UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Mr. J Kyle Bass and Mr. Erich Spangenberg,
Petitioners

v.

ALPEX PHARMA
Patent Owner

Patent No. 8,440,170
Issued: May 14, 2013
Filed: PCT January 30, 2009
Inventors: F. Stroppolo and S. Ardalan
Title: "Orally Disintegrating Tablets with Speckled Appearance"

Inter Parties Review No.— IPR2016-00245

CORRECTED PETITION FOR INTER PARTES REVIEW OF U.S. PATENTNO. 8,44,170 AND MANDATORY NOTICES UNDER 37 C.F.R. § 42.8

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I. Introduction

Mr. J Kyle Bass and Mr. Erich Spangenberg ("Petitioner") requests *inter partes* review ("IPR") of claims 1 - 9 of U.S. Patent No. 8,440,170 ("the '170 Patent") (Exhibit 1001).[1]

II. Grounds for Standing

Petitioner certifies that the patent for which review is sought is available for *inter partes* review, and that Petitioner is not barred or estopped from requesting an *inter partes* review on the grounds identified in the petition.

III. Mandatory Notices

A. Real Party-In-Interest

Pursuant to 37 C.F.R. § 42.8(b)(1), Petitioner certifies that Mr. Erich Spangenberg and Mr. J Kyle Bass are the real parties in interest (collectively, "RPI"). No other person has authority to direct or control (i) the timing of, filing of, content of, or any decisions or other activities relating to this Petition or (ii) any

[1] The '170 Patent supports the US FDA Orange Book listing of Suprenza. The front page of the Suprenza website states that: "Suprenza is a registered trademark of Citius Pharmaceuticals, LLC. Marketed by Prenzamax, LLC. Distributed by Akrimax Pharmaceuticals, LLC." (Exhibit 1016)

timing, future filings, content of, or any decisions or other activities relating to the future proceedings related to this Petition. All of the costs associated with this Petition are expected to be borne by Mr. Erich Spangenberg and Mr. J Kyle Bass. None of the RPI has any financial interest in any securities of Alpex Pharma or Citius Pharmaceuticals.

B. Notice of Related Matters

Petitioner is unaware of any other matter related to the '170 Patent.

C. Lead and Backup Counsel

Lead Counsel:	Backup Counsel:
Dr. Gregory J. Gonsalves Reg. No. 43,639 2216 Beacon Lane Falls Church, VA 22043 (571) 419-7252 gonsalves@gonsalveslawfirm.com	Christopher Casieri McNeely, Hare & War LLP 12 Roszel Road, Suite C104 Princeton, NJ 08540 Phone: 609 731 3668 chris@miplaw.com

D. Service Information

Please address all correspondence to the lead and backup counsel at the addresses shown above. Petitioner also consents to electronic service by e-mail at: gonsalves@gonsalveslawfirm.com and tmeagher@meagheremanuel.com.

E. Payment of Fees

The required fees are submitted herewith in accordance with 37 C.F.R. §§ 42.103(a) and 42.15(a). If any additional fees are due during this proceeding, the Office is authorized to charge such fees to Deposit Account No. 506831.

IV. Threshold Requirement for *Inter Partes* Review

A petition for *inter partes* review must demonstrate "a reasonable likelihood that the petitioner would prevail with respect to at least one of the claims challenged in the petition." 35 U.S.C. § 314(a). This Petition meets that threshold. All of the elements of claims 1-9 of the '170 Patent are taught or suggested in the prior art, as explained below in the proposed grounds of unpatentability.

V. Identification of Challenge

A. Overview of the '170 Patent

1. The '170 Specification

The '170 Patent is directed "to orally disintegrating tablets with speckled appearance" (Ex. 1001 abstract; col 1:14-16). The reasons given for patenting a speckled pill are focused on their supposed "identification by physicians, nurses

and patients" (*id*.) though such is not claimed by the inventors. The '170 Patent describes colored granules and excipients used to make the "speckled appearance" of the tablets (Ex. 1001 col 3:44-46). As explained by Dr. Park, "[t]he '170 Patent makes no claim as to the active pharmaceutical ingredient (API) useful in the so-called invention, listing hundreds of active ingredients that could be used with the speckled tablet in a laundry list stretching almost four full columns of the patent." (Ex. 1002, ¶ 11 *citing* Ex. 1001 col 3: 48 – col 7:27).

2. The '170 Patent Claims

The '170 Patent has nine claims with all of claims 2-8 depending from the only independent claim, claim 1:

1. An orally disintegrating tablets [sic] with speckled appearance comprising (a) speckles comprising colored granules of a water-soluble sugar, and (b) a pharmaceutically acceptable carrier.

Claims 2-4 limit the "water soluble sugar" to the well-known sugars sucrose, sorbitol, mannitol, xylitol, or fructose.

Claims 5-7 limit the colored granules to sizes ranging from 10 µm to about 1200 µm.

Claims 8 and 9 limit the colored granules to about 0.1% w/w to about 50% w/w per tablet.

As will be seen, none of the claims are novel or non-obvious in light of the prior art.

B. Prosecution History of the '170 Patent

The application that issued as the '170 Patent is National Stage Entry PCT/EP09/51055 filed on January 30, 2009 with 11 original claims. The application claimed priority to a provisional application (61/026,249) filed on February 5, 2008.

A Restriction Requirement was mailed on October 19, 2011 which divided the original claims into two groups: Group I claims 1-9 and Group II claims 10-11. A Reply to Restriction was filed on November 10, 2011 (Exhibit 1007). The Applicant chose Group I, claims 1-9, which were claims drawn to orally disintegrating tablets with a speckled appearance comprising colored granules of a water-soluble sugar in admixture with a pharmaceutically acceptable carrier.

A non-final Office Action was mailed February 14, 2012 (Exhibit 1008) in which the Examiner rejected claims 1-4 and 8 as anticipated by and claims 1-4 and 8-9 as obvious over Martino *et al*. (US 2003/0180357) (*Id*.). The Examiner also rejected all of claims 1-9 as obvious over Martino *et al*. (US 2003/0180357), in view of Pettersson *et al*. (US 2004/0213855).

In a response dated May 14, 2012, Applicants argued that Martino does not teach colored granules of a water soluble sugar and that the speckled appearance of Martino was due to an "aqueous coating composition comprising gellan gum." (Ex. 1009)

The Office then issued a Final Rejection on September 12, 2012 for all claims for essentially the same reasons as before, and emphasized "the claim only requires a speckled appearance and does not require the speckles to comprise colored sugar granules" (Ex. 1010 pg. 7) hence "the argument [proferred above by Applicant] is not material to the instant rejection because, as indicated in the above rejection, the teachings of Martino *et al*. are relied upon for the claim 1 limitations of "colored granules of a water-soluble sugar"" (*Id*.)

The Applicant submitted a Reply to Rejection on December 12, 2012 amending claim 1 to provide "that the speckles are attributable to the colored granules of water-soluble sugar" and stating "Martino is a 'homogenous mixture of mannitol and dye,' not colored granules of a water-soluble sugar." (Ex. 1011 pg. 4)

A Notice of Allowance was issued on March 20, 2013 in which the Examiner states "[t]he prior art fails to teach or reasonably suggest an orally disintegrating tablet, wherein colored granules of sugar provide a speckled appearance" and further states that "the speckles [of Martino] comprise solid

particles of dye ([0061]) and not colored granules of a water-soluble sugar." (Ex. 1012)

It is clear from the Reasons for Allowance that the Examiner failed to consider the claims in comparison to the vast amount of prior art directed to colored sugar particles useful for imparting a speckled appearance in a pharmaceutical composition. Not only were "colored granules of a water-soluble sugar" well known in the art, but that they were even commercially available and known to be useful to add to pharmaceutical compositions to attain "contrasting colors" from the tablet body.

VI. Level of Skill in the Art

The level of skill in the art is apparent from the cited art. As explained by Dr. Park, "[a] person having ordinary skill in the art would have either a Pharm. D. or a Ph.D. in organic chemistry, pharmacy, pharmacology, or a related discipline; or a Bachelor's or Master's degree in organic chemistry or a related field with about four years of experience relating to formulation of compounds. A person of ordinary skill in the art may have collaborated with others having expertise in, for example, methods of treating diseases and administering medicines." (Ex. 1002, ¶ 9).

VII. Claim Construction

In *inter partes* review, a claim term is given its "broadest reasonable construction in light of the specification." *See* 37 C.F.R. § 42.100(b); *see also In re Cuozzo Speed Techs., LLC,* No. 2014-1301, 2015 U.S. App. LEXIS 1699, Slip. Op. at 21 (Fed. Cir. Feb. 4, 2015). Unless otherwise specified, all terms are to be given their broadest reasonable interpretation as well as their normal and customary meaning.

A. "speckled appearance"

"Speckled" is generally meant as "covered or marked with small spots or patches of color" while "appearance" means "the way something looks", hence a "speckled appearance" should mean, with regard to a pharmaceutical tablet, a tablet that "has the look of being covered with small spots or patches of color."

This construction is the broadest reasonable interpretation in light of the specification. The term "speckled" is defined as "[d]otted or coated with speckles, esp. flecked with small spots of contrasting colors." (Ex. 1015, p. 1307). Similarly, the Specification of the '170 Patent describes a speckled appearance as "a bicolored appearance characterized by the presence of spots of a different color on their surface can be easily identified by users." (Ex. 1001, col. 1, l. 65 – col. 2, l. 1).

B. "colored granules"

The term "colored" means "having or having been given a color" while the term "granule" means "a small particle". The '170 Patent defines preferable particle sizes of from about 10 μm to about 1200 μm. Therefore, for the purposes of this IPR, "colored granules" is defined as "small particles of a size from about 10 μm to about 1200 μm having or having been given color."

This construction is the broadest reasonable interpretation in light of the specification. The term "colored" is defined as "[h]aving color." (Ex. 1015, p. 276). The term "granule" is defined as "[a] small grain or pellet, a particle." (Ex. 1015, p. 593). Similarly, the Specification of the '170 Patent explicitly defines "colored granules" as "granules of a color different from the color of the tablet." (Ex. 1001, col. 2, l. 29). The Specification further states that "the colored granules used in the ODT [orally disintegrating tablet] of the present invention have a particle size from about 10 μm to about 1200 μm." (*Id*., col. 2, ll. 55-56).

C. "pharmaceutically acceptable carrier"

The term "pharmaceutically acceptable carrier" is not described nor defined in the specification of the '170 Patent. However, as explained by Dr. Park, "it is well known and accepted that a 'pharmaceutically acceptable carrier' is generally known as an excipient that can be included in a pharmaceutical compositions and that causes no significant adverse toxicological effects to a patient." (Ex. 1002, ¶

13). Accordingly, the term "pharmaceutically acceptable carrier" should be construed to mean "a substance that can be included in the compositions of the invention and that causes no significant adverse toxicological effects to a patient."

VIII. Detailed Explanation of the Challenge

Petitioner relies on the following prior art to support its grounds of challenge to claims 1-9 of the '170 Patent in this Petition:

1. PREVACID® (lansoprazole) Delayed-Release Capsules; PREVACID® (lansoprazole) For Delayed-Release Oral Suspension; PREVACID® SoluTab™ (lansoprazole) Delayed-Release Orally Disintegrating Tablets (Ex. 1004 hereafter "the *Prevacid Label*") TAP Pharmaceuticals, Lake Forest Il, 60045 USA, 102-004-R26 June 2007. The *Prevacid Label* is prior art to the '170 Patent under at least 35 U.S.C. § 102(a) (pre-AIA) because it was published in June 2007, less than one year prior to February 5, 2008, the earliest possible effective filing date for the claims of the '170 Patent. The *Prevacid Label* was not before the examiner during prosecution of the '170 Patent.
2. US 2006/0193909 to Stawski *et al.* entitled "Breath Freshening Presses Tablets and Methods of Making and Using Same" Published August 31, 2006. (Ex. 1005 hereafter "*Stawski*"). *Stawski* is prior art to the '170

Patent under at least 35 U.S.C. § 102(b) (pre-AIA) because it was published in 2006, more than one year prior to February 5, 2008, the earliest possible effective filing date for the claims of the '170 Patent. *Stawski* was not before the examiner during prosecution of the '170 Patent.

3. US 4,744,991 to Serpelloni entitled "Speckled Sugarless Chewing-Gum and Process for its Manufacture" issued May 17, 1988. (Ex. 1006 hereafter "*Serpelloni*") *Serpelloni* is prior art to the '170 Patent under at least 35 U.S.C. § 102(b) (pre-AIA) because it was issued in 1988, more than one year prior to February 5, 2008, the earliest possible effective filing date for the claims of the '170 Patent. *Serpelloni* was not before the examiner during prosecution of the '170 Patent.

Petitioner requests that claims 1-9 of the '170 Patent be held unpatentable based on the following grounds:

Ground 1. Claims 1-9 of the '170 Patent are unpatentable as obvious over the *Prevacid Label* in view of *Stawski* under 35 U.S.C. § 103.

Ground 2. Claims 1-3, 5, 6, 8, and 9 of the '170 Patent are unpatentable as obvious over the *Prevacid Label* in view of *Serpelloni* under 35 U.S.C. § 103.

IX. Ground 1: Claims 1-9 of the '170 Patent are unpatentable as

obvious over the *Prevacid Label* in view of *Stawski* under 35 U.S.C. § 103.

The obviousness inquiry is a question of law based on four factual predicates: (1) "the scope and content of the prior art," (2) the "differences between the prior art and the claims at issue," (3) "the level of ordinary skill in the pertinent art," and (4) "secondary considerations" such as "commercial success, long felt but unsolved needs, failure of others, etc." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406-07 (2007) (*citing Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966)); 35 U.S.C. § 103(a). KSR reaffirmed that "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR*, 550 U.S. at 416.

"Motivation to combine may be found in many different places and forms." *Par Pharm. Inc. v. TWI Pharms., Inc.*, 773 F.3d 1186, No. 2014-1391, 2014 U.S. App. LEXIS 22737, at *24 (Fed. Cir. Dec. 3, 2014) (citations omitted). Thus, for example, a challenger is not limited to the same motivation that the patentee had. *Id.* (*citing Alcon Research, Ltd. v. Apotex Inc.*, 687 F.3d 1362, 1369 (Fed. Cir. 2012), cert denied, 133 S. Ct. 1736 (2013)).

A. Independent Claim 1.

i. An orally disintegrating tablets [sic] with speckled appearance

The preamble to claim 1 claims "An orally disintegrating tablets [sic] with speckled appearance". The *Prevacid Label* specifically discloses an orally disintegrating tablet with speckled appearance. (Ex. 1004 pg. 10 "PREVACID SoluTab Delayed-Release Orally Disintegrating Tablets, 15 mg, are white to yellowish white uncoated tablets with orange to dark brown specks")[2].

ii. (a) speckles comprising colored granules of a water-soluble sugar

Element (a) of claim 1 claims "speckles comprising colored granules of a water-soluble sugar". The *Prevacid Label* teaches speckles comprising colored granules (Ex. 1004 pg. 10 "with orange to dark brown speckles") and tablets containing water soluble sugars (Ex. 1004 *e.g.* pg. 1 "mannitol") but does not specifically disclose speckles comprising colored granules of a water-soluble sugar. As explained by Dr. Park, however, "speckles comprising colored granules

[2] For reference, a picture of two Prevacid tablets from the website http://www.drugs.com/cdi/prevacid-solutab-orally-disintegrating-tablets.html (Ex. 1013) shows the orally disintegrating tablet with a speckled appearance:

of water-soluble sugar were well-known in the art at the time of the invention." (Ex. 1002, ¶ 16).

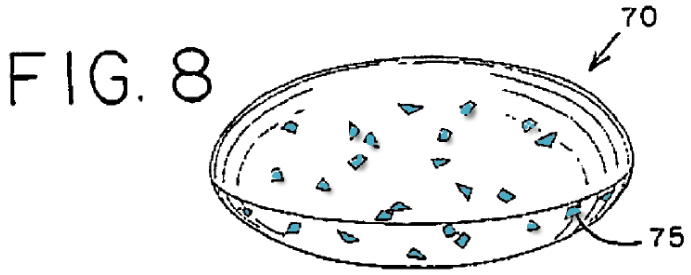
A preferred embodiment disclosed by *Stawski* teaches granules of a water-soluble sugar in tablets.

> Pressed tablet 70 shown in FIG. 8 does not have distinct layers, and may be formed all of one composition. The composition comprises abrasive inclusions 75 to provide an abrasive surface opposite the generally domed top surface on the tablet. The abrasive inclusions in this embodiment comprise solid matrices of carbohydrates, solid matrices of polyols, extruded carbohydrates or extruded polyols, and also carry a flavor. (Ex. 1005 para [0063])

Stawski, goes on to further teach the granules of a water-soluble sugar in the tablets ("abrasive granules") further comprise colored granules of a water-soluble sugar:

> The abrasive inclusions may be made from a number of different materials, including crystalline sugars or polyols; solid matrices of carbohydrates, polyols or mixtures; or extruded carbohydrates, polyols, or mixtures; … . On the one hand, solid matrices (such as from fluid bed coating or spray drying) and extruded carbohydrates or polyols are preferred because <u>these inclusions may also contain</u>

> flavors and/or colors. When the inclusions include colors, the abrasive particles may have a contrasting color from the remainder of the compressible composition into which they are added. (Ex. 1005 para [0085]; Examples 3 A-H; emphasis added)



Stawski specifically states "[t]he abrasive inclusions can include encapsulated or entrapped favors and colors. They can also be hard crystals of sugars or polyols, such as crystalline maltitol." (Ex. 1005 para [0099]) and "[t]he Palatinit inclusions [hydrogenated isomaltulose] in the above Examples 3 A-H are replaced with blue colored mannitol inclusions (Roquette Pearlitol 500DC)." (Ex. 1005 para [0105]) As explained by Dr. Park, "the 'blue colored mannitol inclusions' mentioned in Stawski were commercially available at the time of the invention and known to be useful as claimed as indicated." (Ex. 1002 ¶ 16).

As explained by Dr. Park, "[i]t would have been readily obvious to one of ordinary skill in the art that the speckles disclosed by the *Prevacid Label* could have been comprised of colored granules of a water-soluble sugar such as mannitol as taught by *Stawski*, as *Stawski* specifically teaches the inclusions as being useful

to 'have a contrasting color from the remainder of the … [tablet]' into which they are added." (Ex. 1002, ¶ 17). As further explained by Dr. Park, "as the *Prevacid Label* also teaches water-soluble sugars, including mannitol, as acceptable carriers, as well as various dyes, the use of a colored mannitol composition would have been obvious to one of ordinary skill in the art with a reasonable expectation that such would have been successful in producing a speckled appearance in a tablet as specifically disclosed by *Stawski*." (*Id.*).

iii. (b) a pharmaceutically acceptable carrier

Element 1(b) of claim 1 further requires "a pharmaceutically acceptable carrier." The *Prevacid Label* teaches pharmaceutically acceptable carriers.

> Each delayed-release orally disintegrating tablet contains enteric-coated microgranules consisting of 15 mg or 30 mg of lansoprazole (active ingredient) and the following inactive ingredients: lactose monohydrate, microcrystalline cellulose, magnesium carbonate, hydroxypropyl cellulose, hypromellose, titanium dioxide, talc, mannitol, methacrylic acid, polyacrylate, polyethylene glycol, glyceryl monostearate, polysorbate 80, triethyl citrate, ferric oxide, citric acid, crospovidone, aspartamePhenylketonurics: Contains Phenylalanine 2.5 mg per 15 mg Tablet and 5.1 mg per 30 mg Tablet., artificial strawberry flavor and magnesium stearate. (Ex. 1004 pg. 1)

Moreover, as explained by Dr. Park, *"Stawski* also teaches pharmaceutically acceptable carriers." (Ex. 1002, ¶ 18 *citing* Ex. 1005 para [0092]-[0106], Examples 1-3).

Therefore, as explained by Dr. Park, "it would have been readily obvious to one of ordinary skill in the art that an orally disintegrating tablet with speckled appearance further comprising a pharmaceutically acceptable carrier could have been reasonably expected to have been successfully derived from the disclosure of the *Prevacid Label* in view of *Stawski* without undue experimentation." (Ex. 1002, ¶ 18).

B. Dependent Claims 2-4: The orally disintegrating tablets … wherein the water-soluble sugar is mannitol.

Claim 2 depends from claim 1 further requires "the water-soluble sugar is selected from the group consisting of sucrose and polyalcohols". Claim 3 depends from claim 2 and further limits the water-soluble sugars to "the group consisting of sucrose, sorbitol, mannitol, xylitol, and fructose". Finally, Claim 4 further limits the choice of water-soluble sugars to "mannitol." As explained by Dr. Park, *Stawski* satisfies the claim limitations of claims 2, 3, and 4 because it specifically states that the water-soluble sugar is mannitol. (Ex. 1002, ¶ 19, *quoting* Ex. 1005 para [0105] "The Palatinit inclusions in the above Examples 3 A-H are replaced with blue colored mannitol inclusions.").

C. Dependent Claims 5-7: The orally disintegrating tablets … wherein the colored granules have a particle size from about 10 μm to about 1200 μm (claim 5); wherein the colored granules have a particle size from about 200 μm to about 800 μm (claim 6); and wherein the colored granules have a particle size from about 300 μm to about 500 μm (claim 7).

Claim 5 depends from claim 1 and attempts to define the size range of the colored granules "from about 10 μm to about 1200 μm." Claims 6 and 7 depend ultimately from claim 5, and further restrict the size of the colored granules to about 200 μm to about 800 μm and about 300 μm to about 500 μm, respectively. As explained by Dr. Park, "*Stawski* satisfies the limitations of claims 5, 6, and 7 because it teaches the claimed range of colored granules of a water-soluble sugar by disclosing that blue, hydrogenated isomaltulose granules are sized to pass through #20 sieve (~841 μm) but retained on a #40 sieve (~420 μm)." (Ex. 1002, ¶ 20, *citing* Ex. 1005 para [0100]).

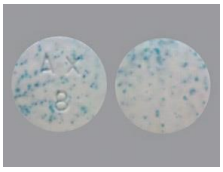
D. Dependent Claims 8-9: The orally disintegrating tablets … the colored granules are present in an amount from about 0.1% w/w to about 50% w/w per tablet (claim 8); are present in an amount from about 1% w/w to about 30% w/w (claim 9).

Claim 8 depends from claim 1 and requires that the colored granules are present in an amount from about 0.1% w/w to about 50% w/w per tablet while claim 9, which depends from claim 8, further restricts the amount to from about 1% w/w to about 30% w/w. As explained by Dr. Park, "*Stawski* satisfies the limitations of claims 8 and 9 because it teaches that the colored granules are

present in an amount from about 0.1% w/w to about 50% w/w per tablet, (Ex. 1005 at para [0100] 'Palatinit Inclusions 32.97%') as well as an amount from about 0.1% w/w to about 30% w/w per tablet. (Ex. 1005 at para [0106] 'Palatinit Inclusions 16.49%')." (Ex. 1002, ¶ 21).

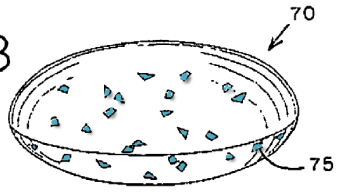
E. Summary of Obviousness Arguments for Ground 1.

The obviousness arguments are summarized for each claim limitation in the following chart:

U.S. 8440170	***Prevacid* and *Stawski***
An orally disintegrating tablets [sic] with speckled appearance comprising  *Suprenza 37.5 mg*[3]	*The Prevacid Label* teaches an orally disintegrating tablet with speckled appearance. (Ex. 1004 pg. 10 "PREVACID SoluTab Delayed-Release **Orally Disintegrating Tablets**, 15 mg, are white to yellowish white uncoated tablets **with orange to dark brown speckles**")

[3] The '170 Patent supports the US FDA Orange Book listing of Suprenza http://www.accessdata.fda.gov/scripts/cder/ob/docs/patexclnew.cfm?Appl_No=202088&Product_No=001&table1=OB_Rx. (Exhibit 1003). Image of orally disintegrating speckled Suprenza tablet available at Exhibit 1014, http://images.medscape.com/pi/features/drugdirectory/octupdate/AKR07220.jpg.

	
1a. (a) speckles comprising colored granules of a water-soluble sugar, and	*The Prevacid Label* teaches speckles comprising colored granules (Ex. 1004 pg. 10 "with orange to dark brown speckles") and water soluble sugar (pg. 1 mannitol) but does not specifically disclose speckles comprising colored granules of a water-soluble sugar. Speckles comprising colored granules of water-soluble sugar were well-known in the art at the time of the invention as disclosed, for example by *Stawski* that teaches tablets (Ex. 1005 Examples 3 A-H) comprising granules of a water-soluble sugar. (Ex. 1005 para [0063] "Pressed tablet 70 shown in FIG. 8 does not have distinct layers, and may be formed all of one composition. The composition comprises abrasive inclusions 75 to provide an abrasive surface opposite the generally domed top surface on the tablet. The abrasive inclusions in this embodiment comprise solid matrices of carbohydrates, solid matrices of polyols, extruded carbohydrates or extruded polyols, and also carry a flavor."). Stawski further teaches the granules of water-soluble sugar are colored granules of a water-soluble sugar (Ex. 1005 para [0085] The abrasive inclusions may be made from a number of different materials, including crystalline sugars or polyols; solid matrices of carbohydrates, polyols or mixtures; or extruded carbohydrates, polyols, or mixtures; … . On the one hand, solid matrices (such as from fluid bed coating or spray drying) and

	extruded carbohydrates or polyols are preferred because **these inclusions may also contain** flavors and/or **colors**. **When the inclusions include colors, the abrasive particles may have a contrasting color from the remainder of the compressible composition into which they are added**."; para [0098] "The abrasive inclusions can include encapsulated or entrapped favors and **colors**. They can also be hard crystals of sugars or polyols, such as crystalline maltitol."; para [0105] "The Palatinit inclusions in the above Examples 3 A-H are replaced **with blue colored maltitol inclusions** (Roquette Pearlitol 500DC)." FIG. 8 
1b. (b) a pharmaceutically acceptable carrier.	*The Prevacid Label* teaches pharmaceutically acceptable carriers. (Ex. 1004 pg. 1 "Each delayed-release orally disintegrating tablet contains enteric-coated microgranules consisting of 15 mg or 30 mg of lansoprazole (active ingredient) and the following inactive ingredients: lactose monohydrate, microcrystalline cellulose, magnesium carbonate, hydroxypropyl cellulose, hypromellose, titanium dioxide, talc, mannitol, methacrylic acid, polyacrylate, polyethylene glycol, glyceryl monostearate, polysorbate 80, triethyl citrate, ferric oxide, citric acid, crospovidone, aspartamePhenylketonurics: Contains Phenylalanine 2.5 mg per 15 mg Tablet and 5.1 mg per 30 mg Tablet, artificial strawberry flavor and magnesium stearate.")

	Stawski also teaches pharmaceutically acceptable carriers. (*see* Ex. 1005 paras [0092]-[0106] Examples 1-3)
2. The orally disintegrating tablets according to claim 1 wherein the water-soluble sugar is selected from the group consisting of sucrose and polyalcohols.	*Stawski* teaches the water-soluble sugar is selected from the group consisting of sucrose and polyalcohols (Ex. 1005 para [0100] "Palatinit (hydrogenated isomaltulose) particles with 0.30% food approved blue lake color"; para [0105] mannitol).
3. The orally disintegrating tablets according to claim 2 wherein the water-soluble sugar is selected from the group consisting of sucrose, sorbitol, mannitol, xylitol, and fructose.	*Stawski* teaches the water-soluble sugar is mannitol (Ex. 1005 para [0105] mannitol).
4. The orally disintegrating tablets according to claim 3 wherein the water-soluble sugar is mannitol.	*Stawski* teaches the water-soluble sugar is mannitol (Ex. 1005 para [0105] mannitol).
5. The orally disintegrating tablets according to claim 1 wherein the colored granules have a particle size from about 10 μm to about 1200 μm.	*Stawski* teaches the colored granules have a particle size from about 10 μm to about 1200 μm. (Ex. 1005 para [0100] "Palatinit (hydrogenated isomaltulose) particles with 0.30% food approved blue lake color sized to pass through a #20 sieve and be retained on a #40 sieve" wherein a #20 sieve is approximately 841 μm and a #40 sieve is approximately 420 μm; para [0084] "The particle size of the abrasive inclusions, when used, should predominantly be at least 100 microns, with a maximum of 2000 microns (0.1-2 mm). Some abrasive inclusions have a particle size range of about 200 to 600 microns, others are 600 to 1200 microns, and still others may be larger, up to 2000 microns. A preferred range is 200 to 1000 microns.")
6. The orally disintegrating tablets according to claim 5	*Stawski* teaches the colored granules have a particle size from about 200 μm to about 800

wherein the colored granules have a particle size from about 200 μm to about 800 μm.	μm. (Ex. 1005 para [0100] "Palatinit (hydrogenated isomaltulose) particles with 0.30% food approved blue lake color sized to pass through a #20 sieve and be retained on a #40 sieve" wherein a #20 sieve is approximately 841 μm and a #40 sieve is approximately 420 μm.")
7. The orally disintegrating tablets according to claim 6 wherein the colored granules have a particle size from about 300 μm to about 500 μm.	*Stawski* teaches the colored granules have a particle size from about 300 μm to about 500 μm. (Ex. 1005 para [0100] "Palatinit (hydrogenated isomaltulose) particles with 0.30% food approved blue lake color sized to pass through a #20 sieve and be retained on a #40 sieve" wherein a #20 sieve is approximately 841 μm and a #40 sieve is approximately 420 μm.)
8. The orally disintegrating tablets according to claim 1 wherein the colored granules are present in an amount from about 0.1% w/w to about 50% w/w per tablet.	*Stawski* teaches the colored granules are present in an amount from about 0.1% w/w to about 50% w/w per tablet. (Ex. 1005 para [0100] Palatinit Inclusions 32.97%)
9. The orally disintegrating tablets according to claim 1 wherein the colored granules are present in an amount from about 1% w/w to about 30% w/w.	*Stawski* teaches the colored granules are present in an amount from about 0.1% w/w to about 30% w/w per tablet. (Ex. 1005 para [0100] Palatinit Inclusions 32.97% is about 30% and para [0106] Palatinit Inclusions 16.49% is from about 1% w/w to about 30% w/w)

X. Ground 2: Claims 1-3, 5, 6, 8, and 9 of the '170 Patent are unpatentable as obvious over the *Prevacid Label* in view of *Serpelloni* under 35 U.S.C. § 103.

A. Independent Claim 1

i. An orally disintegrating tablets [sic] with speckled appearance

The preamble to claim 1 claims "An orally disintegrating tablets [sic] with speckled appearance". The *Prevacid Label* specifically discloses an orally

disintegrating tablet with speckled appearance. (Ex. 1004 pg. 10 "PREVACID SoluTab Delayed-Release Orally Disintegrating Tablets, 15 mg, are white to yellowish white uncoated tablets with orange to dark brown speckles").

ii. a) speckles comprising colored granules of a water-soluble sugar,

Element (a) of claim 1 claims "speckles comprising colored granules of a water-soluble sugar". The *Prevacid Label* teaches speckles comprising colored granules (Ex. 1004 pg. 10 "with orange to dark brown speckles") and tablets containing water soluble sugars (*e.g.* Ex. 1004 pg. 1 mannitol) but does not specifically disclose speckles comprising colored granules of a water-soluble sugar. As explained by Dr. Park, however, "speckles comprising colored granules of water-soluble sugar were well-known in the art at the time of the invention." (Ex. 1002, ¶ 24). For example, *Serpelloni* teaches colored granules of water-soluble sugar. (Ex. 1006 col 1:29-31 "The speckled appearance is generally obtained by means of solid sweetening particles, colored and possibly flavored."; col 1: 35-36 "the colored particles are constituted essentially of sorbitol colored in the mass.") As also explained by Dr. Park, "[i]t would have been readily obvious to one of ordinary skill in the art that the speckles disclosed by the *Prevacid Label* could have been comprised of the colored granules of a water-soluble sugar such as taught by *Serpelloni*, as *Serpelloni* specifically teaches colored water-soluble sugars imparting a "speckled appearance" (Ex. 1006 col 1:29-31) to a gum-based

composition." (Ex. 1002, ¶ 24). As further explained by Dr. Park, "the *Prevacid Label* also teaches water-soluble sugars as acceptable excipients, the use of a colored water-soluble sugar composition would have been obvious to one of ordinary skill in the art with a reasonable expectation that such would have been successful in producing a speckled appearance in a tablet as claimed." (*Id.*)

iii. (b) a pharmaceutically acceptable carrier.

Element 1(b) of claim 1 further requires "a pharmaceutically acceptable carrier." The *Prevacid Label* teaches pharmaceutically acceptable carriers.

> Each delayed-release orally disintegrating tablet contains enteric-coated microgranules consisting of 15 mg or 30 mg of lansoprazole (active ingredient) and the following inactive ingredients: lactose monohydrate, microcrystalline cellulose, magnesium carbonate, hydroxypropyl cellulose, hypromellose, titanium dioxide, talc, mannitol, methacrylic acid, polyacrylate, polyethylene glycol, glyceryl monostearate, polysorbate 80, triethyl citrate, ferric oxide, citric acid, crospovidone, aspartamePhenylketonurics: Contains Phenylalanine 2.5 mg per 15 mg Tablet and 5.1 mg per 30 mg Tablet., artificial strawberry flavor and magnesium stearate. (Ex. 1004 pg. 1).

Serpelloni is analogous art to the claimed invention of the '170 Patent because it is reasonably pertinent to the problem faced by the inventor of the '170 Patent. *See In*

re Bigio, 381 F.3d at 1325, 72 USPQ2d at 1212 (Fed. Cir. 2004). As explained by Dr. Park, "Serpelloni, like the '170 patent, addressed the problem of forming a speckled appearance in a substance by including solid sweetening colored granules of water-soluable sugar in the substance." (Ex. 1002, ¶ 25 *citing* Ex. 1006 col 1:29-31). Thus, Serpelloni is analogous art particularly in view of the Supreme Court's recognition that "[w]hen 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 a different one." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 417, 82 USPQ2d 1386, 1397 (2007) (emphasis added).

Therefore, as confirmed by Dr. Park, "it would have been readily obvious to one of ordinary skill in the art that an orally disintegrating tablet with speckled appearance could have been reasonably expected to have been derived from the disclosure of the *Prevacid Label* in view of *Serpelloni* without undue experimentation." (Ex. 1002, ¶ 25).

B. Dependent Claims 2-3: The orally disintegrating tablets … wherein the water-soluble sugar is sugar is selected from the group consisting of sucrose, sorbitol, mannitol, xylitol, and fructose.

Claim 2 depends from claim 1 further requires "the water-soluble sugar is selected from the group consisting of sucrose and polyalcohols." Claim 3 depends from claim 2 and further limits the water-soluble sugars to "the group consisting of

sucrose, sorbitol, mannitol, xylitol, and fructose." As explained by Dr. Park, "*Serpelloni* satisfies the limitations of claims 2 and 3 because it specifically teaches the colored, water-soluble sugar is sorbitol (Ex. 1006 col 1:35-36 "the colored particles are constituted essentially of sorbitol colored in the mass.")." (Ex. 1002, ¶ 27).

C. Dependent Claims 5-6: The orally disintegrating tablets … the colored granules have a particle size from about 10 μm to about 1200 μm (claim 5); and wherein the colored granules have a particle size from about 200 μm to about 800 μm (claim 6).

Claim 5 depends from claim 1 and attempts to define the size range of the colored granules "from about 10 μm to about 1200 μm" and claim 6 depends, from claim 5 and further restricts the size of the colored granules to about 200 μm to about 800 μm. As explained by Dr. Park, "*Serpelloni* meets the limitations of claims 5 and 6 because it teaches that the colored granules have a particle size from about 200 μm to about 800 μm. (Ex. 1006 col 1:45-46 teaches colored particles wherein the "granulometry is generally from 500 to 1500 μm")." (Ex. 1002, ¶ 28).

D. Dependent Claims 8-9: The orally disintegrating tablets … the colored granules are present in an amount from about 0.1% w/w to about 50% w/w per tablet (claim 8); are present in an amount from about 1% w/w to about 30% w/w (claim 9).

Claim 8 depends from claim 1 and requires that the colored granules are present in an amount from about 0.1% w/w to about 50% w/w per tablet while claim 9, which depends from claim 8, further restricts the amount to from about 1% w/w to about 30% w/w. As explained by Dr. Park, "*Serpelloni* meets the limitations of claims 8 and 9 because it teaches that the colored granules are present in an amount from about 0.1% w/w to about 30% w/w. (Ex. 1006 col 1:32-34 "The proportion by weight represented by the colored particles with respect to the total weight of the chewing-gum is of the order of 0.5 to 3%, particularly 1%"; Table 1)." (Ex. 1002, ¶ 29).

E. It Would Have Been Obvious To One Of Ordinary Skill In The Art To Combine The Teachings Of the Prevacid Label and Serpelloni.

As explained by Dr. Park, "[i]t would have been obvious to one of ordinary skill in the art to combine the teachings of the speckled appearance in *the Prevacid Label* and *Serpelloni* to achieve the claimed invention with a reasonable expectation of success." (Exhibit 1002, ¶ 24). In particular, "[o]ne of ordinary skill in the art would have understood that the colored granules taught by *Serpelloni* to achieve a speckled appearance in chewing gum would have been reasonably expected to achieve the same function of imparting a similar speckled appearance to tablets such as the tablet disclosed in the Prevacid tablets." (Id.).

F. Summary of Obviousness Arguments for Ground 2.

The obviousness arguments are summarized for each claim limitation in the following chart:

U.S. 8440170	***Prevacid and Serpelloni***
1. An orally disintegrating tablets [sic] with speckled appearance comprising  *Suprenza 37.5 mg*	*The Prevacid Label* teaches an orally disintegrating tablet with speckled appearance. (Ex. 1004 pg. 10 "PREVACID SoluTab Delayed-Release **Orally Disintegrating Tablets**, 15 mg, are white to yellowish white uncoated tablets **with orange to dark brown speckles**") 
1a. (a) speckles comprising colored granules of a water-soluble sugar, and	*The Prevacid Label* teaches speckles comprising colored granules (Ex. 1004 pg. 10 "with orange to dark brown speckles") and water soluble sugar (Ex. 1004 pg. 1 mannitol) but does not specifically disclose speckles comprising colored granules of a water-soluble sugar. Speckles comprising colored granules of water-soluble sugar were well-known in the art at the time of the invention as disclosed, for example by *Serpelloni* that teaches colored granules of water-soluble sugar. (Ex. 1006 col

	1:29-31 "The speckled appearance is generally obtained by means of solid sweetening particles, colored and possibly flavored." Col 1: 35-36 "the colored particles are constituted essentially of sorbitol colored in the mass.")
1b. (b) a pharmaceutically acceptable carrier.	*The Prevacid Label* teaches pharmaceutically acceptable carriers. (Ex. 1004 pg. 1 "Each delayed-release orally disintegrating tablet contains enteric-coated microgranules consisting of 15 mg or 30 mg of lansoprazole (active ingredient) and the following inactive ingredients: lactose monohydrate, microcrystalline cellulose, magnesium carbonate, hydroxypropyl cellulose, hypromellose, titanium dioxide, talc, mannitol, methacrylic acid, polyacrylate, polyethylene glycol, glyceryl monostearate, polysorbate 80, triethyl citrate, ferric oxide, citric acid, crospovidone, aspartamePhenylketonurics: Contains Phenylalanine 2.5 mg per 15 mg Tablet and 5.1 mg per 30 mg Tablet, artificial strawberry flavor and magnesium stearate.")
2. The orally disintegrating tablets according to claim 1 wherein the water-soluble sugar is selected from the group consisting of sucrose and polyalcohols.	*Serpelloni* teaches the water-soluble sugar is selected from the group consisting of sucrose and polyalcohols (Ex. 1006 col 1:35-36 "the colored particles are constituted essentially of sorbitol colored in the mass.").
3. The orally disintegrating tablets according to claim 2 wherein the water-soluble sugar is selected from the group consisting of sucrose, sorbitol, mannitol, xylitol, and fructose.	*Serpelloni* teaches the water-soluble sugar is selected from the group consisting of sucrose and polyalcohols (Ex. 1006 col 1:35-36 "the colored particles are constituted essentially of sorbitol colored in the mass.").
5. The orally disintegrating tablets according to claim 1 wherein the colored granules have a particle size from about 10 μm to about 1200 μm.	*Serpelloni* teaches colored granules have a particle size from about 10 μm to about 1200 μm. (Ex. 1006 col 1:45-46 teaches the colored particles with "granulometry is generally from 500 to 1500 pm and more particularly from

	800 to 1200 pm."; Col 4:24-30 "the colored particles are constituted by sorbitol granules of a granulometry comprised between 800 and 1200 μm and of an average granulometry of 1000 μm")
6. The orally disintegrating tablets according to claim 5 wherein the colored granules have a particle size from about 200 μm to about 800 μm.	*Serpelloni* teaches the colored granules have a particle size from about 200 μm to about 800 μm. (Ex. 1006 col 1:45-46 teaches colored particles wherein the "granulometry is generally from 500 to 1500 μm ")
8. The orally disintegrating tablets according to claim 1 wherein the colored granules are present in an amount from about 0.1% w/w to about 50% w/w per tablet.	*Serpelloni* teaches the colored granules are present in an amount from about 0.1% w/w to about 50% w/w. (Ex. 1006 col 1:32-34 "The proportion by weight represented by the colored particles with respect to the total weight of the chewing-gum is of the order of 0.5 to 3%")
9. The orally disintegrating tablets according to claim 1 wherein the colored granules are present in an amount from about 1% w/w to about 30% w/w.	*Serpelloni* teaches the colored granules are present in an amount from about 0.1% w/w to about 30% w/w. (Ex. 1006 col 1:32-34 "The proportion by weight represented by the colored particles with respect to the total weight of the chewing-gum is of the order of 0.5 to 3%, particularly 1%"; Table 1)

XI. Secondary Considerations Do Not Rebut the Prima Facie Case; There Are No Unexpected Results Over the Closest Prior Art

To overcome Petitioner's strong *prima facie* obviousness showing described above, Patent Owner has the burden to establish secondary considerations of nonobviousness. Although secondary considerations must be taken into account, they do not necessarily control the obviousness conclusion. *See Newell Cos., Inc. v. Kenney Mfg. Co.*, 864 F.2d 757, 768 (Fed. Cir. 1988). And in cases where a strong *prima facie* obviousness showing exists, the Federal Circuit has repeatedly held that

even relevant secondary considerations supported by substantial evidence may not dislodge the primary conclusion of obviousness. *See, e.g., Leapfrog Enterprises Inc. v. Fisher-Price Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007).

The Patent Owner bears the burden to present factual evidence that the claimed invention achieved unexpectedly superior results with respect to the results of the closest prior art. *In re De Blauwe*, 736 F.2d 699, 705 (Fed. Cir. 1984) ("When an article is said to achieve unexpected (i.e. superior) results, those results must logically be shown superior compared to the results achieved with other articles. Moreover, an applicant relying on comparative tests to rebut a *prima facie* case of obviousness must compare his claimed invention to the closest prior art."). The publications asserted in this *inter partes* review (*i.e.*, the *Prevacid Label, Stawski, Serpelloni*) is the closest prior art to the '170 patent because, e.g., they meet every limitation of the challenged claims. And as explained *supra*, the *Prevacid Label* specifically discloses an orally disintegrating tablet with speckled appearance from colored granules and each of *Stawski* and *Serpelloni* teaches that colored granules in tablets are water-soluble sugars. Therefore, a speckled appearance from water-soluble colored sugar granules as claimed by the ‘170 Patent would hardly be unexpected in light of the teachings of the *Prevacid Label, Stawski, and Serpelloni*.

XII. Conclusion

For all the foregoing reasons, Petitioner has established a reasonable likelihood of prevailing on each ground, and therefore, respectfully requests that *inter partes* review be instituted for claims 1 - 9 of the '170 Patent.

Date: December 4, 2015

Respectfully Submitted,

By: /Gregory J. Gonsalves/

Dr. Gregory J. Gonsalves
Reg. No. 43,639
2216 Beacon Lane
Falls Church, VA 22043
(571) 419-7252
gonsalves@gonsalveslawfirm.com

Table of Exhibits

For Petition for *Inter Partes* Review Of

U.S. Patent No. 8,440,170

Exhibit	Description
1001	U.S. Patent No. 8,440,170
1002	Declaration of Dr. Park
1003	US FDA Orange Book listing of Suprenza, http://www.accessdata.fda.gov/scripts/cder/ob/docs/patexclnew.cfm?Appl_No=202088&Product_No=001&table1=OB_Rx
1004	The *Prevacid Label* 2007
1005	U.S. 2006/0193909 to Stawski *et al.*
1006	U.S. 4,744,991 to Serpelloni
1007	Reply to Restriction November 10, 2011
1008	Non-final Office Action February 14, 2012
1009	Reply to Non-final Office Action May 14, 2012
1010	Final Office Action September 12, 2012
1011	Applicant Arguments/Amendments December 12, 2012
1012	Notice of Allowance March 20, 2013
1013	Prevacid SoluTab orally disintegrating tablets. Website at http://www.drugs.com/cdi/prevacid-solutab-orally-disintegrating-tablets.html
1014	Image of orally disintegrating, speckled Suprenza tablet. http://images.medscape.com/pi/features/drugdirectory/octupdate/AKR07220.jpg
1015	The American Heritage College Dictionary, Houghton Mifflin Company, 1993, pp. 276, 593, and 1307.
1016	The front page of the Suprenza website

CERTIFICATE OF SERVICE

Under 37 C.F.R. §§ 42.6(e), this is to certify that I caused a true and correct copy of the foregoing materials:

• Corrected Petition for Inter Partes Review of U.S. Patent No. 8,440,170 Under 35 U.S.C. § 312 and 37 C.F.R. § 42.104

• Corrected Exhibits 1001-1016

to be served via Express Mail on the following attorneys of record as listed in PAIR:

ROTHWELL, FIGG, ERNST & MANBECK, P.C.
607 14th Street, N.W.
SUITE 800
WASHINGTON DC 20005
Customer Number:6449

Date: December 4, 2015

Respectfully Submitted,

By: */Gregory Gonsalves/*
Dr. Gregory Gonsalves
Reg. No. 43,639
2216 Beacon Lane
Falls Church, Virginia 22043
(571) 419-7252
gonsalves@gonsalveslawfirm.com