

UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD

ALAMAR BIOSCIENCES, INC.,
Petitioner,

v.

OLINK PROTEOMICS AB,
Patent Owner

Case IPR2024-01353
U.S. Patent No. 7,883,848

DEPOSITION OF NORMAN C. NELSON, Ph.D.
VOLUME II
San Diego, California
October 29, 2025

Reported Stenographically by:
MARY K. MEDLEY, CSR NO. 9557
Job No.: 7650517
PAGES 176 - 307

1 DEPOSITION OF NORMAN C. NELSON, Ph.D., VOLUME II, TAKEN
2 ON BEHALF OF THE PATENT OWNER, AT 9:11 A.M., WEDNESDAY,
3 OCTOBER 29, 2025, AT 4655 EXECUTIVE DRIVE, SAN DIEGO,
4 CALIFORNIA, BEFORE MARY K. MEDLEY, CSR NO. 9557.

5
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PRE-MARKED EXHIBITS REFERRED TO

NO.	DESCRIPTION
EXHIBIT 1001	UNITED STATES PATENT PATENT NO. : 7,883,848
EXHIBIT 1003	UNITED STATES PATENT PATENT NO. : 6,511,809
EXHIBIT 1005	DECLARATION OF NORMAN C. NELSON, Ph.D.
EXHIBIT 1011	UNITED STATES PATENT APPLICATION PUBLICATION NERI ET AL.
EXHIBIT 1049	TRANSCRIPT OF BRADLEY L. PENTELUTE, Ph.D. (REDACTED)
EXHIBIT 1051	SECOND DECLARATION OF NORMAN C. NELSON, Ph.D.

REPORTER'S NOTE: ALL QUOTATIONS FROM EXHIBITS ARE
REFLECTED IN THE MANNER IN WHICH THEY WERE READ INTO THE
RECORD AND DO NOT NECESSARILY INDICATE AN EXACT QUOTE
FROM THE DOCUMENT.

1 WEDNESDAY, OCTOBER 29, 2025; 9:11 A.M.

2

3 THE STENOGRAPHIC REPORTER: My name is Mary K.
4 Medley, my Certified Shorthand Reporter license number
5 is 9557.

6

7 NORMAN C. NELSON, Ph.D.,
8 having been first duly sworn by the reporter,
9 was examined and testified further as follows:

10

11 EXAMINATION

12 BY MR. HOLMAN:

13 Q. Morning, Dr. Nelson.

14 A. Good morning.

15 Q. Good to see you again.

16 A. Thank you. Same here.

17 Q. You've been sworn in now and do you understand
18 that you're testifying under oath and under perjury --
19 under penalty of perjury in the United States?

20 A. Yes.

21 Q. And do you understand that means you're here
22 today to testify truthfully and accurately regarding
23 questions that I ask you today?

24 A. Yes.

25 Q. And, Dr. Nelson, is there any reason you cannot

1 testify truthfully and accurately today?

2 A. No.

3 Q. This is your second deposition in this IPR
4 proceeding; correct?

5 A. Yes.

6 Q. Your first deposition took place back in June
7 of this year. Do you recall that?

8 A. Yes.

9 Q. So as before, from your previous deposition in
10 this case, we have a court reporter with us here today
11 transcribing our conversation.

12 Do you understand that once the transcript from
13 today's deposition is entered into the record in this
14 case, that it will become public?

15 A. Yes.

16 Q. Okay. Also, as before, I expect that you will
17 understand the meaning of my questions that I ask you
18 today. If you don't understand a question, just let me
19 know and I'll do my best to clarify the question for
20 you. Okay?

21 A. Fair enough.

22 Q. If you do not understand a question, do you
23 understand that you must ask me for clarification rather
24 than asking your counsel?

25 A. I do understand.

1 Q. And do you agree to do that?

2 A. Yes.

3 Q. Okay. So during today's deposition, you're not
4 permitted to speak with anyone else regarding the
5 substance of your testimony including during breaks.

6 Do you understand that?

7 A. I do.

8 Q. And you agree to do that?

9 A. Yes.

10 Q. And speaking of breaks, we will try to take
11 breaks at a reasonable intervals today. However, if you
12 need a break, just let me know, I'll do my best to
13 accommodate you. All I ask is, if there's a question
14 pending, that you answer the question before we take the
15 break. Okay?

16 A. Yes.

17 Q. Okay. During the deposition today, your
18 counsel may object to some of my questions. If your
19 counsel objects to a question, do you understand that
20 you still must answer my question unless you're
21 specifically instructed not to answer by your counsel?

22 A. Yes.

23 Q. Okay. Now, aside from this IPR proceeding,
24 have you testified in any other legal proceedings since
25 your first deposition in this matter back in June?

1 A. No.

2 Q. And aside from this IPR proceeding, have you
3 been deposed in any other legal proceeding since your
4 deposition in June this year?

5 A. No.

6 Q. All right. Dr. Nelson, do you have any
7 documents with you today?

8 A. I do.

9 Q. What documents do you have there?

10 A. I have two documents, one is a copy of my
11 second declaration, one is a copy of my first
12 declaration.

13 Q. All right. And your second declaration, is
14 that the exhibit labeled Exhibit 1051?

15 A. Yes.

16 Q. And then your first declaration, would that be
17 the exhibit labeled Exhibit 1005?

18 A. Yes.

19 Q. All right. Do you mind if I take a quick look
20 at your exhibits there?

21 A. I do not mind if you take a quick look
22 (indicating).

23 MR. HOLMAN: Okay. Just for the record, the
24 witness has a copy of his second declaration,
25 Exhibit 1051, and a copy of his first declaration,

1 Exhibit 1005.

2 Q. Dr. Nelson, it appears you have some tabs on
3 your first declaration there; is that correct?

4 A. That is correct.

5 Q. What -- what do those tabs have on them?

6 A. They simply have section titles to help me find
7 the different sections.

8 Q. Okay. And aside from the tabs with section
9 titles, are there any other markings or notes in your
10 declarations that you have with you today?

11 A. No.

12 Q. Okay. Did you prepare for today's deposition?

13 A. Yes.

14 Q. What did you do to prepare for today's
15 deposition?

16 A. Reviewed my second declaration, other exhibits
17 that are cited, and had a couple of meetings with
18 counsel.

19 Q. In your meetings with counsel, who did you meet
20 with?

21 A. Met with Christian Platt and Jesse --

22 THE WITNESS: I can't recall your last name.

23 MR. WYNN: Wynn.

24 THE WITNESS: Wynn. You just said it, sorry.

25 MR. HOLMAN:

1 Q. And aside from Christian and Jesse, did you
2 meet with anybody else to prepare for today's
3 deposition?

4 A. I'm trying to recall if one of the meetings was
5 with Laura before she went out on maternity leave. So
6 Laura -- I forget her last -- Vining -- yeah, Laura
7 Vining of Jones Day as well. That was virtual.

8 Q. Okay. Anybody else other than Christian,
9 Jesse, and Laura?

10 A. No.

11 Q. How many meetings did you have with counsel to
12 prepare for today's deposition?

13 A. Two main meetings and meeting with -- with
14 Laura to talk over the deposition as well. So three
15 total.

16 Q. Roughly how long were each of those three
17 meetings?

18 A. Well, I'd say a total of probably ten hours.

19 Q. Ten hours for each meeting?

20 A. No, ten hours total for the three.

21 Q. In preparing for today's deposition, I believe
22 you mentioned that you reviewed your second declaration
23 and you said other exhibits cited.

24 What -- what exhibits did you review to prepare
25 for today's deposition?

1 A. My first declaration, 1005, Dr. Pentelute's
2 deposition, don't recall the exhibit number. And other
3 references that were cited, such as the Exhibit 1001
4 which is the '848 Patent. And other assorted scien- --
5 scientific references that I -- I can't recall exactly
6 which ones at the moment.

7 Q. You don't recall what the scientific references
8 were that you reviewed?

9 A. Well, I'm trying to remember the exact numbers.
10 One is Shimkus. I'm trying to remember -- usually on my
11 list but I don't have it in front of me right now. And
12 Rogers is the other one. I don't recall the exhibit
13 numbers. I think they're 1052 and 1053 but I don't
14 recall exactly.

15 Q. In preparing for today's deposition, did you
16 review any documents not cited in your first or second
17 declaration?

18 A. Not that I recall, no.

19 Q. All right. So you have copies of both your --
20 your first and second declaration with you. We'll --
21 you're welcome to use those today, we'll be referring
22 to -- to those throughout the day.

23 I would like to look at your second
24 declaration, if you -- and if you could turn, please, to
25 the last page of your second declaration, page 56. And

1 could you confirm that that is indeed your signature
2 there.

3 A. It is.

4 Q. And you signed this declaration on September
5 22nd, 2025; is that correct?

6 A. That is correct.

7 Q. And, Dr. Nelson, did you review your second
8 declaration in its entirety before you signed it?

9 A. Yes.

10 Q. Did you identify any errors in your second
11 declaration that you would like to correct?

12 A. There was one typo of a page number, which was
13 2596, should have been 2595, which had to do with the --
14 I think it was the Shimkus reference. I don't recall
15 exactly. Don't have my notes in front of me so I can't
16 recall exactly where that is. That was the only error
17 and it was a -- just a typo.

18 Q. And that's in reference to the page number in
19 one of the exhibits?

20 A. Correct.

21 Q. Okay. Aside from the typographical error on
22 the page number, are there any other errors in your
23 second declaration that you're aware of?

24 A. Not that I'm aware of.

25 Q. What did you do to prepare this second

1 declaration?

2 MR. PLATT: Just going to object to the extent it
3 may call for privilege/work product protected
4 information and caution the witness not to reveal the
5 contents of any discussions with counsel.

6 MR. HOLMAN:

7 Q. Yeah. To be clear, Dr. Nelson, I don't want to
8 ask questions about the substance of any communications
9 you may have had with counsel.

10 So let me ask it this way: In preparing your
11 opinions in your second declaration, did you review any
12 documents?

13 A. So is the question directed towards the actual
14 preparation of the second declaration?

15 Q. Yes.

16 A. The list is very similar to the list I already
17 gave, which is my first declaration, Dr. Pentelute's
18 declaration, the transcript -- redacted transcript of
19 Dr. Pentelute's deposition, the transcript of my
20 deposition, and the other references which I have
21 already mentioned.

22 Q. In preparing your opinions in your second
23 declaration, did you rely on any documents that are not
24 cited in your second declaration?

25 A. Not cited in my first or second declarations.

1 Q. Okay. So are you saying that you included the
2 citations from your first declaration as documents that
3 you reviewed in preparing the opinions for your second
4 declaration?

5 A. In the second declaration, I have references
6 that point back to the first declaration.

7 Q. All right. So in preparing your opinions for
8 your second declaration, did you rely on any documents
9 not cited in either your first or second declaration?

10 A. I did not rely on any other documents.

11 Q. Okay. All right. So, Dr. Nelson, we're
12 handing you a copy of exhibit that's been previously
13 marked 1001 and is the '848 Patent.

14 Do you recognize this document?

15 A. Yes.

16 Q. And this is one of the documents you reviewed
17 to provide opinions on in your first and second
18 declaration; correct?

19 A. Yes.

20 Q. All right. If you could turn in the '848
21 Patent to column 9, and in particular line 35 of column
22 9. Just let me know once you're there.

23 A. I am there.

24 Q. Okay. And the '848 Patent discloses here,
25 column 9, beginning line 35, it says, as used herein the

1 term cis-reactive cell, parentheses, CRC, closed paren,
2 refers to an association of at least two interactor
3 moieties joined by an associated oligonucleotide.

4 Do you see that statement there?

5 A. I do.

6 Q. Do you agree that this disclosure in the '848
7 Patent is the patent's definition of a cis-reactive
8 cell?

9 MR. PLATT: Objection to form.

10 THE WITNESS: What I see here is a compound that
11 comprises the inter- -- association of two interactive
12 moieties joined by associated oligonucleotide.

13 That's what I read here.

14 MR. HOLMAN:

15 Q. Do you agree that that's a definition provided
16 by the '848 Patent?

17 MR. PLATT: Objection to form.

18 THE WITNESS: What I see here is a description of
19 this term used with no context and as a beginning point
20 to the usage throughout the disclosure of a CRC.

21 MR. HOLMAN:

22 Q. Is it your opinion that this statement here,
23 beginning at line 35, column 9, is not a definition of a
24 cis-reactive cell?

25 MR. PLATT: Objection to form.

1 THE WITNESS: Well, as I explained, this states in
2 this one small sentence a beginning description of a CRC
3 as -- and it occurs many other times throughout the --
4 the disclosure.

5 MR. HOLMAN:

6 Q. If you could turn back one page to column 8,
7 please. And right in the middle of the column, just
8 above line 35, there's a header, it says Detailed
9 Description of the Invention.

10 Do you see that?

11 A. I do.

12 Q. And just under that, there's a sub header that
13 says, Terms and Definitions.

14 Do you see that?

15 A. I see that.

16 Q. Okay. And do you agree that this disclosure
17 that we are looking at in column 9 is underneath this
18 sub header entitled Terms and Definitions?

19 A. I'm reading that along with you.

20 Q. I'm asking you if you agree that that's where
21 this disclosure of a cis-reactive cell, column 9, line
22 35, is, underneath the section entitled Terms and
23 Definitions.

24 A. Looking at this document, that is literally
25 where it is.

1 Q. Okay. Do you have any reason to dispute that
2 this is a definition -- Excuse me. Strike that.

3 Do you have any reason to dispute that the
4 disclosure at column 9, beginning line 35 is a
5 definition of a cis-reactive cell?

6 MR. PLATT: Objection to form.

7 THE WITNESS: As I was explaining, this is one
8 starting point of a reference to a CRC in this entire
9 document.

10 MR. HOLMAN:

11 Q. Is it your understanding that other references
12 to CRC in this '848 Patent apply a different definition
13 of CRC than what is disclosed here in column 9,
14 beginning at line 35?

15 A. It depends. It depends on the context of each
16 usage thereof and could describe different parts of the
17 disclosure, and it would depend on a case-by-case basis.

18 Q. So are you saying that the criteria of what a
19 cis-reactive cell may be in the '848 Patent may change
20 depending on the case, in a case-by-case basis?

21 A. As I was explaining, each reference to CRC in
22 this whole document would require evaluation to see if
23 there's any differences in this one small starting point
24 to -- to what CRC refers to.

25 Q. Let's look at -- turn to the back of the patent

1 to the claims, please. Claim 1 that's in column 41.

2 And -- are you at Claim 1?

3 A. I am.

4 Q. Step (b) of Claim 1 recites forming a plurality
5 of cis-reactive cells.

6 Do you see that --

7 A. I do.

8 Q. -- step (b)?

9 And it says, wherein a cis-reactive cell
10 comprises at least two interactors bound in proximity to
11 one another by an associated oligonucleotide formed from
12 the association between at least two nucleic acid
13 moieties, wherein the associated oligonucleotide
14 comprises at least two identification elements derived
15 from the at least two nucleic acid moieties.

16 Did I read that correctly there, Dr. Nelson?

17 A. Yes.

18 Q. All right. Is this -- are these criteria for a
19 cis-reactive cell recited in Claim 1, step (b),
20 consistent with the disclosure of a cis-reactive cell in
21 column 9, line 35 that we were looking at earlier?

22 A. What I see here is claim language, Claim 1(b),
23 that describes an exact situation, uses the word
24 "comprises." And it comprises that at least two
25 interactors found in proximity to one another by an

1 associated oligonucleotide and so forth. This is the
2 literal meaning in Claim 1(b).

3 Q. Is it your opinion that the literal meaning in
4 Claim 1(b) differs from the disclosure provided in
5 column 9, beginning line 35?

6 A. It differs in that there's a lot more words and
7 a lot more detailed explanation of what it means in
8 Claim 1(b).

9 Q. Is it your opinion that the literal meaning
10 provided in Claim 1(b) is inconsistent with the
11 disclosure in column 9, beginning line 35?

12 A. My opinion is that it's similar; it's more
13 detailed in 1(b).

14 Q. Do you have an opinion one way or the another
15 if the meaning provided in Claim 1(b) is inconsistent
16 with the disclosure in column 9, line 35?

17 A. Well, as I explain -- as I was explaining, my
18 opinion is it's similar, there's more detail in the
19 language in Claim 1(b).

20 Q. Do you agree that it's consistent -- the
21 language in Claim 1(b) is consistent with the disclosure
22 in column 9, line 35?

23 A. Consistent is a subjective word, so my
24 explanation is that it is related and it's a more
25 detailed explanation.

1 Q. Does the language in Claim 1(b) contradict the
2 language in column 9, line 35?

3 A. I'm going to refer to the original definition
4 one more time.

5 Again, my comment and my opinion is it's
6 related but it's more detailed.

7 Q. All right. Let's look at Claim 2. This is
8 line 40 -- or column 41, beginning line 59. Claim 2
9 recites, the method of detecting functional interactions
10 between at least two molecules of interest as recited in
11 Claim 1, wherein selecting all cis-reactive cells
12 exhibiting the detectable trace is accomplished via
13 selective separation or selective detection of the
14 cis-reactive cells.

15 Did I read the claim correctly, Dr. Nelson?

16 A. Yes.

17 Q. All right. Would a POSA, a person of ordinary
18 skill in the art, reading Claim 2 have understood the
19 term "cis-reactive cells" recited in Claim 2 to have a
20 different meaning than the cis-reactive cell recited in
21 Claim 1?

22 MR. PLATT: Objection to form.

23 THE WITNESS: My opinion is that a POSA would have
24 understood Claim 2 in the context of the entire Claim 1
25 since it is a dependent claim, and they would have

1 understood the Claim 1(b) is the formation of the
2 cis-reactive cell, and Claim 2 talks about a method of
3 detecting functional interaction.

4 So the starting point is Claim 1(b) for a
5 cis-reactive cell, but then there's multiple steps in
6 between to get to the method of detecting. So, again,
7 it depends on exactly what that method of -- of
8 detecting would be as to what they would view as the CRC
9 and the entire method.

10 MR. HOLMAN:

11 Q. All right. So Claim 1, step (b) you mentioned
12 is formation of a cis-reactive cells; correct?

13 A. It states, forming a plurality of cis-reactive
14 cells.

15 Q. Okay. And then Claim 1, step (c) recites,
16 subjecting the plurality of cis-reactive cells to
17 conditions which stimulate a desired functional
18 interaction having a detectable trace.

19 Is it your understanding that step (c) --
20 Claim 1, step (c), when referring to cis-reactive cells,
21 is referring to the cis-reactive cells that were formed
22 in step (b)?

23 A. Since I see one -- Claim 1(c) as stating
24 subjecting the plurality of cis-reactive cells, that
25 refers to the cis-reactive cells in Claim 1(b).

1 Q. Okay. And then step (d) of Claim 1 recites,
2 selecting all cis-reactive cells exhibiting the
3 detectable trace.

4 You see that there?

5 A. I do see that.

6 Q. Is it your understanding that step (d) --
7 Claim 1, step (d), when referring to all cis-reactive
8 cells exhibiting detectable trace, is referring to the
9 cis-reactive cells recited in Claim 1, step (c)?

10 A. It is referring to cis-reactive cells which
11 have been stimulated -- Let me start that again. Which
12 have been subjected to conditions which stimulate a
13 desired functional interaction. So some of them have
14 already gone -- inter gone -- undergone, sorry, a
15 functional interaction and some have not, so they're
16 already changed in some way.

17 Q. Do you agree that the cis-reactive cells
18 referenced in Claim 1, step (d) are the cis-reactive
19 cells that were recited in Claim 1, step (c)?

20 A. Claim 1(d) refers to those that have exhibited
21 a detectable trace from the method of step 1(c).

22 Q. So aside from having the detectable trace, are
23 the cis-reactive cells recited in Claim 1, step (d) any
24 different from the cis-reactive cells recited in
25 Claim 1, step (c)?

1 MR. PLATT: Objection to form.

2 THE WITNESS: My view is that they've undergone a
3 functional interaction having a detectable trace. So
4 no, it's not just as you described.

5 MR. HOLMAN:

6 Q. Okay. So aside from having a functional
7 interaction -- undergoing -- Excuse me. Strike that.

8 Aside from undergoing a functional interaction
9 having a detectable trace, are the cis-reactive cells in
10 step (d) any different from the cis-reactive cells in
11 step (c)?

12 MR. PLATT: Objection to form.

13 THE WITNESS: It depends. Depends on what the
14 exact process is. Case-by-case basis, can't say.

15 MR. HOLMAN:

16 Q. All right. So then when we get to Claim 2, the
17 wherein clause in Claim 2 recites, wherein selecting all
18 cis-reactive cells exhibiting detectable trace is
19 accomplished via selective separation or selective
20 detection of the cis-reactive cells.

21 Is it your understanding that Claim 2 is
22 referring to Claim 1, step (d) when it says, selecting
23 all cis-reactive cells exhibiting the detectable trace?

24 A. Now that I've read it, could you please repeat
25 that question.

1 Q. Sure.

2 Is it your understanding that when Claim 2
3 recites, wherein selecting all cis-reactive cells
4 exhibiting the detectable trace, it's referring to
5 Claim 1's step (d)?

6 A. It does appear that Claim 2 or in selecting
7 does refer to Claim 1(d) above the selection process.

8 Q. All right. And then if we look at Claim 3,
9 just underneath there, Claim 3 also has a wherein
10 clause -- Strike that.

11 Claim 3 depends from Claim 2. Do you agree
12 with that?

13 A. Yes.

14 Q. And then Claim 3 recites, wherein selecting all
15 cis-reactive cells exhibiting the detectable trace is
16 accomplished by affinity purification.

17 Do you see that?

18 A. I do see that.

19 Q. Is it your understanding that when Claim 3
20 recites, wherein selecting all cis-reactive cells
21 exhibiting detectable trace, it's referring to the
22 selection step of Claim 1(d)?

23 A. My answer is the same. I explained it by
24 saying that Claim 3 refers to the wherein selecting
25 clause of Claim 2 which refers in general to step 1(d),

1 selecting all cis-reactive cells, wherein selecting is
2 referring to the method of step 1(d).

3 Q. Would a POSA reading Claim 3 of the '848 Patent
4 have understood the term "cis-reactive cell" recited in
5 Claim 3 to have any different meaning than the term
6 cis-reactive cell as recited in Claim 1?

7 A. Again, as I was explaining and as you obviously
8 are well aware, these are dependent claims so they
9 depend on Claim 1. So in each case, it's case by case
10 depending on the exact constructs being analyzed. It is
11 all dep- -- 2 and 3 are dependent claims so they refer
12 back to the particular CRCs in this experiment
13 whatever -- whichever one they're working on that
14 started out in -- in Claim 1.

15 So whatever the CRCs were in 1(b) are the ones
16 that these refer to after step (c) and then comes the
17 selection step.

18 Q. So do you agree that the -- the term
19 "cis-reactive cells" recited in Claim 3 would have the
20 same meaning as the term "cis-reactive cells" recited in
21 Claim 1?

22 A. As I was just explaining, Claim 3 is dependent
23 on Claim 2 which is dependent on Claim 1. So depending
24 on a particular experiment, those refer to those CRCs
25 which -- whether it be in 1(b), 1(c), or 1(d), the

1 details of which are dependent on a particular
2 experiment.

3 Q. Is it your understanding that the meaning of
4 cis-reactive cell recited in Claim 3 might differ from
5 the meaning of cis-reactive cell recited in Claim 1
6 depending on the experiment?

7 A. That's not what I was saying.

8 I was saying that what a CRC is depends on a
9 particular experiment, and so it depends on what is
10 being analyzed in a particular application of these
11 three claims.

12 Q. Is it your opinion that a experiment -- Strike
13 that.

14 Is your opinion that the criteria of what a
15 cis-reactive cell is depends on the experiment?

16 MR. PLATT: Object to the form.

17 THE WITNESS: As I was explaining previously when
18 we read in column --

19 MR. HOLMAN:

20 Q. Column 9?

21 A. -- 9, is a baseline definition and the exact
22 details are dependent on the experiment. So that is all
23 I'm referring to.

24 Q. Okay. So do you agree that when Claim 3 refers
25 to cis-reactive cells, the meaning of cis-reactive cells

1 at a minimum has the baseline definition recited in
2 column 9, but it may have additional details depending
3 on the experiment?

4 MR. PLATT: Objection to form.

5 THE WITNESS: The same answer as before. It
6 depends. Depends on a particular situation and each
7 would have its own particular details of -- of that
8 definition.

9 MR. HOLMAN:

10 Q. So are you saying there's -- you're envisioning
11 a situation of a cis-reactive cell in Claim 3 that
12 doesn't have the baseline -- doesn't meet the baseline
13 definition recited in column 9, line 35?

14 MR. PLATT: Objection to form.

15 THE WITNESS: What I'm saying is a cis-reactive
16 cell depends on the particular details of an experiment.

17 MR. HOLMAN:

18 Q. All right. If you could turn the page to --
19 excuse me, Claim 19, it's on column 44.

20 Now, column -- or excuse me, Claim 19 is
21 referenced in the certificate of correction which is on
22 the very back page. Just want to make sure we're on the
23 same page here.

24 So if you look on the very back page, do you
25 see a certificate of correction there --

1 A. I do.

2 Q. -- of the patent?

3 And it says that column 44, line 13 changed 12
4 to 2.

5 Do you see that?

6 A. I do.

7 Q. Okay. And if you turn back to column 44, and
8 you look at line 13, you see where Claim 19 is referring
9 to Claim 12 but with a certificate of correction that
10 should be Claim 2.

11 Do you understand that?

12 A. I do.

13 Q. Okay. So is it your understanding that Claim
14 19 depends from Claim 2?

15 A. It is.

16 Q. All right. And Claim 19 also has a wherein
17 clause that recites, wherein the selective detection
18 comprises labeling the cis-reactive cells with an
19 affinity reagent.

20 Do you see that there?

21 A. I do.

22 Q. Is it your understanding that Claim 19's
23 reference to cis-reactive cells would have the same
24 meaning as the term "cis-reactive cells" as recited in
25 Claim 1?

1 A. It's the same basic explanation I've been
2 giving. This refers to Claim 2 which depends from
3 Claim 1, so it depends. Depends on the particular
4 application and experiment as to the exact details.

5 Q. Would a person of skill in the art reading
6 Claim 19 have understood the term "cis-reactive cell" in
7 Claim 19 to have a different meaning than the term
8 "cis-reactive cell" recited in Claim 1?

9 A. As I've been explaining, Claim 19 is dependent
10 on Claim 2 which is dependent on Claim 1, so it -- it
11 all depends on a particular -- the details of any
12 particular experiment. But 19 and 2 both depend on
13 Claim 1.

14 Q. So I'm just asking if the CRC referred to in
15 this dependent claim, Claim 19, is that the same CRC
16 that's recited in Claim 2 which is the same CRC as
17 recited in Claim 1.

18 A. Depends on the details of an experiment. So
19 these are dependent claims, so it depends on exactly the
20 details of the experiment that are undertaken in
21 execution of the method of Claim 1.

22 Q. In Claim 19, what is the term "cis-reactive
23 cells" referring to?

24 A. I think I heard that correctly, but just to
25 remove my doubt, could you please repeat that question.

1 Q. Sure. So -- or no, I'll rephrase it, try to
2 make it a little clearer for you.

3 So Claim 19 refers to labeling the cis-reactive
4 cells with an affinity reagent.

5 Do you see that?

6 A. I do see that.

7 Q. All right. And so when it's referring to
8 cis-reactive cells here, what -- what -- where are the
9 cis-reactive cells coming from?

10 MR. PLATT: Objection to form.

11 THE WITNESS: Well, again, Claim 19 is dependent on
12 Claim 2, Claim 19 is a method claim detecting functional
13 interactions as recited in Claim 2, which is a method of
14 detecting functional interactions as recited in Claim 1.

15 And so what is a cis-reactive cell and what
16 it's referring to in this method, which comprises
17 selective detection comprising labeling the cis-reactive
18 cells, it depends on the details of a particular
19 experiment, what that term cis-reactive cells means at
20 that point in this methodology, how it compares to the
21 methodology of Claim 2 which compares to the methodology
22 of Claim 1.

23 MR. HOLMAN:

24 Q. In your second declaration, let's turn to
25 paragraph 20, please. It's on page 11.

1 Are you there?

2 A. Yes.

3 Q. All right. And in this paragraph -- this is
4 the beginning of a section where you address Claim 1,
5 step (d)'s selection step; is that correct?

6 Step (d) of Claim 1; is that right?

7 A. Yes.

8 Q. And then paragraph 20, the second sentence, you
9 state, I disagree -- referring to Dr. Pentelute's
10 opinions -- I disagree because Dr. Pentelute, one,
11 improperly interprets, quote, selecting, end quote, to
12 be a single capture event and, two, he improperly
13 requires that Kanan's streptavidin must capture CRCs.

14 Do you see that statement there in your
15 declaration?

16 A. I do.

17 Q. Okay. And regarding your number one -- your
18 point number one there, you disagree with
19 Dr. Pentelute's opinions because he, according to you,
20 improperly interprets the term "selecting" to be a
21 single capture event.

22 Is that -- is that right?

23 A. That's exactly what it states.

24 Q. Okay. And in paragraph 21, the next paragraph,
25 first sentence, you state, Dr. Pentelute improperly

1 limits, quote, selecting, end quote, in step (d) as a
2 single capture event in Kanan, hyphen, affinity capture.

3 Do you see that statement there?

4 A. I do.

5 Q. And then same question, so you -- you disagree
6 with Dr. Pentelute's opinions because, according to you,
7 he improperly limits the term "selecting" in step (d) as
8 a single capture event; is that correct?

9 A. It -- this -- exac- -- you're just reciting
10 exactly what it says here, so that -- that's what it
11 says right here.

12 Q. Do you agree with that statement there in
13 paragraph 21?

14 A. Well, this is my declaration, so --

15 Q. You stand by that opinion?

16 A. I do.

17 Q. Okay. One more question on paragraph 22. Next
18 page, first sentence of paragraph 22, in your second
19 declaration, you state, his, meaning Dr. Pentelute's,
20 narrow application of, quote, selecting, end quote,
21 conflicts with his recognition that the specification,
22 quote, teaches that CRCs which display functional
23 interactions must be selected for detection and/or
24 analysis.

25 Do you see that sentence I just read there?

1 A. I do.

2 MR. PLATT: Objection to form.

3 MR. HOLMAN:

4 Q. And as with the previous statements we were
5 just looking at, is it fair to say that you disagree
6 with Dr. Pentelute based on the meaning of the term
7 "selecting" as recited in the Claim 1(d)?

8 A. I'm going to ask you to repeat that question
9 one more time.

10 Q. Yeah. Based on -- I'll just -- I'll rephrase
11 it here.

12 So -- so given your statement that we looked at
13 in paragraph 20, 21, and 22 of your declaration, is it
14 fair to say that you're disputing the meaning of the
15 claim term "selecting" that's recited in Claim 1,
16 step (d)?

17 MR. PLATT: Objection to form.

18 THE WITNESS: It's quite a bit different from the
19 first question you asked.

20 What 20 through 22 are reciting is my opinion
21 of Dr. Pentelute's evaluation of the selecting process.

22 Let me rephrase that. Of his opinion about
23 the -- what the word "selecting" means.

24 MR. HOLMAN:

25 Q. Okay. So is it fair to say you are -- you

1 disagree or you are disputing -- Strike that.

2 Let me start over.

3 Is it fair to say you're disputing the meaning
4 of what the term "selecting" is in the '848 Patent?

5 MR. PLATT: Objection to form.

6 THE WITNESS: What I'm saying is what is clearly
7 written here, is that I disagree with Dr. Pentelute's
8 opinions as recited in his declaration.

9 MR. HOLMAN:

10 Q. Do you provide an opinion in your second
11 declaration on what the plain and ordinary meaning of
12 the term "selecting" is?

13 A. I'm going to review the second declaration a
14 little bit and then I'm going to ask you to ask me that
15 question again.

16 Is that fair enough?

17 Q. Sure.

18 A. Okay. I'm ready. Could you please ask me the
19 question again.

20 Q. Do you provide an opinion in your second
21 declaration of what the plain and ordinary meaning of
22 the term "selecting" in Claim 1(d) is?

23 A. I spend a good amount of time in the second
24 declaration describing selecting process, starting with
25 the end of paragraph 22 but not limited to this, in

1 which I state, this is consistent with my understanding
2 of the plain and ordinary meaning of, quote, selecting,
3 unquote, colon, it is not limited to a single event or
4 even a single type of event like affinity capture.

5 And I go on in the next several paragraphs to
6 describe selection in more detail.

7 Q. So is it your opinion that the plain and
8 ordinary meaning of the term selecting is, quote, it is
9 not limited to a single event or even a single type of
10 event like affinity capture, end quote?

11 A. That's exactly what I wrote right there. So
12 that is -- that one sentence is correct. There's more
13 description coming.

14 MR. PLATT: David, we've been going about an hour.
15 When you get a chance.

16 MR. HOLMAN: Okay, yeah, I'm almost at a stopping
17 point.

18 Q. What documents did you review to arrive at your
19 understanding of the plain and ordinary meaning of the
20 term "selecting" as you've stated it here in paragraph
21 22 of your second declaration?

22 A. Firstly, a plain and ordinary meaning is
23 something that is obvious to one skilled in the art.
24 It's obvious that selecting the definition of selecting
25 depends on the particular usage, particular scientific

1 objective, a particular scientific course of
2 experimentation.

3 And as I state here, it'd been obvious to a
4 POSA that it doesn't -- not necessarily a single event
5 and it's not limited to a single event, it's obvious
6 that selecting can be a process, as I start to describe
7 in paragraph 23. And in subsequent paragraphs beyond
8 that, it's obvious to a POSA that selecting is broader
9 and can be a process. I do make some particular
10 citations which are in the record and clearly stated.

11 Q. What citations are you referring to?

12 A. If you want to go through them one by one, we
13 can start going through some of these paragraphs just as
14 a starting point.

15 Q. Is one of the citations the -- you refer to
16 there at beginning of paragraph 23 where you cite the
17 Exhibit 1001, column 19, line 4 to 20, line 47?

18 A. That is one of the citations, as -- as written
19 there.

20 MR. HOLMAN: Okay. Let's take a break and go off
21 the record.

22 (Interruption in proceedings.)

23 MR. HOLMAN:

24 Q. Dr. Nelson, during the break, did you discuss
25 the substance of your deposition testimony with anyone?

1 A. No.

2 Q. Before the break, we were looking at your
3 statement at the end of paragraph 22 at the end of your
4 second declaration, where I believe you said you provide
5 the plain and ordinary meaning of the term "selecting."

6 Do you recall that statement there?

7 MR. PLATT: Objection to form.

8 MR. HOLMAN:

9 Q. It's on page 14.

10 A. It took me a moment to get there. I apologize.

11 So can you, therefore, repeat the question.

12 Q. I just want to get you oriented. So I'm going
13 to look back at that statement where you say, at the end
14 of paragraph 22, this is consistent with my
15 understanding of the plain and ordinary meaning of
16 selecting.

17 Do you see that sentence there?

18 A. I do see that sentence.

19 Q. Okay. And I asked you what you -- what
20 documents you reviewed to inform your opinion to provide
21 this -- provide your understanding of the plain and
22 ordinary meaning of the term "selecting." And I believe
23 you'd said that there were several citations in the
24 record.

25 Does that sound correct?

1 A. I started by saying it's -- the plain and
2 ordinary meaning is obvious to a POSA, one of skill in
3 the art, and then said -- and there was also various
4 citations. So that's where we left it off.

5 Q. Okay. And is one of the citations that you
6 reviewed to consider the plain and ordinary meaning of
7 the term "selecting" the patent Exhibit 1001, column 19,
8 line 4, to column 20, line 47?

9 A. That is one of the examples that I use in
10 addition to it's obvious to one skilled in the art of
11 what selecting is.

12 Q. All right. What other citations to the
13 evidence did you use to form your opinion of the plain
14 and ordinary meaning of the term "selecting"?

15 A. They are supplied here. For example, I mean,
16 if we just walk through the paragraphs, Kanan's
17 supplemental information, which is the Exhibit 1013.

18 MR. PLATT: Sorry, do you have a copy of --

19 MR. HOLMAN: (Indicating.)

20 THE WITNESS: I refer to my first declaration,
21 Exhibit 1005.

22 MR. HOLMAN:

23 Q. Where -- what specifically are you referring to
24 when you say --

25 A. I'm just simply citing -- in paragraph 25 of my

1 second declaration, I cite paragraphs 117 through 120 of
2 Exhibit 1005, which is my first declaration.

3 Q. Uh-huh.

4 A. I cite Exhibit 1010, which is Kanan.

5 So those are three examples.

6 Q. Anything else?

7 MR. PLATT: Objection to form.

8 THE WITNESS: Those are the ones I find cited up
9 through paragraph 50. There may be more in the rest, I
10 don't recall offhand. There may be more citations in my
11 first declaration, I not recall offhand.

12 MR. HOLMAN:

13 Q. In coming to your understanding of the plain
14 and ordinary meaning of the term "selecting," did you
15 consider example 5 of the '848 Patent?

16 In particular, I'm looking in your second
17 declaration, paragraphs 32, 33, 34, if that helps orient
18 you.

19 A. In addition to the other references and just
20 the obviousness to a POSA of what selection could mean,
21 I do discuss example 5 in the Exhibit 1001.

22 Q. And does examp- -- did example 5 of the '848
23 Patent inform your opinion of what the plain and
24 ordinary meaning of the term "selecting" is in Claim 1?

25 A. As I explained earlier, my meaning of selection

1 was informed by what would be obvious to a person of
2 skill in the art, as well as multiple references which
3 we just cited, and one of those being example 5 in
4 Exhibit 1001.

5 Q. In paragraph 32 of your declaration, page 21,
6 top of page 21, you testified that this example, meaning
7 example 5, quote, details an assay falling within the
8 scope of Claim 1.

9 Do you see that statement there?

10 A. I do see that.

11 Q. And is it your opinion that example 5 is a --
12 an embodiment of the methods of Claim 1?

13 Strike that. Let me withdraw that question,
14 Dr. Nelson.

15 A. Okay.

16 Q. What do you mean when you said that example 5
17 details an assay falling within the scope of Claim 1?

18 A. What I meant was that example 5 shows
19 experimental details of the art claimed in Claim 1 of
20 the '848 Patent, which is Exhibit 1001.

21 Q. Is it your opinion that example 5 is an
22 embodiment of the methods of Claim 1?

23 A. Well, I'm not a legal expert, so the term
24 "embodiment" is more of a legal term.

25 Q. Is it your opinion -- Oh, sorry.

1 A. Yeah, let me finish.

2 So it is my basic understanding that the
3 examples in a patent application or a patent -- issued
4 patent in this case -- exemplify various embodiments of
5 the claimed art.

6 For example, in column 29 above example 5, at
7 line 51, there's the phrase that states, in a very
8 specific embodiment. So again, I'm not a legal expert
9 but my understanding is that examples give just that,
10 examples of possible embodiments of the particular art
11 in question of this patent.

12 Q. So just to be clear, is it -- is it your
13 understanding that example 5 is an example embodiment
14 following the method of Claim 1?

15 A. Again, I'm not a legal expert so embodiment is
16 more of a legal term compared to a scientific term. So
17 I believe that example 5 is an example of potential
18 embodiment of this claimed invention.

19 Q. What -- what analysis did you do to determine
20 that example 5 is an example of a potential embodiment
21 of the claimed invention?

22 A. Simply that, as I just stated, it's my
23 understanding that examples give embodiments of the
24 claimed invention, and Claim 1 is the one independent
25 claim. So ergo, it would -- in my opinion as a

1 scientist, it would fall within the scope of Claim 1.

2 Q. All right. And then, when you stated in your
3 declaration, paragraph 32, that the example 5 details an
4 assay falling within the scope of Claim 1, in what way
5 or ways does example 5 fall within the scope of Claim 1?

6 A. According to the language of Exhibit 1001,
7 example 5, starting with line 66, the statement is made,
8 this example demonstrates that encoding interactors with
9 unique tags and detecting the combinations formed
10 therefrom on a combinatorial array may resolve all
11 interactions within a library.

12 So that statement provides support to my
13 understanding as a scientist of what I just described in
14 my preceding answer.

15 Q. All right. In example 5, what are the
16 molecules of interest that are being investigated, do
17 you know?

18 A. According to line 4 of column 30, the authors
19 of this patent state MOIs -- that's M, capital O,
20 capital I, capital small S -- are thiol groups.

21 Q. All right. And then the thiol groups -- Strike
22 that.

23 How about the nucleic acid moieties in example
24 5, does example 5 disclose adding nucleic acid moieties
25 to the thiol groups?

1 A. In line 13 of column 30, I read, as written by
2 the authors of this patent, oligonucleotides with thiol
3 groups will dimerize pairwise. So there's the reference
4 to oligonucleotides.

5 Q. Okay. So is it your understanding that the
6 thiol groups connected to an oligonucleotide create an
7 interactor in example 5?

8 A. According to the first sentence of example 5,
9 again, on line 66 of column 29, the authors state, this
10 example demonstrates that encoding interactors with
11 unique tags and detecting the combination formed
12 therefrom, then it goes on.

13 So a molecule of interest with the associated
14 NAMs, from what they say, they appear to state that this
15 is an interactor.

16 Q. All right. And what type of interaction is
17 being detected or investigated in example 5?

18 A. Line 11 of column 30 states, formation of a
19 covalent bond is interrogated within the library. And
20 it's referring to the sentence before that, starting
21 with line 10, the application of resolve pairwise
22 reacted groups within an interactor library is
23 exemplified.

24 This is again referring to the MOIs that are
25 thiol groups, as stated in line 4 of column 30.

1 Q. And they -- when you were reading from column
2 30, line 11, the sentence after that says, the
3 dimerization of thiol groups serves as an example.

4 Do you see that?

5 A. I do see that.

6 Q. So do you agree that in this example 5, the
7 thiol dimerization is the interaction that is being
8 interrogated?

9 A. My opinion is stated in the lines including
10 that sentence which read, the application of resolving
11 pairwise reactive groups within an inter- -- interactor
12 library is exemplified. Formation of a covalent bond is
13 interrogated within the library. Dimerization of thiol
14 groups serves as an example.

15 So I'm taking these words at -- at face value.

16 Q. So do you agree that in example 5, the
17 interaction being interrogated is dimerization of thiol
18 groups?

19 A. Again, my view is that when they state
20 dimerization of thiol groups serves as an example, I'm
21 just taking that at -- at face value.

22 Q. Do you agree that dimerization of thiol groups
23 is an MOI -- is an interaction between two MOIs?

24 A. It is, in this example, a dimerization event,
25 which is a -- they characterize as a -- an interaction.

1 Q. All right. And then in column 30, a little
2 further down, line 18, there's a sentence that says -- I
3 think it's line 18, says, subsequent to dimerization,
4 interacting MOI are identified by association of the
5 respective NAMS by ligation, figure 5A.

6 Do you see that sentence there?

7 A. I do see that sentence.

8 Q. So what -- what is happening in this step as
9 disclosed here in column 30, line 18?

10 A. If I look at figure 5A that is referenced, it
11 shows you a schematic diagram of what they are
12 characterizing with their words. And as you can see
13 from figure 5, there's two circles which represent the
14 MOIs and two arrows which represent the NAMS, and there
15 is a -- a third oligo which bridges that gap, and then
16 there's ligation and such that those two segments of
17 NAMS are connected via ligation as shown schematically
18 in figure 5.

19 Q. And according to example 5, this process, the
20 association of the respective NAMS, occurs after
21 dimerization of the MOI thiols; is that correct?

22 A. In this example, it appears as though the words
23 written in -- starting line 18 is what occurs, that is,
24 subsequent to dimerization, interacting MOI are
25 identified by association of the respective NAMS by

1 ligation.

2 Q. All right. So if we keep going on column 30,
3 down a little further, at line 21, there's a sentence
4 that says, the ligated product can also serve as
5 amplification template for PCR, enabling selective
6 amplification of the ligated NAMs.

7 Do you see that sentence?

8 A. I do see that sentence.

9 Q. Do you have an understanding of what selective
10 amplification is in the '848 Patent?

11 A. From what we're reading here, I can understand
12 what is meant in this particular example. Where --
13 again, as this example, they -- that process is
14 described above the sentence and, therefore, the term
15 "the ligated product" refers to what they said before
16 that. And it can also serve as amplification template
17 for PCR, enabling selective amplification of the ligated
18 NAMs.

19 So for this particular example, which is what
20 we're reading, it means amplification of the ligated
21 NAMs.

22 Q. All right. And then, if we can keep going down
23 column 30, there's a header, looks like line 41, says,
24 Experimental Procedure.

25 Do you see that?

1 A. I do see that.

2 Q. Then underneath Experimental Procedure, there's
3 a part A entitled Library Construction via dimerization
4 of thiol modified oligonucleotides.

5 See that?

6 A. I do.

7 Q. And then underneath that section, the next --
8 there's another sub header, B, titled Association and
9 selection by ligation and PCR.

10 Do you see that --

11 A. I do see that.

12 Q. -- sub header there?

13 Okay. And is it your understanding that these
14 headers track the order of processes we were just
15 referring to as far as the dimerization of thiols taking
16 place described in sub header A, followed by association
17 of the NAMS taking place as described in sub header B?

18 A. I will take a moment to review these sections
19 and then answer the question.

20 In the experimental procedure section, which
21 you -- to which you refer, section A discusses
22 dimerization, and then section B, it appears to be
23 describing a combined PCR and ligation in the same
24 reaction mixture. That's what parts A and B describe.

25 Q. The dimerization in part A is the dimerization

1 of the thiol -- thiols; is that right?

2 A. Correct. Which is in the first sentence,
3 library construction via dimerization of thiol modified
4 oligonucleotides, which is line 43.

5 Q. And is the PCR that's disclosed in section B
6 here, is that the selective amplification that we were
7 discussing above in column 30, line 23?

8 A. The process that they describe here is
9 identified by line 56, which is b -- small b, period --
10 association and selection by ligation and PCR. That's
11 what this describes in this example.

12 Q. And is that different from selective
13 amplification disclosed in column 30 of example 5?

14 A. Disclosed in column 30? I mean, this is all
15 column 30.

16 Q. Sure. So is the association and selection via
17 ligation and PCR in subpart B, does that -- is that
18 different from selective amplification of the ligated
19 NAMs that's disclosed above in column 30, line 23?

20 A. Well, one has to be careful with that because
21 this section talks about selection by ligation and PCR.
22 So in this section B, it is the ligation and PCR
23 reactions combined and yet it is still -- this entire
24 example is still talking about selective amplification.

25 It's just an example of a system which is a

1 contrived system with the thiol modified
2 oligonucleotides.

3 Q. All right. If you could turn back to your
4 declaration -- second declaration. And I'd like to
5 direct your attention to paragraph 24, please. And your
6 last sentence in paragraph 24, it's on page 15, you
7 testify that -- or you state -- Let me start over.

8 This last sentence in paragraph 24, you
9 testify, quote, this confirms that Kanan's selection is
10 a process that begins prior to the cleavage of the
11 disulfide bond of the pool B oligonucleotides, end
12 quote.

13 Do you see that statement?

14 A. I do see that.

15 Q. And is it your opinion that Kanan teaches
16 Claim 1's selecting step because Kanan's selection
17 begins prior to the cleavage of the disulfide bond in
18 the pool B oligonucleotides?

19 MR. PLATT: Objection to form.

20 THE WITNESS: Now that I've reread this paragraph,
21 could you please state the question again.

22 MR. HOLMAN:

23 Q. Sure.

24 Is it your opinion that Kanan teaches Claim 1's
25 selecting step -- Claim 1, step (d) -- because, in your

1 opinion, Kanan's selection begins prior to the cleavage
2 of the disulfide bond in the pool B oligonucleotides?

3 MR. PLATT: Objection to form.

4 THE WITNESS: In paragraph 24 of my second
5 declaration, which is what we're evaluating right now,
6 it's part of a broader section which is describing how
7 selection can be a process.

8 And I start by saying in -- on page 14, the
9 beginning of paragraph 24, that here Kanan's
10 supplementary information describes both the disulfide
11 cleavage and the streptavidin capture under the
12 selections for bond formation -- selections for bond
13 formation is in quotes -- process of Kanan's workflow.

14 So here I am simply supporting my opinion that
15 selection can be a process.

16 MR. HOLMAN:

17 Q. Is it your opinion that Kanan's disclosure of
18 cleaving disulfide bond and performing streptavidin
19 selection constitutes the selection process in Kanan?

20 A. Could you define what you mean by
21 "constitutes."

22 Q. Is it your opinion that Kanan's disclosure of
23 cleaving disulfide bonds, combined with biotin avidin
24 selection, makes up the entire selection process in
25 Kanan?

1 A. What I'm stating in this paragraph is, more
2 simply put, that the process of selection disclosed in
3 Kanan shows that selection can be a process. And as
4 you'll see, I've also cited Exhibit 1013, which is
5 Kanan's supplemental information, and that entire
6 process is shown in the section selections of -- for
7 bond formation. So that is the -- the process used in
8 the Kanan workflow.

9 Q. And is it your opinion that that process in the
10 Kanan workflow is what teaches or suggests the selection
11 step of Claim 1(d), the '848 Patent?

12 MR. PLATT: Objection to form.

13 THE WITNESS: I am saying that what I'm trying to
14 inform in paragraph 24 is that the process of Kanan
15 described in 1013 under selections for bond formation is
16 an example of how selection method can be a process.

17 MR. HOLMAN:

18 Q. Dr. Nelson, you're not really answering my
19 question. I'm trying to understand how this -- how your
20 opinion about selection being a process relates to '848
21 Patent's Claim 1, step (d).

22 And so my question is, is it your opinion that
23 the process which you've stated is -- that begins prior
24 to the cleavage of the disulfide bond of the pool B
25 oligonucleotides, is that -- is it your opinion that

1 that process is what teaches or suggests the selection
2 step of Claim 1(d) in the '848 Patent?

3 A. What I'm trying to say is this -- Kanan's
4 process is one example of a selection method and what it
5 informs me is that selection can be a process.

6 Q. And how does that relate to Claim 1, step (d)
7 of '848 patents?

8 A. What we're talking about in this whole
9 declaration -- section of the declaration is the
10 selection step. So it's one example of a selection
11 process that shows that selection can be a process.

12 Q. Is it your opinion that Claim 1, step (d) of
13 '848 Patent is obvious because of Kanan's disclosure of
14 a process that begins prior to cleavage of the disulfide
15 bond of the pool B oligonucleotides?

16 MR. PLATT: Objection to form.

17 THE WITNESS: My opinion is that my declaration one
18 and declaration two, first and second declarations, also
19 known as, are all descriptions of art that applies to
20 the claims of the '848 Patent.

21 MR. HOLMAN:

22 Q. So is your testimony today that Kanan's
23 selection as a -- is a process beginning prior to
24 cleavage of the disulfide bond of the pool B
25 oligonucleotides is art that applies to the claims of

1 the '848 Patent?

2 A. It is one example of art that we are
3 describing, that I am describing in both my declarations
4 as it applies to the '848 Patent claims.

5 Q. All right. And are you applying that
6 disclosure in Kanan that you refer to as a process
7 beginning prior to the cleavage of the disulfide bond of
8 the pool B oligonucleotides, are you applying that
9 process to Claim 1, step (d) of the '848 Patent in your
10 analysis?

11 MR. PLATT: Objection to form.

12 THE STENOGRAPHIC REPORTER: I'm sorry, I lost it.
13 To Claim 1, step?

14 MR. HOLMAN: Claim 1, step (d) of the '848 Patent.

15 MR. PLATT: Objection to form.

16 THE WITNESS: All I'm simply trying to inform in
17 paragraph 24 is a selection process -- a selection
18 method that shows selection can be a process. That's my
19 explanation of what I'm trying to inform in this
20 paragraph.

21 MR. HOLMAN:

22 Q. And based on that explanation that you're
23 trying to inform, is it your opinion that Claim 1's
24 selection step is obvious in view of Kanan's disclosure
25 of this process that begins prior to cleavage of the

1 disulfide bond?

2 A. As I've been trying to explain, this is just
3 one example of what both declarations are geared
4 towards, which is applying them to the -- the claims of
5 the '848 Patent. It is one isolated paragraph of a
6 whole.

7 Q. What disclosures in the Kanan reference are you
8 relying on to meet Claim 1, step (d)'s selecting step in
9 your obviousness analysis?

10 A. Could you please repeat that question.

11 Q. What disclosures in the Kanan reference are you
12 relying on to meet Claim 1, step (d)'s selecting step in
13 your obviousness analysis?

14 A. Well, again, that's the subject of -- of two
15 declarations, so we could go through all of the items.
16 This one paragraph is just simply saying that selection
17 can be a process. So I'm relying on the combination of
18 Kanan and Neri -- that's Exhibits 1010, 1011, 1013 -- as
19 well as all the other claimed arts in declarations one
20 and two to inform about mapping to the claims of the
21 '848 Patent.

22 So in isolation, this paragraph just simply
23 says that selection can be a process and all the
24 declarations inform to the application to the patent
25 claims.

1 Q. Are you including Exhibit 1013 in your
2 combination of art that, in your opinion, renders
3 Claim 1 obvious?

4 A. Kanan, as represented by Exhibits 1010 and
5 Kanan supplemental -- supplemental material, which is
6 simply adjunct to the publication Exhibit 1010,
7 referenced as Exhibit 1013, are combined one of the
8 references that we cite in our -- in my first and second
9 declarations.

10 Q. So are you including Exhibit 1013 in your
11 combination of art that, in your opinion, renders
12 Claim 1 of the '848 Patent obvious?

13 A. As I just stated, 1013 is one reference in --
14 in the list of all our reference we have which,
15 together, make our discussion of art cited towards the
16 claims in the '848.

17 Q. So together, you have Exhibit 1013,
18 Exhibit 1010 and the Neri reference, which is --

19 A. 1011.

20 Q. -- 1011. Is that a fair synopsis of your
21 combination of art?

22 A. No, because we have much art cited, many more
23 than that, which is the combination of art disclosed in
24 both of our declarations. So it's -- it's a long -- you
25 know, many lines of declaration all taken together are

1 what we're citing.

2 Q. All right. So in your -- in your second
3 declaration, let's look at your table of contents. It's
4 on the second page there.

5 A. Yep.

6 Q. And in particular, section 3, header A, you
7 refer to Kanan in view of Neri for ground one, in
8 further view of Famulok for ground two.

9 Do you see that header?

10 A. I do see that.

11 Q. So are you modifying your statement that now
12 you're including Kanan and Kanan's supplementary
13 information combined with Neri for ground one?

14 A. I'm not changing anything because my view is,
15 from the very start, Kanan is a publication which is
16 comprised of the main publication, 1010 and the
17 supplemental information, 1013. That's Kanan.

18 Q. So, in your view -- is it your testimony today
19 that when you refer to Kanan, you're including
20 Exhibit 1010 and 1013 in those statements?

21 A. I am saying that our references list include
22 Kanan, which is comprised of references 1010 and 1013.
23 It's still Kanan.

24 Q. So how about in this header here in section 3A,
25 when you say Claims 1 -- 1 to 20 are unpatentable as

1 obvious based on Kanan in view of Neri, ground one?

2 When you say obvious based on Kanan, are you
3 referring to Kanan Exhibit 1010 and Exhibit 1013?

4 A. Well, as you'll see from the flow of both my
5 first declaration and my second declaration, both of
6 those citations are made in our arguments, 1010 and
7 1013.

8 Q. So you are including both 1010 and 1013 when
9 you say, Claims 1 through 20 are unpatentable as obvious
10 based on Kanan in view of Neri?

11 A. What I'm saying is, when you see Kanan, that
12 comprises 1010 and 1013.

13 Q. All right. Let's look -- let's turn to
14 paragraph 57 in your second declaration, please. It's
15 on page 31. It begins on page 31.

16 A. I see it.

17 Q. In paragraph 57, you state, quote, when the
18 pool A and pool B members above are hybridized or
19 self-assembled, they can be visualized with the
20 following figure based on my description in my first
21 declaration.

22 And you provide a figure there, bottom of page
23 31. And then if you turn the page to the top of page
24 32, you state -- so this would be just under that
25 figure -- quote, each component of the above figure is

1 described and/or illustrated in my first declaration.
2 And you provide a citation to your first declaration and
3 a citation to Exhibit 2009 which I believe is your
4 deposition transcript.

5 Do you see that?

6 A. I do see that.

7 Q. Okay. Is it your understanding that
8 Exhibit 2009 is deposition transcript from your first
9 deposition?

10 A. That is my understanding.

11 Q. Okay. So turning back to page 31, I want to
12 look at this figure, the bottom of page 31, with you.

13 This figure itself, bottom of page 31 of your
14 second declaration, is not presented in your first
15 declaration; correct?

16 A. That is not correct in the sense that, as I
17 state and as you just read, each component of the above
18 figure is described and/or illustrated in my first
19 declaration, and it gives citations. So each component
20 is -- is fully described and/or illustrated.

21 Q. But the figure itself here on page 31 is not
22 disclosed in your first declaration; correct?

23 A. Well, my view of that is this figure is fully
24 described and I didn't choose to indicate or illustrate
25 in cartoon form every single feature that was described

1 in the words.

2 So otherwise, my declaration would have been
3 500 pages with probably over a hundred figures, so I did
4 not include every single figure. But what is displayed
5 in my second declaration here is fully described in --
6 and supported in Exhibit 1005.

7 Q. This specific image that you presented here is
8 not disclosed as an image in your first declaration;
9 correct?

10 A. Well, as I said, I -- I chose not to display
11 everything that was described in an image in the -- in
12 my original declaration, 1005.

13 Q. Dr. Nelson, you're not really answering my
14 question. I just want to confirm that this image
15 depicted at the bottom of page 31 of your second
16 declaration is not disclosed as an image in your first
17 declaration. Yes or no, do you agree?

18 A. Well, I was explaining that I used my
19 prerogative to not necessarily display every image, so I
20 did not feel that displaying this particular image was
21 required in light of the fact that all of the components
22 were accurately described in the -- in the declaration.

23 Q. You just displayed an image very similar to
24 this image in your first declaration, did you not?

25 A. Can you tell me precisely which one you

1 refer -- to which you refer.

2 Q. Sure. Let's take a look.

3 So do you -- do you have your first declaration
4 there, Exhibit 1005?

5 A. I do.

6 Q. Now if you could turn in your first
7 declaration, Exhibit 1005, to paragraph 115, begins on
8 page 62. And in particular on page 63, which is still
9 part of paragraph 115, there's a figure there.

10 Do you see that figure?

11 A. I do.

12 Q. And do you agree that that figure is similar to
13 the figure you have depicted in -- on page 31 of your
14 second declaration?

15 A. That figure is similar to the one depicted on
16 page 31 of the second declaration.

17 Q. Do you agree that that figure on page 63 of
18 your first declaration, while similar, is different and
19 not the same as the figure you've depicted in page 31 of
20 your second declaration?

21 A. This question that you're asking now was
22 addressed in my deposition and the citations for that
23 are given in paragraph 57 of my second declaration, in
24 which it states, see also -- this is after citation of
25 the descriptions in Exhibit 1005 -- see also

1 Exhibit 2009 and gives multiple citations. This is
2 discussed in detail about the difference between
3 these -- these diagrams and other supporting evidence
4 which supports the -- the outcome of those discussions.

5 So that is all in the record and it's quite a
6 number of citations but it is all there. That -- that
7 answer to that question is right there. And it's cited
8 in my second declaration.

9 Q. Well, my question is just that, do you agree
10 that the figure depicted on page 63 of your first
11 declaration is different from the figure depicted in
12 page 31 of your second declaration?

13 Is it different?

14 A. Well, I've already answered that, that there is
15 a difference which is addressed clearly in the -- the
16 deposition record given as example 2009. So it's -- the
17 answer is the differences are discussed in that
18 deposition transcript.

19 Q. Okay. And when you're referring to earlier
20 that you depicted some images but not others in your
21 declaration, is it fair to say that this image on page
22 31 of your second declaration is an image you did not
23 depict in page 63 of your first declaration?

24 A. Again, I apologize. I'm pretty sure I got that
25 question but just to make sure, could you please repeat

1 it.

2 Q. I'll withdraw that question. Just strike the
3 question.

4 MR. PLATT: Dave, we've been going about like an
5 hour and seven minutes. Whenever is a good break point
6 for you.

7 MR. HOLMAN: Okay. I'm -- we're almost at a
8 stopping point here.

9 MR. PLATT: Sure.

10 MR. HOLMAN:

11 Q. All right. So Dr. Nelson, when you're
12 referring to -- where you said this image in page 31 of
13 your second declaration is fully described, you have a
14 citation to several exhibits there. I'm looking at the
15 top of page 32.

16 A. Yes.

17 Q. And you refer to Exhibit 1005 -- That's your
18 first declaration; right?

19 A. Correct.

20 Q. -- paragraphs 105 and 106 and 114 to 115;
21 correct?

22 A. Correct.

23 Q. And then you refer to Exhibit 2009, which is
24 your deposition transcript from your first deposition;
25 correct?

1 A. Correct.

2 Q. And there you cite pages 163, 165, 167 to 168,
3 and 169; correct?

4 A. Correct.

5 Q. All right. So is it your -- are you saying
6 that to visualize this figure that you -- this new
7 figure that you presented in page 31 in your second
8 declaration, we need to select your testimony from
9 paragraphs 105 to 106, your first declaration, and then
10 select additional testimony from paragraphs 114 and 115
11 of your first declaration, and then select additional
12 testimony from your deposition transcript, and then
13 combine all of that to be able to visualize this figure?
14 Is that what you're saying?

15 A. No. I'm saying that it's described in my first
16 declaration, which is 1005, giving two examples of
17 locations where a description is included. And then
18 there was a question that came up about this figure, and
19 that question was addressed in the deposition as
20 described -- as documented in the references that you
21 just read off for Exhibit 2009.

22 Q. But to describe and/or illustrate this figure,
23 are you saying that it requires all of this disclosure
24 in the paragraphs from your first declaration and your
25 second -- your deposition transcript, Exhibit 2009?

1 A. I -- I wasn't saying that. I was saying it was
2 described in my first declaration, Exhibit 1005. A
3 question came up in the deposition about it and those
4 question or questions were addressed as summarized in
5 the citations of Exhibit 2009 listed here.

6 MR. HOLMAN: All right. Let's take a break, go off
7 the record.

8 (Interruption in proceedings.)

9 MR. HOLMAN:

10 Q. Dr. Nelson, during the break, did you speak
11 with anyone about the substance of your testimony today?

12 A. No.

13 Q. Please turn to your second declaration,
14 paragraph 30. Begins on page 19. And here you -- you
15 testified that a depiction of how the bond forming
16 combination of the Kanan/Neri design after
17 polymerization -- you cite paragraphs 181 and 182 -- and
18 the selection process -- and you cite paragraph 122 --
19 and Exhibit 1013, as described in my first declaration,
20 would be visualized as follows, then you provide a
21 figure there at the top of page 20.

22 Do you see that -- that statement and that
23 figure there?

24 A. Yes.

25 Q. All right. So looking at this figure, is

1 that -- in your opinion, is this figure depicting a
2 cis-reactive cell?

3 A. I'm going to start my answer with reference
4 back to the '848 Patent, which is Exhibit 1001.
5 Referring to page 32, column 41, which -- bottom half of
6 the page, specifically referring to Claim 1, which after
7 the preamble, step A talks about forming a plurality of
8 interactors, it goes on to describe that. And step (b)
9 is forming a plurality of cis-reactive cells wherein a
10 cis-reactive cell comprises, goes on to describe that.

11 And after that, step (c), subjecting the
12 plurality of cis-reactive cells to conditions which
13 stimulate the desired functional interaction having a
14 detectable trace. And then (d), selecting all of those.

15 So if we go back to the reference in question,
16 which you brought up, the figure -- I've got to go back
17 to it. I apologize for the delay.

18 I apologize. Could you tell me where that
19 figure is again that we started with. I'm sorry.

20 Q. Sure. It's on page 20. Top of page 20 --

21 A. Yeah.

22 Q. -- of your second declaration.

23 A. Yeah, I apologize for that.

24 So if you go back to page 18, you will see that
25 the figure on page 20 is -- is later in those steps of

1 the Claim 1 that I just recited from the '848 Patent,
2 and pages 17 through 18 show figures of non-bond forming
3 combination and bond-forming combination. And those are
4 after the functional interaction has been stimulated in
5 step 1(c) -- in Claim 1(c), rather, which is the
6 functional interaction step which comes before
7 Claim 1(b) which is forming the plurality of
8 cis-reactive cells.

9 So the figure to which you refer is much later
10 in the process in the formation of the cis-reactive cell
11 assistant step 1(b), which is prior to that diagram.

12 Q. Was the diagram depicted on page 20, is that a
13 cis-reactive cell that has been selected according to
14 step -- Claim 1(d)?

15 A. What I describe in my fir- -- my second,
16 rather, declaration is formation of the cis-reactive
17 cells, then stimulation of the functional interaction.
18 And after that, the cis-reactive cells that have
19 undergone the functional interaction are selected
20 through a process. And what the figure on page 20
21 represents is a molecule at an intermediate stage of
22 that process.

23 Q. Are you saying it's at an intermediate stage of
24 the selection process?

25 A. At the intermediate stage of the selection

1 process. As you can see, it's still bound to the
2 avidin-biotin support.

3 Q. Does the depiction of the avidin-biotin support
4 here, does that indicate that this is the molecule or
5 this -- this complex depicted here is what is selected
6 in step (d) of Claim 1?

7 MR. PLATT: Objection to form.

8 THE WITNESS: This is one example of a bond-forming
9 functional interaction molecule which comes from step
10 1(b), which is formation of the cis-reactive cells, step
11 (c) 1(c) stimulated functional response or interaction,
12 and then selecting those which underwent the functional
13 interaction.

14 MR. HOLMAN:

15 Q. And the things -- when you say selecting those
16 that went under functional interaction, is that's what's
17 depicted here at page 20?

18 A. This is --

19 MR. PLATT: Objection to form.

20 THE WITNESS: This is one example of molecule --
21 mole- -- Strike that.

22 Molecule of interest B9 undergoing a functional
23 interaction with molecule of interest A6.

24 MR. HOLMAN:

25 Q. So in sentence at paragraph 30 where you

1 introduce this figure, you state that this figure is
2 after polymerization and the selection process; correct?

3 A. That's what's stated here, yes.

4 Q. So this is after polymerization and this is
5 after selection, this is what you end up with; is that
6 right?

7 A. This is an example of a molecule, which when --
8 interacted -- back up -- which underwent the functional
9 interaction between B9 and A6. A minor point is this
10 figure just shows it bound to the biotin avidin but this
11 is -- so it's partway through the process but it
12 represents a molecule that has gone through the
13 selection process. It's just a minor detail that it
14 happens to be depicted in this stick diagram still bound
15 to the biotin avidin.

16 Q. And it's your opinion that this molecule that's
17 undergone the selection process is a cis-reactive cell?

18 A. As I was explaining to you, the cis-reactive
19 cell is defined in Claim 1(b) of the '848 Patent, which
20 says, forming a plurality of cis-reactive cells
21 wherein -- goes to describe it -- (c) is subjecting the
22 plurality of cis-reactive cells to conditions which
23 stimulate the desired functional interaction. And then
24 you go through a process, (d), of -- in that pot of step
25 1(c), you have a mixture of molecules, interactors, and

1 some have undergone the functional interaction and some
2 have not. So the purpose of step (d) is to select
3 those -- those CRCs. So what you're seeing in figure 20
4 is what results in this process which we're depicting
5 during or, technically, after the selection process.

6 Q. Right. You agree step -- Claim 1, step (d)
7 recites selecting CRCs that exhibit a detectable trace;
8 correct?

9 A. I'm reading Claim 1(d) the same way you are,
10 which states, selecting all cis-reactive cells
11 exhibiting the detectable trace.

12 Q. And I think what I'm hearing you say, correct
13 me if I'm wrong, is that this figure represents
14 cis-reactive cells during this process of select -- of
15 step 1(d); is that correct?

16 A. What I'm saying is, in my opinion, what
17 Claim 1(d) recites is taking the pool of cis-reactive
18 cells in step -- that were a product of step 1(c) and
19 selecting those cis-reactive cells that underwent the
20 functional interaction.

21 And as stated, in '848, there's different ways
22 to do that, and this is representing -- after the
23 process that we're reciting of selection, this is a
24 depiction of the molecule that results from that
25 selection of the cis-reactive cells that underwent a

1 functional interaction.

2 Q. Is this molecule a cis-reactive cell that
3 underwent a functional interaction?

4 A. This molecule is exactly what it -- what it
5 looks like. And it's a result of selecting the
6 cis-reactive cells that underwent a functional
7 interaction in step 1(c).

8 Q. You're not really answering my question.

9 I'm asking you if this molecule is a
10 cis-reactive cell that has been selected.

11 A. And what I'm trying to tell you is that, in my
12 opinion, this is a resulting molecule from the selection
13 of the cis-reactive cells in step 1(c) that underwent a
14 functional interaction.

15 Q. But what -- what has been selected? Is it --
16 Strike that.

17 Are you saying that this molecule is not a
18 cis-reactive cell that has been selected?

19 MR. PLATT: Objection to form.

20 THE WITNESS: What I'm saying is the process of
21 selection starts with a pod of cis-reactive cells, some
22 of which have undergone a functional interaction, some
23 of which have not, and you're selecting those which have
24 undergone a functional interaction.

25 And that -- the next step in 1(e) is what

1 you're then going on to detect. And Claim 1(e) in the
2 '848 reads, subjecting the associated nucleotides from
3 the cis-reactive cells to an analysis that permits
4 detection of the at least two identification sequence
5 elements.

6 So the objective is to take that pod of CRCs,
7 select the ones that underwent the functional
8 interaction such that you can subject the associated
9 oligonucleotides from the cis-reactive cells selected in
10 step (d) to an analysis that permits detection of the at
11 least two identification sequence elements. And that's
12 what's being depicted.

13 MR. HOLMAN:

14 Q. But I'm not asking you what's been detected,
15 I'm asking you what's being selected.

16 Do you agree that this molecule on page 20 is
17 what's been selected? You refer to that, you say it's
18 after selection process.

19 So do you agree that this molecule depicted on
20 page 20 is what has been selected in your proposed
21 combination of art?

22 A. As I mentioned, this is one example of a
23 functional interaction between B9 and A6 which has been
24 selected in the -- the process.

25 Q. Okay. Now, in this molecule, B9 and A6

1 represent molecules of interest; is that correct?

2 A. That is correct.

3 Q. All right. And then on the oligonucleotide
4 strand, on the left -- far left, you have labeled
5 identification sequence element B.

6 What is identification sequence element B?

7 A. What was the question? I'm sorry.

8 Q. What is identification sequence element B that
9 you've labeled here?

10 A. It's identification sequence element B, which
11 is used in all of the vernacular. It's --

12 Q. Is that the complementary sequence to the
13 identification sequence element that was originally in
14 the B strand oligonucleotide?

15 A. This is the sequence that represents the
16 identification of molecule of interest B, in this case,
17 B9.

18 Q. Is it -- is it the exact same nucleotide
19 sequence that was in oligonucleotide B?

20 A. It is a unique nucleic acid sequence that
21 uniquely identifies molecule B9.

22 Q. But the sequence here that's in oligonucleotide
23 A, do you agree that it's the complementary sequence to
24 the original identification sequence element B present
25 in oligonucleotide B?

1 A. Well, that is disclosed previously in our
2 declaration, which says that when you are performing
3 step 1(b), where you form a plurality of cis-reactive
4 cells wherein cis-reactive cells comprises at least two
5 interactors bound in proximity to one another by an
6 associated oligonucleotide -- associated
7 oligonucleotide -- again, my apologies -- wherein the
8 associated oligonucleotide -- associated
9 oligonucleotide -- comprises at least two identification
10 elements derived from the at least two nucleic acid
11 moieties. So this is a sequence identification element
12 derived from the nucleic acid moiety representing B9.

13 Q. Okay. And then to the right of that, you have
14 identification sequence element A.

15 Do you see that?

16 A. I do.

17 Q. And is it your opinion that identification
18 sequence element A identifies the molecule of interest
19 A6 in this example?

20 A. In this example, the identification sequence A
21 is a unique tag which identifies molecule of interest
22 A6.

23 Q. All right. And then to the right of that
24 identification sequence element A, there's a purple
25 segment of the oligonucleotide.

1 Do you see that?

2 A. I do.

3 Q. What does that purple segment represent?

4 A. Well, as represented multiple times in my
5 declaration, for example, on page 18, the figure at the
6 top of page 18, you can see that it's labeled as
7 association elements.

8 Q. So is the purple segment and figure on page 20
9 of your declaration the association element of the A
10 oligonucleotide strand?

11 A. At this point in the process, that is the one
12 that is bound on the -- the A strand.

13 Q. When you say, "that is the one bound on the A
14 strand," what do you mean by that?

15 A. Let me restate that. Bound wasn't the best
16 terminology. So it's -- it is part of the sequence of
17 the nucleic acid moiety that is associated with molecule
18 of interest A6.

19 Q. So is that the association element of the
20 nucleic acid moiety of the A strand oligonucleotide?

21 A. That -- according to the disclosure, that is
22 fully represented as the association element of, in this
23 case, the A -- the A strand. Example of A6 but the A --
24 the pool A molecules.

25 MR. HOLMAN: All right. Let's take a break there,

1 go off the record.

2 (A lunch recess is taken.)

3 MR. HOLMAN:

4 Q. All right. Dr. Nelson, welcome back.

5 During the lunch break, did you speak to --
6 speak with anyone about the substance of your testimony
7 today?

8 A. I did not.

9 Q. If you could turn in your second declaration to
10 paragraph 56, please. It's on page 30.

11 In this paragraph, you state, I then created
12 Kanan/Neri, quote, interactors, end quote, as shown in
13 paragraph 114 of my first declaration based on the
14 combination of Kanan and Neri. And then on the next
15 page, there's a figure there, and you refer to
16 Exhibit 1005, paragraph 114.

17 Do you see that?

18 A. I do see that.

19 Q. Okay. And keeping your finger on your place
20 there in your second declaration, I want to look at your
21 first declaration in parallel that you're -- you're
22 citing.

23 So if you could turn in your first declaration,
24 Exhibit 1005, to paragraph 114, which begins on page 62.
25 Just let me know once you have that one pulled up.

1 A. I'm there.

2 Q. Okay. And this figure you have in both your
3 second declaration at the top of page 31 and your first
4 declaration on page 62 represent the Kanan/Neri
5 interactors; is that correct?

6 A. So as you stated a moment ago, paragraph 56 of
7 my second declaration answers that question, which
8 reads, I then created Kanan/Neri, quote, interactors,
9 end quote, as shown in paragraph 114 of my first
10 declaration based on the combination of Kanan and Neri,
11 and then it shows the diagram. So those are interactors
12 as described in paragraph 56.

13 Q. Okay. And then in paragraph 57 of your second
14 declaration, you state, when the pool A and pool B
15 members above are hybridized or self-assembled, they can
16 be visualized with the following figure based on my
17 description in my first declaration, and then you
18 provide this figure at the bottom of page 31.

19 Do you see that?

20 A. I do see that.

21 Q. And if you look at -- in parallel at your first
22 declaration in paragraph 115, just above the figure on
23 page 63, you state, I have created the below figure to
24 represent a cis-reactive cell formed by interactors from
25 the pool A and pool B library members in Kanan combined

1 with the additional elements of Neri, here A6 and B9.

2 Do you see that statement in your first
3 declaration?

4 A. I do see that.

5 Q. And is it fair to say that the figure in
6 paragraph -- excuse me, in page 31, the bottom of page
7 31 of your second declaration, represents a -- and I'm
8 reading from your first declaration, represents a
9 cis-reactive cell formed from interactors from the pool
10 A and pool B library members in Kanan combined with the
11 additional elements of Neri, here A6 and B9?

12 MR. PLATT: Objection to form.

13 THE WITNESS: So it needs to be understood that
14 this one citation on page 63 of my first declaration is
15 part of the entire document, and there are more elements
16 to consider and one of those elements is association by
17 polymerization, which we discuss at other points, and is
18 represented in declaration number two of mine on page 4.

19 So taken all together in context, this figure
20 which is -- we're discussing each elements of -- of the
21 constructs in different phases of construction, it needs
22 to be understood that it's different phase. And this
23 one, the one diagram on page 4, shows the completion of
24 that structure after polymerization, as is discussed in
25 this first declaration in paragraphs 180 through 184.

1 Those taken in combined total represent the -- the CRC
2 and the combination of Kanan/Neri with the
3 polymerization step.

4 Q. Does the figure depicted at the bottom of page
5 31 in your second declaration represent a cis-reactive
6 cell formed from the interactors from the pool A and
7 pool B library members in Kanan combined with additional
8 elements of Neri?

9 A. My explanation is the same as the answer that I
10 just gave, which is this is part of the entire
11 disclosure, I'll call it, of our declarations one and
12 two, which shows, according to my first declaration,
13 open parentheses, self assembly sequences, close
14 parentheses, that would allow all interactors to
15 interact, unique identification sequence elements for
16 each interactor.

17 So that's the phase shown here. And we also,
18 in our disclosure, give details for the polymerization
19 that takes place when pool A is used as -- to prime and
20 do polymerization and that figure resulting is a
21 completed structure which is shown on page 4 of my
22 second declaration.

23 Let me just double-check that page number.

24 Yes.

25 So taken in whole, that's what we have to look

1 at. That's my explanation.

2 Q. When you refer to this figure in page 63 of
3 your first declaration, you state explicitly, paragraph
4 115, that this figure represents a cis-reactive cell
5 formed from -- excuse me, formed by interactors from
6 pool A and pool B library members; correct?

7 A. I read that same sentence that you do this --
8 the first complete sentence on page 63, that's what I
9 read as well.

10 Q. Okay. Does the figure on para- -- page 31 of
11 your second declaration, is that not also a cis-reactive
12 cell formed by the interactors from pool A and pool B
13 library members in Kanan?

14 A. The figure on page 31 falls into that same
15 explanation where we're describing different phases of
16 construction of the CRC. It -- that sentence you read
17 back, I understand that sentence, but in the context of
18 the overall disclosure, needs to be understood that this
19 is -- still has a step to go in this particular mode
20 with polymerization, which then the completed structure
21 is shown on figure 4 -- page 4, rather, of my second
22 declaration.

23 Q. So you said this is -- there's -- this
24 represents different phases of construction of the CRC.

25 Is it your opinion that the figure depicted at

1 bottom of page 31, your second declaration, is not yet a
2 complete CRC?

3 MR. PLATT: Objection to form.

4 THE WITNESS: Rather than trying to define which
5 phase, which structures are CRCs or not, this section is
6 describing what is written on -- in Claim 1(b) of the
7 '848 Patent, which is the formation of the CRCs, and
8 it's simply showing different examples of different
9 configurations in a different -- different aspects, call
10 it phases or aspects, of making CRCs. And it depends.
11 Depends on how a CRC's going to be analyzed, the
12 functional action, step 1(c), the selection, 1(b), and
13 the detection.

14 So rather than the -- I'll start that again.

15 One needs to take the whole disclosure to
16 understand our different aspects of describing step
17 1(b), which is formation of the CRCs.

18 MR. HOLMAN:

19 Q. Okay. Now, in your first declaration, you
20 describe this figure as being a cis-reactive cell;
21 correct?

22 A. If you're referring to that same sentence that
23 we read together -- or that you read and I listened to,
24 on page 63, we've already remarked that, I read that
25 same sentence. So my answer applies to that -- to that

1 sentence.

2 Q. Does that same sentence apply to the figure on
3 page 31, the bottom of your second -- bottom of page 31
4 of your second declaration?

5 A. Well, my answer is the same, is that our entire
6 disclosure must be looked at as a whole to determine
7 what we're communicating, and we're communicating
8 different figures to represent what's written in the
9 words of the formation of CRC in the Kanan/Neri
10 combination.

11 Q. So is your opinion that this figure on page 31
12 of your second declaration represents formation of CRCs
13 as recited in Claim 1, step (b)?

14 A. It's the same answer. The disclosure taken as
15 a whole is our explanation of CRCs in the Kanan/Neri
16 combination. And in that disclosure, we've also shown
17 the polymerization, which is represented in figure on
18 page 4 of my second declaration.

19 Q. And the disclosure -- the figure on page 4 of
20 your second declaration, is your testimony that that
21 represents a cis-reactive cell?

22 A. My answer's the same. The full disclosure
23 describes in multiple sections the formation of a CRC in
24 step 1(b) with the Kanan/Neri disclosure. So all must
25 be taken as a whole.

1 Q. In your discussion of Claim 1, step (b) in your
2 first declaration, you don't provide this figure from
3 page 4 of your second declaration, do you?

4 Let me rephrase that.

5 In your first declaration, paragraphs 107
6 through 116, where you address Claim 1, step (b), you
7 don't provide this figure that you now provide in your
8 second declaration on page 4; correct?

9 A. My answer now would be similar to what I stated
10 before the lunch break, which is, all of the elements in
11 the figure on page 4 of my second declaration are
12 described in declaration one, including all those
13 paragraphs as a whole, which include paragraphs 180
14 through 184, which is directed towards dependent Claim
15 17, which is all still part of -- all depends on
16 Claim 1.

17 So the description polymerization was provided
18 in those paragraphs but it's all still part of the whole
19 describing it. And, again, as before, I didn't feel it
20 was necessary to represent every single description in
21 the prose with the diagram. So I chose not to represent
22 this part because, otherwise, the disclosure would be
23 500 pages long with over a hundred figures.

24 Q. How many additional figures have you added in
25 your second declaration that weren't present in your

1 first declaration, do you know?

2 A. The --

3 MR. PLATT: Objection to form.

4 THE WITNESS: We've added nothing new. The only
5 figures or any other material in declaration two are
6 either supported by declaration one -- described,
7 rather, in declaration one or are a response to
8 Dr. Pentelute's bringing up certain points which
9 apparently he did not understand.

10 So the material in the second declaration is
11 either -- is one of those two.

12 MR. HOLMAN:

13 Q. And it's your belief that to include these
14 figures in your second declaration in your first
15 declaration would have necessitated 500 pages and over a
16 hundred figures; is that correct?

17 A. That is what I stated on the record,
18 absolutely. And obviously one understands that that's a
19 rough estimate to make the point that the selection of
20 which ones to put, I didn't want to make the declaration
21 exceedingly long.

22 Q. All right. So let's go back to your figure on
23 page 31, your second declaration, please. And this
24 figure is after pool A and pool B members have come
25 together and hybridized or self-assembled, as you state

1 here in paragraph 57; correct?

2 Let me -- let me strike that. Let me rephrase
3 that question.

4 This figure represents, in your opinion, the
5 structure that occurs after pool A and pool B members
6 are hybridized or self-assembled; is that correct?

7 A. Well, the question seems to me to be just
8 asking what's written here in paragraph 57, which I've
9 stated in my declaration, my sworn declaration, which
10 states, when the pool A and pool B members above are
11 hybridized or self-assembled, they can be visualized
12 with the following figure, based on my description in my
13 first declaration.

14 So that's what that figure is.

15 Q. And are these two oligonucleotides associated
16 by hybridization here as you've shown in purple?

17 A. Again, it states it right here in the record,
18 when pool A and pool B members are -- above are
19 hybridized or self-assembled. So you can see what
20 sections are hybridized there in the figure.

21 Q. And the purple sections are hybridized there in
22 the figure; is that correct?

23 A. They are hybridized and that section -- the
24 black section after the D-spacer is hybridized as well,
25 as you can see clearly from the figure.

1 Q. And you didn't label this black hybridized
2 region as association elements here; correct?

3 A. That's what I see in the figure, along with
4 you.

5 Q. Okay. All right. So in your -- can you just
6 turn in your second declaration to paragraph 62, please.
7 Begins on page 34.

8 A. I'm there.

9 Q. On the bottom of page 34, you have a sentence
10 that begins, moreover, decided prior art describes
11 working examples and does not raise undesired
12 hybridization as a concern.

13 Do you see that sentence?

14 A. I do.

15 Q. And then you say, for example, the basic
16 structure of the Kanan/Neri design is based on Neri's
17 figure 5, and you have a citation to your first
18 declaration. Then you say, yet, Neri does not discuss
19 unintended hybridization after the D-spacer being a
20 concern.

21 Do you see that --

22 A. I do see that.

23 Q. -- statements there?

24 Okay. Now, when you use the term "working
25 example" in the first sentence that we just looked at,

1 what -- what do you mean by the term "working example"?

2 A. Well, generally, working examples are part of a
3 patent disclosure -- disclosure, optionally. They don't
4 always have to be included, which are examples of how
5 the claimed art might look or might function.

6 Q. Is a working example different than just an
7 example? I guess, let me -- let me ask you a different
8 question.

9 Why do you include the qualifier "working" in
10 front of the word "example"?

11 A. Just a standard term in patent lingo.

12 Q. And what criteria do you use to -- for
13 something to qualify as a working example in the patent
14 lingo?

15 A. To be honest, it's just from the usage of that
16 term over -- as a scientist over the years of working in
17 patents and just seeing that term. Just -- there's
18 nothing deeper than that.

19 Q. In your opinion is -- would a person of
20 ordinary skill in the art have understood that Neri
21 discloses a working example using the embodiment of
22 Neri's figure 5?

23 A. I'm going to have to hear that question again,
24 please.

25 Q. In your opinion, would a person of ordinary

1 skill in the art have understood that Neri discloses a
2 working example using the embodiment of Neri's figure 5?

3 A. To be able to precisely answer that question, I
4 would have to look at Neri, which is Exhibit 1010. No,
5 I mean 1011. Sorry.

6 Q. Well, in your declaration, you refer to working
7 examples, and you say, for example, the basic structure
8 of the Kanan/Neri design is based on Neri's figure 5.

9 So is it your opinion that Neri's -- Neri
10 discloses a working example using the design based on --
11 from figure 5?

12 A. Well, the question you asked, would a POSA
13 be -- come to the conclusion that there's a working
14 example based on figure 5. So that's what I was trying
15 to answer. And then working example, you asked about
16 that, so I said, well, that's just a general term used.

17 So unclear at this point now what -- what
18 you're really asking.

19 Q. Yeah, I asked a different question just now.

20 So my -- my current question pending is, is it
21 your opinion that Neri discloses a working example using
22 the design based on Neri's figure 5?

23 A. Well, the record shows that what I stated is,
24 moreover, the cited prior art describes working examples
25 and goes on. So that's what I'm saying, the art does

1 that, and for example.

2 So I'm generally describing working examples as
3 my -- with my definition of working examples that I said
4 a couple minutes ago.

5 Q. Okay. I'm going to give you a copy of Neri.

6 A. Okay.

7 Q. So this is -- giving you a copy of
8 Exhibit 1011, which is the Neri reference.

9 Do you recognize this document as the Neri
10 reference that you discuss in your declaration?

11 A. I do.

12 Q. Okay. If you could, in Neri, turn to example
13 3, which is on -- if you're using the page numbers at
14 the bottom of the document, it's on -- begins on page
15 24.

16 A. Okay.

17 Q. And you see on the right-hand column there's a
18 header, says, example 3, and then it starts with
19 paragraph 111 underneath that?

20 A. I see that.

21 Q. And then that disclosure of example 3 bridges
22 over to the next page down through paragraph 119 before
23 the next example, 4, picks up there at the bottom of
24 page 25.

25 Do you see that?

1 A. I do see that.

2 Q. All right. And if you look back at paragraph
3 112, in example 3, Neri refers to figure 5 there.

4 Do you see that?

5 A. I do see that.

6 Q. All right. So is it your opinion that Neri's
7 example 3 here, which refers to figure 5, is a working
8 example?

9 A. Could you repeat the question one more time,
10 please.

11 Q. Is it your opinion that Neri's example 3, which
12 refers to figure 5, is a working example?

13 A. Again, I'm a scientist and I don't know the
14 formal legal definition of working example. It says
15 example 3 here, and that's an example or a working
16 example -- I've just always used the term "working
17 example."

18 So to me they're interchangeable, but that's
19 just my scientific opinion.

20 Q. And you use the term "working example" in your
21 declaration, though; correct?

22 A. Yes. We've established that, absolutely.

23 Q. Okay. Now, in this example 3 of Neri, if you
24 could look at paragraph 118, paragraph 118 refers to
25 two -- two oligonucleotides, A and B.

1 Do you see that?

2 A. I do see that.

3 Q. And then it -- paragraph 118 of Neri
4 discloses -- it says, an example of model
5 oligonucleotides A and B which can be used for the
6 generation of a PCR product which carries both code A
7 and code B -- excuse me -- both code A and B is provided
8 below. And then it provides some nucleic acid
9 sequences.

10 Do you see that?

11 A. I do see that.

12 Q. Are the two oligonucleotides, A and B, is that
13 what's represented by type B oligo and type A oligo in
14 paragraph 118?

15 A. What I'm reading is -- apologize, but I'm going
16 to read that sentence in paragraph 118 again to get to
17 my point.

18 As an example of model oligonucleotides A and B
19 which can be used for the generation of a PCR product
20 which carries both code A and B is provided below.

21 So the type B oligo and the type A oligo and
22 the code ABF0 and the code ABBA, all of those are
23 provided below. So those, in my opinion, reading this
24 here, is what Neri's referring to in paragraph 118.

25 Q. What are code ABF0 and code ABBA referred to

1 here in paragraph 118?

2 A. I am not completely sure the answer at this
3 point without going back and looking at more of the
4 detail. This is down to a very fine detail in this
5 publication and I have to go back and decipher what all
6 those are about. Don't want to answer and not really be
7 sure of it so I would have to go back and really study
8 what their coding nomenclature means.

9 Q. Do -- when paragraph 118 refers to code A and
10 code B, is that referring to the code ABFO and code ABBA
11 below?

12 A. Well, again, I'd have to go back and really
13 decipher all this nomenclature. At this point, when
14 we're talking about paragraph 118, which I see in the
15 sentence, is that it refers to model oligonucleotides A
16 and B, dot dot dot, which carries both code A and B.
17 There's four down there.

18 So you, along with me, can look at it and say
19 that it could represent those oligos A and B in code A
20 and B, but I would have to study it more to
21 unequivocally say that but it's -- those are how they're
22 labeled.

23 Q. All right. How about if we look at paragraph
24 119 underneath there.

25 A. Okay.

1 Q. And further down -- about the middle of the
2 paragraph, it refers to a PCR program, says, next a PCR
3 program with 30 cycles, there are some conditions there,
4 is started after addition of primers, code ABFO and code
5 ABBA.

6 Do you see that?

7 A. I do.

8 Q. Okay. So does that help your understanding of
9 what code ABFO and code ABBA are in paragraph 118?

10 A. Yes.

11 Well, I don't have it fully deciphered but
12 those two last oligomers or oligonucleotides appear to
13 be the primers, and where exactly they map onto the type
14 B and type B oligomers is not entirely clear at this
15 point.

16 So that's what I can discern at this moment.

17 Q. Okay. So do you agree that for Neri's example
18 3, when combining library members A and B, the only
19 oligonucleotides that are expected to hybridize together
20 would be the type A oligo and the type B oligo?

21 A. That's a question I can't really completely
22 decipher what you're asking there, so I'm going to ask
23 you to repeat it one more time.

24 Q. Sure.

25 So when Neri refers to -- let's look at this,

1 Dr. Nelson. So if you go back -- example 3, back to
2 paragraph 113, think this might help us get on the same
3 page here.

4 You looking at paragraph 113?

5 A. I am.

6 Q. And Neri says, chemical entities of sub
7 libraries A and B are coupled individually to members of
8 two pools of DNA oligonucleotides with the following
9 properties. And it refers to paragraph 114. It says,
10 one pool of oligonucleotides carries the chemical
11 entities at the 3 prime end, pool A, whereas the other
12 pool carries the chemical entity at the 5 prime A in
13 pool B.

14 See that there?

15 A. I do.

16 Q. And then paragraph 115 says, a sufficient
17 number of bases at the 5 prime extremity of
18 oligonucleotides of pool B allow the specific
19 dimerization of any individual member of pool B with any
20 individual member of pool A.

21 Do you see what I read there?

22 A. I do.

23 Q. Okay. Is it your understanding that when this
24 is referring to dimerization of any individual member of
25 pool B and any individual member of pool A, is that

1 referring to the type B oligo and type A oligo we see in
2 paragraph 118?

3 A. I understand the question. I'm going to go
4 back further, develop my understanding based on
5 paragraph 111, which says the embodiments as described
6 in figure 1 and example 2. So I'm going to look at that
7 as well.

8 So in these particular examples, I'm also
9 referring to example 2 and paragraphs 106 through 109
10 talk about general -- in general terms the construction
11 thereof. 110 states assembly of sub library A members
12 with sub library B members is carried out by mixing the
13 sub libraries in PBS, all capitals, comma, heating the
14 mixture at 70 degrees centigrade for one minute,
15 followed by equilibration at room temperature.

16 So that is assembly, as they call it, between A
17 and B. So in example 3, paragraph 115 is parallel and I
18 believe the answer to your question, a sufficient number
19 of bases at the 5 prime extremity of oligonucleotides of
20 pool B allow the specific dimerization of any individual
21 member of pool B with any individual member of pool A.
22 Inside this dimerization domain, oligonucleotides from
23 pool B contain a code region, comma, which codes for the
24 chemical entity at the 5 prime end. So A and B
25 hybridize together and they have code regions on them as

1 well.

2 Q. In this example 3 of Neri, it's the type B
3 oligo of paragraph 118 hybridizes with the type A oligo;
4 is that correct?

5 A. In this example, that appears to be the case
6 at -- in a region of those oligonucleotides.

7 Q. All right. You can put Neri aside now. Thank
8 you. Let's look at the -- back to the '848 Patent.

9 You still have that --

10 A. I do.

11 Q. -- available?

12 And if you could turn to figure 5 of the '848
13 Patent, please.

14 A. Okay, I'm there.

15 Q. And keep your finger on figure 5, so we're
16 going to go back and forth between the figure and then
17 one of the disclosures in the specification. So with
18 your thumb on figure 5, let's also -- I want to direct
19 your attention to column 17 of the '848 Patent.

20 A. Okay.

21 Q. In particular, the first full paragraph there,
22 beginning at line 7, where it says, it is desirable that
23 the NAM association results.

24 Do you see that paragraph there?

25 A. I do.

1 Q. Okay. And this -- this paragraph in column 17
2 provides some description around figure 5.

3 Do you see that?

4 A. What I see is it says, there are several
5 approaches to achieve this and the examples described
6 below and in figure 5 serve to illustrate some
7 approaches.

8 So this should not be construed as excluding
9 other approaches. That's what I see.

10 Q. Okay. And then, actually, if you keep reading
11 right where you left off, that's the -- this is the
12 section that I want to keep refer -- looking back and
13 forth with you. So it says, association by enzymatic
14 ligation may be achieved as illustrated in figure 5, A
15 through E.

16 And then the '848 Patent says, ligation
17 substrates may be included -- excuse me, ligation
18 substrates may include single-stranded nucleic acid
19 templated by a third nucleic acid, double-stranded
20 nucleic acid with protruding ends templated by a third
21 nucleic acid, ligation of single-stranded nucleic
22 acids --

23 THE STENOGRAPHIC REPORTER: (Indicating.)

24 MR. HOLMAN: Ligation of single-stranded nucleic
25 acids. Templated ligation where a separate nucleic acid

1 is introduced into the ligation product or ligation of
2 double stranded nucleic acid with complementary
3 protruding ends.

4 Q. Okay. Did you see that?

5 A. I did see that.

6 Q. Long sentence there.

7 All right. So that's the sentence I want to go
8 back and forth and look at figure 5 with you on.

9 So the first -- the first section of that or
10 the first segment of that sentence in column 17 says,
11 ligation substrates may include single-stranded nucleic
12 acid templated by a third nucleic acid.

13 Do you see that first part?

14 A. Yes.

15 Q. Okay. And looking at figure 5 now, do you
16 agree that figure 5A depicts a single-stranded nucleic
17 acid templated by a third nucleic acid?

18 A. It appears as though that is what is being
19 referred to in figure 5, that is, figure 5A.

20 Q. Okay. Now, in figure 5A, on the left-hand
21 column, the structures there, looking at figure 5A, is
22 it your understanding that that depicts two interactors?

23 A. It appears as though in figure 5A there are two
24 interactors represented in addition to the association
25 element.

1 Q. Okay. And for the -- in the interactor on the
2 left, there's a circle. Does that represent the MOI, as
3 far as you understand it? And the same for the
4 interactor on the right.

5 Let me rephrase the whole question.

6 Is it your understanding that the circles here
7 represent the MOIs?

8 A. I can't confirm that unequivocally. But
9 without doing a deeper dive, that would be a reasonable
10 assumption at first glance, that those -- that's what
11 those represent. But I can't confirm that.

12 Q. All right. And then in this embodiment in
13 figure 5A, the nucleic acid moieties of each of these
14 interactors are single-stranded nucleic acid moieties;
15 correct?

16 A. I think we agreed on that previously, that is
17 correct, as represented here, that's what it would
18 appear to be.

19 Q. And these single-stranded nucleic acid
20 moieties, figure 5A, are not depicted as hybridized with
21 each other; correct?

22 MR. PLATT: Objection to form.

23 THE WITNESS: I would say that figure 5A is part of
24 the first full paragraph of column 17, as you have
25 brought forth, and the important sentences to me are

1 there are several approaches to achieve this. And the
2 examples described below, and in figure 5 --

3 THE STENOGRAPHIC REPORTER: (Indicating.)

4 THE WITNESS: And repeating part of this clause
5 that I already did but just for emphasis, serve to
6 illustrate some approaches. And then further in that
7 paragraph, as illustrated in figs -- which stands for
8 figures -- 5, open parentheses, A through E, close
9 parentheses, the first one, which appears to be 5A,
10 ligation substrates may include single-stranded nucleic
11 acid templated by a third nucleic acid. So that's what
12 I think figure 5A represents according to the
13 disclosure. As one example.

14 MR. HOLMAN:

15 Q. Okay. But my question is a little different.

16 My question is, figure 5A does not depict the
17 nucleic acid moieties of the interactor on the left and
18 the interactor on the right as hybridized with each
19 other.

20 Do you agree with that?

21 MR. PLATT: Objection to form.

22 THE WITNESS: My answer is the same, it's -- the
23 description in this disclosure says, ligation substrates
24 may include single-stranded nucleic acid templated by a
25 third nucleic acid. And that's all I know because

1 that's what's written.

2 MR. HOLMAN:

3 Q. Are the nucleic acid moieties of each
4 interactor in figure 5A hybridized with each other in
5 this figure?

6 A. I don't -- I can't tell exactly everything that
7 was intended in this figure but, you know, I can both
8 see that there are two arrows -- two lines, rather, with
9 arrows, it appears as though there's a gap between them.
10 It appears as though, in this figure, they are not
11 touching each other. That's what I can see.

12 Q. So if they're not touching each other, do you
13 agree that they're not hybridized with each other as
14 depicted in this figure?

15 A. Well, all I can glean from the figure is what I
16 just stated, and what I read in here is there are
17 ligation substrates -- ligation substrates may include
18 single-stranded nucleic acid templated by a third
19 nucleic acid. So that's all the information I'm sure
20 of.

21 Q. All right. So let's look at the next
22 embodiment in column 17, which is after the
23 single-stranded nucleic acid templated by a third
24 nucleic acid. It says, double stranded nucleic acid
25 with protruding ends templated by a third nucleic acid.

1 Do you see that?

2 A. I do.

3 Q. Okay. Now let's look back at figure 5 and look
4 at 5B.

5 Is your understanding that 5B depicts
6 double-stranded nucleic acid with protruding ends
7 templated by a third nucleic acid?

8 A. It appears to be that same association where
9 the order that's written in column 17 corresponds to the
10 order of A through E, so I would say yes, it appears to
11 be the description of figure 5B.

12 Q. And in figure 5B, the double-stranded nucleic
13 acid moieties of the interactor on the left and the
14 double-stranded nucleic acid moiety of the interactor on
15 the right are not depicted as hybridized with each
16 other; correct?

17 MR. PLATT: Objection to form.

18 THE WITNESS: I would ask you to repeat that
19 question again.

20 MR. HOLMAN:

21 Q. Sure.

22 In figure 5B, do you agree that the
23 double-stranded nucleic acid moiety of the interactor on
24 the left is not depicted as hybridized with the
25 double-stranded nucleic acid moiety of the interactor on

1 the right?

2 MR. PLATT: Objection to form.

3 THE WITNESS: It's basically the same as my answer
4 to part A, just replacing the single-stranded segments
5 in figure A with double-stranded segments with a
6 protruding end for both left and right, double-stranded
7 oligonucleotides with the association -- what did --
8 what did -- what was it called here? Templated by a
9 third nucleic acid in the middle. And that's what I can
10 discern as what the figure shows and what it says here.
11 There's -- I can't unequivocally answer that yes or no
12 from what I see.

13 MR. HOLMAN:

14 Q. You're not able to answer whether the nucleic
15 acid moieties of each interactor are hybridized with
16 each other as depicted on figure 5B?

17 MR. PLATT: Objection to form.

18 THE WITNESS: It's difficult to tell for sure which
19 segment is -- is which here. So I -- I can't say
20 unequivocally one way or the other if that's true since
21 it's all -- they're all indicated together here.

22 MR. HOLMAN:

23 Q. You understand that the circles in figure 5B
24 are molecules of interest; correct?

25 A. That's my assumption, that is correct.

1 Q. And you understand that the lines connected to
2 the circles are -- represent the nucleic acid moieties
3 of the interactors?

4 Do you understand that?

5 A. That appears to be the case.

6 Q. Okay. And is it your understanding that the --
7 on the top strand, there's a middle segment there that
8 has an arrowhead on the left and an arrowhead on the
9 right of it, is it your understanding that that segment
10 represents the third nucleic acid?

11 MR. PLATT: Objection to form.

12 THE WITNESS: In this figure, it's just difficult
13 to come to an unequivocal answer to that question
14 without knowing exactly what each is meant to represent.
15 So I -- I can't say unequivocally yes or no to that.

16 MR. HOLMAN:

17 Q. So not sure?

18 A. Not sure.

19 Q. All right. Let's go back to column 17, the
20 disclosure we were looking at. Want to look at the
21 third -- the third embodiment in this passage recites,
22 ligation of single-stranded nucleic acids.

23 Do you see where I am?

24 A. Almost there. Sorry. Yes.

25 Q. All right. And then flipping back to figure 5,

1 figure 5C, is your understanding that figure 5C depicts
2 ligation of single-stranded nucleic acids?

3 MR. PLATT: Objection to form.

4 THE WITNESS: From that verbiage and the figure,
5 that would be a possibility of what that represents but
6 I can't tell unequivocally. It -- it does look like
7 that is ligation of two individual strands but I can't
8 say for sure.

9 MR. HOLMAN:

10 Q. Just not sure?

11 MR. PLATT: So David -- Sorry. Don't want to --

12 MR. HOLMAN:

13 Q. Are you not sure?

14 A. Not absolutely a hundred percent completely
15 sure but it looks like ligation of single-stranded
16 oligonucleotides.

17 MR. HOLMAN: Just have a few more questions here
18 and --

19 MR. PLATT: Yeah, just we're about, like, an hour
20 and five.

21 MR. HOLMAN: Okay.

22 MR. PLATT: Yeah, thanks.

23 MR. HOLMAN:

24 Q. Do you agree that the -- these single-stranded
25 nucleic acids depicted in 5C are not depicted as

1 hybridizing with each other?

2 A. Again, the same answer as before with these
3 stick diagrams, it's difficult to say unequivocally so I
4 can't -- I can't say unequivocally if that's what the
5 representation is meant to infer.

6 Q. All right. A couple more, we're almost done
7 with this passage here. I want to look back to column
8 17.

9 The fourth embodiment says, templated ligation
10 where a separate nucleic acid is introduced into the
11 ligation product.

12 You see that?

13 A. I do.

14 Q. All right. Now if you can look at figure 5,
15 figure 5D, do you see that figure 5D depicts templated
16 ligation where a separate nucleic acid is introduced
17 into the ligation product?

18 MR. PLATT: Objection to form.

19 THE WITNESS: It's unclear to me what is meant
20 by -- what is meant by templated ligation where a
21 separate nucleic acid is introduced into the ligation
22 product. I can't reconcile it with the figure exactly
23 so I -- I'm not clear on what figure D represents
24 exactly.

25 MR. HOLMAN:

1 Q. Okay. All right. Last one. Let's go back to
2 column 17. And the last embodiment mentioned in this
3 passage states, ligation of double-stranded nucleic acid
4 with complementary protruding ends.

5 Do you see that?

6 A. I do.

7 Q. Okay. And then looking back to figure 5,
8 figure 5E, do you agree that figure 5E discloses or
9 depicts ligation of double-stranded nucleic acid with
10 complementary protruding ends?

11 A. Again, making the assumption that these are all
12 in order in column 17 and the complementary protruding
13 ends, which I see those, that's represented here. It
14 appears to be the case but, again, I kind of lose it
15 where it says, or ligation of double-stranded nucleic
16 acid with complementary protruding ends, and there's
17 more oligos represented in there as well.

18 So those -- it's difficult to say what exactly
19 what those are. But it does appear that figure 5E
20 corresponds to that last sentence in -- or the last
21 phrase of that sentence we've been working on in column
22 17.

23 Q. And the ligation of the nucleic acid moieties
24 in figure 5E, does that take place at the two points
25 adjacent to the hybridization of the new acid moieties?

1 A. That's the part that's not crystal clear to me.
2 So the one part that seems fairly clear is that those
3 protruding ends are overlapping and apparently
4 hybridized with one another, but I can assume that
5 ligation takes place in those gaps there, but it doesn't
6 define what those other arrows are and it doesn't
7 define -- so it's -- there's one thing that appears to
8 be the case but I can't unequivocally state that that's
9 a fact.

10 Q. So you're not really sure?

11 A. Not --

12 MR. PLATT: Objection to form.

13 THE WITNESS: I'm -- I just would say that it's not
14 unequivocally clear, although it would appear that those
15 two open areas there with those two additional
16 oligonucleotides after the hybridizing region of the
17 overlapping segment are where ligation could and may
18 take place.

19 MR. HOLMAN: Okay. Let's take a break, go off the
20 record.

21 (Interruption in proceedings.)

22 MR. HOLMAN:

23 Q. Welcome back, Dr. Nelson.

24 A. Thank you.

25 Q. During the break, did you speak with anyone

1 about the substance of your testimony today?

2 A. No.

3 Q. I'm going to hand you a copy of Exhibit 1003.
4 This is the Baez patent.

5 Do you recognize the Baez patent, Dr. Nelson?

6 A. Yes.

7 Q. All right. Could you please turn Baez to
8 column 9. It's on -- if you're using the page numbers
9 at the bottom, it's on page 15.

10 A. Okay.

11 Q. And if you look at line 26, column 9, Baez
12 states, the term "analyte-specific amplicon," ASA,
13 refers to the nucleic acid product formed by joining the
14 two ASA nucleic acid labels by either the label overlap
15 primer approach or the label ligation approach due to
16 the formation of the analyte-dependent reporter complex.

17 Do you see that, what I just read there?

18 A. I do.

19 Q. Okay. Now, when you use the term "ASA" in your
20 second declaration, is this the ASA that you're
21 referring to?

22 A. Do you have any specific citations in
23 declaration two to which you refer? Specific ones.

24 Q. Well, just generally, I mean, you provide
25 opinions on Baez in your second declaration, do you not?

1 A. I do.

2 Q. Okay. And in your discussion of Baez, you use
3 the term "ASA" throughout. I'm asking you, is -- when
4 you use that term "ASA" in your declaration, is this the
5 ASA that you're referring to here in Baez, column 9,
6 line 26?

7 A. I'm looking for the specific citations therein
8 because I would like to answer in accord with what's in
9 the second declaration and specific citations.

10 Okay. The first citation I see in my second
11 declaration is in paragraph 95, which is a quotation
12 from Dr. Pentelute. At the bottom of page 47, the quote
13 begins, the ASA can also be detected by the
14 oligonucleotide itself, and goes on with one more quote,
15 and then that's when I start discussing the ASA, next
16 few paragraphs.

17 And then, in paragraph 100, starting on page
18 49, but if you turn to page 50, it gives a figure,
19 figure 4, from Baez, which is also included in my first
20 declaration, which at the bottom has a red box around
21 the ligated analyte-specific amplicon.

22 So this is my disclosure in the second -- my
23 second declaration.

24 Q. So in your second declaration, you're
25 considering everything in this red box to be the ASA; is

1 that right?

2 A. I'm thinking.

3 What I give here is one example of an ASA as
4 disclosed in Baez. Figure 4.

5 Q. I'm sorry, can -- I had a hard time hearing the
6 end of that answer.

7 A. Okay.

8 Q. I'll ask the question one more time.

9 So in your second declaration, are you
10 considering everything that you've encompassed in this
11 red box, paragraph 100, to be the ASA?

12 A. To answer that, I'm going to read a sentence
13 from my second declaration, starting on page 49, the
14 last sentence on page 49, which states, to be clear,
15 comma, the ASA in Baez includes the complex containing
16 two antibodies connected via the ligation of their
17 respective nucleic acid labels as shown in figure 4 of
18 Baez.

19 And here's figure 4 of Baez with what they
20 depict as the ligated, which is one example of an ASA,
21 surrounded by the red box, as stated in my second
22 declaration.

23 Q. All right. In your second declaration, would
24 you please -- actually, turn to paragraph 2, and I think
25 you mentioned this when we were asking you about

1 documents that you reviewed, but I just want to make
2 sure we're on the same page regarding the Pentelute
3 deposition transcript.

4 Paragraph 2 of your second declaration, you
5 mention that you considered the following materials, and
6 listed here, part C, you say the deposition transcript
7 of Dr. Pentelute and you cite Exhibit 1049.

8 You see that?

9 A. I see that.

10 Q. And you understand Exhibit 1049 is the redacted
11 version of the Pentelute deposition transcript; correct?

12 A. I believe that's correct. I know there's 1048,
13 1049.

14 Q. That's right.

15 A. That's my understanding, 49.

16 Q. That's right. And I'll just represent to you
17 that Exhibit 1048 is the unredacted version and
18 Exhibit 1049 is the redacted version.

19 The reason I ask is, throughout your second
20 declaration when you quote the Pentelute deposition
21 transcript, it appears that you quote Exhibit 1048. But
22 you understand that Exhibit -- the substance of
23 Exhibit 1048 and 1049 is the same but for the redacted
24 text?

25 A. Yes.

1 Q. Okay.

2 A. That was my understanding of it.

3 Q. Okay. All right. So now, with that
4 understanding, I want to direct you to paragraph 22 of
5 your second declaration. And it's on page 13. And
6 about halfway down the page, you have a quotation from
7 the Pentelute deposition transcript.

8 Do you see that -- it begins with Q so the
9 selection can be a process.

10 Do you see that?

11 A. I do see that.

12 Q. And do you see Dr. Pentelute's answer is there
13 that says, A, well, in this case, it's a number of
14 things that are taking place.

15 Do you see that?

16 A. I do.

17 Q. Do you have an understanding what Dr. Pentelute
18 was referring to when he said "in this case" in this
19 answer?

20 A. I will review and then answer the question.

21 Well, in paragraph 22, there's a long quote
22 near the beginning of the paragraph and the reference
23 cited is Exhibit 2008, paragraph 35, which is -- my
24 understanding, that's the record of Dr. Pentelute's
25 deposition.

1 Is that correct? Is that what 2008 is?

2 Q. That's correct.

3 A. Okay. So he -- those are all -- that's a quote
4 from his declaration. So with that as the context of
5 selecting and his quote from his declaration that his
6 recognition that the specification, quote, teaches that
7 CRCs which display functional interactions must be
8 selected for detection and/or analysis, filtering
9 process that's including --

10 THE STENOGRAPHIC REPORTER: (Indicating.)

11 THE WITNESS: Start that sentence again, second
12 sentence.

13 Filtering processes, comma, including affinity
14 purification, comma, are employed during the process to
15 selectively separate the desired CRCs. And he goes on.

16 And then I state in the last sentence of
17 paragraph 22, Dr. Pentelute also testifies in his
18 deposition that he understands selection to be, quote, a
19 number of things that are taking place in a pro- -- end
20 quote, and the process that allows determination of,
21 quote, cis-reactive cells that give you a readout, end
22 quote.

23 And then it goes on to the question and answer
24 exchange that you say, in this case, refers to all the
25 things that have been discussed in his declaration and

1 his deposition as cited in the paragraph which I just
2 read segments of.

3 MR. HOLMAN:

4 Q. Dr. Nelson, you reviewed the Pentelute
5 deposition transcript, Exhibit 1049; correct?

6 A. Correct.

7 Q. And based on that review and your answer that
8 you've just given me, is it your understanding that in
9 Dr. Pentelute's answer here, when he says, "in this
10 case," that he's referring to the selection disclosures
11 of the '848 Patent?

12 MR. PLATT: Objection to form.

13 THE WITNESS: What I said in paragraph 22 is the
14 topic of selection is, in this case, what it's referring
15 to that the general topic that was disclosed in his
16 declaration and was discussed in his deposition.

17 MR. HOLMAN:

18 Q. So are you telling me -- is your testimony
19 sitting here today that you believe when Dr. Pentelute
20 used the phrase, quote, in this case, end quote, he's
21 referring to all of the things you discuss in paragraph
22 22?

23 MR. PLATT: Objection to form.

24 THE WITNESS: I believe there's clarification in
25 the following parts -- following sections starting on

1 page 13, which is from the transcript -- the redacted
2 transcript of his deposition, starting the fourth line
3 up from the bottom of page 13, which reads, quote -- I'm
4 sorry, not quote, question.

5 Q: But the point of the process
6 is to be able to select for the CRCs
7 with a detectable trace from the
8 background CRCs?

9 Answer: Not just background
10 CRCs but there's also many
11 interactors that are present too.
12 Continuing on on page 14.

13 Question: Okay.

14 Answer: Yeah. So there are a
15 lot of things in solution that are in
16 that test tube and you want to be
17 able to get those cis-reactive cells
18 that give you a readout. And the
19 readout is the detectable trace,
20 period.

21 Question: And that's the
22 process of selection that you want to
23 do?

24 Answer: Yes.

25 Q. And that's a --

1 A. That's clarification of what he's referring to.

2 Q. Sorry, I didn't mean to interrupt.

3 A. That's all right. I paused so it's not your
4 fault.

5 Q. And that quote -- that language comes from
6 pages 145 and 146 of the Pentelute transcript; is that
7 correct?

8 A. According to this reference, that is correct
9 but I'd have to verify that. But yes, I believe that's
10 correct.

11 Q. And the answer we were looking at earlier,
12 where Dr. Pentelute uses the phrase "in this case," that
13 comes from page 73 of the Pentelute transcript; correct?

14 A. That citation of 1- -- of 73 is only reference
15 to those -- that one question, that one answer.

16 Q. Okay.

17 A. And there's further clarification in the second
18 citation, so that helps to solidify the answer to your
19 question of what he's talking about in this case.

20 Q. All right. I'm going to hand you Exhibit 1049.
21 This is the public redacted version of the Pentelute
22 deposition transcript.

23 Okay. You recognize this Exhibit 1049,
24 Dr. Nelson?

25 A. I do.

1 Q. All right. If you could please turn to page 73
2 on this exhibit. And on page 73, beginning on line 11
3 through line 14, do you see that same Q and A that we
4 were looking at in your declaration?

5 A. I do.

6 Q. Okay. And now having the deposition transcript
7 in front of you, do you have any further insight as to
8 what Dr. Pentelute was referring to when he answered,
9 well, in this case, it's a number of things that are
10 taking place, in Exhibit 1049, lines 13 to 14?

11 A. I'd like to review the document, 1049, and then
12 answer the question.

13 So after reviewing that, my answer's the same.
14 It -- as stated in chapter -- chapter -- paragraph 22
15 and supported by further questioning as I already read,
16 he's referring to -- the discussion is around selection,
17 as the question states, so the selection process --
18 selection can be a process. So it is about selection.

19 Q. Are you saying it's about selection in the
20 context of -- of the '848 Patent?

21 A. We're -- we're talking about is Baez, as we're
22 saying, and that is obviously in relation to the '848
23 Patent. So the '848 Patent includes selection but
24 the -- what's being discussed here is that so the
25 selection can be a process, establishing whether

1 selection can be a process or not.

2 And that's established because -- by his
3 testimony in two places, and the preamble is in
4 paragraph 22, which says his narrow application of
5 selecting conflicts with his recognition that
6 specification, which is '848, quote, teaches that CRCs
7 which display functional interactions must be selected,
8 and then it goes on.

9 So that's what it's referring to.

10 Q. All right. Back -- don't put the transcript
11 away just yet but I want to direct your attention back
12 in your second declaration to paragraph 97, please.
13 That's going to be -- begins on page 48. And at the top
14 of page 49, you have another quote from the Pentelute
15 deposition transcript.

16 Do you see that?

17 A. If you're referring to what starts as, can that
18 also be used for?

19 Q. Yes, sir.

20 A. I am. I do, rather, see that.

21 Q. And in Dr. Pentelute's answer that you've
22 quoted here, you refer to the biotin-streptavidin
23 complex driven by affinity, it says in the first
24 sentence there.

25 Do you see that?

1 A. I see that.

2 Q. Is it your understanding that Dr. Pentelute, in
3 this answer, is discussing biotin-streptavidin in the
4 context of the Baez patent?

5 A. Again, I'm going to review and then answer the
6 question.

7 The answer is informed in paragraph 97 of my
8 second declaration, which states, for the reasons above
9 and those stated in my first declaration -- there's a
10 citation -- Baez's disclosure of using biotin
11 incorporated to the linker as a means to isolate the
12 ASAs from solution is a form of affinity purification
13 that satisfies Claim 1, step (d), citing Exhibit 2008,
14 paragraph 35. In addition, Dr. Pentelute agrees that
15 biotin-streptavidin in capture is a form of affinity
16 purification.

17 So while the context is discussing Baez, it's a
18 general question which appears on page 49 about
19 streptavidin-biotin in general. It's simply him
20 indicating that biotin-streptavidin -- I'm sorry, let me
21 start that again. That -- direct quote, so the
22 biotin-streptavidin complex is driven by affinity.

23 So that's the answer.

24 Q. Okay. So now in the Pentelute transcript,
25 Exhibit 1049, if you turn to page 140, please. And on

1 page 140, lines 1 through 12, do you recognize that as
2 the same quotation that you provided in your second
3 declaration on page 49?

4 A. Yes.

5 Q. And looking at Exhibit 1049, in this
6 disclosure -- or this question and answer on page 140,
7 is it still your opinion that Dr. Pentelute is
8 discussing biotin-streptavidin generally?

9 A. From all I have read here, comma, my opinion is
10 that the discussion is still around streptavidin-biotin
11 affinity in general terms.

12 Q. All right. In Exhibit 1049, if you're still on
13 page 140 -- actually, if you look on page 139, on the
14 previous page, there's a question that begins in line 12
15 of page 139, the question says -- or it begins, so I
16 think we were looking at your other patent, hyphen,
17 well, I think we are looking at one of your patents.

18 Do you see that there?

19 A. I do see that.

20 Q. And then further down, line 18, the question
21 concludes, but in your patent, do you recall you were
22 talking about using biotin?

23 You see that question there?

24 A. Yes, I do.

25 Q. Do you have an understanding of what patent

1 this question is referring to?

2 A. I don't recall that at this point. I believe I
3 did look at that at one point but I -- I just don't
4 recall the exact patent at this point.

5 Q. All right. If you could turn to page 67 in
6 this transcript, please.

7 A. 6-7?

8 Q. 6-7, yes, sir.

9 A. Okay.

10 Q. Are you there?

11 A. Yes.

12 Q. All right. Line 15, on page 67, there's a
13 question that states, I'm going to hand you what's been
14 marked as Exhibit 1043, which is U.S. Patent Number
15 11014961.

16 Do you see that question there?

17 A. I do.

18 Q. Did you review Exhibit 1043 preparing your
19 opinions for your second declaration?

20 A. For my second declaration, I did not review
21 that exhibit.

22 Q. Do you have any understanding of what U.S.
23 Patent Number 11014961 relates to?

24 A. As I stated before, at one point, I looked at
25 it enough to understand the basics of it, but I do not

1 recall at this moment what the specifics are.

2 Q. When you say you looked at it, when did you
3 look at U.S. Patent Number 11014961?

4 A. Prob- -- I don't recall a hundred percent. The
5 best of my recollection, it was when I was reviewing the
6 declaration from Dr. Pentelute. But I don't recall
7 exactly, to be honest.

8 Q. Is it your understanding that this patent,
9 11014961, is discussed in the declaration of
10 Dr. Pentelute?

11 A. Same answer. I really don't recall. Honest
12 answer.

13 Q. But you testified earlier that for your second
14 declaration, you did not review that particular exhibit;
15 is that right?

16 A. In preparation for the second declaration, I do
17 not recall reviewing that patent. I still -- I just
18 don't remember completely.

19 Q. In your second declaration, paragraph two, the
20 list of materials that you provide, is that a complete
21 list of materials you considered in preparing your
22 second declaration?

23 A. This is a true statement as everything in my
24 declaration is, and D is materials cited in this
25 declaration as well, and I don't recall exactly every

1 single citation in my second declaration. So that's the
2 only wild card. Clearly it's not listed in A, B, or C,
3 and I can't confirm that it is or is not indeed.

4 Q. I'm just asking if this is a complete list of
5 materials that you considered in preparing this
6 declaration.

7 A. Well, as stated, there's A, B, C, and D. A, B,
8 and C are specified, and D is all the other materials
9 cited in this declaration. So those are the ones I
10 considered.

11 MR. HOLMAN: Okay. All right. Let's go off the
12 record.

13 (Interruption in proceedings.)

14 MR. HOLMAN: Dr. Nelson, we have no further
15 questions for you subject to any redirect from your
16 counsel.

17 We'll pass the witness.

18 MR. PLATT: And we will take a short break.

19 (Interruption in proceedings.)
20

21 EXAMINATION

22 BY MR. PLATT:

23 Q. Dr. Nelson, do you recall that Dr. Holman asked
24 you a series of questions about figure 5 from the '848
25 Patent?

1 A. Yes, I do.

2 Yes, I do.

3 Q. And if you could -- do you have a copy of
4 Exhibit 1001, the '848 Patent, in front of you?

5 A. Yes, I do.

6 Yes, I do.

7 Q. And if you could turn to page 37, around
8 paragraph 70 of your second declaration, Exhibit 1051,
9 and let me know when you're there.

10 A. Okay. I'm there.

11 Q. For what opinion did you rely on figure 5 of
12 the '848 Patent?

13 A. I relied on the paragraph 71 in particular on
14 page 37 where Dr. Pentelute was arguing that in Kanan in
15 view of Neri and further view of Famulok, F-A-M-U-L-O-K,
16 teaches that, quote, CRCs made from interactors
17 associated by hybridization and self-assembly, comma,
18 not by ligation, comma, as required by Claim 16, end
19 quote.

20 So I'm relying is Dr. Pentelute's argument
21 requires that there is no hybridization between the
22 interactors prior to ligation. But this is wrong and it
23 excludes embodiments of the '848 Patent.

24 Q. And how did figure 5 of the '848 Patent support
25 your opinion regarding -- relating to Dr. Pentelute and

1 how he applied the requirement of ligation in Claim 16
2 of the '848 Patent?

3 MR. HOLMAN: Objection. Form, foundation, scope.

4 THE WITNESS: So figure 5 of the '848 Patent, 5E
5 shows overlap of the two 3 prime ends of the NAMS, which
6 indicate hybridization and, therefore, prior to ligation
7 and, therefore, Dr. Pentelute's argument that requires
8 there is no hybridization between interactors is wrong.
9 And that's a clear example.

10 MR. PLATT:

11 Q. And was there anything else in the '848 Patent
12 that supported your opinion relating to Dr. Pentelute's
13 requirements relating to ligation?

14 A. Yes. In figure 4 of the '848, there's another
15 diagram which again shows it's virtually the same as 5E
16 with the two NAMS of the interactors overlapping and
17 hybridizing. And if you look at column 7 of '848, the
18 description of figure 4, starting in -- on line 27, it's
19 described as the schematic description of the library
20 design in the exemplary approach described for detecting
21 a functional interaction.

22 Towards the end of that paragraph, it states,
23 each CRC is joined by addition of polymerase that
24 stabilizes the hybridization of the respective 3 prime
25 ends. So that supports -- and the figure 4B is

1 essentially the same as -- as 5E, and that supports and
2 clarifies that that -- those overlapping 3 prime ends
3 hybridize.

4 Figure 4 description talks about polymerization
5 but that is also written in figure 5E, says ligation or
6 polymerization. So in this construct it can be ligation
7 as well. So that supports my opinion.

8 Q. So when you look at 4B, does that also -- can
9 that figure also be used to demonstrate ligation after
10 hybridization?

11 MR. HOLMAN: Objection. Form, scope.

12 THE WITNESS: Figure 4B shows the interactors
13 overlapping. And in this particular figure, it says
14 polymerization. And in figure 5E, there's the
15 additional oligomers that are hybridized that show then
16 the ligation in those spots next to the hybridization of
17 the 3 prime ends of the interactors.

18 MR. PLATT:

19 Q. And taking all that together, how does that
20 support your opinions regarding Dr. Pentelute's
21 requirement that there can be no hybridization prior to
22 ligation?

23 MR. HOLMAN: Objection. Form.

24 THE WITNESS: It shows that those arguments are
25 incorrect.

1 MR. PLATT: No further questions, Dr. Nelson.

2 MR. HOLMAN: All right. Let's go off the record,
3 take a break.

4 (Interruption in proceedings.)
5

6 EXAMINATION

7 BY MR. HOLMAN:

8 Q. Dr. Nelson, in preparing for your redirect
9 examination, did you meet with counsel?

10 A. Yes.

11 Q. During your redirect, you were asked -- you
12 provided some testimony regarding figure 4 of the '848
13 Patent.

14 Do you recall that?

15 A. I do recall that.

16 Q. Do you still have the '848 Patent in front of
17 you?

18 A. I do.

19 Q. Can you turn to figure 4, please.

20 Figure 4B depicts hybridization between the
21 nucleic acid moieties at the association elements; is
22 that correct?

23 A. That is correct in this figure 4B.

24 Q. All right. If you could turn to figure 5.

25 Figure 5E also depicts hybridization of the two

1 nucleic acid moieties at the association elements;
2 correct?

3 A. What I testified to is that the figure 5E shows
4 hybridization at the overlapping protruding -- or
5 overlapping 3 prime ends which are complementary, which
6 is also described, as I mentioned in the redirect, in
7 column 7 of -- of '848.

8 Q. Do you agree that that hybridization is
9 occurring at the association elements of the two nucleic
10 acid moieties?

11 A. Well, figure 5 is different than figure 4.
12 What I was trying to -- what I said in my redirect
13 testimony was that figure 4 informs about the structure
14 and the overlapping hybridization of figure 5. And
15 it -- it said -- and this -- this is by polymerization
16 and it shows association elements here.

17 In figure 5E, it says polymerization or
18 ligation, in reverse order listed here. So it's
19 different with the ligation. So it all informs -- my
20 testimony is it informs me that those -- as I said in my
21 testimony, it informs me that those 3 prime overlapping
22 ends hybridize.

23 That was my redirect testimony.

24 Q. Do those 3 prime overlapping ends hybridize at
25 the association elements depicted in figure 5E?

1 A. No, that's not what I'm saying.

2 I'm saying, the 3 prime ends are complementary
3 and hybridize. I didn't say anything about association
4 elements.

5 Q. Well, I think you see in the top of figure 5,
6 the label, it says association element and there's a
7 little squiggly bracket there?

8 A. Yes, I see that.

9 Q. And do you -- is it your understanding that
10 that label also applies to figure 5E?

11 A. The association element label there looks like
12 it refers to that third oligomer in A. And each of
13 these structures is different.

14 So my testimony stands, that these are 3 prime
15 overlapping regions that hybridize of the NAMs of the
16 interactors.

17 Q. Earlier in your redirect testimony, you
18 testified that the structure depicted in figure 4B was
19 similar to the structure depicted in figure 5E; correct?

20 A. I said it was similar, that's correct.

21 Q. Okay. But you're unable to answer whether or
22 not figure 5E depicts hybridization of the two nucleic
23 acid moieties at their association elements; is that
24 correct?

25 A. That is not correct. I'm not saying that. I'm

1 saying that -- very clearly, that those two ends of
2 figure 5 are overlapping 3 prime ends which are
3 complementary and they hybridize. That's my testimony.

4 Q. I understand that's your testimony but I'm --
5 my question is, are they overlapping at the 3 prime ends
6 and hybridizing at their association elements. That's
7 my question.

8 Are you able to answer that question?

9 A. I --

10 MR. PLATT: Objection to form.

11 THE WITNESS: What I am saying about figure 5E is
12 that those are overlapping ends of the NAMS from the two
13 interactors and they hybridize from one another -- to
14 one another. That's what I'm saying.

15 MR. HOLMAN:

16 Q. Is this depicting association between the two
17 NAMS, figure 5E?

18 A. Figure 5E is showing hybridization of those two
19 ends, and there's additional oligonucleotides with the
20 shorter arrows on top and bottom, and those gaps are
21 then ligated. So there are multiple elements in here.

22 Q. Is it depicting association between the two
23 NAMS?

24 A. The -- is what depicting association?

25 Q. Is figure 5E depicting association between

1 nucleic acid moieties with each interactor depicted in
2 figure 5E?

3 A. Well, the way I read figure 4, it says before
4 association and after association, so there is all of
5 the events in there which in sum total add up to
6 association.

7 Q. And does that association occur at the point of
8 hybridization between the two NAMS in figure 5E?

9 A. The 3 prime overlapping ends of the NAMS
10 hybridize, the two oligomers which are represented by
11 the shorter arrows hybridize, and then there's ligation.
12 Those combined events comprise association, according to
13 this figure.

14 Q. And you're referring to figure 5E; correct?

15 A. I am.

16 Q. Okay. Earlier I think you said figure 4, but
17 just want to make sure you're --

18 A. Oh, I apologize for that.

19 Q. -- figure 5.

20 MR. HOLMAN: All right. Dr. Nelson, thank you for
21 your time. We have no further questions for you.

22 THE WITNESS: Okay, thank you.

23 (The proceedings concluded at 5:06 p.m.)

24 *****
25

NORMAN C. NELSON, Ph.D.

COUNTY OF LOS ANGELES)

Witness my hand this 3rd day of November, 2025

Myrtle

MARY K. MEDLEY, CSR NO. 9557
Certified Shorthand Reporter
State of California

1 Norman C. Nelson, Ph.D.,
normnelson7@gmail.com

2
3 November 3, 2025

4 RE: Alamar Biosciences Inc v. Olink IPR
10/29/2025, Norman C. Nelson, Ph.D. , Vol. 2 (#7650517)

5
6 The above-referenced transcript is available for
7 review.

8 Norman C. Nelson, Ph.D., Vol. 2 should read the testimony to
9 verify its accuracy. If there are any changes,
10 Norman C. Nelson, Ph.D., Vol. 2 should note those with the
11 reason on the attached Errata Sheet.

12 Norman C. Nelson, Ph.D., Vol. 2 should, please, date and sign
13 the Errata Sheet and email to the deposing attorney as well as
14 to Veritext at Transcripts-fl@veritext.com and copies will
15 be emailed to all ordering parties.

16 It is suggested that the completed errata be returned 30
17 days from receipt of testimony, as considered reasonable
18 under Federal rules*, however, there is no Florida statute
19 to this regard.

20 If the witness fails to do so, the transcript may be used
21 as if signed.

22 Yours,
23 Veritext Legal Solutions

24
25 *Federal Civil Procedure Rule 30(e)/Florida Civil Procedure
Rule 1.310(e).

Alamar Biosciences Inc v. Olink IPR
10/29/2025, Norman C. Nelson, Ph.D. , Vol. 2 (#7650517)

E R R A T A S H E E T

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Under penalties of perjury, I declare that I have
read the foregoing document and that the facts
stated in it are true.

(Norman C. Nelson, Ph.D. , Vol. 2) DATE

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Federal Rules of Civil Procedure

Rule 30

(e) Review By the Witness; Changes.

(1) Review; Statement of Changes. On request by the deponent or a party before the deposition is completed, the deponent must be allowed 30 days after being notified by the officer that the transcript or recording is available in which:

(A) to review the transcript or recording; and

(B) if there are changes in form or substance, to sign a statement listing the changes and the reasons for making them.

(2) Changes Indicated in the Officer's Certificate. The officer must note in the certificate prescribed by Rule 30(f)(1) whether a review was requested and, if so, must attach any changes the deponent makes during the 30-day period.

DISCLAIMER: THE FOREGOING FEDERAL PROCEDURE RULES ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

THE ABOVE RULES ARE CURRENT AS OF APRIL 1, 2019. PLEASE REFER TO THE APPLICABLE FEDERAL RULES OF CIVIL PROCEDURE FOR UP-TO-DATE INFORMATION.

VERITEXT LEGAL SOLUTIONS

COMPANY CERTIFICATE AND DISCLOSURE STATEMENT

Veritext Legal Solutions represents that the foregoing transcript is a true, correct and complete transcript of the colloquies, questions and answers as submitted by the court reporter. Veritext Legal Solutions further represents that the attached exhibits, if any, are true, correct and complete documents as submitted by the court reporter and/or attorneys in relation to this deposition and that the documents were processed in accordance with our litigation support and production standards.

Veritext Legal Solutions is committed to maintaining the confidentiality of client and witness information, in accordance with the regulations promulgated under the Health Insurance Portability and Accountability Act (HIPAA), as amended with respect to protected health information and the Gramm-Leach-Bliley Act, as amended, with respect to Personally Identifiable Information (PII). Physical transcripts and exhibits are managed under strict facility and personnel access controls. Electronic files of documents are stored in encrypted form and are transmitted in an encrypted

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