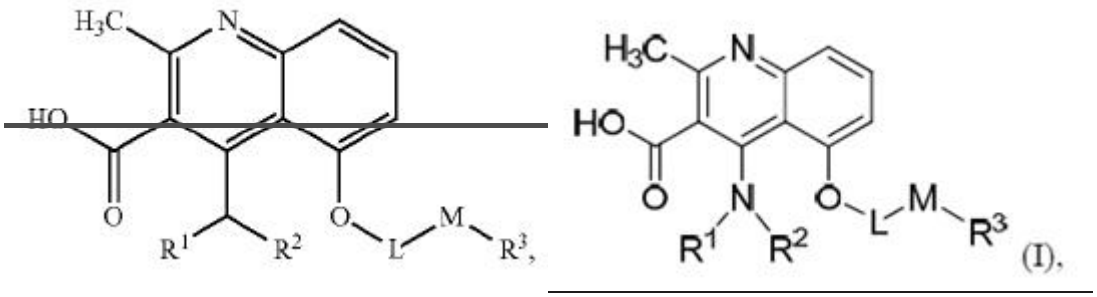
Claims

1. A compound having structural Formula (I):



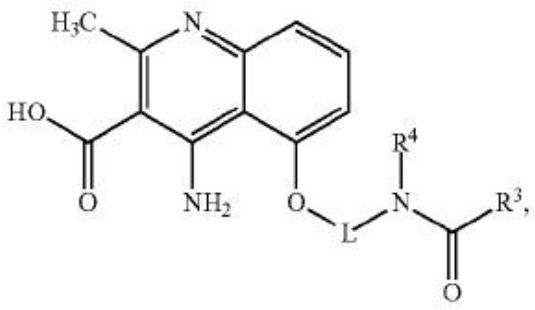
or a salt or solvate thereof; wherein R^1 and R^2 are independently hydrogen or C1 to C6 alkyl; L is optionally substituted C1 to C12 alkylene; M is $–NR^4–C(O)–$ or $–C(O)– NR^4–$; R^4 is hydrogen or C1 to C6 alkyl; or alternatively, when M is $–NR^4–C(O)–$, R^4 and one or more atoms of L, together with the nitrogen to which they are attached, form ~~an optionally substituted~~ 5- to 8-membered heterocyclic ring~~:~~ containing one to three heteroatoms selected from nitrogen, oxygen, and sulfur and R^3 is optionally substituted C1 to C12 alkyl or optionally substituted 5-to 8-membered heterocyclyl, wherein when a group is indicated as being optionally substituted, the one or more substituents are selected from the group consisting of halo, amino, N-alkyl amino, N,N-dialkyl amino, hydroxyl, alkoxy, alkyl, aryl, heteroaryl, heterocyclyl, carbocyclyl, =O, =S, $=NR^a$, $=N\ OR^a$, –CN, $–C(O)R^b$, $– C(O)OR^a$, $–C(=O)NR^aR^a$, –OC(O)OH, $–OC(O)OR^a$, $–NR^aC(O)R^b$, $–NR^aC(O)OR^a$, and $– NR^aC(O)NR^aR^a$, wherein each R^a is independently hydrogen or alkyl; or optionally two R^a, taken together with the nitrogen to which they are attached, form a heterocyclic ring; and each R^b is alkyl.

2. The compound of claim 1, wherein R^1 and R^2 are both hydrogen.

3. The compound of claim 1, wherein the alkylene is straight, branched, cyclic, or a combination thereof.

4. The compound of claim 1, wherein the alkyl is straight, branched, cyclic, or a combination thereof.

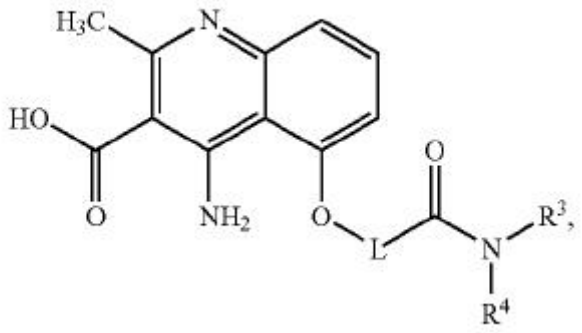
5. The compound of claim 1, which is represented by structural Formula (Ia):



or a salt or solvate thereof, wherein, L is optionally substituted C1 to C12 alkylene; R^4 is hydrogen or C1 to C6 alkyl; or alternatively, R^4 and one or more atoms of L, together with

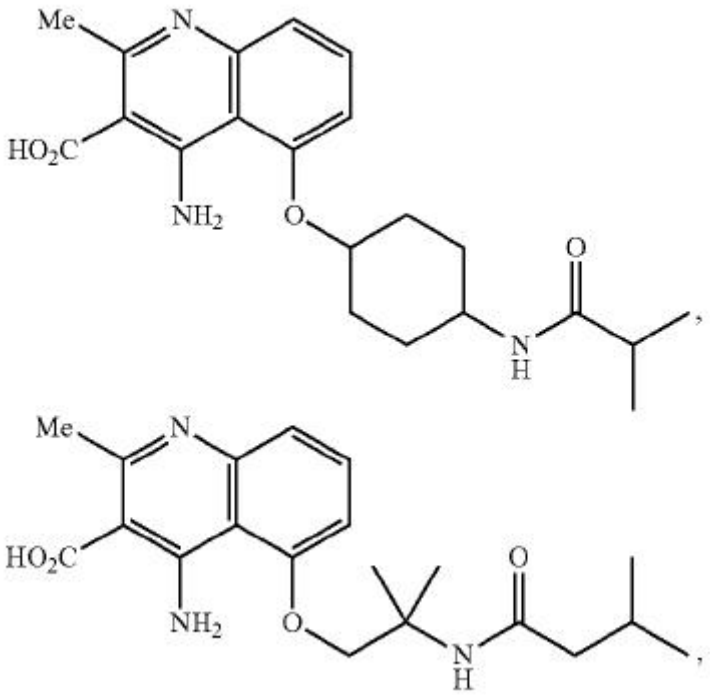
the nitrogen to which they are attached, form a~~n optionally substituted~~ 5- to 8-membered heterocyclic ring~~;~~ containing one to three heteroatoms selected from nitrogen, oxygen, and sulfur and R^3 is optionally substituted C1 to C12 alkyl or optionally substituted 5- to 8-membered heterocyclyl.

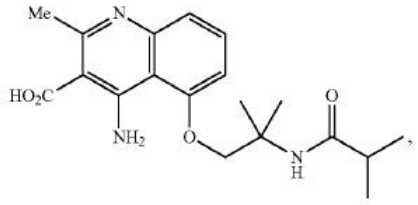
6. The compound of claim 1, which is represented by structural Formula (Ib):

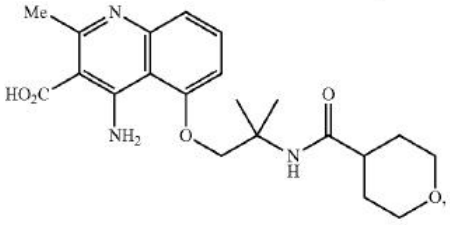


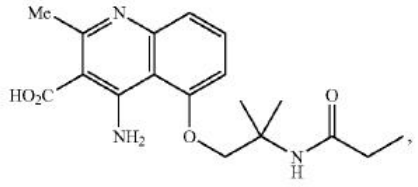
or a salt or solvate thereof, wherein: L is optionally substituted C1 to C12 alkylene; R^4 is hydrogen or C1 to C6 alkyl; and R^3 is optionally substituted C1 to C12 alkyl or optionally substituted 5- to 8-membered heterocyclyl.

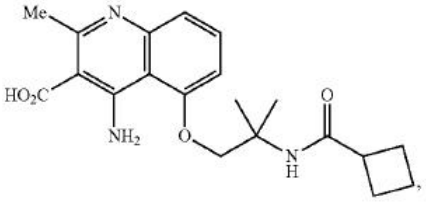
7. The compound of claim 1, which is selected from the group consisting of

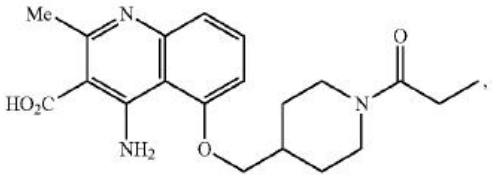


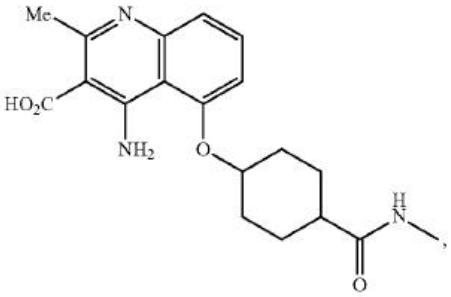


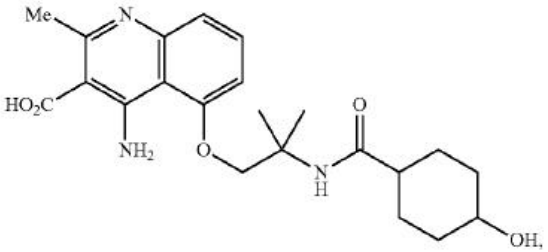


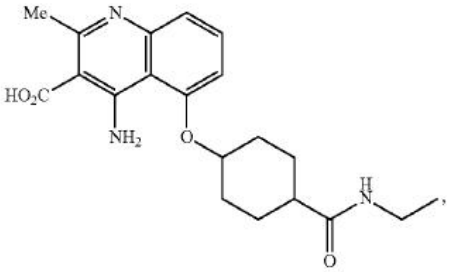


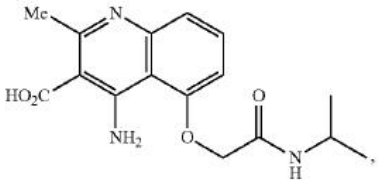


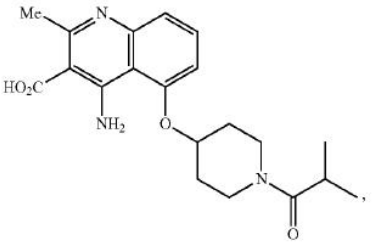


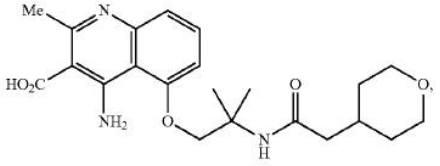


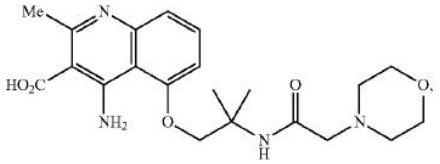


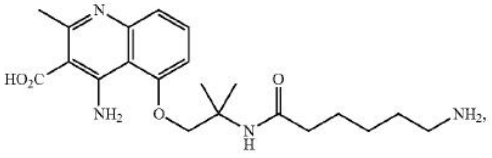


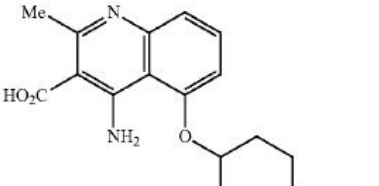


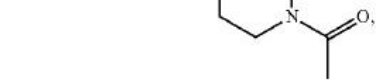


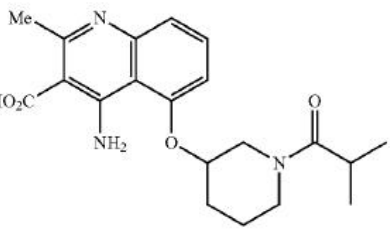


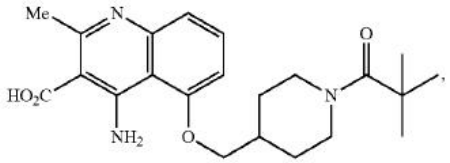


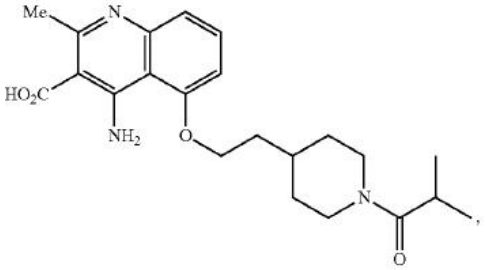


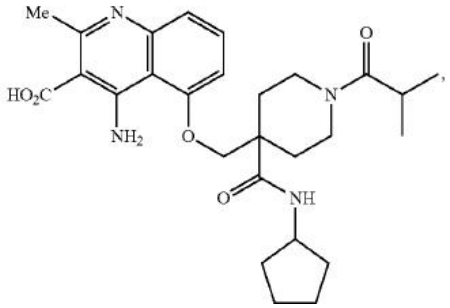


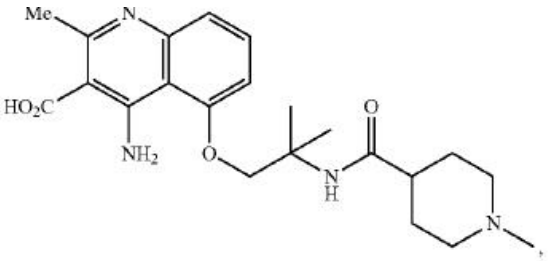


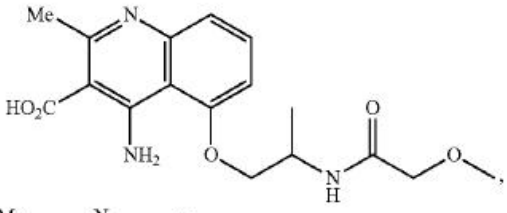


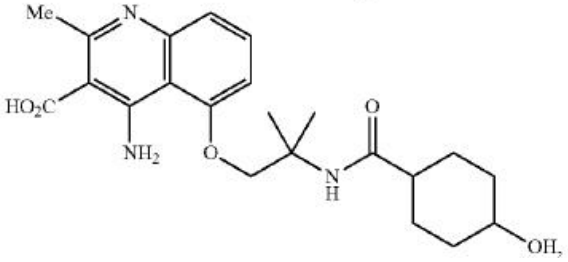


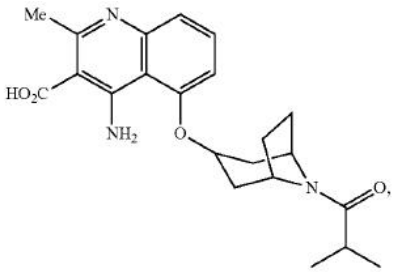


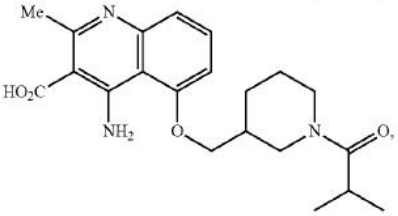


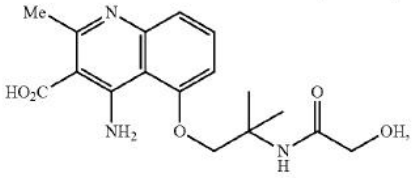


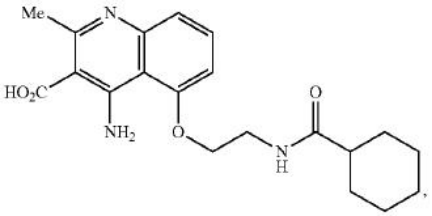


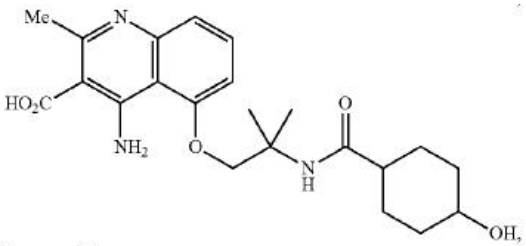


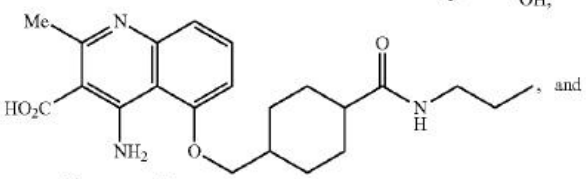




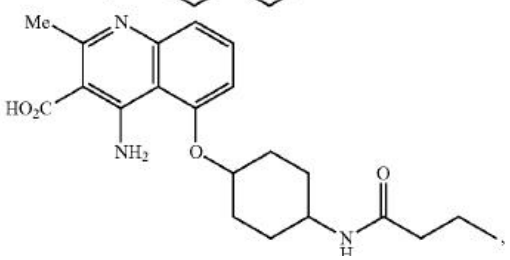








, and



or a salt or solvate thereof.

8. The compound of claim 1, which enhances the sweetness of a sweetener at a pH from about 2.5 to about 8.5.

9. An ingestible composition comprising a compound of claim 1; and optionally an ingestibly acceptable excipient.

10. The ingestible composition of claim 9, further comprising one or more sweeteners.

11. The ingestible composition of claim 10, wherein the sweetener is selected from the group consisting of sucrose, fructose, glucose, galactose, mannose, lactose, tagatose, maltose, corn syrup, D-tryptophan, glycine, erythritol, isomalt, lactitol, mannitol, sorbitol, xylitol, maltodextrin, maltitol, isomalt, hydrogenated glucose syrup (HGS), hydrogenated starch hydrolyzate (HSH), stevioside, rebaudioside A, other sweet Stevia-based glycosides, carrelame, other guanidine-based sweeteners, saccharin, acesulfame-K, cyclamate, sucralose, alitame, mogroside, neotame, aspartame, other aspartame derivatives, and combinations thereof.

12. The ingestible composition of claim 9, which is in form of a food or beverage product, a pharmaceutical composition, a nutritional product, a dietary supplement, over-the-counter medication, or oral care product.

13. The ingestible composition of claim 12, wherein the food or beverage product is selected from the group consisting of the Soup category; the Dried Processed Food category; the Beverage category; the Ready Meal category; the Canned or Preserved Food category; the Frozen Processed Food category; the Chilled Processed Food category; the Snack Food category; the Baked Goods category; the Confectionary category; the Dairy Product category; the Ice Cream category; the Meal Replacement category; the Pasta and Noodle category; the Sauces, Dressings, Condiments category; the Baby Food category; the Spreads category; sweet coatings, frostings, or glazes; and combinations thereof.

14. A method of increasing the sweet taste of a composition comprising contacting the composition thereof with a compound of claim 1 to form a modified composition.

15. A method of imparting a more sugar-like temporal profile and/or flavor profile to a sweetener composition comprising combining a compound of claim 1 and one or more sweetener in the sweetener composition.

16. A sweet enhancing composition, comprising a compound of claim 1 in an amount effective to provide sweetening in combination with a first amount of sweetener, wherein the sweetening is more than the sweetening provided by the first amount of sweetener without the compound.

17. An ingestible composition comprising the sweet enhancing composition of claim 16.

18. The ingestible composition of claim 17, which is in form of a food or beverage product, a pharmaceutical composition, a nutritional product, a dietary supplement, over-the-counter medication, or oral care product.

19. A flavoring concentrate formulation comprising i) as flavor modifying ingredient, a compound of claim 1; ii) a carrier; and iii) optionally at least one adjuvant.

20. The flavoring concentrate formulation of claim 19, wherein the at least one adjuvant comprises one or more flavoring agents.

21. The flavoring concentrate formulation of claim 19, wherein the at least one adjuvant comprises one or more sweeteners.

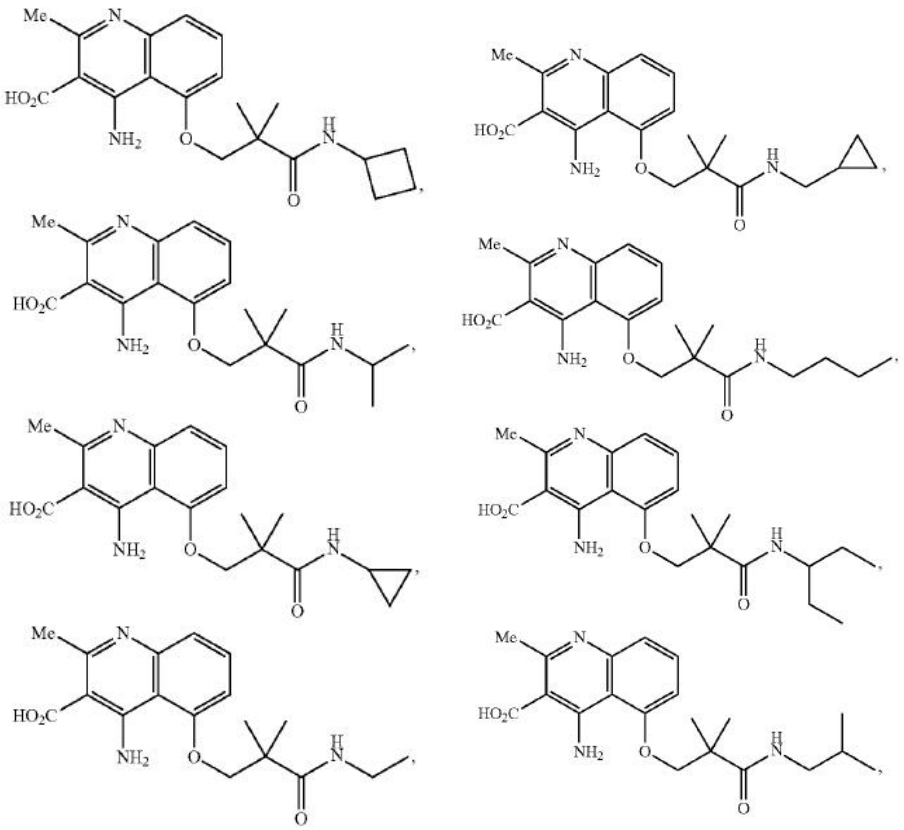
22. The flavoring concentrate formulation of claim 19, wherein the at least one adjuvant comprises one or more ingredients selected from the group consisting of a emulsifier, a stabilizer, an antimicrobial preservative, an antioxidant, vitamins, minerals, fats, starches, protein concentrates and isolates, salts, a freezing point depressant, nucleating agent, and combinations thereof.

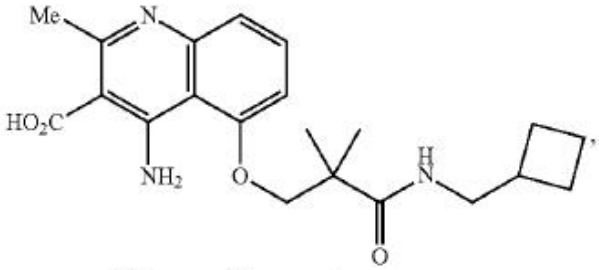
23. The flavoring concentrate formulation of claim 19, which is in a form selected from the group consisting of liquid, solid, semi-solid, foamy material, paste, gel, cream, lotion, and combinations thereof.

24. The compound of claim 1, wherein R^4 is hydrogen or C1 to C6 alkyl.

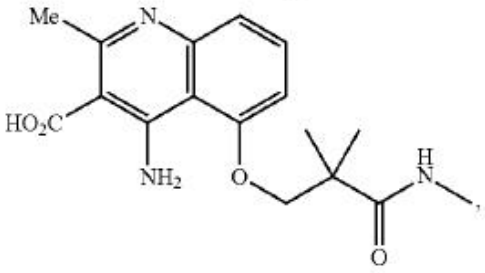
25. The compound of claim 1, wherein M is $–NR^4–C(O)–$; and R^4 and one or more atoms of L, together with the nitrogen to which they are attached, form an optionally substituted 5- to 8-membered heterocyclic ring.

26. The compound of claim 1, which is selected from the group consisting of





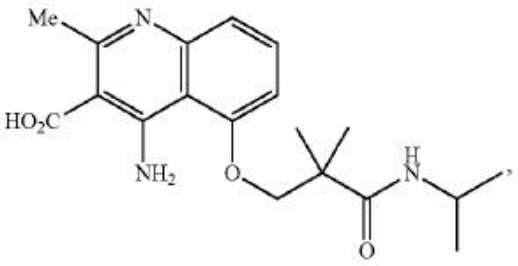
, and



,

or a salt or solvate thereof.

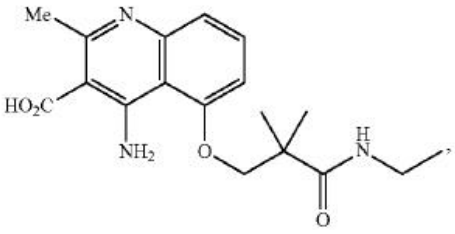
27. The compound of claim 1, which is



,

or a salt or solvate thereof.

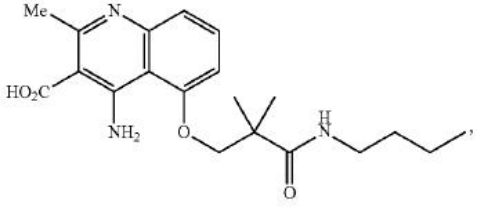
28. The compound of claim 1, which is



,

or a salt or solvate thereof.

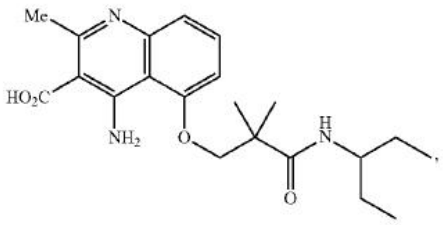
29. The compound of claim 1, which is



,

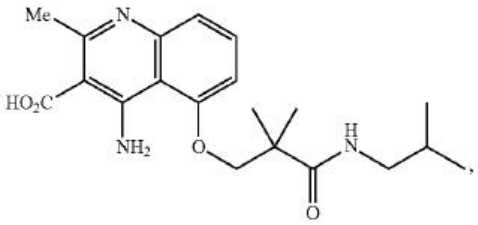
or a salt or solvate thereof.

30. The compound of claim 1, which is



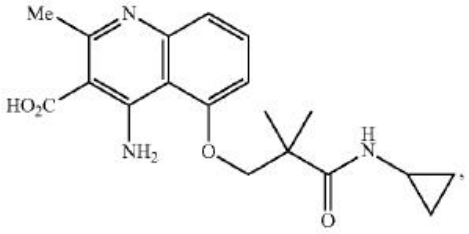
or a salt or solvate thereof.

31. The compound of claim 1, which is



or a salt or solvate thereof.

32. The compound of claim 1, which is



or a salt or solvate thereof.