

UNITED STATES PATENT AND TRADEMARK OFFICE

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**BEFORE THE PATENT TRIAL AND APPEAL BOARD**

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RIMFROST AS

Petitioner

v.

AKER BIOMARINE ANTARCTIC AS

Patent Owner

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Case No.: IPR2018-01179

**U.S. Patent 9,375,453**

Issue Date: June 28, 2016

Title: Bioeffective Krill Oil Compositions

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**PETITIONER'S OPPOSITION TO PATENT OWNER'S  
MOTION TO AMEND THE CLAIMS**

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## I. INTRODUCTION

Patent Owner requests that the Board substitute claims 75-84 in place of original claims 33 and 37-45 of U.S. Patent No. 9,375,453 (“the ‘453 patent”) if these original claims are found unpatentable. However, substitute claims 75-84, as challenged claims 33 and 37-45, simply recite conventional methods of producing polar krill oil having ranges of phospholipids, triglycerides and astaxanthin esters, all of which Patent Owner’s expert, Dr. Hoem, acknowledged are naturally present in krill. Exhibit 1080, pp. 0007-0010. Simply amending claims 33 and 37-45 by adding known “grinding, cooking and drying” treatment steps, and upper limits to the ranges of ether phospholipids (*i.e.*, from 5% to 8%) and astaxanthin esters (*i.e.*, 100 mg/kg to 700 mg/kg) does not render substitute claims 33 and 37-45 patentable.<sup>1</sup>

As an initial matter, U.S.S.N. 14/020,162, to which the ‘453 patent claims priority, lacks written description support for the proposed “grinding, cooking and drying” limitation in each substitute claim. *See* 37 C.F.R. 42.121 (b)(1).

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<sup>1</sup> Patent Owner’s amended ether phospholipid range (5-8%) combined with the recited range of non-ether phospholipids (27-50%) fails to support the claimed total phospholipid content (30-60%), thus rendering the proposed claims indefinite.

The substitute claims are also unpatentable. In particular, treating krill by “grinding, cooking and drying,” and then extracting polar krill oil having the ranges of ether phospholipids, triglycerides and astaxanthin esters recited in the substitute claims is taught in the prior art. For example, Yoshitomi (Exhibit 1033), describing “grinding, cooking and drying” krill to obtain a denatured krill product with all the components present in krill, in combination with prior art that was the focal point of three previous “krill IPRs” (*i.e.*, IPR2018-00295; IPR2017-00746; and IPR2017-00745), demonstrates that substitute claims 75-84 are not patentable by a preponderance of evidence. Patent Owner’s motion should be denied.<sup>2</sup>

## II. SUBSTITUTE CLAIMS 62-74 ARE NOT PATENTABLE

Patent Owner’s Motion to Amend (“MTA”) is contingent upon a finding that claims 33 and 37-45 are unpatentable based on the teachings of Breivik II (Exhibit 1037), Catchpole (Exhibit 1009), Bottino II (Exhibit 1038) Sampalis I (Exhibit 1012) Sampalis II (Exhibit 1013), Fricke (Exhibit 1010) and Randolph (Exhibit

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<sup>2</sup> The failure to acknowledge, much less address, Yoshitomi after it was expressly discussed in Dr. Tallon’s Declaration, (Exhibit 1006, ¶¶ 357-366), calls into question Patent Owner’s duty of candor. *See* 37 C.F.R. § 42.11; *Masterimage 3D, Inc. v. Reald Inc.*, IPR2015-00040 (Paper 42), p. 2 (July 15, 2015); *Idle Free Sys., Inc. v. Bergstrom, Inc.*, IPR2012-00027 (Paper 26), p. 7 (June 11, 2013).

1011). *See* Petition (Paper 2), pp. 32-89. The Board is well versed in the teachings of these references; each formed the bases for finding all claims of U.S. Patent Nos. 9,320,765 (“the ‘765 patent”), 9,028,877 (“the ‘877 patent”) and 9,078,905 (“the ‘905 patent”) unpatentable: IPR2018-00295, Final Written Decision (Paper 35) (“-295 FWD”, Exhibit 1129); IPR2017-00746, Final Written Decision (Paper 23) (“-746 FWD”, Exhibit 1104); IPR2017-00745, Final Written Decision (Paper 24) (“-745 FWD”, Exhibit 1103).<sup>3</sup>

Since “the Board determines whether substitute claims are unpatentable by a preponderance of the evidence based on the entirety of the record, including any opposition made by petitioner,” *Lectrosionics, Inc. v. Zaxcom, Inc.*, IPR2018-01129, Paper 15, p. 4 (Feb. 25, 2019), Petitioner only addresses the “grinding, cooking and drying” limitation, and the amended ether phospholipids and astaxanthin ester upper limits Patent Owner seeks to add. All remaining claim limitations are addressed in the Petition. Petition (Paper 2), pp. 32-89; *see, e.g.* Tallon Decl. (Exhibit 1006), ¶¶ 409-458, Appendix A.

In an attempt to support the patentability of the substitute claims, Patent

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<sup>3</sup> The ‘453, ‘765, ‘877 and ‘905 patents are in the same family, share the same specification and priority date, and recite, *inter alia*, krill oil having materially identical ranges of ether phospholipids, triglycerides and astaxanthin esters.

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