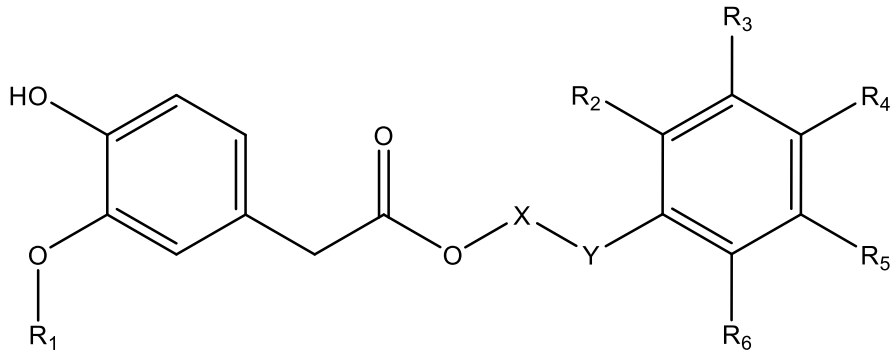
CLAIMS

1. A compound represented by Formula (I):



(I)

wherein

R_1 is a methyl group or an ethyl group;

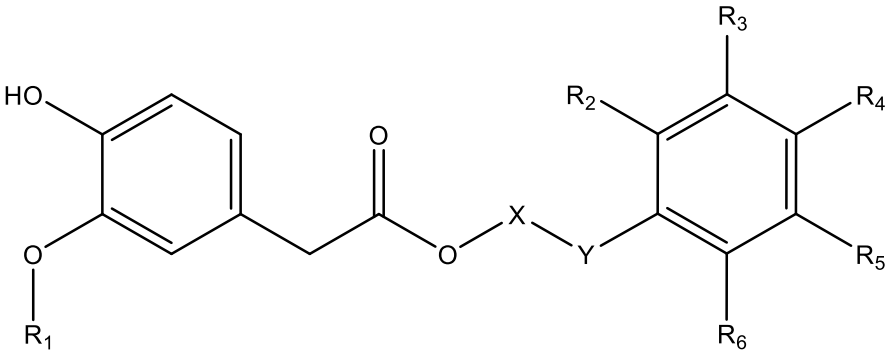
R_2, R_3, R_5, and R_6 are each independently a hydrogen atom, a linear or branched alkyl or alkenyl group from 1 to 5 carbons, an alkoxy group, a hydroxyl group, a substituted or unsubstituted phenyl group;

R_4 is a linear or branched alkyl or alkenyl group from 1 to 5 carbons, an alkoxy group, a hydroxyl group, a substituted or unsubstituted phenyl group or where R_3 and R_4 together are selected from a group consisting of $–OCH_2O–$, $–OCH_2CH_2–$, $–OCH_2CH_2O–$, or $–OCH_2CH_2CH_2–$;

X is a linear or branched carbon chain having from one to five carbon atoms; and

Y is represented by an oxygen atom.

2. A warming composition comprising one or more compounds represented by Formula (I):



(I)

wherein

R_1 is a methyl group or an ethyl group;

R_2, R_3, R_4, R_5, and R_6 are each independently a hydrogen atom, a linear or branched alkyl or alkenyl group from 1 to 5 carbons, an alkoxy group, a hydroxyl group, a substituted or unsubstituted phenyl group, or where R_3 and R_4 together are selected from a group consisting of –OCH_2O–, –OCH_2CH_2–, –OCH_2CH_2O–, or –$OCH_2CH_2CH_2$–;

X is a linear or branched carbon chain having from one to five carbon atoms; and

Y is represented by an oxygen atom.

3. The warming composition of claim 2, comprising 2-Phenoxyethyl 2-(4-hydroxy-3-methoxyphenyl)acetate.

4. The warming composition according to claim 2 or claim 3, further comprising at least one additional warming agent.

5. The warming composition according to claim 4, wherein the at least one warming agent is selected from the group consisting of vanillyl ethyl ether, vanillyl propyl ether, vanillin propylene glycol acetal, ethyl vanillin propylene glycol acetal, capsaicin, gingerol, vanillyl butyl ether, 4-(1-menthoxy-methyl)-2-phenyl-1,3-dioxolane, 4-(1-menthoxy-methyl)-2-(3',4'-dihydroxy-phenyl)-1,3-dioxolane, 4-(1-menthoxy-methyl)-2-(2'-hydroxy-3'-methoxy-phenyl)-1,3-dioxolane, 4-(1-menthoxy-methyl)-2-(4'-methoxyphenyl)-1,3-dioxolane, 4-(1-menthoxy-methyl)-2-(3',4'-methylenedioxy-phenyl)-1,3-dioxolane, black pepper extract, cinnamaldehyde, piperine, hot pepper oil, red pepper oleoresin, capsicum oleoresin, ginger oleoresin, nonyl acid vanillylamide, 4-(1-menthoxy-methyl)-2-(3'-methoxy-4'-hydroxyphenyl)-1,3-dioxolane, vanillin-1,2-hexylene glycol acetal, vanillin-1,2-butylene glycol acetal, vanillin-1-butoxyglycerol acetal, ethyl vanillin, ethyl vanillyl alcohol (3-ethoxy-4-hydroxybenzyl alcohol), ethyl homovanillate, vanillyl isopropyl ether, and all stereoisomers and mixtures thereof.

6. The warming composition according to any of claims 2-5, wherein the warming composition is formulated as a flavor, fragrance or topical composition.

7. A flavor or fragrance composition comprising the warming composition according to any of claims 2-5.

8. The flavor or fragrance composition of claim 7, further comprising at least one non-warming trigeminal stimulating agent.

9. The flavor or fragrance composition of claim 8, wherein the non-warming trigeminal stimulating compound is selected from the group consisting of menthol, menthone, camphor, pulegol, isopulegol, cineole, 2-isopropyl-N-2,3-trimethylbutyramide, N-ethyl-2-isopropyl-5-methylcyclohexane carboxamide, ethyl 3-(p-menthane-3-carboxamido)acetate, N-(4-methoxyphenyl)-p-menthanecarboxamide, N-ethyl-2,2-diisopropylbutanamide, N-cyclopropyl-5-methyl-2-isopropylcyclohexanecarboxamide, N-(1,1-dimethyl-2-hydroxyethyl)-2,2-diethylbutanamide, N-(4-cyanomethylphenyl)-p-menthanecarboxamide, N-(2-(Pyridin-2-yl)ethyl)-3-p-menthanecarboxamide, N-(2-hydroxyethyl)-2-isopropyl-2,3-dimethylbutanamide, cyclopropanecarboxylic acid (2-isopropyl-5-methyl-cyclohexyl)-amide, N-[4-(2-Amino-2-oxoethyl)phenyl]-p-menthanecarboxamide, menthyl pyrrolidone carboxylate, cubebol, icilin, 1-(2-hydroxy-4-methylcyclohexyl)ethanone, N-(4-(cyanomethyl)phenyl)-2-isopropyl-5,5-dimethylcyclohexane-1-carboxamide, 2-isopropyl-5-methylcyclohexyl 4-(dimethylamino)-4-oxobutanoate, N-benzo[1,3] dioxol-5-yl-3-p-menthanecarboxamide, N-benzooxazol-4-yl-3-p-menthanecarboxamide, N-4-([1,2,4]triazol-l-yl)-phenyl-3-p-menthanecarboxamide, N-4-(pyrazol-l -yl)-phenyl-3-p-menthanecarboxamide, N-(1-isopropyl-1,2-dimethylpropyl)-1,3-benzodioxole-5-carboxamide, N-(1-methyl-1-isopropylbutyl)benzamide, fenchyl-N,N-diemethylsuccinamide, fenchyl monosuccinate, ethyl fenchyl malonate, bornyl monosuccinate, isobornyl monosuccinate, menthyl 3-oxobutyrate, menthyl 3-oxopentanoate, 3-l-menthoxypropane-1,2-diol, 3-l-menthoxy-2-methylpropane-1,2-diol, p-menthane-3,8-diol, 2-l-menthoxyethan-1-ol, 3-l-menthoxypropan-1-ol, 4-l-menthoxybutan-1-ol, menthyl 3-hydroxybutyrate, 6-isopropyl-9-methyl-1,4-dioxaspiro-(4,5)-decane-2-methanol, 2-[(2-p-menthoxy)ethoxy]ethanol, menthyl succinate, menthyl glutarate, dimenthyl succinate, dimenthyl glutarate, menthyl lactate, menthone glycerin ketal, mint oil, peppermint oil, spearmint oil, eucalyptus oil, spilanthol, sanshool, hydroxy γ-sanshool, hydroxy-sanshool, sanshool-I, sanshool II, sanshoamide, Japanese pepper extract, chavicine, echinacea extract, northern prickly ash extract, Nepalese spice timur extract, 4-(1-menthoxymethyl)-2-phenyl-1, 3-dioxolane, N-isobutyldeca-(2,4)-dienamide, N-cyclopropyl-(2E,6Z)-nonadienamide, N-ethyl-(2E,6Z)-nonadienamide, jambu oleoresin, allyl-isothiocyanate, 4-hydroxybenzyl isothiocyanate, mustard

oil, wasabi extract, elemol, elimicin, lime oxide, elemi oil, ocimene quintoxide, 2-isopropenyl-5-methyl-5-vinyltetrahydrofuran, and all stereoisomers and mixtures thereof.

10. The flavor or fragrance composition of claim 9, wherein the non-warming trigeminal stimulating compound is selected from the group consisting of menthol, menthone, camphor, pulegol, isopulegol, 2-isopropyl-N-2,3-trimethylbutyramide, N-ethyl-2-isopropyl-5-methylcyclohexane carboxamide, ethyl 3-(p-menthane-3-carboxamido)acetate, 1-(2-hydroxy-4-methylcyclohexyl)ethanone, N-(4-(cyanomethyl)phenyl)-2-isopropyl-5,5-dimethylcyclohexane-1-carboxamide, menthyl 3-oxobutyrate, menthyl 3-oxopentanoate, 3-l-menthoxypropane-1,2-diol, 3-l-menthoxy-2-methylpropane-1,2-diol, p-menthane-3,8-diol, 2-l-menthoxyethan-1-ol, 3-l-menthoxypropan-1-ol, 4-l-menthoxybutan-1-ol, menthyl 3-hydroxybutyrate, menthyl succinate, menthyl glutarate, dimenthyl succinate, dimenthyl glutarate, menthyl lactate, menthone glycerin ketal, mint oil, peppermint oil, spearmint oil, eucalyptus oil, spilanthol, Japanese pepper extract, chavicine, echinacea extract, northern prickly ash extract, Nepalese spice timur extract, 4-(1-menthoxymethyl)-2-phenyl-1, 3-dioxolane, N-isobutyldeca-(2,4)-dienamide, N-ethyl-(2E,6Z)-nonadienamide, jambu oleoresin, allyl-isothiocyanate, mustard oil, wasabi extract, elemol, elimicin, lime oxide, elemi oil, and all stereoisomers and mixtures thereof.

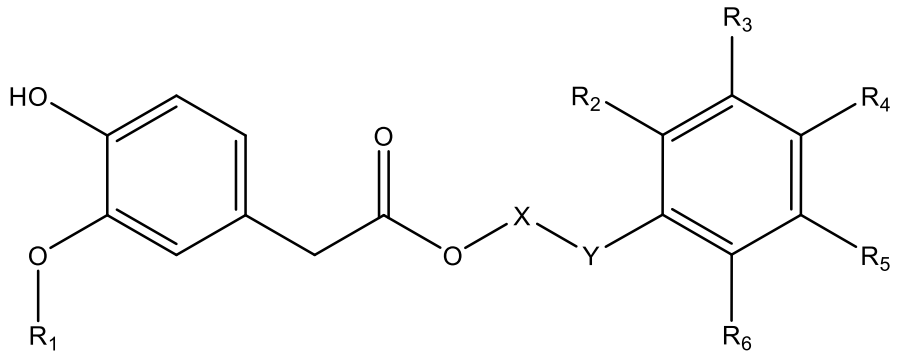
11. A topical composition comprising the warming composition according to any of claims 2-5.

12. The topical composition of claim 11, further comprising at least one non-warming trigeminal stimulating agent.

13. A consumer product comprising: (a) a warming composition according to claim 2; and (b) a consumer product base.

14. A consumer product comprising: (a) at least one flavor or fragrance composition according to any of claims 7-10; and (b) a consumer product base.

15. A method to improve, enhance or modify the taste or odor properties of a flavor or fragrance composition by adding to said composition an effective quantity of one or more of the compoundsrepresented by Formula (I):



(I)

wherein

R_1 is a methyl group or an ethyl group;

R_2, R_3, R_4, R_5, and R_6 are each independently a hydrogen atom, a linear or branched alkyl or alkenyl group from 1 to 5 carbons, an alkoxy group, a hydroxyl group, a substituted or unsubstituted phenyl group, or where R_3 and R_4 together are selected from a group consisting of –OCH_2O–, –OCH_2CH_2–, –OCH_2CH_2O–, or –$OCH_2CH_2CH_2$–;

X is a linear or branched carbon chain having from one to five carbon atoms; and

Y is represented by an oxygen atom.

16. The method of claim 15, wherein the compound of Formula (I) is effective to produce a warming sensation after contact with the skin or mucous membrane of an individual.