



Industria y Comercio
SUPERINTENDENCIA

PCT

SOLICITUD

PATENTE DE INVENCION

03-96838

21. EXPEDIENTE N°

54. TÍTULO

METODO PARA ENTREGAR SABOR FRESCO EN UNA BEBIDA QUE SE SIRVE EN EL SITIO.

51. CLASIFICACIÓN INTERNACIONAL

A23 F 3/16

71. SOLICITANTE

PEPSI/LIPTON TEA PARTNERSHIP

DOMICILIO

NUEVA YORK, ESTADOS UNIDOS DE AMERICA

74. APODERADO

ALVARO CORREA ORDOÑEZ

T.P.No.20.281

22. BOGOTÁ, D. C.

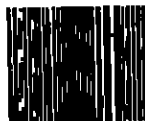
OCTUBRE 30 DE 2003

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Industria y Comercio
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SUPERINDUSTRIA Y COMERCIO
Radicación : 83096838 00000000 Folios: 58
Fecha (IMP): 2003-10-30 17:39:18
Tramite : 011 PCT-PATENT 379 FASE NACI 411 PRESENTAC
Dependencia: 2020 DIVISION DE NUEVAS CREACIONES

dicación

FORMULARIO ÚNICO DE SOLICITUD DE PATENTE
PCT
ENTRADA EN FASE NACIONAL

①

SOLICITUD DE :

☒ X

Patente de Invención

☐

Patente de Modelo de Utilidad

☐

Capítulo I.

☒ X

Capítulo II.

②

SOLICITANTE
(71)

Nombre: PEPSI/LIPTON TEA PARTNERSHIP

Dirección: 700 Anderson Hill Road, Purchase, Nueva York 10577,
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IDENTIFICACION

C.C. ☐ NIT ☐C.E. ☐ Otro ☐

Cual _____

Número _____

③

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IDENTIFICACION

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Número 79.143.366 de
Usaquén TP 20.281

④

INVENTOR (ES)
(72)

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Dirección: VER DOCUMENTO ANEXO

Nacionalidad o Domicilio: VER DOCUMENTO ANEXO

⑤

PCT (85)

Solicitud Internacional No. PCT/US02/13433

Fecha Abril 30, 2002

Publicación Internacional No. WO 02/087350

Fecha Noviembre 7, 2002

⑥

Título (54)

METODO PARA ENTREGAR SABOR FRESCO EN UNA BEBIDA QUE SE SIRVE EN EL SITIO.

⑦

Clasificación Internacional (51)

A23F 3/16

⑧

Prioridad

SI ☒ XNO ☐

(33) País de Origen

US

(32) Fecha

Abril 30, 2001

(31) Número de Solicitud

60/287,436

⑨

Comprobante de pago No. 74,978 y 74,977

Fecha OCTUBRE 15 DE 2003

Instrucciones para el diligenciamiento del presente formulario, ver reverso de esta página

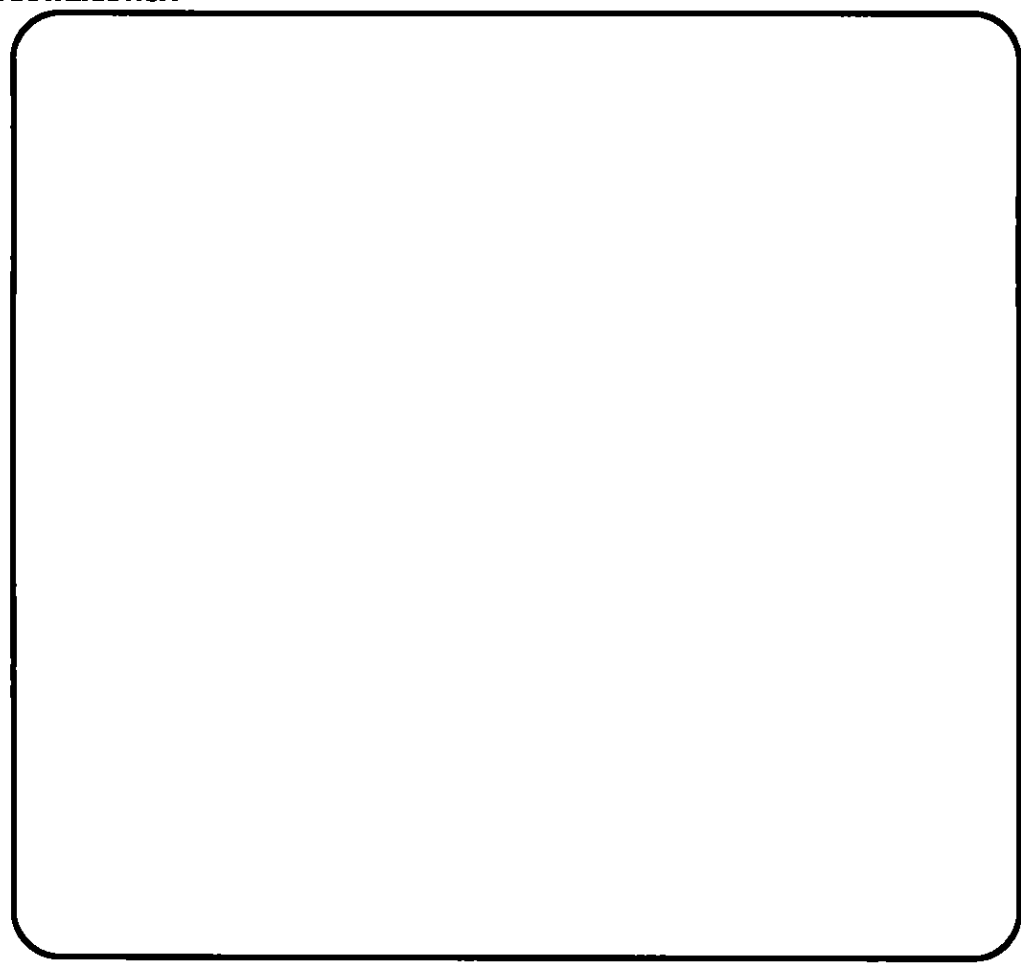
10

ANEXOS

- ☒ Comprobante de pago de la tasa de presentación de la solicitud
- ☐ Documento que acredite la existencia y representación legal cuando el solicitante sea persona jurídica
- ☐ Poderes, si fuere el caso
- ☐ Documento de cesión del inventor al solicitante o a su causante
- ☐ Declaraciones
- ☒ Copia de la solicitud Internacional. (Resumen, descripción, reivindicaciones, dibujos)
- ☒ Traducción de la solicitud Internacional al castellano. (Resumen, descripción, reivindicaciones, dibujos)
- ☒ Copia del examen preliminar Internacional efectuado por la Autoridad Internacional de Examen preliminar (IPEA)
- ☐ Traducción del examen preliminar Internacional efectuado por la IPEA
- ☐ De ser el caso, copia del contrato de acceso
- ☐ De ser el caso, documento que acredite la licencia o autorización de uso de conocimientos tradicionales de las comunidades indígenas
- ☐ De ser el caso, certificado de depósito del material biológico
- ☐ Arte final 12 x 12
- ☐ De ser el caso, información sobre otras solicitudes de patente o títulos obtenidos en el extranjero por el mismo titular o su causante, relacionadas parcial o totalmente con la invención de esta solicitud
- ☐ De ser el caso, modificaciones efectuadas a la solicitud Internacional.
- ☐ Otros

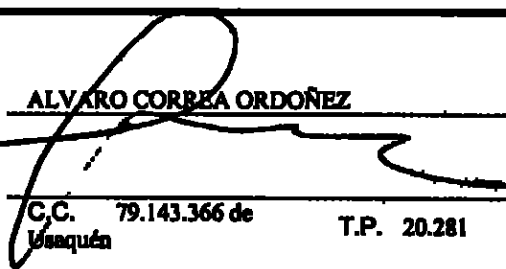
11

FIGURA CARACTERISTICA



12

Solicito la concesión de la patente,

NOMBRE: ALVARO CORREA ORDOÑEZ
FIRMA: 
C.C. 79.143.366 de Usaquén T.P. 20.281

000003 3

NIT : 800176089-2

RECIBO OFICIAL DE CAJA : 03 - 74,976
FECHA : OCTUBRE 15 DE 2003

SUPERINDUSTRIA Y COMERCIO
Radicacion : 83096436 00000000
Fecha (MM): 2003-10-30 17:39:18
Tramite : 811 PCT-PATENT 379 FASE NACT 411 PRESENTAC
Dependencia: 8820 DIVISION DE NUEVAS CREACIONES

Folios: 58

***** CONSIGNACION *****

DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PAGO	Vr. PAGO
JORGE LUIS GOMEZ	CONSIGNACION	BANCO POPULAR	050-00110-6	11025315	15/10/2003	64,120,000.00

***** CONCEPTO *****

CANT.	RENTISTICO	CONCEPTO	TOTAL CONCEPTO
1	50005-01-06	REGISTRO DE CESION, CAMBIO NOM	
		13 PATENTES, MODELOS, DISEÑOS, LEAS, NO	202,000.00
		TOTAL :	\$ 202,000.00

SON: DOSCIENTOS DOS MIL PESOS

RESPONSABLE :



RECIBO DE CAJA APLICADO AL EXPEDIENTE No. _____

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NIT : 800176089-2

RECIBO OFICIAL DE CAJA : 03 - 74,977
FECHA : OCTUBRE 15 DE 2003

***** CONSIGNACION *****

DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PGO	Vr. PAGO
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CANT.	RENTISTICO	CONCEPTO	TOTAL CONCEPTO
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13		PATENTES, MODELOS, DISEÑOS, LEMAS, MO	202,000.00
		TOTAL :	\$ 202,000.00

SON: DOSCIENTOS DOS MIL PESOS

RESPONSABLE :



RECIBO DE CAJA APLICADO AL EXPEDIENTE No. _____

ANEXO - INVENTORES

PCT/US02/13433

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(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
7 November 2002 (07.11.2002)

PCT

(10) International Publication Number
WO 02/087350 A1

(51) International Patent Classification⁷: A23F 3/16, 3/40

(21) International Application Number: PCT/US02/13433

(22) International Filing Date: 30 April 2002 (30.04.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/287,436 30 April 2001 (30.04.2001) US

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AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG,
SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN,
YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR,
GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent
(BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,
NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limits for amending the
claims and to be republished in the event of receipt of
amendments

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: METHOD FOR DELIVERING FRESH FLAVOR IN AN ON-PREMISE BEVERAGE

(57) Abstract: Fresh flavor is delivered to an on-premise beverage at the point of dispense. Flavor compounds are incorporated in a separate component and then the separated flavor component is mixed with other beverage component at the time of dispense. More specifically, tea flavor compounds are incorporated in a separate sweetener component and then the tea flavor/sweetener component is mixed with other iced tea beverage components at the time of dispense.

WO 02/087350 A1

- 1 -

TITLE

METHOD FOR DELIVERING FRESH FLAVOR IN AN
ON-PREMISE BEVERAGE

BACKGROUND OF THE INVENTION

Field of the Invention

[0001] The present invention relates to a method of delivering fresh flavor to an on-premise beverage at the point of dispense. More particularly, the present invention relates to a method in which flavor compounds are incorporated in a separate component and then the separated flavor component is mixed with other beverage components at the time of dispense. The invention specifically relates to a method in which tea flavor compounds are incorporated in a separate sweetener component and then the tea flavor/sweetener component is mixed with other iced tea beverage components at the time of dispense.

- 2 -

Related Background Art

[0003] Tea, *Camellia sinensis*, originated in China around 220 B.C. and is enjoyed worldwide due to its unique aromatic flavor (aroma) and astringent taste. Tea is traditionally consumed as leaf (green, oolong or black) infused with hot water, either in loose form or in the form of a tea bag. As an alternative to fresh brewing, tea is also consumed in the form of instant tea powder which may be mixed with sugar, citric acid and natural flavors and reconstituted with water. Instant tea, however, while very convenient to use, is generally perceived as a lower quality tea than that brewed directly from the leaf.

[0004] Therefore, in restaurants, cafeterias, office coffee services, sports venues and the like, i.e., "on-premise", tea leaf is generally brewed using various brewers to prepare fresh brewed iced tea beverages. However, the consistency and microbiological stability of such brewed tea are of great concern. As a result, a very concentrated tea extract which delivers iced tea more conveniently than brewing from tea leaf, which delivers the brewed tea character not attainable from powdered tea and which regularly produces a consistent, safe iced tea beverage, has been developed. The concentrate contains tea extract, colors, flavors, preservatives and acid and is diluted about 100-fold by dispensing equipment which has been specifically designed for reconstituting this tea concentrate to prepare an iced tea beverage on-premise. What is more, since fresh brewed tea is usually consumed sweetened, the dispensing equipment also allows for the addition of a liquid sweetener in a range of desired levels into the tea beverage. U.S. Patent Application No. 09/965,829 and U.S. Design Application No. 29/127,979 filed October 1, 2001, and August 16, 2000, respectively, relate to the dispensing equipment mentioned above; the disclosure of each of these applications is incorporated by reference herein.

[0005] The above-mentioned tea concentrate is made via tea processing. In general, tea processing refers to a process of treating or extracting tea leaf to obtain maximum yield of tea solids with minimum negative change to the tea flavor/character. Tea solids refer to the dry matter of a tea extract of which the largest class of compounds comprises polyphenols. Tea processing typically

- 3 -

consists of five steps, namely extraction, aroma stripping, de-creaming, concentration and spray drying. The above-mentioned concentrated tea extract is prepared by extracting, de-creaming and concentrating tea solids. U.S. Patent Application Nos. 09/501,172, 09/500,850 and 09/500,895, all filed on February 9, 2000, relate to the above-described tea extract; the disclosure of each of these applications is incorporated by reference herein.

[0006] After selecting the raw leaf material, tea is extracted with water by percolation or countercurrent extraction. After extraction, a de-creaming step takes place in order to remove insoluble materials that form in tea extract upon cooling; tea extract is typically cooled and centrifuged in order to remove the insoluble material, which would otherwise be responsible for cloudiness or haze in the final beverage upon reconstitution. The de-creamed extract is then concentrated by evaporation under vacuum to produce a tea concentrate usually at 20% to 75% tea solids or higher. Additional concentration steps such as reverse osmosis and freeze drying may also or may alternatively be used. Tea processing steps and manufacture are described in detail in "Tea and Soluble Tea Products Manufacture" by Nicholas Pintauro (Noyes Data Corporation, Park Ridge, NJ, 1977).

[0007] The above-mentioned tea concentrate is stabilized and preserved and can be used in the dispensing equipment mentioned above to prepare iced tea beverages on-premise. However, the present inventors have discovered that this tea concentrate fails to deliver the volatile, aromatic compounds necessary to deliver fresh brewed tea taste beyond approximately 3-5 days.

[0008] These volatile, aromatic compounds, collectively referred to as tea aroma, are essential to tea quality and flavor. The composition of tea aroma is rather complex, consisting of approximately 500-650 compounds including hydrocarbons, aldehydes, alcohols, esters, ketones, lactones, phenols, acids and nitrogen- and sulfur-containing compounds. A complete list of tea aroma compounds discovered to date is set forth in "TEA, Cultivation to Consumption", Wilson and Clifford, Chapman Hall, London (1992). Scientists have found it difficult to identify specific key compounds that characterize tea aroma, and it is

- 4 -

believed that even compounds present at very small quantities may play a key role in tea aroma.

[0009] The present inventors have discovered that certain critical chemical components of tea aroma and tea flavors, in particular, the aldehydes, are unstable in the presence of concentrated tea solids. Therefore, these components degrade rapidly in the above-mentioned tea concentrate. The exact degradation mechanism is not known; however, aldehydes have been shown analytically to degrade by more than 90% of the original value within one week.

[0010] Figure 1 illustrates the degradation curves for four samples. The first sample is a control which contains both tea solids and tea flavors. The second sample is identical to the first sample except insofar as it additionally contains EDTA and ascorbic acid, which are well known stabilizers or anti-oxidants. The third sample contains only sweetener and tea flavors. The fourth sample is identical to the third sample except insofar as it additionally contains EDTA and ascorbic acid. It is clear from Figure 1 that the aldehydes which in part constitute tea flavor or tea aroma degrade rapidly in the presence of tea solids, regardless of whether a stabilizer is used. On the other hand, the aldehydes are relatively stable when stored only with a sweetener, regardless of whether a stabilizer is used.

[0011] Therefore, a tea concentrate, which contains both tea solids and tea flavor or tea aroma, has a shelf life of only several days to a week before it fails to deliver fresh brewed taste when reconstituted with water and sweetener. Such a short shelf life is not acceptable for a product that is intended for use as a method for conveniently preparing iced tea beverages with fresh brewed tea taste for on-premise accounts.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] Figure 1 illustrates degradation curves for aldehydes in the presence and in the absence of tea solids and/or stabilizers.

[0013] Figure 2 illustrates the stability of flavor compounds over time when mixed with liquid sucrose.

SUMMARY OF THE INVENTION

[0014] The present invention is directed to a method of delivering fresh brewed tea taste to an on-premise iced tea beverage at a point of dispense comprising the steps of: (a) providing tea flavor compounds in an amount sufficient to deliver fresh brewed tea taste separate from tea solids prior to the time of dispense; and (b) mixing the tea flavor compounds with the tea solids at the time of dispense.

[0015] In certain preferred embodiments of the invention, the tea flavor compounds are tea flavor, tea aroma or both tea flavor and tea aroma. In additional preferred embodiments, the tea flavor compounds are provided in an amount of 0.01 to 12%, more preferably 0.02 to 5%, and most preferably 0.03 to 2% by weight of finished iced tea beverage. In still additional preferred embodiments of the present invention, the tea flavor compounds are provided in an amount from 1 to 150%, more preferably 5 to 90%, and most preferably 15 to 50% of an amount of tea solids in a finished iced tea beverage.

[0016] The invention is also more generally directed to a method of delivering fresh flavor to an on-premise beverage at a point of dispense comprising the steps of: (a) providing at least one unstable component of the on-premise beverage separate from beverage components in which the at least one unstable component is unstable prior to the time of dispense; and (b) mixing the at least one unstable component with the beverage components in which the at least one unstable component is unstable at the time of dispense.

[0017] The invention is further directed to an on-premise iced tea beverage having fresh brewed tea taste made by the process comprising the steps of: (a) providing tea flavor compounds in an amount sufficient to deliver fresh brewed tea taste separate from tea solids prior to the time of dispense; and (b) mixing the tea flavor compounds with the tea solids at the time of dispense.

DETAILED DESCRIPTION OF THE INVENTION

[0018] The present invention solves the problem associated with the degradation of unstable flavor components in the presence of other beverage ingredients, e.g., the degradation of tea aroma or tea flavor in a tea concentrate which contains tea

- 6 -

solids. According to the present invention, flavor compounds are incorporated in a separate component and then the separated flavor component is mixed with other beverage components at the time of dispense. It is important to note that the present invention is generally applicable to all on-premise beverages. Any unstable component may be delivered separately, e.g., via a 5-gallon bag suitable for use in certain dispensers, and then fresh dosed at the point of dispense into a given beverage. The unstable component may be delivered alone or with some other component(s) with which it exhibits stability.

[0019] The present inventors have found this concept particularly suited for use with on-premise iced tea beverages. More particularly, the critical chemical components of tea aroma or tea flavor, i.e., aldehydes, are combined with a sweetener and are simultaneously dispensed with the sweetener upon dispense of the iced tea beverage on-premise. Because the flavor components are stable in a typical sweetener system, both a desired amount of sweetness and a constant level of flavor are achieved.

[0020] As used herein, "tea aroma" refers collectively to the large group of naturally occurring, volatile, aromatic compounds essential to tea quality and flavor and are sourced directly from the leaf or the extract thereof. As used herein, "tea flavors" refers to artificially-made or naturally sourced compounds that are combined in certain ratios to simulate tea taste. As used herein, "tea flavor compounds" refers to tea aroma or a component thereof, tea flavor or a component thereof or a combination thereof. As used herein, "on-premise" refers to all locations where food or beverage is consumed out of the home such as restaurants, cafeterias, office coffee services and sports venues.

[0021] Sweeteners suitable for use in any embodiment of the present invention include any and all sweeteners typically used to sweeten beverages. Such sweeteners include, without limitation, sucrose, high fructose corn syrup, corn syrup, honey and molasses. Any other nutritive or artificial sweetener may also be used in the present invention.

[0022] Typically, a sweetener for use in the present invention takes the form of a solution contained in a bag or the like which is capable of being loaded in or

hooked up remotely to a given dispenser and being dispensed simultaneously with other beverage components. The bag or the like may take any suitable form or any suitable size, typically a 3- or 5-gallon bag. Such a sweetener is also typically acidified and preserved.

[0023] Any food grade acid or combination of food grade acids which lowers the pH of the sweetener to about 4.6 or below, the pH required for pathogen stability, can be used in the present invention. Suitable acids include, without limitation, phosphoric acid, citric acid, lactic acid, fumaric acid and combinations thereof.

[0024] Likewise, any preservative typically used in food or beverage applications can be used in the present invention to preserve the sweetener system. Suitable preservatives include, without limitation, benzoate, sorbate and combinations thereof.

[0025] One of ordinary skill in this art will readily appreciate that the acidification and preservation of the sweetener component may be unnecessary if certain other measures are taken. For example, the sweetener component may be aseptically packed or frozen, thereby obviating the need for acidification and preservation.

[0026] According to the preferred embodiment of the present invention, tea flavor or tea aroma is provided in a sweetener at a level to provide appropriate flavor character and strength to a finished tea beverage. To provide a well balanced characteristic flavor/taste profile, these compounds should be delivered within a certain ratio relative to the tea solids present in the concentrated tea extract. The tea aroma or tea flavor is typically dosed into the sweetener to deliver levels in the finished beverage in the range of 1-150%, preferably in the range of 5-90%, and most preferably in the range of 15-50% of the tea solids level.

[0027] It is important to note that both tea aroma and tea flavor exhibit instability in the presence of tea solids. Accordingly, the present invention contemplates the provision of either or both of tea aroma and tea flavor in the sweetener system in an amount appropriate to deliver fresh brewed tea taste.

[0028] Tea aroma suitable for inclusion with the sweetener component according to the present invention may be obtained during the initial tea processing, i.e., through aroma stripping, etc. Any tea flavor is suitable for inclusion in the

- 8 -

sweetener component according to the present invention. These tea flavors may be natural or artificial (engineered from compounds not derived naturally from tea) or a combination thereof. Suitable tea flavors include any of those flavors currently available from a number of "flavor houses" such as Firmenich Inc. (Princeton, NJ), Virginia Dare (Brooklyn, NY), Takasago (Rockleigh, NJ), Quest International (Hoffman Estates, IL), Hartmann & Reimer, Teterboro, NJ) and Givaudan Roure (Cincinnati, OH).

[0029] Based on individual taste preferences, the level to which an iced tea beverage may be sweetened will vary considerably. Typically, however, a beverage may be sweetened in the range of 2-25% sugar and more preferably in the range of 5-15% sugar. Actual levels of the flavor/aroma compounds in the sweetener typically range from 0.01-12% based on finished beverage, preferably in the range from 0.02-5%, and most preferably from 0.03-2%, depending on the concentration of the sweetener. It is also important to note that the tea aroma/flavor may be separately provided, i.e., without a sweetener for an unsweetened beverage, for recombination with other beverage components at the point of dispense. For example, the tea flavor/aroma may be diluted in a media free from sweetener.

Stability of Flavor Compounds in Sucrose

[0030] The stability of flavor compounds over time when mixed with liquid sucrose is demonstrated in Figure 2. The ♦s, ■s and ▲s represent the total amount of volatile flavor compounds (ppm) present in a 55.4 brix sucrose solution at 40°F, 72°F and 90°F, respectively, at 0, 2, 4 and 12 weeks. Changes in aroma compounds are much slower in sucrose, as compared with changes when stored with concentrated tea solids, thus delivering a product system with significantly enhanced shelf life.

What is claimed is:

1. A method of delivering fresh brewed tea taste to an on-premise iced tea beverage at a point of dispense comprising the steps of:
 - (a) providing tea flavor compounds in an amount sufficient to deliver fresh brewed tea taste separate from tea solids prior to the time of dispense; and
 - (b) mixing the tea flavor compounds with the tea solids at the time of dispense.
2. The method of claim 1, wherein the tea flavor compounds comprise tea flavor, tea aroma or a combination thereof.
3. The method of claim 1, wherein the tea flavor compounds are provided in an amount of 0.01 to 12% by weight of finished iced tea beverage.
4. The method of claim 3, wherein the tea flavor compounds are provided in an amount of 0.02 to 5% by weight of finished iced tea beverage.
5. The method of claim 4, wherein the tea flavor compounds are provided in an amount of 0.03 to 2% by weight of finished iced tea beverage.
6. The method of claim 1, wherein the tea flavor compounds are provided in an amount from 1 to 150% of an amount of tea solids in a finished iced tea beverage.
7. The method of claim 6, wherein the tea flavor compounds are provided in an amount from 5 to 90% of an amount of tea solids in a finished iced tea beverage.
8. The method of claim 7, wherein the tea flavor compounds are provided in an amount from 15 to 50% of an amount of tea solids in a finished iced tea beverage.

- 10 -

9. The method of claim 1, wherein the tea flavor compounds are provided together with a sweetener.
10. The method of claim 9, wherein the sweetener is selected from the group consisting of sucrose, high fructose corn syrup, corn syrup, honey, molasses and combinations thereof.
11. The method of claim 9, wherein the sweetener is acidified and preserved.
12. The method of claim 11, wherein the sweetener is acidified with an acidulant selected from the group consisting of phosphoric acid, citric acid, lactic acid, fumaric acid and combinations thereof.
13. The method of claim 11, wherein the sweetener is preserved with a preservative selected from the group consisting of benzoate, sorbate and combinations thereof.
14. A method of delivering fresh flavor to an on-premise beverage at a point of dispense comprising the steps of:
 - (a) providing at least one unstable component of the on-premise beverage separate from beverage components in which the at least one unstable component is unstable prior to the time of dispense; and
 - (b) mixing the at least one unstable component with the beverage components in which the at least one unstable component is unstable at the time of dispense.
15. The method of claim 14, wherein the at least one unstable component is a flavor component.

16. The method of claim 14, wherein the at least one unstable component is provided together with an additional beverage component in which the at least one unstable component is stable.
17. An on-premise iced tea beverage having fresh brewed tea taste made by the process comprising the steps of:
- (a) providing tea flavor compounds in an amount sufficient to deliver fresh brewed tea taste separate from tea solids prior to the time of dispense; and
 - (b) mixing the tea flavor compounds with the tea solids at the time of dispense.
18. The on-premise iced tea beverage of claim 17, wherein the tea flavor compounds comprise tea flavor, tea aroma or a combination thereof.
19. The on-premise iced tea beverage of claim 17, wherein the tea flavor compounds are provided in an amount of 0.01 to 12% by weight of finished iced tea beverage.
20. The on-premise iced tea beverage of claim 19, wherein the tea flavor compounds are provided in an amount of 0.02 to 5% by weight of finished iced tea beverage.
21. The on-premise iced tea beverage of claim 20, wherein the tea flavor compounds are provided in an amount of 0.03 to 2% by weight of finished iced tea beverage.
22. The on-premise iced tea beverage of claim 17, wherein the tea flavor compounds are provided in an amount from 1 to 150% of an amount of tea solids in a finished iced tea beverage.

- 12 -

23. The on-premise iced tea beverage of claim 22, wherein the tea flavor compounds are provided in an amount from 5 to 90% of an amount of tea solids in a finished iced tea beverage.

24. The on-premise iced tea beverage of claim 23, wherein the tea flavor compounds are provided in an amount from 15 to 50% of an amount of tea solids in a finished iced tea beverage.

25. The on-premise iced tea beverage of claim 17, wherein the tea flavor compounds are provided together with a sweetener.

26. The on-premise iced tea beverage of claim 25, wherein the sweetener is selected from the group consisting of sucrose, high fructose corn syrup, corn syrup, honey, molasses and combinations thereof.

27. The on-premise iced tea beverage of claim 25, wherein the sweetener is acidified and preserved.

28. The on-premise iced tea beverage of claim 27, wherein the sweetener is acidified with an acidulant selected from the group consisting of phosphoric acid, citric acid, lactic acid, fumaric acid and combinations thereof.

29. The on-premise iced tea beverage of claim 27, wherein the sweetener is preserved with a preservative selected from the group consisting of benzoate, sorbate and combinations thereof.

Figure 1

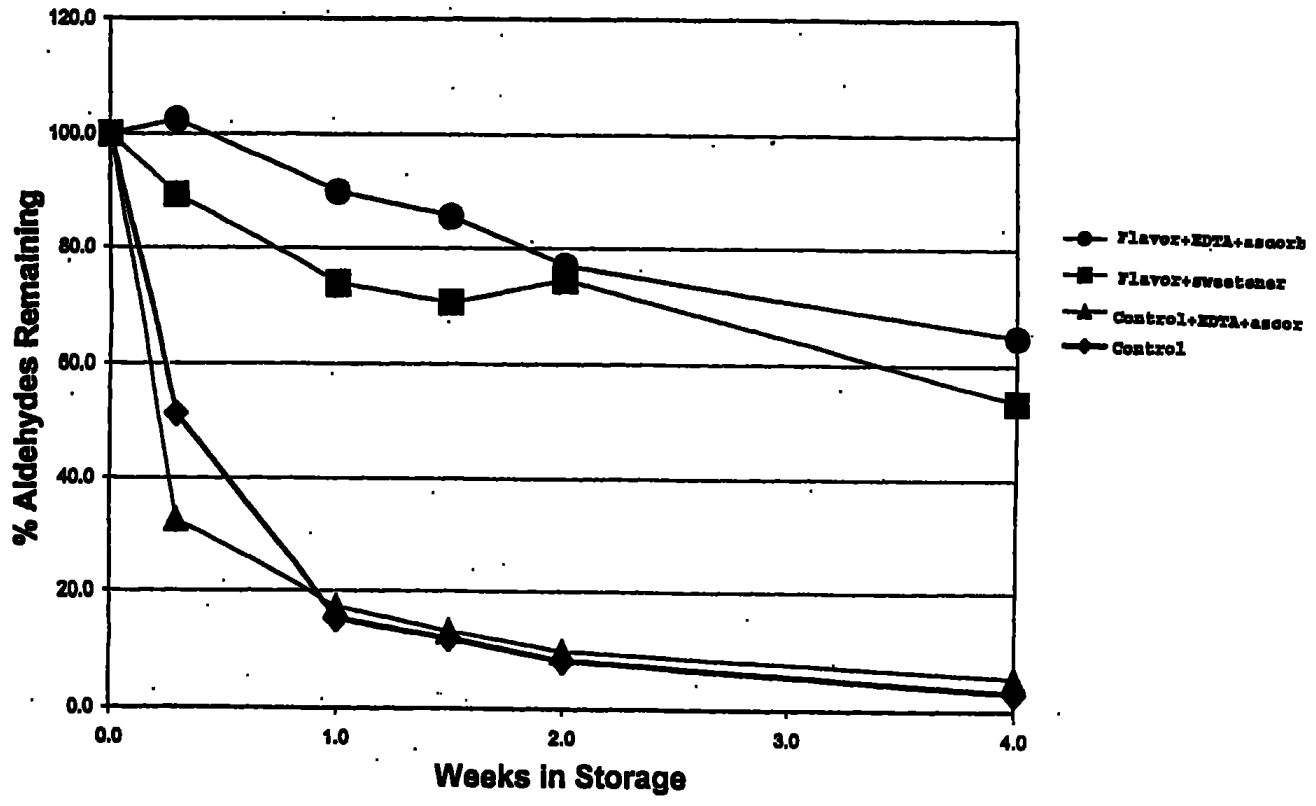
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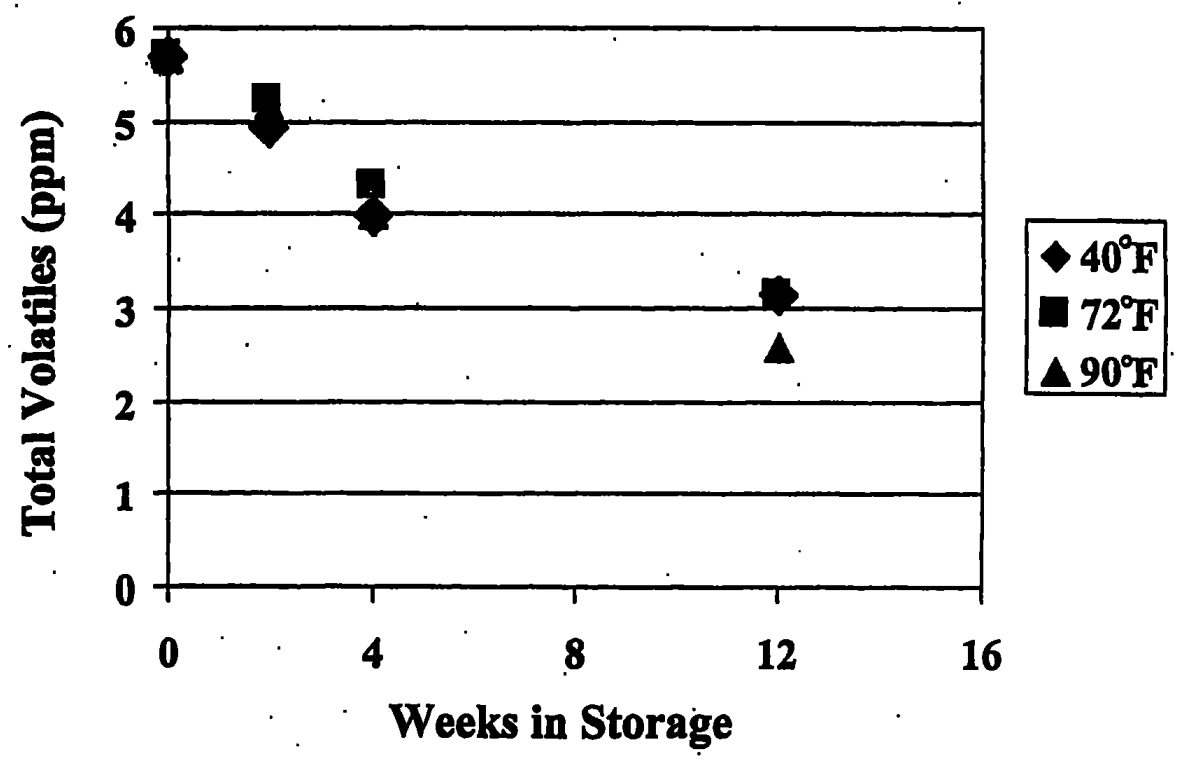
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PCT/US02/13437

Figure 2



INTERNATIONAL SEARCH REPORT

Int. Application No

PCT/US 02/13433

16
000016A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A23F3/16 A23F3/40

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A47J A23F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3 966 986 A (HUNTER GEORGE L K ET AL) 29 June 1976 (1976-06-29) column 1, line 49 -column 2, line 4 column 2-4 column 7, line 64 -column 8, line 2 claims 1-3,9,11,21-23,25,27-29,43-45,55-65	1-29
X	US 5 676 041 A (GLUCKSMAN DOV Z ET AL) 14 October 1997 (1997-10-14) column 1, line 25-30 column 2, line 58 -column 3, line 4 column 3, line 38-41 column 5-6 column 10, line 11-29	14-16
	-/-	

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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"Z" document member of the same patent family

Date of the actual completion of the international search

3 September 2002

Date of mailing of the international search report

24/09/2002

Name and mailing address of the ISA

European Patent Office, P.O. Box 1201
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Fax (+31-70) 940-9010

Authorized officer

Couzy, F

INTERNATIONAL SEARCH REPORT

International Application No.

PCT/US 02/13433

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 00 57713 A (ROBINSON JOHN ;DYNAMIC PRODUCTS LIMITED (GB)) 5 October 2000 (2000-10-05) page 3-5 example 1	14,15
X	WO 00 47058 A (PEPSICO INC) 17 August 2000 (2000-08-17) page 3, paragraph 3 -page 6, paragraph 1 page 3 -page 6	14-16
A	page 8, paragraph 2 page 13 -page 14 figure 5	1-13, 17-29
X	WO 01 12033 A (PROCTER & GAMBLE) 22 February 2001 (2001-02-22) page 4, line 31-36 page 11, line 6-36 example 11	14-16
X	US 6 182 555 B1 (FARRIS JEFF ET AL) 6 February 2001 (2001-02-06) column 1, line 42,43,54-56 column 2, line 53-55 column 3, line 65 -column 4, line 22 column 17, line 25-31 figures 2,3,16	14-16
A	US 5 952 032 A (HARBOWY MATTHEW EVAN ET AL) 14 September 1999 (1999-09-14) column 4, line 3-10	1-29

INTERNATIONAL SEARCH REPORT

information on patent family members

International Application No.

PCT/US 02/13433

000017

17

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 3966986	A	29-06-1976	NONE	
US 5676041	A	14-10-1997	AU WO	4863496 A 9623437 A1
				21-08-1996 08-08-1996
WO 0057713	A	05-10-2000	AU EP WO	3446900 A 1164859 A1 0057713 A1
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				05-06-2001 29-08-2000 17-08-2000
WO 0112033	A	22-02-2001	AU AU AU BR BR EP EP EP WO WO WO	6641100 A 6642500 A 6905700 A 0013238 A 0013242 A 1206206 A2 1204351 A2 1204355 A2 0112033 A2 0112034 A2 0112038 A2
				13-03-2001 13-03-2001 13-03-2001 23-04-2002 23-04-2002 22-05-2002 15-05-2002 15-05-2002 22-02-2001 22-02-2001 22-02-2001
US 6182555	B1	06-02-2001	NONE	
US 5952032	A	14-09-1999	US	5980969 A
				09-11-1999

PCT

REQUEST

The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty.

International Application No.

18
~~000018~~

International Filing Date

Name of receiving Office and "PCT International Application"

Applicant's or agent's file reference
(if desired) (12 characters maximum) 02105.2265PC

Box No. I TITLE OF INVENTION
METHOD FOR DELIVERING FRESH FLAVOR IN AN ON-PREMISE BEVERAGE

Box No. II APPLICANT ☐ This person is also inventor.

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

PEPSI/LIPTON TEA PARTNERSHIP
700 Anderson Hill Road
Purchase, NY 10577
US

Telephone No. 914-253-3443

Facsimile No. 914-253-3123

Teleprinter No.

Applicant's registration No. with the Office

State (that is, country) of nationality:
US

State (that is, country) of residence:
US

This person is applicant for the purposes of: ☒ all designated States ☐ all designated States except the United States of America ☐ the United States of America only ☐ the States indicated in the Supplemental Box

Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

KATHLEEN DA CUNHA
28 South Ridge Court
Ridgefield, CT 06877
US

This person is:

☐ applicant only

☐ applicant and inventor

☒ inventor only (If this check-box is marked, do not fill in below.)

Applicant's registration No. with the Office

State (that is, country) of nationality:

State (that is, country) of residence:

This person is applicant for the purposes of: ☐ all designated States ☐ all designated States except the United States of America ☐ the United States of America only ☐ the States indicated in the Supplemental Box

☒ Further applicants and/or (further) inventors are indicated on a continuation sheet.

Box No. IV AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE

person identified below is hereby/has been appointed to act on behalf of the applicant(s) before the competent International Authorities as:

☒ agent

☐ common representative

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

ELIZABETH F. HOLOWACZ
Fitzpatrick Cella Harper & Scinto
30 Rockefeller Plaza
New York, NY 10112
US

Telephone No. 212-218-2100

Facsimile No. 212-218-2200

Teleprinter No.

Agent's registration No. with the Office
42,667

☐ Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.

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008019

19

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

ZENA BELL
300 High Point Drive, #812
Hartsdale, NY 10530
US

This person is:

- ☐ applicant only
☐ applicant and inventor
☒ inventor only (If this check-box is marked, do not fill in below.)

Applicant's registration No. with the Office

State (that is, country) of nationality:

State (that is, country) of residence:

This person is applicant for the purposes of:

☐

all designated States

☐

all designated States except the United States of America

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the United States of America only

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the States indicated in the Supplemental Box

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

REIN HIRS
223 Watermelon Hill Road
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This person is:

- ☐ applicant only
☐ applicant and inventor
☒ inventor only (If this check-box is marked, do not fill in below.)

Applicant's registration No. with the Office

State (that is, country) of nationality:

State (that is, country) of residence:

This person is applicant for the purposes of:

☐

all designated States

☐

all designated States except the United States of America

☐

the United States of America only

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the States indicated in the Supplemental Box

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

JOHN TOBIN
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Hillsdale, NJ 07642
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This person is:

- ☐ applicant only
☐ applicant and inventor
☒ inventor only (If this check-box is marked, do not fill in below.)

Applicant's registration No. with the Office

State (that is, country) of nationality:

State (that is, country) of residence:

This person is applicant for the purposes of:

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all designated States except the United States of America

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the States indicated in the Supplemental Box

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

JUNE QI-ZHENG
246 Ross Avenue
Hackensack, NJ 07601
US

This person is:

- ☐ applicant only
☐ applicant and inventor
☒ inventor only (If this check-box is marked, do not fill in below.)

Applicant's registration No. with the Office

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GREGG LEHMBERG
528 Grove Street
Westfield, NJ 07090
US

This person is:

- ☐ applicant only
☐ applicant and inventor
☒ inventor only (If this check-box is marked, do not fill in below.)

Applicant's registration No. with the Office

State (that is, country) of nationality:

State (that is, country) of residence:

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Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

This person is:

- ☐ applicant only
☐ applicant and inventor
☒ inventor only (If this check-box is marked, do not fill in below.)

Applicant's registration No. with the Office

State (that is, country) of nationality:

State (that is, country) of residence:

This person is applicant for the purposes of:

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the States indicated in the Supplemental Box

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

This person is:

- ☐ applicant only
☐ applicant and inventor
☐ inventor only (If this check-box is marked, do not fill in below.)

Applicant's registration No. with the Office

State (that is, country) of nationality:

State (that is, country) of residence:

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Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

This person is:

- ☐ applicant only
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☐ inventor only (If this check-box is marked, do not fill in below.)

Applicant's registration No. with the Office

State (that is, country) of nationality:

State (that is, country) of residence:

This person is applicant for the purposes of:

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all designated States

☐

all designated States except the United States of America

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☐ Further applicants and/or (further) inventors are indicated on another continuation sheet.

The following designations are hereby made under Rule 4.9(a):

Regional Patent

- ☒ AP ARIPO Patent: GH Ghana, GM Gambia, KE Kenya, LS Lesotho, MW Malawi, MZ Mozambique, SD Sudan, SL Sierra Leone, SZ Swaziland, TZ United Republic of Tanzania, UG Uganda, ZW Zimbabwe, and any other State which is a Contracting State of the Harare Protocol and of the PCT
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| ☒ AL Albania | ☒ HR Croatia | ☒ NO Norway |
| ☒ AM Armenia | ☒ HU Hungary | ☒ NZ New Zealand |
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| ☒ CR Costa Rica | ☒ LS Lesotho | ☒ TM Turkmenistan |
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| ☒ GD Grenada | | |
| ☒ GE Georgia | | |

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- (i) if more than two persons are involved as applicants and/or inventors and no "continuation sheet" is available: in such case, write "Continuation of Box No. III" and indicate for each additional person the same type of information as required in Box No. III. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below;
- (ii) if, in Box No. II or in any of the sub-boxes of Box No. III, the indication "the States indicated in the Supplemental Box" is checked: in such case, write "Continuation of Box No. II" or "Continuation of Box No. III" or "Continuation of Boxes No. II and No. III" (as the case may be), indicate the name of the applicant(s) involved and, next to (each) such name, the State(s) (and/or, where applicable, ARIPO, European or OAPI patent) for the purposes of which the named person is applicant;
- (iii) if, in Box No. II or in any of the sub-boxes of Box No. III, the inventor or the inventor/applicant is not inventor for the purposes of all designated States or for the purposes of the United States of America: in such case, write "Continuation of Box No. II" or "Continuation of Box No. III" or "Continuation of Boxes No. II and No. III" (as the case may be), indicate the name of the inventor(s) and, next to (each) such name, the State(s) (and/or, where applicable, ARIPO, European or OAPI patent) for the purposes of which the named person is inventor;
- (iv) if, in addition to the agent(s) indicated in Box No. IV, there are further agents: in such case, write "Continuation of Box No. IV" and indicate for each further agent the same type of information as required in Box No. IV;
- (v) if, in Box No. V, the name of any State (or OAPI) is accompanied by the indication "patent of addition," or "certificate of addition," or if, in Box No. V, the name of the United States of America is accompanied by an indication "continuation" or "continuation-in-part": in such case, write "Continuation of Box No. V" and the name of each State involved (or OAPI), and after the name of each such State (or OAPI), the number of the parent title or parent application and the date of grant of the parent title or filing of the parent application;
- (vi) if, in Box No. VI, there are more than five earlier applications whose priority is claimed: in such case, write "Continuation of Box No. VI" and indicate for each additional earlier application the same type of information as required in Box No. VI.
2. If, with regard to the precautionary designation statement contained in Box No. V, the applicant wishes to exclude any State(s) from the scope of that statement: in such case, write "Designation(s) excluded from precautionary designation statement" and indicate the name or two-letter code of each State so excluded.

Lawrence F. (Registration No. 18,973), BRUNET, William J. (Registration No. 20,452), BAERTOLD, Robert L. (Registration No. 20,860), O'BRIEN, John A. (Registration No. 24,367), KRAUSE, John A. (Registration No. 24,613), RENK, Henry J. (Registration No. 25,499), SAXON, Peter (Registration No. 24,947), ZUPCIC, Anthony M. (Registration No. 27,276), BAKER, Charles P. (Registration No. 26,702), BOSSES, Steven J. (Registration No. 22,291), VASBALLO, Edward E. (Registration No. 29,117), CLAYTON, Ronald A. (Registration No. 26,718), STAHL, Lawrence A. (Registration No. 30,110), BAUER, Laura A. (Registration No. 29,767), DIANA, Leonard P. (Registration No. 29,296), KALLAS, Nicholas N. (Registration No. 31,530), WANNISKY, William M. (Registration No. 28,373), PERRY, Lawrence S. (Registration No. 31,865), FISCHER, Robert H. (Registration No. 30,051), WRIST, Christopher Philip (Registration No. 32,078), JACOBS, Gary M. (Registration No. 28,861), O'NEILL, Michael K. (Registration No. 32,622), HAAS, Bruce C. (Registration No. 32,734), REED, Scott K. (Registration No. 32,433), MALPEDE, Scott D. (Registration No. 32,533), ZULLOW, Frederick M. (Registration No. 32,452), OLSEN, Warren E. (Registration No. 27,290), WARNER, Steven E. (Registration No. 33,326), O'CONNELL, Thomas J. (Registration No. 33,202), CUBERT, Jack E. (Registration No. 24,345), WILLIAMSON, Mark A. (Registration No. 33,628), DUDEK, Jean K. (Registration No. 30,338), MANDRA, Raymond R. (Registration No. 34,382), CONDE, Dominick A. (Registration No. 33,836), RAZZANO, Pasquale A. (Reg. No. 25,512), BENKINGER, John W. (Registration No. 23,086), KLINE, Robert C. (Registration No. 17,799), SANDONATO, Michael P. (Registration No. 33,345), CARLIN, John D. (Registration No. 37,292), GLUECK, Daniel S. (Registration No. 37,838), RAGUSA, Joseph W. (Registration No. 38,586), KLOCK, Brian L. (Registration No. 36,370), MAHER, Anne M. (Registration No. 38,231), WEDLER, Bruce M. (Registration No. 35,409), TAYLOR, Errol B. (Registration No. 39,833), SHARROTT, Douglas (Registration No. 39,832), SMITH, Luke M. (Registration No. 39,370), HOLOWACZ, Elizabeth F. (Registration No. 42,667), DELUCIA, Frank A., Jr. (Registration No. 42,476), DALKE, David P. (Registration No. 40,980), QUINN, Carole A. (Registration No. 39,000), HAUGHEY III, Edmund J. (Registration No. 44,749), OLIVER, Justin J. (Registration No. 44,908), YU-JAHNKE, Lock See (Registration No. 38,667), PENNAEENE, Marc J. (Registration No. 37,416), DUCHENE, Dennis A. (Registration No. 40,595), KMETT, Edward A. (Registration No. 42,746), MEE, Brandon (Registration No. 43,391), MADLEY, Jason (Registration No. 46,009), RATLIFF II, Preston (Registration No. 43,034), WISCHHUSEN, Carl B. (Registration No. 43,279), BELHLE, Stephen E. (Registration No. 46,546), BERSCHADESKY, Jonathan (Registration No. 46,351), THURLOW, Peter (Registration No. 47,138), ROBERTS, Simon (Registration No. 47,342), FRASER, Steve W. (Registration No. 45,886), DIERZKO, Natalie M. (Registration No. 48,102), KNOO, Carol K. (Registration No. 46,270), PINSKY, Douglas W. (Registration No. 46,994), TSU, Victor (Registration No. 46,185), SMATZ, Howard D. (Registration No. 47,506), DIPERNA, Raymond (Registration No. 44,063), BARON, Jacob K. (Registration No. 48,961), CALLAGHAN, Edward J. (Registration No. 46,594), KONDODUE, Michael E. (Registration No. 42,738), LOH, Christopher E. (Registration No. 46,000), and OKUN, Jason M. (Registration No. 48,512) all at:

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-3801
United States of America

Box No. VI PRIORITY CLAIM

0-9-0123

The priority of the following earlier application(s) is hereby claimed:

Filing date of earlier application (day/month/year)	Number of earlier application	Where earlier application is		
		national application: country	regional application: ^a regional Office	international application: receiving Office
item (1) 30/04/2001	60/287,436	US		
item (2)				
item (3)				
item (4)				
item (5)				

☐ Further priority claims are indicated in the Supplemental Box.

The receiving Office is requested to prepare and transmit to the International Bureau a certified copy of the earlier application(s) (only if the earlier application was filed with the Office which for the purposes of the present international application is the receiving Office) identified above as:

☒ all items ☐ item (1) ☐ item (2) ☐ item (3) ☐ item (4) ☐ item (5) ☐ other, see Supplemental Box

Where the earlier application is an ARIPO application, it is mandatory to indicate in the Supplemental Box at least one country party to the Paris Convention for the Protection of Industrial Property for which that earlier application was filed (Rule 4.10(b)(ii)).

Box No. VII INTERNATIONAL SEARCHING AUTHORITY

Choice of International Searching Authority (ISA) (If two or more International Searching Authorities are competent to carry out the international search, indicate the Authority chosen; the two-letter code may be used):

ISA/EP

Request to use results of earlier search; reference to that search (if an earlier search has been carried out by or requested from the International Searching Authority):

Date (day/month/year) Number Country (or regional Office)

Box No. VIII DECLARATIONS

The following declarations are contained in Boxes Nos. VIII (i) to (v) (mark the applicable check-boxes below and indicate in the right column the number of each type of declaration):

Number of
declarations

- | | | |
|--|--|---|
| ☒ Box No. VIII (i) | Declaration as to the identity of the inventor | : |
| ☐ Box No. VIII (ii) | Declaration as to the applicant's entitlement, as at the international filing date, to apply for and be granted a patent | : |
| ☐ Box No. VIII (iii) | Declaration as to the applicant's entitlement, as at the international filing date, to claim the priority of the earlier application | : |
| ☐ Box No. VIII (iv) | Declaration of inventorship (only for the purposes of the designation of the United States of America) | : |
| ☐ Box No. VIII (v) | Declaration as to non-prejudicial disclosures or exceptions to lack of novelty | : |

Box No. IX CHECK LIST; LANGUAGE OF FILING

This international application contains:

- (a) the following number of sheets in paper form:

request (including declaration sheets) : 7

description (excluding sequence listing part) : 8

claims : 4

abstracts : 1

drawings : 2

Sub-total number of sheets : 22

sequence listing part of description (actual number of sheets if filed in paper form, whether or not also filed in computer readable form; see (b) below) :

Total number of sheets : 22

- (b) sequence listing part of description filed in computer readable form

(i) ☐ only (under Section 801(a)(i))(ii) ☐ in addition to being filed in paper form (under Section 801(a)(ii))

Type and number of carriers (diskette, CD-ROM, CD-R or other) on which the sequence listing part is contained (additional copies to be indicated under item 9(ii), in right column):

This international application is accompanied by the following item(s) (mark the applicable check-boxes below and indicate in right column the number of each item):

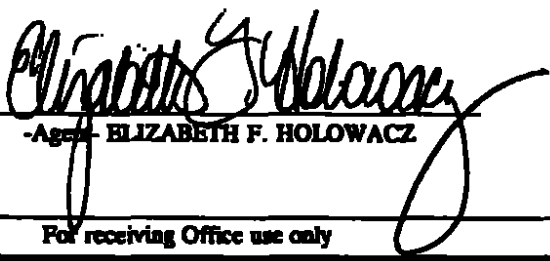
1. ☒ fee calculation sheet :
2. ☐ original separate power of attorney :
3. ☐ original general power of attorney :
4. ☐ copy of general power of attorney; reference number, if any: :
5. ☐ statement explaining lack of signature :
6. ☐ priority document(s) identified in Box No. VI as item(s) :
7. ☐ translation of international application into language) :
8. ☐ separate indications concerning deposited microorganism or other biological material :
9. ☐ sequence listing in computer readable form (indicate also type and number of carriers (diskette, CD-ROM, CD-R or other)) :
(i) ☐ copy submitted for the purposes of international search under Rule 13ter only (and not as part of the international application) :
(ii) ☐ (only where check-box (b)(i) or (b)(ii) is marked in left column) additional copies including, where applicable, the copy for the purposes of international search under Rule 13ter :
(iii) ☐ together with relevant statement as to the identity of the copy or copies with the sequence listing part mentioned in left column :
10. ☒ other (specify): Transmittal Letter

Figure of the drawings which should accompany the abstract:

Language of filing of the international application: English

Box No. X SIGNATURE OF APPLICANT, AGENT OR COMMON REPRESENTATIVE

Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the request).


-Agent- ELIZABETH F. HOLOWACZ

For receiving Office use only

1. Date of actual receipt of the purported international application:	2. Drawings:
3. Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application:	☐ received:
4. Date of timely receipt of the required corrections under PCT Article 11(2):	☐ not received:
5. International Searching Authority specified by the applicant: ISA/	6. ☐ Transmittal of search copy delayed until search fee is paid

For International Bureau use only

Date of receipt of the record copy by the International Bureau:

823.2265PCT
Art 19 Amends
11/17/02
11/24/02

PATENT COOPERATION TREATY

WO 02/087350
PCT/US02/13433

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PCT

From the INTERNATIONAL BUREAU

To:

HOLOWACZ, Elizabeth, F.
Fitzpatrick, Cella, Harper & Scinto
30 Rockefeller Plaza
New York, NY 10112
United States of America

NOTICE INFORMING THE APPLICANT OF THE
COMMUNICATION OF THE INTERNATIONAL
APPLICATION TO THE DESIGNATED OFFICES

(PCT Rule 47.1(c), first sentence)

Date of mailing (day/month/year) 07 November 2002 (07.11.02)		IMPORTANT NOTICE	
Applicant's or agent's file reference 02105.2265PC			
International application No. PCT/US02/13433	International filing date (day/month/year) 30 April 2002 (30.04.02)	Priority date (day/month/year) 30 April 2001 (30.04.01)	
Applicant PEPSI/LIPTON TEA PARTNERSHIP			

1. Notice is hereby given that the International Bureau has communicated, as provided in Article 20, the international application to the following designated Offices on the date indicated above as the date of mailing of this notice:
KP, KR

In accordance with Rule 47.1(c), third sentence, those Offices will accept the present notice as conclusive evidence that the communication of the international application has duly taken place on the date of mailing indicated above and no copy of the international application is required to be furnished by the applicant to the designated Office(s).

2. The following designated Offices have waived the requirement for such a communication at this time:

AE, AG, AL, AM, AP, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EA, EC, EE, EP, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OA, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW

The communication will be made to those Offices only upon their request. Furthermore, those Offices do not require the applicant to furnish a copy of the international application (Rule 48.1(a-bis)).

3. Enclosed with this notice is a copy of the international application as published by the International Bureau on 07 November 2002 (07.11.02) under No. WO 02/087350

4. TIME LIMITS for filing a demand for international preliminary examination and for entry into national phase

The applicable time limit for entering the national phase will, subject to what is said in the following paragraph be 30 MONTHS from the priority date, not only in respect of any elected Office if a demand for international preliminary examination is filed before the expiration of 18 months from the priority date, but also in respect of any designated Office, in the absence of filing of such demand, where Article 22(1) as modified with effect from 1 April 2002 applies in respect of the designated Office. For further details, see PCT Gazette No. 44/2001 of 1 November 2001, pages 18826, 18832 and 18834, as well as the PCT Newsletter, October and November 2001 and February 2002 issues.

In practice, time limits other than the 30-month time limit will continue to apply, for various periods of time, in respect of certain designated or elected Offices. For regular updates on the applicable time limits (20, 21, 30 or 31 months, or other time limit), Office by Office, refer to the PCT Gazette, the PCT Newsletter and the PCT Applicant's Guide, Volume II, National Chapters, all available from WIPO's Internet site, at <http://www.wipo.int/pct/en/index.html>.

For filing a demand for international preliminary examination, see the PCT Applicant's Guide, Volume IA, Chapter IX. Only an applicant who is a national or resident of a PCT Contracting State which is bound by Chapter II has the right to file a demand for international preliminary examination (at present, all PCT Contracting States are bound by Chapter II.)

It is the applicant's sole responsibility to monitor all these limits.

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer J. Zahra
Facsimile No. (41-22) 740.14.35	Telephone No. (41-22) 338.81.11

Form PCT/IB/308 (April 2002)

6227848

DOCKETED PAR 1/02

DATE

11/20

11/24 Article 19

Chapter 19 Summary
11/30

PATENT COOPERATION TREATY

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INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 02105.2265PC	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, Item 5 below.	
International application No. PCT/US 02/13433	International filing date (day/month/year) 30/04/2002	(Earliest) Priority Date (day/month/year) 30/04/2001
Applicant PEPSI/LIPTON TEA PARTNERSHIP		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☐ Unity of invention is lacking (see Box II).

4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☒ None of the figures.

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A23F3/16 A23F3/40

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 A47J A23F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3 966 986 A (HUNTER GEORGE L K ET AL) 29 June 1976 (1976-06-29) column 1, line 49 -column 2, line 4 column 2-4 column 7, line 64 -column 8, line 2 claims 1-3,9,11,21-23,25,27-29,43-45,55-65	1-29
X	US 5 676 041 A (GLUCKSMAN DOV Z ET AL) 14 October 1997 (1997-10-14) column 1, line 25-30 column 2, line 58 -column 3, line 4 column 3, line 38-41 column 5-6 column 10, line 11-29	14-16

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- *Z* document member of the same patent family

Date of the actual completion of the international search

3 September 2002

Date of mailing of the international search report

24/09/2002

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patenthuis 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Couzy, F

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 00 57713 A (ROBINSON JOHN ; DYNAMIC PRODUCTS LIMITED (GB)) 5 October 2000 (2000-10-05) page 3-5 example 1	14, 15
X	WO 00 47058 A (PEPSICO INC) 17 August 2000 (2000-08-17) page 3, paragraph 3 -page 6, paragraph 1	14-16
A	page 3 -page 6 page 8, paragraph 2 page 13 -page 14 figure 5	1-13, 17-29
X	WO 01 12033 A (PROCTER & GAMBLE) 22 February 2001 (2001-02-22) page 4, line 31-36 page 11, line 6-36 example 11	14-16
X	US 6 182 555 B1 (FARRIS JEFF ET AL) 6 February 2001 (2001-02-06) column 1, line 42, 43, 54-56 column 2, line 53-55 column 3, line 65 -column 4, line 22 column 17, line 25-31 figures 2, 3, 16	14-16
A	US 5 952 032 A (HARBOWY MATTHEW EVAN ET AL) 14 September 1999 (1999-09-14) column 4, line 3-10	1-29

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
PCT/US 02/13433

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 3966986	A	29-06-1976	NONE
US 5676041	A	14-10-1997	AU WO
		4863496 A 9623437 A1	21-08-1996 08-08-1996
WO 0057713	A	05-10-2000	AU EP WO
		3446900 A 1164859 A1 0057713 A1	16-10-2000 02-01-2002 05-10-2000
WO 0047058	A	17-08-2000	US AU WO
		6240829 B1 2868300 A 0047058 A1	05-06-2001 29-08-2000 17-08-2000
WO 0112033	A	22-02-2001	AU AU AU BR BR EP EP EP WO WO WO
		6641100 A 6642500 A 6905700 A 0013238 A 0013242 A 1206206 A2 1204351 A2 1204355 A2 0112033 A2 0112034 A2 0112038 A2	13-03-2001 13-03-2001 13-03-2001 23-04-2002 23-04-2002 22-05-2002 15-05-2002 15-05-2002 22-02-2001 22-02-2001 22-02-2001
US 6182555	B1	06-02-2001	NONE
US 5952032	A	14-09-1999	US
		5980969 A	09-11-1999

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TRADUCCIÓN FICIAL N . 03-468

Efectuada el día 30 de octubre del 2003, de un documento escrito en Inglés, al cual para su identificación se le estampa el sello de María del Pilar Iglesias, Traductora e Intérprete Oficial por Resolución No. 819 de abril de 1971 expedida por el Ministerio de Justicia de la República de Colombia.

02105.002265.PC

**MÉTODO PARA ENTREGAR SABOR FRESCO EN UNA
BEBIDA QUE SE SIRVE EN EL SITIO**

ANTECEDENTES DEL INVENTO

Campo del Invento

[0001] El presente invento se relaciona con un método para entregar un sabor fresco a una bebida que se sirve en el punto en donde se dispensa. Más particularmente, el presente invento se relaciona con un método en el que se incorporan compuestos de sabor en un componente separado y luego el componente separado de sabor se mezcla con otros componentes de la bebida en el momento en que se dispensa. Este invento específicamente se relaciona con un método en el que se incorporan compuestos de sabor a té en un componente edulcorante separado y luego el componente de sabor a té/edulcorante se mezcla con otros componentes de bebida de té helado en el momento en que se sirve.

Antecedentes Relacionados de la Técnica

M.P.I.
María del Pilar Iglesias
TRADUCTORA E
INTÉRPRETE OFICIAL
Resolución No. 819 de 1971

[0003] El té, *Camelia sinensis* se originó en la China alrededor de 220 A.C. y es disfrutado en todo el mundo debido a su singular sabor aromático (aroma) y gusto astringente. El té tradicionalmente se consume como una hoja (verde, oolong = variedad de té chino negro, o negro) con el que se hace una infusión en agua caliente, bien sea en forma suelta o en la forma de una bolsita de té. Como una alternativa para la infusión fresca, el té también se consume en forma de polvo instantáneo de té que puede estar mezclado con azúcar, ácido cítrico y sabores naturales, que se reconstituye con agua. El té instantáneo, sin embargo, aún cuando es muy conveniente utilizarlo, por lo general se percibe como un té de menor calidad que el que se utiliza en una infusión directamente de la hoja.

[0004] Por consiguiente, en restaurantes, cafeterías, servicio de café en oficinas, eventos deportivos y similares, v.g. "los que tienen lugar en los propios predios", por lo general la hoja se somete a infusión utilizando diversos recipientes para preparar bebidas frescas de infusión de té helado. Sin embargo, la consistencia y estabilidad microbiológica de esa infusión de té presentan mucha preocupación. Como resultado, se ha desarrollado un extracto de té muy concentrado que entrega té helado en forma más

conveniente que aquel que se produce de la infusión de una hoja de té, que entrega té en infusión de una naturaleza que no se logra del té en polvo y que regularmente produce una bebida consistente y segura de té helado. El concentrado contiene extracto de té, colores, sabores, preservativos y ácido y se diluye alrededor de 100 veces por parte del equipo dispensador que ha sido específicamente diseñado para reconstituir este concentrado de té para preparar una bebida de té helado en el sitio. También, como el té fresco de infusión por lo general se consume con endulzante, el equipo dispensador también permite que se le adicione a la bebida de té un edulcorante líquido en el rango de los niveles deseados. La Solicitud de Patente Norteamericana No. 09/965.829 y la Solicitud de Diseño Norteamericana No. 29/127.979 presentada el 1 de octubre de 2001 y el 16 de agosto de 2000 respectivamente, se relacionan con el equipo dispensador arriba mencionado; la revelación de cada una de estas solicitudes se incorpora a este documento por referencia.

[0005] El concentrado de té arriba mencionado se hace a través del procesamiento del té. En general, el procesamiento del té se refiere a un proceso de tratar o extraer la hoja del té para obtener el máximo rendimiento de los sólidos de

té con un mínimo de cambio negativo para la característica/sabor del té. Los sólidos del té se refieren a la materia seca del extracto de té del cual la mayoría de los componentes comprende polifenoles. El procesamiento del té típicamente consiste de cinco pasos, a saber: la extracción, despojar el aroma, descremar, concentrar y secar con atomización. El extracto de té concentrado arriba mencionado se prepara extrayendo, descremando y concentrando los sólidos del té. Las Solicitudes de Patente Norteamericanas No. 09/501.172, 09/500.850 y 09/500.895 todas presentadas el 9 de febrero de 2000 se relacionan con el extracto de té arriba descrito; la revelación de cada una de estas solicitudes se incorpora a este documento por referencia.

[0006] Después de seleccionar el material de la hoja natural, el té se extrae con agua mediante percolación o extracción en contracorriente. Después de la extracción, tiene lugar el paso de la descremada con el fin de remover los materiales insolubles que se forman en el extracto de té cuando se enfría; el extracto de té típicamente se enfría y centrifuga con el fin de remover el material insoluble que de otra manera sería responsable de la nubosidad o turbidez en la bebida final cuando ésta se reconstituye. El extracto descremado luego se concentra mediante evaporación bajo vacío

para producir un concentrado de té por lo general a un 20% o 75% de sólidos de té o a un porcentaje mayor. Alternativamente se pueden utilizar pasos adicionales de concentración tales como ósmosis inversa y secado por congelación. Los pasos de procesamiento del té y su manufactura se describen en detalle en "Tea and Soluble Tea Products Manufacture" por Nicholas Pintauro (Noyes Data Corporation, Park Ridge, NJ, 1977).

[0007] El concentrado de té arriba mencionado se estabiliza y se preserva y se puede utilizar en el equipo dispensador arriba mencionado para preparar bebidas de té helado en el sitio. Sin embargo, el presente invento ha descubierto que este concentrado de té no entrega los compuestos volátiles, aromáticos necesarios para entregar un sabor de té de infusión fresca después de aproximadamente 3-5 días.

[0008] Estos compuestos aromáticos, volátiles, colectivamente denominados como el aroma del té, son esenciales para la calidad y sabor del té. La composición del aroma del té es más bien compleja, puesto que consiste de aproximadamente 500-650 compuestos que incluyen hidrocarburos, aldehídos, alcoholes, ésteres, cetonas, lactonas, fenoles, ácidos y compuestos que contienen nitrógeno y azufre. Una lista

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completa de los compuestos del aroma del té descubiertos hasta la fecha se enumera en "TEA, Cultivation to Consumption", Wilson and Clifford, Chapman Hall, Londres (1992). Los científicos han encontrado difícil identificar los compuestos específicos clave que caracterizan el aroma del té y se cree que inclusive los compuestos presentes en cantidades muy pequeñas pueden jugar un papel clave en el aroma del té.

[0009] Los inventores actuales han descubierto que determinados componentes químicos críticos del aroma del té y de los sabores a té, en particular los aldehídos, son inestables en presencia de sólidos de té concentrados. Por consiguiente, estos componentes se degradan rápidamente en el concentrado de té arriba mencionado. El mecanismo exacto de degradación se desconoce; sin embargo, se ha mostrado analíticamente que los aldehídos se degradan en más de un 90% de su valor original en el lapso de una semana.

[0010] La Figura 1 ilustra las curvas de degradación para cuatro ejemplos. La primera muestra es un control que contiene tanto sólidos de té como sabores de té. La segunda muestra es idéntica a la primera muestra salvo en lo que respecta a que adicionalmente contiene EDTA y ácido

ascórbico, que son estabilizadores o antioxidantes bien conocidos. La tercera muestra contiene solamente edulcorante y sabores de té. La cuarta muestra es idéntica a la tercera muestra salvo en cuanto respecta a que adicionalmente contiene EDTA y ácido ascórbico. De la Figura 1 se desprende claramente que los aldehídos que en parte constituyen el sabor a té o el aroma a té se degradan rápidamente en presencia de los sólidos de té, independientemente de si se utiliza un estabilizador o no. Por otra parte, los aldehídos son relativamente estables cuando se almacenan solo con un edulcorante, independientemente de si se utiliza o no un estabilizador.

[0011] Por consiguiente, un concentrado de té, que contiene tanto sólidos de té como sabor a té o aroma de té tiene una vida de estantería de solamente unos días a una semana antes de que fallen en entregar el sabor de infusión fresca cuando se reconstituyen con agua y edulcorante. Esta corta vida en estantería no es aceptable para un producto que pretende utilizarse como método para preparar convenientemente bebidas de té helado con sabor a té de infusión fresca para ser dispensado en el sitio.

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BREVE DESCRIPCIÓN DE LOS DIBUJOS

[0012] La Figura 1 ilustra las curvas de degradación para los aldehídos en la presencia y ausencia de los sólidos de té y/o de estabilizadores.

[0013] La Figura 2 ilustra la estabilidad de los compuestos de sabor a través del tiempo cuando se mezclan con sucrosa líquida.

RESUMEN DEL INVENTO

[0014] El presente invento está dirigido a un método de entregar té con sabor a infusión fresca a una bebida de té helado en el sitio, en el lugar donde se va a dispensar, que comprende los pasos de: (a) proporcionar compuestos de sabor a té en una cantidad suficiente para entregar un sabor a té de infusión fresca separado de los sólidos de té antes del momento de la dispensación; y (b) mezclar los compuestos de sabor a té con los sólidos del té en el momento de la dispensación.

[0015] En determinadas incorporaciones preferidas del invento, los compuestos de sabor a té son sabor a té, aroma de té o ambos. En incorporaciones preferidas adicionales, los compuestos de sabor a té se proporcionan en una cantidad de

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separado de los sólidos del té antes del momento de la dispensación; y (b) mezclar los compuestos de sabor a té con los sólidos del té en el momento de la dispensación.

DESCRIPCIÓN DETALLADA DEL INVENTO

[0018] El presente invento soluciona el problema asociado con la degradación de los componentes de sabor inestables en la presencia de otros ingredientes de la bebida, como por ejemplo la degradación del aroma del té o del sabor a té en concentrado de té que contiene sólidos de té. De acuerdo con el presente invento, los compuestos de sabor se incorporan en un componente separado y luego el componente de sabor separado se mezcla con otros componentes de la bebida en el momento de la dispensación. Es importante anotar que el presente invento se aplica por lo general a todas las bebidas que se dispensan en el sitio. Cualquier componente inestable se puede entregar por separado, como por ejemplo en una bolsa de 5 galones adecuada para ser utilizada en algunos dispensadores, que luego se dosifica en forma fresca en el lugar de la dispensación en una bebida dada. El componente inestable se puede entregar solo o con otro(s) componente(s) con el(los) que exhiba estabilidad.

[0019] Los inventores actuales han encontrado este concepto particularmente adecuado para utilización con bebidas de té helado que se dispensan en el sitio. Más particularmente, los componentes químicos críticos del aroma a té o del sabor a té, como por ejemplo los aldehídos se combinan con un edulcorante y se dispensan simultáneamente con el mismo cuando se sirve la bebida de té helado en el sitio. Como los componentes de sabor son estables en un sistema edulcorante típico, se logra tanto la cantidad deseada de edulcorante como el nivel constante de sabor.

[0020] Tal como se utiliza en este documento, "aroma a té" se refiere colectivamente al grupo amplio de compuestos que ocurren naturalmente, y que son volátiles y aromáticos esenciales para la calidad del té y del sabor y que provienen directamente de la hoja o del extracto de la misma. Tal como aquí se utiliza, "sabores a té" se refiere a compuestos de fuente natural o fabricados artificialmente que se combinan en determinadas relaciones para simular sabor a té. Tal como aquí se utiliza, "compuestos de sabor a té" se refiere al aroma de té o a un componente del mismo, sabor a té o a un componente del mismo, o a una combinación de ambos. Tal como aquí se utiliza, "en el sitio" se refiere a todos los lugares donde se consumen bebidas y alimentos fuera de la casa, tales

como restaurantes, cafeterías, servicios de café de oficinas y lugares deportivos.

[0021] Los edulcorantes adecuados para utilización en cualquier incorporación del presente invento incluyen todos y cualesquiera edulcorantes típicamente utilizados para endulzar bebidas. Estos edulcorantes incluyen sucrosa, jarabe de maíz con alta fructosa, jarabe de maíz, miel y melaza, sin que estos impliquen limitación. En el presente invento también se puede utilizar cualquier otro endulzante nutritivo o artificial.

[0022] Típicamente, un edulcorante para utilización en el presente invento toma la forma de una solución contenida en una bolsa o similar que se pueda cargar a un dispensador dado o que se pueda enganchar en una parte remota y que se dispensa simultáneamente con otros componentes de la bebida. La bolsa o similar puede tomar cualquier forma adecuada o cualquier tamaño adecuado, típicamente puede ser una bolsa de 3 a 5 galones. Este edulcorante también típicamente se acidifica y preserva.

[0023] Cualquier ácido de grado alimenticio o combinación de ácidos de grado alimenticio que reduzca el pH del edulcorante a alrededor de 4.6 o menos, -el pH requerido para la

estabilidad patógena, se puede utilizar en el presente invento. Los ácidos adecuados incluyen ácido fosfórico, ácido cítrico, ácido láctico, ácido fumárico y una combinación de los mismos, sin que esto implique limitación.

[0024] Igualmente, cualquier preservativo típicamente utilizado en aplicaciones de bebidas y alimentos se puede utilizar en el presente invento para preservar el sistema edulcorante. Los preservativos idóneos incluyen benzoato, sorbato y combinaciones de los mismos, sin que estos impliquen limitación.

[0025] Quien conozca de ordinario esta técnica apreciará rápidamente que la acidificación y la preservación del componente edulcorante puede ser innecesaria si se toman otras medidas, por ejemplo, el componente edulcorante puede empacarse asépticamente o congelarse, obviando así la necesidad de acidificación y de preservación.

[0026] De acuerdo con la incorporación preferida del presente invento, el sabor a té o el aroma a té se proporciona en un edulcorante a un nivel que suministre la naturaleza y concentración apropiada del sabor a una bebida de té terminada. Para proporcionar una característica bien balanceada del perfil sabor/gusto, estos compuestos se deben

entregar dentro una determinada proporción en relación con los sólidos de té presentes en un extracto de té concentrado. El aroma a té o el sabor de té típicamente se dosifica en el edulcorante para entregar niveles en la bebida terminada dentro del rango de 1-150%, preferiblemente dentro del rango de 5-90%, y más preferiblemente dentro del rango de 15-50% del nivel de sólidos del té.

[0027] Es importante anotar que tanto el aroma a té como el sabor a té exhiben inestabilidad en presencia de sólidos del té. Por consiguiente, el presente invento contempla el suministro de aroma a té o de sabor a té, o ambos, en el sistema del edulcorante, en una cantidad apropiada para entregar un sabor a té de infusión fresca.

[0028] El aroma a té adecuado para inclusión con el componente edulcorante de acuerdo con el presente invento se puede obtener durante el procesamiento inicial del té, como por ejemplo a través de despojar el aroma, etc. Cualquier sabor a té es adecuado para ser incluido en el componente edulcorante de acuerdo con el presente invento. Estos sabores a té pueden ser naturales o artificiales (obtenidos técnicamente de compuestos que no se deriven naturalmente del té) o de una combinación de los mismos. Los sabores a té

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adecuados incluyen cualesquiera de los sabores actualmente disponibles ofrecidos por una serie de "casas de sabores" tales como Firmenich Inc. (Princeton, NJ), Virginia Dare (Brooklyn, NY), Takasago (Rockleigh, NJ), Quest International (Hoffman Estates, IL), Harmann & Reimer, Teterboro, NJ) y Givaudan Roure (Cincinnati, OH).

[0029] Basándose en las preferencias individuales de sabor, el nivel al que se puede endulzar una bebida de té helado variará considerablemente. Sin embargo, típicamente una bebida se puede endulzar en el rango de 2-25% de azúcar y más preferiblemente en el rango de 5-15% de azúcar. Los niveles reales de los compuestos de sabor/aroma en el edulcorante típicamente fluctúan entre 0.01-12% basándose en la bebida terminada, preferiblemente dentro del rango de 0.02-5%, y más preferiblemente entre 0.03-2%, dependiendo de la concentración del edulcorante. También es importante anotar que el aroma/sabor a té se puede proporcionar por separado, v.g. sin un edulcorante para una bebida no endulzada, para recombinación con otros componentes de la bebida en el punto de la dispensación. Por ejemplo, el sabor/aroma a té se puede diluir en un medio libre de edulcorante.

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Estabilidad de los Compuestos de Sabor en Sucrosa

[0030] La estabilidad de los componentes de sabor a través del tiempo cuando se mezclan con sucrosa líquida se demuestra en la Figura 2. Las ♦s, ■s y ▲s representan la cantidad total de compuestos volátiles de sabor (ppm) presentes en una solución de sucrosa de 55.4 brix a 40°F, 72°F y 90°F, respectivamente, a las semanas 0, 2, 4 y 12. Los cambios en los compuestos del aroma son muchos más lentos en la sucrosa comparados con los cambios que ocurren en el almacenamiento con sólidos de té concentrados, entregando así un sistema de producto con una vida en estantería significativamente mejorada.

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**MÉTODO PARA ENTREGAR SABOR FRESCO EN UNA
BEBIDA QUE SE SIRVE EN EL SITIO**

Reivindicaciones:

1. Un método para entregar un sabor a té de infusión fresca a una bebida de té helado en el sitio, en el lugar donde se dispensa, que comprende los pasos de:

(a) proporcionar compuestos de sabor a té en una cantidad suficiente para entregar sabor a té de infusión fresca separado de los sólidos del té antes del momento de la dispensación; y

(b) mezclar los compuestos del sabor a té con los sólidos del té en el momento en que se dispensa.

2. El método de la reivindicación 1 en donde los compuestos de sabor a té comprenden sabor a té, aroma a té o una combinación de los mismos.

3. El método de la reivindicación 1, en donde los compuestos de sabor a té son proporcionados en una cantidad de 0.01 a 12% por peso de la bebida de té helado terminado.

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TRANSCRIPTORA Y
INTERPRETE OFICIAL
Resolución de 19 de Noviembre

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4. El método de la reivindicación 3, en donde los compuestos de sabor a té se proporcionan en una cantidad de 0.02 a 5% por peso de la bebida de té helado terminado.

5. El método de la reivindicación 4, en donde los compuestos de sabor a té se proporcionan en una cantidad de 0.03 a 2% por peso de la bebida de té helado terminado.

6. El método de la reivindicación 1, en donde los compuestos de sabor a té se proporcionan en una cantidad entre 1 y 150% de una cantidad de sólidos de té en una bebida de té helado terminado.

7. El método de la reivindicación 6, en donde los compuestos de sabor a té se proporcionan en una cantidad entre 5 y 90% de una cantidad de sólidos de té en una bebida de té helado terminado.

8. El método de la reivindicación 7, en donde los compuestos de sabor a té se proporcionan en una cantidad entre 15 y 50% de una cantidad de sólidos de té en una bebida de té helado terminado.

9. El método de la reivindicación 1, en donde los compuestos de sabor a té se proporcionan junto con un edulcorante.

10. El método de la reivindicación 9, en donde el edulcorante se selecciona entre el grupo que consiste de sucrosa, jarabe de maíz de alta fructosa, jarabe de maíz, miel, melaza y combinaciones de los mismos.

11. El método de la reivindicación 9, en donde el edulcorante se acidifica y preserva.

12. El método de la reivindicación 11, en donde el edulcorante se acidifica con un acidulante seleccionado entre el grupo que consiste de ácido fosfórico, ácido cítrico, ácido láctico, ácido fumárico y combinaciones de los mismos.

13. El método de la reivindicación 11, en donde el edulcorante se preserva con un preservativo seleccionado entre el grupo que consiste de benzoato, sorbato y combinaciones de los mismos.

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14. El método de entregar sabor fresco a una bebida en el sitio, en el lugar donde se dispensa, que comprende los pasos de:

(a) proporcionar por lo menos un componente no estable de la bebida en el sitio, separado de los componentes de la bebida, en el que por lo menos un componente no estable sea inestable antes del momento de la dispensación; y

(b) mezclar por lo menos un componente no estable con los componentes de la bebida, en donde por lo menos un componente inestable es inestable en el momento de la dispensación.

15. El método de la reivindicación 14, en el cual por lo menos un componente inestable es un componente de sabor.

16. El método de la reivindicación 14, en donde por lo menos un componente inestable se suministra junto con un componente adicional de la bebida, en el que por lo menos un componente inestable es estable.

17. Una bebida de té helado en el sitio que tiene un sabor a té de infusión fresca que se hace mediante el proceso que comprende los pasos de:

- (a) suministrar compuestos de sabor a té en una cantidad suficiente para entregar sabor a té de infusión fresca separado de los sólidos del té antes del momento de la dispensación; y
- (b) mezclar los compuestos de sabor a té con los sólidos de té en el momento de la dispensación.

18. La bebida de té helado en el sitio de la reivindicación 17 en donde los compuestos de sabor a té comprenden sabor a té, aroma de té, o una combinación de los mismos.

19. La bebida de té helado en el sitio de la reivindicación 17, en donde los compuestos de sabor a té se suministran en una cantidad de 0.01 a 12% por peso de la bebida de té helado terminado.

20. La bebida de té helado en el sitio de la reivindicación 19, en donde los compuestos de sabor a té se suministran en una cantidad de 0.02 a 5% por peso de la bebida de té helado terminado.

21. La bebida de té helado en el sitio de la reivindicación 20, en donde los compuestos de sabor a té

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se suministran en una cantidad de 0.03 a 2% por peso de la bebida de té helado terminado.

22. La bebida de té helado en el sitio de la reivindicación 17, en donde los compuestos de sabor a té se suministran en una cantidad de sólidos de té entre 1 y 150% en una bebida de té helado terminado.

23. La bebida de té helado en el sitio de la reivindicación 22, en donde los compuestos de sabor a té se suministran en una cantidad de sólidos de té entre 5 y 90% en una bebida de té helado terminado.

24. La bebida de té helado en el sitio de la reivindicación 23, en donde los compuestos de sabor a té se suministran en una cantidad de sólidos de té entre 15 y 50% en una bebida de té helado terminado.

25. La bebida de té helado en el sitio de la reivindicación 17, en donde los compuestos de sabor a té se proporcionan junto con un edulcorante.

26. La bebida de té helado en el sitio de la reivindicación 25, en donde el edulcorante se selecciona entre el grupo que consiste de sucrosa, jarabe de maíz de

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alta fructosa, jarabe de maíz, miel, melaza y combinaciones de los mismos.

27. La bebida de té helado en el sitio de la reivindicación 25, en donde el edulcorante se acidifica y preserva.

28. La bebida de té helado en el sitio de la reivindicación 27, en donde el edulcorante se acidifica con un acidulante seleccionado entre el grupo que consiste de ácido fosfórico, ácido cítrico, ácido láctico, ácido fumárico y combinaciones de los mismos.

29. La bebida de té helado en el sitio de la reivindicación 27, en donde el edulcorante se preserva con un preservativo seleccionado entre el grupo que consiste de benzoato, sorbato y combinaciones de los mismos.

RESUMEN

[0031] El sabor fresco se entrega a una bebida en el sitio, en el lugar donde se dispensa. Los compuestos de sabor se incorporan en un componente separado y luego el componente de sabor separado se mezcla con otros componentes de la bebida en el momento en que se dispensa. Más específicamente, los

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compuestos de sabor a té se incorporan en un componente de edulcorante separado y luego el componente de sabor a té/ edulcorante se mezcla con otros componentes de la bebida de té helado en el momento en que se dispensa.

Es traducción fiel y completa efectuada por:

María del Pilar Iglesias
María del Pilar Iglesias
c.c. 41.339.183 de Bogotá

María del Pilar Iglesias
María del Pilar Iglesias
C. C. 41.339.183 de Bogotá
Intérprete Oficial según Resolución No. 819 " " 15 de Abril de 1971 del Ministerio de Justicia

The demand must be filed directly with the competent International Preliminary Examining Authority or, if two or more Authorities are designated, with the one chosen by the applicant. The full name or two-letter code of that Authority may be indicated by the applicant on the line below:

IPEA/EP

PCT

DEMAND

CHAPTER II

under Article 31 of the Patent Cooperation Treaty:
The undersigned requests that the international application specified below be the subject of international preliminary examination according to the Patent Cooperation Treaty and hereby elects all eligible States (except where otherwise indicated).

For International Preliminary Examining Authority use only

Identification of IPEA

Date of receipt of DEMAND

Box No. I IDENTIFICATION OF THE INTERNATIONAL APPLICATION

Applicant's or agent's file reference
02823.002265.PC

International application No.

International filing date (day/month/year)

(Earliest) Priority date (day/month/year)

PCT/US02/13433

30 APRIL 2002 (30.04.02)

30 APRIL 2001 (30.04.01)

Title of invention

METHOD FOR DELIVERING FRESH FLAVOR IN AN ON-PREMISE BEVERAGE

Box No. II APPLICANT(S)

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

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Teleprinter No.

Applicant's registration No. with the Office

State (that is, country) of nationality:
US

State (that is, country) of residence:
US

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

State (that is, country) of nationality:

State (that is, country) of residence:

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

State (that is, country) of nationality:

State (that is, country) of residence:



Further applicants are indicated on a continuation sheet.

Box No. III AGENT OR COMMON REPRESENTATIVE; ADDRESS FOR CORRESPONDENCE

The following person is ☒ agent ☐ common representativeand ☒ has been appointed earlier and represents the applicant(s) also for international preliminary examination.☐ is hereby appointed and any earlier appointment of (an) agent(s)/common representative is hereby revoked.☐ is hereby appointed, specifically for the procedure before the International Preliminary Examining Authority, in addition to the agent(s)/common representative appointed earlier.Name and address: *(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)*HOLOWACZ, Elizabeth F.
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Teleprinter No.

Agent's registration No. with the Office
42,667☐ Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.

Box No. IV BASIS FOR INTERNATIONAL PRELIMINARY EXAMINATION

Statement concerning amendments:*

1. The applicant wishes the international preliminary examination to start on the basis of:

☒ the international application as originally filed.the description ☐ as originally filed☐ as amended under Article 34the claims ☐ as originally filed☐ as amended under Article 19 (together with any accompanying statement)☐ as amended under Article 34the drawings ☐ as originally filed☐ as amended under Article 342. ☐ The applicant wishes any amendment to the claims under Article 19 to be considered as reversed.3. ☐ The applicant wishes the start of the international preliminary examination to be postponed until the expiration of 20 months from the priority date unless the International Preliminary Examining Authority receives a copy of any amendments made under Article 19 of a notice from the applicant that he does not wish to make such amendments (Rule 69.1(d)). *(This check-box may be marked only where the time limit under Article 19 has not yet expired.)*

* Where no check-box is marked, international preliminary examination will start on the basis of the international application as originally filed or, where a copy of amendments to the claims under Article 19 and/or amendments of the international application under Article 34 are received by the International Preliminary Examining Authority before it has begun to draw up a written opinion or the international preliminary examination report, as so amended.

Language for the purposes of international preliminary examination: ENGLISH

☒ which is the language in which the international application was filed.☐ which is the language of a translation furnished for the purposes of international search.☐ which is the language of publication of the international application.☐ which is the language of the translation (to be) furnished for the purposes of international preliminary examination.

Box No. V ELECTION OF STATES

The applicant hereby elects all eligible States *(that is, all States which have been designated and which are bound by Chapter II of the PCT)*

excluding the following States which the applicant wishes not to elect:

Box No. VI CHECK LIST

The demand is accompanied by the following elements, in the language referred to in Box No. IV, for the purposes of international preliminary examination:

- | | | |
|---|---|--------|
| 1. translation of international application | : | sheets |
| 2. amendments under Article 34 | : | sheets |
| 3. copy (or, where required, translation) of amendment under Article 19 | : | sheets |
| 4. copy (or, where required, translation) of statement under Article 19 | : | sheets |
| 5. letter | : | sheets |
| 6. other (specify) | : | sheets |

For International Preliminary Examining Authority use only

received	not received
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐

The demand is also accompanied by the item(s) marked below:

- | | |
|--|--|
| 1. ☒ fee calculation sheet | 5. ☐ statement explaining lack of signature |
| 2. ☐ original separate power of attorney | 6. ☐ sequence listing in computer readable form |
| 3. ☐ original general power of attorney | 7. ☐ other (specify) |
| 4. ☐ copy of general power of attorney; reference number, if any: | |

Box No. VII SIGNATURE OF APPLICANT, AGENT OR COMMON REPRESENTATIVE

Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such a capacity is not obvious from reading the demand).


Elizabeth F. Holowacz -Agent

For International Preliminary Examining Authority use only

- | | |
|--|---|
| 1. Date of actual receipt of DEMAND: | |
| 2. Adjusted date of receipt of demand due to CORRECTIONS under Rule 60.1(b): | |
| 3. ☐ The date of receipt of the demand is AFTER the expiration of 19 months from the priority date and item 4 or 5, below, does not apply. | ☐ The applicant has been informed accordingly. |
| 4. ☐ The date of receipt of the demand is WITHIN the period of 19 months from the priority date as extended by virtue of Rule 80.5 | |
| 5. ☐ Although the date of receipt of the demand is after the expiration of 19 months from the priority date, the delay in arrival is EXCUSED pursuant to Rule 82. | |

For International Bureau Use Only

Demand received from IPEA on:

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

(Rationalised Report according to the Notice of the President of the EPO published in the OJ11/2001)

Applicant's or agent's file reference 02823.002265.PC	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/M16)	
International application No. PCT/US 02/ 13433	International filing date (day/month/year) 30/04/2002	Priority date (day/month/year) 30/04/2001
International Patent Classification (IPC) or national classification and IPC A23F3/16		
Applicant PEPSI/LIPTON TEA PARTNERSHIP		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 2 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consists of a total of _____ sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 18/11/2002	Date of completion of this report 27/02/2003
Name and mailing address of the IPEA/  European Patent Office D-80298 Munich Tel. (+49-89) 2399-0, Tx: 523636 epmu d Fax: (+49-89) 2399-4465	Authorized officer CECCHINI R Tel. (+49-89) 2399 2828



**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/US 02/13438

~~84218~~

58

I. Basis of the report

The basis of this international preliminary examination is the application as originally filed.

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability

In light of the documents cited in the international search report, it is considered that the invention as defined in at least some of the claims does not appear to meet the criteria mentioned in Article 33(1) PCT, i.e. does not appear to be novel and/or to involve an inventive step (see international search report, in particular the documents cited X and/or Y and corresponding claim references).

REGISTRARIA Y OFICINA
Indicacion : 03035535 00000003 Folios: 58
Fecha (A3): 8533-10-33 17:39:10
Tramite : 011 PCT-PATENT 379 FASE INCI 411 PRESENTAC
Dependencia: 2020 DIVISION DE NUEVOS DECRETOS

REQUISITOS NECESARIOS PARA PRESENTACION Y AGILIZACION DEL TRAMITE

	USUARIO	RABICADOR
PATENTE DE INVENCION ()	()	()
MODELO DE UTILIDAD ()	()	()
- Indicación de que se solicita la concesión de una patente.	()	()
- Datos de identificación del solicitante o de la persona que presenta la solicitud.	()	()
- Descripción de la invención.	()	()
- Dibujos de ser estos pertinentes.	()	()
- Comprobante de Pago de las tasas establecidas.	()	()
COMPLETA ()	INCOMPLETA ()	()
DISEÑO INDUSTRIAL ()	()	()
- Indicación de que se solicita el registro de Diseño Industrial	()	()
- Datos de identificación del solicitante o de la persona que presenta la solicitud.	()	()
- Representación gráfica y fotográfica del Diseño Industrial o muestra del Material que incorpora el diseño.	()	()
- Comprobante de pago de las tasas establecidas	()	()
COMPLETA ()	INCOMPLETA ()	()
ESQUEMA DE TRAZADO ()	()	()
- Indicación de que solicita el registro de un Esquema de trazado.	()	()
- Datos de identificación del solicitante o de la persona que presenta la solicitud.	()	()
- Representación gráfica del esquema de trazado	()	()
- Comprobante de pago de las tasas establecidas.	()	()
COMPLETA ()	INCOMPLETA ()	()

Firma Responsable:

Fecha:



Handwritten: 167/60

2020
Bogotá, D.C.,

Doctor:
ALVARO CORREA ORDOÑEZ
Apoderado
Pepal/Lipton Tea Partnership

Oficio N° 11182

ASUNTO:	Radicación N°	03-096838
	Solicitud internacional	PCT/US02/13433
	Fecha inicio fase nacional	30/11/2003
	Trámite	011
	Evento	379
	Actuación	430
	Folios	001

Como resultado del examen de forma, realizado con fundamento en el artículo 38 de la Decisión 486 de la Comisión de la Comunidad Andina, artículo 27 del Tratado de Cooperación en Materia de Patentes (PCT), regla 51 bis del Reglamento y Circular Única de la Superintendencia de Industria y Comercio, se le comunica que:

- ☐ La solicitud no contiene la copia del documento en que consta la cesión del derecho a la patente del inventor al solicitante o a su causante. (Art. 26-k) Decisión 486).
- ☐ La solicitud no contiene el poder debidamente otorgado, con el lleno de los requisitos exigidos por los artículos 63 y subsecuentes del Código de Procedimiento Civil. Adicionalmente, deberá presentar el documento que acredita la existencia y representación legal de la sociedad solicitante, cuando ésta fuere persona jurídica.

En cumplimiento de lo dispuesto por el artículo 39 de la Decisión 486, se le requiere para que dentro del término de dos meses siguientes a la fecha de notificación del presente oficio, complete los requisitos anteriormente enunciados. En caso de no dar cumplimiento al presente requerimiento, la solicitud se considerará abandonada y perderá su prelación.

Notifíquese el presente oficio conforme a lo dispuesto en el numeral 5.2, literal e), del capítulo quinto del título primero de la Circular Única N° 10 de 2001.

ALIX CARMENZA CESPEDES DE VERGEL
Jefe de la División de Nuevas Creaciones.

El anterior requerimiento fue notificado por fijación en lista de fecha 1-9 DIC. 2003.