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(54) Title: FRAGRANCE COMPOSITIONS AND USES THEREOF

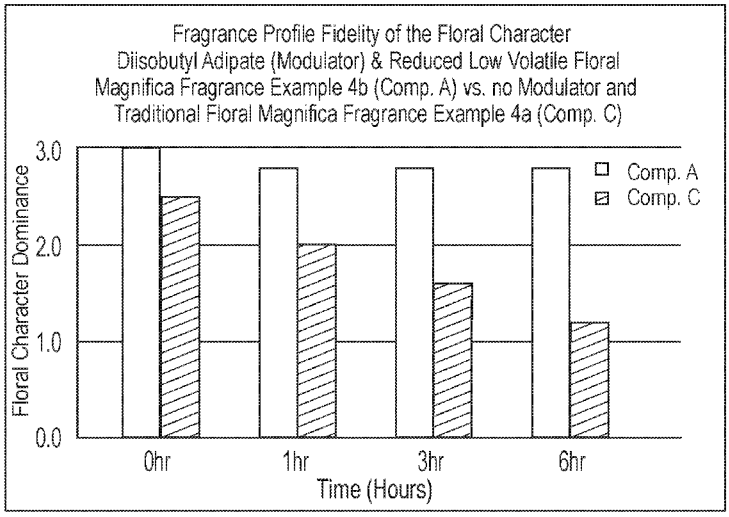


Fig. 5

(57) Abstract: The presnt invention relates to a composition having improved or enhanced fidelity and/or longevity of the fragrance profile, comprising from about 10 wt% to about 30 wt% of low volatile fragrance materials having a vapor pressure less than 0.001 Torr (0.000133 kPa) at 25C, wherein the wt% is relative to the total weight of the fragrance component, and at least one substantially non-odorous fragrance modulator. The invention also relates to methods of use of the compositions for perfuming suitable substrates, including hard surfaces and body parts, particularly skin and hair.

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FRAGRANCE COMPOSITIONS AND USES THEREOF

FIELD OF THE INVENTION

The present invention relates to the field of perfumery. In particular, the compositions of the present invention have improved or enhanced fidelity and/or longevity of the fragrance profile.

BACKGROUND OF THE INVENTION

It has been a long tradition that highly skilled perfumers carefully select fragrance materials to blend into a composition with the goal of achieving an overall specific fragrance profile of strength and character. In so doing, they need to bear in mind differences in the individual character and volatility of the fragrance materials that are the components of the full fragrance. Conventional perfuming compositions have fragrance profile characterized by a high amount of the low volatile fragrance materials and lower amounts of the volatile fragrance materials. The low volatile fragrance materials are known as "base notes", while the volatile fragrance materials can be further divided into high volatile fragrance materials, identified as "top or head notes", and medium or moderate volatile fragrance materials, identified as "middle or heart notes". Perfumers typically classify fragrance materials as a base, heart or top note according to their specific characters. Unfortunately, there is no universal convention because this type of classification scheme tends to be subjective.

The top notes tend to smell citrusy, green, light, fresh, and comprise typically from about 0.1 wt% to 40 wt% relative to the total weight of the perfume formulation. Typically, perfumers use top notes to deliver the initial impression of the composition but do not rely on them to contribute much to its overall fragrance profile over time after application.

Middle notes are associated with floral aromas (*e.g.*, jasmin, rose), fruity, marine, aromatic or spicy characters and make up from about 0.1 wt% to about 60 wt% relative to the total weight of the perfume formulation. Generally, they become dominant to the untrained nose from several minutes after application and can last up to a few hours afterwards. Base or bottom notes can exist at greater than 30 wt% relative to the total weight of the perfume formulation. They are characterized as animalic, woody, sweet, amber or musky. Typically, they are not perceived as dominant until several hours after the application of the perfume or during "dry-down". Base notes are relied upon at high levels to improve the strength of the overall fragrance profile over time and replace the heart notes when these are declining. The consequence of using base notes at high levels is that they impart particular odour characters, such as for example,

musky, woody, ambery, warm and sweet, which overpower and dominate the fragrance character over time. Some of these base notes have become such common materials (*e.g.*, ethylene brassylate, Galaxolide, etc.) that many fragrance dry-downs appear repetitive, boring, non-memorable and un-interesting to consumers. However, if base notes are reduced or excluded then the fragrance strength weakens over time and does not last for a sufficient duration.

One problem with the above classification approach is that due to the somewhat subjective nature of characters, there is inconsistency with the construction of fragrance compositions. Another problem is that consumers tend to complain that middle notes tend to fade too quickly after application of the composition and that the character of the middle notes are undesirably altered by the presence of large amounts of the base notes during the period known as the "dry-down" phase.

Thus, it is desirable to provide new rules for objectively classifying fragrance materials according to their volatility using their vapor pressures defined at a suitable temperature, instead of their characters. The new rules operate irrespective of the perfumers performing the classification. In particular, the new rules classify the fragrance materials into low volatile fragrance materials or volatile fragrance materials for formulating into fragrance mixtures. It is further desirable to have a composition which retains a significant portion of its initial fragrance profile over time, hence, the floral, fruity, aromatic or spicy characters attributable to the volatile fragrance materials are perceived for many hours after application. It is also desirable that the fragrance profile of the composition remains noticeable to the consumer over longer periods of time. It is further desirable to be able to create new to the world fragrance profiles wherein one, or several, well-recognized volatile fragrance materials characters, are maintained over time.

It is therefore a challenge to formulate a composition having improved longevity of the fragrance profile, preferably characters attributable to the volatile fragrance materials, without having the fragrance profile substantially altered over time by the presence of the low volatile fragrance materials in the composition. One approach for addressing the challenge has been to formulate with higher proportions of perfume raw materials with a low volatility and which are therefore more substantive on the substrate. However, as discussed above, this restricts the type of fragrance profile that can be achieved over time.

Previous attempts to overcome these problems have been through the use of various "fixatives" or "modulators" to retard the evaporation of the more volatile fragrance ingredients present in fragrance compositions. For instance, U.S. Patent Publication No. 2011/0104089A1 (Symrise) describes certain compositions containing neopentyl glycol diisononanoate as a fixative for top note perfume oils by increasing their adhereance to skin and hair. U.S. Patent

Publication No. 2011/0091404 (Symrise) discloses the use of *N*-hexadecyl n-nonanoate and *N*-octadecyl n-nonanoate as fixatives of fragrance substances, particularly the readily volatile top notes, by lowering their vapor pressure to allow for a time-delayed release of the perfume oil components from a composition. U.S. Patent No. 7,196,052 (Takasago Int. Corp.) describes fragrance compositions containing glycerol ether derivatives as fixatives or fragrance note-improving agent. EP Patent Publication No. 616800A2 (Givaudan) discloses odorant compositions containing panethenol ethyl ether having improved prolonged diffusion of the perfume materials from the skin, without notably modifying the olfactive note of the product. U.S. Patent No. 4,110,626 (Shiseido) describes the use of aliphatic dibasic acid diester as "perfume controlling agent" for improved fixing effect on fragrance component. On the other hand, PCT Publication No. WO2014/155019 (LVMH) describes aliphatic ether derivatives to increase the stability of alcoholic fragrance composition and more particularly to preserve the original olfactive notes.

There are at least one of several drawbacks to the above described use of fixatives or modulators in fragrance compositions. Firstly, these attempts, while disclosing compositions that retain the perfume by way of fixatives or modulators, do not teach the substantive reduction in the levels of low volatile fragrance materials in the fragrance compositions or the particular type of fragrance materials to include for delivering the benefits of improved longevity of the fragrance profile, preferably the characters attributable from the volatile fragrance materials. Secondly, the use of fixatives or modulators in these attempts mostly shows effects on single perfume raw materials ("PRMs"), which are often not observed in a fragrance composition of a mixture of fragrance materials where a number of such fragrance materials are competing with each other to interact with said fixative or modulator. They do not teach how to formulate with fixatives or modulators in mixtures, which is not trivial. On the other hand, for other attempts that do describe mixtures, they have different fragrance design criteria and are directed to specific preferred fixative materials or modulators.

As such the previous attempts still have limitations, and do not adequately teach how to provide a composition wherein the prolonged fragrance profile, preferably the characters attributable to the volatile fragrance materials, are noticeable over time, preferably very long durations of time. Therefore, there remains a need for a composition that is perceived by the consumer over long, preferably very long, duration after application. There is also a need for a composition wherein the characters attributable to the volatile fragrance materials remains significantly consistent from its intial impression to the end. It is desirable that the compositions

are relevant to fragrances derived from volatile fragrance materials having a vapor pressure greater than or equal to 0.001 Torr (0.000133 kPa) at 25 °C.

SUMMARY OF THE INVENTION

The inventors have discovered new rules for objectively classifying fragrance materials according to their volatility, using their vapor pressures defined at a suitable temperature, into low volatile fragrance materials and volatile fragrance materials for formulating into fragrance mixtures. In a first aspect, the present invention is directed to a composition comprising a fragrance component present in an amount of from about 0.04 wt% to about 30 wt%, relative to the total weight of the composition, and wherein the fragrance component comprises at least one low volatile fragrance material having a vapor pressure less than 0.001 Torr (0.000133 kPa) at 25 °C and the low volatile fragrance material is present in an amount of from about 10 wt% to about 30 wt%, relative to the total weight of the fragrance component, and at least one substantially non-odorous fragrance modulator, as described herein below, present in an amount of from about 0.1 wt% to about 20 wt%, relative to the total weight of the composition.

In another aspect, the present invention is directed to a composition wherein the fragrance component further comprising one or more volatile fragrance materials having a vapor pressure greater than or equal to 0.001 Torr (0.000133 kPa) at 25 °C and present in the amount of from about 70 wt% to about 99.9 wt%, relative to the total weight of the fragrance component.

In yet another aspect, the present invention is further directed to a method of modifying or enhancing the odour properties of a body surface with a composition of the present invention, by contacting or treating the body surface with the composition.

These and other features of the present invention will become apparent to one skilled in the art upon review of the following detailed description when taken in conjunction with the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

While the specification concludes with claims particularly pointing out and distinctly claiming the invention, it is believed that the invention will be better understood from the following description of the accompanying figures wherein:

Figure 1 provides the panel test results of perceived fragrance profile, particularly improved fragrance profile longevity of Composition P comprising Eugenol fragrance material and Propylene Glycol Propyl Ether (PGPE) substantially non-odorous fragrance modulator as

compared to Composition Q, a control absent of a substantially non-odorous fragrance modulator (PGPE), and as a function of time elapsed since application of the composition.

Figure 2 provides the panel test results of perceived fragrance profile, particularly improved fragrance profile longevity of Composition R comprising Dimethyl Benzyl Carbinyl Acetate fragrance material and Diisobutyl Adipate substantially non-odorous fragrance modulator as compared to Composition S, a control absent of a substantially non-odorous fragrance modulator (Diisobutyl Adipate), and as a function of time elapsed since application of the composition.

Figure 3 provides the panel test results of the fragrance profile longevity, particularly intensity of the character attributable to the volatile fragrance materials, of Composition A comprising Reduced Low Volatile Floral Magnifica Fragrance Example 4b, and Modulator A (*i.e.*, Diisobutyl Adipate substantially non-odorous fragrance modulator) as compared to Composition C, comprising Traditional Floral Magnifica Fragrance Example 4a, and absent of a substantially non-odorous fragrance modulator, and as a function of time elapsed since application of the composition.

Figure 4 provides the panel test results of the fragrance profile longevity, particularly intensity of the character attributable to the volatile fragrance materials, of Composition A comprising Reduced Low Volatile Muguesia Magnifica Fragrance Example 5b, and Modulator A (*i.e.*, Diisobutyl Adipate substantially non-odorous fragrance modulator) as compared to Composition C, comprising Traditional Muguesia Magnifica Fragrance Example 5a, and absent of a substantially non-odorous fragrance modulator, and as a function of time elapsed since application of the composition.

Figure 5 provides the panel test results of fragrance profile fidelity, particularly the dominance of the floral character attributable to the volatile fragrance materials, of Composition A comprising Reduced Low Volatile Floral Magnifica Fragrance Example 4b, and Modulator A (*i.e.*, Diisobutyl Adipate substantially non-odorous fragrance modulator) as compared to Composition C, comprising Traditional Floral Magnifica Fragrance Example 4a, and absent of a substantially non-odorous fragrance modulator, and as a function of time elapsed since application of the composition.

Figure 6 provides the panel test results of fragrance profile fidelity, particularly the dominance of the floral character attributable to the volatile fragrance materials, of Composition A comprising Reduced Low Volatile Floral Muguesia Fragrance Example 5b, and Modulator A (*i.e.*, Diisobutyl Adipate substantially non-odorous fragrance modulator) as compared to Composition C, comprising Traditional Muguesia Magnifica Fragrance Example 5a, and absent

of a substantially non-odorous fragrance modulator, and as a function of time elapsed since application of the composition.

Figure 7 provides the panel test results of fragrance profile fidelity, particularly the dominance of the floral character attributable to the volatile fragrance materials, of Composition J comprising Reduced Low Volatile Floral Magnifica Fragrance Example 4b, and Modulator D (*i.e.*, PPG-11 Stearyl Ether substantially non-odorous fragrance modulator) as compared to Composition L, comprising Traditional Floral Magnifica Fragrance Example 4a, and absent of a substantially non-odorous fragrance modulator, and as a function of time elapsed since application of the composition.

Figure 8 provides the panel test results of fragrance profile fidelity, particularly the dominance of the floral character attributable to the volatile fragrance materials, of Composition J comprising Reduced Low Volatile Muguesia Magnifica Fragrance Example 5b, and Modulator D (*i.e.*, PPG-11 Stearyl Ether substantially non-odorous fragrance modulator) as compared to Composition L, comprising Traditional Muguesia Magnifica Fragrance Example 5a, and absent of a substantially non-odorous fragrance modulator, and as a function of time elapsed since application of the composition.

Figure 9 provides the evaporation profile results for a representative component (*i.e.*, indole) of test composition (MOD1) comprising a volatile fragrance mixture and an Isoceteth-15 substantially non-odorous fragrance modulator as compared to a control composition (REF), and as a function of time elapsed since application of the composition.

Figure 10 provides the evaporation profile results for a representative component (*i.e.*, indole) of test composition (MOD2) comprising a volatile fragrance mixture and a DL-Panthenol substantially non-odorous fragrance modulator as compared to a control composition (REF), and as a function of time elapsed since application of the composition.

Figure 11 provides the evaporation profile results for a representative component (*i.e.*, indole) of test composition (MOD3) comprising a volatile fragrance mixture and PPG-11 Stearyl Ether as compared to a control composition (REF), and as a function of time elapsed since application of the composition.

Figures 12(a)(i) and 12(a)(ii) provide the headspace chromatography of the fragrance profile of Composition L, comprising Traditional Muguesia Magnifica Fragrance Example 4a, and absent of a substantially non-odorous fragrance modulator as a function of time elapsed, after 10 mins and 60 mins evaporation, respectively.

Figures 12(b)(i) and 12(b)(ii) provide the headspace chromatography of the fragrance profile of Composition J comprising Reduced Low Volatile Muguesia Magnifica Fragrance

Example 4b, and Modulator D (a PPG-11 Stearyl Ether_substantially non-odorous fragrance modulator) as a function of time elapsed, after 10 mins and 60 mins evaporation, respectively.

DETAILED DESCRIPTION OF THE INVENTION

Definitions

As used herein, articles such as "a" and "an" when used in a claim, are understood to mean one or more of what is claimed or described.

As used herein, the terms "include", "includes" and "including" are meant to be non-limiting.

As used herein, the term "body splash" means a body care formulation that is applied to the body. Typically, the body splash is applied to the body after bathing and provides a subtle hint of scent to the body. Body splashes are commonly used by consumers who prefer less strong fragrance compositions. A body splash may comprise an ethanol-free composition according to the present invention which comprises from 0.2-8 wt%, relative to the total weight of the composition, of a fragrance component. The body splash may further comprise alkyl polyglucosides as non-ionic surfactants.

As used herein, the term "body spray" means a formulation comprising fragrance materials intended to be applied to the body to prevent or mask body odor caused by the bacterial breakdown of perspiration on the body (*e.g.*, armpits, feet, and other areas of the body). The body spray may also provide a fragrance expression to the consumers. Typically, body spray compositions are applied as an aerosol spray in an effective amount on the skin of a consumer.

As used herein, the term "composition" includes a fine fragrance composition intended for application to a body surface, such as for example, skin or hair, *i.e.*, to impart a pleasant odour thereto, or cover a malodour thereof. They are generally in the form of perfume concentrates, perfumes, parfums, eau de parfums, eau de toilettes, aftershaves, or colognes. The fine fragrance compositions may be an ethanol-based composition. The term "composition" may also include a cosmetic composition, which comprises a fragrance material for the purposes of delivering a pleasant smell to drive consumer acceptance of the cosmetic composition. The term "composition" may also include body splashes or body sprays. The term "composition" may also include cleaning compositions, such as fabric care composition or home care compositions, including air care compositions (*e.g.*, air freshners), for use on clothing or other substrates such as hard surfaces (*e.g.*, dishes, floors, countertops). Additional non-limiting examples of "composition" may also include facial or body powder, foundation, deodorant, body/facial oil,

mousse, creams (*e.g.*, cold creams), waxes, sunscreens and blocks, bath and shower gels, lip balms, self-tanning compositions, masks and patches.

As used herein, the term "consumer" means both the user of the composition and the observer nearby or around the user.

As used herein, the terms "fragrance" and "perfume" are used interchangeably to designate the component in the composition that is formed of fragrance materials, *i.e.*, ingredients capable of imparting or modifying the odour of skin or hair or other substrate.

As used herein, the term "fragrance material" and "fragrance materials" relates to a perfume raw material, or a mixture of perfume raw materials, that are used to impart an overall pleasant odour or fragrance profile to a composition. "Fragrance materials" can encompass any suitable perfume raw materials for fragrance uses, including materials such as, for example, alcohols, aldehydes, ketones, esters, ethers, acetates, nitriles, terpene hydrocarbons, nitrogenous or sulfurous heterocyclic compounds and essential oils. However, naturally occurring plant and animal oils and exudates comprising complex mixtures of various chemical components are also know for use as "fragrance materials". The individual perfume raw materials which comprise a known natural oil can be found by reference to Journals commonly used by those skilled in the art such as "Perfume and Flavourist" or "Journal of Essential Oil Research", or listed in reference texts such as the book by S. Arctander, *Perfume and Flavor Chemicals*, 1969, Montclair, New Jersey, USA and more recently re-publisehd by Allured Publishing Corporation Illinois (1994). Additionally, some perfume raw materials are supplied by the fragrance houses (Firmenich, International Flavors & Fragrances, Givaudan, Symrise) as mixtures in the form of proprietary speciality accords. Non-limiting examples of the fragrance materials useful herein include pro-fragrances such as acetal pro-fragrances, ketal pro-fragrances, ester pro-fragrances, hydrolyzable inorganic-organic pro-fragrances, and mixtures thereof. The fragrance materials may be released from the pro-fragrances in a number of ways. For example, the fragrance may be released as a result of simple hydrolysis, or by a shift in an equilibrium reaction, or by a pH-change, or by enzymatic release.

As used herein, the term "fragrance profile" means the description of how the fragrance is perceived by the human nose nose at any moment in time. The fragrance profile may change over time. It is a result of the combination of the low volatile fragrance materials and the volatile fragrance materials, if present, of a fragrance. A fragrance profile is composed of 2 characteristics: 'intensity' and 'character'. The 'intensity' relates to the perceived strength whilst 'character' refers to the odour impression or quality of the perfume, *i.e.*, fruity, floral, woody, *etc.*

As used herein, the terms "modulator", and "fragrance modulator" are used interchangeably to designate an agent having the capacity to affect the fragrance profile, such as for example, by impacting the fragrance materials' evaporation rate. The modulator may mediate its effect by lowering the vapor pressure of the fragrance materials and increasing their adherence to the substrate (skin and/or hair) thus ensuring a longer-lasting impression of the fragrance. By incorporating the modulator, it is desired that the fragrance profile, preferably the fragrance characters attributable to the volatile fragrance materials, of the composition can be perceived by a consumer, over a longer period of time, as compared to the same perception in the absence of the modulator. Suitable examples of the modulator are provided herein below. However, as discovered by the inventors, simply adding modulators to a traditionally constructed fragrance composition will not ensure an improved or enhanced fidelity and/or longevity of the fragrance profile over time. Instead, it is only when the modulators are added in the presence of reduced levels of low volatile fragrance materials can the improved or enhanced fidelity and/or longevity of the fragrance profile, preferably attributable to the volatile fragrance materials, be perceived as compared to control composition absent the modulators and low levels of low volatile fragrance materials.

As used herein, the term "substantially non-odorous" means an agent that does not impart an odour of its own when added into a composition of the present invention. For example, a "substantially non-odorous fragrance modulator" does not impart a new odour that alters the character of the fragrance profile of the composition to which it is added. The term "substantially non-odorous" also encompasses an agent that may impart a minimal or slight odour of its own when added into a composition of the present invention. However, the odour imparted by the "substantially non-odorous fragrance modulator" is generally undetectable or tends to not substantively alter the character of the fragrance profile of the composition to which it is added initially or preferably over time. Furthermore, the term "substantially non-odorous" also includes materials that are perceivable only by a minority of people or those materials deemed anosmic to the majority of people. Furthermore, the term "substantially non-odorous" also includes materials that may, from particular suppliers, contain an odour due to impurities, such as when the materials contain the impurities at not more than about 5 wt%, preferably not more than 1 wt%, often even not more than 1 part per million (ppm). These impurities maybe removed by purification techniques known in the art as required to make them suitable for use in fragrance compositions of the present invention.

As used herein, the term "vapor pressure" means the partial pressure in air at a defined temperature (*e.g.*, 25 °C) and standard atmospheric pressure (760 mmHg or 101.325 kPa) for a

given chemical species. It defines a chemical species' desire to be in the gas phase rather than the liquid or solid state. The higher the vapor pressure the greater the proportion of the material that will, at equilibrium, be found in a closed headspace. It is also related to the rate of evaporation of a fragrance material which is defined in an open environment where material is leaving the system. The vapor pressure is determined according to the reference program Advanced Chemistry Development (ACD/Labs) Software Version 14.02, or preferably the latest version update).

It is understood that the test methods that are disclosed in the Test Methods Section of the present application must be used to determine the respective values of the parameters of Applicants' inventions as described and claimed herein.

In all embodiments of the present invention, all percentages are by weight of the total composition, as evident by the context, unless specifically stated otherwise. All ratios are weight ratios, unless specifically stated otherwise, and all measurements are made at 25 °C, unless otherwise designated.

Compositions

The inventors have surprisingly discovered a revolutionary new way of objectively classifying fragrance materials and then formulating those fragrance materials into complex fragrance mixtures having improved fragrance profile fidelity and longevity. Essentially, the solution is to formulate the fragrance materials having low levels (10 to 30 wt% relative to the total weight of the fragrance component) of the low volatile fragrance materials in the presence of a substantially non-odorous fragrance modulator to provide for improved or enhanced longevity and/or fidelity of the fragrance profile, particularly amongst character attributable to volatile fragrance materials. In fact, the inventors have discovered that in the complete absence of the low volatile fragrance materials or at very low levels of the low volatile fragrance materials (less than 10 wt%) there is insufficient character complexity and roundness of the fragrance profile for consumer acceptance of the composition. Therefore, the level of low volatile fragrance materials needs to be carefully chosen between 10 and 30 wt% to balance consumer acceptance and the desired improved or enhanced fidelity and/or longevity of the fragrance profile, particularly amongst characters attributable to volatile fragrance materials.

Specifically, in one aspect, the present invention provides for a composition comprising a fragrance component present in an amount of from about 0.04 wt% to 30 wt%, preferably 1 wt% to about 30 wt%, more preferably less than about 25 wt%, yet more preferably less than about 20 wt%, yet even more preferably less than about 15 wt%, yet even more preferably less than about 10 wt% or most preferably less than about 8 wt%, relative to the total weight of the composition.

Alternatively, the fragrance component is present in an amount of from about 0.04 wt%, 0.3 wt%, 1 wt%, 2 wt%, 5 wt%, 8 wt% or 10 wt%, to about 15 wt%, 20 wt%, 25 wt% or 30 wt%, relative to the total weight of the composition.

(i) Low Volatile Fragrance Materials

Further, the fragrance component comprises at least one low volatile fragrance material having a vapor pressure less than 0.001 Torr (0.000133 kPa) at 25 °C. Unlike previous proposed classification of fragrance materials according to their characters, which tends to be subjective, the inventors have established new rules to objectively classifying fragrance materials into low volatile fragrance materials or volatile fragrance materials according to their vapor pressure. For example, methyl dihydrojasmonate which has been typically classified as a heart note under the traditional approach is now classified as a low volatile fragrance material because it has a vapor pressure of 0.00071000 Torr (0.000095 kPa) at 25 °C. This new classification better reflects methyl dihydrojasmonate's technical properties of slow evaporation and long lasting properties.

Preferably, the composition according to the present invention comprises at least 3 low volatile fragrance materials, or least 5 low volatile fragrance materials, or at least 7 low volatile fragrance materials. It is preferred that the composition of the present invention comprises low, preferably very low levels of the low volatile fragrance materials than would traditionally be present in a composition. As such, compositions of the present invention can comprise low levels of the low volatile fragrance material present in an amount of from about 10 wt% to about 30 wt%, preferably less than about 30 wt%, or preferably less than about 28 wt%, or preferably less than about 25 wt%, relative to the total weight of the fragrance component. Alternatively, the low volatile fragrance material is present in an amount of from about 10 wt%, 12 wt%, 15 wt%, 20 wt%, 25 wt% or 30 wt%, relative to the total weight of the fragrance component. If there is more than one low volatile fragrance materials, then the ranges provided hereinabove cover the total of all of the low volatile fragrance materials. Preferable examples of low volatile fragrances materials are provided in Table 1 below.

ii) Fragrance Modulators

The composition further comprises at least one substantially non-odorous fragrance modulator as described herein below. Preferable examples of the substantially non-odorous fragrance modulators are provided in Table 3 below.

Preferably, the substantially non-odorous fragrance modulator is present in an amount of from about 0.1 wt% to about 20 wt%, preferably from about 0.5 wt% to about 18 wt% or more preferably from about 2.5 wt% to about 15 wt% or combinations thereof, relative to the total

weight of the composition. Alternatively, the substantially non-odorous fragrance modulator is present in an amount of from about 0.1 wt%, 0.5 wt% or 2.5 wt% to about 15 wt%, 18 wt% or 20 wt%, relative to the total weight of the composition. If there is more than one substantially non-odorous fragrance modulators, then the ranges provided hereinabove cover the total of all of the substantially non-odorous fragrance modulators.

The substantially non-odorous modulator of the present invention may be a liquid at temperatures lower than 100 °C, preferably at ambient temperature. The substantially non-odorous modulators may be fully miscible with the PRMs to form a single phase liquid. However, if the PRMs are not entirely miscible, or are immiscible, then co-solvents (*e.g.*, dipropylene glycol (DPG), triethyl citrate, or others as well known to those skilled in the art) can be added to aid in the solubility of the PRMs.

Preferably, the composition according to the present invention, wherein the substantially non-odorous fragrance modulator does not comprise: (i) isocetyl alcohol, PPG-3 myristyl ether, neopentyl glycol diethylhexanoate or their mixtures; and (ii) n-hexadecyl n-nonanoate, n-octadecyl n-nonanoate or their mixtures.

Preferably, the composition according to the present invention, wherein the substantially non-odorous fragrance modulator and fragrance component are present in a weight ratio from about 3:1 to about 1:3.

The inventors have surprisingly discovered that by reducing the levels of the low volatile fragrance materials, and preferably increasing the levels of the volatile fragrance materials, in a composition, the effect of the substantially non-odorous modulator on the fragrance profile, particularly the portion of the fragrance profile attributable to the volatile fragrance materials, can be improved. By "improved" it is meant that the fragrance profile of the composition, particular the components contributed by the volatile fragrance materials, can be pereceived by the consumer at later time points such as for example, 2 hours, 3 hours, 4 hours, 5 hours, 6 hours, 7 hours, 8 hours, 10 hours, and possibly all the way up to 24 hrs after application as compared to controls, *i.e.*, compositions containing normal or high levels of the low volatile fragrance materials and the substantially non-odorous modulator or compositions containing reduced levels of low volatile fragrance materials (*i.e.*, at least greater than 30 wt% relative to the total weight of the fragrance component) and no substantially non-odorous modulator.

Alternatively, by "improved" it can mean that the olfactive perception, by the consumer, of the fidelity of the fragrance profile contributed by the volatile fragrance materials is markedly increased or enhanced as compared to the controls. "Increased" or "enhanced" means that the consumer perceives the fragrance profile, preferably the characters attributable to the volatile

fragrance materials, of a composition as not changing from its initial impression or the changes are minimal from when the composition was first applied to when it dissipates. In other words, the fidelity of the perceived fragrance profile of the composition is maintained over time.

Typically, it has been very difficult to formulate fragrance profile, particularly a floral or aromatic/spicy character of the volatile fragrance materials, which can last for very long periods, especially throughout the life of the composition after its application, without giving way to the stronger characters of the low volatile fragrance materials. The present invention of reducing levels of the low volatile fragrance materials with the substantially non-odorous modulators will allow perfumers to increase the perception of the volatile perfume materials, to create new characters, and to address a re-occurring consumer issue that particular fragrance profiles, particularly those having floral or aromatic/spicy characters, do not last long enough.

Such a solution as presented herein provides enhanced or improved fidelity and/or longevity of the fragrance profile, particularly amongst those composition formulated from volatile fragrance materials having medium to high vapor pressure ranges (greater than or equal to 0.001 Torr (0.000133 kPa) at 25 °C), without having to rely on the presence or significant amounts of the low volatile fragrance materials, which has a tendency to overpower and alter the overall character of a fragrance, particularly over time. As a result, the present invention provides the perfumer options to formulate compositions having new fragrance profiles not possible before.

(iii) Volatile Fragrance Materials

In another aspect, the present invention also provides a composition, wherein the fragrance component further comprising one or more volatile fragrance materials having a vapor pressure greater than or equal to 0.001 Torr (0.000133 kPa) at 25 °C. The volatile fragrance material is present in an amount of from about 70 wt% to about 99.9 wt%, preferably greater than about 80 wt%, or more preferably greater than 88 wt%, or combinations thereof, relative to the total weight of the fragrance component. Alternatively, the volatile fragrance material is present in an amount of from about 70 wt%, 73 wt%, 75 wt%, 80 wt%, 85 wt%, 88 wt%, or 90 wt%, relative to the total weight of the fragrance component. If there is more than one volatile fragrance materials, then the ranges provided hereinabove cover the total weight of all of the volatile fragrance materials. Preferable examples of volatile fragrances materials are provided in Table 2 below.

Preferably, the volatile fragrance materials can be divided into: (i) a high volatile fragrance material having a vapor pressure greater than 0.1 Torr (0.0133 kPa) at 25 °C, present in an amount of from about 1 wt% to about 30 wt%, relative to the total weight of the fragrance

component, and (ii) a moderate volatile fragrance material having a vapor pressure in the range of from 0.1 Torr to 0.001 Torr (0.0133 kPa to 0.000133 kPa) at 25 °C, present in an amount of from about 40 wt% to about 80 wt%, relative to the total weight of the fragrance component. While the further classification of the volatile fragrance materials into high and moderate volatile fragrance materials is provided to help illustrate the fragrance characters of the perfume raw materials and is useful for when it comes to formulating new fragrance profiles, it should not be construed as limiting on what qualifies as a volatile fragrance material.

Entrapment Materials

In yet another aspect, compositions of the present invention may comprise an entrapment material at a level such that the weight ratio of the entrapment material to the fragrance materials is in the range of from about 1:20 to about 20:1. Preferably, the composition may comprise an entrapment material present in the amount of from about 0.001 wt% to about 40 wt%, from about 0.1 wt% to about 25 wt%, from about 0.3 wt% to about 20 wt%, from about 0.5 wt% to about 10 wt%, or from about 0.75 wt% to about 5 wt%, relative to the total weight of the composition. The compositions disclosed herein may comprise from 0.001 wt% to 40%, from 0.1 wt% to 25 wt%, from 0.3 wt% to 20 wt%, from 0.5 wt% to 10 wt% or from 0.75 wt% to 5 wt%, relative to the total weight of the composition, of a cyclic oligosaccharide.

Suitable entrapment materials for use herein are selected from polymers; capsules, microcapsules and nanocapsules; liposomes, absorbents; cyclic oligosaccharides and mixtures thereof. Preferred are absorbents and cyclic oligosaccharides and mixtures thereof. Highly preferred are cyclic oligosaccharides (*see* PCT Publication Nos. WO2000/67721 (Procter & Gamble); and WO2000/67720 (Procter & Gamble); and U.S. Patent No. 6,893,647 (Procter & Gamble)).

As used herein, the term "cyclic oligosaccharide" means a cyclic structure comprising six or more saccharide units. Preferred for use herein are cyclic oligosaccharides having six, seven or eight saccharide units and mixtures thereof, more preferably six or seven saccharide units and even more preferably seven saccharide units. It is common in the art to abbreviate six, seven and eight membered cyclic oligosaccharides to α, β and γ respectively.

The cyclic oligosaccharide of the compositions used for the present invention may comprise any suitable saccharide or mixtures of saccharides. Examples of suitable saccharides include, but are not limited to, glucose, fructose, mannose, galactose, maltose and mixtures thereof. However, preferred for use herein are cyclic oligosaccharides of glucose. The preferred cyclic oligosaccharides for use herein are α-cyclodextrins or β-cyclodextrins, or mixtures thereof, and the most preferred cyclic oligosaccharides for use herein are β-cyclodextrins.

The cyclic oligosaccharide, or mixture of cyclic oligosaccharides, for use herein may be substituted by any suitable substituent or mixture of substituents. Herein the use of the term "mixture of substituents" means that two or more different suitable substituents can be substituted onto one cyclic oligosaccharide. The derivatives of cyclodextrins consist mainly of molecules wherein some of the OH groups have been substituted. Suitable substituents include, but are not limited to, alkyl groups; hydroxyalkyl groups; dihydroxyalkyl groups; (hydroxyalkyl)alkylenyl bridging groups such as cyclodextrin glycerol ethers; aryl groups; maltosyl groups; allyl groups; benzyl groups; alkanoyl groups; cationic cyclodextrins such as those containing 2-hydroxy-3-(dimethylamino) propyl ether; quaternary ammonium groups; anionic cyclodextrins such as carboxyalkyl groups, sulphobutylether groups, sulphate groups, and succinylates; amphoteric cyclodextrins; and mixtures thereof.

The substituents may be saturated or unsaturated, straight or branched chain. Preferred substituents include saturated and straight chain alkyl groups, hydroxyalkyl groups and mixtures thereof. Preferred alkyl and hydroxyalkyl substituents are selected from C_1-C_8 alkyl or hydroxyalkyl groups or mixtures thereof, more preferred alkyl and hydroxyalkyl substituents are selected from C_1-C_6 alkyl or hydroxyalkyl groups or mixtures thereof, even more preferred alkyl and hydroxyalkyl substituents are selected from C_1-C_4 alkyl or hydroxyalkyl groups and mixtures thereof. Especially preferred alkyl and hydroxyalkyl substituents are propyl, ethyl and methyl, more especially hydroxypropyl and methyl and even more preferably methyl.

Preferred cyclic oligosaccharides for use in the present invention are unsubstituted, or are substituted by only saturated straight chain alkyl, or hydroxyalkyl substituents. Therefore, preferred examples of cyclic oligosaccharides for use herein are α-cyclodextrin, β-cyclodextrin, methyl-α-cyclodextrin, methyl-β-cyclodextrin, hydroxypropyl-α-cyclodextrin and hydroxypropyl-β-cyclodextrin. Most preferred examples of cyclic oligosaccharides for use herein are methyl-α-cyclodextrin and methyl-β-cyclodextrin. These are available from Wacker-Chemie GmbH Hanns-Seidel-Platz 4, Munchen, DE under the tradename Alpha W6 M and Beta W7 M respectively. Especially preferred is methyl-β-cyclodextrin.

The cyclic oligosaccharides of the compositions used for the present invention are preferably soluble in water, ethanol, or both water and ethanol. As used herein "soluble" means at least about 0.1 g of solute dissolves in 100 mL of solvent, at 25 °C and standard atmospheric pressure (760 mmHg). Preferably the cyclic oligosaccharides for use herein have a solubility of at least about 1 g/100 mL, at 25 °C and 1 atm of pressure. Preferred is that cyclic oligosaccharides are only present at levels up to their solubility limits in a given composition at room temperature. A person skilled in the art will recognise that the levels of cyclic

oligosaccharides used in the present invention will also be dependent on the components of the composition and their levels, for example the solvents used or the exact fragrance oils, or combination of fragrance oils, present in the composition. Therefore, although the limits stated for the entrapment material are preferred, they are not exhaustive.

Volatile Solvents

In yet another aspect, the present invention provides the solution to the problem of extending the longevity of the fragrance profile of compositions, particularly fine fragrance and cosmetic compositions, preferably fine fragrance compositions, which commonly contain high levels of a volatile solvent. Preferably, the composition according to the present invention, further comprising a volatile solvent present in the amount of from about 50 wt% to about 80 wt%, or preferably from about 55 wt% to about 75 wt%, relative to the total weight of the composition, and wherein the solvent is a branch or unbranched C_1 to C_{10} alkyl, akenyl or alkynyl group having at least one alcohol moiety, preferably ethanol, or isopropanol, or other alcohols (*e.g.,* methanol, propanol, isopropanol, butanol, and mixtures thereof) commonly found in commercial fine fragrance products.

Accordingly, ethanol may be present in any of the compositions of the present invention, and more specifically, it will form from about 10 wt% to about 80 wt%, or even from about 25 wt% to about 75 wt% of the composition, or combinations thereof, relative to the total weight of the composition. Alternatively, ethanol may be present in an amount of from about 10 wt% or 25 wt% to about 75 wt% or 80 wt%, relative to the total weight of the composition. The ethanol useful in the present invention may be any acceptable quality of ethanol, compatible and safe for the specific intended use of the composition such as, for example, topical applications of fine fragrance or cosmetic compositions.

Non-Volatile Solvents

The composition may comprise a non-volatile solvent or a mixture of non-volatile solvents. Non-limiting examples of non-volatile solvents include benzyl benzoate, diethyl phthalate, isopropyl myristate, propylene glycol, dipropylene glycol, triethyl citrate, and mixtures thereof. These solvents often are introduced to the product via the perfume oil as many perfume raw materials may be purchased as a dilution in one of these solvents. Where non-volatile solvents are present, introduced either with the perfume materials or separately, then for the purposes of calculating the proportion of fragrance component having a vapor pressure of less than 0.001 Torr (0.000133 kPa) at 25 °C the total fragrance components does not include non-volatile solvents. Where non-volatile solvents are present, introduced either with the perfume materials or separately, then for the purposes of calculating the total level of fragrance

component this does not include non-volatile solvents. In addition if present with cyclic oligosacchrides, the non-volatile solvent may be included at a weight ratio of the non-volatile solvent to the cyclic oligosaccharide of less than 1:1, less than 1:2, less than 1:10, or less than 1:100.

Water

In yet another aspect, water may be present in any of the compositions of the present invention, and more specifically, it shall not exceed about 40 wt%, preferably about 20 wt% or less, or more preferably about 10 wt% or less, relative to the total weight of the composition. Alternatively, water may be present in an amount of from about 10 wt% or about 20 wt% to about 40 wt%, relative to the total weight of the composition. When the composition is a cosmetic composition the level of water should not be so high that the product becomes cloudy thus negatively impacting the product aesthetics. It is understood that the amount of water present in the composition may be from the water present in the volatile solvent (*e.g.*, ethanol) used in the composition, as the case may be.

Propellants

The compositions described herein may include a propellant. Some examples of propellants include compressed air, nitrogen, inert gases, carbon dioxide, and mixtures thereof. Propellants may also include gaseous hydrocarbons like propane, n-butane, isobutene, cyclopropane, and mixtures thereof. Halogenated hydrocarbons like 1,1-difluoroethane may also be used as propellants. Some non-limiting examples of propellants include 1,1,1,2,2-pentafluoroethane, 1,1,1,2-tetrafluoroethane, 1,1,1,2,3,3,3-heptafluoropropane, trans-1,3,3,3-tetrafluoroprop-1-ene, dimethyl ether, dichlorodifluoromethane (propellant 12), 1,1-dichloro-1,1,2,2-tetrafluoroethane (propellant 114), 1-chloro-1,1-difluoro-2,2-trifluoroethane (propellant 115), 1-chloro-1,1-difluoroethylene (propellant 142B), 1,1-difluoroethane (propellant 152A), monochlorodifluoromethane, and mixtures thereof. Some other propellants suitable for use include, but are not limited to, A-46 (a mixture of isobutane, butane and propane), A-31 (isobutane), A-17 (n-butane), A-108 (propane), AP70 (a mixture of propane, isobutane and n-butane), AP40 (a mixture of propane, isobutene and n-butane), AP30 (a mixture of propane, isobutane and n-butane), and 152A (1,1 diflouroethane). The propellant may have a concentration from about 15%, 25%, 30%, 32%, 34%, 35%, 36%, 38%, 40%, or 42% to about 70%, 65%, 60%, 54%, 52%, 50%, 48%, 46%, 44%, or 42% by weight of the total fill of materials stored within the container.

Antiperspirant Active

The compositions described herein may be free of, substantially free of, or may include an antiperspirant active (*i.e.*, any substance, mixture, or other material having antiperspirant activity). Examples of antiperspirant actives include astringent metallic salts, like the inorganic and organic salts of aluminum, zirconium and zinc, as well as mixtures thereof. Such antiperspirant actives include, for example, the aluminum and zirconium salts, such as aluminum halides, aluminum hydroxyhalides, zirconyl oxyhalides, zirconyl hydroxyhalides, and mixtures thereof.

Other Ingredients

In yet another aspect, the composition consists essentially of the recited ingredients but may contain small amounts (not more than about 10 wt%, preferably no more than 5 wt%, or preferably no more than 2 wt% thereof, relative to the total weight of the composition) of other ingredients that do not impact on the fragrance profile, particularly the evaporation rate and release of the fragrance materials. For example, a fine fragrance composition may comprise stabilizing or anti-oxidant agents, UV filters or quenchers, or colouring agents, commonly used in perfumery. There are a number of other examples of additional ingredients that are suitable for inclusion in the present compositions, particularly in compositions for cosmetic use. These include, but are not limited to, alcohol denaturants such as denatonium benzoate; UV stabilisers such as benzophenone-2; antioxidants such as tocopheryl acetate; preservatives such as phenoxyethanol, benzyl alcohol, methyl paraben, and propyl paraben; dyes; pH adjusting agents such as lactic acid, citric acid, sodium citrate, succinic acid, phosphoric acid, sodium hydroxide, and sodium carbonate; deodorants and anti-microbials such as farnesol and zinc phenolsulphonate; humectants such as glycerine; oils; skin conditioning agents such as allantoin; cooling agents such as trimethyl isopropyl butanamide and menthol; silicones; solvents such as hexylene glycol; hair-hold polymers such as those described in PCT Publication No. WO94/08557 (Procter & Gamble); salts in general, such as potassium acetate and sodium chloride and mixtures thereof.

In yet another aspect, the composition of the present invention, depending on its intended use, is a mixture of fragrance materials possibly together with other ingredients such as, for example, perfume carriers. By the term "perfume carrier", it is meant to include materials which are practically neutral from a perfumery point of view, *i.e.*, which does not significantly alter the organoleptic properties of perfuming components. The perfume carrier may be a compatible liquid or solid fillers, diluents and the like. The term "compatible", as used herein, means that the components of the compositions of this invention are capable of being combined with the primary actives of the present invention, and with each other, in a manner such that there is no

interaction which would substantially reduce the efficacy of the composition under ordinary use situations. The type of carrier utilized in the present invention depends on the type of product desired and may comprise, but are not limited to, solutions, aerosols, emulsions (including oil-in-water or water-in-oil), gels, and liposomes. Preferably, the carrier is a liquid and will be a solvent such as, for example, dipropyleneglycol, diethyl phthalate, isopropyl myristate, benzyl benzoate, 2-(2-ethoxyethoxy)-l-ethanol, or ethyl citrate (triethyl citrate).

In yet another aspect, the compositions for use in the present invention may take any form suitable for use, more preferably for perfumery or cosmetic use. These include, but are not limited to, vapor sprays, aerosols, emulsions, lotions, liquids, creams, gels, sticks, ointments, pastes, mousses, powders, granular products, substrates, cosmetics (*e.g.*, semi-solid or liquid makeup, including foundations) and the like. Preferably the compositions for use in the present invention take the form of a vapor spray. Compositions of the present invention can be further added as an ingredient to other compositions, preferably fine fragrance or cosmetic compositions, in which they are compatible. As such they can be used within solid composition or applied substrates etc.

Preferably, the compositions of the present invention comprise:

(i) a fragrance component present in an amount of from about 0.04 wt% to about 30 wt%, relative to the total weight of the composition, and wherein the fragrance component comprises:

(a) at least one low volatile fragrance material having a vapor pressure less than 0.001 Torr (0.000133 kPa) at 25 °C, present in the amount of from about 10 wt% to about 30 wt%, relative to the total weight of the fragrance component; and

(b) at least one volatile fragrance material having a vapor pressure greater than or equal to 0.001 Torr (0.000133 kPa) at 25 °C, present in the amount of from about 70 wt% to about 99.9 wt%, relative to the total weight of the fragrance component; and

(ii) at least one substantially non-odorous fragrance modulator present in the amount of from about 0.1 wt% to about 20 wt%, relative to the total weight of the composition; and wherein the substantially non-odorous fragrance modulator is as described herein.

It has been ascertained that, amongst such compositions of the present invention, the preferred compositions are those comprising of:

(i) a fragrance component present in an amount of from about 0.04 wt% to about 30 wt%, relative to the total weight of the composition, and wherein the fragrance component comprises;

(a) at least one low volatile fragrance material having a vapor pressure less than 0.001 Torr (0.000133 kPa) at 25 °C; and

(b) at least one volatile fragrance material having a vapor pressure greater than or equal to 0.001 Torr (0.000133 kPa) at 25 °C;

wherein the weight ratio of the low volatile fragrance material versus the volatile fragrance material are present in the range of from 1:2.33 to 1:9;

(ii) at least one substantially non-odorous fragrance modulator present in the amount of from about 0.1 wt% to about 20 wt%, relative to the weight of the composition and wherein the substantially non-odorous fragrance modulator is as described herein;

(iii) a volatile solvent present in an amount of from about 50 wt% to about 80 wt% relative to the total weight of the composition; and

(iv) optionally water.

Preferably, the present invention relates to a fine fragrance composition, preferably in the form of of a perfume concentrate, a perfume, a parfum, an eau de toilette, an eau de parfum or a cologne.

Preferably, the present invention relates to a composition, wherein the composition is in the form of a body splash or a body spray.

Therefore, it goes without saying that the compositions of the present invention encompasses any composition comprising any of the ingredients cited herein, in any embodiment wherein each such ingredient is independently present in any appropriate amount as defined herein. Many such compositions, than what is specifically set out herein, can be encompassed.

Article of Manufacture

The composition may be included in an article of manufacture comprising a spray dispenser. The spray dispenser may comprise a vessel for containing the composition to be dispensed. The spray dispenser may comprise an aerosolized composition (*i.e.*, a composition comprising a propellant) within the vessel as well. Other non-limiting examples of spray dispensers include non-aerosol dispensers (*e.g.*, vapor sprays), manually activated dispensers, pump-spray dispensers, or any other suitable spray dispenser available in the art.

Methods of Using the Compositions

The composition of the present invention according to any embodiments described herein is a useful perfuming composition, which can be advantageously used as consumer products

intended to perfume any suitable substrate. As used herein, the term "substrate" means any surface to which the composition of the present invention may be applied to without causing any undue adverse effect. For example, this can include a wide range of surfaces including human or animal skin or hair, paper (fragranced paper), air in a room (air freshener or aromatherapy composition), fabric, furnishings, dishes, hard surfaces and related materials. Preferred substrates include body surfaces such as, for example, hair and skin, most preferably skin.

The composition of the present invention may be used in a conventional manner for fragrancing a substrate. An effective amount of the composition, typically from about 1 μL to about 10,000 μL, preferably from about 10 μL to about 1,000 μL, more preferably from about 25 μL to about 500 μL, or most preferably from about 50 μL to about 100 μL, or combinations thereof, is applied to the suitable substrate. Alternatively, an effective amount of the composition of the present invention is from about 1 μL, 10 μL, 25 μL or 50 μL to about 100 μL, 500 μL, 1,000 μL or 10,000 μL. The composition may be applied by hand or applied utilizing a delivery apparatus such as, for example, vaporizer or atomizer. Preferably, the composition is allowed to dry after its application to the substrate. The scope of the present invention should be considered to cover one or more distinct applications of the composition or the continuous release of a composition *via* a vaporizer or other type of atomizer.

The present invention provides a method of modifying or enhancing the odour properties of a body surface, preferably hair or skin, comprising contacting or treating the body surface with a composition of the present invention.

The present invention also relates to compositions of the present invention that may be used as consumer products or articles selected from the group consisting of a fabric care product, an air care product, or a home care product. Therefore, according to this embodiment, the present invention provides a method of modifying or enhancing the odour properties of a substrate, preferably fabric, furnishings, dishes, hard surfaces and related materials, comprising contacting or treating the substrate with a composition of the present invention.

In another aspect, the present invention is directed to a method of enhancing the fragrance profile of a composition, preferably by improving the longevity of a character of the composition. The method comprises bringing into contact or mixing at least one substantially non-odorous fragrance modulator with at least one low volatile fragrance material according to the composition of the present invention. Preferably, the character is derived from the volatile fragrance materials in the composition and is characterized by a floral character or aromatic/spicy character.

Non-limiting examples of floral character include: lavender-type note, a rose-type note, a lily of the valley-type note, a muguet-type note, a jasmine-type note, a magnolia-type note, a cyclamen-type note, a hyacinth-type note, a lilac-type note, an orange blossom-type note, a cherry blossom-type note, a peony-type note, a lotus-type note, a linden blossom-type note, an osmanthus-type note, a heliotrope-type note, a violet-type note, an orris-type note, a tiare-type note, a patchouli-type note and the like.

Non-limiting examples of aromatic (or haerbaceous) and spicy character include: cinnamon, cloves, coriander, ginger, saffron, peppers of various kinds (*e.g.*, black pepper, pink pepper), caraway, cardamom, anise, tea, coffee, cumin, nutmeg, coumarin, basil, rosemary, thyme, mint, tarragon, marjoram, fennel, sage, and juniper.

Preferably, the fragrance profile or character of the composition of the present invention is detectable by a consumer at later time points such as, for example, 2 hours, 3 hours, 4 hours, 5 hours, 6 hours, 7 hours, 8 hours, 10 hours, and possibly all the way up to 24 hours after application of the composition to a substrate as compared to controls.

In another aspect, the present invention is also directed to a method of producing a consumer product comprising bringing into contact or mixing into the product an organoleptically active quantity of a composition of the present invention. Preferably, the present invention is also directed to a perfuming consumer product or article comprising a composition according to the present invention, wherein the perfuming consumer product is selected from the group consisting of a fabric care product, an air care product or a home care product.

Fragrance Materials

In order that the compositions can be developed with the appropriate fragrance profile for the present invention, the "fragrance materials" have been classified as low volatile fragrance materials or volatile fragrance materials by their vapor pressure. This method of classifying fragrance materials by their vapor pressure avoids the problem of different classifications for the same fragrance material according to the traditional approach that relies on their subjective character. For the purpose of clarity, when the fragrance materials refer to a single individual compound, its vapor pressure should be determined according to the reference program cited above. In the case that the fragrance materials are a natural oil, extract or absolute, which comprises a mixture of several compounds, the vapor pressure of the complete oil should be treated a mixture of the individual perfume raw material components using the reference program cited above. The individual components and their level, in any given natural oil or extract, can be determined by direct injection of the oil into a GC-MS column for analysis as known by one

skilled in the art. In the scenario that the fragrance materials are a proprietary specialty accord, so called 'bases', the vapor pressure, using the reference program cited above, should preferably be obtained from the supplier. However, it is understood by one skilled in the art that they can physically analyze the composition of a full fragrance oil available commercially to identity the fragrance raw materials and their levels using standard GC-MS techniques. This would be irrespective of whether they had been added to the fragrance oil as individual chemicals, as components of naturals or from proprietary bases. Although proprietary bases and naturals are included in our examples, when analyzing a commercially available fragrance *via* GC-MS one could simply identify the components of the base or natural oil as part of the overall fragrance mixture and their levels, without being able to identify which proprietary base or natural oil the fragrance had come from.

The nature and type of fragrance materials in the compositions according to the present invention can be selected by the skilled person, on the basis of its general knowledge together with the teachings contained herein, with reference to the intended use or application of the composition and the desired fragrance profile effect. Examples of suitable fragrance materials are disclosed in U.S. Pat. No. 4,145,184, U.S. Pat. No. 4,209,417, U.S. Pat. No. 4,515,705, and U.S. Pat. No. 4,152,272, provided that the composition comprises low volatile fragrance materials at levels in an amount of from about 10 wt% to about 30 wt%, preferably less than about 30 wt%, preferably less than about 28 wt%, or preferably less than about 25 wt%, or combinations thereof, relative to the total weight of the fragrance component.

(i) Low Volatile Fragrance Materials

Preferable examples of fragrance materials having a vapor pressure less than 0.001 Torr (0.000133 kPa) at 25 °C (according to the reference program Advanced Chemistry Development (ACD/Labs) Software Version 14.02) to form the at most about 30 wt% of the low volatile fragrance materials are listed in Table 1 hereinafter. Preferably, the low volatile fragrance material is selected from at least 1 material, or at least 2 materials, or at least 3 materials, or at least 5 materials, or at least 7 materials as disclosed in Table 1.

Table 1 - Low Volatile Fragrance Materials

No.	CAS Number	IUPAC Name	Common Name**	Vapor Pressure (Torr at 25°C)*
1.	1211-29-6	Cyclopentaneacetic acid, 3-oxo-2-(2*Z*)-2-penten-1-yl-, methyl ester, (1*R*,2*R*)-	Methyl jasmonate	0.00096500
2.	28219-60-5	2-Buten-1-ol, 2-methyl-4-(2,2,3-trimethyl-3-cyclopenten-1-yl)-	Hindinol	0.00096100

3.	93-08-3	Ethanone, 1-(2-naphthalenyl)-	Methyl beta-naphthyl ketone	0.00095700
4.	67633-95-8	3-Decanone, 1-hydroxy-	Methyl Lavender Ketone	0.00095100
5.	198404-98-7	Cyclopropanemethanol, 1-methyl-2-[(1,2,2-trimethylbicyclo[3.1.0]hex-3-yl)methyl]-	Javanol®	0.00090200
6.	121-32-4	Benzaldehyde, 3-ethoxy-4-hydroxy-	Ethyl vanillin	0.00088400
7.	28940-11-6	2*H*-1,5-Benzodioxepin-3(4*H*)-one, 7-methyl-	Oxalone®	0.00083100
8.	139504-68-0	2-Butanol, 1-[[2-(1,1-dimethylethyl)cyclohexyl]oxy]-	Amber core	0.00080300
9.	502847-01-0	Spiro[5.5]undec-8-en-1-one, 2,2,7,9-tetramethyl-	Spiro[5.5]undec-8-en-1-one, 2,2,7,9-tetramethyl-	0.00073100
10.	2570-03-8	Cyclopentaneacetic acid, 3-oxo-2-pentyl-, methyl ester, (1*R*,2*R*)-rel-	trans-Hedione	0.00071000
11.	24851-98-7	Cyclopentaneacetic acid, 3-oxo-2-pentyl-, methyl ester	Methyl dihydrojasmonate or alternatives [1]	0.00071000
12.	101-86-0	Octanal, 2-(phenylmethylene)-	Hexyl cinnamic aldehyde	0.00069700
13.	365411-50-3	Indeno[4,5-d]-1,3-dioxin, 4,4a,5,6,7,8,9,9b-octahydro-7,7,8,9,9-pentamethyl-	Nebulone	0.00069200
14.	37172-53-5	Cyclopentanecarboxylic acid, 2-hexyl-3-oxo-, methyl ester	Dihydro Iso Jasmonate	0.00067500
15.	65113-99-7	3-Cyclopentene-1-butanol, α,β,2,2,3-pentamethyl-	Sandalore®	0.00062500
16.	68133-79-9	Cyclopentanone, 2-(3,7-dimethyl-2,6-octadien-1-yl)-	Apritone	0.00062000
17.	7212-44-4	1,6,10-Dodecatrien-3-ol, 3,7,11-trimethyl-	Nerolidol	0.00061600
18.	53243-59-7	2-Pentenenitrile, 3-methyl-5-phenyl-, (2Z)-	Citronitril	0.00061500
19.	134123-93-6	Benzenepropanenitrile, 4-ethyl-α,α-dimethyl-	Fleuranil	0.00057600
20.	77-53-2	1*H*-3a,7-Methanoazulen-6-ol, octahydro-3,6,8,8-tetramethyl-, (3*R*,3a*S*,6*R*,7*R*,8a*S*)-	Cedrol Crude	0.00056900
21.	54464-57-2	Ethanone, 1-(1,2,3,4,5,6,7,8-octahydro-2,3,8,8-tetramethyl-2-naphthalenyl)-	Iso-E Super®	0.00053800
22.	141-92-4	2-Octanol, 8,8-dimethoxy-2,6-dimethyl-	Hydroxycitronellal Dimethyl Acetal	0.00052000

23.	20665-85-4	Propanoic acid, 2-methyl-, 4-formyl-2-methoxyphenyl ester	Vanillin isobutyrate	0.00051200
24.	79-78-7	1,6-Heptadien-3-one, 1-(2,6,6-trimethyl-2-cyclohexen-1-yl)-	Hexalon	0.00049800
25.	6259-76-3	Benzoic acid, 2-hydroxy-, hexyl ester	Hexyl Salicylate	0.00049100
26.	93-99-2	Benzoic acid, phenyl ester	Phenyl Benzoate	0.00047900
27.	153859-23-5	Cyclohexanepropanol, 2,2,6-trimethyl-α-propyl-, (1*R*,6*S*)-	Norlimbanol	0.00046900
28.	70788-30-6	Cyclohexanepropanol, 2,2,6-trimethyl-α-propyl-	Timberol	0.00046900
29.	68555-58-8	Benzoic acid, 2-hydroxy-, 3-methyl-2-buten-1-yl ester	Prenyl Salicylate	0.00045700
30.	950919-28-5	2H-1,5-Benzodioxepin-3(4*H*)-one, 7-(1-methylethyl)-	Cascalone	0.00045500
31.	30168-23-1	Butanal, 4-(octahydro-4,7-methano-5*H*-inden-5-ylidene)-	Dupical	0.00044100
32.	1222-05-5	Cyclopenta[g]-2-benzopyran, 1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethyl-	Galaxolide®	0.00041400
33.	1222-05-5	Cyclopentanone, 2-[2-(4-methyl-3-cyclohexen-1-yl) propyl]-	Nectaryl	0.00036700
34.	4674-50-4	2(3*H*)-Naphthalenone, 4,4a,5,6,7,8-hexahydro-4,4a-dimethyl-6-(1-methylethenyl)-, (4*R*,4a*S*,6*R*)-	Nootkatone	0.00035800
35.	3487-99-8	2-Propenoic acid, 3-phenyl-, pentyl ester	Amyl Cinnamate	0.00035200
36.	10522-41-5	2-hydroxy-2-phenylethyl acetate	hydroxyphenethyl acetate	0.00033900
37.	118-71-8	4*H*-Pyran-4-one, 3-hydroxy-2-methyl-	Maltol	0.00033700
38.	128119-70-0	1-Propanol, 2-methyl-3-[(1,7,7-trimethylbicyclo[2.2.1]hept-2-yl)oxy]-	Bornafix	0.00033400
39.	103614-86-4	1-Naphthalenol, 1,2,3,4,4a,5,8,8a-octahydro-2,2,6,8-tetramethyl-	Octalynol	0.00033200
40.	7785-33-3	2-Butenoic acid, 2-methyl-, (2*E*)-3,7-dimethyl-2,6-octadien-1-yl ester, (2*E*)-	Geranyl Tiglate	0.00033200
41.	117933-89-8	1,3-Dioxane, 2-(2,4-dimethyl-3-cyclohexen-1-yl)-5-methyl-5-(1-methylpropyl)-	Karanal	0.00033100
42.	629-92-5	Nonadecane	Nonadecane	0.00032500
43.	67801-20-1	4-Penten-2-ol, 3-methyl-5-(2,2,3-trimethyl-3-cyclopenten-1-yl)-	Ebanol	0.00028100

44.	65416-14-0	Propanoic acid, 2-methyl-, 2-methyl-4-oxo-4*H*-pyran-3-yl ester	Maltol Isobutyrate	0.00028000
45.	28219-61-6	2-Buten-1-ol, 2-ethyl-4-(2,2,3-trimethyl-3-cyclopenten-1-yl)-	Laevo Trisandol	0.00028000
46.	5986-55-0	1,6-Methanonaphthalen-1(2*H*)-ol, octahydro-4,8a,9,9-tetramethyl-, (1*R*,4*S*,4a*S*,6*R*,8a*S*)-	Healingwood	0.00027800
47.	195251-91-3	2*H*-1,5-Benzodioxepin-3(4*H*)-one, 7-(1,1-dimethylethyl)-	Transluzone	0.00026500
48.	3100-36-5	8-Cyclohexadecen-1-one	Cyclohexadecenone	0.00025300
49.	65405-77-8	Benzoic acid, 2-hydroxy-, (3*Z*)-3-hexen-1-yl ester	cis-3-Hexenyl salicylate	0.00024600
50.	4940-11-8	4*H*-Pyran-4-one, 2-ethyl-3-hydroxy-	Ethyl Maltol	0.00022800
51.	541-91-3	Cyclopentadecanone, 3-methyl-	Muskone	0.00017600
52.	118-58-1	Benzoic acid, 2-hydroxy-, phenylmethyl ester	Benzyl salicylate	0.00017500
53.	81783-01-9	6,8-Nonadien-3-one, 2,4,4,7-tetramethyl-, oxime	Labienoxime	0.00017300
54.	25485-88-5	Benzoic acid, 2-hydroxy-, cyclohexyl ester	Cyclohexyl Salicylate	0.00017300
55.	91-87-2	Benzene, [2-(dimethoxymethyl)-1-hepten-1-yl]-	Amyl Cinnamic Aldehyde Dimethyl Acetal	0.00016300
56.	104864-90-6	3-Cyclopentene-1-butanol, β,2,2,3-tetramethyl-δ-methylene-	Firsantol	0.00016000
57.	224031-70-3	4-Penten-1-one, 1-spiro[4.5]dec-7-en-7-yl-	Spirogalbanone	0.00015300
58.	236391-76-7	Acetic acid, 2-(1-oxopropoxy)-, 1-(3,3-dimethylcyclohexyl) ethyl ester	Romandolide®	0.00012400
59.	115-71-9	2-Penten-1-ol, 5-[(1*R*,3*R*,6*S*)-2,3-dimethyltricyclo[2.2.1.02,6]hept-3-yl]-2-methyl-, (2*Z*)-	cis-alpha-Santalol	0.00011800
60.	107898-54-4	4-Penten-2-ol, 3,3-dimethyl-5-(2,2,3-trimethyl-3-cyclopenten-1-yl)-	Polysantol®	0.00011700
61.	107898-54-4	5,8-Methano-2*H*-1-benzopyran-2-one, 6-ethylideneoctahydro-	Florex	0.00011000
62.	69486-14-2	4-Cyclopentadecen-1-one, (4*Z*)-	Exaltenone	0.00009640
63.	32388-55-9	Ethanone, 1-[(3*R*,3a*R*,7*R*,8a*S*)-2,3,4,7,8,8a-hexahydro-3,6,8,8-tetramethyl-1*H*-3a,7-methanoazulen-5-yl]-	Vertofix®	0.00008490

64.	131812-67-4	1,3-Dioxolane, 2,4-dimethyl-2-(5,6,7,8-tetrahydro-5,5,8,8-tetramethyl-2-naphthalenyl)-	Okoumal®	0.00007600
65.	106-02-5	Oxacyclohexadecan-2-one	Exaltolide®	0.00006430
66.	141773-73-1	1-Propanol, 2-[1-(3,3-dimethylcyclohexyl)ethoxy]-2-methyl-, 1-propanoate	Helvetolide®	0.00005790
67.	63314-79-4	5-Cyclopentadecen-1-one, 3-methyl-	Delta Muscenone	0.00005650
68.	77-42-9	2-Penten-1-ol, 2-methyl-5-[(1*S*,2*R*,4*R*)-2-methyl-3-methylenebicyclo[2.2.1]hept-2-yl]-, (2*Z*)-	cis-beta-Santalol	0.00004810
69.	362467-67-2	2*H*-1,5-Benzodioxepin-3(4*H*)-one, 7-(3-methylbutyl)-	Azurone	0.00004770
70.	28371-99-5	Ethanone, 1-(2,6,10-trimethyl-2,5,9-cyclododecatrien-1-yl)-	Trimofix O	0.00004580
71.	16223-63-5	1*H*-3a,6-Methanoazulene-3-methanol, octahydro-7,7-dimethyl-8-methylene-, (3*S*, 3a*R*,6*R*,8a*S*)-	Khusimol	0.00004400
72.	10461-98-0	Benzeneacetonitrile, α-cyclohexylidene-	Peonile	0.00004290
73.	90-17-5	Benzenemethanol, α-(trichloromethyl)-, 1-acetate	Rosacetol	0.00004240
74.	50607-64-2	Benzoic acid, 2-[(2-methylpentylidene)amino]-, methyl ester	Mevantraal	0.00004070
75.	29895-73-6	5-Hydroxy-2-benzyl-1,3-dioxane	Acetal CD	0.00004050
76.	94-47-3	Benzoic acid, 2-phenylethyl ester	Phenyl Ethyl Benzoate	0.00003480
77.	3100-36-5	Cyclohexadec-8-en-1-one	Globanone®	0.00003310
78.	37609-25-9	5-Cyclohexadecen-1-one	Ambretone	0.00003310
79.	66072-32-0	Cyclohexanol, 4-(1,7,7-trimethylbicyclo[2.2.1]hept-2-yl)-	Iso Bornyl Cyclohexanol	0.00003010
80.	31906-04-4	3-Cyclohexene-1-carboxaldehyde, 4-(4-hydroxy-4-methylpentyl)-	Lyral®	0.00002940
81.	21145-77-7	Ethanone, 1-(5,6,7,8-tetrahydro-3,5,5,6,8,8-hexamethyl-2-naphthalenyl)-	Musk Plus	0.00002860
82.	21145-77-7	Ethanone, 1-(5,6,7,8-tetrahydro-3,5,5,6,8,8-hexamethyl-2-naphthalenyl)-	Fixolide	0.00002860
83.	22442-01-9	2-Cyclopentadecen-1-one, 3-methyl-	Muscenone	0.00002770

84.	109-29-5	Oxacycloheptadecan-2-one	Silvanone Ci	0.00002600
85.	101-94-0	Benzeneacetic acid, 4-methylphenyl ester	Para Cresyl Phenyl Acetate	0.00002330
86.	102-20-5	Benzeneacetic acid, 2-phenylethyl ester	Phenyl Ethyl Phenyl Acetate	0.00002300
87.	118562-73-5	Cyclododecaneethanol, β-methyl-	Hydroxyambran	0.00001800
88.	103-41-3	2-Propenoic acid, 3-phenyl-, phenylmethyl ester	Benzyl Cinnamate	0.00001050
89.	4707-47-5	Benzoic acid, 2,4-dihydroxy-3, 6-dimethyl-, methyl ester	Veramoss	0.00001050
90.	183551-83-9	Naphtho[2,1-b]furan-6(7*H*)-one, 8,9-dihydro-1,5,8-trimethyl-, (8*R*)-	Myrrhone	0.00000977
91.	102-17-0	Benzeneacetic acid, (4-methoxyphenyl)methyl ester	Para Anisyl Phenyl Acetate	0.00000813
92.	120-11-6	Benzene, 2-methoxy-1-(phenylmethoxy)-4-(1-propen-1-yl)-	Benzyl Iso Eugenol	0.00000676
93.	102-22-7	Benzeneacetic acid, (2*E*)-3,7-dimethyl-2,6-octadien-1-yl ester	Geranyl Phenylacetate	0.00000645
94.	111879-80-2	Oxacyclohexadec-12-en-2-one, (12*E*)-	Habanolide 100%	0.00000431
95.	87-22-9	Benzoic acid, 2-hydroxy-, 2-phenylethyl ester	Phenyl Ethyl Salicylate	0.00000299
96.	78-37-5	2-Propenoic acid, 3-phenyl-, 1-ethenyl-1,5-dimethyl-4-hexen-1-yl ester	Linalyl Cinnamate	0.00000174
97.	28645-51-4	Oxacycloheptadec-10-en-2-one	Ambrettolide	0.00000139
98.	123-69-3	Oxacycloheptadec-8-en-2-one, (8*Z*)-	Ambrettolide	0.00000136
99.	3391-83-1	1,7-Dioxacycloheptadecan-8-one	Musk RI	0.00000057
100.	68527-79-7	7-Octen-2-ol, 8-(1*H*-indol-1-yl)-2,6-dimethyl-	Indolene	0.000000445
101.	89-43-0	Methyl 2-[(7-hydroxy-3,7-dimethyloctylidene)amino]benzoate	Aurantinol	0.0000000100
102.	54982-83-1	1,4-Dioxacyclohexadecane-5, 16-dione	Zenolide	0.00000000834
103.	105-95-3	1,4-Dioxacycloheptadecane-5, 17-dione	Ethylene Brassylate	0.00000000313
104.	4159-29-9	Phenol, 4-[3-(benzoyloxy)-1-propen-1-yl]-2-methoxy-	Coniferyl benzoate	0.00000000170
105.	144761-91-1	Benzoic acid, 2-[(1-hydroxy-3-phenylbutyl)amino]-, methyl ester	Trifone DIPG	0.00000000093

[1] Non-limiting examples of alternative qualities from various suppliers can be purchased under the following tradenames: Kharismal® Super (IFF), Kharismal® (IFF), Hedione® (Firmenich), Hedione® HC (Firmenich), Paradisone (Firmenich), Cepionate (Zenon), Super cepionate (Zenon), Claigeon® (Zenon).

* Vapor Pressures are acquired as described in the Test Methods Section.

** Origin: The low volatile fragrance materials may be obtained from one or more of the following companies: Firmenich (Geneva, Switzerland), Symrise AG (Holzminden, Germany), Givaudan (Argenteuil, France), IFF (Hazlet, New Jersey), Bedoukian (Danbury, Connecticut), Sigma Aldrich (St. Louis, Missouri), Millennium Speciality Chemicals (Olympia Fields, Illinois), Polarone International (Jersey City, New Jersey), and Aroma & Flavor Specialities (Danbury, Connecticut).

Preferably, the compositions of the present invention, wherein the low volatile fragrance material is selected from the group of Table 1 Low Volatile Fragrance Materials 1-8, 11-13, 15, 17-18, 21-25, 28, 32-33, 37-38, 41, 43-45, 49-51, 53, 54-56, 58, 60, 63, 65-67, 69, 72-73, 75, 78-79, 89, 94, 97, 99, 101, 103, and mixtures thereof. Preferably, the compositions of the present invention, the low volatile fragrance material is selected from the group (as described herein above), and wherein this group of low volatile fragrance material has at least about 20 wt%, at least about 30 wt%, at least about 40 wt%, at least about 50 wt%, at least about 60 wt%, or at least about 70 wt%, relative to the total weight of the low volatile fragrance material.

Preferably, the compositions of the present invention are those wherein the low volatile fragrance materials comprise at most about 30 wt%, or preferably at most about 28 wt%, or preferably at most about 25 wt%, or alternatively combinations thereof, relative to the total weight of the fragrance component.

Exemplary low volatile fragrance materials selected from the group consisting of the ingredients mentioned in Table 1 are preferred. However, it is understood by one skilled in the art that other low volatile fragrance materials, not recited in Table 1, would also fall within the scope of the present invention, so long as they have a vapor pressure less than 0.001 Torr (0.000133 kPa) at 25 °C.

(ii) Volatile Fragrance Materials

Preferable examples of fragrance materials having a vapor pressure greater than or equal to 0.001 Torr (0.000133 kPa) at 25 °C (according to the reference program Advanced Chemistry Development (ACD/Labs) Software Version 14.02) are provided in Table 2 hereinafter. Preferably, the volatile fragrance material is selected from at least 1 material, or at least 2

materials, or at least 3 materials, or at least 5 materials, or at least 7 materials as disclosed in Table 2.

Table 2 –Volatile Fragrance Materials

No.	CAS Number	IUPAC Name	Common Name**	Vapor Pressure (Torr at 25 °C)*
1.	107-31-3	Formic acid, methyl ester	Methyl Formate	732.00000000
2.	75-18-3	Methane, 1,1'-thiobis-	Dimethyl Sulfide 1.0% In DEP	647.00000000
3.	141-78-6	Acetic acid ethyl ester	Ethyl Acetate	112.00000000
4.	105-37-3	Propanoic acid, ethyl ester	Ethyl Propionate	44.50000000
5.	110-19-0	Acetic acid, 2-methylpropyl ester	Isobutyl Acetate	18.00000000
6.	105-54-4	Butanoic acid, ethyl ester	Ethyl Butyrate	13.90000000
7.	14765-30-1	1-Butanol	Butyl Alcohol	8.52000000
8.	7452-79-1	Butanoic acid, 2-methyl-, ethyl ester	Ethyl-2-Methyl Butyrate	7.85000000
9.	123-92-2	1-Butanol, 3-methyl-, 1-acetate	Iso Amyl Acetate	5.68000000
10.	66576-71-4	Butanoic acid, 2-methyl-, 1-methylethyl ester	Iso Propyl 2-Methylbutyrate	5.10000000
11.	110-43-0	2-Heptanone	Methyl Amyl Ketone	4.73000000
12.	6728-26-3	2-Hexenal, (2*E*)-	Trans-2 Hexenal	4.62000000
13.	123-51-3	1-Butanol, 3-methyl-	Isoamyl Alcohol	4.16000000
14.	1191-16-8	2-Buten-1-ol, 3-methyl-, 1-acetate	Prenyl acetate	3.99000000
15.	57366-77-5	1,3-Dioxolane-2-methanamine, *N*-methyl-	Methyl Dioxolan	3.88000000
16.	7785-70-8	Bicyclo[3.1.1]hept-2-ene, 2, 6,6-trimethyl-, (1*R*,5*R*)-	Alpha Pinene	3.49000000
17.	79-92-5	Bicyclo[2.2.1]heptane, 2,2-dimethyl-3-methylene-	Camphene	3.38000000
18.	94087-83-9	2-Butanethiol, 4-methoxy-2-methyl-	4-Methoxy-2-Methyl-2-Butanenthiol	3.31000000
19.	39255-32-8	Pentanoic acid, 2-methyl-, ethyl ester	Manzanate	2.91000000
20.	3387-41-5	Bicyclo[3.1.0]hexane, 4-methylene-1-(1-methylethyl)-	Sabinene	2.63000000
21.	127-91-3	Bicyclo[3.1.1]heptane, 6,6-dimethyl-2-methylene-	Beta Pinene	2.40000000

22.	105-68-0	1-Butanol, 3-methyl-, 1-propanoate	Amyl Propionate	2.36000000
23.	123-35-3	1,6-Octadiene, 7-methyl-3-methylene-	Myrcene	2.29000000
24.	124-13-0	Octanal	Octyl Aldehyde	2.07000000
25.	7392-19-0	2*H*-Pyran, 2-ethenyltetrahydro-2,6,6-trimethyl-	Limetol	1.90000000
26.	111-13-7	2-Octanone	Methyl Hexyl Ketone	1.72000000
27.	123-66-0	Hexanoic acid, ethyl ester	Ethyl Caproate	1.66000000
28.	470-82-6	2-Oxabicyclo[2.2.2]octane, 1,3,3-trimethyl-	Eucalyptol	1.65000000
29.	99-87-6	Benzene, 1-methyl-4-(1-methylethyl)-	Para Cymene	1.65000000
30.	104-93-8	Benzene, 1-methoxy-4-methyl-	Para Cresyl Methyl Ether	1.65000000
31.	13877-91-3	1,3,6-Octatriene, 3,7-dimethyl-	Ocimene	1.56000000
32.	138-86-3	Cyclohexene, 1-methyl-4-(1-methylethenyl)-	dl-Limonene	1.54000000
33.	5989-27-5	Cyclohexene, 1-methyl-4-(1-methylethenyl)-, (4*R*)-	d-limonene	1.54000000
34.	106-68-3	3-Octanone	Ethyl Amyl Ketone	1.50000000
35.	110-41-8	Undecanal, 2-methyl-	Methyl Nonyl Acetaldehyde	1.43000000
36.	142-92-7	Acetic acid, hexyl ester	Hexyl acetate	1.39000000
37.	110-93-0	5-Hepten-2-one, 6-methyl-	Methyl Heptenone	1.28000000
38.	81925-81-7	2-Hepten-4-one, 5-methyl-	Filbertone 1% in TEC	1.25000000
39.	3681-71-8	3-Hexen-1-ol, 1-acetate, (3Z)-	cis-3-Hexenyl acetate	1.22000000
40.	97-64-3	Propanoic acid, 2-hydroxy-, ethyl ester	Ethyl Lactate	1.16000000
41.	586-62-9	Cyclohexene, 1-methyl-4-(1-methylethylidene)-	Terpineolene	1.13000000
42.	51115-64-1	Butanoic acid, 2-methylbutyl ester	Amyl butyrate	1.09000000
43.	106-27-4	Butanoic acid, 3-methylbutyl ester	Amyl Butyrate	1.09000000
44.	99-85-4	1,4-Cyclohexadiene, 1-methyl-4-(1-methylethyl)-	Gamma Terpinene	1.08000000
45.	18640-74-9	Thiazole, 2-(2-methylpropyl)-	2-Isobutylthiazole	1.07000000
46.	928-96-1	3-Hexen-1-ol, (3Z)-	cis-3-Hexenol	1.04000000

47.	100-52-7	Benzaldehyde	Benzaldehyde	0.97400000
48.	141-97-9	Butanoic acid, 3-oxo-, ethyl ester	Ethyl Acetoacetate	0.89000000
49.	928-95-0	2-Hexen-1-ol, (2*E*)-	Trans-2-Hexenol	0.87300000
50.	928-94-9	2-Hexen-1-ol, (2*Z*)-	Beta Gamma Hexenol	0.87300000
51.	24691-15-4	Cyclohexane, 3-ethoxy-1,1,5-trimethyl-, cis- (9CI)	Herbavert	0.85200000
52.	19872-52-7	2-Pentanone, 4-mercapto-4-methyl-	4-Methyl-4-Mercaptopentan-2-one 1ppm TEC	0.84300000
53.	3016-19-1	2,4,6-Octatriene, 2,6-dimethyl-, (4*E*,6*E*)-	Allo-Ocimene	0.81600000
54.	69103-20-4	Oxirane, 2,2-dimethyl-3-(3-methyl-2,4-pentadien-1-yl)-	Myroxide	0.80600000
55.	189440-77-5	4,7-Octadienoic acid, methyl ester, (4*E*)-	Anapear	0.77700000
56.	67633-96-9	Carbonic acid, (3*Z*)-3-hexen-1-yl methyl ester	Liffarome™	0.72100000
57.	123-68-2	Hexanoic acid, 2-propen-1-yl ester	Allyl Caproate	0.67800000
58.	106-72-9	5-Heptenal, 2,6-dimethyl-	Melonal	0.62200000
59.	106-30-9	Heptanoic acid, ethyl ester	Ethyl Oenanthate	0.60200000
60.	68039-49-6	3-Cyclohexene-1-carboxaldehyde, 2,4-dimethyl-	Ligustral or Triplal	0.57800000
61.	101-48-4	Benzene, (2,2-dimethoxyethyl)-	Phenyl Acetaldehyde Dimethyl Acetal	0.55600000
62.	16409-43-1	2*H*-Pyran, tetrahydro-4-methyl-2-(2-methyl-1-propen-1-yl)-	Rose Oxide	0.55100000
63.	925-78-0	3-Nonanone	Ethyl Hexyl Ketone	0.55100000
64.	100-47-0	Benzonitrile	Benzyl Nitrile	0.52400000
65.	589-98-0	3-Octanol	Octanol-3	0.51200000
66.	58430-94-7	1-Hexanol, 3,5,5-trimethyl-, 1-acetate	Iso Nonyl Acetate	0.47000000
67.	10250-45-0	4-Heptanol, 2,6-dimethyl-, 4-acetate	Alicate	0.45400000
68.	105-79-3	Hexanoic acid, 2-methylpropyl ester	Iso Butyl Caproate	0.41300000
69.	2349-07-7	Propanoic acid, 2-methyl-, hexyl ester	Hexyl isobutyrate	0.41300000
70.	23250-42-2	Cyclohexanecarboxylic acid, 1,4-dimethyl-, methyl ester, trans-	Cyprissate	0.40500000

71.	122-78-1	Benzeneacetaldehyde	Phenyl acetaldehyde	0.36800000
72.	5405-41-4	Butanoic acid, 3-hydroxy-, ethyl ester	Ethyl-3-Hydroxy Butyrate	0.36200000
73.	105-53-3	Propanedioic acid, 1,3-diethyl ester	Diethyl Malonate	0.34400000
74.	93-58-3	Benzoic acid, methyl ester	Methyl Benzoate	0.34000000
75.	16356-11-9	1,3,5-Undecatriene	Undecatriene	0.33600000
76.	65405-70-1	4-Decenal, (4*E*)-	Decenal (Trans-4)	0.33100000
77.	54546-26-8	1,3-Dioxane, 2-butyl-4,4,6-trimethyl-	Herboxane	0.33000000
78.	13254-34-7	2-Heptanol, 2,6-dimethyl-	Dimethyl-2 6-Heptan-2-ol	0.33000000
79.	98-86-2	Ethanone, 1-phenyl-	Acetophenone	0.29900000
80.	93-53-8	Benzeneacetaldehyde, α-methyl-	Hydratropic aldehyde	0.29400000
81.	80118-06-5	Propanoic acid, 2-methyl-, 1,3-dimethyl-3-buten-1-yl ester	Iso Pentyrate	0.28500000
82.	557-48-2	2,6-Nonadienal, (2*E*,6*Z*)-	E Z-2,6-Nonadien-1-al	0.28000000
83.	24683-00-9	Pyrazine, 2-methoxy-3-(2-methylpropyl)-	2-Methoxy-3-Isobutyl Pyrazine	0.27300000
84.	104-57-4	Formic acid, phenylmethyl ester	Benzyl Formate	0.27300000
85.	104-45-0	Benzene, 1-methoxy-4-propyl-	Dihydroanethole	0.26600000
86.	491-07-6	Cyclohexanone, 5-methyl-2-(1-methylethyl)-, (2*R*,5*R*)-rel-	Iso Menthone	0.25600000
87.	89-80-5	Cyclohexanone, 5-methyl-2-(1-methylethyl)-, (2*R*,5*S*)-rel-	Menthone Racemic	0.25600000
88.	2463-53-8	2-Nonenal	2 Nonen-1-al	0.25600000
89.	55739-89-4	Cyclohexanone, 2-ethyl-4,4-dimethyl-	Thuyacetone	0.25000000
90.	150-78-7	Benzene, 1,4-dimethoxy-	Hydroquinone Dimethyl Ether	0.25000000
91.	64988-06-3	Benzene, 1-(ethoxymethyl)-2-methoxy-	Rosacene	0.24600000
92.	76-22-2	Bicyclo[2.2.1]heptan-2-one, 1,7,7-trimethyl-	Camphor gum	0.22500000
93.	67674-46-8	2-Hexene, 6,6-dimethoxy-2,5,5-trimethyl-	Methyl pamplemousse	0.21400000
94.	112-31-2	Decanal	Decyl Aldehyde	0.20700000

95.	16251-77-7	Benzenepropanal, β-methyl-	Trifernal	0.20600000
96.	93-92-5	Benzenemethanol, α-methyl-, 1-acetate	Methylphenylcarbinol acetate	0.20300000
97.	143-13-5	Acetic acid, nonyl ester	Nonyl Acetate	0.19700000
98.	122-00-9	Ethanone, 1-(4-methylphenyl)-	Para Methyl Acetophenone	0.18700000
99.	24237-00-1	2*H*-Pyran, 6-butyl-3,6-dihydro-2,4-dimethyl-	Gyrane	0.18600000
100.	41519-23-7	Propanoic acid, 2-methyl-, (3*Z*)-3-hexen-1-yl ester	Hexenyl isobutyrate	0.18200000
101.	93-89-0	Benzoic acid, ethyl ester	Ethyl Benzoate	0.18000000
102.	20780-48-7	3-Octanol, 3,7-dimethyl-, 3-acetate	Tetrahydro Linalyl Acetate	0.18000000
103.	101-41-7	Methyl 2-phenylacetate	Methylphenyl acetate	0.17600000
104.	40853-55-2	1-Hexanol, 5-methyl-2-(1-methylethyl)-, 1-acetate	Tetrahydro Lavandulyl Acetate	0.17300000
105.	933-48-2	Cyclohexanol, 3,3,5-trimethyl-, (1*R*,5*R*)-rel-	Trimethylcyclohexanol	0.17300000
106.	35158-25-9	2-Hexenal, 5-methyl-2-(1-methylethyl)-	Lactone of Cis Jasmone	0.17200000
107.	18479-58-8	7-Octen-2-ol, 2,6-dimethyl-	Dihydromyrcenol	0.16600000
108.	140-11-4	Acetic acid, phenylmethyl ester	Benzyl acetate	0.16400000
109.	14765-30-1	Cyclohexanone, 2-(1-methylpropyl)-	2-sec-Butyl Cyclo Hexanone	0.16300000
110.	20125-84-2	3-Octen-1-ol, (3*Z*)-	Octenol	0.16000000
111.	142-19-8	Heptanoic acid, 2-propen-1-yl ester	Allyl Heptoate	0.16000000
112.	100-51-6	Benzenemethanol	Benzyl Alcohol	0.15800000
113.	10032-15-2	Butanoic acid, 2-methyl-, hexyl ester	Hexyl-2-Methyl Butyrate	0.15800000
114.	695-06-7	2(3*H*)-Furanone, 5-ethyldihydro-	Gamma Hexalactone	0.15200000
115.	21722-83-8	Cyclohexaneethanol, 1-acetate	Cyclohexyl Ethyl Acetate	0.15200000
116.	111-79-5	2-Nonenoic acid, methyl ester	Methyl-2-Nonenoate	0.14600000
117.	16491-36-4	Butanoic acid, (3*Z*)-3-hexen-1-yl ester	Cis 3 Hexenyl Butyrate	0.13500000
118.	111-12-6	2-Octynoic acid, methyl ester	Methyl Heptine Carbonate	0.12500000
119.	59323-76-1	1,3-Oxathiane, 2-methyl-4-propyl-, (2*R*,4*S*)-rel-	Oxane	0.12300000

120.	62439-41-2	Heptanal, 6-methoxy-2,6-dimethyl-	Methoxy Melonal	0.11900000
121.	13851-11-1	Bicyclo[2.2.1]heptan-2-ol, 1,3,3-trimethyl-, 2-acetate	Fenchyl Acetate	0.11700000
122.	115-95-7	1,6-Octadien-3-ol, 3,7-dimethyl-, 3-acetate	Linalyl acetate	0.11600000
123.	18479-57-7	2-Octanol, 2,6-dimethyl-	Tetra-Hydro Myrcenol	0.11500000
124.	78-69-3	3,7-dimethyloctan-3-ol	Tetra-Hydro Linalool	0.11500000
125.	111-87-5	1-Octanol	Octyl Alcohol	0.11400000
126.	71159-90-5	3-Cyclohexene-1-methanethiol, α,α,4-trimethyl-	Grapefruit mercaptan	0.10500000
127.	80-25-1	Cyclohexanemethanol, α,α,4-trimethyl-, 1-acetate	Menthanyl Acetate	0.10300000
128.	88-41-5	Cyclohexanol, 2-(1,1-dimethylethyl)-, 1-acetate	Verdox™	0.10300000
129.	32210-23-4	Cyclohexanol, 4-(1,1-dimethylethyl)-, 1-acetate	Vertenex	0.10300000
130.	112-44-7	Undecanal	n-Undecanal	0.10200000
131.	24168-70-5	Pyrazine, 2-methoxy-3-(1-methylpropyl)-	Methoxyisobutylpyrazine	0.09950000
132.	89-79-2	Cyclohexanol, 5-methyl-2-(1-methylethenyl)-, (1*R*,2*S*,5*R*)-	Iso-Pulegol	0.09930000
133.	112-12-9	2-Undecanone	Methyl Nonyl Ketone	0.09780000
134.	103-05-9	Benzenepropanol, α,α-dimethyl-	Phenyl Ethyl Dimethyl Carbinol	0.09770000
135.	125-12-2	Bicyclo[2.2.1]heptan-2-ol, 1,7,7-trimethyl-, 2-acetate, (1*R*,2*R*,4*R*)-rel-	Iso Bornyl Acetate	0.09590000
136.	78-70-6	1,6-Octadien-3-ol, 3,7-dimethyl-	Linalool	0.09050000
137.	101-97-3	Benzeneacetic acid, ethyl ester	Ethyl Phenyl Acetate	0.08970000
138.	100-86-7	Benzeneethanol, α,α-dimethyl-	Dimethyl Benzyl Carbinol	0.08880000
139.	188570-78-7	Cyclopropanecarboxylic acid, (3*Z*)-3-hexen-1-yl ester	Montaverdi	0.08640000
140.	67634-25-7	3-Cyclohexene-1-methanol, 3,5-dimethyl-, 1-acetate	Floralate	0.08500000
141.	112-44-7	Undecanal	Undecyl Aldehyde	0.08320000
142.	32669-00-4	Ethanone, 1-(3-cycloocten-1-yl)-	Tanaisone®	0.08150000
143.	98-53-3	Cyclohexanone, 4-(1,1-dimethylethyl)-	Patchi	0.07780000

144.	35854-86-5	6-Nonen-1-ol, (6*Z*)-	cis-6-None-1-ol	0.07770000
145.	5331-14-6	Benzene, (2-butoxyethyl)-	Butyl phenethyl ether	0.07760000
146.	80-57-9	Bicyclo[3.1.1]hept-3-en-2-one, 4,6,6-trimethyl-	Verbenone	0.07730000
147.	22471-55-2	Cyclohexanecarboxylic acid, 2,2,6-trimethyl-, ethyl ester, (1*R*,6*S*)-rel-	Thesaron	0.07670000
148.	60-12-8	Benzeneethanol	Phenethyl alcohol	0.07410000
149.	106-26-3	2,6-Octadienal, 3,7-dimethyl-, (2*Z*)-	Neral	0.07120000
150.	5392-40-5	2,6-Octadienal, 3,7-dimethyl-	Citral	0.07120000
151.	89-48-5	Cyclohexanol, 5-methyl-2-(1-methylethyl)-, 1-acetate, (1*R*,2*S*,5*R*)-rel-	Menthyl Acetate	0.07070000
152.	119-36-8	Benzoic acid, 2-hydroxy-, methyl ester	Methyl salicylate	0.07000000
153.	4180-23-8	Benzene, 1-methoxy-4-(1*E*)-1-propen-1-yl-	Anethol	0.06870000
154.	7549-37-3	2,6-Octadiene, 1,1-dimethoxy-3,7-dimethyl-	Citral Dimethyl Acetal	0.06780000
155.	25225-08-5	Cyclohexanemethanol, α,3,3-trimethyl-, 1-formate	Aphermate	0.06780000
156.	3913-81-3	2-Decenal, (2*E*)-	2-Decene-1-al	0.06740000
157.	15373-31-6	3-Cyclopentene-1-acetonitrile, 2,2,3-trimethyl-	Cantryl®	0.06700000
158.	6485-40-1	2-Cyclohexen-1-one, 2-methyl-5-(1-methylethenyl)-, (5*R*)-	Laevo carvone	0.06560000
159.	16587-71-6	Cyclohexanone, 4-(1,1-dimethylpropyl)-	Orivone	0.06490000
160.	6378-65-0	Hexyl hexanoate	Hexyl hexanoate	0.06400000
161.	62406-73-9	6,10-Dioxaspiro[4.5]decane, 8,8-dimethyl-7-(1-methylethyl)-	Opalal CI	0.06290000
162.	3720-16-9	2-Cyclohexen-1-one, 3-methyl-5-propyl-	Livescone	0.06270000
163.	13816-33-6	Benzonitrile, 4-(1-methylethyl)-	Cumin Nitrile	0.06230000
164.	67019-89-0	2,6-Nonadienenitrile	Violet Nitrile	0.06200000
165.	53398-85-9	Butanoic acid, 2-methyl-, (3*Z*)-3-hexen-1-yl ester	cis-3-Hexenyl Alpha Methyl Butyrate	0.06130000
166.	208041-98-9	Heptanenitrile, 2-propyl-	Jasmonitrile	0.05920000

167.	16510-27-3	Benzene, 1-(cyclopropylmethyl)-4-methoxy-	Toscanol	0.05870000
168.	111-80-8	2-Nonynoic acid, methyl ester	Methyl Octine Carbonate	0.05680000
169.	103-45-7	Acetic acid, 2-phenylethyl ester	Phenyl Ethyl Acetate	0.05640000
170.	13491-79-7	Cyclohexanol, 2-(1,1-dimethylethyl)-	Verdol	0.05430000
171.	7786-44-9	2,6-Nonadien-1-ol	2,6-Nonadien-1-ol	0.05370000
172.	103-28-6	Propanoic acid, 2-methyl-, phenylmethyl ester	Benzyl Iso Butyrate	0.05130000
173.	28462-85-3	Bicyclo[2.2.1]heptan-2-ol, 1,2,3,3-tetramethyl-, (1*R*,2*R*,4*S*)-rel-	Humus Ether	0.04870000
174.	122-03-2	Benzaldehyde, 4-(1-methylethyl)-	Cuminic Aldehyde	0.04820000
175.	358331-95-0	2,5-Octadien-4-one, 5,6,7-trimethyl-, (2*E*)-	Pomarose	0.04810000
176.	562-74-3	3-Cyclohexen-1-ol, 4-methyl-1-(1-methylethyl)-	Terpinenol-4	0.04780000
177.	68527-77-5	3-Cyclohexene-1-methanol, 2,4,6-trimethyl-	Isocyclogeraniol	0.04640000
178.	35852-46-1	Pentanoic acid, (3*Z*)-3-hexen-1-yl ester	Cis-3-Hexenyl Valerate	0.04580000
179.	2756-56-1	Bicyclo[2.2.1]heptan-2-ol, 1,7,7-trimethyl-, 2-propanoate, (1*R*,2*R*,4*R*)-rel-	Iso Bornyl Propionate	0.04540000
180.	14374-92-6	Benzene, 1-methyl-4-(1-methylethyl)-2-(1-propen-1-yl)-	Verdoracine	0.04460000
181.	6784-13-0	3-Cyclohexene-1-propanal, β,4-dimethyl-	Limonenal	0.04380000
182.	8000-41-7	2-(4-methyl-1-cyclohex-3-enyl)propan-2-ol	Alpha Terpineol	0.04320000
183.	41884-28-0	1-Hexanol, 5-methyl-2-(1-methylethyl)-, (2*R*)-	Tetrahydro Lavandulol	0.04230000
184.	22457-23-4	3-Heptanone, 5-methyl-, oxime	Stemone®	0.04140000
185.	104-50-7	2(3*H*)-Furanone, 5-butyldihydro-	Gamma Octalactone	0.04080000
186.	143-08-8	1-Nonanol	Nonyl Alcohol	0.04070000
187.	3613-30-7	Octanal, 7-methoxy-3,7-dimethyl-	Methoxycitronellal	0.04020000
188.	67634-00-8	Acetic acid, 2-(3-methylbutoxy)-, 2-propen-1-yl ester	Allyl Amyl Glycolate	0.04000000
189.	464-45-9	Bicyclo[2.2.1]heptan-2-ol,	l-Borneol	0.03980000

		1,7,7-trimethyl-, (1*S*,2*R*,4*S*)-		
190.	124-76-5	Bicyclo[2.2.1]heptan-2-ol, 1,7,7-trimethyl-, (1*R*,2*R*,4*R*)-rel-	1.7.7-Trimethyl-Bicyclo-1.2.2-Heptanol-2	0.03980000
191.	67874-72-0	Cyclohexanol, 2-(1,1-dimethylpropyl)-, 1-acetate	Coniferan	0.03980000
192.	80-26-2	3-Cyclohexene-1-methanol, α,α,4-trimethyl-, 1-acetate	Terpinyl Acetate	0.03920000
193.	498-81-7	Cyclohexanemethanol, α,α,4-trimethyl-	Dihydro Terpineol	0.03920000
194.	112-45-8	10-Undecenal	Undecylenic aldehyde	0.03900000
195.	35044-57-6	2,4-Cyclohexadiene-1-carboxylic acid, 2,6,6-trimethyl-, ethyl ester	Ethyl Safranate	0.03880000
196.	106-21-8	1-Octanol, 3,7-dimethyl-	Dimethyl Octanol	0.03860000
197.	84560-00-9	Cyclopentanol, 2-pentyl-	Cyclopentol	0.03790000
198.	82461-14-1	Furan, tetrahydro-2,4-dimethyl-4-phenyl-	Rhubafuran®	0.03780000
199.	56011-02-0	Benzene, [2-(3-methylbutoxy)ethyl]-	Phenyl Ethyl Isoamyl Ether	0.03690000
200.	103-37-7	Butanoic acid, phenylmethyl ester	Benzyl Butyrate	0.03660000
201.	118-61-6	Benzoic acid, 2-hydroxy-, ethyl ester	Ethyl salicylate	0.03480000
202.	98-52-2	Cyclohexanol, 4-(1,1-dimethylethyl)-	Patchon	0.03480000
203.	115-99-1	1,6-Octadien-3-ol, 3,7-dimethyl-, 3-formate	Linalyl Formate	0.03440000
204.	112-54-9	Dodecanal	Lauric Aldehyde	0.03440000
205.	53046-97-2	3,6-Nonadien-1-ol, (3*Z*,6*Z*)-	3,6 Nonadien-1-ol	0.03360000
206.	76649-25-7	3,6-Nonadien-1-ol	3,6-Nonadien-1-ol	0.03360000
207.	141-25-3	3,7-Dimethyloct-6-en-1-ol	Rhodinol	0.03290000
208.	1975-78-6	Decanenitrile	Decanonitrile	0.03250000
209.	2216-51-5	Cyclohexanol, 5-methyl-2-(1-methylethyl)-, (1*R*,2*S*,5*R*)-	L-Menthol	0.03230000
210.	3658-77-3	4-hydroxy-2,5-dimethylfuran-3-one	Pineapple Ketone	0.03200000
211.	103-93-5	Propanoic acid, 2-methyl-, 4-methylphenyl ester	Para Cresyl iso-Butyrate	0.03120000
212.	24717-86-0	Propanoic acid, 2-methyl-, (1*R*,2*S*,4*R*)-1,7,7-trimethylbicyclo[2.2.1]hept-	Abierate	0.03110000

		2-yl ester, rel-		
213.	67845-46-9	Acetaldehyde, 2-(4-methylphenoxy)-	Aldehyde XI	0.03090000
214.	67883-79-8	2-Butenoic acid, 2-methyl-, (3*Z*)-3-hexen-1-yl ester, (2*E*)-	Cis-3-Hexenyl Tiglate	0.03060000
215.	33885-51-7	Bicyclo[3.1.1]hept-2-ene-2-propanal, 6,6-dimethyl-	Pino Acetaldehyde	0.03040000
216.	70214-77-6	2-Nonanol, 6,8-dimethyl-	Nonadyl	0.03010000
217.	105-85-1	6-Octen-1-ol, 3,7-dimethyl-, 1-formate	Citronellyl Formate	0.03000000
218.	215231-33-7	Cyclohexanol, 1-methyl-3-(2-methylpropyl)-	Rossitol	0.02990000
219.	120-72-9	1*H*-Indole	Indole	0.02980000
220.	2463-77-6	2-Undecenal	2-Undecene-1-al	0.02970000
221.	675-09-2	2*H*-Pyran-2-one, 4,6-dimethyl-	Levistamel	0.02940000
222.	98-55-5	3-Cyclohexene-1-methanol, α,α,4-trimethyl-	Alpha-Terpineol	0.02830000
223.	81786-73-4	3-Hepten-2-one, 3,4,5,6,6-pentamethyl-, (3*Z*)-	Koavone	0.02750000
224.	39212-23-2	2(3*H*)-Furanone, 5-butyldihydro-4-methyl-	Methyl Octalactone	0.02700000
225.	53767-93-4	7-Octen-2-ol, 2,6-dimethyl-, 2-acetate	Dihydro Terpinyl Acetate	0.02690000
226.	35044-59-8	1,3-Cyclohexadiene-1-carboxylic acid, 2,6,6-trimethyl-, ethyl ester	Ethyl Safranate	0.02660000
227.	104-55-2	2-Propenal, 3-phenyl-	Cinnamic Aldehyde	0.02650000
228.	144-39-8	1,6-Octadien-3-ol, 3,7-dimethyl-, 3-propanoate	Linalyl Propionate	0.02630000
229.	102-13-6	Benzeneacetic acid, 2-methylpropyl ester	Iso Butyl Phenylacetate	0.02630000
230.	61931-80-4	1,6-Nonadien-3-ol, 3,7-dimethyl-, 3-acetate	3,7-Dimethyl-1,6-nonadien-3-yl acetate	0.02630000
231.	65443-14-3	Cyclopentanone, 2,2,5-trimethyl-5-pentyl-	veloutone	0.02610000
232.	141-12-8	2,6-Octadien-1-ol, 3,7-dimethyl-, 1-acetate, (2*Z*)-	Neryl Acetate	0.02560000
233.	105-87-3	2,6-Octadien-1-ol, 3,7-dimethyl-, 1-acetate, (2*E*)-	Geranyl acetate	0.02560000
234.	68141-17-3	Undecane, 1,1-dimethoxy-2-methyl-	Methyl Nonyl Acetaldehyde Dimethyl Acetal	0.02550000
235.	2206-94-2	Benzenemethanol, α-methylene-, 1-acetate	Indocolore	0.02550000
236.	123-11-5	Benzaldehyde, 4-methoxy-	Anisic aldehyde	0.02490000

237.	57576-09-7	Cyclohexanol, 5-methyl-2-(1-methylethenyl)-, 1-acetate, (1*R*,2*S*,5*R*)-	Iso Pulegol Acetate	0.02480000
238.	51566-62-2	6-Octenenitrile, 3,7-dimethyl-	Citronellyl Nitrile	0.02470000
239.	60335-71-9	2*H*-Pyran, 3,6-dihydro-4-methyl-2-phenyl-	Rosyrane	0.02470000
240.	30385-25-2	6-Octen-2-ol, 2,6-dimethyl-	Dihydromyrcenol	0.02440000
241.	101-84-8	Benzene, 1,1'-oxybis-	Diphenyl Oxide	0.02230000
242.	136-60-7	Benzoic acid, butyl ester	Butyl Benzoate	0.02170000
243.	93939-86-7	5,8-Methano-2*H*-1-benzopyran, 6-ethylideneoctahydro-	Rhuboflor	0.02120000
244.	83926-73-2	Cyclohexanepropanol, α,α-dimethyl-	Coranol	0.02100000
245.	125109-85-5	Benzenepropanal, β-methyl-3-(1-methylethyl)-	Florhydral	0.02070000
246.	104-21-2	Benzenemethanol, 4-methoxy-, 1-acetate	Anisyl Acetate	0.02050000
247.	137-03-1	Cyclopentanone, 2-heptyl-	Frutalone	0.02040000
248.	2563-07-7	Phenol, 2-ethoxy-4-methyl-	Ultravanil	0.02030000
249.	1128-08-1	2-Cyclopenten-1-one, 3-methyl-2-pentyl-	Dihydrojasmone	0.02020000
250.	7493-57-4	Benzene, [2-(1-propoxyethoxy)ethyl]-	Acetaldehyde	0.01990000
251.	141-25-3	7-Octen-1-ol, 3,7-dimethyl-	Rhodinol	0.01970000
252.	216970-21-7	Bicyclo[4.3.1]decane, 3-methoxy-7,7-dimethyl-10-methylene-	3-Methoxy-7,7-dimethyl-10-methylenebicyclo[4.3.1] decane	0.01960000
253.	319002-92-1	Propanoic acid, 2-(1,1-dimethylpropoxy)-, propyl ester, (2*S*)-	Sclareolate®	0.01960000
254.	85-91-6	Benzoic acid, 2-(methylamino)-, methyl ester	Dimethyl anthranilate	0.01930000
255.	7540-51-4	6-Octen-1-ol, 3,7-dimethyl-, (3*S*)-	L-Citronellol	0.01830000
256.	106-22-9	6-Octen-1-ol, 3,7-dimethyl-	Citronellol	0.01830000
257.	543-39-5	7-Octen-2-ol, 2-methyl-6-methylene-	Myrcenol	0.01820000
258.	7775-00-0	Benzenepropanal, 4-(1-methylethyl)-	Cyclemax	0.01820000
259.	18479-54-4	4,6-Octadien-3-ol, 3,7-dimethyl-	Muguol	0.01800000

260.	29214-60-6	Octanoic acid, 2-acetyl-, ethyl ester	Gelsone	0.01790000
261.	1209-61-6	5-Oxatricyclo[8.2.0.04,6] dodecane, 4,9,12,12-tetramethyl-	Tobacarol	0.01730000
262.	57934-97-1	2-Cyclohexene-1-carboxylic acid, 2-ethyl-6,6-dimethyl-, ethyl ester	Givescone	0.01710000
263.	14901-07-6	3-Buten-2-one, 4-(2,6,6-trimethyl-1-cyclohexen-1-yl)-, (3*E*)-	Beta-Ionone	0.01690000
264.	64001-15-6	4,7-Methano-1*H*-inden-5-ol, octahydro-, 5-acetate	Dihydro Cyclacet	0.01630000
265.	95-41-0	2-Cyclopenten-1-one, 2-hexyl-	Iso Jasmone	0.01600000
266.	134-20-3	Benzoic acid, 2-amino-, methyl ester	Methyl Anthranilate	0.01580000
267.	105-86-2	2,6-Octadien-1-ol, 3,7-dimethyl-, 1-formate, (2*E*)-	Geranyl Formate	0.01540000
268.	154171-77-4	Spiro[1,3-dioxolane-2, 8'(5'*H*)-[2*H*-2,4a] methanonaphthalene], hexahydro-1',1',5',5'-tetramethyl-, (2'*S*,4'a*S*,8'a*S*)-(9CI)	Ysamber K®	0.01470000
269.	154171-76-3	Spiro[1,3-dioxolane-2,8'(5'*H*)-[2*H*-2,4a]methanonaphthalene], hexahydro-1',1',5',5'-tetramethyl-	Ysamber	0.01470000
270.	127-41-3	3-Buten-2-one, 4-(2,6,6-trimethyl-2-cyclohexen-1-yl)-, (3*E*)-	Alpha-Ionone	0.01440000
271.	151-05-3	Benzeneethanol, α,α-dimethyl-, 1-acetate	Dimethyl Benzyl Carbinyl Acetate	0.01390000
272.	2500-83-6	4,7-Methano-1*H*-inden-5-ol, 3a,4,5,6,7,7a-hexahydro-, 5-acetate	Flor Acetate	0.01370000
273.	150-84-5	6-Octen-1-ol, 3,7-dimethyl-, 1-acetate	Citronellyl acetate	0.01370000
274.	30310-41-9	2*H*-Pyran, tetrahydro-2-methyl-4-methylene-6-phenyl-	Pelargene	0.01350000
275.	68845-00-1	Bicyclo[3.3.1]nonane, 2-ethoxy-2,6,6-trimethyl-9-methylene-	Boisiris	0.01350000
276.	106-24-1	2,6-Octadien-1-ol, 3,7-dimethyl-, (2*E*)-	Geraniol	0.01330000
277.	106-25-2	2,6-Octadien-1-ol, 3,7-dimethyl-, (2*E*)-	Nerol	0.01330000

278.	75975-83-6	Bicyclo[7.2.0]undec-4-ene, 4,11,11-trimethyl-8-methylene-, (1*R*,4*E*,9*S*)-	Vetyvenal	0.01280000
279.	19870-74-7	1*H*-3a,7-Methanoazulene, octahydro-6-methoxy-3,6,8,8-tetramethyl-, (3*R*,3a*S*,6*S*,7*R*,8a*S*)-	Cedryl methyl ether	0.01280000
280.	87-44-5	Bicyclo[7.2.0]undec-4-ene, 4,11,11-trimethyl-8-methylene-, (1*R*,4*E*,9*S*)-	Caryophyllene Extra	0.01280000
281.	54440-17-4	1*H*-Inden-1-one, 2,3-dihydro-2,3,3-trimethyl-	Safraleine	0.01260000
282.	110-98-5	2-Propanol, 1,1'-oxybis-	Dipropylene Glycol	0.01250000
283.	41890-92-0	2-Octanol, 7-methoxy-3,7-dimethyl-	Osyrol®	0.01250000
284.	71077-31-1	4,9-Decadienal, 4,8-dimethyl-	Floral Super	0.01230000
285.	65-85-0	Benzoic Acid	Benzoic Acid	0.01220000
286.	61444-38-0	3-Hexenoic acid, (3*Z*)-3-hexen-1-yl ester, (3*Z*)-	cis-3-hexenyl-cis-3-hexenoate	0.01220000
287.	116044-44-1	Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 3-(1-methylethyl)-, ethyl ester, (1*R*,2*S*,3*S*,4*S*)-rel-	Herbanate	0.01210000
288.	104-54-1	2-Propen-1-ol, 3-phenyl-	Cinnamic Alcohol	0.01170000
289.	78-35-3	Propanoic acid, 2-methyl-, 1-ethenyl-1,5-dimethyl-4-hexen-1-yl ester	Linalyl Isobutyrate	0.01170000
290.	23495-12-7	Ethanol, 2-phenoxy-, 1-propanoate	Phenoxy Ethyl Propionate	0.01130000
291.	103-26-4	2-Propenoic acid, 3-phenyl-, methyl ester	Methyl Cinnamate	0.01120000
292.	67634-14-4	Benzenepropanal, 2-ethyl-α,α-dimethyl-	Florazon (ortho-isomer)	0.01110000
293.	5454-19-3	Propanoic acid, decyl ester	*N*-Decyl Propionate	0.01100000
294.	93-16-3	Benzene, 1,2-dimethoxy-4-(1-propen-1-yl)-	Methyl Iso Eugenol	0.01100000
295.	81782-77-6	3-Decen-5-ol, 4-methyl-	4-Methyl-3-decen-5-ol	0.01070000
296.	67845-30-1	Bicyclo[2.2.2]oct-5-ene-2-carboxaldehyde, 6-methyl-8-(1-methylethyl)-	Maceal	0.01060000
297.	97-53-0	Phenol, 2-methoxy-4-(2-propen-1-yl)-	Eugenol	0.01040000
298.	120-57-0	1,3-Benzodioxole-5-carboxaldehyde	Heliotropin	0.01040000

299.	93-04-9	Naphthalene, 2-methoxy-	Beta Naphthyl Methyl Ether	0.01040000
300.	4826-62-4	2-Dodecenal	2 Dodecene-1-al	0.01020000
301.	20407-84-5	2-Dodecenal, (2*E*)-	Aldehyde Mandarin	0.01020000
302.	5462-06-6	Benzenepropanal, 4-methoxy-α-methyl-	Canthoxal	0.01020000
303.	94-60-0	1,4-Cyclohexanedicarboxylic acid, 1,4-dimethyl ester	Dimethyl 1,4-cyclohexanedicarboxylate	0.01020000
304.	57378-68-4	2-Buten-1-one, 1-(2,6,6-trimethyl-3-cyclohexen-1-yl)-	delta-Damascone	0.01020000
305.	17283-81-7	2-Butanone, 4-(2,6,6-trimethyl-1-cyclohexen-1-yl)-	Dihydro Beta Ionone	0.01020000
306.	1885-38-7	2-Propenenitrile, 3-phenyl-, (2*E*)-	Cinnamalva	0.01010000
307.	103-48-0	Propanoic acid, 2-methyl-, 2-phenylethyl ester	Phenyl Ethyl Iso Butyrate	0.00994000
308.	488-10-8	2-Cyclopenten-1-one, 3-methyl-2-(2*Z*)-2-penten-1-yl-	Cis Jasmone	0.00982000
309.	7492-67-3	Acetaldehyde, 2-[(3,7-dimethyl-6-octen-1-yl)oxy]-	Citronellyloxyacetaldehyde	0.00967000
310.	68683-20-5	1-Cyclohexene-1-ethanol, 4-(1-methylethyl)-, 1-formate	Iso Bergamate	0.00965000
311.	3025-30-7	2,4-Decadienoic acid, ethyl ester, (2*E*,4*Z*)-	Ethyl 2,4-Decadienoate	0.00954000
312.	103-54-8	2-Propen-1-ol, 3-phenyl-, 1-acetate	Cinnamyl Acetate	0.00940000
313.	6790-58-5	Naphtho[2,1-b]furan, dodecahydro-3a,6,6,9a-tetramethyl-, (3a*R*,5a*S*,9a*S*, 9b*R*)-	Synambran	0.00934000
314.	18127-01-0	Benzenepropanal, 4-(1,1-dimethylethyl)-	Bourgeonal	0.00934000
315.	3738-00-9	Naphtho[2,1-b]furan, dodecahydro-3a,6,6,9a-tetramethyl-	Ambrox® or Cetalox® or Synambran	0.00934000
316.	51519-65-4	1,4-Methanonaphthalen-5(1*H*)-one, 4,4a,6,7,8,8a-hexahydro-	Tamisone	0.00932000
317.	148-05-1	Dodecanoic acid, 12-hydroxy-, λ-lactone (6CI, 7CI); 1,12-	Dodecalactone	0.00931000
318.	86-26-0	1,1'-Biphenyl, 2-methoxy-	Methyl Diphenyl Ether	0.00928000
319.	2705-87-5	Cyclohexanepropanoic acid, 2-propen-1-yl ester	Allyl Cyclohexane Propionate	0.00925000

320.	68738-94-3	2-Naphthalenecarboxaldehyde, octahydro-8,8-dimethyl	2-Naphthalenecarboxaldehyde, octahydro-8,8-dimethyl-	0.00920000
321.	7011-83-8	2(3*H*)-Furanone, 5-hexyldihydro-5-methyl-	Lactojasmone®	0.00885000
322.	61792-11-8	2,6-Nonadienenitrile, 3,7-dimethyl-	Lemonile®	0.00884000
323.	692-86-4	10-Undecenoic acid, ethyl ester	Ethyl Undecylenate	0.00882000
324.	103-95-7	Benzenepropanal, α-methyl-4-(1-methylethyl)-	Cymal	0.00881000
325.	13019-22-2	9-Decen-1-ol	Rosalva	0.00879000
326.	94201-19-1	1-Oxaspiro[4.5]decan-2-one, 8-methyl-	Methyl Laitone 10% TEC	0.00872000
327.	104-61-0	2(3*H*)-Furanone, dihydro-5-pentyl-	γ-Nonalactone	0.00858000
328.	706-14-9	2(3*H*)-Furanone, 5-hexyldihydro-	γ -Decalactone	0.00852000
329.	24720-09-0	2-Buten-1-one, 1-(2,6,6-trimethyl-2-cyclohexen-1-yl)-, (2*E*)-	α-Damascone	0.00830000
330.	39872-57-6	2-Buten-1-one, 1-(2,4,4-trimethyl-2-cyclohexen-1-yl)-, (2*E*)-	Isodamascone	0.00830000
331.	705-86-2	2*H*-Pyran-2-one, tetrahydro-6-pentyl-	Decalactone	0.00825000
332.	67634-15-5	Benzenepropanal, 4-ethyl-α,α-dimethyl-	Floralozone	0.00808000
333.	40527-42-2	1,3-Benzodioxole, 5-(diethoxymethyl)-	Heliotropin Diethyl Acetal	0.00796000
334.	56973-85-4	4-Penten-1-one, 1-(5,5-dimethyl-1-cyclohexen-1-yl)-	Neobutenone α	0.00763000
335.	128-51-8	Bicyclo[3.1.1]hept-2-ene-2-ethanol, 6,6-dimethfyl-, 2-acetate	Nopyl Acetate	0.00751000
336.	103-36-6	2-Propenoic acid, 3-phenyl-, ethyl ester	Ethyl Cinnamate	0.00729000
337.	5182-36-5	1,3-Dioxane, 2,4,6-trimethyl-4-phenyl-	Floropal®	0.00709000
338.	42604-12-6	Cyclododecane, (methoxymethoxy)-	Boisambrene	0.00686000
339.	33885-52-8	Bicyclo[3.1.1]hept-2-ene-2-propanal, α,α,6,6-tetramethyl-	Pinyl Iso Butyrate Alpha	0.00685000
340.	92015-65-1	2(3*H*)-Benzofuranone, hexahydro-3,6-dimethyl-	Natactone	0.00680000
341.	63767-86-2	Cyclohexanemethanol, α-methyl-4-(1-methylethyl)-	Mugetanol	0.00678000

342.	35044-68-9	2-Buten-1-one, 1-(2,6,6-trimethyl-1-cyclohexen-1-yl)-	beta-Damascone	0.00655000
343.	25634-93-9	2-Methyl-5-phenylpentan-1-ol	Rosaphen® 600064	0.00637000
344.	55066-48-3	3-Methyl-5-phenylpentanol	Phenyl Hexanol	0.00637000
345.	3288-99-1	Benzeneacetonitrile, 4-(1,1-dimethylethyl)-	Marenil CI	0.00665000
346.	35044-68-9	2-Buten-1-one, 1-(2,6,6-trimethyl-1-cyclohexen-1-yl)-	beta-Damascone	0.00655000
347.	41724-19-0	1,4-Methanonaphthalen-6(2*H*)-one, octahydro-7-methyl-	Plicatone	0.00652000
348.	75147-23-8	Bicyclo[3.2.1]octan-8-one, 1,5-dimethyl-, oxime	Buccoxime®	0.00647000
349.	495-62-5	Cyclohexene, 4-(1,5-dimethyl-4-hexen-1-ylidene) -1-methyl-	Bisabolene	0.00630000
350.	2785-87-7	Phenol, 2-methoxy-4-propyl-	Dihydro Eugenol	0.00624000
351.	87-19-4	Benzoic acid, 2-hydroxy-, 2-methylpropyl ester	Iso Butyl Salicylate	0.00613000
352.	4430-31-3	2*H*-1-Benzopyran-2-one, octahydro-	Octahydro Coumarin	0.00586000
353.	38462-22-5	Cyclohexanone, 2-(1-mercapto-1-methylethyl)-5-methyl-	Ringonol 50 TEC	0.00585000
354.	77-83-8	2-Oxiranecarboxylic acid, 3-methyl-3-phenyl-, ethyl ester	Ethylmethylphenylglycidate	0.00571000
355.	37677-14-8	3-Cyclohexene-1-carboxaldehyde, 4-(4-methyl-3-penten-1-yl)-	Iso Hexenyl Cyclohexenyl Carboxaldehyde	0.00565000
356.	103-60-6	Propanoic acid, 2-methyl-, 2-phenoxyethyl ester	Phenoxy Ethyl iso-Butyrate	0.00562000
357.	18096-62-3	Indeno[1,2-d]-1,3-dioxin, 4, 4a,5,9b-tetrahydro-	Indoflor®	0.00557000
358.	63500-71-0	2*H*-Pyran-4-ol, tetrahydro-4-methyl-2-(2-methylpropyl)-	Florosa Q/ Florol	0.00557000
359.	65405-84-7	Cyclohexanebutanal, α,2,6, 6-tetramethyl-	Cetonal®	0.00533000
360.	27606-09-3	4,7-Methano-1*H*-inden-6-ol, 3a,4,5,6,7,7a-hexahydro-8, 8-dimethyl-, 6-acetate	Flor Acetate	0.00530000
361.	10339-55-6	1,6-Nonadien-3-ol, 3,7-dimethyl-	Ethyl Linalool	0.00520000
362.	23267-	3-Buten-2-one, 4-(2,2,6-	Ionone Epoxide Beta	0.00520000

	57-4	trimethyl-7-oxabicyclo[4.1.0]hept-1-yl)-		
363.	97-54-1	Phenol, 2-methoxy-4-(1-propen-1-yl)-	Isoeugenol	0.00519000
364.	67663-01-8	2(3*H*)-Furanone, 5-hexyldihydro-4-methyl-	Peacholide	0.00512000
365.	33885-52-8	Bicyclo[3.1.1]hept-2-ene-2-propanal, α,α,6,6-tetramethyl-	Pinyl Iso Butyrate Alpha	0.00512000
366.	23696-85-7	2-Buten-1-one, 1-(2,6,6-trimethyl-1,3-cyclohexadien-1-yl)-	Damascenone	0.00503000
367.	80-71-7	2-Cyclopenten-1-one, 2-hydroxy-3-methyl-	Maple Lactone	0.00484000
368.	67662-96-8	Propanoic acid, 2,2-dimethyl-, 2-phenylethyl ester	Pivarose Q	0.00484000
369.	2437-25-4	Dodecanenitrile	Clonal	0.00480000
370.	141-14-0	6-Octen-1-ol, 3,7-dimethyl-, 1-propanoate	Citronellyl Propionate	0.00469000
371.	54992-90-4	3-Buten-2-one, 4-(2,2,3,6-tetramethylcyclohexyl)-	3-Buten-2-one, 4-(2,2,3,6-tetramethylcyclohexyl)-	0.00460000
372.	55066-49-4	Benzenepentanal, β-methyl-	Mefranal	0.00455000
373.	7493-74-5	Acetic acid, 2-phenoxy-, 2-propen-1-yl ester	Allyl Phenoxy Acetate	0.00454000
374.	80-54-6	4-(1,1-dimethylethyl)-α-methylbenzenepropanal	Lilial®	0.00444000
375.	86803-90-9	4,7-Methano-1*H*-indene-2-carboxaldehyde, octahydro-5-methoxy-	Scentenal®	0.00439000
376.	68991-97-9	2-Naphthalenecarboxaldehyde, 1,2,3,4,5,6,7,8-octahydro-8,8-dimethyl-	Melafleur	0.00436000
377.	18871-14-2	Pentitol, 1,5-anhydro-2,4-dideoxy-2-pentyl-, 3-acetate	Jasmal	0.00434000
378.	58567-11-6	Cyclododecane, (ethoxymethoxy)-	Boisambren Forte	0.00433000
379.	94400-98-3	Naphth[2,3-b]oxirene, 1a,2,3,4,5,6,7,7a-octahydro-1a,3,3,4,6,6-hexamethyl-, (1a*R*,4*S*,7a*S*)-rel-	Molaxone	0.00425000
380.	79-69-6	3-Buten-2-one, 4-(2,5,6,6-tetramethyl-2-cyclohexen-1-yl)-	alpha-Irone	0.00419000
381.	65442-31-1	Quinoline, 6-(1-methylpropyl)-	Iso Butyl Quinoline	0.00408000
382.	87731-18-8	Carbonic acid, 4-cycloocten-1-yl methyl ester	Violiff	0.00401000

383.	173445-65-3	1*H*-Indene-5-propanal, 2,3-dihydro-3,3-dimethyl-	Hivernal (A-isomer)	0.00392000
384.	23911-56-0	Ethanone, 1-(3-methyl-2-benzofuranyl)-	Nerolione	0.00383000
385.	52474-60-9	3-Cyclohexene-1-carboxaldehyde, 1-methyl-3-(4-methyl-3-penten-1-yl)-	Precyclemone B	0.00381000
386.	139539-66-5	6-Oxabicyclo[3.2.1]octane, 5-methyl-1-(2,2,3-trimethyl-3-cyclopenten-1-yl)-	Cassifix	0.00381000
387.	80858-47-5	Benzene, [2-(cyclohexyloxy)ethyl]-	Phenafleur	0.00380000
388.	32764-98-0	2*H*-Pyran-2-one, tetrahydro-6-(3-penten-1-yl)-	Jasmolactone	0.00355000
389.	78417-28-4	2,4,7-Decatrienoic acid, ethyl ester	Ethyl 2,4,7-decatrienoate	0.00353000
390.	140-26-1	Butanoic acid, 3-methyl-, 2-phenylethyl ester	Beta Phenyl Ethyl Isovalerate	0.00347000
391.	105-90-8	2,6-Octadien-1-ol, 3,7-dimethyl-, 1-propanoate, (2*E*)-	Geranyl Propionate	0.00336000
392.	41816-03-9	Spiro[1,4-methanonaphthalene-2(1*H*), 2'-oxirane], 3,4,4a,5,8,8a-hexahydro-3',7-dimethyl-	Rhubofix®	0.00332000
393.	7070-15-7	Ethanol, 2-[[(1*R*,2*R*,4*R*)-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl]oxy]-, rel-	Arbanol	0.00326000
394.	93-29-8	Phenol, 2-methoxy-4-(1-propen-1-yl)-, 1-acetate	Iso Eugenol Acetate	0.00324000
395.	476332-65-7	2*H*-Indeno[4,5-b]furan, decahydro-2,2,6,6,7,8,8-heptamethyl-	Amber Xtreme Compound 1	0.00323000
396.	68901-15-5	Acetic acid, 2-(cyclohexyloxy)-, 2-propen-1-yl ester	Cyclogalbanate	0.00323000
397.	107-75-5	Octanal, 7-hydroxy-3,7-dimethyl-	Hydroxycitronellal	0.00318000
398.	68611-23-4	Naphtho[2,1-b]furan, 9b-ethyldodecahydro-3a,7,7-trimethyl-	Grisalva	0.00305000
399.	313973-37-4	1,6-Heptadien-3-one, 2-cyclohexyl-	Pharaone	0.00298000
400.	137-00-8	5-Thiazoleethanol, 4-methyl-	Sulfurol	0.00297000
401.	7779-30-8	1-Penten-3-one, 1-(2,6,6-trimethyl-2-cyclohexen-1-yl)-	Methyl Ionone	0.00286000
402.	127-51-5	3-Buten-2-one, 3-methyl-4-(2,6,6-trimethyl-2-	Isoraldeine Pure	0.00282000

		cyclohexen-1-yl)-		
403.	72903-27-6	1,4-Cyclohexanedicarboxylic acid, 1,4-diethyl ester	Fructalate™	0.00274000
404.	7388-22-9	3-Buten-2-one, 4-(2,2-dimethyl-6-methylenecyclohexyl)-3-methyl-	Methyl-γ-ionone	0.00272000
405.	104-67-6	2(3*H*)-Furanone, 5-heptyldihydro-	gamma-Undecalactone (racemic)	0.00271000
406.	1205-17-0	1,3-Benzodioxole-5-propanal, α-methyl-	Helional	0.00270000
407.	33704-61-9	4*H*-Inden-4-one, 1,2,3,5,6,7-hexahydro-1,1,2,3,3-pentamethyl-	Cashmeran	0.00269000
408.	36306-87-3	Cyclohexanone, 4-(1-ethoxyethenyl)-3,3,5,5-tetramethyl-	Kephalis	0.00269000
409.	97384-48-0	Benzenepropanenitrile, α-ethenyl-α-methyl-	Citrowanil® B	0.00265000
410.	173445-44-8	1*H*-Indene-5-propanal, 2,3-dihydro-1,1-dimethyl-	Neo Hivernal (B isomer)	0.00258000
411.	141-13-9	9-Undecenal, 2,6,10-trimethyl-	Adoxal	0.00257000
412.	2110-18-1	Pyridine, 2-(3-phenylpropyl)-	Corps Racine VS	0.00257000
413.	27606-09-3	Indeno[1,2-d]-1,3-dioxin, 4,4a,5,9b-tetrahydro-2,4-dimethyl-	Magnolan	0.00251000
414.	67634-20-2	Propanoic acid, 2-methyl-, 3a,4,5,6,7,7a-hexahydro-4,7-methano-1*H*-inden-5-yl ester	Cyclabute	0.00244000
415.	65405-72-3	1-Naphthalenol, 1,2,3,4,4a,7,8,8a-octahydro-2,4a,5,8a-tetramethyl-, 1-formate	Oxyoctaline Formate	0.00236000
416.	122-40-7	Heptanal, 2-(phenylmethylene)-	Amyl Cinnamic Aldehyde	0.00233000
417.	103694-68-4	Benzenepropanol, β,β,3-trimethyl-	Majantol®	0.00224000
418.	13215-88-8	2-Cyclohexen-1-one, 4-(2-buten-1-ylidene)-3,5,5-trimethyl-	Tabanone Coeur	0.00223000
419.	25152-85-6	3-Hexen-1-ol, 1-benzoate, (3*Z*)-	Cis-3-Hexenyl Benzoate	0.00203000
420.	406488-30-0	2-Ethyl-*N*-methyl-*N*-(m-tolyl)butanamide	Paradisamide®	0.00200000
421.	121-33-5	Benzaldehyde, 4-hydroxy-3-methoxy-	Vanillin	0.00194000
422.	77-54-3	1*H*-3a,7-Methanoazulen-6-ol, octahydro-3,6,8,8-	Cedac	0.00192000

		tetramethyl-, 6-acetate, (3*R*, 3a*S*,6*R*,7*R*,8a*S*)-		
423.	76842-49-4	4,7-Methano-1*H*-inden-6-ol, 3a,4,5,6,7,7a-hexahydro-8, 8-dimethyl-, 6-propanoate	Frutene	0.00184000
424.	121-39-1	2-Oxiranecarboxylic acid, 3-phenyl-, ethyl ester	Ethyl Phenyl Glycidate	0.00184000
425.	211299-54-6	4*H*-4a,9-Methanoazuleno[5, 6-d]-1,3-dioxole, octahydro-2,2,5,8,8,9a-hexamethyl-, (4a*R*,5*R*,7a*S*,9*R*)-	Ambrocenide®	0.00182000
426.	285977-85-7	(2,5-dimethyl-1,3-dihydroinden-2-yl)methanol	Lilyflore	0.00180000
427.	10094-34-5	Butanoic acid, 1,1-dimethyl-2-phenylethyl ester	Dimethyl benzyl carbinyl butyrate	0.00168000
428.	40785-62-4	Cyclododeca[c]furan, 1,3, 3a,4,5,6,7,8,9,10,11,13a-dodecahydro-	Muscogene	0.00163000
429.	75490-39-0	Benzenebutanenitrile, α,α,γ-trimethyl-	Khusinil	0.00162000
430.	55418-52-5	2-Butanone, 4-(1,3-benzodioxol-5-yl)-	Dulcinyl	0.00161000
431.	3943-74-6	Benzoic acid, 4-hydroxy-3-methoxy-, methyl ester	Carnaline	0.00157000
432.	72089-08-8	3-Cyclopentene-1-butanol, β,2,2,3-tetramethyl-2-Methyl-4-(2,2,3-trimethyl-3-cyclopenten-1-yl)butanol	Brahmanol®	0.00154000
433.	3155-71-3	2-Butenal, 2-methyl-4-(2,6, 6-trimethyl-1-cyclohexen-1-yl)-	Boronal	0.00147000
434.	2050-08-0	Benzoic acid, 2-hydroxy-, pentyl ester	Amyl Salicylate	0.00144000
435.	12262-03-2	ndecanoic acid, 3-methylbutyl ester	Iso Amyl Undecylenate	0.00140000
436.	41199-20-6	2-Naphthalenol, decahydro-2,5,5-trimethyl-	Ambrinol	0.00140000
437.	107-74-4	1,7-Octanediol, 3,7-dimethyl-	Hydroxyol	0.00139000
438.	91-64-5	2*H*-1-Benzopyran-2-one	Coumarin	0.00130000
439.	68901-32-6	1,3-Dioxolane, 2-[6-methyl-8-(1-methylethyl) bicyclo[2.2.2]oct-5-en-2-yl]-	Glycolierral	0.00121000
440.	68039-44-1	Propanoic acid, 2,2-dimethyl-, 3a,4,5,6,7,7a-hexahydro-4,7-methano-1*H*-inden-6-yl ester	Pivacyclene	0.00119000

441.	106-29-6	Butanoic acid, (2*E*)-3,7-dimethyl-2,6-octadien-1-yl ester	Geranyl Butyrate	0.00116000
442.	5471-51-2	2-Butanone, 4-(4-hydroxyphenyl)-	Raspberry ketone	0.00106000
443.	109-42-2	10-Undecenoic acid, butyl ester	Butyl Undecylenate	0.00104000

* Vapor Pressures are acquired as described in the Test Methods Section.

** Origin: Same as for Table 1 hereinabove.

Preferably, the compositions of the present invention are those where the volatile fragrance material is selected from the group of Table 2 Volatile Fragrance Materials 130, 131, 133, 137-139, 142, 144-145, 147-148, 150-151, 154-155, 158, 162, 165-166, 168, 171, 175, 178, 180-181, 184, 186-188, 192, 194-197, 199, 201, 203-205, 208, 214-217, 219-221, 225-226, 228-229, 232-235, 237-239, 241-242, 245, 247, 249-250, 255-256, 258, 260, 262, 264-267, 270-273, 276-277, 279-281, 284, 286-287, 289-290, 293-301, 304-305, 307-312, 314, 316, 318-320, 322-325, 328-335, 340-344, 347, 349-351, 354-358, 359-364, 366, 368-373, 375-378, 380-383, 385, 387-388, 390-392, 394, 396, 399, 403-407, 409-419, 422-424, 427-428, 430, 432-435, 439-441, 443 and mixtures thereof. It is understood by one skilled in the art that other volatile fragrance materials, not recited in Table 2, would also fall within the scope of the present invention, so long as they have a vapor pressure of greater than or equal to 0.001 Torr (0.000133 kPa) at 25 °C.

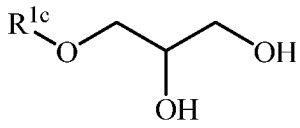
Modulators

In one aspect, compositions of the present invention comprise at least one substantially non-odorous modulator selected from the group consisting of:

(a) Propylene Glycol Propyl Ether; Dicetyl Ether Ethers; Polyglycerin-4 Ethers; Isoceteth-5; Isoceteth-7, Isoceteth-10; Isoceteth-12; Isoceteth-15; Isoceteth-20; Isoceteth-25; Isoceteth-30; Disodium Lauroamphodipropionate, Hexaethylene glycol monododecyl ether and their mixtures;

(b) Neopentyl Glycol Diisononanoate; Cetearyl Ethylhexanoate; and their mixtures;

(c) Glyceryl Ether derivatives having the formula (I):



(I)

wherein:

R^{1c} is C_4-C_{12} aliphatic hydrocarbon group;

(d) Panthenol Ethyl Ether, DL-Panthenol and their mixtures;

(e) Aliphatic Dibasic Acid Diester derivatives having the formula (II):

$$R^{1d}OCO^{R2d}COOR^{3d}$$

(II)

wherein:

R^{1d} is C_4-C_5 alkyl;

R^{2d} is C_4 alkylene; and

R^{3d} is C_4-C_5 alkyl;

(f) Aliphatic Ether derivatives having the formula (III):

$$R^{1e}\text{-}O\text{-}(CH(CH_3)\text{-}CH_2O)_a\text{-}(CH_2\text{-}CH_2O)_b\text{-}H$$

(III)

wherein:

a and b are integers such that the sum of a and b is from 1 to 4; and

R^{1e} is an aliphatic chain comprising from 8 to 18 carbons;

(g) *N*-hexadecyl n-nonanoate, Noctadecyl n-nonanoate and their mixtures; and

(h) mixtures thereof.

Preferably the substantially non-odorous fragrance modulator is selected from the group consisting of materials disclosed in Table 3.

Table 3: Substantially Non-Odorous Fragrance Modulators

No.	Group	Name	CAS Number	Supplier
1.	(a)	Propylene Glycol Propyl Ether	1569-01-3	Sigma-Aldrich (UK)
2.		Dicetyl Ether	4113-12-6	
3.		Polyglycerin-4 Ethers	25618-55-7	Solvay Chemicals
4.		Isoceteth-5	69364-63-2	Nihon Emulsion Company Ltd.
5.		Isoceteth-7	69364-63-2	
6.		Isoceteth-10	69364-63-2	
7.		Isoceteth-12	69364-63-2	
8.		Isoceteth-15 [7]	69364-63-2	
9.		Isoceteth-20	69364-63-2	
10.		Isoceteth-25	69364-63-2	
11.		Isoceteth-30	69364-63-2	
12.		Disodium Lauroamphodipropionate	68929-04-4	Rhodia
13.		Hexaethylene glycol monododecyl ether [0]	3055-96-7	Sigma Aldrich (UK)
14.	(b)	Neopentyl Glycol Diisononanoate [1]	27841-07-2	Symrise (Germany)
15.		Cetearyl Ethylhexnoate [1a]	90411-68-0	
16.	(c)	2-ethylhexyloxypropanediol [2]	70455-33-9	Takasago (JP)

17.	(d)	Panthenol Ethyl Ether [3]	667-83-4	DSM Nutritional Products, Inc. (USA)
18.		DL-Panthenol	16485-10-2	Roche Inc. (USA)
19.	(e)	Diisobutyl Adipate [4]	141-04-8	Sigma Aldrich (UK)
20.		Diisoamyl Adipate [4]	6624-70-0	
21.	(f)	PPG-11 Stearyl Ether [5]	25231-21-4	Kao (JP)
22.	(g)	*N*-hexadecyl n-nonanoate [6] (*i.e.*, cetyl nonanoate)	72934-15-7	Symrise (Germany)
23.		Noctadecyl n-nonanoate [6] (*i.e.*, stearyl nonanoate)	107647-13-2	

[0] Available as: Laureth-6.

[1] disclosed in U.S. Patent Publication No. 2011/0104089A1 (Symrise), para. [0001].

[1a] Available as: PCL-Liquid® 100.

[2] disclosed in U.S. Patent No. 7,196,052 (Takasago Int. Corp.), column 4, lines 34-35.

[3] disclosed in EP Patent Publication No. 616800A2 (Givaudan), pg. 2, lines 12-25.

[4] disclsoed U.S. Patent No. 4,110,626 (Shiseido), column 3, lines 54-56.

[5] disclosed in PCT Publication No. WO2014/155019 (LVMH). Available as Arlamol® PS11E.

[6] disclosed in U.S. Patent No. 9,050,261 (Symrise).

[7] Available as Emalex® 1615.

The compounds, as described above in Table 3, act as a substantially non-odorous fragrance modulator of the perceived intensity and/or longevity of the fragrance profile of the composition of the present invention when low levels of the low volatile fragrance materials are used. For example, the substantially non-odorous modulators, with a fragrance component having low levels of the low volatile fragrance materials, act to prolong the duration during which the fragrance profile, preferably the characters attributable from the volatile fragrance materials, can be perceived as compared to a control composition in the absence of the substantially non-odorous fragrance modulators or having the traditional high levels of the low volatile fragrance materials. As another example, the substantially non-odorous fragrance modulators with a fragrance component having low levels of the low volatile fragrance materials, can improve the fidelity of the fragrance profile, preferably the fragrance component derived from the volatile fragrance materials, such that it remains significantly the same from initial impression to the end as compared to a control composition in the absence of the substantially non-odorous fragrance modulators or having the traditional high levels of the low volatile fragrance materials. While not wishing to be bound by theory, it is believed that the substantially non-odorous fragrance modulators associate to the fragrance materials and retard evaporation.

This may be due to a combination of both the functionality and the structure of the substantially non-odorous fragrance modulators and the fragrance materials.

In another aspect, the present invention is directed to a modulator for fragrance materials comprising a compound selected from the group consisting of: Propylene Glycol; Dicetyl Ether; Polyglycerin-4 Ethers; Isoceteth-5; Isoceteth-7; Isoceteth-10; Isoceteth-12; Isoceteth-15; Isoceteth-20; Isoceteth-25; Isoceteth-30; Disodium Lauroamphodipropionate; Hexaethylene glycol monododecyl ether; and mixtures thereof. Preferably, the fragrance material is a volatile fragrance material having a vapor pressure greater than or equal to 0.001 Torr (0.000133 kPa) at 25 °C. In yet another aspect, the present invention is directed to a composition comprising a fragrance component and a modulator, wherein the modulator is a compound selected from the group consisting of: Propylene Glycol; Dicetyl Ether; Polyglycerin-4 Ethers; Isoceteth-5; Isoceteth-7; Isoceteth-10; Isoceteth-12; Isoceteth-15; Isoceteth-20; Isoceteth-25; Isoceteth-30; Disodium Lauroamphodipropionate; Hexaethylene glycol monododecyl ether; and mixtures thereof.

TEST METHODS

The following assays set forth must be used in order that the invention described and claimed herein may be more fully understood.

Test Method 1: Determining Vapor Pressure

In order to determine the vapor pressure for the fragrance materials, go to the website *https://scifinder.cas.org/scifinder/view/scifinder/scifinderExplore.jsf* and follow these steps to acquire the vapor pressure.

1. Input the CAS registry number for the particular fragrance material.
2. Select the vapor pressure from the search results.
3. Record the vapor pressure (given in Torr at 25 °C).

SciFinder uses Advanced Chemistry Development (ACD/Labs) Software Version Software Version 14.02). If the CAS number for the particular fragrance material is unknown or does not exist, you can utilize the ACD/Labs reference program to directly determine the vapor pressure. Vapor Pressure is expressed in 1 Torr, which is equal to 0.133 kilopascal (kPa).

Test Method 2: Olfactory Tests

In order to show the effect of the substantially non-odorous fragrance modulators and low levels of the low volatile fragrance materials on the perception of fragrance profile in a composition of the present invention, test compositions are made, as described in the Example section, and given to panelists to evaluate.

At the testing facility, 50 µL samples of the test compositions and the controls are applied to glass slides and placed on a hot plate at 32 °C to represent skin temperature for varying durations. It is important that glass slides of samples that are to be later compared are prepared at the same time. The panelists are asked to evaluate the perceived fragrance profile (intensity and/or character) of each glass slide sample at a given time-point. Slides are presented coded so that their identity is not known by the panelists. Within a given time point panelists evaluate the slides in a random order and are able to revisit their assessment as they work through the slides at that time point. Their assessments are recorded. In the subsequent analysis, the data for strength and character comparisons are drawn from the independent assessments carried out at a given time point. Only when using the difference scale below are any two products physically directly compared to each other. Panelists are selected from individuals who are either trained to evaluate fragrances according to the scales below or who have experience with fragrance evaluation in the industry. Typically, around 6 to 10 panelists are used to evaluate a given product and its control.

(a) Fragrance Intensity:

The panelists are asked to give a score on a scale of 0 to 5 for perceived fragrance intensity according to the odour intensity scale set out in Table 4 herein below.

Table 4 – Odour Intensity Scale

Score	Fragrance Intensity
0	None
1	Very Weak
2	Weak
3	Moderate
4	Strong
5	Very Strong

(b) Fragrance Character:

The panelists are asked to assess the fragrance character in one of 2 ways:

i) a score on a scale of 0 to 3 for the dominance of particular characters that are relevant to that particular fragrance , *e.g.*: fresh, green, watery, floral, rose, muguet, fruity, apple, berry, citrus, creamy, woody, balsamic, amber, musk just to name a few, according to the odour grading scale set out in Table 5(i) herein below;

ii) a score on a scale of 1 to 5 for changes in the perceived fragrance profile change for the test compositions versus the controls according to the odour grading scale set out in Table 5(ii) herein below.

Table 5(i) – Character Dominance Odour Grading Scale

Score	Fragrance Character Dominance
0	Not noticeable
1	Slight presence of the character
2	Moderate presence of the character
3	Dominance of the character

Table 5(ii) – Character Difference Odour Grading Scale

Score	Fragrance Character Change
1	Perfume character is unchanged, *i.e.*, no difference between the sample vs. the control.
2	Slight perfume character change when compared directly with the control.
3	Moderate perfume change but similar character to the control,
4	Large difference in perfume character from the control.
5	Total difference in the perfume character from the control.

The results of the panelists are averaged and then analysed using Analysis of Variance methods. The model treats the subject as a random effect and looks at the impact of product, time and the interaction between product and time. From the analysis the least square means for the product and time interaction are obtained. These means (as well as their confidence intervals) are then plotted to enable comparisons between products at each time point. It should be noted that the confidence levels plotted are intended as a guide, and not as a statistical comparison, as they do not take into account that multiple testing has been performed. As well as a graphical assessment, statistical comparisons between the two products at each of the time points are performed with a Sidak correction for multiple comparisons. The p-values for the product differences were obtained, with p-values < 0.05 indicating a statistical difference between the two products at 5% significance (or 95% confidence).

Test Method 3: Analytical Evaporation Tests

The following test is carried out to demonstrate the improved or enhanced longevity of a fragrance profile of a composition of the present invention vs. a control. In particular, the test measures the effect of a substantially non-odorous fragrance modulator on the evaporation rate of one or more fragrance materials (*e.g.*, 10 PRMs) formulated in a composition. The evaporation response of the fragrance materials to the modulator, as a function of time, is measured through the use of gas chromatography ("GC").

1. A test composition may comprise a substantially non-odorous fragrance modulator (as disclosed in Table 3) with either: (i) a volatile fragrance material (any one of the volatile fragrance materials as disclosed in Table 2), or (ii) a blend of volatile fragrance materials from Table 2 (as disclosed as Fragrance Example 6 in Table 11). The inventive compositions also contain high purity ethanol, such as Hayman 100%EP/BP grade, and deionized water. Samples test compositions are provided in Tables 18(b) and 18(c). All of the ingredients are admixed until evenly distributed in the test compositions.
2. A control composition, without the substantially non-odorous fragrance modulator or with normal or high levels of the low volatile fragrance materials, is made in a similar manner to Step 1, except that the missing substantially non-odorous modulator is replaced by deionized water. Sample control compositions are provided in Tables 18(b) and 18(c).
3. An internal standard is needed to correct for variations of the amount of composition dispensed in the evaporation test as well as loss during the GC analysis. The internal standard has a vapor pressure of less than 0.001 Torr (0.000133 kPa) at 25 °C and is soluble in the composition and fragrance material. A suitable non-limiting examples of internal standard is triethyl citrate. The internal standard and fragrance material are admixed until evenly distributed at a level of 90 to 95 parts by weight of fragrance material and the required amount of internal standard to reach 100 parts. This mixture is then use to prepare the sample compositions in Step 1 and 2. Alternatively, the internal standard and test or control composition are admixed until evenly distributed at a level of 99 to 99.75 parts by weight of composition and the required amount of internal standard to reach 100 parts. This resultant solution is used in subsequent steps.
4. A hotplate is set to a temperature of 32 °C. An aluminum container, such as TA Instruments T-Zero™ pan is placed on the hotplate. 20 µL of the test or control composition is introduced in the aluminum container using a micropipette. Alternatively, the aluminum container may be filled with the test or control composition to its full capacity. The time at which this takes place is determined to be time zero (*i.e.*, T = 0). Multiple aluminum containers are prepared and left at the set temperature for pre-determined periods of time, such as for example 30 mins, 1 hr, 2 hrs, 3 hrs, 4 hrs, 5 hrs, 6 hrs, 8 hrs and up to 12 hrs.

5. The aluminum container is removed from the hotplate at the end of the pre-determined time period and transferred by being inserted into a 4 mL glass vial already containing at least 2 mL of highly volatile solvent, such as high purity ethanol or hexane.
6. The glass vial is mixed using a Heidolph multi REAX shaker, or equivalent, for 5 to 10 mins to extract the fragrance materials into the solvent phase. 1.5 mL of the resultant solution is transferred to a 2 mL GC vial.
7. The GC vial is analysed on an Agilent GC system 6890 equipped with an autosampler, or equivalent. A GC column such as a DB-5MS, Rxi-5 SilMS model, with a length of 30 m, an inner diameter of 0.25 mm and a film thickness of 1 µm is used. The GC parameters are set to the values indicated as follows:

Table 5(iii) – GC Parameters

Injector temperature:	270 °C
Initial gas velocity:	25 to 40 cm/sec (for Helium as the carrier gas)
Initial oven temperature:	50 °C
Temperature ramp:	8 °C/min
Final oven temperature:	310 °C

Gas chromatography with flame ionization detection ("FID") or with mass spectrometry ("MS") can be used for the identification and quantification of fragrance material in the compositions. Either detection system can be used in conjunction with GC. The column dimensions as well as GC settings described in this method, such as injector temperature, carrier gas velocity, temperature ramp and final oven temperature can be adjusted to optimize the response of the fragrance material and internal standard being monitored. The detection system settings, such as FID gas flows and temperature or MS parameters, should be optimized by a trained analyst to enable the precise detection and quantification of the analytes of interest.

8. The peak area of the fragrance material and internal standard are recorded. The peak area ratio of the fragrance material and the internal standard is calculated at each time point for each sample composition. The % loss of non-evaporated fragrance material remaining from T=0 is calculated at each time point for each sample composition. The % fragrance material remaining in each composition is plotted to give an evaporation profile over time. This is done for both the test and control compositions. Significance is determined by comparison of the evaporation profile for the same fragrance material or same fragrance mixture in the test and control compositions.

Test Method 4: Analytical Headspace Tests

The following test is carried out to demonstrate the character retention over time of a fragrance composition of the present invention vs. a control. It is necessary for the test and control samples to be run at approximately the same time to ensure that ambient conditions are the same. The test measures the presence of one or more fragrance materials in the headspace formed in a sealed vial by the test composition, after set evaporation times. The fragrance profile in the headspace is measured at specific time points through the use of headspace ("HS") gas chromatography ("GC").

1. The test and control compositions as described in the Example section are used for the evaluation.
2. Capillaries of about 2 cm to 3.5 cm, with one sealed end are cut from a Sigma Aldrich "Stuart™ melting point tube" product code Z673269, or equivalent. A suitable fixed volume chosen between 50 and 200 µL of the composition is pipetted into the well of a VWR Tissue Culture 96 F well plate, or equivalent. The sealed end of the glass capillary is dipped into the filled well and left for at least 15 secs to wet the surface of the glass. Care must be taken not to contact the glass capillary with the sides of the well by maintaining it straight and approximately in the center of the well.
3. The glass capillary is then removed from the well and inverted or transferred onto a stable surface or into a holder and allowed to evaporate at ambient conditions for a set period of time. A windshield may be used to reduce high air turbulence.
4. The glass capillary is then introduced into an empty 20 mL HS vial, which is immediately closed with a PTFE cap. The time at which this takes place is determined to be time T= initial (*i.e.*, T= 10 mins).
5. Multiple glass capillaries are prepared in the same way and left to evaporate at ambient temperature for pre-determined periods of time, such as for example 10, 15, 30 mins, 1 hr, 2 hrs, 3 hrs, 4 hrs, 5 hrs, and up to 6 hrs, before being introduced to the headspace vial and sealed.
6. The HS vial is then analysed on an Agilent GC system 6890 equipped with a Gerstel MPS 2 autosampler, or equivalent, capable of performing SPME injections. A SPME fiber assembly DVB/CAR/PDMS (50/30 µm, 1 cm length) is required. A GC column such as a DB-5MS, ZB-5MSi models, or equivalent phase, with a length of 30 m, an inner diameter of 0.25 mm and a film thickness of 1 µm is used.
7. The SPME HS parameters are set to the values indicated as follows:

Table 5(iv) – SPME Parameters

Incubation chamber temperature:	40 °C
Incubation time:	20 mins
Agitation of sample	250 RPM
Extraction time	5 mins
Desorption time	2 mins

8. The GC parameters are set to the values indicated as follows:

Table 5(v) – GC Parameters

Injector temperature:	270 °C
Initial gas velocity:	20 to 40 cm/sec (for Helium as the carrier gas)
Initial oven temperature:	45°C with 2 mins Hold Time
Temperature ramp 1:	30 °C/min
Temperature 1:	80 °C
Temperature ramp 2:	8 °C/min
Final temperature:	300 °C

Gas chromatography with flame ionization detection ("FID") or with mass spectrometry ("MS") can be used for the identification and quantification of fragrance material in the compositions. Either detection system can be used in conjunction with GC. The column dimensions as well as GC settings described in this method, such as injector temperature, carrier gas velocity, temperature ramp and final oven temperature can be adjusted to optimize the response of the fragrance material being monitored. The detection system settings, such as FID gas flows and temperature or MS parameters, should be optimized by a trained analyst to enable the precise detection and identification of the analytes of interest.

9. A qualitative assessment of the chromatograms obtained is performed by comparing the peak height of the fragrance materials and overall chromatogram at time T = 10 mins to other time points. A dotted line is drawn around an estimated retention time where fragrance materials with a vapour pressure of 0.001 Torr or less (0.000133 kPa or less) elute during the analysis. The difference between the peaks present at each measured time point for the test and control compositions provides evidence of the retention of the character of the fragrance over time.

10. This test set-up is designed to enable the collection of the headspace in a manner that does not saturate the SPME fiber. If the fiber is saturated it does not provide an accurate analysis of the headspace composition. Therefore the quantity of liquid and

the evaporation surface area are very different from those in the olfactive evaluation of the same samples. For this reason it is not possible to compare directly the evaporation time frames used in the 2 experiments. It is expected that the evaporation profile is much faster in this headspace experiments compared to the olfactive evaluations.

EXAMPLES

The following examples are provided to further illustrate the present invention and are not to be construed as limitations of the present invention, as many variations of the present invention are possible without departing from its spirit or scope.

Example 1 – Fragrance Oils

Fragrance examples 1, 2, 3, 4b and 5b are provided below in Tables 6, 7, 8, 9 and 10, respectively, as non-limiting examples of formulations of fragrance materials intended to form the fragrance component of the compositions of the present invention. The exemplary formulations of the fragrance materials span the range from "simple accords" (less than 10 fragrance materials) to "complex fragrances" (greater than 30 fragrance materials). Typically, full bodied fragrance compositions do not comprise less than about 30 fragrance materials.

Fragrance examples 4a and 5a provided in Table 9 and 10, respectively, below are examples of traditional formulations of fragrance materials that fall outside the scope of the present invention.

Fragrance example 6 provided in Table 11 below as an example of a formulation of volatile fragrance materials.

Fragrance examples 7 and 8 are provided in Tables 12 and 13 below as examples of a formulation of fragrance materials intended to form the fragrance component that fall outside the scope of the present invention.

Fragrance examples 9 to 16 are provided in Tables 14 and 15 below as examples of formulations of fragrance materials containing higher than 30 wt% of the low volatile fragrance materials.

Fragrance examples 17 and 18 are provided in Tables 16 and 17 below as comparative samples of formulations of fragrance materials intended to form the fragrance component.

The following fragrance formulations are made by mixing the listed ingredients in the listed proportions (wt%) at room temperature, wherein the wt% is relative to the total weight of the fragrance component.

Table 6 – Fragrance Example 1 (Fresh Floral Accord - 10 wt% of Low Volatile Fragrance Materials)

Ingredients	CAS Number	Vapor Pressure (Torr at 25 °C)	Parts (wt%)
Benzyl acetate	140-11-4	0.1640	10.8
Linalool	78-70-6	0.0905	9.8
Phenethyl alcohol	60-12-8	0.0741	15.7
Indole	120-72-9	0.0298	1.0
α-Terpineol	98-55-5	0.0283	2.9
Geranyl acetate	105-87-3	0.0256	4.9
Cymal	103-95-7	0.00881	5.9
Hydroxycitronellal	107-75-5	0.00318	22.4
Majantol®	103694-68-4	0.00224	16.6
Hexyl cinnamic aldehyde	101-86-0	0.000697	10.0
		Total	100.00

Table 7 – Fragrance Example 2 (Fresh Male Accord - 13.51 wt% of Low Volatile Fragrance Materials)

Ingredients	CAS Number	Vapor Pressure (Torr at 25 °C)	Parts (wt%)
d-Limonene	5989-27-5	1.540000	10.0
Dihydromyrcenol	18479-58-8	0.166000	10.0
Boisiris	68845-00-1	0.013500	6.5
Canthoxal	5462-06-6	0.010200	8.0
Helional	1205-17-0	0.002700	10.0
Kephalis	36306-87-3	0.002690	20.0
Majantol®	103694-68-4	0.002240	15.5
Javanol®	198404-98-7	0.000902	5.0
Galaxolide® *	1222-05-5	0.000414	7.5
Isopropyl Myristate	110-27-0	--	7.5
		Total	100.00

* Supplied at 50% in Isopropyl myristate.

Table 8 – Fragrance Example 3 (Sweet Dream 18 Fragrance - 11.15 wt% of Low Volatile Fragrance Materials)

Ingredients	CAS Number	Vapor Pressure (Torr at 25 °C)	Parts (wt%)
Prenyl acetate	1191-16-8	3.99000000	0.100
Manzanate	39255-32-8	2.91000000	0.200
Hexyl acetate	142-92-7	1.39000000	0.700
cis-3-Hexenyl acetate	3681-71-8	1.22000000	0.200
Benzaldehyde	100-52-7	0.97400000	0.200

Liffarome	67633-96-9	0.72100000	0.150
Hexyl isobutyrate	2349-07-7	0.41300000	0.055
Dihydromyrcenol	18479-58-8	0.16600000	2.500
Benzyl acetate	140-11-4	0.16400000	0.700
Linalyl acetate	115-95-7	0.11600000	2.500
Verdox	88-41-5	0.10300000	4.000
Phenethyl alcohol	60-12-8	0.07410000	8.000
Rossitol	215231-33-7	0.02990000	1.500
alpha-Terpineol	98-55-5	0.02830000	1.500
Geranyl acetate	105-87-3	0.02560000	1.500
Rhodinol	141-25-3	0.01970000	0.700
Givescone	57934-97-1	0.01710000	0.700
Methyl anthranilate	134-20-3	0.01580000	0.050
Ysamber K	154171-77-4	0.01470000	1.000
alpha-Ionone	127-41-3	0.01440000	3.000
Citronellyl acetate	150-84-5	0.01370000	0.500
cis-3-hexenyl-cis-3-hexenoate	61444-38-0	0.01220000	0.200
Cinnamic alcohol	104-54-1	0.01170000	0.100
delta-damascone	57378-68-4	0.01020000	0.200
Citronellyloxyacetaldehyde	7492-67-3	0.00967000	0.100
Cymal	103-95-7	0.00881000	0.500
Floralozone	67634-15-5	0.00808000	0.100
Ethylmethylphenylglycidate	77-83-8	0.00571000	0.200
Florosa Q	63500-71-0	0.00557000	3.000
Ethyl linalool	10339-55-6	0.00520000	6.400
Pivarose	67662-96-8	0.00484000	2.500
Hydroxycitronellal	107-75-5	0.00318000	7.500
Methyl Ionone	7779-30-8	0.00286000	4.000
gamma-Undecalactone	104-67-6	0.00271000	0.500
Kephalis	36306-87-3	0.00269000	5.000
Cashmeran	33704-61-9	0.00269000	1.000
Magnolan	27606-09-3	0.00251000	3.000
Majantol®	103694-68-4	0.00224000	6.900
Brahmanol	72089-08-8	0.00154000	3.000
Coumarin	91-64-5	0.00130000	0.500
Glycolierral	68901-32-6	0.00121000	0.100
Raspberry ketone	5471-51-2	0.00106000	0.100
Top Mango base [3]	--	--	0.500
Cherry base [3]	--	--	0.200
Cassis base [3]	--	--	0.300
Bergamot Oil [4]	--	--	6.000
Prunella base [3]	--	--	0.500
Hexyl cinnamic aldehyde	101-86-0	0.00069700	1.500
Sandalore	65113-99-7	0.00062500	3.000

Dupical	30168-23-1	0.00044100	0.005
Galaxolide® [1]	1222-05-5	0.00041400	1.500
Ebanol	67801-20-1	0.00028100	2.000
Helvetolide	141773-73-1	0.00005790	2.000
Warm Milk base [5]	--	--	0.200
Vanilla Absolute [2, 6]	--	--	0.100
Isopropyl Myristate	--	--	1.500
Dipropylene Glycol	--	--	6.040
		Total	100.00

[1] Supplied at 50% in IPM.

[2] Supplied at 50% in DiPG.

[3] Proprietary bases that contain a mixture of perfume raw materials, judged to be of high volatility for the purposes of calculating % of low volatility PRMs.

[4] Natural oils or extracts that contain a mixture of perfume raw materials, judged to be of high volatility for the purposes of calculating % of low volatility PRMs.

[5] Proprietary bases that contain a mixture of perfume raw materials, judged to be of low volatility for the purposes of calculating % of low volatility PRMs.

[6] Natural oils or extracts that contain a mixture of perfume raw materials, judged to be of low volatility for the purposes of calculating % of low volatility PRMs.

Table 9 – Fragrance Examples 4a and 4b ("Traditional Floral Magnifica" Example 4a – 37 wt% of Low Volatile Fragrance Materials and "Reduced Low Volatile Floral Magnifica" Example 4b – 13 wt% of Low Volatile Fragrance Materials)

			Parts (wt%)	
Ingredients	**CAS Number**	**Vapor Pressure (Torr at 25 °C)**	**Example 4a (Traditional)**	**Example 4b (Reduced Low Volatile)**
Beta Gamma Hexenol	928-96-1	2.126000	0.20	0.20
Cis 3 Hexenyl Acetate	3681-71-8	1.219000	0.30	0.30
Benzyl Acetate	140-11-4	0.16400000	3.01	3.01
Liffarome	67633-96-9	0.721000	0.20	0.20
Ligustral Or Triplal	68039-49-6	0.578000	0.10	0.10
Methyl Pamplemousse	67674-46-8	0.214000	0.40	0.40
d-Limonene	5989-27-5	1.54000000	3.01	3.01
Phenyl Acetaldehyde [1]	122-78-1	0.368000	0.0002	0.0002
Precyclemone B	52475-86-2	0.003810	0.20	0.20
Ethyl 2 4-Decadienoate	3025-30-7	0.009540	0.20	0.20
Ambronat	6790-58-5	0.009340	2.00	2.01

Alpha Damascone	24720-09-0	0.008300	0.04	0.06
Citronellol	106-22-9	0.032900	4.01	4.01
Cyclemax	7775-00-0	0.018200	0.40	0.40
Cyclo Galbanate	68901-15-5	0.003230	0.10	0.10
Cymal	103-95-7	0.008810	0.90	1.51
Dimethyl Benzyl Carbinyl Butyrate	10094-34-5	0.001680	0.50	0.50
Ethyl Linalool	10339-55-6	0.005200	7.23	12.04
Florol	63500-71-0	0.005570	6.43	10.71
Gamma Decalactone	706-14-9	0.008520	0.20	0.20
Geraniol	106-24-1	0.013300	3.01	5.02
Geranyl Acetate	105-87-3	0.009760	2.01	2.01
Helional	1205-17-0	0.002700	2.41	4.01
Heliotropin	120-57-0	0.010400	0.20	0.20
Hivernal	173445-65-3	0.00392000	0.20	0.20
Hydroxycitronellal	107-75-5	0.003180	2.41	4.01
Ionone Beta	14901-07-6	0.003080	0.24	0.40
Ionone Gamma Methyl	127-51-5	0.002820	1.81	3.01
Jasmal	18871-14-2	0.004340	5.02	5.02
Jasmolactone	32764-98-0	0.003550	0.20	0.20
Linalyl Propionate	144-39-8	0.026300	1.20	1.20
Magnolan 690304	27606-09-3	0.002510	3.01	5.02
Majantol®	103694-68-4	0.002240	2.41	4.01
Phenyl Ethyl Alcohol	60-12-8	0.074100	3.01	5.02
Phenyl Hexanol	55066-48-3	0.006370	3.61	6.02
Undecavertol	81782-77-6	0.010700	2.01	2.01
Vanillin	121-33-5	0.001940	0.10	0.10
cis-3-Hexenyl cis-3-Hexenoate	61444-38-0	0.012200	0.10	0.10
Phenoxy Ethyl Iso Butyrate	103-60-6	0.005620	0.50	0.50
5-Cyclohexadecen-1-One	37609-25-9	0.000033	1.00	1.00
Ambrettolide	28645-51-4	0.000001	1.00	1.00
Cis-3-Hexenyl Salicylate	65405-77-8	0.000246	1.51	0.50
Delta Muscenone 962191	63314-79-4	0.000165	1.00	1.00
Hedione® HC	24851-98-7	0.000710	10.54	3.51
Iso-E Super®	54464-57-2	0.000538	10.54	3.51
Para Hydroxy Phenyl Butanone	5471-51-2	0.001060	0.20	0.20
Polysantol	107898-54-4	0.000117	0.50	0.50
		Total	100	100

[1] supplied as 1% in DPG.

Table 10 – Fragrance Examples 5a and 5b ("Traditional Muguesia Magnifica" Example 5a – 37 wt% of Low Volatile Fragrance Materials and "Reduced Low Volatile Muguesia Magnifica" Example 5b – 13 wt% of Low Volatile Fragrance Materials)

			Parts (wt%)	
Ingredients	**CAS Number**	**Vapor Pressure (Torr at 25 °C)**	**Example 5a (Traditional)**	**Example 5b (Reduced Low Volatile)**
Benzyl Alcohol	100-51-6	0.158000	0.10	0.10
Methyl Phenyl Carbinyl Acetate	93-92-5	0.203000	0.32	0.40
d-Limonene	5989-27-5	1.54000000	1.00	1.00
Benzyl Acetate	140-11-4	0.304000	5.86	7.32
Beta Gamma Hexenol	928-96-1	2.126000	0.40	0.40
Cis 3 Hexenyl Acetate	3681-71-8	1.219000	0.20	0.20
Linalyl Acetate	115-95-7	0.077400	1.00	1.00
Jasmal	18871-14-2	0.004340	3.21	4.01
Indol	120-72-9	0.029800	0.10	0.10
Hydroxycitronellal	107-75-5	0.003180	3.21	4.01
Helional	1205-17-0	0.002700	4.01	5.02
Geranyl Acetate	105-87-3	0.009760	3.21	4.01
Geraniol	106-24-1	0.013300	4.01	5.02
Florosa Q	63500-71-0	0.005570	0	9.03
Cinnamic Alcohol	104-54-1	0.005720	0.20	0.20
Cinnamic Aldehyde	104-55-2	0.02650000	0.06	0.06
Cis Jasmone	488-10-8	0.020100	0.50	0.50
Citronellol	106-22-9	0.032900	4.01	5.01
Citronellyl Acetate	150-84-5	0.013700	3.21	4.01
Citronellyl Oxyacetaldehyde	7492-67-3	0.009670	0.10	0.10
Cyclemax	7775-00-0	0.018200	0.32	0.40
Cyclo Galbanate	68901-15-5	0.003230	0.20	0.20
Cymal	103-95-7	0.008810	1.61	2.01
Ethyl Linalool	10339-55-6	0.005200	8.03	10.03
Florhydral	125109-85-5	0.020700	0.16	0.20
Majantol®	103694-68-4	0.002240	3.21	4.01
Phenyl Ethyl Acetate	103-45-7	0.056400	0.40	0.40
Phenyl Ethyl Alcohol	60-12-8	0.074100	14.45	18.06
Ambrettolide	28645-51-4	0.000001	1.00	1.00
Cis-3-Hexenyl Salicylate	65405-77-8	0.000246	1.00	0.50
Benzyl Salicylate	118-58-1	0.00017500	16.61	2.51

Hedione® HC	24851-98-7	0.000710	8.03	4.01
Iso-E Super®	54464-57-2	0.000538	10.03	5.02
Phenyl Acetaldehyde Dimethyl Acetal	101-48-4	0.55600000	0.20	0.10
		Total	100	100

Table 11 – Fragrance Example 6 (10 Volatile Fragrance Materials)

Ingredients	CAS Number	Vapor Pressure (Torr at 25 °C)	Parts (wt%)
Tetra-Hydro Linalool	78-69-3	0.115	9.85
Terpinyl acetate	80-26-2	0.0392	12.21
Dimethyl Benzyl Carbinyl Acetate	151-05-3	0.0139	11.96
Dimethyl Benzyl Carbinol	100-86-7	0.088844	9.35
Phenyl Ethyl alcohol	60-12-8	0.074100	7.60
Laevo Carvone	6485-40-1	0.0656	9.35
Indole	120-72-9	0.0298	7.29
Ethyl Safranate	35044-59-8	0.0266	12.09
Indocolore	2206-94-2	0.0255	10.09
Eugenol	97-53-0	0.0104	10.21
		Total	100.00

Table 12 – Fragrance Example 7 (Fresh Floral GF 6-7 Accord – 40.14 wt% of Low Volatile Fragrance Materials)

Ingredients	CAS Number	Vapor Pressure (Torr at 25 °C)	Parts (wt%)
Ligustral or Triplal	68039-49-6	0.578000	0.15
Benzyl acetate	140-11-4	0.164000	0.31
Verdox	88-41-5	0.103000	5.38
Phenethyl alcohol	60-12-8	0.074100	1.54
Indole	120-72-9	0.029800	0.02
Heliotropin	120-57-0	0.010400	1.23
gamma-Decalactone	706-14-9	0.008520	0.38
Florosa Q	63500-71-0	0.005570	15.38
Ethyl linalool	10339-55-6	0.005200	26.15
Isoeugenol	97-54-1	0.005190	0.08
alpha-Irone	79-69-6	0.004190	1.54
Vanillin	121-33-5	0.001940	6.15
Dimethyl benzyl carbinyl butyrate	10094-34-5	0.001680	1.54
Methyl beta-	93-08-3	0.000957	0.77

naphthyl ketone			
Methyl dihydrojasmonate	24851-98-7	0.000710	30.60
Benzyl salicylate	118-58-1	0.000175	7.69
Polysantol	107898-54-4	0.000117	0.77
Lrg 201	4707-47-5	0.000029	0.31
		Total	100.00

Table 13 – Fragrance Example 8 (Traditional Floral Accord – 54.00 wt% of Low Volatile Fragrance Materials)

Ingredients	CAS Number	Vapor Pressure (Torr at 25 °C)	Parts (wt%)
Benzyl acetate	140-11-4	0.1640	5.5
Linalool	78-70-6	0.0905	5.0
Phenethyl alcohol	60-12-8	0.0741	8.0
Indole	120-72-9	0.0298	0.5
α-Terpineol	98-55-5	0.0283	1.5
Geranyl acetate	105-87-3	0.0256	2.5
Cymal	103-95-7	0.00881	3.0
Hydroxycitronellal	107-75-5	0.00318	11.5
Majantol®	103694-68-4	0.00224	8.5
Hexyl cinnamic aldehyde	101-86-0	0.000697	4.0
iso gamma super	68155-66-8	0.000565	12.50
Sandalore	65113-99-7	0.000625	18.75
Habanolide	111879-80-2	0.00000431	18.75
		Total	100.00

Table 14 – Fragrance Examples 9, 10, 11 and 12 (Traditional Flora Magnifica – Greater than 30 wt% of Low Volatile Fragrance Materials)

Ingredients	Fragrance Example 9	Fragrance Example 10	Fragrance Example 11	Fragrance Example 12
	Weight %	Weight %	Weight %	Weight %
Flora Magnifica [1]	86.96	83.33	74.07	68.97
Ethylene Brassylate	4.35	4.167	3.704	6.90
Methyl Dihydro Jasmonate	4.35	8.33	14.82	13.79
Iso-E Super®	4.35	4.167	7.407	10.35
Total	100	100	100	100
Wt% Low Volatile Fragrance Materials	45	47	53	56

[1] Fragrance Example 4a.

Table 15 – Fragrance Examples 13, 14, 15 and 16 (Traditional Muguesia Magnifica – Greater than 30 wt% of Low Volatile Fragrance Materials)

Ingredients	Fragrance Example 13	Fragrance Example 14	Fragrance Example 15	Fragrance Example 16
	Weight %	Weight %	Weight %	Weight %
Muguesia Magnifica [1]	86.96	83.33	74.07	68.97
Ethylene Brassylate	4.35	4.17	3.70	6.90
Methyl Dihydro Jasmonate	4.35	8.33	14.82	13.79
Iso-E Super®	4.35	4.17	7.41	10.35
Total	100	100	100	100
Wt% Low Volatile Fragrance Materials	45	47	53	56

[1] Fragrance Example 5a.

Fragrance example 17 (as disclosed in Table 16) is composed of 68.51 wt% of volatile fragrance materials and 31.49 wt% of low volatile fragrance materials, wherein the wt% is relative to the total weight of the fragrance component.

Table 16 – Fragrance Example 17 (Comparative Fragrance 1 – 31.49 wt% of Low Volatile Fragance Materials)

Ingredients	CAS Number	Vapor Pressure (Torr at 25 °C)	Amount	
			Parts by Weight	Parts (wt%)
Limonene	5989-27-5	1.541	2576	30.04
Cis-3-Hexenol	928-96-1	1.039	21	0.24
Zestover [6]	78-70-6	0.578	1	0.01
Linalol	78-70-6	0.0905	553	6.45
Aphermate [4] (10% DIPG) [7]	25225-08-5	0.0678	7	0.08
Cyclosal	535-86-4	0.0311	35	0.41
Coranol	83926-73-2	0.0210	371	4.33
Sclareolate®* [1]	319002-92-1	0.0196	630	7.35
3-Methoxy -7,7 -dimethyl-l 0-methylene-bicyclo[4.3.1]decane	216970-21-7	0.0196	371	4.33
Cedramber [2]	19870-74-8	0.0128	1050	12.24
Ambrox®*	6790-58-5	0.00934	1	0.01
Decal	706-14-9	0.00852	21	0.24
Damascone Alpha* (10% DIPG) [7]	24720-09-0	0.00830	9.1	0.11
(Methoxymethoxy)Cyclododecane	42604-12-6	0.00686	182	2.12
Lilial®	80-54-6	0.00444	26	0.30
γ-Undecalactone*	104-67-6	0.00271	21	0.24
Calone®* [3]	28940-11-6	0.000831	50	0.58
Paradisone [5]®*	24851-98-7	0.000710	1000	11.66

Galaxolide® (70% MIP Extra) [7]	1222-05-5	0.000414	700	8.16
Exaltenone	14595-54-1	0.0000964	950	11.08
		Total	8575.10	100 wt%

* origin: Firmenich SA (Geneva, Switzerland).

[1] Propyl (*S*)-2-(1,1-dimethylpropxy)propanoate.

[2] 8-Methoxy-2,6,6,8-tetramethyl-tricyclo[5.3.1.0(1,5)]undecane.

[3] 7-Methyl-2*H*,4*H*-1,5-benzodioxepin-3-one.

[4] 1-(3,3-dimethyl-1-cyclohexyl)ethyl formate; origin: International Flavors & Fragrances.

[5] Methyl dihydrojasmonate.

[6] Linalool.

[7] Fragrance materials added as dilutions in a non-volatile solvent. For the purposes of calculating the fragrance oil composition actual fragrance materials levels added are used.

Fragrance example 18 (as disclosed in Table 17) is composed of 90.63 wt% of volatile fragrance materials and 9.37 wt% of low volatile fragrance materials, wherein the wt% is relative to the total weight of the fragrance component.

Table 17 – Fragrance Example 18 (Comparative Fragrance 2 – 9.37 wt% of Low Volatile Fragance Materials)

Ingredients	**CAS Number**	**Vapor Pressure (Torr at 25 °C)**	**Amount**	
			Parts by Weight	**Parts (wt%)**
D-Limonene	5989-27-5	1.540	50.00	5.21
cis-3-Hexenol (10% in DPG) [4]	928-96-1	1.040	0.5	0.05
Acetophenone (10% in DPG) [4]	98-86-2	0.299	1.00	0.10
Methylphenyl Acetate	101-41-7	0.176	10.00	1.04
Dihydromyrcenol	18479-58-8	0.166	50.00	5.21
Benzyl acetate	140-11-4	0.164	60.00	6.25
Tetra-Hydro Linalool	n/a	0.115	50.00	5.21
n-Undecanal	n/a	0.102	5.00	0.52
Linalool	78-70-6	0.0905	40.00	4.17
Phenylethyl Alcohol	n/a	0.0559	245.00	25.53
Allyl amyl glycolate (10% in DPG) [4]	67634-00-8	0.04000	2.00	0.21
Indole (10% in DPG) [4]	120-72-9	0.02980	1.00	0.10
Alpha-Terpineol	98-55-5	0.02830	30.00	3.13
Diphenyl Oxide	101-84-8	0.02230	5.00	0.52
L-Citronellol	7540-51-4	0.01830	80.00	8.34
Beta-Ionone	14901-07-6	0.01690	5.00	0.52
Alpha-Ionone	127-41-3	0.01440	15.00	1.56
Dimethyl benzyl carbinyl acetate	151-05-3	0.01390	30.00	3.13
Geraniol	106-24-1	0.01330	40.00	4.17
Nerol	n/a	0.01330	20.00	2.08

Lilial® [1]	80-54-6	0.00444	60.00	6.25
Gamma-Undecalactone	104-67-6	0.00271	15.00	1.56
Amyl salicylate	2050-08-0	0.00144	25.00	2.61
Galaxolide®	1222-05-5	0.000414	20.00	2.08
cis-3-Hexenyl salicylate	65405-77-8	0.000246	20.00	2.08
Ethylene Brassylate	105-95-3	0.00000000313	30.00	3.13
Styrolyl Acetate [5]	n/a	n/a	20.00	2.08
Decenol trans-9 [3]	n/a	n/a	15.00	1.56
Geranium oil [2]	n/a	n/a	15.00	1.56
		Total	959.5	100 wt%

[1] Benzenepropanal, 4-(1,1-dimethylethyl)-α-methyl-.

[2] Natural oil that is judged to be of moderate volatility for the purposes of calculating levels of the volatile fragrance materials.

[3] Proprietary oil that is judged to be of moderate volatile for the purposes of calculating levels of the volatile fragrance materials.

[4] Fragrance materials added as dilutions in a non-volatilee solvent. For the purposes of calculating the fragrance oil composition actual fragrance materials levels added are used.

[5] Unknown oil that is judged to be of low volatility for the purposes of calculating levels of the volatile fragrance materials.

Example 2 – Compositions Comprising Fragrance Oils and Substantially Non-Odorous Fragrance Modulators

Compositions A, D, G, J and M are examples of fine fragrance compositions according to the present invention, made with any of the fragrance examples 1 to 3, 4b, 5b, and 18 respectively. Compositions B, E, H, K and N are examples of fragrance compositions containing traditional or higher levels of low volatile fragrance materials, made with any of the fragrance examples 4a, 5a, and 7-17, respectively. In parallel, control compositions C, F, I, L and O are prepared by replacing the different substantially non-odorous fragrance modulators by the same amount of deionized water. All of the compositions are prepared by admixture of the components described in Table 18(a), in the proportions indicated.

Table 18(a) – Fragrance Compositions

Ingredients	**Fragrance Composition (wt%) [1]**														
	A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**
Fragrance A1 [2]	5-10	-	-	5-15	-	-	2.5-10	-	-	5-20	-	-	0.1-20	-	-
Fragrance B [3]	-	5-10	-	-	5-15	-	-	2.5-10	-	-	5-20	-	-	0.1-20	-
Fragrance A1 or B	-	-	5-10	-	-	5-15	-	-	2.5-10	-	-	5-20	-	-	0.1-20
Ethanol	60-99.9														
Butylated	0-0.07														

Hydroxy Toluene															
Modulator A [4]	5-20	5-20	0	-	-	-	-	-	-	-	-	-	-	-	-
Modulator B [5]	-	-	-	0.5-5	0.5-5	0	-	-	-	-	-	-	-	-	-
Modulator C [6]	-	-	-	-	-	-	0.1-3.0	0.1-3.0	0	-	-	-	-	-	-
Modulator D [7]	-	-	-	-	-	-	-	-	-	2.5-15	2.5-15	0	-	-	-
Modulator E [8]	-	-	-	-	-	-	-	-	-	-	-	-	0.1-20	0.1-20	0
Deionized water	to 100.00														

[1] Wt% is relative to the total weight of the composition.

[2] Can be any one of fragrance examples 1-3, 4b, 5b, and 18.

[3] Can be any one of fragrance examples 4a, 5a, and 7-17.

[4] Can be any one of the substantially non-odorous fragrance modulators examples: Propylene Glycol Propyl Ether, Hexaethylene glycol monododecyl ether, Panthenol Ethyl Ether, DL-Panthenol , Diisobutyl Adipate, or Diisoamyl Adipate.

[5] Neopentyl Glycol Diisononanoate.

[6] 2-ethylhexyloxypropanediol.

[7] PPG-11 Stearyl Ether.

[8] Can be any one of the substantially non-odorous fragrance modulators examples: Dicetyl Ether; Polyglycerin-4 Ethers; Isoceteth-5; Isoceteth-7, Isoceteth-10; Iscoeteth-12; Isoceteth-15; Isoceteth-20; Isoceteth-25; Isoceteth-30; Disodium Lauroamphodipropionate; Hexaethylene glycol monododecyl ether; or Cetearyl Ethylhexnoate.

Tables 18(b) provides test compositions (MOD1 to MOD3) comprising the volatile fragrance formulation of fragrance example 6 (as disclosed in Table 11) with a substantially non-odorous fragrance modulator (as disclosed in Table 3) that are particularly suited to analytical measurements. All of the compositions are prepared by admixture of the components described in Table 18(b) in the proportions indicated.

Table 18(b) – Compositions comprising fragrance with 10 Volatile Fragrance Materials

Ingredients	**Test composition (wt% [1])**	**Reference composition (wt% [1])**
	MOD 1 to 3	**REF**
Fragrance A [2]	7.0	7.0
Triethyl citrate	0.25 to 1.0	0.25 to 1.0
Ethanol	75.0	75.0

Modulator [3]	15.0	0.0
Water	qsp	qsp
Total	100.0	100.0

[1] Wt% is relative to the total weight of the composition.

[2] Fragrance Example 6 (as disclosed in Table 11).

[3] Can be any one of the substantially non-odorous fragrance modulator nos. 8, 18, and 21 as disclosed in Table 3.

Tables 18(c) provides test compositions comprising the volatile fragrance formulation of fragrance example 6 (as disclosed in Table 11) with a substantially non-odorous fragrance modulator (as disclosed in Table 3) that are particularly suited to analytical measurements. All of the compositions are prepared by admixture of the components described in Table 18(c) in the proportions indicated.

Table 18(c) – Compositions comprising fragrance with 10 Volatile Fragrance Materials

Ingredients	**Test composition (wt% [1])**	**Reference composition (wt% [1])**
Fragrance A [2]	0.4 - 7.0	0.4 - 7.0
Triethyl citrate	0.25 to 2.0	0.25 to 2.0
Ethanol	75.0	75.0
Modulator [3]	1-15.0	0.0
Water	qsp	qsp
Total	100.0	100.0

[1] Wt% is relative to the total weight of the composition.

[2] Fragrance Example 6 (as disclosed in Table 11).

[3] Can be any one of the substantially non-odorous fragrance modulator nos. 1-7, 9-17, 19-20 and 22-23as disclosed in Table 3.

Example 3 – Single Fragrance Material Compositions containing Substantially Non-Odorous Fragrance Modulators

Compositions P, R and T-X are examples of compositions according to the present invention, made with single fragrance materials and the substantially non-odorous fragrance modulators, respectively. They are prepared by admixture of the components in Table 19(a), in the proportions indicated. In parallel, control Compositions Q, S and Y are prepared without a substantially non-odorous fragrance modulator as a control.

Table 19(a) – Single Fragrance Material Compositions

Ingredients	Single PRM Composition (wt%) [1]									
	P	Q	R	S	T	U	V	W	X	Y
Dimethyl Benzyl Carbinyl Acetate	-	-	1.0	1.0	-	-	-	-	-	-
Eugenol	1.0	1.0	-	-	-	-	-	-	-	-
Fragrance C [6]	-	-	-	-	0.1-1	0.1-1	0.1-1	0.1-1	0.1-1	0.1-1
Propylene Glycol Propyl Ether	0.8	0.0	-	-	-	-	-	-	-	-
Diisobutyl adipate	-	-	1.4	0.0	-	-	-	-	-	-
Modulator A2 [2]	-	-	-	-	0.1-5	-	-	-	-	0
Modulator B [3]	-	-	-	-	-	0.1-5	-	-	-	0
Modulator C [4]	-	-	-	-	-	-	0.1-5	-	-	0
Modulator D [5]	-	-	-	-	-	-	-	0.1-5	-	0
Modulator E [7]	-	-	-	-	-	-	-	-	0.1-5	0
Ethanol	to 100									

[1] Wt% is relative to the total weight of the composition.

[2] Can be any one of the substantially non-odorous modulators examples: Hexaethylene glycol monododecyl ether, Panthenol Ethyl Ether, DL-Panthenol, or Diisoamyl Adipate.

[3] Neopentyl Glycol Diisononanoate.

[4] 2-ethylhexyloxypropanediol.

[5] PPG-11 Stearyl Ether.

[6] Can be any one of the single fragrance materials examples: Dimethyl Benzyl Carbinyl Acetate or Eugenol.

[7] Can be any one of the substantially non-odorous modulators examples: Dicetyl Ether; Polyglycerin-4 Ethers; Isoceteth-5; Isoceteth-7, Isoceteth-10; Isoceteth-12; Isoceteth-15; Isoceteth-20; Isoceteth-25; Isoceteth-30; Disodium Lauroamphodipropionate; Hexaethylene glycol monododecyl ether or Cetearyl Ethylhexnoate.

Tables 19(b) provides test compositions comprising the a single volatile fragrance material (as disclosed in Table 2) with a substantially non-odorous fragrance modulator (as disclosed in Table 3) that are particularly suited to analytical measurements. All of the compositions are prepared by admixture of the components described in Table 19(b) in the proportions indicated.

Table 19(b) –Single Volatile Fragrance Material Compositions

Ingredients	Test Composition (wt% [1])	Reference Composition (wt% [1])

Volatile Fragrance Material [2]	1.0-3.0	1.0-3.0
Triethyl citrate	0.25 to 2.0	0.25 to 2.0
Ethanol	75.0	75.0
Modulator [3]	0.1-10.0	0.0
Water	qsp	qsp
Total	100.0	100.0

[1] Wt% is relative to the total weight of the composition.

[2] Can be any one of the volatile fragrance material as disclosed in Table 2.

[3] Can be any one of the substantially non-odorous fragrance modulator as disclosed in Table 3.

Example 4 – Exemplary Product Compositions

Compositions I, II, III and IV are examples of body spray compositions according to the present invention. They are prepared by admixture of the components described in Table 20, in the proportions indicated.

Table 20 – Body Spray Compositions

Ingredients	**CAS Number**	**Compositions (wt% [1])**			
		I	**II**	**III**	**IV**
Denatured Ethanol	64-17-5	39.70	59.45	39.70	39.70
Water	7732-18-5	--	0.75	--	--
Dipropylene Glycol	25265-71-8	15.00	--	15.00	15.00
Isopropyl Myristate	110-27-0	1.00	--	1.00	1.00
Zinc Phenosulphonate	127-82-2	0.50	--	0.50	0.50
Cavasol® W7 methylated Beta-cyclodextrin	128446-36-6	--	1.00	--	--
Fragrance [2]	--	1.20	1.20	1.20	1.20
Fragrance Modulator [3]	--	2.60	2.60	2.60	2.60
Propane	74-98-6	4.86	--	4.86	4.86
Isobutane	72-28-5	27.14	--	27.14	27.14
1,1-Difluoroethane (HFC-152a)	75-37-6	8.00	35.00	8.00	8.00
	Total	100.00	100.00	100.00	100.00

[1] wt% relative to the total weight of the composition.

[2] Can be any one of Fragrances Examples 1-3, 4b, 5b or 18.

[3] Can be any one of the substantially non-odorous fragrance modulators disclosed in Table 3.

Composition V, VI and VII are examples of body lotion compositions according to the present invention. They are prepared by admixture of the components as described in Table 21, in the proportions indicated.

Table 21 – Body Lotion Composition

Ingredients	CAS Number	Compositions (wt% [1])		
		V	VI	VII
Water	7732-18-5	qsp 100 %	qsp 100 %	qsp 100 %
Trilon® B	64-02-8	0.05	0.05	0.05
Carbopol® ETD 2050	9003-01-4	0.2	0.2	0.2
Pemulen™ TR1	9063-87-0	0.2	0.2	0.2
Nexbase® 2008	68037-01-4	8	8	8
Silicone V100	63148-62-9	6	6	6
Fragrance Modulator [3]	--	3	3	3
Tris Amino™ Ultra Pur	102-71-6	0.4	0.4	0.4
Fragrance [2]	--	3	3	3
Preservatives	--	qs	qs	qs
	Total	100.00	100.00	100.00

[1] wt% relative to the total weight of the composition.

[2] Can be any one of the Fragrances Examples 1-3, 4b, 5b or 18.

[3] Can be any one of the substantially non-odorous fragrance modulators disclosed in Table 3.

Example 5 – Olfactive Test Results

Compositions disclosed in Tables 18(a) and 19(a)-19(b) are applied to glass slides in accordance with the protocol described in the Method Section and a panel of 6-10 experienced panelists evaluated the perceived fragrance profile at initial time 0, then at various time points, typically 1 hour, 2 hours, 3 hours, 4 hours and 6 hours post application. Panelists are asked to score the compositions for the longevity on a scale of 0 to 5, wherein 0 represents a no fragrance is detected and 5 represents a very strong fragrance intensity is detected; and for fragrance profile fidelity on a scale of 0 to 3 wherein 0 represents not detectable and 3 represents it being the dominant character. The results of the panelists are then averaged and discussed below.

(a) Effects of the Substantially Non-Odorous Fragrance Modulators on Single Fragrance Material Compositions

Figure 1 shows the fragrance intensity profile of Composition P as evaluated by 10 panelists, which comprises the substantially non-odorous fragrance modulator Propylene Glycol Propyl Ether (PGPE) and the single fragrance material, Eugenol. Addition of the substantially non-odorous fragrance modulator (PGPE) maintains the intensity of the fragrance material for up to 6 hours whilst the control, Composition Q, in the absence of the substantially non-odorous fragrance modulator (PGPE), drops in fragrance intensity profile over the 6 hours. The substantially non-odorous fragrance modulator acts to maintain the continued evaporation over time of the fragrance material. Statistical analysis using the Tukey correction for multiple

comparisons confirms the statistically significant difference at 1hour ($p < 0.0001$) and 6 hours ($p = 0.0235$) both at 95% significance level (*i.e.*, $p < 0.05$) and at 3 hours ($p = 0.0676$) at 90% significance level (*i.e.*, $p < 0.1$).

Figure 2 shows the fragrance intensity profile of Composition R as evaluated by 10 panelists, which comprises the substantially non-odorous fragrance modulator Diisobutyl Adipate and the single fragrance material Dimethyl Benzyl Carbinyl Acetate. Addition of the substantially non-odorous fragrance modulator (Diisobutyl Adipate) maintains the intensity of the fragrance material for up to 1 hour whilst the control, Composition S, in the absence of the substantially non-odorous fragrance modulator, drops in fragrance intensity profile over this time. The substantially non-odorous fragrance modulator acts to maintain the continued initial evaporation over time of the fragrance material. Statistical analysis using the Tukey correction for multiple comparisons confirms the statistically significant difference at 0 hours ($p = 0.0558$) at 90% significance level (*i.e.*, $p < 0.1$) and at 1 hour ($p = 0.0163$) at 95% significance level (*i.e.*, $p < 0.05$).

(b) Effects of the Substantially Non-Odorous Fragrance Modulators on the Fragrance Profile Longevity of Compositions having Reduced Levels of Low Volatile Fragrance Materials (between 10 to 30 wt% relative to the total weight of the Fragrance Component) vs Compositions having Traditional Levels of Low Volatile Fragrance Materials (Greater than 30 wt% relative to the total weight of the Fragrance Component) and No Substantially Non-Odorous Fragrance Modulator

Panelists are asked to score the compositions for the intensity of the fragrance on a scale of 0 to 5, wherein 0 represents no fragrance intensity is detected and 5 represents a very strong fragrance intensity is detected. The results of the panel test are then averaged. The results show the effect of the substantially non-odorous fragrance modulator and reduced levels of low volatile fragrance materials for any one of the inventive Compositions A, D, G, J and M on fragrance profile longevity versus control Compositions C, F, I, L, and O in the absence of the substantially non-odorous modulator. Alternatively, the results show the effect of the substantially non-odorous fragrance modulator and reduced levels of low volatile fragrance materials for any one of the inventive Compositions A, D, G, J and M on fragrance profile longevity versus traditional Compositions B, E, H, K and N in the presence of the substantially non-odorous fragrance modulator. Fragrance profile longevity, particularly intensity of the characters attributable to the volatile fragrance materials are maintained for up to at least 6 hours in the presence of the

substantially non-odorous fragrance modulator whilst it drops in the absence of the substantially non-odorous fragrance modulator.

Figure 3 shows the fragrance intensity profile of Composition A as evaluated by 6 panelists, which comprises 15 wt% substantially non-odorous fragrance modulator Diisobutyl Adipate and 7 wt% Reduced Low Volatile Floral Magnifica Fragrance Example 4b (13 wt% of low volatile fragrance materials). Addition of the substantially non-odorous fragrance modulator Diisobutyl Adipate maintains the intensity of the fragrance material for up to 6 hours. As compared to the control Composition C, in the absence of the substantially non-odorous fragrance modulator Diisobutyl Adipate, and comprising 7 wt% Traditional Floral Magnifica Fragrance Example 4a (37 wt% of low volatile fragrance materials) drops in fragrance intensity over the 6 hours.

Figure 4 shows the fragrance intensity profile of Composition A as evaluated by 6 panelists,which comprises 15 wt% substantially non-odorous fragrance modulator Diisobutyl Adipate and 7 wt% Reduced Low Volatile Muguesia Magnifica Fragrance Example 5b (13 wt% of low volatile fragrance materials). Addition of the substantially non-odorous fragrance modulator Diisobutyl Adipate maintains the intensity of the fragrance material for up to 6 hours. As compared to the control Composition C, in the absence of the substantially non-odorous fragrance modulator Diisobutyl Adipate, and comprising 7 wt% Traditional Muguesia Magnifica Fragrance Example 5a (37 wt% of low volatile fragrance materials) drops in fragrance intensity over the 6 hours.

Panelists are also asked to score the Compositions B, E, H, K and N for the intensity of the fragrance profile. The results show the effect of the substantially non-odorous fragrance modulator and excessive levels of low volatile fragrance materials for any one of Compositions B, E, H, K and N on fragrance profile longevity and fidelity. Two outcomes are observed: (i) either the fragrance profile longevity is unaffected by the addition of the substantially non-odorous fragrance modulator, or (ii) the fragrance profile appears to be suppressed with a loss of strength (data not shown).

Without wishing to be bound by theory, it is believed that the substantially non-odorous fragrance modulator acts to maintain the continued evaporation over time of the fragrance materials, particular the volatile fragrance materials. The effect of the improved fragrance profile longevity of the present invention are noticeable at, any one of, 1, 3 and 6 hours post application.

(c) Effects of the Substantially Non-Odorous Fragrance Modulators on the Fragrance Profile Fidelity of Compositions having Reduced Levels of Low Volatile Fragrance Materials (between 10 to 30 wt% relative to the total weight of the Fragrance

Component) vs Compositions having Traditional Levels of Low Volatile Fragrance Materials (Greater than 30 wt% relative to the total weight of the Fragrance Component) and No Substantially Non-Odorous Fragrance Modulator

Panelists are are also asked to score the composition for the fragrance profile fidelity. In particular, the panelists are asked to score the dominance of the floral character attributable to the volatile fragrance materials on a scale of 0 to 3 wherein 0 represents not detectable and 3 represents it being the dominant character. The results of the panel test are then averaged. The results show the effect of the substantially non-odorous fragrance modulator and reduced levels of low volatile fragrance materials for the inventive Compositions A, D, G, J and M on fragrance profile fidelity versus control Compositions C, F, I, L, and O in the absence of the substantially non-odorous fragrance modulator. Alternatively, the results show the effect of the substantially non-odorous fragrance modulator and reduced levels of low volatile fragrance materials for any one of the inventive Compositions A, D, G, J and M on fragrance profile fidelity versus traditional Compositions B, E, H, K and N in the presence of the substantially non-odorous fragrance modulator. Fragrance profile fidelity, particularly floral character attributable to the volatile fragrance materials, are maintained by the substantially non-odorous fragrance modulator over time for up to 6 hours in the presence of the substantially non-odorous fragrance modulator whilst it drops in the absence of the substantially non-odorous fragrance modulator (data not shown).

Figure 5 shows the fragrance profile fidelity of Composition A, which comprises 15 wt% substantially non-odorous fragrance modulator Diisobutyl Adipate and 7 wt% Reduced Low Volatile Floral Magnifica Fragrance Example 4b (13 wt% of low volatile fragrance materials). Addition of the substantially non-odorous fragrance modulator Diisobutyl Adipate maintains the overwhelmingly dominate floral character for up to 6 hours. It is observed for Composition C comprising 7 wt% Traditional Floral Magnifica Fragrance Example 4a (37 wt% of low volatile fragrance materials) and no modulators, the floral character is perceived initially but then drops quickly over time. Addition of the substantially non-odorous fragrance modulator Diisobutyl Adipate does not result in improved fidelity of the floral character (data not shown).

Figure 6 shows the fragrance profile fidelity of Composition A, which comprises 15 wt% substantially non-odorous fragrance modulator Diisobutyl Adipate and 7 wt% Reduced Low Volatile Muguesia Magnifica Fragrance Example 5b (13 wt% of low volatile fragrance materials). Addition of the substantially non-odorous fragrance modulator Diisobutyl Adipate maintains the overwhelmingly dominate floral character for up to 6 hours. It is observed for Composition C comprising 7 wt% Traditional Muguesia Magnifica Fragrance Example 5a (37

wt% of low volatile fragrance materials) and no modulators, the floral character is perceived initially but then drops quickly over time. Addition of the substantially non-odorous fragrance modulator Diisobutyl Adipate does not result in improved fidelity of the floral character (data not shown).

Figure 7 shows the fragrance profile fidelity of Composition J, which comprises 15 wt% substantially non-odorous fragrance modulator PPG-11 Stearyl Ether and 7 wt% Reduced Low Volatile Floral Magnifica Fragrance Example 4b (13 wt% of low volatile fragrance materials). Addition of the substantially non-odorous fragrance modulator PPG-11 Stearyl Ether maintains the overwhelmingly dominate floral character for up to 6 hours. It is observed for Composition L comprising 7 wt% Traditional Floral Magnifica Fragrance Example 4a (37 wt% of low volatile fragrance materials) and no modulators, the floral character is perceived initially but then drops quickly over time. Addition of the substantially non-odorous fragrance modulator PPG-11 Stearyl Ether does not result in improved fidelity of the floral character (data not shown).

Figure 8 shows the fragrance profile fidelity of Composition J, which comprises 15 wt% substantially non-odorous fragrance modulator PPG-11 Stearyl Ether and 7 wt% Reduced Low Volatile Muguesia Magnifica Fragrance Example 5b (13 wt% of low volatile fragrance materials). Addition of the substantially non-odorous fragrance modulator PPG-11 Stearyl Ether maintains the overwhelmingly dominate floral character for up to 6 hours. It is observed for Composition L comprising 7 wt% Traditional Muguesia Magnifica Fragrance Example 5a (37 wt% of low volatile fragrance materials) and no modulators, the floral character is perceived initially but then drops quickly over time. Addition of the substantially non-odorous fragrance modulator PPG-11 Stearyl Ether does not result in improved fidelity of the floral character (data not shown).

Panelists are also asked to score the Compositions B, E, H, K and N for the dominance of the floral character. The results show the effect of the substantially non-odorous fragrance modulator and excessive levels of low volatile fragrance materials for any one of Compositions B, E, H, K and N on fidelity of the floral character attributable to the volatile fragrance materials. It is observed that the floral character is perceived initially but then drops quickly over time. Addition of the substantially non-odorous fragrance modulator does not result in improved fidelity of the floral character as seen in any one of Compositions B, E, H, K and N (data not shown).

Panelists are further asked to score the compositions on a scale of 1 to 5, wherein 1 represents the fragrance profile remains unchanged and 5 represents a total change in the fragrance profile versus a control. The results of the panel test are averaged and plotted together

with the confidence intervals. The results show the effect of the substantially non-odorous fragrance modulator and reduced levels of low volatile fragrance materials for Compositions A, D, G, J and M. The presence of the substantially non-odorous fragrance modulator and the reduced levels of low volatile fragrance materials result in noticeable fidelity in fragrance character. Particularly, noticeable fidelity in the floral character attributable to the volatile fragrance materials (data not shown).

Example 6 – Analytical Evaporation Test Results

Using the analytical evaporation Test Method 3, it is possible to measure the amount of each component of a perfume mixture that remains as the fragrance mixture evaporates. Test compositions, as disclosed in Table 18(b) and 18(c), comprising a mixture of 10 volatile perfume materials, as disclosed in Table 11 (Fragrance Example 6), and a substantially non-odorous fragrance modulators, as disclosed in Table 3, are introduced in the aluminum containers at the set temperature for pre-determined periods of time in accordance with the protocol described in Test Method 3. Indole is one of the components of the 10 PRMs mixture of Table 11. Control compositions containing the full 10 PRMs without the substantially non-odorous fragrance modulator are run alongside the test compositions. The average profile for the control composition is plotted against the individual profile for the indole component from the test composition containing the 10 PRMs mixture of Table 11 with the substantially non-odorous fragrance modulators. The error associated with the method is determined by running replicate evaporation experiments on the control composition. An average evaporation profile of the control composition as well as the 95% confidence interval at each time point are calculated from the replicates.

It is useful to consider the difference (Δ) in the % of remaining fragrance material between each of the test composition (MOD) and their respective control composition (REF) at each experimental time points (*e.g.*, 30 mins, 60 mins and 180 mins) to determine the effect of the substantially non-odorous fragrance modulator on the volatile PRMs in a mixture. The difference (Δ) in the % of remaining of a given fragrance material is calculated as follows:

Δ = % remaining of given fragrance material in test composition (MOD) - % remaining of same fragrance material in control composition (REF)

The difference (Δ) can then be plotted (data not shown) for each of the perfume materials in the mixture at each of the time points. For ease of reference, the applicant has summarize the effect

of the substantially non-odorous fragrance modulator on only one volatile fragrance component (*e.g.*, indole) of the mixture, to serve as a representative of all of the volatile fragrance materials.

(a) Effects of Isoceteth-15 on Compositions having Volatile Fragrance Materials

Figure 9 shows the effect of the substantially non-odorous fragrance modulator Isoceteth-15 on the evaporation profile for a representative component (*i.e.*, indole) of the test composition (MOD1). With reference to Figure 9, indole has a difference (Δ) of 15 % after 30 mins, 34 % after 60 mins, and 81 % after 3 hours. Addition of the Isoceteth-15 in the test composition (MOD1) maintains the concentration of the volatile fragrance material indole from 0 hour up to 3 hours whilst the control composition (REF), in the absence of Isoceteth-15, drops in fragrance concentration over the 3 hours. Thus, Isoceteth-15 acts to maintain the continued evaporation of the volatile fragrance material over time. Similar results are observed for the other volatile fragrance materials in the mixture (data not shown).

(b) Effects of DL-Panthenol on Compositions having Volatile Fragrance Materials

Figure 10 shows the effect of the substantially non-odorous fragrance modulator DL-Panthenol on the evaporation profile for a representative component (*i.e.*, indole) of the test composition (MOD2). With reference to Figure 10, DL-Panthenol has a difference (Δ) of 9 % after 30 mins, 14 % after 60 mins, and 41 % after 3 hours. Addition of the DL-Panthenol in the test composition (MOD2) maintains the concentration of the volatile fragrance material indole from 0 hour up to 3 hours whilst the control composition (REF), in the absence of DL-Panthenol, drops in fragrance concentration over the 3 hours. Thus, DL-Panthenol acts to maintain the continued evaporation of the volatile fragrance material over time. Similar results are observed for the other volatile fragrance materials in the mixture (data not shown).

(c) Effects of PPG-11 Stearyl Ether on Compositions having Volatile Fragrance Materials

Figure 11 shows the effect of the substantially non-odorous fragrance modulator PPG-11 Stearyl Ether on the evaporation profile for a representative component (*i.e.*, indole) of the test composition (MOD3). With reference to Figure 11, PPG-11 Stearyl Ether has a difference (Δ) of 9 % after 30 mins, 23 % after 60 mins, and 59 % after 3 hours. Addition of the PPG-11 Stearyl Ether in the test composition (MOD3) maintains the concentration of the volatile fragrance material indole from 0 hour up to 3 hours whilst the control composition (REF), in the absence of PPG-11 Stearyl Ether, drops in fragrance concentration over the 3 hours. Thus, PPG-11 Stearyl Ether acts to maintain the continued evaporation of the volatile fragrance material over time.

Similar results are observed for the other volatile fragrance materials in the mixture (data not shown).

Example 7 – Analytical Headspace Test Results

Using the analytical headspace Test Method 4, it is possible to demonstrate the character retention over time of a perfume mixture of a fragrance composition of the present invention vs. a control. Compositions disclosed in Tables 18(a) are added to sealed vials in accordance with the procotol described in the Method Section, and the fragrance profile in the headspace are measured at specific time points through the use of headspace gas chromatography.

(a) Effects of the Substantially Non-Odorous Fragrance Modulators on Character Retention of Compositions having Reduced Levels of Low Volatile Fragrance Materials (between 10 to 30 wt% relative to the total weight of the Fragrance Component) vs Compositions having Traditional Levels of Low Volatile Fragrance Materials (> 30 wt% relative to the total weight of the fragrance component)

The test demonstrates the character retention over time of a fragrance composition. The results show the effect of the substantially non-odorous fragrance modulator and reduced levels of low volatile fragrance materials for any one of the inventive Compositions A, D, G, J and M on fragrance profile longevity versus control Compositions C, F, I, L, and O in the absence of the substantially non-odorous fragrance modulator. Alternatively, results show the effect of the substantially non-odorous fragrance modulator and reduced levels of low volatile fragrance materials for any one of the inventive Compositions A, D, G, J and M on fragrance profile longevity versus traditional Compositions B, E, H, K and N in the presence of the substantially non-odorous fragrance modulator. Fragrance profile fidelity, particularly characters attributable to the volatile fragrance materials are maintained for up to at least 1 hour in the presence of the substantially non-odorous fragrance modulator whilst it drops in the absence of the substantially non-odorous fragrance modulator.

Figure 12(a)(i) provides the headspace chromatogram for control Composition L after 10 mins of evaporation, wherein Composition L comprises 7 wt% Traditional Muguesia Magnifica Fragrance Example 5a and no modulator. The headspace is a complex fragrance with many perfume materials of a range of volatility and characters. This includes volatile fragrance materials having a vapor pressure greater than or equal to 0.001 Torr (0.000133 kPa) at 25 °C, for example: Cyclogalbanate or Majantol®, Helional, Cymal or Jasmal and hydroxyl citronellal; and low volatile fragrance material having a vapor pressure less than 0.001 Torr (0.000133 kPa) at 25 °C, for example: Hedione® HC and Iso-E Super®. As the fragrance evaporates, the height of the

peaks reduces significantly, particularly the peaks due to the volatile fragrance materials. After 60 mins of evaporation, as shown in Figure 12(a)(ii), only one substantial volatile fragrance material peak remains, for example Helional. In contrast, the low volatile fragrance materials remain with substantial peaks for many perfume materials, for example Hedione® HC and Iso-E Super®. These chromatograms illustrate the loss of fragrance materials during evaporation, particularly the loss of the volatile fragrance materials. Consumers will experience this as a loss in intensity and perception of these particular fragrance materials, particularly those that provide the floral characters.

Figure 12(b)(i) provides the headspace chromatogram for inventive Composition J after 10 mins of evaporation, wherein Composition J comprises 7 wt% Reduced Low Volatile Muguesia Magnifica Fragrance Example 5b and 15 wt% PPG-11 Stearyl Ether substantially non-odorous modulator. The headspace is a complex fragrance with many perfume materials of a range of volatility and characters. This includes volatile fragrance materials having a vapor pressure greater than or equal to 0.001 Torr (0.000133 kPa) at 25 °C, for example Cyclogalbanate, or Majantol®, Helional, Cymal or Jasmal and hydroxyl citronellal; and low volatile fragrance material having a vapor pressure less than 0.001 Torr (0.000133 kPa) at 25 °C, for example Hedione® HC and Iso-E Super®. As the fragrance evaporates the height of the peaks reduces but not as much as compared to the control Composition L, particularly the peaks due to the volatile fragrance materials are maintained. After 60 mins of evaporation, as shown in Figure 12(b)(ii), most of the volatile fragrance materials peaks remain. This includes Cyclogalbanate or Majantol®, Helional Cymal or Jasmal and hydroxyl citronellal. The low volatile fragrance materials, Hedione® HC and Iso-E Super®, remain in the headspace but are not dominant when compared to Composition L. These chromatograms illustrate the prolonged presence of the volatile fragrance materials in Composition J. Consumers will experience this as a fragrance with a prolonged intensity, particularly of the characters attributable to the volatile fragrance materials, most particularly of the floral characters.

It should be understood that every maximum numerical limitation given throughout this specification includes every lower numerical limitation, as if such lower numerical limitations were expressly written herein. Every minimum numerical limitation given throughout this specification will include every higher numerical limitation, as if such higher numerical limitations were expressly written herein. Every numerical range given throughout this specification will include every narrower numerical range that falls within such broader numerical range, as if such narrower numerical.

The dimensions and values disclosed herein are not to be understood as being strictly limited to the exact numerical values recited. Instead, unless otherwise specified, each such dimension is intended to mean both the recited value and a functionally equivalent range surrounding that value. For example, a dimension disclosed as "40 mm" is intended to mean "about 40 mm."

Every document cited herein, including any cross referenced or related patent or application and any patent application or patent to which this application claims priority or benefit thereof, is hereby incorporated herein by reference in its entirety unless expressly excluded or otherwise limited. The citation of any document is not an admission that it is prior art with respect to any invention disclosed or claimed herein or that it alone, or in any combination with any other reference or references, teaches, suggests or discloses any such invention. Further, to the extent that any meaning or definition of a term in this document conflicts with any meaning or definition of the same term in a document incorporated by reference, the meaning or definition assigned to that term in this document shall govern.

While particular embodiments of the present invention have been illustrated and described, it would be obvious to those skilled in the art that various other changes and modifications can be made without departing from the spirit and scope of the invention. It is therefore intended to cover in the appended claims all such changes and modifications that are within the scope of this invention.

CLAIMS

What is claimed is:

1. A composition comprising:

(i) a fragrance component present in an amount of from about 0.04 wt% to about 30 wt%, and wherein the fragrance component comprises:

(a) at least one low volatile fragrance material having a vapor pressure less than 0.001 Torr (0.000133 kPa) at 25 °C; and

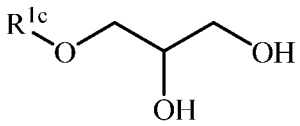
(b) the low volatile fragrance material is present in an amount of from about 10 wt% to about 30 wt%, relative to the total weight of the fragrance component;

(ii) at least one substantially non-odorous fragrance modulator present in the amount of from about 0.1 wt% to about 20 wt%, relative to the total weight of the composition; and wherein the substantially non-odorous fragrance modulator is selected from the group consisting of:

(a) Propylene Glycol Propyl Ether; Dicetyl Ether Ethers; Polyglycerin-4 Ethers; Isoceteth-5; Isoceteth-7, Isoceteth-10; Isoceteth-12; Isoceteth-15; Isoceteth-20; Isoceteth-25; Isoceteth-30; Disodium Lauroamphodipropionate, Hexaethylene glycol monododecyl ether; and their mixtures;

(b) Neopentyl Glycol Diisononanoate; Cetearyl Ethylhexanoate; and their mixtures;

(c) Glyceryl Ether derivatives having the formula (I):



(I)

wherein:

R^{1c} is C_4-C_{12} aliphatic hydrocarbon group;

(d) Panthenol Ethyl Ether, DL-Panthenol and their mixtures;

(e) Aliphatic Dibasic Acid Diester derivatives having the formula (II):

$$R^{1d}OCOR^{2d}COOR^{3d}$$

(II)

wherein:

R^{1d} is C_4-C_5 alkyl;

R^{2d} is C_4 alkylene; and

R^{3d} is C_4-C_5 alkyl;

(f) Aliphatic Ether derivatives having the formula (III):

$$R^{1e}\text{-O-}(CH(CH_3)\text{-}CH_2O)_a\text{-}(CH_2\text{-}CH_2O)_b\text{-H} \quad \text{(III)}$$

wherein:

a and b are integers such that the sum of a and b is from 1 to 4; and

R^{1e} is an aliphatic chain comprising from 8 to 18 carbons;

(g) *N*-hexadecyl n-nonanoate, Noctadecyl n-nonanoate and their mixtures; and

(h) mixtures thereof.

2. The composition according to claim 1, wherein:

(i) the fragrance component is present preferably from about 1 wt% to about 30 wt%, more preferably less than about 25 wt%, yet more preferably less than about 20 wt%, yet even more preferably less than about 15 wt%, yet even more preferably less than about 10 wt% or most preferably less than 8 wt%, relative to the total weight of composition; and wherein:

a. the fragrance component comprises at least one low volatile fragrance material having a vapor pressure less than 0.001 Torr (0.000133 kPa) at 25 °C; and

b. the low volatile fragrance material is present in an amount of preferably less than about 30 wt%, or preferably less than about 28 wt%, or preferably less than about 25 wt%, relative to the total weight of the fragrance component; and

(ii) at least one substantially non-odorous fragrance modulator present in the amount of preferably from about 0.5 wt% to about 18 wt%, or more preferably from about 2.5 wt% to about 15%, relative to the total weight of the composition.

3. The composition according to any one of the preceding claims, wherein:

(ii) the substantially non-odorous fragrance modulator is selected from the group of Table 3 Substantially Non-Odorous Fragrance Modulators 1-23, and mixtures thereof.

4. The composition according to any one of the preceding claims, wherein the low volatile fragrance material is selected from at least 1 material, or at least 2 materials, or at least 3 materials from the group of Table 1 Low Volatile Fragrance Materials 1-105, and mixtures thereof.

5. The composition according to any one of the preceding claims, wherein the low volatile fragrance material is selected from the group of Table 1 Low Volatile Fragrance Materials 1-8, 11-13, 15, 17-18, 21-25, 28, 32-33, 37-38, 41, 43-45, 49-51, 53, 54-56, 58, 60, 63, 65-67, 69, 72-73, 75, 78-79, 89, 94, 97, 99, 101, 103, and mixtures thereof.

6. The composition according to any one of the preceding claims, wherein:
   (i) the fragrance component further comprising one or more volatile fragrance materials, wherein:
      (c) the volatile fragrance material has a vapor pressure greater than or equal to 0.001 Torr (0.000133 kPa) at 25 °C;
      (d) the volatile fragrance material is present in an amount of from about 70 wt% to about 99.9 wt%, preferably greater than about 80 wt%, or more preferably greater than about 88 wt%, relative to the total weight of the fragrance component; and
      (e) mixtures thereof.

7. The composition according to claim 6, wherein the volatile fragrance material is selected from at least 1 material, or at least 3 materials, or at least 5 materials from the group of Table 2 Volatile Fragrance Materials 1-443, and mixtures thereof.

8. The composition according to claim 7, wherein the volatile fragrance material is selected from the group of Table 2 Volatile Fragrance Materials 130, 131, 133, 137-139, 142, 144-145, 147-148, 150-151, 154-155, 158, 162, 165-166, 168, 171, 175, 178, 180-181, 184, 186-188, 192, 194-197, 199, 201, 203-205, 208, 214-217, 219-221, 225-226, 228-229, 232-235, 237-239, 241-242, 245, 247, 249-250, 255-256, 258, 260, 262, 264-267, 270-273, 276-277, 279-281, 284, 286-287, 289-290, 293-301, 304-305, 307-312, 314, 316, 318-320, 322-325, 328-335, 340-344, 347, 349-351, 354-358, 359-364, 366, 368-373, 375-378, 380-383, 385, 387-388, 390-392, 394, 396, 399, 403-407, 409-419, 422-424, 427-428, 430, 432-435, 439-441, 443, and mixtures thereof.

9. The composition according to claim 6, wherein the volatile fragrance material is selected from the group consisting of:
      (f) a high volatile fragrance material having a vapor pressure greater than 0.1 Torr (0.0133 kPa) at 25 °C, present in an amount of from about 1 wt% to about 30 wt%, relative to the total weight of the fragrance component;

(g) a moderate volatile fragrance material having a vapor pressure in the range of 0.1 Torr to 0.001 Torr (0.0133 kPa to 0.000133 kPa) at 25 °C, present in an amount of from about 40 wt% to about 80 wt%, relative to the total weight of the fragrance component; and

(h) mixtures thereof.

10. The composition according to any one of the preceding claims, further comprising a volatile solvent present in the amount of from about 50 wt% to about 80 wt%, or from about 55 wt% to about 75 wt%, relative to the total weight of the composition, and wherein the solvent is a branch or unbranched C_1 to C_{10} alkyl, akenyl or alkynyl group having at least one alcohol moiety, preferably ethanol, isopropanol, or glycol.

11. A composition comprising:

(i) a fragrance component present in an amount of from about 0.04 wt% to about 30 wt%, relative to the total weight of the composition; and wherein:

(a) at least one low volatile fragrance material having a vapor pressure less than 0.001 Torr (0.000133 kPa) at 25 °C, present in the amount of from about 10 wt% to about 30 wt%, relative to the total weight of the fragrance component; and

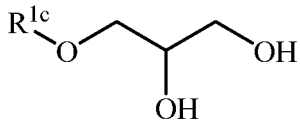
(b) at least one volatile fragrance material having a vapor pressure greater than or equal to 0.001 Torr (0.000133 kPa) at 25 °C, present in the amount of from about 70 wt% to about 99.9 wt%, relative to the total weight of the fragrance component; and

(iii) at least one substantially non-odorous fragrance modulator present in the amount of from about 0.1 wt% to about 20 wt%, relative to the total weight of the composition; and wherein the substantially non-odorous fragrance modulator is selected from the group consisting of:

(a) Propylene Glycol Propyl Ether; Dicetyl Ether; Polyglycerin-4 Ethers; Isoceteth-5; Isoceteth-7, Isoceteth-10; Isoceteth-12; Isoceteth-15; Isoceteth-20; Isoceteth-25; Isoceteth-30; Disodium Lauroamphodipropionate, Hexaethylene glycol monododecyl ether; and their mixtures;

(b) Neopentyl Glycol Diisononanoate; Cetearyl Ethylhexanoate; and their mixtures;

(c) Glyceryl Ether derivatives having the formula (I):



(I)

wherein:

R^{1c} is C_4-C_{12} aliphatic hydrocarbon group;

(d) Panthenol Ethyl Ether, DL-Panthenol and their mixtures

(e) Aliphatic Dibasic Acid Diester derivatives having the formula (II):

$$R^{1d}OCO^{R2d}COOR^{3d}$$

(II)

wherein:

R^{1d} is C_4-C_5 alkyl;

R^{2d} is C_4 alkylene; and

R^{3d} is C_4-C_5 alkyl; and

(f) Aliphatic Ether derivatives having the formula (III):

$$R^{1e}\text{-O-}(CH(CH_3)\text{-}CH_2O)_a\text{-}(CH_2\text{-}CH_2O)_b\text{-H}$$

(III)

wherein:

a and b are integers such that the sum of a and b is from 1 to 4; and

R^{1e} is an aliphatic chain comprising from 8 to 18 carbons;

(g) *N*-hexadecyl n-nonanoate, Noctadecyl n-nonanoate and their mixtures; and

(h) mixtures thereof.

12. The composition according to any one of the preceding claims, wherein the composition is a fine fragrance composition, preferably in the form of a perfume concentrate, a perfume, a parfum, an eau de toilette, an eau de parfum, or a cologne.

13. The composition according to any one of claims 1-11, wherein the composition is in the form of a body splash or a body spray.

14. The composition according to any one of the preceding claims, wherein the substantially non-odorous fragrance modulator does not comprise: (i) isocetyl alcohol, PPG-3 myristyl ether,

neopentyl glycol diethylhexanoate or their mixtures; and (ii) n-hexadecyl n-nonanoate, n-octadecyl n-nonanoate or their mixtures.

15. The composition according to any one of the preceding claims, wherein the substantially non-odorous fragrance modulator and fragrance component are present in a weight ratio from about 3:1 to about 1:3.

16. A composition comprising:

(i) a fragrance component present in an amount of from about 0.04 wt% to about 30 wt%, relative to the total weight of the composition, and wherein the fragrance component comprises:

(a) at least one low volatile fragrance material having a vapor pressure less than 0.001 Torr (0.000133 kPa) at 25 °C; and

(b) at least one volatile fragrance material having a vapor pressure greater than or equal to 0.001 Torr (0.000133 kPa) at 25 °C;

wherein the weight ratio of the low volatile fragrance material versus the volatile fragrance material are present in the range of from 1:2.33 to 1:9;

(ii) at least one substantially non-odorous fragrance modulator present in the amount of from about 0.1 wt% to about 20 wt%, relative to the weight of the composition;

(iii) a volatile solvent present in an amount of from about 50 wt% to about 80 wt% relative to the total weight of the composition; and

(iv) optionally water.

17. A method to enhance the fragrance profile of a composition, preferably improve the longevity of a character, preferably a floral character, of a composition, comprising bringing into contact or mixing at least one substantially non-odorous fragrance modulator with at least one low volatile fragrance material according to a composition according to any one of claims 1-16.

18. The method according to claim 17, wherein the floral character is selected from the group consisting of a lavender-type note, a rose-type note, a lily of the valley-type note, a muguet-type note, a jasmine-type note, a magnolia-type note, a cyclamen-type note, a hyacinth-type note, a lilac-type note, an orange blossom-type note, a cherry blossom-type note, a peony-type note, a lotus-type note, a linden blossom-type note, an osmanthus-type note, a

heliotrope-type note, a violet-type note, an orris-type note, a tiare-type note, a patchouli-type note and the like.

19. A method of producing a consumer product comprising bringing into contact or mixing into the product an organoleptically active quantity of a composition according to any one of claims 1-16.

20. A perfuming consumer product or article comprising a composition according to any one of claims 1-16, wherein the perfuming consumer product is selected from the group consisting of a fabric care product, an air care product or a home care product.

21. A method of modifying or enhancing the odour properties of a body surface, comprising contacting or treating the body surface with a composition according to any one of claims 1-16.

22. A modulator for fragrance materials, wherein the modulator is selected from a compound from the group consisting of: Propylene Glycol; Dicetyl Ether; Polyglycerin-4 Ethers; Isoceteth-5; Isoceteth-7; Isoceteth-10; Isoceteth-12; Isoceteth-15; Isoceteth-20; Isoceteth-25; Isoceteth-30; Disodium Lauroamphodipropionate; Hexaethylene glycol monododecyl ether; and mixtures thereof.

23. A composition comprising a fragrance component and a modulator, wherein the modulator is a compound according to claim 22.

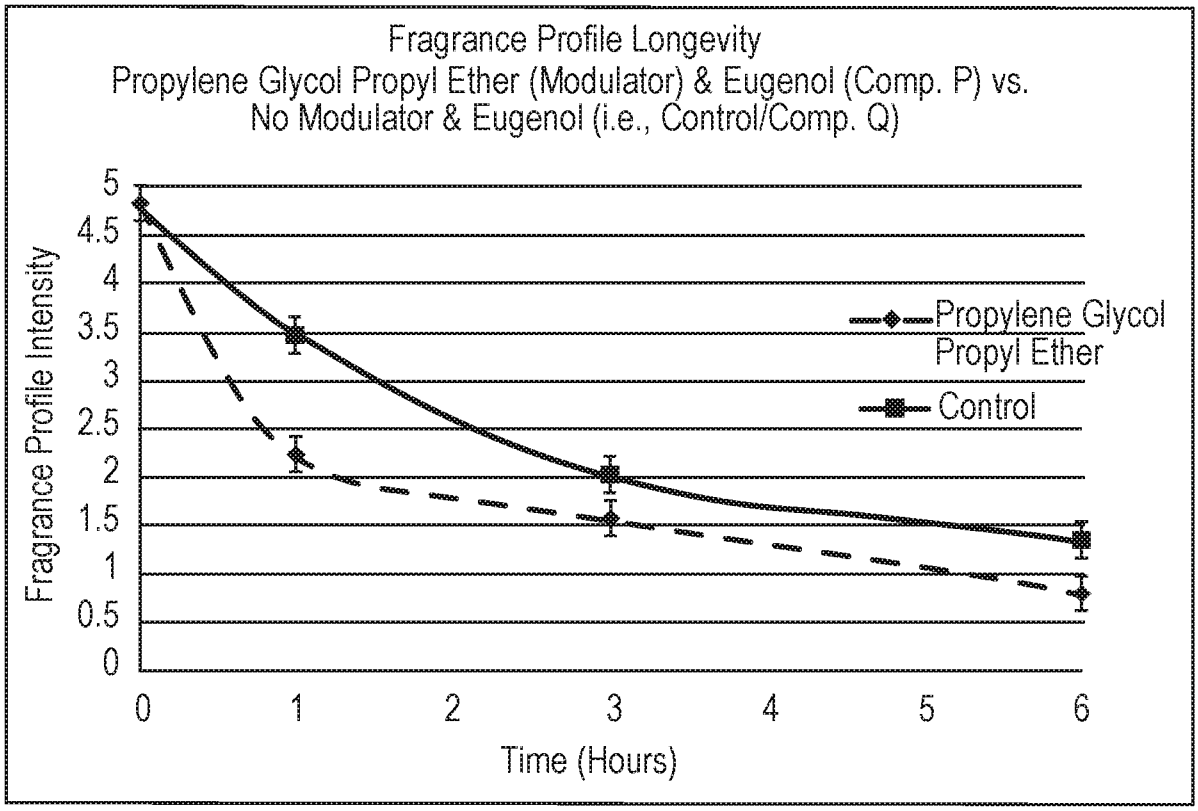

Fragrance Profile Longevity
Propylene Glycol Propyl Ether (Modulator) & Eugenol (Comp. P) vs.
No Modulator & Eugenol (i.e., Control/Comp. Q)
Fragrance Profile Intensity
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
0
1
2
3
4
5
6
Time (Hours)
Propylene Glycol Propyl Ether
Control

Fig. 1

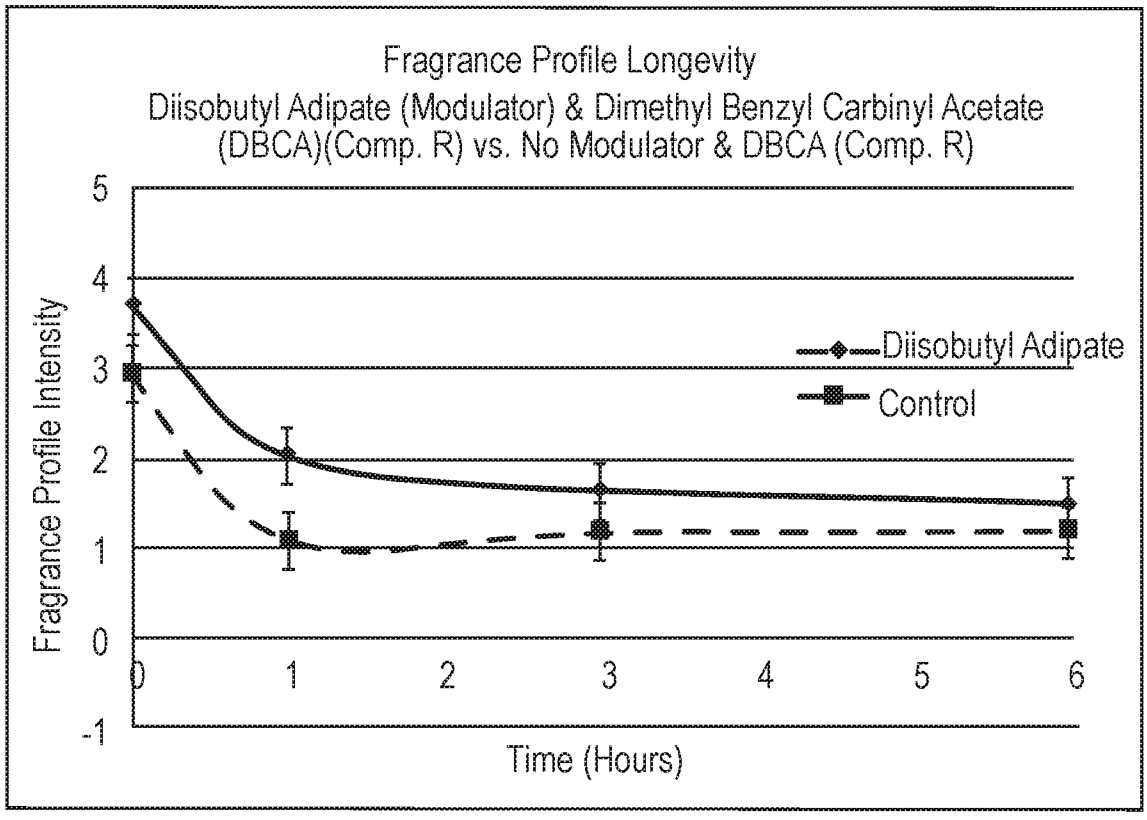

Fragrance Profile Longevity
Diisobutyl Adipate (Modulator) & Dimethyl Benzyl Carbinyl Acetate
(DBCA)(Comp. R) vs. No Modulator & DBCA (Comp. R)
Fragrance Profile Intensity
5
4
3
2
1
0
-1
0
1
2
3
4
5
6
Time (Hours)
Diisobutyl Adipate
Control

Fig. 2

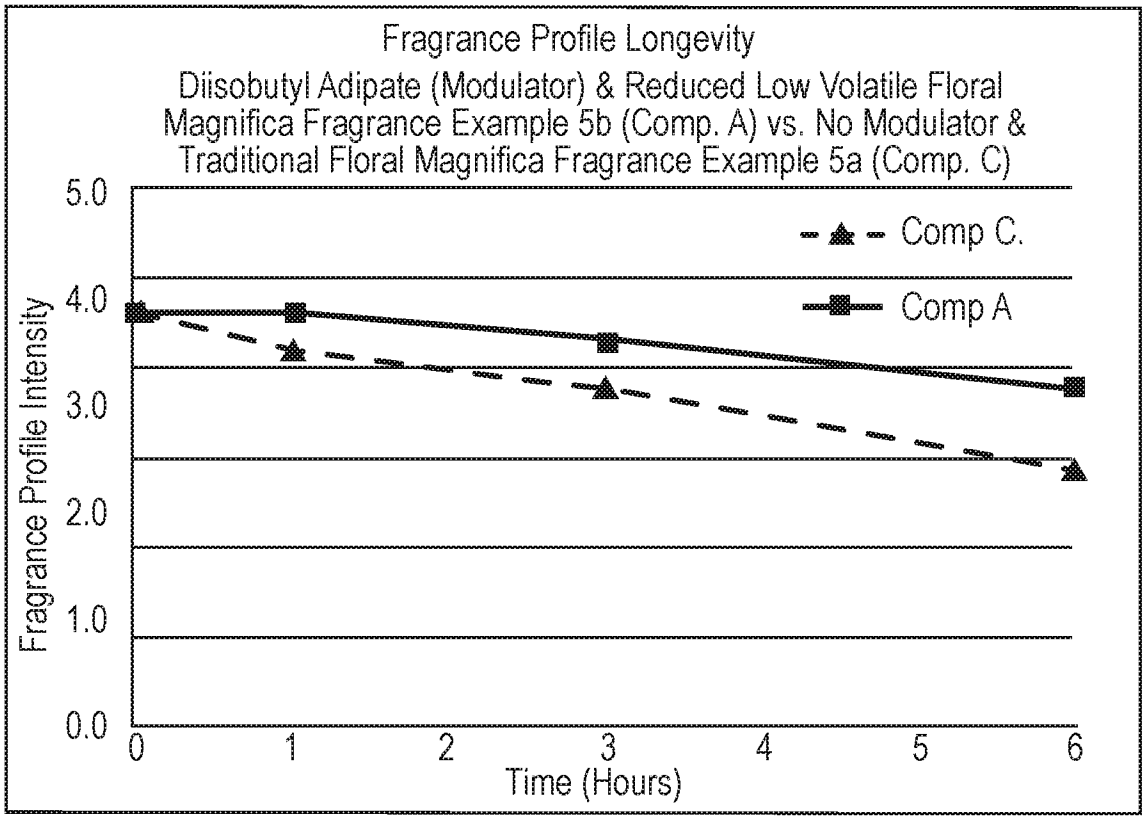

Fragrance Profile Longevity
Diisobutyl Adipate (Modulator) & Reduced Low Volatile Floral Magnifica Fragrance Example 5b (Comp. A) vs. No Modulator & Traditional Floral Magnifica Fragrance Example 5a (Comp. C)
Fragrance Profile Intensity
5.0
4.0
3.0
2.0
1.0
0.0
0
1
2
3
4
5
6
Time (Hours)
Comp C.
Comp A

Fig. 3

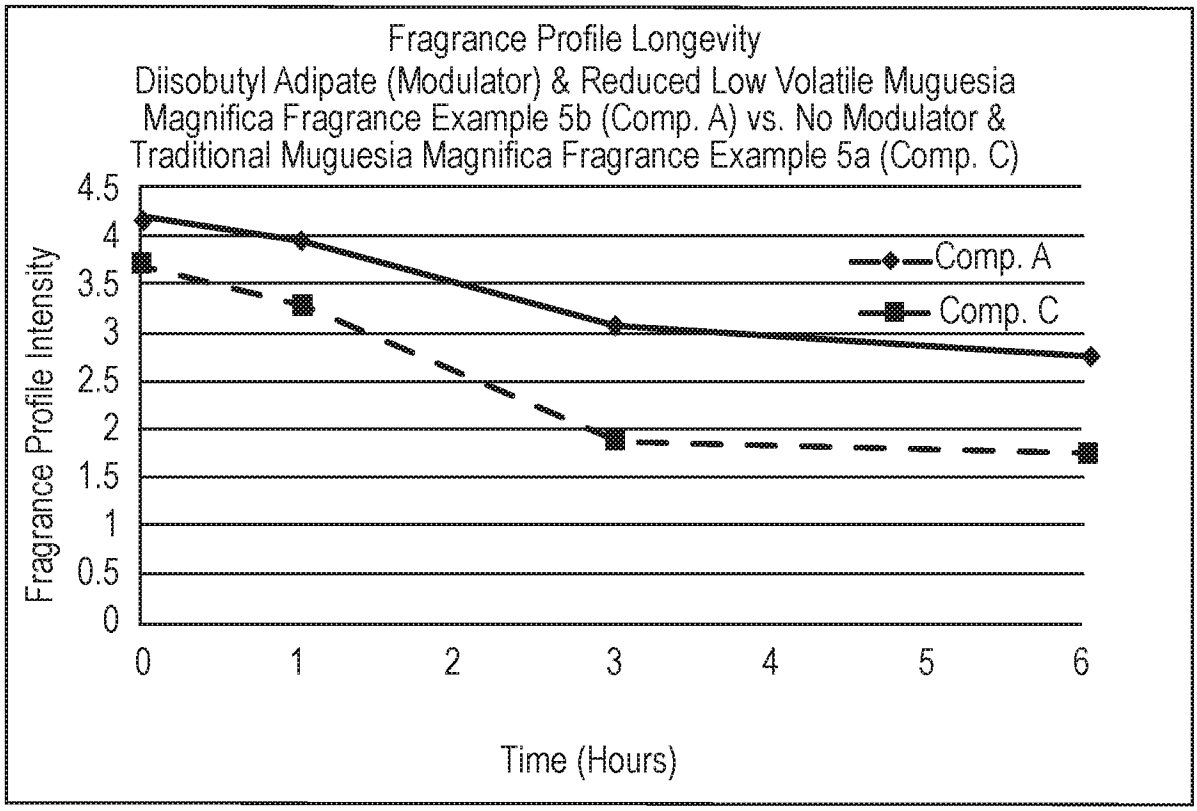

Fragrance Profile Longevity
Diisobutyl Adipate (Modulator) & Reduced Low Volatile Muguesia Magnifica Fragrance Example 5b (Comp. A) vs. No Modulator & Traditional Muguesia Magnifica Fragrance Example 5a (Comp. C)
Fragrance Profile Intensity
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
0
1
2
3
4
5
6
Time (Hours)
Comp. A
Comp. C

Fig. 4

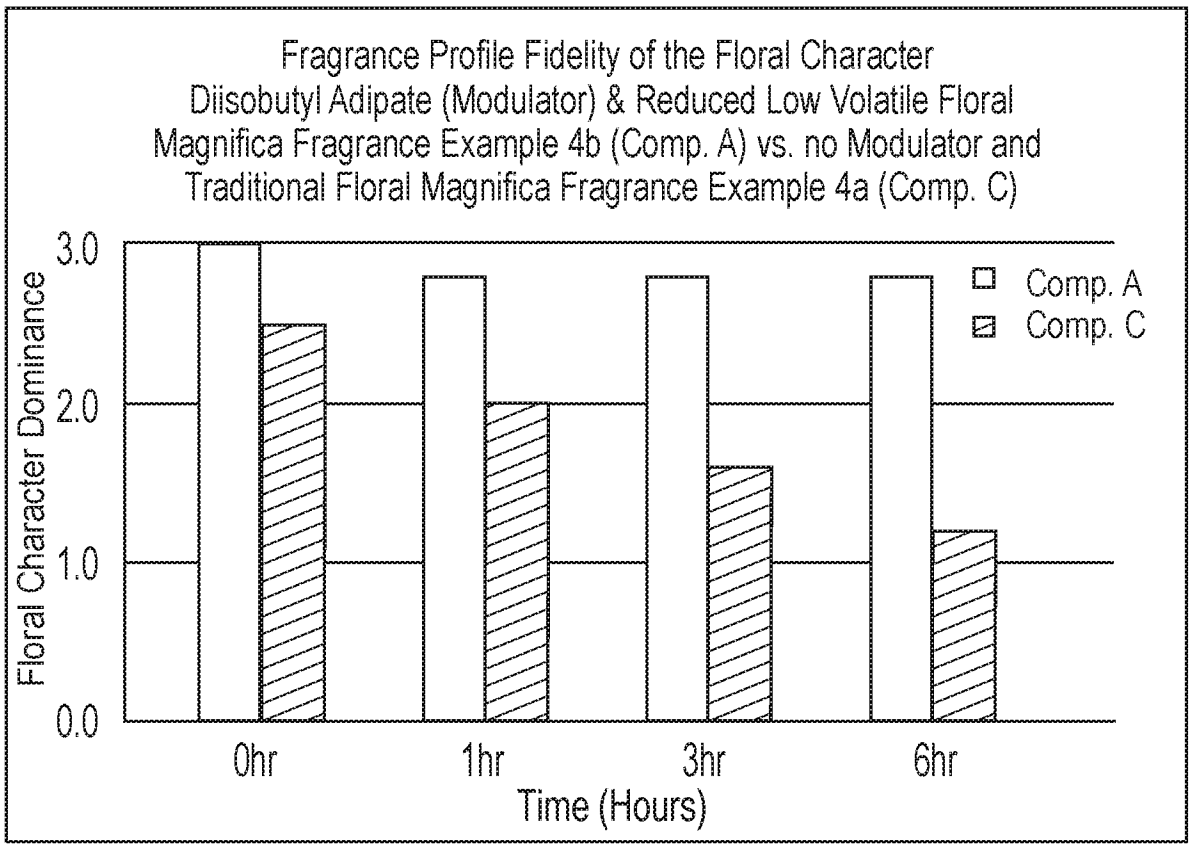

Fragrance Profile Fidelity of the Floral Character
Diisobutyl Adipate (Modulator) & Reduced Low Volatile Floral
Magnifica Fragrance Example 4b (Comp. A) vs. no Modulator and
Traditional Floral Magnifica Fragrance Example 4a (Comp. C)
Floral Character Dominance
3.0
2.0
1.0
0.0
Comp. A
Comp. C
0hr
1hr
3hr
6hr
Time (Hours)

Fig. 5

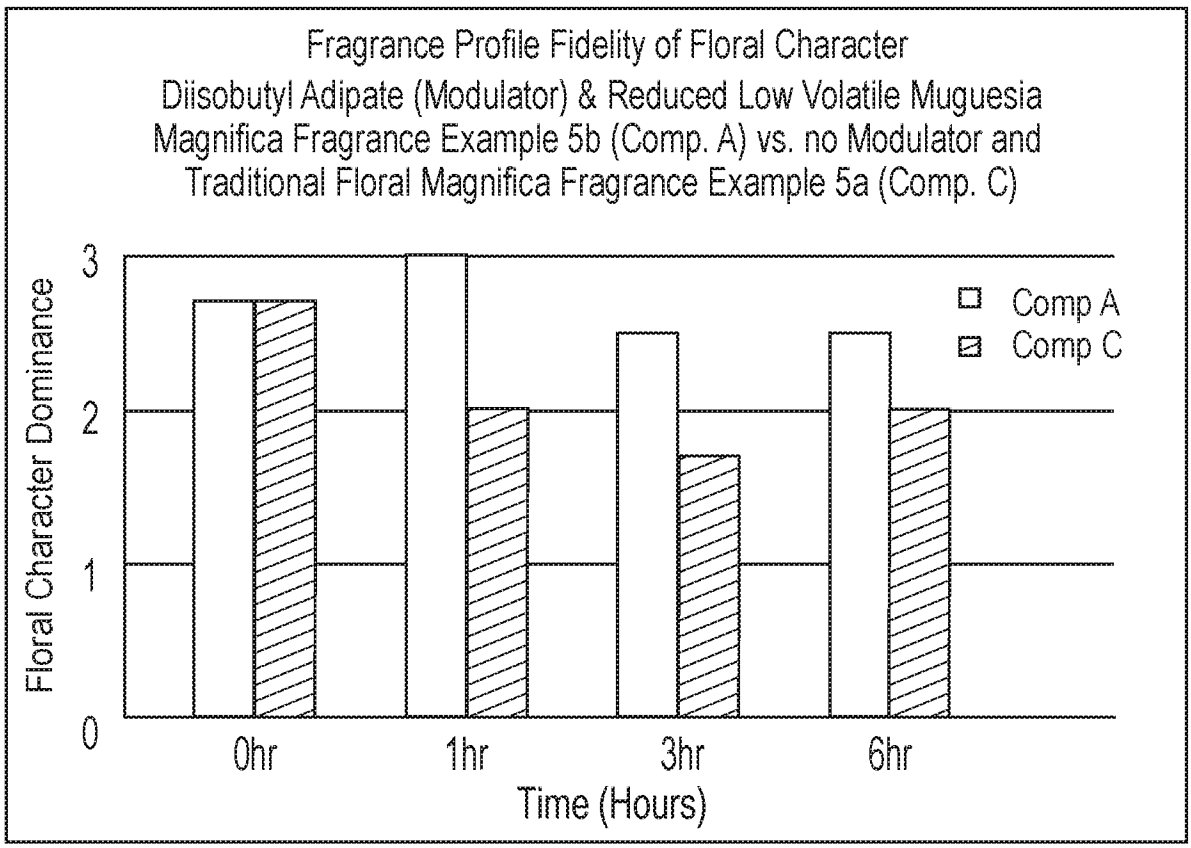

Fragrance Profile Fidelity of Floral Character
Diisobutyl Adipate (Modulator) & Reduced Low Volatile Muguesia
Magnifica Fragrance Example 5b (Comp. A) vs. no Modulator and
Traditional Floral Magnifica Fragrance Example 5a (Comp. C)
Floral Character Dominance
3
2
1
0
Comp A
Comp C
0hr
1hr
3hr
6hr
Time (Hours)

Fig. 6

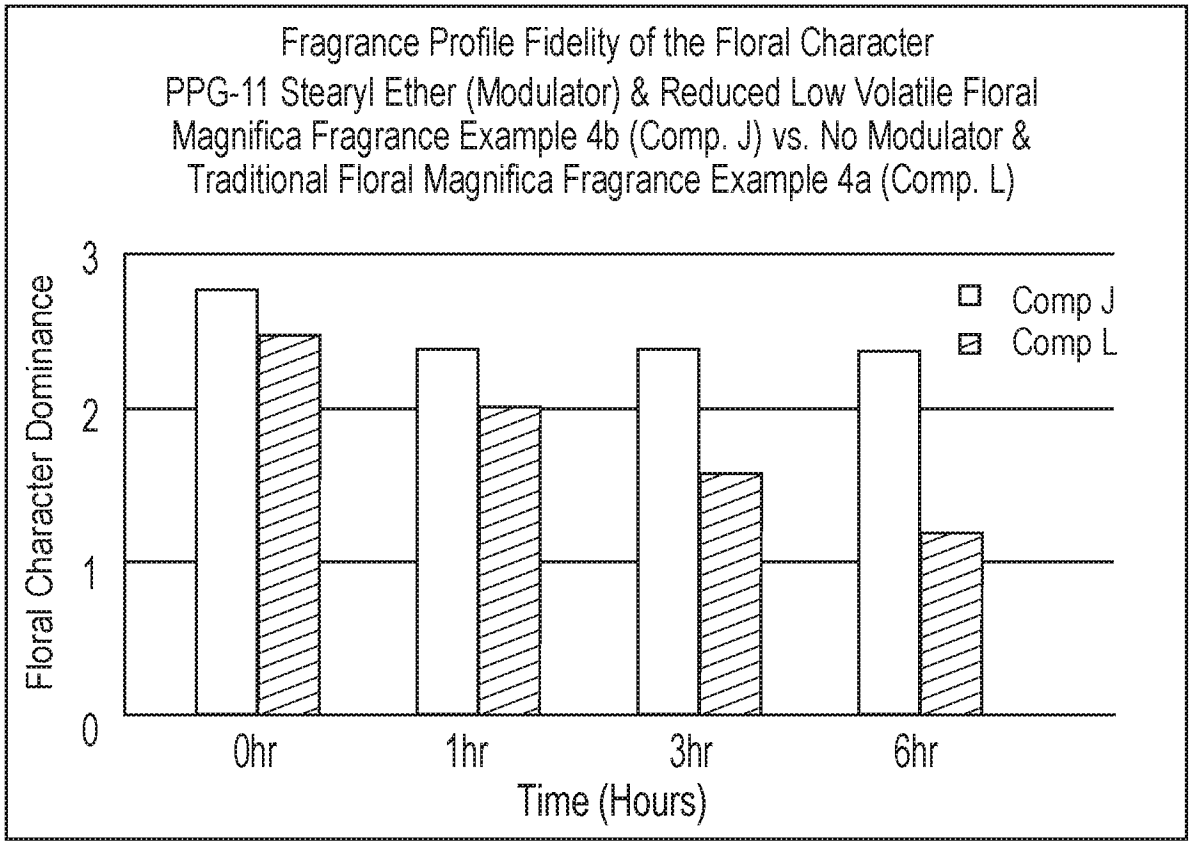

Fragrance Profile Fidelity of the Floral Character
PPG-11 Stearyl Ether (Modulator) & Reduced Low Volatile Floral Magnifica Fragrance Example 4b (Comp. J) vs. No Modulator & Traditional Floral Magnifica Fragrance Example 4a (Comp. L)
Floral Character Dominance
3
2
1
0
Comp J
Comp L
0hr
1hr
3hr
6hr
Time (Hours)

Fig. 7

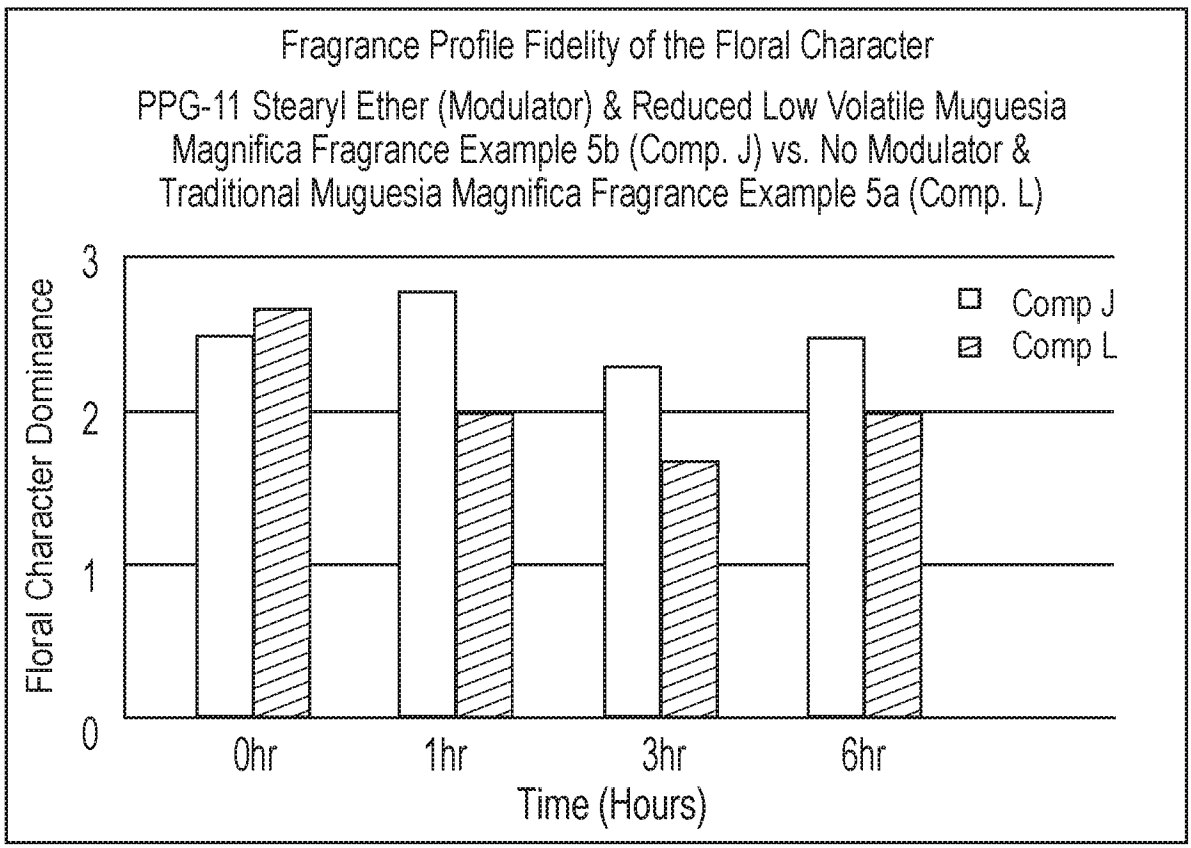

Fragrance Profile Fidelity of the Floral Character
PPG-11 Stearyl Ether (Modulator) & Reduced Low Volatile Muguesia Magnifica Fragrance Example 5b (Comp. J) vs. No Modulator & Traditional Muguesia Magnifica Fragrance Example 5a (Comp. L)
Floral Character Dominance
3
2
1
0
Comp J
Comp L
0hr
1hr
3hr
6hr
Time (Hours)

Fig. 8

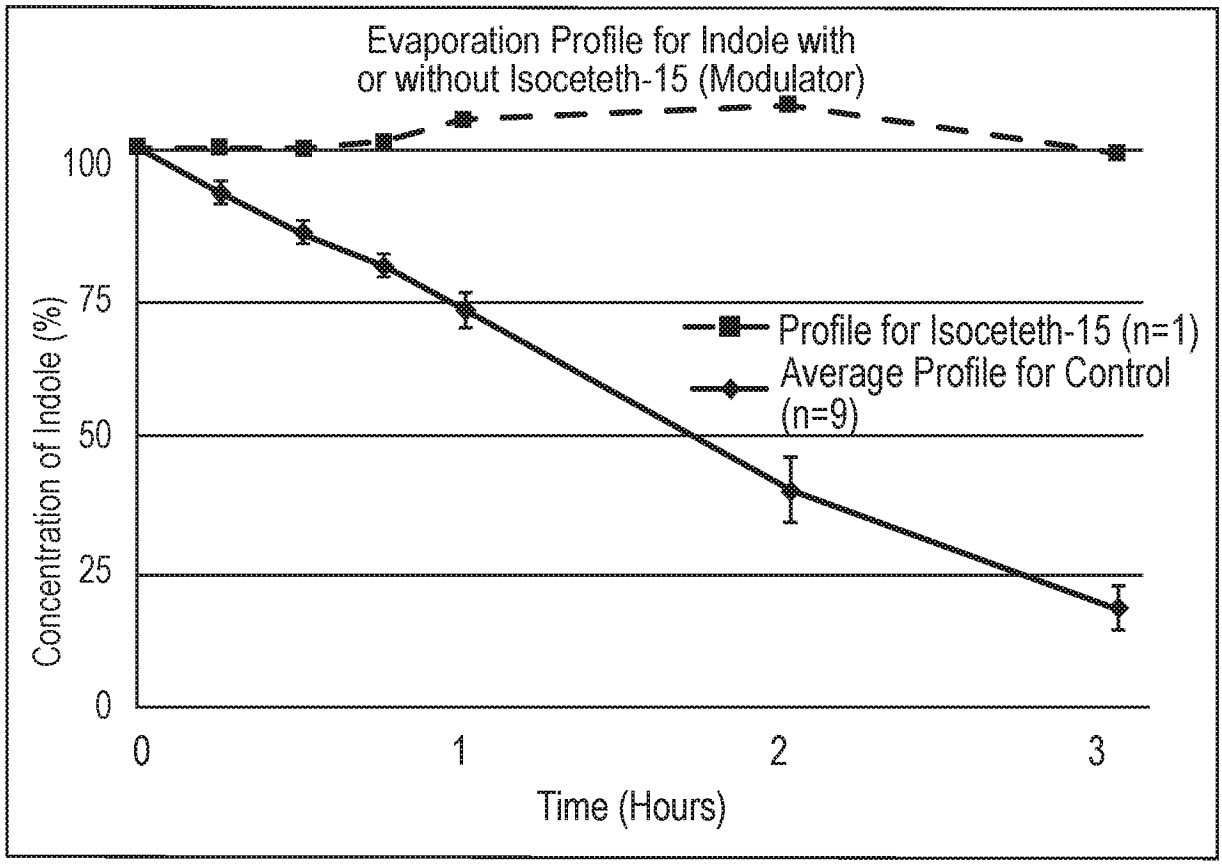

Evaporation Profile for Indole with
or without Isoceteth-15 (Modulator)
100
75
50
25
0
Concentration of Indole (%)
0
1
2
3
Time (Hours)
Profile for Isoceteth-15 (n=1)
Average Profile for Control
(n=9)

Fig. 9

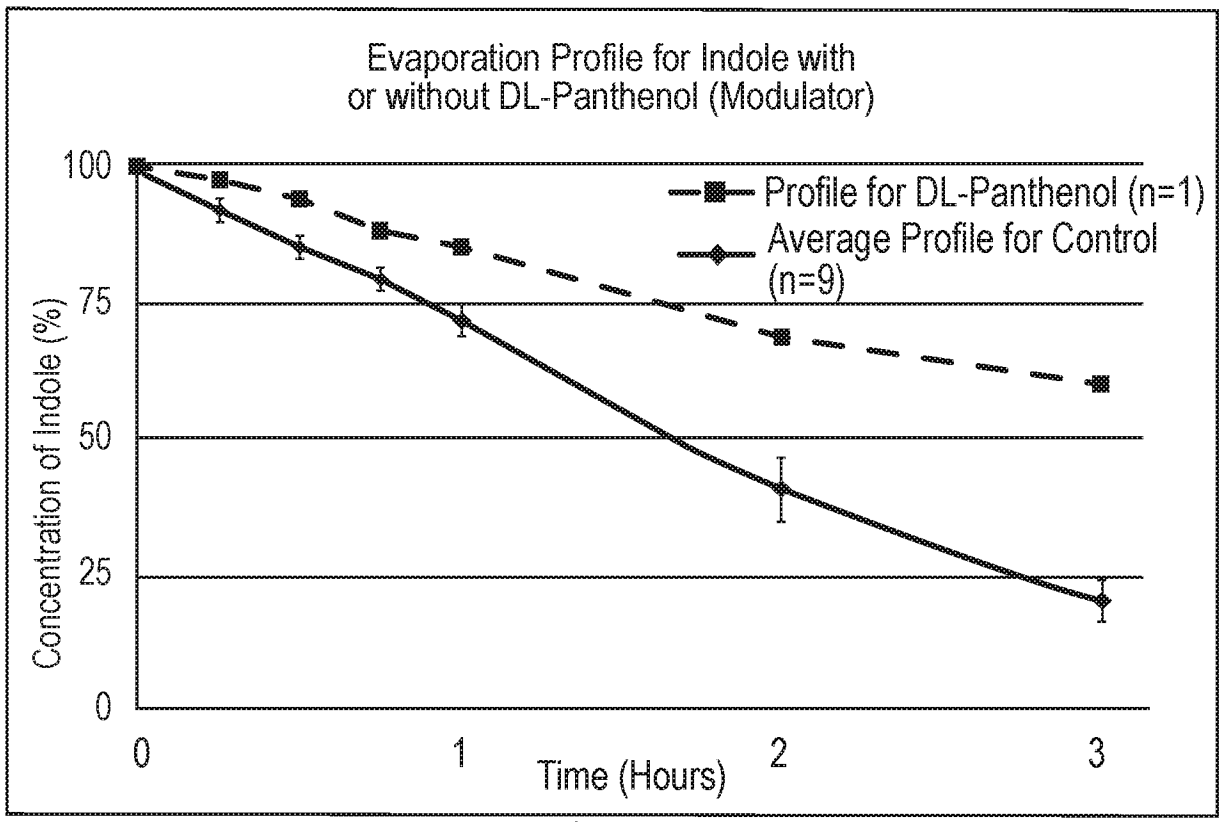

Evaporation Profile for Indole with
or without DL-Panthenol (Modulator)
100
75
50
25
0
Concentration of Indole (%)
0
1
2
3
Time (Hours)
Profile for DL-Panthenol (n=1)
Average Profile for Control
(n=9)

Fig. 10

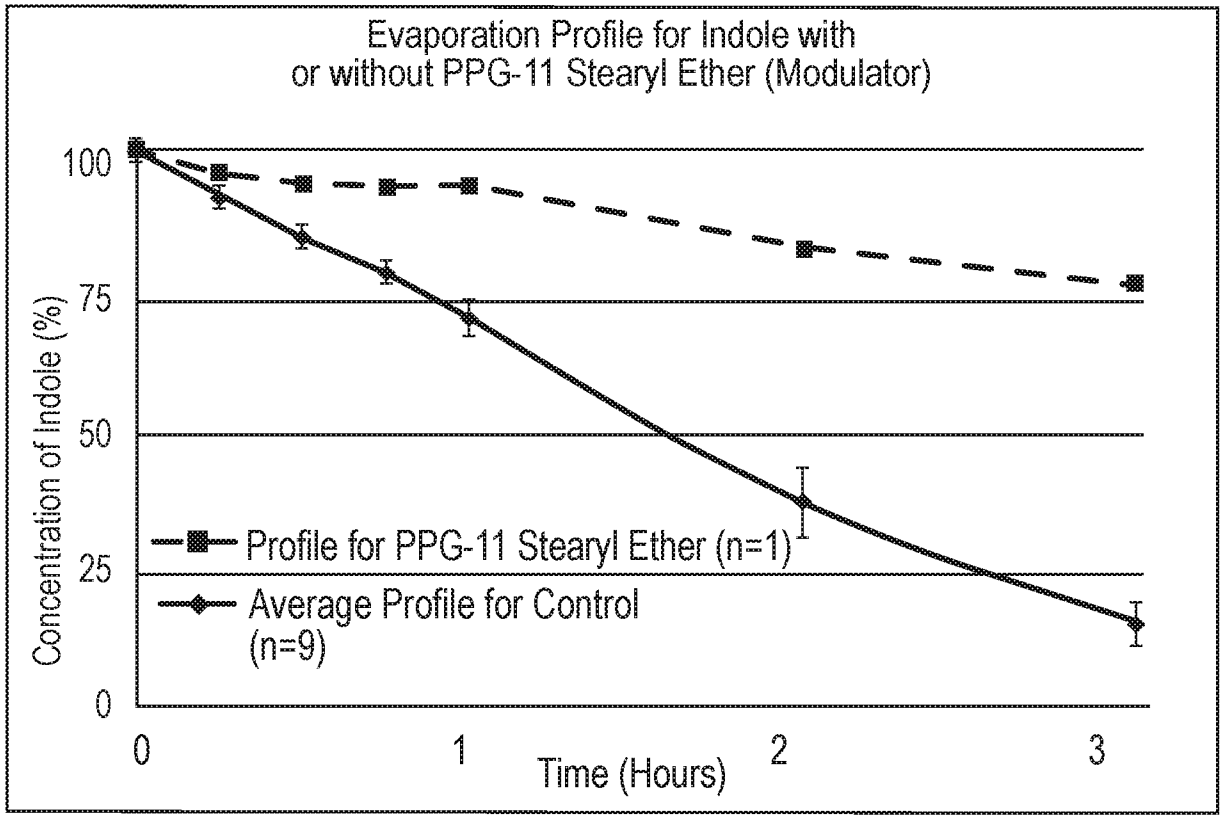

Evaporation Profile for Indole with
or without PPG-11 Stearyl Ether (Modulator)
Concentration of Indole (%)
100
75
50
25
0
0
1
2
3
Time (Hours)
Profile for PPG-11 Stearyl Ether (n=1)
Average Profile for Control
(n=9)

Fig. 11

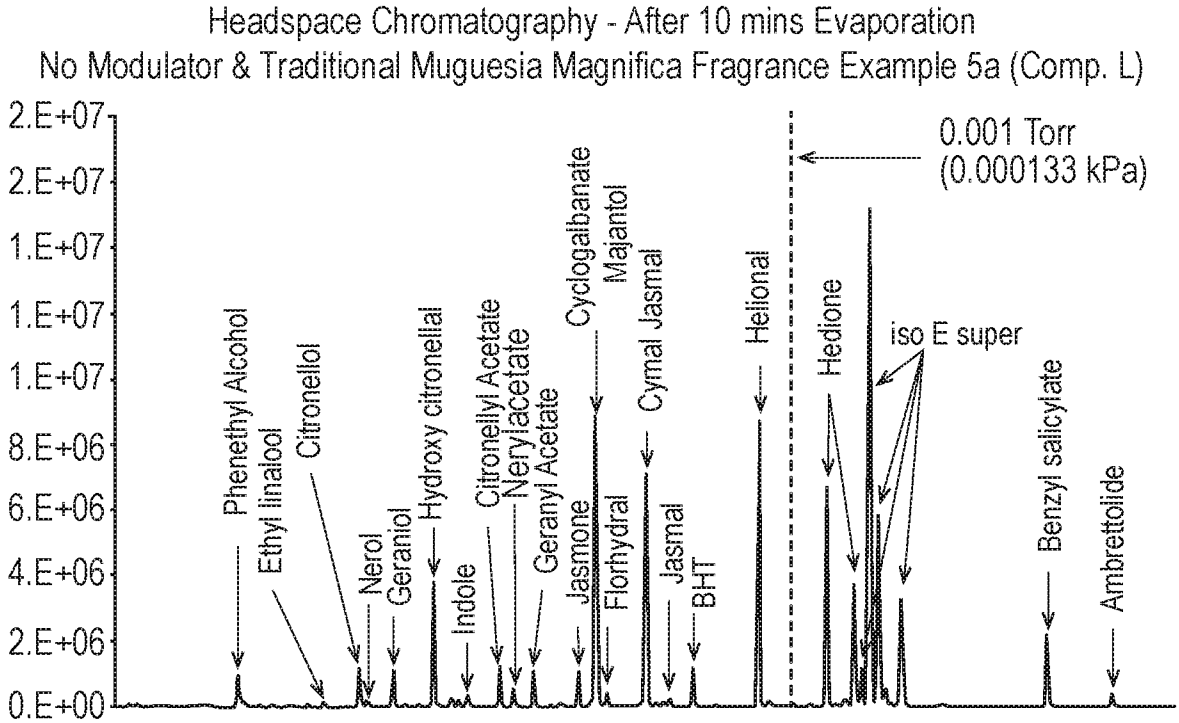


Fig. 12(a)(i)

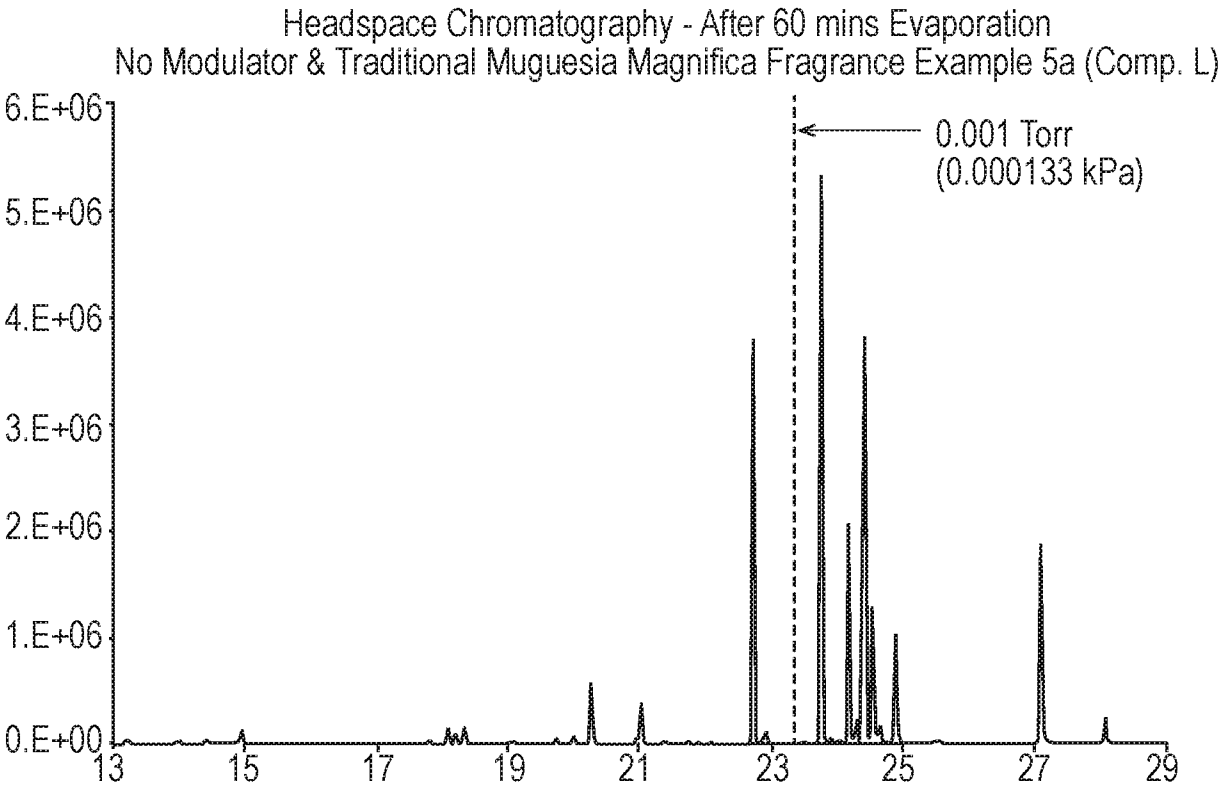


Fig. 12(a)(ii)

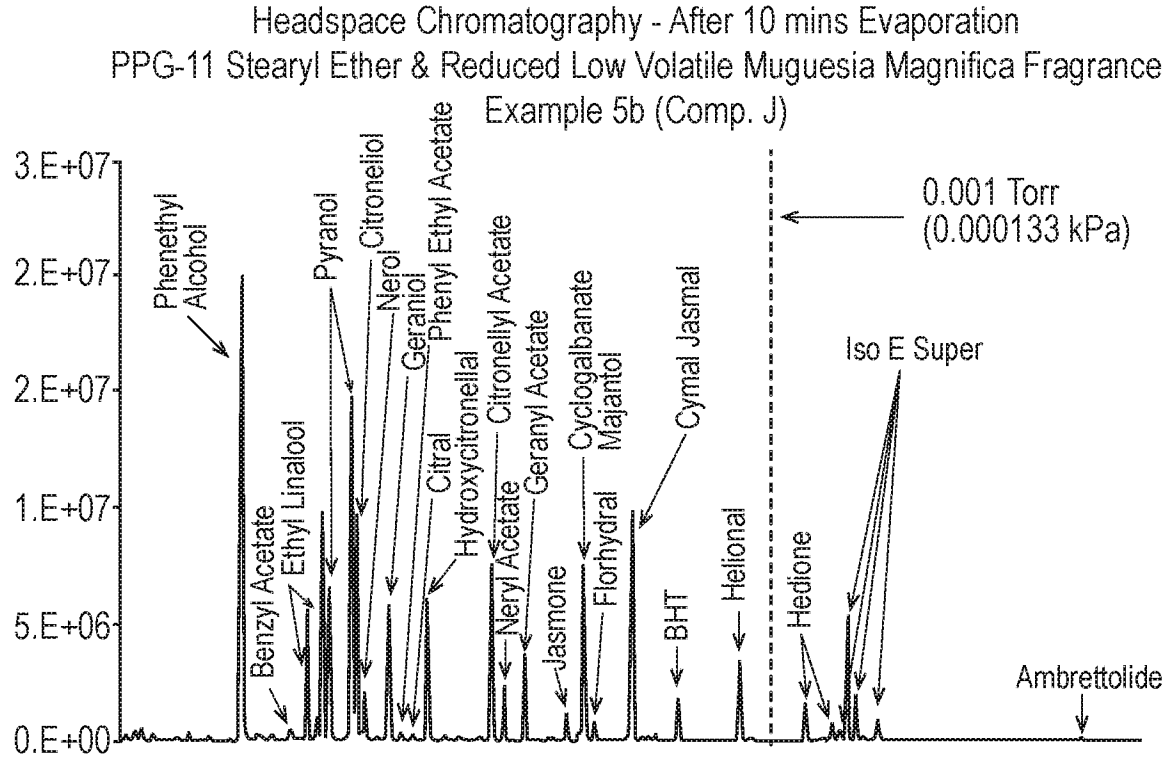


Fig. 12(b)(i)

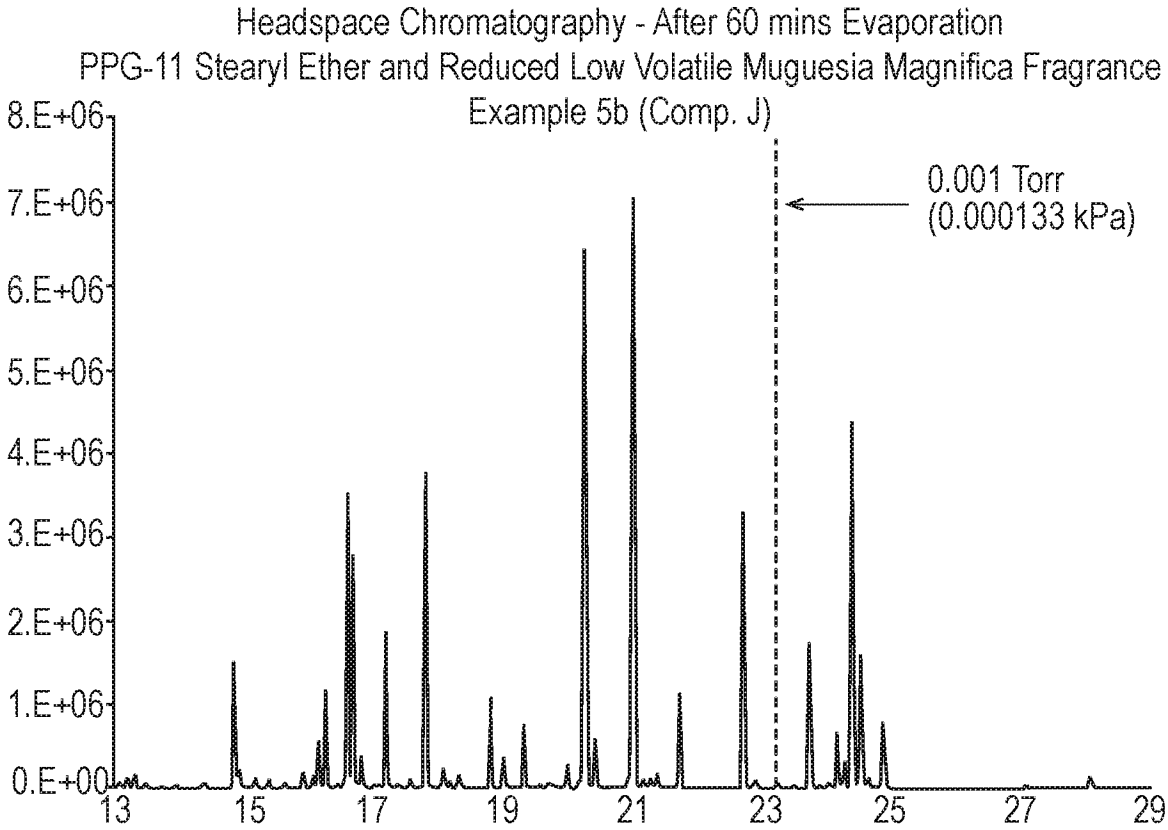


Fig. 12(b)(ii)

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2016/036134

A. CLASSIFICATION OF SUBJECT MATTER
INV. A61K8/34 A61Q13/00
ADD.

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)
A61K A61Q

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 practicable, search terms used)
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 1 186 289 A2 (TAKASAGO PERFUMERY CO LTD [JP]) 13 March 2002 (2002-03-13) claims; examples; table 13 -----	1-23
X	US 2003/216283 A1 (ISHIDA KENYA [JP] ET AL) 20 November 2003 (2003-11-20) paragraphs [0001], [0005], [0006], [0016], [0018], [0039]; claims; tables 7, 10, 17 -----	1-23
X	US 2011/104089 A1 (WOEHRLE INGO [DE] ET AL) 5 May 2011 (2011-05-05) cited in the application paragraphs [0097], [0104], [0107] - [0113], [0247] - [0249]; claims; table 1 ----- -/--	1-23

[X] Further documents are listed in the continuation of Box C.

[X] See patent family 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 application or patent 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

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
2 September 2016	11/11/2016

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Mitchell, Gemma

4

Form PCT/ISA/210 (second sheet) (April 2005)

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 616 800 A2 (GIVAUDAN ROURE INT [CH]; HOFFMANN LA ROCHE [CH]) 28 September 1994 (1994-09-28) cited in the application the whole document	1-23
X	US 2011/091404 A1 (WOEHRLE INGO [DE] ET AL) 21 April 2011 (2011-04-21) cited in the application paragraphs [0001], [0050], [0051], [0058], [0059], [0154] - [0156]; claims; table 1	1-23
X	US 4 110 626 A (KATADA MICHIHISA ET AL) 29 August 1978 (1978-08-29) cited in the application the whole document	1-23
X	WO 2013/060691 A2 (FIRMENICH & CIE [CH]) 2 May 2013 (2013-05-02) the whole document	1-23
X	DATABASE GNPD [Online] MINTEL; January 2012 (2012-01), "Nail Polish", XP002761241, Database accession no. 1685513 the whole document	22,23
X	DATABASE GNPD [Online] MINTEL; February 2015 (2015-02), "Ultrafast Window Cleaner", XP002761242, Database accession no. 2990883 the whole document	22,23

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2016/036134

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

22, 23(completely); 1-21(partially)

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.

☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.

☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 22, 23(completely); 1-21(partially)

A composition comprising:
(i) a fragrance component present in an amount of from about 0.04 wt% to about 30 wt%, and wherein the fragrance component comprises:
(a) at least one low volatile fragrance material having a vapor pressure less than 0.001 Torr (0.000133 kPa) at 25 °C; and
(b) the low volatile fragrance material is present in an amount of from about 10 wt% to about 30 wt%, relative to the total weight of the fragrance component;
(ii) at least one substantially non-odorous fragrance modulator present in the amount of from about 0.1 wt% to about 20 wt%, relative to the total weight of the composition; and wherein the substantially non-odorous fragrance modulator is selected from the group consisting of:
(a) Propylene Glycol Propyl Ether; Dicetyl Ether Ethers; Polyglycerin-4 Ethers; Isoceteth-5; Isoceteth-7, Isoceteth-10; Isoceteth-12; Isoceteth-15; Isoceteth-20; Isoceteth-25; Isoceteth-30, Hexaethylene glycol monododecyl ether; and their mixtures;
(c) Glyceryl Ether derivatives having the formula (I):
[image removed]
wherein:
RIe is C4 -C12 aliphatic hydrocarbon group; a method to enhance the fragrance profile of a composition; a perfuming consumer product or article; a method of modifying or enhancing the odour properties of a body surface; a modulator for fragrance materials; a composition comprising a fragrance component and a modulator.

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2. claims: 1-21(partially)

A composition comprising:(i) a fragrance component present in an amount of from about 0.04 wt% to about 30 wt%, and wherein the fragrance component comprises:(a) at least one low volatile fragrance material having a vapor pressure less than 0.001 Torr (0.000133 kPa) at 25 °C; and(b) the low volatile fragrance material is present in an amount of from about 10 wt% to about 30 wt%, relative to the total weight of the fragrance component;(ii) at least one substantially non-odorous fragrance modulator present in the amount of from about 0.1 wt% to about 20 wt%, relative to the total weight of the composition; and wherein the substantially non-odorous fragrance modulator is selected from the group consisting of:(a) Disodium Lauroamphodipropionate; a method to enhance the fragrance profile of a composition; a perfuming consumer product or article; a method of modifying or enhancing the odour properties of a body surface; a

modulator for fragrance materials; a composition comprising a fragrance component and a modulator.

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3. claims: 1-21(partially)

A composition comprising:
(i) a fragrance component present in an amount of from about 0.04 wt% to about 30 wt%, and wherein the fragrance component comprises:
(a) at least one low volatile fragrance material having a vapor pressure less than 0.001 Torr (0.000133 kPa) at 25 °C; and
(b) the low volatile fragrance material is present in an amount of from about 10 wt% to about 30 wt%, relative to the total weight of the fragrance component;
(ii) at least one substantially non-odorous fragrance modulator present in the amount of from about 0.1 wt% to about 20 wt%, relative to the total weight of the composition; and wherein the substantially non-odorous fragrance modulator is selected from the
(b) Neopentyl Glycol Diisononanoate; Cetearyl Ethylhexanoate; and their mixtures;
(g) N-hexadecyl n-nonanoate, N-octadecyl n-nonanoate and their mixtures;a method to enhance the fragrance profile of a composition; a perfuming consumer product or article; a method of modifying or enhancing the odour properties of a body surface; a modulator for fragrance materials; a composition comprising a fragrance component and a modulator.

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4. claims: 1-21(partially)

A composition comprising:(i) a fragrance component present in an amount of from about 0.04 wt% to about 30 wt%, and wherein the fragrance component comprises:(a) at least one low volatile fragrance material having a vapor pressure less than 0.001 Torr (0.000133 kPa) at 25 °C; and(b) the low volatile fragrance material is present in an amount of from about 10 wt% to about 30 wt%, relative to the total weight of the fragrance component;(ii) at least one substantially non-odorous fragrance modulator present in the amount of from about 0.1 wt% to about 20 wt%, relative to the total weight of the composition; and wherein the substantially non-odorous fragrance modulator is selected from the group consisting of:(d) Panthenol Ethyl Ether, DL-Panthenol and their mixtures; a method to enhance the fragrance profile of a composition; a perfuming consumer product or article; a method of modifying or enhancing the odour properties of a body surface; a modulator for fragrance materials; a composition comprising a fragrance component and a modulator.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

5. claims: 1-21(partially)

A composition comprising:
(i) a fragrance component present in an amount of from about 0.04 wt% to about 30 wt%, and wherein the fragrance component comprises:
(a) at least one low volatile fragrance material having a vapor pressure less than 0.001 Torr (0.000133 kPa) at 25 °C; and
(b) the low volatile fragrance material is present in an amount of from about 10 wt% to about 30 wt%, relative to the total weight of the fragrance component;
(ii) at least one substantially non-odorous fragrance modulator present in the amount of from about 0.1 wt% to about 20 wt%, relative to the total weight of the composition; and wherein the substantially non-odorous fragrance modulator is selected from the group consisting of:
(e) Aliphatic Dibasic Acid Diester derivatives having the formula (II):
Rld OCOR2d COOR3d (II)wherein:
Rld is C4 -C5 alkyl;
R2d is C4 alkylene; and
R3d is C4 -C5 alkyl; DL-Panthenol and their mixtures; a method to enhance the fragrance profile of a composition; a perfuming consumer product or article; a method of modifying or enhancing the odour properties of a body surface; a modulator for fragrance materials; a composition comprising a fragrance component and a modulator.

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6. claims: 1-21(partially)

A composition comprising:
(i) a fragrance component present in an amount of from about 0.04 wt% to about 30 wt%, and wherein the fragrance component comprises:
(a) at least one low volatile fragrance material having a vapor pressure less than 0.001 Torr (0.000133 kPa) at 25 °C; and
(b) the low volatile fragrance material is present in an amount of from about 10 wt% to about 30 wt%, relative to the total weight of the fragrance component;
(ii) at least one substantially non-odorous fragrance modulator present in the amount of from about 0.1 wt% to about 20 wt%, relative to the total weight of the composition; and wherein the substantially non-odorous fragrance modulator is selected from the group consisting of:
(f) Aliphatic Ether derivatives having the formula (III):
[image removed]
wherein:
a and b are integers such that the sum of a and b is from 1 to 4; and
Rle is an aliphatic chain comprising from 8 to 18 carbons;

a method to enhance the fragrance profile of a composition; a perfuming consumer product or article; a method of modifying or enhancing the odour properties of a body surface; a modulator for fragrance materials; a composition comprising a fragrance component and a modulator.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/US2016/036134

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 1186289 A2	13-03-2002	AU 780080 B2	24-02-2005
		AU 6998901 A	14-03-2002
		CA 2357251 A1	12-03-2002
		CN 1343487 A	10-04-2002
		DE 60126451 T2	15-11-2007
		EP 1186289 A2	13-03-2002
		JP 5025845 B2	12-09-2012
		JP 2002088391 A	27-03-2002
		KR 20020021035 A	18-03-2002
		US 2002054893 A1	09-05-2002
US 2003216283 A1	20-11-2003	JP 4177002 B2	05-11-2008
		JP 2003238985 A	27-08-2003
		US 2003216283 A1	20-11-2003
US 2011104089 A1	05-05-2011	EP 2158896 A2	03-03-2010
		US 2011104089 A1	05-05-2011
EP 0616800 A2	28-09-1994	AU 666426 B2	08-02-1996
		AU 5789594 A	29-09-1994
		CA 2119548 A1	23-09-1994
		EP 0616800 A2	28-09-1994
		JP H072641 A	06-01-1995
US 2011091404 A1	21-04-2011	EP 2174645 A2	14-04-2010
		ES 2547309 T3	05-10-2015
		US 2011091404 A1	21-04-2011
US 4110626 A	29-08-1978	CH 597863 A5	14-04-1978
		DE 2703360 A1	04-08-1977
		FR 2339396 A1	26-08-1977
		GB 1534231 A	29-11-1978
		IT 1079460 B	13-05-1985
		JP S5294433 A	09-08-1977
		JP S5427407 B2	10-09-1979
		NL 7700825 A	02-08-1977
		US 4110626 A	29-08-1978
WO 2013060691 A2	02-05-2013	CN 104114147 A	22-10-2014
		CO 6950485 A2	20-05-2014
		EP 2771071 A2	03-09-2014
		JP 2015501311 A	15-01-2015
		RU 2014121234 A	10-12-2015
		US 2015031596 A1	29-01-2015
		WO 2013060691 A2	02-05-2013