

POST-*KSR* OBVIOUSNESS: THE EFFECTS OF THE
PATENT AND TRADEMARK OFFICE'S EXEMPLARY
RATIONALES ON PATENT LITIGATION

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INTRODUCTION

The 2007 decision of *KSR International Co. v. Teleflex Inc.*¹ marked the first time the Supreme Court substantially addressed the issue of obviousness in patent law since 1976.² There is immense concern and uncertainty regarding how the decision generally affects patent litigation and how it specifically affects the obviousness standard in patent practice.

The concept of non-obviousness, one of the conditions for a valid patent,³ provides that an invention is not patentable when “the subject matter [of the invention] as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art”⁴ In *Graham v. John Deere Co.*,⁵ the Supreme Court established a framework for interpreting the statutory language of the obviousness standard.⁶ However, shortly after its creation,⁷ the Federal Circuit opted for a more objective standard for obviousness and held that “teachings of [prior art] references can be combined *only* if there is some suggestion or incentive to do so.”⁸ This standard further evolved into the “TSM” test, which holds that “obvi-

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¹ 550 U.S. 398 (2007).

² The last cases were *Sakraida v. Ag Pro, Inc.*, 425 U.S. 273 (1976) and *Dann v. Johnston*, 425 U.S. 219 (1976).

³ The invention must also be within one of the four categories of statutorily patentable subject matter. 35 U.S.C. § 101 (2000). Also, the invention must be new. 35 U.S.C. § 101 (2002).

⁴ 35 U.S.C. § 103(a) (2004).

⁵ 383 U.S. 1 (1966).

⁶ *KSR Int'l*, 550 U.S. at 406-07 (explaining the history of the *Graham* factors).

⁷ Congress created the Court of Appeals for the Federal Circuit in 1982 with exclusive appellate jurisdiction over patent cases, and with the creation of the Federal Circuit, the Supreme Court has not decided a case substantially affecting obviousness since *Sakraida*. See John F. Duffy, *The Festo Decision and the Return of the Supreme Court to the Bar of Patents*, 2002 SUP. CT. REV. 273, 340-41.

⁸ Jon R. Trembath, *KSR International Co. v. Teleflex Inc.—Obviousness Revisited*, 37 COLO. LAW. 35, 36 (2008) (quoting *ASC Hosp. Sys. v. Montefiore Hosp.*, 732 F.2d 1572, 1577 (Fed. Cir. 1984)).

ousness [can] be found only if some ‘teaching, suggestion or motivation’ to combine the prior art references could be shown in the prior art.”⁹ This is the standard the Patent and Trademark Office (“PTO”) and litigators used until *KSR*.¹⁰

The Supreme Court began the opinion in *KSR* by rejecting a rigid application of the TSM test employed by the Federal Circuit.¹¹ The Court reasoned that such a rigid application departed from Supreme Court precedent, which focused on predictability of the claimed invention and emphasized a flexible test.¹² The Court then went on to state, however, that the rationale behind the TSM test may provide helpful insight into the question of obviousness, but that such insights used as rigid and mandatory formulas are inconsistent with precedent.¹³ Reaffirming the standard articulated in *Graham*, the Court asserted that “for over a half century, the Court has held that a ‘patent for a combination which only unites old elements with no change in their respective functions . . . obviously withdraws what is already known into the field of its monopoly and diminishes the resources available to skillful men.’”¹⁴ Stating that this is the principle underlying the standard of obviousness, the Court then discussed examples illustrating the application of the principle.¹⁵

Following *KSR*, the PTO removed the requirement of using the TSM test in obviousness-based rejections.¹⁶ Based on its interpretation of the Court’s decision in *KSR*, the PTO issued examination guidelines for determining obviousness under 35 U.S.C. § 103.¹⁷ A non-rigid form of the TSM test became one of at least seven exemplary rationales for making obviousness-based rejections. The PTO codified these rationales in the examination guidelines as:

- (1) “Combining prior art elements according to known methods to yield predictable results;”
- (2) “Simple substitution of one known element for another to obtain predictable results;”

⁹ *Id.* at 36.

¹⁰ *See id.* at 35-36.

¹¹ *KSR Int’l*, 550 U.S. at 415-16.

¹² *Id.*

¹³ *Id.* at 419.

¹⁴ *Id.* at 416 (quoting *Great Atl. & Pac. Tea Co. v. Supermarket Equip. Corp.*, 340 U.S. 147, 152 (1950)).

¹⁵ *Id.* at 416-17.

¹⁶ *See* Nicholas Angelocci, *KSR v. Teleflex: Obvious Ambiguity*, 18 DEPAUL J. ART, TECH. & INTELL. PROP. L. 293, 317 (2008).

¹⁷ U.S. PATENT AND TRADEMARK OFFICE, MANUAL OF PATENT EXAMINING PROCEDURE § 2143 (8th ed., revised July 2008) [hereinafter MPEP], available at <http://www.uspto.gov/web/offices/pac/mpep/mpep.htm>.

(3) “Use of known technique to improve similar devices (methods, or products) in the same way;”

(4) “Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;”

(5) ““Obvious to try”—choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;”

(6) “Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations are predictable to one of ordinary skill in the art;”

(7) “Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention;” and any other rationales to support a conclusion of obviousness.¹⁸

This Comment examines the effect of the PTO’s seven exemplary rationales on patent litigation, and analyzes 105 of the most prominent and recent cases where the post-*KSR* standard of obviousness is discussed in the most detail. Part I briefly describes the basic factual inquiries of obviousness and also the emergence of the TSM standard in the Federal Circuit. Part II explains the Supreme Court’s decision in *KSR* and focuses specifically on the examples the Court used to illustrate the application of obviousness. Part III analyzes 105 of the most influential and recent post-*KSR* cases and provides a normative analysis of post-*KSR* obviousness jurisprudence. Part IV synthesizes the analysis of the seven rationales from Part III to determine how *KSR* changed obviousness law and recommends a clearer post-*KSR* obviousness standard for courts to apply in patent litigation. This Comment suggests that courts should clarify the obviousness standard by combining the seven PTO exemplary rationales into the single flexible standard that an invention is obvious when a person of ordinary skill in the art at the time of the invention could implement a predictable variation of known elements, with the *Graham* factual inquiries and the TSM test informing the analysis of the term “predictable.”

I. BACKGROUND

This Section presents the obviousness standard as it evolved from the *Graham* basic factual inquiries into the TSM test.

¹⁸ *Id.*; see also *KSR Int’l*, 550 U.S. at 414-18.

A. *The Basic Factual Inquiries of Obviousness*

This Part presents the basic factual inquiries of obviousness as articulated in *Graham v. John Deere Co.*¹⁹ The basic factual inquiries are important to the obviousness analysis in its current form because they ensure that courts make a case-by-case evaluation.

The Supreme Court interpreted the current obviousness standard codified in the Patent Act of 1952²⁰ for the first time in *Graham*, where it held that obviousness is a question of law, decided by the evaluation of basic factual inquiries.²¹ The basic factual inquiries are primarily decided at the district court level, and the obviousness standard is applied on a case-by-case basis.²² While reversal of a lower court's holding pertaining to the obviousness issue is more often based on error in applying the law to the facts than on the factual findings being clearly erroneous, affirmance of a lower court's decision is generally based on the ground that the findings of fact were not clearly erroneous and support the legal conclusion reached.²³ The factual inquiries (“*Graham* factors”) dictating the determination of obviousness include:

- (1) determining the scope and content of the prior art;
- (2) ascertaining the differences between the prior art and the claims at issue;
- (3) resolving the level of ordinary skill in the pertinent art; and
- (4) evaluating the objective evidence of secondary determinations.²⁴

¹⁹ 383 U.S. 1 (1966).

²⁰ 35 U.S.C. § 103 (2008) (“A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.”). § 103(a).

²¹ *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966).

²² See *Metaframe Corp. v. Biozonics Corp.*, 352 F. Supp. 1006, 1010 (D. Mass. 1972).

²³ See, e.g., *Tokyo Keiso Co. v. SMC Corp.*, 533 F. Supp. 2d 1047, 1054 (C.D. Cal. 2007) (noting that the appellate court makes an independent judgment on ultimate conclusion of obviousness), *aff'd*, 307 F. App'x 446 (Fed. Cir. 2009); *CMI Corp. v. Metro. Enters., Inc.*, 534 F.2d 874, 880 (10th Cir. 1976) (stating that the court reviews findings relative to obviousness to determine whether findings are “supported by the record as a whole, or are clearly erroneous, although the ultimate question of patent validity is . . . one of law”).

²⁴ *Graham*, 383 U.S. at 17.

1. Determining the Scope and Content of the Prior Art

The *Graham* factors can be analyzed in any order. However, before a court can ascertain the differences between the prior art and the claims at issue, the court must determine the scope and content of the prior art as a whole. Determining the scope and content of the prior art involves finding or evaluating relevant prior art.²⁵ First, a court must decide what is relevant prior art. To determine what is relevant prior art, a court should determine the scope of the claimed invention and the nature of the problem the inventor sought to solve.²⁶ The scope of the claimed invention should be determined by reading the claims with the “broadest reasonable construction ‘in light of the specification.’”²⁷ The prior art is then located by comparing prior art references to the claimed invention interpreted in this manner.²⁸ For the prior art to be relevant, its scope must be analogous to the claimed invention.²⁹ The relevant prior art should include art that is “reasonably pertinent to the particular problem with which the invention was involved.”³⁰ References that are remote from the scope of the claimed invention are not sufficient to show that the invention would have been obvious.³¹

Next, after locating the relevant prior art, the court should evaluate the relevant prior art to determine the scope of the prior art. All of the relevant prior art as a whole define the scope of the prior art, except where a prior art reference teaches away from the claimed invention. Prior art teaches away from an invention “when it suggests that the developments flowing from its disclosures are unlikely to produce the objective of the applicant’s invention.”³² In such a case, the scope of the prior art is narrowed accordingly. Conversely, analogous prior art broadens the scope of the prior art. “A prior art reference is analogous if it is from the same ‘field of endeavor,’ even if it addresses a different problem, or, if not within the same field, if

²⁵ *Id.* at 30-31.

²⁶ *See id.* at 34-35 (holding that a restrictive view of the applicable prior art was not justified and that where the problems confronting the patentee are closely related to the references, the references were at the very least pertinent).

²⁷ *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005) (quoting *In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004)). For a discussion of the standards of claim construction, see MPEP, *supra* note 17, § 2111.

²⁸ *See Tokyo Keiso*, 533 F. Supp. 2d at 1054.

²⁹ *Id.* (citing *In re Clay*, 966 F.2d 656, 658-59 (Fed. Cir. 1992)).

³⁰ *Ruiz v. A.B. Chance Co.*, 234 F.3d 654, 664 (Fed. Cir. 2000) (quoting *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1535 (Fed. Cir. 1983)).

³¹ *See, e.g., Hunt Indus., Inc. v. Fibra Boats, Inc.*, 299 F. Supp. 1145, 1148 (S.D. Fla. 1969) (finding that five patents were not pertinent for a variety of reasons, but primarily because their function was entirely different); *Mott Corp. v. Sunflower Indus., Inc.*, 314 F.2d 872, 880 (10th Cir. 1963) (holding that the patent could not be said to teach any solution for the problem as disclosed in the patent in suit).

³² *Syntex (U.S.A.), LLC v. Apotex, Inc.*, 407 F.3d 1371, 1380 (Fed. Cir. 2005).

the reference is ‘reasonably pertinent to the particular problem with which the inventor is involved.’”³³

2. Ascertaining the Differences Between the Claimed Invention and the Prior Art

The “ascertaining the differences between the claimed invention and the prior art” *Graham* factor is arguably the most important, since it is generally the stage where the discussion involving the seven exemplary rationales comes into play.³⁴ When ascertaining the differences between the claimed invention and the prior art, a court should begin with the claim language of the invention in dispute.³⁵ Claim construction involves interpreting the claim language and determining the scope of the claimed invention.³⁶ Claim construction is a question of law.³⁷ In some cases, no interpretation is necessary, and the plain, ordinary language of the claim is sufficient.³⁸ Determination of the scope of the claimed invention requires reading the claims with the broadest reasonable interpretation consistent with the specification.³⁹ However, when ascertaining the differences between the claimed invention and the prior art, courts can neither broaden nor narrow the claims to something different than what the language sets forth.⁴⁰

To ascertain the differences between the claimed invention and the prior art, a court should then consider both the invention in dispute and the prior art as a whole to determine if there are meaningful differences between the invention’s claims and the prior art.⁴¹ When considering prior art as a whole, portions that teach away⁴² from the claimed invention must be considered, and hindsight bias in assembling the prior art in the manner of the invention is impermissible.⁴³ In determining the differences between the

³³ *In re Conte*, 36 F. App’x 446, 450 (Fed. Cir. 2002) (quoting *Clay*, 966 F.2d at 659).

³⁴ *See infra* Part III.

³⁵ *Tokyo Keiso Co. v. SMC Corp.*, 533 F. Supp. 2d 1047, 1056 (C.D. Cal. 2007), *aff’d*, 307 F. App’x 446 (Fed. Cir. 2009).

³⁶ *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005).

³⁷ *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995).

³⁸ *See Phillips*, 415 F.3d at 1312-13.

³⁹ *See id.* at 1316.

⁴⁰ *Autogiro Co. v. United States*, 384 F.2d 391, 395-96 (Ct. Cl. 1967).

⁴¹ *See Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1537 (Fed. Cir. 1983).

⁴² For example, substantial uncertainty about the effectiveness of the prior art and the compatibility of the known elements supports a conclusion that the prior art teaches away. *See, e.g.*, *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F. Supp. 2d 1016, 1033-34 (S.D. Cal. 2008). However, “the prior art’s mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives because such disclosure does not criticize, discredit, or otherwise discourage the solution claimed” MPEP, *supra* note 17, § 2141.02 (quoting *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004)) (internal quotation marks omitted).

⁴³ *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1554-55 (Fed. Cir. 1983).

prior art and the claims, “the question . . . is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious.”⁴⁴ These differences are evaluated from the perspective of a person with ordinary skill in the pertinent art.⁴⁵

3. Resolving the Level of Ordinary Skill in the Pertinent Art

Since passage of the Patent Act of 1952, the United States Supreme Court has not explicitly announced who a person with ordinary skill in the pertinent art is, or what constitutes ordinary skill in the art. However, implicit in the decisions of the Supreme Court since *Graham* are tools with which the level of ordinary skill can be resolved, and these decisions also suggest that “one of ordinary skill” is a hypothetical “reasonable man specialized in the pertinent art.”⁴⁶ The level of this reasonable man’s skill may be inferred by reviewing the prior art.⁴⁷

The Federal Circuit cases provide further guidance for the considerations necessary for determining the level of ordinary skill in the art and emphasize the importance of maintaining objectivity when resolving the level of ordinary skill in the art.⁴⁸ One of ordinary skill in the art must be evaluated at the time the invention was made and not with the use of hindsight.⁴⁹ A judge, a layman, those skilled in remote arts, and geniuses in the art at hand are not representative of one of ordinary skill in the art.⁵⁰ Patent Office Personnel should not define the level of ordinary skill in the art by education and credentials alone. Instead, one of ordinary skill would possess the capability of understanding the technical principles applicable to the pertinent art.⁵¹

However, PTO Personnel may constitute persons of ordinary skill in the art, as they are of scientific competence in the fields in which they

⁴⁴ MPEP, *supra* note 17, § 2141.02 (citing *Stratoflex*, 713 F.2d 1530).

⁴⁵ See *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966); *Ruiz v. A.B. Chance Co.*, 234 F.3d 654, 666 (Fed. Cir. 2000).

⁴⁶ See *Anderson’s-Black Rock, Inc. v. Pavement Salvage Co.*, 396 U.S. 57, 60 (1969) (concluding that “the combination was reasonably obvious” to one with ordinary skill in the art); *United States v. Adams*, 383 U.S. 39, 51-52 (1966) (evaluating obviousness from the perspective of “a person reasonably skilled in the prior art”); see also *Graham*, 383 U.S. at 37 (stating that an invention is obvious if it is “obvious to a person reasonably skilled” in the art).

⁴⁷ See *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (“The person of ordinary skill in the art [for the purpose of obviousness inquiry] is a hypothetical person who is presumed to know the relevant prior art.”).

⁴⁸ See *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 718 (Fed. Cir. 1991).

⁴⁹ See *Envtl. Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693 (Fed. Cir. 1983).

⁵⁰ See *id.*

⁵¹ *Ex parte Hiyamizu*, 10 U.S.P.Q.2d 1393, 1394 (Bd. Pat. App. & Inter. 1988); MPEP, *supra* note 17, § 2143.03.

work.⁵² Thus, “[a]bsent legal error or contrary factual evidence, those findings can establish a prima facie case of obviousness.”⁵³

Additionally, the Federal Circuit articulated factors to aid in the determination of the level of ordinary skill in the art.⁵⁴ Not all the factors may apply to a case, and one or more factors may predominate.⁵⁵ The factors include:

- (1) the type of problems encountered in the art;
- (2) the prior art solutions to those problems;
- (3) the rapidity with which innovations are made;
- (4) the sophistication of the technology;
- (5) the education level of the inventor; and
- (6) the educational level of active workers in the field.⁵⁶

After resolving the level of one of ordinary skill in the art, the court evaluates whether, in light of the other *Graham* factors, such a person would find the claims as a whole obvious. The court then turns to any objective evidence of secondary considerations.

4. Evaluating the Objective Evidence of Secondary Considerations

Courts may utilize the objective evidence of secondary considerations as indicia of obviousness or non-obviousness. The weight of any objective evidence is dependent on the facts of the case, but is not dispositive of the issue of obviousness.⁵⁷ Secondary evidence alone will not establish the validity of a patent and is not controlling as a matter of law.⁵⁸ However, such evidence may tip the scale on the issue of obviousness.⁵⁹ Objective evidence of secondary considerations focuses upon economic and motivational issues rather than technical issues, and may include evidence of: commercial success of the invention in the marketplace; long-felt but unsolved needs in the industry to solve the problem addressed by the invention; the failure of oth-

⁵² See *In re Berg*, 320 F.3d 1310, 1315 (Fed. Cir. 2003).

⁵³ *Id.* Since PTO Personnel are responsible for making factual findings and legal determinations to which courts will defer absent legal error or contrary factual findings, the use of the seven rationales impacts patent litigation. See *infra* notes 165-69 and accompanying text.

⁵⁴ See, e.g., *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995); *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 719 (Fed. Cir. 1991); *Envtl. Designs*, 713 F.2d at 696.

⁵⁵ *GPAC*, 57 F.3d at 1579 (citing *Custom Accessories, Inc. v. Jeffrey-Allan Indus., Inc.*, 807 F.2d 955, 962-63 (Fed. Cir. 1986)).

⁵⁶ See, e.g., *id.*; *Ryko*, 950 F.2d at 719; *Custom Accessories*, 807 F.2d at 962; *Envtl. Designs*, 713 F.2d at 696.

⁵⁷ See *Graham v. John Deere Co.*, 383 U.S. 1, 17-19 (1966).

⁵⁸ See *id.*

⁵⁹ See *id.*

ers to solve the problem addressed by the invention; unexpected results or properties achieved by the invention; copying of the invention by a third party or the party challenging the patent; licenses that reveal industry respect for the invention; whether there was simultaneous invention by a third party or the party challenging the patent; and skepticism of skilled artisans regarding whether the invention would work prior to the patent.⁶⁰

The *Graham* court emphasized that there was a difference between the obviousness standards applied by the PTO and the obviousness standard applied by the courts.⁶¹ The Court believed that the factual inquiries would “not only expedite disposition but bring about a closer concurrence between administrative and judicial precedent.”⁶² However, shortly after its creation, the Federal Circuit further expanded, and in the opinion of some departed from, this precedent by adopting the TSM test.⁶³

B. *The Evolution of the TSM Test in the Federal Circuit*

This Part examines the emergence of the TSM test in the Federal Circuit and its application.

Congress formed the Federal Circuit to bring uniformity to patent law, to “restore the incentive for technological innovation,” and to “foster technological growth.”⁶⁴ With this in mind, the Federal Circuit developed its own structure for obviousness analysis just two years after its creation.⁶⁵

The Federal Circuit’s conclusion that prior art references can be combined *only* if there is some suggestion or incentive to do so provided the basis for the new standard.⁶⁶ Later referred to as the TSM test, the Federal Circuit’s standard evolved into a requirement that a claim is obvious only if the prior art explicitly or inherently discloses all the limitations of the claim and only if some teaching, suggestion or motivation⁶⁷ to combine the prior art references could be shown in the prior art.⁶⁸

⁶⁰ *Id.*; *Insight Tech. Inc. v. SureFire, LLC*, 447 F. Supp. 2d 120, 133-34 (D.N.H. 2006); *Amgen, Inc. v. Hoechst Marion Roussel, Inc.*, 339 F. Supp. 2d 202, 315 (D. Mass. 2004), *vacated*, 457 F.3d 1293 (Fed. Cir. 2006).

⁶¹ *Graham*, 383 U.S. at 18-19.

⁶² *Id.*

⁶³ *See Trembath, supra* note 8, at 36.

⁶⁴ *Id.*

⁶⁵ *See id.*

⁶⁶ *See, e.g., ACS Hosp. Sys., Inc. v. Montefiore Hosp.* 732 F.2d 1572, 1577 (Fed. Cir. 1984) (“Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination.”).

⁶⁷ Under the obviousness standard, there must be a reason to make the specific combination of prior art references in the manner of the invention, which can be a teaching, suggestion, or motivation from the prior art. *See, e.g., id.*

⁶⁸ *See, e.g., Al-Site Corp. v. VSI Int’l, Inc.*, 174 F.3d 1308, 1323-24 (Fed. Cir. 1999).

Under the TSM analysis, the first step requires the party challenging patentability to prove a prima facie case of invalidity.⁶⁹ “The prima facie case is a procedural tool of patent examination, allocating the burdens of going forward as between [the party challenging the patent] and the [inventor].”⁷⁰ After the party challenging patentability makes a prima facie case of obviousness, the inventor can rebut this case by providing evidence of secondary considerations to demonstrate non-obviousness.⁷¹ When such evidence is provided, obviousness is determined under the totality of circumstances.⁷² The Federal Circuit’s TSM test applies at the initial prima facie case step.⁷³ To establish a prima facie case of obviousness, the party challenging the patent must prove a “teaching,” “suggestion,” or “motivation” to modify prior art references into the claimed invention.⁷⁴

One of the main principles behind the TSM test is to protect against hindsight.⁷⁵ The problem that accompanies hindsight is that the genius of invention is often a combination of known elements that in hindsight seems preordained.⁷⁶ Thus, in an obviousness analysis, courts should not consider what the claimed invention teaches and should not use the claimed invention as a “road map for selecting and combining items of prior art.”⁷⁷

As this test became more prevalent, the test generally became more rigidly applied by both the courts and the PTO in a manner inconsistent with Supreme Court obviousness precedent.⁷⁸ While the TSM test achieved uniformity, the TSM test also gained objectivity in that the teaching, suggestion, or motivation had to be very explicit and the prior art had to describe the invention exactly.⁷⁹ This allowed even seemingly trivial developments to be patentable.⁸⁰

In 2006, the Supreme Court granted certiorari in *KSR* on the question of “[w]hether the Federal Circuit has erred in holding that a claimed invention cannot be held ‘obvious,’ and thus unpatentable under 35 U.S.C. §

⁶⁹ See, e.g., 35 U.S.C. § 282 (2006) (stating that a patent shall be presumed valid and the “burden of establishing invalidity of a patent or any claim thereof shall rest on the party asserting such invalidity”); *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992) (stating that the Examiner bears the initial burden of establishing a prima facie case of obviousness).

⁷⁰ *Oetiker*, 977 F.2d at 1445 (citing *In re Spada*, 911 F.2d 705, 707 n.3 (Fed. Cir. 1990)).

⁷¹ See, e.g., *In re Geisler*, 116 F.3d 1465, 1469-70 (Fed. Cir. 1997); *In re Piasecki*, 745 F.2d 1468, 1475 (Fed. Cir. 1984); *In re Wright*, 569 F.2d 1124, 1127 (C.C.P.A. 1977).

⁷² See, e.g., *Oetiker*, 977 F.2d at 1445.

⁷³ *Id.*

⁷⁴ *Al-Site Corp. v. VSI Int’l, Inc.* 174 F.3d 1308, 1323-24 (Fed. Cir. 1999).

⁷⁵ See *ATD Corp. v. Lydall, Inc.*, 159 F.3d 534, 546 (Fed. Cir. 1998) (stating that the Federal Circuit holds that the obviousness determination cannot be “based on the hindsight combination of components selectively culled from the prior art to fit the parameters of the patented invention”).

⁷⁶ See *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1138 (Fed. Cir. 1985).

⁷⁷ *Alloc, Inc. v. Pergo, Inc.*, No. 02-C-736, 2008 WL 1968301, at *10 (E.D. Wis. May 1, 2008).

⁷⁸ See Trembath, *supra* note 8, at 36.

⁷⁹ See Duffy, *supra* note 7, at 340-41.

⁸⁰ See *id.*

103(a), in the absence of some proven “teaching, suggestion, or motivation” that would have led a person of ordinary skill in the art to combine the relevant prior art teachings in the manner claimed.”⁸¹

II. *KSR INTERNATIONAL CO. V. TELEFLEX INC.*: THE OBVIOUSNESS STANDARD IS NOT A RIGID, FORMALISTIC TEST

This Section examines the Court’s decision in *KSR* to determine how, if at all, the decision changed the obviousness standard in post-*KSR* litigation. The Section presents the case history and ultimate Supreme Court decision to provide background to how the courts apply the decision in post-*KSR* litigation.

A. *Facts*

The dispute in *KSR* involved technology related to vehicle pedal systems.⁸² Plaintiff Teleflex alleged that two of defendant KSR’s adjustable pedal systems infringed on claim 4 of the Engelgau Patent to Teleflex.⁸³ KSR argued that its adjustable pedal assemblies did not infringe on the Engelgau Patent, and further, that the Engelgau Patent was invalid because “it would have been obvious to someone with ordinary skill in the art of designing pedal systems to combine an adjustable pedal system with an electronic pedal position sensor to work with electronically-controlled engines increasingly being used in motor vehicles.”⁸⁴

After KSR invented an adjustable pedal system for cars with cable-controlled throttles and obtained a patent for the design (“976”), General Motors Corporation (“GMC”) chose KSR to supply the invention for the Chevrolet model and other trucks using computer-controlled throttles.⁸⁵ To make the ‘976 adjustable pedal assembly compatible with the trucks, KSR added a modular sensor to its design, which was an off-the-shelf pedal position sensor that had previously been used by GMC.⁸⁶

Teleflex held the exclusive license for the Engelgau Patent.⁸⁷ Claim 4 of the Engelgau Patent discloses a position-adjustable pedal assembly with an electronic pedal position sensor attached at a fixed pivot point.⁸⁸ After

⁸¹ Petition for Writ of Certiorari, *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007) (No. 04-1350), 2005 WL 835463.

⁸² *Teleflex Inc. v. KSR Int’l Co.*, 298 F. Supp. 2d 581, 584 (E.D. Mich. 2003).

⁸³ *Id.*

⁸⁴ *Id.* at 585.

⁸⁵ *Id.* at 584.

⁸⁶ *Id.* at 585.

⁸⁷ *Id.*

⁸⁸ *Teleflex*, 298 F. Supp. 2d at 586-87.

rejecting a similar, broader claim, the PTO allowed claim 4 because it included the limitation of a fixed pivot position, which distinguished the design from the prior art (the Redding Patent⁸⁹ and the Smith Patent).⁹⁰ KSR cited references that it asserted were analogous to the Engelgau Patent as prior art, including the Asano Patent.⁹¹ However, the Asano Patent was not cited during the Engelgau Patent's prosecution, and during prosecution, the PTO did not have another reference disclosing an adjustable pedal with a fixed pivot point.⁹²

Teleflex sued KSR for infringement upon learning of the use of KSR's design for GMC.⁹³ Teleflex asserted that KSR's pedal system infringed on claim 4 of the Engelgau Patent.⁹⁴ KSR moved for summary judgment on the invalidity of claim 4 based on obviousness under 35 U.S.C. § 103.⁹⁵

B. *The District Court's Ruling*

The district court granted KSR summary judgment after analyzing the *Graham* factual inquiries⁹⁶ to determine whether under summary judgment standards KSR had demonstrated that claim 4 of the Engelgau Patent was obvious.⁹⁷ The district court found little difference between the prior art's teachings and claim 4.⁹⁸ Specifically, the Asano Patent taught all the features of claim 4 except using a sensor to detect the pedal's position and transmit it to a computer controlling the throttle.⁹⁹ However, the district court found these features in the other prior art references.¹⁰⁰

The district court based its finding of a suggestion or motivation to combine largely on the nature of the problem to be solved by the Engelgau Patent.¹⁰¹ The "solution to the problem required an electronic control that does not move with the pedal arm while the pedal arm is being adjusted by the driver."¹⁰² The district court then concluded that knowledge of the limi-

⁸⁹ U.S. Patent No. 5,460,061 (filed Sept. 17, 1993).

⁹⁰ *Teleflex*, 298 F. Supp. 2d at 585.

⁹¹ *Id.* at 588.

⁹² *Id.* at 589.

⁹³ *Id.* at 585.

⁹⁴ *Id.*

⁹⁵ *Id.*

⁹⁶ *Teleflex*, 298 F. Supp. 2d at 587, 590, 591, 595. The *Graham* factors are: determining the scope and content of the prior art; ascertaining the differences between the prior art and the claims at issue; resolving the level of ordinary skill in the pertinent art; and evaluating the objective evidence of secondary determinations. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966).

⁹⁷ *Teleflex*, 298 F. Supp. 2d at 596.

⁹⁸ *Id.* at 592.

⁹⁹ *Id.*

¹⁰⁰ *Id.*

¹⁰¹ *Id.* at 593-94.

¹⁰² *Id.* at 594.

tations in the prior art would motivate a person with ordinary skill in the art to combine the two references.¹⁰³ Additionally, the district court stated that the Smith Patent provided “express teachings as to the desirability of attaching an electronic control to a support member in order to avoid the wire failure problems” to be solved by the Engelgau Patent.¹⁰⁴ Finally, the district court relied on the prosecution history of the Engelgau Patent to support its finding of a motivation to combine the Asano Patent and the prior art references.¹⁰⁵ During prosecution, the Examiner initially rejected the Engelgau Patent as obvious in view of the teachings of the Redding and Smith Patents, stating that the Redding Patent disclosed the assembly structure of claim 4 of the Engelgau Patent and that Smith disclosed the attached electronic control.¹⁰⁶ The rejection was overcome by narrowing the claim with the limitation that the position of the assembly’s pedal pivot remains constant during adjustment of the assembly.¹⁰⁷ The Examiner found the claim incorporating this limitation patentable over the prior art.¹⁰⁸

The Examiner did not cite the Asano Patent during the prosecution of the Engelgau Patent.¹⁰⁹ However, the Asano Patent discloses an assembly where the position of the pivot remains constant during adjustment of the pedal assembly.¹¹⁰ Accordingly, the district court held that claim 4 of the Engelgau Patent was obvious in view of the Asano Patent and the Smith Patent because had the Asano Patent been cited during the prosecution of the Engelgau Patent, the Examiner would have rejected claim 4.¹¹¹ Teleflex appealed the district court’s decision granting summary judgment in favor of KSR.¹¹²

C. *The Federal Circuit’s Ruling and Application of the TSM Test*

The Federal Circuit reversed the district court’s decision, asserting that the district court applied an incomplete TSM test.¹¹³ Specifically, the Federal Circuit reasoned that the district court failed to make “finding[s] as to the specific understanding or principle within the knowledge of a skilled artisan that would have motivated one with no knowledge of [the] invention

¹⁰³ *Teleflex*, 298 F. Supp. 2d at 594.

¹⁰⁴ *Id.*

¹⁰⁵ *Id.* at 595.

¹⁰⁶ *Id.*

¹⁰⁷ *Id.*

¹⁰⁸ *Id.*

¹⁰⁹ *Teleflex*, 298 F. Supp. 2d at 595.

¹¹⁰ *Id.*

¹¹¹ *Id.*

¹¹² *Teleflex, Inc. v. KSR Int’l Co.*, 119 F. App’x 282, 288 (Fed. Cir. 2005), *rev’d*, 550 U.S. 398 (2007).

¹¹³ *Id.*

to make the combination in the manner claimed.”¹¹⁴ The Federal Circuit argued that the district court made no “specific findings as to a suggestion or motivation to attach an electronic control to the support bracket of the Asano assembly.”¹¹⁵

In discussing the TSM test, the Federal Circuit stated that a teaching, suggestion, or motivation to combine prior art references may be found explicitly or implicitly:

1) [I]n the prior art references themselves; 2) in the knowledge of those of ordinary skill in the art that certain references, or disclosures in those references, are of special interest or importance in the field; or 3) from the nature of the problem to be solved, leading inventors to look to references relating to possible solutions to that problem.¹¹⁶

The Federal Circuit acknowledged that there must be a “rigorous” application of the TSM test to protect against hindsight bias.¹¹⁷

The Federal Circuit further stated that the district court’s emphasis on the nature of the problem to be solved was insufficient because the TSM test requires that “the nature of the problem to be solved be such that it would have led a person of ordinary skill in the art to combine the prior art teachings in the particular manner claimed.”¹¹⁸ Under the Federal Circuit’s application of the TSM test in *KSR*, the nature of the problem to be solved provides a suggestion or motivation to combine prior art references only when the prior art addresses the precise problem that the inventor was trying to solve.¹¹⁹ The Federal Circuit thus held that because the prior art did not address the precise problem that the Engelgau Patent addressed, there was no evidence that there was specific motivation for one of ordinary skill in the art to attach an electronic control to the support bracket of the Asano assembly.¹²⁰

The Federal Circuit reasoned that, when the TSM test is correctly applied, “[t]he issue is not whether a person of skill in the art had a motivation to combine the electronic control with an adjustable pedal assembly, but whether a person skilled in the art had a motivation to attach the electronic

¹¹⁴ *Id.* (quoting *In re Kotzab*, 217 F.3d 1365, 1371 (Fed. Cir. 2000)) (internal quotation marks omitted).

¹¹⁵ *Id.*

¹¹⁶ *Id.* at 285 (quoting *Ruiz v. A.B. Chance Co.*, 234 F.3d 654, 665 (Fed. Cir. 2000)) (internal quotation marks omitted).

¹¹⁷ *Id.* (“Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references.” (quoting *In re Dembiczak*, 175 F.3d 994, 999 (Fed. Cir. 1999)) (internal quotation marks omitted)).

¹¹⁸ *Teleflex*, 119 F. App’x at 288 (citing *In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998)).

¹¹⁹ *Id.* (citing *Ruiz*, 234 F.3d at 665).

¹²⁰ *Id.*

control to the support bracket of the pedal assembly.”¹²¹ The Federal Circuit concluded that this was a genuine issue of material fact that precluded summary judgment.¹²²

D. *The Supreme Court's Opinion and Rejection of Rigid, Formalistic Tests*

The Supreme Court began its *KSR* opinion by declaring that the Federal Circuit's application of the TSM test approached obviousness in a rigid manner that was incompatible with section 103 of the Patent Act and departed from Supreme Court precedent.¹²³ After examining its own precedent and specifically applying the *Graham* factual inquiries, the Supreme Court found that *KSR* proved by clear and convincing evidence that “mounting a modular sensor on a fixed pivot point of the Asano pedal was a design step well within the grasp of a person of ordinary skill in the relevant art.”¹²⁴ The Court reversed the Federal Circuit and held that the Engelgau Patent was obvious.¹²⁵

The Court noted that the rigid application of the TSM test at the Federal Circuit level in cases similar to *KSR* resulted in the inappropriate requirement that the prior art must address the precise problem that the inventor was trying to solve to render an invention obvious.¹²⁶ Instead, the Supreme Court asserted that any need or problem can provide a reason for combining the elements in the manner claimed.¹²⁷

The proper obviousness standard is expansive and flexible.¹²⁸ The Court extended its flexible approach, and asserted that courts should use common sense in addressing a question of obviousness under § 103.¹²⁹ “Common sense teaches . . . that familiar items may have obvious uses beyond their primary purposes, and in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle.”¹³⁰

¹²¹ *Id.* at 289.

¹²² *Id.*

¹²³ *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 415 (2007) (“We begin by rejecting the rigid approach of the Court of Appeals . . . [Supreme Court] cases have set forth an expansive and flexible approach inconsistent with the way the Court of Appeals applied its TSM test here.”).

¹²⁴ *Id.* at 427.

¹²⁵ *Id.* at 427-28.

¹²⁶ *Id.* at 420.

¹²⁷ *Id.*

¹²⁸ *Id.* at 415.

¹²⁹ *KSR Int'l*, 550 U.S. at 420-21.

¹³⁰ *Id.* at 420.

Finally, the Court rejected the Federal Circuit's statement that a combination of elements that was obvious to try does not constitute obviousness.¹³¹ The Court asserted that

when there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show that it was obvious¹³²

The Court then revisited Supreme Court precedent to establish the correct obviousness standard.¹³³ Reestablishing *Graham* as the proper standard, the Court declared that the question of obviousness is objective.¹³⁴ The background of the *Graham* factual inquiries informs the legal determination of the obviousness or non-obviousness of the subject matter of the patent.¹³⁵

The Court provided a number of examples of what may qualify as obvious:

(1) "The combination of familiar elements according to known methods . . . when it does no more than yield predictable results;"¹³⁶

(2) "When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or [in another];"¹³⁷

(3) When "a person of ordinary skill in the art can implement a predictable variation, and would see the benefit of doing so;"¹³⁸

(4) Where "a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way;"¹³⁹

(5) Where "the improvement is [merely] the predictable use of prior art elements according to their established functions;"¹⁴⁰

(6) When the invention is "the simple substitution of one known element for another;"¹⁴¹ or

(7) "[T]he mere application of a known technique to a piece of prior art ready for the improvement."¹⁴²

¹³¹ *Id.* at 421 (citing *Teleflex Inc. v. KSR Int'l Co.*, 119 F. App'x 282, 289 (Fed. Cir. 2005)).

¹³² *Id.*

¹³³ *Id.* at 415-17.

¹³⁴ *Id.* at 415, 419.

¹³⁵ *KSR Int'l*, 550 U.S. at 415.

¹³⁶ *Id.* at 416.

¹³⁷ *Id.* at 417.

¹³⁸ *Id.* at 401.

¹³⁹ *Id.* at 417.

¹⁴⁰ *Id.*

¹⁴¹ *KSR Int'l*, 550 U.S. at 417.

In its analysis, a court can consider “the inferences and creative steps a person of ordinary skill in the art would employ,” but mere conclusory statements are not sufficient to sustain obviousness.¹⁴³

However, the Supreme Court did not entirely reject the TSM test.¹⁴⁴ Instead, it noted that the TSM test captures a helpful insight.¹⁴⁵ A patent composed of several elements is not proved obvious merely by demonstrating that each element was, independently, known in the prior art.¹⁴⁶ Although common sense directs caution as to a patent application claiming as innovation the combination of two known devices according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the art to combine the elements as the new invention does.¹⁴⁷ There is no necessary inconsistency between the TSM test and the *Graham* analysis, but a court errs, as the Federal Circuit did here, where it transforms a general principle into a rigid rule limiting the obviousness inquiry.¹⁴⁸

Finally, the Court addressed the Federal Circuit’s holding that genuine issues of material fact existed.¹⁴⁹ The Court initially noted that obviousness is a legal determination.¹⁵⁰ Finding summary judgment appropriate, the Court stated that where the *Graham* factors are not in material dispute, the legal determination of obviousness is dispositive of summary judgment.¹⁵¹ In this case, the Court upheld the district court’s grant of summary judgment in KSR’s favor.¹⁵²

III. WHAT THE SEVEN EXEMPLARY RATIONALES MEAN AND WHEN THEY SUPPORT A CONCLUSION OF OBVIOUSNESS

Following the Supreme Court’s decision, the PTO codified its interpretation of *KSR* in the Manual of Patent Examining Procedure (“MPEP”), incorporating a list of seven exemplary rationales derived from the language in *KSR* that may be used by Office Personnel to support a conclusion

¹⁴² *Id.*

¹⁴³ *Id.* at 401; *see also id.* at 418 (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

¹⁴⁴ *Id.* at 419.

¹⁴⁵ *See id.* at 418-19.

¹⁴⁶ *Id.* at 401.

¹⁴⁷ *KSR Int'l*, 550 U.S. at 402.

¹⁴⁸ *Id.*

¹⁴⁹ *Id.* at 426.

¹⁵⁰ *Id.* at 427 (citing *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966)).

¹⁵¹ *Id.* (“Where, as here, the content of the prior art, the scope of the patent claim, and the level of ordinary skill in the art are not in material dispute, and the obviousness of the claim is apparent in light of these factors, summary judgment is appropriate.”).

¹⁵² *Id.*

of obviousness.¹⁵³ The PTO stated that the seven rationales follow from the *KSR* decision and are “consistent with the proper ‘functional approach’ to the determination of obviousness as laid down in *Graham*.”¹⁵⁴

To extract the general principles behind each rationale, this Part analyzes the use of each rationale during post-*KSR* litigation in turn by presenting the application of each rationale to 105 of the most prominent and recent cases where the standard of obviousness is discussed in the most detail. For each rationale, charts are presented detailing the courts’ decision in the cases citing *KSR*. These charts present cases chronologically by circuits that cited or applied the rationale. Then, the commonalities of the cases are unified into the general principles of obviousness under each rationale.

Courts have not consistently applied any of the individual rationales since *KSR*.¹⁵⁵ In many cases, both the court and the litigants cite more than one of the rationales. However, they do not look at all the rationales to analyze whether a claim is obvious or not. This indicates that the rationales are not merely factors that a court is to consider when evaluating obviousness. It is also clear that the rationales cannot be used as conclusory statements. Instead there must be some reasoning behind their use, and the analysis must be explicit.¹⁵⁶

Additionally, more often than not, courts will cite multiple rationales but only apply one. Occasionally, the courts will not even apply any of the rationales to the facts of the case.¹⁵⁷ This encourages litigants to cite all of the rationales, and also makes it unclear when, if at all, a particular rationale applies.

The PTO’s MPEP does not have the force of law;¹⁵⁸ however, it does affect courts’ decisions. The MPEP governs the procedures that PTO personnel, including examiners and the Board of Patent Appeals and Interferences, follow and the decisions they make during the course of the normal examination of a patent application.¹⁵⁹ These decisions by PTO Personnel lay the framework for any subsequent litigation.¹⁶⁰ Further, because the

¹⁵³ MPEP, *supra* note 17, § 2141.

¹⁵⁴ *Id.*

¹⁵⁵ *See infra* Part III.A-G. The rationale most consistently applied is the Obvious to Try rationale in cases involving chemical compounds. *See id.* However, even in those cases, courts’ analyses differ in their approach to the determination of obviousness. *Id.*

¹⁵⁶ *See id.*

¹⁵⁷ *See id.*

¹⁵⁸ MPEP, *supra* note 17, at Forward.

¹⁵⁹ *Id.*

¹⁶⁰ *See, e.g.,* *PharmaStem Therapeutics, Inc. v. ViaCell, Inc.*, 491 F.3d 1342, 1366 (Fed. Cir. 2007) (quoting *Polaroid Corp. v. Eastman Kodak Co.*, 789 F.2d 1556, 1560 (Fed. Cir. 1986)) (stating that deference is given to the PTO’s decisions). Decisions by the PTO are appealable either directly to the courts or to the Board of Patent Appeals and Interferences, whose decision is further appealable to the courts. *See, e.g.,* *Appeal to the United States Court of Appeals for the Federal Circuit in Inter Partes Reexamination*, 37 C.F.R. § 1.983 (2007).

PTO derived the rationales directly from language in *KSR*, the principle behind the rationales is binding on the courts.¹⁶¹ Thus, although the PTO has no substantive rule-making authority and the PTO's interpretation of *KSR* is not binding on the courts, a close examination of the seven rationales is vital to understanding how *KSR* changed the landscape of obviousness.¹⁶²

A. *Combining Prior Art Elements According to Known Methods to Yield Predictable Results Rationale*

The PTO derived the Combining Prior Art Elements According to Known Methods to Yield Predictable Results Rationale from the language in *KSR*, stating the “combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.”¹⁶³

1. Application of the Combining Prior Art Elements According to Known Methods to Yield Predictable Results Rationale in Post-*KSR* Litigation

Sixty-one of the 105 most prominent and recent cases cite or apply the Combining Prior Art Elements According to Known Methods to Yield Predictable Results Rationale. This section analyzes each of these cases citing the Combining Prior Art Elements According to Known Methods to Yield Predictable Results Rationale, broken down chronologically by circuit, to discover when it supports a conclusion of obviousness. Below is a chart of the sixty-one post-*KSR* cases that cite the Combining Prior Art Elements According to Known Methods to Yield Predictable Results Rationale and an analysis of what they add to the obviousness inquiry.

¹⁶¹ MPEP, *supra* note 17, § 2143.

¹⁶² *See, e.g.*, Bd. of Trs. of Leland Stanford Junior Univ. v. Roche Molecular Sys., Inc., 563 F. Supp. 2d 1016, 1037 n.22 (N.D. Cal. 2008) (“While the USPTO has no rule-making authority that affects the decisions of this court, the [rationales] . . . illuminate the changes required by *KSR*.”).

¹⁶³ *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 416 (2007).

a. *First Circuit*

Case	Application of “Combining Prior Art Elements According to Known Methods to Yield Predictable Results” Rationale
Insight Tech., Inc. v. SureFire, LLC, No. 04-cv-74-JD, 2009 WL 929943, slip op. at 3-5 (D.N.H. Apr. 3, 2009) (“In other words, if the combination of known elements would be ‘obvious to try’ to a person with ordinary skill in the art, it is obvious.” (citing <i>KSR Int’l</i> , 550 U.S. at 421)).	This case focused on the predictability of the field of endeavor and the predictability of the results of the combination. However, this case suggests that the Combining Prior Art Elements According to Known Methods rationale informs the analysis of whether a combination is obvious under the Obvious to Try rationale.
Depuy Spine, Inc. v. Medtronic Sofamor Danek, Inc., 526 F. Supp. 2d 162, 170-71 (D. Mass. 2007) (stating that predictability of success is not the “sole criterion of the obviousness inquiry” and that it has no bearing on the question of whether a person of ordinary skill would be motivated to make the combination in the first place).	In this case, the court makes clear that <i>KSR</i> ’s holding is not absolute and rigid in regards to predictability, and that a predictable combination is only likely to be obvious. This suggests that under the Combining Prior Art Elements According to Known Methods rationale, a patent does not need to produce unexpected results to be valid, and to be invalid, there must first be a motivation to combine. The court here first looked for a general motivation to begin the combination with a reasonable expectation of success in doing so. The court then looked for a motivation to combine at each inventive step and employed the other rationales to determine if a motivation existed. This suggests that the other rationales serve as a tool to find motivation before and while using the Combining Prior Art Elements According to Known Methods rationale.

b. *Second Circuit*

Case	Application of “Combining Prior Art Elements According to Known Methods to Yield Predictable Results” Rationale
Izzo Golf, Inc. v. King Par Golf Inc., 561 F. Supp. 2d 334, 340-45 (W.D.N.Y. 2008) (finding that “unless the defendant can show, by clear and convincing evidence, that a person of ordinary skill in the art would see the improvements or modifications made by the inventor named in the [claimed invention] as obvious extensions or progressions of the existing art” the elements shown independently in the prior art alone will not render the claims obvious).	The court looked to the known elements in the prior art and analyzed whether the progression made by the claimed invention was obvious. This case suggests that where differences between the prior art references are significant, a motivation to combine the known elements is less likely to be present. Thus, even where the claimed invention is no more than a mere variation of known elements in the prior art, a combination of the elements may still be non-obvious where there was no motivation at the time of the invention to make the combination.

<p>Pass & Seymour, Inc. v. Hubbell Inc., 532 F. Supp. 2d 418, 430-31 (N.D.N.Y. 2007) (holding that the patentee did not demonstrate a likelihood of success on the merits where the plaintiff asserted that the prior art taught away from the claimed invention on the basis that the claimed invention “would not pass muster under any applicable governing code, thus rendering the [prior art] commercially unviable”).</p>	<p>The court did not articulate its entire analysis in this case. It merely quoted the language of <i>KSR</i> followed by a statement demonstrating the main difference between the claimed invention and prior art and a conclusion that the plaintiff failed to demonstrate a likelihood of success on the merits. This case is an example of a decision where it is not clear what rationale or reasoning the court is relying on for its conclusions.</p>
<p><i>In re Omeprazole Patent Litig.</i>, 490 F. Supp. 2d 381, 522-34 (S.D.N.Y. 2007) (finding non-obviousness where “a person of ordinary skill in the art would not be able to identify the causes of many of the problems that would arise at each stage of the omeprazole formulation process”).</p>	<p>When comparing the prior art with the claimed invention, the court articulated various ways the prior art taught away. First, the court looked at the behavior of the chemical compounds and how a combination of them would react. The court further looked to the goals of the claimed invention and how the combination of those prior art elements would serve those goals. Finally, combining the prior art references would lead to multiple problems that would frustrate the purpose at the heart of each of the prior art inventions, such as a warning against making the combination. This case suggests that prior art teaches away from a claimed invention where it would require more than ordinary skill to identify the causes of the problems that would arise in combining the prior art references.</p>
<p>McNeil-PPC, Inc. v. Perrigo Co., 516 F. Supp. 2d 238, 251-53 (S.D.N.Y. 2007) (finding unpersuasive patentee’s assertion that the costs of the invented coating process would have discouraged one skilled in the art from combining the prior art elements).</p>	<p>This case suggests that evidence that skilled persons in the art believed that the prior art was technologically incompatible such that it prevented the combination of known elements may indicate non-obviousness. However, not combining the references for economic or business reasons is not relevant to the analysis of whether combining known elements according to known methods would yield predictable results. Further, any need or problem known in the field may provide sufficient motivation to combine the elements in the manner claimed.</p>

c. *Third Circuit*

Case	Application of “Combining Prior Art Elements According to Known Methods to Yield Predictable Results” Rationale
<p>E.I. Du Pont de Nemours & Co. v. MacDermid, Inc., No. 06-3383 (MLC), 2008 WL 4952450, at *29-31 (D.N.J. Nov. 19, 2008) (denying an injunction because plaintiff failed to show success on the merits by not overcoming the defendant’s obviousness defense).</p>	<p>After listing the various rationales, the court stated that the subject matter of the prior art was well known at the time of invention and describes the same technology and process as the claimed invention. After defendants showed that the elements perform the same function and articulated a reason to combine, the court was unpersuaded by the plaintiff’s arguments based on secondary considerations, impermissible hindsight, and that the prior art teaches away. This case shows that courts take a different approach to the obviousness inquiry depending on who bears the burden of proof. Here, the defendant merely had to articulate some evidence showing that the patent may be obvious.</p>
<p>Source Search Tech., LLC v. LendingTree, LLC, No. CIV.04-4420 (DRD), 2008 WL 5638262, slip op. at 31 (D.N.J. July 8, 2008) (deciding the case based on the Combining Prior Art Elements According to Known Methods rationale but citing the language of the Design Incentives and Market Forces rationale and explaining the current status of the Non-Rigid TSM Test).</p>	<p>The reasoning in this case suggests that the Combining Prior Art Elements According to Known Methods rationale turns on whether the combination was a predictable variation or whether the combination produced new or unexpected results.</p>
<p>Rothman v. Target Corp., No. 05-4829 (GEB), 2008 WL 1844284, at *4-6 (D.N.J. Apr. 23, 2008) (relying heavily on expert testimony regarding whether there was motivation to combine and whether the combination was merely known elements performing according to their known functions).</p>	<p>Expert testimony plays a crucial role in this case. The case was ultimately decided on the testimony where the patentee admitted that each element of the invention was found in the prior art and continued to perform according to its known function as it would independent of the invention. This case shows the importance of testimony in the obviousness analysis.</p>

<p>Bayer Schering Pharma AG v. Barr Labs., Inc., No. 05-CV-2308 (PGS), 2008 WL 628592, at *35-37 (D.N.J. Mar. 3, 2008) (rejecting the argument that “the prior art teaches away from micronization and immediately releasing drospirenone in the stomach” where “drospirenone and ethinylestradiol could be combined or admixed together using conventional methodologies” and “the prior art acknowledges that micromzation is a common or conventional formulation technique to increase absorption” and also rejecting the argument that “the prior art teaches away from exposing drospirenone, an acid-sensitive drug, to the gastric environment without an enteric coating” because “the prior art recognizes that drospirenone does not need an enteric coat”).</p>	<p>This case focused on the balance between “concepts of teaching away” and “considering the prior art as a whole.” The court outlined precedent concerning the concept of teaching away to support the principle that the prior art teaches away from the claimed invention where one of ordinary skill would be discouraged from following the prior art or where the prior art would lead one of ordinary skill in a different direction than that of the invention. The court noted that the fact that the prior art refers to the solution or element used by the applicant as inferior does not alone establish that the prior art teaches away from the combination. Instead, prior art teaches away where the known elements work together in an unexpected manner. In applying these principles to the invention at issue, the court found that the known chemical compounds could be combined using conventional techniques. The court looked at prior art dealing with a closely related chemical compound to establish obviousness and found that the prior art compound was sufficiently related that the references did not teach away from the claimed invention.</p>
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d. *Fourth Circuit*

Case	Application of “Combining Prior Art Elements According to Known Methods to Yield Predictable Results” Rationale
<p>MercExchange, L.L.C. v. eBay, Inc., 500 F. Supp. 2d 556, 574-75 (E.D. Va. 2007) (noting the nature of the invention as a business method patent and the fact that it was a combination of known elements yielding predictable results).</p>	<p>Initially, the court here stated that <i>KSR</i> plainly raised the bar as to what is necessary to overcome the standard of obviousness. However, the court did not elaborate on this point. This case suggests that it is more difficult for a business method patent to overcome an assertion of obviousness.</p>

e. *Fifth Circuit*

Case	Application of “Combining Prior Art Elements According to Known Methods to Yield Predictable Results” Rationale
<p>Black v. CE Soir Lingerie Co., No. 2:06-CV-544, 2008 WL 3852722, at *6-11 (E.D. Tex. Aug. 15, 2008) (holding that the “teachings of the [claimed invention] offer nothing over the prior art save obvious common sense adjustments”).</p>	<p>In this case, the plaintiff merely asserted that the defendant did not provide clear and convincing evidence or argue the <i>Graham</i> factors in detail. The defendant alleged that the patent was obvious under the Combining Prior Art Elements According to Known Methods rationale. However, the court, after citing the language of the Combining Prior Art Elements According to Known Methods rationale, merely examined whether all the claim limitations were found in the prior art. The court did not look for a motivation to combine the references other than that of common sense.</p>
<p>Power-One, Inc. v. Artesyn Tech., Inc., 556 F. Supp. 2d 591, 595-601 (E.D. Tex. 2008) (“Other than [the defendant’s expert’s] mantra that the patented inventions were inevitable because technology of this sort is constantly becoming ‘smaller, faster, cheaper,’ the evidence suggesting how one of ordinary skill in the art would put together the asserted prior art and arrive at Power-One’s invention was simplistic, disjointed and conclusory.”).</p>	<p>After focusing on the “limited scope of the prior art and the significant differences between the prior art and the patents,” the court noted that the defendant provided no motivation to combine. This case affirms that an analysis of obviousness must be explicit and there must be reasoning underlying an obviousness assertion.</p>
<p>Advanceme Inc. v. RapidPay, LLC, 509 F. Supp. 2d 593, 610 (E.D. Tex. 2007) (concluding that the invention was merely “a combination of old elements with no change in their respective functions”).</p>	<p>Instead of going through the analysis of the <i>Graham</i> factors or elaborating on an analysis under one of the rationales, the court merely stated that the invention required the user to simply use existing equipment in a similar manner to the prior art. This case holds that, under the Combining Prior Art Elements According to Known Methods rationale, “when a combination fails to yield a result different from what can be obtained by the sequential operation of old elements, the combination is obvious.”</p>

f. *Sixth Circuit*

Case	Application of "Combining Prior Art Elements According to Known Methods to Yield Predictable Results" Rationale
<p>Henrob Ltd. v. Bollhoff Systemtechnik GmbH & Co., No. 05-CV-73214-DT, 2008 WL 5383580, at *16-17 (E.D. Mich. Dec. 23, 2008) (ruling that the combination was "more than the predictable use of prior art elements according to their established functions [because the patent] crosses different types of fastening and technology which are also focused on solving different types of problems").</p>	<p>This case implies that under the Combining Prior Art Elements According to Known Methods rationale, the court should look to the problem addressed by the invention and the nature of the technology and focus of the prior art. If the technology of the prior art and the problem focused on in the prior art are sufficiently distinct from the invention, one of ordinary skill in the art would not likely have the requisite motivation to combine the prior art.</p>
<p>Eaton Corp. v. ZF Meritor LLC, No. 03-74844, 2007 WL 2901692, at *6 (E.D. Mich. Oct. 4, 2007) (finding that defendant was not entitled to summary judgment where there were questions of fact relating to secondary considerations).</p>	<p>In this case, the defendant did not support its reliance on the Combining Prior Art Elements According to Known Methods rationale with expert testimony or address the arguments of the plaintiff that weighed against an obviousness determination. This case shows that the <i>Graham</i> factors must be resolved before the court can determine if a rationale is met.</p>
<p>Gemtron Corp. v. Saint-Gobain Corp., No. 1:04-0387, 2007 WL 4334780, at *3-4, *7 (W.D. Mich. Dec. 6, 2007) (stating that after completing the <i>Graham</i> analysis, a court must then determine if the invention "displays [a] predictable use of the prior art elements according to their established functions").</p>	<p>In this case, the court added the Combining Prior Art Elements According to Known Methods rationale to the <i>Graham</i> factors. In doing so, this case distinguishes the Combining Prior Art Elements According to Known Methods rationale from the others. This case also makes clear that, no matter which rationale is relied on, there must be a motivation to combine the prior art. Further, this case suggests that even if a combination is predictable, the court must decide whether such a combination is one of "ordinary skill and common sense."</p>
<p>Sud-Chemie, Inc. v. Multisorb Techs., Inc., No. 3:03CV-29-S, 2007 WL 2669366, at *1-5 (W.D. Ky. Sept. 7, 2007) (holding that one of ordinary skill would have reason to make the combination of the elements in the prior art because such an option was within the technical capabilities of one skilled in the art and the combination did not yield a surprising result), <i>vacated</i>, 554 F.3d 1001 (Fed. Cir. 2009).</p>	<p>When looking at a reason to combine the prior art elements, the court in this case examined whether the combination yielded a surprising result and whether the prior art taught away from the invention. This case suggests that a patent is predictable and therefore obvious where the elements do not work together in an unexpected manner. Further, this case shows that courts use one of the other rationales to demonstrate a motivation to combine. In this case, the court used the Simple Substitution of One Known Element for Another to Obtain Predictable Results rationale to show a motivation to make the combination.</p>

g. *Seventh Circuit*

Case	Application of “Combining Prior Art Elements According to Known Methods to Yield Predictable Results” Rationale
<p>Fisher-Barton Blades, Inc. v. Blount, Inc., 584 F. Supp. 2d 1126, 1151-52 (E.D. Wis. 2008) (stating that “[t]here is a genuine dispute of material fact as to whether the [prior art] ‘teaches away’ from some aspect of the [invention]” where the patentee asserts that an aspect of the invention created problems in the prior art and the defendant asserted that those problems were resolved prior to the time of the invention).</p>	<p>After merely citing the language of the Combining Prior Art Elements According to Known Methods rationale along with the language of the other rationales, the court focused the analysis on whether the prior art taught away from the invention. This case suggests that it may be enough to create a genuine issue of material fact regarding obviousness by presenting evidence to show that problems in the prior art that would teach away from the invention were resolved prior to the time of the invention. This case further demonstrates how the courts do not apply a particular rationale consistently but merely cite the language before performing a different analysis.</p>
<p>GSI Group, Inc. v. Sukup Mfg. Co., No. 05-3011, 2008 WL 4225457, at *16 (C.D. Ill. Sept. 12, 2008) (holding that the prior art “may be in such a different field that a person of ordinary skill in the art would not see the possibility of combining a cam device with the prior closure devices to overcome the problem of stuck cover panels”).</p>	<p>According to this case, the question underlying the Combining Prior Art Elements According to Known Methods rationale is whether one of ordinary skill in the art would readily recognize the known elements and understand how to combine them in the manner claimed in the invention. This case suggests that the fields of endeavor of each element may be so different from each other that one of ordinary skill would overlook the possibility of combining the known elements.</p>
<p>Alloc. Inc. v. Pergo, Inc., No. 02-C-736, 2008 WL 1968301, at *9-10 (E.D. Wis. May 1, 2008) (stating that “the obviousness analysis, including what would have suggested the combining of known elements, can be driven by such non-patent factors as ‘market demand’ and ‘design trends’” (quoting KSR Int’l Co. v. Teleflex Inc. 550 U.S. 398, 418 (2007))).</p>	<p>The court found that there was not enough evidence to set a jury verdict of obviousness aside where evidence such as market demand, design trends, expert testimony, and a claim chart provided sufficient basis for a motivation to combine. The case suggests that the market forces and design incentives rationale informs the analysis of whether there is a motivation to combine.</p>
<p>Rowe Int’l Corp. v. Ecast, Inc., 586 F. Supp. 2d 924, 963-67 (N. D. Ill. 2008) (holding that defendants must present evidence to support their contention that “[s]imply adapting modern computers to older electro-mechanical devices is routine today,” and thus a combination of prior art elements according to known methods rationale to achieve a predictable result).</p>	<p>This case implies that known elements may have obvious uses beyond the purpose they served in the prior art. However, to prove obviousness, a patent challenger must present evidence to demonstrate that adapting the known elements beyond their primary purposes would have been obvious at the time of the invention. Merely asserting that a known element can be adapted beyond its primary purpose to be combined with another known element is not alone prima facie obviousness.</p>
<p>Ball Aerosol & Specialty Container, Inc. v. Ltd. Brands, Inc., 553 F. Supp. 2d 939, 949-50 (N.D. Ill. 2008) (finding that the defendant’s contention that “considering [the] combination of existing art in the field” the patent was a predictable solution is not enough to support a conclusion of obviousness), <i>vacated</i>, 555 F.3d 984 (Fed. Cir. 2009).</p>	<p>Merely citing the Combining Prior Art Elements According to Known Methods rationale is not enough to overcome the burden of proving obviousness by clear and convincing evidence. This case establishes that conclusory statements do not support obviousness, and there must be a reason to make the combination in the first place.</p>

Abbott Labs. v. Sandoz, Inc., 500 F. Supp. 2d 846, 851-53 (N.D. Ill. 2007) (finding non-obviousness where there was “no indication that [the] prior art would motivate a person of ordinary skill in the art to combine their teachings to arrive” at the patented invention), <i>aff'd</i> , 544 F.3d 1341 (Fed. Cir. 2008).	This case stands for the proposition that all the patented claim limitations must be present in the prior art before a motivation to combine even becomes relevant.
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h. Eighth Circuit

Case	Application of “Combining Prior Art Elements According to Known Methods to Yield Predictable Results” Rationale
Allan Block Corp. v. County Materials Corp., No. 05-2879 (JNE/JJG), 2008 WL 5273730, at *12-13 (D. Minn. Dec. 17, 2008) (“[A]ssertions that a patent is obvious in light of the common sense of one of ordinary skill in the art do not suffice in every case . . .”).	Because the technology was not very complex, the court found that the patent was obvious in light of the common sense of one of ordinary skill. The court looked to market pressures regarding the problem addressed by the patent and found sufficient reason to combine. This case shows that the Combining Prior Art Elements According to Known Methods rationale depends on the outcome of the <i>Graham</i> factor analysis.
Andersen Corp. v. Pella Corp., 500 F. Supp. 2d 1192, 1195-96 (D. Minn. 2007) (finding that it “is disingenuous to argue that [the prior art] teach[es] away from possible use as [an element in the invention]” after the Applying Known Technique to a Known Device Ready for Improvement to Yield Predictable Results rationale was satisfied), <i>vacated</i> , 300 F. App’x 893 (Fed. Cir. 2009).	Citing the Combining Prior Art Elements According to Known Methods rationale as indicating obviousness, the court used the Applying Known Technique to a Known Device Ready for Improvement to Yield Predictable Results rationale to determine if the prior art taught away from making the combination. This case shows that other rationales inform the analysis of the Combining Prior Art Elements According to Known Methods rationale.

i. Ninth Circuit

Case	Application of “Combining Prior Art Elements According to Known Methods to Yield Predictable Results” Rationale
Teknowledge Corp. v. Cellco P’ship, No. C 08-3063 SI, 2009 WL 1396253, at *8-10 (N.D. Cal. May 18, 2009) (deciding that where the <i>Graham</i> factors are not in dispute, merely asserting that one of the references does not disclose all the limitations is not sufficient to defeat an argument of obviousness).	The proposition of this case is that the <i>Graham</i> factors control because it is easier to prove obviousness by asserting one of the rationales when they are not in dispute.

<p>Seiko Epson Corp. v. Coretronic Corp., No. C 06-06946 MHP, 2009 WL 1371407, slip op. at 5-14 (N.D. Cal. May 15, 2009) (looking to the benefit of optimizing the prior art and taking the steps of modifying the prior art in the manner of the invention).</p>	<p>With respect to a motivation to combine, this case suggests that when one of ordinary skill would recognize the benefit of modifying the prior art in the manner of the invention, the claimed invention is likely obvious. Further, the prior art does not need to be expressly directed to and does not need to recognize the particular benefit of the claimed invention to render the claimed invention obvious.</p>
<p>Hynix Semiconductor Inc. v. Rambus Inc., No. C-00-20905 RMW, 2009 WL 112834, slip op. at 15-18 (N.D. Cal. Jan. 16, 2009) (rejecting the argument that the jury instructions need to include the language of the Combining Prior Art Elements According to Known Methods rationale when the defendant failed to object to the absence of the language and where the instructions already instructed the jury that they may consider whether the claimed invention had “unexpected superior results”).</p>	<p>Because the court states that the instruction that the jury may consider whether the claimed invention had “unexpected superior results,” which “implies that predictable results do not suggest non-obviousness,” the court implies that the dominant requirement of the Combining Prior Art Elements According to Known Methods rationale is predictable results.</p>
<p>Patent Category Corp. v. Target Corp., 567 F. Supp. 2d 1171, 1194-96 (C.D. Cal. 2008) (stating that the main indication of obviousness is a combination merely uniting old elements with no change in their respective functions, but one challenging the patent may not rely on this conclusory statement without evidence).</p>	<p>The defendant here failed to go through the analysis to support its use of any of the rationales. It merely stated that the patent claims did not produce a surprising result, and because the patented invention was not technologically complex, one of ordinary skill in the art would need nothing more than common sense to recognize the possibility of predicting the results of the combination. However, this case demonstrates that a party asserting invalidity must do more than just rely on one of the rationales to prove obviousness. This case also stands for the proposition that the Combining Prior Art Elements According to Known Methods rationale still requires a showing of motivation by one of ordinary skill in the art to combine the known elements according to known methods. A known problem with an obvious solution may provide such motivation.</p>
<p>Bd. of Trs. of Leland Stanford Junior Univ. v. Roche Molecular Sys., Inc., 563 F. Supp. 2d 1016, 1037-38 (N.D. Cal. 2008) (citing the Combining Prior Art Elements According to Known Methods rationale).</p>	<p>The court here cites the language from <i>KSR</i> underlying the Combining Prior Art Elements According to Known Methods rationale. However, the court relies on the Obvious to Try rationale.</p>
<p>Elantech Devices Corp. v. Synaptics, Inc., No. C 06-01839 CRB, 2008 WL 1734748, at *6-7 (N.D. Cal. Apr. 14, 2008) (citing the Combining Prior Art Elements According to Known Methods rationale).</p>	<p>The court here cites the language from <i>KSR</i> underlying the Combining Prior Art Elements According to Known Methods rationale. However, the court relies on the Non-Rigid TSM rationale.</p>

<p>Lucent Techs., Inc. v. Gateway, Inc., 580 F. Supp. 2d 1016, 1034 (S.D. Cal. 2008) (concluding that a reasonable jury could have found that due to the substantial uncertainties regarding the capabilities of one of the references, the prior art taught away).</p>	<p>This case helps to demonstrate what is non-obvious under the Combining Prior Art Elements According to Known Methods rationale. The case implies that a combination is not predictable if it combines to work in an unexpected manner. Further, when the references teach away from combining the known elements, the combination is likely non-obvious. Substantial uncertainty about the effectiveness of the prior art and the compatibility of the known elements supports a conclusion that the prior art teaches away from a combination of those elements, rendering the result unpredictable.</p>
<p>Tokyo Keiso Co. v. SMC Corp., 533 F. Supp. 2d 1047, 1053-60 (C.D. Cal. 2007) (“The important inquiry is ‘whether the improvement is more than the predictable use of prior art elements according to their established functions.’” (quoting <i>KSR Int’l Co. v. Teleflex Inc.</i>, 550 U.S. 398, 417 (2007))), <i>aff’d</i>, 307 F. App’x 446 (Fed. Cir. 2009).</p>	<p>The application of several rationales in this case suggests that the Combining Prior Art Elements According to Known Methods rationale is the main principle underlying obviousness and that the simple substitution rationale and the use of known technique to improve similar devices rationale may be used to demonstrate what is a predictable result. The court looked at each of the steps one of ordinary skill in the art would have followed to achieve the invented combination of known elements and applied one of the other two rationales to decide if that step would be predictable. Thus, this case shows that one challenging patent validity may use other rationales to demonstrate that, because each step in the inventive process was predictable, the resulting combination of the known elements would be predictable as well.</p>
<p>Boston Scientific Corp. v. Johnson & Johnson, 534 F. Supp. 2d 1062, 1070-73 (N.D. Cal. 2007) (holding that even though the patented invention was one solution among a finite number of possibilities, the application of a known method to that solution alone could not yield predictable results without first identifying a reason to try that solution initially).</p>	<p>The court here cites the language from <i>KSR</i> underlying the Combining Prior Art Elements According to Known Methods rationale. The parties rely on the Obvious to Try rationale. The court looked at this rationale and used it to decide if the Combining Prior Art Elements According to Known Methods rationale was satisfied. Also, this case makes clear that under the Combining Prior Art Elements According to Known Methods rationale, there must be a reason to combine the known elements. Thus, this case indicates that the use of the other rationales may support a conclusion of obviousness based on the Combining Prior Art Elements According to Known Methods rationale.</p>
<p>Asyst Techs., Inc. v. Empak, Inc., No. C 98-20451 JF (EAI), 2007 WL 2255220, at *5-10 (N.D. Cal. Aug. 3, 2007) (finding that failing to instruct the jury that “a claim may be found to be obvious if it is a combination of known elements operating in their known and established way” may taint the jury’s verdict).</p>	<p>The court here asserts that <i>KSR</i> changed obviousness in such a way that the Combining Prior Art Elements According to Known Methods rationale must be explicitly cited in jury instructions. This case also stands for the proposition that the use of a known, predictable solution within the technological grasp of one skilled in the art supports a conclusion of obviousness, especially where there is a market pressure to make a combination including that solution.</p>

<p>Single Chip Sys. Corp. v. Intermec IP Corp., 495 F. Supp. 2d 1066, 1088-89 (S.D. Cal. 2007), <i>vacated in part</i>, Nos. 04CV1517JAH(CAB), 07CV256JAH(CAB), 2007 WL 2600850 (S.D. Cal. Aug. 28, 2007).</p>	<p>Under the reasoning of this court, the proper obviousness analysis must look to several of the rationales, including the market forces rationale and the Applying a Known Technique to a Known Device rationale, to determine whether there was a reason to combine the prior art elements according to known methods. This case implies that the reason for combining helps determine whether the resulting combination was predictable.</p>
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j. *Tenth Circuit*

Case	Application of “Combining Prior Art Elements According to Known Methods to Yield Predictable Results” Rationale
<p>Wyers v. Master Lock Co., No. 06-CV-00619-LTB, 2009 WL 1309774, slip op. at 2-5 (D. Colo. May 8, 2009) (explaining the analysis behind the Combining Prior Art Elements According to Known Methods rationale).</p>	<p>The Combining Prior Art Elements According to Known Methods rationale was discussed but not applied in this case. The case holds that there must be an apparent reason to combine the prior art to render an invention obvious. This case also suggests that prior art must be analogous to prove that an improvement is obvious.</p>
<p>Bally Gaming, Inc. v. IGT, No. 3:06-CV-0483-ECR-RAM, 2008 WL 4225247, at *4-6 (D. Nev. Sept. 9, 2008) (“KSR instructs that ‘ordinary innovation’ in combining prior art is not patentable . . .”).</p>	<p>This case turns primarily on what the court considers common sense. The court found that the elements of the invention were well known long before the patent, and the advantages of using the elements in combination would have been obvious. This case finds a prima facie case of obviousness merely on what the court believes to be common sense and rejects the plaintiff’s evidence of secondary consideration. This case represents the lack of support by some courts in articulating why something should be considered a product of ordinary innovation.</p>
<p>Shuffle Master, Inc. v. MP Games LLC, 553 F. Supp. 2d 1202, 1226, 1231 (D. Nev. 2008) (ruling that the invention “could not reasonably be considered anything beyond ‘ordinary innovation’”).</p>	<p>The analysis in the case focuses primarily on other rationales. However, the court cites the Combining Prior Art Elements According to Known Methods rationale before beginning the analysis and concludes that the invention is nothing more than “ordinary innovation.” This suggests that the other rationales inform the analysis of the Combining Prior Art Elements According to Known Methods rationale and that where a combination is predictable, it is nothing more than a product of ordinary innovation.</p>

<p>Myers v. Master Lock Co., No. 06-cv-00619-LTB, 2008 WL 2168977, at *3-8 (D. Colo. May 22, 2008) (“The proper inquiry asks whether a person of ordinary skill would ‘have found it to have been obvious, from the references as a whole, to create the claimed subject matter as a whole’” (quoting <i>Datascope Corp. v. SMEC, Inc.</i>, 776 F.2d 320, 324 (Fed. Cir. 1985))).</p>	<p>This case makes clear that under the Combining Prior Art Elements According to Known Methods rationale, the court should look to the prior art references as a whole to determine if the combination yields no more than that which one of ordinary skill in the art would expect. A combination that yields fruitful results is more than what one of ordinary skill would expect and is indicative of non-obviousness. Further, an invention that merely arranges known elements that perform the same function they are independently known to perform is more likely to yield a predictable result.</p>
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k. *Eleventh Circuit*

Case	Application of “Combining Prior Art Elements According to Known Methods to Yield Predictable Results” Rationale
<p><i>Diamond Heads, LLC v. Everingham</i>, No. 8:07-CV-462-T-33TBM, 2009 WL 1046067, slip op. at 8-10 (M.D. Fla. Apr. 20, 2009) (rejecting the defendant’s argument that “a combination of existing skills and known art made it inevitable and obvious that ornamental engraving would extend to the ornamentation of cooling fins of motorcycle engines by those skilled in the art” because the defendant failed to support this statement with evidence).</p>	<p>This case supports the proposition that mere conclusory statements are not sufficient to establish obviousness.</p>
<p><i>Kleen-Tex Indus., Inc. v. Mountville Mills, Inc.</i>, No. 3:03-CV-093-JTC, 2008 WL 2486363, at *9, *15-16 (N.D. Ga. Mar. 3, 2008), <i>vacated</i>, No. 3:03-CV-093-JTC, 2008 WL 2486358 (N.D. Ga. May 28, 2008).</p>	<p>Noting that the hallmark of the obviousness standard articulated in <i>KSR</i> is predictability, the court in this case stated that the rationales interpreted by the PTO are all variations of the Combining Prior Art Elements According to Known Methods rationale.</p>

1. *Federal Circuit*

Case	Application of “Combining Prior Art Elements According to Known Methods to Yield Predictable Results” Rationale
<p><i>Ecolab, Inc. v. FMC Corp.</i>, Nos. 2008-1228, 2008-1252, 2009 WL 1605334, at *9-10 (Fed. Cir. June 9, 2009) (“[The patentee] admitted that one skilled in the art would know how to adjust application parameters to determine the optimum parameters for a particular solution.”).</p>	<p>Here, the court found that advantages of a known solution could provide a motivation to combine the prior art and may render an invention obvious where one of ordinary skill would know how to adjust the parameters of the claimed invention to apply a particular prior art solution.</p>

<p>Titan Tire Corp. v. Case New Holland, Inc., 566 F.3d 1372, 1384-85 (Fed. Cir. 2009) (avoiding the issue of whether <i>KSR</i> applies to design patents).</p>	<p>Here, the patentee argued that “the particular passage in <i>KSR</i> cited by the trial court, which relates to the ‘predictable use of prior art elements according to their established functions,’ has no application in the design patent context because design patents do not have functional elements.” (citation omitted). The court here asserted that this was a mischaracterization of the trial court’s statement and that the trial court recognized that whether <i>KSR</i> applies to design patents has not been addressed. However, design patents must meet the requirements of 35 U.S.C. § 103, and the Supreme Court did not necessarily intend to exclude design patents.</p>
<p>DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc., 567 F.3d 1314, 1325-28 (Fed. Cir. 2009) (affirming that the prior art teaches away where “a person of ordinary skill would have been deterred from combining [the prior art] in the manner that [the defendant] proposes”).</p>	<p>This case focused on predictability and when prior art teaches away. This case suggests that for the Combining Prior Art Elements According to Known Methods rationale, the requirement that the combination yield predictable results “refers not only to the expectation that prior art elements are capable of being physically combined, but also that the combination would have worked for its intended purpose.” However, prior art teaches away where the combination would not have worked for the intended purpose of the claimed invention, specifically where “the prior art’s teachings undermine the very reason being proffered as to why a person of ordinary skill would have combined the known elements.” Conversely, “[a] reference does not teach away, however, if it merely expresses a general preference for an alternative invention but does not ‘criticize, discredit, or otherwise discourage’ investigation into the invention claimed.”</p>
<p>Boston Scientific Scimed, Inc. v. Cordis Corp., 554 F.3d 982, 989 (Fed. Cir. 2009) (rejecting the argument that “<i>KSR</i> is irrelevant to this obviousness inquiry because [the defendant] urged no particular combination of references”).</p>	<p>Under the reasoning of this court, there is no need to allege a particular rationale to render an invention obvious. Further, this case suggests that one of ordinary skill does not need to recognize the particular benefits of the claimed invention to render the invention obvious.</p>
<p>Rothman v. Target Corp., 556 F.3d 1310, 1319 (Fed. Cir. 2009) (stating that since “this invention falls into a very predictable field . . . a trial record may more readily show a motivation to combine known elements to yield a predictable result, thus rendering a claimed invention obvious”).</p>	<p>This case stands for the proposition that when the invention “falls into a very predictable field,” the record “may more readily show a motivation to combine known elements to yield a predictable result.” Thus, the obviousness standard turns not only on the predictability of the result of a combination but also on the predictability of the field of endeavor.</p>
<p>Ball Aerosol & Specialty Container, Inc. v. Ltd. Brands, Inc., 555 F.3d 984, 993-94 (Fed. Cir. 2009) (holding that the “combination of putting feet on the bottom of the candle holder and using the cover as a base for the candle holder was a predictable variation” because the combination was obvious to try in an effort to alleviate known problems).</p>	<p>The reasoning in this case suggests that the Combining Prior Art Elements According to Known Methods rationale turns on whether it was a predictable variation. The Obvious to Try rationale informs the analysis of whether the variation was predictable by focusing on the known problem and potential solutions. This case also makes clear that there must be some motivation to combine the prior art in the manner of the claimed invention. The court turns to the Non-Rigid TSM Test to inform the analysis of the motivation to combine.</p>

<p>Friskit, Inc. v. Real Networks, Inc., 306 F. App'x 610, 616-17 (Fed. Cir. 2009) (holding claims obvious where the invention merely "deliver[ed] the glue to put existing technologies together into a single application" and the elements were clear alternatives to the prior art and the modifications trivial).</p>	<p>A combination that merely puts together known elements into a single application is not patentable under the Combining Prior Art Elements According to Known Methods rationale where there is no change in the respective functions. The elements the patentee claimed as novel were trivial modifications to the prior art. Additionally, the prior art does not teach away from the combination by a mere showing that the claimed invention was contrary to the prior art. If the claimed invention is a clear alternative to the prior art, then the invention is likely obvious under the prior art.</p>
<p>Sundance, Inc. v. DeMonte Fabricating Ltd., 550 F.3d 1356, 1367-68 (Fed. Cir. 2008) (holding that the prior art element performs the same function as it does independent of the other prior art element).</p>	<p>The court began the analysis by citing the Combining Prior Art Elements According to Known Methods rationale and stating that the invention in this case is precisely such an obvious combination. The court focused on the fact that each of the elements performs the same function it would independently. The court used the Simple Substitution of One Known Element for Another to Obtain Predictable Results rationale to inform the analysis of the Combining Prior Art Elements According to Known Methods rationale.</p>
<p>Commonwealth Scientific & Indus. Research Org. v. Buffalo Tech. (USA), Inc., 542 F.3d 1363, 1374-78 (Fed. Cir. 2008) (finding a genuine issue of material fact as to whether there was a motivation to combine the references where the prior art was directed to solving the same problem).</p>	<p>This case demonstrates that it is enough to create a genuine issue of material fact regarding motivation to combine by showing that the prior art references address the same problem. The plaintiff responded citing the TSM rationale, the Simple Substitution of One Known Element for Another, and the Application of a Known Technique to a Piece of Prior Art Ready for the Improvement rationale as evidence of a lack of motivation to combine. However, the court found that a genuine issue of fact existed because the plaintiff failed to address the issue that the known problem could be sufficient to create a motivation to combine. This shows that reliance on any specific rationale does not negate a motivation to combine or prove that the prior art teaches away.</p>
<p>Eisai Co. v. Dr. Reddy's Labs., Ltd., 533 F.3d 1353, 1358 (Fed. Cir. 2008) ("KSR assumes . . . prior to the time of invention . . . a skilled artisan might identify a problem and pursue potential solutions . . . [and] that the record up to the time of invention would give some reasons, available within the knowledge of one of skill in the art, to make particular modifications to achieve the [invention].").</p>	<p>This case focused on the underlying assumptions in KSR. Two of these assumptions relate to the Combining Prior Art Elements According to Known Methods rationale and the other to the Obvious to Try rationale. First, one of ordinary skill would identify a problem and then pursue potential solutions. At this point, if something is likely to be found obvious, there would be reasons, prior to invention and available in the prior art, that the patentee would make particular modifications or combinations to achieve the claimed invention. This case suggests that if there is no reason to combine the prior art before the invention, the patent is likely non-obvious and an unpredictable result.</p>

<p>Sanofi-Synthelabo v. Apotex, Inc., 550 F.3d 1075, 1090 (Fed. Cir. 2008) (rejecting an argument under the Combining Prior Art Elements According to Known Methods rationale involving the separation of enantiomers).</p>	<p>The defendant cited the Combining Prior Art Elements According to Known Methods rationale to argue that the invention which separates enantiomers had predictable properties. The patentee contended that there was a distinction between a combination involving a mechanical device that contains known elements operating according to their known properties and an invention in the chemical arts where the elements are merely combined and operating according to their known function. This case seems to suggest that it would be difficult to apply the Combining Prior Art Elements According to Known Methods rationale to the chemical and related arts.</p>
<p><i>In re</i> Tzipori, 316 F. App'x 975, 982-85 (Fed. Cir. 2008) (affirming the PTO's finding of obviousness, even absent an explicit analysis and explanation of a motivation to combine, because the prior art contained all the limitations and one of ordinary skill would have been motivated to combine the references to achieve a more effective therapy).</p>	<p>This case seems to imply that although <i>KSR</i> specifically stated that the obviousness analysis must be explicit and that mere conclusory statements are not enough to render a claim obvious, the court may review the record and infer its own reasoning to support a conclusion of obviousness where the PTO has failed to present explicit reasoning.</p>
<p>Muniauction, Inc. v. Thomson Corp., 532 F.3d 1318, 1325-27 (Fed. Cir. 2008) (beginning the obviousness analysis with an understanding that the invention was a combination of two well known prior art elements).</p>	<p>This case suggests that it is not enough that the invention contain two known elements that are operating according to their established functions. The combination of such elements must be predictable and there must be a motivation to combine the elements. The court in this case used the other rationales to answer these additional considerations.</p>
<p><i>In re</i> ICON Health & Fitness, Inc., 496 F.3d 1374, 1380-82 (Fed. Cir. 2007) (concluding that the prior art does not teach away from a combination where there was a motivation to combine and the combination was no more than that of known elements performing according to their established functions).</p>	<p>In this case, the court examined when a motivation to combine exists. The fact that the primary purpose of known elements is different from their use in the invention does not imply that the claim is non-obvious or that the prior art teaches away. Instead, known elements may have obvious uses beyond these primary purposes and the court should take into account any obvious modifications one of ordinary skill would make to such known elements when making the combination. This case suggests that the nature of the problem to be solved and analogous art may be sufficient to establish a motivation to combine, except where such a combination would render the result inoperable.</p>
<p>PharmaStem Therapeutics, Inc. v. ViaCell, Inc., 491 F.3d 1342, 1360-64 (Fed. Cir. 2007) (announcing the test for obviousness as requiring a determination of whether "a person of ordinary skill in the art would have had reason to attempt to make the composition or device, or carry out the claimed process, and would have had a reasonable expectation of success in doing so").</p>	<p>Here, the court implies that the obviousness standard involves a determination of whether there was a motivation to combine and whether there was a reasonable expectation of success in making the combination. In this case, the focus is on the reasonable expectation of success since the prior art explicitly suggested the combination. This case implies that even if a motivation to combine is present there must also be a reasonable expectation of success, and where the invention is merely experimental proof of a suggestion in the prior art, the invention is obvious.</p>

<p><i>Omegaflex, Inc. v. Parker-Hannifin Corp.</i>, 243 F. App'x 592, 596-97 (Fed. Cir. 2007) (examining expert testimony concerning whether a combination was obvious).</p>	<p>This case addresses the obviousness inquiry as twofold: a motivation to combine and a reasonable expectation of success. Respecting the motivation to combine, the motivation does not need to be found in the prior art references themselves, but rather the knowledge of one of ordinary skill is sufficient to prove motivation. This case suggests that the testimony of one representative of ordinary skill can establish a motivation or lack thereof to combine. Respecting the reasonable expectation of success, expert testimony may also be sufficient to support a conclusion of obviousness or lack thereof.</p>
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2. The Obviousness Standard Based on the Combining Prior Art Elements According to Known Methods to Yield Predictable Results Rationale in Post-KSR Litigation

This Section applies the analysis of each of the cases in Part III.A.1 and synthesizes the application of the Combining Prior Art Elements According to Known Methods to Yield Predictable Results rationale in those cases into general principles that govern the Combining Prior Art Elements According to Known Methods to Yield Predictable Results rationale.

Since *KSR*, courts have most often used the Combining Prior Art Elements According to Known Methods to Yield Predictable Results rationale when deciding issues of obviousness.¹⁶⁴ However, courts have also frequently accompanied the Combining Prior Art Elements According to Known Methods to Yield Predictable Results rationale with one or more of the other rationales.¹⁶⁵ A broad examination of the post-*KSR* cases that apply the Combining Prior Art Elements According to Known Methods to Yield Predictable Results rationale further reveals the principles underlying a conclusion of obviousness based on its use.

Post-*KSR* cases frequently cite *Anderson's-Black Rock v. Pavement Salvage Co.*¹⁶⁶ for the proposition that a device that does not create some new synergy is obvious because the known elements function just as they were expected to function,¹⁶⁷ and the combination added nothing more than what the two would do separately in a sequential operation, since the operation of each element was not dependent on the other.¹⁶⁸ The convenience of

¹⁶⁴ Compare *supra* Part III.A.1, with *infra* Parts III.B-G.

¹⁶⁵ See *supra* Part III.A.1.

¹⁶⁶ 396 U.S. 57 (1969).

¹⁶⁷ See *Sakraida v. Ag Pro, Inc.*, 425 U.S. 273, 282 (1976) (suggesting that where a patent merely rearranges known elements in a manner in which each individual element is performing the same function as the prior art and the combination functions as one would expect from the design, it is obvious).

¹⁶⁸ See *Anderson's-Black Rock*, 396 U.S. at 60-62.

putting known elements together in one machine that does not produce a new or different function is an obvious combination.¹⁶⁹

Post-*KSR* cases using the Combining Prior Art Elements According to Known Methods to Yield Predictable Results rationale focus on whether the prior art teaches away from making the combination of the elements.¹⁷⁰ The principles behind whether prior art teaches away are derived from *United States v. Adams*.¹⁷¹ Prior art teaches away from a claimed invention when the ability to combine the individual components similar to the claimed invention requires that a person reasonably skilled in the prior art ignore the perception that such a combination would be impractical.¹⁷² The Supreme Court stated that “when the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be nonobvious.”¹⁷³ A conclusion of non-obviousness is further supported when “the elements worked together in an unexpected and fruitful manner.”¹⁷⁴

For the Combining Prior Art Elements According to Known Methods to Yield Predictable Results rationale, the post-*KSR* cases expand on the principles articulated in the Supreme Court cases on which the *KSR* Court relied. The important post-*KSR* inquiry is whether the combination is more than the predictable use of known elements according to their established functions.¹⁷⁵ A combination is unlikely to be predictable if such known elements work together “in an unexpected and fruitful manner.”¹⁷⁶ However, post-*KSR* cases suggest that *KSR* does not stand for the principle that a combination of known elements *must* produce some new or unexpected results to be patentable.¹⁷⁷ An invention may be found non-obvious where the inventor discovers a successful means of combining known elements that the prior art teaches away from combining.¹⁷⁸ This occurs where the prior art is in such a different field that one of ordinary skill in the art would

¹⁶⁹ *Id.* at 60.

¹⁷⁰ *See supra* Part III.A.1.

¹⁷¹ *United States v. Adams*, 383 U.S. 39 (1966).

¹⁷² *Id.* at 51-52.

¹⁷³ *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 416 (2008); *see also* *Depuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 526 F. Supp. 2d 162, 170 (D. Mass. 2007) (“A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.” (quoting *Ormco Corp. v. Align Tech., Inc.*, 463 F.3d 1299, 1308 (Fed. Cir. 2006))).

¹⁷⁴ *KSR Int'l*, 550 U.S. at 416.

¹⁷⁵ *See supra* Part III.A.1; *see, e.g.*, *Tokyo Keiso Co. v. SMC Corp.*, 533 F. Supp. 2d 1047, 1058 (C.D. Cal. 2007), *aff'd*, 307 F. App'x 446 (Fed. Cir. 2009).

¹⁷⁶ *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F. Supp. 2d 1016, 1034 (S.D. Cal. 2008) (quoting *KSR Int'l*, 550 U.S. at 416); *see also supra* Part III.A.1.

¹⁷⁷ *See supra* Part III.A.1; *see, e.g.*, *Depuy Spine, Inc.*, 526 F. Supp. 2d at 171.

¹⁷⁸ *See supra* Part III.A.1; *see, e.g.*, *Patent Category Corp. v. Target Corp.*, 567 F. Supp. 2d 1171, 1195 (C.D. Cal. 2008); *Lucent Techs.*, 580 F. Supp. 2d at 1033-34.

not readily recognize the potential to combine the existing elements in the manner set forth in the invention to be patented.¹⁷⁹ Thus, the Combining Prior Art Elements According to Known Methods to Yield Predictable Results rationale generally does not support a conclusion of obviousness where the invention crosses different types of art or focuses on solving different types of problems.¹⁸⁰ The complexity of the problem also bears on the determination of whether a combination would be predictable to one of ordinary skill in the art.¹⁸¹

In addition to being predictable, there must be some motivation to combine the references.¹⁸² Motivation is frequently tied to the perceived benefit of combining the references to one of ordinary skill in the art at the time of the invention.¹⁸³ A lack of motivation cannot be proved merely by a showing that the prior art would not be combined for economic reasons.¹⁸⁴ Instead it is necessary to show that skilled persons in the art felt that there was some technological incompatibility that prevented the combination of the elements.¹⁸⁵

Thus, by analyzing 61 of the 105 post-*KSR* cases discussing obviousness in patent litigation, one can see that the Combining Prior Art Elements According to Known Methods to Yield Predictable Results rationale turns on whether one of ordinary skill in the art would perceive the results of the combination of known elements as predictable and have a motivation to make the combination in the manner of the invention.

B. *Simple Substitution of One Known Element for Another to Obtain Predictable Results*

The Simple Substitution of One Known Element for Another to Obtain Predictable Results rationale closely relates to the Combining Prior Art Elements According to Known Methods to Yield Predictable Results ra-

¹⁷⁹ See *supra* Part III.A.1; see, e.g., *GSI Group, Inc. v. Sukup Mfg. Co.*, No. 05-3011, 2008 WL 4225457, at *15 (C.D. Ill. Sept. 12, 2008).

¹⁸⁰ See *supra* Part III.A.1; see, e.g., *Henrob Ltd. v. Bollhoff Systemtechnik GmbH & Co.*, No. 05-CV-73214-DT, 2008 WL 5383580, slip op. at 17 (E.D. Mich. Dec. 23, 2008).

¹⁸¹ See *supra* Part III.A.1; see, e.g., *Allan Block Corp. v. County Materials Corp.*, No. 05-2879, 2008 WL 5273730, slip op. at 13 (D. Minn. Dec. 17, 2008).

¹⁸² See *supra* Part III.A.1; see, e.g., *E.I. Du Pont de Nemours & Co. v. MacDermid, Inc.*, No. 06-3383, 2008 WL 4952450, slip op. at 29 (D.N.J. Nov. 19, 2008); *Abbott Labs. v. Sandoz, Inc.*, 500 F. Supp. 2d 846, 851 (N.D. Ill. 2007), *aff'd*, 544 F.3d 1341 (Fed. Cir. 2008).

¹⁸³ See *supra* Part III.A.1; see, e.g., *MacDermid*, 2008 WL 4952450, slip op. at 29; *Abbott Labs.*, 500 F. Supp. 2d at 851.

¹⁸⁴ See *supra* Part III.A.1; see, e.g., *McNeil-PPC, Inc. v. Perrigo Co.*, 516 F. Supp. 2d 238, 251 (S.D.N.Y. 2007) (citing *Orthopedic Equip. Co. v. United States*, 702 F.2d 1005, 1013 (Fed. Cir. 1983)), *aff'd*, 274 F. App'x 899 (Fed. Cir. 2008).

¹⁸⁵ See *McNeil-PPC*, 516 F. Supp. 2d at 251.

tionale.¹⁸⁶ When the Simple Substitution of One Known Element for Another to Obtain Predictable Results rationale is cited, the Combining Prior Art Elements According to Known Methods to Yield Predictable Results rationale is almost always cited as well.¹⁸⁷ The PTO bases the Simple Substitution of One Known Element for Another to Obtain Predictable Results rationale on the portion of *KSR* which states: “[T]he claimed subject matter may involve more than the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement.”¹⁸⁸

1. Application of the Simple Substitution of One Known Element for Another to Obtain Predictable Results Rationale in Post-*KSR* Litigation

This section dissects eight of the 105 most prominent and recent cases that are based on the Simple Substitution of One Known Element for Another to Obtain Predictable Results rationale to determine when it establishes obviousness.

a. *Third Circuit*

Case	Application of “Simple Substitution of One Known Element for Another to Obtain Predictable Results” Rationale
PBI Performance Prods., Inc. v. NorFab Corp., 514 F. Supp. 2d 732, 740-43 (E.D. Pa. 2007) (“Like the adjustable pedal assembly at issue in <i>KSR</i> , this case involves only ‘the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement.’”).	After comparing the prior art to the claimed invention by analyzing the comparison under the Use of Known Technique to Improve Similar Devices (Methods, or Products) in the Same Way rationale with the Combining Prior Art Elements According to Known Methods rationale, the court then merely stated that, like the invention at issue in <i>KSR</i> , the invention here was obvious under the Simple Substitution of One Known Element for Another to Obtain Predictable Results rationale. Thus, this case demonstrates how the courts use the rationales interchangeably.

¹⁸⁶ Compare *supra* Part III.A, with *infra* Part III.B.

¹⁸⁷ *Id.*

¹⁸⁸ *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007).

b. *Sixth Circuit*

Case	Application of "Simple Substitution of One Known Element for Another to Obtain Predictable Results" Rationale
Sud-Chemie, Inc. v. Multisorb Techs., Inc., No. 3:03CV-29-S, 2007 WL 2669366, at *5 (W.D. Ky. Sept. 7, 2007) ("[T]here would be motivation to substitute a dessicant for the oxygen absorbent material in a container which had solved this manufacturing problem."), <i>vacated</i> , 554 F.3d 1001 (Fed. Cir. 2009).	The court here emphasized that there needs to be a motivation to make the substitution. This motivation may come from the establishment of one of the other rationales. In this case the fact that there was a reason to try the specific combination and that it did not yield unexpected results provided a motivation for the substitution. The motivation to make the substitution may also come from the nature of the problem the patent addresses.

c. *Seventh Circuit*

Case	Application of "Simple Substitution of One Known Element for Another to Obtain Predictable Results" Rationale
Fisher-Barton Blades, Inc. v. Blount, Inc., 584 F. Supp. 2d 1126, 1151-52 (E.D. Wis. 2008).	The court here merely quoted the language of <i>KSR</i> for most of the rationales before focusing on whether the prior art taught away. This case demonstrates that the courts do not apply a particular rationale consistently but merely cite the language before performing a different analysis.

d. *Ninth Circuit*

Case	Application of "Simple Substitution of One Known Element for Another to Obtain Predictable Results" Rationale
Lucent Techs., Inc. v. Gateway, Inc., 580 F. Supp. 2d 1016, 1034 (S.D. Cal. 2008) (citing the language underlying the Simple Substitution of One Known Element for Another to Obtain Predictable Results rationale and stating that the claims were non-obvious where there was substantial uncertainty regarding the prior art).	This case suggests that where there are substantial uncertainties respecting the capabilities of a system, a simple substitution of elements is unlikely to be found predictable. The court here does not elaborate further on what constitutes a simple substitution that is predictable and merely cites the Simple Substitution of One Known Element for Another to Obtain Predictable Results rationale. However, the court makes clear that the results of the substitution must be predictable to one of ordinary skill in the art.

Tokyo Keiso Co. v. SMC Corp., 533 F. Supp. 2d 1047, 1058-59 (C.D. Cal. 2007) (finding that the “plaintiff’s use of the best type of [the element] is a predictable next step to the prior art”), <i>aff’d</i> , 307 F. App’x 446 (Fed. Cir. 2009).	In this case, the court cites the language in <i>KSR</i> that establishes the Simple Substitution of One Known Element for Another to Obtain Predictable Results rationale. The court then applies it to one of the steps in the inventive process, while using the other rationales at other steps. This case stands for the proposition that where a substitution is possible in the prior art, substituting a specific type of the element is likely a predictable step.
Asyst Techs., Inc. v. Empak, Inc., No. C 98-20451 JF (EAI), 2007 WL 2255220, at *5-10 (N.D. Cal. Aug. 3, 2007) (holding that “[t]he evidence showed that substitution of [one element for another] was not uncommon, even if it was not necessarily easy or always advantageous”).	This case implies that where a specific substitution is common in the prior art, even if not always advantageous, and the implementation of the substitution is within the capability of one of ordinary skill, the result is likely to be predictable. However, there must be motivation to substitute the elements.

e. *Federal Circuit*

Case	Application of “Simple Substitution of One Known Element for Another to Obtain Predictable Results” Rationale
Sundance, Inc. v. DeMonte Fabricating Ltd., 550 F.3d 1356, 1367 (Fed. Cir. 2008) (reasoning that “the benefits of combining Hall and Cramaro would have been inescapably obvious to a person of ordinary skill in the art at the time of the invention of the truck cover claimed in the ‘109 patent”).	Here, the court focused on the Simple Substitution of One Known Element for Another to Obtain Predictable Results rationale but cited the Combining Prior Art Elements According to Known Methods rationale as a conclusion of obviousness. In applying the Substitution of One Known Element for Another to Obtain Predictable Results rationale, the court looked to whether one of ordinary skill in the art would have recognized the benefits of making the substitution.
Asyst Techs., Inc. v. Emtrak, Inc., 544 F.3d 1310, 1315 (Fed. Cir. 2008) (affirming a finding of obviousness under the Substitution of One Known Element for Another to Obtain Predictable Results rationale where the patentee failed to show that the use of the known element in the system operated contrary to its conventional manner and that the substitution of elements was unfamiliar to those of ordinary skill).	This case blends the Substitution of One Known Element for Another to Obtain Predictable Results rationale with the Use of Known Technique to Improve Similar Devices (Methods, or Products) in the Same Way rationale. It stands for the proposition that there must be a motivation to make the substitution, which this court finds in the analysis of the Use of Known Technique to Improve Similar Devices (Methods, or Products) in the Same Way rationale. Where the choice between two known alternatives is well-known and there is evidence that the use of one over the other would improve the system, the substitution is obvious.

2. The Obviousness Standard Based on the Simple Substitution of One Known Element for Another to Obtain Predictable Results Rationale in Post-KSR Litigation

This Section applies the analysis of the cases from Part III.B.1 and synthesizes generalized principles that support obviousness based on the Simple Substitution of One Known Element for Another to Obtain Predictable Results rationale.

The use of this rationale is illustrated in *Asyst Technologies, Inc. v. Empak, Inc.*¹⁸⁹ The invention in *Asyst* was directed to a method for tracking articles used in a manufacturing facility.¹⁹⁰ *Asyst* presented evidence at trial that there was market demand for a system that could track containers in large production facilities.¹⁹¹ The use of a multiplexer to scale up a prior art system for use in a large facility also was a known solution and was within the capabilities of a person of skill in the art at the time of the invention.¹⁹² The evidence showed that substitution of a multiplexer for a bus was not uncommon, even if it was not always advantageous.¹⁹³ The use of a multiplexer in the invention appears to be a product of ordinary skill and common sense.¹⁹⁴ Thus, the court found a motivation to substitute the elements, rendering the invention obvious.¹⁹⁵

Thus, the eight post-KSR cases applying the Simple Substitution of One Known Element for Another to Obtain Predictable Results rationale demonstrate that, similar to the first rationale, there must be a motivation for substituting the known elements.¹⁹⁶ Express suggestion in the prior art to substitute one known element for its equivalent is not required to find obviousness.¹⁹⁷ Instead, any need, problem, or understanding known in the field of endeavor may provide a reason for such substitution.¹⁹⁸ Also like the first rationale, the analysis of eight of the 105 cases demonstrates that the obviousness inquiry under this rationale turns on whether one of ordinary skill in the art would perceive the results of the substitution predictable.

¹⁸⁹ No. C 98-20451 JF (EAI), 2007 WL 2255220 (N.D. Cal. Aug. 3, 2007).

¹⁹⁰ *Id.* at *1.

¹⁹¹ *Id.* at *7.

¹⁹² *Id.*

¹⁹³ *Id.*

¹⁹⁴ *Id.*

¹⁹⁵ *Asyst*, 2007 WL 2255220, at *7.

¹⁹⁶ See *supra* Part III.B.1; see, e.g., *Sud-Chemie, Inc. v. Multisorb Techs., Inc.*, No. 3:03CV-29-S, 2007 WL 2669366, at *5 (W.D. Ky. Sept. 7, 2007), *vacated*, 554 F.3d 1001 (Fed. Cir. 2009).

¹⁹⁷ See *supra* Part III.B.1; see also *In re Fout*, 675 F.2d 297, 301 (C.C.P.A. 1982).

¹⁹⁸ See *supra* Part III.B.1; see, e.g., *Sud-Chemie*, 2007 WL 2669366, at *4-5.

C. *Use of a Known Technique to Improve Similar Devices in the Same Way Rationale*

The language in *KSR* that forms the basis for the Use of a Known Technique to Improve Similar Devices in the Same Way rationale is: “[I]f a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.”¹⁹⁹

1. Application of the Use of a Known Technique to Improve Similar Devices in the Same Way Rationale in Post-*KSR* Litigation

This Section examines eight of the 105 most prominent and recent cases employing the Use of a Known Technique to Improve Similar Devices in the Same Way rationale in detail to determine when it supports a conclusion of obviousness.

a. *Third Circuit*

Case	Application of “Use of Known Technique to Improve Similar Devices (Methods, or Products) in the Same Way” Rationale
<p>PBI Performance Prods., Inc. v. NorFab Corp., 514 F. Supp. 2d 732, 740-43 (E.D. Pa. 2007) (holding that “the inventors of the [claimed invention] were merely incorporating a predictable use of prior art elements according to their established functions” by applying known techniques to a known object in the same manner as in the prior art and with the same benefits).</p>	<p>This case blends the Use of Known Technique to Improve Similar Devices (Methods, or Products) in the Same Way rationale with the Combining Prior Art Elements According to Known Methods rationale. The court here found that the techniques did not function differently in the claimed invention compared to the prior art uses. This case also suggests that an invention may be rendered obvious where the improvements resulting from a combination of known elements would be “easily recognizable to one of ordinary skill.” Thus, the case suggests that the Use of Known Technique to Improve Similar Devices (Methods, or Products) in the Same Way rationale informs the analysis of the known methods aspect of the Combining Prior Art Elements According to Known Methods rationale.</p>

¹⁹⁹ *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007).

b. *Seventh Circuit*

Case	Application of "Use of Known Technique to Improve Similar Devices (Methods, or Products) in the Same Way" Rationale
Fisher-Barton Blades, Inc. v. Blount, Inc., 584 F. Supp. 2d 1126, 1151-52 (E.D. Wis. 2008).	The court here merely quoted the language of <i>KSR</i> for most of the rationales before focusing on whether the prior art taught away. This case demonstrates that the courts do not apply a particular rationale consistently but merely cite the language before performing a different analysis.
Rowe Int'l Corp. v. Ecast, Inc., 586 F. Supp. 2d 924, 966-67 (N.D. Ill. 2008) (rejecting the argument that "simply adapting modern computers to older electro-mechanical devices is routine today" and therefore obvious because no evidence was presented in support of this contention).	The arguments here are presented in a manner which would be consistent with the Use of Known Technique to Improve Similar Devices (Methods, or Products) in the Same Way rationale. However, the defendants unsuccessfully cited to the Obvious to Try and Combining Prior Art Elements According to Known Methods rationale. This case shows that merely citing a rationale is not sufficient to overcome the burden of proving obviousness by clear and convincing evidence.

c. *Ninth Circuit*

Case	Application of "Use of Known Technique to Improve Similar Devices (Methods, or Products) in the Same Way" Rationale
Tokyo Keiso Co. v. SMC Corp., 533 F. Supp. 2d 1047, 1059 (C.D. Cal. 2007) (finding that using the best variation of a known technique is likely a predictable next step over the prior art), <i>aff'd</i> , 307 F. App'x 446 (Fed. Cir. 2009).	In this case, the court cites the language in <i>KSR</i> that establishes the Use of Known Technique to Improve Similar Devices in the Same Way rationale. The court then applies it to one of the steps in the inventive process, while using the other rationales at other steps. This case stands for the proposition that where a technique is common in the prior art, applying the best version of that technique is likely a predictable step.
Boston Scientific Corp. v. Johnson & Johnson, 534 F. Supp. 2d 1062, 1072-73 (N.D. Cal. 2007) (finding a triable issue as to whether the prior art taught away where it was unclear that the technique was a viable option).	This case combines the Use of Known Technique to Improve Similar Devices (Methods, or Products) in the Same Way rationale with the Obvious to Try rationale. This case suggests that where the use of a known technique to improve a device is one of a finite number of alternatives, if there is a reason to try such a technique the invention is likely obvious.

d. *Tenth Circuit*

Case	Application of “Use of Known Technique to Improve Similar Devices (Methods, or Products) in the Same Way” Rationale
Myers v. Master Lock Co., No. 06-cv-00619-LTB, 2008 WL 2168977, at *3-8 (D. Colo. May 22, 2008) (“The proper inquiry asks whether a person of ordinary skill would ‘have found it to have been obvious, from the references as a whole, to create the claimed subject matter as a whole,’ or ‘improve similar devices in the same way.’” (quoting <i>KSR Int’l</i> , 550 U.S. at 401 (2007)).	The court merely cites the Use of Known Technique to Improve Similar Devices (Methods, or Products) in the Same Way rationale along with other rationales in this case. This case implies that for an invention that improves similar devices in the same way, the prior art as a whole must be compared to the claimed subject matter as a whole. The <i>Graham</i> factors aid this analysis.

e. *Federal Circuit*

Case	Application of “Use of Known Technique to Improve Similar Devices (Methods, or Products) in the Same Way” Rationale
Ecolab, Inc. v. FMC Corp., Nos. 2008-1228, 2008-1252, 2009 WL 1605334, at *9-10 (Fed. Cir. June 9, 2009) (holding claims invalid as obvious where the prior art disclosed a technique to improve the effectiveness of a similar device).	This case suggests that desirability of a known technique may provide motivation to apply the technique to similar devices. Where one of ordinary skill would recognize the reasons to apply a known technique and would know how to apply the known technique, such a combination is likely obvious.
Asyst Techs., Inc. v. Emtrak, Inc., 544 F.3d 1310, 1315 (Fed. Cir. 2008).	This case blends the Substitution of One Known Element for Another to Obtain Predictable Results rationale with the Use of Known Technique to Improve Similar Devices (Methods, or Products) in the Same Way rationale. In this case, the court uses the Use of Known Technique to Improve Similar Devices (Methods, or Products) in the Same Way rationale to supply a motivation to make the substitution of one known element for another.

2. The Obviousness Standard Based on the Use of a Known Technique to Improve Similar Devices in the Same Way Rationale in Post-*KSR* Litigation

This Section applies the analysis of the cases from Part III.C.1 to establish the general situations in which the Use of a Known Technique to Improve Similar Devices in the Same Way rationale supports a conclusion of obviousness.

The Use of a Known Technique to Improve Similar Devices in the Same Way rationale is applied in *Tokyo Keiso Co. v. SMC Corp.*²⁰⁰ The invention in *Tokyo* was directed to a volume flow meter that “measure[d] the flow volume of fluids in a measuring line using a first and second measuring head.”²⁰¹ The prior art stated that the pipe comprised of a material that does not create an acoustic short circuit is ideal.²⁰² The prior art indicated that plastic is a common choice for this purpose.²⁰³ Therefore, the court found the use of the best type of plastic to be a predictable next step to the prior art.²⁰⁴ The prior art additionally involved solving acoustic signal interference.²⁰⁵ To this end, it would be predictable to improve the prior art references in a manner consistent with the invention.²⁰⁶ After consideration of all the *Graham* factors, the court found invalidity by clear and convincing evidence.²⁰⁷

An analysis of the cases using the Use of a Known Technique to Improve Similar Devices in the Same Way rationale indicates that, in addition to predictability, the Use of a Known Technique to Improve Similar Devices in the Same Way rationale turns on the nature of the problem to be solved and related possible solutions to that problem.²⁰⁸ The Use of a Known Technique to Improve Similar Devices in the Same Way rationale is satisfied where a method of enhancing a known class of devices is part of the ordinary capabilities of one skilled in the art based upon the teaching of such improvement in other situations and where the results would have been predictable.²⁰⁹ However, the Use of a Known Technique to Improve Similar Devices in the Same Way rationale is not appropriate where “the actual application of the technique would have been beyond the skill of one of ordinary skill in the art, then using the technique would not have been obvious.”²¹⁰

²⁰⁰ 533 F. Supp. 2d 1047 (C.D. Cal. 2007), *aff'd*, 307 F. App'x 446 (Fed. Cir. 2009).

²⁰¹ *Id.* at 1051-52 (internal quotation marks omitted).

²⁰² *Id.* at 1058.

²⁰³ *Id.* at 1059.

²⁰⁴ *Id.*

²⁰⁵ *Id.*

²⁰⁶ *Tokyo Keiso*, 533 F. Supp. 2d at 1060.

²⁰⁷ *Id.*; *see also* *Gemtron Corp. v. Saint-Gobain Corp.*, No. 1:04-0387, 2007 WL 4334780 (W.D. Mich. Dec. 6, 2007) (applying this rationale to an invention involving a refrigerator shelf).

²⁰⁸ *See supra* Part III.C.1; *see, e.g.*, *Ruiz v. A.B. Chance Co.*, 357 F.3d 1270 (Fed. Cir. 2004); *In re Nilssen*, 851 F.2d 1401, 1403 (Fed. Cir. 1988).

²⁰⁹ *See supra* Part III.C.1. *See also* MPEP, *supra* note 17, § 2143.

²¹⁰ MPEP, *supra* note 17, § 2143.

D. *Applying a Known Technique to a Known Device Ready for Improvement to Yield Predictable Results*

There is a subtle difference between the Applying a Known Technique to a Known Device Ready for Improvement to Yield Predictable Results rationale and the Use of a Known Technique to Improve Similar Devices in the Same Way rationale. The language in *KSR* supplying the basis of the Applying a Known Technique to a Known Device Ready for Improvement to Yield Predictable Results rationale reveals this distinction. “The mere application of a known technique to a piece of prior art ready for the improvement” is obvious.²¹¹

1. Application of the Applying a Known Technique to a Known Device Ready for Improvement to Yield Predictable Results Rationale in Post-*KSR* Litigation

This Section analyzes thirteen of the 105 most prominent and recent cases that cite or apply the Applying a Known Technique to a Known Device Ready for Improvement to Yield Predictable Results rationale to discern when it merits a conclusion of obviousness.

a. *Third Circuit*

Case	Applying a Known Technique to a Known Device Ready for Improvement to Yield Predictable Results Rationale
Telcordia Techs., Inc. v. Cisco Sys., Inc., 592 F. Supp. 2d 727, 741-42 (D. Del. 2009) (stating that the defendant did not present evidence demonstrating “how one of ordinary skill in the art, when motivated by the [design incentives], would have implemented all the modifications necessary to arrive at the [claimed] method from the . . . technique as taught by [the prior art]”).	This case demonstrates that there must not only be a reason to modify a known device ready for improvement but there must also be evidence that one of ordinary skill would implement the known techniques to arrive at the claimed invention.
Everett Labs., Inc. v. Breckenridge Pharm., Inc., 573 F. Supp. 2d 855, 863 (D.N.J. 2008).	The court does not cite or rely on the Applying Known Technique to a Known Device Ready for Improvement to Yield Predictable Results rationale. Rather the defendant merely asserts that the patent is nothing more than an improvement upon existing prior art. This case suggests that an improvement upon prior art may be patentable as long as it is not predictable.

²¹¹ *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007).

b. *Sixth Circuit*

Case	Applying a Known Technique to a Known Device Ready for Improvement to Yield Predictable Results Rationale
Gemtron Corp. v. Saint-Gobain Corp., No. 1:04-0387, 2007 WL 4334780, at *7 (W.D. Mich. Dec. 6, 2007) (“[T]he references [the defendant] relie[d] on are so far different than [the claimed invention] that it cannot be said that nothing more than a ‘known technique’ to a new use is present.”).	This case also implies that where the prior art is substantially distinct from the claimed invention, it is not enough to merely assert that the invention applies a known technique to a new use. This case also looks at the Combining Prior Art Elements According to Known Methods rationale.

c. *Seventh Circuit*

Case	Applying a Known Technique to a Known Device Ready for Improvement to Yield Predictable Results Rationale
Fisher-Barton Blades, Inc. v. Blount, Inc., 584 F. Supp. 2d 1126, 1151-52 (E.D. Wis. 2008).	The court here merely quoted the language of <i>KSR</i> for most of the rationales before focusing on whether the prior art taught away. This case demonstrates that courts do not apply a particular rationale consistently but merely cite the language before performing a different analysis.
GSI Group, Inc. v. Sukup Mfg. Co., No. 05-3011, 2008 WL 4225457, at *15-16 (C.D. Ill. Sept. 12, 2008) (finding that the prior art “may be in such a different field that a person of ordinary skill in the art would not see the possibility of” improving the device with the combination).	This case stands for the proposition that if the technique and the known device ready for improvement are in distinct fields of endeavor such that one of ordinary skill would not see the benefit of applying the technique to make the improvement, the result is likely non-obvious. This case uses the Applying Known Technique to a Known Device Ready for Improvement to Yield Predictable Results to inform the analysis of the Combining Prior Art Elements According to Known Methods rationale.

d. *Eighth Circuit*

Case	Applying a Known Technique to a Known Device Ready for Improvement to Yield Predictable Results Rationale
Caddy Prods., Inc. v. Am. Seating Co., No. 05-800 (JRT/FLN), 2009 WL 799615, slip op. at 10 (D. Minn. Mar. 24, 2009) (“[The defendant] also contends that as a result of [the recognition of a known problem], the early design in [the prior art] was ‘ready for improvement.’”).	The court here cited the language of the Obvious to Try rationale for the proposition that a known problem in the prior art that led to the development of the claimed invention can be relevant to the obviousness inquiry and stated that as a result of the recognition of a known problem in the prior art, the prior art was ready for improvement.
Andersen Corp. v. Pella Corp., 500 F. Supp. 2d 1192, 1195 (D. Minn. 2007) (using a known technique to improve a known device is obvious unless it is beyond the capabilities of one of ordinary skill), <i>vacated</i> , 300 F. App’x 893 (Fed. Cir. 2008).	The court rejected the argument that the prior art taught away where the application of the known technique was practiced in the industry. However, if applying the technique to the device is beyond the capabilities of one of ordinary skill, the application is likely non-obvious. This case applies many of the rationales.

e. *Ninth Circuit*

Case	Applying a Known Technique to a Known Device Ready for Improvement to Yield Predictable Results Rationale
Single Chip Sys. Corp. v. Intermec IP Corp., 495 F. Supp. 2d 1066, 1085-86 (S.D. Cal. 2007) (finding a genuine issue of material fact as to whether one of ordinary skill would look to the known technique and device because doing so would not improve the system and would rather take away its ability to perform), <i>vacated</i> , Nos. 04CV1517JAH(CAB), 07CV256JAH(CAB), 2007 WL 2600850 (S.D. Cal. Aug. 28, 2007).	In this case, the prior art suggested design changes that could enhance marketability of an improved device. However, the court focused on the analysis of the Applying a Known Technique to a Known Device Ready for Improvement to Yield Predictable Results rationale as a reason to apply the technique. This case suggests that there must be a reasonable expectation that the application of the technique would improve the device. If applying such a technique would take away from the ability of the device to perform according to its known function, the prior art, or the application of the technique, would teach away from making a combination. A reasonable expectation of success requires a certain degree of predictability.

f. *Eleventh Circuit*

Case	Applying a Known Technique to a Known Device Ready for Improvement to Yield Predictable Results Rationale
Johnson & Johnson Vision Care, Inc. v. CIBA Vision Corp., Nos. 3:05-cv-135-J-32TEM, 3:06-cv-301-J-32TEM, 2008 WL 5129422, slip op. at 18-19 (M.D. Fla. Dec. 3, 2008) (finding a process including nothing more than routine skill to make a product compatible by adding a known treatment not non-obvious).	This case suggests that where a combination was nothing more than routine skill making a known device compatible with another by applying a known technique, the result is likely obvious. This case focuses primarily on other rationales.

g. *Federal Circuit*

Case	Applying a Known Technique to a Known Device Ready for Improvement to Yield Predictable Results Rationale
Abbott Labs. v. Sandoz, Inc., 544 F.3d 1341, 1351-53 (Fed. Cir. 2008) (rejecting the argument that a person of ordinary skill would have the motivation to improve a device with a known technique because there was a lack of support for the argument).	Here, the court relies primarily on the other rationales. The defendant argues that one of ordinary skill would desire to improve an existing product by applying an existing technique and that is a motivation to combine under the Combining Prior Art Elements According to Known Methods rationale. The court rejects this argument because the defendant fails to support this conclusion with factual evidence.
Muniauction, Inc. v. Thomson Corp., 532 F.3d 1318, 1327-28 (Fed. Cir. 2008) (holding that "adapting existing electronic processes to incorporate modern internet and web browser technology" was commonplace and therefore predictable).	Despite the patentee's contention that it was beyond the capabilities of one of ordinary skill to implement the particular steps of the invention, the court found that the adaptation of the older device with a known element was predictable. This case suggests that merely adapting an old process or device to modernize it through the application of another known element is likely obvious.
<i>In re</i> Translogic Tech., Inc., 504 F.3d 1249, 1262 (Fed. Cir. 2007) (ruling that the claims were obvious where the results of applying a known technique to a well known device would have been predictable), <i>cert. denied sub nom.</i> Translogic Tech., Inc. v. Dudas, 129 S. Ct. 43 (2008).	This case focuses on the motivation to apply the technique to the device. Further, the results of applying the technique to the device must be reasonably predictable to one of ordinary skill for the invention to be rendered obvious.
Leapfrog Enters., Inc. v. Fisher-Price, Inc., 485 F.3d 1157, 1161 (Fed. Cir. 2007) ("Applying modern electronics to older mechanical devices has been commonplace in recent years.").	This case stands for the proposition that merely taking a prior art mechanical device and adding modern electronics is likely to be obvious.

2. The Obviousness Standard Based on the Applying a Known Technique to a Known Device Ready for Improvement to Yield Predictable Results Rationale in Post-*KSR* Litigation

This Section uses the analysis of all the cases of Part III.D.1 to discover and synthesize the general principles underlying the Applying a Known Technique to a Known Device Ready for Improvement to Yield Predictable Results rationale.

Like the Use of a Known Technique to Improve Similar Devices in the Same Way rationale, in analyzing this rationale, post-*KSR* courts have looked to the base system, the improved system, and the known technique.²¹² The base system is the prior art system.²¹³ The improved system is the claimed invention.²¹⁴ The known technique involves an application of a technique extracted from the prior art.²¹⁵ The post-*KSR* cases demonstrate that an invention is obvious where the improvement yields no more than a predictable outcome to one of ordinary skill and the improvement is a known technique of the trade or an obvious expedient.²¹⁶

It is not enough to argue that because the known technique exists among a few possibilities the application of it will yield predictable results.²¹⁷ There has to be motivation to narrow the alternative known techniques to the one used and also motivation to apply the technique to the device.²¹⁸ In other words, the technique must be applicable to the device such that one of ordinary skill in the art would recognize that applying the technique would improve the system in the same manner as the invention.²¹⁹ Thus, like the other rationales, the Applying a Known Technique to a Known Device Ready for Improvement to Yield Predictable Results rationale turns on predictability and further focuses on the capabilities of one skilled in the art.²²⁰

E. *Obvious to Try*

The Court in *KSR* stated that the Federal Circuit incorrectly held that “a patent claim cannot be proved obvious merely by showing that the com-

²¹² See *supra* Part III.D.1; see also *Dann v. Johnston*, 425 U.S. 219, 222-29 (1976).

²¹³ See *Dann*, 425 U.S. at 222-29.

²¹⁴ See *id.*

²¹⁵ See *id.*

²¹⁶ See *supra* Part III.D.1; see, e.g., *Dann*, 425 U.S. at 230.

²¹⁷ See *supra* Part III.D.1; see, e.g., *Boston Scientific Corp. v. Johnson & Johnson*, 534 F. Supp. 2d 1062, 1072-73 (N.D. Cal. 2007).

²¹⁸ See *Boston Scientific*, 534 F. Supp. 2d at 1072.

²¹⁹ See *id.*; see also MPEP, *supra* note 17, § 2143.

²²⁰ See *supra* Part III.D.1; see also *Dann*, 425 U.S. at 230.

bination of elements was obvious to try.²²¹ An invention is obvious to try if the claimed invention merely picks from a finite number of acceptable choices.²²²

1. Application of the Obvious to Try Rationale in Post-KSR Litigation

Thirty-one of the 105 most prominent and recent cases are based on or cite to the Obvious to Try rationale. This Section analyzes each of those cases to extract general principles of what supports a conclusion of obviousness based on the Obvious to Try rationale.

a. *First Circuit*

Case	Application of "Obvious To Try" Rationale
Insight Tech., Inc. v. SureFire, LLC., No. 04-cv-74-JD, 2009 WL 929943, slip op. at 3-5 (D.N.H. Apr. 3, 2009) ("In other words, if the combination of known elements would be 'obvious to try' to a person with ordinary skill in the art, it is obvious.").	Here, the court discussed predictability of the invention under the Combining Prior Art Elements According to Known Methods rationale and then stated that such predictability occurs where the combination would be obvious to try. This suggests that the Combining Prior Art Elements According to Known Methods rationale informs the analysis of whether a combination is obvious under the Obvious to Try rationale. This case also suggests that a conclusory assertion that there existed market pressures due to a request to develop the claimed invention is not sufficient to support a conclusion of obviousness.

b. *Second Circuit*

Case	Application of "Obvious To Try" Rationale
Perricone v. Medicis Pharm. Corp., 539 F. Supp. 2d 571, 587 (D. Conn. 2008) (finding the fact that the claimed compound enhanced the efficacy of the other compounds and that the claimed compound was a good selection from the genus and acted as a stabilizer demonstrated that the claimed compound was obvious to try).	The invention in this case related to the chemical composition of suntan lotion. This case suggests that to satisfy the Obvious to Try rationale, there must be a motivation to try the solution at the time of the invention and there must be a reasonable expectation of success in doing so.

²²¹ KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398, 421 (2007).

²²² *Id.*

<i>In re</i> Omeprazole Patent Litig., 490 F. Supp. 2d 381, 522-34 (S.D.N.Y. 2007) (finding that the invention was not obvious to try where there were “thousands and thousands of permutations and paths facing a person of ordinary skill” (internal quotation marks omitted)).	This case suggests that the Obvious to Try rationale turns on the number of possible permutations or options for trying in the combinations.
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c. *Third Circuit*

Case	Application of “Obvious To Try” Rationale
<i>Bayer Schering Pharma AG v. Barr Labs., Inc.</i> , No. 05-CV-2308 (PGS), 2008 WL 628592, at *35-37 (D.N.J. Mar. 3, 2008) (finding that the decision whether to use two common formulation techniques were within what the Court contemplated as a “finite number of identified predictable solutions” and as such, based on the prior art, the claimed formulations were obvious to try (quoting <i>KSR Int’l</i> , 550 U.S. at 421) (internal quotation marks omitted)).	In this case, the court relied heavily on the Combining Prior Art Elements According to Known Methods rationale and declared that, in the alternative, the invention was also obvious to try. The court found that the two claimed formulations were both present in the prior art and as such, were identified, predictable solutions. After analyzing whether the formulations combined with other known elements taught away from the claimed invention under the Combining Prior Art Elements According to Known Methods rationale, the court concluded that these formulations would be obvious to try.
<i>In re</i> ‘318 Patent Infringement Litig., 578 F. Supp. 2d 711, 728 (D. Del. 2008) (accepting the argument where, rather than identify predictable solutions, the prior art disclosed a broad selection of compounds any one of which could have been selected as a lead compound for further investigation).	This case establishes that, under the Obvious to Try rationale, there must be a reason to attempt to try the specific solution and there must be a reasonable expectation of success in doing so. This case suggests that the Obvious to Try rationale is not satisfied where, at the time of invention, logic encouraged those of ordinary skill to go in different directions where many ways were approached. Further, this case suggests that the lead compound must be obvious to try to render the claimed compound obvious.
<i>In re</i> ‘318 Patent Infringement Litig., 572 F. Supp. 2d 538, 558 (D. Del. 2008) (rejecting the defendant’s obvious to try argument where the inventor did not “merely use[] routine research methods to prove what was already believed to be the case” (quoting <i>PharmaStem Therapeutics, Inc. v. ViaCell, Inc.</i> , 491 F.3d 1342, 1363 (Fed. Cir. 2007)) (internal quotation marks omitted)).	The court makes clear that an invention is obvious to try where the likely outcome of selecting the claimed solution was well known and predictable to those of ordinary skill at the time of the invention and the research methods used to test the claimed solution were standard and also well known in the field.

<p>Novartis Pharm. Corp. v. Teva Pharm. USA, Inc., No. 05-CV-1887 DMC, 2007 WL 2669338, at *5-9 (D.N.J. Sept. 6, 2007) (distinguishing <i>Takeda</i> “where there were many potential lead compounds, the selection of one particular compound was not an obvious choice” as opposed to merely five known choices for the claimed lead compound), <i>aff’d</i>, 280 F. App’x 996 (Fed. Cir. 2007).</p>	<p>This case relies on <i>Takeda</i> for the proposition that <i>KSR</i> applies to chemical compounds cases. This case examines the analysis under <i>Takeda</i> and distinguishes the case. The court stated that the cases differ in that in <i>Takeda</i> there were “hundreds of millions” of potential compounds, and the selection of one particular compound was not an obvious choice. In this case, the lead compound was one of only five known possibilities having the desired properties. Further, other companies published references discussing the positive qualities of the lead compound. Thus, the court found that selecting the lead compound was ordinary common sense. This case also suggests that the prior art as a whole can provide motivation to modify the lead compound. Further, even where one reference teaches away from the claimed compound, where the prior art as a whole does not teach away, there is not enough to find the claims non-obvious. Finally, a patentee cannot rebut a prima facie case of obviousness by showing some degree of unpredictability.</p>
<p>Altana Pharma AG v. Teva Pharm. USA, Inc., 532 F. Supp. 2d 666, 676-79 (D.N.J. 2007) (asserting that, in the case of new chemical compounds, “structural similarity between claimed and prior art subject matter, proved by combining references or otherwise, where the prior art gives reason or motivation to make the claimed compositions, creates a prima facie case of obviousness” under the Obvious to Try rationale (quoting <i>Takeda Chem. Indus., Ltd. v. Alphapharm Pty., Ltd.</i>, 492 F.3d 1350, 1356 (Fed. Cir. 2007))).</p>	<p>The court initially noted that the Obvious to Try rationale used in the context of chemical compounds or pharmaceuticals is consistent with the principles articulated in <i>KSR</i>. This case outlines precedent concerning the standard of obviousness for chemical compounds or pharmaceuticals post-<i>KSR</i> under the Obvious to Try rationale. Under the Obvious to Try rationale for new chemical compounds, it is necessary first to identify a reason that would motivate one of ordinary skill to modify a known compound in the manner of the claimed compound. This inquiry begins with an identification of a lead compound. This case stands for the proposition that a lead compound is one that “would be most promising to modify” to create the claimed compound. There may be more than one compound that in the prior art that can serve as the lead compound under this analysis. In this case, the compound in the prior art that was one of the most promising to modify was the lead compound in the claimed invention because it was more potent. The court then found the motivation to modify the known lead compound in the manner of the invention (by substituting a methyl group for a methoxy group) in one of the prior art references. Specifically, the modification/substitution led to a compound with a better pH stability; such substitution was contemplated by the prior art reference.</p>

d. *Seventh Circuit*

Case	Application of “Obvious To Try” Rationale
Rowe Int’l Corp. v. Ecast, Inc., 586 F. Supp. 2d 924, 965-67 (N.D. Ill. 2008) (holding that the problem with the defendant’s argument was that there was a “lack of evidence in the record to support the proposition that [the] adapt[ation] was routine” (internal quotation marks omitted)).	Here, the defendants argue that the combination would be obvious to try because the invention requires simply adapting modern elements to older devices. However, the court rejected this conclusory statement. This case shows that under the Obvious to Try rationale there must be evidence supporting such an assertion. Further, there must be a reason to try the new adaptation, and trying the adaptation must reach a predictable result in the form of the claimed invention.
First Years, Inc. v. Munchkin, Inc., 575 F. Supp. 2d 1002, 1026-29 (W.D. Wis. 2008) (“Mere assertions that a combination was obvious to try may still suffice in some cases, such as when there is evidence of a design need or market pressure to solve a problem and a finite number of identified, predictable solutions, or when a motivation to combine may be found implicitly in the prior art.” (citations and internal quotation marks omitted)).	The court states that the only requirement to prove obviousness under the Obvious to Try rationale is a showing of a design need or market pressure, a finite number of identified, predictable solutions, or an implicit motivation to combine.
Alloc, Inc. v. Pergo, Inc., No. 02-C-736, 2008 WL 1968301, at *10 (E.D. Wis. May 1, 2008).	The court here just cited the language behind the Obvious to Try rationale but did not rely on the obvious to try analysis and instead focused on other rationales.

e. *Eighth Circuit*

Case	Application of “Obvious To Try” Rationale
Caddy Prods., Inc. v. Am. Seating Co., No. 05-800 (JRT/FLN), 2009 WL 799615, slip op. at 10 (D. Minn. Mar. 24, 2009) (“The Supreme Court held in <i>KSR</i> that a known problem in the prior art can be relevant to the obviousness inquiry.”).	The court here cited the language of the Obvious to Try rationale for the proposition that a known problem in the prior art that led to the development of the claimed invention can be relevant to the obviousness inquiry.

f. *Ninth Circuit*

Case	Application of "Obvious To Try" Rationale
Seiko Epson Corp. v. Coretronic Corp., No. C 06-06946 MHP, 2009 WL 1371407, slip op. at 5-14 (N.D. Cal. May 15, 2009) (finding the combination obvious to try where there were "a limited number of components requiring cooling inside a projector casing, and such a casing can contain only so many prior art air passageways").	Under this case, seeking to increase the efficiency of a known device by arranging a prior art design with one of a limited number of components is likely obvious.
Bd. of Trs. of Leland Stanford Junior Univ. v. Roche Molecular Sys., Inc., 563 F. Supp. 2d 1016, 1038-43 (N.D. Cal. 2008) (stating that a number of subsequent steps had to be performed before the method was reduced to practice and the first choice in that process was not what was patented).	This case examined the Obvious to Try rationale in detail and stands for the proposition that the Obvious to Try rationale does not require an absolute predictability of success but rather a reasonable expectation of success. Mere disclosure of alternative choices is not sufficient to teach away. Further, in applying the Obvious to Try rationale, the court distinguished between inventive choices and those that act merely as a starting point. Choices that may be obvious from finite options but that are not central to the patented invention are not indicia of obviousness. The invention related to surrogate marking and chemical compounds.
Boston Scientific Corp. v. Johnson & Johnson, 534 F. Supp. 2d 1062, 1072-73 (N.D. Cal. 2007) (finding that the challenger failed to identify a reason to try the claim limitation and it was therefore unclear whether the element presented a viable solution so as to yield predictable results).	The defendant argued that the claim limitations were one viable solution among a handful of possibilities and thus the patent was obvious. The court rejected this conclusory statement. This case stands for the proposition that there must be a reason to try the solution, and the solution must be a viable solution that would yield a predictable result. The invention here was directed at laser bonding.
Asyst Techs., Inc. v. Empak, Inc., No. C 98-20451 JF (EAI), 2007 WL 2255220, at *9-10 (N.D. Cal. Aug. 3, 2007) (holding that a new trial was warranted because the jury was not instructed that "a claim can be found obvious if the combination was obvious to try . . . [and that] could have affected the jury's verdict").	This case cited several of the rationales. The court found that the jury needed to be specifically instructed that a claim can be obvious if the combination is obvious to try. The court did not elaborate on what obvious to try means. In analyzing the facts of the case, the court instead relied on the other rationales. The invention here consisted of a method for tracking.

g. *Tenth Circuit*

Case	Application of "Obvious To Try" Rationale
Shuffle Master, Inc. v. MP Games LLC, 553 F. Supp. 2d 1202, 1226 (D. Nev. 2008) (finding that where identification of the solution was one of a finite number of possibilities and the patent stated that the techniques applied were conventional, the solution disclosed by the patent was obvious).	This case looked at many of the other rationales. The case shows that the court applied the Obvious to Try rationale at various stages of the obviousness analysis with the other rationales applied in other areas. Here, the court identified the starting point of the inventive process as one of a finite number of possibilities. Then the patent concedes that the next part of the inventive process was conventional at the time of invention, which suggests that the claimed solution tried was obvious.

h. *Eleventh Circuit*

Case	Application of "Obvious To Try" Rationale
Johnson & Johnson Vision Care, Inc. v. CIBA Vision Corp., Nos. 3:05-cv-135-J-32TEM, 3:06-cv-301-J-32TEM, 2008 WL 5129422, slip op. at 18-19 (M.D. Fla. Dec. 3, 2008) (stating that although there are many "permutations and calibrations" with "numerous parameters" to try, the broad scope of the claims and the "large number of cited relevant prior art" created a genuine issue of material fact).	The invention in this case was directed to the chemicals and related methodology for creating contacts. This case implies that a solution is less likely to be found obvious to try where the subject matter of the invention requires high levels of precision and there are numerous parameters that can be changed with many solutions to try to apply to each of those parameters. However, broad claims and extensive prior art on the subject matter weigh in favor of obviousness.
Perfect Web Techs., Inc. v. Infousa, Inc., No. 07-80286-CIV, 2008 WL 6153736, slip op. at 2, 5-10 (S.D. Fla. Oct. 27, 2008) (citing the language of the Obvious to Try rationale but not relying on it).	In this case, the court did not rely on the Obvious to Try rationale but still cited the language. This suggests that the courts do not consistently cite or apply any one rationale.

i. *Federal Circuit*

Case	Application of "Obvious To Try" Rationale
<p>Proctor & Gamble Co. v. Teva Pharm. USA, Inc., 566 F.3d 989, 993-99 (Fed. Cir. 2009) (announcing that there must be a reason to modify a particular compound to demonstrate obviousness and that a prima facie case of obviousness can be rebutted with evidence of unexpected results)</p>	<p>The court went through an analysis based on cases decided since <i>KSR</i> involving the Obvious to Try rationale to announce the proper application of the Obvious to Try rationale in the context of the chemical arts. First, the court stated that there must be "some reason that would have led a chemist to modify a known compound in a particular manner to establish prima facie obviousness of a new claimed compound." The court then articulated factors the court should consider during this analysis. An obvious to try argument based primarily on the structural similarities between the claimed compound and the known compound requires, as an initial matter, that one of ordinary skill would have selected the known compound as the lead compound. Next, in determining whether the specific claimed composition is rendered obvious by the prior art, the court should look to a motivation to make the composition and whether one of ordinary skill would have a reasonable expectation of success in making the composition. This may be done by a demonstration that the prior art suggests "making the specific molecular modifications necessary to achieve the claimed invention." Further, a motivation to combine may also come from a suggestion in the prior art to change the structure where there are non-structural similarities between the prior art compound and the claimed compound.</p>

<p><i>In re Kubin</i>, 561 F.3d 1351, 1359-60 (Fed. Cir. 2009) (distinguishing the proper application of the Obvious to Try rationale from the improper application of the Obvious to Try rationale).</p>	<p>Here, the court clarified the application of the Obvious to Try rationale by examining when an invention that was obvious to try is non-obvious. The Obvious to Try rationale does not render an invention obvious where there were numerous choices available to vary several parameters and the prior art gave no indication of what direction to take with the various choices or even which of the parameters was central to success. Finding such an invention obvious would be to impermissibly use hindsight bias. Instead, an invention is obvious to try where there are a “finite number of identified, predictable solutions” and one of ordinary skill needs merely to pursue one of these solutions. Further, the Obvious to Try rationale does not render an invention obvious where the inventor pursues or uses a new technology or approach and the prior art gives only a generalized guidance as to how to achieve the invention. However, an invention is obvious to try where the use of the new technology or approach is merely the “predictable use of prior art elements according to their established functions.” Additionally, the court made a distinction between when an invention is predictable and when a field of endeavor is predictable. Specifically, the nature of biotechnology and the related arts of chemical technology and pharmaceuticals is inherently unpredictable. However, that does not mean that an invention in one of those fields is rendered non-obvious merely because of the field of endeavor. The invention itself must be predictable to one of ordinary skill in the particular field of endeavor.</p>
<p><i>Ball Aerosol & Specialty Container, Inc. v. Ltd. Brands, Inc.</i>, 555 F.3d 984, 991-93 (Fed. Cir. 2009) (finding the combination obvious to try when it addressed a known problem and was merely a predictable variation of known elements).</p>	<p>The court cites the Obvious to Try rationale language of <i>KSR</i> during the discussion of motivation to combine. By stating that a motivation may be found in a design need or market pressure with a limited number of solutions, this case suggests that the Obvious to Try rationale may serve as a motivation to combine references and informs the analysis of the Combining Prior Art Elements According to Known Methods rationale. The case focuses on the known problem and whether the solution would have been common sense rather than whether it was one of a few identified solutions.</p>
<p><i>Abbott Labs. v. Sandoz, Inc.</i>, 544 F.3d 1341, 1351-53 (Fed. Cir. 2008) (looking at the “conditions in which obvious to try may negate patentability, depending on the relation of the prior art teaching to the later-developed technology” (internal quotation marks omitted)).</p>	<p>This case implies that the Obvious to Try rationale does not necessarily need a TSM or explicit reason to combine the prior art elements to be rendered obvious. First, the court should look to whether there was a known problem and finite solutions to try in an attempt to solve the problem. However, recognition of such a need does not automatically render the achievement of that solution obvious. This court applied several of the rationales.</p>

<p>Ortho-McNeil Pharm., Inc. v. Mylan Labs., Inc., 520 F.3d 1358, 1364-65 (Fed. Cir. 2008) (holding that this case did not satisfy the Obvious to Try rationale where the lead compound was unlikely to be selected and extensive intermediate experimentation would discourage continuing the inventive path).</p>	<p>The court states that the Obvious to Try rationale relates to a situation where there is a finite number of solutions compared to the amount of possibilities in the field of endeavor. In this case, the court found that one of ordinary skill would not even have a reasonable motivation to start with the lead compound. Beyond that initial selection, one of ordinary skill would have reason to try the intermediate steps, but stops would be required at each of those steps to test the properties, which diverts from the path and purpose of the inventive process.</p>
<p>Rentrop v. Spectranetics Corp., 550 F.3d 1112, 1118 (Fed. Cir. 2008) (providing dicta on the Obvious to Try rationale to analyze jury instructions, stating that “the test for obviousness is not whether or not it would have been obvious to try to make the invention, but rather whether or not the inconvenience [sic] would have been obvious to a person of ordinary skill in the inventor’s field at the time the invention was made”).</p>	<p>The dicta in this case demonstrates that the emphasis when using the Obvious to Try rationale should not be placed on whether it would be obvious to attempt to solve the problem the invention addresses or obvious to initiate the inventive process in the first place. However, a showing that a combination in the specific manner of the invention was obvious to try is a likely indicia of obviousness.</p>
<p>Eisai Co. v. Dr. Reddy’s Labs., Ltd., 533 F.3d 1353, 1359 (Fed. Cir. 2008) (“[A] prima facie case of obviousness for a chemical compound still, in general, begins with the reasoned identification of a lead compound.”).</p>	<p>This case suggests that there must be some reason to narrow the alternative prior art options to a “finite number of identified, predictable solutions.” Because the field of endeavor involving chemical compounds is often inherently unpredictable, the Obvious to Try rationale begins with a motivation to elect a lead compound. Further, the obviousness inquiry generally turns “on the structural similarities and differences between the claimed compound and the prior art compound.”</p>
<p>Sanofi-Synthelabo v. Apotex, Inc., 550 F.3d 1075, 1089-90 (Fed. Cir. 2008) (holding that the separation of an enantiomer and the advantageous properties were unusual and non-obvious).</p>	<p>The defendant in this case argued that the separation of enantiomers and the exploitation of the advantages of the properties of the enantiomer were predictable. The parties and the court also used the Non-Rigid TSM rationale to analyze a motivation to separate the enantiomers in the first place and test the enantiomer to discover the favorable allocation of properties. The court found that even if the separation and preparation of the enantiomer were obvious to try, the invention was still not rendered obvious because there was a wide range of possible outcomes and it was relatively unlikely that the compound resulting from the separation and preparation would exhibit a favorable allocation of properties in the manner of the invention. This case suggests that where there is a close structural similarity between the claimed compound and the prior art, a compound may nevertheless be non-obvious where it has unpredictable and unusual properties. It also implies that the fact that there is a general recognition in the art that compounds may exhibit specific properties does not mean that discovery of a way to separate enantiomers or the results of such separation is obvious.</p>
<p>Muniauction, Inc. v. Thomson Corp., 532 F.3d 1318, 1327 (Fed. Cir. 2008).</p>	<p>The court here just cited the language behind the Obvious to Try rationale but did not rely on the obvious to try analysis and instead focused on other rationales.</p>

<p>Takeda Chem. Indus., Ltd. v. Alphapharm Pty., Ltd., 492 F.3d 1350, 1359-60 (Fed. Cir. 2007) (“Rather than identify predictable solutions . . . the prior art disclosed a broad selection of compounds any one of which could have been selected as a lead compound for further investigation.”).</p>	<p>In this case, the court made clear that prior art that disclosed a broad selection of compounds that could all serve as the lead compound as a base for further research is not a situation that would likely be deemed obvious to try. The court found that the invention was not obvious to try where there was no evidence that the prior art would have led one of ordinary skill to select the claimed compound as the lead compound and, “even if that preliminary showing had been made, it failed to show that there existed a reason, based on what was known at the time of the invention, to perform the chemical modifications necessary to achieve the claimed compounds.”</p>
<p><i>In re Sullivan</i>, 498 F.3d 1345, 1353 (Fed. Cir. 2007) (establishing that for chemical compounds, the structure of the compound and its properties are inseparable considerations in the obviousness determination).</p>	<p>This case stands for the proposition that for chemical compounds, the structure of the compound and its properties are inseparable considerations in the obviousness determination.</p>
<p>Pfizer, Inc. v. Apotex, Inc., 480 F.3d 1348, 1364 (Fed. Cir. 2007) (noting that a mere demonstration of unpredictability in the art is not sufficient to prove non-obviousness).</p>	<p>Under this case, in fields of endeavor that are inherently unpredictable, a mere showing of unpredictability in the art is not sufficient to prove non-obviousness. This case suggests that in such fields, evidence of a reasonable expectation of success may be enough to render an invention obvious.</p>

2. The Obviousness Standard Based on the Obvious to Try Rationale in Post-KSR Litigation

This Section applies the analysis of the cases in Part III.E.1 and synthesizes the application of the Obvious to Try rationale in each of those cases into general principles that govern the Obvious to Try rationale.

The Obvious to Try rationale is cited most frequently in cases with inventions related to chemicals or molecular compounds and pharmaceuticals.²²³ *Takeda Chemical Industries, Ltd. v. Alphapharm Pty., Ltd.*²²⁴ is one such case that provides an example of the application of the Obvious to Try rationale. The Federal Circuit in *Takeda* notes that the KSR Court recognized that “[w]hen there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp.”²²⁵ In such circumstances, showing that the com-

²²³ See *supra* Part III.E.1; see, e.g., *Takeda Chem. Indus. v. Alphapharm Pty., Ltd.*, 492 F.3d 1350 (Fed. Cir. 2007); *Bd. of Trs. of Leland Stanford Junior Univ. v. Roche Molecular Sys., Inc.*, 563 F. Supp. 2d 1016 (N.D. Cal. 2008).

²²⁴ 492 F.3d 1350 (Fed. Cir. 2007).

²²⁵ *Id.* at 1359 (quoting *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 402 (2007)).

ination was obvious to try might support a conclusion of obviousness.²²⁶ However, rather than identify predictable solutions for the invention in *Takeda*, the prior art disclosed a broad array of compounds any one of which could have been selected as a lead compound for further investigation.²²⁷ Thus, the Federal Circuit found this situation not to be of the type contemplated by the Supreme Court when it stated that an invention may be deemed invalid if it was “obvious to try.”²²⁸

Takeda and *Roche*, in addition to the other cases, show that *KSR* did not create a presumption that all experimentation in fields with a background of useful knowledge is obvious to try without considering the complexity of the technology.²²⁹ However, the Obvious to Try rationale is applied to inventions involving chemical compounds almost exclusively. Although working with technology involving chemical compounds is inherently uncertain, unpredictability is not necessarily equated with non-obviousness.²³⁰ Instead courts determine whether one of ordinary skill in the art looking to the nature of the problem to be solved by the claimed invention would have been able to narrow the group of potential alternatives to form a reasonable rather than absolute expectation of success when trying the solution.²³¹ Thus, generally, a *prima facie* case of obviousness for a chemical compound still begins with the reasoned identification of a lead compound.²³²

When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense.²³³

However, post-*KSR* cases demonstrate that it is insufficient to merely show that the solution existed among a finite number of alternatives since the “mere disclosure of alternative[s] . . . does not teach away.”²³⁴ One must

²²⁶ *Id.*

²²⁷ *Id.*

²²⁸ *Id.*

²²⁹ See *supra* Part III.E.1; see, e.g., *Abbott Labs. v. Sandoz, Inc.*, 544 F.3d 1341, 1352 (Fed. Cir. 2008).

²³⁰ See *supra* Part III.E.1; see, e.g., *Eisai Co. v. Dr. Reddy's Labs., Ltd.*, 533 F.3d 1353, 1359 (Fed. Cir. 2008).

²³¹ See *supra* Part III.E.1; see, e.g., *Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348 (Fed. Cir. 2007); *Bd. of Trs. of Leland Stanford Junior Univ. v. Roche Molecular Sys., Inc.*, 563 F. Supp. 2d 1016, 1040 (N.D. Cal. 2008); *PharmaStem Therapeutics, Inc. v. ViaCell, Inc.*, 491 F.3d 1342, 1360 (Fed. Cir. 2007); *Pfizer*, 480 F.3d at 1361; see also *Eisai*, 533 F.3d at 1359; *In re '318 Patent Infringement Litig.*, 578 F. Supp. 2d 711, 728 (D. Del. 2008).

²³² *Eisai*, 533 F.3d at 1359.

²³³ *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007).

²³⁴ *Roche*, 563 F. Supp. 2d at 1043 (quoting *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004)); see also *Perricone v. Medicis Pharm. Corp.*, 539 F. Supp. 2d 571, 587 (D. Conn. 2008).

articulate a reason why it would be obvious to try the solution in the combination of elements.²³⁵ An invention may be obvious to try where the inventor uses routine research methods to arrive at a predictable solution.²³⁶ A solution is less likely to be found obvious to try where the technology requires precise permutations and there are several parameters with the potential for adjustment.²³⁷ Again, the Obvious to Try rationale, like the others, turns on what is predictable to one of ordinary skill in the art.

F. *Known Work in One Field of Endeavor May Prompt Variations of It for Use in Either the Same Field or a Different One Based on Design Incentives or Other Market Forces if the Variations are Predictable to One of Ordinary Skill in the Art*

The language used as the basis for this rationale from *KSR* is: “When a work is available in one field, design incentives and other market forces can prompt variations of it, either in the same field or in another.”²³⁸

1. Application of the Design Incentives or Other Market Forces Rationale in Post-*KSR* Litigation

This Section examines nineteen of the 105 most prominent and recent cases decided based on the Design Incentives or Other Market Forces rationale to discover when the rationale supports a conclusion of obviousness.

²³⁵ See *supra* Part III.E.1; see also *Perricone*, 539 F. Supp. 2d at 587 (“[T]he N’Guyen patents supply an obvious motivation to alter the Bissett patent by combining ascorbyl palmitate and tocopherol—instead of merely using them as an alternatives [sic]—and applying that new composition to skin following UV exposure as already taught in Bissett.”).

²³⁶ See *supra* Part III.E.1; see, e.g., ‘318 *Patent Infringement Litig.*, 578 F. Supp. 2d at 732 (citing *PharmaStem*, 491 F.3d at 1363).

²³⁷ See *supra* Part III.E.1; see, e.g., *Johnson & Johnson Vision Care, Inc. v. CIBA Vision Corp.*, Nos. 3:05-CV-135-J-32TEM, 3:06-CV-301-J-32TEM, 2008 WL 5129422, slip op. at 19 (M.D. Fla. Dec. 3, 2008).

²³⁸ *KSR Int’l*, 550 U.S. at 401.

a. *Second Circuit*

Case	Application of the Design Incentives or Other Market Forces Rationale
<i>In re Omeprazole Patent Litig.</i> , 490 F. Supp. 2d 381, 522-34 (S.D.N.Y. 2007) (noting that there was no evidence that there was a need or market pressure at the time of the invention that would provide a reason for combining the elements in the manner of the invention).	The court combined the Design Incentives or Other Market Forces rationale with the Obvious to Try rationale. This case suggests that the Design Incentives or Other Market Forces rationale can provide a motivation to combine, but only if such design incentives or market pressures narrow the possible solutions such that one of ordinary skill would have a reasonable expectation of success in achieving the claimed solution.

b. *Third Circuit*

Case	Application of the Design Incentives or Other Market Forces Rationale
Source Search Techs., LLC v. LendingTree, LLC, No. CIV.04-4420 (DRD), 2008 WL 5638262, slip op. at 31 (D.N.J. July 8, 2008) (interpreting the Design Incentives and Market Forces rationale to apply when a patent is directed to improving the prior art).	This case implies that the Design Incentives and Market Forces rationale applies when a patent is directed to improving the prior art. This case holds that in such instances, the question is whether “the purported improvements produce something new or whether the result is a predictable use of the prior art elements.”
Everett Labs., Inc. v. Breckenridge Pharm., Inc., 573 F. Supp. 2d 855, 862-65 (D.N.J. 2008) (finding non-obviousness where the defendant failed to offer an expert opinion to support the claim that there was a market pressure or design need to create a variation of the prior art).	The defendant merely asserted that there was a market pressure or design need to create a variation of the prior art in the form of the invention and that there was an apparent reason to do so. This case establishes that there must be evidence supporting the use of the Design Incentives or Other Market Forces rationale, especially where there are significant variations between the invention and the prior art. Other rationales were cited in the case and examined in detail.

c. *Seventh Circuit*

Case	Application of the Design Incentives or Other Market Forces Rationale
Procter & Gamble Co. v. McNeil-PPC, Inc., No. 08-CV-251-BBC, 2009 WL 1351447, at *16-19 (W.D. Wis. May 12, 2009) (quoting <i>KSR Int'l</i> , 550 U.S. at 416) (rejecting the argument that consumers must know what is required for particular product improvement to render an invention obvious).	This case suggests that if there is a demand for an improvement or variation, it is irrelevant if consumers demand the particular solution contemplated by the claimed invention. Instead, “[t]he relevant question is whether the particular improvement is an obvious ‘next step’ or a truly innovative development.”
Fisher-Barton Blades, Inc. v. Blount, Inc., 584 F. Supp. 2d 1126, 1151-52 (E.D. Wis. 2008).	The court here merely quoted the language of <i>KSR</i> for most of the rationales before focusing on whether the prior art taught away. This case demonstrates that the courts do not apply a particular rationale consistently but merely cite the language before performing a different analysis.
First Years, Inc. v. Munchkin, Inc., 575 F. Supp. 2d 1002, 1026-29 (W.D. Wis. 2008) (looking to manufacturing costs as a possible market force that would encourage the aspects of the invention).	This case indicates that objective evidence of secondary considerations such as manufacturing costs can suggest obviousness.
Alloc, Inc. v. Pergo, Inc., No. 02-C-736, 2008 WL 1968301, at *9-10 (E.D. Wis. May 1, 2008) (stating that “the obviousness analysis, including what would have suggested the combining of known elements, can be driven by . . . factors [such] as ‘market demand’ and ‘design trends’” (quoting <i>KSR Int'l</i> , 550 U.S. at 419)).	The court found that there was not enough evidence to set a jury verdict of obviousness aside where evidence such as market demand, design trends, expert testimony, and a claim chart provided a sufficient basis for a motivation to combine. The case suggests that the market forces and design incentives rationale informs the analysis of whether there is a motivation to combine.

d. *Eighth Circuit*

Case	Application of the Design Incentives or Other Market Forces Rationale
Allan Block Corp. v. County Materials Corp., No. 05-2879 (JNE/JJG), 2008 WL 5273730, slip op. at 12-13 (D. Minn. Dec. 17, 2008).	This case examined the market’s reaction to a known problem to decide whether there was a reason to combine the prior art references. This case shows that the Design Incentives or Other Market Forces rationale is used primarily to aid the analysis of the other rationales.

e. *Ninth Circuit*

Case	Application of the Design Incentives or Other Market Forces Rationale
Asyst Techs., Inc. v. Empak, Inc., No. C 98-20451 JF (EAI), 2007 WL 2255220, at *7 (N.D. Cal. Aug. 3, 2007) (finding that where there is market demand and the element's use was a known, predictable solution within the technical grasp of person of skill in the art, the combination is likely obvious).	The Design Incentives or Other Market Forces rationale is cited in this case along with several other rationales. This case suggests that the Design Incentives or Other Market Forces rationale informs the analysis of the other rationales, particularly the Combining Prior Art Elements According to Known Methods rationale. Where there is market demand and the use of the element is a predictable solution to such demand, the Design Incentives or Other Market Forces rationale is satisfied, and the Combining Prior Art Elements According to Known Methods rationale is also likely satisfied.
Single Chip Sys. Corp. v. Intermec IP Corp., 495 F. Supp. 2d 1066, 1088 (S.D. Cal. 2007) (“[T]he [prior art] suggests design changes that could enhance the marketability of an improved device . . .”), <i>vacated</i> , Nos. 04CV1517JAH(CAB), 07CV256JAH(CAB), 2008 WL 2600850 (S.D. Cal. Aug. 28, 2007).	The court looked to almost all of the rationales, and combined the Design Incentives or Other Market Forces rationale with the others. This case implies that where there is a known problem with market pressures to solve and the prior art suggests design changes could enhance the marketability of an improved device, the changes are likely obvious.

f. *Eleventh Circuit*

Case	Application of the Design Incentives or Other Market Forces Rationale
Diamond Heads, LLC v. Everingham, No. 8:07-CV-462-T-33TBM, 2009 WL 1046067, slip op. at 9 (M.D. Fla. Apr. 20, 2009) (citing the language of the design incentives and Other Market Forces rationale but relying on the Non-Rigid TSM Test and the Combining Prior Art Elements According to Known Methods rationale).	In this case, the court cited the language of the design incentives and Other Market Forces rationale but relied on the Non-Rigid TSM Test and the Combining Prior Art Elements According to Known Methods rationale. This demonstrates how the courts cite a rationale but do not use it.
Johnson & Johnson Vision Care, Inc. v. CIBA Vision Corp., Nos. 3:05-cv-135-J-32TEM, 3:06-cv-301-J-32TEM, 2008 WL 5129422, slip op. at 19 (M.D. Fla. Dec. 3, 2008) (finding sufficient evidence to create a genuine issue of material fact where the patentee conceded its own concern about competitors' developing the invention).	This case stands for the proposition that concerns that competitors may develop the patented invention first are evidence that the claims are likely obvious. The Design Incentives or Other Market Forces rationale is cited along with several other rationales, most of which were more central to the obviousness inquiry.

g. *Federal Circuit*

Case	Application of the Design Incentives or Other Market Forces Rationale
Tokyo Keiso Co., Ltd., v. SMC Corp., 307 F. App'x 446, 450-53 (Fed. Cir. 2009) (affirming summary judgment for obviousness where the prior art was "within the same field of endeavor" as the prior art, as both "address[] the problem of acoustic interaction and suggest[] the use of a plastic measuring line as a solution" (internal quotation marks omitted)).	This case affirms that the nature of the problem to be solved can provide motivation, along with market forces, to create a variation of prior work in the same or a different field of endeavor. This case also suggests that a prior art reference does not necessarily teach away when it is in a different field of endeavor.
Ritchie v. Vast Res., Inc., 563 F.3d 1334, 1337-38 (Fed. Cir. 2009) (finding obvious an invention that comprised a "standard product with well-known properties").	Under this case, the Design Incentives and Market Forces rationale supports a conclusion of obviousness where the invention is a "modest, routine, everyday, incremental improvements of an existing product or process that confer commercial value." In such a case, the invention utilized a "standard product with well-known properties" and did not require testing for safety or efficacy.
Abbott Labs. v. Sandoz, Inc., 544 F.3d 1341, 1351-53 (Fed. Cir. 2008) (rejecting the defendant's argument that when there is a design need or market pressure the solution is obvious to try).	The court, in this case, used the Design Incentives or Other Market Forces rationale to decide whether the Obvious to Try rationale was satisfied at a particular step in the inventive process. The court found that there needs to be more than merely a design need or market pressure to solve a problem to render a particular solution obvious to try.
Andersen Corp. v. Pella Corp., 300 F. App'x 893, 898-900 (Fed. Cir. 2008) (holding that genuine issues of material fact existed as to whether design incentives or market forces would prompt one of ordinary skill to search for an element and apply it in a different manner than its primary purpose). <i>cert. denied</i> , No. 08-1209, 2009 WL 854148 (U.S. June 1, 2009).	In this case, the court focuses on common sense and predictability. This case stands for the proposition that common sense may encourage one of ordinary skill to use known elements in ways other than their primary purposes. The nature of the problem to be solved may also lead one of ordinary skill to elements outside their primary uses. The court also emphasizes that such alternate use must be obvious. It is not enough that the possible alternative use exists, but rather it cannot be outside the field of invention. Evidence that the prior art teaches away suggests that the alternative use is likely non-obvious.
Sanofi-Synthelabo v. Apotex, Inc., 550 F.3d 1075, 1089-90 (Fed. Cir. 2008) (rejecting the argument that the patentee only undertook the steps necessary to achieve the invention due to a possible future regulatory requirement).	Here, the defendant cited many of the rationales in addition to the argument that the patentee only performed the steps of the invention because it believed a regulation would require it to perform these steps. The court rejected this argument based on the evidence offered by the patentee that it undertook the steps to study the effects of such action. This case suggests that it may be possible for market forces, such as a future regulation requiring the action central to the invention, to render an invention obvious unless the patentee can rebut evidence of such forces.

Muniauction, Inc. v. Thomson Corp., 532 F.3d 1318, 1326 (Fed. Cir. 2008) (stating that a speech explicitly addressing the desirability of making the specific improvement, at minimum, is evidence that there was a demand in the marketplace, which indicates obviousness).	This case signifies that any market pressure or indication of design desirability that demonstrates a demand for a particular improvement may establish obviousness.
Leapfrog Enters., Inc. v. Fisher-Price, Inc., 485 F.3d 1157, 1161-62 (Fed. Cir. 2007).	Here, the court found that the combination was merely a variation of an old idea adapted to newer technology to satisfy market forces. This case suggests that where there are design needs or market pressures that do not encourage any novel or technological advance over the prior art, the invention is likely predictable and therefore obvious.

2. The Obviousness Standard Based on the Design Incentives or Other Market Forces Rationale in Post-KSR Litigation

This Section extracts the commonalities present in the analysis of the cases in Part III.F.1 to extract general principles that govern the Design Incentives or Other Market Forces rationale.

The obviousness analysis in *Leapfrog Enterprises, Inc. v. Fisher-Price, Inc.*²³⁹ closely reflects post-KSR courts' application of the Design Incentives or Other Market Forces rationale in all the cases generally, and *Leapfrog* is frequently cited in the cases using the Design Incentives or Other Market Forces rationale.²⁴⁰ The claimed invention in *Leapfrog* was directed to a learning device to help young children read phonetically.²⁴¹ The court stated that one of ordinary skill in the art would have found it obvious to combine the prior art references to update the technology "using modern electronic components in order to gain the commonly understood benefits of such adaptation, such as decreased size, increased reliability, simplified operation, and reduced cost."²⁴² The combination was merely the variation of an old idea using newer technology that is commonly available and understood by one of ordinary skill in the art.²⁴³ The court found that the adaptation of the computer presented no non-obvious technical advance over the technology disclosed in the prior art.²⁴⁴ The court found that "[a]ccommodating a prior art mechanical device that accomplishes that goal to modern electronics would have been reasonably obvious to one of ordinary skill in designing children's learning devices. Applying modern elec-

²³⁹ 485 F.3d 1157 (Fed. Cir. 2007).

²⁴⁰ See *supra* Part III.F.1.

²⁴¹ *Leapfrog Enters.*, 485 F.3d at 1158.

²⁴² *Id.* at 1162.

²⁴³ *Id.*

²⁴⁴ *Id.* at 1161.

tronics to older mechanical devices has been commonplace in recent years.”²⁴⁵

However, post-*KSR* cases demonstrate that it is not enough merely to allege that market forces or design incentives exist or that adapting modern elements to older devices is routine today.²⁴⁶ There must be evidence in the record to support the conclusion that such an adaptation is nothing more than a predictable result.²⁴⁷ Where the prior art suggests design changes that could enhance the marketability of an improved device, there exists the suggestion by which one of ordinary skill in the art may find motivation to combine the prior art references.²⁴⁸ Thus, like the other rationales, the Design Incentives and Market Forces rationale turns on predictability.

G. *Non-Rigid TSM Test*

The Court in *KSR* stated that while the TSM test applied in a rigid form is improper, the TSM test captured a helpful insight into the obviousness analysis, and a non-rigid application can support a conclusion of obviousness.

1. Application of the Non-Rigid TSM Rationale in Post-*KSR* Litigation

This Section examines each of the cases decided post-*KSR* that cite the Non-Rigid TSM rationale in analyzing when a patent is obvious under the Non-Rigid TSM rationale. Forty-three of the 105 most prominent and recent post-*KSR* cases use the Non-Rigid TSM rationale.

²⁴⁵ *Id.*

²⁴⁶ *See supra* Part III.F.1; *see, e.g.*, *Rowe Int’l Corp. v. Ecast, Inc.*, 586 F. Supp. 2d 924, 967 (N.D. Ill. 2008).

²⁴⁷ *Rowe*, 586 F. Supp. 2d at 966-67.

²⁴⁸ *See supra* Part III.F.1; *see, e.g.*, *Single Chip Sys. Corp. v. Intermec IP Corp.*, 495 F. Supp. 2d 1066, 1087 (S.D. Cal. 2007), *vacated*, Nos. 04CV1517JAH(CAB), 07CV256JAH(CAB), 2008 WL 2600850 (S.D. Cal. Aug. 28, 2007).

a. *First Circuit*

Case	Application of "Non-Rigid TSM" Rationale
Deputy Spine, Inc. v. Medtronic Sofamor Danek, Inc., 526 F. Supp. 2d 162, 170-72 (D. Mass. 2007) ("Even if a general motivation existed . . . a person of ordinary skill in the art would nevertheless understand that Puno teaches that the addition of a compression member to the Puno device would lead to undesirable results (such as an increased chance of screw-failure) and thus discourages the proposed combination."), <i>rev'd in part</i> , 567 F.3d 1314 (Fed. Cir. 2009).	Before inquiring into whether the Non-Rigid TSM rationale is satisfied, all the claim limitations must be found in the prior art as a whole. This case implies that the limitations may be inherent in the prior art or the nature of the problem to be solved. This case also heavily relies on the Combining Prior Art Elements According to Known Methods rationale.

b. *Third Circuit*

Case	Application of "Non-Rigid TSM" Rationale
IGT v. Bally Gaming Int'l, Inc., 610 F. Supp. 2d 288, 320-21 (D. Del. 2009) (deciding that summary judgment was inappropriate on the issue of obviousness where defendant offered mere conclusory statements and the patentee provided evidence that the prior art reference taught away from modifying that reference to the claimed invention).	The defendant here offered only one case to support a conclusion of obviousness. This case stands for the proposition that a single prior art reference may only render an invention obvious where there is a "suggestion or motivation to modify the teachings of that reference to the claimed invention."
E.I. Du Pont de Nemours & Co. v. MacDermid, Inc., No. 06-3383 (MLC), 2008 WL 4952450, slip op. at 29 (D.N.J. Nov. 19, 2008) (finding a possible motivation to combine two known technologies, where there was "specifically a desire to receive the benefits of both digital imaging and thermal development in one sequential process").	This court found a motivation to combine from the perceived benefits of making such a combination. This case suggests that where the desire is to have the benefits of two elements in one sequential process, there is likely a motivation to combine.
Source Search Techs., LLC v. LendingTree, LLC, No. CIV.04-4420 (DRD), 2008 WL 5638262, slip op. at 24 (D.N.J. July 8, 2008) (discussing the current status of the Non-Rigid TSM Test).	In this case, the court discusses the history and current status of the Non-Rigid TSM Test after <i>KSR</i> , but did not apply it to the case.
Rothman v. Target Corp., Civ. No. 05-4829 (GEB), 2008 WL 1844284, at *3-6 (D.N.J. Apr. 23, 2008) (relying heavily on expert testimony regarding whether there was motivation to combine and whether the combination was merely known elements performing according to their known functions), <i>aff'd</i> , 556 F.3d 1310 (Fed. Cir. 2009).	This case ultimately turns on the Combining Prior Art Elements According to Known Methods rationale. However, the case also examines when expert testimony is relevant to whether there is a motivation to combine. Testimony is relevant where it establishes that a hypothetical person of ordinary skill would have recognized the benefit of making a combination and would have been motivated to make the combination. However, it is not enough for an expert to state that he himself would be motivated to make the combination.

Stryker Trauma S.A. v. Synthes (USA), No. 01-cv-3879 (JLL), 2007 WL 1959231, at *2-6 (D.N.J. June 29, 2007).	This case implies that the Non-Rigid TSM rationale is permissibly applied if the evidence is supported with an analysis using primarily the <i>Graham</i> factors.
PBI Performance Prods., Inc. v. NorFab Corp., 514 F. Supp. 2d 732, 740-43 (E.D. Pa. 2007) (stating that “motivation to combine the admitted prior art with the [other prior art references] arises from the fact that each of the [other prior art references] sought to solve the same problem as the inventors of the [claimed invention]”).	Here, the court looked to the other rationales to provide a motivation to combine the prior art references after discussing the status of the TSM test. This case also suggests that the nature of the problem to be solved by the prior art references compared to the claimed invention may provide a motivation to combine.

c. *Fifth Circuit*

Case	Application of “Non-Rigid TSM” Rationale
Power-One, Inc. v. Artesyn Techs., Inc., 556 F. Supp. 2d 591, 600-01 (E.D. Tex. 2008) (“Though <i>KSR Int’l</i> [sic] no longer mandates presentation of evidence of a motivation or suggestion to combine prior art references, it is nonetheless still helpful to judge and jury to have an expert explain in an organized and coherent manner why it would have been obvious to one of ordinary skill in the art to combine the prior art and arrive at the invention.”).	Notably, this case stands for the proposition that, under <i>KSR</i> , to find a patent obvious, evidence of a motivation to combine is not necessary. However, the court further noted that an explanation of why it would be obvious to combine the prior art is helpful to support a conclusion of obviousness. This suggests that a motivation to combine is necessary at least in some form.

d. *Sixth Circuit*

Case	Application of “Non-Rigid TSM” Rationale
Henrob Ltd. v. Bollhoff Systemtechnik GmbH & Co., No. 05-CV-73214-DT, 2008 WL 5383580, at *14, *16-17 (E.D. Mich. Dec. 23, 2008) (holding that the purposes of the prior art references were so different that one of ordinary skill would not think to combine the elements in those references).	This case also blurs the Non-Rigid TSM rationale with the Combining Prior Art Elements According to Known Methods rationale. The court stated that the Non-Rigid TSM rationale ensures that the obviousness inquiry is based on evidence rather than hindsight. Further, one of ordinary skill must, at the time of the invention, readily recognize and be capable of making the combination in the manner claimed.
Gemtron Corp. v. Saint-Gobain Corp., No. 1:04-0387, 2007 WL 4334780, at *7 (W.D. Mich. Dec. 6, 2007) (denying summary judgment based on invalidity because the defendant failed to apply the obviousness analysis to the specific claims in light of the prior art).	There must be a reason to combine the references in the fashion of the invention. This case suggests that the analysis should be applied to the specific elements of the claims in light of the prior art as a whole.

e. *Seventh Circuit*

Case	Application of "Non-Rigid TSM" Rationale
Procter & Gamble Co. v. McNeil-PPC, Inc., No. 08-CV-251-BBC, 2009 WL 1351447, at *16-19 (W.D. Wis. May 12, 2009) ("Where a claimed range overlaps with a range disclosed in the prior art, there is a presumption of obviousness." However, this presumption can be rebutted if plaintiff can show that 'the claimed range produces new and unexpected results.'" (quoting <i>Ormco Corp. v. Align Tech., Inc.</i> , 463 F.3d 1299, 1311 (Fed. Cir. 2006); <i>First Years, Inc. v. Munchkin, Inc.</i> , 575 F. Supp. 2d 1002, 1026 (W.D. Wis. 2008))).	This case stands for the proposition that where there is a range disclosed in the prior art, there is a presumed motivation to combine that may be rebutted by a showing that the "claimed range produces new and unexpected results."
Fisher-Barton Blades, Inc. v. Blount, Inc., 584 F. Supp. 2d 1126, 1151-52 (E.D. Wis. 2008)	The court here merely quoted the language of <i>KSR</i> for most of the rationales before focusing on whether the prior art taught away. This case demonstrates that courts do not apply a particular rationale consistently but merely cite the language before performing a different analysis.
First Years, Inc. v. Munchkin, Inc., 575 F. Supp. 2d 1002, 1026-29 (W.D. Wis. 2008) (affirming that where a claimed range, not even a significant range, overlaps with a range disclosed in the prior art, there is a presumption of obviousness).	The court here interpreted <i>KSR</i> to not require a motivation to combine the prior art in order to establish obviousness. Here, the court merely stated that where a claimed range, not even a significant range, overlaps with a range disclosed in the prior art, there is a presumption of obviousness that can be rebutted if the prior art teaches away from the claimed invention or the invention produces new or unexpected results.
Haberman v. Gerber Products Co., No. 05-C-224-S, 2007 WL 5414925, slip op. at 3-4 (W.D. Wis. Oct. 18, 2007) (asserting that <i>KSR</i> "did not fundamentally alter obviousness analysis").	According to this case, <i>KSR</i> did not significantly alter the obviousness standard except to make it less rigid. Where there is limited evidence of motivation to combine and substantial objective evidence of secondary considerations, the fact that all the claim limitations are disclosed in the prior art is not enough to render a claim obvious on a motion for summary judgment.
Franklin Elec. Co. v. Dover Corp., No. 05-C-598-S, 2007 WL 5067678, at *7 (W.D. Wis. Nov. 15, 2007) (holding that summary judgment is inappropriate where there was no evidence of a motivation to combine).	This case affirms that there must be some motivation to combine.
Abbott Labs. v. Sandoz, Inc., 500 F. Supp. 2d 846, 852 (N.D. Ill. 2007) (holding that the defendant failed to produce evidence that all the claim limitations were either disclosed in the prior art references or were inherent to the subject matter of the prior art), <i>aff'd</i> , 544 F.3d 1341 (Fed Cir. 2008).	Before inquiring into whether the Non-Rigid TSM rationale is satisfied, all the claim limitations must be found in the prior art as a whole. This case implies that the limitations may be inherent in the prior art or the nature of the problem to be solved. This case also heavily relies on the Combining Prior Art Elements According to Known Methods rationale.

f. *Eighth Circuit*

Case	Application of “Non-Rigid TSM” Rationale
Biopolymer Eng’g, Inc. v. Immunocorp, No. 05-536 (JNE/SRN), 2009 WL 1255452, slip op. at 19-20 (D. Minn. Feb 18, 2009) (rejecting patentee’s argument that defendant failed to show why one of ordinary skill would combine the prior art where the defendant explained “the motivations underlying their combination, such as the background knowledge of one of ordinary skill in the art”).	This case addresses what evidence is required to show a motivation to combine prior art. The case suggests that a motivation to combine may come from the prior art itself, background knowledge of one of ordinary skill, or the nature of the problem to be solved.
Allan Block Corp. v. County Materials Corp., No. 05-2879 (JNE/JJG), 2008 WL 5273730, slip op. at 12-13 (D. Minn. Dec. 17, 2008) (examining the market’s reaction and a known problem in the art for a motivation to combine and further noting that expert testimony is not needed where a teaching is plainly disclosed in the prior art reference).	Where technology is not complex, there may be a motivation to combine, plainly disclosed in the prior art, that those of ordinary skill would readily recognize. Further, this case makes clear that market pressures or a known problem may serve as a reason to combine. This shows that the other rationales go towards a reason to combine to satisfy either the Non-Rigid TSM rationale or the Combining Prior Art Elements According to Known Methods rationale.
Global Traffic Techs., LLC v. Tomar Elecs., Inc., No. 05-756 (MJD/AJB), 2007 WL 4591297, at *6 (D. Minn. Dec. 27, 2007) (“[T]he analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” (quoting <i>KSR Int’l</i> , 550 U.S. at 418)).	Here, the court establishes that the Non-Rigid TSM rationale does not require the prior art to be specifically directed at the specific subject matter of the claimed invention. Instead, one of ordinary skill in the art is creative and may see the benefit of using prior art that is in a different technological field.

g. *Ninth Circuit*

Case	Application of “Non-Rigid TSM” Rationale
Seiko Epson Corp. v. Coretronic Corp., No. C 06-06946 MHP, 2009 WL 1371407, slip op. at 5-14 (N.D. Cal. May 15, 2009) (discussing whether every claim limitation must be present in the prior art to render a claim obvious).	This case discussed whether every claim limitation must be present in the prior art to render a claim obvious. The case suggests that Federal Circuit precedent does not require that every claim limitation be present in the prior art to invalidate a claim.
Medtronic, Inc. v. AGA Med. Corp., No. C-07-0567 MMC, 2009 WL 1163976, slip op. at 3-4 (N.D. Cal. Apr. 28, 2009) (rejecting the argument that “one of ordinary skill in the art would have been motivated to combine these references to address the problem stated in the application” because there was no evidence of a motivation to combine or evidence suggesting the problem was known in the field at the time of the invention (internal quotation marks omitted)).	Under this case, to prove obviousness, it not necessary to demonstrate that “some motivation or suggestion to combine the prior art teachings can be found in the prior art, the nature of the problem, or the knowledge of a person having ordinary skill in the art.” However, this case required evidence of an apparent reason to combine the prior art in the manner of the claimed invention. Further, mere conclusory statements are not sufficient to support a conclusion of obviousness.

<p>Hynix Semiconductor Inc. v. Rambus Inc., No. C-00-20905 RMW, 2009 WL 112834, slip op. at 15-18 (N.D. Cal. Jan. 16, 2009) (rejecting the defendant's argument that the jury instructions that "[t]he claimed invention is not obvious unless there was something in the prior art or within the understanding of a person of ordinary skill in the field that would suggest the claimed invention" rigidly applied the TSM test by using the word "understanding" rather than "common sense").</p>	<p>This case stands for the proposition that <i>KSR</i> did not reject the use of a non-rigid form of the TSM test, but rather a formalistic application of it.</p>
<p>Elantech Devices Corp. v. Synaptics, Inc., No. C 06-01839 CRB, 2008 WL 1734748, at *6-8 (N.D. Cal. Apr. 14, 2008) ("[N]either the particular motivation nor the avowed purpose of the patentee controls. What matters is the objective reach of the claim." (quoting <i>KSR Int'l</i>, 550 U.S. at 419)).</p>	<p>This case suggests that merely showing a motivation to combine is not enough under the Non-Rigid TSM rationale to prove obviousness. The scope of the claim must first be compared to the scope of the prior art. This shows that the <i>Graham</i> factors must first be resolved before looking to an application of one of the rationales.</p>
<p>Lucent Techs., Inc. v. Microsoft Corp., No. 06-CV-0684-H (CAB), 2008 WL 4853592, slip op. at 10 (S.D. Cal. Feb. 28, 2008) (finding that the invention did not directly propose the use of the specific type of element employed by the invention).</p>	<p>Under this case, the analysis of the objective reach of the prior art compared with the claims takes into account the existence of any known problem which had a solution encompassed by the invention.</p>
<p>Lucent Techs., Inc. v. Microsoft Corp., 544 F. Supp. 2d 1080, 1092-94 (S.D. Cal. 2008) ("Unlike anticipation, where a single reference must disclose all claim elements, a party asserting obviousness may rely on the prior art as a whole.>").</p>	<p>The court cited several rationales in this case and quoted the language of <i>KSR</i> extensively. The court elaborated on the Non-Rigid TSM rationale, stating that rather than proving that the references disclosed all the claim limitations, a party challenging a patent may rely on the prior art as a whole.</p>
<p>Lucent Techs., Inc. v. Gateway, Inc., 537 F. Supp. 2d 1095, 1106-07 (S.D. Cal. 2008) (finding that although certain individual structures were known in the prior art, there still must be evidence to show why the particular structure was obvious, taken as a whole).</p>	<p>This court further stresses that there must be a motivation to combine the references and the prior art should be construed as a whole. Each element should not be taken individually during the obviousness inquiry. Also, even if a reference does not qualify as prior art, this case implies that a court may consider the reference to analyze whether there existed a motivation to combine the elements.</p>
<p>Timeline, Inc. v. ProClarity Corp., No. C05-1013JLR, 2007 WL 2463300, at *1 (W.D. Wash. Aug. 28, 2007) ("The court therefore interprets <i>KSR</i> to hold that a narrow view of the applicable prior art that focuses solely on the TSM analysis is erroneous. The proper analysis should take into account all evidence that tends to show the patent-in-suit was obvious to a person skilled in the art. Thus, the Supreme Court set forth an expansive and flexible approach to the obviousness inquiry." (quoting <i>KSR Int'l</i>, 550 U.S. at 415) (internal quotation marks omitted)).</p>	<p>This case suggests that an analysis focused solely on the TSM test is improper.</p>

<p>Asyst Techs., Inc. v. Empak, Inc., No. C 98-20451 JF (EAI), 2007 WL 2255220, at *9-10 (N.D. Cal. Aug. 3, 2007) (stating that “KSR held evidence of that such a teaching [TSM] is unnecessary in a determination of obviousness” and a reason to combine may be found “either in the prior art itself, or within the knowledge of one of ordinary skill in the art at the time of the invention” (internal quotation marks omitted)).</p>	<p>The court asserted that one of the ways that KSR changed the obviousness landscape was that evidence of a TSM was no longer necessary to prove obviousness. Instead a motivation to combine the elements did not have to come from a teaching, suggestion, or motivation in the prior art references themselves. This case implies that the reason to combine will be present either in the prior art or within the general knowledge of those skilled in the art. This inquiry into obviousness and motivation blurs the Non-Rigid TSM rationale with the Combining Prior Art Elements According to Known Methods rationale.</p>
<p>Lucent Techs. Inc. v. Gateway, Inc., 509 F. Supp. 2d 912, 933-34 (S.D. Cal. 2007) (stating that KSR did not remove the requirement that there be a motivation to combine their references, which may be found “either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art”).</p>	<p>This case stands for the proposition that under the Non-Rigid TSM rationale a party cannot prove obviousness merely by showing that all the claim limitations are in the prior art. There must be a motivation to combine the limitations of the invention. Explicit teachings, inherent suggestions, or general knowledge may all provide sufficient motivation.</p>

h. *Tenth Circuit*

Case	Application of “Non-Rigid TSM” Rationale
<p>Shuffle Master, Inc. v. MP Games LLC, 553 F. Supp. 2d 1202, 1222-23 (D. Nev. 2008) (stating that the courts have been “sensitive to the varying levels of relevance the TSM test has in different contexts”).</p>	<p>This case mentions that the courts apply varying levels of the Non-Rigid TSM rationale depending on the context. When the court goes through the different applications of the Non-Rigid TSM rationale, it cites situations where it applied one of the other rationales as one of several levels of the Non-Rigid TSM rationale. Further, this case emphasizes that the reason to combine may come from the nature of the problem solved by the invention and the prior art.</p>

i. *Eleventh Circuit*

Case	Application of "Non-Rigid TSM" Rationale
<p>Diamond Heads, LLC v. Everingham, No. 8:07-CV-462-T-33TBM, 2009 WL 1046067, slip op. at 8-10 (M.D. Fla. Apr. 20, 2009) ("Urging the teaching, suggestion, or motivation test ('TSM test') adopted by the Federal Circuit as the appropriate standard by which to measure obviousness, Plaintiff argues that Defendant has no proof of prior art, or anything else that teaches and suggests the elements of the claims of [the invention].").</p>	<p>The plaintiff in this case argued that the Non-Rigid TSM rationale was the "appropriate standard by which to measure obviousness." Specifically, the defendant failed to present any evidence of prior art that teaches or suggests the elements of the claims or a reason to use the elements in the manner of the invention. However, the court did not address whether this was indeed the proper standard. Instead the court rejected the defendant's arguments on the issue of obviousness because the defendant failed to present sufficient evidence of prior art and relied on conclusory statements.</p>
<p>Perfect Web Techs., Inc. v. Infousa, Inc., No. 07-80286-CIV, 2008 WL 6153736, slip op. at 2, 5-10 (S.D. Fla. Oct. 27, 2008) (finding that plaintiff's "naked assertion of non-obviousness by Plaintiff's expert is insufficient to defeat a Motion for Summary Judgment as to obviousness").</p>	<p>Here, the plaintiff argued that the defendant must make "a detailed showing of exactly how one of ordinary skill would be motivated to combine [the prior art] to achieve the patented method." The court rejected this assertion stating that <i>KSR</i> holds that such rigid, formalistic tests are improper. This case further supports the notion that mere conclusory statements are insufficient to support a conclusion of obviousness or non-obviousness.</p>
<p>Kleen-Tex Indus., Inc. v. Mountville Mills, Inc., No. 3:03-CV-093-JTC, 2008 WL 2486363, at *9, *14-16 (N.D. Ga. Mar. 3, 2008) ("Even if [the challenger] could show that a motivation existed to combine the references in the manner asserted, or even if [the challenger] could establish a <i>prima facie</i> case of obviousness, the overwhelming objective evidence of nonobviousness would refute that argument."), <i>vacated</i>, No. 3:03-CV-093-JTC, 2008 WL 2486358 (N.D. Ga. May 28, 2008).</p>	<p>The court began the analysis focusing on evidence that there was a recognized need in the industry that the invention solved. This case suggests that where there is overwhelming evidence of secondary considerations, a motivation to combine the prior art or even a <i>prima facie</i> case of obviousness is not enough to establish obviousness. Here, the patentee presented evidence of nearly all the various secondary considerations. For a list of the secondary considerations, see <i>supra</i> Part I.A.4.</p>

j. *Federal Circuit*

Case	Application of “Non-Rigid TSM” Rationale
<p>Ball Aerosol & Specialty Container, Inc. v. Ltd Brands, Inc., 555 F.3d 984, 991-93 (Fed. Cir. 2009) (finding that “the analysis that ‘should be made explicit’ refers not to the teachings in the prior art of a motivation to combine, but to the court’s analysis” and that the other rationales can be used to support such motivation).</p>	<p>This case clarifies that the motivation to combine does not have to be explicitly present in the references, but rather the reasoning the court provides must be supported and not conclusory. This case also looks to the Obvious to Try rationale to find a motivation to combine the references and then uses that motivation to support the conclusion that the patent was merely a predictable variation of known elements. Thus, the Non-Rigid TSM rationale is used in this case as a stepping stone between the Obvious to Try rationale and the Combining Prior Art Elements According to Known Methods rationale.</p>
<p>Abbott Labs. v. Sandoz, Inc., 544 F.3d 1341, 1351 (Fed. Cir. 2008) (stating that when citing the Obvious to Try rationale, the “pursuit of the known option may be obvious even absent a [TSM] concerning that option”).</p>	<p>This case holds that the <i>KSR</i> opinion did not change the requirement that every claim limitation must be found either inherently or explicitly in the prior art before the analysis can proceed to look for a motivation to combine. This case relies primarily on other rationales, and implies that the Obvious to Try rationale does not necessarily require a motivation to combine.</p>
<p>Rentrop v. Spectranetics Corp., 550 F.3d 1112, 1118 (Fed. Cir. 2008) (providing dicta on the Non-Rigid TSM rationale emphasizing that the obviousness inquiry requires a motivation to combine the references, not just that all the elements can be found in the prior art).</p>	<p>The dicta of this case emphasize that there must be a motivation to combine the prior art references, and that even if all the limitations are shown in the prior art, the patent is not rendered obvious absent some motivation to combine those references in the manner of the invention. The motivation to combine does not need to be explicitly disclosed in the prior art but rather can come from common sense, knowledge in the industry, or it can be implicit in the prior art.</p>
<p>Andersen Corp. v. Pella Corp., 300 F. App’x 893, 899-900 (Fed. Cir. 2008) (stating that evidence of a motivation to combine and evidence of teaching away should be considered), <i>cert. denied</i>, No. 08-1209, 2009 WL 854148 (U.S. June 1, 2009).</p>	<p>This case primarily focuses on the Design Incentives or Other Market Forces rationale but implies that the court is applying the Non-Rigid TSM rationale. This suggests that the Design Incentives or Other Market Forces rationale is informing the analysis of the Non-Rigid TSM rationale.</p>
<p>Sanofi-Synthelabo v. Apotex, Inc., 550 F.3d 1075, 1087-90 (Fed. Cir. 2008) (holding that a separation of enantiomers was not a simple or routine procedure where only hindsight knowledge that the enantiomer had advantageous properties would motivate one to make the separation).</p>	<p>The court rejected the defendant’s argument that there was motivation to separate enantiomers and that upon separation routine testing would have revealed the advantageous properties of the isomer. The court emphasized that the separation itself came only through a process of trial and error due to the choice of one of several known methods of enantiomer separation. Thus, the court found the separation unpredictable. This case stands for the proposition that an invention that results as “a paradigm of trial and error” is likely non-obvious absent an impressible use of hindsight bias.</p>

Erico Int'l Corp. v. Vutec Corp., 516 F.3d 1350, 1356-57 (Fed. Cir. 2008) (finding a substantial question of invalidity where there exists an implicit motivation to combine the references in the prior art).	The prior art references themselves may provide an implicit motivation to combine.
Innogenetics, N.V. v. Abbott Labs., 512 F.3d 1363, 1373-74 (Fed. Cir. 2008) (“[K]nowledge of a problem and motivation to solve it are entirely different from motivation to combine particular references to reach the particular claimed method.”).	Clarifying that “knowledge of a problem and motivation to solve it are entirely different from motivation to combine particular references to reach the particular claimed method,” the court stated that there must be a showing of a motivation from some source that demonstrates why one of ordinary skill would make the combination. This case also shows that an expert is not the only source for proving such motivation.
Cordis Corp. v. Medtronic Ave, Inc., 511 F.3d 1157, 1172 (Fed. Cir. 2008) (stating that there was no proof that the jury instructions were inconsistent with <i>KSR</i> 's rejection of the rigid application of the TSM test).	The jury instructions stated that there must be a motivation to combine in the prior art references, and the mere fact that the prior art can be modified does not render the invention obvious unless there was a motivation to make the modification. This appears to be in the form of the rigid TSM test. However, the instructions also stated that a motivation may be found in the ordinary knowledge of the field or the nature of the problem to be solved, which is constant with the Non-Rigid TSM rationale. This suggests that instructions are flexible enough where the analysis is not confined to the references alone.
Honeywell Int'l Inc. v. United States, 81 Fed. Cl. 514, 528-29 (Fed. Cl. 2008) (rejecting the argument that because a patent is reviewed under the TSM test “the presumption of validity should be afforded less weight in light of <i>KSR</i> ”).	Even though the Supreme Court rejected a rigid application of the TSM test, the case suggests that patents that were examined under the TSM test are still entitled to a presumption of validity.
Aventis Pharma Deutschland GmbH v. Lupin, Ltd., 499 F.3d 1293, 1301-02 (Fed. Cir. 2007) (clarifying what constitutes a rigid application of the TSM test particularly in the context of the chemical arts).	This case affirms that there must be some motivation to combine but that there need not be precise references directed at the specific subject matter of the claim to render it obvious. The motivation to create a compound does not require that the challenger show that there is an “explicit teaching that the . . . compound will have a particular utility,” just that the claimed compound and prior art compound are structurally similar such that there would be a reasonable expectation of the properties of the claimed compound. Further, this case suggests that knowledge of how to isolate a particular compound and the properties to expect from such isolation would likely render the claim obvious.

2. The Obviousness Standard Based on the Non-Rigid TSM Rationale in Post-*KSR* Litigation

This Section takes the analysis of each of the cases using the Non-Rigid TSM rationale in Part III.G.1 and condenses the analysis into general principles that govern the Non-Rigid TSM rationale.

Post-*KSR* cases demonstrate that the Non-Rigid TSM rationale is flexible, and an explicit suggestion to combine the prior art is not necessary.²⁴⁹ The motivation to combine may be implicit in the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved.²⁵⁰ An implicit motivation to combine exists when a suggestion is present in the prior art as a whole.²⁵¹ In such situations, the proper question is whether one of ordinary skill in the art possesses sufficient knowledge to render him capable of combining the known elements.²⁵² Many cases look to whether a person of ordinary skill in the art would have seen a benefit in combining the elements in the prior art.²⁵³ Such a benefit may be seen as a motivation to combine references.²⁵⁴

After *KSR*, some parties argued that jury instructions should explicitly state that a suggestion or motivation to combine is not required.²⁵⁵ However, *KSR* does not completely remove these considerations from the analysis: “[A] patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.”²⁵⁶ The court should still consider a reason for the combination.²⁵⁷ The primary arguments against an obviousness conclusion based on this rationale are that there is no evidence of a reason to combine the references or the references teach away from the claims of the patent.²⁵⁸

Although the TSM test is not overruled or nullified, courts must be careful not to rigidly apply the test.²⁵⁹ Post-*KSR* courts maintain that the Non-Rigid TSM rationale remains the primary guarantor against a non-

²⁴⁹ See *supra* Part III.G.1; see, e.g., *DyStar Textilfarben GmbH & Co. v. C.H. Patrick Co.*, 464 F.3d 1356, 1360, 1366 (Fed. Cir. 2006).

²⁵⁰ See *supra* Part III.G.1.

²⁵¹ See *id.*; see, e.g., *DyStar*, 464 F.3d at 1360, 1368.

²⁵² See *DyStar*, 464 F.3d at 1368.

²⁵³ See *supra* Part III.G.1.

²⁵⁴ See, e.g., *DyStar*, 464 F.3d at 1360, 1366; *Abbott Labs. v. Sandoz, Inc.*, 500 F. Supp. 2d 846, 851 (N.D. Ill. 2007), *aff'd*, 544 F.3d 1341 (Fed. Cir. 2008).

²⁵⁵ See *supra* Part III.G.1; see, e.g., *Lucent Techs. Inc. v. Gateway, Inc.*, 509 F. Supp. 2d 912, 933 (S.D. Cal. 2007), *aff'd*, 543 F.3d 710 (Fed. Cir. 2008).

²⁵⁶ *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007).

²⁵⁷ See *supra* Part III.G.1; see, e.g., *DyStar*, 464 F.3d at 1360, 1366; *Lucent Techs.*, 509 F. Supp. 2d at 933; *Elantech Devices Corp. v. Synaptics, Inc.*, No. C06-01839CRB, 2008 WL 1734748, at *6 (N.D. Cal. Apr. 14, 2008); *Lucent Techs., Inc. v. Gateway, Inc.*, 537 F. Supp. 2d 1095, 1107 (S.D. Cal. 2008) (stating that although “Microsoft is correct that a ‘teaching, suggestion, or motivation’ is no longer strictly required in the prior art, a defendant must do more than merely showing that every element is present in the prior art” (quoting *KSR Int'l*, 550 U.S. at 418)).

²⁵⁸ See *supra* Part III.G.1; see, e.g., *Sud-Chemie, Inc. v. Multisorb Techs., Inc.*, No. 3:03CV-29-S, 2007 WL 2669366, at *5 (W.D. Ky. Sept. 7, 2007), *vacated*, 554 F.3d 1001 (Fed. Cir. 2009).

²⁵⁹ See *supra* Part III.G.1. See, e.g., *Global Traffic Techs., LLC v. Tomar Elecs., Inc.*, No. 05-756, 2007 WL 4591297, at *6 (D. Minn. Dec. 27, 2007).

statutory hindsight bias because the Non-Rigid TSM rationale ensures that the obviousness determination is based on evidence.²⁶⁰

Due to *KSR*, the Federal Circuit is particularly sensitive to the varying levels of relevance the Non-Rigid TSM rationale has in different contexts. In looking at these contexts, other rationales are often used. In *Takeda Chemical Industries, Ltd. v. Alphapharm Pty., Ltd.*,²⁶¹ the Federal Circuit broadly held that a flexible version of the Non-Rigid TSM rationale must be applied “in cases involving new chemical compounds.”²⁶² This flexible version of the Non-Rigid TSM rationale was the Obvious to Try rationale.²⁶³ The courts apply many of the other rationales as flexible versions of the Non-Rigid TSM rationale.²⁶⁴ However, in other contexts, the Federal Circuit has not explicitly applied the Non-Rigid TSM rationale, and instead stated that an obviousness determination is not the result of a rigid formula but should be based on a fact-intensive analysis.²⁶⁵

The post-*KSR* cases demonstrate that the Non-Rigid TSM rationale, like the other rationales, turns on predictability.²⁶⁶ However, although the rationales have predictability in common, there are many other discrepancies in the application of the various rationales.

IV. SUGGESTIONS TO COURTS FOR ESTABLISHING A CLEAR OBVIOUSNESS STANDARD POST-*KSR*

This Part further applies the analysis from Part III to determine how the principles behind the seven rationales relate to one another in order to reveal the nature of obviousness post-*KSR*. The study of the PTO's seven exemplary rationales discussed in Part III demonstrates that there remains uncertainty regarding the impact of *KSR* on obviousness under 35 U.S.C. § 103. After *KSR*, courts decided a substantial number of cases based on appeals from PTO decisions or involving patent invalidity based on obviousness *KSR*. This Comment analyzes 105 of the most prominent and recent cases where the post-*KSR* standard of obviousness is discussed in the most detail.²⁶⁷

²⁶⁰ See *supra* Part III.G.1. See, e.g., *Ortho-McNeil Pharm., Inc. v. Mylan Labs., Inc.*, 520 F.3d 1358, 1364 (Fed. Cir. 2008); *Henrob Ltd. v. Bollhoff Systemtechnik GmbH & Co.*, No. 05-CV-73214-DT, 2008 WL 5383580, at *14 (E.D. Mich. Dec. 23, 2008).

²⁶¹ 492 F.3d 1350 (Fed. Cir. 2007).

²⁶² *Id.* at 1357.

²⁶³ See *supra* Part III.E.

²⁶⁴ See *supra* Parts III.G.1, III.A-F.

²⁶⁵ See *supra* Part III.G.1; see, e.g., *Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1161 (Fed. Cir. 2007).

²⁶⁶ See *supra* Part III.A-G.

²⁶⁷ See *id.*

It is clear in many of the cases that litigants are merely testing the effects and interpretations of *KSR*. Parties frequently disagree on the factors to apply as a result of *KSR* and often cite more than one of the seven rationales as support. Some litigants assert that *KSR* demands a broad, flexible approach, with an emphasis on market factors, design incentives, motivations to improve products, and problems known to one of ordinary skill in the art.²⁶⁸ Others place emphasis on evidence necessary to determine if the product is not one of innovation but of ordinary skill and common sense. Still, many litigants insist that *KSR* requires a fact intensive analysis grounded first in the findings of *Graham*. One party unsuccessfully advocated that *KSR* requires courts to consider twenty-one separate factors in an obviousness analysis.²⁶⁹ In any event, there is debate among litigants regarding whether *KSR* changed the obviousness standard.²⁷⁰

The most common reason courts reject litigants' arguments post-*KSR* is that one party failed to make an obviousness analysis explicit and merely made conclusory statements.²⁷¹ In these cases, litigants make the mistake of merely citing a rationale to argue the issue of obviousness rather than evaluating the *Graham* factors and articulating reasoning to support a legal

²⁶⁸ See, e.g., *Single Chip Sys. Corp. v. Intermec IP Corp.*, 495 F. Supp. 2d 1066, 1078 (S.D. Cal. 2007), vacated in part, Nos. 04CV1517JAH(CAB), 07CV256JAH(CAB), 2007 WL 2600850 (S.D. Cal. Aug. 28, 2007); *Abbott Labs. v. Sandoz, Inc.*, 544 F.3d 1341, 1346-47 (Fed. Cir. 2008).

²⁶⁹ See *Single Chip*, 495 F. Supp. 2d at 1078 (rejecting as too rigid the argument that all the following factors are required to be evaluated in an obviousness analysis: "1) whether a patent is a combination or non-combination patent; 2) if a combination patent, whether the combination is the predictable use of known elements; 3) whether design incentives prompted variations of an invention in a particular field or a different one; 4) whether market forces prompted variations of an invention in a particular field or a different one; 5) the interrelated teachings of multiple patents; 6) the effects of demands known to the design community; 7) the effects of demands in the marketplace; 8) the market demand effect on driving design trends; 9) the scientific literature effect on driving design trends; 10) the background knowledge possessed by a person having ordinary skill in the art; 11) the inferences that a person of ordinary skill in the art would employ; 12) the creative steps that a person of ordinary skill in the art would employ; 13) whether any need or problem known in the field of endeavor at the time of the invention and addressed by the patent provided a reason for combining the elements in the manner claimed; 14) whether there was a design need to solve a problem; 15) whether there was market pressure to solve a problem; 16) whether, if there were a finite number of identified, predictable solutions to such a design need or market pressure to solve a problem, such solutions were within the technical grasp of a person of ordinary skill in the art; 17) whether, if such solutions were within the technical grasp of a person of ordinary skill in the art, such person had good reason to pursue such known options; 18) whether there is a 'teaching suggestion or motivation to combine' prior art; 19) whether any conclusions reached regarding obviousness are the improper product of hindsight bias and distortion; 20) whether a prior art teaches away from combining certain known elements; and 21) whether any secondary considerations of non-obviousness are present").

²⁷⁰ See, e.g., *Eaton Corp. v. ZF Meritor LLC*, No. 03-74844, 2007 WL 2901692, at *1 (E.D. Mich. Oct. 4, 2007) (upholding the argument that *KSR* substantially changed the legal analysis of an obviousness claim as previously developed by the Federal Circuit).

²⁷¹ See *supra* Part III.A-G.

conclusion.²⁷² Such use of the rationales is contrary to the Supreme Court's holding in *KSR*.²⁷³ These mistakes appear to stem from confusion about the nature of the seven exemplary rationales, and a clearer obviousness standard articulated by courts would eliminate this problem.

In addition to confusion among litigants, courts also appear uncertain of the degree of change *KSR* mandates in an obviousness analysis.²⁷⁴ Most of the uncertainty relates to the status of the TSM test and the continuing validity of Federal Circuit precedent on the issue of obviousness.²⁷⁵ However, the Supreme Court noted that some Federal Circuit case law appropriately applied the broad conception of the TSM test.²⁷⁶ Thus, the TSM test, at least in non-rigid form, survives *KSR*. The courts generally apply the other rationales as a non-rigid form of the TSM test.²⁷⁷

Courts agree that the proper analysis of obviousness is flexible and that courts and the PTO must employ common sense in evaluating patent validity.²⁷⁸ However, courts do not clearly establish a consistent approach to such an analysis or how the seven rationales should fit with one another. Until courts clearly define the impact of *KSR*, litigation over the obviousness standard will likely increase.²⁷⁹

The policies behind the obviousness standard and the concerns articulated by the Supreme Court in *KSR* convey the basic nature of obviousness. In *KSR*, the Supreme Court articulated the examples that form the basis for the seven rationales to illustrate the principle reason for finding a patent obvious.²⁸⁰ The Supreme Court stated that "a combination which only unites old elements with no change in their respective functions" is an obvious invention and the principle underlying an obviousness determination.²⁸¹ The policy behind this principle is that allowing such a patent would remove

²⁷² See *supra* Part III.A-G.

²⁷³ *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

²⁷⁴ See *supra* Part III.A-G.

²⁷⁵ See *supra* Part III.A-G. See, e.g., *McNeil-PPC, Inc. v. Perrigo Co.*, 516 F. Supp. 2d 238, 251 (S.D.N.Y. 2007), *aff'd*, 274 F. App'x 899 (Fed. Cir. 2008).

²⁷⁶ *KSR Int'l*, 550 U.S. at 421-22; see also *supra* Part III.G.

²⁷⁷ See *supra* Part III.A-G.

²⁷⁸ See *supra* Part III.A-G.

²⁷⁹ If the courts do not clearly define the impact of *KSR*, the PTO will additionally become more overburdened. The reexamination process, on average, takes approximately twenty-three months. See *Innovative Office Prods., Inc. v. Spaceco, Inc.*, No. 05-4037, 2008 WL 4083012, at *5 (E.D. Pa. Aug. 28, 2008) ("These averages are subject to change and likely to lengthen as a result of the Supreme Court's decision in *KSR*, which altered the obviousness standard for patentability. This will most likely result in an extremely large number of reexamination requests, which will increase the average pendency of the reexamination process." (citing U.S. Patent and Trademark Office, *Ex Parte* Reexamination Filing Date, June 30, 2006)).

²⁸⁰ See *KSR Int'l*, 550 U.S. at 416-18.

²⁸¹ *Id.* at 415-16 (quoting *Great Atl. & Pac. Tea Co. v. Supermarket Equip. Corp.*, 340 U.S. 147, 152 (1950)).

what is already known in the field of endeavor and diminish the resources available to those skilled in the art.²⁸² In other words, allowing such a patent would grant a monopoly over what rightfully belongs in the public domain.

Additionally, the cases since *KSR* suggest that there still must be a reason for combining prior art references, but courts should not evaluate such reasons with a rigid formula.²⁸³ The proper inquiry compares the limitations of the claimed subject matter as a whole with the prior art references as a whole.²⁸⁴

The analysis of the seven rationales affirms that *KSR* did not change the obviousness standard with respect to the requirement that all the limitations of the invention be known to one of ordinary skill in the art at the time of the invention.²⁸⁵ However, the prior art references do not need to teach all the limitations of the invention explicitly, and establishing differences between the prior art and an invention does not alone prove non-obviousness. Instead, the missing features may exist solely within the knowledge of one of ordinary skill in the art. The issue of obviousness then turns on whether adding such missing features would give predictable results.

The seven rationales demonstrate that the hallmark of obviousness post-*KSR* is predictability to one of ordinary skill in the art at the time of the invention.²⁸⁶ Five of the seven rationales include the term “predictable.”²⁸⁷ Although the Use of Known Technique to Improve Similar Devices in the Same Way rationale and the Non-Rigid TSM rationale do not include the term “predictable,” the case law post-*KSR* demonstrates that an obviousness analysis based on these rationales still turns on whether or not the claims were predictable to one of ordinary skill in the art at the time of the invention.²⁸⁸ Further, a conclusion of obviousness does not require an absolute predictability of success.²⁸⁹ Predictability of success is not the sole criterion of the obviousness inquiry. A person of ordinary skill in the art must also be motivated to make the combination.²⁹⁰

In addition to the seven rationales turning on predictability, all of the rationales involve a variation or combination of known elements. The

²⁸² *Id.*

²⁸³ See *supra* Part III.A-G. See, e.g., *Patent Category Corp. v. Target Corp.*, 567 F. Supp. 2d 1171, 1194 (C.D. Cal. 2008); *Lucent Techs., Inc. v. Gateway, Inc.*, 509 F. Supp. 2d 912, 933 (S.D. Cal. 2007).

²⁸⁴ See *supra* Part III.A-G. See, e.g., *Myers v. Master Lock Co.*, No. 06-CV-00619LTB, 2008 WL 2168977, at *8 (D. Colo. May 22, 2008); *Datascope Corp. v. SMEC, Inc.*, 776 F.2d 320, 324 (Fed. Cir. 1985).

²⁸⁵ See *supra* Part III.A-G.

²⁸⁶ See *id.*

²⁸⁷ See *id.*

²⁸⁸ See *id.*

²⁸⁹ See *id.*; see, e.g., *Kleen-Tex Indus., Inc. v. Mountville Mills, Inc.*, No. 3:03-CV-093JTC, 2008 WL 2486363, at *9 (N.D. Ga. Mar. 3, 2008), *vacated*, No. CIV. 3:03-CV-093-JTC, 2008 WL 2486358 (N.D. Ga. May 28, 2008); *In re O'Farrell*, 853 F.2d 894, 903 (Fed. Cir. 1988).

²⁹⁰ See *supra* Part III.A-G.

Combining Prior Art Elements According to Known Methods rationale involves combining known elements in the manner of the invention with the elements retaining their prior functions. The Substitution of One Known Element for Another to Obtain Predictable Results rationale is similar to the first except that, rather than combining known elements, it implements a variation of known elements through substitution. The Use of Known Technique to Improve Similar Devices (Methods, or Products) in the Same Way rationale involves a variation of known elements by applying known improvement techniques. The Applying a Known Technique to a Known Device Ready for Improvement to Yield Predictable Results rationale closely mirrors the third rationale with the only difference being that the known device ready for improvement is not necessarily the same class of device as in the prior art. The Obvious to Try rationale is a combination of known elements involving the use of one of a finite number of potential solutions. The Design Incentives and Market Forces rationale involves known work prompting variations of known elements. Finally, the Non-Rigid TSM rationale turns on a finding of a teaching, suggestion, or motivation to modify or combine known elements.²⁹¹ Thus, the seven rationales establish a range of the types of cases where a patent may be obvious, and thus invalid, because the combination or variation of known elements yields only predictable results.

Because issues of obviousness turn on whether an invention is predictable to one of ordinary skill in the art at the time of the invention, it is necessary for courts to establish the proper approach to determining predictability. Initially, courts must be careful to guard against hindsight bias and maintain a flexible standard when considering whether an invention is predictable. Resolution of the basic factual inquiries, as presented in *Graham*,²⁹² should inform the analysis of predictability. The differences between the prior art and the claimed invention and the reasonable expectation of success in bridging such gaps provides the basis for proving whether an invention is predictable to one of ordinary skill in the art. Further, the seven rationales reveal other factors that may contribute to a finding of predictability. Each rationale mandates that there be some motivation to combine references or alter the invention.²⁹³ As previously discussed, this motivation may come from the prior art references, the nature of the problem to be solved, knowledge of one of ordinary skill in the art, or any other source.²⁹⁴ Thus, courts should shift the emphasis away from the seven rationales and the explicit language of *KSR* supporting them. Instead, courts should focus the analysis on the *Graham* factors and the principles underlying the seven rationales.

²⁹¹ See Part III.A-G, *supra*, for a complete discussion of the rationales.

²⁹² See *supra* note 96.

²⁹³ See *supra* Part III.A-G.

²⁹⁴ See *id.*

CONCLUSION

This Comment analyzes 105 of the most prominent and recent cases where the post-*KSR* standard of obviousness is discussed in the most detail in order to synthesize post-*KSR* courts' various approaches to obviousness into a single obviousness standard. Based on the analysis of the decisions rendered since *KSR*, this Comment suggests that courts combine the seven rationales into a single flexible standard that an invention is obvious when a person of ordinary skill in the art at the time of the invention could implement a predictable variation of known elements. Such a variation may comprise combining known elements or improving on a known system. This standard focuses the analysis on predictability, which emphasizes the *Graham* factors—as the Supreme Court in *KSR* intended.²⁹⁵ A standard similar to the one presented in this Comment preserves the policies behind the obviousness standard and guards against the concerns expressed by the Supreme Court, such as hindsight bias and utilizing a rigid test. Further, this standard eliminates the confusion derived from having competing rationales that are inconsistently applied.

Collapsing the seven rationales into one comprehensive standard reveals that, contrary to the belief of many, *KSR* did not create a fundamental change in the obviousness standard; it merely shifted the focus back to the *Graham* factors and established a standard that is flexible enough to protect the policies underlying the obviousness inquiry. However, until courts clearly define the proper standard of obviousness, like the standard this Comment suggests, confusion about the impact of *KSR* and the nature of obviousness will continue, and litigation will likely increase at the expense of the courts and the PTO.

The new PTO examination guidelines featuring the seven exemplary rationales created immense confusion and uncertainty about the standard of obviousness post-*KSR*. The Supreme Court, in deciding *KSR*, rejected the Federal Circuit's rigid application of the TSM test and shifted the standard back to a flexible approach emphasizing the predictability of results.

The 105 post-*KSR* cases reveal that all seven of the exemplary rationales involve a variation or combination of known elements. The cases also establish that the obviousness inquiry turns on the predictability of results to one of ordinary skill in the art at the time of the invention. Thus, to help litigants understand the standard for obviousness, courts should clarify the impact of *KSR* by combining the rationales into the single flexible standard that an invention is obvious when a person of ordinary skill in the art at the time of the invention could implement a predictable variation of known elements, with the *Graham* factual inquiries and the principles underlying the seven rationales informing the analysis of the term “predictable.”

²⁹⁵ See *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 426-27 (2007).

Until courts establish a uniform standard and articulate the proper approach to an obviousness inquiry, litigants will continue to test the boundaries of *KSR* at the cost of the courts and the PTO.