION AND DEHYDRATION

Abstract: A process for making propylene by dehydration of propanol can include gasifying a carbonaceous solid or liquid feedstock, or reforming a gaseous carbonaceous feedstock into synthesis gas. The synthesis gas can be fermented or co-fermented by means of a microorganism into propanol. The microorganism can be a wild strain having the natural capability to ferment synthesis gas into propanol. The microorganism can be a microorganism possessing the required nucleic acid sequence information to express the enzymes for the biosynthesis of C3-oxygenates modified with the required nucleic acid sequence information to express the enzymes of the Wood-Ljungdahl pathway. The microorganism can be a microorganism possessing the required nucleic acid sequence information to express the enzymes of the Wood-Ljungdahl pathway, modified with the required nucleic acid sequence information to express the enzymes for the biosynthesis of C3-oxygenates. The stream can be fractionated, purified, and then dehydrated at conditions effective to make propylene.

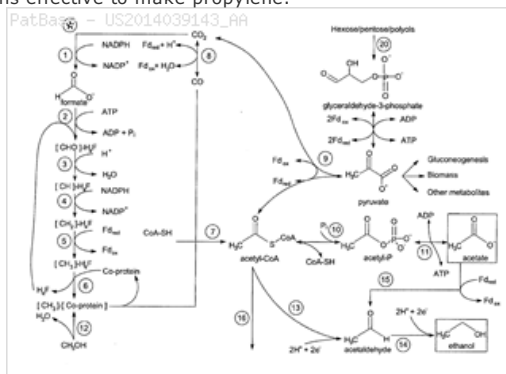
Classifications:

International (IPC 8-9): C07C1/24 C07C11/06 C08F10/06 C12N15/63 C12P5/02 C12P7/04 (Advanced/Invention)

CPC: C07C2521/04 C07C2521/08 C07C2529/40 C07C2529/65 C07C2529/70 C07C2529/83 C07C2529/85 C12P5/02 C07C1/24 C08F10/06 Y02E50/343 C12P7/04

European: C07C1/24 C12P7/04 M07C521/04 M07C521/08 M07C529/40 M07C529/65 M07C529/70 M07C529/83 M07C529/85

US: 435/167 526/339 526/348 526/348.2 526/348.3 526/348.5 585/16

**Family:**

Publication number	Publication date	Application number	Application date
BR112013014790 A2	20160927	BR20131114790	20111215
CN103370420 A	20131023	CN201180067740	20111215
CO6731096 A2	20130815	CO20130144231	20130617
EP2652140 A1	20131023	EP20110797321	20111215
IN05008DN2013 A	20141128	IN2013DN05008	20130606
KR20130086246 A	20130731	KR20137015582	20111215
US2014039143 AA	20140206	US20110994988	20111215
WO12080421 A1	20120621	WO2011EP72958	20111215

Priority:

EP20100195765 20101217 EP20110797321 20111215 WO2011EP72958 20111215

Probable Assignee: TOTAL RES AND TECHNOLOGY FELUY

Assignee(s): (std): TOTAL PETROCHEMICALS RES FELUY ; TOTAL RES AND TECHNOLOGY FELUY ; VERMEIREN WALTER

Assignee(s): TOTAL RESEARCH AND TECHNOLOGY FELUY ; TOTAL PETROCHEMICALS RESEARCH FELUY

Inventor(s): (std): VERMEIREN WALTER

Inventor(s): WALTER VERMEIREN

Agent(s): HELENA CAMARGO WILLIAMSON; LEYDER FRANCIS

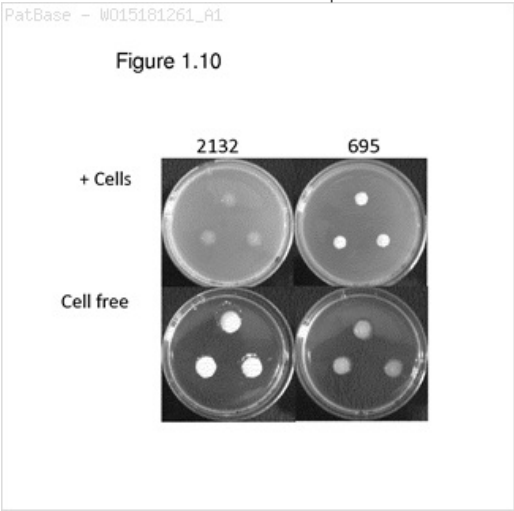
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY 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: ANTIFUNGAL LACTOBACILLUS PARACASEI STRAIN

Abstract: The present invention relates to a bacterium of species *Lactobacillus paracasei* strain DGCC 695 deposited as DSM 28601 at Leibniz Institute DSMZ-German Collection of Microorganisms and Cell Cultures or a functional equivalent thereof.

Classifications:

International (IPC 8-9): A01N63/00 A23C9/123 A23L3/3571
A61K35/747 C12N1/20 C12R1/225 (Advanced/Invention);
C12R1/225 (Advanced/Non-invention)
CPC: C12N1/20 A01N63/00 A23C9/1234 A23L3/3571 A23Y2220/63
A61K35/747 C12R1/225



Family:

Publication number	Publication date	Application number	Application date
GB201409468 A0	20140709	GB20140009468	20140528
WO15181261 A1	20151203	WO2015EP61762	20150527

Priority:

GB20140009468 20140528

Probable Assignee: DUPONT NUTRITION BIOSCI APS

Assignee(s): (std): DUPONT NUTRITION BIOSCI APS ; UNIV COPENHAGEN

Assignee(s): DUPONT NUTRITION BIOSCIENCES APS ; OF COPENHAGEN UNIV

Inventor(s): (std): AUNSBJERG STINA NIELSEN DISSING ; BENFELDT CONNIE ; HONORE ANDERS ; KNOECHEL SUSANNE ; MORGENSTERN HEIKE URSULA

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 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: RENEWABLE PARA-XYLENE FROM ACETIC ACID

Abstract: A process is described for making renewable para-xylene, comprising converting acetic acid to isobutene in the presence of a catalyst then converting the acetic acid-derived isobutene to a product composition including para-xylene. The catalyst can be a Zn_xZr_yO_z mixed oxide catalyst.

Classifications:

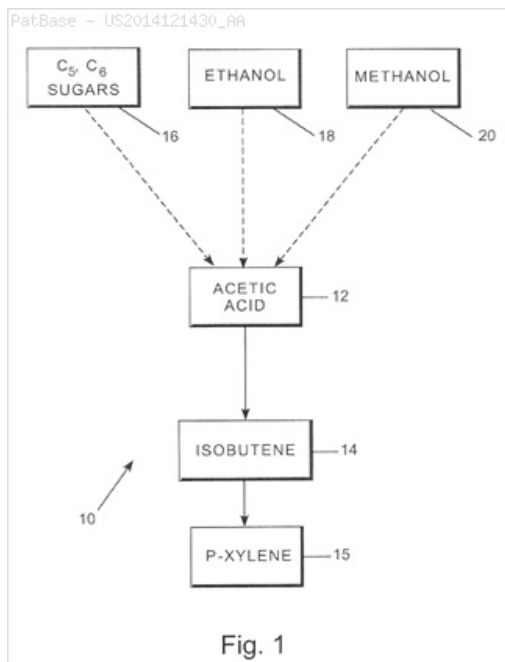
International (IPC 8-9): B01J21/06 B01J23/06 B01J27/02 B01J37/04 B01J37/08 C07C1/00 C07C1/20 C07C1/207 C07C1/24 C07C11/06 C07C11/09 C07C11/10 C07C11/18 C07C2/06 C07C2/10 C07C2/12 C07C2/86 C07C29/00 C07C29/147 C07C29/60 C07C41/06 C07C43/04 C07C45/35 C07C45/52 C07C5/03 C07C5/22 C07C5/327 C07C5/393 C07C5/48 C07C51/16 C07C51/235 C07C51/25 C07C51/50 C07C53/08 C07C57/04 C07C7/20 C08F36/08 C10G3/00 C10L1/18 C10L1/185 C10L10/10 C12P7/54

H02S10/00 (Advanced/Invention);

C12P7/52 C12P7/54 (Advanced/Non-invention)

CPC: C07C5/48 C07C5/327 H01L31/02021 H01L31/0504 Y02E10/50 H02S40/34 C07C51/12 C07C51/16 C07C2/867 C07C2/06 C07C5/03 C07C1/20 B01J37/08 B01J27/02 C07C51/252 C07C45/35 B01J21/06 C08F36/08 C07C43/046 C10L10/10 B01J37/04 C10L2200/0423 C10L2270/023 B01J21/066 C07C29/00 C07C29/60 C07C37/14 C07C41/06 C10G3/00 C10G3/44 C10G9/00 C10G2400/20 C10G2400/22 C10G3/50 C07C2/08 C07C1/2078 C07C11/10 C07C11/18 C07C31/202 C07C31/205 C07C53/08 C07C53/122 C12P7/52 C12P7/54 C10L1/023 C10L1/1852 C07C2/12 C07C5/393 C07C2523/06 C07C2529/40 C07C1/2072 C07C45/52 C07C51/235 C07C47/06 C07C47/02 C07C11/09 C07C47/22 C07C57/04 C07C1/207 C07C11/02 C07C15/08 C07C11/06 H01L31/048 C07C1/2074 C07C1/24 C07C2/10 C07C2521/06 Y02P20/52 C10L2200/0469 C10L1/185 C07C29/151 C07C45/513 B01J23/002 B01J37/0201 B01J2523/00 B01J37/20 C07C11/04 C08F210/12 C08F236/08 H01L21/823842 B01J23/06 H01L21/26513 H01L21/823821 H01L21/82385 H01L27/0922 H01L27/0924 H01L29/66537 H01L29/66545 B01J21/04

US: 1/1 423/594.12 44/449 502/216 502/343 526/335 526/337 562/512.2 562/532 568/650 568/671 568/697 568/861 568/864 585/16 585/254 585/321 585/327 585/328 585/638 585/640

**Family:**

Publication number	Publication date	Application number	Application date
CN103999354 A	20140820	CN201280057171	20121031
CN103999354 B	20170301	CN201280057171	20121031
US2014121430 AA	20140501	US20130060217	20131022
US2014128650 AA	20140508	US20130105249	20131213
US2015210607 AA	20150730	US20150683263	20150410
US2015210608 AA	20150730	US20150683272	20150410
US2015217273 AA	20150806	US20150683787	20150410
US2015218077 AA	20150806	US20150683257	20150410
US2015239799 AA	20150827	US20150683175	20150410
US2015239800 AA	20150827	US20150683236	20150410
US2015239803 AA	20150827	US20150683252	20150410
US2015239812 AA	20150827	US20150683187	20150410
US2016289155 AA	20161006	US20160183991	20160616
US9156746 BB	20151013	US20150683263	20150410
US9212106 BB	20151215	US20130105249	20131213
US9381495 BB	20160705	US20150683272	20150410
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US9505671 BB	20161129	US20130060217	20131022
US9580365 BB	20170228	US20150683236	20150410
US9586194 BB	20170307	US20150683175	20150410
US9751823 BB	20170905	US20160183991	20160616
US9975818 BB	20180522	US20150683252	20150410
WO14070354 A1	20140508	WO2013US62784	20131001
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WO14092849 A1	20140619	WO2013US63968	20131009
WO14093738 A1	20140619	WO2013US74854	20131213
WO14204509 A1	20141224	WO2013US63644	20131007
WO14204510 A1	20141224	WO2013US63971	20131009
WO15005941 A1	20150115	WO2013US67031	20131028
WO15005942 A1	20150115	WO2013US67036	20131028
WO15012876 A1	20150129	WO2013US67053	20131028
WO15060881 A1	20150430	WO2013US67168	20131029

Priority:

US20110553822P 20111031	US20110554710P 20111102	US20120585720P 20120112
US20120590925P 20120126	US20120620566P 20120405	US20120694548P 20120829
US20120694559P 20120829	US20120699701P 20120911	US20120720433P 20121031
WO2013US62784 20121031	WO2012US62784 20121031	US20120737312P 20121214
US20130836190P 20130618	US20130836188P 20130618	US20130844998P 20130711
US20130844957P 20130711	US20130856895P 20130722	WO2013US62784 20131001
WO2013US63644 20131007	WO2013US63968 20131009	WO2013US63971 20131009
WO2013US63644 20131013	US20130060217 20131022	WO2013US67053 20131028
WO2013US67036 20131028	WO2013US67031 20131028	WO2013US67256 20131029
US20130105249 20131213	US20150683272 20150410	US20150683263 20150410
US20150683787 20150410	US20150683257 20150410	US20150683236 20150410
US20150683252 20150410	US20150683187 20150410	US20150683175 20150410

Probable Assignee: WASHINGTON STATE UNIV

Assignee(s): (std): ARCHER DANIELS MIDLAND CO ; ARCHER DANIELS MILDAND CO ; TENKSOLAR INC ; UNIV
WASHINGTON STATE ; WASHINGTON STATE UNIV

Inventor(s): (std): BERG LOWELL ; CHANGJUN LIU ; GROSS SHADY ; JUNMING SUN ; LIU CHANGJUN ; MARTIN KEVIN ;
MEYER DALLAS W ; MEYER FORREST C ; NOVOTNY JOHN ; SHANGJUN LIU ; SMITH COLIN ; SUN
JUNMING ; TERRIAN JOSHUA ; VENKITASUBRAMANIAN PADMESH ; WANG YONG ; YONG WANG

Agent(s): WILLIAM B ; MILLER WILLIAM B

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 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: METHODS AND COMPOSITIONS FOR IMPROVING **SUGAR** TRANSPORT, MIXED **SUGAR FERMENTATION**, AND PRODUCTION OF BIOFUELS

Abstract: The present disclosure relates to host cells containing a recombinant polynucleotide encoding a polypeptide where the polypeptide transports celldextrin into the cell. The present disclosure further relates to methods of increasing transport of celldextrin into a cell, methods of increasing growth of a cell on a medium containing celldextrin, methods of co-fermenting cellulose-derived and hemicellulose-derived **sugars**, and methods of making hydrocarbons or hydrocarbon derivatives by providing a host cell containing a recombinant polynucleotide encoding a polypeptide where the polypeptide transports celldextrin into the cell. The present disclosure relates to host cells containing a recombinant polynucleotide encoding a polypeptide where the polypeptide transports a pentose into the cell, methods of increasing transport of a pentose into a cell, methods of increasing growth of a cell on a medium containing pentose **sugars**, and methods of making hydrocarbons or hydrocarbon derivatives by providing a host cell containing a recombinant polynucleotide encoding a polypeptide where the polypeptide transports a pentose into the cell.

Classifications:

International (IPC 8-9): C07K14/37 C07K14/705 C12N C12N1/00 C12N1/15 C12N1/19 C12N1/21 C12N15/00 C12N15/31 C12N15/52 C12N15/56 C12N15/62 C12N15/80 C12N15/81 C12N15/87 C12N5/10 C12P C12P19/00 C12P19/14 C12P21/02 C12P21/04 C12P21/06 C12P5/00 C12P7/06 C12P7/10 C12P7/16 C12R C12R1/865 (Advanced/Invention); C07K14/37 C07K14/705 C12N15/00 C12N15/09 C12N5/00 C12N9/42 C12N9/90 C12R1/865 (Advanced/Non-invention); C12N15/52 C12N15/62 C12N15/87 (Core/Invention)

International (IPC 1-7): C12N15/52 C12N15/62 C12N15/87

C12P19/00 C12R1/865

CPC: C12N15/80 C12P21/02 C07K14/705 C12N15/81 C07K14/37 Y02E50/16 Y02E50/17

European: C07K14/37

US: 435/243 435/252.3 435/252.300S 435/252.31 435/252.310P 435/252.33 435/252.330S 435/254.11 435/254.110S 435/254.2 435/254.200S 435/254.21 435/254.210S 435/254.22 435/254.220S 435/254.23 435/254.230S 435/254.4 435/69.1 435/71.1

JP F-Term: 4B024 4B024/AA17 4B024/CA04 4B024/CA20 4B024/DA06 4B024/DA12 4B024/EA04 4B024/GA11 4B050 4B050/CC03 4B050/DD03 4B050/LL05 4B064 4B064/AB01 4B064/AC03 4B064/AC04 4B064/CA06 4B064/CA19 4B064/CC24 4B064/DA16 4B065 4B065/AA71 4B065/AA80 4B065/AB01 4B065/AC14 4B065/BA02 4B065/CA06 4B065/CA54 4H045 4H045/BA10 4H045/CA15 4H045/DA50 4H045/DA89 4H045/EA60 4H045/FA74

JP F-Index: C07K14/705 C12N1/15 C12N1/19/ZNA C12N1/21 C12N15/00/A C12N15/80/P C12N15/80/Z C12N15/81/P C12N15/81/Z C12N5/00/101 C12N5/10 C12N9/42 C12N9/90 C12P19/14/A C12P5/00 C12P7/06 C12P7/16



Family:

Publication number	Publication date	Application number	Application date
AU2010275388 AA	20110127	AU20100275388	20100726
AU2010275388 AH	20120614	AU20100275388	20100726
BR112012001664 A2	20181226	BR20121101664	20100726
CA2765313 AA	20111209	CA20102765313	20100726
CN102625844 A	20120801	CN201080039858	20100726
EA201290068 A1	20130530	EA20120090068	20100726
EP2456878 A2	20120530	EP20100803022	20100726
EP2456878 A4	20130102	EP20100803022	20100726
IN00345DN2012 A	20150508	IN2012DN00345	20120112
JP2013500019 T2	20130107	JP20120521881T	20100726
KR20120089631 A	20120813	KR20127002889	20100726
MX2012001071 A1	20121009	MX20120001071	20100726
NZ597001 A	20140530	NZ20100597001	20100726
TH124000 A	20130531	TH20121000250	20100726
US2011020910 AA	20110127	US20100843844	20100726
US2013316437 AA	20131128	US20130802533	20130313
US2015010985 AA	20150108	US20140289570	20140528
US2015299755 AA	20151022	US20150608018	20150128
US8431360 BB	20130430	US20100843844	20100726
US8765410 BB	20140701	US20130802533	20130313
US9012177 BB	20150421	US20140289570	20140528
WO11011796 A2	20110127	WO2010US43279	20100726
WO11011796 A3	20110909	WO2010US43279	20100726
WO11011796 A8	20111222	WO2010US43279	20100726
WO11011796 A9	20110623	WO2010US43279	20100726
ZA201201278 A	20121031	ZA20120001278	20120221

Priority:

US20090271833P 20090724	US20090271833P 20090727	US20090285526P 20091210
US20100843844 20100726	WO2010US43279 20100726	US20130802533 20130313
US20140289570 20140528	US20150608018 20150128	

Probable Assignee: BP PLC

Assignee(s): (std): UNIV CALIFORNIA ; JIN YOUNG SU ; TRUSTEES OF UNIV OF ILLINOIS BOARD OF ; HA SUK JIN ; YANG XIAOMIN ; SUN JIANPING ; GALAZKA JONATHAN M ; KIM SOON RIN ; TIAN CHAOGUANG ; LI SIJIN ; GLASS N LOUISE ; UNIV ILLINOIS ; JIN YOUNG SU ; KIM SOO RIN ; THE UNIV OF CALIFORNIA ; BEESON IV WILLIAM T ; BEESON WILLIAM T ; BEESON WILLIAM T IV ; CHOI JIN HO ; BP CORP NORTH AMERICA INC ; DU JING ; DOUDNA CATE JANES H ; BRITISH PETROLEUM TECHNOLOGY VENTURES INC ; DOUDNA CATE JAMES H ; OF CALIFORNIA UNIV ; ZHAO HUIMIN

Assignee(s): REGENTS OF THE UNIV OF CALIFORNIA ; BOARD OF TRUSTEES OF UNIV OF ILLINOS ; BP NORTH AMERICA INC CORP4101 WINFIELD ROADWARRENVILLEIL60555US ; BP PLC ; UNIV OF CALIFORNIA ; GLASS N ; BP NORTH AMERICA INC CORP ; BOARD OF TRUSTEES OF UNIV OF ILLINOIS ; BOARD OF TRUSTEES OF UNIV OF ILLINOIS506 SOUTH WRIGHT STREET352 HENRY ADMINISTRATION BUILDINGMC-350URBANAIL61801US ; THE UNIV OF CALIFORNIA1111 FRANKLIN STREET12 FLOOROAKLANDCA94607US

Inventor(s): (std): CATE JANES H DOUDNA ; CHAOGUANG TIAN ; CHOI JIN HO ; DOUDNA CATE JANES H ; DU JIN ; DU JING ; BEESON WILLIAM T ; BEESON WILLIAM T IV ; GALAZKA JONATHAN M ; GLASS N LOUISE ; HA SUK JIN ; HO CHOI JIN ; HUIMIN ZHAO ; JIN HA SUK ; JIN YOUG SU ; JIN YOUNGSU ; JING DU ; JIANPING SUN ; KIM SOON RIN ; LI SIJIN ; RIN KIM SOO ; RIN KIM SOON ; SIJIN LI ; SUN JIANPING ; TIAN CHAOGUANG ; LOUISE GLASS N ; XIAOMIN YANG ; YANG XIAOMIN ; ZHAO HUIMIN ; YONG SU JIN ; YOUG SU JIN ; SU JIANPING ; KIM SOO RIN ; JIN YONG SU ; GLASS N LOUISE C ; DOUDNA CATE JAMES H ; BEESON IV WILLIAM T

Inventor(s): GLASS N LOUISE C ; DOUDNA CATE JANES ; BEESON WILLIAM ; YOUNGSU JIN ; ZHAO HUIMINUS ; WILLIAM T IV BEESON ; SOO RIN KIM ; JINGDU ; JAMES H DOUDNA CATE ; YANG XIAOMINUS ; N LOUISE GLASS ; TIAN CHAOGUANGCN ; WILLIAM T BEESON ; SOON RIN KIM ; SUK JIN HA ; LI SIJINUS ; JIN DU ; JONATHAN M GALAZKA ; KIM SOO RINUS ; JIN HO CHOI ; JIN YONG SUUS ; JIN YONGSU ; IV ; JANES H DOUDNA CATE ; HA SUK JINUS ; GLASS N LOUISEUS ; GALAZKA JONATHAN MUS ; GLASS N ; BEESON WILLIAM T IVUS ; DU JINGUS ; CHOI JIN HOUS ; DOUDNA CATE JAMES HUS

Agent(s): SPRUSON AND FERGUSON; BENOIT AND COTE ASSOCIES INC; GOWLING LAFLEUR HENDERSON LLP; FAGERLIN HELENE; HARAKENZO WORLD PATENT AND TRADEMARK; MORRISON AND FOERSTER LLP; WARD MICHAEL R ET AL

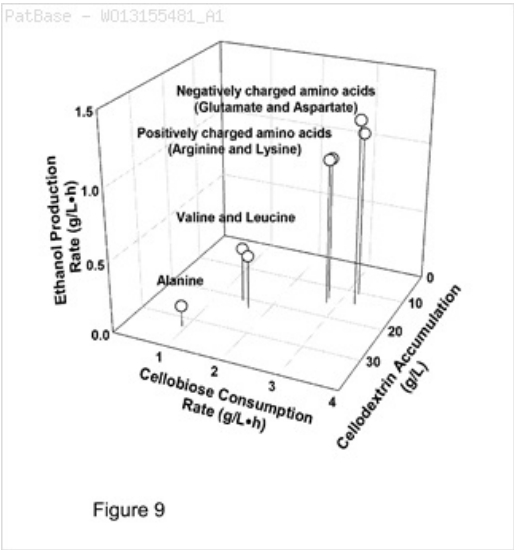
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY 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: IMPROVED CELLODEXTRIN TRANSPORT AND MIXED **SUGAR FERMENTATION**

Abstract: The present disclosure relates to compositions and methods for increasing the transport of celloextrin into cells, for increasing growth of cells, for increasing synthesis of hydrocarbons and hydrocarbon derivatives, and for co-fermenting cellulose-derived and hemicellulose-derived **sugars**.

Classifications:

International (IPC 8-9): C07K14/39 C12N1/16 C12N15/54
C12N15/56 C12N15/81 C12N9/10 C12N9/24 C12N9/42
C12P7/10 (Advanced/Invention)
CPC: C12N9/1059 C12P7/10 C12Y204/0102 C12Y302/01021
C07K14/39 C12N9/2445 Y02E50/16 C12P2203/00



Family:

Publication number	Publication date	Application number	Application date
WO13155481 A1	20131017	WO2013US36480	20130412

Priority:

US20120624235P 20120413

Probable Assignee: UNIV CALIFORNIA

Assignee(s): (std): UNIV CALIFORNIA ; UNIV ILLINOIS

Assignee(s): BOARD OF TRUSTEES OF UNIV OF ILLINOIS ; THE UNIV OF CALIFORNIA

Inventor(s): (std): DOUDNA CATE JAMES H ; GALAZKA JONATHAN M ; HA SUK JIN ; JIN YONG SU

Agent(s): WARD MICHAEL R 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 IS IT JP KE KG KM KN KP KR 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 PA 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: ENHANCED CELLODEXTRIN METABOLISM

Abstract: The present disclosure relates to host cells containing two or more of a recombinant celloextrin transporter, a recombinant celloextrin phosphorylase, a recombinant beta-glucosidase, a recombinant phosphoglucomutase, or a recombinant hexokinase; and to methods of using such cells for degrading celloextrin, for producing hydrocarbons or hydrocarbon derivatives from celloextrin, and for reducing ATP consumption during glucose utilization.

Classifications:

International (IPC 8-9): C12N1/15 C12N1/19 C12N1/21 C12N5/10 C12P19/00 C12P19/02 C12P19/18 C12P7/08 (Advanced/Invention); C12N15/09 (Advanced/Non-invention)

CPC: C07K14/395 C12N9/1205 C12N9/90 C12N9/1051 C12N9/2445 C12Y204/01049 C12Y302/01021 C12Y504/02002 C12P19/18 C12P19/02 C12Y204/0102 C12P7/10 Y02E50/16

US: 435/254.21 435/97

JP F-Term: 4B024 4B024/AA03 4B024/AA17 4B024/BA80 4B024/CA01 4B024/DA12 4B024/GA11 4B024/HA01 4B064 4B064/AB01 4B064/AF04 4B064/AF11 4B064/CA19 4B064/CB07 4B064/DA16 4B065 4B065/AA80 4B065/AB01 4B065/AC14 4B065/BA02 4B065/CA03 4B065/CA21 4B065/CA22 4B065/CA54

JP F-Index: C12N1/15 C12N1/19 C12N1/21 C12N15/00/A C12N5/00/101 C12N5/10 C12P19/00/ZNA

PatBase - US2014057323_AA

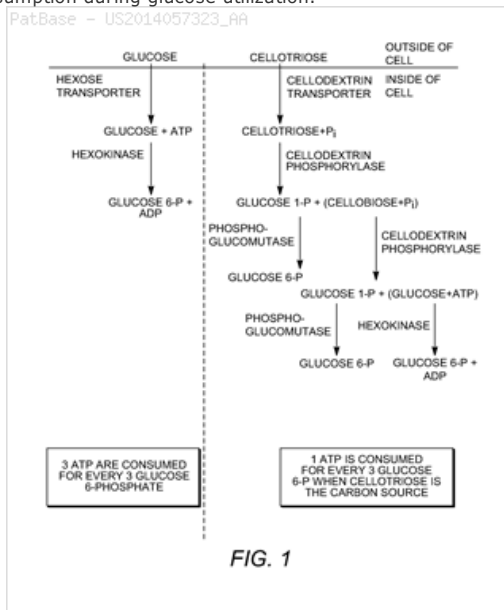


FIG. 1

Family:

Publication number	Publication date	Application number	Application date
AU2012214520 AA	20120816	AU20120214520	20120207
BR112013020133 A2	20160809	BR20131120133	20120207
CA2826570 AA	20130802	CA20122826570	20120207
CN103597084 A	20140219	CN201280017018	20120207
EP2673367 A1	20131218	EP20120704212	20120207
IN07169DN2013 A	20160506	IN2013DN07169	20130812
JP2014506464 T2	20140317	JP20130553499T	20120207
US2014057323 AA	20140227	US20120982248	20120207
WO12109274 A1	20120816	WO2012US24186	20120207

Priority:

US20110440305P 20110207 US20110566548P 20111202 WO2012US24186 20120207
US20120982248 20120207

Probable Assignee: BOARD OF TRUSTEES OF UNIV OF ILLINOIS

Assignee(s): (std): HA SUK JIN ; UNIV CALIFORNIA ; UNIV ILLINOIS ; JIN YONG SU ; DOUDNA CATE JAMES H ; GALAZKA JONATHAN M

Assignee(s): THE REGENTS OF THE UNIVERSITY OF CALIFORNIA ; BOARD OF TRUSTEES OF UNIVERSITY OF ILLINOIS ; BOARD OF TRUSTEES OF UNIV OF ILLINOIS ; BOARD OF TRUSTEES OF UNIV OF ILLINOIS506 SOUTH WRIGHT STREET352 HENRY ADMINISTRATION BUILDINGURBANAIL61801US ; THE BOARD OF TRUSTEES OF THE UNIVERSITY OF ILLINOIS ; THE UNIV OF CALIFORNIA ; UNIV OF CALIFORNIA ; THE UNIV OF CALIFORNIA1111 FRANKLIN STREET12 FLOOROAKLANDCA94607US

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Inventor(s): SUK JIN HA ; JONATHAN M GALAZKA ; JAMES H DOUDNA CATE ; YONG SU JIN ; GALAZKA JONATHAN MUS ; JIN YONG SUUS ; HA SUK JINUS ; DOUDNA CATE JAMES HUS

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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 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: SOLUBILIZATION OF MSW WITH BLEND ENZYMES

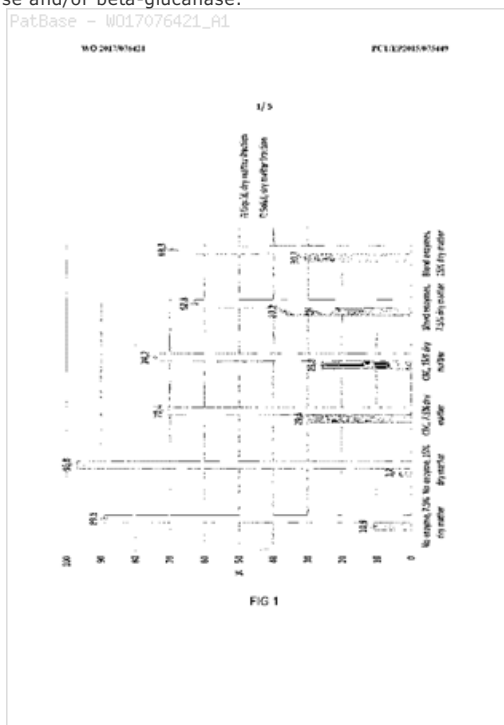
Abstract: The present invention relates to a method for solubilisation or hydrolysis of Municipal Solid Waste (MSW) with an enzyme blend and an enzyme composition for solubilization of Municipal Solid Waste (MSW), the enzyme composition comprising a cellulolytic background composition and a protease, lipase and/or beta-glucanase.

Classifications:

International (IPC 8-9): B09B3/00 C12P5/00 (Advanced/Invention)

CPC: B09B3/00 C12N9/2437 C12P5/023 C12P7/08 C12P7/56

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WO17076421 A1	20170511	WO2015EP75449	20151102
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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 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