

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

CHROMADEX, INC. and TRUSTEES
OF DARTMOUTH COLLEGE,

Plaintiffs,

v.

ELYSIUM HEALTH, INC.,

Defendant.

C.A. No. 18-1434-CFC

JOINT [PROPOSED] FINAL JURY INSTRUCTIONS

TABLE OF CONTENTS

1.	GENERAL INSTRUCTIONS.....	1
1.1	INTRODUCTION.....	1
1.2	JUROR’S DUTIES	1
1.3	THE PARTIES	2
1.4	SUMMARY OF CONTENTIONS AND PATENT ISSUES	3
1.5	BURDENS OF PROOF	5
1.6	EVIDENCE DEFINED.....	6
1.7	DIRECT AND CIRCUMSTANTIAL EVIDENCE	7
1.8	CONSIDERATION OF EVIDENCE	8

1.9	STATEMENTS OF COUNSEL	9
1.10	CREDIBILITY OF WITNESSES.....	9
1.11	NUMBER OF WITNESSES.....	10
1.12	EXPERT WITNESSES.....	11
1.13	DEPOSITION TESTIMONY	11
1.14	DEMONSTRATIVE EXHIBITS.....	12
1.15	USE OF NOTES	13
1.16	CONFIDENTIAL LABELS AND REDACTIONS	13
2.	ISSUES PRESENTED	14
3.	PATENT CLAIMS.....	16
3.1	THE ROLE OF THE CLAIMS IN A PATENT	16
3.2	INDEPENDENT AND DEPENDENT CLAIMS.....	17
3.3	CONSTRUCTION OF CLAIM TERMS.....	18
3.4	MEANING OF “COMPRISING”.....	20
4.	PATENT INFRINGEMENT.....	21
4.1	INFRINGEMENT GENERALLY.....	21
4.2	WILLFUL INFRINGEMENT	22
5.	INVALIDITY	26
5.1	PERSON OF ORDINARY SKILL IN THE ART.....	27
5.2	PATENT INELIGIBLE SUBJECT MATTER.....	29
5.3	PRIOR ART	33
5.4	PRIOR ART CONSIDERED OR NOT BY THE USPTO.....	37
5.5	ANTICIPATION.....	38

5.6	OBVIOUSNESS	42
5.6.1	SCOPE AND CONTENT OF THE PRIOR ART	47
5.6.2	LEVEL OF ORDINARY SKILL IN THE ART	47
5.6.3	DIFFERENCES BETWEEN THE CLAIMED INVENTION AND THE PRIOR ART	48
5.6.4	SECONDARY CONSIDERATIONS	51
5.7	WRITTEN DESCRIPTION	53
5.8	ENABLEMENT	57
6.	DAMAGES.....	59
6.1	DAMAGES GENERALLY	59
6.2	LOST PROFITS.....	62
6.2.1	LOST PROFITS—DEMAND	63
6.2.2	LOST PROFITS—NON-INFRINGEMENT SUBSTITUTES.....	64
6.2.3	LOST PROFITS—CAPACITY	65
6.2.4	LOST PROFITS—AMOUNT OF PROFIT	65
6.2.5	LOST PROFITS—MARKET SHARE	66
6.3	REASONABLE ROYALTY	67
6.3.1	REASONABLE ROYALTY AS A MEASURE OF DAMAGES	68
6.3.2	FACTORS FOR DETERMINING A REASONABLE ROYALTY.....	69
6.3.3	REASONABLE ROYALTY – APPORTIONMENT	72
7.	DELIBERATIONS AND VERDICT.....	75
7.1	INTRODUCTION.....	75

7.2 UNANIMOUS VERDICT 78

1. GENERAL INSTRUCTIONS

1.1 INTRODUCTION¹

Members of the jury, now it is time for me to instruct you about the law that you must follow in deciding this case.

I will start by explaining your duties and the general rules that apply in every civil case. Then I will explain some rules that you must use in evaluating particular testimony and evidence. Then I will explain the positions of the parties and the law you will apply in this case.

And last I will explain the rules that you must follow during your deliberations in the jury room and the possible verdicts that you may return.

Please listen very carefully to everything I say.

You will have a written copy of these instructions with you in the jury room for your reference during your deliberations. You will also have a verdict form, which will list the questions that you must answer to decide this case.

1.2 JUROR'S DUTIES²

You have two main duties as jurors. The first is to decide what the facts are from the evidence that you saw and heard in court. Deciding what the facts are is

¹ D.I. 307, *f'Real Foods, LLC v. Hamilton Beach Brands, Inc.*, No. 1:16-cv-41-CFC (D. Del. Sept. 30, 2019).

² D.I. 307, *f'Real Foods, LLC v. Hamilton Beach Brands, Inc.*, No. 1:16-cv-41-CFC (D. Del. Sept. 30, 2019).

your job, not mine, and nothing that I have said or done during this trial was meant to influence your decision about the facts in any way.

Your second duty is to take the law that I instruct you, apply it to the facts, and decide, under the appropriate burden of proof, which party should prevail on each of the claims and defenses presented. It is my job to instruct you about the law, and you are bound by the oath that you took at the beginning of the trial to follow the instructions that I give you, even if you personally disagree with them. This includes the instructions that I gave you before and during the trial, and these instructions. All of the instructions are important, and you should consider them together as a whole.

Perform these duties fairly. Do not let any bias, sympathy, or prejudice that you may feel toward one side or the other influence your decision in any way.

1.3 THE PARTIES³

I will now review for you the parties in this action and the positions of the parties that you will have to consider in reaching your verdict. This is a civil case concerning allegations of patent infringement.

[Plaintiffs' Proposal: The plaintiffs in this case are ChromaDex, Inc. and Trustees of Dartmouth College. I will refer to ChromaDex and Dartmouth together

³ D.I. 307, *f'Real Foods, LLC v. Hamilton Beach Brands, Inc.*, No. 1:16-cv-41-CFC (D. Del. Sept. 30, 2019).

as “Plaintiffs.”⁴] [**Elysium’s Proposal:** The plaintiff in this case is the Trustees of Dartmouth College. I may refer to Dartmouth as “Plaintiff” or “Dartmouth.”]⁵
The defendant is Elysium Health, Inc. I will refer to Elysium as “Defendant” or “Elysium.”

1.4 SUMMARY OF CONTENTIONS AND PATENT ISSUES⁶

As I did at the start of the case, I will first give you a summary of each side’s contentions in this case. I will then provide you with detailed instructions on what each side must prove to win on each of its contentions.

There are two patents for your consideration in this case: U.S. Patent No. 8,197,807 and U.S. Patent No. 8,383,086. I will refer to these patents individually as “the ’807 Patent” and “the ’086 Patent,” respectively. I will refer to these patents collectively as the “Dartmouth Patents” or the “Patents-in-Suit.”

Plaintiffs allege that Elysium infringes the Dartmouth Patents by making, using, selling, or offering for sale in the United States Basis containing

⁴ **Plaintiffs’ Position:** As described in the Joint Pretrial Order, Plaintiff ChromaDex does not lack standing.

⁵ **Elysium’s Position:** Elysium objects to references to ChromaDex as a plaintiff because ChromaDex lacks standing. To avoid cluttering these instructions, Elysium has not changed other references to ChromaDex as a Plaintiff in these instructions, but the same objection applies throughout.

⁶ D.I. 307, *f’Real Foods, LLC v. Hamilton Beach Brands, Inc.*, No. 1:16-cv-41-CFC (D. Del. Sept. 30, 2019); Fed. Cir. Bar Ass’n. Model Patent Jury Instructions B.1.

nicotinamide riboside from suppliers other than ChromaDex. I will refer to Elysium's Basis product as the Accused Product.

Specifically, Plaintiffs allege that the Accused Product infringes:

- Claims 1, 2, and 3 of the '807 Patent; and
- Claim 2 of the '086 Patent.

I will refer to these claims together as the Asserted Claims.

Elysium denies that its product infringes any of the Asserted Claims of the Dartmouth Patents, and argues that, in addition, the Asserted Claims are invalid.

Your job is to decide whether Elysium has infringed the Asserted Claims of the Dartmouth Patents and whether any of the Asserted Claims are invalid. If you decide that any claim of the Dartmouth Patents has been infringed and is not invalid, you will then need to decide any money damages to be awarded.

[Plaintiffs' Proposal: You will also need to make a finding as to whether the infringement was willful. If you decide that any infringement was willful, that decision should not affect any damages award you make. I will take willfulness into account later. ^{7]}

⁷ **Plaintiffs' Position:** For the reasons stated in the Joint Pretrial Order, the question as to whether Elysium willfully infringed the Dartmouth Patents is a fact question that is correctly decided by the jury.

Elysium's Position: For the reasons stated in the Joint Pretrial Order, Elysium objects to the jury deciding willfulness because willfulness is an issue for the Court.

1.5 BURDENS OF PROOF⁸

For each issue in this case, either the Plaintiffs or Elysium bear the burden of proof. This means that the party who bears the burden of proof on an issue bears the burden of persuading you to find in their favor. In a patent case such as this, there are two different burdens of proof. The first is called “preponderance of the evidence.” The second is called “clear and convincing evidence.”

Plaintiffs have the burden of proving infringement by what is called a preponderance of the evidence. That means Plaintiffs have to produce evidence that, when considered in light of all of the facts, leads you to believe that what Plaintiffs are claiming is more likely true than not. To put it differently, if you were to put Plaintiffs’ and Elysium’s evidence on the opposite sides of a scale, the evidence supporting the Plaintiffs’ claims would have to make the scales tip slightly on their side. Plaintiffs must also prove their damages, if there are any damages, by a preponderance of the evidence.

The second burden of proof is “clear and convincing evidence.” Elysium contends that the Asserted Claims are invalid. Elysium has the burden of proving invalidity by clear and convincing evidence. Clear and convincing evidence means evidence which produces in your mind an abiding conviction that the truth of a

⁸ D.I. 307, *f’Real Foods, LLC v. Hamilton Beach Brands, Inc.*, No. 1:16-cv-41-CFC (D. Del. Sept. 30, 2019); 3d Cir. Model Civil Jury Instructions 1.10–1.11, Fed. Cir. Bar Ass’n. Model Patent Jury Instructions B.4.

factual contention is highly probable. Proof by clear and convincing evidence is thus a higher burden than proof by a preponderance of the evidence.

Some of you may have heard the phrase “proof beyond a reasonable doubt.” That burden of proof applies only in criminal cases, and it is a stricter standard of proof that does not apply in this civil case. It thus has nothing to do with a civil case like this one. You should therefore not consider it in this case.

1.6 EVIDENCE DEFINED⁹

You must make your decision based only on the evidence that you saw and heard here in court. Do not let rumors, suspicions, or anything else that you may have seen or heard outside of court influence your decision in any way.

The evidence in this case includes only what the witnesses said while they were testifying under oath (including deposition testimony that has been presented to you), the exhibits that I allowed into evidence, the facts that the lawyers agreed to in a stipulation, and the facts that I have instructed you to find. Nothing else is evidence. The lawyers’ statements and arguments are not evidence. Their questions and objections are not evidence. My legal rulings are not evidence. My comments and questions are not evidence. You must make your decision based only on the evidence that you saw and heard in court. Do not let rumors, suspicions, or

⁹ D.I. 307, *f’Real Foods, LLC v. Hamilton Beach Brands, Inc.*, No. 1:16-cv-41-CFC (D. Del. Sept. 30, 2019); 3d Cir. Model Civil Jury Instructions 1.5.

anything else that you may have seen or hear outside of the court influence your decision in any way.

During the trial, I may not have let you hear the answers to some of the questions that the lawyers asked. I also may have ruled that you could not see some of the exhibits that the lawyers wanted you to see. And, sometimes I may have ordered you to disregard things that you saw or heard, or I struck things from the record. You must completely ignore all of these things.

Do not speculate about what a witness might have said or what an exhibit might have shown. Speculation is not evidence, and you are bound by your oath not to let speculation influence your decision in any way.

You must not conduct any independent research, investigation, or experiments about the case or its subject matter on your own. Make your decision based only on the evidence, as I have defined it here, and nothing else.

1.7 DIRECT AND CIRCUMSTANTIAL EVIDENCE¹⁰

There are two kinds of evidence: “direct evidence” and “circumstantial evidence.” Direct evidence is direct proof of a fact, such as when a witness testifies about something the witness knows through his or her own senses—something the witness has seen, felt, touched, heard, or did. For example, if a witness testified

¹⁰ D.I. 307, *f’Real Foods, LLC v. Hamilton Beach Brands, Inc.*, No. 1:16-cv-41-CFC (D. Del. Sept. 30, 2019); 3d Cir. Model Civil Jury Instructions 1.6.

that she saw it raining outside, and you believed her, that would be direct evidence that it was raining.

Circumstantial evidence is a chain of facts from which you may infer or conclude that other facts exist. For example, if someone walked into the courtroom wearing a raincoat covered with drops of water and carrying a wet umbrella, that would be circumstantial evidence from which you could conclude that it was raining.

As a general rule, the law makes no distinction between the weight that you should give to direct or circumstantial evidence, but simply requires that you find facts from all the evidence in the case. You should consider all the evidence, both direct and circumstantial, and give it whatever weight you believe it deserves.

1.8 CONSIDERATION OF EVIDENCE¹¹

You should use your common sense in weighing the evidence. Consider the evidence in light of your everyday experience with people and events and give it whatever weight you believe it deserves. If your experience tells you that certain evidence reasonably leads to a conclusion, you are free to reach that conclusion.

¹¹ D.I. 307, *f'Real Foods, LLC v. Hamilton Beach Brands, Inc.*, No. 1:16-cv-41-CFC (D. Del. Sept. 30, 2019).

1.9 STATEMENTS OF COUNSEL¹²

The attorneys' statements and arguments are not evidence. Instead, their statements and arguments are intended to help you review the evidence presented. If you remember the evidence differently from the attorneys, you should rely on your own recollection.

1.10 CREDIBILITY OF WITNESSES¹³

You are the sole judges of each witness's credibility. "Credibility" means whether a witness is worthy of belief. You may believe everything a witness says or only part of it or none of it. In deciding what to believe, you may consider a number of factors, including the following:

- 1) the opportunity and ability of the witness to see or hear or know the things the witness testifies to;
- 2) the quality of the witness's understanding and memory;
- 3) the witness's manner while testifying;
- 4) whether the witness has an interest in the outcome of the case or any motive, bias, or prejudice;
- 5) whether the witness is contradicted by anything the witness said or wrote before trial or by other evidence;

¹² D.I. 307, *f'Real Foods, LLC v. Hamilton Beach Brands, Inc.*, No. 1:16-cv-41-CFC (D. Del. Sept. 30, 2019).

¹³ 3d Cir. Model Civil Jury Instructions 1.7.

6) how reasonable the witness's testimony is when considered in light of other evidence that you believe; and

7) any other factors that bear on believability.

If you find the testimony to be contradictory, you must try to reconcile it, if reasonably possible, so as to make one harmonious story of it all. But if you cannot do this, then it is your duty and privilege to believe the portions of testimony that, in your judgment, are most believable and disregard any testimony that, in your judgment, is not believable.

This instruction applies to all witnesses, including expert witnesses and witnesses who provided testimony by deposition.

1.11 NUMBER OF WITNESSES¹⁴

Sometimes jurors wonder if the number of witnesses who testified makes any difference. Do not make any decisions based on the number of witnesses who testified. What is more important is how believable the witnesses were, and how much weight you think their testimony deserves. Concentrate on that, not the numbers.

¹⁴ D.I. 307, *f'Real Foods, LLC v. Hamilton Beach Brands, Inc.*, No. 1:16-cv-41-CFC (D. Del. Sept. 30, 2019); 3d Cir. Model Civil Jury Instructions 1.7.

1.12 EXPERT WITNESSES¹⁵

During the trial, you heard testimony from expert witnesses. Expert testimony is testimony from a person who has a special skill or knowledge in some science, profession, or business. This skill or knowledge is not common to the average person but has been acquired by the expert through special study or experience. However, you are not required to accept any expert's opinion. As with any other witness, it is up to you to decide whether to rely upon it.

In weighing expert testimony, you may consider the expert's qualifications, the reasons for the expert's opinions, and the reliability of the information supporting the expert's opinions, as well as the factors I have previously mentioned for weighing testimony by any other witness. Expert testimony should receive whatever weight and credit you think appropriate, given all the other evidence in the case. You are free to accept or reject some or all of the testimony of experts, just as with any other witness.

1.13 DEPOSITION TESTIMONY¹⁶

During the trial, certain testimony was presented to you through excerpts of a deposition. A deposition is the sworn testimony of a witness taken before trial.

¹⁵ D.I. 307, *f'Real Foods, LLC v. Hamilton Beach Brands, Inc.*, No. 1:16-cv-41-CFC, *8–9 (D. Del. Sept. 30, 2019).

¹⁶ D.I. 307, *f'Real Foods, LLC v. Hamilton Beach Brands, Inc.*, No. 1:16-cv-41-CFC (D. Del. Sept. 30, 2019); 3d Cir. Model Civil Jury Instructions 2.5.

You should not attribute any significance to the fact that the testimony is not live at trial. The deposition testimony may have been edited or cut to exclude irrelevant testimony. You should not attribute any significance to the fact that the deposition excerpts may appear to have been edited. Deposition testimony is entitled to the same consideration you would give if the witness had appeared personally in court.

1.14 DEMONSTRATIVE EXHIBITS¹⁷

During the course of the trial, you have seen many exhibits. Many of these exhibits were admitted as evidence. You will have these admitted exhibits in the jury room for your deliberations. The other exhibits (including charts and animations presented by attorneys and witnesses) were offered to help illustrate the testimony of the various witnesses. These illustrations, called “demonstrative exhibits,” have not been admitted as evidence, are not evidence, and should not be considered as evidence. Rather, it is the underlying testimony of the witness that you heard when you saw the demonstrative exhibits that is the evidence in this case.

¹⁷ D.I. 307, *f’Real Foods, LLC v. Hamilton Beach Brands, Inc.*, No. 1:16-cv-41-CFC (D. Del. Sept. 30, 2019); 3d Cir. Model Civil Jury Instructions 2.5.

1.15 USE OF NOTES¹⁸

You may use notes taken during trial to assist your memory. However, you should use caution in consulting your notes. There is a tendency to attach undue importance to matters that you have written down. Some testimony that is considered unimportant at the time presented, and thus not written down, takes on greater importance later on in the trial in light of all the evidence presented. Therefore, you are instructed that your notes are only a tool to aid your own individual memory, and you should not compare notes with other jurors in determining the content of any testimony or in evaluating the importance of any evidence. Your notes are not evidence, and are by no means a complete outline of the proceedings or a list of the highlights of the trial.

Above all, your memory should be your greatest asset when it comes time to deliberate and render a decision in this case.

1.16 CONFIDENTIAL LABELS AND REDACTIONS¹⁹

In the course of this case, the parties entered into an agreement that would protect each respective party's confidential and sensitive business information from disclosure to the public or third parties. Under that agreement, the parties

¹⁸ D.I. 307, *f'Real Foods, LLC v. Hamilton Beach Brands, Inc.*, No. 1:16-cv-41-CFC (D. Del. Sept. 30, 2019).

¹⁹ D.I. 307, *f'Real Foods, LLC v. Hamilton Beach Brands, Inc.*, No. 1:16-cv-41-CFC (D. Del. Sept. 30, 2019).

have added confidentiality labels to their documents, and may have redacted, which means that they have obscured or removed information, from documents to protect the confidential nature of the information. You may have seen documents with confidentiality labels or redactions during the course of the trial. The use of confidentiality labels and redactions has no bearing on the evidence, and should not be construed in any way against any party.

2. ISSUES PRESENTED

Plaintiffs' Proposal:²⁰

I will now summarize the issues that you must decide and for which I will provide instructions to guide your deliberations. You must decide the following main issues:

1. Whether Plaintiffs have proven by a preponderance of the evidence (i.e., more likely than not) that Elysium has infringed any of the Asserted Claims.
2. If you find that one or more of the Asserted Claims is infringed by Elysium, whether Plaintiffs have proven by a preponderance of the evidence that the infringement was willful.

²⁰ See D.I. 307, *f'Real Foods, LLC v. Hamilton Beach Brands, Inc.*, No. 1:16-cv-41-CFC, *11 (D. Del. Sept. 30, 2019).

3. If you find that an Asserted Claim is infringed by Elysium, whether Elysium has proven by the higher clear and convincing evidence (i.e., highly probable) that the infringed Asserted Claim is invalid.
4. If any Asserted Claims are infringed and not invalid, what amount of damages Plaintiffs have proven by a preponderance of the evidence.

Elysium's Proposal:

You must decide the following main issues concerning the patents:

1. Whether Dartmouth has proven by a preponderance of the evidence that Elysium has infringed one or more the asserted claims of the Patents-in-Suit;
3. Whether Elysium has proven by clear and convincing evidence that one or more of the asserted claims of the Patents-in-Suit are invalid for claiming subject matter that is not eligible for patenting;
4. Whether Elysium has proven by clear and convincing evidence that one or more of the asserted claims of the '807 patent are invalid as anticipated;
5. Whether Elysium has proven by clear and convincing evidence that one or more of the asserted claims of the Patents-in-Suit are invalid as obvious;
6. Whether Elysium has proven by clear and convincing evidence that one or more of the asserted claims of the Patents-in-Suit are invalid for lack of written description;

7. Whether Elysium has proven by clear and convincing evidence that one or more of the asserted claims of the Patents-in-Suit are invalid as not enabled; and

8. If you find that any asserted claim of the Patents-in-Suit is infringed and not invalid: whether Dartmouth has proven by a preponderance of the evidence the amount of damages, if any, that is adequate to compensate it for that infringement.

3. PATENT CLAIMS²¹

At the beginning of the trial, I gave you some general information about patents and the patent system and a brief overview of the patent laws relevant to this case. I will now give you more detailed instructions about the patent laws that specifically relate to this case.

3.1 THE ROLE OF THE CLAIMS IN A PATENT²²

Before you can decide many of the issues in this case, you will need to understand the role of patent “claims.” The patent claims are the numbered sentences at the end of each patent. The claims are important because it is the

²¹ D.I. 307, *f’Real Foods, LLC v. Hamilton Beach Brands, Inc.*, No. 1:16-cv-41-CFC (D. Del. Sept. 30, 2019); Fed. Cir. Bar Ass’n. Model Patent Jury Instructions B.2.1.

²² D.I. 307, *f’Real Foods, LLC v. Hamilton Beach Brands, Inc.*, No. 1:16-cv-41-CFC (D. Del. Sept. 30, 2019); Fed. Cir. Bar Ass’n. Model Patent Jury Instructions B.2.1.

words of the claims that define what a patent covers. Only the claims of a patent can be infringed. Neither the text preceding the claims, nor the figures in a patent can be infringed. Only the claims define the extent of the patent's coverage; therefore, what a patent covers depends, in turn, on what its claims cover. Each of the claims must be considered individually.

To know what a claim covers, a claim sets forth, in words, a set of requirements. Each claim sets forth its requirements in a single sentence. The requirements of a claim are often referred to as “claim elements” or “claim limitations.” The coverage of a patent is assessed claim-by-claim. When a thing meets all of the requirements of a claim, the claim is said to “cover” that thing, and that thing is said to “fall” within the scope of that claim. In other words, a claim covers a product where each of the claim elements or limitations is present in that product.

3.2 INDEPENDENT AND DEPENDENT CLAIMS²³

This case involves two types of patent claims: independent claims and dependent claims.

An “independent claim” does not refer to any other claim of the patent and sets forth all of the requirements that must be met in order for an accused product

²³ D.I. 307, *f'Real Foods, LLC v. Hamilton Beach Brands, Inc.*, No. 1:16-cv-41-CFC (D. Del. Sept. 30, 2019); Fed. Cir. Bar Ass'n. Model Patent Jury Instructions B.2.1a.

to be covered by that claim. Thus, it is not necessary to look at any other claim to determine what an independent claim covers.

In this case, the only Asserted Claim that is an independent claim is claim 1 of the '807 Patent.

The remainder of the Asserted Claims in this case are “dependent claims.” A dependent claim does not itself recite all of the requirements of the claim but instead refers to and incorporates the requirements of another claim and adds its own additional requirements. In this way, the claim “depends” on another claim. To determine what a dependent claim covers, it is necessary to look at both the dependent claim and any other claim from which it depends. For example, claim 2 of the '807 Patent is a dependent claim because it incorporates the requirements of claim 1 and, as a result, claim 2 includes all the requirements of both claim 1 and claim 2.

A product that meets all of the requirements of both the dependent claim and the claim to which it refers is covered by that dependent claim.

3.3 CONSTRUCTION OF CLAIM TERMS²⁴

It is my job as the judge to provide to you the meaning of any claim language that must be interpreted. It is not the job of any witness to provide you

²⁴ D.I. 307, *f'Real Foods, LLC v. Hamilton Beach Brands, Inc.*, No. 1:16-cv-41-CFC (D. Del. Sept. 30, 2019); Fed. Cir. Bar Ass'n. Model Patent Jury Instructions B.2.1; *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996).

with the meaning of the claim language. I have already defined the meaning of some of the words of the Asserted Claims in this case.

It is your job to take these definitions and apply them to the issues that you are deciding, including the issues of infringement and validity. You must accept my definitions of these words in the claims as being correct. I will now tell you the meaning of the following words and groups of words from the patent claims:

Claims	Term or Phrase	Meaning of Term
'807 Patent, Claims 1, 2 '086 Patent, Claim 2	“nicotinamide riboside”	“nicotinamide riboside or a derivative (e.g., L-valine or L-phenylalanine esters) of nicotinamide riboside”
'807 Patent, Claim 1	“isolated nicotinamide riboside”	“nicotinamide riboside that is separated or substantially free from at least some of the other components associated with the source of the nicotinamide riboside”
'807 Patent, Claim 2 '086 Patent, Claim 2	“the nicotinamide riboside is isolated from a natural or synthetic source”	“the nicotinamide riboside is isolated from a natural source or synthetic source and is not chemically synthesized”
'807 Patent, Claim 1	“in combination with one or more of tryptophan, nicotinic acid, or nicotinamide”	“both isolated nicotinamide riboside and one or more of tryptophan, nicotinic acid, or nicotinamide are

		found in the composition”
’807 Patent, Claim 1	“increases NAD+ biosynthesis upon oral administration”	“increases NAD+ biosynthesis upon oral administration to an animal relative to the level of NAD+ biosynthesis if the composition were not administered to an animal”
’086 Patent, Claim 2	“pharmaceutical composition”	“a composition that can be used to improve or prolong the health or well-being of humans or other animals”

For any words in the claim for which I have not provided you with a definition, you should apply the ordinary meaning of those terms in the field of the patent.

3.4 MEANING OF “COMPRISING”²⁵

The Asserted Claims use the word “comprising.”

The beginning portion, also known as the preamble, of a claim often uses the word “comprising.” The word “comprising,” when used in the preamble, means “including but not limited to” or “containing but not limited to.” When “comprising” is used, if you decide that an accused product includes all of the

²⁵ Fed. Cir. Bar Ass’n. Model Patent Jury Instructions B.2.1.

requirements of that claim, the claim is infringed. This is true even if the accused product contains additional elements that are not listed in the claim.

4. PATENT INFRINGEMENT

4.1 INFRINGEMENT GENERALLY²⁶

I will now instruct you how to decide whether Plaintiffs have proven that Elysium has infringed the Asserted Claims of the Dartmouth Patents. Infringement is assessed on a claim-by-claim basis. Therefore, there may be infringement as to one claim but no infringement as to another.

In this case, Plaintiffs allege that Elysium infringes claims 1–3 of the '807 Patent and claim 2 of the '086 Patent by making, using, selling, or offering to sell into the United States the Accused Product.

In order to prove infringement, Plaintiffs must prove by a preponderance of the evidence (i.e., that it is more likely than not) that the Accused Product meets all the requirements of a claim. [**Elysium's Proposal:** Each requirement in a claim is considered to be material and essential. Thus,] You must compare the Accused Product with each and every one of the requirements of a claim to determine whether all of the requirements of that claim are met. [**Elysium's Proposal:** If even one claim requirement is not met, the product does not infringe.]

²⁶ Fed. Cir. Bar Ass'n. Model Patent Instructions B.3.1, B.3.1a.

You must determine infringement separately for each Asserted Claim. For dependent claims, if you find that a claim to which a dependent claim refers is not infringed, there cannot be infringement of that dependent claim. On the other hand, if you find that an independent claim has been infringed, you must still decide, separately, whether the Accused Product meets the additional requirements of the dependent claim.

4.2 WILLFUL INFRINGEMENT

[Plaintiffs' Proposal:²⁷ In this case, Plaintiffs allege that Elysium willfully infringes the Asserted Claims of the Dartmouth Patents. If you have decided that Elysium has infringed any valid Asserted Claim, you must go on and address the additional issue of whether or not Elysium's infringement was willful. To show that Elysium's infringement was willful, Plaintiffs must prove by a preponderance of the evidence that Elysium knew of the Dartmouth Patents and intentionally infringed at least one of the Asserted Claims.

You may not determine that the infringement was willful just because Elysium knew of the Dartmouth Patents and infringed them. Instead, you must also find that Elysium deliberately infringed the Dartmouth Patents.

²⁷ Fed. Cir. Bar Ass'n. Model Patent Instructions B.3.1, Instruction 3.10.

To determine whether Elysium acted willfully, consider all facts and assess Elysium's knowledge at the time of infringement. These include, but are not limited to:

1. Whether or not Elysium acted consistently with the standards of behavior for its industry with respect to the infringement;
2. Whether or not Elysium intentionally copied a product of Plaintiffs' that is covered by the Asserted Claims of the Dartmouth Patents;
3. Whether or not Elysium reasonably believed it did not infringe or that the Asserted Claims of the Dartmouth Patents were invalid;
4. Whether or not Elysium made a good-faith effort to avoid infringing the Asserted Claims of the Dartmouth Patents, for example, whether Elysium attempted to design-around the Dartmouth Patents; and
5. Whether or not Elysium tried to cover up its infringement.

You may not assume that merely because Elysium did not obtain a legal opinion about whether it infringed the Dartmouth Patents or that the Dartmouth Patents are invalid, that the opinion would have been unfavorable. The absence of a legal opinion may not be used by you to find that Elysium acted willfully. Rather, the issue is whether, considering all the facts, Plaintiffs have established that Elysium's conduct was willful.]

[Elysium’s Proposal: Willfulness should not be tried to the jury because it is an issue for the Court.]²⁸ *If tried to the jury, Elysium proposes the following:*

In this case, Dartmouth alleges not only that Elysium infringed the Asserted Claims of the patents but also that it did so willfully. If you decide that Elysium infringed any Asserted Claim you have not found to be invalid, you must go on and address the additional question of whether or not the infringement was willful. You may not determine that such infringement was willful just because Elysium knew of the Dartmouth patents and infringed them. Rather, in considering this additional question, you must determine whether Elysium deliberately or intentionally infringed the patents.²⁹ Your decision thus requires deciding Elysium’s intent with respect to infringement and invalidity. You should not consider Elysium’s motivations or intentions other than with respect to infringement or invalidity of the patents.³⁰ In considering whether Elysium’s infringement was intentional or deliberate, you may take into account whether

²⁸ **Elysium’s Position:** Elysium objects to the jury deciding willfulness for the reasons set forth in the joint pretrial order. Willfulness is an issue for the Court.

²⁹ *Eko Brands, LLC v. Adrian Rivera Maynez Enters.*, 946 F.3d 1367, 1378 (Fed. Cir. 2020) (“Under Halo, the concept of willfulness requires a jury to find no more than deliberate or intentional infringement.”).

³⁰ *See id.*

Elysium reasonably believed it did not infringe or that the patents were invalid.³¹

You may also consider what Elysium knew about the patents, Elysium's knowledge of the statements and actions of third parties challenging the validity of the patents, and Elysium's conduct and beliefs as to the infringement or invalidity of the patents. In deciding the question of willfulness, you may not consider whether you believe Elysium's other interactions with either of the Plaintiffs was egregious, malicious, or deserving of punishment; the only question for you concerning willfulness is whether Elysium intended to infringe the patents.

Another thing that must play no part in your consideration, and you should put out of your mind, is any question about what Elysium's lawyers told Elysium about infringement or validity of the patents. Under the law, in defending against an allegation of willful infringement an accused infringer is not required to present any evidence that it obtained the advice of counsel or an opinion of counsel regarding any allegedly infringed patent. There are many reasons that law protects the decision not to present this evidence, because a client's communications with its lawyers are considered confidential and privileged. As a result, there are many reasons why such evidence might not be presented that are unrelated to whether the

³¹ *Id.* (“[T]he latter half of Jury Instruction 40 provides a list of facts that the jury could properly consider, including... whether or not ARM reasonably believed it did not infringe or that the patent was invalid.”).

infringement was deliberate or intentional. For this reason, the fact that Elysium did not offer evidence of what its lawyers told it about the patents must play no role in your deliberations.^{32]}

5. INVALIDITY³³

I will now instruct you on the law you must follow in deciding whether or not Elysium has proven that any of the Asserted Claims of the Dartmouth Patents are invalid. To prove that any claim of a patent is invalid, Elysium must persuade you by clear and convincing evidence [**Plaintiffs' Proposal:** (i.e., you must be left with a clear conviction)^{34]}³⁵ that the claim is invalid. [**Plaintiffs' Proposal:** This is

³² 35 U.S.C. 298 (“The failure of an infringer to obtain the advice of counsel with respect to any allegedly infringed patent, or the failure of the infringer to present such advice to the court or jury, may not be used to prove that the accused infringer willfully infringed the patent....”).

³³ D.I. 307, *f' Real Foods, LLC v. Hamilton Beach Brands, Inc.*, No. 1:16-cv-41-CFC, *21–22 (D. Del. Sept. 30, 2019).

³⁴ **Plaintiffs' Position:** At this point in the instructions, the burden of proof changes from infringement (i.e., preponderance of the evidence) to clear and convincing evidence. It is helpful to the jurors to point out that the burden of proof now being discussed is different from the previous section.

³⁵ **Elysium's Position:** The Court has already instructed the jury on the clear and convincing standard in an earlier instruction, it need not reiterate the standard (particularly with confusing and incomplete shorthand) again here.

a higher standard than the “preponderance of the evidence” standard that is used for infringement.^{36]}³⁷

Invalidity must be assessed on a claim-by-claim basis. [**Plaintiffs’**

Proposal: In other words, you can find that one claim is invalid, but that other claims are valid, even in the same patent.^{38]} [**Elysium’s Proposal:** In other words, you must evaluate each claim to determine whether it is invalid.]³⁹ Terms of the patent claims must be interpreted in the same way for both infringement and invalidity.

5.1 PERSON OF ORDINARY SKILL IN THE ART

The question of invalidity of a patent claim is determined from the perspective of a person of ordinary skill in the art in the field of the claimed invention as of the effective filing date of the patent.

³⁶ D.I. 307, *f’Real Foods, LLC v. Hamilton Beach Brands, Inc.*, No. 1:16-cv-41-CFC, *22 (D. Del. Sept. 30, 2019).

³⁷ **Elysium’s Position:** As with the prior objection, the earlier instruction on the clear and convincing burden of proof already covers this and there is no need to restate it again here.

³⁸ D.I. 307, *f’Real Foods, LLC v. Hamilton Beach Brands, Inc.*, No. 1:16-cv-41-CFC, *22 (D. Del. Sept. 30, 2019).

³⁹ **Elysium’s Position:** The opening sentence of this paragraph is clear enough and does not need further exposition. But, if further clarification is to be provided, it should be neutral and actually explain the sentence. Plaintiffs, instead, offer not explanation, but a loaded example that seeks to prime the jury’s thinking on this issue.

[Elysium’s Proposal:⁴⁰ The effective filing date of the ’807 Patent is February 10, 2004. The effective filing date of the ’086 Patent is April 25, 2005.⁴¹ Thus, here, prior art must be evaluated from the perspective of one of ordinary skill in the field of the invention as of those dates.]

In this case, the person of ordinary skill is a hypothetical person who is presumed to be aware of all of the pertinent prior art, a term which I will explain to you shortly. Here, Plaintiffs and Elysium agree that a person of ordinary skill in the art would have had a Ph.D. in biology, biochemistry, or a similar field.

[Elysium’s Proposal: This person possesses background knowledge in the field, and would make inferences and take creative steps that a person of ordinary skill in the art would employ.]⁴²

⁴⁰ D.I. 307, *f’Real Foods, LLC v. Hamilton Beach Brands, Inc.*, No. 1:16-cv-41-CFC (D. Del. Sept. 30, 2019); *Orexo AB v. Actavis Elizabeth LLC*, No. 1:17-cv-205-CFC (D. Del. Mar. 28, 2019); AIPLA Model Patent Jury Instruction 5.3; *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 417-18, 420-21 (2007); *Standard Oil Co. v. Am. Cyanamid Co.*, 774 F.2d 448, 454 (Fed. Cir. 1985).

⁴¹ **Elysium’s Position:** The jury must be provided guidance on what the earliest effective filing dates are as a matter of law. The earliest effective filing dates are recited in the specification itself. The ’807 patent’s earliest priority claim is to an application filed on February 10, 2004. ’807 patent at 1:16-18 (priority claim to ’347 provisional, filed Feb. 10, 2004). The ’086 patent’s earliest priority claim is to an application filed on April 25, 2005. ’086 patent at 1:11-12 (priority claim to ’701 application, filed Apr. 25, 2005). *See* 35 U.S.C. § 120 (to claim the benefit of an earlier priority date a patent must “contain a specific reference to the earlier filed application” and failure to amend to claim priority prior to issuance is a “waiver of any benefit under this section.”)

⁴² **Elysium’s Position:** *See KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (“[A] court can consider the inferences and creative steps a person of ordinary skill in the art would employ.”).

5.2 PATENT INELIGIBLE SUBJECT MATTER

Plaintiffs' Proposal:⁴³

A patent claim must be directed to patent eligible subject matter. A patent claim may not solely be directed to the following categories: products of nature, laws of nature, natural phenomena, and abstract ideas. A patent claim is not

⁴³ *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 573 U.S. 208, 217-18 (2014); *Mayo Collaborative Servs. v. Prometheus Labs, Inc.*, 566 U.S. 66, 77-78 (2012); *Nat. Alternatives Int'l, Inc. v. Creative Compounds, LLC*, 918 F.3d 1338 (Fed. Cir. 2019); *Rapid Litig. Mgmt. Ltd. v. CellzDirect, Inc.*, 827 F.3d 1042, 1047 (Fed. Cir. 2016); *Diamond v. Chakrabarty*, 447 U.S. 303, 310 (1980); *Sensormatic Elecs., LLC v. Wyze Labs, Inc.*, 484 F. Supp. 3d 161, 166 (D. Del. 2020) (Connolly, J.).

Plaintiffs' Position: Plaintiffs reserve the right to submit revised instructions pending the Court's resolution of Elysium's motion for summary judgment (Motion No. 1) (D.I. 183) related to whether the Asserted Claims are directed to patent ineligible subject matter. In particular, assuming this issue requires resolution at trial following summary judgment, pending the Court's decision as to that motion, Plaintiffs acknowledge that revisions to this instruction may be required to address the Court's determination with respect to *Alice* Step One.

Elysium's Position: Elysium believes patent eligibility should be decided on summary judgment, as there are no disputed issues of material fact and Elysium is entitled to judgment as a matter of law. If the Court denies summary judgment, Elysium agrees that *Alice* step one is an issue for the Court. The Court should find under *Alice* step one that the patent claims are directed to patent ineligible subject matter, and instruct the jury as to its findings, before the jury turns to step two.

Elysium objects to Plaintiffs' proposal that the jury decide *Alice* step two without knowing the result of step one. This would be like asking the jury to decide infringement before the Court has provided its claim construction. To decide step two, the jury necessarily must know the result of step one and the evidence underlying the Court's determination. For example, in step two, the jury's task will be to determine if the claimed invention contains an inventive concept that amounts to "significantly more than a patent upon the [ineligible concept]." See *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 217-18 (2014). Similarly, "a claim directed to an [ineligible concept] cannot rely on the novelty of that discovery for the inventive concept necessary for patent eligibility." *Genetic Techs. Ltd. v. Merial L.L.C.*, 818 F.3d 1367, 1376 (Fed. Cir. 2016). These assessments can only occur if the jury knows what the patent ineligible concept is, and has heard the evidence related to step one. For this reason, the Court must first decide *Alice* step one and instruct the jury on its findings, before the jury can decide step two. Both the Court and the jury must hear the same evidence.

ineligible just because it involves one these categories, including a product of nature. Where a patent claim involves a new and useful application of a product of nature or other patent ineligible subject matter, the claimed invention is patentable.

Elysium contends that the Asserted Claims of the Dartmouth Patents are invalid for claiming patent ineligible subject matter. Elysium bears the burden of establishing, by clear and convincing evidence, that the Asserted Claims are directed to patent ineligible subject matter.

Determining whether a patent claim is directed to patent eligible subject matter involves two steps. In step one, it is my job to decide whether the Asserted Claims are directed to a category of ineligible subject matter. In step two, it is your job to decide whether the Asserted Claims include an inventive concept that is sufficient to ensure that the Dartmouth Patents teach more than simply the ineligible subject matter. The inventive concept cannot be well-understood, routine, or conventional activity previously known to the industry or to researchers. Whether the inventive concept would have been routine or conventional is dependent on what activities the art had already been engaged in at the time of the effective filing date. An activity is not routine or conventional if the inventor engaged in activities that run counter to the scientific thinking at the time.

Elysium's Proposal:⁴⁴

A patent claim is invalid if it is directed to unpatentable subject matter, which Elysium must prove by clear and convincing evidence. The law does not permit the patenting of naturally-occurring products or natural laws. Thus, products of nature, laws of nature, natural phenomena, and abstract ideas are not patentable. If a patent claim encompasses any of these things, it claims unpatentable subject matter and is invalid. This is true even if the claim is broad enough also to encompass some products that are not natural.

Elysium contends that the asserted claims of the Patents-in-Suit are invalid for claiming unpatentable subject matter. Determining whether a patent claim is invalid for claiming unpatentable subject matter involves two steps.

Step One

The step one analysis that I conducted focuses on whether the Asserted Claims are directed to unpatentable subject matter, such as a natural product. With respect to natural products, to be patentable, a claimed composition must have

⁴⁴ *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 573 U.S. 208, 217-18 (2014); *Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 589-95 (2013); *Mayo Collaborative Servs. v. Prometheus Labs, Inc.*, 566 U.S. 66, 77-78 (2012); *Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 131-32 (1948); *In re Bhagat*, 726 Fed. Appx. 772, 778-79 (Fed. Cir. Mar. 16, 2018); *Genetic Techs. Ltd. v. Merial L.L.C.*, 818 F.3d 1369, 1376 (Fed. Cir. 2016); *Sensormatic Elecs., LLC v. Wyze Labs, Inc.*, 484 F. Supp. 3d 161, 166 (D. Del. 2020) (Connolly, J.); *Management Sci. Assocs. v. Datavant, Inc.*, 2020 U.S. Dist. LEXIS 244513, at * 23 (D. Del. Dec. 30, 2020) (Connolly, J.).

markedly different characteristics from any found in nature. If a claimed composition is not markedly different from a natural product, it is directed to a product of nature. In addition, claiming an “isolated” version of a natural product cannot by itself make a claim to a natural product patentable. Merely separating a natural product from its natural environment is not enough to result in a claim that is not directed to that natural product.

It is my job to decide Step One. I now instruct you on my conclusions. I have determined that [*The Court inserts its findings related to step one here.*].

Step Two

In step two, you must review each claim to determine if it adds an inventive concept —above and beyond the product of nature or law of nature—that transforms it into a patent-eligible application. That is, you must decide if the claim contains an element or combination of elements that is sufficient to ensure that the claimed invention amounts to significantly more than merely a patent upon a product of nature or a natural phenomenon. The inventive concept necessary at this step cannot be furnished by the unpatentable product of nature or law of nature itself. In addition, this additional inventive concept must be more than well-understood, routine, conventional activity previously known to the industry or to researchers. In other words, the law requires more than identifying a product of

nature or law of nature while adding the words “apply it” by conducting routine, well-understood, and conventional activities

5.3 PRIOR ART

Plaintiffs’ Proposal:⁴⁵

Under the patent laws, a person is granted a patent only if the invention claimed in the patent is new and not obvious in light of what came before. That which came before is referred to as the “prior art.” Prior art includes any of the following that was received into evidence during trial: Items that were publicly known or used or offered for sale in the United States, as well as reference publications, such as published articles, patents, or patent applications, from anywhere in the world, that were made, known, used, published, or patented before the effective filing date of the Dartmouth Patents.

Elysium must prove, by clear and convincing evidence, that the asserted prior art references qualify as prior art to the claim against which it is asserted.

⁴⁵ D.I. 307, *f’ Real Foods, LLC v. Hamilton Beach Brands, Inc.*, No. 1:16-cv-41-CFC, *22–23 (D. Del. Sept. 30, 2019); AIPLA Model Instructions, Instruction 5.2; *see also Blue Calypso, LLC v. Groupon, Inc.*, 815 F.3d 1331, 1348 (Fed. Cir. 2016); *In re Klopfenstein*, 380 F.3d 1345, 1350 (Fed. Cir. 2004)..

Plaintiffs’ Position: Plaintiffs object to Defendant’s proposed instruction. It is expected the Court will resolve issues bearing on this instruction, and that the scope of prior art presented at trial may be affected. Plaintiffs disagree that Defendant may rely Brenner Two Pathways as prior art. Plaintiffs additionally object to listing the alleged prior art as unnecessary and unduly lengthening already lengthy jury instructions. Elysium will have the opportunity to present evidence as to which references constitute prior art at trial. Plaintiffs reserve the right to submit a revised instruction should it become necessary.

The parties dispute whether certain additional references are prior art that can be considered in determining whether the claims of the Dartmouth Patents are anticipated or obvious.

Elysium contends that a presentation by Dr. Brenner from December 2002 that the parties have referred to as “Brenner Two Pathways” is prior art. Plaintiffs dispute that Brenner Two Pathways is prior art. In assessing whether Brenner Two Pathways is a printed publication that qualifies as prior art, you must conduct an inquiry into the facts and circumstances surrounding its disclosure to members of the public. Factors that you may consider in determining whether this presentation was sufficiently publicly accessible include (1) the length of time the presentation was exhibited; (2) the expertise of the target audience; (3) the existence (or lack thereof) of reasonable expectations that the material displayed would not be copied; and (4) the simplicity or ease with which the material displayed could have been copied.

Elysium’s Proposal:⁴⁶

In assessing whether a claim is invalid as anticipated or obvious, you must do so in view of the prior art. The following items received into evidence during trial are prior art:⁴⁷

- The public use and sale of skim milk;
- Joseph Goldberger et al., “A Study of the Blacktongue-Preventative Action of 16 Foodstuffs, with Special Reference to the Identity of Blacktongue of Dogs and Pellagra of Man,” *Public Health Reports*, 43(23):1385–454 (1928) (“Goldberger I”)
- Joseph Goldberger and W.F. Tanner, “A Study of the Treatment and Prevention of Pellagra,” *Public Health Reports*, 39(3):87–107 (1924) (“Goldberger II”)
- Holdsworth et al., “A fraction derived from brewer’s yeast inhibits cholesterol synthesis by rat liver preparations in vitro,” *British Journal of Nutrition*, 65:285–99 (1991) (“Holdsworth”)
- Sasiak and Saunders, “Purification and Properties of a Human Nicotinamide Ribonucleoside Kinase,” *Archives of Biochemistry and Biophysics*, 333(2):414–18 (1996) (“Sasiak”)
- U.S. Pat. No. 5,736,529 (“Adams”)

⁴⁶ Fed. Cir. Bar Ass’n. Model Patent Jury Instruction B.4.3a-2; Pre-AIA 35 U.S.C. § 102; *Helsinn Healthcare S.A. v. Teva Pharm. USA, Inc.*, 139 S. Ct. 628 (2019); *Jazz Pharms., Inc. v. Amneal Pharms., Inc.*, 895 F.3d 1347, 1356 (Fed. Cir. 2018); *In re Klopfenstein*, 380 F.3d 1345, 1348 (Fed. Cir. 2004).

⁴⁷ **Elysium’s Position:** Plaintiffs have no basis for refusing to agree that these items are prior art. There is no dispute that skim milk was publicly used and sold decades before the priority date. There is also no dispute that the references listed in the bullets were published more than one year before the priority date. The Court should not have the jury decide whether these references are prior art when Plaintiffs do not, and can not, contest their prior art status.

- U.S. Pat. No. 6,080,428 (“Bova”)
- Capuzzi et al., “Niacin Dosing: Relationship to Benefits and Adverse Effects,” *Current Atherosclerosis Reports*, 2:64–71 (2000) (“Capuzzi”)
- Crowley et al., “The NAD⁺ precursors, nicotinic acid and nicotinamide protect cells against apoptosis induced by a multiple stress inducer, deoxycholate,” *Cell Death and Differentiation*, 7:314–26 (2000) (“Crowley”)
- Kasarov and Moat, “Convenient Method for Enzymatic Synthesis of C-Nicotinamide Riboside,” *Analytical Biochemistry*, 56, 181–86 (1972) (“Kasarov”)
- U.S. Pat. No. 7,012,086 (“Murray”)
- Tanimori et al., “An Efficient Chemical Synthesis of Nicotinamide Riboside (NAR) and Analogues,” *Bioorganic and Medicinal Chemistry Letters*, 12:1135–37 (2002) (“Tanimori”)

The parties dispute whether a presentation by Dr. Brenner from December 2002 that the parties have referred to as “Brenner Two Pathways” is prior art. Plaintiffs dispute that Brenner Two Pathways is prior art. In assessing whether Brenner Two Pathways is a printed publication that qualifies as prior art, you must conduct an inquiry into the facts and circumstances surrounding its disclosure to members of the public. Factors that you may consider in determining whether this presentation was sufficiently publicly accessible include (1) the length of time the presentation was exhibited; (2) the expertise of the target audience; (3) the existence (or lack) of reasonable expectations that the material displayed would not

be copied; and (4) the simplicity or ease with which the material displayed could have been copied. Note that a reference, no matter how ephemeral or short-lived its existence, may be a printed publication if it goes directly to those whose interests make them likely to observe and remember whatever it may contain that is new and useful.

5.4 PRIOR ART CONSIDERED OR NOT BY THE USPTO⁴⁸

Regardless of whether a particular prior art reference was considered by the Patent Examiner during the prosecution of the application that matured into the Dartmouth Patents, Elysium must prove by clear and convincing evidence that the challenged claims are invalid. This burden of proof on Elysium never changes regardless of whether the Patent Examiner considered any particular prior art reference.⁴⁹

*[Elysium's Proposal:*⁵⁰ However, if a reference was never considered by the patent examiner, you may give that evidence more weight in considering whether

⁴⁸ AIPLA Model Instructions, Instruction 5.1.

⁴⁹ **Plaintiffs' Position:** The proposed model instruction is consistent with the law and correctly clarifies that the same burden of proof applies to all prior art references. *E.g.*, *Sciele Pharma Inc. v. Lupin Ltd.*, 684 F.3d 1253, 1260 (Fed. Cir. 2012).

⁵⁰ **Elysium's Position:** The AIPLA model instruction (and Plaintiffs' proposed use of only that instruction) is incomplete and one-sided. It fails to follow the Supreme Court's guidance that the jury should be instructed that new prior art may be given more weight. *Microsoft Corp. v. i4i Ltd.*, 564 U.S. 91, 111 (2011) (“[W]e note that a jury instruction on the effect of new evidence can, and when requested, most often should, be given.”).

Elysium has met its burden.⁵¹ If the examiner did not have all material facts, or did not have the opportunity to evaluate that evidence before granting the patent, you may find that the examiner’s judgment loses significant force.⁵² In addition, you must consider whether the evidence presented to you differs from the evidence presented to the patent office.⁵³ For example, if prior art was considered, you may take into consideration that the evidence was presented to you in a way that differs from the way it was presented to the patent office, such as differences in context, the reason for presenting it, or other issues related to that evidence.]⁵⁴

5.5 ANTICIPATION

Plaintiffs’ Proposal:⁵⁵

A patent claim is invalid if the claimed invention is not new. Elysium contends that claims 1–3 of the ’807 Patent are invalid for anticipation based on certain prior art. If a device has been previously invented and disclosed to the

⁵¹ *Microsoft Corp. v. i4i Ltd.*, 564 U.S. 91, 111 (2011) (“When new evidence touching validity of the patent not considered by the PTO is relied on... the evidence may...carry more weight and go further toward sustaining the attacker's unchanging burden.”)

⁵² *Id.* (“Simply put, if the PTO did not have all material facts before it, its considered judgment may lose significant force.... When warranted, the jury may be instructed to consider that it has heard evidence that the PTO had no opportunity to evaluate before granting the patent.”).

⁵³ *Id.* (“When it is disputed whether the evidence presented to the jury differs from that evaluated by the PTO, the jury may be instructed to consider that question.”).

⁵⁴ **Plaintiffs’ Position:** Depending on how the evidence is presented at trial, Plaintiffs reserve the right to propose an instruction related to the effect of Elysium’s IPRs on its defenses.

⁵⁵ Fed. Cir. Bar Ass’n. Model Patent Instructions 4.3b-1.

public, then it is not new, and therefore the claimed invention is “anticipated” by the prior disclosure. Elysium bears the burden of convincing you by clear and convincing evidence that the claimed invention is anticipated. The issue of anticipation is decided on a claim-by-claim basis.

Elysium must prove that all of the requirements of a claim are present in a single piece of prior art. To anticipate the invention, the prior art does not have to use the same words as the claim, but all of the requirements of the claim must have been disclosed and arranged as in the claim. The claim requirements may either be disclosed expressly or inherently (i.e., necessarily implied), such that a person having ordinary skill in the art, looking at that one reference, could make and use the claimed invention.

Elysium’s Proposal:⁵⁶

A patent claim is invalid if the claimed invention is not new. If a patent claim is not new we say it is “anticipated” by a prior art reference. Elysium

⁵⁶ N.D. Cal. Model Patent Jury Instructions (updated Oct. 2019) B.4.3a1; Fed. Cir. Bar Ass’n. Model Patent Jury Instruction B.4.3b-1; AIPLA Model Patent Jury Instruction V.6; 35 U.S.C. § 102(a), (c), (e), (f) and (g); *Flex-Rest, LLC v. Steelcase, Inc.*, 455 F.3d 1351, 1358-60 (Fed. Cir. 2006); *Invitrogen Corp. v. Biocrest Mfg., L.P.*, 424 F.3d 1374, 1379-82 (Fed. Cir. 2005); *Apotex U.S.A., Inc. v. Merck & Co.*, 254 F.3d 1031, 1035 (Fed. Cir. 2001); *Mycogen Plant Science, Inc. v. Monsanto Co.*, 243 F.3d 1316, 1330 (Fed. Cir. 2001); *Ecolochem, Inc. v. S. Cal. Edison Co.*, 227 F.3d 1361, 1367-70 (Fed. Cir. 2000); *Singh v. Brake*, 222 F.3d 1362, 1366-70 (Fed. Cir. 2000); *Pannu v. Iolab Corp.*, 155 F.3d 1344, 1349 (Fed. Cir. 1998); *Gambro Lundia AB v. Baxter Healthcare Corp.*, 110 F.3d 1573, 1576-78 (Fed. Cir. 1997); *Lamb-Weston, Inc. v. McCain Foods, Ltd.*, 78 F.3d 540, 545 (Fed. Cir. 1996); *In re Bartfeld*, 925 F.2d 1450 (Fed. Cir. 1985); *Ralston*

contends that claims 1–3 of the '807 Patent are invalid for anticipation based upon certain prior art. Specifically, Elysium contends that each of the following prior art uses or publications anticipates claims 1-3 of the '807 patent:

- The public use and sale of skim milk;
- Joseph Goldberger et al., “A Study of the Blacktongue-Preventative Action of 16 Foodstuffs, with Special Reference to the Identity of Blacktongue of Dogs and Pellagra of Man,” *Public Health Reports*, 43(23):1385–454 (1928) (“Goldberger I”)
- Joseph Goldberger and W.F. Tanner, “A Study of the Treatment and Prevention of Pellagra,” *Public Health Reports*, 39(3):87–107 (1924) (“Goldberger II”)
- Holdsworth et al., “A fraction derived from brewer’s yeast inhibits cholesterol synthesis by rat liver preparations in vitro,” *British Journal of Nutrition*, 65:285–99 (1991) (“Holdsworth”)

Anticipation is determined on a claim-by-claim basis. For a claim to be invalid because it is not new, each of the claim’s requirements must have existed or been disclosed in a single item of prior art as a person of ordinary skill in the art would understand that item of prior art.

A disclosure does not have to be in the same words as the claim, but all of the requirements of the claim must be there, either expressly stated or necessarily implied.

Purina Co. v. Far-Mar-Co, Inc., 772 F.2d 1570, 1574 (Fed. Cir. 1985); *American Stock Exch., LLC v. Mopies*, 250 F. Supp. 2d 323 (S.D.N.Y. 2003); *In re Wyer*, 655 F.2d 221, 226 (C.C.P.A. 1981).

In determining whether a single item of prior art anticipates a patent claim, you may consider not only what is expressly disclosed in that item of prior art but also what is inherently present or disclosed in it, or inherently results from its use. Prior art inherently anticipates a patent claim if the element or feature would necessarily result from use of the reference or from what it teaches to persons of ordinary skill in the art. A party claiming inherent anticipation must prove that it is highly probable that the allegedly inherent element or feature necessarily is present. Evidence outside of the prior art reference itself, including experimental testing, may be used to show that elements not expressly disclosed in the reference are inherent in it. It is also not required that persons of ordinary skill recognized or appreciated the inherent disclosure or property at the time the prior art was first known or used. Thus, prior use of a feature of the claimed invention that was unrecognized and unappreciated at the time can be invalidating if the allegedly inherent feature was necessarily present in the reference. The party asserting inherent anticipation can use evidence from after the priority date of the invention to show that the allegedly inherent element or feature was necessarily present in the prior art.

5.6 OBVIOUSNESS

Plaintiffs' Proposal:⁵⁷

A claimed invention must not have been obvious to a person of ordinary skill in the art at the time the invention was made. Obviousness may be proven by considering one or more items of prior art.

Elysium contends that the Asserted Claims of the Dartmouth Patents are invalid for obviousness based on certain combinations of prior art. Elysium bears the burden of establishing, by clear and convincing evidence, that the claimed invention would have been obvious to a person of ordinary skill in the art as of time the invention was filed. The issue of obviousness is decided on a claim-by-claim basis.

In determining whether a claimed invention is obvious, you must consider (1) the level of ordinary skill in the art as of the effective filing date, (2) the scope and content of the prior art, (3) any differences between the prior art and the claimed invention, and (4) objective indicia of non-obviousness, which I will describe shortly. Do not use hindsight; consider only what was known as of the effective filing date.

⁵⁷ Fed. Cir. Bar Ass'n. Model Patent Instructions 4.3c; *see also* D.I. 307, *f'Real Foods, LLC v. Hamilton Beach Brands, Inc.*, No. 1:16-cv-41-CFC, *25 (D. Del. Sept. 30, 2019).

Keep in mind that the existence of each and every element of the claimed invention in the prior art does not necessarily prove obviousness. Most, if not all, inventions rely on building block teachings of prior art.

In considering whether a claimed invention is obvious, you should consider whether, as of the patent's effective filing date, there was a reason that would have motivated a person having ordinary skill in the art to combine the known elements in the prior art in a way the claimed invention does, taking into account such factors as whether the claimed invention was merely the predictable result of using prior art elements according to their known function(s); whether the claimed invention provides an obvious solution to a known problem in the relevant field; whether the prior art teaches or suggests the desirability of combining elements claimed in the invention; whether the prior art teaches away from combining elements in the claimed invention; whether it would have been obvious to try the combinations of elements, such as when there is a design incentive or market pressure to solve a problem and there are a finite number of identified, predictable solutions.

To find it rendered the claimed invention obvious, you must find that the prior art provided a reasonable expectation of success. Obvious to try is not sufficient in unpredictable technologies.

In determining whether the claimed invention is obvious, you should take into account any objective evidence that may shed light on whether or not the claimed invention is obvious, such as:

1. Whether the claimed invention was commercially successful as a result of the merits of the claimed invention (rather than the result of design needs or market-pressure advertising or similar activities);
2. Whether the claimed invention satisfied a long-felt need;
3. Whether others had tried and failed to make the claimed invention;
4. Whether others copied the claimed invention;
5. Whether there were changes or related technologies or market needs contemporaneous with the claimed invention;
6. Whether the claimed invention achieved unexpected results;
7. Whether others in the field praised the claimed invention;
8. Whether persons having ordinary skill in the art of the invention expressed surprise or disbelief regarding the claimed invention;
9. Whether others did license, or attempted to license, the patent rights;
10. Whether the inventor proceeded contrary to accepted wisdom in the field.

Elysium's Proposal:⁵⁸

Elysium contends that each of the Asserted Claims of the Dartmouth Patents are invalid because the claimed inventions would have been obvious to a person of ordinary skill in the art as of the Asserted Claims' priority dates.

Even though an invention may not have been identically disclosed or described in a single reference before it was made by an inventor, in order to be patentable, the invention must also not have been obvious to a person of ordinary skill in the art.

Elysium may establish that a patent claim is invalid by proving, by clear and convincing evidence, that the claimed invention would have been obvious to a

⁵⁸ AIPLA, Model Patent Jury Instructions, November 2019, Instruction 7.0; Fed. Cir. Bar Ass'n. Model Patent Jury Instruction B.4.3c; 35 U.S.C. § 103; *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966); *KSR*, 550 U.S. at 419-20; *In re Cyclobenzaprine Hydrochloride Extended-Release Capsule Patent Litig.*, 676 F.3d 1063, 1075-79 (Fed. Cir. 2012); *Esai Co. v. Dr. Reddy's Labs. Ltd.*, 533 F.3d 1353, 1356-57 (Fed. Cir. 2008); *Takeda Chem. Indus., Ltd. v. Alphapharm Pty., Ltd.*, 492 F.3d 1350, 1356-57 (Fed. Cir. 2007); *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1380-81 (Fed. Cir. 1986). *See also* *Microsoft Corp. v. i4i Limited Partnership*, 564 U.S. 91; *Arctic Cat Inc. v. Bombardier Recreational Prod. Inc.*, 876 F.3d 1350 (Fed. Cir. 2017); *Circuit Check, Inc. v. QXQ Inc.*, 795 F.3d 1331, 1482 (Fed. Cir. 2015); *Plantronics, Inc. v. Aliph, Inc.*, 724 F.3d 1343 (Fed. Cir. 2013); *Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324 (Fed. Cir. 2009); *Cordis Corp. v. Medtronic Ave., Inc.*, 511 F.3d 1157, 1172 (Fed. Cir. 2008); *Aventis Pharma Deutschland GmbH v. Lupin, Ltd.*, 499 F.3d 1293, 1303 (Fed. Cir. 2007) (obviousness should be evaluated on claim-by-claim basis); *Daiichi Sankyo Co. v. Apotex, Inc.*, 501 F.3d 1254, 1256 (Fed. Cir. 2007); *In re Icon Health & Fitness, Inc.*, 496 F.3d 1374, 1379-80 (Fed. Cir. 2007); *Princeton Biochems., Inc. v. Beckman Coulter, Inc.*, 411 F.3d 1332, 1339 (Fed. Cir. 2005); *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1246 (Fed. Cir. 2010); *Western Union Co. v. MoneyGram Payment Sys., Inc.*, 626 F.3d 1361, 1373 (Fed. Cir. 2010).

person of ordinary skill in the art at the time the invention was made. Obviousness is assessed on a claim-by-claim basis.

A claimed invention is invalid if it would have been obvious to a person of ordinary skill in the art as of the claim's priority date. Unlike anticipation, which, as discussed above, allows consideration of only one item of prior art, obviousness may be shown by considering a combination of prior art references.

In determining whether a claimed invention would have been obvious, you must consider the following factors:

1. The scope and content of the prior art;
2. The level of ordinary skill in the pertinent art;
3. The differences between the claimed invention and the prior art; and
4. Secondary considerations of non-obviousness as I will explain shortly.

Each of these factors must be evaluated, although they may be analyzed in any order, and you must perform this separate analysis for each of the Asserted Claims.

In determining whether the claimed invention was obvious, consider each claim separately, but understand that if a dependent claim is obvious, then the claims from which it depends are necessarily obvious as well.

Elysium must prove by clear and convincing evidence that the claimed invention would have been obvious to a person of ordinary skill in the art as of the Asserted Claim's priority date. I will now explain each of the above factors.

5.6.1 SCOPE AND CONTENT OF THE PRIOR ART⁵⁹

In deciding obviousness, the prior art includes the prior art items received into evidence during the trial that the parties have agreed, or that you find, constitutes prior art. I have previously instructed you on what constitutes prior art.

5.6.2 LEVEL OF ORDINARY SKILL IN THE ART⁶⁰

The question of invalidity of a patent claim is determined from the perspective of a person of ordinary skill in the art as of the priority date of the Asserted Claim.

I have described in an instruction above how to determine who a person of ordinary skill in the art is. You are to apply that determination as part of deciding whether a claim would have been obvious.

⁵⁹ AIPLA, Model Patent Jury Instructions, November 2019, Instruction 7.1; Fed. Cir. Bar Ass'n. Model Patent Jury Instruction B.4.3c(ii); *Microsoft Corp. v. i4i Ltd. P'ship*, 564 U.S. 91, 110–11 (2011); *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 420 (2007); *Cir. Check Inc. v. QXQ Inc.*, 795 F.3d 1331, 1335 (Fed. Cir. 2015); *In re Clay*, 966 F.2d 656, 658–59 (Fed. Cir. 1992); *In re Wood*, 599 F.2d 1032, 1036–37 (C.C.P.A. 1979).

⁶⁰ AIPLA, Model Patent Jury Instructions, November 2019, Instruction 7.3; Fed. Cir. Bar Ass'n. Model Patent Jury Instruction B.4.3c(i); *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 420–22 (2007); *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966); *Ruiz v. A.B. Chance Co.*, 234 F.3d 654, 666–67 (Fed. Cir. 2000); *Envtl. Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 696–97 (Fed. Cir. 1983).

5.6.3 DIFFERENCES BETWEEN THE CLAIMED INVENTION AND THE PRIOR ART⁶¹

The next factor that you must consider is the differences, if any, between the prior art and the claimed invention. You should analyze whether there are any relevant differences between the prior art and the claimed invention from the view of a person of ordinary skill in the art as of the priority date.

Your analysis must determine the impact, if any, of such differences on the obviousness or nonobviousness of the claimed invention as a whole, and not merely some portion of it.

⁶¹ AIPLA, Model Patent Jury Instructions, November 2019, Instruction 7.2; Fed. Cir. Bar Ass'n. Model Patent Jury Instruction B.4.3c; 35 U.S.C. § 103; *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966); *KSR*, 550 U.S. at 419-20; *In re Cyclobenzaprine Hydrochloride Extended-Release Capsule Patent Litig.*, 676 F.3d 1063, 1075-79 (Fed. Cir. 2012); *Esai Co. v. Dr. Reddy's Labs. Ltd.*, 533 F.3d 1353, 1356-57 (Fed. Cir. 2008); *Takeda Chem. Indus., Ltd. v. Alphapharm Pty., Ltd.*, 492 F.3d 1350, 1356-57 (Fed. Cir. 2007); *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1380-81 (Fed. Cir. 1986). See also *Microsoft Corp. v. i4i Limited Partnership*, 564 U.S. 91; *Arctic Cat Inc. v. Bombardier Recreational Prod. Inc.*, 876 F.3d 1350 (Fed. Cir. 2017); *Circuit Check, Inc. v. QXQ Inc.*, 795 F.3d 1331, 1482 (Fed. Cir. 2015); *Plantronics, Inc. v. Aliph, Inc.*, 724 F.3d 1343 (Fed. Cir. 2013); *Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324 (Fed. Cir. 2009); *Cordis Corp. v. Medtronic Ave., Inc.*, 511 F.3d 1157, 1172 (Fed. Cir. 2008); *Aventis Pharma Deutschland GmbH v. Lupin, Ltd.*, 499 F.3d 1293, 1303 (Fed. Cir. 2007) (obviousness should be evaluated on claim-by-claim basis); *Daiichi Sankyo Co. v. Apotex, Inc.*, 501 F.3d 1254, 1256 (Fed. Cir. 2007); *In re Icon Health & Fitness, Inc.*, 496 F.3d 1374, 1379-80 (Fed. Cir. 2007); *Princeton Biochems., Inc. v. Beckman Coulter, Inc.*, 411 F.3d 1332, 1339 (Fed. Cir. 2005). *In re Winslow*, 365 F.2d 1017, 1020 (C.C.P.A. 1966).

Keep in mind that the existence of each and every element of the claimed invention in the prior art does not necessarily prove obviousness. Most, if not all, inventions rely on building blocks of prior art. Do not use hindsight; consider only what was known as of the Asserted Claims' priority dates.

In comparing the scope and content of each prior art reference to a patent claim, you may find that inherency may supply a claim element that is otherwise missing from the explicit disclosure of a prior art reference. The inherent presence of an element so found by you may be used in your evaluation of whether the claimed invention would have been obvious in view of the prior art. But, to rely on inherency to establish the existence of a claim element in the prior art in an obviousness analysis, that element necessarily must be present in, or the natural result of, the combination of elements explicitly disclosed by the prior art.

Inherency may not be established by probabilities or possibilities. The mere fact that a certain thing may result from an explicit disclosure is not sufficient to find inherency. However, if the disclosure is sufficient to show that the natural result flowing from the explicit disclosure would result in the claim element in question, inherency may be found. Something inherent from the explicit disclosure of the prior art must be limited when applied in an obviousness analysis and used only when the inherent element is the natural result of the combination of prior art elements explicitly disclosed.

In considering whether a claimed invention is obvious, you should consider whether, at the time of the Asserted Claim's priority date, there was a reason that would have prompted a person having ordinary skill in the art to combine the known elements in the prior art in a way the claimed invention does, taking into account such factors as (1) whether the claimed invention was merely the predictable result of using prior art elements according to their known function(s); (2) whether the claimed invention provides an obvious solution to a known problem in the relevant field; (3) whether the prior art teaches or suggests the desirability of combining elements claimed in the invention; (4) whether the prior art teaches away from combining elements in the claimed invention; (5) whether it would have been obvious to try the combinations of elements, such as when there is a design incentive or market pressure to solve a problem and there are a finite number of identified, predictable solutions. To find that the prior art rendered the claimed invention obvious, you must find that the prior art provided a reasonable expectation of success.

5.6.4 SECONDARY CONSIDERATIONS⁶²

In determining whether the claimed invention is obvious, you should take into account any objective evidence (sometimes called “secondary considerations”) that may shed light on whether or not the claimed invention is obvious, such as:

- a. Whether products covered by the claim were commercially successful due to the merits of the claimed invention rather than due to unclaimed features or other reasons (such as advertising, promotion, or marketing);
- b. Whether there was a long-felt need for a solution to the problem, which was satisfied by the claimed invention;
- c. Whether others had tried and failed to solve the problem solved by the claimed invention;

⁶² AIPLA, Model Patent Jury Instructions, November 2019, Instruction 7.4; *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966); *U.S. v. Adams*, 383 U.S. 39, 52 (1966); *Apple Inc. v. Samsung Elecs. Co., Ltd.*, 839 F.3d 1034, 1048, 1052–53 (Fed. Cir. 2016); *WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1329–37 (Fed. Cir. 2016); *Wm. Wrigley Jr. Co. v. Cadbury Adams USA, LLC*, 683 F.3d 1356 (Fed. Cir. 2012); *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1246 (Fed. Cir. 2010); *Western Union Co. v. MoneyGram Payment Sys., Inc.*, 626 F.3d 1361, 1373 (Fed. Cir. 2010); *Demaco Corp. v. F. Von Langsdorff Licensing, Ltd.*, 851 F.2d 1387, 1392 (Fed. Cir. 1988); ; *In re Ball Corp.*, No. 90-1419, 1991 U.S. App. LEXIS 1149 (Fed. Cir. Jan. 25, 1991); *In re Greenfield*, 571 F.2d 1185 (C.C.P.A. 1978); *In re Huai-Hung Kao*, 639 F.3d 1057, 1069 (Fed. Cir. 2011); *In re Lindner*, 457 F.2d 506, 509, 173 U.S.P.Q 356, 359 (CCPA 1972); *Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1364 (Fed. Cir. 2007); *Geo M. Martin Co. v. Alliance Mach. Sys. Int'l LLC*, 618 F.3d 1294, 1304 (Fed. Cir. 2010).

d. Whether anyone copied a commercial embodiment of the invention due to the merits of the claimed invention rather than due to unclaimed features or other reasons. Copying requires the replication of a specific product;

f. Whether the claimed invention achieved unexpected results over the closest prior art. The results must be unexpected when compared to the closest prior art;

g. Whether others in the field praised the claimed invention or expressed surprise or disbelief regarding the claimed invention;

h. Whether others sought or obtained rights to the patent from the patent holder;

Plaintiffs bear the burden of proof regarding these secondary considerations. In addition, in order for any of these factors to be considered, there must be a close connection, or nexus, between that secondary consideration and the patentable features of the claimed invention. Plaintiffs are required to prove that the evidence they put forward as to each of these secondary considerations has the required nexus with the patentable feature. For example, commercial success should only be given weight as a secondary consideration if Plaintiffs can show that the patentable features are directly responsible for the commercial success and should not be given weight as a secondary consideration if the commercial success is due to other reasons, such as non-patentable features, marketing efforts, or a lack of

competition. Similarly, unexpected results should not be given weight if there is only evidence that one or a small number of species in the claim gives unexpected results. Instead, the patentee must demonstrate that other embodiments falling within the full scope of the claim, including the variety of species that it might encompass, will behave in the same manner.

The factors for which Plaintiffs have shown a nexus with the patentable features of the claimed invention should be considered along with all the other evidence in the case in determining whether the claimed invention would have been obvious.

In addition, Defendant may assert some secondary considerations that the claim is obvious. You may consider whether there was simultaneous invention by others. Independently made inventions, within a comparatively short space of time, may be evidence that the claimed invention was the product only of ordinary skill.

5.7 WRITTEN DESCRIPTION⁶³

The patent law contains certain requirements for the part of the patent called the specification. The written description requirement is designed to ensure that the inventor was in possession of the full scope of the claimed invention at the time of the patent's effective filing date. Elysium contends that the Asserted Claims of the

⁶³ Fed. Cir. Bar Ass'n. Model Patent Instructions 4.2a.

Dartmouth Patents are invalid for lack of adequate written description. To succeed, Elysium must show by clear and convincing evidence that a person having ordinary skill in the art reading the patent specification as of the effective filing date would not have recognized that it describes the full scope of the invention as **[Elysium's Proposal: as broadly as]** it is claimed by the Asserted Claims of the Dartmouth Patents. If a patent claim lacks adequate written description, it is invalid. The issue of written description is decided on a claim-by-claim basis.

In deciding whether the patent satisfies this written description requirement, you must consider the description from the viewpoint of a person having ordinary skill in the art as of the effective filing date. The specification must describe the full scope of the claimed invention, including each element **[Plaintiffs' Proposal: thereof]** **[Elysium's Proposal: of the claim, as broadly as it is claimed]**, either expressly or inherently. A claimed element is disclosed inherently if a person having ordinary skill in the field as of the effective filing date would have understood that the element is necessarily present in what the specification discloses. It is not sufficient that the specification discloses only enough to make the claimed invention obvious to the person having ordinary skill.

The written description does not have to be in the exact words of the claim. The requirement may be satisfied by any combination of the words, structures, figures, diagrams, formulas, etc., contained in the patent specification. Adequate

written description does not require either examples or an actual reduction to practice of the claimed invention(s). However, a mere wish or plan for obtaining the claimed invention(s) is not adequate written description. Rather, the level of disclosure required depends on a variety of factors, such as the existing knowledge in the particular field, the extent and content of the prior art, the maturity of the science or technology, and other considerations appropriate to the subject matter.

Elysium’s Proposal (additionally includes):⁶⁴

In this case, the Asserted Claims of the Patents-in-Suit are directed to a class of compositions which include derivatives of nicotinamide riboside, which can be referred to as a “genus.” A genus is a category or class of things, while a species is a specific thing. A claim directed to a genus must be supported by a specification that sufficiently describes the genus as broadly as it is claimed. One way to consider whether the patent specification sufficiently describes a claimed genus is

⁶⁴ **Plaintiffs’ Position:** Plaintiffs object to Defendant’s addition of an instruction related to “genus claims,” and do not agree that such an instruction is proper in this case. The Asserted Claims are not “directed to a class of derivatives of nicotinamide riboside.” Rather, the claims are directed to a composition comprising nicotinamide riboside. While the Court has construed the term “nicotinamide riboside” to include or “a derivative (e.g., L-valine or L-phenylalanine esters) of nicotinamide riboside,” does necessitate an instruction related to “genus claims.”

Elysium’s Position: The Court has construed “nicotinamide riboside” in the claims to include derivatives of nicotinamide riboside. “Derivatives” of nicotinamide riboside encompasses a genus, and the jury accordingly must be instructed on the law pertaining to how to evaluate whether genus claims have adequate written description.

to assess whether the specification includes a representative number of species falling within the scope of the claimed invention sufficient to encompass the breadth of the genus.⁶⁵ The specification generally need not describe every species in a genus in order to satisfy the written description requirement. However, when there is substantial variation within the claimed genus, the specification must describe a sufficient variety of species to reflect the variation within the genus.

The other way to consider whether the written description is sufficient is to assess whether the patent specification identifies structural features common to the members of the claimed genus so that a person of ordinary skill in the art can “visualize or recognize” the members of the claimed invention.⁶⁶ The written description requirement is satisfied in the above circumstance when there is an established correlation between structure and function described in the specification or known in the art at the time of filing.

In either case, where a patent claim includes both structural and functional requirements, the patent specification must provide sufficient description to direct a person skilled in the art to the specific subset of species within the genus that are

⁶⁵ *Idenix Pharm. LLC v. Gilead Scis. Inc.*, 941 F.3d 1149, 1164 (Fed. Cir. 2019) (“[G]enerally a genus can be sufficiently disclosed by either a representative number of species falling within the scope of the genus or structural features common to the members of the genus so that one of skill in the art can visualize or recognize the members of the genus.”).

⁶⁶ *Id.*

effective in meeting the functional requirements of the claims.⁶⁷ For example, the specification must explain what compositions beyond the examples provided in the specification would provide the same result, such as explaining what makes a composition effective at meeting the functional requirements of the claim, or why.⁶⁸

5.8 ENABLEMENT⁶⁹

Another requirement in the patent law is called the enablement requirement. Elysium contends that the Asserted Claims of the Dartmouth Patents are invalid because the specification does not “enable” the full scope of the claimed invention. To succeed, Elysium must show by clear and convincing evidence that the specification of the Dartmouth Patent’s does not contain a sufficiently full and clear description to have allowed a person having ordinary skill in the art to make and use the full scope of the claimed invention as of the effective filing date, without undue experimentation. [**Elysium’s Proposal:** When a claimed composition contains both structural and functional limitations, the question is

⁶⁷ *Id.* (“[W]e hold that the '597 patent is invalid for lack of written description, as it fails to provide sufficient blaze marks to direct a POSA to the specific subset of 2'-methyl-up nucleosides that are effective in treating HCV.”).

⁶⁸ *Id.* (“[The specification] provide[s] lists or examples of supposedly effective nucleosides, but do[es] not explain what makes them effective, or why. As a result, a POSA is deprived of any meaningful guidance into what compounds beyond the examples and formulas, if any, would provide the same result.”).

⁶⁹ Fed. Cir. Bar Ass’n. Model Patent Jury Instruction B.4.2b.

whether a person of ordinary skill in the art would know, without undue experimentation, which compositions meeting the structural limitations would be effective also to meet the functional limitations.]⁷⁰ If a patent claim is not enabled, it is invalid.

The question of undue experimentation is a matter of degree, and what is required is that the amount of experimentation not be “unduly extensive.” Some amount of experimentation to make and use the invention is allowable. In deciding whether a person having ordinary skill would have to experiment unduly in order to make and use the invention, you may consider several factors:

- (1) the time and cost of any necessary experimentation;
- (2) how routine any necessary experimentation is in the field;
- (3) whether the patent discloses specific working examples of the claimed invention;
- (4) the amount of guidance presented in the patent;
- (5) the nature and predictability of the field;
- (6) the level of ordinary skill in the field; and
- (7) the nature and scope of the claimed invention.

⁷⁰ *Idenix Pharm. LLC v. Gilead Scis. Inc.*, 941 F.3d 1149, 1156 (Fed. Cir. 2019) (“Claim 1... encompasses any β -D nucleoside meeting both the structural limitations (including a methyl group at 2'-up) and the functional limitations (efficacy in treating HCV)... The key enablement question is whether a person of ordinary skill in the art would know, without undue experimentation, which 2'-methyl-up nucleosides would be effective for treating HCV.”).

No one or more of these factors is alone dispositive. Rather, you must make your decision about whether or not the degree of experimentation required is undue based upon all of the evidence presented to you. You should weigh these factors and determine whether or not, in the context of this invention and the state of the art at the time of the effective filing date, a person having ordinary skill would need to experiment unduly to make and use the full scope of the claimed invention.

6. DAMAGES

6.1 DAMAGES GENERALLY⁷¹

If you find that Elysium infringed any valid claim of the Dartmouth Patents, you must then consider what amount of damages to award to Plaintiffs. I will now instruct you about the measure of damages. By instructing you on damages, I am not suggesting which party should win this case, on any issue. If you find that Elysium has not infringed any valid claim of the patent, then Plaintiffs are not entitled to any damages.

⁷¹ Federal Circuit Bar Association, Model Patent Jury Instructions, May 2020, 5.1; 35 U.S.C. § 284; *see, e.g., Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1340 (Fed. Cir. 2009); *Virnetx, Inc. v. Cisco Sys., Inc.*, 767 F.3d 1308, 1326 (Fed. Cir. 2014); *ResQNet.com, Inc. v. Lansa, Inc.*, 594 F.3d 860, 869 (Fed. Cir. 2010); D.I. 307, *f' Real Foods, LLC v. Hamilton Beach Brands, Inc.*, No. 1:16-cv-41-CFC (D. Del. Sept. 30, 2019).

The damages you award must be adequate to compensate Plaintiffs for any infringement you determine to have occurred. They are not meant to punish an infringer. [**Plaintiffs’ Proposal:** Your damages award, if you reach this issue, should put Plaintiffs in approximately the same financial position that they would have been in had the infringement not occurred.^{72]}⁷³

Plaintiffs have the burden to establish the amount of their damages by a preponderance of the evidence. In other words, you should award only those damages that Plaintiffs establish that they more likely than not have suffered. While Plaintiffs are not required to prove the amount of their damages with mathematical precision, they must prove them with reasonable certainty. You may not award damages that are speculative, damages that are only possible, or damages that are based on guesswork.

[**Elysium’s Proposal:** In this case, Dartmouth seeks a reasonable royalty, while ChromaDex is not entitled to any damages.]

⁷² Federal Circuit Bar Association, Model Patent Jury Instructions, May 2020, 5.1.

⁷³ **Elysium’s Position:** Plaintiffs’ proposed sentence misstates the law. Reasonable royalty damages are the result of a hypothetical negotiation, not actual “but for” damages that put the patentee in “the same financial position” as if “the infringement [had] not occurred.”

Plaintiffs' Proposal:⁷⁴

There are different types of damages that Plaintiffs may be entitled to recover. In this case, Plaintiff ChromaDex seeks lost profits for a portion of the infringing sales and Plaintiffs Dartmouth and ChromaDex seek a reasonable royalty for a portion of the infringing sales. Lost profits consist of any actual reduction in business profits ChromaDex suffered as a result of Elysium's alleged infringement. A reasonable royalty is defined as the amount of money that Plaintiffs, on the one side, and Elysium, on the other side, would have agreed upon as a fee for the use of the invention at the time just prior to when infringement began.

⁷⁴ Fed. Cir. Bar Ass'n. Model Patent Jury Instruction 5.1.

Plaintiffs' Position: Plaintiffs, and specifically Plaintiff ChromaDex, are entitled to seek lost profits at least as of the dissolution of Healthspan, Inc. Accordingly, it is proper to include instructions related to lost profits (D.I. 148; D.I. 181). Plaintiffs reserve the right to submit revised jury instructions should the Court limit ChromaDex's ability to pursue lost profits.

Elysium's Position: Elysium objects to instructing the jury on lost profits in view of the Court's order (D.I. 142) dismissing ChromaDex's infringement claims based on acts occurring on or after March 13, 2017. Plaintiffs admit that they cannot prove infringement prior to March 13, 2017. Moreover, Dartmouth, the only party with standing to assert a claim for patent damages, does not sell a competing product and has not asserted a claim for lost profits on lost sales. As for Plaintiffs' argument based on the dissolution of Healthspan in January 2021, the Court already rejected that argument when it denied Plaintiffs' motion for reargument. D.I. 181. Elysium has relied on the Court's orders in framing discovery, and the scope of the case should not be expanded on the eve of trial. Should the Court permit ChromaDex to remain in the case as a party plaintiff and to submit a claim to lost profits damages to the jury, Elysium reserves the right to submit supplemental jury instructions and to seek further fact and expert discovery.

I will give you more detailed instructions regarding damages shortly. Note, however, that Plaintiffs are entitled to recover, at a minimum, a reasonable royalty for each infringing act.

6.2 LOST PROFITS⁷⁵

Plaintiffs' Proposal:⁷⁶

In this case, Plaintiff ChromaDex seeks to recover lost profits for Elysium's sales of the Accused Product after January 15, 2021 and, where lost profit damages are not available, a reasonable royalty. To recover lost profits (as opposed to reasonable royalties), Plaintiff ChromaDex must show a causal relationship between the infringement and ChromaDex's loss of profit. In other words, Plaintiff ChromaDex must show that, but for the infringement, there is a reasonable probability that ChromaDex would have earned higher profits. To show this, ChromaDex must prove that, if there had been no infringement, it would have made at least some portion of the sales that Elysium made of its product.

Plaintiff ChromaDex is entitled to lost profits if it establishes each of the following:

1. There was a demand for the patented product.

⁷⁵ **Elysium's Position:** Elysium objects to any lost profits instructions for the reasons stated above.

⁷⁶ D.I. 307, *f'Real Foods, LLC v. Hamilton Beach Brands, Inc.*, No. 1:16-cv-41-CFC (D. Del. Sept. 30, 2019); Fed. Cir. Bar Ass'n. Model Patent Jury Instruction 5.2.

2. There were no acceptable non-infringing alternatives to the patented inventions that were available to Elysium or their customers.
3. Plaintiffs had the manufacturing and marketing capacity to make any infringing sales actually made by Elysium and for which Plaintiffs seek an award of lost profits—in other words, that Plaintiffs were capable of satisfying the demand.
4. The amount of profit that Plaintiffs would have made if Elysium had not infringed.

I will address each of those four elements in turn.

6.2.1 LOST PROFITS—DEMAND⁷⁷

Plaintiffs' Proposal:⁷⁸

Demand for the patented product can be proven by significant sales of a patented product or significant sales of an infringing product containing the patented features.

⁷⁷ **Elysium's Position:** Elysium objects to any lost profits instructions for the reasons stated above.

⁷⁸ D.I. 307, *f' Real Foods, LLC v. Hamilton Beach Brands, Inc.*, No. 1:16-cv-41-CFC (D. Del. Sept. 30, 2019); Fed. Cir. Bar Ass'n. Model Patent Jury Instruction 5.2.

6.2.2 LOST PROFITS—NON-INFRINGEMENT SUBSTITUTES⁷⁹

Plaintiffs' Proposal:⁸⁰

To be an “acceptable, non-infringing substitute,” a product must have the advantages of the patented invention that were important to people who purchased an alleged infringer’s product, but also must not infringe the Dartmouth Patents. If purchasers of an alleged infringer’s product were motivated to buy that product because of features covered by the Dartmouth Patents, then some other, alternative product is not an acceptable substitute, even if it otherwise competed with a patent holder’s and an alleged infringer’s products. An alternative product must be non-infringing as I just described but also must be available at the time of the infringement.

Elysium bears the burden of showing that an acceptable, non-infringing alternative was available.

⁷⁹ **Elysium’s Position:** Elysium objects to any lost profits instructions for the reasons stated above.

⁸⁰ D.I. 307, *f’Real Foods, LLC v. Hamilton Beach Brands, Inc.*, No. 1:16-cv-41-CFC (D. Del. Sept. 30, 2019); Fed. Cir. Bar Ass’n. Model Patent Jury Instruction 5.2.

6.2.3 LOST PROFITS—CAPACITY⁸¹

Plaintiffs' Proposal:⁸²

This factor asks whether Plaintiffs had the manufacturing and marketing capacity to make the sales they said they lost. This means Plaintiffs must prove it is more probable than not that they could have made and sold, or could have had someone else make and sell for them, the additional products they say they could have sold but for the infringement.

6.2.4 LOST PROFITS—AMOUNT OF PROFIT⁸³

Plaintiffs' Proposal:⁸⁴

A patent holder may calculate its lost profits on lost sales by computing the lost revenue for sales it claims it would have made but for the infringement and subtracting from that figure the amount of additional costs or expenses it would have incurred in making those lost sales, such as cost of goods, sales costs, packaging costs, and shipping costs. Certain fixed costs that do not vary with

⁸¹ **Elysium's Position:** Elysium objects to any lost profits instructions for the reasons stated above.

⁸² D.I. 307, *f'Real Foods, LLC v. Hamilton Beach Brands, Inc.*, No. 1:16-cv-41-CFC (D. Del. Sept. 30, 2019); Fed. Cir. Bar Ass'n. Model Patent Jury Instruction 5.2.

⁸³ **Elysium's Position:** Elysium objects to any lost profits instructions for the reasons stated above.

⁸⁴ D.I. 307, *f'Real Foods, LLC v. Hamilton Beach Brands, Inc.*, No. 1:16-cv-41-CFC (D. Del. Sept. 30, 2019); Fed. Cir. Bar Ass'n. Model Patent Jury Instruction 5.2.

increases in production or scale, such as taxes, insurance, rent, and administrative overhead, should not be subtracted from a patent holder's lost revenue.

6.2.5 LOST PROFITS—MARKET SHARE⁸⁵

Plaintiffs' Proposal:⁸⁶

If a patent holder establishes it would have made some, but not all, of an alleged infringer's sales but for the infringement, the amount of sales that the patent holder lost may be shown by proving the patent holder's share of the relevant market, excluding infringing products. A patent holder may be awarded a share of profits equal to its market share even if there were non-infringing substitutes available. In determining a patent holder's market share, the market must be established first, which requires determining which products are in that market.

Products are considered in the same market if they are considered "sufficiently similar" to compete against each other. Two products are sufficiently similar if one does not have a significantly higher price than, or possess characteristics significantly different from, the other.

⁸⁵ **Elysium's Position:** Elysium objects to any lost profits instructions for the reasons stated above.

⁸⁶ D.I. 307, *f'Real Foods, LLC v. Hamilton Beach Brands, Inc.*, No. 1:16-cv-41-CFC (D. Del. Sept. 30, 2019); Fed. Cir. Bar Ass'n. Model Patent Jury Instruction 5.2.

6.3 REASONABLE ROYALTY

Plaintiffs' Proposal:⁸⁷

If you find that Plaintiffs have established infringement, Plaintiffs are entitled to at least a reasonable royalty to compensate them for that infringement. For sales of the Accused Product before July 2017 through January 15, 2021, if you find that Plaintiffs have established infringement then you must award Plaintiff Dartmouth a reasonable royalty for those sales. For sales of the Accused Product after January 15, 2021, if you find that Plaintiff ChromaDex has not proved its claim for lost profits, or have proved its claim for lost profits for only a portion of the infringing sales, then you must award Plaintiffs a reasonable royalty for all infringing sales for which they have not been awarded lost profits damages.⁸⁸

Defendant's Proposal:

In this case, Dartmouth seeks reasonable royalty damages. If you find that a patent claim is infringed and not invalid, Dartmouth is entitled to a reasonable royalty to compensate it for that infringement.

⁸⁷ D.I. 307, *f'Real Foods, LLC v. Hamilton Beach Brands, Inc.*, No. 1:16-cv-41-CFC (D. Del. Sept. 30, 2019); Fed. Cir. Bar Ass'n. Model Patent Jury Instruction 5.5.

⁸⁸ **Elysium's Position:** Elysium objects to any instruction suggesting that ChromaDex may obtain reasonable royalty damages, for the same reason it objects to a lost profits instruction, set forth above.

Evidence of things that happened after the infringement first began can be considered in evaluating the reasonable royalty only to the extent that the evidence aids in assessing what royalty would have resulted from a hypothetical negotiation occurring just prior to the first infringement.

6.3.2 FACTORS FOR DETERMINING A REASONABLE ROYALTY⁹¹

In determining the reasonable royalty, you should consider all of the facts known and available to the parties at the time the infringement began [**Elysium’s Proposal**: i.e. at the time of the hypothetical negotiation]. Some of the kinds of factors that you may consider in making your determination are:

1. The royalties, if any, received by Plaintiffs for the licensing of the Dartmouth Patents, proving or tending to prove an established royalty.
2. The rates Elysium paid to license other patents comparable to the Dartmouth Patents.
3. The nature and scope of the license, such as whether the license is exclusive or non-exclusive, or as restricted or non-restricted in terms

⁹¹ D.I. 307, *f’Real Foods, LLC v. Hamilton Beach Brands, Inc.*, No. 1:16-cv-41-CFC (D. Del. Sept. 30, 2019); Fed. Cir. Bar Ass’n. Model Patent Jury Instruction 5.8.

Elysium’s Position: Elysium objects to the reference to “Plaintiffs” in these damages instructions. Elysium proposes that “Plaintiffs” throughout should be revised to refer only to “Dartmouth.” To improve readability of this document, Elysium is making this objection generally, and not in each instance where the instructions mention “Plaintiffs.”

of territory or with respect to whom the manufactured product may be sold.

4. Whether Plaintiffs had an established policy and marketing program to maintain its patent monopoly by not licensing others to use the invention or by granting licenses under special conditions designed to preserve that monopoly;
5. The commercial relationship between Plaintiffs, on the one hand, and Elysium, on the other hand, such as whether they are competitors in the same territory in the same line of business; or whether they are inventor and promoter.
6. The effect of selling the patented product in promoting the sales of other products by Elysium; the existing value of the invention to Plaintiffs as a generator of sales of its own non-patented items; and the extent of such collateral sales.
7. The duration of the Dartmouth Patents and the term of the hypothetical license.
8. The established profitability of the product made under the patent, its commercial success, and its current popularity.

9. The utility and advantages of the patented invention over the old modes or devices, if any, that had been used for achieving similar results.
10. The nature of the patented invention; the character of any commercial embodiment of it as owned and produced by Plaintiffs, and the benefits to those who have used the invention.
11. The extent to which Elysium has made use of the invention; and any evidence probative of the value of that use.
12. The portion of the profit or of the selling price that may be customary in the particular business or in comparable businesses to allow for the use of the invention or analogous inventions.
13. The portion of the realizable profits that should be credited to the invention as distinguished from non-patented elements, the manufacturing process, business risks, or significant features or improvements added by the infringer.
14. The opinion testimony of qualified experts.
15. The amount that a licensor (such as Plaintiffs) and a licensee (such as Elysium) would have agreed upon (at the time the infringement began) if both sides had been reasonably and voluntarily trying to reach an agreement; that is, the amount which a prudent licensee—

who desired, as a business proposition, to obtain a license to manufacture and sell a particular article embodying the patented invention—would have been willing to pay as a royalty and yet be able to make a reasonable profit and which amount would have been acceptable by a patentee who was willing to grant a license.

No one factor is dispositive and you can and should consider the evidence that has been presented to you in this case on each of these factors. You may also consider any other factors which in your mind would have increased or decreased the royalty Elysium would have been willing to pay and Plaintiffs would have been willing to accept, acting as normally prudent business people. [**Plaintiffs'**

Proposal: The final factor establishes the framework which you should use in determining a reasonable royalty.^{92]}

6.3.3 REASONABLE ROYALTY – APPORTIONMENT

Plaintiffs' Proposal:⁹³

If the claimed patented features are not the sole driving factor for customer demand for the accused infringing product, then you must perform what is called apportionment. When damages must be apportioned, the amount you find as

⁹² D.I. 307, *f'Real Foods, LLC v. Hamilton Beach Brands, Inc.*, No. 1:16-cv-41-CFC, *33 (D. Del. Sept. 30, 2019).

⁹³ Fed. Cir. Bar Ass'n. Model Patent Jury Instruction 5.12; *Power Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc.*, 904 F.3d 965 (Fed. Cir. 2018).

damages must be based on the value attributable to the patented invention, as distinct from unpatented features of the accused product or other factors such as marketing or advertising, or Plaintiffs' size or market position. Put differently, when apportionment is required, a royalty compensating the patent holder for damages must reflect the value attributable to the infringing features of the product, and not more.

On the other hand, if demand for the entire accused product depends only on the claimed feature(s), then apportionment is not necessary even though the accused product includes nonpatented features. In some circumstances, for example, where the other features are simply generic and/or conventional and hence of little distinguishing character, it may be appropriate to use the entire value of the product because the patented feature accounts for almost all of the value of the product as a whole.

Defendant's Proposal:⁹⁴

The amount you find as damages must be based on the value attributable to the patented invention, as distinct from unpatented features of the accused product or other factors such as marketing or advertising, or Dartmouth's size or market position. A royalty compensating the patent holder for damages must reflect the

⁹⁴ Federal Circuit Bar Association, Model Patent Jury Instructions, May 2020, B.5.12; *Garretson v. Clark*, 111 U.S. 120, 121 (1884); *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201, 1226 (Fed. Cir. 2014).

value attributable to the infringing features of the product, and no more. The process of separating the value of the allegedly infringing features from the value of all other features is called apportionment. When the accused infringing products have both patented and unpatented features, your award must be apportioned so that it is based only on the value of the patented features, and no more.

If the claimed patented features are not the sole driving factor for customer demand for the accused infringing product, then you must perform what is called apportionment. When damages must be apportioned, the amount you find as damages must be based on the value attributable to the patented invention, as distinct from unpatented features of the accused product or other factors such as marketing or advertising, or Dartmouth's size or market position. Put differently, when apportionment is required, a royalty compensating the patent holder for damages must reflect the value attributable to the infringing features of the product, and no more.

On the other hand, if demand for the entire accused product depends only on the claimed feature(s), then apportionment is not necessary even though the accused product includes nonpatented features.

7. DELIBERATIONS AND VERDICT

7.1 INTRODUCTION⁹⁵

I will end by explaining some things about how you will conduct your deliberations in the jury room and about your possible verdicts.

When you retire to the jury room to deliberate, you may take with you these instructions, your notes, and the exhibits that the Court has admitted into evidence. You should select one member of the jury as your foreperson. That person will preside over the deliberations and speak for you here in open court.

You have two main duties as jurors. The first one is to decide what the facts are from the evidence that you saw and heard here in court. Deciding what the facts are is your job, not mine, and nothing that I have said or done during this trial was meant to influence your decision about the facts in any way.

Your second duty is to take the law that I give you, apply it to the facts, and decide if, under the appropriate burden of proof, the parties have established their claims. It is my job to instruct you about the law, and you are bound by the oath that you took at the beginning of the trial to follow the instructions that I give you, even if you personally disagree with them. This includes the instructions that I gave you before and during the trial, and these instructions. All the instructions are

⁹⁵ 3d Cir. Model Civil Jury Instructions 3.1; *see also* D.I. 307, *f'Real Foods, LLC v. Hamilton Beach Brands, Inc.*, No. 1:16-cv-41-CFC, *34–36 (D. Del. Sept. 30, 2019).

important, and you should consider them together as a whole. Perform these duties fairly. Do not let any bias, sympathy or prejudice that you may feel toward one side or the other influence your decision in any way.

As jurors, you have a duty to consult with each other and to deliberate with the intention of reaching a verdict. Each of you must decide the case for yourself, but only after a full and impartial consideration of all of the evidence with your fellow jurors. Listen to each other carefully. In the course of your deliberations, you should feel free to re-examine your own views and to change your opinion based upon the evidence. But you should not give up your honest convictions about the evidence just because of the opinions of your fellow jurors. Nor should you change your mind just for the purpose of obtaining enough votes for a verdict.

When you start deliberating, do not talk to the jury officer, to me or to anyone but each other about the case. During your deliberations, you must not communicate with or provide any information to anyone by any means about this case. You may not use any electronic device or media, such as a cell phone, smart phone, or computer of any kind; the internet, any internet service, or any text or instant messaging service; or any internet chat room, blog, website, or social networking service, to communicate to anyone any information about this case or to conduct any research about this case until I accept your verdict.

You may not use these electronic means to investigate or communicate about the case because it is important that you decide this case based solely on the evidence presented in this courtroom. Information on the internet or available through social media might be wrong, incomplete, or inaccurate. Information that you might see on the internet or on social media has not been admitted into evidence and the parties have not had a chance to discuss it with you. You should not seek or obtain such information and it must not influence your decision in this case.

If you have any questions or messages for me, you must write them down on a piece of paper, have the foreperson sign them, and give them to the jury officer. The officer will give them to me, and I will respond as soon as I can. I may have to talk to the lawyers about what you have asked, so it may take some time to get back to you.

One more thing about messages. Never write down or tell anyone how you stand on your votes. For example, do not write down or tell anyone that a certain number is voting one way or another. Your votes should stay secret until you are finished.

7.2 UNANIMOUS VERDICT⁹⁶

Your verdict must represent the considered judgment of each juror. In order for you as a jury to return a verdict, each juror must agree to the verdict. Your verdict must be unanimous.

It is your duty as jurors to consult with one another and to deliberate with a view toward reaching an agreement, if you can do so consistent with your individual judgments. Each of you must decide the case for yourself, but you should do so only after a consideration of the case with your fellow jurors, and you must be open to their opinions. You should not be influenced to vote a certain way, however, by the single fact that a majority of the jurors, or any of them, will vote in a certain way. In other words, you should not surrender your honest convictions concerning the effect or weight of the evidence for the mere purpose of returning a verdict, or solely because of the opinions of the other jurors.

Remember that you are not partisans; you are judges — judges of the facts. Your only interest is to seek the truth from the evidence. You are the judges of the credibility of the witnesses and the weight of the evidence.

A form of verdict has been prepared for you. It has a series of questions for you to answer. You will take this form to the jury room and when you have

⁹⁶ 3d Cir. Model Civil Jury Instructions 3.1, 3.4; *see also* D.I. 307, *f'Real Foods, LLC v. Hamilton Beach Brands, Inc.*, No. 1:16-cv-41-CFC, *34–36 (D. Del. Sept. 30, 2019).

reached unanimous agreement as to your verdict, you will fill it in, and have your foreperson date and sign the form. You will then return to the courtroom and your foreperson will give your verdict. Unless I direct you otherwise, do not reveal your answers until you are discharged. After you have reached a verdict, you are not required to talk with anyone about the case unless I order you to do so. Once again, I want to remind you that nothing about my instructions and nothing about the form of verdict is intended to suggest or convey in any way or manner what I think your verdict should be. It is your sole and exclusive duty and responsibility to determine the verdict.