

Formula 1A

or any derivative thereof, pharmaceutically acceptable salt thereof, or combination thereof

in which:

R_1 is H, OH, or alkoxy;

R_2 is alkoxy, or OH;

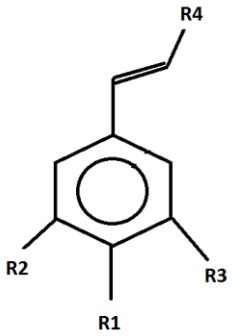
R_3 is alkoxy or OH;

X is C_1-C_{15} alkyl, C_2-C_{15} alkenyl, C_2-C_{15} alkynyl, or aralkyl chain, each of which is independently substituted with at least one alkoxy, OH, =NH , or oxo, group;

Y is H or alkyl; and

X is in ortho position to R_2, or para position to R_1.

In an aspect of the present disclosure, there is provided a compound of Formula 2



Formula 2

or any derivative thereof, pharmaceutically acceptable salt thereof, or combination thereof

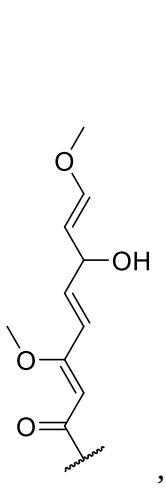
wherein:

R_1 is H or OH;

R_2 is alkoxy or OH;

R_3 is alkoxy or OH; and

R_4 is selected from the group consisting of:



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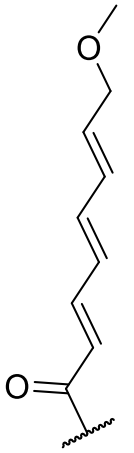

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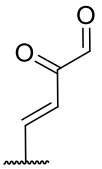

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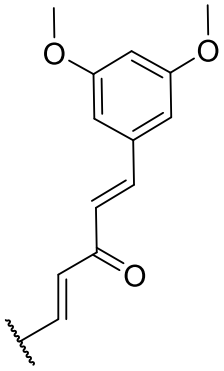

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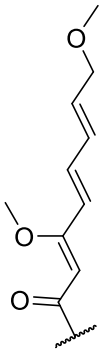

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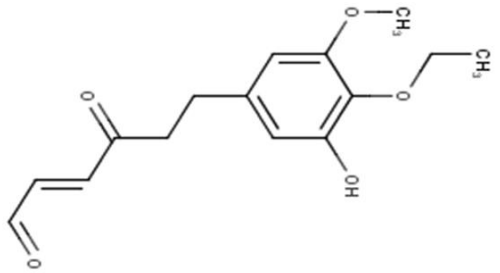
In another aspect of the present disclosure, there is provided a compound which is



or a pharmaceutically acceptable salt thereof.

In another aspect of the present disclosure, there is provided a pharmaceutical composition, comprising a compound disclosed herein and a pharmaceutically acceptable carrier.

In a further aspect of the present disclosure, there is provided a use of a compound disclosed herein or a pharmaceutical composition disclosed herein, in the manufacture of a medicament for treating cancer in a patient in need thereof.

In another aspect of the present disclosure, there is provided a use of a compound or a pharmaceutical composition disclosed herein, in the manufacture of a medicament for treating SARS or COVID-19 in a patient in need thereof.

In another aspect of the present disclosure, there is provided a compound disclosed herein or a pharmaceutical composition disclosed herein, for use in therapy.

DETAILED DESCRIPTION OF THE INVENTION

Definitions

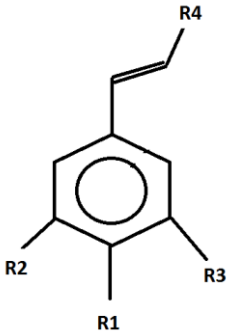
"Alkyl" or "alkyl group" refers to a fully saturated, straight or branched hydrocarbon chain having from one to fifteen carbon atoms, and which is attached to the rest of the molecule by a single bond. Unless stated otherwise specifically in the specification, an alkyl group can be optionally substituted.

"Alkenyl" or "alkenyl group" refers to a straight or branched hydrocarbon chain having from two to fifteen carbon atoms, and having one or more carbon-carbon double bonds. Each alkenyl group is attached to the rest of the molecule by a single bond. Unless stated otherwise specifically in the specification, an alkylene chain can be optionally substituted.

"Alkenylene" or "alkenylene chain" refers to a straight or branched divalent hydrocarbon chain radical, having from two to twelve carbon atoms, and having one or more carbon-carbon double

WE CLAIM:

1. A compound of Formula 2



Formula 2

or any derivative thereof, pharmaceutically acceptable salt thereof, or combination thereof

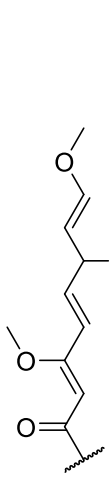
wherein:

R_1 is H or OH;

R_2 is alkoxy or OH;

R_3 is alkoxy or OH; and

R_4 is selected from the group consisting of:



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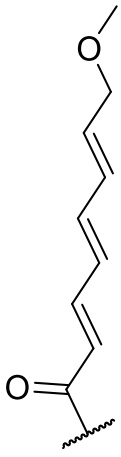

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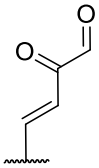

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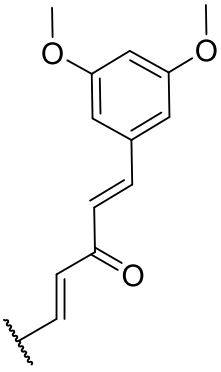

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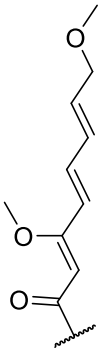

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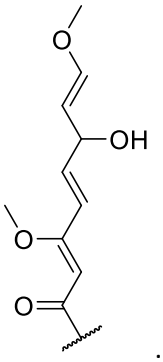
2. The compound as claimed in claim 1, wherein

R_1 is H;

R_2 is OCH_3;

R_3 is OCH_3; and

R_4 is 

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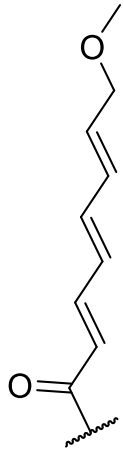
3. The compound as claimed in claim 1, wherein

R_1 is H;

R_2 is OCH_3;

R_3 is OCH_3; and



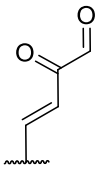
R_4 is.

4. The compound as claimed in claim 1, wherein

R_1 is OH;

R_2 is OCH_3;

R_3 is OCH_3; and

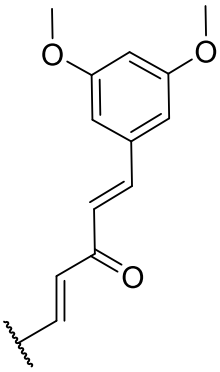
R_4 is  .

5. The compound as claimed in claim 1, wherein

R_1 is OH;

R_2 is OCH_3;

R_3 is OCH_3; and

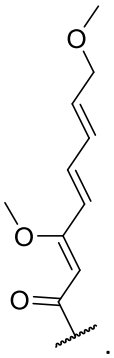
R_4 is  .

6. The compound as claimed in claim 1, wherein

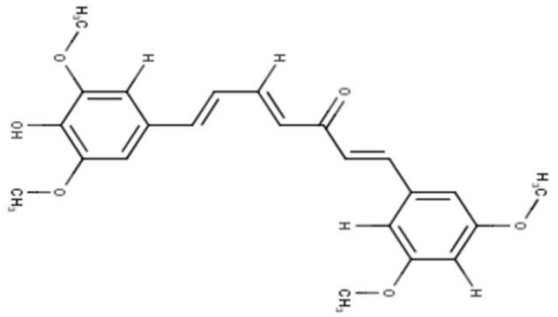
R_1 is H;

R_2 is OCH_3;

R_3 is OCH_3; and

R_4 is  .

7. A compound of claim 1, selected from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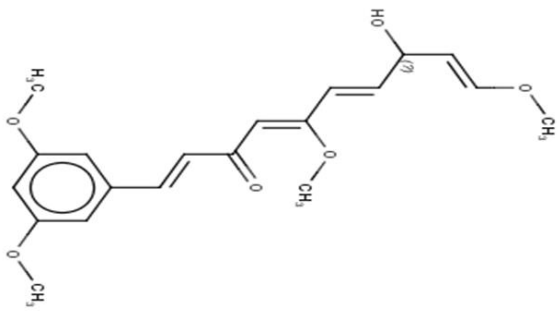
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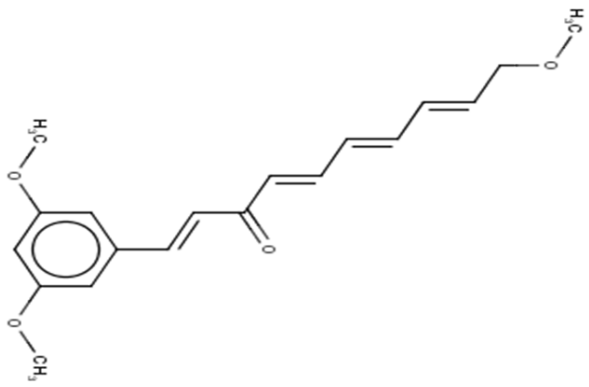
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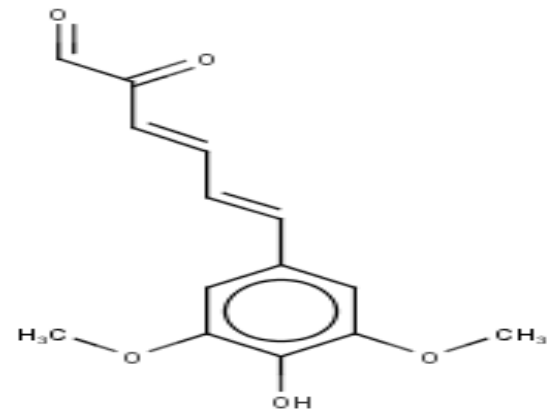
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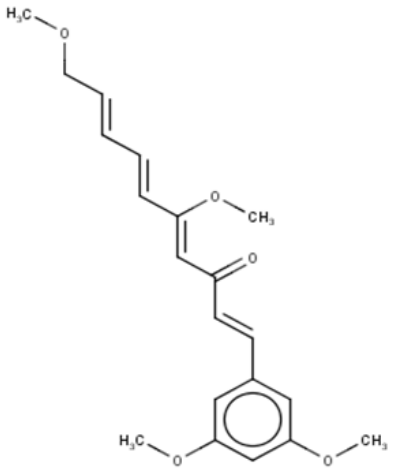

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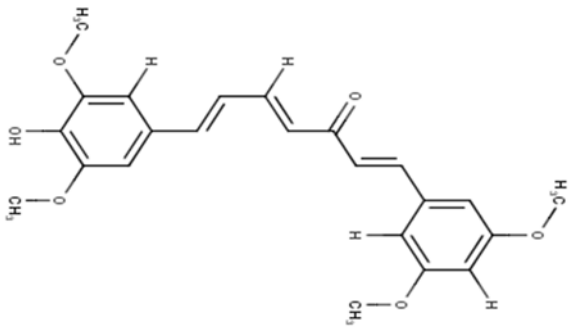
or a pharmaceutically acceptable salt thereof.

8. The compound as claimed in claim 1, wherein the compound is



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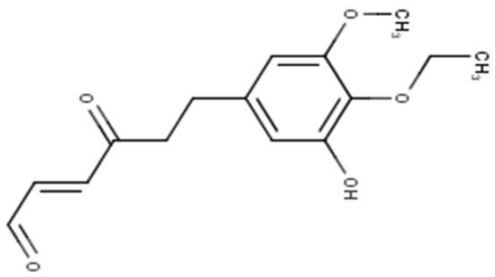
9. A compound which is



or a pharmaceutically acceptable salt thereof.

10. A pharmaceutical composition, comprising a compound of one of claims 1-9 and a pharmaceutically acceptable carrier.

11. Use of a compound of claims 1-9 or a pharmaceutical composition of claim 10, in the manufacture of a medicament for treating cancer in a patient in need thereof.

12. The use as claimed in claim 11, in which the cancer is colon cancer, prostate cancer, breast cancer, or leukemia.

13. The use as claimed in claim 12, in which the cancer has a KRAS oncogene mutation.

14. Use of a compound of claims 1-9 or a pharmaceutical composition of claim 10, in the manufacture of a medicament for treating SARS or COVID-19 in a patient in need thereof.

15. The use as claimed in any one of claims 11-13, wherein the compound or the pharmaceutical composition is to be administered to the patient, and wherein a chemotherapeutic agent is to be further administered to the patient in need thereof.

16. The use as claimed in claim 15, in which the chemotherapeutic agent is selected from the group consisting of docetaxel, paclitaxel, pazobanib, endoxon, etoposide, adriamycin, dacromycin, avastin, gemcitabine, cisplatin and oxaliplatin.

17. The use as claimed in claim 15 or 16, in which the compound or the pharmaceutical composition reduces and/or reverses the toxic side effects associated with the chemotherapeutic agent.

18. The use as claimed in claim 17, in which the toxic side effects associated with the chemotherapeutic agent include one or more of gastritis, hair loss, bone marrow suppression, and cardiac toxicity.

19. The use as claimed in claim 14, wherein an additional antiviral agent is to be further administered to the patient in need thereof.

20. The use as claimed in claim 19, in which the additional antiviral agent is chloroquine or hydroxychloroquine.

21. The use as claimed in claim 20, in which the compound or the pharmaceutical composition reduces and/or reverses the toxic side effects associated with the chloroquine or hydroxychloroquine.

22. The use as claimed in claim 21, in which the toxic side effects associated with the chloroquine or hydroxychloroquine include one or more of cardiovascular diseases, eye damage, mild or severe bronchospasm, and mental health conditions.

23. A compound of claims 1-9, or a pharmaceutical composition of claim 10, for use in therapy.