The opinion in support of the decision being entered today was ***not*** written for publication and is ***not*** binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JINGPING LIU,
WILLY W. LEE and JOHN M. MEYER

Appeal No. 2005-0295
Application 10/151,586

ON BRIEF

Before PAK, WARREN and KRATZ, *Administrative Patent Judges*.

WARREN, *Administrative Patent Judge*.

Decision on Appeal

This is an appeal under 35 U.S.C. § 134 from the decision of the examiner refusing to allow claims 1 through 37, all of the pending claims, as amended subsequent to the final rejection.

Appealed claims 1 and 11 are illustrative of the language in the claims on appeal:

1. A method of preparing a gum base comprising the steps of selecting a plasticizer based on the plasticizer having a ratio of electron acceptors to total carbon atoms in the range of approximately 0.05 to about 1.5, and a ratio of electron donors to total carbon atoms in the range of approximately 0.05 to about 2.0 and mixing a corn protein and the plasticizer.

11. A gum base comprising:

corn protein and a selected plasticizer, the plasticizer being selected for having a ratio of electron acceptors to total carbon atoms in the range of approximately 0.05 to about 1.5, and a ratio of electron donors to total carbon atoms in the range of approximately 0.05 to about 2.0.

Appealed independent claims 22 and 29, drawn to a method of producing a chewing gum and to a chewing gum, respectively, employ essentially the same language to specify the "selection" of the plasticizer that appears in the above claims. Appealed independent claim 35 is drawn to a method of producing environmentally friendly chewing gum in which "the plasticizer . . . [is] selected based on a ratio of electron acceptors to total carbon atoms, and a ratio of electron donors to total carbon atoms," with out specifying either ratio.

The reference relied on by the examiner is:

Abdel-Malik et al. (Abdel-Malik)	5,882,702	Mar. 16, 1999

The examiner rejects appealed claims 1 through 37 under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as being obvious over Abdel-Malik (answer, pages 2-4).

Appellants state that they "argue for the separate patentability of each of the independent claims separate and apart from each other as set forth in detail below pursuant to the requirements of 37 CFR § 1.192(7) [*sic*, 192(c)(7)], unless otherwise specified" (brief, page 6). We find that appellants describe the differences in limitations between the independent claims but do not present separate arguments for patentability thereon (brief, e.g., pages 6-7 and 11-12). Merely identifying differences in limitations between the appealed claims does not amount to arguments for separate patentability of the claims. Thus, we decide this appeal based on method claim 1 and product claim 11 as representative of the grounds of rejection. 37 CFR § 1.192(c)(7) (2003); *see also* 37 CFR § 41.37(c)(1)(vii) (effective September 13, 2004; 69 Fed. Reg. 49960 (August 12, 2004); 1286 Off. Gaz. Pat. Office 21 (September 7, 2004)).

We affirm.

Rather than reiterate the respective positions advanced by the examiner and appellants, we refer to the answer and to the brief and reply brief for a complete exposition thereof.

Opinion

As an initial matter, we interpret the language of appealed claims 1 and 11 by giving the terms their broadest reasonable interpretation in light of the written description in appellants' specification as it would be interpreted by one of ordinary skill in this art, without reading into these claim any limitation or particular embodiment disclosed in the specification. *See In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997); *In re Zletz*, 893 F.2d

319**,** 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989); *In re Priest*, 582 F.2d 33, 37, 199 USPQ 11, 15 (CCPA 1978). We find that the plain language of claims 1 and 11 specifies any plasticizer in any amount, however small, for any corn protein in any amount, however small, wherein the plasticizer can be one or more carbon components having as substituents at least one electron acceptor functional group and at least one electron donor functional group in the specified ratio of each type of functional group to total carbon atoms of the carbon compound component(s) of the plasticizer (specification, e.g., page 6, l. 22, to page 8, l. 16). The transitional term "comprising" opens claim 1 to include methods containing any manner of step(s) in addition to the mixing step and any manner of additional ingredient(s), such as other proteins and other plasticizers, in any amounts in the gum base composition, and opens claim 11 to include any manner of additional ingredient(s), such as other proteins and other plasticizers, in any amounts in the gum base composition. *See generally*, *Exxon Chem. Pats., Inc. v. Lubrizol Corp.*, 64 F.3d 1553, 1555, 35 USPQ2d 1801, 1802 (Fed. Cir. 1995) ("The claimed composition is defined as comprising - meaning containing at least - five specific ingredients."); *In re Baxter*, 656 F.2d 679, 686-87, 210 USPQ 795, 802-03 (CCPA 1981) ("As long as one of the monomers in the reaction is propylene, any other monomer may be present, because the term 'comprises' permits the *inclusion* of other steps, elements, or materials."). Furthermore, the plain language of appealed claim 11 specifies a "[a] gum base comprising" at least "corn protein and a selected plasticizer," and thus, this claim reads on a composition that consists of one protein and one such plasticizer *per se*. *See generally*, *Exxon Chem. Pats.*, *supra*.

To the extent that the cited language of product claim 11 is intended by appellants as a method of use limitation of the claimed gum based composition, such a limitation has no place in a product claim. *Cf. In re Wiggins*, 397 F.2d 356, 359 n.4, 158 USPQ 199, 201-02 n.4 (CCPA 1968), and cases cited therein ("[A]ppellant's discovery of the analgesic properties of 'O_2' and of a composition containing it could properly be claimed only as a method or process of using that compound or composition in accordance with the provisions of 35 U.S.C. 100(b) and 101.").

We find that Abdel-Malik would have disclosed to one of ordinary skill in this art[1] blends of plasticized proteinaceous material in which a plasticizer is selectively matched with a protein such that the plasticizer can be uniformly distributed within the protein, and the blends used in the production of gum (e.g., abstract, and col. 4, ll. 14-41). Abdel-Malik would have further disclosed that matching a plasticizer with a protein can be "accomplished in part by matching the solubility parameters of the protein . . . and plasticizer . . . within a desired range . . . are determined by their relative cohesive properties," wherein the "solubility parameter . . . is the sum of the solubility parameter values contributed by dispersive forces, hydrogen bonding forces and polar forces" (col. 6, l. 61, to col. 7, l. 16). Thus, "a protein will dissolve in a plasticizer or be plasticized if either the total solubility parameter . . . or one or more of said disperse forces[,] . . . polar forces . . . and hydrogen bonding forces . . . for each of the protein and plasticizer are similar," that is, "if any one or more of the . . . solubility parameter values for a protein and plasticizer or respective mixtures thereof are within 15% of each, preferably 10%, the protein . . . and the plasticizer . . . may present a potential blend suitable for making the plasticized proteinaceous material" (col. 7, ll. 17-67).

In Abdel-Malik Table 1, the total solubility parameter, the disperse forces, polar forces and hydrogen bonding forces of zein, a corn protein, and of the listed carbon compound plasticizers as well as water as a plasticizer are listed (col. 8, and col. 11, l. 40). We find that one of ordinary skill in the art routinely following the teachings of the reference would have matched at least one of the solubility parameters for the carbon compound plasticizer within 15% of at least one of the solubility parameters for zein, thus arriving at suitable blends of the two ingredients for the preparation of plasticized proteinaceous materials such as a gum base and gum (col. 8, ll. 9-45). Indeed, blends of zein with listed isopropyl alcohol and isobutyl alcohol are particularly noted in this respect (col. 8, ll. 34-40). The reference teaches that further screening of the blends is optional (col. 8, ll. 48-52).

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[1] It is well settled that a reference stands for all of the specific teachings thereof as well as the inferences one of ordinary skill in this art would have reasonably been expected to draw therefrom, *see In re Fritch*, 972 F.2d 1260, 1264-65, 23 USPQ2d 1780, 1782-83 (Fed. Cir. 1992); *In re Preda*, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968); *In re Aller*, 220 F.2d 454, 458-59, 105 USPQ 233, 237 (CCPA 1955), presuming skill on the part of this person. *In re Sovish*, 769 F.2d 738, 743, 226 USPQ 771, 774 (Fed. Cir. 1985).

Abdel-Malik also discloses that zein may be used alone or in combination with other proteins (e.g., col. 11, ll. 58-63). The reference teaches a non-limiting grouping of "organic plasticizers" as well as a preferred grouping thereof, wherein the listing includes certain types of organic compounds that include a number of specific plasticizers from Table 1 as well as additional specific plasticizers, but without reference to any specific protein, and indeed, one of ordinary skill in this art would have inferred from this disclosure that this listing of plasticizers is generic and not based on a particular protein, of which the reference discloses a number of different types (col. 4, ll. 14-17, col. 11, ll. 58-67, and col. 12, ll. 8-27). Another grouping of typical plasticizers includes ethanol, propylene glycol, ethylene glycol, acetic acid and lactic acid (col. 12, ll. 37-45). A disclosed group of blends is based on zein and different plasticizers including water (col. 12, ll. 46-51). Abdel-Malik further illustrates the procedure for identifying plasticizers for zein in Example 1, Tables 5 and 6, namely ethanol and propylene glycol (col. 20, l. 17, to col. 21, l. 4), and for forming plasticizer proteinaceous materials from zein with glycerol and propylene glycol, with and without water, and with propylene glycol alone in Example 2, Tables 9, 10a-c, 11, 12, 23 and 33 (cols. 21-24, 30 and 33). The reference further illustrates gum preparation with plasticized proteinaceous material, including chewing gums, with zein plasticized with glycerol, propylene glycol, and other ingredients in Example 3, Subexamples A3, B1, B5, B7, B9, B10 (cols. 35, 36 and 38-40).

With respect to the grounds of rejection under §§ 102(b) and 103(a), the examiner finds that Abdel-Malik discloses a method of preparing a gum base of zein and a plasticizer as claimed, wherein a number of plasticizers listed in col. 12 fall within the claimed ranges for the electron acceptor to total carbon atoms ratio (EA/C) and electron donor to total carbon atoms ratio (ED/C), and are the same plasticizers disclosed by appellants in specification Table 1 (page 12), including lactic acid, propylene glycol, ethyl lactate and butyl lactate, thus inherently satisfying the EA/C and the ED/C requirements of the claims (answer, pages 2-3). The examiner further determines that finding the optimum EA/C and ED/C is a matter of routine experimentation by one of ordinary skill in the art (*id.*, page 3).

Appellants submit that Abdel-Malik does not teach selecting a plasticizer based on EA/C and ED/C (brief, page 11). Appellants point out that the claimed ratios predict the amphiphilic properties of the plasticizer, pointing to page 7, ll. 6-11, of the specification, that is, sufficient to

form a miscible mixture with an amphiphilic corn protein, which is illustrated in specification Example 1 (brief, page 12). In this respect, appellants contend that Abdel-Malik discloses "a laundry list of 'organic plasticizers' that are mixed with a protein by melting the protein and plasticizer into one another under high shear conditions," and thus "fails to explicitly disclose" the claimed invention encompassed by the appealed claims (*id.*, page 13). Appellants recognize that EA/C and ED/C are inherent to carbon compounds containing such functional groups, and contend that the issue is not whether plasticizers disclosed by Abdel-Malik can have the same ratios as plasticizers encompassed by the claimed invention, but "whether selecting a plasticizer to be mixed with a corn protein based on its EA/C and ED/C ratios is inherent in" Abdel-Malik, and submit that there is no direction to the claimed invention in the "laundry list of plasticizers disclosed in" the reference (*id.*). Appellants further argue that Abdel-Malik "teaches away from the claimed invention" by disclosing in col. 12, a range of plasticizers that are outside of the claimed invention, pointing to, e.g., a comparison of propylene glycol, within the claims, and unclaimed polypropylene glycol (*id.*, pages 13-15). Appellants further submit that "routine experimentation" to optimization does not apply because Abdel-Malik does not recognize EA/C and ED/C as a result effective variable (*id.*, pages 15-16).

Appellants finally contend that the certain of the plasticizers in specification Table 1 that are shown to fall within the EA/C and ED/C ranges specified in the claims form "a clear, one phase mixture" at the "zein/plasticizer mixture (1:10)" (see specification Example 1, Table 1 and Examples 3-7 and 9), while certain other plasticizers set forth in other Examples falling within the claims which do not achieve such a result "can still be effective plasticizers of zein in the presence of an additional plasticizing component" as set forth in specification Examples 10 and 11 (*id.*, page 16).

We note here that appealed claims 1 and 11 are not limited to preferred EA/C range of 0.1 to 0.67 and preferred ED/C range of 0.3 to 1.0 or the zein/plasticizer mixture in specification Table 1. Indeed, not only are these claims not limited to zein as the corn protein, but methanol and ethanol are plasticizers which fall within claims 1 and 11 according to specification Table 1 and are disclosed therein to achieve "cloudy, two phase" mixtures. Other plasticizers falling with claims 1 and 11 also produce less than preferable results as shown in specification Table 2, the data involving a different zein/plasticizer mixture than reported in specification Table 1. We

further find that contrary to the data in specification Table 1, "ethylhexylester of lactic acid" in fact has a EA/C of 0.09 and thus falls within claims 1 and 11.

The examiner responds that appellants have identified an inherent physical property, EA/C and ED/C, of the limited number of plasticizers of Abdel-Malik, most of which are listed in specification Table 1 (answer, page 3). The examiner contends that the identification by appellants of an additional beneficial result with the same plasticizers used by Abdel-Malik does not establish the patentability of the appealed claims (*id.*, pages 3-4).

Appellants reply that the majority of the plasticizers disclosed in col. 12 by Abdel-Malik are outside of the plasticizers selected based on EA/C and ED/C in the claimed invention encompassed by the appealed claims, contending that the reference discloses both organic and inorganic plasticizers, and most of the grouping of organic plasticizers disclosed at cols. 12-13 are outside of the claims (reply brief, unnumbered pages 2-3). On this basis, appellants further submit that the concept of inherency does not apply to the facts on appeal (*id.*, unnumbered page 3). Appellants further argue that there is no direction to EA/C and ED/C in Abdel-Malik, and that it is error to compare some of the plasticizers of specification Table 1 to the plasticizers of the reference to determine the patentability of the claimed invention encompassed by the claims (*id.*, unnumbered pages 3-4).

The alternative grounds of rejection under §§ 102(b) and 103(a) require separate consideration, and accordingly, we consider the application of Abdel-Malik to appealed claims 1 and 11 on this basis. S*ee generally*, *In re Spada*, 911 F.2d 705, 707 n.3, 15 USPQ2d 1655, 1657 n.3 (Fed. Cir. 1990). Furthermore, consideration of the claimed method encompassed by claim 1 and the claimed product encompassed by claim 11 also requires separate consideration. *Cf. In re Wertheim*, 541 F.2d 257, 271, 191 USPQ 90, 103-04 (CCPA 1976) ("These claims are cast in product-by-process form. Although appellants argue, successfully we have found, that the [reference] disclosure does not suggest . . . appellants' process, the patentability of the products defined by the claims, rather than the processes for making them, is what we must gauge in light of the prior art.").

The examiner has the burden of establishing a *prima facie* case of anticipation under § 102(b) in the first instance by pointing out where, as a matter of fact, each and every element of the claimed invention, arranged as required by the claim, is described identically in a single

reference, either expressly or under the principles of inherency, in a manner sufficient to have placed a person of ordinary skill in the art in possession thereof. *See generally, Spada*, 911 F.2d at 707, 15 USPQ2d at 1657. With respect to § 103(a), the examiner has the burden of establishing a *prima facie* case of obviousness by showing that some objective teaching, suggestion or motivation in the applied prior art taken as a whole and/or knowledge generally available to one of ordinary skill in this art would have led that person to the claimed invention as a whole, including each and every limitation of the claims arranged as required by the claim, without recourse to the teachings in appellants' disclosure. *See generally, In re Rouffet*, 149 F.3d 1350, 1358, 47 USPQ2d 1453, 1458 (Fed. Cir. 1998); *Pro-Mold and Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1573, 37 USPQ2d 1626, 1629-30 (Fed. Cir. 1996); *In re Vaeck*, 947 F.2d 488, 493, 20 USPQ2d 1438, 1442 (Fed. Cir. 1991) (citing *In re Dow Chemical Co.*, 837 F.2d 469, 473, 5 USPQ2d 1529, 1531 (Fed. Cir. 1988)); *In re Fine*, 837 F.2d 1071, 1074-76, 5 USPQ2d 1596, 1598-1600 (Fed. Cir. 1988).

We first consider the claimed compositions encompassed by product claim 11. We have interpreted this claim above to encompass a gum base composition comprising at least a corn protein and a plasticizer that satisfies the EA/C and ED/C requirements. We discussed above the disclosure in Abdel-Malik of a number of compositions which are a blend of the corn protein zein and one or more plasticizers. Indeed, based on information in specification Table 1 as well as on our own calculations, *all* of the carbon compound plasticizers in Abdel-Malik Table 1 meet the EA/C and ED/C requirements, and there is clear direction in the text accompanying this table to blend such plasticizers with zein based on either the total solubility parameter or one or more of the disperse forces, polar forces and hydrogen bonding forces parameters set forth in the table as clearly taught in the reference (col. 6, l. 61, to col. 7, l. 67, and col. 8, ll. 9-45). Thus, *prima facie*, there is clear direction in Abdel-Malik Table 1 to compositions which are a blend of zein and a plasticizer that anticipate claim 11 within the meaning of § 102(b). *See In re Sivaramakrishnan*, 673 F.2d 1383, 213 USPQ 441 (CCPA 1982); *In re Schaumann*, 572 F.2d 312, 316-17, 197 USPQ 5, 9-10 (CCPA 1978); *In re Arkley*, 455 F.2d 586, 587, 172 USPQ 524, 526 (CCPA 1972); *In re Petering*, 301 F.2d 676, 681-82, 133 USPQ 275, 279-80 (CCPA 1962). A similar grouping of plasticizers *all* of which satisfy the EA/C and ED/C requirements is set forth at col. 12, ll. 37-45, and it is clear from Abdel-Malik that corn protein zein is a preferred

protein, thus providing direction to blends of this protein and each of the plasticizers of this grouping, *prima facie* anticipating claim 11 under § 102(b) in view of the authority we cite here.

Furthermore, specific blends of zein and at least one plasticizer that satisfies the EA/C and ED/C requirements of claim 11 are set forth at col. 8, ll. 38-41, col. 12, ll. 46-51, Tables 5, 6, 9, 10a-c, 11, 12, 23 and 33, and Subexamples A3, B1, B5, B7, B9 and B10 of Abdel-Malik, all of which species *prima facie* anticipate the genus encompassed by claim 11, as we have interpreted this claims above, within the meaning of § 102(b). It is, of course, axiomatic that a species anticipates a genus.

With respect to the ground of rejection of claim 11 under § 103(a) over the reference, while the issue here is one of *prima facie* obviousness, the evidence of a lack of novelty of the claimed compositions encompassed by claim 11 is, of course, "the *ultimate* obviousness," and accordingly, to the extent that Abdel-Malik anticipates the claimed compositions encompassed by claim 11, the case of obviousness is irrebuttable. *See In re Baxter Travenol Labs.*, 952 F.2d 388, 392, 21 USPQ2d 1281, 1284-85 (Fed Cir. 1991) (citing *In re Fracalossi*, 681 F.2d 792, 794, 215 USPQ 569, 571 (CCPA 1982)).

Turning now to the ground of rejection of method claim 1 under § 102(b), we found above that Abdel-Malik would have disclosed that the selection of a plasticizer that can be uniformly distributed within a protein, that is, the protein will dissolve in the plasticizer or be plasticized, to prepare a gum base, can be accomplished if either the total solubility parameter or one or more of the dispersive forces, polar forces and hydrogen bonding forces for the protein and the plasticizer are within 15% of each other (e.g., col. 4, ll. 14-41, col. 6, l. 61, to col. 7, l. 16, and col. 7, ll. 17-67). Abdel-Malik illustrates this selection method with the corn protein zein and the carbon compounds in Abdel-Malik Table 1 (col. 8, ll. 9-45). We further found above that the compositions or blends of zein and the carbon compound plasticizers thus disclosed in Abdel-Malik Table 1 satisfy the requirements for corn protein and plasticizer set forth in composition claim 11, which describes such compositions in the same language. It is clear that Abdel-Malik teaches that blends of zein and a plasticizer to form a gum base are formed by mixing.

As appellants correctly point out, there is no disclosure in Abdel-Malik that the selection of a plasticizer for a protein based on either the total solubility parameter or one or more of the

disperse forces, polar forces and hydrogen bonding forces of both components, can be stated in terms of the EA/C and ED/C requirements of the plasticizer as in appealed method claim 1. However, it is well known to one skilled in this art that electron acceptors and donors affect the solubility of a carbon compound, and indeed, in this respect, appellants disclose the following:

> A plasticizer varies the firmness of gum base by interposing itself between the macromolecular chains of a target compound. This is best accomplished when the attractive forces between the compounds of both components are similar. If the attractive forces are sufficiently dissimilar, immiscibility will result. Attraction forces between molecules typically include dispersion force, polar forces, hydrogen bonding forces and ionic forces. It is well known that ionic forces and hydrogen-bonding typically play important roles in protein dissolution in aqueous solution. In non-aqueous media, the hydrogen-bonding tends to become the major driving force to form miscible blends between zein and plasticizers. Plasticizers are required to possess sufficient electron donors and electron acceptors in their molecular structure in order to form effective hydrogen bonding with zein macromolecules. In this regard, due to the amphiphilic nature of zein, the most effective plasticizers for zein are those that possess a balance of hydrophobic and hydrophilic portions in their molecular structures similar to zein. [Specification, page 6, l. 30, to page 7, l. 11.]

We note that this disclosure is specific to zein and method claim 1 is not.

The issue raised on this record, as correctly suggested by the examiner and appellants, is whether, *prima facie*, Abdel-Malik discloses a method embodiment which can reasonably be inferred to necessarily and inherently include the selection of a carbon compound plasticizer for a corn protein on the basis of the EA/C and ED/C of the carbon compound plasticizer, even though Abdel-Malik is silent in this respect, and thus is a method that is identical to the claimed method; and if so, whether appellants have provided effective argument or evidence that patentably distinguishes the claimed method encompassed by claim 1 over such disclosure of Abdel-Malik. *See, e.g.*, *Spada*, 911 F.2d at 708-09, 15 USPQ2d at 1657-58 ("it was reasonable for the PTO to infer that the polymerization by both Smith and Spada of identical monomers, employing the same or similar polymerization techniques, would produce polymers having the identical composition," shifting the burden to appellant to show that the products are not identical); *In re Best*, 562 F.2d 1252, 1254-55, 195 USPQ 430, 432-33 (CCPA 1977) (the examiner reasonably concluded on evidence in the reference that process disclosed therein necessarily cooled the product which included the finding that the gas stream inherently removed generated ammonia even though the reference was silent on the matter, shifting the burden to

appellants to provide effective argument or evidence that the "gas stream does not inherently remove generated ammonia"): *In re Skoner*, 517 F.2d 947, 950-51, 186 USPQ 80, 82-83 (CCPA 1975) (the description of the claimed invention in terms of certain physical characteristics not used in the reference, does not patentably distinguish the claimed invention over the reference where the examiner found that identical means were used in an attempt to achieve identical results such that the reference can be considered to inherently discloses the claimed invention, even though the examiner could not compare the process described by appellants and disclosed in the reference).

On this record, it is apparent from our findings above that, *prima facie*, the selection method described by Abdel-Malik with respect to the corn protein zein and that claimed by appellants for the same protein, as described for that protein in their specification, are based on the same goal of matching a plasticizer with zein for an optimum blend thereof to form a plasticized proteinaceous material, wherein the plasticizer is uniformly distributed within zein, and is accomplished by consideration of the same attractive forces including the dispersion forces, polar forces, which can be considered ionic forces because polar compounds ionize in solution, and hydrogen bonding forces of zein and of the plasticizer. Thus, it reasonably appears that the close relationship between zein protein and a plasticizer based on at least one of these forces required by the selection method of Abdel-Malik achieves the *same result* in the *same way* as the selection method of appellants for plasticizers for the *same protein*, even though the selection may be carried out for different reasons..

Indeed, we found above that the illustration of the selection process for zein and a plasticizer set forth by Abdel-Malik with respect to Table 1 thereof, in fact employs carbon compound plasticizers, all of which are thus disclosed to be suitable for zein, and all of which fall within the EA/C and ED/C requirements specified in appealed method claim 1. Thus, on this record, Abdel-Malik describes an embodiment of the selection process which, *prima facie*, inherently and necessarily is a description of the claimed method encompassed by claim 1 within the meaning of § 102(b) even though the reference couches the method in different language than that used in claim 1 by appellants.

With respect to the specific selection of at least one plasticizer for zein that satisfies the EA/C and ED/C requirements of claim 1 set forth at Tables 5 and 6 of Example 1 of the

reference, these two species *prima facie* anticipate the genus encompassed by claim 1 within the meaning of § 102(b).

With respect to the ground of rejection of claim 1 under § 103(a) over Abdel-Malik, the evidence of a lack of novelty of the claimed methods encompassed by claim 1 in the reference is "the *ultimate* obviousness," and thus, to the extent that Abdel-Malik anticipates the claimed methods encompassed by claim 1, the case of obviousness is irrebuttable. *See Baxter Travenol Labs.*, 952 F.2d at 392, 21 USPQ2d at 1284-85 (citing *Fracalossi*, 681 F.2d at 794, 215 USPQ at 571).

Therefore, the burden shifts to appellants to submit effective argument or objective evidence to patentably distinguish the claimed method encompassed by claim 1 from this embodiment of Abdel-Malik. *Spada*, 911 F.2d at 708-09, 15 USPQ2d at 1657-58; *Best*, 562 F.2d at 1254-55, 195 USPQ at 432-33; *Skoner*, 517 F.2d at 950-51, 186 USPQ at 82-83.

Accordingly, since a *prima facie* case of anticipation and a *prima facie* case of obviousness has been established over Abdel-Malik with respect to method claim 1 and product claim 11, we have again evaluated all of the evidence of anticipation and non-anticipation and all of the evidence of obviousness and nonobviousness based on the record as a whole, giving due consideration to the weight of appellants' arguments in the brief and reply brief. *See generally*, *Spada*, 911 F.2d at 707 n.3, 15 USPQ2d at 1657 n.3; *In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984).

Contrary to appellants' contentions with respect to the breadth of the disclosure, that is, "laundry lists," of Abdel-Malik, we find in the reference substantial evidence specific to blends of zein and particular proteins falling with the plasticizer requirements of claims 1 and 11, thus providing a description of embodiments supporting the grounds of rejection of claims 1 and 11. Indeed, as we found above, the generic listing of "organic plasticizers" in col. 12 of Abdel-Malik is not specific to any protein, and thus, the fact that this listing is not limited to the plasticizers specifically disclosed for zein by Abdel-Malik does not benefit appellants with respect to either ground of rejection. We with respect to a ground of rejection under § 102(b) that "the question whether a reference 'teaches away' from the invention is inapplicable to an anticipation analysis." *Celeritas Technologies Ltd. V. Rockwell International Corp.*, 150 F.3d 1354, 1361, 47 USPQ2d 1516, 1522 (Fed. Cir. 1998).

We have not considered the objective evidence in the specification relied on by appellants in the brief and reply brief because the embodiments of Abdel-Malik to which this evidence applies anticipate claims 1 and 11.

Accordingly, we have again evaluated all of the evidence of anticipation and of obviousness found in Abdel-Malik with appellants' countervailing evidence of and argument for non-anticipation and nonobviousness, and based thereon we conclude that the claimed invention encompassed by appealed claims 1 through 37 would have been anticipated as a matter of fact under 35 U.S.C. § 102(b), and would have been obvious as a matter of law under 35 U.S.C. § 103(a).

The examiner's decision is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a)(1)(iv) (effective September 13, 2004; 69 Fed. Reg. 49960 (August 12, 2004); 1286 Off. Gaz. Pat. Office 21 (September 7, 2004)).

AFFIRMED

CHUNG. K. PAK Administrative Patent Judge	)	
CHARLES F. WARREN Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
PETER F. KRATZ Administrative Patent Judge	)	

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