

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

10X GENOMICS, INC.,
Petitioner,

v.

BRUKER SPATIAL BIOLOGY, INC.,
Patent Owner.

IPR2023-01298
Patent 11,377,689 B2

Record of Oral Hearing
Held: March 12, 2025

Before SUSAN L. C. MITCHELL, DEVON ZASTROW NEWMAN, and
JAMIE T. WISZ, *Administrative Patent Judges*.

APPEARANCES:

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The above-entitled matter came on for hearing on Wednesday, March 12, 2025, commencing at 1:00 p.m. EDT, at the U.S. Patent and Trademark Office, 600 Dulany Street, Alexandria, Virginia, and via videoconference.

P R O C E E D I N G S

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1:00 p.m.

JUDGE ZASTROW NEWMAN: Good morning or good afternoon, Counsel, depending on where you are today. We are on the record.

This is Judge Newman and with me today are Judges Mitchell and Wisz.

This is the final oral hearing in IPR 2023-01298, in which Petitioner has challenged Claims 1 through 30 of U.S. Patent No. 11,377,689. The parties are 10x Genomics, Incorporated, v. Bruker Spatial Biology, Incorporated. This is a virtual hearing.

We have a court reporter on the line. The Board will issue a transcript for this case and we will make that transcript part of the record in due course.

Let's start by taking appearances. Counsel for Petitioner, would you please identify yourself and your team, and let us know who will be speaking today?

Please remember to identify yourself for the court reporter reach time you speak while everyone is on the line and please speak slowly and clearly.

MR. HOLMAN: Good afternoon, Your Honors. This is David Holman from Sterne Kessler Goldstein & Fox, on behalf of Petitioner 10x Genomics.

With me here today are my colleagues Pratibha Khanduri and Rob Sterne, also from Sterne Kessler, and I believe on the public line we have representatives from 10x Genomics.

JUDGE ZASTROW NEWMAN: Thank you, Counsel.

1 Patent Owner's Counsel, would you please identify yourself and your
2 team, and let us know who will be speaking?

3 MR. WALTER: Good morning, Your Honors. This is Derick
4 Walter from Weil, Gotshal & Manges, and I am here with my colleague
5 Concord Cheung. I will be doing the presentation today.

6 JUDGE ZASTROW NEWMAN: Thank you.

7 Per the order of setting oral argument, each side was granted 60
8 minutes to present its case today. However, Petitioner's request to have a
9 LEAP practitioner participate in the hearing was granted for Dr. Khanduri,
10 and Petitioner now has 75 minutes to present its argument.

11 The panel will do our best to keep track of the time. We suggest you
12 also do so on your end, so that you are aware of how much time you have
13 left.

14 Petitioner will proceed with arguments first and may reserve up to 20
15 minutes for rebuttal.

16 Mr. Holman, would you like to reserve any time for rebuttal?

17 MR. HOLMAN: Yes, Your Honor, we would like to reserve 10
18 minutes for rebuttal, please.

19 JUDGE ZASTROW NEWMAN: That is noted.

20 And, Mr. Walter, do you wish to reserve time for surrebuttal, and if
21 so, how long?

22 MR. WALTER: Yes, Your Honor, we would, 10 minutes as well.

23 JUDGE ZASTROW NEWMAN: Thank you. Those times have
24 been noted.

25 We will aim to give you a one-to-two-minute warning before the end
26 of each time period and let you briefly complete your argument.

1 I will request that everybody mute your microphone when you're not
2 speaking. Otherwise, we do get an echo and feedback. So, please be
3 mindful.

4 Also, there can be a little bit of a lag. So, we might pause before
5 speaking to avoid us speaking over one another, to allow us to have a clear
6 record.

7 We have received demonstrative exhibits from both parties and we
8 have access to the full record. When you are citing the record or the
9 demonstratives, we ask that you are as clear as possible regarding the source
10 of the information cited to assist us in deciding the case when we refer back
11 to the transcript. You are welcome to share your screen, if you prefer, to
12 share demonstratives or something from the record.

13 And our expectation is that, unless absolutely necessary, there will be
14 no interruptions from opposing party to the other side's presentation.

15 With that, I believe we are ready to begin. Mr. Holman, you may
16 begin when you are ready.

17 STATEMENT ON BEHALF OF PETITIONER

18 MR. HOLMAN: Thank you, Your Honor.

19 Okay, I should be sharing our screen, but I understand the panel has
20 local copies of our demonstratives as well.

21 JUDGE ZASTROW NEWMAN: Yes, we do.

22 MR. HOLMAN: Okay. Thank you.

23 Good afternoon, Your Honors, and good morning, depending on
24 where you are residing.

25 David Holman from Sterne Kessler, on behalf of Petitioner 10x
26 Genomics.

1 And may it please the Board, I direct the Board's attention to
2 Petitioner's slide 2.

3 So, this IPR concerns the '689 patent and whether Claims 1 through
4 30 of the '689 patent are unpatentable because of the prior art.

5 Petitioner presented four grounds of unpatentability. And as
6 mentioned earlier during party introductions, Dr. Khanduri and I will be
7 splitting today's argument.

8 I'm going to begin by discussing the Chell ground. It's Ground 4.
9 And then, Dr. Khanduri will discuss the unpatentability grounds, so 4, 5, 6.

10 Turning to slide 4, the Chell ground arises due to Patent Owner's
11 overreach in claims drafting. The '689 patent specification was drafted to
12 describe Patent Owner's commercial GeoMx products. For example, you
13 can see here on the left, that's figure 20 from the '689 patent. And it shows
14 the workflow which is nearly identical to the workflow presented in Exhibit
15 1013, on the right, which is a publication describing the GeoMx systems.

16 The claims of the '689 patent, however, were drafted to capture
17 something else. The claims were drafted to capture 10x's commercial
18 product called Visium. And, in fact, the challenged claims at issue in this
19 IPR were filed in 2021, after the Visium product had already entered the
20 market.

21 So, as I'll explain today during our argument, Patent Owner's
22 litigation-driven patent strategy here has resulted in claims that reach beyond
23 the written description in its priority application.

24 Turning to slide 9, here you can see the language of Independent
25 Claims 1 and 16. Both claims begin with a contacting step a, where nucleic
26 acid probes are added to a tissue sample. In the case of Claim 16, it's a pair

1 of nucleic acid probes, the first and second nucleic acid probes that are
2 added to the tissue sample.

3 Moving to slide 10, Claim 16 has a ligation step, step b, where the
4 pairs of probes are ligated while they're still bound to the target analyte.
5 We'll be discussing this claim element in detail today.

6 Turning to slide 11, both Claims 1 and 16 recite collecting steps.
7 Claim 1 is collecting the nucleic acid probes, or portions of the nucleic acid
8 probes. Claim 16 recites collecting the ligated probes, or portions of the
9 ligated probes. We'll, of course, be addressing this claim element in detail as
10 well.

11 Turning to slide 12, after the collection step, both claims recite
12 performing an extension reaction, and the extension reaction incorporates a
13 spatial barcode into the collected molecules.

14 And then, on slide 13, both claims end with an identifying step or a
15 sequencing step, in which case, as the claims recite, the extension products
16 from the previous step are sequenced in order to determine the spatial
17 location of the target analyte in the tissue sample.

18 Alright. Turning to Petitioner's slide 17, now the Chell ground boils
19 down to two issues of whether the challenged claims have written
20 description support in the '487 priority application. I'm going to discuss
21 each of these issues in detail today.

22 The first issue relates to the collecting step, which is recited in both
23 Independent Claims 1 and 16. The claims encompass collecting whole
24 probes or portions of probes, while the specification describes only
25 collecting portions of the probes, which the '487 application refers to as
26 identifier oligonucleotides.

1 Now, this first issue, the collection step, applies to all the Claims 1
2 through 30.

3 The second issue we'll address today is the ligation step of Claim 16.
4 Claim 16 recites, as we saw earlier, ligating these probes while they're still
5 bound to the target analyte. And this is before they're collected in the
6 collection step, which we refer to as off -- or on-analyte ligation.

7 Meanwhile, the '487 application only describes performing this
8 ligation after the identifier oligonucleotide portions have been cleaved off
9 and collected. This issue applies to Claims 16 through 30.

10 Okay. So, turning to slide 16, absent written description support in
11 the '487 priority application, the '689 patent's priority claim, the entire chain
12 is severed. And what this means is the Chell reference, shown in blue here,
13 interferes as prior art and anticipates the challenged claims.

14 Now, Patent Owner has not disputed the merits of Chell's disclosures
15 in its Patent Owner's response or its surreply. Patent Owner disputes Chell's
16 status as prior art in this IPR.

17 And what this means is, if the Board determines that the '689 patent
18 is not entitled to this claimed priority date of the '487 application, all of the
19 petition's anticipation arguments and evidence pertaining to Ground 4, the
20 Chell ground, remain unchallenged in the record.

21 Now, you're going to hear from Patent Owner today, and Patent
22 Owner is going to argue that Petitioner is holding them to too high of a
23 standard for written description. Patent Owner is going to argue that written
24 description doesn't require the specification to spell out every detail or that
25 the specification need not describe every conceivable embodiment within the
26 full scope of the invention, the full scope of the claim.

1 And while that's true, a claim need not be limited to a preferred
2 embodiment, the law is clear. When a specification discloses only a single
3 embodiment, only one way of practicing that claim has been mentioned, that
4 narrowed disclosure is what sets the limits for the written description. And
5 as we'll show you today, and we showed in our briefing, neither the law, nor
6 the facts are on Patent Owner's side here.

7 Regarding the law, Patent Owner relies on LizardTech v. Earth
8 Resource Mapping for the proposition that a specification doesn't need to
9 describe every single embodiment, every conceivable embodiment within
10 the full scope. But, if anything, LizardTech only proves Petitioner's point
11 here. In LizardTech, the claim at issue was directed to creating a seamless
12 array of DWT coefficients generically. The specification in that case,
13 however, only described a single method of creating that seamless DWT
14 array.

15 And what did the Federal Circuit say? This is LizardTech 1345.
16 Quote, "After reading the patent, a person of skill in the art would not
17 understand how to make a seamless DWT generically and would not
18 understand LizardTech to have invented a method for making a seamless
19 DWT, except by `maintaining updating sums of DWT coefficients." -- which
20 was the only way the specification disclosed making that array.

21 Your Honors, LizardTech is not an outlier here. For example, the
22 Federal Circuit addressed a similar situation in Tronzo v. Biomet. That's
23 156 F.3d 1154. In Tronzo, the technology related to prosthetic cup implants
24 that are inserted into the hip bone for part of an artificial hip. The
25 specification disclosed only conical-shaped cups. So, there were different
26 versions, different bells and whistles, but every artificial cup was a conical

1 shape, while the claims were drawn to generic cup shapes.

2 And once again, the Court said -- this is Tronzo 1159 -- quote,
3 "There's nothing in the '589 specification to suggest that shapes other than
4 conical are a necessary part of a disclosure."

5 One more note on this point, Your Honors. Also apt here is Gentry
6 Gallery v. Berkline. That's 134 F.3rd 1473. In Gentry Gallery, the claims
7 were drawn to a sectional sofa with recliner controls, but there was no limits
8 or it was generic as to where the recline controls were located on the sofa.
9 The specification, however, only disclosed sofas having recliner controls on
10 the console portion. That's sort of the armrest of the chair.

11 And the Patentee argued: wait. This is a preferred embodiment.
12 You shouldn't limit our claims to a preferred embodiment specification.

13 Once again, this is Gentry Gallery at 1479, the Court says, quote,
14 "The original disclosure clearly identifies the console as the only possible
15 location for the controls and no similar variation beyond the console is even
16 suggested."

17 So, the law here is unambiguous. Whether it's LizardTech, Tronzo,
18 or Gentry Gallery, if the specification discloses only one embodiment, that is
19 the limit of the written description.

20 JUDGE ZASTROW NEWMAN: Counsel, I'm going to interrupt you
21 for a moment here to ask a question. Did any of those cases involve
22 incorporating other disclosures as is the case here, where Petitioner -- sorry
23 -- where Patent Owner is arguing that other incorporated applications
24 provide substantial disclosure that would inform the skilled artisan of how to
25 practice the method.

26 MR. HOLMAN: No, Your Honor, those cases did not necessarily

1 involve piecing together or picking and choosing, but I'd direct the Board's
2 attention to the Purdue Pharma case we have cited. I'll get you the cite for
3 that, as well as Novozymes v. DuPont at 723 F.3d 1336, relates to a written
4 description and picking and choosing, and then, also, Flash-Control v. Intel.
5 And that's found at 2021 Westlaw WL 2944592.

6 One more note on the case law. So, Patent Owner in its briefing
7 relies heavily on the Allergan v. MSN Labs case for the principle that
8 specification needs to only reasonably convey possession to a person of skill
9 in the art. And again, that's true. We're not disputing that principle of law.

10 In fact, applying that same principle of the law to the facts here goes
11 against the Patent Owner. In Allergan, the claims were drawn to a
12 pharmaceutical composition where the glidant excipient was optional. And
13 the Court concluded that Allergan's specification reasonably conveyed
14 possession of this glidant optional composition. Why? Because of
15 disclosure. In Allergan, the specification disclosed at least two
16 embodiments that included glidants as optional.

17 And additionally, the priority application, the original claims filed in
18 that case, claimed glidant-optional compositions. So, there were two
19 examples of actual disclosures in the Allergan case. Those facts don't apply
20 here. So, even under Allergan, Patent Owner cannot prevail.

21 As we'll discuss today, Patent Owner's evidence of written
22 description relies on combining these disparate disclosures from the '487
23 application and other patent documents, and even proposing modifying other
24 disclosures. But that's not evidence of real description under 112. At best,
25 that's evidence of obviousness.

26 And, of course, disclosures that might render a claimed invention

1 obvious do not satisfy written description. That's Ariad at 1352. That's D3
2 Enterprises at 1502. That's Lockwood v. American Airlines, 1572.

3 Afterall, written description does not ask what is permissible; it asks
4 what is disclosed. I'll repeat that one more time. Written description does
5 not ask what is permissible; it asks what is disclosed.

6 All right. Let's take a look at the facts and the evidence here.

7 Turning to Petitioner's slide 20, please.

8 The '487 application uniformly, repeatedly describes only collecting
9 portions of nucleic acid probes. You can see this probe structure in this slide
10 here at the top. That's figure 13 from the '487 application.

11 It has a target-binding domain that binds to the target, which is a
12 nucleic acid in this case, and then, an identifier oligonucleotide domain,
13 which we have circled in blue here. And two domains are separated by a
14 cleavable linker, which in this case is a photo-cleavable linker.

15 And each time throughout the '487 application's disclosures,
16 embodiments, and figures, the identifier oligonucleotide is cleaved-off by a
17 force -- in this example, it's a UV light -- and then, it's subsequently
18 collected, tagged, and analyzed. And you can see that, for example, in
19 figure 18 from the '487 application, where it begins with this photo-released
20 identifier oligonucleotide, which is then processed in subsequent steps.

21 Now, the Board -- and this is on Petitioner's slide 21 -- the Board
22 agreed with this showing in the petition. This is some language from the
23 decision on institution, pages 35 to 36. The Board agreed that the '487
24 application does not describe the use of whole probes. They are collected
25 and extended, as recited in the challenged claims. All the references to
26 collecting probes referred only to cleaved-off identifier oligos, not release of

1 entire probes.

2 So, this narrow disclosure in the '487 application is just like Tronzo's
3 narrow disclosure of conical artificial cups for hip implants or Gentry
4 Gallery's narrow disclosure of sofas with recliner controls in the console.
5 Nothing in the record has changed this.

6 Turning to slide 22, in its Patent Owner's response and surreply
7 briefing, Patent Owner cobbles together these disclosures from the '487
8 application and other patent documents to get to written description. And I'd
9 like to address each of these briefly.

10 On slide 24, Patent Owners cannot argue that the '487 application
11 discloses -- or they're going to argue that the '487 application discloses that
12 probe cleavage is not required; that cleavage is optional.

13 And their basis for this argument is that the '487 application uses the
14 phrase "non-limiting example." And that's true. This is an example on the
15 slide here. Paragraph 107 in the '487 application uses that phrase "non-
16 limiting example."

17 But this has to be read in context, and that's the way a person of skill
18 in the art would read this. And if you look at the first sentence, the
19 preceding sentence there, the first sentence of the paragraph, it's very clearly
20 referring to providing a force that's going to release the identifier
21 oligonucleotide.

22 Then, the application says in a non-limiting example the probe can
23 have a photo-cleavable linker and the force in that case would be a light of
24 sufficient wave length. So, what's optional here is the type of cleavable
25 linker or the type of force to be applied, not whether or not cleavage is
26 applied. Cleavage is occurring each and every time.

1 You can compare this to Patent Owner's slide 57 in their
2 demonstratives, which highlight the wrong sentence. They only focus on
3 this non-limiting example sentence, but ignore the first sentence in this
4 paragraph.

5 Turning to slide 27, you're also going to hear from Patent Owner that
6 the '487 application discloses denaturation, and that this, the denaturation,
7 could be used to collect whole probes, as claimed. But the issue here isn't
8 whether or not the '487 application discloses the word "denaturation" or
9 whether denaturation was known in the art. The issue is whether this
10 disclosure has anything to do with collecting whole probes, as claimed, and
11 it does not.

12 For example, on this slide, we had the language of paragraph 285 up
13 on the screen here. And as Dr. Spellman explained in his reply declaration
14 -- his declaration is Exhibit 1055, paragraphs 92 to 103 -- this disclosure of
15 denaturation is taking place downstream during cleanup steps just before
16 sequencing. This has nothing to do with the upstream, you know, adding
17 probes and collecting probes steps of the claimed method, sort of described
18 methods.

19 Similarly, if you could turn to slide 30, Patent Owner also relies on
20 disclosures in paragraph 240 as another mention of the word "denaturation"
21 in the '487 application. But again, this is clearly in the context of released
22 portions of probes, the identifier oligonucleotide portions of the probes.
23 That's clear from the language here in paragraph 240. And as Dr. Spellman
24 explains in his declaration, Exhibit 1055, paragraph 95, this entire discussion
25 in paragraph 240 is geared towards improving the efficient release of the
26 identifier oligonucleotide portion. The whole probes are not being released

1 here.

2 Okay. Moving on, turning to Petitioner's slide 28, still on the topic of
3 denaturation, Patent Owner argues that the '386 application discloses using
4 denaturation to collect whole probes. First of all, this document is not
5 effectively incorporated by reference because it's not clearly identified under
6 Rule 1.57(c) and it's not a patent or a patent publication under Rule 1.57(d).

7 But even if you put that aside, even if you accept that it was
8 incorporated by reference, the disclosures have nothing to do with collecting
9 whole probes for use in the claimed methods. And you can see the first
10 indication of this in the way the '487 application refers to this document.
11 Paragraph 213, you can see the top box here. The '487 application is already
12 discussing following the collection of released identifier oligonucleotides.
13 So, we're already after cleavage, after release and collection. Then, you can
14 move to step 4 and hybridized capture probes to these released identifier
15 oligonucleotides.

16 And then, in paragraph 216, where it refers to this '386 document, the
17 application states that, you know, the molecules or the products from step 4
18 can be sequenced using an enzyme-free method of sequencing.

19 And if you look at the disclosures in this '386 document that was
20 submitted by Patent Owner -- this is on Petitioner slide 29 in Exhibit 2008 --
21 it is, indeed, entirely all about methods of sequencing; that is, of enzyme-
22 free sequencing.

23 So, even if this '386 application happens to mention denaturation of
24 probes, sequencing probes, and sequencing methods, it's in a completely
25 different context and it's specific to methods of sequencing, not collecting
26 whole probes, as claimed in the challenged claims.

1 JUDGE ZASTROW NEWMAN: Counsel, can I interrupt you for a
2 moment here?

3 Your argument about incorporation, is that something that appeared
4 in your briefs. I don't remember seeing that, the citations to the rules of
5 incorporation.

6 MR. HOLMAN: Yes, Your Honor, Petitioner did address
7 incorporation by reference in the reply, pages 3 to 6.

8 JUDGE ZASTROW NEWMAN: Thank you.

9 And then, regarding denaturation, would you agree that denaturation
10 is a relatively well-understood process for both separating a two-stranded
11 DNA molecule and releasing a probe from a tissue sample?

12 MR. HOLMAN: Well, sure, Your Honor, and there's not really a
13 dispute that denaturation -- whether or not denaturation was well-known to
14 separate nucleic acid strands, but whether something's well-known is a bit of
15 a different question as to what's disclosed in an application for a written
16 description. And that's our point, is that, you know, even if denaturation was
17 well-known, it's not disclosed as using denaturation to collect whole probes
18 in the '487 application.

19 And I'll just add, while we're on this point that collecting whole
20 probes from denaturation couldn't even work with the way the '487
21 application is set up. Because if you read through that application, it
22 describes identifying these regions of interest in the tissue sample, these
23 ROIs, and those little regions, that's where you apply the force to cleave off
24 the identifier oligonucleotides. You collect these identifier oligos from each
25 region of interest. So, you know these ID oligos came from that region;
26 these ID oligos came from that region.

1 If you switch to use denaturation, there's no way to apply it in this
2 limited-space ROIs. So, there's going to be a bulk denaturation across the
3 whole tissue sample. All the probes are going to come off and there's no
4 way to know which probe came from which region or space in the tissue.
5 So, you're going to lose any spatial constraints.

6 And that's consistent with the way the '487 --

7 JUDGE ZASTROW NEWMAN: Can you point me to where that
8 argument was raised in the record as well?

9 MR. HOLMAN: Well, Dr. Spellman discusses the disclosures in the
10 '487 application and whether or not cleavage is occurring. So, this would be
11 in Exhibit 1002, paragraph 65, in 287 to 293.

12 JUDGE ZASTROW NEWMAN: Okay. Thank you. Continue,
13 please.

14 MR. HOLMAN: Sure. If we could turn to slide 31, please?

15 Another point -- it's related to the '386 application sequencing probes
16 -- is this language in the '487 application that any probe can be used in the
17 methods of the present disclosure. Patent Owner points to this and says, oh,
18 well, if this says any probe can be used, then a person of skill in the art could
19 take these '386 sequencing probes and combine them or implement them
20 into the '487 application's described methods.

21 But what Patent Owner fails to acknowledge or address in any of its
22 briefings is this disclaimer statement about conflict in paragraph 64 of the
23 '487 application. That's the bottom text here, where the '487 application
24 states, "In the case of conflict, the present specification, including
25 definitions, will control."

26 What does that mean? That means that, even if a person of skill in

1 the art were going to take a sequencing probe from the '386 application and
2 implement it in the '487, they're going to add a cleavable motif to cleave off
3 an identifier oligonucleotide. Because every time, that's what the '487
4 application says to do.

5 Turning to slide 32, Patent Owner also relies on the negative
6 purification disclosure in the '487 application. This is in paragraph 252 of
7 Exhibit 1009. And according to Patent Owner, this is a disclosure of
8 collecting whole probes, and therefore, probe cleavage must not be required.

9 But, clearly, this is a disclosure of removing or eliminating these intact
10 probes. And the language is explicit that background noise can be reduced
11 by performing negative purification of the intact probe molecule. So, this is
12 a teaching to get rid of the whole probes, not collect them and use them in
13 the claimed methods.

14 And the Board addressed this disclosure as well in its decision. This
15 is on Petitioner's slide 31 -- excuse me -- 33. And the Board acknowledged
16 that, you know, whole probes are collected, but they're not extended; they're
17 not used in the challenged claims, and the only disclosure of collecting
18 whole probes is in the context of getting rid of them to reduce signal noise.

19 And we have a quote from Dr. Sherman here in his declaration
20 testifying that the Claims 1 and 16 require performing an extension reaction
21 on the collected probes. Right? So, that's not happening in this negative
22 purification disclosure.

23 On Petitioner's slide 34, we address Patent Owner's argument that the
24 target-finding domain of the probe and the identifier oligonucleotide domain
25 of the probe could be the same or overlapping. Now, according to Patent
26 Owner, this is because they have functional roles, these domains have

1 functional roles, nothing precludes them from being the same sequencer,
2 overlapping sequences.

3 But if you look at the disclosures, what's actually disclosed in the
4 '487 application -- and we went through all of these paragraphs that the
5 Patent Owner relies on; this is in Petitioner's reply, page 7 -- every time the
6 '487 is saying, is referring to these as separate and distinct entities. It says
7 the probe can comprise a target nucleic acid-binding region, and then, the
8 probe further comprises an identifier oligonucleotide. So, every time, it's
9 separating these out as separate and distinct entities, not the same, not
10 overlapping.

11 Turning to slide 35, Patent Owner also relies on a modified
12 hypothetical version of the '487 application's indirect hybridization method.
13 Now, the actual indirect hybridization method is depicted in figure 14 of
14 Exhibit 1009. That's on the top left of our screen here.

15 And the '487 application describes this method as advantageous and
16 economically efficient because you can create the target-specific
17 intermediary oligonucleotides. Those are the ones that bind to the target
18 analyte. And then, you can make these generic cleavable probes, the one-
19 size-fits-all, if you will, that are going to bind to the intermediary
20 oligonucleotides.

21 And you see this in figure 14. The intermediary oligonucleotide is
22 bound to the target nucleic acid, and then, the probe on top of that is what's
23 bound to the intermediary oligonucleotide. So, in this way, the user only
24 needs to custom-make the intermediary oligonucleotides because of the
25 target specificity; whereas, it can use the same batch refrigerator-full or
26 truckload-full of these cleavable probes in every assay for any target.

1 There's no need to remake the cleavable probes each time.

2 Now, Patent Owner in its briefing takes this embodiment and argues
3 that, hypothetically, you could insert a cleavable motif into the intermediary
4 oligonucleotide. And what I've shown here, this is Dr. Sherman's figure on
5 the bottom right from his declaration in paragraph 103. And he's added this
6 red star and the red label there. But that disclosure is nowhere in the '487
7 application.

8 And even if it might be permissible, maybe if it's possible to add a
9 cleavage site there, as the Federal Circuit has held -- and we have the
10 language from the D3 Enterprises case -- written description is not about
11 what's permissible; it asks what is disclosed.

12 So, looking at what's disclosed for the indirect hybridization
13 embodiment -- this is on Petitioner's slide 36 -- every time the application
14 refers to the indirect hybridization embodiment, it talks about providing a
15 force to the location to release the identifier oligonucleotide. The cleavable
16 motif is consistently, repeatedly described as being between the target-
17 finding domain and the identifier oligonucleotide, never as part of the
18 intermediate oligonucleotide.

19 All right. Turning to slide 40, I'd like to address the ligation step,
20 written description issues regarding the ligation step.

21 So, Claim 16 has step b, forming these ligated probes by ligating the
22 first and second nucleic acid probes while they're bound to the target
23 analyte. And then, sub c and d recite collecting these ligated probes that
24 were bound to the target analyte.

25 Now, Patent Owner doesn't dispute that these claims require this
26 order of steps. What Patent Owner disputes is whether this claimed order of

1 steps is described in the '487 specifications.

2 Let's turn to slide 41.

3 The '487 application, again, consistently and repeatedly discloses
4 performing ligation after collection of the identifier oligonucleotide. This is
5 just one example. This is paragraph 24 from Exhibit 1009. But you can see
6 here where step 2 recites providing a force to release the identifier
7 oligonucleotide. Step 3 recites collecting these cleaved identifier oligos.
8 Step 4 recites adding pairs of nucleic acid probes that are going to hybridize
9 to the collected identifier oligonucleotide. And then, step 5 is ligating these
10 nucleic acid probes. And that's all taking place after collection off the target
11 analyte, off the tissue.

12 In response -- if you could turn to slide 43 -- we've summarized
13 Patent Owner's responses to the on-analyte ligation deficiencies. And you
14 can see that Patent Owner takes the same approach, applies the same
15 formula of picking and choosing disclosures from different patent
16 documents and combining them or modifying them to get to written
17 description.

18 Now, I'll just address a few of these for the last few minutes here.

19 If you could turn to slide 44?

20 One example Patent Owner relies on is the 607 publication, which
21 discloses nanoreporter probes that are not ligated together. So, the
22 disclosures in the 607 publication, they refer to adding pairs of probes with
23 light emitters. And these pairs of probes, they do bind to the target analyte,
24 and then, they emit light signals, and these light signals are detected.

25 But there's no description or disclosure of ligating these probes
26 together or collecting these ligated probes, and Patent Owner doesn't argue

1 otherwise in its briefing. Patent Owner only points to this as disclosing two
2 probes that hybridize to a target.

3 Turning to slide 46, another example of a patent document Patent
4 Owner relies on is the 774 publication. Now, this document relates to
5 proximity ligation methods for detecting proteins in solution.

6 Now, here in this document, antibody probes bind to a protein target
7 in a solution, and then, there is a ligation step where oligonucleotides that
8 are attached to the antibodies are ligated together. But, as we explained in
9 our reply, even if considering this completely different method of protein
10 detection, only portions of these probes are being collected in these methods.

11 And you can see that in the figure here on the screen. This is from figure 8,
12 where it refers to the released oligo being collected, and then, also,
13 paragraph 86 of Exhibit 2010 refers to the signal oligo.

14 Okay. So, even if this were on-analyte ligation, it does not salvage
15 the written description deficiency regarding collecting whole probes, which
16 remains fatal to all of Claims 1 through 30.

17 Moreover, I would just add that, as I mentioned, if you look at
18 example 7 in Exhibit 2010, which is describing figure 8, this is taking place
19 in a solution. This is not in a tissue or in situ. This is happening in a test
20 tube.

21 All right. Turning to slide 51, this is just a summary of Patent
22 Owner's arguments for written description. You can see visually this litany
23 of patchwork disclosures that they've relied on to cobble together this
24 written description.

25 Throughout Patent Owner's response, throughout its surreply, Patent
26 Owner's arguments are structured not as an objective inquiry into the four

1 corners of the specification, but, rather, Patent Owner argues what might be
2 possible, what could be possible if combining certain aspects of these
3 unrelated disclosures.

4 And as I noted earlier at the beginning of the talk, picking and
5 choosing from disparate disclosures cannot create written description. That's
6 the *Novozymes v. DuPont* case. That's *Flash-Control v. Intel* that we cited
7 earlier.

8 So, what Patent Owners argue here, it's not written description under
9 Section 112; it's obviousness.

10 And on slide 52, as we explained in our briefing, the law is clear that
11 a description that might render a claimed invention obvious does not satisfy
12 a written description. That's *Ariad*. That's *D3 Enterprises*. That's
13 *Lockwood* and that's *Purdue Pharma*.

14 So, wrapping up, as you can see, nothing in the record is sufficient to
15 overcome the Board's analysis and conclusions in its decision on institution
16 regarding Ground 4. The '689 patent is not entitled to its claimed priority
17 date of the '487 application, and as a result, Chell intervenes and anticipates
18 all of Claims 1 through 30.

19 And if the Board has no further questions on the Chell ground at this
20 point, I'll turn it over to my colleague, Dr. Khanduri, to discuss the
21 unpatentability over So-456.

22 JUDGE ZASTROW NEWMAN: Thank you.

23 Give us just a moment here to confirm there are no questions.

24 I do not have any.

25 We are ready to turn over. All right.

26 And, Dr. Khanduri, you have 29 minutes, approximately.

1 DR. KHANDURI: Thank you, Your Honor.

2 JUDGE ZASTROW NEWMAN: Let us know when you're ready
3 and I'll begin the timer.

4 DR. KHANDURI: I'm ready, Your Honor.

5 JUDGE ZASTROW NEWMAN: You may begin.

6 DR. KHANDURI: Good afternoon. Good afternoon, Your Honors,
7 and good morning.

8 May it please the Board, I'll be addressing the unpatentability
9 grounds over So-456. And in the hearing today, I'll be referring to So-456 as
10 the "So reference" also.

11 Now, Patent Owner challenges So's disclosure as to four claim
12 elements which are the ligation step, the collecting steps, the extension steps,
13 and the treating limitation of the contacting step. But, as we will explain
14 today, Your Honors, the Patent Owner is wrong.

15 Turning to the first claim limitation, which is the ligation step -- and
16 I'm on slide 64 of Petitioner's deck -- So's method includes this step, as we
17 explained in our briefs.

18 Now, in the prehearing conference, the Board asked the parties to
19 address the construction of the term "ligating the nucleic acid probes" in
20 Claim 16. The term should be construed broadly and given plain and
21 ordinary meaning in view of the claim language and the '689 specification.

22 As we show here on slide 64, the claim language simply requires
23 ligating the nucleic acid probes that are bound to the same target analyte
24 molecule. There is no requirement in Claim 16 as to the distance or gap
25 between the nucleic acid probes or the purpose of the ligation reaction.

26 The '689 specification, as we show on the righthand side of the

1 screen, also discloses that ligation in '689's methods included ligating
2 adjacent nucleic acid probes -- I'm sorry -- includes ligating non-adjacent
3 probes by performing a gap extension reaction and a nick repair reaction.

4 Now, the Patent Owner alleges that the gap extension reaction in
5 '689's methods is limited to small gap and it does not capture, quote-unquote,
6 "meaningful data." However, Your Honors, as we can see here on the slide,
7 there is no such limitation in the '689 specification, nor does the Patent
8 Owner cite to any such disclosure in its briefs. Thus, Your Honors, the term
9 "ligating the nucleic acid probes" should be construed broadly to include
10 ligating non-adjacent probes by extension and ligation reaction.

11 Now, before I move on to my next slide, I would also like to point
12 out that Patent Owner's expert admitted that nick repair reaction includes
13 ligation. Therefore, just to summarize, the term "ligating the nucleic acid
14 probes" in Claim 16 should be construed broadly to include ligation of non-
15 adjacent probes by gap extension and ligation.

16 Turning to slide 65, just like the '689's methods, So's method also
17 includes ligating non-adjacent probes by extension ligation reactions. And
18 this is shown in figure 9 and figure 8 of the So reference at step 815, and this
19 is also disclosed in paragraph 182 of the So reference.

20 Thus, So's method includes the ligation step and it anticipates the
21 limitation. Moreover, given that both parties agree that ligation was a
22 known technique in the art, the ligation step was also obvious in view of So's
23 disclosure.

24 Turning to the next claim limitation, which is the collecting steps,
25 these steps are also included in So's methods and Bruker's interpretation.

26 In the prehearing conference, the Board asked the parties to address

1 the construction of the term "collecting the nucleic acid probes" in the
2 institution decision and whether that construction should be altered.

3 The construction should not be altered so long as it is consistent with
4 Patent Owner's interpretation that collecting encompassing diffusion and
5 capture of all ligation products across the whole tissue sample all at the same
6 time. And the Petitioner applied this construction as such in its reply, for
7 example, at page 21.

8 Now, the Patent Owner argues that Petitioner identified collecting of
9 amplicons as meeting the collecting step. And as we show on slide 68, this
10 is wrong. Here on this slide, we have included conclusions as to the
11 collecting steps in the petition and Dr. Spellman's original declaration.

12 On the lefthand side, we have the petition's conclusions at pages 21
13 and 22. And it clearly states that it is the hybridization of the ligation probes
14 and collection of the ligated primary probes that meets the collecting step
15 limitation. The petition does not mention amplicons in its conclusions.
16 Similarly, Dr. Spellman, in paragraphs 137 and 169, concludes that it is the
17 capture of the ligated probes formed by ligating the primary probe pairs that
18 meets the collecting step limitation.

19 The petition's conclusion is consistent with its discussion of So's
20 method, and we show that on our slide 69. When discussing So's collecting
21 steps, the petition included figure 9, and this is on pages 20 through 22 of the
22 petition. And figure 9 details that the original ligated probes, molecules 950,
23 generated in step 815, are released from the target analyte and amplified to
24 generate copies, also called molecules 950. After this amplification step,
25 molecules 950 are collected on the capture array, and the collected
26 molecules have the exact same segments, segments 935 and 945, as the

1 original ligated probes.

2 Now, figure 9's method does not remove the released original ligated
3 probes that are present in the milieu, not does it include any technique to
4 selectively collect only the copies of the original ligated probes. Thus,
5 figure 9 teaches collecting both the original ligated probes and their copies.

6 Consistent with this teaching in figure 9, Dr. Spellman used the term
7 "amplicon" in his original declaration to mean both the original ligated
8 probes and their copies. And the petition followed Dr. Spellman's
9 terminology. And this is shown on slide 71.

10 JUDGE ZASTROW NEWMAN: All right. I have a question here.
11 Why did Dr. Spellman include the original probes as amplicons?

12 DR. KHANDURI: Yes, Your Honor. Dr. Spellman, when he looked
13 at figure 9 and saw that the method is collecting molecules 950, which are
14 also the same molecules that were the original ligated probes called 950, and
15 the copies, which were also called molecules 950, Dr. Spellman concluded
16 that figure 9's method is collecting both the original ligated probes and their
17 copies.

18 JUDGE ZASTROW NEWMAN: So, the original ligated probes that
19 are then stitched together, that's what he is doing, is calling that an
20 amplicon? Or?

21 DR. KHANDURI: I'm sorry?

22 JUDGE ZASTROW NEWMAN: You're talking about just the
23 probes themselves, right? But there's nothing that's amplified with the
24 probes themselves, unless you're talking about the probes being stitched
25 together to create a long stretch of nucleic acid, correct?

26 DR. KHANDURI: Yes, Your Honor. So, let me elaborate a bit

1 further.

2 JUDGE ZASTROW NEWMAN: Okay.

3 DR. KHANDURI: The original ligated probe 950 is the molecule
4 that is generated in step 815 of figure 9 by ligation reaction which includes
5 extension and ligation.

6 JUDGE ZASTROW NEWMAN: Okay. Thank you.

7 DR. KHANDURI: Sure.

8 Now, turning to slide 71, here we explain Dr. Spellman's use of the
9 term "amplicon" in his original declaration and in our application.

10 We have, at the bottom left of the slide, Dr. Spellman's annotated
11 figure 9 which was in his original declaration, and at the top right corner of
12 the slide, we have Dr. Spellman's paragraph 135 explaining figure 9's
13 annotation that appear right above figure 9, the annotated figure, as was in
14 Dr. Spellman's original declaration.

15 So, as we can see here in the annotated figure, Dr. Spellman
16 identified the collective molecules as amplicons 950, but when he was
17 discussing the annotated figure, including the collecting step, he called those
18 exact same molecules amplicons 950; i.e., ligated probes. And this text in
19 paragraph 135 that we have on the slide appears right above the annotated
20 figure in Dr. Spellman's declaration as part of his explanation of the
21 annotated figure.

22 Following Dr. Spellman's guidance, the petition, at page 21, included
23 the annotated figure, and when explaining the method in the annotated
24 figure, it called the collected amplicons 950 of figure 9 as, quote, "ligated
25 probes." So, in our petition and Dr. Spellman's original declaration, we were
26 identifying both the ligated probes and their copies as amplicons.

1 Dr. Spellman further testified during deposition, which is on the
2 righthand side of the slide, bottom right of the slide, that the words in his
3 original declaration were, quote, "my own words," and not the language of
4 the So reference of the So specification.

5 And then, in deposition, Dr. Spellman also testified that the original
6 ligated probe is an amplicon and he equated the original ligated probes and
7 their copies in his original declaration.

8 Turning to the next limitation at issue -- before I do that, let me
9 conclude on the collecting steps. In view of our explanation here, Your
10 Honors, So's method anticipates the collecting step. Further, because there
11 is no reason or way to only collect the copies, collecting off the original
12 ligated probes was also obvious. In fact, a POSA would be motivated to
13 retain the original ligated probes to increase the number of sequenced
14 molecules in figure 9's method.

15 Now, turning to the extension step, which is our next limitation, So's
16 method includes these steps as well. As we show on slide 75, So's paragraph
17 89 teaches that its methods are based on encoding a spatial barcode into the
18 analyzed molecules during library preparation. And figure 2, similarly,
19 includes a library preparation step after the collection step.

20 Thus, figure 9's method includes library preparation where a spatial
21 barcode is added to the collected molecules, and this must happen before the
22 collected molecules are released from the capture array to retain the spatial
23 information.

24 Turning to slide 81, now figure 9's method as part of library
25 preparation includes an extension reaction. As we showed here on slide 81,
26 So's paragraph 109 teaches that its captured probes can be immobilized, its

1 captured probes are immobilized such that their 3'-end is available for
2 enzymatic extension. This extension, in other words, extends the captured
3 probe, as we depict in the annotated figure on the left and it is shown by the
4 upward arrow. In fact, the Patent Owner agrees on pages 9, 10, and 27 of its
5 POR that So's paragraph 109 teaches the extension of captured probes in the
6 upward direction.

7 Now, because the 3'-end of captured molecules are available for
8 extension, the DNA polymerase enzyme that is used in the extension
9 reaction in figure 9's method would automatically also extend the capture of
10 collected molecules 3'-end and that is depicted by the downward arrow in
11 the annotated figure on this slide. Thus, the extension step in figure 9
12 includes bidirectional extension, where the collected molecules are extended
13 to incorporate a spatial barcode into the extension products as part of the
14 reaction.

15 Turning to slide 76, now the Patent Owner alleges that figure 9's
16 captured probes do not include a spatial barcode. This is wrong and we
17 explain that starting on slide 76. As we show here, figure 9's method uses
18 figure 1's capture array, and thus, it uses figure 1's captured probes.

19 Turning to slide 77, figure 1's captured probes have segment 130 as a
20 spatial address region; i.e., the spatial barcode. Thus, a POSA would
21 recognize that segment 130 in figure 9's captured probe is a spatial barcode.

22 Turning to slide 78, this recognition that segment 130 in figure 9's
23 captured probe is a spatial barcode is consistent with the rest of the
24 disclosure in the So reference, where it repeatedly identifies segment 130 as
25 spatial address region; i.e., spatial barcode.

26 In fact, a similar typographical error also appears in figure 9's

1 disclosures at paragraphs 172 and 173 of the So reference, where the
2 disclosure identifies segment 130 as both SBS primer region and spatial
3 address region. Now, given the consistent teaching in the So reference that
4 segment 130 is the spatial barcode, including in figure 1, a POSA would
5 recognize that in figure 6's disclosure segment 130 is the spatial address
6 region and its identification as SBS sequencing primer is a typographical
7 error.

8 In fact, as we show on slide 80, in figure 9's captured probe, segment
9 130 must be the spatial barcode. And this is because figure 9's disclosure in
10 paragraphs 182 and 183 clearly identifies segment 120 as a cleavable
11 sequence and segment 960 as a capture region. This is consistent with figure
12 1's disclosure as well.

13 Thus, the only two remaining segments in figure 9's capture probe are
14 segments 125 and 130, and between segments 125 and 130, segment 130
15 must be the spatial barcode. And this is because having segment 130 as an
16 SBS primer region, and not as a spatial barcode, would defeat the purpose of
17 figure 9's method.

18 And we show this scenario in the bottom annotated depiction that we
19 have on the slide. Here, when segment 130 is an SBS primer region, in that
20 context, the sequencing reaction would occur from segment 130 through
21 segment 945, leaving sequencing of segment 125 out, which means segment
22 125 would not be in the sequencing data, and as a result, the sequencing data
23 would not include any information as to the spatial barcode, and the method
24 in figure 9 would not be able to determine the spatial location of the target
25 analytes.

26 Thus, figure 9's captured probe contains spatial barcode as segment

1 130, and So's method anticipates the extension steps. Moreover, the
2 extension steps are obvious, as we explain in our papers.

3 Finally, turning to the last claim element, which is the treating
4 limitation of the contacting step, So's method includes this limitation as well.

5 As we show on slide 57, So expressly teaches this limitation in paragraphs
6 152 and 153. In paragraph 152, So teaches that its methods include
7 preparing a tissue sample for analysis and it lists tissue sectioning as one
8 such treatment method.

9 Now, Dr. Spellman, in paragraph 20 of his reply declaration, stated
10 that tissue sectioning is an example of treating tissues to facilitate binding of
11 the probes to the target analytes.

12 So, in paragraph 152, also teaches that its methods include in situ
13 biochemistry to facilitate subsequent manipulation of nucleic acids in the
14 sample. And it includes reverse-transcription reaction and in situ
15 amplification reaction as examples of such in situ biochemistry.

16 Now, in So's disclosed in situ biochemistry, treatment with buffers
17 would facilitate binding of the probes to the target analytes. Thus, So's
18 method includes this limitation as well, and So anticipates as a result.
19 Moreover, given both parties agreed that the treating limitation is well
20 within a POSA's purview, a treating limitation would also be obvious.

21 In fact, the Board has already determined at institution that, given the
22 high skill level, a POSA would have known how to prepare a tissue sample
23 to facilitate binding of the probes to the targets. And this is at DOI pages 30
24 through 31.

25 In summary, Your Honors, So's method of figures 8 and 9 meets all
26 the elements of the claims as arranged and does so anticipate, as well as it

1 would have rendered the challenged claims obvious.

2 JUDGE ZASTROW NEWMAN: All right. I have a question for
3 you, Dr. Khanduri. In the decision of institution, we found that there was
4 insufficient evidence that the genomic amplicons that were disclosed in So
5 were ever bound to the analytes. I don't believe that you've addressed that
6 issue. That was as we construed the claim language, which required that the
7 amplification had to be of a probe or partial probe that had been bound to the
8 analyte, and then, released. So, we said, if you simply replicated it, we did
9 not feel that that met the limitations of the claim. How do you respond to
10 that?

11 DR. KHANDURI: Yes, Your Honor, I would draw your attention to
12 our slide 68.

13 The Petitioner's position is that, although So's method collects both
14 the original ligated probes and their copies, in our petition we argue that it is
15 the collection of the original ligated probes which were bound to the target
16 analyte and were generated via the extension ligation reaction between the
17 nucleic acid probes, are collected, and that collection meets the claim
18 limitation.

19 JUDGE ZASTROW NEWMAN: So, in your position, only the
20 original bound probe needs to be captured in order to meet the claim, is that
21 correct?

22 DR. KHANDURI: Yes, Your Honor, in our petition that is what we
23 argue, that it is the collection of the original ligated probes that were bound
24 to the target analyte and were generated via extension ligation reaction.

25 Does that answer your question?

26 JUDGE ZASTROW NEWMAN: I understand that's your position.

1 So, what part of our claim construction in the DI do you agree with -- or
2 sorry -- do you disagree with? Because we found that the probe had to
3 actually have been collected before amplification in order to meet the claim
4 limitation. So, where are you finding support for how your construction
5 differs from ours?

6 DR. KHANDURI: Your Honor, our arguments in the petition are
7 consistent with the construction that was provided in the DOI.

8 Figure 9's method starts by ligating the nucleic acid probes that were
9 bound to the target analytes and it generates original ligated probes. These
10 original ligated probes remain in the milieu, in the reaction, of figure 9's
11 method.

12 While these original ligated probes are further processed to generate
13 copies, as identified as amplicons, for example, on this slide, the original
14 ligated probes still remain in the milieu. And at the collection step, the
15 original ligated probes which were bound to the target analyte, along with
16 the amplicons or their copies, are captured or collected.

17 Therefore, Your Honors, our argument is consistent in the sense that,
18 in the collection step in figure 9, the molecules that were originally bound to
19 the target analytes and were generated as a result of extension ligation
20 reaction, are being collected, and that collection is the aspect that meets the
21 claim limitation under Your Honors' construction.

22 JUDGE ZASTROW NEWMAN: I understand the argument. Thank
23 you.

24 You have about one minute left, if there is anything that you would
25 like, or you can be finished now, if you would like to reserve the rest for
26 rebuttal.

1 DR. KHANDURI: We will reserve the rest for the rebuttal. Thank
2 you, Your Honors.

3 JUDGE ZASTROW NEWMAN: Thank you.

4 All right. So, we have 11 minutes remaining on rebuttal for
5 Petitioner.

6 Does anyone need a break or should we proceed directly on to Patent
7 Owner's argument?

8 MR. WALTER: Your Honor, I'm happy to proceed, but if anybody
9 else needs a break, I'm fine, too.

10 MR. HOLMAN: Thanks, Your Honor. I think we're fine on our end.
11 So, we're ready to proceed if everybody else is.

12 JUDGE ZASTROW NEWMAN: Okay. So, we will go right ahead.
13 Give me just a minute here.

14 (Pause.)

15 Sixty minutes on the clock and you may proceed when ready. Thank
16 you.

17 STATEMENT ON BEHALF OF PATENT OWNER

18 MR. WALTER: Thank you, Your Honor.

19 For the court reporter, this is Derek Walter who is speaking now.

20 Your Honors, are you able to see my slides okay?

21 JUDGE ZASTROW NEWMAN: Yes. Thank you.

22 MR. WALTER: I'm going to take this in roughly the order that they
23 presented it. There might be a few variations, but I'm going to take it in
24 roughly the order they presented it.

25 So, I'm going to start with Ground 4, the Chell prior art ground. I'm
26 showing you slide 10 of our presentation. Our view is that Chell is not prior

1 art. Chell was filed in 2020. We claim the benefit of a priority date of 2019.

2 Now, the Board, at the institution phase, they concluded that Chell
3 was not entitled to claim the benefit of the earliest filing date because there
4 was no written description support for the claims, and that's on slide 8.

5 And there's two issues related to that. I'm showing those issues on
6 slide 12.

7 There's this question of whole probes. They contend that, while the
8 claims cover collecting whole probes, this is something that's not described
9 in the priority application.

10 And the second issue is that, while claims -- and while I say, "the
11 claims," I just mean Claim 16 and its dependent claims -- cover on-analyte
12 ligation, the contention is that that's not disclosed, either.

13 And I'm going to address each of those in turn and I'm going to start
14 with the whole probes issue.

15 JUDGE MITCHELL: Can I ask just a quick question before you get
16 started?

17 MR. WALTER: Certainly.

18 JUDGE MITCHELL: Do you agree with the Petitioner you're just
19 attacking whether Chell is prior art, but you're not disputing what Petitioner
20 is saying Chell teaches?

21 MR. WALTER: That's right.

22 JUDGE MITCHELL: Is that correct?

23 MR. WALTER: That's right. This is all about the prior art. The
24 ground here rises or falls on the prior art issue.

25 JUDGE MITCHELL: Okay. Thank you.

26 MR. WALTER: That's right.

1 So, I'm showing slide 14. Here are the claim terms at issue. You
2 know, the Board has seen these. So, I'm not going to spend too much time
3 on this. I'm not going to go back through the claim terms.

4 But what I do want to do is I want to do a reset on the law. Mr.
5 Holman spent a fair bit of time on the law and I think that's a fair and
6 appropriate thing to do.

7 One of the things that I want to be clear on is, for written description,
8 we don't need an intact verbal disclosure. The written description is not
9 exactly that way. What you need is something that reasonably conveys
10 possession. That's the Amgen case, and we'll talk a little bit more about that
11 as we go on. That's on slide 16.

12 I'm showing slide 17. This is Ariad. The level of detail required, it
13 varies depending on the nature and scope of the claims and the complexity
14 and predictability of the relevant technology. So, it's not a one-size-fits-all
15 rule. It depends on the fact.

16 Here's LizardTech. Okay? LizardTech on slide 18 of our
17 presentation, it tells that you don't need to spell out every detail. And why
18 don't you have to spell out every detail? Because specifications are written
19 for those with skill in the art.

20 Here's slide 19 of our presentation. This is the Zoltek case. The
21 written description, it doesn't need to include information that's already
22 known and available to the experienced public.

23 Here's slide 20, the NVIDIA case. The patent documents need not
24 include things that are known to the field of the invention, as in the prior art.

25 Okay. So, those are the basic rules. I think there's no dispute that
26 that's the law on written description.

1 Now, I'm not going to just launch into this. I want to go back to the
2 LizardTech case, which is one that Mr. Holman spent a lot of time on. I
3 think he, just like myself, spent a little time over the last few days going
4 back through these cases.

5 And when I was going back through these cases, I noticed something
6 in LizardTech that I think is helpful. There's a passage in LizardTech that
7 appears right before -- it's the text right before the text we have on this slide.

8 And I noticed that passage and I thought that it was highly relevant today. I
9 don't have a slide, but I'm just going to read what it says in the LizardTech
10 case right before this. It's talking about a claim.

11 It says, "Claim 21 is directed to creating a seamless array of DWT
12 coefficients generically." So, that was the claim we had. It was a claim that
13 was generic about how you make the DWT coefficients. Okay?

14 And then, the Federal Circuit went on and said, "The specification,
15 however, is directed at describing a particular method for creating a
16 seamless DWT, as opposed to using the disfavored non-seamless prior art,
17 and it teaches only that method of creating a seamless array."

18 Okay. So, what we had in the specification was a specification that
19 only taught one approach -- okay? -- to making this seamless array.

20 Now, what I think is really important is what the Federal Circuit said
21 in its very next sentence. It said, "While the embodiment in LizardTech
22 specifications covers only one way of creating a seamless DWT, Claim 21 is
23 not invalid simply for that reason."

24 Okay. Now, I thought that was really important. Of course,
25 LizardTech goes on. It has the passage that I am looking at now on our
26 slide, slide 18.

1 And it states that the reason for that is because specifications are
2 written for people of the skill in the art, and that's the image that's shown on
3 our slide.

4 And I'm now showing their slide 17. This is their slide 17 from their
5 presentation.

6 And what I realized was that their argument in this case is that the
7 written description, they allege that it fails because all the embodiments and
8 all the examples in the '487 application apparently deal with this cleaved
9 probes situation, which we don't necessarily agree with, but that is their
10 argument. Their argument is that all the embodiments and all the examples
11 disclose that. And so, therefore, the written description fails.

12 And in LizardTech, that's what the Federal Circuit said was wrong.
13 The written description doesn't fail just because all the examples and all the
14 embodiments only involve one approach.

15 And so, you know, our view here is -- you know, Mr. Holman said I
16 would say this and I am; I am going to say it -- they're applying too high of a
17 standard and splitting hairs on what's required for a written description.

18 It's true that one of the things that's described in these patents is the
19 idea of the photo-cleavable linker. That's in there. That was one of a lot of
20 techniques that Nano-Stream had invented. They had invented that years
21 earlier, in fact. And it was a new thing that they did use in their product.
22 Okay? And at one point, it was an advance in the field.

23 But now, they've come along, and Petitioner is saying that, because
24 that's described as a primary embodiment, if we claim, actually, the more
25 straightforward approach that doesn't use the photo-cleavable linker advance
26 -- it's the more routine approach that's just based on removing the whole

1 probes -- you lose. And that's not right.

2 There's nothing in the specification that says the cleavage probe is
3 required. Okay. And after all -- I'm showing slide 21 now of our
4 presentation -- everyone agrees that the level of ordinary skill in the art is
5 high, and we're talking about someone with a strong understanding of
6 genetics and genomics of THD and two years' experience.

7 And in view of this, there's never been any sort of contention that the
8 things that are allegedly not disclosed, this on-analyte ligation or the
9 removable whole probes, are anything but routine, standard things that a
10 skilled artisan would know.

11 I'm going to skip ahead to one of our slides. I thought this --

12 JUDGE ZASTROW NEWMAN: Can I ask you a question, Mr.
13 Walter?

14 MR. WALTER: Certainly. Certainly.

15 JUDGE ZASTROW NEWMAN: How do you respond to
16 Petitioner's articulated argument earlier that, if you were to release the entire
17 probe, you would lose the ability to track the spatial identifier in that claim?

18 MR. WALTER: Oh, you wouldn't, you wouldn't lose -- the argument
19 they made was actually a little different. The argument was that, if you were
20 to remove the entire probe, all of the probes en masse, from the initial tissue
21 sample, you would lose the ability to track. And there's a couple of
22 arguments, I think there's like three responses to that.

23 First off, that was a new argument that was never presented. They
24 made a cite to paragraphs 65 and 287 to 293 of Exhibit 1002. That argument
25 wasn't presented. Well, let's put that aside.

26 The second point is, the spatial identifier is going to be something

1 that maps to a particular location. So, if you were able to collect everything
2 at once, you would have the spatial identifier there already. And so, you
3 would know that that was hybridized.

4 The way these are typically carried out is you allow the probes to
5 hybridize to their targets, and then, you would do a gentle wash to remove
6 the probes that are not hybridized, and then, you would do something more
7 stringent to remove the fully hybridized probes. And that would carry with
8 it the spatial information.

9 Now, on top of that, you know, the argument he really made was that
10 you can't do a localized removal without the photo-cleavable linker and
11 that's the only way to do a localized removal of spatial information. There's
12 no basis for that.

13 You can do lots of localized chemistry to decouple targets that have
14 hybridized to their probes. You can apply heat in a localized way. You can
15 apply chemical reagents in a localized way. So, I don't think that's accurate.
16 So, that's my response on that.

17 But, moving on to where I wanted to get, I think this was noteworthy.
18 You know, we asked their expert this question. I'm showing our slide 78.
19 We asked him, we say, "A skilled artisan would have a strong enough
20 understanding of genomics in the spatial area to implement the method of
21 Claim 1 at the beta priority?"

22 And he says, "As written, I believe that the claims would likely be
23 practiced."

24 "When you say, 'likely be practiced,' do you mean by a skilled
25 artisan?"

26 "Yes."

1 That's their expert. This was Dr. Spellman.

2 And so, you know, this is consistent. There's never been any
3 contention that the removal of the whole probes is anything but a routine and
4 standard thing.

5 You know, the new argument we get today, a little elbow-throwing,
6 saying, "Hey, look, you know, it might not work," that's all new and it's not
7 accurate. So, that's the backdrop.

8 It can't be right that the whole invention fails as a matter of written
9 description if you don't have a detailed description of these sorts of routine
10 and well-known things. Okay?

11 Now, I'm going to get into the disclosure. I want to hit the cases. I
12 thought Mr. Holman, he had a discussion of the cases, and I think that's
13 worth doing. I think it's worth talking a little bit about the cases.

14 He mentioned, you know, a number of cases that he thought
15 supported their position. Gentry Gallery is one. ICU Medical is one that
16 they rely upon.

17 And there is a line -- okay? -- there is a line between these two kinds
18 of cases. Okay? You have cases where you have a feature or a claim
19 element at issue and it's not essential to the invention. Okay? And it's
20 something that's well-known to the skilled artisan. Okay? In those cases
21 when you have that kind of a situation, you don't have a failure of written
22 description because you don't have an example. Okay?

23 So, you know, cases that fit into that category, there's the Allergan
24 case we've cited in our brief, the S3 v. NVIDIA case that we site on one of
25 our slides that I just showed earlier. That fits into that example. You know,
26 another example, there's Martek Biosciences v. Nutrinova. That's 579 F.3rd

1 1363. Okay? So, those are one group of cases.

2 Then, you have another group of cases where the claim element at
3 issue, it's something that's central to the purpose of the invention. The
4 invention is not going to work without it or the patentee describes it as
5 integral or key to the invention, or the patent distinguishes certain
6 approaches that are different from that as not being within the prior art.

7 When you have that situation, then there is a potential written
8 description problem when all your examples deal with a particular approach.

9 Gentry Gallery is a good example on that. We're talking about the controls
10 on the console.

11 It wasn't just in Gentry Gallery that all the embodiments had the
12 controls on the console. The controls being on the console was essential to
13 the purpose of the invention.

14 ICU Med, the case they rely on, that's the same way. This is the case
15 that talks about the spikeless valves versus the non-spikeless valves. You
16 need them to spike. Okay? The specification made clear that the spike was
17 essential to make the invention work. And so, you can't run around claiming
18 spikeless valves.

19 Other cases that fit into this category, there was Rivera v. ITC. That's
20 857 F.3rd 1315. Another one is Arthrex v. Smith & Nephew, 35 F.4th 1328.
21 Okay?

22 And these are all cases where there is a failure of written description.
23 Tronzo, by the way, is in that category as well. And this is where there's a
24 failure of written description because the element at issue is not in the
25 claims. It's something that's actually essential or it's distinguished in the
26 prior art. It's what makes the invention work.

1 And so, you can't run around claiming things that are inconsistent
2 with what you're telling people is essential to the purpose of the invention.
3 And that's not what we have here. Okay? That is not what we have here.
4 Okay?

5 And with that, I'm going to go to this slide. Let me go to our slide
6 55. Okay?

7 They make this argument that cleavage of the partial probes is
8 required. There's nothing in the specification that says it's required. There's
9 nothing in the specification that says it's essential to the invention. Okay?

10 We asked their expert about this. I'm showing our slide 56. And we
11 had a cite to a block of this testimony from our brief. We asked him. It
12 says, "Are you prepared to say whether a POSA, in light of the teaching,
13 would find that a cleavage probe is required in the '487 application's
14 method?" We asked him. We asked him, "Are you saying that this is a
15 required thing?" Okay?

16 And here's our answer. It says, "As I said, the Board interpreted the
17 claim nucleic acid probe to mean an oligonucleotide comprising a target
18 binding domain that binds to one or more target analytes and is modified
19 after collection to comprise a location identifying nucleic acid. The Board's
20 construction does not require a cleavable element, to the best of my ability to
21 understand."

22 That was his answer to that question. We didn't just ask him this
23 once. We asked him a lot of times. And we had the cite to the full chunk of
24 testimony in our brief.

25 But what's really telling here is he's not standing up and saying, "Oh,
26 yeah. Yeah, yeah. I look at the specification and it is clear that it requires

1 that you use the cleavable probe." He's not saying that. And the reason he's
2 not saying that is because it's not supported. Okay? He just dodged the
3 question. Okay.

4 Why isn't it required? Okay. Well, it's not required -- why wouldn't
5 someone say it's not required? It's because the specification, it tells you that
6 these examples are non-limiting examples. Okay? Now, they're trying to
7 throw elbows and say, "Well, you know, this is actually, when it says, 'non-
8 limiting,' it's telling you that this is only non-limiting with regard to one
9 aspect, but, actually, the photo-cleavable probe is actually limiting."

10 Well, I mean, I'm showing you their slide 24. It's a non-limiting
11 example. I'm showing you their slide 25. It's another non-limiting example.

12 Slide 26. It's another non-limiting example. Everything's non-limiting and
13 the patent tells you it's non-limiting. When everything is non-limiting over
14 and over and over again, you don't conclude that the photo-cleavable linker
15 is limiting, especially when the patent never says, "This is limiting."

16 You know, just look at this text here. When it says, "In this non-
17 limiting example," this is not saying it's non-limiting in one way, but it's
18 limiting with regard to the photo-cleavable linker. The whole example is
19 non-limiting. Okay?

20 So, you know, this contention that the specification requires cleavage
21 of the probes, that's without merit. And that's a key reason why this case
22 falls into the types of cases where you don't have the type of written
23 description problem that pops up in some of the cases they cite -- you know,
24 the LizardTech case and the Tronzo case, and I forgot the other one. But
25 that's part of the reason this does fit into those cases.

26 Okay. Now, let's circle back and talk about the disclosure a little bit.

1 Okay. So, you know, it's not true that we actually need to go through this
2 disclosure. You know, based on what was known in the art, what their
3 experts have admitted about removal of whole probes and how there's no
4 dispute that this is a routine thing, it's not clear how much we need to go
5 through this.

6 But there is disclosure in this patent about how to remove the whole
7 probes. And I want to talk about that now. Okay.

8 So, I'm showing slide 23. And we've raised this concept of removing
9 the whole probes through the concept of denaturation.

10 Okay. Now, the main argument I'm hearing in response here is that
11 these passages are about denaturation and they pertain to an aspect of
12 sequencing, not removing the probe. So, it should be ignored as not being at
13 all relevant. Okay? And now, I want to take that argument on because I
14 think these disclosures are not at all (audio interference).

15 The use of hybridization was contemplated here. It's very much in
16 line with the structures that are contemplated in the '487 application for the
17 spatial analysis method.

18 And it wouldn't be right, you know, to ignore the disclosure -- not
19 just for that reason, but also, again, because all the experts agree this is
20 standard. It's on slide 24.

21 Here's Dr. Spellman: denaturation is the basic concept. Dr.
22 Spellman: denaturation is well-known to a POSA.

23 You have the law. This is probably all you need. We're probably
24 done. But let's look at the disclosure. Let's dive into that. And we do need
25 to look at this disclosure. Let me tell you why we need to look at this; why
26 we can't just gloss over it.

1 Here's what the patent -- here's what the '487 application tells you. It
2 says, "Any probe or set of probes described herein may be used in methods
3 and kits of the present disclosure." Okay?

4 The specification is telling you: don't look narrowly at this; look
5 broadly. Okay?

6 I'm showing you their slide 31. Okay? And they have the same
7 quote here, but, then, they pair it up with this bit here about "In the case of
8 conflict, the present Specification, including definitions, will control."

9 There's no conflict. There is no conflict that says, "Use any probe
10 except these ones." There is no disclosure in the patent that says you have to
11 use the probes with the photo-cleavable linker. It never says that. There's
12 no conflict. Okay?

13 So, let's talk about the disclosure and the incorporated by reference.
14 So, I'm going to talk about the '386 application.

15 Let me get to the right slide here. Okay, here we are. We're looking
16 at the '386 application. This is the one that's incorporated by reference and it
17 talks about hybridizing the sequencing probe. And then, in paragraph 12, it
18 talks about de-hybridizing the sequence probe. And I want to show the
19 Board the pictorial representation of that because I think it's very much on
20 point. Okay?

21 I'm showing slide 26. This is another example, binding a population
22 of probes. Probes are the first population that are de-hybridized. This takes
23 about 60 seconds. Okay? So, this is talking about hybridizing probes and
24 de-hybridizing probes.

25 And let's show the picture now. I'm showing slide 27 here. And, you
26 know, the picture is a little hard. You have to kind of dive into the text a

1 little bit to understand what's going on here.

2 But here on slide 27, okay, what we're showing is you have this
3 sequencing probe. Okay? And what you can see is that there is a sequence
4 here, and I've got my cursor over it. There's this sequence here on the
5 bottom that binds to the target that you want to sequence. And then, there's
6 this tail here which is this identifier. Okay?

7 And what's partly disclosed here is you have this identifier, and
8 you've got to figure out what the identifier is. And you hybridize these
9 probes here that have, like, for instance, a "T" label on them. Okay? And
10 what happens is you hybridize those probes that have the label. You remove
11 them, and then, you introduce probes that don't have a label. So, you've got
12 one round of hybridization and de-hybridization of probes there. And those
13 are a form of a whole probe. And then, you go on to the next one. Okay?
14 And you repeat that all the way until you get to the end.

15 But, then, here's the interesting thing. What happens is, you can see
16 here there's the first big sequencing probe that binds the target. You see that
17 on slide 30. Well, you remove that whole probe along with its tail by
18 denaturation, and then, you introduce a second sequencing probe. It's
19 another big sequencing probe. Okay? And then, you repeat this process.

20 Okay. So, you can see how extensive this is used in the patent. I'm
21 showing slide 32. And you can see it better. You can see the side-by-side
22 comparison of the first sequencing probe. The whole thing gets removed.
23 Then, you have the second sequencing probe that gets added.

24 So, this is clearly disclosing denaturalization of whole probes. How
25 is this done? Well, it's something that's known in the art. Probes can be
26 designed to control the likelihood of hybridization and/or de-hybridization of

1 the rates at which these occur. No challenge to that.

2 This is slide 33, paragraph 86, of the priority application. Paragraph
3 11. How do you do it? Well, you can use temperature. You can use salt
4 concentration, pH, hydrodynamic force, level of chaotropic agent. Not
5 disputed that these are all ways of doing it.

6 And there's no reason to believe you can't do these in a targeted way.
7 You know, there's certainly no suggestion from Dr. Spellman. You know,
8 the only suggestion we heard was from Mr. Holman today that you might
9 not be able to do it in a targeted way, and that was new. In fact, I don't think
10 there's any reason to believe you can't.

11 So, here's their response to this. And the main response, and the one
12 we've been hearing mostly about, is the ideal that, well, this is for
13 sequencing. Okay? And because it's for sequencing, it should be ignored.
14 And I don't think this is a fair criticism at all. Okay?

15 I'm showing slide 32 again. What we're seeing here, in these
16 sequencing embodiments, you have a probe that's bound to the target. So,
17 you can identify the target by analyzing the probe. You analyze that tail
18 identifier sequence that's coming off at an angle that I'm moving over with
19 my cursor.

20 Well, that's the same thing that happens in the claims in the patent.
21 You have a probe that binds to the target, and then, you analyze the probe to
22 determine what sequence is present. The only real difference is that, in the
23 '386 application, they call the process "sequencing." Okay?

24 But that's not really materially different from what's happening in the
25 claim. You're analyzing, you're determining, based on that tail identifier
26 sequence, what target is there, and whether you call that "sequencing" or

1 something else, I'm not sure that that ought to affect the written description
2 analysis. Why not?

3 Well, let's look at slide 35. We have the ENFI case. It doesn't matter
4 how you convey the information. Okay? And it doesn't matter whether the
5 disclosure's words are open to different interpretations. That's not how a
6 written description works. Okay?

7 I'm showing slide 37. The patent doesn't tell you: you can use the
8 probes, but not the sequencing probes. It says you can use any probe or set
9 of probes described herein.

10 Okay. Now, besides the denaturation -- oh, I have to address one
11 more of their responses. There's this response, this contention that the '386
12 application is not incorporated by reference properly.

13 It is. Here's the Paice v. Ford Motor case. This is the same language
14 that appears in our patent. It's plainly sufficient to incorporate the '386
15 application.

16 We have this argument that someone wouldn't know what it is
17 because US2014 refers to Application No. 14/946,386, and there's a
18 typographical error. Okay?

19 They don't cite any law that supports the contention that, because of
20 this typographical error, there's no proper incorporation by reference.
21 Exhibit 2008, it is the published application of the document. They don't
22 deny that it's an obvious typographical error.

23 The patent tells you what this is being incorporated for. Okay? It's
24 talking about enzyme-free methods of sequencing. A person of skill in the
25 art is going to be able to recognize what this is referring to. You know,
26 they're not going to go look up 2014 and see that it's the wrong thing, or

1 nothing is there, and think, oh, I can't understand it. They're going to know
2 what this is.

3 So, I don't think there's any real support for the contention that there
4 is a failure of incorporation by reference here. It might be different if they
5 cited some sort of law that says this kind of typo screws everything up and
6 renders it null and void, but there's no case. And I'm sure they looked.

7 Okay. So, another support for the removal of whole probes is the
8 indirect hybridization method. Okay? Here's the figure that we've been
9 looking at here. I'm showing slide 41.

10 And the idea with this approach is that the probes that are used to
11 identify the targets, they bind via an intermediate oligonucleotide. Okay?
12 And the key thing is that this intermediate oligonucleotide, which I'm
13 showing with my cursor, okay, that intermediate oligonucleotide, that is a
14 probe. Okay? I'm showing that on slide 42.

15 Okay. The probes of the present disclosure can indirectly hybridize
16 to a target present in a sample. Okay. And then, it goes and it says, that
17 intermediate oligonucleotide, that's a probe. That's in paragraph 233 of the
18 '487 application. Okay?

19 Now, let's go to page 43, slide 43, paragraph 310 of the '487
20 application. Okay? Actually, paragraph 246 and slide 44. Okay.

21 What it tells you is that the probe of the present disclosure can
22 include a region which permits the release of an identifier oligonucleotide.
23 Okay. So, we have this disclosure that tells you that the intermediary is a
24 probe, and the disclosure also tells you that the probe can include a region
25 which permits release of the identifier oligonucleotide. So, how might that
26 look?

1 Okay, here's how it would look. Here's how it would look if you're
2 going to do this. You have the intermediary oligonucleotide, and if you're
3 going to include the cleavable motif, this is really the only place it's going to
4 go. Okay?

5 And the reason it's going to go there is because, if you put it anyplace
6 else, that cleavable linker is going to, obviously, disrupt the hybridization.
7 So, it would go there, and if you cleaved it, you would then release the
8 whole probe with the target the binding domain and the identifier
9 oligonucleotide.

10 And, you know, we asked an expert about this. "Does the patent not
11 say this?"

12 He says, "Yeah, the specification says that."

13 "It says the intermediary oligonucleotide is a probe. Do you agree
14 that it teaches the probe with a cleavable linker?

15 "Well, yeah, it does."

16 That's on slide 46. This is Dr. Spellman. So, there's no real
17 challenge to what the specification states.

18 What is the response? Okay, the response is that, well, you should
19 ignore that because that indirect hybridization approach, it gives you an
20 economical advantage, and the economical advantage, he thinks, would be
21 lost. Okay? That's kind of an odd response on written description; that
22 written description fails because the embodiment that's disclosed isn't
23 economically advantageous as other embodiments.

24 So, I'm showing you, there's slide 37. This is really the only response
25 I saw on this, other than to grouse a little bit because we put a star on the
26 figure. Okay.

1 But, you know, this economic advantage, I don't think it undermines
2 the written description, and it's also unsupported and incorrect.

3 We asked their expert about this. You know, we said, "Why do you
4 say the economic advantage might go away?"

5 And I think the argument is something along the lines of, well, if you
6 were to do this, you'd have to make probes that had, like, a cleavable linker
7 in them and that would be more expensive. That's doesn't make (audio
8 interference) the argument to me.

9 So, we asked their expert, "What do you know about this? Were
10 these things available? Could you buy these things with cleavable linkers?"

11 This is on slide 49 he says, "I presume, but I don't really know."

12 I'm showing slide 50. "Do you have any reason to believe these
13 weren't available for purchase in 2018?"

14 He says, "I am unsure how readily they were available commercially,
15 at scale, et cetera."

16 Slide 51. "Are you saying that no vendors sold these?"

17 "I have no knowledge whether they were broadly commercially
18 available. Whether or not they were commercially available as
19 oligonucleotides for sale and pre-made oligonucleotides, I have no
20 knowledge."

21 So, you know, their expert opinion about how you lose the economic
22 advantage, I mean, I understand he wrote it down in his declaration. But
23 when we probed him on it during his deposition, you know, he kind of didn't
24 really defend it.

25 And let's talk about what that economic advantage is. Okay? The
26 economic advantage is here. It's on slide 53.

1 It says, "A single set of indirectly binding probes can be used to
2 detect an infinite variety of target nucleic acids present in a sample in
3 different experiments simply by replacing the target-specific, synthetic
4 oligonucleotide portion of the assay." That's paragraph 233.

5 So, the idea here is you can use a single set of indirectly binding
6 probes, and then, you can use different target probes. Okay? And so, you
7 can use those indirectly binding probes in a modular way by pairing them up
8 with things that are target-specific. That's the benefit.

9 And you don't lose that just because they have a cleavable linker.
10 That's still there. So, I don't understand that argument.

11 Okay. So, I'd like to go on now to the on-analyte ligation. Okay.
12 Here's the claim language that's at issue. I'm showing slide 61.

13 And the contention here is that this covers all locations of ligation,
14 and there's no example of doing that on the analyte. Okay. And I think it's
15 worth noting that this only applies to Claim 16. It doesn't apply to Claim 1.
16 So, this argument only applies to Claim 16.

17 Okay. Now again, there's no real dispute that this concept of on-
18 analyte ligation is basic stuff. There's two parts to it. You have to hybridize
19 your probes and you've got to ligate them. Okay? That's being shown on
20 slide 62.

21 I'm showing you their slide 51.

22 You know, they say Patent Owners relied upon disclosures. And I
23 put this slide up because what it shows is there's a lot of -- we have one, two,
24 three, four, five, six in the top arrows, four on the bottom. They've got 10
25 different arrows they're shooting down. Okay. So, the record here, it's
26 pretty robust based just on this.

1 Okay. So, let's start with the hybridization. You know, in situ
2 hybridization of probes, that's a standard thing. The patent tells you that.
3 The '487 application tells you that. That's slide 63, paragraph 3. Okay.
4 There's never any dispute on that.

5 And then, if we go to slide 66, okay, we have another incorporated
6 reference. Okay. Now, I'm going to point something out about these
7 incorporated references. These passages, they state, "The probes methods
8 for binding and identifying a target nucleic acid have been described in" --
9 okay? So, these incorporations by reference, these are for the probes. Okay.
10 There's been no real question about that. It's not for some random method.
11 In other words, the sequencing argument that they want to make for the
12 other issue, it just doesn't apply here. Okay?

13 And what do these references disclose? Let's look at the '607
14 application. It talks about a probe pair. Okay. First, target-specific
15 sequence attached to the molecule. The second target-specific sequence
16 attached to the molecule. That's on slide 67.

17 Here's the image. Here we have these probes. They're hybridizing
18 on-analyte.

19 Now, one of the things I heard them say about this image on slide 68,
20 they said, "Well, these are never collected." Well, that's not true. That's not
21 true at all.

22 It tells you in this passage that the star-shape, which is depicted with
23 arrow, that's an infinity tag, okay, which could be used to capture things.

24 All right. So, the '487 application, it also discloses ligating two
25 probes by a nick repair reaction. That's in paragraph 24. So, that's there.

26 Slide 70, our expert confirming that ligation involves little more than

1 adding the proper ligase in the proper conditions. So, that's there.

2 Now, let's look at the '774 application. There's another one. You
3 know, they talked about picking and choosing and saying, well, you've got
4 this here; you've got that there.

5 Okay. Let's look at what this discloses. This is the '774 application.
6 They're all here. Here it is. Here's the probes. There's one probe here, one
7 probe on the right. Okay. You add the target. Here's the target. You have
8 bind. The probes hybridize, and then, you add the ligase to connect the
9 oligos. That's right there. It's all there. It's all there. The on-analyte
10 ligation, it's all there.

11 Here's Dr. Sherman. He's confirming from this disclosure what a
12 POSA would have understood, that the oligos can jointly hybridize, and
13 while hybridized, be ligated together.

14 Okay. Now, you know, I want to return to this Allergan case briefly.
15 You know, this Allergan case, this is on point here. They said, look, you
16 know, what was driving this -- this was Mr. Holman's argument -- what was
17 driving this was disclosure.

18 And, you know, it's true, in this case, the Federal Circuit did identify
19 some disclosure, but we have that. We have that disclosure here. Okay?

20 But what kind of places this case in kind of the bucket that we fit in,
21 you know, on this kind of two buckets of cases, was the fact that the
22 specification in this patent, it never said the glidant was needed. It never
23 characterized the on-analyte ligation as a special thing. It never
24 characterized the cleavage of the probes as a special thing that's special to
25 the invention. Okay? It just wasn't necessary to the invention.

26 And that's why, in this case as well, we don't have a written

1 description. We're not talking about something that is a new and novel
2 technique that's described as essential to the invention. We're claiming
3 something that's routine and well-known, and it's not described as
4 characteristic or essential to the invention. The specification does
5 reasonably convey possession here.

6 Okay. So, I have about 12 minutes left. I'd like to hit the So-456
7 issue in my last 12 minutes. And I'll call it So-456. I've been, unfortunately,
8 used to calling it "S-O-456," but I think it's So-456.

9 In our review, the So-456 reference is just way off. There's just lots
10 of things that are not disclosed, and I'm going to go through those things.

11 The first one is: it doesn't collect the claimed probes. Now, Your
12 Honors asked us in the pretrial conference to address the question of the
13 Court's construction of "collecting." We went back and looked at that, and
14 we don't see anything wrong with the Board's construction on that. We think
15 it's consistent with what is recited elsewhere in the claim. So, we think that's
16 fine.

17 In the '142 IPR, we are challenging some aspects of the Board's
18 constructions, but in this case that '689 construction I think is fine. And
19 from what I gathered from their presentation, they're not challenging it,
20 either. Okay?

21 And that requires collecting the probes that actually bound to the
22 targets, that actually binded to the targets. Okay? And the Board originally
23 concluded at the institution phase -- I'm showing this on slide 80 -- that they
24 hadn't established a reasonable likelihood that that had been shown. And
25 that hasn't changed.

26 One of the things that they've tried to argue that I think is new is that,

1 you know, what they argued was that they actually did present in their
2 petition the argument that they had collected the full probes. Okay? And I
3 don't agree with that.

4 What I heard them say was that -- I'm showing you their slide 68.
5 This is the one Ms. Khanduri showed. They said, "Our conclusion says we
6 collected the original ligated probes." I don't know if that's true, but let's
7 assume that they said that in the conclusion.

8 What I would submit is that it's not like the assertion at the end that
9 matters; it's the actual evidence they relied upon -- okay? -- and what they
10 actually said about why this is satisfied. Okay?

11 And on that note, here's their petition. It's from page 20 of their
12 petition. Here's what they say are captured: The amplified ligated probes --
13 the amplified probes are captured. There's no suggestion that the original
14 ligated probes that were bound to the target are captured. It's the amplicons.

15 Here is a depiction at 21. This is their annotated version of the slide.
16 All the text on the right, that's all stuff that they put in. Okay? And what do
17 they put in? Capturing amplicons. They're not talking about the original
18 ligated probes. They're not talking about this original ligated molecule.
19 They're not talking about that. They're talking about these, the amplified
20 molecules. Okay?

21 Here's what So-456 says. This is slide 86. "Genomic amplicon 950
22 is captured on the array." It's not the original targeted molecule; it's the
23 amplicon. Okay?

24 Amplicon is not the original molecule. I understand that in its reply
25 they try to suggest that the original ligated molecule is an amplicon, too. It's
26 not. The term "amplicon," when used in reference to nucleic acid, means the

1 product of copying the nucleic acid, that's slide 87. It's paragraph 121 of
2 So-456. Okay?

3 And, you know, Dr. Spellman, he purported to apply these
4 definitions, but he didn't really, at least not in his reply. That's slide 88.

5 Okay. On reply, we are getting a new theory. Okay? And, you
6 know, we've cited some law in our reply brief about how the Board is
7 entitled to disregard those theories. Okay?

8 But the new theory is: both the original ligated probes released from
9 the target analyte and the amplicons are captured. Okay? So, a few things
10 about this.

11 First, it's new. Second, they distinguish between the target analyte,
12 the original target analyte, and the amplicon. So, they acknowledge that the
13 original target analyte is not an amplicon. Okay.

14 Second -- third, I guess, the third point I guess is that there's no
15 evidence that the original target analyte is captured. Okay? There's no
16 evidence of that.

17 And here's something interesting. I'm showing slide 91 of our
18 presentation. And, you know, it was interesting, we asked them -- you
19 know, this is the deposition on his reply declaration. You know, we asked
20 him about his original theory. Okay? We asked him about the derived
21 copies, the ones that are the amplicons, the true amplicons. We said, "Do
22 those satisfy the claims?"

23 And he says, "I'm not prepared to form an opinion right now." Okay?

24 I think that just kind of helps drive home the incoherence of the
25 theory and how it has shifted.

26 Here's the law on how you can't present new theories. That's on slide

1 92 and slide 93 and slide 94. The Board is on top of that.

2 The Board did find that it was only the amplicons that were captured.
3 That's on slide 95.

4 And then, there's this question of, look, can we assume -- can we
5 assume that the original amplicons are captured, along with the original
6 target? Can we just assume that happens?

7 And the answer is, no, we can't assume that. I heard Ms. Khanduri's
8 argue that, well, what happens here is everything's in the milieu and you
9 capture everything.

10 Well, you don't capture everything and you don't know how many
11 copies you make. You can make a million copies. How much do you
12 capture? Well, we asked them. We asked Dr. Spellman, "How much do you
13 capture?"

14 He says, "Well, it could be 10 percent. It could be 10 percent."

15 Okay. Well, 10 percent is pretty low. Okay? So, there's no reason to
16 believe that you're going to capture that original ligated probe.

17 You know, I think they're trying to make an inheritancy argument.
18 Okay? And it's too late for that and they haven't met the high standard.

19 Okay. So, the next element is the treating of the tissue samples. The
20 treating has to be to facilitate binding. I'm showing their slide 57.

21 They point to paragraphs 152 and 153. At step 210 in paragraph 152,
22 it says, "A tissue sample is prepared for analysis." What do they point to?
23 Sectioning. There's no evidence how or why sectioning would facilitate
24 binding.

25 Paragraph 153, they point to in situ biochemistry. Well, there's no
26 disclosure of treatment for binding. It's just not there.

1 The claimed extension reaction, this is another problem. This is not
2 disclosed. At the institution phase -- I'm showing slide 107 -- the Board
3 concluded that it wasn't disclosed. Okay?

4 I'm showing slide 109. This is their revised version of figure 9.
5 Okay? And what they've shown is they've shown extension happening in
6 both directions. There's no evidence that that happens. There's no evidence
7 that, the way this is configured, a polymerase could even fit in there to do
8 the downward extension.

9 And they characterize 130 as a spatial barcode. In figure 9, it's not a
10 spatial barcode. I'm showing slide 111. It's a sequencing primer. Now, it
11 might be true that in other embodiments it's a spatial barcode, but in figure 9
12 it's not.

13 Here's Dr. Spellman. We asked him, "Look, do you actually have to
14 do the downward extension?"

15 He says -- (pause) -- I'm going to move on. I'll actually move on to a
16 different slide.

17 Okay. You have to explain this, that the SBS primer region, it's not a
18 spatial barcode. It's a sequencing primer. And so, what's the explanation for
19 that? Well, they say, yes, we acknowledge at figure 9; that's not an error.
20 And they say it's a typographical error. It's not a typographical error. It was
21 an intentioned reason. They didn't slip up and, you know, hit the keyboard
22 wrong. It was, let's call this an SBS primer. That's not a typographical
23 error.

24 And the explanation for this is that, if you look at figure 6, there's
25 another typographical error. And so, people would look at two
26 typographical errors, and then, figure out, based on the typographical errors,

1 that what they really meant was this. That's incoherent. That's not evidence
2 to support anticipation.

3 All right. So, let me go on to the final point here. There's the
4 ligation probe. You have to ligate the probes together. And what happens in
5 SO-456 is that, what you actually have are two probes -- I'm showing that on
6 the right -- that are very, very far apart. And what happens is, you generate
7 extension products, and then, you connect that extension product. So, it's
8 not really the probes; it's the extension products that are ligated together.

9 And I think what's important to note is that, you know, these probes,
10 we have no idea how far apart these things are. You know, it's not as if
11 these are a few nucleotides apart and you've got to do a little fill-in to get it
12 right. These are far apart and there's a mutation here that's in between that
13 you're trying to capture. So, it's actually a totally new DNA molecule that
14 includes a mutation target of interest, and that's what gets subject to the
15 ligation. Okay?

16 So, I think anticipation is off the board. There's four different things
17 that are missing. The Board's institution decision was right.

18 Now, with regard to obviousness, there's just several elements that
19 are not disclosed and Grounds 2 and 3 related to obviousness. The only
20 thing they dealt with was the extension step. Okay?

21 So, the extension step we don't think is disclosed. We don't think it
22 would have been obvious. And even if the extension step was obvious, they
23 haven't addressed the three other shortcomings that are in So-456. Okay?
24 The petition just didn't address the true amplicon issue and it didn't truly
25 address the treatment step. So, there's still multiple elements that are
26 missing and they haven't shown obviousness, either.

1 Okay. According to my clock, I'm at my time. I want to preserve my
2 rebuttal. I'd stop there and find out if there's any questions before I turn it
3 back over.

4 JUDGE ZASTROW NEWMAN: Yes, Counsel, a question for me
5 relating to allowance of the case. Is it your position that allowance of the
6 case, of the patent had no bearing on whether or not it was a cleavable linker
7 method of collecting the probe?

8 MR. WALTER: You know, Your Honor, I have to confess, I'm not
9 aware of anything in the file history where condition of allowance was based
10 on inclusion of the cleavable linker. It's hard for me to believe that would be
11 the case because the claims include both removing the whole probe and
12 partial probes as well. And so, it's hard for me to believe that that could
13 have been the clincher here. So, I don't think there's anything in the
14 prosecution history that would overcome any of the other evidence I've cited
15 with regard to written description.

16 JUDGE ZASTROW NEWMAN: All right. Understood. Thank
17 you.

18 We will move on. Unless anyone needs a break here, we'll go back
19 to Petitioner for 11 minutes of rebuttal.

20 Let me know when you're ready.

21 MR. HOLMAN: All right. We're ready, Your Honor. Thank you.

22 JUDGE ZASTROW NEWMAN: You may begin.

23 REBUTTAL ON BEHALF OF PETITIONER

24 MR. HOLMAN: A couple of points on the law first.

25 Patent Owner mentioned the law, of course, and he mentioned a
26 couple of additional cases that Patent Owner relies on. One is the Zoltek v.

1 United States case.

2 If I could pull up Patent Owner's slides?

3 So, this is on Patent Owner slide 19, the Zoltek Corp. v. United
4 States case.

5 Patent Owner relies on this case, again, for the idea, the principle that
6 this investigation need not include information that's already known or
7 experienced. But, of course, this case, what happens, again, is there's
8 disclosure in the specification. Okay? So, this Zoltek case was a broadening
9 reissue case.

10 The original claims were directed to a method of making this
11 product, the starting materials, the oxidized, stabilized, carbonizable fiber,
12 and then, in using that oxidized and stabilized fiber in the subsequent steps
13 of the claim.

14 Now, in the reissue, it's a broadening reissue. And so, they
15 broadened the claim out, and instead of reciting the method of making this
16 oxidized, stabilized fiber, it just started out with an already oxidized and
17 stabilized fiber starting material.

18 And so, the disclosure of making this oxidized and stabilized starting
19 material was already in the specification. In fact, there was no challenge to
20 the sufficiency of the disclosure in that case. This is at Zoltek 1308 -- or
21 excuse me -- 1307. The Court said there's no argument as to the
22 insufficiency of either the prior art or the content of the specification. At
23 Zoltek 1308, the 162 specification describes the preparation of the starting
24 material and states that it is commercially available. So, there's description
25 and disclosure of the alleged claim element at issue there.

26 The same can be said for the S3 v. NVIDIA case Patent Owner

1 owner relies on. This is in their slide 20. In S3 v. NVIDIA, again, there was
2 disclosure in the specification. This was actually a means-plus-function case
3 dealing with 112, paragraph 6, indefiniteness. And the issue was whether
4 the specification disclosed a selector. So, there was a means for selectively
5 receiving these components, and there was a selector that provides this
6 means. And so, the question was, there's a disclosure of this means, but is
7 there a disclosure of the structure that's providing this? And there was.

8 So, the Court said -- this is S3 in 1371 -- the uncontradicted evidence
9 was that the selector is disclosed in the specification. The selector is a well-
10 known electronic structure performing an electronic function and is readily
11 implemented from the description in the specification, because there was a
12 disclosure of a selector there.

13 There's not a disclosure here. Every time we talk about collecting
14 whole probes, that's not in the disclosure.

15 And, in fact, as I mentioned earlier -- and I just want to reiterate this
16 point -- collecting whole probes is entirely inconsistent with the disclosures
17 in the specification. The negative purification disclosure is a perfect
18 example. Paragraph 252 of the '487 application says: you're going to get rid
19 of whole probes; you don't want whole probes.

20 Counsel for Patent Owner, when discussing the denaturation and
21 collection of whole probes, mentioned that the spatial identity is in the
22 probe, but that's not quite correct. If you look at the descriptions in the '487
23 application, there's the collection of these identifier oligonucleotides, and
24 then, the spatial barcodes are added after you collect. They're done when
25 you hybridize and ligate the probes to the collected identifiers. That's when
26 you're adding barcodes, and then, you add the sequencing adapters and

1 create the library for sequencing downstream of that. So, these barcodes are
2 added after collection.

3 One other point on the law. Counsel for Patent Owner mentioned
4 that the ICU Medical case and the Gentry Gallery case are distinguished
5 because there the claim elements were essential to the invention. The
6 spikeless valves in ICU Medical or the console controller of the sofa, I find
7 it hard to believe that a console control is essential to be and the concept of
8 controller of the recliner is essential to control the sofa and can't be in a
9 location.

10 But even putting that aside, the application here doesn't describe
11 collecting whole probes and it doesn't say any other way to do it. So, our
12 point is there's no reason to do it. The person skilled in the art reading this,
13 reading the '487 application, is not going to have any reason to collect whole
14 probes. Why change it? Why change what the application already says
15 works doing the probe cleavage method?

16 A quick note on Patent Owner's slide 56. They highlight this
17 language from Dr. Spellman's testimony in a deposition. They're alleging
18 that he says, oh, there's no cleavages required. I just want to point out, even
19 in their highlighted language, Dr. Spellman is referring to the Board's
20 construction here. Dr. Spellman said the Board interpreted nucleic acid
21 probes in a certain way, and the Board's construction, in Dr. Spellman's
22 view, did not require a cleavable element. That's all he said there. He never
23 said cleavage is not required. And the construction is the decision on
24 institution, page 23.

25 One other note on the '386 application. I'll direct you to Petitioner's
26 slide 31.

1 Patent Owner, again -- we talked about this earlier, about any probe
2 disclosure can be -- any probe can be used in the '487 application, according
3 to this paragraph. But I'll note that it doesn't say any method can be used.
4 Right? And so, the '386 application's disclosures of the sequencing probes
5 are sequencing methods, and even if they're -- you know, the method is
6 hybridizing and de-hybridizing, that's the method. That's not the probe
7 itself. If you're just using the probe, you're going to include the cleavable
8 linker.

9 And on the same note, for incorporation by reference -- we made this
10 point in our talk earlier -- Rule 1.57(c) states very clearly that the application
11 must clearly identify the document, the patent application and publication.
12 And 1.57(d) states that, for essential material, it can only be incorporated by
13 reference to a U.S. patent or a U.S. patent publication. Okay? And that's in
14 Petitioner's reply, pages 3 to 6.

15 I'd like to also address the intermediary or the indirect hybridization
16 embodiment. Patent Owner argued that the indirect hybridization
17 embodiment can maintain the advantages, even if you add the cleavable
18 probe, or add the cleavage to the intermediary oligonucleotide.

19 But, as we show here on slide 37, that's not correct at all. If you add
20 a cleavable linker to the molecule that's binding the target nucleic acid, that's
21 no different than the original direct probe binding method. You still have to
22 custom-synthesize the cleavable probe that's going to bind every target for
23 every assay.

24 And their allegation that Dr. Spellman couldn't identify what was the
25 more expensive part or he didn't know about whether they're commercially
26 available, well, first of all, the commercial availability is irrelevant.

1 But, second of all, as we point out in his deposition testimony, he
2 said that, while the specification doesn't explicitly say which part is the
3 expensive part, it's implied; it's clear. The only difference between these two
4 molecules, the probe and the intermediate oligonucleotide, is the photo-
5 cleavable linker. And that's the expensive part.

6 And one more note. The Patent Owner's argument that this
7 advantage is maintained, they did not argue this in their POR or the Patent
8 Owner's surreply. They only argued that Dr. Spellman couldn't identify
9 what was the more expensive part of the probe.

10 Regarding the 607 publication -- that's the dual nanoreporters -- Mr.
11 Walter said that those probes are collected, or he alleged that I said the
12 probes aren't collected, or that the Petitioner said that. What we said is that
13 there's no ligation of probes in that disclosure and there's no collection of
14 ligated probes. And that's what they're relying on, is for written description.

15 And regarding the 774 publication -- that's the proximity ligation
16 techniques -- again, I direct the Board's attention to example 7. That's all
17 taking place in solution. It's also found in Exhibit 2001, the Goldberg
18 reference, which, again, detects these analytes in solution.

19 Regarding the So-456 disclosures, Mr. Walter raised several
20 arguments about the term "amplicons" and what's being collected and what's
21 being referenced in the So figure 9 disclosures. And what's happening here
22 is the Patent Owner has nitpicked and picked out words of the petition in
23 order to create an argument that the petition only relied on the amplicons,
24 and because of that, we didn't show that So meets the claim limitation.

25 But, as Dr. Khanduri discussed earlier, the petition uses the term
26 "amplicon" to include original ligated probes and their copies. And we think

1 that's clear from the briefing and from the arguments in the record.

2 JUDGE ZASTROW NEWMAN: Counsel, you have about one
3 minute left.

4 MR. HOLMAN: Okay. Thank you.

5 So, moving on quickly, I'd like to address the low likelihood
6 arguments. So, Patent Owner argues that there's very little likelihood of
7 collecting the original probes.

8 On slide 72, Dr. Spellman explains that the So says there can be at
9 least one; at least one copy is all you need. So, in that situation, half of the
10 things you're collecting are going to be the original ligated probes.

11 One other note on the bidirectional extension. Mr. Walter said, I
12 believe he said the polymerases wouldn't fit in that scenario for So's figure 9.

13 But figure 6 is nearly the exact same setup. And So says that that performs
14 bidirectional extension. So says that both extension products, the upward
15 and the downward, can be used for preparation of the library.

16 JUDGE ZASTROW NEWMAN: All right. I think that's all the time
17 there, Counsel.

18 MR. HOLMAN: All right. Thank you, Your Honor.

19 JUDGE ZASTROW NEWMAN: Thank you very much.

20 Mr. Walter, you now have 10 minutes, when you are ready.

21 MR. WALTER: Sure. Are you able to hear me okay, Your Honors?

22 JUDGE ZASTROW NEWMAN: Yes.

23 SURREBUTTAL ON BEHALF OF PATENT OWNER

24 MR. WALTER: Okay. So, Mr. Holman started out with a
25 discussion of the Zoltek case. And he said, look, in the Zoltek case there's
26 disclosure. But we have disclosure. We have disclosure. I just spent the

1 last -- I spent about a half-hour, if not more, talking about the disclosure.

2 We think the disclosure is pretty good. Okay. When you have
3 disclosure -- okay? -- and you're talking about something that's routine, you
4 don't fail the written description requirement. When do you fail the written
5 description requirement? You fail it when you don't have disclosure and the
6 patent is telling you that there's something that's essential. And let me give
7 you an example.

8 10x has got a bunch of patents that I'm adverse to, that I'm trying to,
9 that I'm contending. They fail the written description requirement. And
10 those patents, in that case, the patents say that integral to the present
11 invention is the following, and it describes a particular feature.

12 When you have a patent that tells you that something is essential, and
13 the only embodiments it discloses are that feature that the patent tells you is
14 essential, and then, someone goes off and tries to claim something without
15 that essential feature, that's when you can have a written description
16 problem. Those are the kinds of cases I'm talking about with Gentry
17 Gallery, Rivera v. ITC, ICU Med, Arthrex, Tronzo, LizardTech. That's not
18 what we have here.

19 Now, Mr. Holman says, "Look, you know, you have all these
20 examples in the patent where you use the cleavable linker. Why would
21 anybody change it? Why would you ever do that?"

22 Well, I'll tell you why. It's because a cleavable linker, it offers some
23 advantages, but it's a more complex approach. Using simple de-
24 hybridization to remove probes, that's easier. That's straightforward.

25 As to the indirect hybridization approach, there was a contention that
26 we didn't address how the economic benefit is maintained. We did. That's

1 at our surreply at pages 8 to 9.

2 And then, finally, with regard to the figure 6 he just described, well,
3 they rely on figure 9 for their approach, and then, they're trying to bring in
4 figure 6. Figure 9 has got one typo; figure 6 has got another typo. A person
5 of skill in the art, they say, would be able to figure it out. That's not
6 anticipation; that's not obviousness.

7 And that's what I have, unless there are further questions.

8 JUDGE ZASTROW NEWMAN: I do not have further questions.

9 Give me just a moment.

10 (Pause.)

11 All right. That concludes us for today. We can go off the record
12 here.

13 (Whereupon, at 3:15 p.m. EDT, the hearing was concluded.)

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