UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BUTAMAX™ ADVANCED BIOFUELS LLC

Petitioner

v.

GEVO, INC.

Patent Owner

CASE IPR: Unassigned

PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 8,273,565 B2 UNDER 35 U.S.C. §§ 311-319 and 37 C.F.R. §§ 42.1-.80, 42.100-.123

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VI.		ATEMENT OF THE PRECISE RELIEF REQUESTED AND THE ASONS THEREFOR (37 C.F.R. § 42.104(b))6
	A.	Person of ordinary skill in the art and state of the art
		1. Established biochemical principles of iron regulation7
		 Established biochemical principles of fermentation products made from glucose in yeast
	B.	The '565 patent 13
	C.	Claim construction
	D.	Identification of challenge (37 C.F.R. § 42.104(b)) 14
		1. Ground 1: claim 5 is anticipated by Flint
		 Ground 2: claim 10 would have been obvious over Flint in view of Valadi
		(a) Valadi discloses inactivation of GPD
		(b) Valadi demonstrates that deleting GPD results in increased levels of ethanol, a downstream product of pyruvate
		 Ground 3: claim 10 would have been obvious over Anthony in view of Puig, Ojeda and Valadi
		 Ground 4: claim 10 would have been obvious over Flint in view of Dundon
		(a) Dundon discloses inactivation of GPD
		(b) Dundon demonstrates that deleting GPD results in increased levels of lactic acid, a downstream product of pyruvate
		5. Ground 5: claim 10 would have been obvious over Anthony in view

	of Puig, Ojeda and Dundon
	 The art does not teach away from modifying a yeast containing recombinantly overexpressed DHAD
	 Gevo's alleged unexpected results do not rebut the <i>prima facie</i> obviousness established herein
	 (a) Increased activity of recombinant overexpressed DHAD in yeast lacking GRX3 and/or GRX4 would have been expected
	 (a) Gevo's proffered evidence of unexpected results is not reasonably commensurate with the scope of the claims
II.	THERE IS A REASONABLE LIKELIHOOD THAT PETITIONER WILL PREVAIL WITH RESPECT TO AT LEAST ONE OF THE CHALLENGED CLAIMS
III.	CONCLUSION

1 I. INTRODUCTION

BUTAMAX[™] ADVANCED BIOFUELS LLC'S ("Petitioner") Petition for *Inter Partes* Review ("Petition") seeks cancellation of claims 5 and 10 of U.S. Patent
No. 8,273,565 ("the '565 patent") (BMX1001).

5 II. OVERVIEW

On March 4, 2014, the Patent Trial and Appeal Board ("Board") instituted 6 inter partes review ("IPR") of claims 1-9 and 11-19 of the '565 patent. In its 7 decision on institution, the Board found that the '565 patent claims are not 8 supported by the limited disclosure in the provisional applications to which the 9 '565 patent claims priority benefit. Case IPR2013-00539, Paper 9 at pp. 13-16 10 (Mar. 4, 2014). The Board also found that it is reasonably likely that claims 1-4, 6-11 8, and 11-19 are anticipated (id. at pp. 16-18) and that claims 1-9 and 11-19 would 12 have been obvious over the prior art (id. at pp. 19-27). 13

In its decision on institution, the Board concluded that Petitioner "has not demonstrated a reasonable likelihood it will prevail on the ground that claim 5 is unpatentable as anticipated by Flint" because "Paragraph 0118 of the Flint '333 provisional, however, does not [incorporate by reference U.S. Patent Application Publication No. 2010/0197519 ("**the '519 publication**")]." *Id.* at p. 18. But, as explained in detail below, Paragraph 0118 of the Flint '333 provisional does incorporate the '519 publication by reference, albeit by reference to its application serial number. This evidence establishes a reasonable likelihood that Flint
 anticipates claim 5.

The Board did not institute IPR for claim 10 because Petitioner allegedly (i) 3 "has not directed us to any disclosure of an inactivated GPD" and (ii) "has not 4 pointed to any disclosure in Overkamp or otherwise explained why one of 5 ordinary skill would have reasoned that deleting GPD would result in increased 6 levels of pyruvate available for use in isobutanol production." Id. at p. 28. But, as 7 explained in detail below and supported by the accompanying declaration of Dr. 8 Dennis J. Thiele, ("Thiele Dec." BMX1002), the prior art described inactivating 9 GPD. And, in view of the prior art, a person of ordinary skill in the art ("POSA") 10 had a reason, and the know-how, to arrive at the recombinant yeast of claim 10 11 with a reasonable expectation of success. This is because the prior art presented 12 herein teaches inactivating GPD so as to increase production of products made 13 from pyruvate. Thus, motivating a POSA to inactivate GPD when expressing a 14 recombinant pathway for making isobutanol from pyruvate. 15

This Petition squarely addresses the alleged deficiencies identified by the Board making it reasonably likely that Petitioner will prevail with respect to each of claims 5 and 10 in view of the Grounds presented in this Petition.

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