

EXHIBIT 903-A

***Inpria Corporation v. Lam Research Corp.*, Case No. 1-22-cv-01359-CJB
Exhibit 903-A – Invalidity Claim Chart for U.S. Patent No. 11,673,903**

U.S. Patent Publication No. 2016/0116839 (“Meyers ’839”) published on **April 28, 2016**, before the ’903 patent’s earliest priority date of **April 11, 2018**. Meyers ’839 is therefore prior art to the ’903 patent under AIA 35 U.S.C. 102(a)(1).

Meyers ’839 renders Asserted Claims 1-4, 6-9 of the ’903 patent obvious alone, in combination with the general knowledge of a person of ordinary skill in the art, and/or in combination with Deelman ’268 and Hassgen as set forth in this chart.

U.S. Patent Publication No. 2011/0166268 (“Deelman ’268”) published on **July 7, 2011**, before the ’903 patent’s earliest priority date of **April 11, 2018**. Meyers ’839 is therefore prior art to the ’903 patent under AIA 35 U.S.C. 102(a)(1).

Hanssgen, D., et al. “Synthesis of the First Mono-t-Butyltin Element Compounds,” J. Organometallic Chemistry 293 (1985): 191-195 (“Hanssgen”) published on **September 24, 1985**. Hanssgen is prior art under post-AIA 35 U.S.C. §102(a)(1) because it published on September 24, 1985, which is before the ’903 patent’s earliest possible priority date of April 11, 2018.

With respect to the obviousness of the asserted claims under 35 U.S.C. § 103, one or more of the principles enumerated by the United States Supreme Court in *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007) apply, including: (a) combining various claimed elements known in the prior art according to known methods to yield a predictable result; (b) making a simple substitution of one or more known elements for another to obtain a predictable result; (c) using a known technique to improve a similar device or method in the same way; (d) applying a known technique to a known device or method ready for improvement to yield a predictable result; (e) choosing from a finite number of identified, predictable solutions with a reasonable expectation of success or, in other words, the solution was one which was “obvious to try”; (f) a known work in one field of endeavor prompting variations of it for use either in the same field or a different field based on given design incentives or other market forces in which the variations were predictable to one of ordinary skill in the art; and/or (g) a teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill in the art to modify the prior art reference or to combine the teachings of various prior art references to arrive at the claimed invention. It would have been obvious to a person of ordinary skill in the art to combine Meyers ’839 with the general knowledge of a person of ordinary skill in the art, and/or one or more of the references identified in accordance with the principles and rationales set forth above.

Beyond the specific motivations identified in the cited references, motivation to modify and combine particular references comes from: (a) the nature of the problem being solved; (b) the teachings of the prior art; (c) the knowledge of persons of ordinary skill in the

art; (d) the fact that the references address the same or similar technical issues as the '903 patent; and (e) considerations of efficiency, effectiveness, convenience, cost-savings, and accessibility to combine the various teachings.

This claim chart is meant to illustrate one example of how the asserted claims are invalid for obviousness. In addition to the citations set forth in the charts below, Defendant further incorporates by reference, as if fully set forth in, the arguments, evidence, and statements set forth in IPR2025-00267. By not discussing portions of a reference in the claim chart below, Defendant does not waive its right to rely on these portions of the reference. Instead, Defendant expressly reserves the right to rely on any and all portions of the cited references. These contentions are not an admission by Defendant that any accused materials are covered by or infringe the asserted claims of the '903 patent, particularly after the claims are construed by the Court. These contentions are not an admission by Defendant as to the proper scope of any asserted claim, the proper construction of any term in any asserted claim, or whether particular elements may be construed at all, or instead, are indefinite. Defendant reserves the right to modify, amend, or supplement these contentions as additional information becomes available during the course of this action and in view of any applicable claim construction order from the Court.

'903 Patent Claims	Disclosure of Prior Art
Claim 1	
<p>[1p] A high purity liquid composition comprising: a monoalkyl tin triamide compound represented by the chemical formula $\text{RSn}(\text{NR}'_2)_3$ and</p>	<p>Meyers '839, alone, in combination with the general knowledge of a person of ordinary skill in the art, and/or in combination with the other references identified, discloses and/or suggests this claim limitation.</p> <p>Meyers '839 discloses a high purity liquid composition having a monoalkyl tin triamide compound represented by the chemical formula $\text{RSn}(\text{NR}'_2)_3$.</p> <p>Meyers '839 discloses a liquid tris(dimethylamido)tin, (i-PrSn(NMe₂)₃) composition.</p> <p><i>Id.</i> ¶ 0150: “A water-reactive precursor, isopropyl tris(dimethylamido)tin, (i-PrSn(NMe₂)₃), was synthesized under inert atmosphere and subsequently hydrolysed by two methods using 1) atmospheric moisture and 2) liquid H₂O, to form an i-PrSnO_(3/2-x/2)(OH)_x hydrolysate.”</p> <p><i>Id.</i> ¶ 0151: “Under argon, a 1 L Schlenk-adapted round bottom flask was charged with LiNMe₂ (81.75 g, 1.6 mol, Sigma-Aldrich) and anhydrous hexanes (700 mL, Sigma-Aldrich) to form a slurry. A large stir bar was added and the vessel sealed. An addition funnel under positive argon pressure was charged with i-PrSnCl₃, (134.3 g, 0.5 mol, Gelest) via syringe and attached to the reaction flask. The flask was cooled to –78° C. and the i-PrSnCl₃ added dropwise over a period of 2 hours. The reaction was allowed to come to room temperature overnight while stirring, and the solid precipitates allowed to settle. After settling, the reaction solution was filtered under positive argon pressure through an in-line cannula filter. The solvent was removed under vacuum and the residue distilled under reduced pressure (50-52° C., 1.4 mmHg) to give a pale yellow liquid (110 g, 75% yield). ¹H and ¹¹⁹Sn NMR spectra of the distillate in a C₆D₆ solvent collected on a Bruker DPX-400 (400 MHz, BBO probe) spectrometer are shown in FIGS. 22 and 23, respectively. Observed ¹H resonances, as shown in FIG. 22, (s, 2.82 ppm, —N(CH₃)₂; d 1.26 ppm, —CH₃; m, 1.60 ppm, —CH) match the predicted spectra for i-PrSn(NMe₂)₃. The primary ¹¹⁹Sn resonance, as shown in FIG. 23, at –65.4 ppm is consistent with a major product with a single tin environment, with a chemical shift comparable to reported monoalkyltin amido compounds.”</p>

'903 Patent Claims	Disclosure of Prior Art
	<p>i-PrSn(NMe₂)₃ is represented by the formula RSn(NR'₂)₃, where R = isopropyl (i-Pr) and each R' = methyl (Me). i-PrSn(NMe₂)₃ in Example 7 is a liquid composition. <i>Id.</i> ¶ 0151 (“the residue distilled under reduced pressure (50-52° C., 1.4 mmHg) to give a pale yellow liquid (110 g, 75% yield).”)</p> <p>Meyers '839 discloses a liquid t-butyl tris(diethylamido)tin composition.</p> <p>Meyers '839 ¶ 0124: “This example describes the preparation of a hydrolysate precursor solution from t-butyl tris(diethylamido)tin.”</p> <p><i>Id.</i> ¶ 0125: “A hydrolysate oxide hydroxide product with the nominal formula t-BuSnO_(3/2-x/2)(OH)_x, (where 0 > x < 3) (1) was prepared from t-butyl tris(diethylamido)tin (2), which was synthesized according to the method reported in Hanssgen, D.; Puff, H.; Beckerman, N. <i>Journal of Organometallic Chemistry</i>, 293, 1985, 191-195, which is incorporated herein by reference. A gas-tight syringe was used to steadily (~125 µL/s) add 4.4 g of t-butyl tris(diethylamido)tin to 150 mL of DI H₂O (18MΩ), forming an immediate precipitate that was allowed to stand for 5 minutes. The resulting slurry was stirred for 30 minutes and then suction filtered through no. 1 filter paper (Whatman). The resulting solid was rinsed 3 times with 50-mL portions of DI H₂O. Solids retained after filtration and rinsing were dried under vacuum (~5 torr) for 8 h at room temperature to yield 1.9 g of powdered solid of hydrolysate 1.”</p> <p>t-butyl tris(diethylamido)tin (tBuSn(NEt₂)₃) has the formula RSn(NR'₂)₃, where R = t-butyl (tBu) and each R' = ethyl (Et). Example 1 discloses that “[a] gas-tight syringe was used to steadily (~125 µL/s) add 4.4 g of t-butyl tris(diethylamido)tin to 150 mL of DI H₂O (18MΩ) forming an immediate precipitate that was allowed to stand for 5 minutes.” That tBuSn(NEt₂)₃ was added at a rate of 125 µL/s indicates that it was a liquid composition prior to being added to water.</p> <p>Hanssgen discloses “t-Butyl-tris(diethylamino)stannane,” referred to as “compound (I)”, i.e., tBuSn(NEt₂)₃, that was obtained “by Sn-alkylation of tetrakis(diethylamino)stannane with lithium-t-butyl.” <i>Id.</i>, Summary, p. 192. Hanssgen provides a detailed description of the reactions employed for synthesizing (I) and further explains that “analytically pure I can be obtained by fractiona[1] distillation of the benzene phase[,]” describing the distilled compound as “oil” (i.e., a liquid). <i>Id.</i>, p. 192, 194.</p>

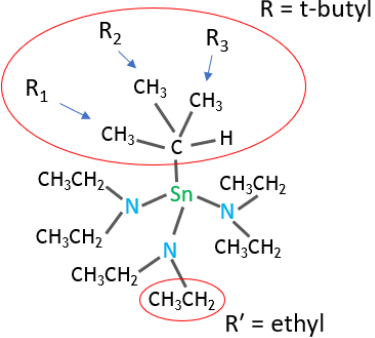
'903 Patent Claims	Disclosure of Prior Art
	<p>Meyers '839 further teaches that high-purity monoalkyltin precursors are desired. <i>Id.</i> ¶ 0063.</p> <p>Deelman '268 likewise discloses the importance of high purity monoalkyltin compound compositions that may have “from 85 wt% to 99.999 wt%...of at least one monoalkyltin compound of formula $R\text{Sn}(T)_3$.” Deelman '268, ¶ 0013.</p> <p>A person of ordinary skill in the art starting with the monoalkyltin triamide compound of Meyers '839, given Meyers '839's explicit teaching that pure monoalkyltin compounds are desirable, would have been motivated to look and would have naturally looked to Deelman '268 to determine a method to increase the purity of the monoalkyltin triamide compound. The references are in the same field of art and directed to the same types of monoalkyltin compounds, each focused on converting monoalkyltin trihalides into other mono-alkyltin derivatives. A person of ordinary skill would have understood that Meyers '839s' monoalkyltin triamide compound could benefit from achieving the high purity levels disclosed by Deelman '268, with a minimal amount of dialkyltin impurity, because both Meyers '839 and Deelman '268 disclose the same synthesis pathway for preparing monoalkyltin triamide compound, and both emphasize the need for highly pure monoalkyltin compounds.</p> <p>The combination requires no more than applying known techniques to achieve a high purity compound using a known reaction pathway, with predictable results. Deelman '268 teaches that high purity monoalkyltin trihalides are desirable (Deelman '268, ¶ 0010) and can be achieved through previously existing means, including “distillation of monoalkyltin halides from thermal redistribution mixtures containing mono-, di-, and tri-alkylhalides[.]” (<i>Id.</i>, ¶ 0028), as well as through the reactions disclosed in Deelman '268 that selectively form monoalkyltin halides without multi-alkyl impurities. <i>Id.</i>, ¶ 0031-0033.</p> <p>Thus, Deelman '268 provides a specific motivation for a person of ordinary skill in the art to obtain high purity monoalkyltin trihalides, and further derive other high purity monoalkyltin compounds, including triamides, by replacing halide groups with amido groups using a well-known reaction pathway including the reaction taught by Meyers '839. A person of ordinary skill in the art would have a reasonable expectation of success in maintaining the purity of the monoalkyltin compounds because such a reaction is a well-defined exchange pathway in which the highly nucleophilic amide ion</p>

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	<p>displaces the halide ion. When properly controlled, a person of ordinary skill in the art would have expected production of high purity monoalkyltin triamides.</p> <p>Even if the purity was not maintained, methods to subsequently improve the purity of monoalkyltin triamide compounds, i.e., fractional distillation, were well-known prior to the alleged invention, and a person of ordinary skill in the art would have had a reasonable expectation of success at increasing the purity to the extent further purification was necessary to obtain the purity that Deelman '268 teaches is desirable and achievable.</p>
<p>[1a] no more than 0.5 mole % dialkyltin compounds as an impurity relative to the total tin amount,</p>	<p>Meyers '839, alone, in combination with the general knowledge of a person of ordinary skill in the art, and/or in combination with the other references identified, discloses and/or suggests this claim limitation.</p> <p>Meyers '839, together with conventional methods and general knowledge in the art, discloses and/or suggests the high purity liquid composition having no more than 0.5 mole % dialkyltin compounds as an impurity relative to the total tin amount.</p> <p>Meyers '839 teaches synthesis of an exemplary monoalkyltin triamide compound $i\text{-PrSn}(\text{NMe}_2)_3$ by reacting a monoalkyltin trihalide compound $i\text{-PrSnCl}_3$ with a lithium amide compound LiNMe_2. <i>Id.</i> ¶ 0151.</p> <p>Meyers '839 further teaches that high-purity monoalkyltin precursors are desired. <i>Id.</i> ¶ 0063.</p> <p>Deelman '268, teaches that “high purity monoalkyltin trihalides can be converted to other monoalkyltin derivatives” and that such compositions may have up to “99.999 wt%” of formula $\text{RSn}(\text{T})_3$, “in which R is linear, branched or cyclic C1-C20 alkyl, preferably C1-C10 alkyl, and T is a ligand.” Deelman '268, ¶ 0010, 0013.</p> <p>Deelman '268 further discloses “[h]igh purity monoalkyltin-based compounds of $\text{RSn}(\text{T})_3$” “are advantageously prepared from the corresponding monoalkyltin trihalides of formula $\text{RSn}(\text{Hal})_3$, in which R is as defined above and Hal is chosen from chlorine, bromine and iodine.” <i>Id.</i> ¶ 0027.</p>

'903 Patent Claims	Disclosure of Prior Art
	<p>A person of ordinary skill in the art would have desired to make Meyers '839's monoalkyltin triamide compound with high purity and would have been motivated to use Deelman's high purity monoalkyltin trihalide in the same synthesis process disclosed by Meyers '839. Given the well-known reaction pathway (replacing halide groups of a high purity monoalkyltin trihalide with amide groups) a person of ordinary skill in the art would have had a reasonable expectation of success to arrive at "no more than 0.5 mole % dialkyltin compounds as an impurity relative to the total tin amount," consistent with the teachings of Deelman '268.</p> <p>Example 1 of Meyers '839 synthesized t-butyl tris(diethylamido)tin according to the method reported in Hanssger, D.; Puff, H.; Beckerman, N. <i>Journal of Organometallic Chemistry</i>, 293, 1985, 191-195. During prosecution of the '903 patent, Inpria submitted an inventor declaration purportedly showing that using the Hanssger method results in tBuSn(NEt₂)₃ composition having "approximately 2% dialkyltin triamide, tBu₂Sn(NEt₂)₂."</p> <p>'903 Patent Prosecution History, 1-19-2021 Declaration at paragraph 8: "In-house experiments following the method of Hanssger (HANSSGER ET AL., "Synthesis of the First Mono-t-butyltin Element Connections", <i>Organometallic Chemistry</i>, 293: 191-195 (1985)) were conducted under my direction. The experiments considered the reaction of tBuLi with Sn(NEt₂)₄ in diethyl ether. The reaction product was purified using standard fractional distillation, as described by Hanssger, to selectively isolate the major product, tBuSn(NEt₂)₃. The post-distillation product was subjected to ¹¹⁹Sn NMR analysis. The post-distillation product had an average of approximately 2% dialkyltin triamide, tBu₂Sn(NEt₂)₂.</p> <p>A person of ordinary skill in the art would have been motivated with a reasonable expectation of success to use fractional distillation to further purify Meyers '839's i-PrSn(NMe₂)₃ and tBuSn(NEt₂)₃ to obtain a composition having no more than 0.5 mole % dialkyltin compounds as an impurity relative to the total tin amount. As explained in the '903 patent itself, "[t]he synthesized monoalkyl tin amides and monoalkyl tin alkoxides can be further purified by fractional distillation to effectively reduce polyalkyl contaminants below levels that may already be relatively low from the direct synthesis." '903 patent at 4:67-5:2; 9:39-41 ("The monoalkyl tin triamides produced using the methods described above or other methods not explicitly described herein can be further purified using fractional distillation. ... A suitable fractional distillation column can be used with a volume suitable for the</p>

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	<p>process, and these are commercially available.”). Indeed, Example 8 of the '903 patent uses conventional “fractional distillation to purify t-BuSn(NMe₂)₃ by its separation from a mixture of ... t-BuSn(NMe₂)₃ containing ~3.27% t-BuSn(NMe₂)₂.” Following conventional fractional distillation, “no NMR signals for t-Bu₂Sn(NMe₂)₂” were detected.</p> <p>It would have been a matter of routine optimization for a person of ordinary skill in the art to use conventional fractional distillation to reduce the amount of dialkyltin compounds in the i-PrSn(NMe₂)₃ and tBuSn(NEt₂)₃ compositions disclosed in Meyers '839 no more than 0.5 mole % relative to the total tin amount.</p>
<p>[1b] wherein R is a hydrocarbyl group with 1-31 carbon atoms, and</p>	<p>Meyers '839, alone, in combination with the general knowledge of a person of ordinary skill in the art, and/or in combination with the other references identified, discloses and/or suggests this claim limitation.</p> <p>Meyers '839 discloses and/or suggests that R is a hydrocarbyl group with 1-31 carbon atoms.</p> <p>Meyers '839 teaches preparation of “isopropyl tris(dimethylamido)tin, (i-PrSn(NMe₂)₃).” <i>Id.</i> ¶ 0151.</p> <p>i-PrSn(NMe₂)₃ is a compound represented by the chemical formula RSn(NR'₂)₃ where R is isopropyl (3 carbons).</p> <p>tBuSn(NEt₂)₃ is a compound represented by the chemical formula RSn(NR'₂)₃ where R is t-butyl (4 carbons).</p>
<p>[1c] wherein R' is a hydrocarbyl group with 1-10 carbon atoms.</p>	<p>Meyers '839, alone, in combination with the general knowledge of a person of ordinary skill in the art, and/or in combination with the other references identified, discloses and/or suggests this claim limitation.</p> <p>Meyers '839 discloses and/or suggests that R' is a hydrocarbyl group with 1-10 carbon atoms.</p> <p>i-PrSn(NMe₂)₃ is a compound represented by the chemical formula RSn(NR'₂)₃ where each R' is methyl (1 carbon).</p>

'903 Patent Claims	Disclosure of Prior Art
	<p>tBuSn(NEt₂)₃ is a compound represented by the chemical formula RSn(NR'₂)₃ where each R' is ethyl (2 carbons).</p>
<p>Claim 2</p>	
<p>The composition of claim 1 wherein R is a branched alkyl ligand represented by R¹R²R³C--, where R¹ and R² are independently an alkyl group with 1-10 carbon atoms, and R³ is hydrogen or an alkyl group with 1-10 carbon atoms.</p>	<p>Meyers '839, alone, in combination with the general knowledge of a person of ordinary skill in the art, and/or in combination with the other references identified, discloses and/or suggests this claim limitation.</p> <p>Meyers '839 discloses and/or suggests that R is a branched alkyl ligand represented by R¹R²R³C--, where R¹ and R² are independently an alkyl group with 1-10 carbon atoms, and R³ is hydrogen or an alkyl group with 1-10 carbon atoms.</p> <p>Meyers '839 teaches preparation of "isopropyl tris(dimethylamido)tin, (i-PrSn(NMe₂)₃).” <i>Id.</i> ¶ 0151.</p> <p>i-PrSn(NMe₂)₃ is a compound represented by the chemical formula RSn(NR'₂)₃ where R is a branched alkyl ligand represented by R¹R²R³C—, where R¹ and R² are methyl (1 carbon), and R³ is hydrogen.</p> <div data-bbox="604 911 953 1222" data-label="Chemical-Block"> <p>The diagram illustrates the chemical structure of isopropyl tris(dimethylamido)tin. A central tin (Sn) atom is bonded to an isopropyl group (R) and three dimethylamido groups (NMe₂). The isopropyl group is shown as a branched alkyl chain with a central carbon atom bonded to a hydrogen atom and two methyl groups. This group is circled in red and labeled 'R = i-propyl'. The three dimethylamido groups are shown as nitrogen atoms (N) each bonded to two methyl groups (CH₃). One of these groups is circled in red and labeled 'R' = methyl'.</p> </div> <p>tBuSn(NEt₂)₃ is a compound represented by the chemical formula RSn(NR'₂)₃ where R is a branched alkyl ligand represented by R¹R²R³C—, where R¹, R² and R³ are methyl (1 carbon).</p>

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Claim 3	
<p>The composition of claim 1 wherein R comprises methyl (CH₃—), ethyl (CH₃CH₂—), isopropyl (CH₃CH₂CH—), tert-butyl ((CH₃)₃C—), tert-amyl (CH₃CH₂(CH₃)₂C—), sec-butyl (CH₃(CH₃CH₂)CH—), neopentyl (CH₃)₃CCH₂—, cyclohexyl, cyclopentyl, cyclobutyl, or cyclopropyl.</p>	<p>Meyers '839, alone, in combination with the general knowledge of a person of ordinary skill in the art, and/or in combination with the other references identified, discloses and/or suggests this claim limitation.</p> <p>Meyers '839 discloses and/or suggests that R includes methyl (CH₃—), ethyl (CH₃CH₂—), isopropyl (CH₃CH₂CH—), tert-butyl ((CH₃)₃C—), tert-amyl (CH₃CH₂(CH₃)₂C—), sec-butyl (CH₃(CH₃CH₂)CH—), neopentyl (CH₃)₃CCH₂—, cyclohexyl, cyclopentyl, cyclobutyl, or cyclopropyl.</p> <p>Meyers '839 teaches preparation of “isopropyl tris(dimethylamido)tin, (i-PrSn(NMe₂)₃).” <i>Id.</i> ¶ 0151.</p> <p>i-PrSn(NMe₂)₃ is a compound represented by the chemical formula RSn(NR'₂)₃ where R comprises isopropyl (CH₃CH₂CH—).</p> <p>tBuSn(NEt₂)₃ is a compound represented by the chemical formula RSn(NR'₂)₃ where R comprises tert-butyl ((CH₃)₃C—).</p>
Claim 4	
<p>The composition of claim 1 wherein R' comprises a methyl group, ethyl group,</p>	<p>Meyers '839, alone, in combination with the general knowledge of a person of ordinary skill in the art, and/or in combination with the other references identified, discloses and/or suggests this claim limitation.</p>

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isopropyl group, or t-butyl group.	<p>Meyers '839 teaches preparation of "isopropyl tris(dimethylamido)tin, (i-PrSn(NMe₂)₃).” <i>Id.</i> ¶ 0151.</p> <p>i-PrSn(NMe₂)₃ is a compound represented by the chemical formula RSn(NR'₂)₃ where R' comprises a methyl group.</p> <p>tBuSn(NEt₂)₃ is a compound represented by the chemical formula RSn(NR'₂)₃ where R' comprises an ethyl group.</p>
Claim 6	
The composition of claim 1 comprising essentially no dialkyltin compounds as measured with an approximate 0.1 mole % detection limit.	<p>Meyers '839, alone, in combination with the general knowledge of a person of ordinary skill in the art, and/or in combination with the other references identified, discloses and/or suggests this claim limitation.</p> <p>Meyers '839 teaches synthesis of an example monoalkyltin triamide compound i-PrSn(NMe₂)₃ by reacting a monoalkyltin trihalide compound i-PrSnCl₃ with a lithium amide compound LiNMe₂. <i>Id.</i> ¶ 0151.</p> <p>Deelman '268, teaches that "high purity monoalkyltin trihalides can be converted to other monoalkyltin derivatives that are of interest for several existing applications." Deelman '268, ¶ 0010. Deelman '268 explains the monoalkyltin compound compositions may have up to "99.999 wt%" of formula RSn(T)₃, "in which R is linear, branched or cyclic C1-C20 alkyl, preferably C1-C10 alkyl, and T is a ligand." <i>Id.</i>, ¶ 0013. Deelman '268 further teaches "[h]igh purity monoalkyltin-based compounds of RSn(T)₃" "are advantageously prepared from the corresponding monoalkyltin trihalides of formula RSn(Hal)₃, in which R is as defined above and Hal is chosen from chlorine, bromine and iodine." <i>Id.</i>, ¶ 0027.</p> <p>A person of ordinary skill in the art would have desired to make Meyers '839's monoalkyltin triamide compound with high purity and would have been motivated to use Deelman's high purity monoalkyltin trihalide in the Meyers synthesis process to arrive at a high purity monoalkyltin triamide composition.</p> <p>A person of ordinary skill in the art would have been motivated with a reasonable expectation of success to use fractional distillation to further purify Meyers '839's i-PrSn(NMe₂)₃ and tBuSn(NEt₂)₃ to obtain a composition having no more than 0.1 mole % dialkyltin compounds as an impurity relative</p>

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	<p>to the total tin amount. As explained in the '903 patent itself, "[t]he synthesized monoalkyl tin amides and monoalkyl tin alkoxides can be further purified by fractional distillation to effectively reduce polyalkyl contaminants below levels that may already be relatively low from the direct synthesis." '903 patent at 4:67-5:2; 9:39-41 ("The monoalkyl tin triamides produced using the methods described above or other methods not explicitly described herein can be further purified using fractional distillation. ... A suitable fractional distillation column can be used with a volume suitable for the process, and these are commercially available."). Indeed, Example 8 of the '903 patent uses conventional "fractional distillation to purify t-BuSn(NMe₂)₃ by its separation from a mixture of ... t-BuSn(NMe₂)₃ containing ~3.27% t-BuSn(NMe₂)₂." Following conventional fractional distillation, "no NMR signals for t-Bu₂Sn(NMe₂)₂" was detected. It would have been a matter of routine optimization for a person of ordinary skill in the art to use conventional fractional distillation to reduce the amount of dialkyltin compounds in the i-PrSn(NMe₂)₃ and tBuSn(NEt₂)₃ compositions disclosed in Meyers '839 to no more than 0.1 mole % relative to the total tin amount.</p>
Claim 7	
<p>A solution comprising the composition of claim 1 and an organic solvent.</p>	<p>Meyers '839, alone, in combination with the general knowledge of a person of ordinary skill in the art, and/or in combination with the other references identified, discloses and/or suggests this claim limitation.</p> <p>Meyers '839 discloses a composition of iPrSn(NMe₂)₃ in hexanes, which is an organic solvent.</p> <p>Meyers '839 ¶ 0153: A gas-tight syringe was used to add 23.4 g (79.6 mmol) of i-propyl tris(dimethylamido)tin, (i-PrSn(NMe₂)₃) to 150 mL of n-hexanes (HPLC Grade, >99.5% Hexanes, >95% n-Hexane)."</p> <p><i>See also id.</i> ¶ 0089: "In general, the desired hydolysate compounds can be dissolved in an organic solvent, e.g., alcohols, esters or combinations thereof. In particular, suitable solvents include, for example, aromatic compounds (e.g., xylenes, toluene), ethers (anisole, tetrahydrofuran), esters (propylene glycol monomethyl ether acetate, ethyl acetate, ethyl lactate), alcohols (e.g., 4-methyl-2-propanol, 1-butanol, methanol, isopropyl alcohol, 1-propanol,), ketones (e.g., methyl ethyl ketone), mixtures thereof, and the like."</p>

'903 Patent Claims	Disclosure of Prior Art
	<p>Deelman '268 likewise discloses the importance of high purity monoalkyltin compound compositions that may have "from 85 wt% to 99.999 wt%...of at least one monoalkyltin compound of formula $R\text{Sn}(\text{T})_3$." Deelman '268, ¶ 0013.</p> <p>Hanssgen teaches creating a solution of "$\text{tBuSn}(\text{NEt}_2)_3$" in "dichloromethane." Hanssgen, p. 194. Dichloromethane is an organic solvent.</p> <p>Hanssgen further teaches that t-butanol, which is an alcohol and an organic solvent, is added to the solution. <i>Id.</i> p. 194.</p> <p>Meyers '839, Deelman '268, and Hanssgen are in the same field of art and directed to the same types of monoalkyltin compounds with the same generic chemical formula. A person of ordinary skill in the art would have understood that the solvent comprises an alcohol, as t-butanol is added into the solution, and a person of ordinary skill in the art would have understood that the high purity monoalkyltin triamide composition of Meyers '839/Deelman '268 could be easily dissolved in an organic solvent (like the t-butanol disclosed in Hanssgen) to create the claimed solution with predictable results.</p> <p>A person of ordinary skill in the art would have expected success in placing the monoalkyltin triamide compound taught by Meyers '839/Deelman '268 in solution with an organic solvent, like an alcohol, to undergo an alcoholysis reaction to form a monoalkyltin trialkoxide (as disclosed by Hanssgen).</p> <p>The combination of Meyers '839/Deelman '268/Hanssgen requires no more than applying a known chemical reaction (alcoholysis) to a known class of compounds (monoalkyltin triamide compounds) to arrive at a known-beneficial compound (monoalkyltin trialkoxide), with predictable results.</p> <p>A person of ordinary skill in the art would have had a reasonable expectation of success applying Hanssgen's alcoholysis reaction to the high purity monoalkyltin triamide composition taught by Meyers '839/Deelman '268 because Hanssgen teaches the alcoholysis of a monoalkyltin triamide compound ($\text{tBuSn}(\text{NEt}_2)_3$), which is similar to the monoalkyltin triamide compound of Meyers '839/Deelman '268 (a high purity isopropyl tris(dimethylamido)tin, $(i\text{-PrSn}(\text{NMe}_2)_3)$). The</p>

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	<p>alcoholysis reaction of Hänssgen impacts only the amido groups and not the alkyl group (displacing the amido group with the alkoxyl group). As such, a person of ordinary skill in the art would have understood that the reaction would not change the dialkyl tin contamination level of the monoalkyltin triamide compound and would have expected the resulting monoalkyltin trialkoxide compound from the alcoholysis reaction to have the same low dialkyl tin contamination as the monoalkyltin triamide compound taught by Meyers '839/Deelman '268. Accordingly, it would have been obvious to a POSITA interested in deriving monoalkyltin trialkoxides to subject the high purity monoalkyltin triamide composition of Meyers/Deelman to Hänssgen's alcoholysis reaction with predictable results and a reasonable expectation of success.</p>
Claim 8	
<p>The solution of claim 7 having a concentration from about 0.005M to about 0.5M and wherein the solvent comprises an alcohol.</p>	<p>Meyers '839, alone, in combination with the general knowledge of a person of ordinary skill in the art, and/or in combination with the other references identified, discloses and/or suggests this claim limitation.</p> <p>Meyers '839, together with general knowledge in the art, discloses and/or suggests the solution having a concentration from about 0.005M to about 0.5M and wherein the solvent comprises an alcohol.</p> <p style="padding-left: 40px;">Meyers '839 ¶ 0153: A gas-tight syringe was used to add 23.4 g (79.6 mmol) of i-propyl tris(dimethylamido)tin, (i-PrSn(NMe₂)₃) to 150 mL of n-hexanes (HPLC Grade, >99.5% Hexanes, >95% n-Hexane)."</p> <p>79.6 mmol of i-propyl tris(dimethylamido)tin, (i-PrSn(NMe₂)₃) in 150 mL of n-hexanes equals a concentration of 0.53M, which is "about 0.5M."</p> <p>It would have been routine for a person of ordinary skill in the art to substitute hexanes for an alcohol.</p> <p style="padding-left: 40px;"><i>See, e.g.:</i> Meyers '839 ¶ 0089: "In general, the desired hydolysate compounds can be dissolved in an organic solvent, e.g., alcohols, esters or combinations thereof. In particular, suitable solvents include, for example, aromatic compounds (e.g., xylenes, toluene), ethers (anisole, tetrahydrofuran), esters (propylene glycol monomethyl ether acetate, ethyl acetate, ethyl</p>

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	<p>lactate), alcohols (e.g., 4-methyl-2-propanol, 1-butanol, methanol, isopropyl alcohol, 1-propanol,), ketones (e.g., methyl ethyl ketone), mixtures thereof, and the like.”</p> <p>Hanssgen teaches t-butanol, an alcohol solvent, added to the solution including compound (I), so a person of ordinary skill in the art would have understood the solvent comprises an alcohol. <i>Id.</i> p. 194.</p> <p>The molar concentration of Compound I in 20 ml dichloromethane is about 0.5 M (i.e., 10 mmol/20 ml= 0.5 mol/l). After additional solvent, i.e., 2.2 g (30 mmol) t-butanol, was added to the solution, the molar concentration decreased slightly, i.e., slightly lower than about 0.5M, which is within the claimed range of about 0.005M to about 0.5M.</p> <p>A person of ordinary skill in the art would have understood that the high purity monoalkyltin triamide composition of Meyers '839/Deelman '268 would similarly be dissolved in a solvent including dichloromethane and an alcohol, t-butanol, with a concentration from about 0.005 M to about 0.5M, as disclosed in Hanssgen, for alcoholysis of the monoalkyltin, with predictable results.</p> <p>Meyers '839, Deelman '268, and H��nssgen are in the same field of art and directed to the same types of monoalkyltin compounds with the same generic chemical formula. Alcoholysis of organotin amides was well-known in the art before the alleged invention, and Hanssgen discloses a typical alcoholysis reaction of monoalkyltin triamide compound to derive monoalkyltin trialkoxides, another useful class of compounds.</p>
Claim 9	
<p>The solution of claim 7 wherein R comprises methyl (CH₃—), ethyl (CH₃CH₂—), isopropyl (CH₃CH₂CH—), tert-butyl ((CH₃)₃C—), tert-amyl (CH₃CH₂(CH₃)₂C—), sec-butyl (CH₃(CH₃CH₂)CH—), neopentyl (CH₃)₃CCH₂—),</p>	<p>Meyers '839, alone, in combination with the general knowledge of a person of ordinary skill in the art, and/or in combination with the other references identified, discloses and/or suggests this claim limitation.</p> <p>Meyers '839 discloses and/or suggests that wherein R includes methyl (CH₃—), ethyl (CH₃CH₂—), isopropyl (CH₃CH₂CH—), tert-butyl ((CH₃)₃C—), tert-amyl (CH₃CH₂(CH₃)₂C—), sec-butyl (CH₃(CH₃CH₂)CH—), neopentyl (CH₃)₃CCH₂—), cyclohexyl, cyclopentyl, cyclobutyl, or cyclopropyl, and wherein R' includes a methyl group, ethyl group, isopropyl group, t-butyl group, or t-amyl group</p>

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cyclohexyl, cyclopentyl, cyclobutyl, or cyclopropyl, and wherein R' comprises a methyl group, ethyl group, isopropyl group, t-butyl group, or t-amyl group.	<p>i-PrSn(NMe₂)₃ is a compound represented by the chemical formula RSn(NR'₂)₃ where R comprises isopropyl (CH₃CH₃HC—).</p> <p>tBuSn(NEt₂)₃ is a compound represented by the chemical formula RSn(NR'₂)₃ where R comprises tert-butyl ((CH₃)₃C—).</p>