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EPAS ID: PAT4886998

SUBMISSION TYPE: NATURE OF CONVEYANCE:		NEW ASSIGNMENT	NEW ASSIGNMENT	
		EXECUTIVE ORDER 9424, CONF	EXECUTIVE ORDER 9424, CONFIRMATORY LICENSE	
CONVEYING PARTY DA	АТА			
		Name	Execution Date	
UNIVERSITY OF CALIF-	LAWRE	NC BERKELEY LAB	01/10/2018	
RECEIVING PARTY DA	ТА			
Name:	UNITED STATES DEPARTMENT OF ENERGY			
Street Address:	1000 IN	1000 INDEPENDENCE AVE. S.W.		
City:	WASHI	WASHINGTON		
State/Country:	D.C.			
Postal Code:	20585	20585		
Property Type		Number		
Property Type Application Number:		Number 15867575		
Application Number: CORRESPONDENCE D Fax Number: Correspondence will be	ATA e sent to provided (((
Application Number: CORRESPONDENCE D Fax Number: Correspondence will be using a fax number, if p Phone: Email: Correspondent Name: Address Line 1: Address Line 2: Address Line 4:	ATA (e sent to provided ((()	(630)252-2779 the e-mail address first; if that is unsu ; if that is unsuccessful, it will be sent (630) 252-2137 Confirmatory.License@science.doe.gov TIMOTHY L HARNEY 9800 S. CASS AVE IPLD		
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CONFIRMATORY LICENSE

Title:	Producing Adipic Acid and Related Compounds Using Hybrid				
	Polyketide Synthases				
Contractor:	The Regents of the University of California				
Contract No:	DE-AC02-05CH11231				
	NSF Grant Nos: EEC0540879, DGE1106400, and MCB1341894				
LBNL Docket No:	2015-106-03	DOE Docket No.:	S-140,770		
Inventor(s): Andrew R. Hagen, Sean Poust,		US Patent App No.:	15/867,575		
Leonard Katz and Jay D. Keasling		Filing Date:	January 10, 2018		
		U.S. Patent No.:			
•		Issue Date:			

Foreign patent applications filed or intended to be filed at contractor's expense in (countries): (None)

The Contractor certifies that a true copy of the provisions which govern patent rights in "subject inventions" under the above-identified contract is herewith submitted or has been submitted to the U.S. Department of Energy by certification dated <u>October 29, 1996</u>.

WHEREAS, the above-identified contract provides the Contractor with the right to elect to retain title in certain inventions and the Contractor has reported the above-identified invention as a subject invention under the contract, has elected to retain title therein, and has agreed to file a domestic patent application thereon, if not previously filed.

ACCORDINGLY, the Contractor hereby confirms that under the provisions of the above-identified contract governing patent rights, it has granted to the Government a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States the subject invention throughout the world. This license applies to the above-identified invention, the above-identified patent application(s), and any and all divisions or continuations thereof and any resulting patent or reissue patent which may be granted thereon.

The Government reserves for itself, and is hereby granted by the Contractor, the irrevocable power to inspect and make copies of the file wrapper(s) of the above-identified U.S. patent application and of any related or continuation patent application(s), whether domestic or foreign, for the above-identified invention.

It is understood and agreed that this instrument does not preclude the Government from asserting rights under the provisions of the above-identified contract or any other agreement between the Government and the Contractor, or any other rights of the Government with respect to the above-identified invention.

Signed on behalf of: The Regents of the University of California, Lawrence Berkeley National Laboratory

Witnessed: haven Kai Reinena By	Hactor)	1/10/18
(Signature)	(Contractor Official's Signature)	(Date)

Sharon Kay Reineman Legal Analyst, Patent Admin. Asst. Robin C. Chiang, Ph.D. Patent Attorney

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PATENT REEL: 045370 FRAME: 0246

RECORDED: 03/28/2018