essential for viral replication and gene expression. The functional polypeptides are released from the polyproteins by extensive proteolytic processing which is one of the crucial steps in the life cycle of coronaviruses. The virus will not be packaged without the proteolysis. This is primarily achieved by the 33.1-kDa main protease (MPro), which is also known as 3C-like protease (3CLPro).

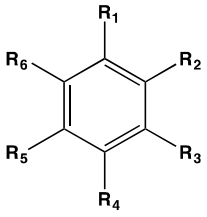
Members of the coronavirus's family include virus strains having different phylogenetic origin (thelancet.com; doi.org/10.1016/S0140-6736 (20)30251-8) and causing different severity in mortality and morbidity. As such, treatment for coronavirus infection varies depending on the specific strains that causes the infection. So far, there is no approved antiviral drug treatment for any coronavirus. Because of the conservation of the critical residues and its functional importance, we consider 3CLPro can be an important target for the design of ubivquitous anti-coronaviral drugs for the infection.

## SUMMARY

The present disclosure is based on the unexpected observation that exemplary compounds having the structure of Formula (I) described herein successfully inhibited the protease activity of 3CLPro of SARS-CoV-2 and inhibited SARS-CoV-2 replication in cells. Further, it was observed that compounds of Formula (I) with high numbers of galloyl moieties showed better inhibitory activity against 3CLPro of SARS-CoV-2 that those having lower numbers of galloyl moieties. Moreover, exemplary Formula (I) compounds (*e.g.*, SNB01) showed presence in pulmonary tissues upon oral administration in an animal model. All the discoveries reported herein show that compounds of Formula (I) would be expected to be effective in inhibiting coronavirus such as SARS-CoV-2 and thus alleviating conditions caused by coronavirus infection.

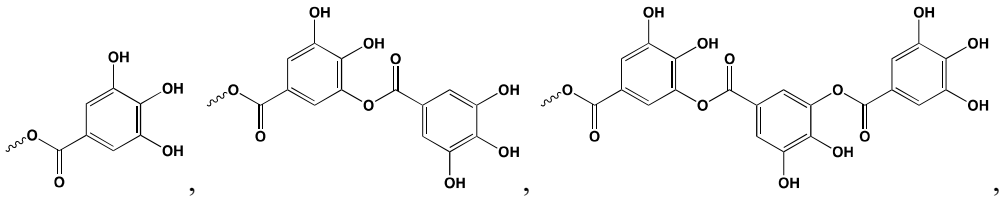
In one aspect, the present disclosure features a use of a composition in the manufacture of a medicament for treating coronavirus infection, wherein the composition comprises a compound of a formula selected from the group consisting of:

(a) Formula (Ic)

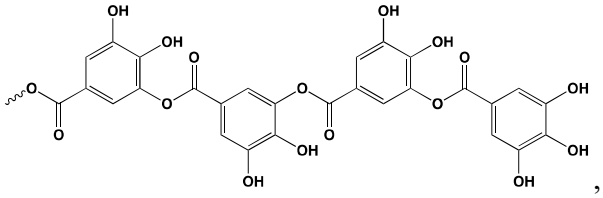
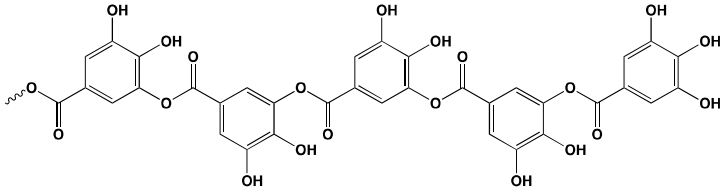
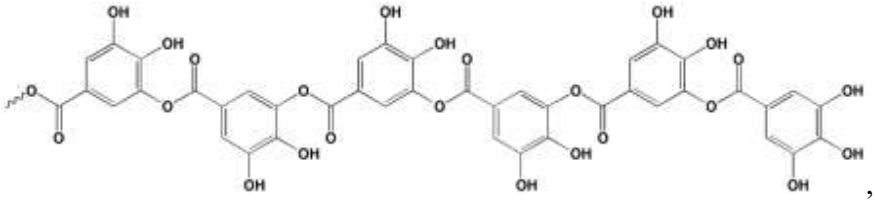
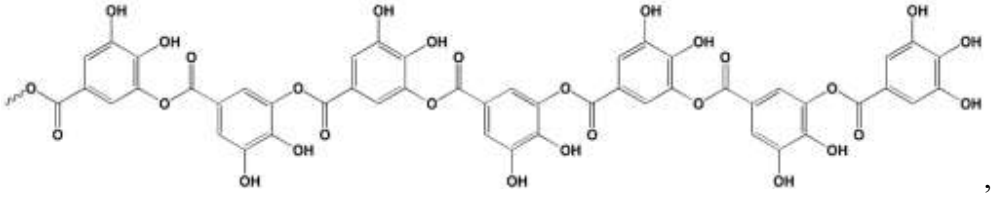
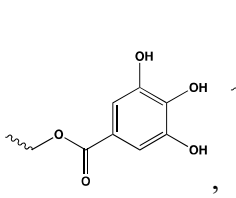
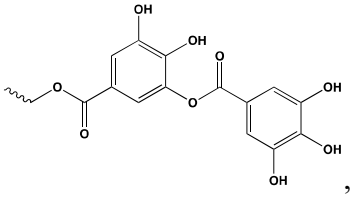
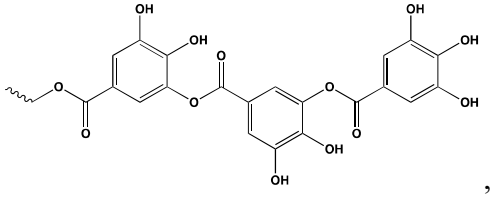


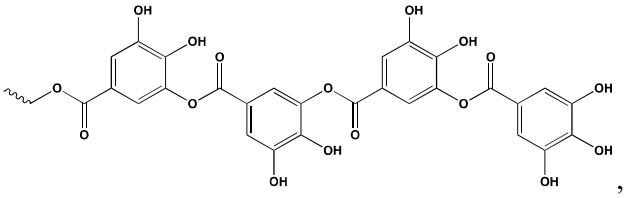
(Ic),

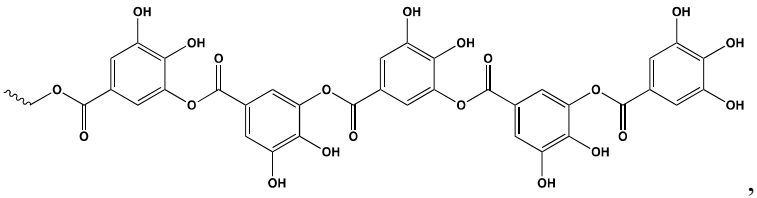
in which $R_1$, $R_2$, $R_3$, $R_4$, $R_5$, and $R_6$ are each, independently, selected from the group consisting of:

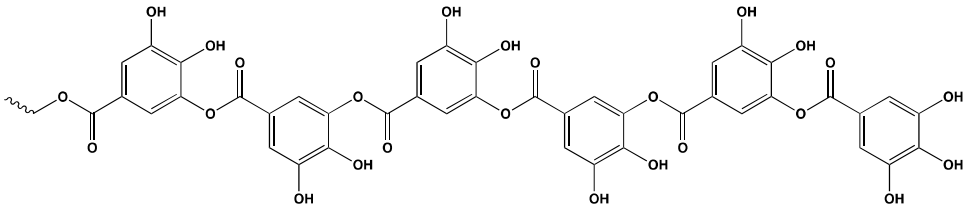

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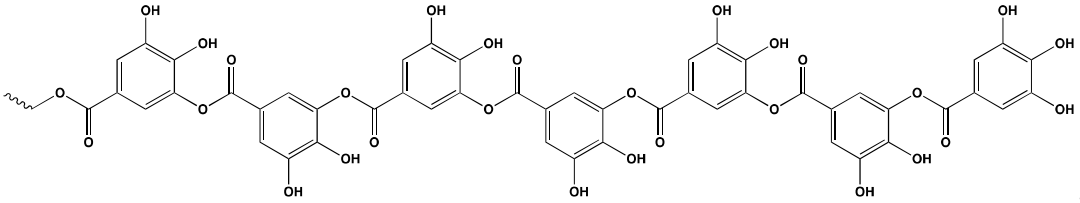
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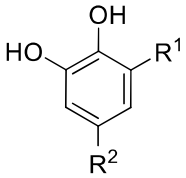

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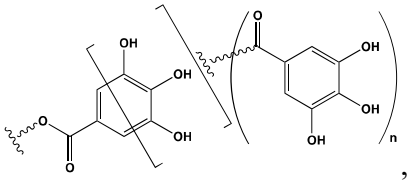

, and

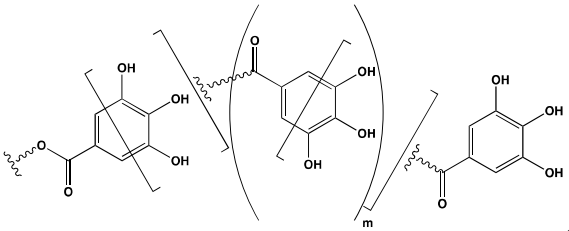

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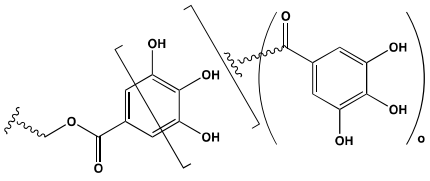
(b) Formula (Id)

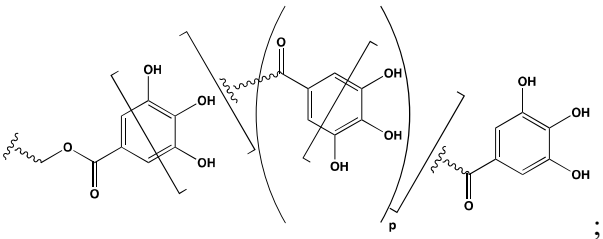


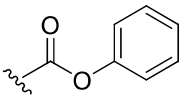
(Id), in which $R^1$ is

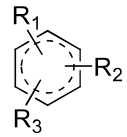

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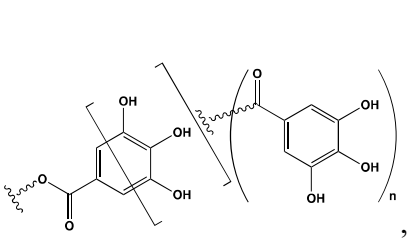
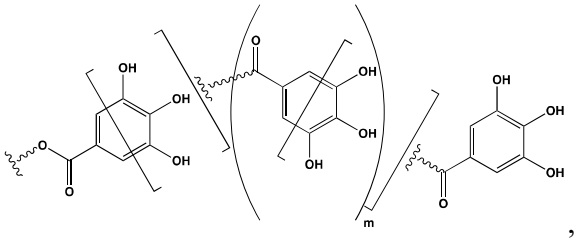

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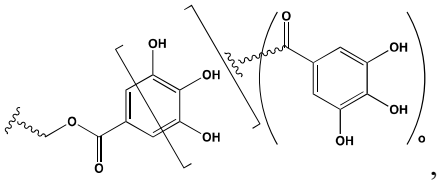
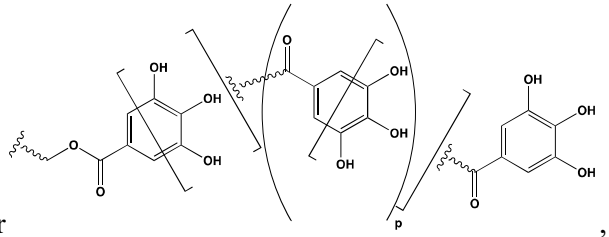

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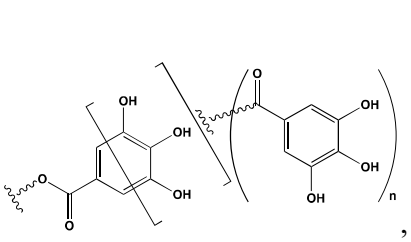
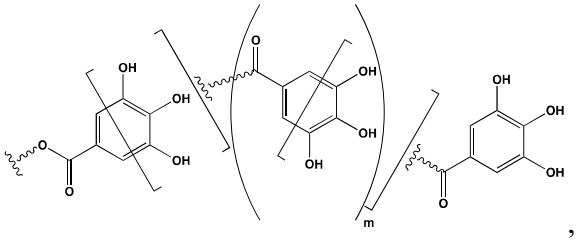

; and $R^2$ is –COOH or

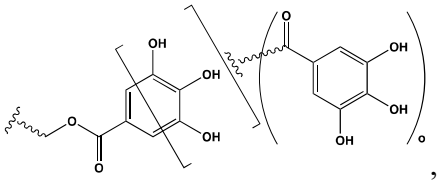
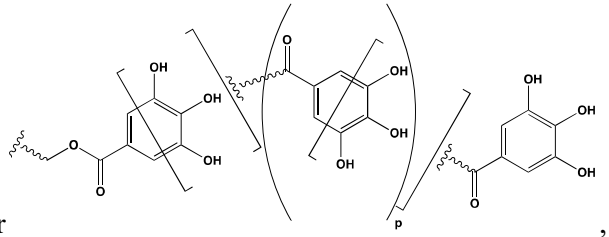

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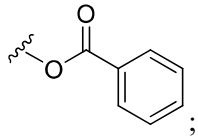
(c) Formula (Ie)  (Ie), in which at least one of $R^1$, $R^2$, and $R^3$ is

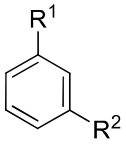
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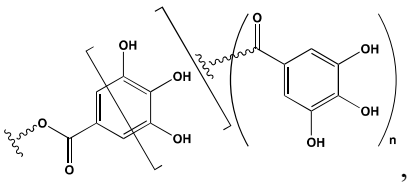
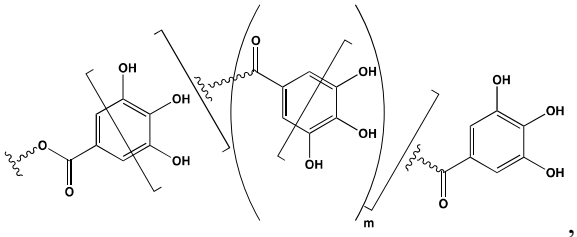
, or , and the remaining of $R^1$, $R^2$, and $R^3$ each independently are selected from the group consisting of

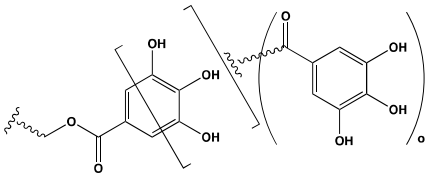
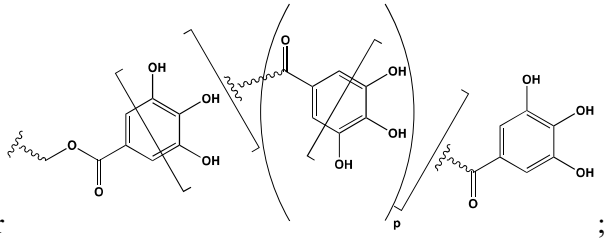
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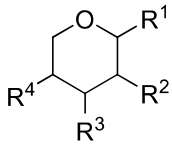
, or , and

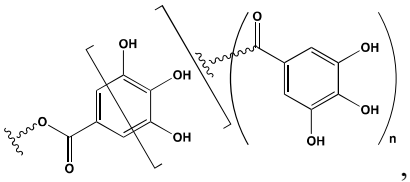
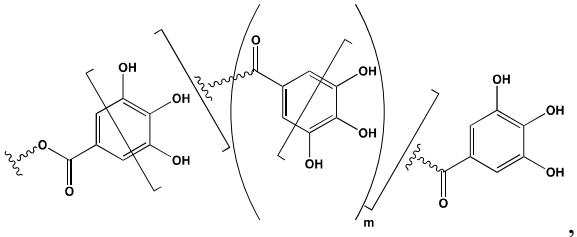
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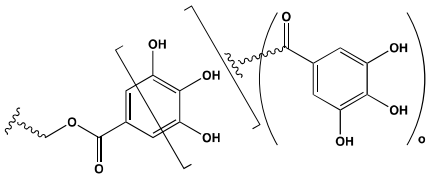
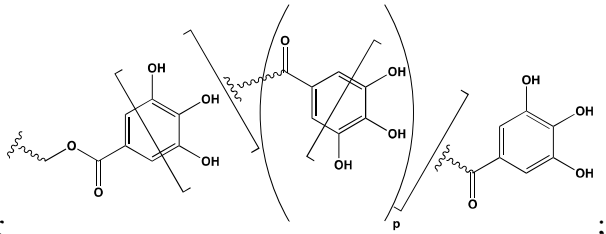
(d) Formula (If):  (If), in which each of $R^1$ and $R^2$, independently, is

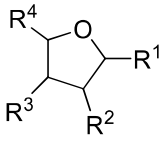
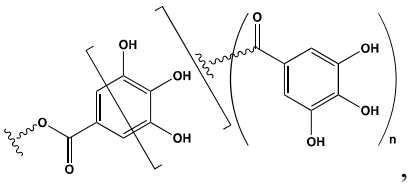
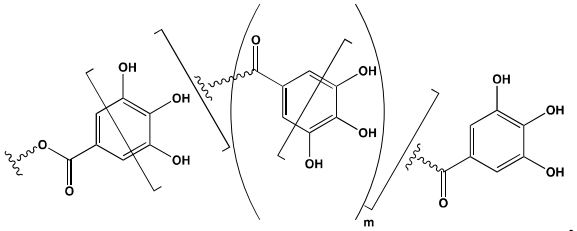
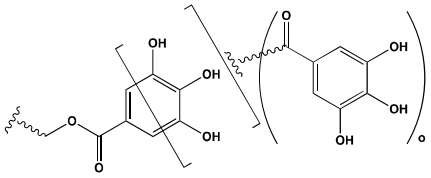
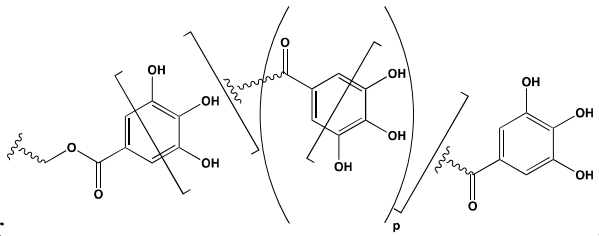
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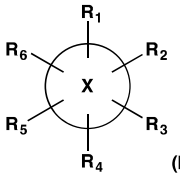
(e) Formula (Ig):  (Ig), in which each of $R^1$, $R^2$, $R^3$, and $R^4$, independently, is

, ,

, or ; and

(f) Formula (Ih):  (Ih), in which each of $R^1$, $R^2$, $R^3$, and $R^4$, independently, is , , , or , wherein n and o are independently 0 or 1 and wherein n and m are independently 1, 2, 3, 4 or 5.

Accordingly, one example of the present disclosure features a method of inhibiting coronavirus and/or treating coronavirus infection, the method comprising administering to a subject in need thereof an effective amount of a composition, wherein the composition comprises one or more compounds of Formula (I):

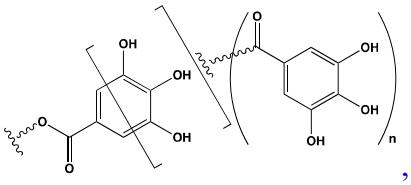


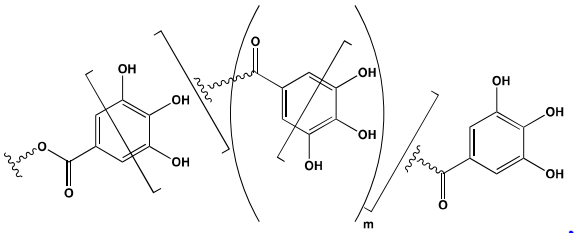
(I),

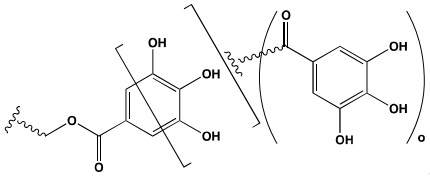
or a pharmaceutically acceptable salt thereof. In Formula (I):

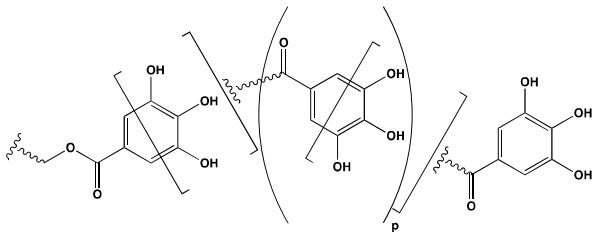
Ring X is a 5 or 6 membered monocyclic ring, which optionally has one or two heteroatoms selected from the group consisting of N, O, P, and S;

at least one of $R_1$, $R_2$, $R_3$, $R_4$, $R_5$, and $R_6$, independently is of the formula:


,

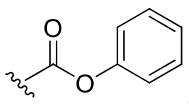

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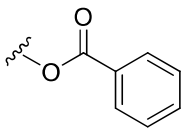

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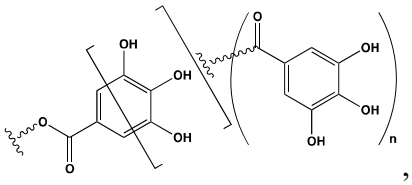

; and the

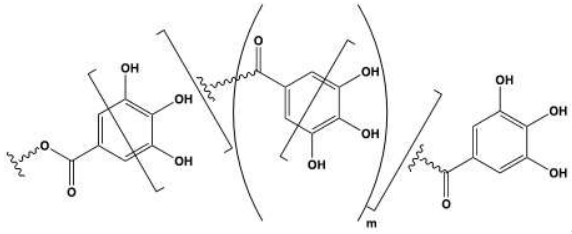
remaining $R_1$, $R_2$, $R_3$, $R_4$, $R_5$, and $R_6$ each, independently, is selected from the group consisting of

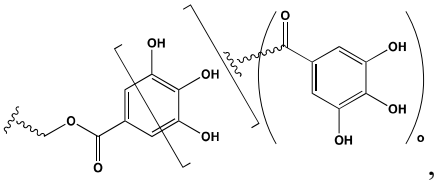
, -OH, -COOH,

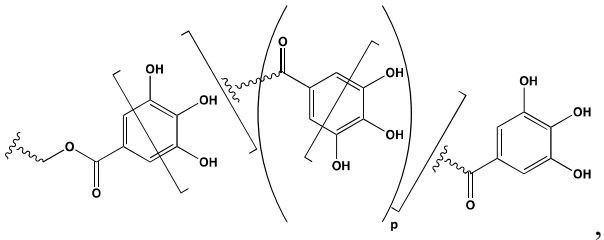

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, and absent;

n and o are, independently, 0 or 1;

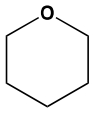
m and p are, independently, 1, 2, 3, 4, or 5.

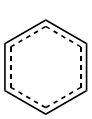
The compound of Formula (I) has 2 to 35 galloyl moieties, inclusive.

In some examples, $R_1$, $R_2$, $R_3$, $R_4$, $R_5$, or $R_6$ may be unsubstituted. In other examples, $R_1$, $R_2$, $R_3$, $R_4$, $R_5$, or $R_6$ may be substituted with 1, 2, 3, 4, or 5 substituents. Exemplary substitutents include, but are not limited to, $C_{1\text{-}3}$ alkyl, halogen, $-CF_3$, –CN,–$NO_2$, –SH,-OH, –$S(C_{1\text{-}3}$ alkyl),–$NH_2$, $NH(C_{1\text{-}3}$ alkyl), $N(C_{1\text{-}3}$ alkyl$)_2$, and $-O(C_{1\text{-}3}$ alkyl). In other examples, one or more $R_1$, $R_2$, $R_3$, $R_4$, $R_5$, and $R_6$ may be absent. At least one of $R_1$, $R_2$, $R_3$, $R_4$, $R_5$, and $R_6$ is present.

In some embodimetns, Ring X is a 6 membered monocyclic ring, which optionally has one or two heteroatom of N, O, P, and/or S. In some examples, Ring X is a 6 membered monocylic ring having one heteroatom, e.g., N, O, P, or S. In specific examples, the heteroatom in Ring X is O. In other examples, Ring X can be a 6 membered monocylic ring having two heteroatoms, which can be N, O, P, or S. The two heteroatoms may be identical. Alternatively, the two heteroatoms can be different.

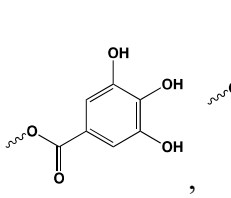
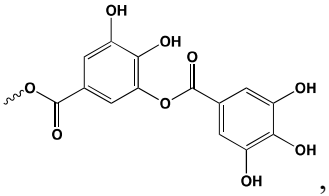
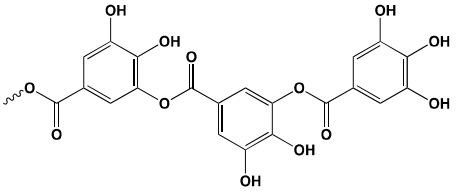
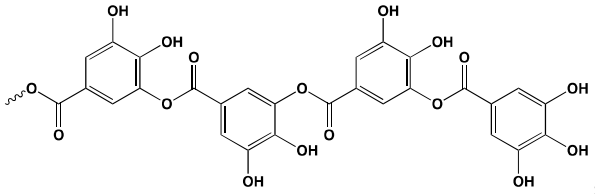
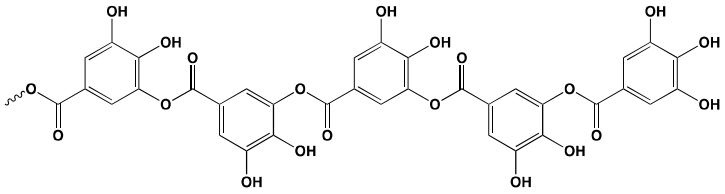
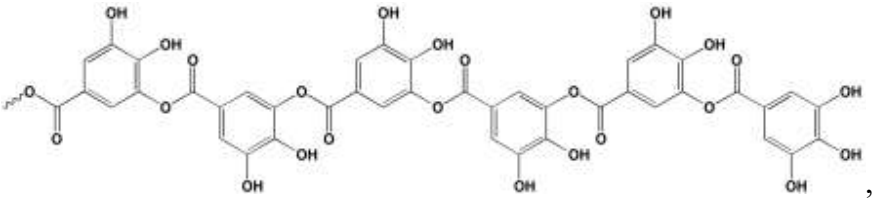
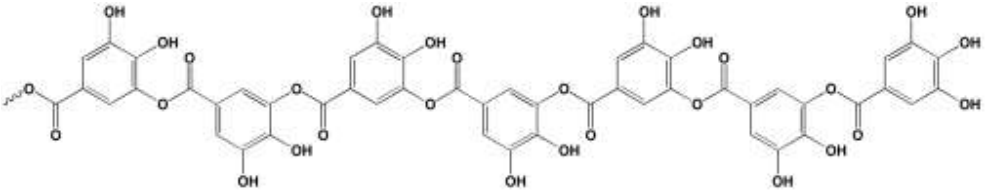
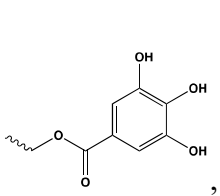
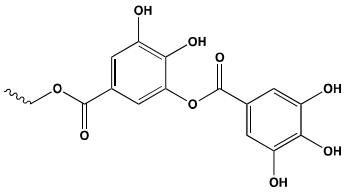
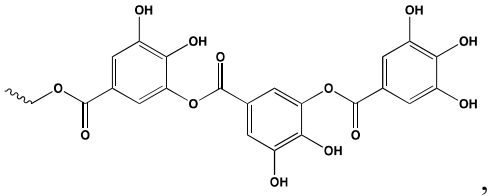
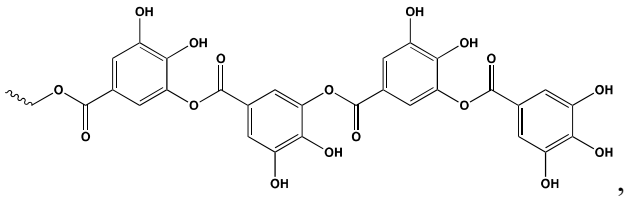
In some embodimetns, Ring X is a 5 membered monocyclic ring, which optionally has one or two heteroatom of N, O, P, and/or S. In some examples, Ring X is a 5 membered monocylic ring having one heteroatom, e.g., N, O, P, or S. In specific examples, the heteroatom in Ring X is O. In other examples, Ring X can be a 5 membered monocylic ring having two heteroatoms, which can be N, O, P, or S. The two heteroatoms may be identical. Alternatively, the two heteroatoms can be different.

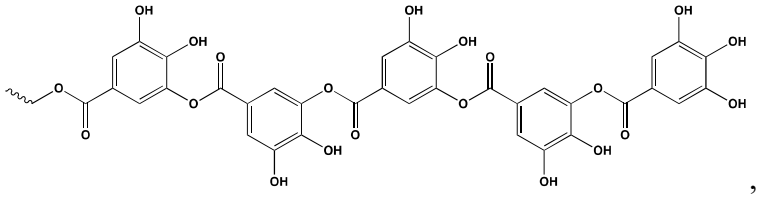
In some examples, Ring X is 

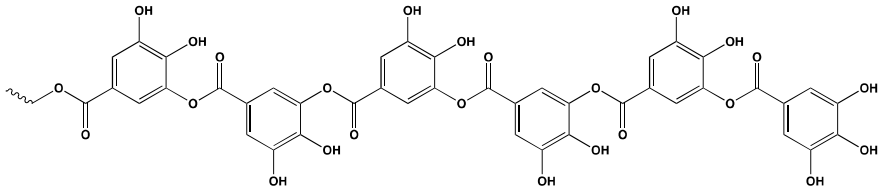
. In some examples, Ring X is . In some examples, Ring X is 

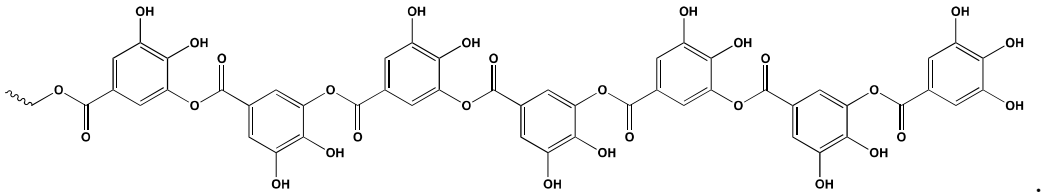
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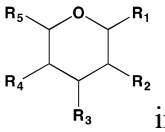
In some examples, each of $R_1$, $R_2$, $R_3$, $R_4$, $R_5$, and $R_6$, independently, can be of the formula:


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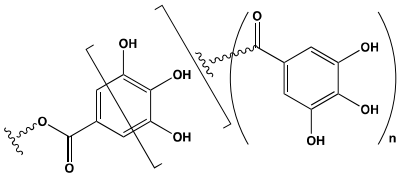

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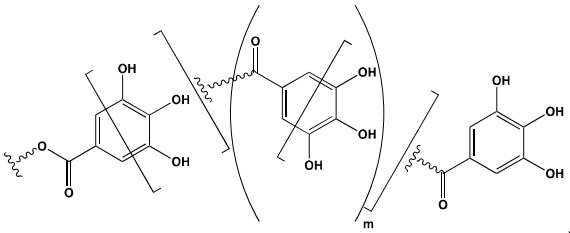

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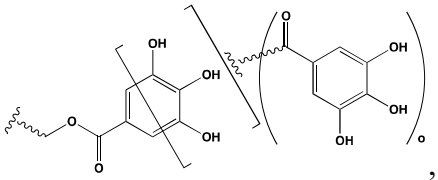

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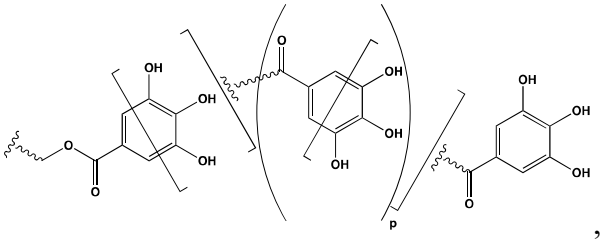


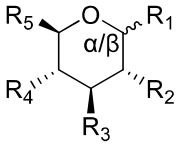
In some examples, the Formula (I) compounds have the structure of (Ia), in which each of $R_1$, $R_2$, $R_3$, $R_4$, $R_5$, and $R_6$, independently can be of the formula:

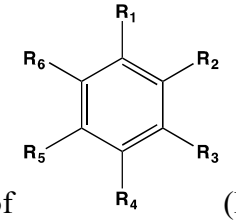

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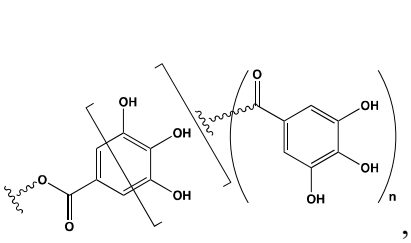
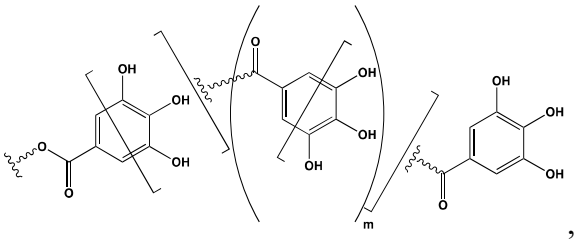
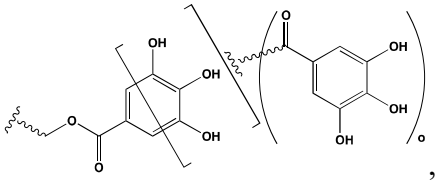
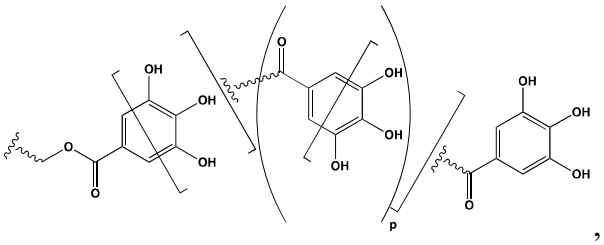

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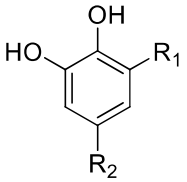
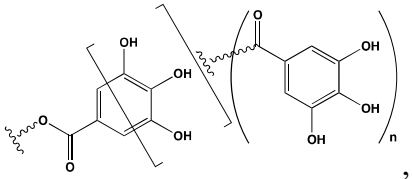

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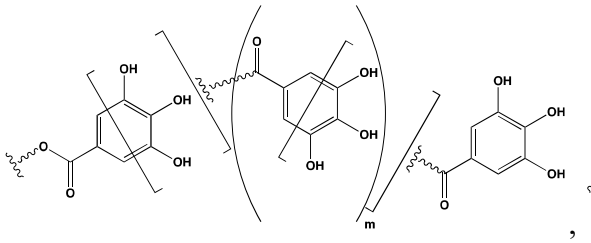
in which n, m, o and p are as defined herein. In some examples, the compound of Formula (Ia) may have the structure of  (Ib). Exemplary compounds include, but are not limited to, α5G, β5G, α10G, β10G, α15G, β15G, α20G, β20G, α25G, or β25G.

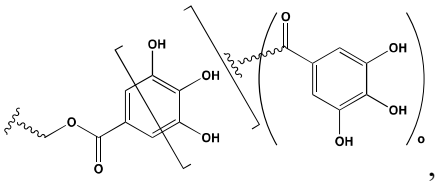
In some examples, the Formula (I) compounds have the structure of  (Ic), in which each of the $R_1$, $R_2$, $R_3$, $R_4$, $R_5$, and $R_6$, independently can be of the formula:

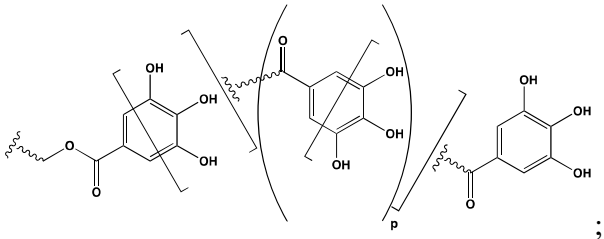
, , , or ,

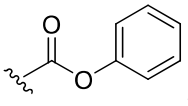
n, m, o and p are as defined herein.

In some examples, the compounds of Formula (I) can be of the structure  (Id), in which $R_1$ can be ,



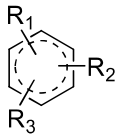
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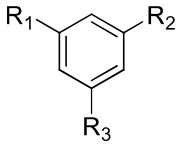
, or 

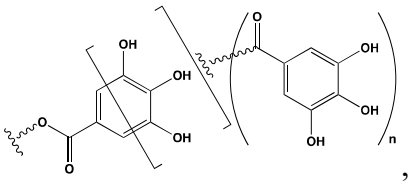
; and $R_2$ can be –COOH or 

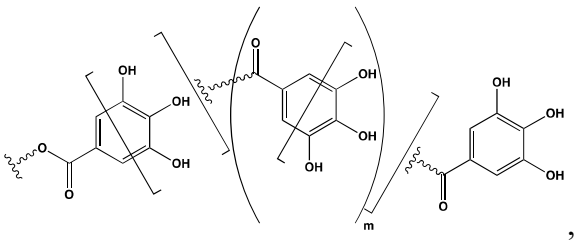
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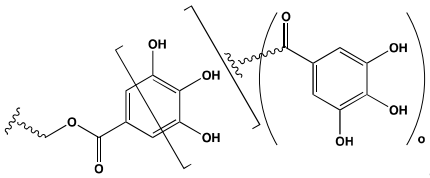
Exemplary compounds include phenol 3G, phenol 5G, phenol 7G, Compound 14, Compound 18, and Compound 149.

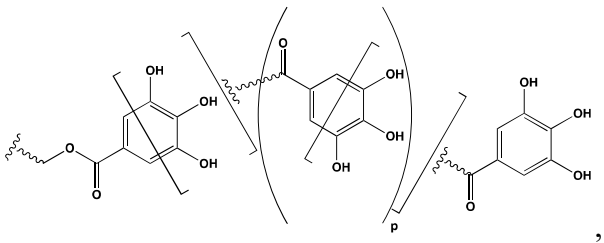
In some examples, the compounds of Formula (I) can have the structure 

(Ie) (*e.g.*, 

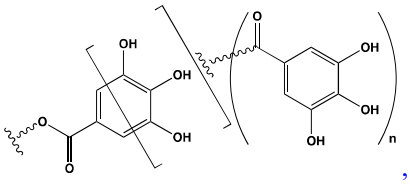
(Ie-1)), in which at least one of $R_1$, $R_2$, and $R_3$ is 

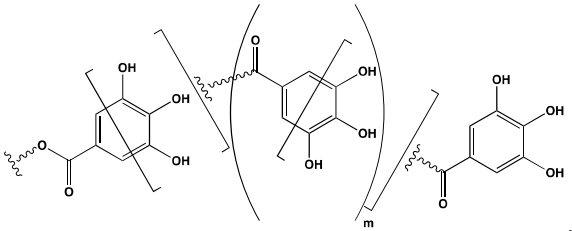
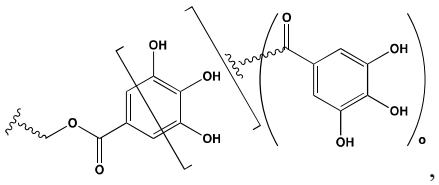
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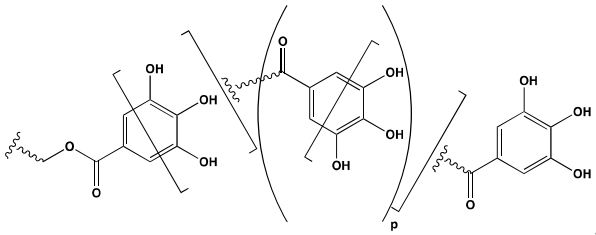
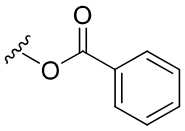
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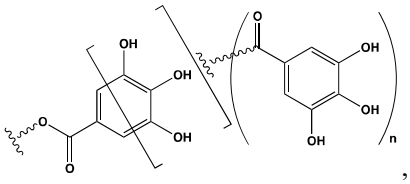
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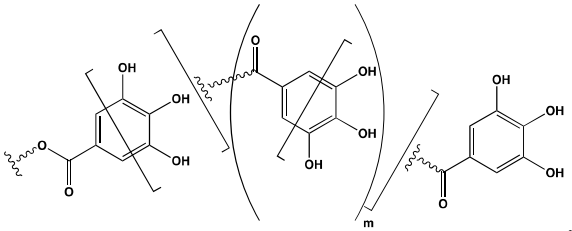
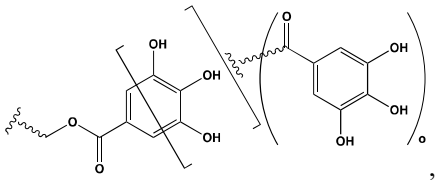
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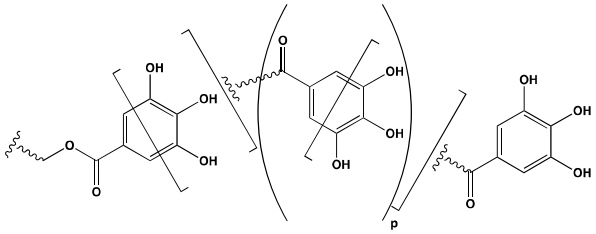
remainining $R_1$, $R_2$, and $R_3$ each independently are ,

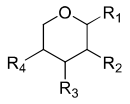
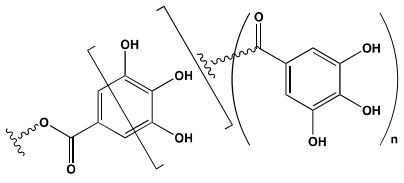
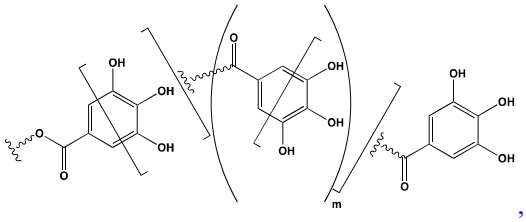
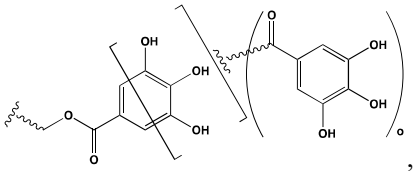
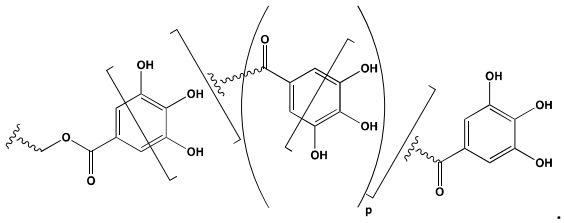
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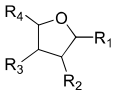
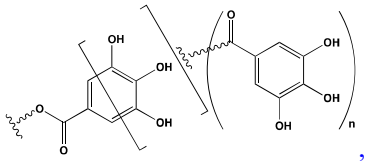
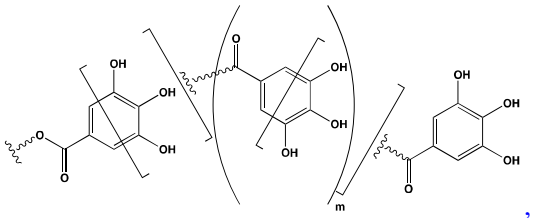
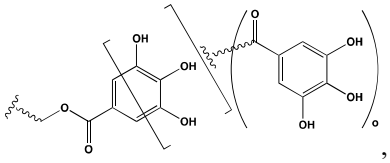
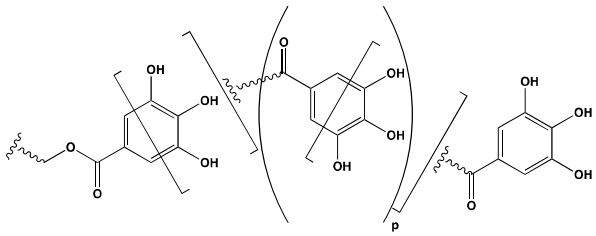
, or . Exemplary compounds include phloroglucinol 6G, phloroglucinol 9G, phloroglucinol 12G, phloroglucinol 15G, phloroglucinol 21G, or Compound 103.

In some examples, the compounds of Formula (I) can have the structure of  (If), in which each of $R_1$ and $R_2$ independently is ,

, , or

. Exemplary compounds include Resorcin 10G or Resorcin 14G.

In some examples, the compounds of Formula (I) may have the structure of  (Ig), in which each of $R_1$, $R_2$, $R_3$, and $R_4$ independently is , , , or . Exemplary compounds include Compound 117, 119, 121, 123, 126, or 128.

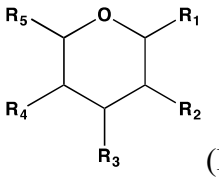
In some examples, the compound of Formula (I) may have the structure of  (Ih), in which each of $R_1$, $R_2$, $R_3$, and $R_4$ independently is , , , or . Exemplary compounds include Compound 134, 136, 138, 140, 142, 144, 146, or 148.

In some examples, the composition for use in any of the methods disclosed herein may comprise a mixture of compounds of Formula (I), each of which contains 2 to 35 (*e.g.*, 4 to 35) galloyl moieties, inclusive.

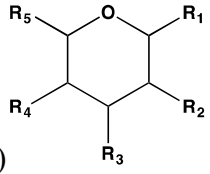
In some examples, about 1-25% of the Formula (I) compounds in the composition have 5 galloyl moieties. Alternatively or in addition, about 10-40% of the Formula (I) compounds in the composition have 6-7 galloyl moieties. Alternatively or in addition, about 20-85% of the Formula (I) compounds in the composition have 8-12 galloyl moieties.

In some examples, the composition for use in any of the methods disclosed herein may comprise a substantially homogenous population of compounds of Formula (I). In this substantially homogenous population of compounds of Formula (I), the majority Formula (I) compounds are identical, i.e., having the same number of galloyl moieities ranging from 2-35, inclusive. In some examples, the majority Formula (I) compounds in the substantially homogenous population has 5 galloyl moieties. In some examples, the majority Formula (I) compounds in the substantially homogenous population has 6 galloyl moieties. In some examples, the majority Formula (I) compounds in the substantially homogenous population has 7 galloyl moieties. In some examples, the majority Formula (I) compounds in the substantially homogenous population has 8 galloyl moieties. In some examples, the majority Formula (I) compounds in the substantially homogenous population has 9 galloyl moieties. In some examples, the majority Formula (I) compounds in the substantially homogenous population has 10 galloyl moieties. In some examples, the majority Formula (I) compounds in the substantially homogenous population has 11 galloyl moieties. In some examples, the majority Formula (I) compounds in the substantially homogenous population has 12 galloyl moieties. In some examples, the majority Formula (I) compounds in the substantially homogenous population has 13 galloyl moieties. In some examples, the majority Formula (I) compounds in the substantially homogenous population has 14 galloyl moieties. In some examples, the majority Formula (I) compounds in the substantially homogenous population has 15 galloyl moieties. In some examples, the majority Formula (I) compounds in the substantially homogenous population has 16 galloyl moieties. In some examples, the majority Formula (I) compounds in the substantially homogenous population has 17 galloyl moieties. In some examples, the majority Formula (I) compounds in the substantially homogenous population has 18 galloyl moieties. In some

examples, the majority Formula (I) compounds in the substantially homogenous population has 19 galloyl moieties. In some examples, the majority Formula (I) compounds in the substantially homogenous population has 20 galloyl moieties. In some examples, the majority Formula (I) compounds in the substantially homogenous population has 21 galloyl moieties. In some examples, the majority Formula (I) compounds in the substantially homogenous population has 22 galloyl moieties. In some examples, the majority Formula (I) compounds in the substantially homogenous population has 23 galloyl moieties. In some examples, the majority Formula (I) compounds in the substantially homogenous population has 24 galloyl moieties. In some examples, the majority Formula (I) compounds in the substantially homogenous population has 25 galloyl moieties. In some examples, the majority Formula (I) compounds in the substantially homogenous population has a number of galloyl moieties ranging from 26-30. In some examples, the majority Formula (I) compounds in the substantially homogenous population has a number of galloyl moieties ranging from 31-35.

In some examples, the compound of Formula (I) is 

(Ia), and none of $R_1$, $R_2$, $R_3$, $R_4$, and $R_5$ is absent (*i.e.*, all present). In some examples, about 1-25% of the Formula (Ia) compounds in the composition for use in any of the methods disclosed herein have 5 galloyl moieties. Alternatively or in addition, about 10-40% of the Formula (Ia) compounds in the composition have 6-7 galloyl moieties. Alternatively or in addition, about 20-85% of the Formula (Ia) compounds in the composition have 8-12 galloyl moieties.

In some examples, the Formula (I) compounds in the composition for use in any of the methods disclosed herein has the structure of is Formula (I) 

(Ia) as disclosed herein. In such a composition, about 1-8% of the Formula (Ia) compounds have 5 galloyl moieties, about 15-35% of the Formula (Ia) compounds have 6-7 galloyl moieties, and about 60-80% of the Formula (Ia) compounds have 8-12 galloyl moieties.

In some examples, the composition for use in any of the methods disclosed herein can be a nutraceutical composition. In some examples, the composition can be a health food. In some examples, the composition can be a medical food. In other examples, the composition can be a pharmaceutical composition. Any of the compositions disclosed herein may be placed in a medical device. Examples include, but are not limited to, an inhaler, a nebulizer, a nasal spray, and a vaporization aerosol device for administration to the subject.

In some examples, the coronavirus infection is an infection caused by a coronavirus. Examples include SARS-CoV-2, severe acute respiratory syndrome coronavirus (SARS-CoV), middle east respiratory syndrome coronavirus (MERS-CoV), 229E alpha coronavirus, NL63 alpha coronavirus, OC43 beta coronavirus, and HKU1 beta coronavirus. In specific examples, the coronavirus is SARS-CoV-2.

In some examples, the compound or composition is administered to the subject by oral administration, by injections, by topical administration, or by inhalation.

In some examples, the subject is a human subject. In some examples, the subject is administered the composition continuously or at a frequency of every five minutes to one time every three months. In some examples, the human subject is treated concurrently with, prior to, or subsequent to, one or more additional anti-viral agents.

In some examples, the one or more additional anti-viral agents may comprise a viral entry inhibitor, a viral uncoating inhibitor, a viral reverse transcriptase inhibitor, a viral protein synthesis inhibitor, a viral protease inhibitor, a viral polymerase inhibitor, a viral integrase inhibitor, an interferon, or a combination thereof.

Exemplary viral entry inhibitors include, but are not limited to, maraviroc, enfuvirtide, ibalizumab, fostemsavir, plerixafor, epigallocatechin gallate, vicriviroc, aplaviroc, maraviroc, tromantadine, nitazoxanide, umifenovir, and podofilox.

Exemplary viral uncoating inhibitors include, but are not limited to, amantadine, rimantadine, and pleconaril.

Exemplary viral reverse transcriptase inhibitors include, but are not limited to, zidovudine, didanosine, zalcitabine, stavudine, lamivudine, abacavir, emtricitabine, entecavir, truvada, nevirapine, raltegravir, and tenofovir disoproxil.

Exemplary viral protease inhibitors include, but are not limited to, fosamprenavir, ritonavir, atazanavir, nelfinavir, indinavir, saquinavir, saquinavir, famciclovir, fomivirsen, lopinavir, ribavirin, darunavir, oseltamivir, and tipranavir. Exemplary

viral polymerase inhibitors include, but are not limited to, amatoxins, rifamycin, cytarabine, fidaxomicin, tagetitoxin, foscarnet sodium, idoxuridine, penciclovir, sofosbuvir, trifluridine, valacyclovir, valganciclovir, vidarabine, and remdesivir.

Exemplary viral integrase inhibitors include, but are not limited to, raltegarvir, elvitegravir, dolutegravir, bictegravir, and cabotegravir.

Exemplary interferons include, but are not limited to, type I interferon, type II interferon, type III interferon, and peginterferon alfa-2a.

In other examples, the present disclosure provides an aerosol dispenser for treating coronavirus infection. The aerosol dispenser may comprise a container, in which a composition comprising any of the Formula (I) compounds or the mixture of the Formula (I) compounds disclosed herein are placed. The Formula (I) compounds or the mixture thereof are suspended in a liquid propellant. Exemplary aerosol dispenser includes, but are not limited to, an inhaler, a nebulizer, a nasal spray, or a vaporization aerosol device. In some examples, the composition comprises microparticles that comprise the one or more Formula (I) compounds, and optionally wherein the microparticles have a mass median diameter ($D_{50}$) of about 1 μM to about 5 μM.

Also within the scope of the present disclosure are compositions comprising one or more compounds of Formula (I) as disclosed herein for use in inhibiting coronavirus and/or treating coronavirus infection (e.g., infection caused by SARS-CoV-2), as well as such compositions for manufacturing a medicament for use in treating the coronavirus infection.

The details of one or more examples of the disclosure are set forth in the description below. Other features or advantages of the present disclosure will be apparent from the following drawings and detailed description of several examples, and also from the appended claims.

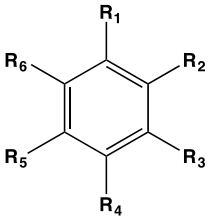
## BRIEF DESCRIPTION OF THE DRAWINGS

**Figure 1** is a chart showing the protease activity of 2019-nCoV 3CLPro in response to exemplary Formula (I) compounds at the concentration of 3 μM.

**What Is Claimed Is:**

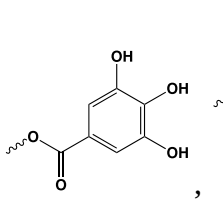
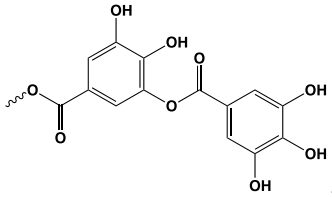
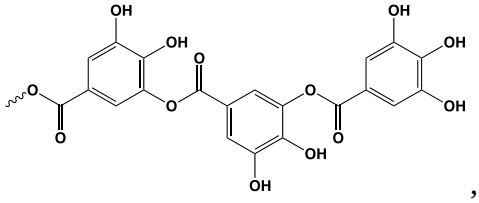
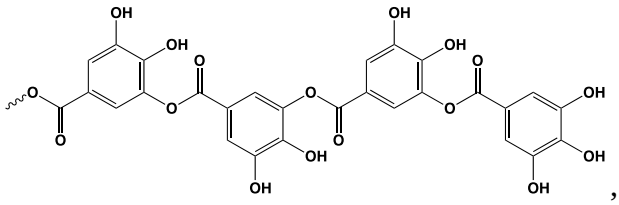
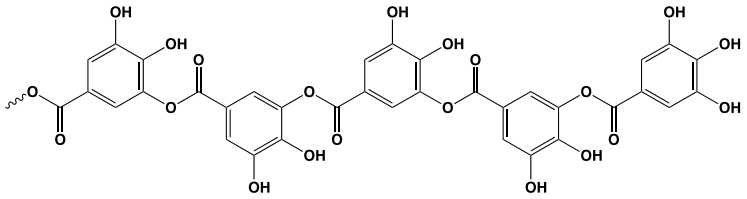
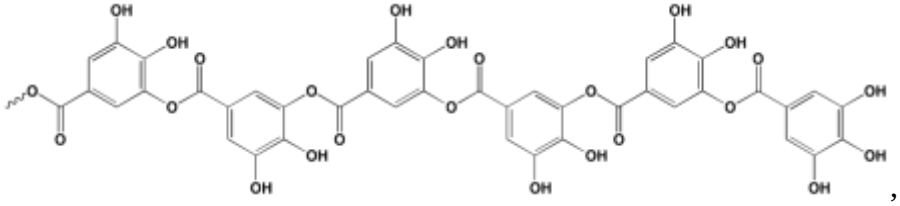
1. Use of a composition in the manufacture of a medicament for treating coronavirus infection, wherein the composition comprises a compound of a formula selected from the group consisting of:

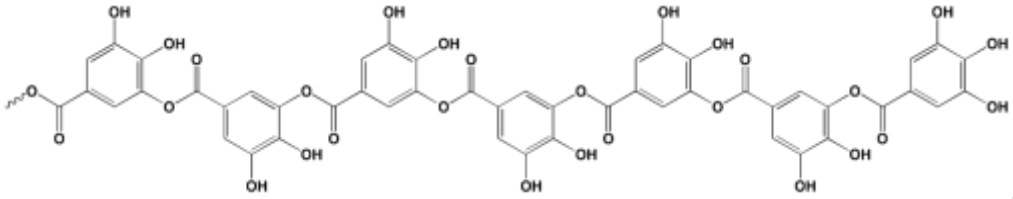
(a) Formula (Ic)

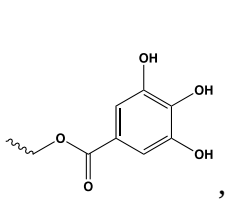
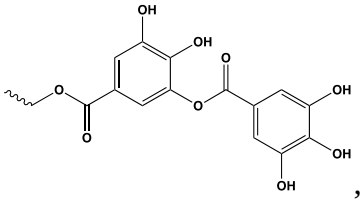
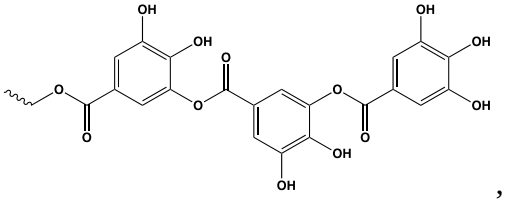


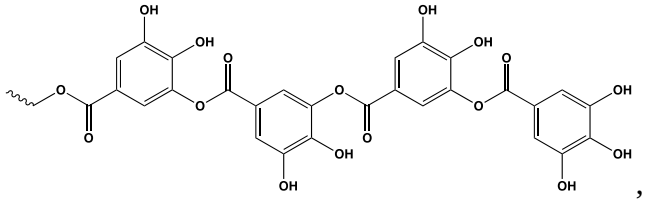

(Ic),

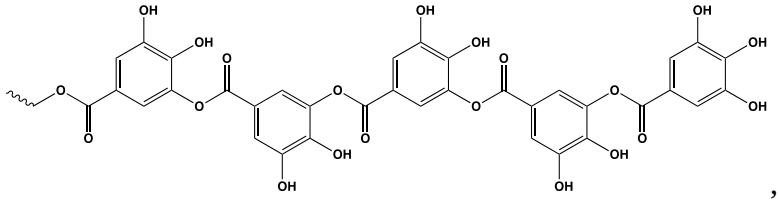
in which $R_1$, $R_2$, $R_3$, $R_4$, $R_5$, and $R_6$ are each, independently, selected from the group consisting of:

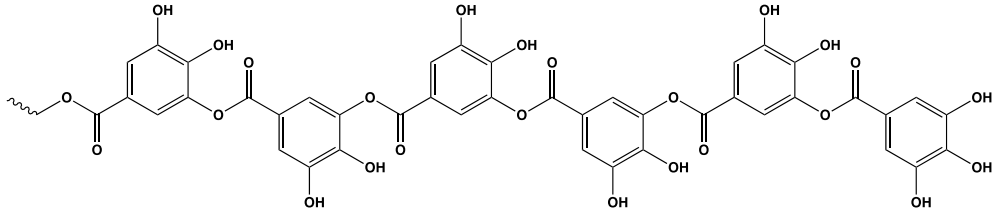

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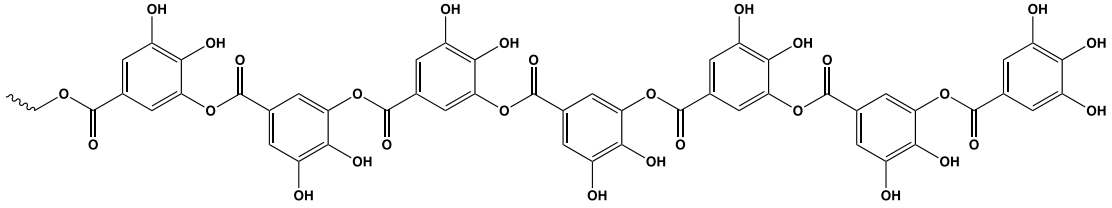

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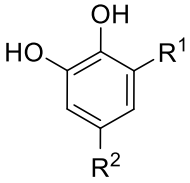

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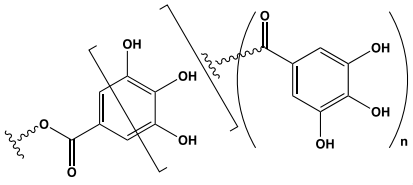

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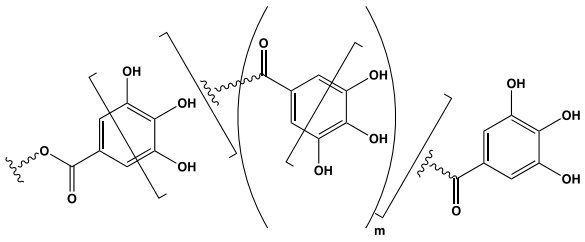
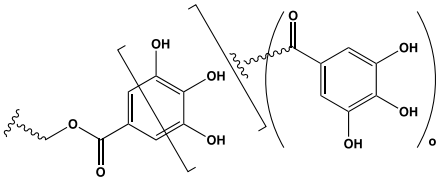
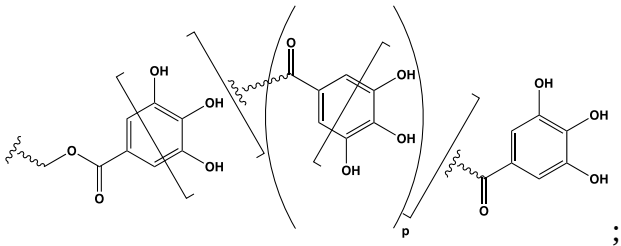
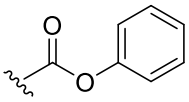

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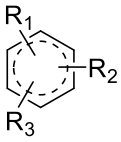
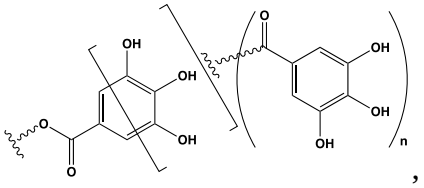
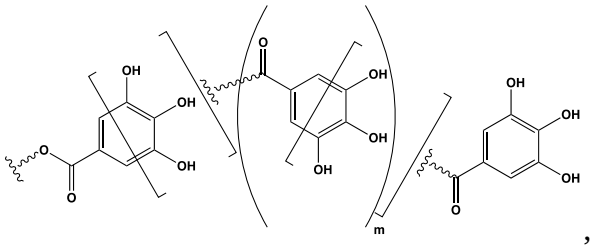
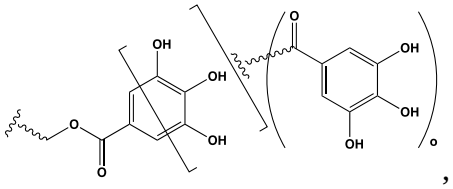
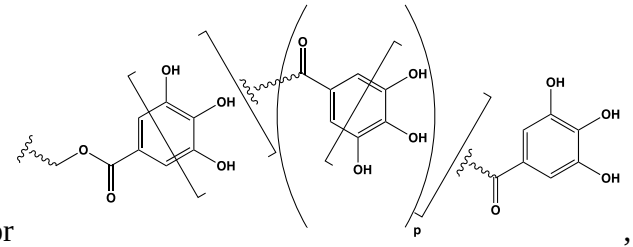
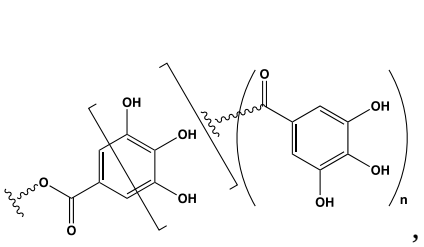
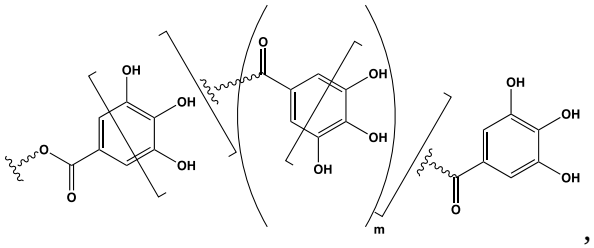
(b) Formula (Id)

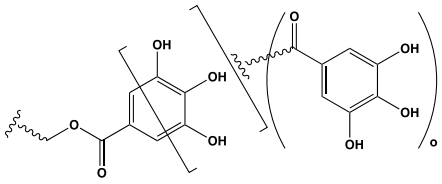
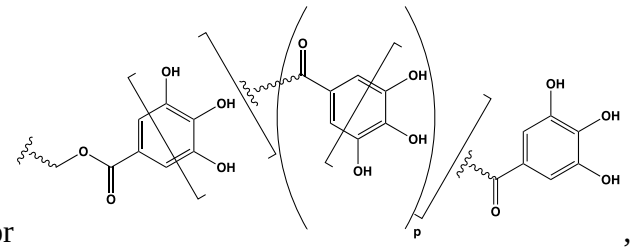
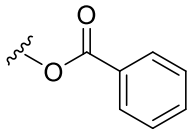


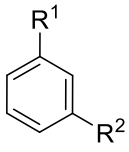
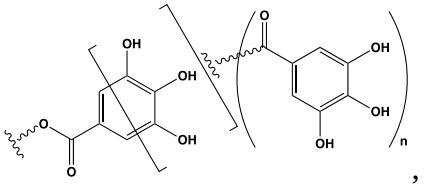
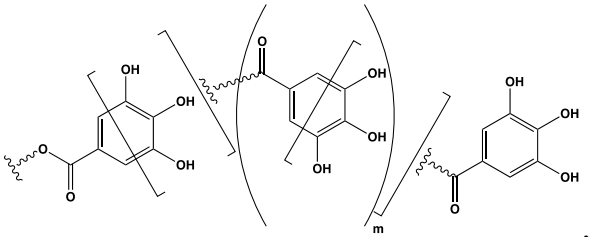
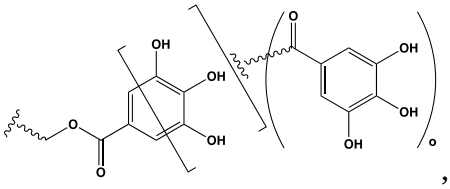
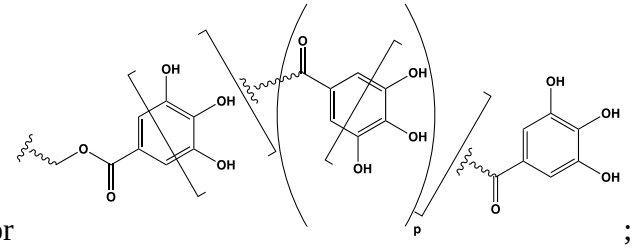
(Id), in which $R^1$ is

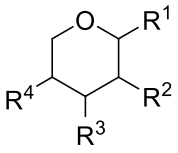
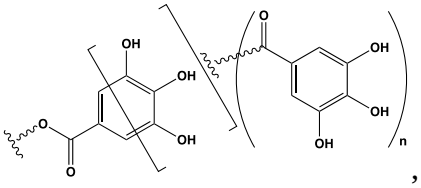
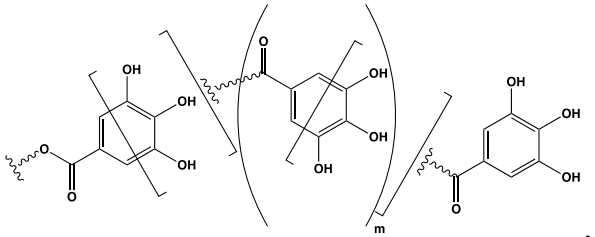
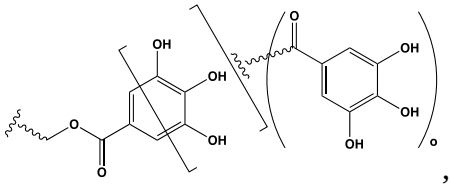
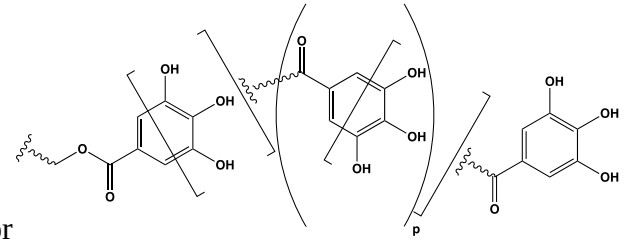

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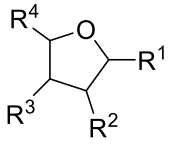
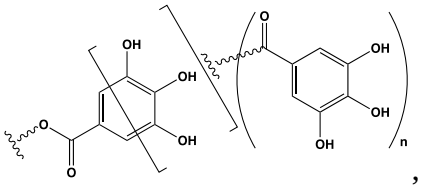
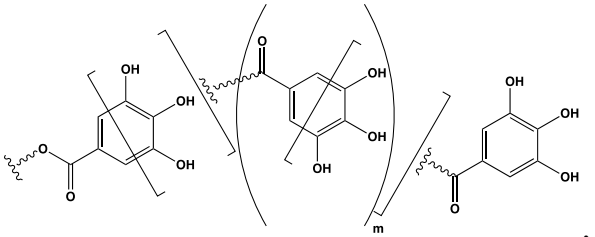
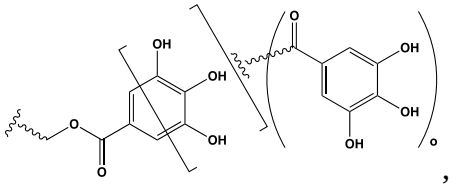
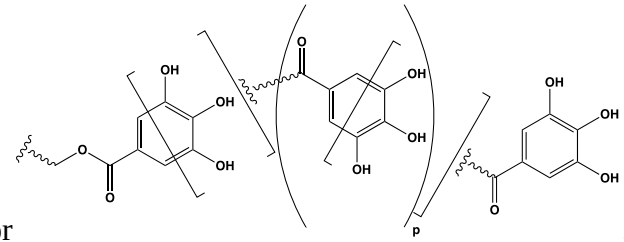

, 
, or 
; and $R^2$ is –COOH or 
;

(c) Formula (Ie) 
(Ie), in which at least one of $R^1$, $R^2$, and $R^3$ is 
, 
, 
, or 
, and the remaining of $R^1$, $R^2$, and $R^3$ each independently are selected from the group consisting of 
, 
,

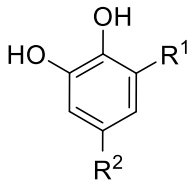

, or 
, and 
;

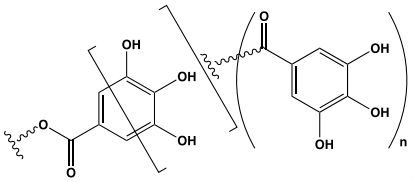
(d) Formula (If):  (If), in which each of $R^1$ and $R^2$, independently, is 
, 
, 
, or 
;

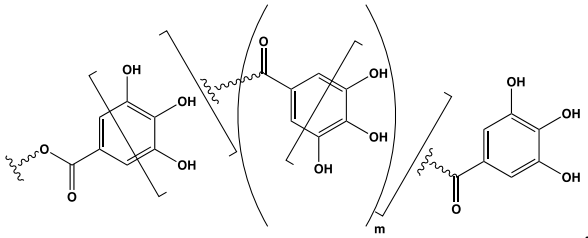
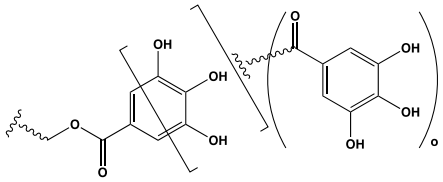
(e) Formula (Ig):  (Ig), in which each of $R^1$, $R^2$, $R^3$, and $R^4$, independently, is , , , or ; and

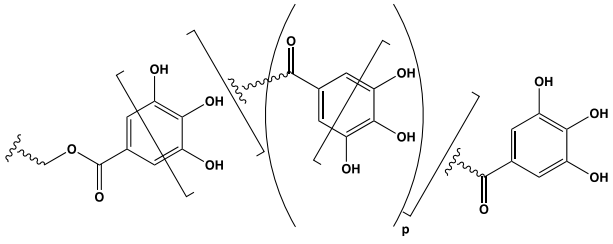
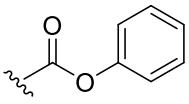
(f) Formula (Ih):  (Ih), in which each of $R^1$, $R^2$, $R^3$, and $R^4$, independently, is , , , or , wherein n and o are independently 0 or 1 and wherein n and m are independently 1, 2, 3, 4 or 5.

2. The use of claim 1, wherein the compound is of the Formula (Id):

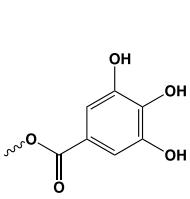
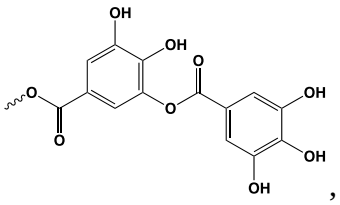
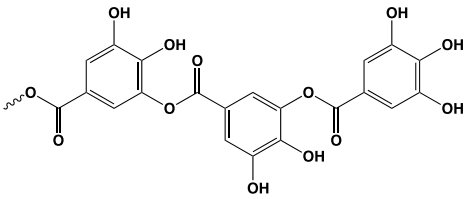


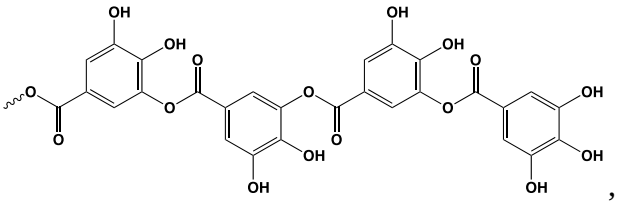
(Id), in which $R^1$ is ,

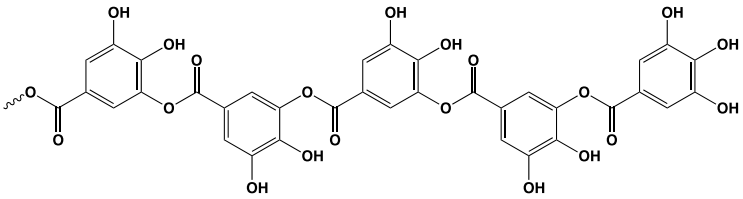
, , or

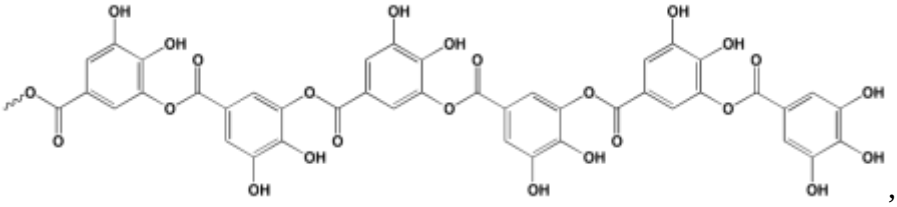
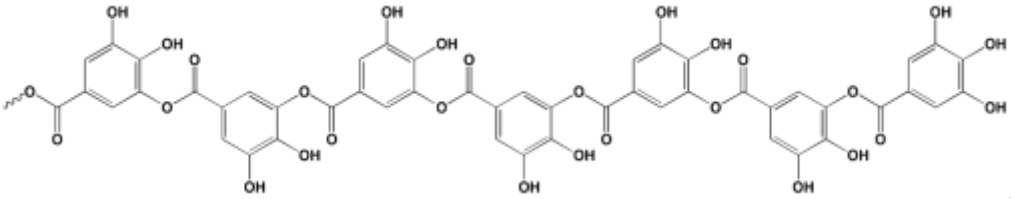
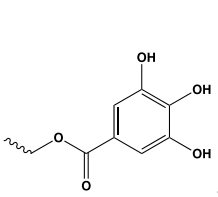
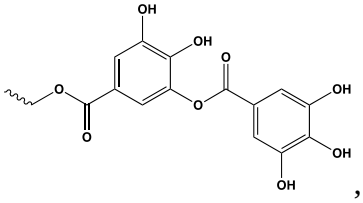
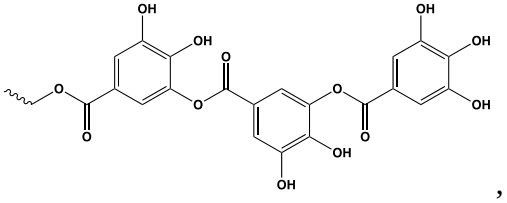
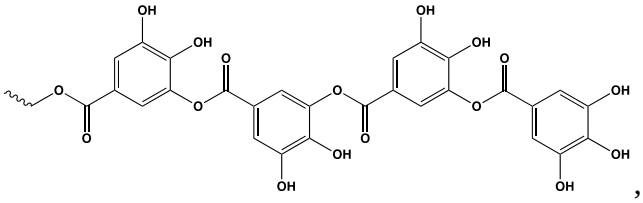
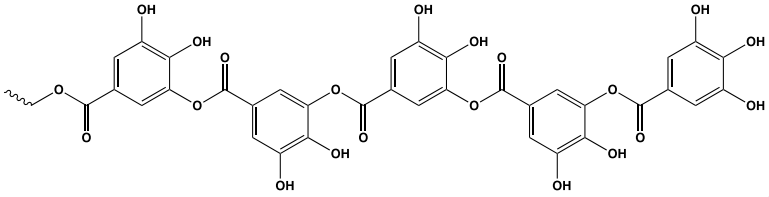
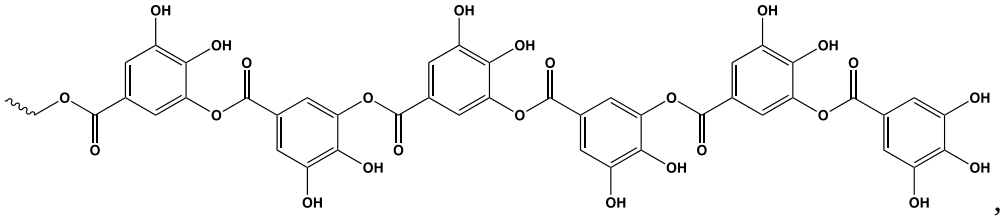
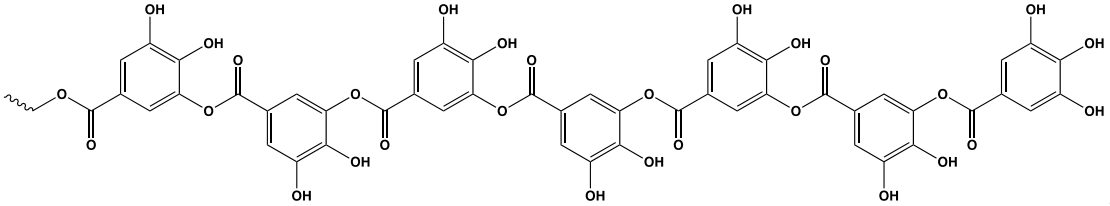
; and $R^2$ is –COOH or .

3. The use of claim 2, wherein $R^1$ is selected from the group consisting of:

, , ,

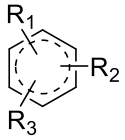
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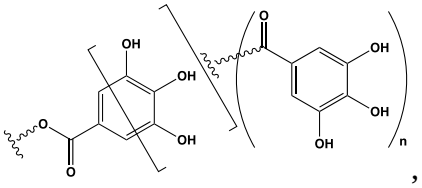
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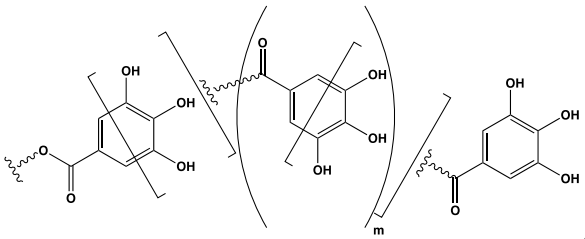
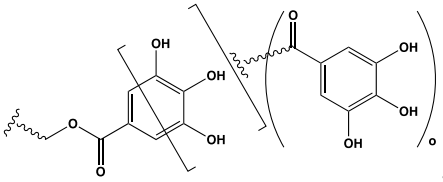

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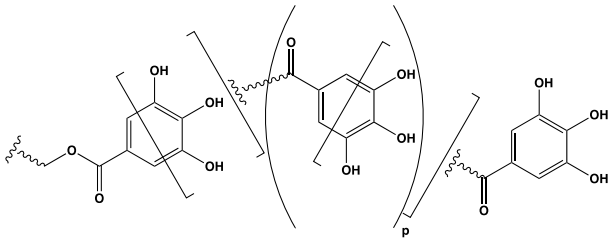
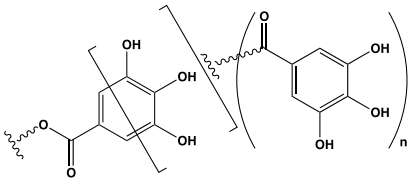
4. The use of claim 3, wherein the compound of Formula (Id) is phenol 3G, phenol 5G, phenol 7G, Compound 14, Compound 18, or Compound 149.

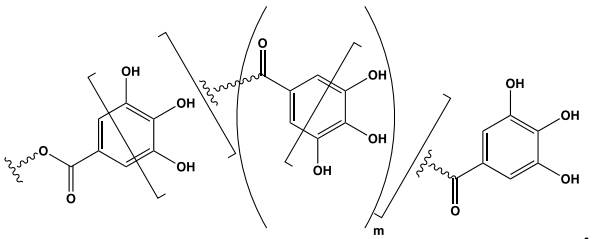
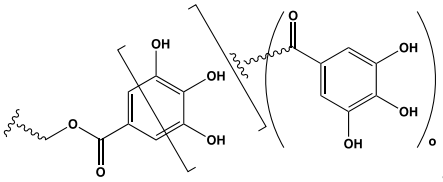
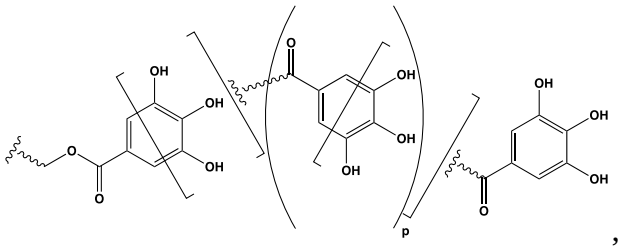
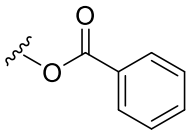
5. The use of claim 1, wherein the compound is of the Formula (Ie)



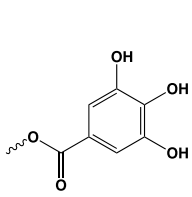
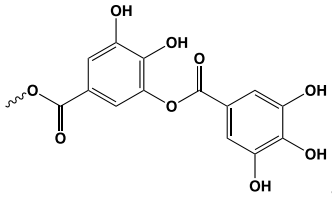
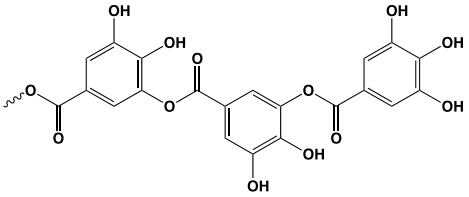
(Ie), in which at least one of $R^1$, $R^2$, and $R^3$ is ,

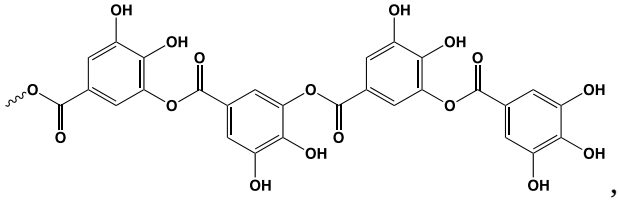
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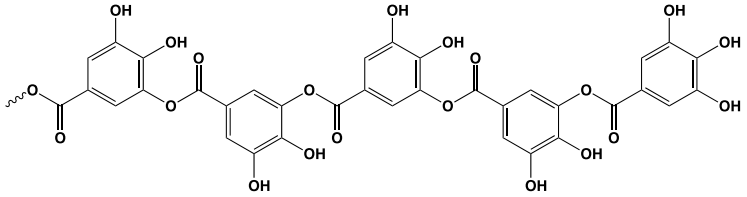
, and the remaining of $R^1$, $R^2$, and $R^3$ each independently are selected from the group consisting of ,

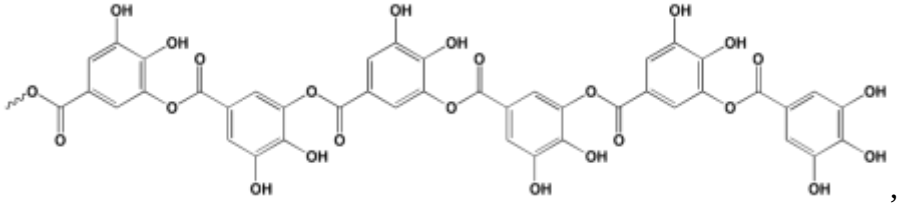

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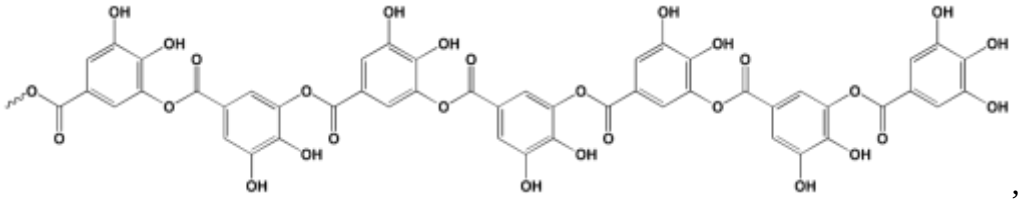
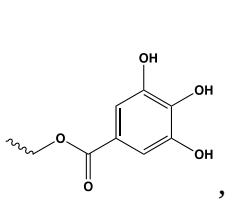
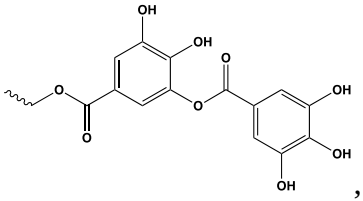
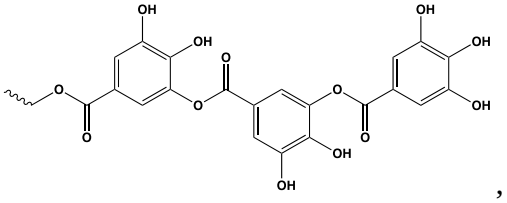
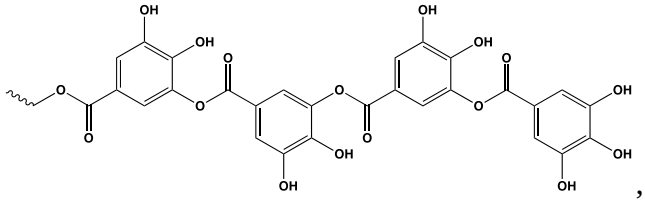
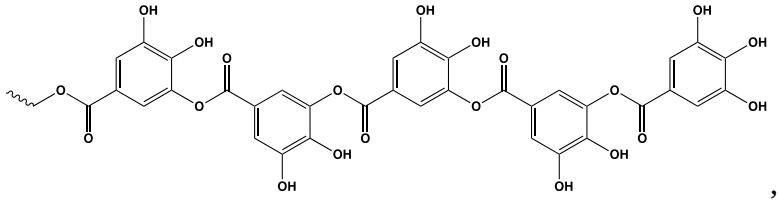
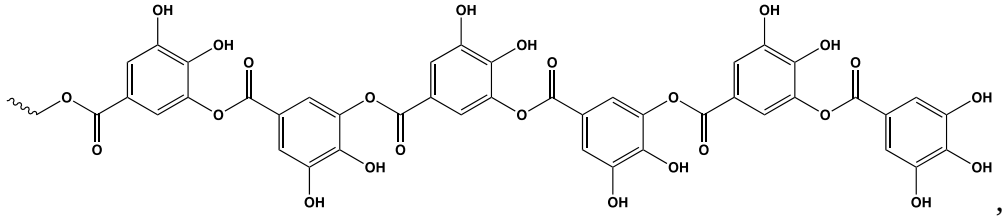
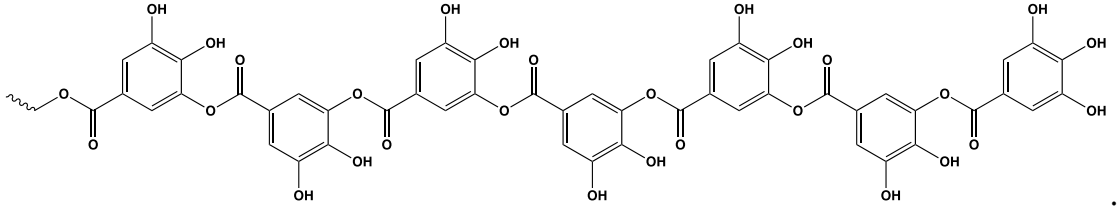
6. The use of claim 5, wherein each of $R^1$, $R^2$, and $R^3$, independently, is selected from the group consisting of:


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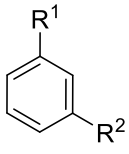
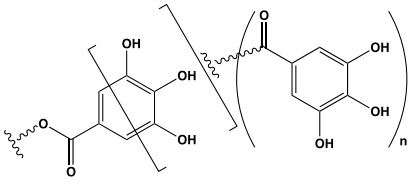
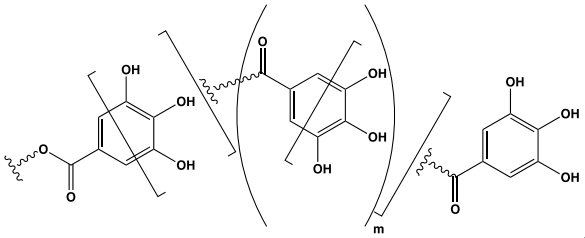
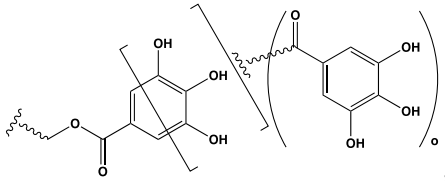
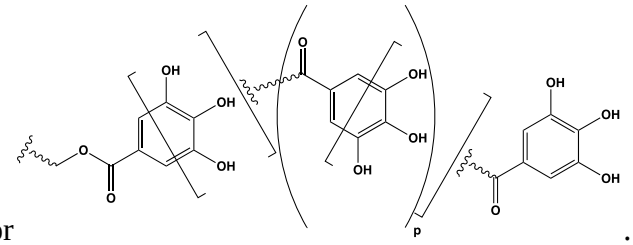

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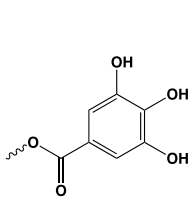
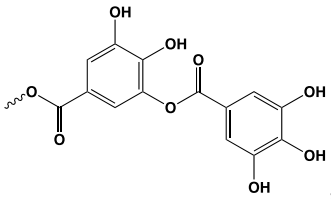
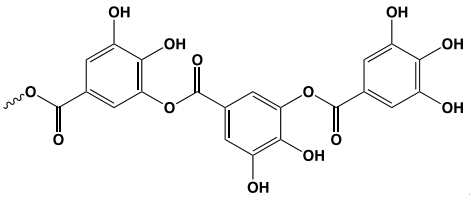
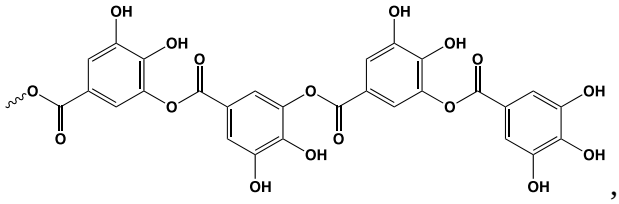

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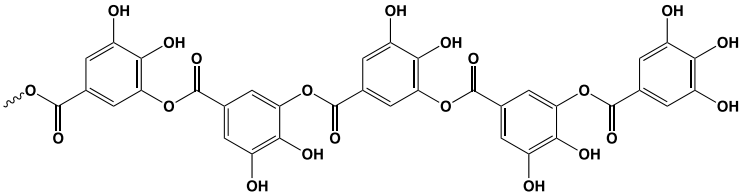
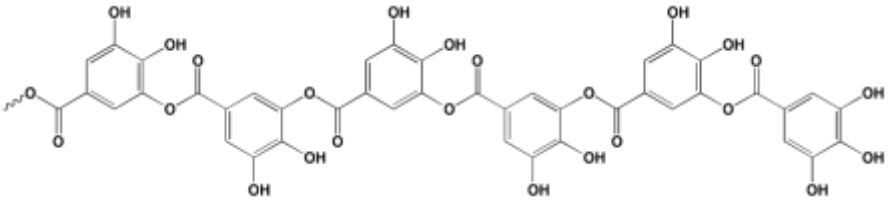
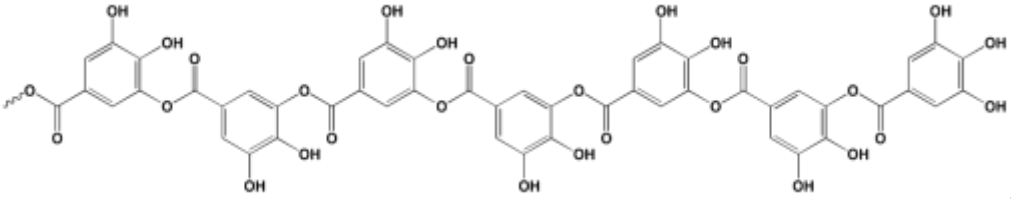
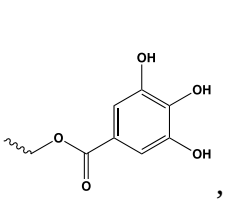
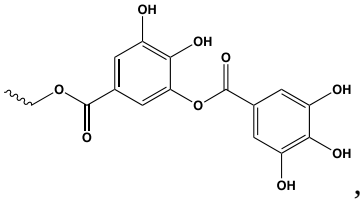
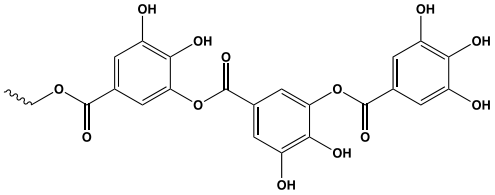
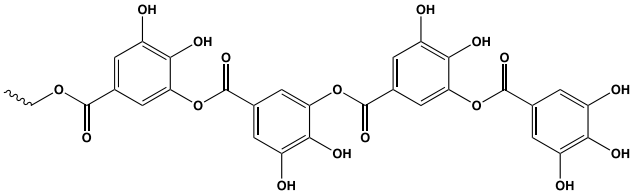
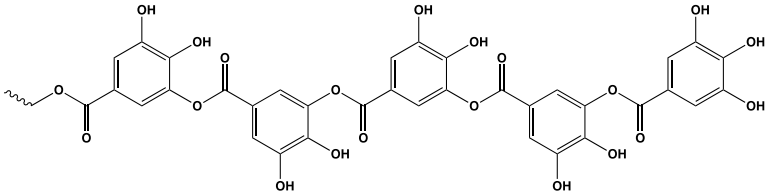

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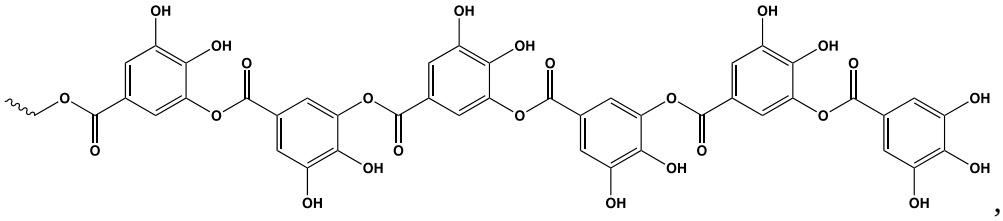
7. The use of claim 5, wherein the compound of Formula (Ie) is phloroglucinol 6G, phloroglucinol 9G, phloroglucinol 12G, phloroglucinol 15G, phloroglucinol 21G, or Compound 103.

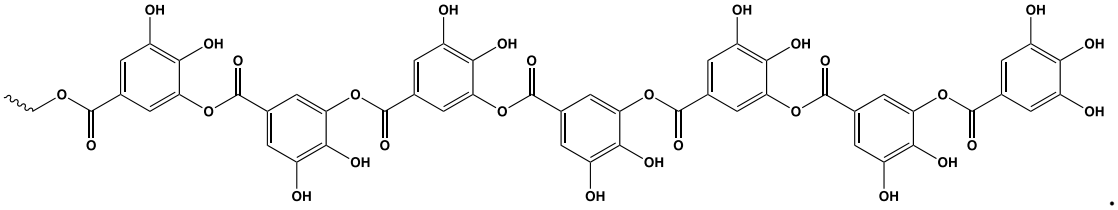
8. The use of claim 1, wherein the compound is of the Formula (If)  (If), in which each of $R^1$ and $R^2$, independently, is , , , or .

9. The use of claim 8, wherein each of $R^1$ and $R^2$, independently, is selected from the group consisting of:

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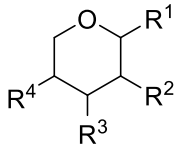

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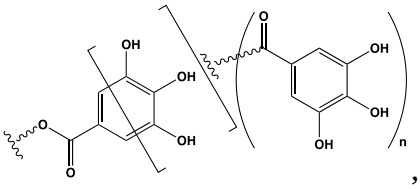

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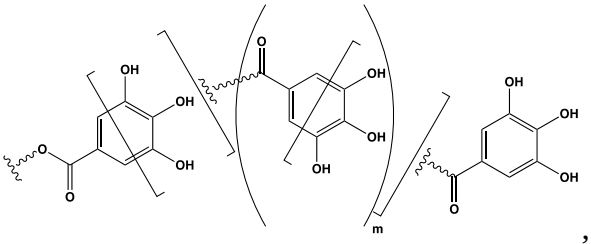
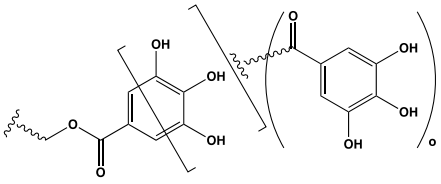

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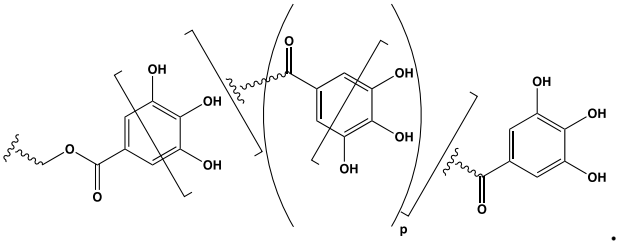
10. The use of claim 9, wherein the compound of Formula (If) is Resorcin 10G or Resorcin 14G.

11. The use of claim 1, wherein the compound is of the Formula (Ig)

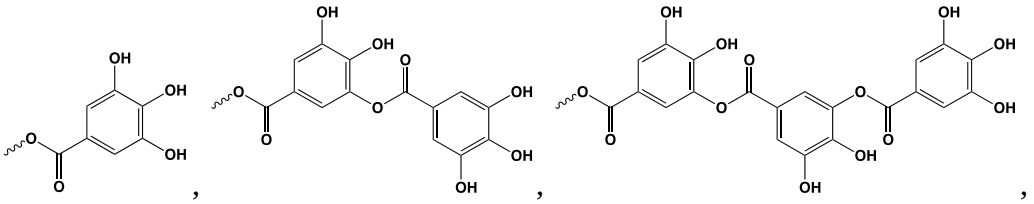


(Ig), in which each of $R^1$, $R^2$, $R^3$, and $R^4$, independently, is ,

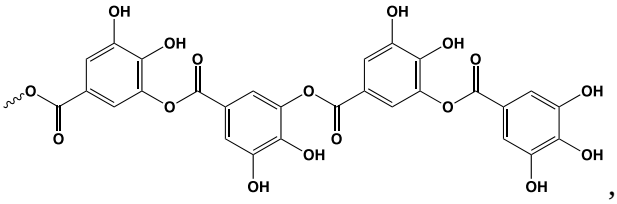
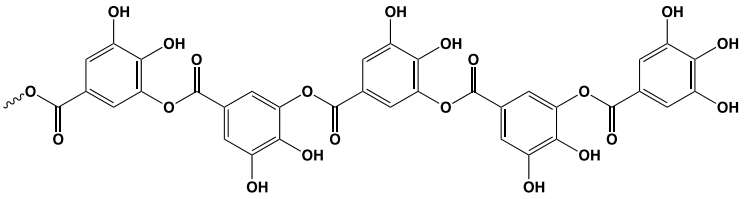
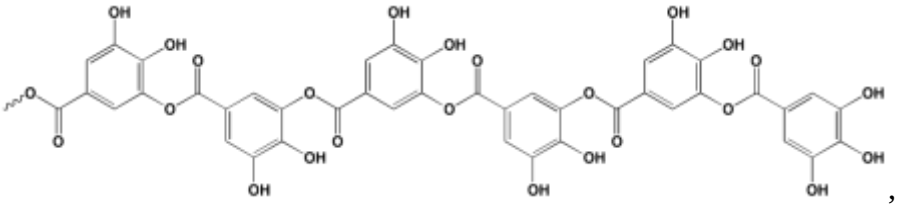
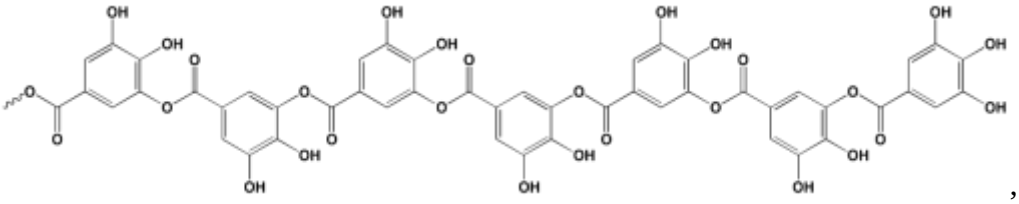
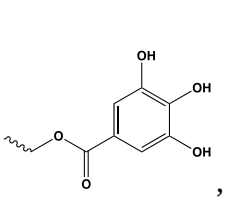
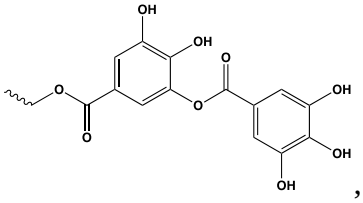
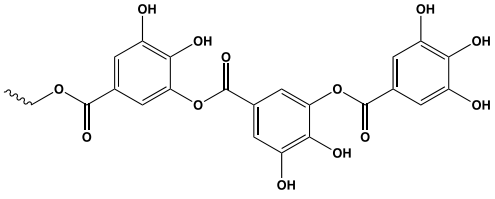
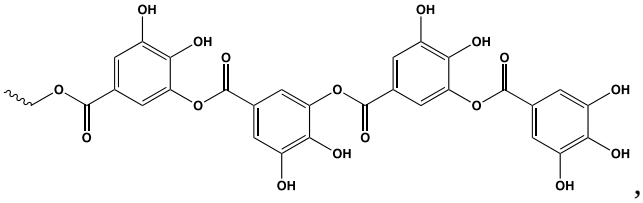
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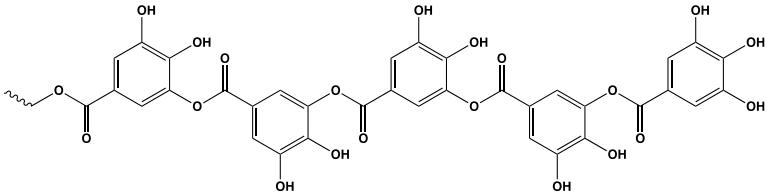
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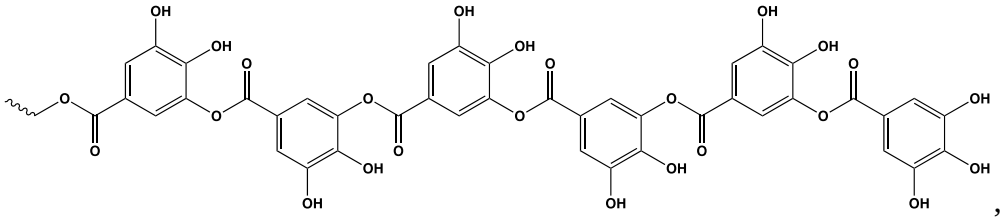
12. The use of claim 11, wherein each of $R^1$, $R^2$, $R^3$, and $R^4$, independently, is selected from the group consisting of:

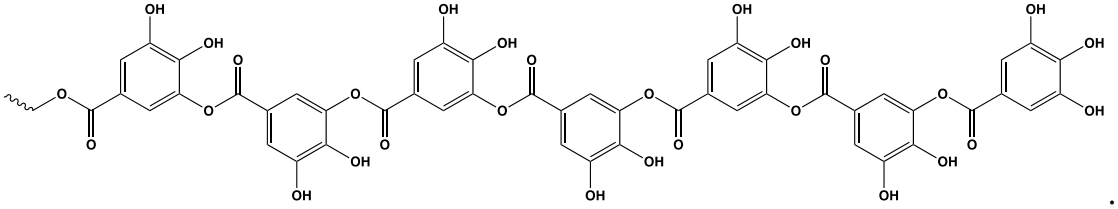

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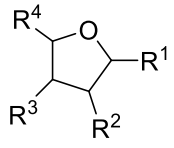

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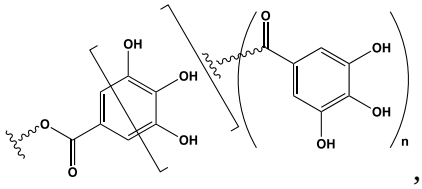

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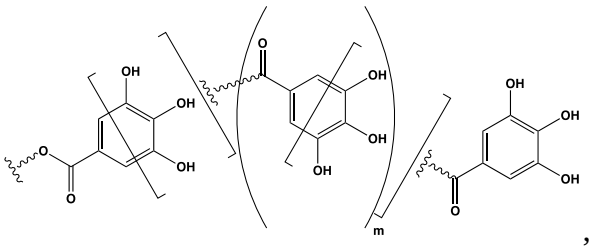
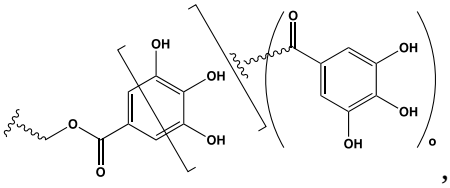
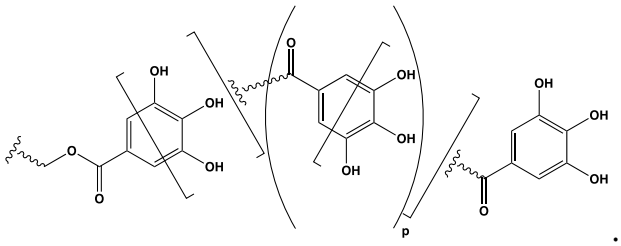
13. The use of claim 12, wherein the compound of Formula (Ig) is Compound 117, 119, 121, 123, 126, or 128.

14. The use of claim 1, wherein the compound is of the Formula (Ih)

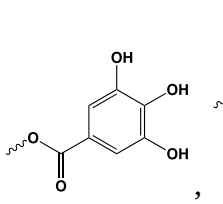
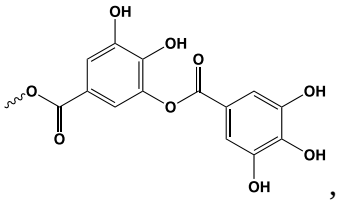
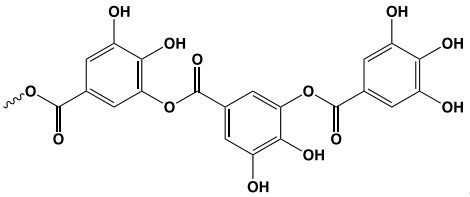
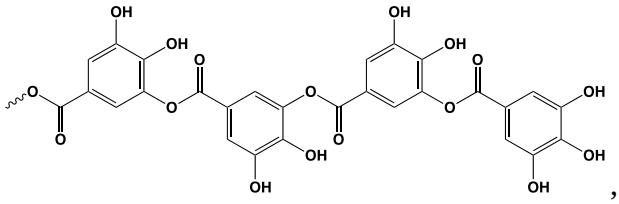
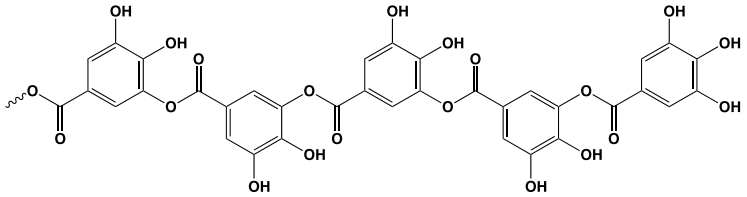
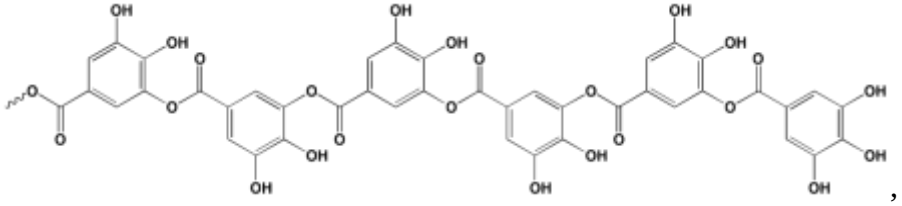


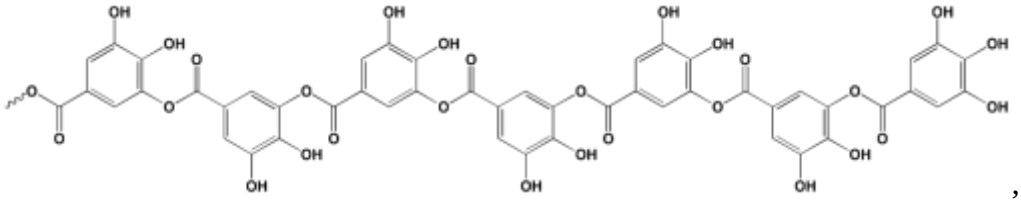
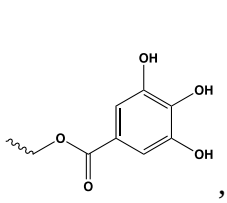
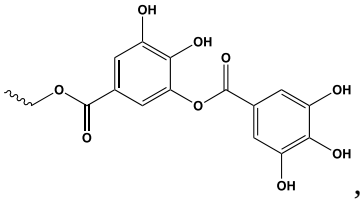
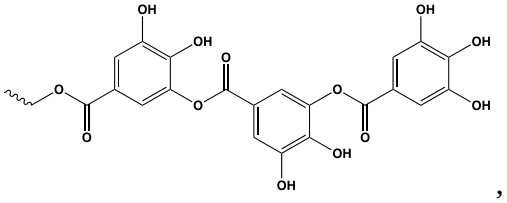
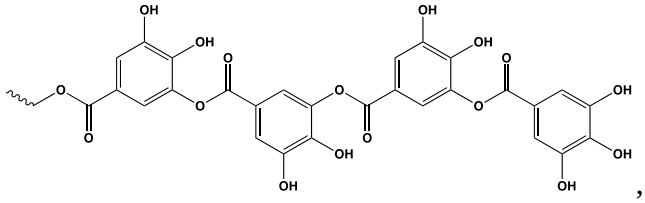
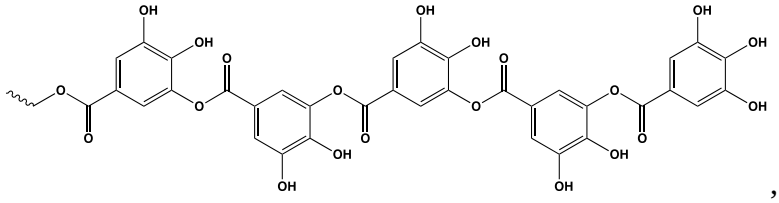
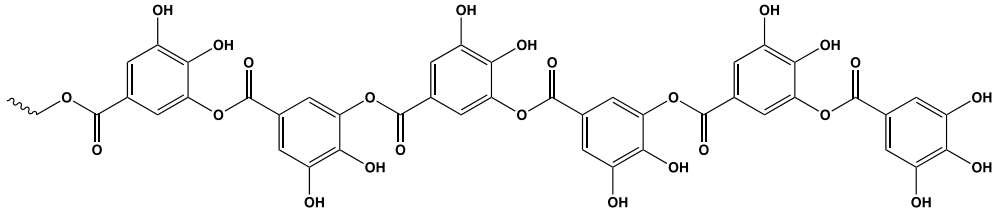
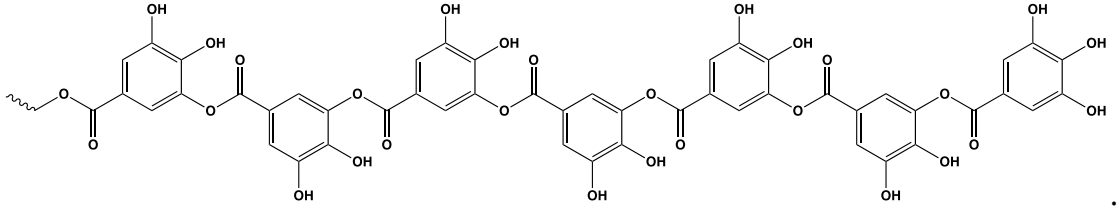
(Ih), in which each of $R^1$, $R^2$, $R^3$, and $R^4$, independently, is


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, or 
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15. The use of claim 14, wherein each of $R^1$, $R^2$, $R^3$, and $R^4$, independently, is selected from the group consisting of:


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16. The use of claim 15, wherein the compound of Formula (Ij) is Compound 134, 136, 138, 140, 142, 144, 146, or 148.

17. The use of claim 1, wherein the composition is a nutraceutical composition, a health food, or a medical food.

18. The use of claim 1, wherein the coronavirus infection is an infection caused by a coronavirus SARS-CoV-2.

19. The use of claim 1, wherein the composition is to be administered to the subject by oral administration, by injection, by topical administration, or by inhalation.

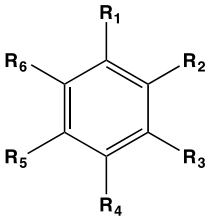
20. The use of claim 1, wherein the composition is placed in a medical device selected from the group consisting of an inhaler, a nebulizer, a nasal spray, and a vaporization aerosol device to be administered to the subject.

21. The use of claim 1, wherein the subject is a human subject.

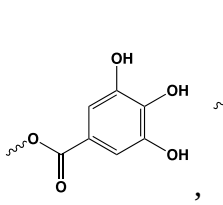
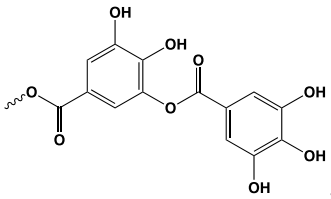
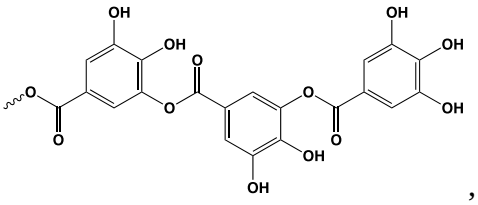
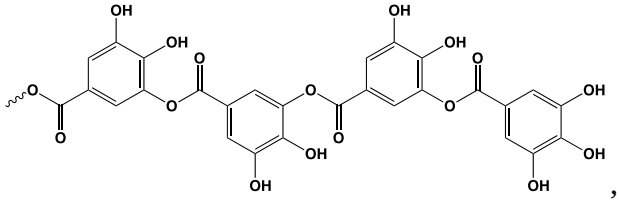
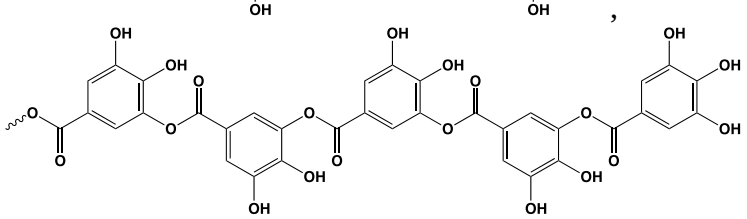
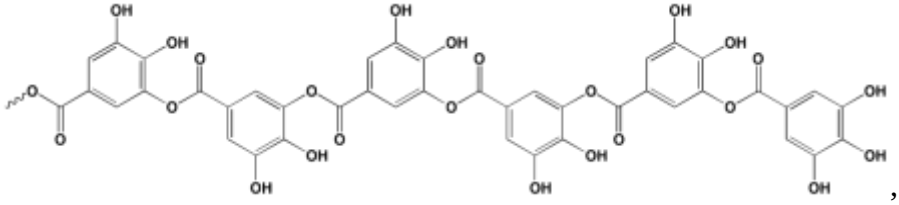
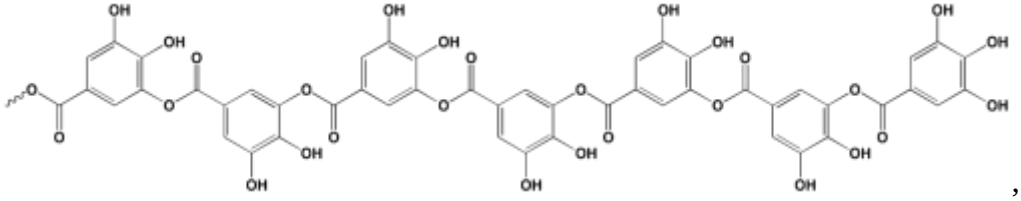
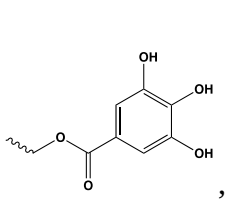
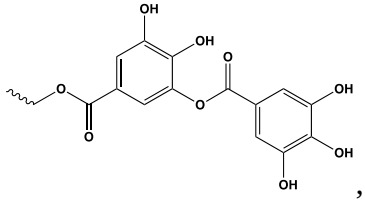
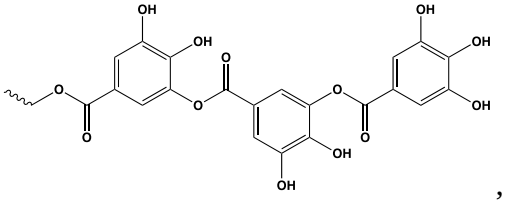
22. The use of claim 1, wherein the subject is to be administered the composition continuously or at a frequency of every five minutes to one time every three months.

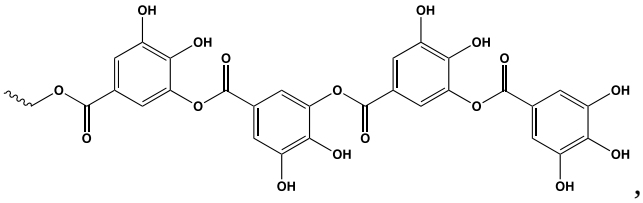
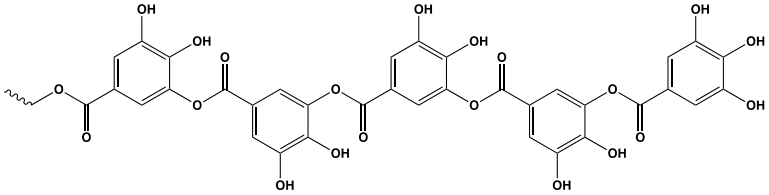
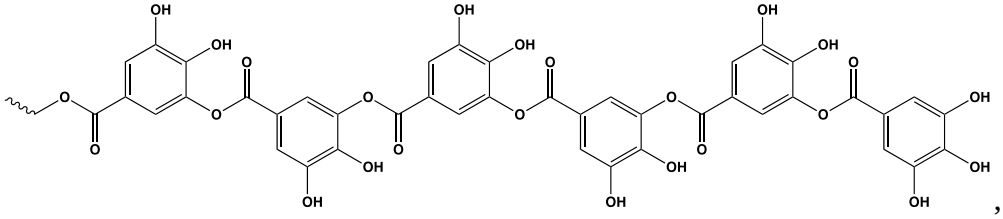
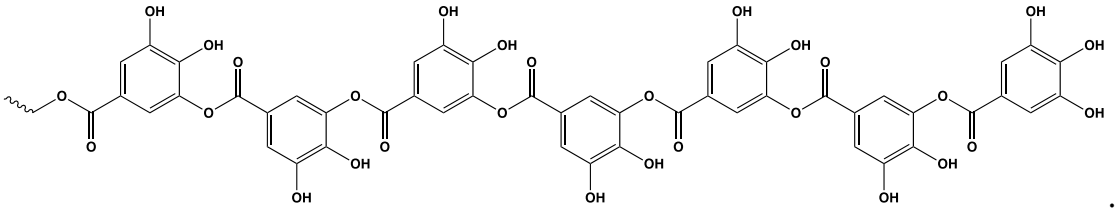
23. The use of claim 1, wherein the human subject is to be treated concurrently with, prior to, or subsequent to, one or more additional anti-viral agents.

24. The use of claim 1, wherein the compound is of the Formula (Ic)



(Ic), in which $R_1$, $R_2$, $R_3$, $R_4$, $R_5$, and $R_6$ are each, independently, selected from the group consisting of:

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