PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT4573431

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
CJ RESEARCH CENTER LLC	12/30/2016

RECEIVING PARTY DATA

Name:	CJ CHEILJEDANG CORPORATION
Street Address:	CHEILJEDANG CENTER, 330, DONGHO-RO
City:	JUNG-GU, SEOUL
State/Country:	KOREA, REPUBLIC OF

PROPERTY NUMBERS Total: 46

Property Type	Number
Patent Number:	7094840
Patent Number:	6933404
Patent Number:	6844447
Patent Number:	7001969
Patent Number:	7230144
Patent Number:	6897338
Patent Number:	7166743
Patent Number:	7252980
Patent Number:	7981642
Patent Number:	8003355
Patent Number:	7713720
Patent Number:	8283435
Patent Number:	7781539
Patent Number:	7928167
Patent Number:	8003719
Patent Number:	7576173
Patent Number:	7795376
Patent Number:	7893194
Patent Number:	9034989
Patent Number:	8487023
Patent Number:	8822584

Property Type	Number
Patent Number:	9084467
Patent Number:	8524856
Patent Number:	8629212
Patent Number:	9056947
Patent Number:	9346948
Application Number:	13578044
Application Number:	15040662
Patent Number:	9328239
Patent Number:	9085688
Application Number:	14368728
Application Number:	14406491
Application Number:	14406131
Patent Number:	9353258
Application Number:	14043702
Application Number:	14094150
Application Number:	14422135
Application Number:	14442413
Application Number:	14767509
Application Number:	14894019
Patent Number:	5977250
Application Number:	62256265
Patent Number:	6780911
Patent Number:	7718720
Application Number:	14237808
Patent Number:	9650513

CORRESPONDENCE DATA

Fax Number:

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

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Address Line 4: ATLANTA, GEORGIA 30309

ATTORNEY DOCKET NUMBER:	CJRC BULK ASSIGNMENT
NAME OF SUBMITTER:	SARAH HODGES
SIGNATURE:	/Sarah Hodges/

DATE SIGNED:	08/30/2017

Total Attachments: 21
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Exhibit E
Patent Assignment

This PATENT ASSIGNMENT (the "Assignment") is made and entered into as of this 30th day of December, 2016 (the "Closing Date"), by and between **CJ RESEARCH CENTER LLC**, a limited liability company of the State of Massachusetts, having its principal place of business at 19 Presidential Way, Woburn, Massachusetts 00801 United States of America (hereinafter "Assignor"), and **CJ CHEILJEDANG CORPORATION**, a company incorporated in the Republic of Korea and having its registered address at CheilJedang Center, 330, Dongho-ro, Jung-gu, Seoul, Republic of Korea (hereafter "Assignee").

For consideration of ten dollars and other valuable consideration from, the receipt of which is hereby acknowledged, Assignor do hereby sell, assign and transfer unto said Assignee, its successors and assigns, the entire interest for the United States of America, and its possessions and territories, and all foreign countries and jurisdictions, in, to, and for (1) certain inventions or improvements described in the application and patents identified in **Schedule A** to this Patent Assignment, which Schedule is attached hereto and incorporated herein by reference (collectively, the "Patents and Patent Application"), (2) the Patents and Patent Application, (3) all Letters Patent of the United States and its possessions and territories and of all foreign countries and jurisdictions which may or shall be granted on said invention(s), on said improvement(s), or on said application(s), (4) all provisional, divisional, continuation, reissue, PCT, national phase, or other applications based thereon, and (5) all rights of priority, including the right to claim priority to said application(s), under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, the European Patent Convention, and any other treaty relating thereto, in each case (1) through (5), together with all rights to sue for past, present, or future infringement thereof, including the right to collect damages for any past infringement thereto.

Assignor agrees with said Assignee, but at Assignee's expense, hereafter to execute all applications, amended specifications, deeds or other instruments, and to do all acts necessary or proper to secure the grant of Letters Patent in the United States and its possessions and territories and in all other foreign countries and jurisdictions to said Assignee, with specifications and claims in such form as shall be approved by the counsel of said Assignee, and to vest and confirm in said Assignee, its successors and assigns, the legal title to all such patents.

Assignor hereby authorizes and requests the Commissioner of Patents and Trademarks of the United States to issue such Letters Patent as shall be granted upon said application(s) based thereon to said Assignee, its successors and assigns.

Assignor does hereby authorize said Assignee's attorney to correct any typographical errors on this form, if necessary, and to complete this form by the addition of the application number(s), application filing date(s), and attorney docket number(s), if necessary.

[*Signature page follows.*]

CJ RESEARCH CENTER LLC

By: _____
Name: Hae Kook Choi
Title: Managing Director

Witnesses:

Signed: _____
Printed Name: Deng-Eun Chang
Address: 1500 Worcester Rd. #29
Framingham, MA 01702

Signed: _____
Printed Name: Derek Samuelson
Address: 26 Partridge Avenue
Somerville, MA 02145

[*Acceptance of Assignment follows.*]

ACCEPTANCE OF ASSIGNMENT

CJ CHEILJEDANG CORPORATION does hereby declare that it has accepted from **CJ RESEARCH CENTER LLC** the assignment of the entire interest in certain inventions or improvements described in **Schedule A** to the Patent Assignment dated December 30, 2016, which Schedule is attached hereto and incorporated herein by reference, including all rights of priority, including the right to claim priority to said application(s), under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, the European Patent Convention, and any other treaty relating thereto.

WITNESS my hand and seal this 30th day of December, 2016.

CJ CheilJedang Corporation
By: _____
Name: Chul Hu Kim
Title: Chief Executive Officer

Witnesses:

Signed: K.S Lee
Printed Name: Kyung Suk Lee
Address: CJ Blossom Park
42, Gwanggyo-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, Korea

Signed: _____
Printed Name: Myong Gon, Dong
Address: CJ Blossom Park
42, Gwanggyo-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, Korea

SCHEDULE A
TO THE PATENT ASSIGNMENT DATED DECEMBER 30, 2016

The Patents being assigned include all patents and patent applications shown on **Schedule 2.1(b)**, attached hereto and incorporated by reference, together with all patent disclosures, reissuances, continuations, continuations-in-part, revisions, extensions reexaminations, applications and other rights with respect thereto.

SCHEDULE 2.1(B) FINAL 9-16-16
Patent Rights

MBX #	TITLE	COUNTRY	CASE TYPE	SERIAL NO.	PATENT NO.
MBX 015	Polyhydroxyalkanoate Molding Compositions	Canada			2297179
MBX 015	Polyhydroxyalkanoate Molding Compositions	United Kingdom			998526
MBX 015	Polyhydroxyalkanoate Molding Compositions	US			6071998
MBX 015	Polyhydroxyalkanoate Molding Compositions	US	Con		6214920
MBX 017	Biological Systems for the Manufacture of Polyhydroxyalkanoate Polymers Containing 4-Hydroxy Acids	Germany			1015565
MBX 017	Biological Systems for the Manufacture of Polyhydroxyalkanoate Polymers Containing 4-Hydroxy Acids			98948385	1015565
MBX 017	Biological Systems for the Manufacture of Polyhydroxyalkanoate Polymers Containing 4-Hydroxy Acids	Italy			1015565
MBX 017	Biological Systems for the Manufacture of Polyhydroxyalkanoate Polymers Containing 4-Hydroxy Acids	US			6316262
MBX 017	Biological Systems for the Manufacture of Polyhydroxyalkanoate Polymers Containing 4-Hydroxy Acids	US	Con 1		6689589
MBX 017	Biological Systems for the Manufacture of Polyhydroxyalkanoate Polymers Containing 4-Hydroxy Acids	US	Con 2		7081357
MBX 017	Biological Systems for the Manufacture of Polyhydroxyalkanoate Polymers Containing 4-Hydroxy Acids	US	Con 3		7229804
MBX 020	Transgenic Systems for the Manfacture of Poly(3-Hydroxybutyrate-CO-3-Hydroxyhexanoate	Germany			1208208
MBX 020	Transgenic Systems for the Manfacture of Poly(3-Hydroxybutyrate-CO-3-Hydroxyhexanoate	Italy			1208208
MBX 020	Transgenic Systems for the Manfacture of Poly(3-Hydroxybutyrate-CO-3-Hydroxyhexanoate	Japan			4986325
MBX 020	Transgenic Systems for the Manfacture of Poly(3-Hydroxybutyrate-CO-3-Hydroxyhexanoate	United Kingdom			1208208
MBX 020	Transgenic Systems for the Manfacture of Poly(3-Hydroxybutyrate-CO-3-Hydroxyhexanoate	US			7504556
MBX 021	Animal Nutrition Compositions	Canada			2317314
MBX 021	Animal Nutrition Compositions	United Kingdom			1045642
MBX 021	Animal Nutrition Compositions	US			6207217
MBX 023	Polymer Compositions Providing Low Residue Levels and Methods of Use Thereof	US			6429285
MBX 025	Microbial Strains and Processes for the Manufacture of Biomaterials	US	Div Con		8748139
MBX 025	Microbial Strains and Processes for the Manufacture of Biomaterials	US	Div Con 2		8728778
MBX 026	Method of Decolorizing or Deodorizing Polyhydroxyalkanoates from Biomass with Ozone	US			6368836
MBX 027	Polyhydroxyalkanoate Biopolymer Compositions	Canada			2328471
MBX 027	Polyhydroxyalkanoate Biopolymer Compositions	US	Div Con		7202064
MBX 027	Polyhydroxyalkanoate Biopolymer Compositions	US	Div Con Div		8093022
MBX 028	Methods and Apparatus for Production of Amorphous Polymer Suspensions	Japan			4368525
MBX 028	Methods and Apparatus for Production of Amorphous Polymer Suspensions	US			6228934
MBX 029	Nutritional and Therapeutic Uses of 3-Hydroxyalkanoate	Australia			755348
MBX 029	Nutritional and Therapeutic Uses of 3-Hydroxyalkanoate	France			1098655
MBX 029	Nutritional and Therapeutic Uses of 3-Hydroxyalkanoate	Germany			P69922060
MBX 029	Nutritional and Therapeutic Uses of 3-Hydroxyalkanoate	United Kingdom			1098655
MBX 029	Nutritional and Therapeutic Uses of 3-Hydroxyalkanoate	US			6380244
MBX 032	Polyhydroxyalkanoate Production from Polyols	Australia			752513
MBX 032	Polyhydroxyalkanoate Production from Polyols	Canada			2339351
MBX 032	Polyhydroxyalkanoate Production from Polyols	France			1105514

MBX #	TITLE	COUNTRY	CASE TYPE	SERIAL NO.	PATENT NO.
MBX 032	Polyhydroxyalkanoate Production from Polyols	Germany			1105514
MBX 032	Polyhydroxyalkanoate Production from Polyols	Japan			5042407
MBX 032	Polyhydroxyalkanoate Production from Polyols	United Kingdom			1105514
MBX 032	Polyhydroxyalkanoate Production from Polyols	US			6329183
MBX 032	Polyhydroxyalkanoate Production from Polyols	US	Con 3		8114643
MBX 032	Polyhydroxyalkanoate Production from Polyols	US	Con 4		8609378
MBX 032	Polyhydroxyalkanoate Production from Polyols	Germany	Div 1	7025204	69938105.3
MBX 032	Polyhydroxyalkanoate Production from Polyols	United Kingdom	Div 1	7025204	1975236
MBX 032	Polyhydroxyalkanoate Production from Polyols	France	Div 1	7025204	1975236
MBX 033	Transgenic Microbial Polyhydroxyalkanoate Producers	France	Div 2	5077596	1700909
MBX 033	Transgenic Microbial Polyhydroxyalkanoate Producers	Germany	Div 2	5077596	1700909
MBX 033	Transgenic Microbial Polyhydroxyalkanoate Producers	Germany			1105499
MBX 033	Transgenic Microbial Polyhydroxyalkanoate Producers	Japan			4623829
MBX 033	Transgenic Microbial Polyhydroxyalkanoate Producers	Korea			662896
MBX 033	Transgenic Microbial Polyhydroxyalkanoate Producers	United Kingdom			1105499
MBX 033	Transgenic Microbial Polyhydroxyalkanoate Producers	US			6593116
MBX 033	Transgenic Microbial Polyhydroxyalkanoate Producers	US	Con		6913911
MBX 033	Transgenic Microbial Polyhydroxyalkanoate Producers	US	Con 3		
MBX 033	Transgenic Microbial Polyhydroxyalkanoate Producers	Germany	Div 1		600454653.8
MBX 033	Transgenic Microbial Polyhydroxyalkanoate Producers	France	Div 1		1700908
MBX 033	Transgenic Microbial Polyhydroxyalkanoate Producers	United Kingdom	Div 1		1700908
MBX 036	Methods for Purifying Polydroxyalkanoates	US			6340580
MBX 039	Production of Polyhydroxyalkanotes from Polyols	Australia			2001275996
MBX 039	Production of Polyhydroxyalkanotes from Polyols	France			1305439
MBX 039	Production of Polyhydroxyalkanotes from Polyols	Germany			1305439
MBX 039	Production of Polyhydroxyalkanotes from Polyols	Italy			1305439
MBX 039	Production of Polyhydroxyalkanotes from Polyols	Japan			4860094
MBX 039	Production of Polyhydroxyalkanotes from Polyols	United Kingdom			1305439
MBX 039	Production of Polyhydroxyalkanotes from Polyols	US	Con		8741624
MBX 040	Low Molecular Weight Polyhydroxyalkanoate Molding Compositions	US			6780911
MBX 041	Polyurethanes Obtained from Polyhydroxyalkanoates and Isocyanates	Japan			5327825
MBX 045	Compositions Comprising Low Molecular Weight Polyhydroxyalkanoates and Methods of Employing Same	France			1330503
MBX 045	Compositions Comprising Low Molecular Weight Polyhydroxyalkanoates and Methods of Employing Same	Germany			1330503
MBX 045	Compositions Comprising Low Molecular Weight Polyhydroxyalkanoates and Methods of Employing Same	Italy			1330503
MBX 045	Compositions Comprising Low Molecular Weight Polyhydroxyalkanoates and Methods of Employing Same	Spain			1330503
MBX 045	Compositions Comprising Low Molecular Weight Polyhydroxyalkanoates and Methods of Employing Same	United Kingdom			1330503
MBX 045	Compositions Comprising Low Molecular Weight Polyhydroxyalkanoates and Methods of Employing Same	US			7094840
MBX 047.1	Methods of Making Chemical Intermediates from Polyhydroxyalkanoates	US			6933404
MBX 047.2	Methods of Making Chemical Intermediates from Polyhydroxyalkanoates	US			6844447
MBX 047.2	Methods of Making Chemical Intermediates from Polyhydroxyalkanoates	US	Con		7001969
MBX 047.3	Methods of Making Chemical Intermediates from Polyhydroxyalkanoates	US			7230144
MBX 047.4	Methods of Making Chemical Intermediates from Polyhydroxyalkanoates	US			6897338

MBX #	TITLE	COUNTRY	CASE TYPE	SERIAL NO.	PATENT NO.
MBX 047.4	Methods of Making Chemical Intermediates from Polyhydroxyalkanoates	US	Con		7166743
MBX 048	Polyhydroxyalkanoate Production by Coenzyme A-Dependent Aldehyde Dehydrogenase Pathways	France			1581619
MBX 048	Polyhydroxyalkanoate Production by Coenzyme A-Dependent Aldehyde Dehydrogenase Pathways	France	Div		2365088
MBX 048	Polyhydroxyalkanoate Production by Coenzyme A-Dependent Aldehyde Dehydrogenase Pathways	Germany			1581619
MBX 048	Polyhydroxyalkanoate Production by Coenzyme A-Dependent Aldehyde Dehydrogenase Pathways	Germany	Div		2365088
MBX 048	Polyhydroxyalkanoate Production by Coenzyme A-Dependent Aldehyde Dehydrogenase Pathways	Italy			1581619
MBX 048	Polyhydroxyalkanoate Production by Coenzyme A-Dependent Aldehyde Dehydrogenase Pathways	Italy	Div		2365088
MBX 048	Polyhydroxyalkanoate Production by Coenzyme A-Dependent Aldehyde Dehydrogenase Pathways	Japan			4628103
MBX 048	Polyhydroxyalkanoate Production by Coenzyme A-Dependent Aldehyde Dehydrogenase Pathways	Spain	Div		2365088
MBX 048	Polyhydroxyalkanoate Production by Coenzyme A-Dependent Aldehyde Dehydrogenase Pathways	United Kingdom			1581619
MBX 048	Polyhydroxyalkanoate Production by Coenzyme A-Dependent Aldehyde Dehydrogenase Pathways	United Kingdom	Div		2365088
MBX 048	Polyhydroxyalkanoate Production by Coenzyme A-Dependent Aldehyde Dehydrogenase Pathways	US			8071355
MBX 049	Bioabsorbable Polymer Containing 2-Hydroxyacid Monomers	US			8039237
MBX 049	Bioabsorbable Polymer Containing 2-Hydroxyacid Monomers	US			8703449
MBX 052	Polymer Extraction Methods/Solvent Extration System	Brazil			
MBX 052	Polymer Extraction Methods/Solvent Extration System	China			100408613
MBX 052	Polymer Extraction Methods/Solvent Extration System	China	Div 1		101338026
MBX 052	Polymer Extraction Methods/Solvent Extration System	China	Div 2		102443159
MBX 052	Polymer Extraction Methods/Solvent Extration System	Germany			603421083
MBX 052	Polymer Extraction Methods/Solvent Extration System	Hong Kong	Div		HK1125391
MBX 052	Polymer Extraction Methods/Solvent Extration System	Italy			30966/BE/2012
MBX 052	Polymer Extraction Methods/Solvent Extration System	Japan	Div 1		5031811
MBX 052	Polymer Extraction Methods/Solvent Extration System	Japan	Div 2		5600333
MBX 052	Polymer Extraction Methods/Solvent Extration System	Spain			1529072
MBX 052	Polymer Extraction Methods/Solvent Extration System	US			7252980
MBX 052	Polymer Extraction Methods/Solvent Extration System	US	Div Con 1		7981642
MBX 052	Polymer Extraction Methods/Solvent Extration System	US	Div Con 2		8003355
MBX 052	Polymer Extraction Methods/Solvent Extration System	US	Div		7713720
MBX 053	PHA Adhesive Compositions	Germany			1601737
MBX 053	PHA Adhesive Compositions	Hong Kong			1085504
MBX 053	PHA Adhesive Compositions	Italy			1601737
MBX 053	PHA Adhesive Compositions	Japan			5079321
MBX 053	PHA Adhesive Compositions	Spain			1601737
MBX 053	PHA Adhesive Compositions	United Kingdom			1601737
MBX 053	PHA Adhesive Compositions	US			8283435
MBX 055	PHA Blends	Europe	Div 2		
MBX 055	PHA Blends	France			1603987
MBX 055	PHA Blends	Germany			1603987
MBX 055	PHA Blends	Italy			1603987
MBX 055	PHA Blends	Japan			4724111
MBX 055	PHA Blends	Japan	Div		5606966
MBX 055	PHA Blends	Spain			1603987
MBX 055	PHA Blends	United Kingdom			1603987
MBX 055	PHA Blends	US			7781539

MBX #	TITLE	COUNTRY	CASE TYPE	SERIAL NO.	PATENT NO.
MBX 055	PHA Blends	US	Con		7928167
MBX 056	Nucleating Agents	France			1704180
MBX 056	Nucleating Agents	China			1922255
MBX 056	Nucleating Agents	Germany			1704180
MBX 056	Nucleating Agents	Italy			1704180
MBX 056	Nucleating Agents	Spain			1704180
MBX 056	Nucleating Agents	United Kingdom			1704180
MBX 056	Nucleating Agents	US			7718720
MBX 056	Nucleating Agents	US	Div Con		8003719
MBX 057	Single Solvent Polymer Extraction Methods	Brazil			
MBX 057	Single Solvent Polymer Extraction Methods	Canada			2579721
MBX 057	Single Solvent Polymer Extraction Methods	China			101065416
MBX 057	Single Solvent Polymer Extraction Methods	Germany			1802681
MBX 057	Single Solvent Polymer Extraction Methods	Japan			4945447
MBX 057	Single Solvent Polymer Extraction Methods	United Kingdom			1802681
MBX 057	Single Solvent Polymer Extraction Methods	US		11/220319	7576173
MBX 057	Single Solvent Polymer Extraction Methods	US	Con 1	12/497362	7795376
MBX 057	Single Solvent Polymer Extraction Methods	US	Con 2	12/857859	7893194
MBX 058B	*Methods for Branching PHA Using Thermolysis Related Applications*	France			2291429
MBX 058B	*Branched PHA Compositions, Methods for Their Production, and Use in Applications*	Brazil		PI-09150951	
MBX 058B	*Branched PHA Compositions, Methods for Their Production, and Use in Applications*	China		2727016	10211519
MBX 058B	*Branched PHA Compositions, Methods for Their Production, and Use in Applications*	Germany			2291429
MBX 058B	*Branched PHA Compositions, Methods for Their Production, and Use in Applications*	Italy			27434/BE/2013
MBX 058B	*Branched PHA Compositions, Methods for Their Production, and Use in Applications*	Spain			2291430
MBX 058B	*Branched PHA Compositions, Methods for Their Production, and Use in Applications*	United Kingdom			2291429
MBX 058B	*Branched PHA Compositions, Methods for Their Production, and Use in Applications*	US		13/001019	9034989
MBX 062	Nucleating Agents for Polyhydroxyalkanoates	US		12/988175	8487023
MBX 064	Biodegradable Polyester Blends	China			102056985
MBX 064	Biodegradable Polyester Blends	Europe		9743043.8	
MBX 064	Biodegradable Polyester Blends	US		12/991404	8822584
MBX 067	*Green Process and Compositions for Producing Poly(5HV) and 5 Carbon Chemicals*	Brazil		PI0922410-6	
MBX 067	*Green Process and Compositions for Producing Poly(5HV) and 5 Carbon Chemicals*	China			102317487
MBX 067	*Green Process and Compositions for Producing Poly(5HV) and 5 Carbon Chemicals*	Germany		9793403.8	
MBX 067	*Green Process and Compositions for Producing Poly(5HV) and 5 Carbon Chemicals*	Japan		2011-540960	5770099
MBX 067	*Green Process and Compositions for Producing Poly(5HV) and 5 Carbon Chemicals*	Japan	Div	2015-125334	
MBX 067	*Green Process and Compositions for Producing Poly(5HV) and 5 Carbon Chemicals*	Korea		2001-7013556	
MBX 067	*Green Process and Compositions for Producing Poly(5HV) and 5 Carbon Chemicals*	Malaysia			
MBX 067	*Green Process and Compositions for Producing Poly(5HV) and 5 Carbon Chemicals*	Thailand			
MBX 067	*Green Process and Compositions for Producing Poly(5HV) and 5 Carbon Chemicals*	United Kingdom		9793403.8	
		US		12/637706	9090898
MBX 073	PHA Compositions Comprising PBS and PBSA and Methods for Their Production				
MBX 073	PHA Compositions Comprising PBS and PBSA and Methods for Their Production	Brazil		PI1015055	
		China		201080028646.0	102459462

MBX #	TITLE	COUNTRY	CASE TYPE	SERIAL NO.	PATENT NO.
MBX 073	PHA Compositions Comprising PBS and PBSA and Methods for Their Production	Europe		10792744.4	
MBX 073	PHA Compositions Comprising PBS and PBSA and Methods for Their Production	Korea		10/2012-7001924	
MBX 073	PHA Compositions Comprising PBS and PBSA and Methods for Their Production	US		13/380483	8524856
MBX 073	PHA Compositions Comprising PBS and PBSA and Methods for Their Production	US	Con 1	13/959715	8629212
MBX 073	PHA Compositions Comprising PBS and PBSA and Methods for Their Production	US	Con 2	14/150451	9056947
MBX 073	PHA Compositions Comprising PBS and PBSA and Methods for Their Production	US	Con 3	14/702437	
MBX 074	Toughened Polyhyroxyalkanoate Compositions	Brazil		1120120041088	
MBX 074	Toughened Polyhyroxyalkanoate Compositions	China		201080041303.8	102597107
MBX 074	Toughened Polyhyroxyalkanoate Compositions	US		13/391894	9346948
MBX 079_1	Process for Producing A Monomer Component from a Genetically Modified Polyhydroxyalkanoate Biomass	Brazil		112012020132-8	
MBX 079_1	Process for Producing A Monomer Component from a Genetically Modified Polyhydroxyalkanoate Biomass	Europe		11708607	2534125
MBX 079_1	Process for Producing A Monomer Component from a Genetically Modified Polyhydroxyalkanoate Biomass	US		13/578044	
MBX 079_2	Process for Gamma-Butyrolactone Production	Brazil		112012020299-5	
MBX 079_2	Process for Gamma-Butyrolactone Production	Europe		11706980	2534141
MBX 079_2	Process for Gamma-Butyrolactone Production	US		13/578214	9084467
MBX-079_3	Process for Making Chemical Derivatives	US	DIV	15/040662	
MBX 080	Toughening Polylactic Acid with Polyhydroxyalkanoates	Brazil		112012029305-2	
MBX 080	Toughening Polylactic Acid with Polyhydroxyalkanoates	China		201180024907	102906193
MBX 080	Toughening Polylactic Acid with Polyhydroxyalkanoates	Europe		11784090	
MBX 080	Toughening Polylactic Acid with Polyhydroxyalkanoates	US			9328239
MBX 080	Toughening Polylactic Acid with Polyhydroxyalkanoates	China	DIV	201510330995.2	
MBX 085	Process for Latex Production by By Melt Emulsification	Europe		12720343	
MBX 085	Process for Latex Production by By Melt Emulsification	US	CIP		9085688
MBX 091	Post Process Purification for Gamma-Butyrolactone Production	Europe		12748818	
MBX 091	Post Process Purification for Gamma-Butyrolactone Production	US		14/237808	
MBX 098	Genetically Engineered Microorganisms for the Production of Poly-4-Hydroxybutyrate (P4HB)	US		14/368728	
MBX 098	Genetically Engineered Microorganisms for the Production of Poly-4-Hydroxybutyrate (P4HB)	Europe		13710246	
MBX 098	Genetically Engineered Microorganisms for the Production of Poly-4-Hydroxybutyrate (P4HB)	China		112014023117-9	
MBX 098	Genetically Engineered Microorganisms for the Production of Poly-4-Hydroxybutyrate (P4HB)			201380026228	
MBX 099	Renewable Acrylic Acid Production and Products Made Therefrom	Brazil		BR112014030203.0	
MBX 099	Renewable Acrylic Acid Production and Products Made Therefrom	US		14/406491	
MBX 099	Renewable Acrylic Acid Production and Products Made Therefrom	China		201380030263	
MBX 101	Polyhydroxyalkanoate Copolymer Compositions and Methods of Making the Same	Brazil		BR112015007560-6	
MBX 101	Polyhydroxyalkanoate Copolymer Compositions and Methods of Making the Same	China		201380052532	
MBX 101	Polyhydroxyalkanoate Copolymer Compositions and Methods of Making the Same	Europe		13777398	
MBX 101	Polyhydroxyalkanoate Copolymer Compositions and Methods of Making the Same	US		14/434651	
MBX 102_1	Biobased Rubber Modified Biodegradable Polymer Blends	US		14/406131	
MBX 102_1	Biobased Rubber Modified Biodegradable Polymer Blends	Europe		13729223	
MBX 102_1	Biobased Rubber Modified Biodegradable Polymer Blends	China		201380029996	
MBX 102_2	Low Glass Transition Polyhydroxyalkanoates for Modifications of Biodegradable Polymers	US		14/406135	9353258

MBX #	TITLE
MBX 103_1	Biobased Rubber Modified Biodegradable Polymer Blends
MBX 103_1	Biobased Rubber Modified Biodegradable Polymer Blends
MBX 103_2	Biobased Rubber Modified Biodegradable Polymer Blends
MBX 103_2	Biobased Rubber Modified Biodegradable Polymer Blends
MBX 104	Production of Salts of 4-Hydroxybutyrate Using Biobased Raw Material
MBX 104	Production of Salts of 4-Hydroxybutyrate Using Biobased Raw Material
MBX 105	Process for Ultra-Pure Chemical Production from Biobased Raw Starting Materials
MBX 109	Biobased Additives for Recycling of Polymers
MBX109	Biobased Additives for Recycling of Polymers
MBX 113	Highly Filled Polymer Systems
MBX 117p-1	Polymer Blends with Controllable Biodegradation Rates
MOBT 008	Rhodospirillumrubrum Poly-ß-Hydroxyalkanoate Synthase
MOBT 024	DNA Sequence Useful for Production of Polyhydroxyalkanoates
MOBT 051	Processing of Polyesters
MOBT 076	Latex of Polyhydroxyalkanoate
MOBT 080	Process for the Microbiological Production of PHA Polymers
MOBT 081	Aliphatic Polyester Composition
MOBT 082	Process of Recovering Polymers of Hydroxyalkanoic Acids
MOBT 083	Process for the Recovery of Hydroxyalkanoic Acid
MOBT 100	Process for Preparing Films and Coatings
MOBT 120	HV/HB Copolymer Production
MOBT 125	Methods of PHA Extraction and Recovery Using Non-Halogenated Solvents
MOBT 127	High Temperature PHA Extraction Using PHA-Poor Solvents
MOBT 136	Methods for the Biosynthesis of Polyesters
MOBT 136	Methods for the Biosynthesis of Polyesters
MOBT 140	PHA Compositions and Methods for Their Use in the Production of PHA Films
MOBT 141	Polyhydroxyalkanoate Coatings
MOBT 141	Polyhydroxyalkanoate Coatings

COUNTRY	CASE TYPE	SERIAL NO.	PATENT NO.
US	CIP	14/043702	
US	CIP 2	14/094150	
US		14/422135	
China		201380045882	
Europe		13802137	
US		14/442413	
US		14/767509	
US		14/894019	
CN		201480042386	
PCT	PCT	PCT/US2015-023186	
US	Provisional	62/256,265	
US			5849834
US	Reissue		RE37543
US			5874040
US			5977250
US			5871980
US			6005056
US			5952460
US			5894062
US			6111006
US			6080562
US			6043063
US			6087471
US			6759219
US	Div		7968325
US	Con 2		7208535
Finland			998381
France			998381

MBX #	TITLE	COUNTRY	CASE TYPE	SERIAL NO.	PATENT NO.
MOBT 141	Polyhydroxyalkanoate Coatings	Germany			698159022.2
MOBT 141	Polyhydroxyalkanoate Coatings	Italy			998381
MOBT 141	Polyhydroxyalkanoate Coatings	United Kingdom			998381
MOBT 141	Polyhydroxyalkanoate Coatings	US			6025028
MOBT 152	PHA E and PHA C Components of Poly(Hydroxy Fatty Acid) Synthase from Thiocapsa Piennigii	US	Div 2		6770464
MOBT 159	Modified Polyhydroxyalkanoates for Production of Coatings and Films	US			6096810
MOBT 159	Modified Polyhydroxyalkanoates for Production of Coatings and Films	US	Con		6201083
MOBT 160	Hydroxy-Terminated Polyhydroxyalkanoates	US			5994478
MOBT 160	Hydroxy-Terminated Polyhydroxyalkanoates	US	CIP		6156852
MOBT 160	Hydroxy-Terminated Polyhydroxyalkanoates	US	Div		6204341
MOBT 167	Plasticized Polyhydroxyalkanoate Compositions and Methods for Their Use in the Production of Shaped Polymeric Articles	France	Div		1593705
MOBT 167	Plasticized Polyhydroxyalkanoate Compositions and Methods for Their Use in the Production of Shaped Polymeric Articles	Germany	Div		1593705
MOBT 167	Plasticized Polyhydroxyalkanoate Compositions and Methods for Their Use in the Production of Shaped Polymeric Articles	Italy	Div		1593705
MOBT 167	Plasticized Polyhydroxyalkanoate Compositions and Methods for Their Use in the Production of Shaped Polymeric Articles	Spain	Div		1593705
MOBT 167	Plasticized Polyhydroxyalkanoate Compositions and Methods for Their Use in the Production of Shaped Polymeric Articles	United Kingdom	Div		1593705
MOBT 167	Plasticized Polyhydroxyalkanoate Compositions and Methods for Their Use in the Production of Shaped Polymeric Articles	US			6127512
MOBT 169	Nucleating Agents for Polyhydroxyalkanoates and Other Thermoplastic Polyesters and Methods for Their Production and Use	US			5973100
MOBT 189	Polymer Blends Containing Polyhydroxyalkanoates and Compositions with Good Retention of Elongation	Belgium			1027384
MOBT 189	Polymer Blends Containing Polyhydroxyalkanoates and Compositions with Good Retention of Elongation	France			1027384
MOBT 189	Polymer Blends Containing Polyhydroxyalkanoates and Compositions with Good Retention of Elongation	Germany			1027384
MOBT 189	Polymer Blends Containing Polyhydroxyalkanoates and Compositions with Good Retention of Elongation	Italy			1027384
MOBT 189	Polymer Blends Containing Polyhydroxyalkanoates and Compositions with Good Retention of Elongation	Spain			1027384
MOBT 189	Polymer Blends Containing Polyhydroxyalkanoates and Compositions with Good Retention of Elongation	United Kingdom			1027384
MOBT 189	Polymer Blends Containing Polyhydroxyalkanoates and Compositions with Good Retention of Elongation	US			6191203
MOBT 201	Hydroxy-Terminated Polyhydroxyalkanoates	US	Div		6841603
		US			6248862

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Patent Rights

MBX #	TITLE	COUNTRY	CASE TYPE	SERIAL NO.	PATENT NO.
MBX 015	Polyhydroxyalkanoate Molding Compositions	Canada			2297179
MBX 015	Polyhydroxyalkanoate Molding Compositions	United Kingdom			998526
MBX 015	Polyhydroxyalkanoate Molding Compositions	US			6071998
MBX 015	Polyhydroxyalkanoate Molding Compositions	US	Con		6214929
MBX 017	Biological Systems for the Manufacture of Polyhydroxyalkanoate Polymers Containing 4-Hydroxy Acids	Germany			1015565
MBX 017	Biological Systems for the Manufacture of Polyhydroxyalkanoate Polymers Containing 4-Hydroxy Acids			98948385	1015565
MBX 017	Biological Systems for the Manufacture of Polyhydroxyalkanoate Polymers Containing 4-Hydroxy Acids	Italy			1015565
MBX 017	Biological Systems for the Manufacture of Polyhydroxyalkanoate Polymers Containing 4-Hydroxy Acids	US			6316262
MBX 017	Biological Systems for the Manufacture of Polyhydroxyalkanoate Polymers Containing 4-Hydroxy Acids	US	Con 1		6689589
MBX 017	Biological Systems for the Manufacture of Polyhydroxyalkanoate Polymers Containing 4-Hydroxy Acids	US	Con 2		7081357
MBX 017	Biological Systems for the Manufacture of Polyhydroxyalkanoate Polymers Containing 4-Hydroxy Acids	US	Con 3		7229804
MBX 020	Transgenic Systems for the Manfacture of Poly(3-Hydroxybutyrate-CO-3-Hydroxyhexanoate	Germany			1208208
MBX 020	Transgenic Systems for the Manfacture of Poly(3-Hydroxybutyrate-CO-3-Hydroxyhexanoate	Italy			1208208
MBX 020	Transgenic Systems for the Manfacture of Poly(3-Hydroxybutyrate-CO-3-Hydroxyhexanoate	Japan			4986325
MBX 020	Transgenic Systems for the Manfacture of Poly(3-Hydroxybutyrate-CO-3-Hydroxyhexanoate	United Kingdom			1208208
MBX 020	Transgenic Systems for the Manfacture of Poly(3-Hydroxybutyrate-CO-3-Hydroxyhexanoate	US			7504556
MBX 021	Animal Nutrition Compositions	Canada			2317314
MBX 021	Animal Nutrition Compositions	United Kingdom			1045642
MBX 021	Animal Nutrition Compositions	US			6207217
MBX 023	Polymer Compositions Providing Low Residue Levels and Methods of Use Thereof	US			6429285
MBX 025	Microbial Strains and Processes for the Manufacture of Biomaterials	US	Div Con		8748139
MBX 025	Microbial Strains and Processes for the Manufacture of Biomaterials	US	Div Con 2		8728778
MBX 026	Method of Decolorizing or Deodorizing Polyhydroxyalkanoates from Biomass with Ozone	US			6388836
MBX 027	Polyhydroxyalkanoate Biopolymer Compositions	Canada			3328471
MBX 027	Polyhydroxyalkanoate Biopolymer Compositions	US	Div Con		7203064
MBX 027	Polyhydroxyalkanoate Biopolymer Compositions	US	Div Con Div		8093022
MBX 028	Methods and Apparatus for Production of Amorphous Polymer Suspensions	Japan			4368525
MBX 028	Methods and Apparatus for Production of Amorphous Polymer Suspensions	US			6228934
MBX 029	Nutritional and Therapeutic Uses of 3-Hydroxyalkanoate	Australia			755348
MBX 029	Nutritional and Therapeutic Uses of 3-Hydroxyalkanoate	France			1098655
MBX 029	Nutritional and Therapeutic Uses of 3-Hydroxyalkanoate	Germany			P69922068.0
MBX 029	Nutritional and Therapeutic Uses of 3-Hydroxyalkanoate	United Kingdom			1098655
MBX 029	Nutritional and Therapeutic Uses of 3-Hydroxyalkanoate	US			6380244
MBX 032	Polyhydroxyalkanoate Production from Polyols	Australia			752513
MBX 032	Polyhydroxyalkanoate Production from Polyols	Canada			2339351
MBX 032	Polyhydroxyalkanoate Production from Polyols	France			1105514
MBX 032	Polyhydroxyalkanoate Production from Polyols	Germany			1105514
MBX 032	Polyhydroxyalkanoate Production from Polyols	Japan			5042407
MBX 032	Polyhydroxyalkanoate Production from Polyols	United Kingdom			1105514

MBX #	TITLE	COUNTRY	CASE TYPE	SERIAL NO.	PATENT NO.
MBX 032	Polyhydroxyalkanoate Production from Polyols	US			6329183
MBX 032	Polyhydroxyalkanoate Production from Polyols	US	Con 3		8114643
MBX 032	Polyhydroxyalkanoate Production from Polyols	US	Con 4		8609378
MBX 032	Polyhydroxyalkanoate Production from Polyols	Germany	Div 1	7025204	69938105.3
MBX 032	Polyhydroxyalkanoate Production from Polyols	United Kingdom	Div 1	7025204	1975236
MBX 032	Polyhydroxyalkanoate Production from Polyols	France	Div 1	7025204	1975236
MBX 033	Transgenic Microbial Polyhydroxyalkanoate Producers	France	Div 2	5077596	1700909
MBX 033	Transgenic Microbial Polyhydroxyalkanoate Producers	Germany	Div 2	5077596	1700909
MBX 033	Transgenic Microbial Polyhydroxyalkanoate Producers	Germany			1105499
MBX 033	Transgenic Microbial Polyhydroxyalkanoate Producers	Japan			4623829
MBX 033	Transgenic Microbial Polyhydroxyalkanoate Producers	Korea			862896
MBX 033	Transgenic Microbial Polyhydroxyalkanoate Producers	United Kingdom			1105499
MBX 033	Transgenic Microbial Polyhydroxyalkanoate Producers	US			6593116
MBX 033	Transgenic Microbial Polyhydroxyalkanoate Producers	US	Con		6913911
MBX 033	Transgenic Microbial Polyhydroxyalkanoate Producers	US	Con 3		
MBX 033	Transgenic Microbial Polyhydroxyalkanoate Producers	Germany	Div 1		60045465.8
MBX 033	Transgenic Microbial Polyhydroxyalkanoate Producers	France	Div 1		1700908
MBX 033	Transgenic Microbial Polyhydroxyalkanoate Producers	United Kingdom	Div 1		1700908
MBX 036	Methods for Purifying Polyhydroxyalkanoates	US			6340580
MBX 039	Production of Polyhydroxyalkanoates from Polyols	Australia			2001275996
MBX 039	Production of Polyhydroxyalkanoates from Polyols	France			1305439
MBX 039	Production of Polyhydroxyalkanoates from Polyols	Germany			1305439
MBX 039	Production of Polyhydroxyalkanoates from Polyols	Italy			1305439
MBX 039	Production of Polyhydroxyalkanoates from Polyols	Japan			4860094
MBX 039	Production of Polyhydroxyalkanoates from Polyols	United Kingdom			1305439
MBX 039	Production of Polyhydroxyalkanoates from Polyols	US	Con		8741624
MBX 040	Low Molecular Weight Polyhydroxyalkanoate Molding Compositions	US			6780911
MBX 041	Polyurethanes Obtained from Polyhydroxyalkanoates and Isocyanates	Japan			5327825
MBX 045	Compositions Comprising Low Molecular Weight Polyhydroxyalkanoates and Methods of Employing Same	France			1330503
MBX 045	Compositions Comprising Low Molecular Weight Polyhydroxyalkanoates and Methods of Employing Same	Germany			1330503
MBX 045	Compositions Comprising Low Molecular Weight Polyhydroxyalkanoates and Methods of Employing Same	Italy			1330503
MBX 045	Compositions Comprising Low Molecular Weight Polyhydroxyalkanoates and Methods of Employing Same	Spain			1330503
MBX 045	Compositions Comprising Low Molecular Weight Polyhydroxyalkanoates and Methods of Employing Same	United Kingdom			1330503
MBX 045	Compositions Comprising Low Molecular Weight Polyhydroxyalkanoates and Methods of Employing Same	US			7094840
MBX 047.1	Methods of Making Chemical Intermediates from Polyhydroxyalkanoates	US			6933404
MBX 047.2	Methods of Making Chemical Intermediates from Polyhydroxyalkanoates	US			6844447
MBX 047.2	Methods of Making Chemical Intermediates from Polyhydroxyalkanoates	US	Con		7001969
MBX 047.3	Methods of Making Chemical Intermediates from Polyhydroxyalkanoates	US			7230144
MBX 047.4	Methods of Making Chemical Intermediates from Polyhydroxyalkanoates	US			6897338
MBX 047.4	Methods of Making Chemical Intermediates from Polyhydroxyalkanoates	US	Con		7166743
MBX 048	Polyhydroxyalkanoate Production by Coenzyme A-Dependent Aldehyde Dehydrogenase Pathways	France			1581619
MBX 048	Polyhydroxyalkanoate Production by Coenzyme A-Dependent Aldehyde Dehydrogenase Pathways	France	Div		2365088
MBX 048	Polyhydroxyalkanoate Production by Coenzyme A-Dependent Aldehyde Dehydrogenase Pathways	Germany			1581619
MBX 048	Polyhydroxyalkanoate Production by Coenzyme A-Dependent Aldehyde Dehydrogenase Pathways	Germany	Div		2365088

MBX #	TITLE	COUNTRY	CASE TYPE	SERIAL NO.	PATENT NO.
MBX 048	Polyhydroxyalkanoate Production by Coenzyme A-Dependent Aldehyde Dehydrogenase Pathways	Italy			1581619
MBX 048	Polyhydroxyalkanoate Production by Coenzyme A-Dependent Aldehyde Dehydrogenase Pathways	Italy	Div		1365088
MBX 048	Polyhydroxyalkanoate Production by Coenzyme A-Dependent Aldehyde Dehydrogenase Pathways	Japan			4628103
MBX 048	Polyhydroxyalkanoate Production by Coenzyme A-Dependent Aldehyde Dehydrogenase Pathways	Spain	Div		2365088
MBX 048	Polyhydroxyalkanoate Production by Coenzyme A-Dependent Aldehyde Dehydrogenase Pathways	United Kingdom			1581619
MBX 048	Polyhydroxyalkanoate Production by Coenzyme A-Dependent Aldehyde Dehydrogenase Pathways	United Kingdom	Div		2365088
MBX 048	Polyhydroxyalkanoate Production by Coenzyme A-Dependent Aldehyde Dehydrogenase Pathways	US			8071355
MBX 049	Bioabsorbable Polymer Containing 2-Hydroxyacid Monomers	US			8039237
MBX 049	Bioabsorbable Polymer Containing 2-Hydroxyacid Monomers	US			8703449
MBX 052	Polymer Extraction Methods/Solvent Extration System	Brazil			
MBX 052	Polymer Extraction Methods/Solvent Extration System	China			100408613
MBX 052	Polymer Extraction Methods/Solvent Extration System	China	Div 1		1013380026
MBX 052	Polymer Extraction Methods/Solvent Extration System	China	Div 2		102443159
MBX 052	Polymer Extraction Methods/Solvent Extration System	Germany			60342108.3
MBX 052	Polymer Extraction Methods/Solvent Extration System	Hong Kong	Div		HK1125391
MBX 052	Polymer Extraction Methods/Solvent Extration System	Italy			30966/BE/2012
MBX 052	Polymer Extraction Methods/Solvent Extration System	Japan	Div 1		5031811
MBX 052	Polymer Extraction Methods/Solvent Extration System	Japan	Div 2		5600333
MBX 052	Polymer Extraction Methods/Solvent Extration System	Spain			1529072
MBX 052	Polymer Extraction Methods/Solvent Extration System	US			7252980
MBX 052	Polymer Extraction Methods/Solvent Extration System	US	Div Con 1		7981642
MBX 052	Polymer Extraction Methods/Solvent Extration System	US	Div Con 2		8003355
MBX 052	Polymer Extraction Methods/Solvent Extration System	US	Div		7713720
MBX 053	PHA Adhesive Compositions	Germany			1601737
MBX 053	PHA Adhesive Compositions	Hong Kong			1085504
MBX 053	PHA Adhesive Compositions	Italy			1601737
MBX 053	PHA Adhesive Compositions	Japan			5079321
MBX 053	PHA Adhesive Compositions	Spain			1601737
MBX 053	PHA Adhesive Compositions	United Kingdom			1601737
MBX 053	PHA Adhesive Compositions	US			8283435
MBX 055	PHA Blends	Europe	Div 2		
MBX 055	PHA Blends	France			1603987
MBX 055	PHA Blends	Germany			1603987
MBX 055	PHA Blends	Italy			1603987
MBX 055	PHA Blends	Japan			4724111
MBX 055	PHA Blends	Japan	Div		5606986
MBX 055	PHA Blends	Spain			1603987
MBX 055	PHA Blends	United Kingdom			1603987
MBX 055	PHA Blends	US			7781539
MBX 055	PHA Blends	US	Con		7928167
MBX 056	Nucleating Agents	France			1704180
MBX 056	Nucleating Agents	China			1922255
MBX 056	Nucleating Agents	Germany			1704180
MBX 056	Nucleating Agents	Italy			1704180
MBX 056	Nucleating Agents	Spain			1704180
MBX 056	Nucleating Agents	United Kingdom			1704180
MBX 056	Nucleating Agents	US			7718720

MBX #	TITLE	COUNTRY	CASE TYPE	SERIAL NO.	PATENT NO.
MBX 056	Nucleating Agents	US	Div Con		8003719
MBX 057	Single Solvent Polymer Extraction Methods	Brazil			
MBX 057	Single Solvent Polymer Extraction Methods	Canada			2579721
MBX 057	Single Solvent Polymer Extraction Methods	China			101065416
MBX 057	Single Solvent Polymer Extraction Methods	Germany			1802681
MBX 057	Single Solvent Polymer Extraction Methods	Japan			4945447
MBX 057	Single Solvent Polymer Extraction Methods	United Kingdom			1802681
MBX 057	Single Solvent Polymer Extraction Methods	US		11/220119	7576173
MBX 057	Single Solvent Polymer Extraction Methods	US	Con 1	12/497362	7795376
MBX 057	Single Solvent Polymer Extraction Methods	US	Con 2	12/857859	7893194
MBX 058B	Methods for Branching PHA Using Thermolysis Related Applications	France			2291429
MBX 058B	Branched PHA Compositions, Methods for Their Production, and Use in Applications	Brazil		PI-09150951	
MBX 058B	Branched PHA Compositions, Methods for Their Production, and Use in Applications	China		2727036	10211519
MBX 058B	Branched PHA Compositions, Methods for Their Production, and Use in Applications	Germany			2291429
MBX 058B	Branched PHA Compositions, Methods for Their Production, and Use in Applications	Italy			27434/BE/2013
MBX 058B	Branched PHA Compositions, Methods for Their Production, and Use in Applications	Spain			2291430
MBX 058B	Branched PHA Compositions, Methods for Their Production, and Use in Applications	United Kingdom			2291429
MBX 058B	Branched PHA Compositions, Methods for Their Production, and Use in Applications	US		13/001019	9034989
MBX 062	Nucleating Agents for Polyhydroxyalkanoates	US		12/488175	8487023
MBX 064	Biodegradable Polyester Blends	China			102056985
MBX 064	Biodegradable Polyester Blends	Europe		9743045.8	
MBX 064	Biodegradable Polyester Blends	US		12/991404	8822584
MBX 067	Green Process and Compositions for Producing Poly(5HV) and 5 Carbon Chemicals	Brazil		PI0922410-6	
MBX 067	Green Process and Compositions for Producing Poly(5HV) and 5 Carbon Chemicals	China			102317437
MBX 067	Green Process and Compositions for Producing Poly(5HV) and 5 Carbon Chemicals	Germany		9793403.8	
MBX 067	Green Process and Compositions for Producing Poly(5HV) and 5 Carbon Chemicals	Japan		2011-540960	5770099
MBX 067	Green Process and Compositions for Producing Poly(5HV) and 5 Carbon Chemicals	Japan	Div	2015-125334	
MBX 067	Green Process and Compositions for Producing Poly(5HV) and 5 Carbon Chemicals	Korea		2001-7013556	
MBX 067	Green Process and Compositions for Producing Poly(5HV) and 5 Carbon Chemicals	Malaysia			
MBX 067	Green Process and Compositions for Producing Poly(5HV) and 5 Carbon Chemicals	Thailand			
MBX 067	Green Process and Compositions for Producing Poly(5HV) and 5 Carbon Chemicals	United Kingdom		9793403.8	
MBX 067	Green Process and Compositions for Producing Poly(5HV) and 5 Carbon Chemicals	US		12/637706	9090898
MBX 073	PHA Compositions Comprising PBS and PBSA and Methods for Their Production	Brazil		PI1015055	
MBX 073	PHA Compositions Comprising PBS and PBSA and Methods for Their Production	China		201080028646.0	102459462
MBX 073	PHA Compositions Comprising PBS and PBSA and Methods for Their Production	Europe		10792744.4	
MBX 073	PHA Compositions Comprising PBS and PBSA and Methods for Their Production	Korea		10/2012-7001924	
MBX 073	PHA Compositions Comprising PBS and PBSA and Methods for Their Production	US		13/380483	8524856
MBX 073	PHA Compositions Comprising PBS and PBSA and Methods for Their Production	US	Con 1	13/959715	8629212
MBX 073	PHA Compositions Comprising PBS and PBSA and Methods for Their Production	US	Con 2	14/150451	9056947
MBX 073	PHA Compositions Comprising PBS and PBSA and Methods for Their Production	US	Con 3	14/702437	
MBX 074	Toughened Polyhyroxyalkanoate Compositions	Brazil		1120120041088	
MBX 074	Toughened Polyhyroxyalkanoate Compositions	China		201080041303.8	102597107
MBX 074	Toughened Polyhyroxyalkanoate Compositions	US		13/391894	9346948
MBX 079_1	Process for Producing A Monomer Component from a Genetically Modified Polyhydroxyalkanoate Biomass	Brazil		112012020132-8	

MBX #	TITLE	COUNTRY	CASE TYPE	SERIAL NO.	PATENT NO.
MBX 079_1	Process for Producing A Monomer Component from a Genetically Modified Polyhydroxyalkanoate Biomass	Europe		11708607	2534125
MBX 079_1	Process for Producing A Monomer Component from a Genetically Modified Polyhydroxyalkanoate Biomass	US		13/678044	
MBX 079_2	Process for Gamma-Butyrolactone Production	Brazil		112012020299-5	
MBX 079_2	Process for Gamma-Butyrolactone Production	Europe		11706980	2534141
MBX 079_2	Process for Gamma-Butyrolactone Production	US		13/678214	9084467
MBX-079_3	Process for Making Chemical Derivatives	US	DIV	15/040662	
MBX 080	Toughening Polylactic Acid with Polyhydroxyalkanoates	Brazil		112013029305-2	
MBX 080	Toughening Polylactic Acid with Polyhydroxyalkanoates	China		201180024907	102906193
MBX 080	Toughening Polylactic Acid with Polyhydroxyalkanoates	Europe		11784090	
MBX 080	Toughening Polylactic Acid with Polyhydroxyalkanoates	US			9328239
MBX 080	Toughening Polylactic Acid with Polyhydroxyalkanoates	China	DIV	201510330995.2	
MBX 085	Process for Latex Production by By Melt Emulsification	Europe		12720343	
MBX 085	Process for Latex Production by By Melt Emulsification	US	CIP		9085688
MBX 091	Post Process Purification for Gamma-Butyrolactone Production	Europe		12748818	
MBX 091	Post Process Purification for Gamma-Butyrolactone Production	US		14/237808	
MBX 098	Genetically Engineered Microorganisms for the Production of Poly-4-Hydroxybutyrate (P4HB)	US		14/368728	
MBX 098	Genetically Engineered Microorganisms for the Production of Poly-4-Hydroxybutyrate (P4HB)	Europe		13710246	
MBX 098	Genetically Engineered Microorganisms for the Production of Poly-4-Hydroxybutyrate (P4HB)			112014023117-9	
MBX 098	Genetically Engineered Microorganisms for the Production of Poly-4-Hydroxybutyrate (P4HB)	China		201380026228	
MBX 099	Renewable Acrylic Acid Production and Products Made Therefrom	Brazil		BR112014030203.0	
MBX 099	Renewable Acrylic Acid Production and Products Made Therefrom	US		14/406491	
MBX 099	Renewable Acrylic Acid Production and Products Made Therefrom	China		201380030263	
MBX 101	Polyhydroxyalkanoate Copolymer Compositions and Methods of Making the Same	Brazil		BR112015007560-6	
MBX 101	Polyhydroxyalkanoate Copolymer Compositions and Methods of Making the Same	China		201380052532	
MBX 101	Polyhydroxyalkanoate Copolymer Compositions and Methods of Making the Same	Europe		13777398	
MBX 101	Polyhydroxyalkanoate Copolymer Compositions and Methods of Making the Same	US		14/434651	
MBX 102_1	Biobased Rubber Modified Biodegradable Polymer Blends	US		14/406131	
MBX 102_1	Biobased Rubber Modified Biodegradable Polymer Blends	Europe		13729223	
MBX 102_1	Biobased Rubber Modified Biodegradable Polymer Blends	China		201380029996	
MBX 102_2	Low Glass Transition Polyhydroxyalkanoates for Modifications of Biodegradable Polymers	US		14/406135	9353258
MBX 103_1	Biobased Rubber Modified Biodegradable Polymer Blends	US	CIP	14/043702	
MBX 103_1	Biobased Rubber Modified Biodegradable Polymer Blends	US	CIP 2	14/094150	
MBX 103_2	Biobased Rubber Modified Biodegradable Polymer Blends	US		14/422135	
MBX 103_2	Biobased Rubber Modified Biodegradable Polymer Blends	China		201380045883	
MBX 104	Production of Salts of 4-Hydroxybutyrate Using Biobased Raw Material	Europe		13802137	
MBX 104	Production of Salts of 4-Hydroxybutyrate Using Biobased Raw Material	US		14/442413	
MBX 105	Process for Ultra-Pure Chemical Production from Biobased Raw Starting Materials	US		14/767509	
MBX 109	Biobased Additives for Recycling of Polymers	US		14/894019	
MBX109	Biobased Additives for Recycling of Polymers	CN		201480042386	
MBX 113	Highly Filled Polymer Systems	PCT	PCT	PCT/US2015-023186	

MBX #	TITLE	COUNTRY	CASE TYPE	SERIAL NO.	PATENT NO.
MBX 117p-1	Polymer Blends with Controllable Biodegradation Rates	US	Provisional	62/256,265	
MOBT 008	Rhodospirillumrubrum Poly-B-Hydroxyalkanoate Synthase	US			5849894
MOBT 024	DNA Sequence Useful for Production of Polyhydroxyalkanoates	US	Reissue		RE37543
MOBT 051	Processing of Polyesters	US			5874040
MOBT 076	Latex of Polyhydroxyalkanoate	US			5977250
MOBT 080	Process for the Microbiological Production of PHA Polymers	US			5871980
MOBT 081	Aliphatic Polyester Composition	US			6005066
MOBT 082	Process of Recovering Polymers of Hydroxyalkanoic Acids	US			5952460
MOBT 083	Process for the Recovery of Hydroxyalkanoic Acid	US			5894062
MOBT 100	Process for Preparing Films and Coatings	US			6111006
MOBT 120	HV/HB Copolymer Production	US			6080562
MOBT 125	Methods of PHA Extraction and Recovery Using Non-Halogenated Solvents	US			6043063
MOBT 127	High Temperature PHA Extraction Using PHA-Poor Solvents	US			6087471
MOBT 136	Methods for the Biosynthesis of Polyesters	US			6759219
MOBT 136	Methods for the Biosynthesis of Polyesters	US	Div		7968325
MOBT 140	PHA Compositions and Methods for Their Use in the Production of PHA Films	US	Con 2		7208535
MOBT 141	Polyhydroxyalkanoate Coatings	Finland			998381
MOBT 141	Polyhydroxyalkanoate Coatings	France			998381
MOBT 141	Polyhydroxyalkanoate Coatings	Germany			698199022.2
MOBT 141	Polyhydroxyalkanoate Coatings	Italy			998381
MOBT 141	Polyhydroxyalkanoate Coatings	United Kingdom			998381
MOBT 141	Polyhydroxyalkanoate Coatings	US			6025026
MOBT 152	PHA E and PHA C Components of Poly(Hydroxy Fatty Acid) Synthase from Tthiocapsa Pfennigii	US	Div 2		6770464
MOBT 159	Modified Polyhydroxyalkanoates for Production of Coatings and Films	US			6096810
MOBT 159	Modified Polyhydroxyalkanoates for Production of Coatings and Films	US	Con		6201083
MOBT 160	Hydroxy-Terminated Polyhydroxyalkanoates	US			5994478
MOBT 160	Hydroxy-Terminated Polyhydroxyalkanoates	US	CIP		6156852
MOBT 160	Hydroxy-Terminated Polyhydroxyalkanoates	US	Div		6204341
MOBT 167	Plasticized Polyhydroxyalkanoate Compositions and Methods for Their Use in the Production of Shaped Polymeric Articles	France	Div		1593705
MOBT 167	Plasticized Polyhydroxyalkanoate Compositions and Methods for Their Use in the Production of Shaped Polymeric Articles	Germany	Div		1593705
MOBT 167	Plasticized Polyhydroxyalkanoate Compositions and Methods for Their Use in the Production of Shaped Polymeric Articles	Italy	Div		1593705
MOBT 167	Plasticized Polyhydroxyalkanoate Compositions and Methods for Their Use in the Production of Shaped Polymeric Articles	Spain	Div		1593705

MBX #	TITLE	COUNTRY	CASE TYPE	SERIAL NO.	PATENT NO.
MOBT 167	Plasticized Polyhydroxyalkanoate Compositions and Methods for Their Use in the Production of Shaped Polymeric Articles	United Kingdom	Div		1593705
MOBT 167	Plasticized Polyhydroxyalkanoate Compositions and Methods for Their Use in the Production of Shaped Polymeric Articles	US			6127512
MOBT 169	Nucleating Agents for Polyhydroxyalkanoates and Other Thermoplastic Polyesters and Methods for Their Production and Use	US			5973100
MOBT 189	Polymer Blends Containing Polyhydroxyalkanoates and Compositions with Good Retention of Elongation	Belgium			1027384
MOBT 189	Polymer Blends Containing Polyhydroxyalkanoates and Compositions with Good Retention of Elongation	France			1027384
MOBT 189	Polymer Blends Containing Polyhydroxyalkanoates and Compositions with Good Retention of Elongation	Germany			1027384
MOBT 189	Polymer Blends Containing Polyhydroxyalkanoates and Compositions with Good Retention of Elongation	Italy			1027384
MOBT 189	Polymer Blends Containing Polyhydroxyalkanoates and Compositions with Good Retention of Elongation	Spain			1027384
MOBT 189	Polymer Blends Containing Polyhydroxyalkanoates and Compositions with Good Retention of Elongation	United Kingdom			1027384
MOBT 189	Polymer Blends Containing Polyhydroxyalkanoates and Compositions with Good Retention of Elongation	US			6191203
MOBT 189	Polymer Blends Containing Polyhydroxyalkanoates and Compositions with Good Retention of Elongation	US	Div		6841603
MOBT 201	Hydroxy-Terminated Polyhydroxyalkanoates	US			6248862

Schedule 2.1(b) FAST Patent Rights
FINAL 9-16-16

MBX #	TITLE	COUNTRY	CASE TYPE	SERIAL NO.	PATENT NO.
MBX 079_1	Process for Producing A Monomer Component from a Genetically Modified Polyhydroxyalkanoate Biomass	Brazil		112012020132-8	
MBX 079_1	Process for Producing A Monomer Component from a Genetically Modified Polyhydroxyalkanoate Biomass	Europe		11708607	2534141
MBX 079_1	Process for Producing A Monomer Component from a Genetically Modified Polyhydroxyalkanoate Biomass	US			
MBX 079_2	Process for Gamma-Butyrolactone Production	Brazil		112012020299-5	
MBX 079_2	Process for Gamma-Butyrolactone Production	Europe		11706980	
MBX 079_2	Process for Gamma-Butyrolactone Production	US			9084467
MBX-079_3	Process for Making Chemical Derivatives	US	DIV	15/040662	
MBX 091	Post Process Purification for Gamma-Butyrolactone Production	Europe		13748818	
MBX 091	Post Process Purification for Gamma-Butyrolactone Production	US		14/237808	
MBX 099	Renewable Acrylic Acid Production and Products Made Therefrom	Brazil		BR112014030203.0	
MBX 099	Renewable Acrylic Acid Production and Products Made Therefrom	US		14/406491	
MBX 099	Renewable Acrylic Acid Production and Products Made Therefrom	China		201380030363	
MBX 104	Production of Salts of 4-Hydroxybutyrate Using Biobased Raw Material	Europe		13802137	
MBX 104	Production of Salts of 4-Hydroxybutyrate Using Biobased Raw Material	US		14/442413	
MBX 105	Process for Ultra-Pure Chemical Production from Biobased Raw Starting Materials	US		14/767509	

Metabolix Patent Rights-Prosecution discontinued since 1/1/2016

MBLX Patent Family	Patent Title	Applications Pending	Attorney Firm Handling	Date Dropped
MBX-027	PHA Biopolymer Compositions	CA2328471DIV - DROPPED	PABST	4/19/2016
MBX-058A	Methods for Branching PHA's Using Thermolysis	EP2291430 - DROPPED	Foley&Hoag	1/5/2016
MBX-058B		CA2727016 - DROPPED	Foley&Hoag	5/13/2016
MBX-067	Green Process and Compositions for Production of	CN201310318119.9 DIV - DROPPED	PABST	7/14/2016
MBX-067		EP2376622 - DROPPED	PABST	6/10/2016
MBX-079-1		CN102781903 - DROPPED	Foley&Hoag	
MBX-079-2		CN102781936 - DROPPED	Foley&Hoag	
MBX-079CIP	Process for Making Chemical Derivatives - PGA	USCIP2014024769 - DROPPED	Foley&Hoag	4/20/2016
MBX-087	Green Process for Producing Polyhydroxyalkanoates and	US14/114723 - DROPPED	Foley&Hoag	5/13/2016
MBX-100	Increased Yields of PHAs from Hydrogen Feeding and	US2013-0288317 - DROPPED	Foley&Hoag	5/13/2016
MBX-101		CO15-081.784 - DROPPED	Pearmen-Gordon	6/24/2016
MBX-109		EP14/894819 - DROPPED	Foley&Hoag	8/1/2016
MBX-115	PHA's with Good Elastomeric Properties	PROV - DROPPED	Foley&Hoag	4/15/2016
MBX-116	Waxes Containing PHA's	PROV - DROPPED	Foley&Hoag	8/3/2016