

No. 15-1160

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IN THE  
**Supreme Court of the United States**

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THE DOW CHEMICAL COMPANY,  
*Petitioner,*  
*v.*

NOVA CHEMICALS CORPORATION (CANADA) AND  
NOVA CHEMICALS INC. (DELAWARE),  
*Respondents.*

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ON PETITION FOR A WRIT OF CERTIORARI TO THE  
UNITED STATES COURT OF APPEALS  
FOR THE FEDERAL CIRCUIT

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**BRIEF IN OPPOSITION**

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## **QUESTION PRESENTED**

Whether the court of appeals correctly invalidated Dow's patent claims as indefinite under 35 U.S.C. § 112.

## **RULE 29.6 STATEMENT**

The following entities own, directly or indirectly, more than 10% of the stock of NOVA Chemicals Inc.: International Petroleum Investment Company (IPIC), a sovereign wealth fund of the Emirate of Abu Dhabi; IPIC Holdings GmbH; NOVA Chemicals Holding GmbH; NOVA Chemicals Corporation; NOVA Petrochemicals Ltd.; NOVA Chemicals (Canada) Ltd. – NOVA Chimie (Canada) Ltd.; and NC Holdings USA Inc.

The following entities own, directly or indirectly, more than 10% of the stock of NOVA Chemicals Corporation: IPIC; IPIC Holdings GmbH; and NOVA Chemicals Holding GmbH.

## TABLE OF CONTENTS

	Page
QUESTION PRESENTED .....	i
RULE 29.6 STATEMENT .....	ii
TABLE OF AUTHORITIES .....	iv
INTRODUCTION .....	1
STATEMENT .....	2
A. NOVA’s Indefiniteness Challenge .....	3
B. Procedural History .....	10
REASONS FOR DENYING THE PETITION .....	15
I. DOW’S PETITION RESTS ON A FALSE PREMISE .....	15
A. The Federal Circuit Already Reviews Factual Findings Related To Indefiniteness With Deference .....	15
B. At Best, Dow Seeks A Factbound Ruling That The Panel Was Not Sufficiently Deferential In This Particular Case .....	18
C. The Panel Decision Was Correct .....	21
II. THIS CASE IS A BAD VEHICLE TO CONSIDER THE QUESTION PRESENTED .....	25
A. Dow Seeks Deference To The Implicit Factual Findings Of A Jury That Received An Erroneous Pre- <i>Nautilus</i> Jury Instruction .....	25
B. The Court Would Have To Resolve Questions Regarding Dow’s Standing Before Reaching The Question Presented .....	26
CONCLUSION .....	28

**TABLE OF AUTHORITIES**

**CASES**

	Page(s)
<i>Abraxis Bioscience, Inc. v. Navinta LLC</i> , 625 F.3d 1359 (Fed. Cir. 2010) .....	26
<i>Akzo Nobel Coatings, Inc. v. Dow Chemical Co.</i> , 811 F.3d 1334 (Fed. Cir. 2016) .....	16
<i>Biosig Instruments, Inc. v. Nautilus, Inc.</i> , 783 F.3d 1374 (Fed. Cir. 2015) .....	16
<i>CardSoft, LLC v. VeriFone, Inc.</i> , 807 F.3d 1346 (Fed. Cir. 2015) .....	21
<i>CSP Technologies, Inc. v. Sud-Chemie AG</i> , No. 2015-1124, 2016 WL 1118549 (Fed. Cir. Mar. 22, 2016) .....	21
<i>Eidos Display, LLC v. AU Optronics Corp.</i> , 779 F.3d 1360 (Fed. Cir. 2015) .....	21
<i>Enzo Biochem Inc. v. Applera Corp.</i> , 780 F.3d 1149 (Fed. Cir. 2015) .....	21
<i>Exxon Research &amp; Engineering Co. v. United States</i> , 265 F.3d 1371 (Fed. Cir. 2001) .....	10, 25
<i>Interval Licensing LLC v. AOL, Inc.</i> , 766 F.3d 1364 (Fed. Cir. 2014) .....	16
<i>Lighting Ballast Control LLC v. Philips Electronics North America Corp.</i> , 790 F.3d 1329 (Fed. Cir. 2015) .....	16
<i>Markman v. Westview Instruments, Inc.</i> , 517 U.S. 370 (1996) .....	20, 24
<i>Nautilus, Inc. v. Biosig Instruments, Inc.</i> , 134 S. Ct. 2120 (2014) .....	2, 3, 13, 22, 24, 25

## TABLE OF AUTHORITIES—Continued

	Page(s)
<i>Nautilus, Inc. v. Biosig Instruments, Inc.</i> , 134 S. Ct. 896 (2014) (mem.).....	13
<i>NOVA Chemicals Corp. v. Dow Chemical Co.</i> , 133 S. Ct. 544 (2012) (mem.).....	12
<i>Paradise Creations, Inc. v. UV Sales, Inc.</i> , 315 F.3d 1304 (Fed. Cir. 2003) .....	26
<i>Phillips v. AWH Corp.</i> , 415 F.3d 1303 (Fed. Cir. 2005).....	20
<i>Secure Web Conference Corp. v. Microsoft Corp.</i> , No. 2015-1321, 2016 WL 626492 (Fed. Cir. Feb. 17, 2016) .....	20
<i>Teva Pharmaceuticals USA, Inc. v. Sandoz, Inc.</i> , 135 S. Ct. 831 (2015) .....	15, 16, 19, 20
<i>Teva Pharmaceuticals USA, Inc. v. Sandoz, Inc.</i> , 789 F.3d 1335 (Fed. Cir. 2015) .....	14, 16, 21
<i>Tyco Healthcare Group LP v. Ethicon Endo- Surgery, Inc.</i> , 587 F.3d 1375 (Fed. Cir. 2009) .....	26
<i>UltimatePointer, L.L.C. v. Nintendo Co.</i> , --- F.3d ---, 2016 WL 798354 (Fed. Cir. Mar. 1, 2016) .....	1, 15, 17, 20
<i>United Carbon Co. v. Binney &amp; Smith Co.</i> , 317 U.S. 228 (1942) .....	22

## STATUTES

35 U.S.C. § 112 (2010).....	1, 3
Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) .....	3

## INTRODUCTION

Dow's entire petition rests on the false premise that the Federal Circuit refuses to give deference to factual findings underlying the ultimate legal question of whether a patent claim is definite under 35 U.S.C. § 112. In fact, the opposite is true. The Federal Circuit made abundantly clear when it denied Dow's petition for rehearing en banc that it was rejecting the alleged rule Dow seeks to have reviewed. Judge Moore's concurrence in the denial of rehearing en banc, which was joined by four other judges, stated: "despite Dow's contention that it does, the panel's opinion does not alter Supreme Court and our own precedent that fact findings made incident to the ultimate legal conclusion of indefiniteness receive deference on appeal." Pet. App. 169a. All three members of the original panel also wrote to say: "We agree with Judge Moore ... that findings of fact by juries are entitled to deference. ... The opinion in this case does not depart from, and in fact directly applies, those principles." *Id.* 167a.

Subsequent decisions have reinforced the same principle. For example, shortly before Dow filed its cert petition, the Federal Circuit again held that although it reviews the ultimate legal determination of indefiniteness *de novo*, "as with claim construction, any factual findings by the district court based on extrinsic evidence are reviewed for clear error." *UltimatePointer, L.L.C. v. Nintendo Co.*, --- F.3d ---, 2016 WL 798354, at \*8 (Fed. Cir. Mar. 1, 2016).

Because the Federal Circuit is already applying the standard of review that Dow advocates, there is no legal question for this Court to review, and certainly not one of general or continuing importance that would warrant the attention of this Court.

At best, Dow is seeking a case-specific ruling that, notwithstanding the panel’s own clarification of the standard it was applying, the particular panel here was insufficiently deferential in practice. Not only is a fact-bound dispute of that nature unworthy of review, but it ignores the gross deficiencies in Dow’s patents, which were plagued by a missing figure, a failure to specify units, and a general lack of guidance regarding where and how to measure a key parameter. Once this Court clarified the law of indefiniteness in *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120 (2014), no amount of deference to factual findings could save Dow’s patent claims.

Finally, even if this case had presented a genuine legal question regarding the standard of review, it would be a particularly bad vehicle in which to address the issue. The implied factual findings to which Dow urges deference were all made before *Nautilus* by a jury that received instructions that would not be given today. Moreover, to establish its own jurisdiction over the case, the Court would need to address the “substantial question of standing” (Pet. App. 77a) that led Judge Reyna to dissent in an earlier appeal on the ground that Dow did not actually own the asserted patents at the time it filed suit (*id.* 77a-103a).

Dow’s petition should be denied.

### STATEMENT

Dow is the original assignee of U.S. Patent No. 5,847,053 (“the ’053 patent”) and U.S. Patent No. 6,111,023 (“the ’023 patent”). Dow sued NOVA for infringement of claims 6, 7, 10, and 12 of the ’053 patent and claims 1, 2, 5, and 8 of the ’023 patent on October

21, 2005. Pet. App. 3a, 128a. Both patents have now expired.

The Patent Act requires that a patent “conclude with one or more claims particularly pointing out and distinctly claiming the subject matter” covered by the patent. 35 U.S.C. § 112, ¶ 2 (2010) (reproduced at Pet. App. 186a).<sup>1</sup> From the beginning, NOVA argued that the asserted claims were invalid because they were indefinite. Following this Court’s decision in *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120 (2014), the Federal Circuit agreed and invalidated Dow’s asserted claims.

#### A. NOVA’s Indefiniteness Challenge

1. Claim 6 of the ’053 patent, the only asserted independent claim of that patent, recited:

6. An ethylene polymer composition comprising (A) from about 10 percent (by weight of the total composition) to about 95 percent (by weight of the total composition) of at least one homogeneously branched linear ethylene/ $\alpha$ -olefin interpolymer having:

- (i) a density from about 0.89 grams/cubic centimeter ( $\text{g}/\text{cm}^3$ ) to about  $0.935 \text{ g}/\text{cm}^3$ ,
- (ii) a molecular weight distribution (Mw/Mn) from about 1.8 to about 2.8,

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<sup>1</sup> Section 112 was amended by Section 4(c) of the Leahy-Smith America Invents Act (AIA), Pub. L. No. 112-29, 125 Stat. 284, 296 (2011). The pre-AIA version of the statute applies to this case.

(iii) a melt index ( $I_2$ ) from about 0.001 grams/10 minutes (g/10 min) to about 10 g/10 min,

(iv) no high density fraction,

(v) a single melting peak as measured using differential scanning calorimetry, and

(vi) *a slope of strain hardening coefficient greater than or equal to 1.3*; and

(B) from about 5 percent (by weight of the total composition) to about 90 percent (by weight of the total composition) of at least one heterogeneously branched linear ethylene polymer having a density from about 0.93 g/cm<sup>3</sup> to about 0.965 g/cm<sup>3</sup>.

A312 (emphasis added).<sup>2</sup>

Claim 1 of the '023 patent, the only asserted independent claim of that patent, covered a somewhat different ethylene polymer, but likewise required a component A having a “slope of strain hardening coefficient greater than or equal to 1.3.” A325.

It is undisputed that the slope of strain hardening coefficient, also known as “SHC,” was “a new Dow construct, not previously known in the art.” Pet. App. 18a (quoting Pet. App. 69a). The term did not have a pre-established meaning, and scientists did not have experience determining SHC. A2543; A3347; A3493. A person of ordinary skill in the art therefore needed to rely on Dow’s patents to make clear exactly what Dow was claiming. A3493-3494.

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<sup>2</sup> “A” refers to the court of appeals appendix.

The patents stated that the “slope of strain hardening coefficient” is calculated based on the following equation:

$$SHC = (\text{slope of strain hardening}) * (I_2)^{0.25}$$

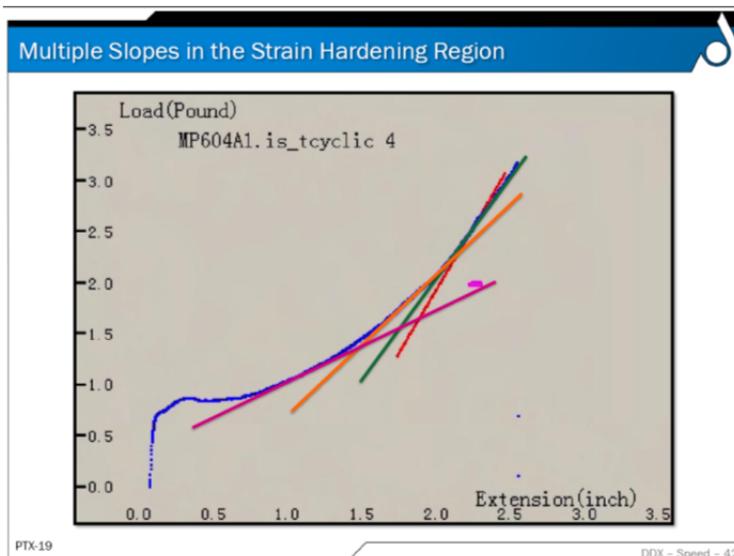
where  $I_2$  = melt index in grams/10 minutes.

A307; *see also* A476; A492. The patents further stated that after the tensile properties of a sample are tested by stretching it, the “slope of strain hardening”—a critical input in the SHC equation—“is calculated from the resulting tensile curve by drawing a line parallel to the strain hardening region of the resulting stress/strain curve.” A307. Beyond this limited information, the patents provided almost no guidance on where and how to measure the slope of strain hardening.

2. The omissions and ambiguities in Dow’s patents left the meaning of Dow’s claims unclear. For example, the patents stated that “FIG. 1 shows the various stages of the stress/strain curve used to calculate the slope of strain hardening.” A307. But “the patents d[id] not contain the FIG. 1 referenced in those passages. Nor d[id] the patents include any other figure showing the stress/strain curve.” Pet. App. 21a; *see also* A2559. One of the named inventors could offer no explanation for how the specified figure came to be missing, saying he had “no idea” and “no idea what’s going on.” A1407.

Further, it is undisputed that, generally in a stress/strain curve, “the strain hardening region is curved.” Pet. App. 20a. This was highly problematic for Dow because the slope of strain hardening is determined by “drawing a line parallel to the strain hardening region” and measuring the “slope of the parallel line.” A307. “Because the strain hardening region is

typically curved, it does not have a single slope.” Pet. App. 20a. Rather, as illustrated below, there are multiple locations where the slope could be measured, yielding a wide range of different slopes:



A3349-3351; A3523-3525; A6830.

The particular location within the strain hardening region used to measure the slope was thus critical to determining whether the SHC value of a sample is above or below the 1.3 value claimed in Dow’s patents. A1468; A3522-3523. For example, one internal Dow document identified two distinct slope measurement locations where, for the same underlying data, the slope of strain hardening differed by as much as seven times. A6831; NOVA C.A. Br. 12 n.4.

Other Dow files revealed that Dow used at least four different conventions to determine where the slope of strain hardening for SHC should be measured. A3348; A6627; A6662; A6704; A6769; A6829; A6831. Despite the wide range of possibilities, the patents

were silent on what method should be used. This contrasted with a later-filed Dow patent, U.S. Patent No. 6,723,398 (“the ’398 patent”), that shared an inventor in common with both patents-in-suit and claimed priority to the ’023 patent. A6615; A6622. The ’398 patent included a figure that specifically identified the strain hardening region and the specific location/method (“10% secant tangent”) used to determine the slope. A6618; A6626-6627. No comparable guidance appeared in the patents-in-suit.

At trial, Dow’s expert attempted to overcome this lack of guidance by testifying that a person of ordinary skill would measure the “maximum slope.” Dow’s expert also introduced “yet another method—of his own invention—to calculate the slope of strain hardening.” Pet. App. 22a. That method, which used an algorithm created for purposes of the litigation, existed nowhere in the prior art. *Id.* 25a (Dow’s “chosen method was not even an established method but rather one developed for this particular case.”). It tended to produce higher values than other methods, increasing the chances that any given sample would be found to infringe. *Id.* 23a; A1595; A2564; A2566-2570; A2579-2582; A6745; A6763.<sup>3</sup>

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<sup>3</sup> The method Dow relied on at trial suffered from a critical defect: While the patents dictate that the slope line must be “parallel” to the strain hardening region (A307), the lines generated by Dow’s litigation-inspired method cross the stress/strain curve (A2582-2583; A2646-2647; A5689; *supra* p. 6 (red slope line using Dow’s new method crosses blue data curve)). In addition, application of the new method to data in a declaration about the prior art filed by Dow during prosecution of the patents-in-suit would have yielded a prior art SHC value greater than 1.3, eliminating the alleged point of novelty that Dow argued to the U.S. Patent and Trademark Office (PTO) in securing its patents. A3511-3517.

Dow later attempted to reconcile this new method with three of the other conventions it had used in practice by characterizing them all as ways to measure “maximum slope.” But “[t]here is no question that each of these four methods may produce different results, i.e., a different slope,” and “the slope of strain hardening could affect whether or not a given product infringes the claims.” Pet. App. 23a. “Neither the patent claims nor the specification ... discusses the four methods or provides any guidance as to which method should be used or even whether the possible universe of methods is limited to these four methods.” *Id.* Further, Dow’s expert “did not testify that one of ordinary skill in the art would choose his method over the three known methods” or “cite any references discussing how a person at the time of the patent application would have calculated the slope of strain hardening.” *Id.*; *see also* A2518 (“Q. There are no documents that they can rely on to support your testimony that a person of ordinary skill would have used the maximum slope; correct? A. That’s correct.”).

3. All of this uncertainty was compounded by an independent problem: The patents stated that component A has to have “a slope of strain hardening coefficient greater than or equal to 1.3,” but they did not specify the units in which the slope of strain hardening coefficient should be expressed. Dow’s expert admitted, “it’s just silent, it doesn’t give you units for slope of strain hardening.” A2615. Further, because the SHC was a newly developed Dow construct, there was no established practice informing what units should be used. Dow’s own internal documents showed it using a variety of possible units. *E.g.*, A1477; A1539-1542; A3355; A6649; A6650; A6674; A6745; A6770; A6816; A6831.

Dow attempted to fill the gap by arguing that English units would be used based on extrinsic evidence that the tensile tester mentioned in the patent defaults to English units. But it was undisputed that the same tester can use metric or SI units (a form of the metric system commonly used by scientists). A2685-2686; *see also* A3489-3490. Further, the claims specifically use metric units for the required density and melt index of component A. A312 (requiring “a density from about 0.89 grams/cubic centimeter ( $\text{g/cm}^3$ ) to about 0.935  $\text{g/cm}^3$ ” and “a melt index ( $I_2$ ) from about 0.001 grams/10 minutes ( $\text{g/10 min}$ ) to about 10  $\text{g/10 min}$ ”). The latter, still expressed in metric units, is an explicit variable in the equation used to calculate SHC.

The slope of strain hardening coefficient (SHC) is calculated according to the following equation:

$$SHC = (\text{slope of strain hardening}) * (I_2)^{0.25}$$

where  $I_2$  = melt index in grams/10 minutes.

A307.

The choice of units was not a trivial matter. Dow’s expert conceded that “the units for the slope term fundamentally matter” (A2588) and the SHC “would be higher or lower depending on what units you use” (A2589). In fact, the record showed that the Dow employee assisting Dow’s expert measured the slope of strain hardening in Dow’s replicates of the accused products in metric units. A2590; A2592; A2679-2680; A3593. It is undisputed that these measurements yielded *non-infringing SHC values* (less than 1.3) for all product samples. A3518-3521; *see also* A2592-2593; A3491-3506; A6827-6828. It was only when Dow’s expert converted the measurements from the metric units in which they were actually measured to lbs/in that he

was able to produce the SHC values greater than or equal to 1.3 that Dow relied on to allege infringement. A2592-2593.

## B. Procedural History

1. Most of the proceedings in this case took place before this Court clarified the law of indefiniteness in *Nautilus*. The district court first addressed the issue of indefiniteness in its claim construction order. The court found it “troubling” that the patent “fail[ed] to explicitly set forth the units for the slope of strain hardening coefficient and include a figure exemplifying the manner for computing the slope of strain hardening.” Pet. App. 142a. The court also observed that NOVA had “presented a wide range of compelling evidence and arguments that, in light of this, one of skill in the art would be unable to determine the proper scope” of the claim. *Id.* For example, NOVA “elicited testimony from numerous Dow engineers who, after reviewing the patents-in-suit, expressed an inability to calculate the slope of strain hardening.” *Id.* 142a-143a. “A named inventor on the patents-in-suit was even unable to explain how to carry out this calculation after reviewing the relevant portions of the specification.” *Id.* 143a. Nonetheless, under then-existing law, the district court decided to let the issue go to the jury.

A jury trial on infringement and validity was held in June 2010. The district court instructed the jury based on then-existing Federal Circuit case law. Pet. App. 247a. At the time, a claim was sufficiently definite as long as the meaning of the claim was “discernible, even though the task may be formidable and the conclusion may be one over which reasonable persons will disagree.” *Exxon Research & Eng’g Co. v. United States*, 265 F.3d 1371, 1375 (Fed. Cir. 2001); *see also*

Pet. App. 247a. The jury returned a verdict in favor of Dow and awarded over \$61.7 million in damages. Pet. App. 249a-251a. The district court denied NOVA's motion for judgment as a matter of law on indefiniteness. *Id.* 112a.

2. After the jury's verdict, the district court conducted a bench trial on Dow's standing to assert the patents-in-suit. A433. In a 2002 Contribution Agreement, Dow had used broad language to transfer patent rights to its patent holding company, DGTI. Pet. App. 78a-79a. Dow and DGTI simultaneously executed a Patent and Technology License Agreement that licensed these rights back to Dow on a nonexclusive, royalty-bearing basis. *Id.* 80a. This arrangement was expected to save Dow 2% in state taxes, and Dow paid DGTI more than \$68 million in license royalties for its ELITE products, which are protected by the patents-in-suit. *Id.* 81a.

NOVA had made repeated requests for information relating to Dow's ownership of the patents-in-suit, but the existence of the 2002 Contribution Agreement was not disclosed until 2009—long after fact discovery closed. Pet. App. 82a. When it was produced, Dow attached a "Schedule D" created only days earlier that made it appear that the patents-in-suit had not been transferred. *Id.* It was only after further probing by NOVA that Dow produced the original "Schedule D," which did not list the patents-in-suit as Excluded Assets. *Id.* 83a.

The district court ultimately decided not to overturn the jury verdict based on questions regarding whether Dow actually owned the patents it had asserted. A432-441. But the court observed that "the ques-

tion of standing” presented “substantial issues for appeal.” A5035.

3. The Federal Circuit affirmed. Applying then-prevailing law, the panel majority held that Dow’s asserted claims were sufficiently definite. Quoting the *Exxon* decision later criticized by this Court in *Nautilus*, the panel majority observed that a claim term is indefinite only if “no narrowing construction can properly be adopted’ to interpret the claim” (Pet. App. 67a) and is not indefinite if “the meaning of the claim is discernible, even though the task may be formidable and the conclusion may be one over which reasonable persons will disagree” (*id.* 74a).

The panel majority also held that Dow retained title to the patents at issue in the litigation, and could therefore properly assert standing in a patent infringement suit. Pet. App. 57a-66a. Judge Reyna issued a lengthy dissent concluding that “the 2002 agreement in fact did transfer the patents-in-suit to Dow’s holding company, and that standing did not exist at the time the complaint was filed.” *Id.* 78a. He noted that “[i]t strains credibility to suggest,” as the majority concluded, “that only four U.S. patents” out of 7,300 “were transferred by an agreement having such broad transferring language, particularly given the substantial anticipated tax benefits.” *Id.* 98a.

NOVA sought review of the Federal Circuit’s standing and indefiniteness decisions, but this Court denied its petition. 133 S. Ct. 544 (2012) (mem.).

4. The parties returned to the district court to determine the amount of supplemental damages for the period of infringement between January 1, 2010 and the expiration of the patents-in-suit on October 15, 2011. While those proceedings were pending, this Court

granted certiorari in *Nautilus* to review the Federal Circuit’s indefiniteness standard. 134 S. Ct. 896 (2014) (mem.). NOVA requested a stay in light of *Nautilus* (D. Ct. Dkt. 758 (Feb. 12, 2014)), but the district court declined the request (D. Ct. Dkt. 759 (Mar. 4, 2014)).

After a two-day bench trial, the court awarded Dow over \$30 million in supplemental damages. Pet. App. 26a-53a; D. Ct. Dkt. 763 (Apr. 14, 2014). The court denied Dow’s request for enhanced damages. NOVA and Dow both appealed the decision to the Federal Circuit.

5. In June 2014, while the second appeal was pending, this Court decided *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120 (2014). *Nautilus* overruled the Federal Circuit’s indefiniteness standard. In its place, this Court held that a patent is indefinite if the “claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Id.* at 2124.

NOVA asked the Federal Circuit to vacate the supplemental damages award in light of this Court’s intervening decision in *Nautilus*. Pet. App. 6a. The Federal Circuit agreed. The court noted that “there can be no serious question that *Nautilus* changed the law of indefiniteness” (*id.* 15a); “our original decision applied pre-*Nautilus* law” (*id.* 17a); and “our original decision would have been different under the new *Nautilus* standard” (*id.* 18a). The court further explained that even accepting Dow’s “maximum slope” approach, the asserted claims were indefinite because the record disclosed four methods of calculating the slope of strain hardening—each of which could produce a different result—yet “[n]either the patent claims nor the specifica-

tion here discusses the four methods or provides any guidance as to which method should be used.” *Id.* 23a.<sup>4</sup>

The Federal Circuit did not reach this conclusion based on *de novo* review of any factual findings. Instead, it focused on the claims, specification, and undisputed facts, particularly the testimony of Dow’s own expert. Although the panel stated near the outset of the opinion that “[i]ndefiniteness is a question of law that this court reviews *de novo*” (Pet. App. 7a), it immediately cited the decision on remand in *Teva Pharmaceuticals USA, Inc. v. Sandoz, Inc.*, 789 F.3d 1335 (Fed. Cir. 2015) (*Teva II*), which acknowledged that factual findings regarding the extrinsic record are reviewed with deference. The panel also expressly noted that *Teva* “was on remand from the Supreme Court, where the Court held that subsidiary factual findings made by a district court in claim construction”—in that case, a claim construction related to indefiniteness—“are reviewed for clear error.” Pet. App. 24a n.9.

6. The Federal Circuit denied Dow’s petition for rehearing en banc. Judge Moore, writing for five concurring judges, explained that the panel’s opinion had not altered the law of indefiniteness. With respect to the question presented in Dow’s petition, Judge Moore observed that “the panel’s opinion does not alter Supreme Court and our own precedent that fact findings made incident to the ultimate legal question of indefiniteness receive deference on appeal.” Pet. App. 169a. Four of those five concurring judges questioned whether the panel had, in fact, accorded sufficient deference to the implied factual findings underlying the jury’s

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<sup>4</sup> In light of this holding, the court found it unnecessary to address Dow’s failure “to identify the units for the slope of strain hardening.” Pet. App. 21a n.8.

verdict on indefiniteness. *Id.* 175a. But the three members of the panel wrote separately to explain that they not only understood the proper standard of review but also “directly applie[d]” it to the jury’s findings in this case. *Id.* 167a. Two judges dissented from the denial of rehearing, believing the panel lacked jurisdiction to decide the validity of the patents.

## REASONS FOR DENYING THE PETITION

### I. DOW’S PETITION RESTS ON A FALSE PREMISE

#### A. The Federal Circuit Already Reviews Factual Findings Related To Indefiniteness With Deference

Dow does not dispute that the ultimate question of “[d]efiniteness is an issue of law” (Pet. 4-5), or that questions of law are reviewed *de novo*. Instead, it focuses on arguing that this Court’s review is needed to establish that subsidiary factual findings based on extrinsic evidence are reviewed only for clear error or substantial evidence. But that issue is not disputed either, leaving no legal issue for this Court to review.

The Federal Circuit already applies the exact standard that Dow asks this Court to adopt. The ultimate determination of indefiniteness is reviewed *de novo*, but, “as with claim construction, any factual findings by the district court based on extrinsic evidence are reviewed for clear error.” *UltimatePointer, L.L.C. v. Nintendo Co.*, --- F.3d ---, 2016 WL 798354, at \*8 (Fed. Cir. Mar. 1, 2016).

The Federal Circuit has consistently applied this principle since this Court decided *Teva Pharmaceuticals USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831 (2015). *Teva* held that the ultimate question of claim construction is a question of law subject to *de novo* review, but

underlying subsidiary factual determinations must be reviewed with deference. *Id.* at 838. Shortly after *Teva*, the Federal Circuit revisited on remand the question of whether the claims at issue in *Nautilus* were sufficiently definite. *See Biosig Instruments, Inc. v. Nautilus, Inc.*, 783 F.3d 1374, 1382 (Fed. Cir. 2015), *cert. denied*, 136 S. Ct. 569 (2015). The court recognized that *Teva* controlled: when determining whether “a skilled artisan would understand with reasonable certainty the scope of the invention,” any “subsidiary fact findings are reviewed for clear error.” *Id.* The Federal Circuit has made similar statements in other post-*Teva* indefiniteness cases. *E.g.*, *Akzo Nobel Coatings, Inc. v. Dow Chem. Co.*, 811 F.3d 1334, 1343-1344 (Fed. Cir. 2016) (reviewing factual findings underlying definiteness decision for clear error); *Teva II*, 789 F.3d at 1341-1342 (same); *Lighting Ballast Control LLC v. Philips Elecs. N. Am. Corp.*, 790 F.3d 1329, 1339 (Fed. Cir. 2015) (noting that court “defer[s]” to the district court’s factual findings, “absent a showing that they are clearly erroneous”), *cert. denied*, 136 S. Ct. 1226 (2016).<sup>5</sup>

The panel decision in this case did not deviate from this general rule. Dow wrongly contends that the panel “expressly applied *de novo* rather than deferential review” to the jury’s factual findings. Pet. 20. In fact, the

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<sup>5</sup> As five concurring judges in this case recognized, the Federal Circuit applied a similar standard in indefiniteness cases even before *Teva*. *See* Pet. App. 171a. In *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1370 & n.6 (Fed. Cir. 2014), *cert. denied*, 136 S. Ct. 59 (2015), the Federal Circuit applied *de novo* review to the district court’s determination of indefiniteness because the district court had relied “only on intrinsic evidence.” The court suggested that had there been any “disputes about underlying questions of fact,” the court would have given deference to the district court’s resolution of those disputes. *Id.*

panel stated only that “[i]ndefiniteness is a question of law that [the] court reviews de novo.” Pet. App. 7a. That statement regarding *de novo* review of the ultimately legal question is indisputably correct and does not imply that the panel reviewed the underlying factual findings *de novo*. To the contrary, the panel expressly cited *Teva* and noted that clear-error review applies to subsidiary factual findings. *Id.* 24a n.9; *supra* p. 14.

If any doubt remained, it was conclusively resolved in the opinions respecting the Federal Circuit’s denial of rehearing en banc. Dow relies on those opinions as evidence of an intra-circuit split, which Dow describes as an “extraordinary fracture” on the Federal Circuit over the standard of review that governs factual findings in this context. Pet. 2; *see also id.* 28 (“ongoing but unpredictable splintering”). The exact opposite is true. The opinions reveal perfect unity in favor of the deferential standard that Dow advances here.

All three members of the panel made clear that they “agree ... that findings of fact by juries are entitled to deference” and that “[t]he opinion in this case does not depart from, and in fact directly applies, those principles.” Pet. App. 167a.<sup>6</sup> A more direct repudiation of Dow’s petition is difficult to imagine. The panel has specifically stated that it agrees with Dow on the legal question that is the subject of Dow’s petition, took that standard of review into account in reaching its decision, and determined that Dow loses under that standard.

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<sup>6</sup> Two of those same panel members were subsequently on the panel that decided *UltimatePointer* where, as noted, they again made clear that “any factual findings by the district court based on extrinsic evidence are reviewed for clear error.” 2016 WL 798354, at \*8.

Five more judges reinforced the consensus on the relevant legal standard. Judge Moore’s concurring opinion recognized that *Teva* had been “unequivocally clear” in requiring “fact findings which rely upon extrinsic evidence [to be] given deference on appeal.” Pet. App. 171a. The concurrence also pointed to two Federal Circuit cases—*Teva II* and *Interval Licensing*—recognizing that deference extends to factual findings relating to definiteness. *Id.* The concurrence concluded that the panel decision “does not alter Supreme Court and our own precedent that fact findings made incident to the ultimate legal conclusion of indefiniteness receive deference on appeal.” *Id.* 169a.

In sum, there is broad agreement on the Federal Circuit that the ultimate legal question of indefiniteness is reviewed *de novo* and underlying findings of fact are reviewed with deference. Not a single judge disagreed with Dow on that point. Nor could they in light of this Court’s decision in *Teva*. There is accordingly no legal question for this Court to address.

**B. At Best, Dow Seeks A Factbound Ruling That The Panel Was Not Sufficiently Deferential In This Particular Case**

Absent any disagreement on the legal standard, Dow is left with nothing more than a factbound challenge arguing that the particular panel in this case was insufficiently deferential. That is incorrect. Nor, in any event, is it the type of challenge that warrants the attention of this Court.

Dow places great weight on the view of four concurring judges that the panel “may” have given insufficient deference to the jury’s resolution of a factual issue (Pet. App. 175a). The panel judges, however, expressly disputed that view and explained in their concurring

opinion that the panel opinion “does not depart from, and in fact directly applies” the principle requiring deference to the jury’s factual findings. *Id.* 167a. A dispute over whether the panel complied with an agreed-upon standard is hardly a matter that warrants this Court’s review. At best, further review would yield a factbound ruling with no possible impact beyond this case.

Tellingly, the four concurring judges did not consider any alleged missteps by the panel sufficiently serious to warrant review by the en banc court. *See* Pet. App. 175a. Their votes to deny rehearing and leave the panel opinion in place signaled their confidence that neither district courts nor patent litigants would “view[] [the opinion] as having changed ... the deference to be given to fact findings” on appeal. *Id.* 175a-176a.

Dow seeks to broaden the issue by arguing that the Federal Circuit defiantly refuses to “adhere consistently to *Teva*,” even in the claim construction context. Pet. 25. But Dow has not identified a single case in which the Federal Circuit improperly applied *de novo* review to the district court’s resolution of a factual dispute, let alone a pervasive pattern. Dow’s contrary claim mischaracterizes the Federal Circuit’s recent case law and misapprehends this Court’s mandate in *Teva*.

After *Teva*, the standard for reviewing a district court’s determination of the proper claim construction depends on the nature of the evidence on which that construction is based. If the district court construes a claim based on evidence intrinsic to the patent—the language of the claims, the specification, and the prosecution history—“the judge’s determination will amount solely to a determination of law” and will be reviewed

“*de novo*.” *Teva*, 135 S. Ct. at 841. If, however, “subsidiary facts are in dispute” and the district court makes factual findings resolving the dispute, the appellate court must review those findings under the deferential clear-error standard. *Id.* In all cases, the “ultimate issue of the proper construction of a claim” remains a question of law that is reviewed *de novo* on appeal. *Id.* at 838; see *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 388-390 (1996).

The Federal Circuit’s post-*Teva* practices follow directly from these principles. In a large share of cases, the district court construes the claims based solely on evidence intrinsic to the patent and the Federal Circuit accordingly reviews the decision *de novo*. See, e.g., *UltimatePointer*, 2016 WL 798354, at \*8 (“Neither party alleges that the district court relied on extrinsic evidence ... so our review is *de novo*.”); *Secure Web Conference Corp. v. Microsoft Corp.*, No. 2015-1321, 2016 WL 626492, at \*2 (Fed. Cir. Feb. 17, 2016) (“Because the district court relied only on intrinsic evidence in this case, our review is *de novo*.”). *Teva* anticipated that *de novo* review would remain common for this very reason. “[S]ubsidiary factfinding,” the Court said, “is unlikely to loom large in the universe of litigated claim construction.” *Teva*, 135 S. Ct. at 840; cf. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1317 (Fed. Cir. 2005) (en banc) (“extrinsic evidence ... is less significant than the intrinsic record in determining the legally operative meaning of claim language” (internal quotation marks omitted)). In other cases, the court properly gives deference to factual findings regarding extrinsic evidence, but simply concludes that those findings are insufficient to overcome intrinsic evidence or otherwise carry the

day on the ultimate question of law.<sup>7</sup> Each of these cases turns on its own particular circumstances, and there is no broad pattern of misapplying settled law that would warrant the attention of this Court.

### C. The Panel Decision Was Correct

Even were Dow able to identify case-specific instances in which the Federal Circuit had been insufficiently deferential in practice, there would be no reason to grant review in this case because the Federal Circuit's decision was correct. In Dow's view, the panel could have held its claims indefinite "[o]nly by according *no* deference to the jury's factual findings" in this case. Pet. 15. That argument, however, overlooks the considerable flaws in the patents-in-suit. Once this Court clarified the law of indefiniteness in *Nautilus*,

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<sup>7</sup> All of the cases to which Dow objects do exactly that. In *Teva II*, the Federal Circuit found no clear error in the district court's subsidiary findings regarding expert testimony. *See Teva II*, 789 F.3d at 1341-1342. Notwithstanding those findings, the court determined that the patent specification and prosecution history compelled the conclusion that the patent claim was indefinite. *Id.* at 1342-1345. Similarly, in *Enzo Biochem Inc. v. Applera Corp.*, 780 F.3d 1149, 1154-1156 (Fed. Cir. 2015), the Federal Circuit held that the district court's factual finding based on expert testimony did not outweigh the plain terms of the claims and specification, which "clearly" supported a contrary construction. *See also CSP Techs., Inc. v. Sud-Chemie AG*, No. 2015-1124, 2016 WL 1118549, at \*4 (Fed. Cir. Mar. 22, 2016) (reviewing district court's construction *de novo* and affirming based on evidence intrinsic to the patent); *CardSoft, LLC v. VeriFone, Inc.*, 807 F.3d 1346, 1350 (Fed. Cir. 2015) (reversing district court's construction based on intrinsic evidence and precedent establishing the conventional meaning of a claim term); *Eidos Display, LLC v. AU Optronics Corp.*, 779 F.3d 1360, 1365 (Fed. Cir. 2015) (reviewing district court's construction *de novo* and reversing because "intrinsic record is clear"), *cert. denied*, 136 S. Ct. 502 (2015).

the invalidation of Dow's claims as a matter of law was a foregone conclusion.

This Court has repeatedly stressed the important public-notice function that the definiteness requirement is meant to serve. By ensuring that patents are “precise enough to afford clear notice of what is claimed,” the requirement protects the public’s ability to engage in activity without an undue risk of infringement claims. *Nautilus*, 134 S. Ct. at 2129; *see also United Carbon Co. v. Binney & Smith Co.*, 317 U.S. 228, 232 (1942) (“The inventor must inform the public during the life of the patent of the limits of the monopoly asserted, so that it may be known which features may be safely used or manufactured without a license and which may not.” (internal quotation marks omitted)). “Otherwise there would be [a] zone of uncertainty which enterprise and experimentation may enter only at the risk of infringement claims.” *Nautilus*, 134 S. Ct. 2129 (quoting *United Carbon*, 317 U.S. at 236).

The patents in dispute substantiate the Court’s concerns. In relevant part, the patents describe a material that has “a slope of strain hardening coefficient [“SHC”] greater than or equal to 1.3.” A312; A325. A key input in the formula for determining SHC is the slope of strain hardening. A307. The specification refers the reader to “FIG. 1” for guidance on “the various stages of the stress/strain curve used to calculate the slope of strain hardening.” *Id.* But this figure does not appear in the patent. Moreover, Dow used at least four distinct methods of determining where along the curve to measure the slope, and Dow’s expert identified another method during this litigation. For any given curve, each of the different methods could yield a sub-

stantially different slope. Yet Dow failed to provide guidance as to which method should be used.<sup>8</sup>

Even before *Nautilus*, the district court found the omission of the specified figure “troubling” (Pet. App. 142a). After *Nautilus*, it is an insurmountable flaw. To determine whether a given material had an SHC above or below 1.3, a person of ordinary skill in the art would need to be able to calculate the slope of strain hardening with reasonable certainty. But there are a variety of possible methods for calculating the slope, with no single established convention among them. Indeed, Dow’s expert developed the algorithm underlying his method during the course of the litigation and neither Dow nor its co-inventors had ever used the method before. See NOVA C.A. Reply Br. 15-16.

All of these problems were exacerbated by the absence of clear guidance on the units to use when determining the SHC. The facts of this case starkly illustrate the problem. Dow’s infringement analysis started with measurements in metric units. *Supra* p. 9. Had the SHC been expressed in metric units as well, like every other variable with specified units in the claim,

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<sup>8</sup> Dow suggests that NOVA objected below to the lack of guidance as to *where* to measure the slope, but not to the lack of guidance as to *how* to measure it. Pet. 12-13. That is incorrect and ignores the interrelationship between the two inquiries. NOVA clearly raised the question of whether a person of skill in the art would know with reasonable certainty which method to use. *E.g.*, NOVA C.A. Br. 49. Dow tried to sidestep this problem by characterizing all the methods as a way of measuring “maximum slope.” Dow C.A. Br. 45. But that shift in terminology did not eliminate the underlying problem for Dow, namely that the patents provided no “guidance as to which method should be used or even whether the possible universe of methods is limited to these four methods.” Pet. App. 23a.

NOVA's products clearly would not infringe. *Id.* But Dow exploited the ambiguity in its claims to manufacture infringing values by converting from metric to English units. *Supra* pp. 9-10. That is precisely the type of abuse this Court sought to eliminate in *Nautilus*. 134 S. Ct. at 2129 (noting incentive to take advantage of ambiguity).

Given the lack of clarity, skilled artisans could reasonably interpret the patent claim differently, revealing a substantial “zone of uncertainty” regarding the claimed invention. NOVA C.A. Br. 53. The patents therefore failed to “appris[e] the public” of the type of innovation “still open to them.” *Nautilus*, 134 S. Ct. at 2129 (quoting *Markman*, 517 U.S. at 373). This is not a situation in which the “inherent limitations of language” prevented clarity. *Id.* at 2128. In fact, Dow had little trouble filling in missing details in a related patent. *Supra* p. 7; A6618. For whatever reason, it failed to do the same here. As “the patent drafter ... in the best position to resolve the ambiguity,” *Nautilus*, 134 S. Ct. at 2129 (internal quotation marks omitted), it should bear the consequences of that failure, not be allowed to take advantage of it to stretch its claims so it can reap a multi-million dollar windfall.

The panel correctly concluded that the deficiencies in Dow's patents made it impossible for a person skilled in the art to understand the scope of the invention “with reasonable certainty.” *Nautilus*, 134 S. Ct. at 2124. No amount of deference to the jury's factual findings could overcome those deficiencies.

## II. THIS CASE IS A BAD VEHICLE TO CONSIDER THE QUESTION PRESENTED

### A. Dow Seeks Deference To The Implicit Factual Findings Of A Jury That Received An Erroneous Pre-*Nautilus* Jury Instruction

On top of all the other problems with Dow's petition, this case is a particularly bad vehicle to address the standard of review for yet another reason: Whatever the outcome of this appeal, a serious question would remain about whether the jury's findings in this case warranted any deference at all.

The jury rendered its verdict in June 2010. Dow highlights a portion of the jury instruction that used language closer to the formulation adopted in *Nautilus*. Pet. 10. But over NOVA's objection, the jury instruction also recited a standard taken directly from the Federal Circuit's pre-*Nautilus* case law. A3783; A3827-3828; A4082-4083; A12638-12640. That instruction required the jury to conclude that a claim is sufficiently definite "[i]f the meaning of the claim is *discernable*, ... even though the task may be formidable and even if the conclusion may be one over which reasonable persons will disagree." Pet. App. 247a; see *Exxon*, 265 F.3d at 1375.

*Nautilus* repudiated this standard—indeed, it expressly abrogated the *Exxon* case from which the jury instruction was taken. See 134 S. Ct. at 2130 n.9. Further, as examples of the language that had previously "[left] courts and the patent bar at sea without a reliable compass," the Court cited standards that are substantively identical to the jury's charge in this case—*i.e.*, that a claim is definite if its "terms can be given any reasonable meaning" or "if some meaning can be gleaned from the language." *Id.*

Given this intervening change in the law, the jury's implicit factual findings in this case were uniquely *not* entitled to deference. Although the Federal Circuit did not rely on that fact to support its decision, and the panel members reiterated in their later concurrence that they had deferred to the jury's factfinding role, the fact that the jury was applying the wrong legal framework makes this case a particularly bad vehicle for addressing the issue of deference to the jury's implied factfinding.

**B. The Court Would Have To Resolve Questions Regarding Dow's Standing Before Reaching The Question Presented**

Article III of the Constitution requires that a plaintiff asserting patent infringement “demonstrate that it held enforceable title [to the patent] at the inception of the lawsuit.” *Tyco Healthcare Grp. LP v. Ethicon Endo-Surgery, Inc.*, 587 F.3d 1375, 1378 (Fed. Cir. 2009). Without a showing of ownership, the plaintiff cannot establish standing and the court lacks jurisdiction to hear the dispute. *See Abraxis Bioscience, Inc. v. Navinta LLC*, 625 F.3d 1359, 1363-1364 (Fed. Cir. 2010); *see also Paradise Creations, Inc. v. UV Sales, Inc.*, 315 F.3d 1304, 1310 (Fed. Cir. 2003) (a plaintiff lacking “enforceable rights to the patent” at the time it filed the suit “did not have standing to assert federal jurisdiction”).

NOVA challenged Dow's standing on the ground that Dow no longer owned the patents at issue when it initiated this action in October 2005. The Federal Circuit, by a divided vote, resolved this question in favor of Dow. Pet. App. 57a-66a. But it did so only by improperly shifting the burden onto NOVA to disprove standing by requiring NOVA to overcome a “presump-

tion of title” created by the recording of an earlier assignment with the PTO. *Id.* 65a. Moreover, Judge Reyna reached the opposite conclusion in a powerful dissent that highlighted the numerous problems with the majority’s interpretation. *Id.* 77a-103a.

This Court has not addressed the standing question and would have a duty to assure itself that it can constitutionally exercise jurisdiction before reaching the question presented in this case. To do so, the Court would need to analyze the 2002 Contribution Agreement that transferred Dow’s patents to its holding company and extensive extrinsic evidence. *See* Pet. App. 86a. Even had Dow’s petition presented an important legal question, the Court should await a more appropriate vehicle for review.

**CONCLUSION**

Dow's petition for a writ of certiorari should be denied.

Respectfully submitted,

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APRIL 2016