Claims:

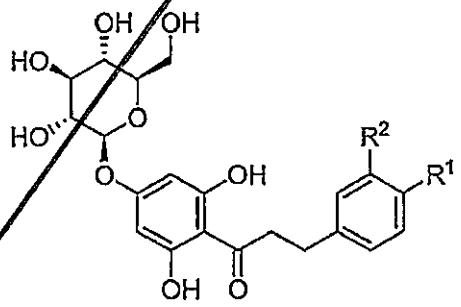
1. A method of sweetening consumables wherein:

a) at least 0.0001% of at least one sweetener, including natural and artificial sweeteners,

wherein said sweetener includes sucrose, fructose, glucose, high fructose corn syrup, corn syrup, xylose, arabinose, rhamnose, erythritol, xylitol, mannitol, sorbitol, inositol, acesulfame potassium, aspartame, neotame, sucralose, saccharine, or combinations thereof,

wherein said at least one sweetener or sweetener combination is present in a concentration above the sweetness detection threshold in a concentration at least isosweet to 2% sucrose, and

b) a compound of formula (1),



(1),

wherein R^1 is selected from the group consisting of OH and OCH_3, and R^2 is selected from the group consisting of H and OH, R_1 and R_2 comprise at least one OH group, and when R^1 is OH then R^2 is H (trilobatin), and when R^1 is OCH_3 then R^2 is OH (HDG),

wherein the compound of formula (1) is present in a concentration isosweet to 1% sucrose or lower in said consumable, are admixed to a consumable.

2. A method according to claim 1 wherein the compound of formula (1) is selected from
a) trilobatin, preferably at a concentration of from 3 to 200 ppm,
b) hesperitin dihydrochalcone 4"-beta-D-glucoside (HDG), preferably at a concentration of from 0.3 to 20 ppm.

3. A method according to claims 1, wherein the consumable is selected from dairy product, dairy-derived product and dairy-alternative product, wherein the compound of formula (I) is trilobatin and, wherein the concentration of trilobatin is from 10 ppm to 750 ppm.

4 A method according to claims 1, wherein the consumable has a pH below 6.5, wherein the compound of formula (I) is trilobatin and, wherein the concentration of trilobatin is from 6 to 300 ppm, preferably wherein the consumable has a pH below 5 and, the concentration of trilobatin is from 6 to 400 ppm.

5 A method according to claims 1 wherein the consumable is selected from dairy product, dairy-derived product and dairy-alternative product, wherein the compound of formula (I) is HDG and, wherein the HDG concentration is from 1 ppm to 75 ppm.

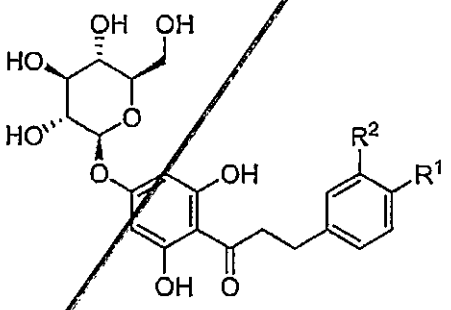
6 A method according to claims 1 wherein the consumable has a pH below 6.5, wherein the compound of formula (I) is HDG and, wherein the concentration of HDG is from 0.6 to 30 ppm, preferably wherein the consumable has a pH below 5 and, the concentration of HDG is from 0.6 to 40 ppm.

7 A method according to anyone of claims 1 to 6 further comprising the admixture of at least one enhancer selected from the group consisting of naringin dihydrochalcone, mogroside V, swingle extract, rubusoside, rubus extract, stevioside, rebaudioside A, and NHDC, wherein each enhancer is present in a concentration near its sweetness detection threshold, which is for naringin dihydrochalcone from 2 to 60 ppm, for rubusoside from 1.4 ppm to 56 ppm, for rubus extract from 2 ppm to 80 ppm, for mogroside V from 0.4 ppm to 12.5 ppm, for swingle extract from 2 to 60 ppm, for stevioside from 2 to 60 ppm, for rebaudioside A from 1 to 30 ppm, and for NHDC from 1 to 5 ppm.

8 A sweetened consumable comprising

a) at least 0.0001% (w/w) of at least one sweetener, including natural and artificial sweeteners,
wherein said sweetener includes sucrose, fructose, glucose, high fructose corn syrup,corn syrup, xylose, arabinose, rhamnose, erythritol, xylitol, mannitol, sorbitol, inositol, acesulfame potassium, aspartame, neotame, sucralose, saccharine, or combinations thereof,
wherein said at least one sweetener or sweetener combination is present in a concentration above the sweetness detection threshold in a concentration at least isosweet to 2% sucrose, and

b) a compound of formula (1),



(1),

wherein R^1 is selected from the group consisting of OH and OCH_3, and R^2 is selected from the group consisting of H and OH, R^1 and R^2 comprise at least one OH group, and when R^1 is OH then R^2 is H (trilobatin), and when R^1 is OCH_3 then R^2 is OH (HDG),

wherein the compound of formula (1) is present in a concentration isosweet to 1% sucrose or lower in said consumable.

9 The sweetened consumable of claim 8 wherein the compound of formula (1) is trilobatin, preferably at a concentration of from 3 to 200 ppm.

10 A consumable according to claim 8 wherein the consumable is selected from dairy product, dairy-derived product and dairy-alternative product, wherein the compound of formula (1) is trilobatin, and wherein the trilobatin concentration is from 10 ppm to 750 ppm.

11 A consumable according to claim 8 wherein the consumable has a pH below 6.5, wherein the compound of formula (1) is trilobatin, and wherein the trilobatin concentration is from 6 to 300 ppm, preferably the consumable has a pH below 5 and a trilobatin concentration of from 6 to 400 ppm.

12 The sweetened consumable of claim 8 wherein the compound of formula (1) is hesperitin dihydrochalcone 4''-beta-D-glucoside (HDG), preferably at a concentration of from 0.3 to 20 ppm.

13. A consumable according to claim 8 wherein the consumable is selected from dairy product, dairy-derived product and dairy-alternative product, wherein the compound of formula (1) is HDG, and wherein the HDG concentration is from 1 ppm to 75 ppm.

14. A consumable according to claim 8 wherein the consumable has a pH below 6.5, wherein the compound of formula (1) is HDG and, wherein the HDG concentration is from 0.6 to 30 ppm, preferably the consumable has a pH below 5 and an HDG concentration of from 0.6 to 40 ppm.

15. The sweetened consumable of any one of claims 8 to 14 that is selected from the group consisting of
a) a water-based consumable including but not limited to beverage, water, aqueous beverage, enhanced /slightly sweetened water drink, mineral water, carbonated beverage, non-carbonated beverage, carbonated water, still water, soft drink, non-alcoholic drink, alcoholic drink, beer, wine, liquor, fruit drink, juice, fruit juice, vegetable juice, broth drink, coffee, tea, black tea, green tea, oolong tea, herbal tea, cocoa (water-based), tea-based drink, coffee-based drinks, cocoa-based drink, syrup, frozen fruit, frozen fruit juice, water-based ice, fruit ice, sorbet, dressing, salad dressing, sauce, soup, and beverage botanical materials (whole or ground), or instant powder for reconstitution (coffee beans, ground

coffee, instant coffee, cocoa beans, cocoa powder, instant cocoa, tea leaves, instant tea powder);

b) a solid dry consumable including but not limited to cereals, baked food products, biscuits, bread, breakfast cereal, cereal bar, energy bars/nutritional bars, granola, cakes, cookies, crackers, donuts, muffins, pastries, confectioneries, chewing gum, chocolate, fondant, hard candy, marshmallow, pressed tablets, snack foods, botanical materials (whole or ground), and instant powders for reconstitution;

c) a dairy product, dairy-derived product or dairy-alternative product, optionally selected from the group consisting of milk, fluid milk, cultured milk product, cultured and noncultured dairy-based drink, cultured milk product cultured with lactobacillus, yoghurt, yoghurt-based beverage, smoothy, lassi, milk shake, acidified milk, acidified milk beverage, butter milk, kefir, milk-based beverages, milk/juice blend, fermented milk beverage, icecream, dessert, sour cream, dip, salad dressing, cottage cheese, frozen yoghurt, soy milk, rice milk, soy drink, and rice milk drink.

16. The sweetened consumable of any one of claims 8 to 15 comprising at least one further sweetness enhancer selected from the group consisting of naringin dihydrochalcone, mogroside V, swingle extract, rubusoside, rubus extract, stevioside, rebaudioside A, and NHDC, or combinations thereof,

wherein each further sweetness enhancer is present in a concentration near its sweetness detection threshold, which is for naringin dihydrochalcone from 2 to 60 ppm, for rubusoside from 1.4 ppm to 56 ppm, for rubus extract from 2 ppm to 80 ppm, for mogroside V from 0.4 ppm to 12.5 ppm, for swingle extract from 2 to 60 ppm, for stevioside from 2 to 60 ppm, for rebaudioside A from 1 to 30 ppm, and for NHDC from 1 to 5 ppm.

17. The sweetened consumable of any one of claims 8 to 16 comprising two of the further sweetness enhancers selected from the group consisting of naringin dihydrochalcone, mogroside V, swingle extract, rubusoside, rubus extract, stevioside, rebaudioside A, and neohesperidin dihydrochalcone, preferably wherein one of the further sweetness enhancers is selected from the group consisting of mogroside V, swingle extract, rubusoside, rubus extract, stevioside,

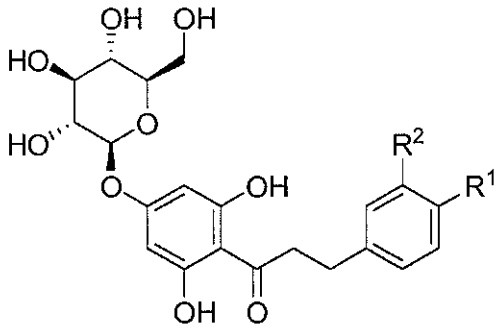
rebaudioside A, and the other further sweetness enhancer is selected from the group consisting of neohesperidin dihydrochalcone and naringin dihydrochalcone.

18 The sweetened consumable of any one of claims 8 to 16 which is a beverage, preferably additionally comprising neohesperidin dihydrochalcone in a concentration from 1 to 2 ppm.

Claims

1. A sweetened consumable comprising

   a) at least 0.0001% (w/w) of at least one sweetener, including natural and artificial sweeteners,
   wherein said sweetener includes sucrose, fructose, glucose, high fructose corn syrup,corn syrup, xylose, arabinose, rhamnose, erythritol, xylitol, mannitol, sorbitol, inositol, acesulfame potassium, aspartame, neotame, sucralose, saccharine, or combinations thereof,
   wherein said at least one sweetener or sweetener combination is present in a concentration above the sweetness detection threshold in a concentration at least isosweet to 2% sucrose, and
   b) a compound of formula (1),



(1),

   wherein R^1 is selected from the group consisting of OH and OCH_3, and R^2 is selected from the group consisting of H and OH, R^1 and R^2 comprise at least one OH group, and when R^1 is OH then R^2 is H (trilobatin), and when R^1 is OCH_3 then R^2 is OH (HDG),
   wherein the compound of formula (1) is present in a concentration isosweet to 1% sucrose or lower in said consumable and wherein said consumable is not hard candy or chewing gum.

2. The sweetened consumable of claim 1 wherein the compound of formula (1) is trilobatin and wherein the trilobatin concentration is from 3 to 200 ppm.

3. A consumable according to claim 1 wherein the consumable is selected from dairy product, dairy-derived product and dairy-alternative product, wherein the compound of formula (1) is trilobatin, and wherein the trilobatin concentration is from 10 ppm to 750 ppm.

4. A consumable according to claim 1 wherein the consumable has a pH below 6.5, wherein the compound of formula (1) is trilobatin, and wherein the trilobatin concentration is from 6 to 300 ppm.

5. A consumable according to claim 1 wherein the consumable has a pH below 5, wherein the compound of formula (1) is trilobatin, and wherein the trilobatin concentration is from 6 to 400 ppm.

6. The sweetened consumable of claim 1 wherein the compound of formula (1) is hesperitin dihydrochalcone 4"-beta-D-glucoside (HDG), preferably at a concentration of from 0.3 to 20 ppm.

7. A consumable according to claim 1 wherein the consumable is selected from dairy product, dairy-derived product and dairy-alternative product, wherein the compound of formula (1) is HDG, and wherein the HDG concentration is from 1 ppm to 75 ppm.

8. A consumable according to claim 1 wherein the consumable has a pH below 6.5, wherein the compound of formula (1) is HDG and, wherein the HDG concentration is from 0.6 to 30 ppm.

9. A consumable according to claim 1 wherein the consumable has a pH below 5, wherein the compound of formula (1) is HDG and, wherein the HDG concentration is from 0.6 to 40 ppm.

10. The sweetened consumable of any one of claims 1 to 9 that is selected from the group consisting of

    a) a water-based consumable including but not limited to beverage, water, aqueous beverage, enhanced /slightly sweetened water drink, mineral water, carbonated beverage, non-carbonated beverage, carbonated water, still water, soft drink, non-alcoholic drink, alcoholic drink, beer, wine, liquor, fruit drink, juice, fruit juice, vegetable juice, broth drink, coffee, tea, black tea, green tea, oolong tea, herbal tea, cocoa (water-based), tea-based drink, coffee-based drinks, cocoa-based drink, syrup, frozen fruit, frozen fruit juice, water-based ice, fruit ice, sorbet, dressing, salad dressing, sauce, soup, and beverage botanical materials (whole or ground), or instant powder for reconstitution (coffee beans, ground coffee, instant coffee, cocoa beans, cocoa powder, instant cocoa, tea leaves, instant tea powder);
    b) a solid dry consumable including but not limited to cereals, baked food products, biscuits, bread, breakfast cereal, cereal bar, energy bars/nutritional bars, granola, cakes, cookies, crackers, donuts, muffins, pastries, confectioneries, chocolate, fondant, marshmallow, pressed tablets, snack foods, botanical materials (whole or ground), and instant powders for reconstitution;
    c) a dairy product, dairy-derived product or dairy-alternative product, optionally selected from the group consisting of milk, fluid milk, cultured milk product, cultured and noncultured dairy-based drink, cultured milk product cultured with lactobacillus, yoghurt, yoghurt-based beverage, smoothy, lassi, milk shake, acidified milk, acidified milk beverage, butter milk, kefir, milk-based beverages, milk/juice blend, fermented milk beverage, icecream, dessert, sour cream, dip, salad dressing, cottage cheese, frozen yoghurt, soy milk, rice milk, soy drink, and rice milk drink.

11. The sweetened consumable of any one of claims 1 to 10 comprising at least one further sweetness enhancer selected from the group consisting of naringin dihydrochalcone, mogroside V, swingle extract, rubusoside, rubus extract, stevioside, rebaudioside A, and NHDC, or combinations thereof,
    wherein each further sweetness enhancer is present in a concentration near its sweetness detection threshold, which is for naringin dihydrochalcone from 2 to 60 ppm, for rubusoside from 1.4 ppm to 56 ppm, for rubus extract from 2 ppm to 80 ppm, for mogroside V from 0.4 ppm to 12.5 ppm, for swingle extract from 2 to 60 ppm, for stevioside from 2 to 60 ppm, for rebaudioside A from 1 to 30 ppm, and for NHDC from 1 to 5 ppm.

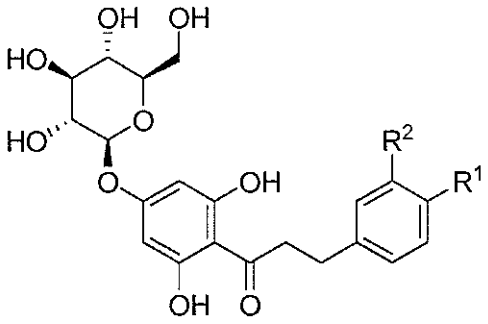
12. The sweetened consumable of claim 11 comprising 2 to 60ppm of naringin dihydrochalcone.

13. The sweetened consumable of any one of claim 11 comprising two of the further sweetness enhancers selected from the group consisting of naringin dihydrochalcone, mogroside V, swingle extract, rubusoside, rubus extract, stevioside, rebaudioside A, and neohesperidin dihydrochalcone, preferably wherein one of the further sweetness enhancers is selected from the group consisting of mogroside V, swingle extract, rubusoside, rubus extract, stevioside, rebaudioside A, and the other further sweetness enhancer is selected from the group consisting of neohesperidin dihydrochalcone and naringin dihydrochalcone.

14. The sweetened consumable of claim 12, wherein the consumable is a beverage, additionally comprising naringin dihydrochalcone in a concentration from 1 to 2 ppm.

15. A method of sweetening consumables wherein:

a) at least 0.0001% of at least one sweetener, including natural and artificial sweeteners,
wherein said sweetener includes sucrose, fructose, glucose, high fructose corn syrup, corn syrup, xylose, arabinose, rhamnose, erythritol, xylitol, mannitol, sorbitol, inositol, acesulfame potassium, aspartame, neotame, sucralose, saccharine, or combinations thereof,
wherein said at least one sweetener or sweetener combination is present in a concentration above the sweetness detection threshold in a concentration at least isosweet to 2% sucrose, and
b) a compound of formula (1),



(1),

wherein R^1 is selected from the group consisting of OH and OCH_3, and R^2 is selected from the group consisting of H and OH, R_1 and R_2 comprise at least one OH group, and when R^1 is OH then R^2 is H (trilobatin), and when R^1 is OCH_3 then R^2 is OH (HDG),
wherein the compound of formula (1) is present in a concentration isosweet to 1% sucrose or lower in said consumable, are admixed to a consumable.

16. A method according to claim 15 wherein the compound of formula (1) is selected from

a) trilobatin, preferably at a concentration of from 3 to 200 ppm,
b) hesperitin dihydrochalcone 4"-beta-D-glucoside (HDG), preferably at a concentration of from 0.3 to 20 ppm.

17. A method according to claims 15 wherein the consumable is selected from dairy product, dairy-derived product and dairy-alternative product, wherein the compound of formula (I) is trilobatin and, wherein the concentration of trilobatin is from 10 ppm to 750 ppm.

18. A method according to claims 15 wherein the consumable has a pH below 6.5, wherein the compound of formula (I) is trilobatin and, wherein the concentration of trilobatin is from 6 to 300 ppm.

19. A method according to claims 15 wherein the consumable has a pH below 5, wherein the compound of formula (I) is trilobatin and, wherein the concentration of trilobatin is from 6 to 400 ppm.

20. A method according to claims 15 wherein the consumable is selected from dairy product, dairy-derived product and dairy-alternative product, wherein the compound of formula (I) is HDG and, wherein the HDG concentration is from 1 ppm to 75 ppm.

21. A method according to claims 15 wherein the consumable has a pH below 6.5, wherein the compound of formula (I) is HDG and, wherein the concentration of HDG is from 0.6 to 30 ppm.

22. A method according to claims 15 wherein the consumable has a pH below 5, wherein the compound of formula (I) is HDG and, wherein the concentration of HDG is from 0.6 to 40 ppm.

23. A method according to anyone of claims 15 to 22 further comprising the admixture of at least one enhancer selected from the group consisting of naringin dihydrochalcone, mogroside V, swingle extract, rubusoside, rubus extract, stevioside, rebaudioside A, and NHDC, wherein each enhancer is present in a concentration near its sweetness detection threshold, which is for naringin dihydrochalcone from 2 to 60 ppm, for rubusoside from 1.4 ppm to 56 ppm,

for rubus extract from 2 ppm to 80 ppm, for mogroside V from 0.4 ppm to 12.5 ppm, for swingle extract from 2 to 60 ppm, for stevioside from 2 to 60 ppm, for rebaudioside A from 1 to 30 ppm, and for NHDC from 1 to 5 ppm.