

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

VANTAGE SPECIALTY CHEMICALS, INC.,

Petitioner,

v.

CARGILL, INC.,

Patent Owner.

Case No. IPR2023-00589

U.S. Patent No. 11,248,245

**PETITIONER'S OBJECTIONS TO PATENT OWNER'S EVIDENCE
PURSUANT TO 37 C.F.R. § 42.64(b)(1)**

Pursuant to 37 C.F.R. 42.64(b)(1), Petitioner, Vantage Specialty Chemicals, Inc., hereby objects to the admissibility of exhibits to Patent Owner's Response (Paper 22) ("POR").¹ Petitioner's objections are based on the Federal Rules of Evidence ("FRE") and relevant case law, as set forth below.

Exhibit 2009 ("Declaration of Thomas Schultz")

Petitioner objects to the admissibility of portions of Exhibit 2009 under FRE 401–403 (relevance; to the extent relevant, any probative value is substantially outweighed by a danger of unfair prejudice and/or confusing the issues), FRE 702–703 (opinions that are conclusory, do not disclose supporting facts or data, are based on unreliable facts, data, or methods, and/or include testimony outside the scope of Dr. Schultz's specialized knowledge (to the extent he has any such knowledge) that will not assist the trier of fact), and FRE 801–802 (hearsay). Further, Petitioner objects to Exhibit 2009 in its entirety as an improper extension of the word limit, under 37 CFR § 42.24, to the POR.

Petitioner objects to the admissibility of portions of Exhibit 2009 under FRE 401–403. In particular, paragraphs of Exhibit 2009 are neither cited nor relied on in

¹ A redacted version of Patent Owner's Response was filed on December 7, 2023 (Paper 25) to redact confidential information that was improperly filed on the public docket.

the POR. *See, e.g.*, Ex. 2009, ¶¶ 51, 54, 56, 62, 67–71, 73, 75, 78, 82, 86, 88–89, 93–94, 98–103, 105, 109–110. Thus, portions of Exhibit 2009 are irrelevant, or at least their probative value is substantially outweighed by a danger of unfair prejudice or confusing the issues. *See, e.g., SK Innovation Co., Ltd. v. Celgard, LLC*, IPR2014-00679, Paper 58, at 49 (PTAB Sept. 25, 2015) (granting a motion to exclude because the challenged exhibits were not cited in the IPR); *Shimano, Inc v. Globeride, Inc.*, IPR2015-00273, Paper 40, at 27–28 (PTAB June 16, 2016) (excluding exhibits because the proffering party did not rely on those exhibits).

Petitioner objects to the paragraphs in Section V.A of Exhibit 2009 (*i.e.*, paragraphs 43–46), under FRE 401–402, because this overview of the personal care industry is not relevant to this proceeding. Further, to the extent Dr. Schultz relies on exhibits that materially post-date the filing of the '245 Patent, his opinions (as well as those underlying exhibits) are not relevant to the knowledge of a person of ordinary skill in the art at the time of the invention.

Petitioner objects to the paragraphs in Exhibit 2009 dealing with triglycerides (*e.g.*, paragraphs 38, 47–57, 119–122), under FRE 401–403, because they are not relevant to this proceeding, and, to the extent they are relevant at all, they are more prejudicial than probative and/or are intended to confuse the Board. One of Patent Owner's primary arguments is that, prior to the '245 Patent, lipases had only ever been known to work with triglycerides. *See, e.g.*, Ex. 2009, ¶38. That is simply not

true, and therefore, all of the paragraphs in Exhibit 2009 dealing with triglycerides are either not relevant at all, or, to the extent they are relevant, are more prejudicial than probative and/or are intended to confuse the Board.

Similarly, Petitioner objects, under FRE 401–403 and FRE 702–703, to the paragraphs in Exhibit 2009 (*e.g.*, paragraphs 72–87) that treat lipases as something other than how the '245 Patent defines the term. *See, e.g.*, Ex. 1001 at 4:63–65. Dr. Schultz's opinions regarding lipases are inconsistent with the '245 Patent's definition of lipase, and are therefore inadmissible.

Similarly, Petitioner objects, under FRE 401–403 and FRE 702–703, to the extent certain paragraphs in Exhibit 2009 (*e.g.*, paragraphs 58–63) regarding transesterification are inconsistent with the '245 Patent's use of that term. *See, e.g.*, Ex. 1001 at 3:28–37. To the extent Dr. Schultz's opinions regarding transesterification are inconsistent with the '245 Patent's use of transesterification, they are inadmissible.

Petitioner objects, under FRE 702–703, to the portions of Exhibit 2009 that are conclusory, do not disclose supporting facts or data, are based on unreliable facts, data, or methods, and/or include testimony outside the scope of Dr. Schultz's specialized knowledge (to the extent he has any such knowledge) that will not assist the trier of fact, such as, for example, portions of paragraphs 53–57, 60–62, 69, 75,

77–80, 82–86, as well as any paragraphs that rely on the inadmissible hearsay discussed below, including, but not limited to, paragraphs 125–128, 141, and 154.

Exhibit 2010 (“Textbook of Cosmetic Formulations”)

Petitioner objects to the admissibility of Exhibit 2010 under FRE 401–402 (relevance) and FRE 901 (authentication).

Exhibit 2010 states: “All content following this page was uploaded by Jayesh Gadhiya on 08 May 2018.” Ex. 2010 at 1. And, Patent Owner alleges that Exhibit 2010 is dated “May, 2018.” POR at iv. Accordingly, Exhibit 2010 is not relevant to the knowledge of a person of ordinary skill in the art at the time of the invention because it materially post-dates the filing date of the ’245 Patent. Further, categories of personal care products—*i.e.*, the assertion that Exhibit 2010 allegedly supports (*see* Ex. 2009, ¶43)—are not relevant.

Patent Owner has not established Exhibit 2010 as self-authenticating, nor has Patent Owner authenticated this document as required by FRE 901. *See, e.g., TRW Automotive U.S. LLC v. Magna Elecs. Inc.*, IPR2014-01347, Paper 25 at 5–12 (PTAB Jan. 15, 2016) (granting motion to exclude exhibit that was not self-authenticating and was not shown to be authentic).

Exhibit 2011 (“Medium-engineering: a useful tool for modulating lipase activity and selectivity”)

Petitioner objects to the admissibility of Exhibit 2011 under FRE 401–403 (relevance; to the extent relevant, any probative value is substantially outweighed

by a danger of unfair prejudice and/or confusing the issues) and FRE 901 (authentication).

Petitioner objects to Exhibit 2011, under FRE 401–403, because it is only offered in support of Patent Owner’s fallacious arguments that, prior to the ’245 Patent, lipases had only ever been known to work with triglycerides. Because that is simply not true, Exhibit 2011, is either not relevant at all, or, to the extent it is relevant, it is more prejudicial than probative and/or is intended to confuse the Board.

Patent Owner has not established Exhibit 2011 as self-authenticating, nor has Patent Owner authenticated this document as required by FRE 901. *See, e.g., TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Exhibit 2012

Petitioner objects to the admissibility of Exhibit 2012 under FRE 801–802 (hearsay) and FRE 901 (authentication).

Exhibit 2012 is inadmissible hearsay. Patent Owner offers statements in this document to prove the truth of the matter asserted—*i.e.*, the ingredients of products. Further, Exhibit 2049 fails to establish that Exhibit 2012 falls under any exception to the rule against hearsay.

Patent Owner has not established Exhibit 2012 as self-authenticating, nor has Patent Owner properly authenticated this document as required by FRE 901. Further, Exhibit 2049 fails to properly authenticate Exhibit 2012 as it is, for example,

inadmissible hearsay and an improper authenticating declaration. *See, e.g., TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Exhibit 2013

Petitioner objects to the admissibility of Exhibit 2013 under FRE 801–802 (hearsay) and FRE 901 (authentication).

Exhibit 2013 is inadmissible hearsay. Patent Owner offers statements in this document to prove the truth of the matter asserted—*i.e.*, the ingredients of products. Further, Exhibit 2049 fails to establish that Exhibit 2013 falls under any exception to the rule against hearsay.

Patent Owner has not established Exhibit 2013 as self-authenticating, nor has Patent Owner properly authenticated this document as required by FRE 901. Further, Exhibit 2049 fails to properly authenticate Exhibit 2013 as it is, for example, inadmissible hearsay and an improper authenticating declaration. *See, e.g., TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Exhibit 2014

Petitioner objects to the admissibility of Exhibit 2014 under FRE 801–802 (hearsay) and FRE 901 (authentication).

Exhibit 2014 is inadmissible hearsay. Patent Owner offers statements in this document to prove the truth of the matter asserted—*i.e.*, the details of a manufacturing process. However, Exhibit 2014 includes indicia that call into

question the details of the manufacturing process described, as well as the time period, if ever, when that manufacturing process was implemented. Further, Exhibit 2049 fails to establish that Exhibit 2014 falls under any exception to the rule against hearsay.

Patent Owner has not established Exhibit 2014 as self-authenticating, nor has Patent Owner properly authenticated this document as required by FRE 901. Further, Exhibit 2049 fails to properly authenticate Exhibit 2014 as it is, for example, inadmissible hearsay and an improper authenticating declaration. *See, e.g., TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Exhibit 2015 (“Personal Care Specialty Ingredients Market Size, Share, & Trends Analysis Report By Product (Active, Inactive), By Application (Skin Care, Hair Care, Oral Care, Color Cosmetics, Others), By Region, And Segment Forecasts, 2023 – 2030”)

Petitioner objects to the admissibility of Exhibit 2015 under FRE 401–402 (relevance) and FRE 901 (authentication).

While the actual date of Exhibit 2015 is not clear on its face, Patent Owner appears to allege that it is from sometime in 2023. *See* Ex. 2015; POR at v. Accordingly, Exhibit 2015 is not relevant to the knowledge of a person of ordinary skill in the art at the time of the invention because it materially post-dates the filing date of the ’245 Patent. Further, categories of personal care products—*i.e.*, the assertion that Exhibit 2015 allegedly supports (*see* Ex. 2009, ¶43)—are not relevant.

Patent Owner has not established Exhibit 2015 as self-authenticating, nor has Patent Owner authenticated this document as required by FRE 901. *See, e.g., TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Exhibit 2016 (“Biobased Industrial Products: Priorities for Research and Commercialization”)

Petitioner objects to the admissibility of Exhibit 2016 under FRE 801–802 (hearsay), FRE 401–402 (relevance), and FRE 901 (authentication).

Exhibit 2016 is inadmissible hearsay. Patent Owner offers statements in this document to prove the truth of the matter asserted—*i.e.*, that (i) “With the rise of mass production of personal care products in the 20th century, petroleum-based oil derivatives such as petroleum jelly became prominent due to their high stability and low cost. *Id.*; EX-2061, 59-60; EX-2016, 16.” (POR at 4–5) and (ii) “The personal care industry continues to shift away from petroleum-based oils toward naturally derived alternatives that have fewer health and safety concerns. EX-2009, ¶44; EX-2016, 16–17.” POR at 5.

Exhibit 2016 is offered to support background information regarding the personal care industry. *See, e.g., Ex. 2009, ¶44.* However, this personal care industry background is not relevant.

Patent Owner has not established Exhibit 2016 as self-authenticating, nor has Patent Owner properly authenticated this document as required by FRE 901. *See, e.g., TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Exhibit 2017 (“End-of-Life Myths and Facts about Cosmetic Ingredients”)

Petitioner objects to the admissibility of Exhibit 2017 under FRE 401–402 (relevance) and FRE 901 (authentication).

While the actual date of Exhibit 2017 is not clear on its face, Patent Owner appears to allege that it is from sometime in 2023. *See* Ex. 2017; POR at v. Accordingly, Exhibit 2017 is not relevant to the knowledge of a person of ordinary skill in the art at the time of the invention because it materially post-dates the filing date of the ’245 Patent. Further, Exhibit 2017 is offered to support background information regarding the personal care industry. *See, e.g.*, Ex. 2009, ¶44. However, this personal care industry background is not relevant.

Patent Owner has not established Exhibit 2017 as self-authenticating, nor has Patent Owner authenticated this document as required by FRE 901. *See, e.g.*, *TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Exhibit 2018 (“Oil From a Shrub Found in Desert May Save the Sperm Whale”)

Petitioner objects to the admissibility of Exhibit 2018 under FRE 401–402 (relevance).

Exhibit 2018 is neither cited nor relied on in the POR, and is therefore irrelevant. *SK Innovation*, IPR2014-00679, Paper 58, at 49 (granting a motion to exclude because the challenged exhibits were not cited in the IPR); *Shimano*,

IPR2015-00273, Paper 40, at 27–28 (excluding exhibits because the proffering party did not rely on those exhibits).

Exhibit 2019 (“4.3: Mechanisms of Catalysis”)

Petitioner objects to the admissibility of Exhibit 2019 under FRE 401–403 (relevance; to the extent relevant, any probative value is substantially outweighed by a danger of unfair prejudice and/or confusing the issues) and FRE 901 (authentication).

There is no date associated with Exhibit 2019. *See* Ex. 2019; POR at v. To the extent Exhibit 2019 materially post-dates the filing of the ’245 Patent, it is not relevant to the knowledge of a person of ordinary skill in the art at the time of the invention because it materially post-dates the filing date of the ’245 Patent.

Petitioner further objects to Exhibit 2019, under FRE 401–403, because it is only offered in support of Patent Owner’s fallacious arguments that, prior to the ’245 Patent, lipases had only ever been known to work with triglycerides. Because that is simply not true, Exhibit 2019, is either not relevant at all, or, to the extent it is relevant, it is more prejudicial than probative and/or is intended to confuse the Board.

Patent Owner has not established Exhibit 2019 as self-authenticating, nor has Patent Owner authenticated this document as required by FRE 901. *See, e.g., TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Exhibit 2020 (“Oxidative Stability of Fats and Oils Measured by Differential Scanning Calorimetry for Food and Industrial Applications”)

Petitioner objects to the admissibility of Exhibit 2020 under FRE 801–802 (hearsay), FRE 401–403 (relevance; to the extent relevant, any probative value is substantially outweighed by a danger of unfair prejudice and/or confusing the issues), and FRE 901 (authentication).

Exhibit 2020 is inadmissible hearsay. Patent Owner offers statements in this document to prove the truth of the matter asserted—*i.e.*, that “[s]tability is a key performance parameter for any material used in these applications. EX-2009, ¶45; EX-2061, 32; EX-2020, 447.” POR at 5.

Petitioner objects to Exhibit 2020, under FRE 401–403, because it is offered (i) to provide background on the personal care industry (*see, e.g.*, Ex. 2009, ¶45), which is not relevant, and (ii) in support of Patent Owner’s fallacious arguments that, prior to the ’245 Patent, lipases had only ever been known to work with triglycerides. Because that is simply not true, Exhibit 2020, is either not relevant at all, or, to the extent it is relevant, it is more prejudicial than probative and/or is intended to confuse the Board.

Patent Owner has not established Exhibit 2020 as self-authenticating, nor has Patent Owner authenticated this document as required by FRE 901. *See, e.g., TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Exhibit 2021 (“Review of vegetable oils behaviour at high temperature for solar plants: Stability, properties and current applications”)

Petitioner objects to the admissibility of Exhibit 2021 under FRE 401–402 (relevance) and FRE 901 (authentication).

Exhibit 2021 includes a footnote that states: “© 2019 published by Elsevier.” *See* Ex. 2021; *see also* POR at vi (including a date of “2019”). Accordingly, Exhibit 2021 is not relevant to the knowledge of a person of ordinary skill in the art at the time of the invention because it materially post-dates the filing date of the ’245 Patent.

Patent Owner has not established Exhibit 2021 as self-authenticating, nor has Patent Owner authenticated this document as required by FRE 901. *See, e.g., TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Exhibit 2023 (“Plant protein-derived antioxidant peptides: Isolation, identification, mechanism of action and application in food systems: A review”)

Petitioner objects to the admissibility of Exhibit 2023 under FRE 801–802 (hearsay), FRE 401–402 (relevance), and FRE 901 (authentication).

Exhibit 2023 is inadmissible hearsay. Patent Owner offers statements in this document to prove the truth of the matter asserted—*i.e.*, that “[w]hile natural oils can be supplemented with antioxidants to improve oxidative stability, antioxidants are expensive, and therefore incorporating them into a formulation can significantly

increase the associated manufacturing costs. EX-2009, ¶46; EX-2023, Abstract.”
POR at 5.

Exhibit 2023 states that it was “Received 27 March 2020; Received in revised form 24 August 2020; Accepted 20 September 2020” and that it was “Available online 23 September 2020.” Ex. 2023 at 1. And, Patent Owner alleges that Exhibit 2023 is dated “2020.” POR at vi. Accordingly, Exhibit 2023 is not relevant to the knowledge of a person of ordinary skill in the art at the time of the invention because it materially post-dates the filing date of the ’245 Patent. Further, Exhibit 2023 is offered to support background information regarding the personal care industry. *See, e.g.*, POR at 5. However, this personal care industry background is not relevant.

Patent Owner has not established Exhibit 2023 as self-authenticating, nor has Patent Owner authenticated this document as required by FRE 901. *See, e.g., TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Exhibit 2024 (“March’s Advanced Organic Chemistry”)

Petitioner objects to the admissibility of Exhibit 2024 under FRE 401–403 (relevance; to the extent relevant, any probative value is substantially outweighed by a danger of unfair prejudice and/or confusing the issues) and FRE 901 (authentication).

Petitioner objects to Exhibit 2024, under FRE 401–403, because it is offered (i) to provide background on the personal care industry (*see, e.g.*, Ex. 2009, ¶51),

which is not relevant, and (ii) in support of Patent Owner’s fallacious arguments that, prior to the ’245 Patent, lipases had only ever been known to work with triglycerides (*see, e.g.*, Ex. 2009, ¶77). Because that is simply not true, Exhibit 2024, is either not relevant at all, or, to the extent it is relevant, it is more prejudicial than probative and/or is intended to confuse the Board.

Patent Owner has not established Exhibit 2024 as self-authenticating, nor has Patent Owner authenticated this document as required by FRE 901. *See, e.g., TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Exhibit 2025 (“Jojoba Oil: An Updated Comprehensive Review on Chemistry, Pharmaceutical Uses, and Toxicity”)

Petitioner objects to the admissibility of Exhibit 2025 under FRE 801–802 (hearsay), FRE 401–403 (relevance; to the extent relevant, any probative value is substantially outweighed by a danger of unfair prejudice and/or confusing the issues), and FRE 901 (authentication).

Exhibit 2025 is inadmissible hearsay. Patent Owner offers statements in this document to prove the truth of the matter asserted—*i.e.*, that “[i]n fact, although they are sometimes referred to as ‘jojoba oil,’ jojoba wax esters are not a true oil; rather, they make up what is correctly referred to as a liquid wax. *See id.*, ¶52; *see also* EX-2025, 3-4; *see also* EX-1004, 1.” POR at 2.

Exhibit 2025 states that it was “Published online 2021 May 24.” Ex. 2025 at 1. And, Patent Owner alleges that Exhibit 2025 is dated “2021.” Accordingly,

Exhibit 2025 is not relevant to the knowledge of a person of ordinary skill in the art at the time of the invention because it materially post-dates the filing date of the '245 Patent.

Petitioner further objects to Exhibit 2025, under FRE 401–403, because it is offered (i) to provide background on the personal care industry (*see, e.g.*, Ex. 2009, ¶51), which is not relevant, and (ii) in support of Patent Owner’s fallacious arguments that, prior to the '245 Patent, lipases had only ever been known to work with triglycerides (*see, e.g.*, Ex. 2009, ¶¶52, 53, 57, 128). Because that is simply not true, Exhibit 2025, is either not relevant at all, or, to the extent it is relevant, it is more prejudicial than probative and/or is intended to confuse the Board.

Patent Owner has not established Exhibit 2025 as self-authenticating, nor has Patent Owner authenticated this document as required by FRE 901. *See, e.g., TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Exhibit 2026 (“UCD Biophysics 241: Membrane Biology”)

Petitioner objects to the admissibility of Exhibit 2026 under FRE 401–403 (relevance; to the extent relevant, any probative value is substantially outweighed by a danger of unfair prejudice and/or confusing the issues) and FRE 901 (authentication).

Exhibit 2026 states: “This text was compiled on 10/11/2023.” *See* Ex. 2026 at 3. And, Patent Owner alleges that Exhibit 2026 is dated “October 11, 2023.” POR

at vi. Accordingly, Exhibit 2026 is not relevant to the knowledge of a person of ordinary skill in the art at the time of the invention because it materially post-dates the filing date of the '245 Patent.

Petitioner further objects to Exhibit 2026, under FRE 401–403, because it is offered in support of Patent Owner’s fallacious arguments that, prior to the '245 Patent, lipases had only ever been known to work with triglycerides (*see, e.g.*, Ex. 2009, ¶54). Because that is simply not true, Exhibit 2026, is either not relevant at all, or, to the extent it is relevant, it is more prejudicial than probative and/or is intended to confuse the Board.

Patent Owner has not established Exhibit 2026 as self-authenticating, nor has Patent Owner authenticated this document as required by FRE 901. *See, e.g., TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Exhibit 2027 (“Triglycerides of medium-chain fatty acids: a concise review”)

Petitioner objects to the admissibility of Exhibit 2027 under FRE 401–403 (relevance; to the extent relevant, any probative value is substantially outweighed by a danger of unfair prejudice and/or confusing the issues) and FRE 901 (authentication).

Exhibit 2027 states: “Revised: 19 April 2022 / Accepted: 21 May 2022 / Published online: 22 June 2022.” Ex. 2027 at 1. And, Patent Owner alleges that the date of Exhibit 2027 is “August 2023.” POR at vi. Accordingly, Exhibit 2027 is not

relevant to the knowledge of a person of ordinary skill in the art at the time of the invention because it materially post-dates the filing date of the '245 Patent.

Petitioner further objects to Exhibit 2027, under FRE 401–403, because it is offered in support of Patent Owner’s fallacious arguments that, prior to the '245 Patent, lipases had only ever been known to work with triglycerides. Because that is simply not true, Exhibit 2027, is either not relevant at all, or, to the extent it is relevant, it is more prejudicial than probative and/or is intended to confuse the Board.

Patent Owner has not established Exhibit 2027 as self-authenticating, nor has Patent Owner authenticated this document as required by FRE 901. *See, e.g., TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Exhibit 2028 (“Lipases: An Overview”)

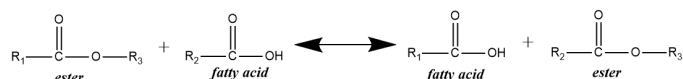
Petitioner objects to the admissibility of Exhibit 2028 under FRE 801–802 (hearsay), FRE 401–403 (relevance; to the extent relevant, any probative value is substantially outweighed by a danger of unfair prejudice and/or confusing the issues), and FRE 901 (authentication).

Exhibit 2028 is inadmissible hearsay. Patent Owner offers statements in this document to prove the truth of the matter asserted:

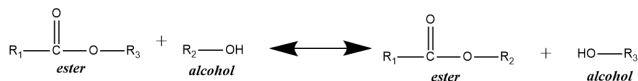
- “Lipases were known to work with triglycerides because of their ability to bind to their glycerol backbone. EX-2009, ¶72; EX-2028, 2.” POR at 2.
- “The general term ‘transesterification’ encompasses three different types of reactions: acidolysis, alcoholysis, and interesterification (also known as an ester-ester exchange), shown below:

Transesterification

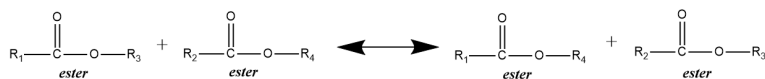
Acidolysis reaction



Alcoholysis reaction



Ester-ester exchange reaction



POR at 9–10.

- “Additionally, lipases can have different geometries, such as crevice-like, funnel-like, or tunnel-like, that can change the length of the binding site and affect how the triglyceride structure interacts with the lipase. EX-2009, ¶81; EX-2028, 12-13; EX-2063, 1, 8.” POR at 14.
- “Because lipases specifically interact with the glycerol backbone of a triglyceride, a person of ordinary skill in the art would not have expected a jojoba wax ester that lacks that glycerol backbone, to be able to bind to a lipase’s active site. EX-2009, ¶83-85; EX-2063, Fig. 1; EX-2028, 15; EX-2035, 2.” POR at 14.
- “Moreover, even if the jojoba wax ester somehow interacted with the lipase, a person of skill in the art would not have expected an ester-ester exchange to in fact be accomplished, given the lack of the glycerol backbone. EX-2009, ¶83-85; EX-2063, Fig. 1; EX-2028, 15; EX-2035, 2.” POR at 15.
- “A POSITA would have understood that lipases have high specificity in acting on triglyceride substrates. EX-2009, ¶117 (citing EX-2039, Abstract; EX-2028, 6).” POR at 28.

Exhibit 2028 states: “© Springer Science+Business Media, LLC, part of Springer Nature 2018.” Ex. 2028 at 1. And, Patent Owner alleges that Exhibit 2028 is dated “2018.” POR at vi. Accordingly, Exhibit 2028 is not relevant to the knowledge of a person of ordinary skill in the art at the time of the invention because it materially post-dates the filing date of the ’245 Patent.

Petitioner further objects to Exhibit 2028, under FRE 401–403, because it is offered in support of Patent Owner’s fallacious arguments that, prior to the ’245 Patent, lipases had only ever been known to work with triglycerides. Because that is simply not true, Exhibit 2028, is either not relevant at all, or, to the extent it is relevant, it is more prejudicial than probative and/or is intended to confuse the Board.

Petitioner further objects to Exhibit 2028, under FRE 401–403, because it is offered in support of Patent Owner’s definition of “lipase”—a definition that is different from how the ’245 Patent defines the term. *See, e.g.*, Ex. 1001 at 4:63–65. Exhibit 2028 is therefore inadmissible because it is either not relevant at all, or, to the extent it is relevant, it is more prejudicial than probative and/or is intended to confuse the Board.

Petitioner further objects to Exhibit 2028, under FRE 401–403, to the extent it is offered in support of a use of “transesterification” that is different from how the ’245 Patent uses that term. *See, e.g.*, Ex. 1001 at 3:28–37. Exhibit 2028 is therefore inadmissible because it is either not relevant at all, or, to the extent it is relevant, it is more prejudicial than probative and/or is intended to confuse the Board.

Patent Owner has not established Exhibit 2028 as self-authenticating, nor has Patent Owner authenticated this document as required by FRE 901. *See, e.g., TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Exhibit 2029 (“A Review on Applications of Microbial Lipases”)

Petitioner objects to the admissibility of Exhibit 2029 under FRE 401–403 (relevance; to the extent relevant, any probative value is substantially outweighed by a danger of unfair prejudice and/or confusing the issues), and FRE 901 (authentication).

Exhibit 2029 lists a date range of “October to December 2016.” *See* Ex. 2029 at 1; *see also* POR at vi. Accordingly, Exhibit 2029 is not relevant to the knowledge of a person of ordinary skill in the art at the time of the invention because it materially post-dates the filing date of the ’245 Patent.

Petitioner further objects to Exhibit 2029, under FRE 401–403, to the extent it is offered in support of a use of “transesterification” that is different from how the ’245 Patent uses that term. *See, e.g.*, Ex. 1001 at 3:28–37. Exhibit 2029 is therefore inadmissible because it is either not relevant at all, or, to the extent it is relevant, it is more prejudicial than probative and/or is intended to confuse the Board.

Patent Owner has not established Exhibit 2029 as self-authenticating, nor has Patent Owner authenticated this document as required by FRE 901. *See, e.g., TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Exhibit 2030 (“Interesterification of oils and fats”)

Petitioner objects to the admissibility of Exhibit 2030 under FRE 801–802 (hearsay), FRE 401–403 (relevance; to the extent relevant, any probative value is

substantially outweighed by a danger of unfair prejudice and/or confusing the issues), and FRE 901 (authentication).

Exhibit 2030 is inadmissible hearsay. Patent Owner offers statements in this document to prove the truth of the matter asserted:

- “Instead, an ester-ester exchange ‘only alters the distribution of the fatty acids over the triacylglycerols,’ and ‘[t]he stability of the oil remains essentially unchanged[.]’ EX-2009, ¶61; EX-2030, 1232.” POR at 12.
- “Transesterification requires a catalyst to initiate the reaction. *See* EX-2009, ¶64; EX-2030, 1233.” POR at 12.
- “Conventional catalysts used in the prior art primarily include base catalysts such as alkali metals (sodium, potassium and their alloys) and the corresponding alcoholates (sodium methylate and ethylate) as well as acidic bentonite-type clay. *See* EX-2009, ¶65; EX-2030, 1233....” POR at 13.
- “A chemical catalyst works by attacking the carbon attached to the two oxygens in an ester bond, creating an ionized active catalyst on the ester that can attack another carbon attached to two oxygens on a different ester, leading to the exchange of their carbon chains. EX-2009, ¶66; EX-2030, 5.” POR at 13.
- “When chemical catalysts are used for transesterification, byproducts are created, including, for example, methyl or ethyl esters or free fatty acids. EX-2030, 5....” POR at 13.
- “Interesterification is one of three important fat modification processes. Unlike hydrogenation, it leaves the fatty acid composition unchanged and only alters the distribution of the fatty acids over the triacylglycerols. ***The stability of the oil remains essentially unchanged***, but important physicochemical properties such as melting, crystallization and recrystallization behavior are modified. EX-2030, 3 (emphasis added). Rozenaal explains that during an ester-ester exchange, ‘only’ the distribution of the fatty acids is changed, with stability being ‘essentially unchanged.’ *Id.*; *see also* EX-2009, ¶144.” POR at 44.

- “Indeed, Rozenaal itself confirms this. See EX-2030, 3 (‘Unlike hydrogenation, [interesterification] leaves the fatty acid composition unchanged and only alters the distribution of the fatty acids over the *triacylglycerols*.’); *id.* (‘Interesterification will lead to the so-called random distribution of fatty acids over the *triacylglycerols* if the process is carried out in a single phase with the usual types of catalysts.’), (‘Enzymes, such as lipases, can accomplish the exchange of fatty acids at the external positions of the triacylglycerol molecule but leave the fatty acid composition at the 2-position unchanged’); *id.*, 4 (‘In Table 1 the number and amount of the various *triacylglycerols* obtainable by interesterification of mixture containing different fatty acids are shown.’) (emphasis added).” POR at 53.

Petitioner further objects to Exhibit 2030, under FRE 401–403, because it is offered in support of Patent Owner’s fallacious arguments that, prior to the ’245 Patent, lipases had only ever been known to work with triglycerides. Because that is simply not true, Exhibit 2030, is either not relevant at all, or, to the extent it is relevant, it is more prejudicial than probative and/or is intended to confuse the Board.

Petitioner further objects to Exhibit 2030, under FRE 401–403, to the extent it is offered in support of a use of “transesterification” that is different from how the ’245 Patent uses that term. See, e.g., Ex. 1001 at 3:28–37. Exhibit 2030 is therefore inadmissible because it is either not relevant at all, or, to the extent it is relevant, it is more prejudicial than probative and/or is intended to confuse the Board.

Patent Owner has not established Exhibit 2030 as self-authenticating, nor has Patent Owner authenticated this document as required by FRE 901. See, e.g., *TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Exhibit 2031 (“Transesterification of Vegetable Oils: a Review”)

Petitioner objects to the admissibility of Exhibit 2031 under FRE 801–802 (hearsay), FRE 401–403 (relevance; to the extent relevant, any probative value is substantially outweighed by a danger of unfair prejudice and/or confusing the issues), and FRE 901 (authentication).

Exhibit 2031 is inadmissible hearsay. Patent Owner offers statements in this document to prove the truth of the matter asserted—*i.e.*, that “[t]ransesterification can be catalyzed by the addition of an acid or base catalyst but can also be catalyzed with an enzyme catalyst. EX-2009, ¶64; EX-2031, Abstract; EX-2032, Abstract.” POR at 12.

Petitioner further objects to Exhibit 2031, under FRE 401–403, to the extent it is offered in support of a use of “transesterification” that is different from how the ’245 Patent uses that term. *See, e.g.*, Ex. 1001 at 3:28–37. Exhibit 2031 is therefore inadmissible because it is either not relevant at all, or, to the extent it is relevant, it is more prejudicial than probative and/or is intended to confuse the Board.

Patent Owner has not established Exhibit 2031 as self-authenticating, nor has Patent Owner authenticated this document as required by FRE 901. *See, e.g., TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Exhibit 2032 (“Production of biodiesel by enzymatic transesterification of waste sardine oil and evaluation of its engine performance”)

Petitioner objects to the admissibility of Exhibit 2032 under FRE 801–802 (hearsay), FRE 401–403 (relevance; to the extent relevant, any probative value is substantially outweighed by a danger of unfair prejudice and/or confusing the issues), and FRE 901 (authentication).

Exhibit 2032 is inadmissible hearsay. Patent Owner offers statements in this document to prove the truth of the matter asserted—*i.e.*, that “[t]ransesterification can be catalyzed by the addition of an acid or base catalyst but can also be catalyzed with an enzyme catalyst. EX-2009, ¶64; EX-2031, Abstract; EX-2032, Abstract.” POR at 12.

Exhibit 2032 states: “Received: 25 May 2017”; “Revised: 14 October 2017”; “Accepted: 6 December 2017.” Ex. 2032 at 1. And, Patent Owner alleges that Exhibit 2032 is dated “2017.” POR at vii. Accordingly, Exhibit 2032 is not relevant to the knowledge of a person of ordinary skill in the art at the time of the invention because it materially post-dates the filing date of the ’245 Patent.

Petitioner further objects to Exhibit 2032, under FRE 401–403, to the extent it is offered in support of a use of “transesterification” that is different from how the ’245 Patent uses that term. *See, e.g.*, Ex. 1001 at 3:28–37. Exhibit 2032 is therefore inadmissible because it is either not relevant at all, or, to the extent it is relevant, it is more prejudicial than probative and/or is intended to confuse the Board.

Patent Owner has not established Exhibit 2032 as self-authenticating, nor has Patent Owner authenticated this document as required by FRE 901. *See, e.g., TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Exhibit 2033 (“Production and Use of Lipases in Bioenergy: A Review from the Feedstocks to Biodiesel Production”)

Petitioner objects to the admissibility of Exhibit 2033 under FRE 801–802 (hearsay), FRE 401–403 (relevance; to the extent relevant, any probative value is substantially outweighed by a danger of unfair prejudice and/or confusing the issues), and FRE 901 (authentication).

Exhibit 2033 is inadmissible hearsay. Patent Owner offers statements in this document (*e.g.*, the alleged date shown thereon) to prove the truth of the matter asserted—that “[l]ipases are enzymes that, *prior to the ’245 Patent*, were known to be specific to triglycerides.”

Petitioner further objects to Exhibit 2033, under FRE 401–403, because it is offered in support of Patent Owner’s fallacious arguments that, prior to the ’245 Patent, lipases had only ever been known to work with triglycerides. Because that is simply not true, Exhibit 2033, is either not relevant at all, or, to the extent it is relevant, it is more prejudicial than probative and/or is intended to confuse the Board.

Petitioner further objects to Exhibit 2033, under FRE 401–403, because it is offered in support of Patent Owner’s definition of “lipase”—a definition that is different from how the ’245 Patent defines the term. *See, e.g., Ex. 1001* at 4:63–65.

Exhibit 2033 is therefore inadmissible because it is either not relevant at all, or, to the extent it is relevant, it is more prejudicial than probative and/or is intended to confuse the Board.

Patent Owner has not established Exhibit 2033 as self-authenticating, nor has Patent Owner authenticated this document as required by FRE 901. *See, e.g., TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Exhibit 2035 (“How the Same Core Catalytic Machinery Catalyzes 17 Different Reactions: the Serine-Histidine-Aspartate Catalytic Triad of α/β -Hydrolase Fold Enzymes”)

Petitioner objects to the admissibility of Exhibit 2035 under FRE 801–802 (hearsay), FRE 401–403 (relevance; to the extent relevant, any probative value is substantially outweighed by a danger of unfair prejudice and/or confusing the issues), and FRE 901 (authentication).

Exhibit 2035 is inadmissible hearsay. Patent Owner offers statements in this document to prove the truth of the matter asserted:

- “Lipases are enzymes that, prior to the ’245 Patent, were known to be specific to triglycerides. EX-2009, ¶64; *see also* EX-2033, 1; EX-2034, 6; EX-2035, 10.” POR at 2.
- “While chemical catalysts were known for use with both triglycerides and jojoba oil, enzymatic catalysts such as lipases were understood in the art at the time of the invention to be specific to triglycerides. EX-2009, ¶64; EX-2033, 1; EX-2035, 10.” POR at 12.
- “At the time of the invention, lipases, were also known to be able to catalyze transesterification reactions in triglycerides. EX-2009, ¶64; EX-2033, 1; EX-2035, 10.” POR at 13-14.

- “The active site of all lipases, i.e., where the triglyceride binds and the transesterification reaction occurs, contains three amino acid residues that form a ‘catalytic triad’ that is designed to specifically bind to two of the three oxygen atoms found in the glycerol head of a triglyceride. EX-2009, ¶79; EX-2035, 3.” POR at 14.
- “The binding of the two oxygens creates an ‘oxyanion hole’ that stabilizes the triglyceride in a ‘tetrahedral intermediate’ such that the ester-ester exchange can occur. EX-2009, ¶79; EX-2035, 3.” POR at 14.
- “A beta sheet on the exterior of the lipase (i.e., not in the active site) also stabilizes the triglyceride by binding carbons in the fatty acid chains of the triglyceride. EX-2009, ¶80; EX-2035, 3.” POR at 14.

Petitioner further objects to Exhibit 2035, under FRE 401–403, because it is offered in support of Patent Owner’s fallacious arguments that, prior to the ’245 Patent, lipases had only ever been known to work with triglycerides. Because that is simply not true, Exhibit 2035, is either not relevant at all, or, to the extent it is relevant, it is more prejudicial than probative and/or is intended to confuse the Board.

Petitioner further objects to Exhibit 2035, under FRE 401–403, because it is offered in support of Patent Owner’s definition of “lipase”—a definition that is different from how the ’245 Patent defines the term. *See, e.g.*, Ex. 1001 at 4:63–65. Exhibit 2035 is therefore inadmissible because it is either not relevant at all, or, to the extent it is relevant, it is more prejudicial than probative and/or is intended to confuse the Board.

Petitioner further objects to Exhibit 2035, under FRE 401–403, to the extent it is offered in support of a use of “transesterification” that is different from how the

'245 Patent uses that term. *See, e.g.*, Ex. 1001 at 3:28–37. Exhibit 2035 is therefore inadmissible because it is either not relevant at all, or, to the extent it is relevant, it is more prejudicial than probative and/or is intended to confuse the Board.

Patent Owner has not established Exhibit 2035 as self-authenticating, nor has Patent Owner authenticated this document as required by FRE 901. *See, e.g., TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Exhibit 2036 (“Lipase-Catalyzed Interesterification for the Synthesis of Medium-Long-Medium (MLM) Structured Lipids - A Review”)

Petitioner objects to the admissibility of Exhibit 2036 under FRE 401–403 (relevance; to the extent relevant, any probative value is substantially outweighed by a danger of unfair prejudice and/or confusing the issues), and FRE 901 (authentication).

Exhibit 2036 states that it was “Received: 6 September 2018” and “Accepted: 7 August 2019.” Ex. 2036 at 1. And, Patent Owner alleges that Exhibit 2036 is dated “July-September 2019.” POR at vii. Accordingly, Exhibit 2036 is not relevant to the knowledge of a person of ordinary skill in the art at the time of the invention because it materially post-dates the filing date of the '245 Patent.

Petitioner further objects to Exhibit 2036, under FRE 401–403, because it is offered in support of Patent Owner’s fallacious arguments that, prior to the '245 Patent, lipases had only ever been known to work with triglycerides. Because that is

simply not true, Exhibit 2036, is either not relevant at all, or, to the extent it is relevant, it is more prejudicial than probative and/or is intended to confuse the Board.

Patent Owner has not established Exhibit 2036 as self-authenticating, nor has Patent Owner authenticated this document as required by FRE 901. *See, e.g., TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Exhibit 2037 (“Biochemistry, Proteins Enzymes”)

Petitioner objects to the admissibility of Exhibit 2037 under FRE 401–402 (relevance), and FRE 901 (authentication).

Exhibit 2037 states: “Last Update: April 24, 2023.” Ex. 2037 at 1; *see also* POR at vii. Accordingly, Exhibit 2037 is not relevant to the knowledge of a person of ordinary skill in the art at the time of the invention because it materially post-dates the filing date of the ’245 Patent.

Patent Owner has not established Exhibit 2037 as self-authenticating, nor has Patent Owner authenticated this document as required by FRE 901. *See, e.g., TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Exhibit 2038 (“Advances in lipase-catalyzed esterification reactions”)

Petitioner objects to the admissibility of Exhibit 2038 under FRE 401–403 (relevance; to the extent relevant, any probative value is substantially outweighed by a danger of unfair prejudice and/or confusing the issues), and FRE 901 (authentication).

Petitioner objects to Exhibit 2038, under FRE 401–403, because it is offered in support of Patent Owner’s fallacious arguments that, prior to the ’245 Patent, lipases had only ever been known to work with triglycerides. Because that is simply not true, Exhibit 2038, is either not relevant at all, or, to the extent it is relevant, it is more prejudicial than probative and/or is intended to confuse the Board.

Petitioner further objects to Exhibit 2038, under FRE 401–403, because it is offered in support of Patent Owner’s definition of “lipase”—a definition that is different from how the ’245 Patent defines the term. *See, e.g.*, Ex. 1001 at 4:63–65. Exhibit 2038 is therefore inadmissible because it is either not relevant at all, or, to the extent it is relevant, it is more prejudicial than probative and/or is intended to confuse the Board.

Petitioner further objects to Exhibit 2038, under FRE 401–403, to the extent it is offered in support of a use of “transesterification” that is different from how the ’245 Patent uses that term. *See, e.g.*, Ex. 1001 at 3:28–37. Exhibit 2038 is therefore inadmissible because it is either not relevant at all, or, to the extent it is relevant, it is more prejudicial than probative and/or is intended to confuse the Board.

Patent Owner has not established Exhibit 2038 as self-authenticating, nor has Patent Owner authenticated this document as required by FRE 901. *See, e.g., TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Exhibit 2039 (“Lipases and Their Industrial Applications”)

Petitioner objects to the admissibility of Exhibit 2039 under FRE 401–403 (relevance; to the extent relevant, any probative value is substantially outweighed by a danger of unfair prejudice and/or confusing the issues) and FRE 901 (authentication).

Petitioner objects to Exhibit 2039, under FRE 401–403, because it is offered in support of Patent Owner’s fallacious arguments that, prior to the ’245 Patent, lipases had only ever been known to work with triglycerides. Because that is simply not true, Exhibit 2039, is either not relevant at all, or, to the extent it is relevant, it is more prejudicial than probative and/or is intended to confuse the Board.

Petitioner further objects to Exhibit 2039, under FRE 401–403, because it is offered in support of Patent Owner’s definition of “lipase”—a definition that is different from how the ’245 Patent defines the term. *See, e.g.*, Ex. 1001 at 4:63–65. Exhibit 2039 is therefore inadmissible because it is either not relevant at all, or, to the extent it is relevant, it is more prejudicial than probative and/or is intended to confuse the Board.

Patent Owner has not established Exhibit 2039 as self-authenticating, nor has Patent Owner authenticated this document as required by FRE 901. *See, e.g., TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Exhibit 2040 (“Controlling lipase enantioselectivity for organic synthesis”)

Petitioner objects to the admissibility of Exhibit 2040 under FRE 401–403 (relevance; to the extent relevant, any probative value is substantially outweighed by a danger of unfair prejudice and/or confusing the issues) and FRE 901 (authentication).

Petitioner objects to Exhibit 2040, under FRE 401–403, because it is offered in support of Patent Owner’s definition of “lipase”—a definition that is different from how the ’245 Patent defines the term. *See, e.g.*, Ex. 1001 at 4:63–65. Exhibit 2040 is therefore inadmissible because it is either not relevant at all, or, to the extent it is relevant, it is more prejudicial than probative and/or is intended to confuse the Board.

Patent Owner has not established Exhibit 2040 as self-authenticating, nor has Patent Owner authenticated this document as required by FRE 901. *See, e.g., TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Exhibit 2041 (“Methods to increase enantioselectivity of lipases and esterases”)

Petitioner objects to the admissibility of Exhibit 2041 under FRE 401–403 (relevance; to the extent relevant, any probative value is substantially outweighed by a danger of unfair prejudice and/or confusing the issues) and FRE 901 (authentication).

Petitioner objects to Exhibit 2041, under FRE 401–403, because it is offered in support of Patent Owner’s definition of “lipase”—a definition that is different from how the ’245 Patent defines the term. *See, e.g.*, Ex. 1001 at 4:63–65. Exhibit 2041 is therefore inadmissible because it is either not relevant at all, or, to the extent it is relevant, it is more prejudicial than probative and/or is intended to confuse the Board.

Patent Owner has not established Exhibit 2041 as self-authenticating, nor has Patent Owner authenticated this document as required by FRE 901. *See, e.g., TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Exhibit 2042 (“Effects of a-Tocopherol on Oxidative Stability and Phytosterol Oxidation During Heating in Some Regular and High-Oleic Vegetable Oils”)

Petitioner objects to the admissibility of Exhibit 2042 under FRE 901 (authentication).

Patent Owner has not established Exhibit 2042 as self-authenticating, nor has Patent Owner authenticated this document as required by FRE 901. *See, e.g., TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Exhibit 2043 (“Current developments in esterification reaction: A review on process and Parameters”)

Petitioner objects to the admissibility of Exhibit 2043 under FRE 401–403 (relevance; to the extent relevant, any probative value is substantially outweighed

by a danger of unfair prejudice and/or confusing the issues) and FRE 901 (authentication).

Exhibit 2043 states: “Received 2 May 2021”; “Revised 28 June 2021”; “Accepted 11 July 2021”; “Available online 17 July 2021.” Ex. 2043 at 1. And, Patent Owner alleges that the date of Exhibit 2043 is “2021.” *See* POR at viii. Accordingly, Exhibit 2043 is not relevant to the knowledge of a person of ordinary skill in the art at the time of the invention because it materially post-dates the filing date of the ’245 Patent.

Petitioner further objects to Exhibit 2043, under FRE 401–403, to the extent it is offered in support of a use of “transesterification” that is different from how the ’245 Patent uses that term. *See, e.g.*, Ex. 1001 at 3:28–37. Exhibit 2043 is therefore inadmissible because it is either not relevant at all, or, to the extent it is relevant, it is more prejudicial than probative and/or is intended to confuse the Board.

Patent Owner has not established Exhibit 2043 as self-authenticating, nor has Patent Owner authenticated this document as required by FRE 901. *See, e.g., TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Exhibit 2044 (“Lipase-Catalyzed Alcoholysis of Crambe Oil and Camelina Oil for the Preparation of Long-Chain Esters”)

Petitioner objects to the admissibility of Exhibit 2044 under FRE 401–402 (relevance) and FRE 901 (authentication).

Exhibit 2044 is neither cited nor relied on in the POR, and is therefore irrelevant. *SK Innovation*, IPR2014-00679, Paper 58, at 49; *Shimano*, IPR2015-00273, Paper 40, at 27–28.

Patent Owner has not established Exhibit 2044 as self-authenticating, nor has Patent Owner authenticated this document as required by FRE 901. *See, e.g., TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Exhibit 2045 (“Lipase-Catalyzed Synthesis of Palm-Based Wax Esters”)

Petitioner objects to the admissibility of Exhibit 2045 under FRE 901 (authentication).

Patent Owner has not established Exhibit 2045 as self-authenticating, nor has Patent Owner authenticated this document as required by FRE 901. *See, e.g., TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Exhibit 2048 (“Effects of Additives on the Oxidative Stability of Botanical Emollients”)

Petitioner objects to the admissibility of Exhibit 2048 under FRE 801–802 (hearsay) and FRE 901 (authentication).

Exhibit 2048 is inadmissible hearsay. Patent Owner offers statements in this document to prove the truth of the matter asserted:

- “Thus, it is the number of double bonds available for reaction with oxygen (relative to the total number bonds / or relative to the total composition) that influences the OSI. EX-2009, ¶¶125-128 (citing EX-2002, 5; EX-1006, 2-3; see also EX-1014, 6, 7; EX-1004, 2; see also EX-2048, 15).” POR at 34.

- “Indeed, Floratech’s former Technical Director gave a 1998 presentation to the Society of Cosmetic Chemists, titled ‘Effects of Additives on the Oxidative Stability of Botanical Emollients,’ showing that the Floratech’s Jojoba Esters 15 and Jojoba Esters 60 products referenced in Cummings and Trans Isomers 2 had added tocopherol. *Compare* EX-2048, 15 (Jojoba Esters 60 with tocopherol has OSI of ~225 hours; Jojoba Esters 15 with tocopherol has OSI of ~70 hours; Jojoba Esters 15 without tocopherol has OSI of ~35 hours), with EX-1006, 3 (Table 2).” POR at 41.

Patent Owner has not established Exhibit 2048 as self-authenticating, nor has Patent Owner authenticated this document as required by FRE 901. *See, e.g., TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Exhibit 2049 (“Declaration of Delrika Curry”)

Petitioner objects to the admissibility of Exhibit 2049 under FRE 801–802 (hearsay).

Patent Owner offers Exhibit 2049 (what purports to be the Declaration of Delrika Curry) for the truth of the matters asserted therein.

Petitioner further objects to Exhibit 2049 because—given that the declarant was only hired at Cargill in January 2023—the declarant lacks personal knowledge regarding the Floratech documentation (and the persons who allegedly created those documents) referenced in Exhibit 2049, as well as the historical Floraesters products referenced therein, which purport to date back as far as 1998. Further, the assertions set forth in Exhibit 2049 are, on information and belief, themselves based on inadmissible hearsay.

Petitioner reserves the right to depose Mr. Curry.

Exhibit 2050; Exhibit 2051; Exhibit 2052; Exhibit 2053; Exhibit 2055; Exhibit 2057

Petitioner objects to the admissibility of Exhibits 2050, 2051, 2052, 2053, 2055, and 2057 under FRE 801–802 (hearsay); FRE 401–403 (relevance; to the extent relevant, its probative value is substantially outweighed by a danger of unfair prejudice and/or confusing the issues).

Exhibits 2050, 2051, 2052, 2053, 2055, and 2057 are inadmissible hearsay. Patent Owner offers these exhibits for the truth of the matters asserted therein, including as it relates to competition between Vantage and Cargill and aspects of alleged review of Cargill patent applications. *See, e.g.*, POR at 4, 61–65.

Patent Owner cites Exhibits 2050, 2051, 2052, 2053, 2055, and 2057 in support of one of its secondary considerations arguments. *See* POR at 61–66.

The '245 Patent is directed to a process, not a product. Accordingly, whether Vantage worked on a comparable line of products to Cargill's Floraesters line is irrelevant. Further, as shown for example in Exhibit 2053, Patent Owner does not even allege that Vantage reviewed the '245 Patent. Yet further, Patent Owner has not demonstrated the necessary nexus, that any alleged review related to a patent limitation not in the prior art, or that any alleged activity was inconsistent with ordinary practice in the relevant field.

Exhibit 2054 (“Deposition Transcript of Michael C. Savidakis”)

Petitioner objects to the admissibility of the cited portions of Exhibit 2054 that allegedly purport to describe the activities or thoughts of third parties under FRE 801–802 (hearsay) and FRE 401–403 (relevance; to the extent relevant, its probative value is substantially outweighed by a danger of unfair prejudice and/or confusing the issues).

Patent Owner offers Exhibit 2054 to prove the truth of the matter asserted. However, certain of the cited portions do not fall within any hearsay exception. For example, Patent Owner cites to 236:21–237:23 in support of a sentence in the POR at 62. The testimony cited neither supports Patent Owner’s sentence nor falls under any hearsay exception.

Further, Patent Owner cites Exhibit 2054 in support of a secondary considerations argument. *See* POR at 61–66. The ’245 Patent is directed to a process, not a product. Accordingly, whether Vantage worked on a comparable line of products to Cargill’s Floraesters line is irrelevant. Further, Patent Owner does not even allege that Vantage reviewed the ’245 Patent. Yet further, Patent Owner has not demonstrated the necessary nexus, that any alleged review related to a patent limitation not in the prior art, or that any alleged activity was inconsistent with ordinary practice in the relevant field.

Exhibit 2058 (“26.8: Triglycerides”)

Petitioner objects to the admissibility of Exhibit 2058 under FRE 401–403 (relevance; to the extent relevant, its probative value is substantially outweighed by a danger of unfair prejudice and/or confusing the issues) and FRE 901 (authentication).

Exhibit 2058 does not bear a date. However, Patent Owner states that Exhibit 2058 was “last accessed Dec. 5, 2023.” POR at ix. Accordingly, Exhibit 2058 is not relevant to the knowledge of a person of ordinary skill in the art at the time of the invention because it materially post-dates the filing date of the ’245 Patent.

Petitioner further objects to Exhibit 2058, under FRE 401–403, because it is offered in support of Patent Owner’s fallacious arguments that, prior to the ’245 Patent, lipases had only ever been known to work with triglycerides. Because that is simply not true, Exhibit 2058, is either not relevant at all, or, to the extent it is relevant, it is more prejudicial than probative and/or is intended to confuse the Board.

Patent Owner has not established Exhibit 2058 as self-authenticating, nor has Patent Owner authenticated this document as required by FRE 901. *See, e.g., TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Exhibit 2059 (“Biochemistry Free For All, Version 1.3”)

Petitioner objects to the admissibility of Exhibit 2059 under FRE 401–403 (relevance; to the extent relevant, its probative value is substantially outweighed by

a danger of unfair prejudice and/or confusing the issues) and FRE 901 (authentication).

Exhibit 2059 does not bear a date. To the extent Exhibit 2059 materially post-dates the '245 Patent's filing date it is not relevant to the knowledge of a person of ordinary skill in the art at the time of the invention.

Petitioner further objects to Exhibit 2059, under FRE 401–403, because it is offered in support of Patent Owner's fallacious arguments that, prior to the '245 Patent, lipases had only ever been known to work with triglycerides. Because that is simply not true, Exhibit 2059, is either not relevant at all, or, to the extent it is relevant, it is more prejudicial than probative and/or is intended to confuse the Board.

Patent Owner has not established Exhibit 2059 as self-authenticating, nor has Patent Owner authenticated this document as required by FRE 901. *See, e.g., TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Exhibit 2060 (“Are All ‘Personal Care Products’ Regulated as Cosmetics?”)

Petitioner objects to the admissibility of Exhibit 2060 under FRE 401–402 (relevance), and FRE 901 (authentication).

Exhibit 2060 does not bear a date. However, Patent Owner alleges that Exhibit 2060 is dated “June 16, 2022.” POR at ix. Accordingly, Exhibit 2060 is not relevant to the knowledge of a person of ordinary skill in the art at the time of the invention because it materially post-dates the filing date of the '245 Patent. Further,

this recitation of categories of personal care products—*i.e.*, the assertion that Exhibit 2060 allegedly supports (*see* Ex. 2009, ¶43)—is not relevant.

Patent Owner has not established Exhibit 2060 as self-authenticating, nor has Patent Owner authenticated this document as required by FRE 901. *See, e.g., TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Exhibit 2061 (“Cosmetic Formulations: A Beginners Guide”)

Petitioner objects to the admissibility of Exhibit 2061 under FRE 801–802 (hearsay), FRE 401–402 (relevance), and FRE 901 (authentication).

Exhibit 2061 is inadmissible hearsay. Patent Owner offers statements in this document to prove the truth of the matter asserted:

- “Stability is a key performance parameter for any material used in these applications. EX-2009, ¶45; EX-2061, 32; EX-2020, 447.” POR at 5.
- “Addition of antioxidants, such as tocopherols, can be used to prevent or slow down oxidation. EX-2009, ¶45; EX-2061, 4.” POR at 5.

Exhibit 2061 states: “Copyright © 2020 by Institute of Personal Care Science.” Ex. 2061 at 2. And, Patent Owner alleges that Exhibit 2061 is dated “2020.” POR at ix. Accordingly, Exhibit 2061 is not relevant to the knowledge of a person of ordinary skill in the art at the time of the invention because it materially post-dates the filing date of the ’245 Patent. Further, this recitation of categories of personal care products and the focus of the personal care industry—*i.e.*, the assertions that Exhibit 2061 allegedly supports (*see* Ex. 2009, ¶43)—is not relevant.

Patent Owner has not established Exhibit 2061 as self-authenticating, nor has Patent Owner authenticated this document as required by FRE 901. *See, e.g., TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Exhibit 2062 (“Effects of stereospecific positioning of fatty acids in triacylglycerol structures in native and randomized fats: a review of their nutritional implications”)

Petitioner objects to the admissibility of Exhibit 2062 under FRE 801–802 (hearsay), FRE 401–403 (relevance; to the extent relevant, any probative value is substantially outweighed by a danger of unfair prejudice and/or confusing the issues), and FRE 901 (authentication).

Exhibit 2062 is inadmissible hearsay. Patent Owner offers statements in this document to prove the truth of the matter asserted—*i.e.*, that “[t]he positions of the fatty acid chains on the glycerol head are generally indicated as the sn-1, sn-2, and sn-3 positions, as shown above with the sn-2 position being center. EX-2009, ¶48; EX-2062, 1.” POR at 6.

Petitioner further objects to Exhibit 2062, under FRE 401–403, because it is offered in support of Patent Owner’s fallacious arguments that, prior to the ’245 Patent, lipases had only ever been known to work with triglycerides. Because that is simply not true, Exhibit 2062, is either not relevant at all, or, to the extent it is relevant, it is more prejudicial than probative and/or is intended to confuse the Board.

Patent Owner has not established Exhibit 2062 as self-authenticating, nor has Patent Owner authenticated this document as required by FRE 901. *See, e.g., TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Exhibit 2063 (“Anatomy of lipase binding sites: the scissile fatty acid binding site”)

Petitioner objects to the admissibility of Exhibit 2063 under FRE 801–802 (hearsay), FRE 401–403 (relevance; to the extent relevant, any probative value is substantially outweighed by a danger of unfair prejudice and/or confusing the issues), and FRE 901 (authentication).

Exhibit 2063 is inadmissible hearsay. Patent Owner offers statements in this document to prove the truth of the matter asserted:

- “Additionally, lipases can have different geometries, such as crevice-like, funnel-like, or tunnel-like, that can change the length of the binding site and affect how the triglyceride structure interacts with the lipase. EX-2009, ¶81; EX-2028, 12-13; EX-2063, 1, 8.” POR at 14.
- “Because lipases specifically interact with the glycerol backbone of a triglyceride, a person of ordinary skill in the art would not have expected a jojoba wax ester that lacks that glycerol backbone, to be able to bind to a lipase’s active site. EX-2009, ¶83-85; EX-2063, Fig. 1; EX-2028, 15; EX-2035, 2.” POR at 14.
- “Moreover, even if the jojoba wax ester somehow interacted with the lipase, a person of skill in the art would not have expected an ester-ester exchange to in fact be accomplished, given the lack of the glycerol backbone. EX-2009, ¶83-85; EX-2063, Fig. 1; EX-2028, 15; EX-2035, 2.” POR at 15.
- “A POSITA would have been aware of the specificity of lipase binding sites based on the size and shape of those binding sites and would have been aware of the differences in structures between triglycerides and jojoba wax esters. EX-2009, ¶121 (citing EX-2063, Fig. 1, 8-10).” POR at 30.

Petitioner further objects to Exhibit 2063, under FRE 401–403, because it is offered in support of Patent Owner’s fallacious arguments that, prior to the ’245 Patent, lipases had only ever been known to work with triglycerides. Because that is simply not true, Exhibit 2063, is either not relevant at all, or, to the extent it is relevant, it is more prejudicial than probative and/or is intended to confuse the Board.

Petitioner further objects to Exhibit 2063, under FRE 401–403, because it is offered in support of Patent Owner’s definition of “lipase”—a definition that is different from how the ’245 Patent defines the term. *See, e.g.*, Ex. 1001 at 4:63–65. Exhibit 2063 is therefore inadmissible because it is either not relevant at all, or, to the extent it is relevant, it is more prejudicial than probative and/or is intended to confuse the Board.

Patent Owner has not established Exhibit 2063 as self-authenticating, nor has Patent Owner authenticated this document as required by FRE 901. *See, e.g., TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Exhibit 2064 (“Chapter 4, Transesterification methods”)

Petitioner objects to the admissibility of Exhibit 2064 under FRE 401–402 (relevance), and FRE 901 (authentication).

Exhibit 2064 states: “© 2022 Elsevier Inc.” Ex. 2064 at 1. And, Patent Owner alleges that Exhibit 2064 is dated “2022.” POR at ix. Accordingly, Exhibit 2064 is

not relevant to the knowledge of a person of ordinary skill in the art at the time of the invention because it materially post-dates the filing date of the '245 Patent.

Patent Owner has not established Exhibit 2064 as self-authenticating, nor has Patent Owner authenticated this document as required by FRE 901. *See, e.g., TRW Automotive*, IPR2014-01347, Paper 25 at 5–12.

Dated: December 13, 2023

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CERTIFICATE OF SERVICE

I hereby certify that the foregoing Petitioner's Objections to Patent Owner's Evidence was served on December 13, 2023, via electronic mail upon counsel of record for Patent Owner, listed below, at the following email address:

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