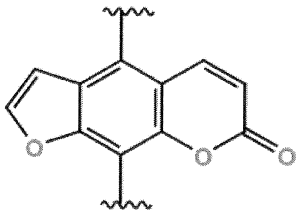
CLAIMS

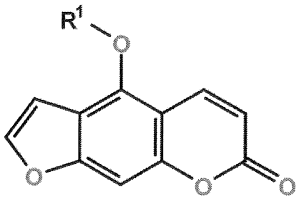
1. A pharmaceutical composition for use in the treatment and/or prevention of a parasitic mediated disease comprising a furanocoumarin derivative having the following core structure (**A**),



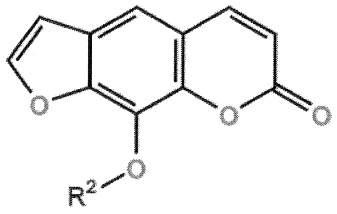
(**A**)

its pharmaceutical acceptable salt, isomer or a combination thereof

wherein the furanocoumarin derivative has the structure (**1a**) or (**2a**)



(**1a**)



(**2a**)

wherein R^1 or R^2 is an aliphatic chain comprising a cyclic ester functional group.

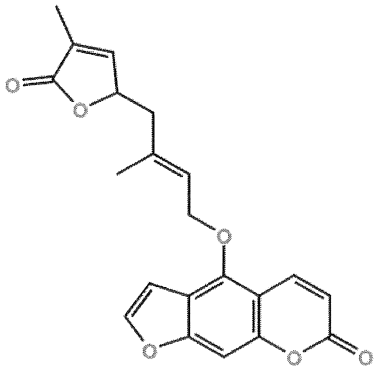
2 The pharmaceutical composition for use according to claim 1, wherein the aliphatic chain comprises an unsaturated moiety.

3. The pharmaceutical composition for use according to claims 1 or 2, wherein the cyclic ester functional group comprises 5-membered ring cyclic ester.

4. The pharmaceutical composition for use according to claim 2, wherein the unsaturated moiety comprises a double bond.

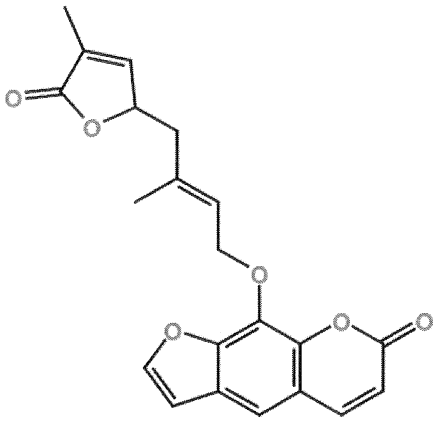
5. The pharmaceutical composition for use according to any one of preceding claims 1 to 4, wherein the cyclic ester functional group comprises a furanonyl group.

6. The pharmaceutical composition for use according to any one of preceding claims 1 to 5, wherein the furanocoumarin derivative comprises anisolactone having the following structure (**1b**):



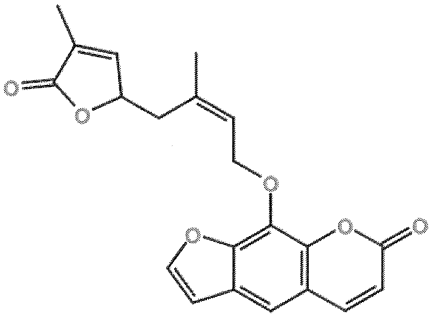
(**1b**)

7. The pharmaceutical composition for use according to any one of preceding claims 1 to 5, wherein the furanocoumarin derivative comprises wampetin having the following structure (**2b**):



(2b)

8. The pharmaceutical composition for use according to any one of claims 1 to 5, wherein the furanocoumarin derivative comprises indicolactone having the following structure (**2c**):



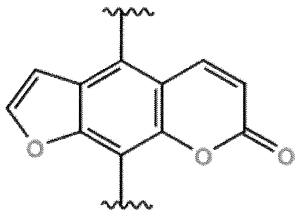
(2c)

9. The pharmaceutical composition for use according to any one of the preceding claims, wherein the parasitic mediated disease is transmitted by an arthropod comprising an *Anopheles* genus.

10. The pharmaceutical composition for use according to any one of the preceding claims, wherein the parasitic mediated disease is malaria.

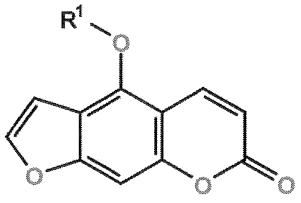
11. The pharmaceutical composition for use according to any one of the preceding claims, wherein the parasitic mediated disease is caused by a *Plasmodium* parasite, wherein preferably the *Plasmodium* parasite is a *Plasmodium Falciparum*.

12. A compound for use in the treatment and/or prevention of a parasitic mediated disease, the compound comprising a furanocoumarin derivative having the following core structure (**A**),

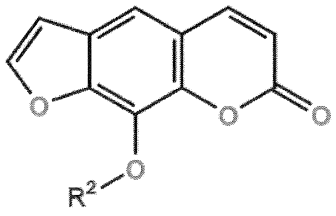


(**A**)

, wherein the furanocoumarin derivative has the structure (**1a**) or (**2a**):



(1a)



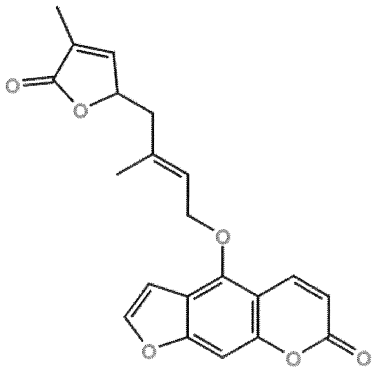
(**2a**)

wherein R^1 or R^2 is an aliphatic chain comprising a cyclic ester functional group.

13. The compound according to claim 12, wherein the aliphatic chain comprises an unsaturated moiety, preferably a double bond.

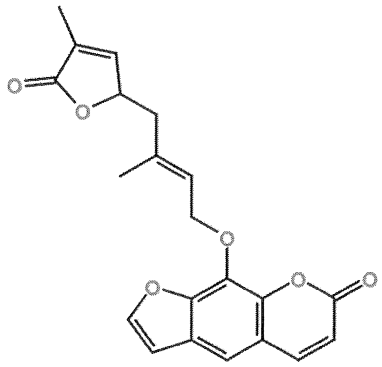
14. The compound according to claim 12 or 13, wherein the cyclic ester functional group comprises 5-membered ring cyclic ester, wherein the cyclic ester functional group is optionally a furanonyl group.

15. The compound according to any one of claims 12 to 14, wherein the furanocoumarin derivative comprises anisolactone having the following structure (**1b**):



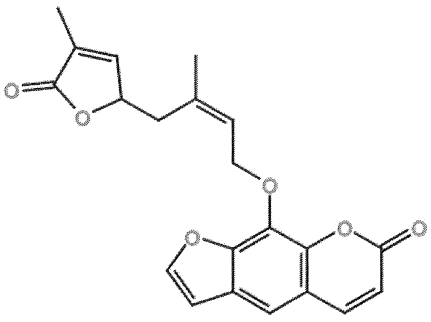
(**1b**)

16. The compound according to any one of claims 12 to 14, wherein the furanocoumarin derivative comprises wampetin having the following structure **(2b)**:



(2b)

17. The compound according to any one of claims 12 to 14, wherein the furanocoumarin derivative comprises indicolactone having the following structure **(2c)**:



(2c)

18. The compound according to any one of claims 12 to 14, wherein the parasitic mediated disease is transmitted by an arthropod, wherein the arthropod comprises an *Anopheles* genus.

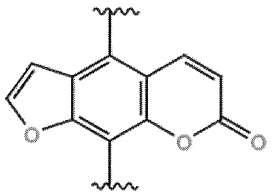
19. The compound according to any one of claims 12 to 18, wherein the parasitic mediated disease is malaria.

20. The compound according to any of the preceding claims 12 to 19, wherein the parasitic mediated disease is caused by a *Plasmodium* parasite, wherein the *Plasmodium* parasite is preferably a *Plasmodium Falciparum*.

21. The compound according to any one of claims 12 to 20, wherein the compound is isolated from a plant, wherein the plant comprises a *Rutaceae* family, preferably a *Clausena lansium* species.

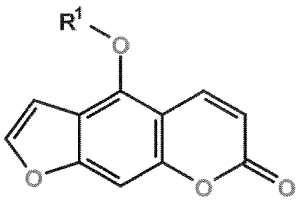
22. The compound according to claim 21, wherein the compound is isolated from the leaves of the plant.

23. A method of manufacturing a compound for use in the treatment and/or prevention of a parasitic mediated disease, wherein the compound comprises a furanocoumarin derivative having core structure (**A**),

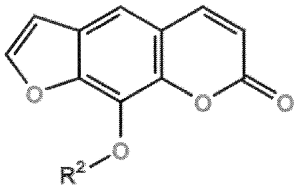


(**A**)

its pharmaceutical acceptable salt, isomer or a combination thereof, wherein the furanocoumarin derivative has the structure **(1a)** or **(2a)**:



(1a)



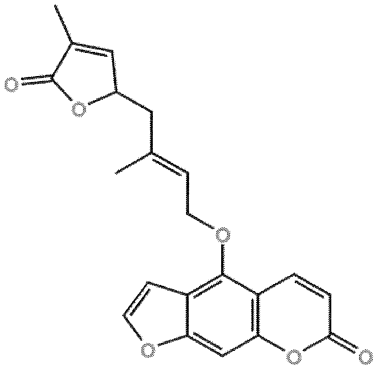
(**2a**)

wherein R^1 or R^2 is an aliphatic chain comprising a cyclic ester functional group.

24. The method according to claim 23, wherein the aliphatic chain comprises an unsaturated moiety, preferably a double bond and , wherein the cyclic ester functional group comprises 5-membered ring cyclic ester, wherein the cyclic ester functional group is optionally a furanonyl group.

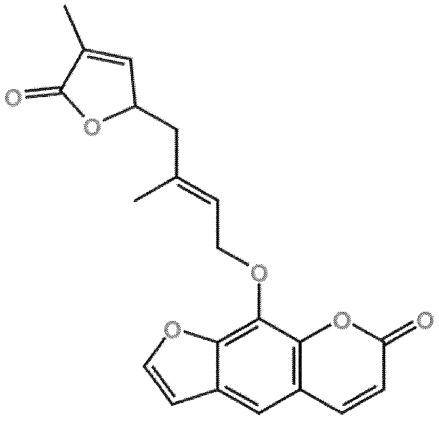
25. The method according to claim 23 or 24, wherein the furanocoumarin derivative comprises:

anisolactone having the following structure (**1b**):



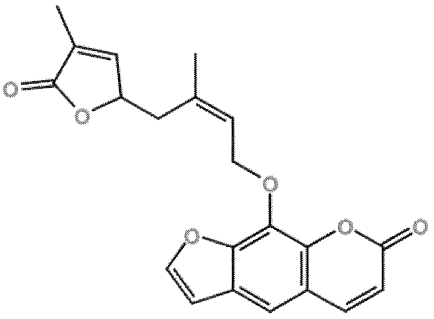
(**1b**)

wampetin having the following structure **(2b)**; or



(2b)

indicolactone having the following structure **(2c)**:



(2c)

26. The method according to any one of claims 23 to 25, wherein the compound is isolated from a plant, preferably the leaves of a plant and wherein the plant comprises a *Rutaceae* family, preferably a *Clausena lansium* species, the method further comprising the steps of:

(a) defatting the leaves of a plant comprising *Clausena lansium* prior to a step of maceration in a polar solvent and evaporation of the polar solvent, preferably by ultrasonication in a hydrocarbon solvent, preferably hexane;

(b) acidifying the maceration extract to form an acidified extract, preferably by adding hydrochloric acid solution after the first extract is dissolved in ethanol;

(c) filtering the acidified extract to obtain a filtrate;

(d) basifying the filtrate to form a basified filtrate, preferably by adding sodium hydroxide solution

(e) extracting the basified filtrate with dichloromethane to form a second extract,

(f) separating the second extract into a first aqueous fraction and a second dichloromethane fraction, wherein the dichloromethane fraction is preferably separated by column chromatography and

(g) drying the first and second fractions, preferably the dichloromethane fraction is further extracted with an alcohol solvent

wherein the furanocoumarin derivative or its isomer is present in the first and/or second fraction, and wherein preferably one or more steps are repeated to increase purity and/or yield.