

1 UNITED STATES PATENT AND TRADEMARK OFFICE
2 -----
3 BEFORE THE PATENT TRIAL AND APPEAL BOARD
4 -----

5 MOTIF FOODWORKS, INC.,
6 Petitioner,

7 v.

8 IMPOSSIBLE FOODS, INC.,
9 Patent Owner.

10 -----
11 Case No. IPR2023-00206
12 Patent No. 9,943,096
13 -----

14 ZOOM DEPOSITION OF MICHAEL C. QIAN, Ph.D.,
15 (Reported Remotely via Web videoconference)
16 Vancouver, Washington (Deponent's location)
17 Monday, December 11, 2023
18 Volume 1
19
20

21 STENOGRAPHICALLY REPORTED BY:

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15 DEPOSITION OF MICHAEL C. QIAN, Ph.D.,
16 taken on behalf of the Petitioner, with the
17 deponent located in Vancouver, Washington,
18 commencing at 10:05 a.m., Monday,
19 December 11, 2023, remotely reported via
20 Web videoconference before REBECCA L. ROMANO, a
21 Certified Shorthand Reporter, Certified Court
22 Reporter, Registered Professional Reporter.
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I N D E X

DEPONENT	EXAMINATION
MICHAEL C. QIAN, PH.D.	PAGE
VOLUME 1	
BY MR. MESSERIAN	6

E X H I B I T S

NUMBER	DESCRIPTION	PAGE
Exhibit 1180	Wikipedia The Free Encyclopedia Nutritional Yeast;	103
	(Exhibits Premarked)	

NUMBER	PAGE
Ex. 1005	
Ex. 1012	
Ex. 1015	
Ex. 1024	
Ex. 1038	
Ex. 1052	
Ex. 2030	

/////

1 Vancouver, Washington; Monday, December 11, 2023

2 10:05 a.m.

3 ---o0o---

4

5 MICHAEL C. QIAN, Ph.D.,

6 having been administered an oath, was examined and

7 testified as follows:

8

9 MR. MESSERIAN: Apologies. Let's go off
10 record.

11 (Recess taken.)

12 MR. MESSERIAN: Back on the record.

13

14 EXAMINATION

15 BY MR. MESSERIAN:

16 Q. So, Dr. Qian, is it?

17 Just making sure I am pronouncing your
18 name right.

19 A. It's "Qian."

20 Q. "Qian."

21 Okay. And can you spell your full name
22 for the record?

23 A. Michael, M-I-C-H-A-E-L. C. Qian,
24 Q-I-A-N.

25 Q. Great.

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1 And I believe -- based on one of your
2 counsel's earlier emails, I believe you are in
3 Vancouver, Washington, currently; is that right?

4 A. Right.

5 Q. And counsel, Michael, or Mike, Rosato is
6 next to you in the room; is that correct?

7 A. Yes.

8 Q. And I believe earlier he represented that
9 you are going to have paper copies of some of the
10 exhibits and papers that are relevant in this
11 proceeding; is that right?

12 A. Yes.

13 Q. Besides Mike Rosato, are there any other
14 individuals in the room with you, or is it just
15 himself?

16 A. Just him.

17 Q. Okay. Do you have any other lines of
18 communication, like chat programs or anything like
19 that, that are open with any other individuals?

20 A. No.

21 Q. Sorry, these are standard questions for
22 remote depo world that I am asking, so bear with
23 me.

24 A. No problem.

25 Q. Have you been deposed before, or is this

1 your first deposition?

2 A. Yes, I have been.

3 Q. Okay. In the context of patent
4 litigation proceedings or other proceedings?

5 A. In other proceedings.

6 Q. Is this your first time as an expert
7 witness in a patent litigation case, or an IPR
8 proceeding, I should say?

9 A. Yes.

10 Q. Have you ever served as an expert witness
11 in any litigation?

12 A. Yes.

13 Q. Okay. And what was the nature of that
14 litigation?

15 A. It's about product quality.

16 Q. Product quality.

17 Okay. Was it about patents or some other
18 form of intellectual property?

19 A. It's about a flavor issue.

20 Q. All right. Do you have any experience
21 either in the courtroom or outside the courtroom
22 with patent litigation cases generally?

23 A. Not related to patent issue.

24 Q. All right. Since you have been deposed
25 before, I am just going to very quickly go over

1 some general ground rules that I think you are
2 already aware of.

3 So it's important for us not to speak
4 over each other so that the court reporter gets
5 down everything we are saying easily and clearly.

6 Do you understand that?

7 A. Yes.

8 Q. And as I am asking you questions, some of
9 my questions might not be clear to you. And if
10 they aren't, then I ask that you ask me to rephrase
11 that or at least just indicate to me that you
12 didn't understand the question so I know.

13 Can you do that for me?

14 A. Yes, I will.

15 Q. All right. Is there any reason why you
16 can't give complete and honest testimony today?

17 A. No.

18 Q. All right. If you need any breaks, just
19 let me know, and we can do that.

20 You understand that?

21 A. Yes.

22 Q. All right. Today's deposition is for IPR
23 proceeding 2023-00206 related to
24 Patent No. 9,943,096, also known as the
25 '096 patent.

1 Is that your understanding of why you are
2 here today?

3 A. Yes.

4 Q. And you submitted a declaration on behalf
5 of the patent owner, Impossible Foods, in this
6 proceeding, right?

7 A. Yes.

8 Q. All right. And that declaration was
9 previously marked Exhibit 2030.

10 Is that your understanding?

11 A. I cannot recall the number.

12 Q. Okay. If counsel can hand you your
13 declaration, I just want to confirm that it's the
14 right document you have in front of you.

15 If you already have it, let me know.

16 MR. ROSATO: Let me grab a copy of that.

17 MR. MESSERIAN: And, Rebecca, let me go
18 ahead and upload a copy of that for you too.

19 MR. ROSATO: It appears the declaration
20 is the one document I don't have.

21 I don't want to give him my copy.

22 MR. MESSERIAN: Okay. Yeah, I mean, if
23 your copy -- I think you are going to need a copy,
24 obviously, as well. But I assume yours has
25 annotations in addition to that.

1 All right. First issue at a time, I
2 guess. Rebecca, you are still not seeing what I,
3 quote/unquote, "introduced." I clicked on the
4 "introduce exhibit" button. Let me try that again.

5 Mike, if you wanted to take a break and
6 have another copy printed, or if someone is already
7 working on that, just let me know.

8 MR. ROSATO: Let's do that. Let's take a
9 five-minute break.

10 MR. MESSERIAN: Okay.

11 (Recess taken.)

12 MR. MESSERIAN: Back on the record.

13 Q. (By Mr. Messerian) All right. So,
14 Dr. Qian, the document that's in front of you, I
15 just need you to confirm that that's the
16 declaration that you signed and submitted in this
17 proceeding?

18 A. Yes.

19 Q. All right. And did you write this
20 declaration yourself?

21 A. I worked collaboratively with counsel.
22 Together, we prepared the document.

23 Q. Okay. In terms of collaboration, would
24 you say that you had a minority contribution to it
25 or a majority contribution to it?

1 Help me sort of digest that statement you
2 just made.

3 A. Can you define that more specific?
4 Because it's very difficult to say or count or
5 calculate the amount of contribution.

6 Q. Okay. How many hours would you say you
7 spent working on the declaration?

8 A. I cannot remember exactly.
9 Maybe somewhere around 50 hours.

10 Q. 50 hours?

11 A. Yeah, maybe.

12 Q. Okay.

13 A. Maybe more; somewhere around that.

14 Q. And counsel spent more or less time
15 working on it than you did?

16 A. I do know how much time they did.

17 Q. Okay. But your understanding is they
18 worked on it separate from portions of it that you
19 contributed to?

20 A. Well, we have a discussion. We review.

21 Q. Uh-huh.

22 So you reviewed it together; is that what
23 you are saying?

24 A. Oh, yes.

25 Q. Okay. Ultimately, you reviewed the

1 entire declaration before you signed it, correct?

2 A. Yes.

3 Q. And you agree with all of the opinions
4 and representations made therein, correct?

5 A. That's correct.

6 Q. And in preparing for this deposition, I
7 assume you reviewed your declaration again, right?

8 A. Yes.

9 Q. And did you see anything inaccurate or
10 something that you, today, want to clarify that's
11 in your declaration?

12 A. I did not find anything.

13 Q. Okay. Now, how is it that you came to be
14 retained in this case?

15 A. I was contacted by counsel.

16 Q. You were contacted through your
17 employment OSU, or by some other means?

18 A. I was contacted -- contacted by email.

19 Q. Okay. And how long ago was that?

20 A. It's about -- maybe around a year or so.

21 Q. A year ago.

22 Okay.

23 A. Yeah.

24 Q. So that would have been, what, roughly
25 December 2022; is that right?

1 A. Somewhere around that. I do not recall
2 exactly the date. Maybe in the January or so.

3 Q. Got it.

4 All right.

5 A. I mean, January 2023.

6 Q. Yes; no, I understand.

7 And did you have any discussions with
8 counsel in preparing for this deposition?

9 A. For today?

10 Q. For today's deposition, did you have any
11 conversations with counsel leading up to today's
12 deposition?

13 A. Oh, yes.

14 Q. And how many hours would you say you
15 spent talking to counsel and preparing for this
16 deposition?

17 A. I try to recall how many.

18 Maybe -- maybe somewhere around ten or
19 so. Not exactly.

20 Q. Yeah.

21 But roughly ten?

22 A. Yeah, roughly.

23 Q. Did you talk to anybody else besides
24 counsel in preparing for this deposition?

25 A. Oh, no.

1 Q. All right. Let's talk about some of the
2 documents you reviewed in preparing for today's
3 deposition.

4 Did you review the prior art references
5 at issue in this proceeding?

6 A. Which one you are talking about?

7 Q. So let's start with the one that's been
8 referred to as "Giacino" in this proceeding.

9 Did you review that?

10 A. Yes.

11 Q. And did you review the Brown reference?

12 A. Yes, I did.

13 Q. So the Brown reference is rather lengthy.
14 Did you skim it, or did you actually read the
15 entire thing?

16 MR. ROSATO: Objection. Form.

17 THE DEPONENT: Do you mean today, or when
18 I prepare my declaration?

19 Q. (By Mr. Messerian) At any point in the
20 last 11 months.

21 A. I spent a fair amount of time to read it.

22 Q. So you --

23 A. But I cannot remember how many hours.

24 Q. Okay. Yeah, I don't need to how many
25 hours it took to read it.

1 I just want to get a sense of whether you
2 have a good understanding of what's in that
3 document.

4 A. Yes, I believe I have a good
5 understanding of the document.

6 Q. Okay. Now, there are a number of
7 exhibits -- roughly, over 100, actually -- that
8 have been filed in this proceeding.

9 Did you at least review those exhibits
10 that you mention or recite to in your declaration?

11 A. Yes.

12 Q. Did you review Dr. Tarte's declaration in
13 preparing your declaration?

14 A. I believe I did. I recall the name.

15 Q. You recall the name.

16 Okay. Same question with Dr. Robert
17 McGorrin: Did you review his declaration in
18 preparing your declaration -- his declaration in
19 preparing your own declaration?

20 A. Yes, I did.

21 Q. Now let's talk a little bit about your
22 background.

23 My understanding is you are a professor
24 in flavor chemistry at Oregon State University,
25 OSU, correct?

1 A. Yes.

2 Q. Do you have -- do you hold any other
3 positions, whether it's commercial or academic?

4 A. Do you mean the previous experience or
5 the job together?

6 Q. Currently, do you have any other
7 positions with commercial companies or other
8 employment engagements?

9 A. No, I do not.

10 Q. All right. Flavor chemistry is a rather
11 broad field, it appears to me.

12 Do you have a particular niche?

13 A. I agree with you, the flavor chemistry is
14 broad. My research area focus around many area of
15 the flavor chemistry, such as wine, grapes, dairy
16 products and many other things.

17 Q. Okay. And in terms of those "many other
18 things," I see a list in your declaration. It's
19 paragraph 3 of your declaration, if you want to
20 turn to that with me.

21 A. Yes. I am here.

22 Q. So about maybe halfway through that
23 paragraph, there's a list of types of foods that
24 you contributed to in terms of flavor chemistry.
25 And some of the ones include those that you

1 mentioned: dairy products, I believe you said
2 cheese as well, wine.

3 I also see here beer, coffee, collagen
4 products, and whey products; is that all correct?

5 A. Yes, that's correct.

6 Q. I guess what's noticeably absent to me
7 here is, I don't see meat.

8 Is your experience with meat flavor
9 chemistry more limited?

10 A. Collagen is a kind of meat-associated
11 product.

12 Q. What was that, sorry?

13 A. A collagen product --

14 Q. Okay.

15 A. -- is from animal skin.

16 Q. Animal skin.

17 Can you give me some more concrete
18 examples of -- of what types of products I would
19 see in the marketplace that fall into that
20 category?

21 A. So you do not consider collagen as a part
22 of meat?

23 Q. No, I am asking you, can you give me some
24 examples of what a collagen product is that I would
25 have better understanding?

1 A. Oh, they use -- they use it for food
2 ingredient. They are some thing in the marketplace
3 as collagen supplement that you can buy from like
4 Costco. I don't know if you ever purchased that.

5 Q. So can you give me a more concrete
6 example, something -- you know, you referred back
7 to it as a collagen product at Costco. But what
8 might I see on the shelf there that would fall into
9 that category?

10 And let's start with that.

11 A. Is a powder, the formula.

12 Q. Is it for skincare, or is it something
13 you consume or --

14 A. You can consume; you can eat it.

15 Q. Okay.

16 A. It's like a protein powder.

17 Q. So --

18 A. Go ahead.

19 Q. So it's a protein powder, and its purpose
20 would be it's added to foods to provide protein?

21 Is that -- is that what you are trying to
22 say?

23 And if I am saying it wrong, please feel
24 free to correct me.

25 A. It's similar like a protein powder. You

1 mix with water and drink it.

2 Q. I see.

3 So it would be sort of like a protein
4 shake that is --

5 A. Yes, something similar to that format.

6 Q. Got it.

7 And so in that sense, it's similar to
8 whey powder, but it comes from animal skin; is that
9 right?

10 A. Yes.

11 Q. And what was your contribution with
12 respect to that particular product line?

13 A. I am looking at the flavor chemistry part
14 of it.

15 Q. Okay. So can you elaborate on what you
16 mean by that?

17 A. I will do my best, because this is a
18 company-sponsored project. They do not -- many of
19 those types of research, they do not allow me to
20 release detailed information.

21 In general, it's about the flavor.

22 Q. So my understanding is, based on your
23 testimony -- correct me if I'm wrong -- you work
24 with these collagen powders that are added to foods
25 for supplementing them with protein in terms of

1 giving them a beneficial or positive flavor
2 profile.

3 Is that a fair statement?

4 A. More or less, but not exactly.

5 The collagen product can be consumed
6 directly by mixing with water.

7 Q. Got it.

8 And your -- your focus with that product
9 is to improve its flavor?

10 A. Yes.

11 Q. What are some common animals that
12 collagen product would be derived from?

13 A. Like from pig or from cow's skin.

14 Q. Do you have any experience with
15 artificial meat flavorings?

16 A. Can you define more about "experience"?

17 Q. Sure.

18 Let's start with, have you ever made an
19 artificial meat-flavoring composition?

20 A. Do you mean the formula?

21 Q. I mean, have you taken whatever
22 ingredients are necessary to prepare an artificial
23 meat flavoring, and taken those ingredients and
24 produced a physical artificial meat flavoring?

25 A. No, I do not.

1 Q. Have you worked with artificial meat
2 flavorings?

3 A. Do you mean the physical work with, or
4 knowledge about?

5 Q. Physically, have you worked with
6 artificial meat flavorings?

7 A. No, I did not.

8 Q. Have you done any research into
9 artificial meat flavorings?

10 A. Again, can you be more specific about
11 "research"?

12 Q. Have you published any papers about
13 artificial meat flavorings?

14 A. No, I did not.

15 Q. Okay. Do you have any experience making,
16 physically making, in a professional setting -- I
17 don't mean in your, I guess, house, in your
18 kitchen -- making meat substitutes?

19 A. No, I do not.

20 Q. Are you familiar with Motif's expert --
21 one of Motif's experts in this proceeding,
22 Dr. Robert McGorrin?

23 A. Yes.

24 Q. And how do you know him?

25 A. I know him when both of us work in the

1 industry.

2 Q. You two worked at the same company
3 together?

4 A. No.

5 Q. Okay. So when you say you know him
6 through "industry," what do you mean by that?

7 A. I am a flavor chemist. When I work in a
8 dairy company, Dr. Bob McGorrin also work in the
9 flavor -- in a dairy company, you know, a food
10 company.

11 Q. And which company was that you worked at?

12 A. I worked at Land O'Lakes.

13 Q. And just very high-level, what was your
14 role there at Land O'Lakes?

15 A. I am involved in various research
16 regarding protein, lipids, and dairy flavor, cheese
17 flavor, and many other things.

18 Q. All right. And what company, at that
19 time, did Dr. McGorrin work at?

20 A. He worked at Kraft Foods.

21 Q. Okay. Do you have a rough sense of what
22 he was doing there?

23 A. I do not know his research area. I
24 believe he's a manager.

25 Q. Do you -- and correct me if I'm wrong,

1 but, you know, fast-forwarding in time, presently,
2 both of you are employed or both of you are
3 professors at OSU, correct?

4 A. Yes.

5 Q. And you guys are both flavor chemists in
6 the flavor chemistry department?

7 A. No, we are in food science and technology
8 department.

9 Q. Okay. Food science and technology
10 department.

11 And you are a professor of flavor
12 chemistry; is that right?

13 A. Yes.

14 Q. And Dr. McGorrin is also a professor of
15 flavor chemistry?

16 A. He has -- has been or had been a
17 department head for many years.

18 Q. Okay. Whether before OSU or during both
19 your employment at OSU, did you two collaborate
20 together on -- on any research or -- let's start
21 with that.

22 Did you two collaborate together on any
23 research?

24 A. No, we did not.

25 Q. Given both of your focus is on flavor

1 chemistry, in possibly varying degrees, why is it
2 that you two have never collaborated together on a
3 research assignment?

4 A. We -- we are employed at different
5 companies.

6 Q. How about more currently?

7 Currently, you are no longer employed
8 with Land O'Lakes, right?

9 A. Right.

10 Q. You are currently employed with OSU?

11 A. Yes.

12 Q. And you actively publish papers dealing
13 with flavor chemistry, correct?

14 A. Yes.

15 Q. And it's your understanding that
16 Dr. McGorrin does the same?

17 A. No, that's not my understanding.

18 Q. Okay.

19 A. He -- he had been a department head for
20 many years.

21 Q. Do you understand his niche in flavor
22 chemistry to be different than yours?

23 A. I cannot comment about that, to be
24 honest. We -- from a publication, I guess I could
25 say there are some similarity.

1 But, again, he's a department head. His
2 major responsibilities as a department head was
3 registration type of work rather than actually
4 doing research work.

5 Q. Rather than doing actual research.

6 Okay. Got it.

7 Let's turn to paragraph 17 of your
8 declaration.

9 A. Yes.

10 Q. All right. There, you state your
11 understanding of what the term -- or what the
12 person of ordinary skill in the art in this
13 proceeding is defined as, correct?

14 A. Can you repeat your question?

15 Q. Sure.

16 I said, in this paragraph, you refer to
17 how a person of ordinary skill in the art is being
18 defined as in this proceeding, right?

19 A. I am looking for a page 17.

20 Q. Oh, I'm sorry, paragraph 17.

21 A. Oh.

22 Q. If I said page 17, I misspoke.

23 A. Okay. No wonder I cannot find it.

24 Go ahead. What's your question?

25 17?

1 Q. Why don't you take a quick second to read
2 that.

3 A. Okay.

4 Q. All right. So I just want to clarify
5 that during my questions today, I am going to refer
6 to a person of ordinary skill in the art. And what
7 I mean by that is what you have defined here, what
8 you understand the definition of that term to be
9 here as used in the proceeding.

10 I just want you to understand that.

11 Can you confirm?

12 A. Yes.

13 Q. Okay. And to put a finer point on it,
14 that would be a person who has, as you state in
15 paragraph 17, "A Master of Science degree or a
16 Ph.D. in food science" or someone with "at least
17 three years of experience working as a food
18 scientist" --

19 MR. ROSATO: Objection.

20 Q. (By Mr. Messerian) -- and could "be part
21 of a team" -- and could "be part of a team...
22 including flavor chemists."

23 Do you understand that?

24 MR. ROSATO: Pardon me.

25 Objection. Form. Foundation.

1 THE DEPONENT: In general principle, yes.

2 Q. (By Mr. Messerian) Okay.

3 All right. Are you familiar with the
4 term "reaction product based meat flavorings"?

5 A. Is that stated in my declaration or no?

6 Q. Frankly, I actually don't know. So let's
7 suppose it hasn't been.

8 Have you heard of that term, "reaction
9 product" --

10 A. Yes.

11 Q. -- "based meat" -- you have.

12 Can you tell me what they are?

13 MR. ROSATO: Objection. Foundation.

14 MR. MESSERIAN: Counsel, I am going to
15 ask that you just limit your objections to
16 "Objection" or "Objection; form," and not specify
17 the specific basis for your objection.

18 MR. ROSATO: I am going to specify the
19 specific basis based on my understanding I have to
20 specify the specific basis.

21 But I will limit the -- I will limit the
22 wording of that.

23 MR. MESSERIAN: All right.

24 THE DEPONENT: Okay.

25 MR. MESSERIAN: Can we go off the record

1 for a minute, please?

2 (Recess taken.)

3 MR. MESSERIAN: Back on the record.

4 Q. (By Mr. Messerian) Okay. So earlier, I
5 asked you, Dr. Qian, if you were familiar with the
6 term "reaction product based meat flavorings," and
7 I believe you said you were, correct?

8 A. Yes.

9 Q. Can you tell me what they are?

10 MR. ROSATO: Objection. Form and
11 foundation.

12 THE DEPONENT: Are you asking about
13 reaction flavor?

14 Q. (By Mr. Messerian) Correct.

15 A. Reaction flavor is a very broad general
16 term. So anything -- or any ingredient, you can
17 put it together, like an ingredient A and a B
18 generate new compounds or new flavor, like
19 compound C, can be called a reaction and a
20 generator reaction flavor mixture.

21 It's a very broad term.

22 MR. MESSERIAN: Okay. Let me introduce
23 an exhibit.

24 If you could pull up what's been
25 previously marked as Exhibit 1024. This is the

1 MacLeod publication.

2 THE DEPONENT: Do I have that one?

3 MR. MESSERIAN: I will upload to
4 Exhibit Share as well.

5 I believe counsel should hand it to you
6 shortly.

7 THE DEPONENT: Yes, I have it in front of
8 me.

9 Q. (By Mr. Messerian) Great.

10 If you could go to page 399.

11 A. Yes, I am on page 399.

12 Q. Okay. Now, halfway down the page,
13 there's a heading that says "'Reaction Product'
14 Meat Flavors."

15 Do you see that?

16 A. Yes.

17 Q. And following that heading, there's a
18 short description of a summary of U.S. and
19 Great Britain patents based on reaction products.

20 Do you see that?

21 A. No, I do not. I don't know which
22 sentence you are talking about.

23 Q. Okay. So have you seen pages 399 through
24 407 before?

25 A. I go through it.

1 Q. Sorry, did you say you have gone through
2 it before or --

3 A. I go through of it. I glance it.

4 Q. Okay.

5 All right. So is it fair to say that
6 this is a list of patents that have been issued for
7 reaction product meat flavorings?

8 MR. ROSATO: Objection to form.

9 THE DEPONENT: Give me a few minutes, and
10 let me go through again.

11 Q. (By Mr. Messerian) Sure.

12 A. The paragraph.

13 Q. No problem.

14 A. Yes, I read the paragraph.

15 Q. Is that paragraph consistent with your
16 understanding of what reaction product meat
17 flavorings are?

18 A. Yes.

19 Q. And the list of reaction product patents
20 that follow in Table 17, are those consistent with
21 reaction product based meat flavorings, as you
22 understand that term?

23 MR. ROSATO: Objection to form.

24 THE DEPONENT: I haven't go through all
25 the patent here, the list.

1 A quick look at the reaction, I would say
2 probably yes.

3 Q. (By Mr. Messerian) Okay. And starting
4 with that first table entry, it says table Entry 1,
5 assigned to Inventor Morton.

6 And there's various flavors that are
7 associated with his reaction product patent,
8 including meats, cooked pork, roasted beef.

9 Do you see that first entry?

10 A. Yes.

11 Q. And do you see that -- that this
12 particular patent dates back to 1960?

13 A. Yes.

14 Q. And as you go down the list, do you see
15 how all the other various patents that are listed
16 are also dating back from the 1960s, the '70s, and
17 I believe they go down into -- no, 1979 is the
18 latest one.

19 Do you see all that?

20 A. Yes.

21 Q. So is this consistent with your
22 understanding that reaction product meat flavorings
23 have been made for decades?

24 MR. ROSATO: Objection to form.

25 THE DEPONENT: Yes.

1 Q. (By Mr. Messerian) Okay. If you go to
2 paragraph 36 of your declaration.

3 A. Page 36, right?

4 Q. No, paragraph 36.

5 I will mainly be referring to paragraph
6 numbers. It's just easier.

7 A. Okay. Yes, I am at 36.

8 Q. Okay. And in paragraph 36 you state "The
9 formation and identity of volatile aroma compounds
10 via the Maillard reaction is sensitive to
11 compositional and processing conditions such as
12 temperature and time, the system
13 composition/matrix, water, pH, and salt." [as read]

14 A. Yes.

15 Q. And then you go on to state "For example,
16 for thermal reactions between ribose and cysteine,
17 the pH and ratio of ribose to cysteine affect the
18 overall odor, which can range from meat-like to a
19 rubbery, sulfury odor."

20 Do you see all that?

21 A. Yes, that's correct.

22 Q. Is it your understanding that these
23 various factors, such as pH, cooking time and
24 temperature, system composition, that these were
25 well-known in the art to impact reaction product

1 meat flavorings?

2 A. Yes.

3 Q. And would you agree that a person of
4 ordinary skill in the art would know how to control
5 these various factors when preparing a
6 meat-flavoring composition?

7 MR. ROSATO: Objection to form.

8 THE DEPONENT: That's a very difficult
9 question to predict exactly the person will know
10 exactly condition and the composition, to be
11 honest.

12 Q. (By Mr. Messerian) So let me put a finer
13 point on my question.

14 A person of ordinary skill in the art
15 would know, for example, that pH can affect the
16 Maillard reaction, right?

17 A. Yes, yes.

18 Q. And a person of ordinary skill in the art
19 would know that pH will impact their attempts to
20 make a meat-flavored composition, right?

21 A. Yes.

22 Q. And a person of ordinary skill in the art
23 would know how to adjust, up or down, pH of their
24 composition?

25 MR. ROSATO: Objection. Form.

1 THE DEPONENT: That's correct.

2 Q. (By Mr. Messerian) And without
3 belaboring the point, is that all true for each of
4 the other factors that you list here in
5 paragraph 36?

6 MR. ROSATO: Objection to form.

7 THE DEPONENT: Yes, all the temperature,
8 ingredient will affect the flavor.

9 Q. (By Mr. Messerian) And more
10 particularly, a person of ordinary skill in the art
11 would know how to adjust these factors, correct?

12 MR. ROSATO: Objection. Form.
13 Foundation.

14 THE DEPONENT: If there's -- let me put
15 it this way.

16 There are a lot of variables to adjust.
17 Potentially, yes.

18 Q. (By Mr. Messerian) Okay.

19 A. In reality, it may take a lot of time.

20 Q. All right. Going back to that list of
21 patents that we see in MacLeod, I will note that in
22 the "Reaction" column for each of the table
23 entries, there are various types of amino acids and
24 sugars and other ingredients listed.

25 Would you agree?

1 A. Yes.

2 Q. Now, based on the details of these
3 particular patents -- for example, the first one
4 that says Morton, cooked pork, cysteine and ribose
5 there as the reaction precursors for that
6 particular flavor -- do you a person of ordinary
7 skill in the art could make adjustments to cooking
8 time, temperature, pH, and achieve that cooked pork
9 flavor based on Morton's guidance there that those
10 are the precursors that you should be using?

11 MR. ROSATO: Objection to form.

12 THE DEPONENT: I do not see the detailed
13 patent described in Morton. I do not know how
14 detailed the condition, the parameters the patent
15 has described.

16 So I -- I cannot guess at this point.
17 It's possible, but I cannot guess.

18 Q. (By Mr. Messerian) What information
19 would you expect to see so that that would be
20 enough for a person of ordinary skill in the art to
21 then apply their own knowledge with respect to
22 adjusting these various factors to achieve that
23 stated flavor?

24 A. They could be the ratio, the range of the
25 ratio; the pH range; temperature; the time. So

1 many other factors that also impact the flavor
2 generation.

3 That's why -- that's why, if you look at
4 this patent from 1960 to the '70s, that's ten
5 years. So each time they figure out something, the
6 researchers, they get a patent, because each one
7 involved tremendous amount of effort to get the
8 ratio condition right.

9 Q. And that relates to -- and -- strike
10 that.

11 With respect to the tremendous amount of
12 effort that it takes, that relates to creating, for
13 the first time, this particular reaction product
14 meat flavor, right?

15 MR. ROSATO: Objection. Form.

16 THE DEPONENT: It takes every time, not
17 just first time. If you look at the time frame,
18 this is ten years of time window you just pointed
19 it out.

20 Q. (By Mr. Messerian) Let me rephrase my
21 question.

22 When Morton, for example, patented his or
23 her -- I actually don't know if it's a he or she.

24 But when Morton patented their invention
25 and -- and laid out the particular precursors that

1 are being used, you assume that it took them a long
2 time to create what they did; is that fair to say?

3 A. Yes, it's fair.

4 Q. And would you also say it's fair to say
5 that once that discovery has been made, and Morton
6 publishes his work and provides sufficient detail
7 regarding that, that a subsequent food scientist or
8 flavor chemist could re-create it in a reasonable
9 amount of time?

10 MR. ROSATO: Objection. Form.

11 THE DEPONENT: What is a "reasonable"?
12 Because still, in any of this research, it's very
13 difficult to define what will be a reasonable time.
14 I cannot define that.

15 Q. (By Mr. Messerian) Do you think a person
16 of ordinary skill in the art would be able to
17 re-create any known, published flavor reaction
18 meat-flavoring product?

19 MR. ROSATO: Objection to form.
20 Foundation.

21 THE DEPONENT: If -- if the publication
22 give specific detail, like composition, ratio,
23 temperature, time, yes, it will save a lot of time.

24 Q. (By Mr. Messerian) Got it.

25 All right. Stepping away from MacLeod,

1 generally speaking, can you tell me what the
2 relationship is between flavor, taste and aroma?

3 MR. ROSATO: Objection to form.

4 THE DEPONENT: I do not describe that in
5 my declaration.

6 Q. (By Mr. Messerian) So -- but you are a
7 flavor chemist, correct?

8 A. Yes.

9 Q. Can you tell me what the relationship is
10 between flavor, taste and aroma?

11 MR. ROSATO: Objection. Form.

12 THE DEPONENT: I can.

13 Q. (By Mr. Messerian) Will you?

14 A. I don't know.

15 If -- if this is lecture room, I can.
16 Since this is not a lecture room, I don't know.

17 Q. So I believe your counsel would agree
18 that, unless there is an objection being made by
19 him and him instructing not to answer the question,
20 then you need to give me a truthful answer to my
21 question.

22 And so if you pretend that this is a
23 lecture room, if that's what it's going to take to
24 get a truthful answer, then so be it.

25 I think it's a very simple and fair

1 question to ask a flavor chemist, and so I am going
2 to repeat it.

3 Can you tell me what the relationship is
4 between flavor, taste and aroma?

5 MR. ROSATO: Objection to form.

6 THE DEPONENT: Yes, it is very
7 complicated.

8 To give a simple -- simplified version of
9 flavor, include aroma that we can smell through our
10 nose as well as taste through our tongue.

11 However, the "flavor" term -- in many
12 cases, even in academic environment, people use
13 flavor and aroma interchangeably.

14 Q. (By Mr. Messerian) Got it.

15 So to reiterate, I believe, what you
16 said, flavor is a function of two things: aroma
17 and taste. But at least professionally and in
18 academia, flavor and aroma are used
19 interchangeably, correct?

20 MR. ROSATO: Objection. Form.

21 THE DEPONENT: Yes, many times.

22 Q. (By Mr. Messerian) Many times?

23 A. Many times. People, when they say
24 "flavor," they mean aroma, unless the presenter --
25 until specified.

1 Q. Okay.

2 MR. MESSERIAN: Counsel -- Mr. Rosato,
3 can you hand him McGorrin's declaration, the
4 exhibit that's previously marked as 1005.

5 And let me upload that, too.

6 THE DEPONENT: Yes, it's in front of me.

7 MR. MESSERIAN: Okay. Sorry, just bear
8 with me. I need to upload this as well.

9 Rebecca, I just uploaded Exhibit 1024 and
10 also 1005.

11 Q. (By Mr. Messerian) Dr. Qian, if you can
12 refer to paragraph 27, Dr. McGorrin's declaration.

13 Now, based on the testimony you just gave
14 with respect to your understanding of the
15 relationship between flavor, taste and aroma, and
16 the interchangeable nature of aroma and flavor in
17 terms of how it is used in the art, it appears to
18 me that you agree with Dr. McGorrin's statements
19 here in this paragraph.

20 Is that fair to say?

21 MR. ROSATO: Objection. Form.

22 THE DEPONENT: Yes, I agree.

23 Q. (By Mr. Messerian) Okay. Help me
24 understand, how many volatile compounds are
25 typically responsible for a given aroma?

1 And if you want me to give you examples,
2 I will; but for now, just generally my question
3 is -- is just that.

4 MR. ROSATO: Objection. Form.

5 THE DEPONENT: That's a very hard
6 question. It depends on the food. It can be many.

7 Q. (By Mr. Messerian) Okay. Let's start
8 with --

9 A. Easily -- easily hundred to even thousand
10 compounds.

11 Q. And when you say "easily" 100, do you
12 mean to say that, by and large, there isn't an
13 aroma that doesn't have at least 100 volatile
14 compounds that are responsible for it?

15 A. Can you simplify the question?

16 Q. Sure.

17 You just stated at least 100, I believe.
18 I guess, what do you mean by that?

19 A. I said could be --

20 Q. Could be.

21 A. -- hundred to a thousand.

22 Q. So what are the -- I believe you
23 mentioned earlier in your deposition here that you
24 work with the aroma of berries; is that right?

25 A. Yes, yes.

1 Q. Okay. What's your favorite berry?

2 A. Oh, many. Many berry.

3 Q. Sorry. What berry?

4 A. It's a blackberry.

5 Q. Blackberry.

6 Okay. So if I were to slice open a
7 blackberry and describe that aroma as a blackberry
8 aroma, how many volatile compounds, roughly
9 speaking, would you expect to be involved in -- in
10 contributing to that particular aroma?

11 A. You are changing the term here.

12 There are two things. One is how many
13 volatiles in the blackberry. That's the first time
14 you asked me that question.

15 Now you changing it to how many compounds
16 contributing to the aroma.

17 This is two different concept.

18 Q. And let me clarify, I do mean volatile
19 compounds.

20 Sorry.

21 A. Okay. It can be hundred compounds.

22 Q. Certainly --

23 A. In blackberry.

24 Q. Certainly, more than ten?

25 A. Yes.

1 Q. And what about the aroma of wine?

2 A. Hundred.

3 Q. Certainly more than ten?

4 A. Yes.

5 Q. What about meat?

6 A. Same, many compounds.

7 Also depends on what type of meat you are
8 asking.

9 Q. Is there any particular type of meat that
10 has less volatile compounds associated with its
11 aroma than others?

12 A. There could be.

13 Q. But it's fair to say that no matter the
14 meat aroma we are talking about, whether it's
15 ostrich, pig, cow, tortoise, certainly more than
16 ten volatiles would be involved in contributing to
17 that aroma, right?

18 A. Typically, it's the case.

19 Q. Can you think of one particular type of
20 meat aroma that has less than ten volatile
21 compounds associated with its aroma?

22 MR. ROSATO: Objection to form.

23 THE DEPONENT: Not in the top of my head.

24 Q. (By Mr. Messerian) All right. Going
25 back to MacLeod, Exhibit 1024, let's take a look at

1 that table again, Table 17.

2 A. Can you tell me the page again?

3 Q. Sure.

4 A. I close it.

5 Q. It's going to be page 400.

6 A. Okay. Okay.

7 Q. So one of the columns there, it's -- it's
8 labeled "Flavor." And underneath it, it's meat,
9 cooked pork, roast beef, et cetera, et cetera.

10 Based on your statement earlier, is this
11 one of the examples you are talking about where, in
12 the art, it's referred to as "flavor," but we can
13 also interpret this to mean aroma?

14 MR. ROSATO: Objection to form.

15 THE DEPONENT: I don't know the --
16 exactly the patent mean. I guess they -- they
17 could be the meat aroma.

18 Q. (By Mr. Messerian) It's your
19 expectation, right, that when it says Morton -- it
20 alleges that the -- their reaction causes a meat
21 flavor, you would interpret that as a meat aroma?

22 A. That's correct.

23 Q. Okay. And with respect to these aromas,
24 really, that are listed here -- meat aroma, cooked
25 pork aroma, roasted beef aroma -- it's your same

1 conclusion that many volatiles would be responsible
2 for contributing to this particular aroma that's
3 listed, right?

4 MR. ROSATO: Objection to form.
5 Foundation.

6 THE DEPONENT: I believe so, but I do not
7 have the patent in front of me.

8 Q. (By Mr. Messerian) Right.

9 And it sounds to me like you are not
10 certain that what these patents are representing is
11 true. In other words, you can't say with certainty
12 whether or not reacting these ingredients the way
13 Morton describes actually causes a meat flavor or a
14 meat aroma.

15 Is that your concern?

16 A. No, that's not my concern.

17 Q. So --

18 A. Because the -- the issue, the patent
19 here, I believe the inventor -- I believe the
20 inventor put this ingredient together, through the
21 reaction at the right condition, generate aroma
22 associated with meat; that it could be cooked or
23 roasted pork or beef.

24 I am not certain it's what the inventor
25 mean is the pure aroma or is the taste.

1 MR. MESSERIAN: All right. Why don't we
2 turn to Giacino. Let's go to Exhibit 1015.

3 All right. Let me upload that too.

4 Q. (By Mr. Messerian) All right. If you
5 turn to column 2 of Giacino, line 5.

6 A. Okay. Yes.

7 Q. So column 2, line 5, it reads "As
8 described above, the invention, in its broad aspect
9 involves heating a mix composition compromising
10 taurine and thiamine at an elevated temperature for
11 a period of time whereby a meaty flavor is
12 developed."

13 Do you see that?

14 A. Yes.

15 Q. Is it fair to say that by heating these
16 precursors, taurine and thiamine, at an elevated
17 temperature "whereby a meaty flavor is developed,"
18 a reaction is taking place?

19 A. Yes.

20 Q. And is it fair to say that many volatile
21 compounds are being generated through that
22 reaction?

23 A. Can you repeat the question?

24 I lost your -- some of your words there.

25 Q. Sure, just a second.

1 So just going back a second, I just asked
2 you if it's fair to say that by heating the
3 precursors in Giacino at an elevated temperature
4 "whereby a meaty flavor is developed" is a reaction
5 taking place.

6 And I believe your answer to that --

7 A. Yes.

8 Q. -- was yes, right?

9 A. Yes.

10 Q. And then my next question was, and is it
11 fair to say that many volatile compounds are being
12 generated by that reaction?

13 A. It could be.

14 Q. When Giacino says "a meaty flavor is
15 developed," what does that mean to you?

16 A. My understanding would be some aroma
17 generated which are associated with -- give a meaty
18 attribute.

19 Q. And that aroma comprises volatile
20 compounds, right?

21 A. Yes.

22 Q. Certainly more than two?

23 A. Very likely.

24 Q. Earlier, I had asked you if you could
25 think of any meat aroma that had less than ten

1 volatile compounds associated with it, and you said
2 you didn't think of any off the top of your head,
3 correct?

4 A. That's correct.

5 Q. Is there anything about Giacino's
6 teaching here that, when it says "a meaty flavor is
7 developed," that leads you to believe that less
8 than ten volatiles are being generated?

9 A. I do not believe so.

10 Q. You do not believe so?

11 A. I believe it will be more compounds
12 generated.

13 Q. Than ten?

14 A. Right.

15 Q. Okay.

16 MR. MESSERIAN: All right. Why don't we
17 take a break, Counsel.

18 (Recess taken.)

19 MR. MESSERIAN: Back on the record.

20 Q. (By Mr. Messerian) All right, Dr. Qian,
21 if you could refer to paragraph 35 of your
22 declaration.

23 A. Yes.

24 Q. Okay.

25 All right. So there you state, the

1 second sentence, it says "However, meat associated
2 aromas are not limited to the Maillard reaction."

3 Do you see that?

4 This is paragraph 35.

5 A. Yeah.

6 Q. What did you mean by that?

7 A. You mean the sentence "They can also be
8 produced"?

9 You mean "They can also be produced from
10 thermal degradation of thiamine"?

11 Q. I'm sorry if your -- your connection
12 might have broken up there. It's saying low
13 bandwidth on your end. I might have missed some of
14 what you said.

15 Do you mind repeating it?

16 A. I am asking if you refer the last
17 sentence in the paragraph.

18 Yeah, so what about that sentence?

19 Q. So it's not the last sentence in
20 paragraph 35.

21 I am asking about the second sentence
22 that says "However, meat associated aromas are not
23 limited to the Maillard reaction."

24 I just want to clarify my understanding
25 of that.

1 A. Paragraph 35? I don't see that.

2 MR. ROSATO: I'm sorry, I think you have
3 the wrong declaration. He's referring to your
4 declaration. I think that you are looking at
5 Dr. McGorrin's declaration.

6 THE DEPONENT: Oh, okay.

7 MR. MESSERIAN: Also, Counsel, oddly
8 enough, your connection seems fine, but Dr. Qian's,
9 it's been -- I mean, it was problematic before, but
10 now it's pronounced. It seems significantly worse.

11 Maybe it will get better, but just
12 pointing it out.

13 MR. ROSATO: Okay. Let us know if you
14 have additional problems. We can take a break and
15 try to fix it.

16 MR. MESSERIAN: Okay.

17 THE DEPONENT: Okay. I have it.

18 Q. (By Mr. Messerian) All right. So the
19 second sentence, it says "Meat associated aromas
20 are not limited to the Maillard reaction."

21 And then you cite to -- in the first
22 instance, to MacLeod's paper, pages 367-368.

23 And I just want to clarify or have you
24 clarify to me what you are referring to on those
25 page, and what you mean by that statement.

1 A. Let me get that page first.

2 So if you go to page 3- -- 367, at the
3 bottom of the page, they listed all other potential
4 reactions that are not necessary -- it may not have
5 reaction, but they can also generate a
6 meat-associated aroma.

7 That's what I mean.

8 Q. Got it.

9 So you are referring to this list of
10 seven different, I guess, pathways that could lead
11 to meat aroma; one, two, three, continues on page
12 368; is that it?

13 A. Yes, meat-associated aroma.

14 Q. Correct.

15 Okay. Let's briefly talk about a couple
16 of these. The -- in the pages that follow,
17 particularly page 370, I believe one of the
18 examples -- and I believe this relates to the third
19 item in that list -- is "Strecker Degradation of
20 Amino Acids," there on page 370.

21 Is that your understanding as well?

22 MR. ROSATO: Objection to form.

23 THE DEPONENT: Yes.

24 Q. (By Mr. Messerian) And is it your
25 understanding that in a reaction product based meat

1 flavoring that uses various amino acid and reducing
2 sugar precursors, heating that type of composition
3 might lead to a Strecker degradation?

4 MR. ROSATO: Objection to form and
5 foundation.

6 THE DEPONENT: Yes, it -- I believe so.

7 It always depends on the ratio and
8 concentration to see which pathways is more
9 dominant.

10 Q. (By Mr. Messerian) Is it your
11 understanding that the Strecker degradation pathway
12 and the Maillard pathway can occur at the same time
13 during a reaction, producing a meaty aroma?

14 MR. ROSATO: Objection to form.
15 Foundation.

16 THE DEPONENT: For a reaction, its flavor
17 at a certain condition, it's my understanding that
18 it always depends on the condition and the ratio.
19 Without a specify, it's difficult to predict which
20 pathway is dominant.

21 However, if, from pure theoretical point
22 of view, the reaction -- the -- could happen
23 simultaneously, but there may -- one pathway may
24 dominate another one. It depends on the condition.

25 Q. (By Mr. Messerian) But you would agree

1 that there can be conditions in a flavor -- in a
2 meat-flavored reaction product, you know, when you
3 are heating that type of product, there are
4 conditions that can occur where the Maillard
5 reaction and the Strecker degradation, they can
6 both be happening independently of one another?

7 MR. ROSATO: Objection to form and
8 foundation.

9 THE DEPONENT: The initial reaction, it
10 can potentially happen independently. As a
11 reaction mixture is always mixed together, one way
12 can affect another.

13 Q. (By Mr. Messerian) So these two
14 reactions, not only can they initially happen
15 independently with one another, but as that
16 reaction progresses, they might interact with one
17 another.

18 Is that what you are saying?

19 A. Yes, it's a very complicated --

20 Q. Okay.

21 A. -- reaction.

22 Q. And while these two reactions are taking
23 place while you are heating a meat-flavored
24 composition, could they both be contributing to
25 meaty aroma?

1 MR. ROSATO: Objection to form and
2 foundation.

3 THE DEPONENT: Both reaction, they could
4 contribute to a meaty flavor if the condition is
5 correct.

6 If the condition is incorrect, some
7 reaction may dominant the other reactions. So you
8 can potentially create a flavor totally different
9 from a meat flavor. You can create a burned
10 flavor.

11 Q. (By Mr. Messerian) And in speaking -- in
12 discussing creating a totally different flavor, I
13 want to ask you a little bit about that.

14 If you were to take an amino acid and a
15 reducing sugar with the intention of creating a
16 meaty aroma, and that was your intent; and you heat
17 those two precursors together with -- with -- by
18 controlling for temperature, pH and the other
19 factors; and you end up with an aroma that is not
20 meaty, is it possible that the volatile compounds
21 that have been generated nevertheless will overlap
22 with the same volatiles that would have been
23 generated had the aroma been meaty?

24 MR. ROSATO: Objection to form.

25 THE DEPONENT: It is possible, based on

1 my experience and based on my knowledge. However,
2 the -- there could be the flavor composition quite
3 different.

4 There could be new volatile compounds
5 generated, or there could be the same volatile
6 compounds. However, the proportion is different.

7 Very complicated.

8 Q. (By Mr. Messerian) Is it correct to say
9 that when you react, for example, thiamine and
10 glucose together that many different aromas might
11 be generated based on the parameters that you set?

12 MR. ROSATO: Objection to form.

13 THE DEPONENT: They can generate many
14 different compounds. It depends on the conditions.

15 Q. (By Mr. Messerian) So condition A might
16 result in a chicken aroma. Setting conditions
17 differently, condition B, the aroma might be very
18 different than chicken.

19 Is that consistent with what you are
20 saying?

21 A. Yes.

22 Q. Is it your understanding that no matter
23 the end aroma, there are some volatile compounds
24 that will be produced under both conditions that
25 are going to be the same regardless?

1 MR. ROSATO: Objection to form and
2 foundation.

3 THE DEPONENT: Do you mean chemically, or
4 do you mean the concentration-wise?

5 Q. (By Mr. Messerian) Just chemically.

6 A. Chemically, that's possible.

7 They could have many compounds in common.

8 Q. Would you expect at least five of those
9 compounds to be the same regardless of their
10 concentration, regardless of the end aroma, just at
11 least --

12 MR. ROSATO: Objection to form.

13 Q. (By Mr. Messerian) -- five of them to be
14 the same?

15 MR. ROSATO: Sorry.

16 Objection to form and foundation.

17 THE DEPONENT: I do not want make that
18 anticipation, because without knowing the exact
19 condition, and there's so much uncertainty, then
20 you ask me a definite number, like a five.

21 I -- I am not a comfortable to answer a
22 certain number.

23 Q. (By Mr. Messerian) Let's take out that
24 number.

25 Let's repeat the same question and just

1 leave it more generic and say, would you expect at
2 least some compounds to be the same, even if the
3 concentrations are different and the end aroma is
4 different?

5 A. Yes.

6 MR. ROSATO: Objection to form and
7 foundation.

8 THE DEPONENT: I believe so.

9 Q. (By Mr. Messerian) More than one?

10 MR. ROSATO: Same objection.

11 THE DEPONENT: "Some" means more than
12 one.

13 Q. (By Mr. Messerian) Fair enough.

14 Okay. Could you turn to paragraph 73,
15 please, of your declaration?

16 A. You said 73, right?

17 Q. Correct, paragraph.

18 A. Okay.

19 Q. Okay. At the end there it says "As I
20 discussed above, Giacino instead teaches that its
21 meaty flavor is based on the taurine and thiamine.
22 On the other hand, Brown discusses that its meaty
23 aroma is based on the contribution of
24 leghemoglobin. Petitioner does not explain why a
25 person of ordinary skill in the art would be

1 motivated to combine Giacino, which relies on one
2 type of reaction, with the leghemoglobin based
3 contribution of Brown." [as read]

4 A. Yes.

5 Q. So I just want to clarify your position
6 on this.

7 Do you believe that because Giacino's
8 meaty flavor is based on taurine and thiamine, and
9 Brown's meaty aroma is based on leghemoglobin, that
10 a person of ordinary skill in the art would not be
11 motivated to add Brown's leghemoglobin to Giacino's
12 composition simply because different pathways are
13 used by these teachings to produce their meaty
14 aroma?

15 MR. ROSATO: Objection to form.

16 THE DEPONENT: It could be the different
17 pathway. Also, it's totally different approach and
18 different objective by two patents.

19 Q. (By Mr. Messerian) And I do understand
20 that, in other paragraphs of your declaration, you
21 do point out other differences between these
22 patents. But I want to focus specifically on this
23 paragraph that discusses the underlying differences
24 and reactions, potential differences.

25 So again, to clarify, you believe that a

1 person of ordinary skill in the art would not be
2 motivated to combine Brown's and Giacino's
3 teachings with one another simply because Brown
4 uses leghemoglobin to achieve aroma, meaty aroma,
5 and Giacino uses taurine and thiamine.

6 Is that right?

7 MR. ROSATO: Objection to form.

8 THE DEPONENT: I believe so.

9 Q. (By Mr. Messerian) Do you believe that
10 it's possible that these two different pathways
11 that lead to meaty aroma can occur independently of
12 one another if this combined composition were
13 heated?

14 MR. ROSATO: Objection to form.

15 THE DEPONENT: I do not know.

16 Q. (By Mr. Messerian) So because you do not
17 know, you're concluding that a person of ordinary
18 skill in the art wouldn't be even motivated to try?

19 A. That's my belief, because it's totally
20 unrelated.

21 Q. Do you know what the underlying reaction
22 driving Brown's meaty aroma is?

23 A. From where?

24 Q. I mean to say, Brown, as far as I
25 understand, does not disclose the particular

1 reaction pathway, chemical reaction, that's driving
2 its meaty aroma.

3 Would you agree with that?

4 A. I do agree with that.

5 Q. And, similarly, Giacino doesn't specify
6 specifically what reaction is driving its meaty
7 aroma, correct?

8 A. That is correct.

9 Q. And so when you state earlier they are
10 completely different, you don't know that the
11 reactions are actually different from one another,
12 right?

13 A. Well, let's put it back on this way:
14 Giacino's patent discuss thiamine and have the
15 focus on thiamine which taurine, although they do
16 not discuss specifically why taurine has an effect
17 and a reaction.

18 Q. But you do believe that it's possible --
19 you just don't know -- that if you combine these
20 two together that the underlying reactions driving
21 their meaty aroma can occur independently of one
22 another?

23 A. Well, let's put it this way: If with
24 highly educated researchers, like a POSA was
25 defined here, they always have some kind of

1 educated guess. I can have educated guess, but I
2 do not have evidence based on that educated guess.

3 They are more likely have different
4 underlying principle to enhance meat flavor.

5 Q. Let's assume that the underlying reaction
6 driving those meaty aromas for Brown and Giacino
7 are different.

8 Isn't it nevertheless possible, much like
9 the Strecker and the Maillard reaction can happen
10 independently, that those two reactions can occur
11 independently to provide meaty aroma as well?

12 MR. ROSATO: Objection. Form.

13 THE DEPONENT: I do not know, if they put
14 it together, I cannot expect what the kind of
15 product will be.

16 Q. (By Mr. Messerian) Because you don't
17 know, you wouldn't try?

18 MR. ROSATO: Objection to form.

19 THE DEPONENT: -- (audio distortion) that
20 we want to try consider -- as researchers, we
21 always try something that has a potential effect
22 based on our knowledge. We -- we have to do that.
23 We are doing that every day. It's based on our
24 knowledge, try something that we likely have a
25 success.

1 Q. (By Mr. Messerian) And Brown tells you,
2 as a scientist, on paragraph 364 of Brown, that
3 adding leghemoglobin to a meat or a muscle replica
4 contributes to cooked meat aroma, right?

5 A. Let me get Brown's reference here.

6 MR. ROSATO: What exhibit number is
7 Brown?

8 Can you remind me?

9 MR. MESSERIAN: Sure, let me upload that
10 as well.

11 It's previously marked Exhibit 1012.

12 Q. (By Mr. Messerian) Okay. Dr. Qian, let
13 me back up a second.

14 Just going back over your testimony,
15 which is going to lead me to my next questions, you
16 stated "that we want to try considering -- as
17 researchers, we always try something that has a
18 potential effect based on our knowledge. We have
19 to do that. We are doing that every day. It's
20 based on our knowledge, trying something that we
21 likely have success." [as read]

22 So focusing on that word, "based on
23 knowledge" and you expressing that you would try
24 things based on your knowledge, I am asking you
25 about Brown, Exhibit 1012, paragraph 364. That

1 knowledge includes the fact taught by Brown that
2 adding leghemoglobin to the composition described
3 there leads to a cooked meat aroma; is that right?

4 MR. ROSATO: Objection to form.

5 THE DEPONENT: We are still looking for
6 the document. Do you have it?

7 MR. ROSATO: I actually don't have a
8 printout of that. Can you --

9 MR. MESSERIAN: I'm so sorry, I thought
10 you had it in front of you, and you were waiting
11 for me to ask a question about it.

12 I apologize.

13 THE DEPONENT: No.

14 MR. MESSERIAN: Okay. Why don't we go
15 off the record, then, for five, ten minutes,
16 however you long need, Mike, to get that, if you
17 think it's another one you can print.

18 MR. ROSATO: Yeah. Thank you.

19 MR. MESSERIAN: Because we are going to
20 be talking about it quite a bit.

21 MR. ROSATO: Okay. Thanks.

22 (Recess taken.)

23 MR. MESSERIAN: Back on the record.

24 Q. (By Mr. Messerian) All right, Dr. Qian,
25 going back to my earlier question.

1 I had asked you, because you don't know
2 the underlying chemical reactions of Brown and
3 Giacino -- actually, strike that.

4 I believe we had agreed to assume for
5 purposes of this discussion that the underlying
6 reactions for those two references are different.
7 And I had asked you that, because they are
8 different, you are not willing to try; is that
9 right; and --

10 MR. ROSATO: Objection.

11 Q. (By Mr. Messerian) -- and your response
12 to that was "that we want to try consider -- as
13 researchers, we always try something that has the
14 potential effect based on our knowledge. We are
15 doing that every day. It's based on our
16 knowledge." [as read]

17 And so my understanding of that testimony
18 is that you are willing to try things so long as
19 there's some knowledge that you have that would
20 support your attempts to try a certain action; is
21 that true?

22 MR. ROSATO: Objection to form.

23 THE DEPONENT: Yes, to try something of a
24 reasonable rate of success.

25 Q. (By Mr. Messerian) Okay. And let's talk

1 about what you know based on Giacino and Brown.

2 In Brown, paragraph 364, it tells you
3 that adding leghemoglobin to the composition that's
4 described there leads to a cooked meat aroma,
5 correct?

6 A. I will try to look at 364.

7 It is stated the leghemoglobin contribute
8 favorably to the aroma of a meat replica.

9 Q. All right. And then further down in that
10 paragraph, it says something about cooked meat
11 aroma, correct?

12 A. The muscle replica pea flour, sunflower,
13 glucose, was heated -- okay. In the presence --
14 yes.

15 Q. And then we also know, based on Giacino's
16 teachings, that its taurine- and thiamine-based
17 compositions, which can also include other
18 ingredients, that leads to a meaty flavor, correct?

19 A. We have two different concept here.

20 Okay. Do you want me to say more about
21 that?

22 Q. Let me clarify what -- my statement about
23 Giacino first. Maybe it's not necessary.

24 Giacino tells us that it claims that its
25 compositions based on taurine and thiamine leads to

1 a meaty flavor; is that true?

2 A. It is true.

3 And the purpose is -- for the patent, as
4 the title suggested, is for a meat-flavor
5 composition. So it's for a flavor.

6 Q. Correct.

7 Now, turning -- sorry, continue.

8 A. I said as a flavor, as an ingredient, or
9 a flavor composition.

10 Q. Correct.

11 And I know that in paragraph 74 of your
12 declaration, you take issue with the fact that
13 Giacino's composition is different than Brown's.

14 But I want to talk about your basis in
15 paragraph 73 for now.

16 A. 73?

17 Q. Paragraph 73, yes, that's what led to
18 this discussion.

19 A. Yes.

20 Q. So just to recap, in paragraph 73, to
21 restate your position here -- and correct me if I'm
22 wrong.

23 But your position is because Giacino
24 produces meaty flavor based on taurine and
25 thiamine; and Brown, on the other hand, produces

1 meaty aroma based on leghemoglobin; a person of
2 ordinary skill in the art would not be motivated,
3 because of those differences, to combine them to
4 see whether or not the combination can lead to a
5 meaty aroma as well?

6 MR. ROSATO: Objection to form.

7 THE DEPONENT: I agree with that.

8 That's my --

9 Q. (By Mr. Messerian) Okay.

10 A. -- stated in my declaration, because the
11 objective is different.

12 Q. Yes.

13 Now, with respect --

14 A. Okay. Do you agree with me the Giacino's
15 patent is create a flavor, a concentrated flavor,
16 that can be used as a flavoring and put it
17 someplace as a flavor, as a meat flavor?

18 Q. So my understanding is that paragraph 74
19 of your declaration describes your opinion about
20 Giacino's concentrated nature and how that's
21 different than Brown's composition.

22 Am I understanding that portion of that
23 declaration right?

24 A. Yes, the composition is different.

25 Q. And am I also understanding correctly

1 that what you opine in paragraph 73, that's
2 different?

3 MR. ROSATO: Objection to form.

4 THE DEPONENT: Can you resay your
5 question?

6 Q. (By Mr. Messerian) Paragraph 74 of your
7 declaration, you take issue with the fact that
8 Brown and Giacino allegedly have different forms of
9 compositions. One is a food flavor additive in a
10 concentrated form, according to you; the other is
11 not.

12 And in paragraph 73, your basis for
13 objecting to the combination is different. It
14 focuses on the underlying reactions that are
15 driving the meaty aroma; is that fair?

16 A. That's correct. That's fair.

17 Q. Okay. So focusing on that basis of your
18 opinion that a person of ordinary skill in the art
19 wouldn't be motivated to combine these two -- that
20 is, the reaction pathway basis -- my questions for
21 you are, what do we know about Brown and Giacino?

22 Brown tell us that adding leghemoglobin
23 leads to a cooked meat aroma, correct?

24 MR. ROSATO: Objection to form.

25 THE DEPONENT: Yes.

1 Q. (By Mr. Messerian) And Giacino
2 describes, with respect to its -- its own
3 compositions, that reacting taurine, thiamine and
4 potentially other ingredients leads to a meaty
5 aroma, right?

6 A. But these two -- yes, correct, but these
7 two meaty aroma is different.

8 I -- I think you are confused here.

9 Q. Okay. Explain to me why or how the meaty
10 aromas of the two are different.

11 A. Giacino's patent is addressing, through
12 this composition, for whatever the reactions that
13 are -- might be involved, generate a highly
14 concentrated flavor. That means generate a lot
15 from a small amount of the ingredient.

16 Are you with me?

17 On the other hand, if we look at Brown's
18 references, they only say it contribute favorably
19 to the meat replica. So there's no -- favorably is
20 totally different from a powerful, potent flavor
21 concentrate that can be used at a very tiny amount.

22 So based on this -- based on educated
23 guess, people would not think about you just
24 include -- (audio distortion) increase favorable
25 meaty aroma to add something for -- to the

1 Giacino's mixture that is already very powerful, a
2 meaty flavor.

3 Q. Okay. Let's turn back to Brown, that
4 same paragraph.

5 A. 364, right?

6 Q. Yeah, let me pull it too myself.

7 Okay. So the very first sentence of that
8 paragraph, it states "Evidence that the presence of
9 leghemoglobin contributes favorably to aroma of
10 meat replicas," correct?

11 A. Yes.

12 Q. And then further down, halfway through
13 the paragraph, it states that "Non-limiting
14 examples of compounds found exclusively or more
15 abundantly in the leghemoglobin samples are:
16 2-octanone and 2-methyl furan, which are often
17 associated with the aroma of cooked meat, and many
18 other unidentified compounds." [as read]

19 Is that right?

20 A. Yes.

21 Q. And so based on the teachings of this
22 paragraph, is it fair to say that Brown is teaching
23 that adding leghemoglobin to the composition that's
24 described here leads to compounds that are
25 associated with the aroma of cooked meat?

1 A. No, that's not precise. They just say
2 lead to the generation of more of these compounds.

3 Q. Okay. I am not sure I'm appreciating the
4 difference between what I said and what you stated,
5 but --

6 A. It is -- it is different.

7 It is different, because you have some
8 compounds generated which associate with meat aroma
9 without leghemoglobin, but at a smaller amount.
10 When you add it, they can increase, so they can
11 enhance this -- that generate the more.

12 So that is a different from what you
13 said. You said leghemoglobin will lead to the
14 formation of this compounds. They just said the --
15 the patent here is saying is just enhance it.

16 Q. Doesn't it say "exclusively"?

17 A. Where?

18 Q. It says "Non-limiting examples of
19 compounds found exclusively or more abundantly in
20 the leghemoglobin samples are: 2-octanone,
21 2-methyl furan, which are often associated with the
22 aroma of cooked meat, and many other unidentified
23 compounds."

24 A. It said "exclusively."

25 "Exclusively" there, you have to put a

1 scientific meaning to it, such as detection limit.
2 The flavor compounds often exist at a very small
3 concentration, down to parts per million, parts per
4 billion level.

5 If the analysis cannot detect it, it
6 doesn't necessarily mean it does not exist. It's
7 just below the detection limit.

8 Q. Okay. You don't dispute the fact that
9 Brown teaches that adding leghemoglobin contributes
10 favorably to the aroma of a meat replica, right?

11 A. In this particular composition, I do not
12 dispute that.

13 Q. And you also don't dispute that adding
14 leghemoglobin to this particular composition
15 creates more abundant amounts of these two
16 particular volatiles that are associated with the
17 aroma of cooked meat, right?

18 A. That's right, and other compounds.

19 Q. And other compounds.

20 And you also don't dispute that this
21 particular composition includes oil?

22 A. It includes sunflower oil.

23 Q. And you don't dispute that it includes
24 pea flour?

25 A. Pea flour is there.

1 Q. And if you go to down to paragraph 376.
2 And paragraph 376 through 387 -- that's, what, 12
3 paragraphs -- is it fair to say that Brown
4 describes various sources of leghemoglobin and
5 methods for isolating that leghemoglobin?

6 A. Can you give me some time to go through,
7 make sure what you said is completely right?

8 I have quickly glanced of this paragraph.
9 I assume what you said is right.

10 Q. Okay. Great.

11 And then dropping down to paragraphs 398
12 to 402.

13 A. 398.

14 Okay.

15 Q. Is it also to fair to say that those
16 paragraphs, those five paragraphs, among other
17 things, Brown describes preparing dark and white
18 muscle analogs using, among other ingredients,
19 isolated leghemoglobin?

20 A. Yes, I believe so.

21 Q. And in paragraph 412, it describes a
22 test, correct?

23 A. Yes.

24 Q. And, in particular, this test is a test
25 on cooking ground beef replica patties that include

1 those dark muscle analog and -- I think it wants to
2 say the white muscle analog.

3 Is that right, among other analogs?

4 A. Well, you said so.

5 Q. Let me clarify.

6 This paragraph is describing a test of
7 cooking ground beef patties that are made using
8 those dark and white muscle analogs that have
9 leghemoglobin in them, correct?

10 A. Yeah, I believe so.

11 Q. And the paragraph concludes that after
12 cooking these patties for about two minutes,
13 "observers described the aroma... as distinctly
14 'beefy'; is that right?

15 A. I haven't find that sentence yet.

16 Q. It's the last one.

17 A. The test -- "evaluated by grilling" --
18 okay.

19 "The panel" -- they have to show the
20 patty -- yes, I see the sentence.

21 Q. And besides the muscle analog that has
22 leghemoglobin in it, these patties also had a fat
23 tissue analog, right?

24 A. Yes.

25 Q. And that fat tissue analog contains

1 canola oil, right?

2 A. I think it's sunflower oil. I have to go
3 back.

4 Q. Why don't you take a look at the fourth
5 line of that paragraph. It says "from pea globulin
6 and canola oil."

7 But regardless, I don't think it matters.
8 I guess I just need you to confirm --

9 A. Okay.

10 Q. -- that it includes some oil, right?

11 A. Yeah, some kind of oil, vegetable oil,
12 yes.

13 Q. All right. So is it fair to say that
14 Brown is teaching a person of ordinary skill in the
15 art here that, despite the fact that there's oil in
16 this composition, adding legghemoglobin to the
17 muscle replicas in these patties still led to this
18 aroma of a distinct beefy aroma, correct?

19 MR. ROSATO: Objection to form.

20 THE DEPONENT: They said -- yes. It
21 distinctly is beefy, means you enhance the flavor.

22 Q. (By Mr. Messerian) And a person of
23 ordinary skill in the art would conclude that this
24 was the result, despite the fact that this ground
25 beef patty had canola oil in it, right?

1 A. Yes.

2 Q. Okay. If we turn to paragraph 75 of your
3 declaration.

4 A. Okay.

5 Q. Paragraph 75, you state "Furthermore" --
6 sorry if it's not at the very start. I think it's
7 further down.

8 It says "Furthermore, Petitioner's
9 assertion does not consider."

10 Do you see that?

11 I think it's towards the end.

12 A. Yes.

13 Q. Okay. So why don't you read that
14 sentence to yourself.

15 A. "Petitioner's assertion is not supported
16 because the only basis stated is Brown, which is
17 different composition from Giacino's."

18 Q. Wait, I think we are on the wrong -- I
19 think we're on the wrong paragraph.

20 Let me --

21 A. That's the paragraph.

22 Q. 75?

23 A. Yeah.

24 Q. Okay. Maybe got the paragraph number
25 wrong then. Just a second.

1 Okay. So paragraph 75, this is towards
2 the top of page 39.

3 A. Okay.

4 Q. The second line down. It says
5 "Furthermore, Petitioner's assertion does not
6 consider that at the time of filing, a person of
7 ordinary skill in the art would not have expected
8 that the addition of a heme-containing protein,
9 specially leghemoglobin, to the composition of
10 Giacino would 'only further contribute to the meaty
11 aroma' because it fails to consider the known and
12 potential for the development of off-flavors
13 induced by heme." [as read]

14 A. Yes, I saw that.

15 Q. So just to back up a second, when you say
16 "at the time of filing" there, I think you are
17 referring to the effective filing date of the '096
18 patent, which is sometime in 2013; is that right?

19 A. Yes, that's what I mean.

20 Q. And by the known "potential for the
21 development of off-flavors induced by heme," I
22 believe you are referring to the risk of lipid
23 oxidation; is that right?

24 A. Yes.

25 Q. Okay. And then the very next paragraph,

1 76, towards the end, I believe you are getting into
2 more detail about this known potential for the
3 development of off-flavors and lipid oxidation.
4 And cite to Dr. Cadwallader's declaration there.

5 And it states "This is a significant
6 discovery since a person having ordinary skill in
7 the art would not have anticipated that the
8 inclusion of a heme protein would have any
9 beneficial effect on flavor. In fact, iron, and
10 specifically heme iron, has been most associated
11 with causing deleterious off-odor consequences in
12 foods and especially meat products."

13 Do you see that?

14 A. Yes.

15 Q. And do you agree with Dr. Cadwallader's
16 statement here?

17 A. Yes.

18 Q. So the significant discovery -- the,
19 quote/unquote, "significant discovery," according
20 to Dr. Cadwallader and according to you too, is
21 that adding heme iron didn't actually cause an
22 off-flavor, as would have been expected, but
23 instead it had a beneficial impact on the flavor of
24 food, right?

25 A. No, I do not say that.

1 Q. Okay. So what is the significant
2 discovery here that Dr. Cadwallader is talking
3 about?

4 A. We are talking about this Maillard
5 reaction used as a flavor -- flavoring, as a flavor
6 concentrate, to say very small amount can be added
7 to a food product.

8 Q. And?

9 A. Yeah, that's what I said here.

10 Q. Okay.

11 A. We are talking about a flavor, a
12 reaction, that a heme protein enhances this flavor
13 generation of a flavor mixture. It's not about
14 food.

15 Q. And the discovery part of it is that a
16 person of ordinary skill at that time, in 2013,
17 would have thought adding heme would have had a
18 negative impact on flavor; but, in fact, it turns
19 out that it had a positive impact, correct?

20 MR. ROSATO: Objection to form.

21 THE DEPONENT: Yes, it's correct.

22 Q. (By Mr. Messerian) So this discovery
23 hadn't been made prior to 2013?

24 A. I believe that's why the patent was
25 granted.

1 Q. Okay. But Brown predates 2013, right?

2 A. Brown did not discuss flavor.

3 Q. Brown does -- or let me ask you, going
4 back to our earlier conversation, I believe you
5 would agree that Brown discloses that adding
6 leghemoglobin to the compositions that it
7 describes -- for example, paragraph 412 -- led to a
8 distinct beefy aroma, right?

9 A. Yes, that's in the food the -- that you
10 enhance it. They simply generate more of the
11 flavor that probably do not have any or have very
12 small amount to begin with.

13 Q. But it's fair to say that, in paragraph
14 412, the composition there, and the composition in
15 paragraph 364, both those compositions had oil in
16 them, correct?

17 A. I don't know what oil to do here.

18 Q. Well, I am asking -- I am asking the
19 question. I am asking you to confirm that.

20 Did it have oil or not?

21 A. You said it has oil, that there's oil
22 there. Yes, in the composition, it has oil.

23 Q. Well, I didn't --

24 A. I -- I -- I don't know what is your
25 question here.

1 Q. Well, I am going to get to my question
2 soon, but --

3 A. Okay.

4 Q. -- I just need you to confirm again that
5 the composition in paragraph 364 --

6 A. Let me see 364.

7 Okay. Yes, sunflower oil.

8 Q. And Brown --

9 A. So it's not canola oil, as you said.

10 Q. Well, you know, just to clarify, 364 says
11 sunflower, and then 412 says canola. I don't know
12 why they used two different oils, but they do.

13 If you want to confirm that, you can, if
14 it matters. I don't know if it matters, but --

15 A. Okay.

16 Q. -- you can double-check that.

17 But suffice it to say that you would
18 agree that both compositions, paragraph 364 and
19 412, they have oil in them, right?

20 A. Let me check paragraph 4- -- you said
21 412?

22 Q. Yes.

23 A. Let me check 412, if we have oil there.

24 Yes, they have canola oil; you are right.

25 Q. And despite that oil, Brown tells a

1 person of ordinary skill in the art that adding
2 leghemoglobin to these compositions did not lead to
3 this expected negative deleterious off-odor, but,
4 in fact, contributed favorably to the aroma of
5 cooked meat, or it led to a distinctly beefy aroma,
6 correct?

7 A. Correct, at the time of the test.

8 Q. Right.

9 And at that time, that was before 2013,
10 correct?

11 A. Right.

12 What I am saying -- you probably
13 misunderstood me. I said they did not see any
14 off-flavor when they cook the product. It does not
15 mean you will not have off-flavor during storage or
16 in the future.

17 Q. Right.

18 A. It didn't say that. It's simply said we
19 added these, we cook it, we get more meaty flavor.

20 Q. And Dr. Cadwallader's statement in
21 paragraph 76 of your declaration, it doesn't
22 differentiate between storage or nonstorage.

23 It just says that a person of ordinary
24 skill in the art would have expected a negative
25 impact on flavor by adding heme, but there was a

1 discovery made, a positive contribution -- an
2 unexpected positive contribution was made, right?

3 A. I don't know when -- you know, what kind
4 of context he made this specific statement. I
5 agree with him, there's a statement in the content,
6 if we make a flavor -- a flavoring. I agree with
7 him, I would not think about heme containing
8 protein in my flavor mixture, because, as a flavor,
9 I need -- (audio distortion) -- consider the
10 off-flavor development after I created this flavor.

11 (Technical difficulty; Court Reporter
12 initiates discussion off the stenographic record.)

13 THE DEPONENT: Do you need me to repeat?

14 Q. (By Mr. Messerian) Oh, no.

15 Sorry, I didn't mean to ignore you. I
16 heard everything you stated.

17 I am just trying to find that context for
18 you. You said you didn't know the context of
19 Dr. Cadwallader's statement, so...

20 A. I do not recall -- I do not recall the --
21 the content -- yeah, context when he make this.

22 Q. Would it change your opinion if you found
23 out the context of his opinion was for a food
24 product and not for a food flavor additive?

25 A. Again, it will depends on what type of

1 food product.

2 If -- if it's cooking the food at home, I
3 have less concern, because you cook it; you eat it.

4 However, if you cook it, you wait for
5 three days later to eat it, yes, I will have a
6 concern.

7 If you process -- if you create a flavor
8 for commercial use or any food for commercial use,
9 which intended to have a reasonable shelf life,
10 you know, all of these cases, I agree with his.
11 That also is my opinion.

12 MR. MESSERIAN: Okay. Let's take a
13 five-minute break, please.

14 (Recess taken.)

15 MR. MESSERIAN: Back on the record.

16 Q. (By Mr. Messerian) All right. Dr. Qian,
17 if you go to paragraphs 78 through 80 of your
18 declaration.

19 I believe these paragraphs in your
20 declaration, they voice your concerns about the
21 risk of lipid oxidation, right?

22 A. Yes.

23 Q. Can you explain to me, high-level, what
24 is lipid oxidation?

25 A. What you say, the high level?

1 Q. Yes.

2 You know, as generally as you can, just
3 at a high level, can you explain what lipid
4 oxidation is?

5 A. Overall, lipids, it's not very stable.
6 So at certain conditions, those lipids structure
7 can be organized to including oxygen item, which
8 further converted to different compounds that
9 frequently associated with a flavor is unpleasant,
10 like stale oil or some staled product during
11 storage.

12 Lipids oxidation is often simplified by
13 many people. Just think about lipid oxidation is
14 bad. And, in fact, at a certain conditions,
15 certain instance, those oxidation can potentially
16 contribute positively to the flavor.

17 Q. What would the -- like what would be an
18 example of conditions that would lead to a positive
19 flavor impact by lipid oxidation?

20 A. A typical sense, like a frying food.
21 French fry, for example.

22 Q. So when I make french fries at home,
23 lipid oxidation is occurring in that process of
24 cooking?

25 A. Yes.

1 Q. This might be a dumb question, one of
2 others possibly I've asked you during the course of
3 this deposition, but does lipid oxidation require
4 lipids?

5 A. Lipids oxidation of course is involved
6 with lipids. You can have all kind of oxidation,
7 other type of oxidation. If it's a lipids
8 oxidation, it has involved with lipids oxidation.

9 The other example, if you cook like a
10 stir fry, so you add oil in a pan, you heat it up,
11 you say, "Wow, smells good." Then you can put
12 vegetable in.

13 That smells good is a lipids oxidation.
14 It's a thermal oxidation.

15 Q. And lipid oxidation, as you mentioned,
16 could also lead to negative flavor impacts, like
17 staleness, correct?

18 A. Yes.

19 Q. And it's fair to say that if a
20 composition or a food product, it doesn't have
21 lipids in it -- there's no oil, there's no fat,
22 there's no lipid -- lipid oxidation isn't a
23 concern?

24 A. Well, it's -- can you give me an example
25 to say a food product doesn't have lipids.

1 Q. Right.

2 So let's turn to Giacino. This is
3 previously marked Exhibit 1015.

4 A. Yeah.

5 Q. And if you go to column 5, lines 1
6 through 10.

7 There's a list of six possible
8 ingredients that are listed there for Giacino.

9 And it says these are "particularly
10 suitable... mixtures."

11 Do you see that?

12 A. No, I do not.

13 You said in line 5 through 10?

14 Q. Column 5, lines 1 through 10.

15 A. Oh, column 5.

16 Okay. 9 -- I'm sorry, can you point out
17 there's a column of --

18 Q. Yeah.

19 So we see six ingredients there:
20 thiamine, taurine, hydrolyzed protein, cysteine,
21 glycine, glutamic acid.

22 And Giacino, at the top there, it says
23 "Particularly suitable are mixtures compromising"
24 those six items.

25 Do you see that?

1 A. You can go ahead.

2 I still did not locate it, the sentence.

3 Q. No, that's okay.

4 I want to make sure we are on the same
5 page.

6 So Giacino column 5, do you see column 5?

7 A. I see column 5.

8 Q. What's the very, very, very first
9 sentence you see in column 5?

10 A. It's "Particularly suitable mixing
11 compromising." [as read]

12 Q. Right, so that's the sentence I wanted to
13 start with.

14 A. Okay.

15 Q. So Giacino is representing here that
16 particularly suitable mixtures for its invention
17 comprise these six things --

18 A. Thiamine, taurine -- okay.

19 Q. Right, hydrolyzed protein, cysteine,
20 glycine, glutamic acid.

21 And then it continues.

22 It says "with the remainder being a
23 vehicle including flavor adjuvants and the like as
24 hereinafter more fully described."

25 And then it goes on to say "As indicated,

1 the specific additional ingredient and the amount
2 thereof will vary according to type of flavor
3 desired. For beef flavors the hydrolyzed protein
4 and possibly small amounts of cysteine may be
5 employed whereas for pork and poultry the mixture
6 of pure amino acids is more desirable than the use
7 of the complex mixture afforded by the hydrolyzed
8 protein.

9 "It has been found, in preparing the
10 reaction products of this invention, that the
11 ingredients are desirably heated in a vehicle such
12 as water, a triglyceride fat, natural fat,
13 vegetable fat or the like."

14 So first question for you is, towards the
15 end there, in terms of this vehicle, you would
16 agree that, in one embodiment, Giacino describes
17 the vehicle being water and not fat, right?

18 A. Yeah, it can be water.

19 Q. Right.

20 And those six other ingredients that we
21 discussed at the top there, those aren't lipids
22 either, right?

23 A. Right.

24 Q. And then in column 6, there is this
25 discussion about how you can add saccharides,

1 monosaccharides, to Giacino's compositions, such as
2 ribose, sucrose, dextrose and xylose.

3 Do you see that?

4 A. Uh-huh.

5 Q. And those aren't lipids either, right?

6 A. Right.

7 Q. So is it fair to say that Giacino
8 contemplates some compositions that don't have
9 lipids in them?

10 A. Possible.

11 You can make that assumption.

12 Q. I mean, it's not an assumption; it's
13 what -- what Giacino states, right?

14 A. Okay.

15 Q. Okay. So lipid oxidation, at least for
16 those compositions, wouldn't be a concern, right?

17 A. Lipids oxidation is not a concern;
18 however, oxidation is a concern.

19 Q. Okay. With respect to your declaration,
20 there's no discussion of generalized oxidation;
21 there's only discussion of lipid oxidation, right?

22 A. Lipids oxidation is very general. It's
23 frequently the case.

24 However, oxidation is -- is a more broad
25 category. So oxidation contain lipids oxidation.

1 Q. In paragraphs 78, 79 and 80 of your
2 declaration, you only discuss lipid oxidation,
3 correct?

4 A. Yes, I only address the lipids oxidation
5 issue.

6 Q. So with respect to the concerns that you
7 raise in those particular paragraphs, that -- those
8 concerns of lipid oxidation don't apply to those
9 compositions of Giacino that we just discussed that
10 don't have lipids?

11 A. I do not have any concern here.

12 What I am addressing here is give you
13 example that is generally understand that the
14 lipids oxidation. Remember, the underlying
15 principle with lipids oxidation is the oxidation
16 adjacent to the double bond of that lipids
17 molecule.

18 So the same principle applies here.
19 Either there is a lipids molecule or is a flavor
20 molecule, they may have that potential oxidation.

21 Q. Okay. I am talking about lipid
22 oxidation, because that's what your declaration
23 describes in paragraphs 78 and 80.

24 And I just want to confirm that when you
25 have a composition like Giacino's that we just

1 agreed doesn't have lipids in it, at least lipid
2 oxidation is not a concern, right?

3 A. That's correct.

4 Lipids oxidation is not a concern.
5 However, other oxidation rather than lipids is
6 still concern. The same principle, same type of
7 reaction.

8 Q. Okay. Let's turn to paragraph 80.

9 At the end of paragraph 80, I want to
10 discuss your opinion there.

11 A. Okay. I am at it, paragraph 80.

12 Q. Okay. It states, the last half of that
13 paragraph, it states "Giacino teaches that its
14 compositions are heated to produce a meaty flavor
15 and the compositions made be later added to a food
16 product as a food flavor additive. Petitioner did
17 not consider that food flavor additives are
18 expected to have a reasonable amount of shelf life
19 so that the additives can be added to a food
20 product."

21 That very first sentence, it says
22 "Giacino teaches that its compositions are heated
23 to produce a meaty flavor and the compositions may
24 be later added to a food product as a food flavor
25 additive."

1 So your concern here with respect to
2 shelf life, that's predicated on heating and
3 reacting Giacino's compositions first, and then
4 storing them on the shelf, right?

5 MR. ROSATO: Objection to form.

6 THE DEPONENT: Yes.

7 Q. (By Mr. Messerian) And, presumably,
8 if -- if you didn't react Giacino's mixture, and
9 you just stored it on the shelf before you -- you
10 heated it and reacted it, you don't have that
11 concern?

12 A. Can you repeat that -- your question?

13 Q. Sure, right.

14 Let me continue reading the rest of this
15 paragraph so that it's in more context.

16 It says "Petitioner did not consider that
17 food flavor additives are expected to have a
18 reasonable amount of shelf life so that the
19 additives can be added to a food product. If a
20 food flavor additive does not have sufficient shelf
21 life (because" -- "(because warmed-over flavor has
22 developed), the additive would be of limited
23 commercial value as it would need to be utilized in
24 a food product immediately after production."

25 [as read]

1 Taking a step back, "because warmed-over
2 flavor has developed" [as read], we are talking
3 about lipid oxidation here, correct?

4 A. Yes, with "warmed-over flavor" is about
5 lipid oxidation.

6 Q. And so the concern here is, Giacino's
7 composition -- let's assume it has lipids in it.
8 You react it, you heat it, and then you store it on
9 the shelf.

10 The concern is that warmed-over flavor
11 will develop or might develop, and that makes the
12 product less desirable to be added later to a food
13 product, correct?

14 A. Yes.

15 Q. Now, I assume that you wouldn't have that
16 concern if you didn't react and heat the product
17 before storing it on the shelf.

18 You just -- you just combined the
19 ingredients, and you didn't actually react them.
20 You just put them on the shelf. And then later, at
21 some point in time when you actually have to use
22 it, you react it.

23 Is that fair to say?

24 A. No, I never said that.

25 Q. Okay.

1 A. You make it up.

2 Q. That's why we are having a deposition,
3 because I am asking your opinions on this.

4 A. That's incorrect.

5 Q. Okay. So you disagree with that
6 statement?

7 A. Right, I never said that.

8 Q. Okay.

9 A. Even --

10 Q. So --

11 A. Okay. If you have iron in the system,
12 even you do not heat it, if iron is active, you
13 will create an off-flavor. You can create lipid
14 oxidation.

15 It's not discussed in my declaration. I
16 just want comment that.

17 Q. Sorry, I missed the last thing you said.
18 It's not discussed in your declaration?

19 A. Right, before heating.

20 But I am saying it's even before the
21 heating, you have iron in the system, you are
22 create different off-flavor, such as lipids
23 oxidation.

24 Q. Got it.

25 Okay. And it's -- it's the interaction

1 of that iron with the lipids that's causing the
2 lipid oxidation, right?

3 A. It's more complicated than that.

4 Q. But if the iron is not present, then you
5 are not concerned?

6 A. Iron is a catalyzer. It set off the
7 reaction.

8 Q. And if the lipids are not present, then
9 it's -- lipid oxidation is not a concern?

10 A. If lipids is not exist, lipids oxidation
11 is not a concern.

12 However, they have other type of
13 oxidation. Similar to lipids oxidation, will be a
14 concern.

15 MR. MESSERIAN: Okay. I am going to
16 strike the last part of that answer as not
17 responsive to the question.

18 MR. ROSATO: Opposed.

19 Q. (By Mr. Messerian) All right. Let's
20 move on to paragraph 30 of your declaration.

21 A. Which one you say?

22 Sorry.

23 Q. Your declaration, paragraph 30.

24 A. 30.

25 Q. Yes.

1 A. So we go back to 30.

2 Q. Yes. 3-0.

3 All right. What's your understanding of
4 what a food flavor additive composition is in this
5 proceeding?

6 A. What is my definition?

7 Q. Yes, what's the definition you applied in
8 this proceeding?

9 A. There should be the composition or
10 ingredient that can modulate a food product flavor
11 or aroma.

12 Q. And that's the -- that's the
13 understanding, that's the definition you applied,
14 when discussing or opining on food flavor additive
15 composition in your declaration, right?

16 A. Right.

17 Q. Okay. So I am going to ask you a series
18 of questions about food flavor additive
19 compositions. And for consistency, I want you to
20 apply that same understanding to that term.

21 Fair enough?

22 A. Yes.

23 Q. Earlier in our deposition, you discussed
24 collagen products that you work with.

25 Do you remember that?

1 A. I remember that.

2 Q. Are any of those collagen products food
3 flavor additive compositions?

4 A. No.

5 Q. Okay. And going back to this definition
6 of a food flavor additive composition that we have
7 in paragraph 30, you don't believe that they were
8 added to a food product to modulate their flavor
9 and/or aroma?

10 A. No.

11 Q. Okay.

12 A. I don't think so.

13 Q. What about salt?

14 Is salt a food flavor additive
15 composition?

16 A. It can be.

17 Q. Okay. Can you give me an example of when
18 it can be a food flavor additive composition?

19 A. In your food, you add a small amount of
20 salt, it change the taste of the food.

21 So according to my understanding, so you
22 add a small amount of something, you modify the
23 flavor. So it is.

24 Q. What about MSG?

25 A. I do not discuss that, right?

1 Q. You don't, but I am asking anyway.

2 Do you believe monosodium glutamate, MSG,
3 is a food flavor additive composition?

4 A. It is a flavor enhancer.

5 Q. And could it be used as a food flavor
6 additive composition, as far as that term is
7 understood in this proceeding?

8 A. Yes.

9 Q. And what about garlic?

10 Can garlic be considered a food flavor
11 additive composition?

12 A. It depends on the use.

13 Q. If some amount -- call it small, call
14 it -- you know, I guess it gets tricky when you
15 start saying "small."

16 But if you add garlic to a food like
17 lasagna to impact its flavor, would you consider
18 garlic to be a food flavor additive composition?

19 A. If you add a very tiny amount, small
20 amount, it impact the flavor, I would consider.

21 When you use it as such in that function,
22 in the context of that application, yes, in this
23 case, it adds a flavor.

24 Q. Okay.

25 A. If you eat the garlic, on the other hand,

1 I wouldn't consider it flavoring. It is just
2 garlic. You are eating garlic.

3 Q. So if I make a garlic smoothie, that is
4 not a food flavor additive composition?

5 A. I wouldn't.

6 I just call that a garlic smoothie.

7 Q. Okay. But just for the sake of being
8 reasonable here, in most cases, when garlic is
9 added to food to enhance its flavor, to give it
10 garlicky taste, you would consider that, generally
11 speaking, garlic is acting as a food flavor
12 additive composition?

13 MR. ROSATO: Objection to form.

14 THE DEPONENT: Again, if it's a small
15 amount, it's going to modulate that flavor, yes, I
16 consider that as a flavor ingredient.

17 Q. (By Mr. Messerian) Food flavor additive
18 composition?

19 A. Yes.

20 Q. Do you know what nutritional yeast is?

21 A. What did you mean, "nutritional use"?

22 Q. "Nutritional yeast."

23 A. Oh, "nutritional yeast."

24 Q. Yes.

25 Have you heard of it?

1 A. I heard about it, but I am not expert on
2 yeast.

3 Q. Okay. So you don't know what nutritional
4 yeast is used for?

5 A. I know some yeast was used for. I know
6 there's some yeast extract used as a flavor
7 ingredient.

8 Q. Now, when you say "yeast," I just want to
9 be very clear that we understand each other.

10 I am using the term "nutritional yeast,"
11 and you are responding with the term just "yeast."

12 I believe there's a distinction between
13 that two, and I just want to be clear, when you are
14 responding, you are talking about nutritional yeast
15 and not general yeast; is that right?

16 MR. ROSATO: I am going to object to
17 form, foundation and scope here.

18 THE DEPONENT: No, it's not correct. I
19 try to tie the yeast associated with the flavor.
20 That is my expertise.

21 I do want to comment about yeast with the
22 nutrition. It's not my area.

23 Q. (By Mr. Messerian) So let me introduce
24 an article. I want to look at it.

25 And tell me if this is the yeast you are

1 familiar with or not familiar with.

2 Fair enough?

3 A. I do not know.

4 It depends on the content. I am not a
5 microbiologist. I am -- I am an expert in flavor
6 chemistry. I just want to say very front.

7 Q. Of course.

8 MR. MESSERIAN: Let me upload that. You
9 don't have this, so you are going to have to look
10 at Exhibit Share.

11 Just a second.

12 I would like this marked as Exhibit 1180.

13 (Exhibit 1180 was marked for
14 identification by the Court Reporter and is
15 attached hereto.)

16 Q. (By Mr. Messerian) So let me know when
17 you see that on your screen.

18 A. I cannot access anything.

19 Okay. Which one?

20 Q. So it's Exhibit -- it says Nutritional
21 Yeast Article (Wikipedia).

22 Do you see that?

23 A. No, I do not have it.

24 I have -- the bottom one I have is 2030,
25 1024, 1015, 1012 and 1005.

1 (Discussion off the stenographic record.)
2 BY MR. MESSERIAN:
3 Q. Oh, I see it under marked exhibits. It's
4 Exhibit 1180, "Nutritional Yeast Article."
5 Do you see that?
6 A. I not have it, 1130.
7 Q. 1180.
8 A. No, I don't have anything started with
9 11.
10 (Discussion off the stenographic record.)
11 MR. ROSATO: Do you want me to take a
12 look?
13 MR. MESSERIAN: Yeah, by all means.
14 (Discussion off the stenographic record.)
15 Q. (By Mr. Messerian) Any luck there?
16 A. I can see it. It tried to open.
17 Now it's open, yeah, Wikipedia.
18 MR. ROSATO: I am going to note a
19 standing objection to any questions on this
20 document under relevance and scope.
21 Q. (By Mr. Messerian) Okay. Let me know
22 when you are able to read it, Dr. Qian.
23 A. Okay. Give me some time to go through
24 with this.
25 I quickly read it, so...

1 Q. Okay. Just at the outset, I guess, let
2 me ask you, are you familiar with this product?

3 A. No, I never used it.

4 Q. Okay.

5 All right. Then I am going to keep my
6 questions very short and to the point.

7 Third paragraph down, it says
8 "Nutritional yeast has a strong flavor that is
9 described as nutty or cheesy, which makes it
10 popular as an ingredient in cheese substitutes. It
11 is often used by vegans in place of cheese in, for
12 example, mashed and fried potatoes or scrambled
13 tofu, or as a topping for popcorn."

14 And then on the right-hand side, do you
15 see that picture of popcorn?

16 A. Yes.

17 MR. ROSATO: Objection. Scope.
18 Relevance.

19 Q. (By Mr. Messerian) And do you see that
20 jar there that says "nutritional yeast" on it?

21 MR. ROSATO: Same objection.

22 THE DEPONENT: I can see the jar. I
23 cannot read anything on the jar.

24 Q. (By Mr. Messerian) Okay. Do you see the
25 description under the image?

1 It says "Some theaters offer visitors
2 nutritional yeast for popcorn seasoning."

3 A. Yes.

4 Q. Okay. Would you consider popcorn
5 seasoning to be a food flavor additive composition?

6 MR. ROSATO: Objection to relevance and
7 scope.

8 THE DEPONENT: Popcorn seasoning, yes, I
9 consider that.

10 Q. (By Mr. Messerian) Okay. And so to the
11 extent that nutritional yeast is used as a popcorn
12 seasoning, you would agree that, in that context,
13 it's a food flavor additive composition?

14 MR. ROSATO: Objection to scope and
15 relevance.

16 THE DEPONENT: Yes, I would say normally
17 I would consider, unless you added ridiculous
18 amount to the popcorn.

19 Q. (By Mr. Messerian) So if you add the
20 popcorn to the seasoning --

21 A. No, you add -- you add seasoning to the
22 popcorn.

23 Q. I know, I was trying to make a terrible
24 joke, so strike that.

25 A. It's different.

1 Q. Yes, yes.

2 I think I understand your testimony.

3 The paragraph right before the one you
4 just read, it says "It is a significant source of
5 some B-complex vitamins and contains trace amounts
6 of several other vitamins and minerals. Sometimes
7 nutritional yeast is fortified with vitamin B12,
8 another reason it is popular with vegans."

9 Do you see that?

10 A. Yeah.

11 MR. ROSATO: Objection to form and
12 scope -- form, scope and relevance.

13 Q. (By Mr. Messerian) So you would agree
14 with me that if what this article is saying is
15 true, if, in fact, nutritional yeast has B-complex
16 vitamins, that in addition to serving as a food
17 flavor additive, it's also providing a nutritive
18 benefit?

19 MR. ROSATO: Objection to form, scope and
20 relevance.

21 THE DEPONENT: Yes.

22 It depends amount.

23 Q. (By Mr. Messerian) Fair enough.

24 Okay. We can put aside nutritional
25 yeast.

1 Now let's talk a little bit about salt.
2 You agreed earlier that salt can be used as a food
3 flavor additive composition to flavor foods, right?

4 A. Yes.

5 Q. And are you also aware that salt contains
6 sodium, which is essential mineral for humans?

7 MR. ROSATO: Objection to form.

8 THE DEPONENT: Salt is sodium chloride.

9 Q. (By Mr. Messerian) Right.

10 And are you aware that sodium -- maybe
11 not so much the chloride part, but the sodium
12 part -- is an essential mineral for us?

13 MR. ROSATO: Objection --

14 THE DEPONENT: I know the salt -- we need
15 to reduce the sodium.

16 MR. ROSATO: You've got to let me get an
17 objection in before you answer.

18 THE DEPONENT: Sorry.

19 MR. ROSATO: Objection to form, scope and
20 relevance.

21 Q. (By Mr. Messerian) But were you aware
22 that we -- as humans, we need some sodium in our
23 diets to be healthy?

24 MR. ROSATO: Objection to form. Scope.
25 Relevance.

1 THE DEPONENT: I don't know why you ask
2 that question.

3 Q. (By Mr. Messerian) The reason why I am
4 asking is because, in your declaration, you've
5 stated that -- and we can get to this in a bit.

6 But suffice it for now that I will say
7 that the gist of it is that food flavor additive
8 compositions are meant to impart flavor and not
9 nutrition, that that's one of your positions in
10 this -- in this proceeding, as I understand it,
11 and --

12 A. That's correct.

13 MR. ROSATO: Objection to form.
14 Foundation.

15 Q. (By Mr. Messerian) So with respect to
16 your question as to why I am asking you about salt
17 and its -- and its nutritional content, that's --
18 that's the general context, for your understanding.

19 So going back to my question -- I don't
20 know if I got a clear answer from you -- salt is,
21 in fact, or can, in fact, be a food flavor additive
22 composition, correct?

23 MR. ROSATO: Objection to scope.
24 Relevance.

25 THE DEPONENT: It's correct.

1 Q. (By Mr. Messerian) And maybe you are not
2 aware of this.

3 Are you aware that sodium in salt is an
4 essential mineral for humans?

5 A. I believe so.

6 Q. And so isn't salt a food -- an example of
7 a food flavor additive composition that also
8 provides some nutritive benefit to humans?

9 A. Yes.

10 I still do not know what is the relevance
11 here.

12 Q. Okay. Let's move on. I don't have any
13 more questions about salt.

14 I was going to ask you about garlic, but
15 I'll spare you.

16 MR. MESSERIAN: Let's move onto
17 Exhibit 1038, if counsel can hand you that
18 document. I will upload it to Exhibit Share as
19 well.

20 THE DEPONENT: Should I close your
21 popcorn?

22 MR. MESSERIAN: Yeah, the popcorn, we are
23 done with the popcorn.

24 THE DEPONENT: Yeah, I do not understand
25 why the popcorn come up here.

1 MR. ROSATO: Did you say 1038?

2 MR. MESSERIAN: Right, this is the Manley
3 document.

4 MR. ROSATO: Okay.

5 THE DEPONENT: Okay. I have it in front
6 of me.

7 Q. (By Mr. Messerian) Okay.

8 A. I know him, by the way.

9 Q. Oh, very nice.

10 Sorry, just to take a step back, let's go
11 to your declaration first so we can provide some
12 foundation and context here for this document.

13 If you go to paragraph 101 of your
14 declaration.

15 A. Okay.

16 Q. Okay. You state, "First, regarding
17 fortification, nothing in Giacino suggests that its
18 flavor additives are intended to provide
19 nutritional content to a food product. Indeed, the
20 evidence of record indicates that flavor additives
21 are meant to impart flavor, rather than nutrition."

22 And then you cite to Manley pages 139 to
23 140.

24 A. Yes.

25 Q. Okay. So let's go to that portion of

1 Manley.

2 Give me a minute. Let me pull it up
3 myself.

4 All right. I believe it's the last
5 sentence of page 139. It starts with "The
6 definition of."

7 Do you see that?

8 A. Okay. Okay. I see that.

9 Q. And it says "The definition of a flavor
10 captures the notion that it is a powerful material
11 whose significant function is flavor and not
12 nutrition or functionality."

13 A. Yes, I see that.

14 Q. Okay. It says -- it says "significant
15 function," correct?

16 A. Yes.

17 Q. It doesn't say "only function," right?

18 A. So what is the difference here?

19 Q. But I am asking you, do you read
20 "significant function" as something other than --
21 or -- in other words, it says "The definition of a
22 flavor captures the notion that it is a powerful
23 material whose significant function is flavor and
24 not nutrition or functionality."

25 You would agree with me that it does not

1 say that it's a powerful material whose only
2 function is flavor, right?

3 A. No, I do not agree with you, because the
4 document here did not say its only function is
5 flavor, although it may imply.

6 I don't know.

7 MR. MESSERIAN: Okay. And then let's
8 discuss another exhibit. This is Exhibit 1052.

9 Let me upload that.

10 MR. ROSATO: New or existing?

11 MR. MESSERIAN: Sorry, this is Exhibit,
12 previously marked, 1052. This is the "generally
13 recognized as safe" notification exhibit.

14 And I think Mike is looking for it?

15 MR. ROSATO: Yes.

16 MR. MESSERIAN: Okay. Just making sure.

17 MR. ROSATO: Okay. I don't have a
18 printed copy of that, so maybe let's go by
19 Exhibit Share.

20 MR. MESSERIAN: Okay. Yes, we are not
21 going to spend much time on it, so...

22 Q. (By Mr. Messerian) So, Dr. Qian, on
23 page 7 of this document --

24 A. I haven't get the document yet.

25 Q. Oh, sorry.

1 A. I still have popcorn.

2 THE DEPONENT: This one?

3 MR. ROSATO: Yeah.

4 MR. MESSERIAN: So just let me know when
5 you two have it up.

6 MR. ROSATO: Mine is loading.

7 THE DEPONENT: It's loading.

8 MR. MESSERIAN: Okay.

9 THE DEPONENT: Very slow.

10 Q. (By Mr. Messerian) While that's loading,
11 let me ask you, Dr. Qian, did you see the
12 Exhibit 1052 that was -- this refers to the
13 "generally recognized as safe" notification
14 document that Impossible submitted to the FDA as
15 part of their application for soy leghemoglobin.

16 Have you reviewed -- does that document
17 ring a bell to you, while that's loading?

18 A. I cannot recall.

19 MR. ROSATO: We have been going about an
20 hour. Should we take a five-minute break while we
21 try to load this up?

22 MR. MESSERIAN: I believe -- I just want
23 to see how much I have left.

24 So this is my last set of questions.
25 It's just for this document. So if you want to

1 take a break, we can do that and come back to this
2 then, or just wait it out.

3 MR. ROSATO: Mine's not loading.

4 THE DEPONENT: Mine is not loading
5 either.

6 MR. MESSERIAN: Okay. Maybe there's an
7 issue on my end.

8 It's a big file. These days, I don't
9 know 10 megabytes is large, but compared to the
10 others, it's bigger.

11 (Discussion off the stenographic record.)

12 MR. MESSERIAN: All right. Look,
13 gentlemen, it's fine. I don't need to ask a
14 question about this document.

15 I am done with my direct, so I am happy
16 to pass the witness to you, Mike.

17 MR. ROSATO: Okay. You want to just note
18 that on the record, and then we can take a
19 five-minute break.

20 (Discussion off the stenographic record.)

21 MR. MESSERIAN: Okay. So, yeah, let's
22 take five minutes.

23 (Recess taken.)

24 MR. ROSATO: Back on the record.

25 Thank you, Doctor, I have no further

1 questions for you.

2 MR. MESSERIAN: All right. Thanks,
3 everyone. Thank you, Doctor.

4 THE DEPONENT: You are welcome.

5 (TIME NOTED: 3:00 p.m.)

6 THE COURT REPORTER: Mr. Rosato, would
7 you like a rough draft?

8 MR. ROSATO: Yes, we'll take a rough
9 draft and regular delivery.

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1 I, MICHAEL C. QIAN, Ph.D., do hereby declare
2 under penalty of perjury that I have read the
3 foregoing transcript; that I have made any
4 corrections as appear notes; that my testimony as
5 contained herein, as corrected, is true and
6 correct.

7 Executed this ____ day of _____,
8 2023, at _____, _____.

9
10
11
12 _____
MICHAEL C. QIAN, Ph.D.

1 I, Rebecca L. Romano, a Registered
2 Professional Reporter, Certified Shorthand
3 Reporter, Certified Court Reporter, do hereby
4 certify:

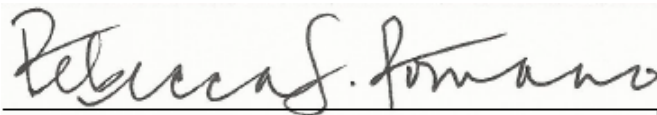
5 That the foregoing proceedings were taken
6 before me remotely at the time and place herein set
7 forth; that any deponents in the foregoing
8 proceedings, prior to testifying, were administered
9 an oath; that a record of the proceedings was made
10 by me using machine shorthand which was thereafter
11 transcribed under my direction; that the foregoing
12 transcript is true record of the testimony given.

13 Further, that if the foregoing pertains to the
14 original transcript of a deposition in a Federal
15 Case, before completion of the proceedings, review
16 of the transcript [X] was [] was not requested.

17 I further certify I am neither financially
18 interested in the action nor a relative or employee
19 of any attorney or any party to this action.

20 IN WITNESS WHEREOF, I have this date
21 subscribed my name.

22
23 Dated: 12/17/23

A handwritten signature in cursive script, reading "Rebecca L. Romano", is written over a light gray rectangular background.

24 Rebecca L. Romano, RPR, CCR
25 CSR. No 12546

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DEPOSITION ERRATA SHEET

Case Name: Motif FoodWorks, Inc. vs. Impossible Foods, Inc.

Name of Deponent: Michael C. Qian, Ph.D.

Date of Deposition: December 11, 2023

Job No.: 6339953

- Reason Codes: 1. To clarify the record.
2. To conform to the facts.
3. To correct transcript errors.

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the transcript is true and correct

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the transcript is true and correct.

MICHAEL C. QIAN, Ph.D.

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[replicas - rosato]

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[truthful - varying]

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