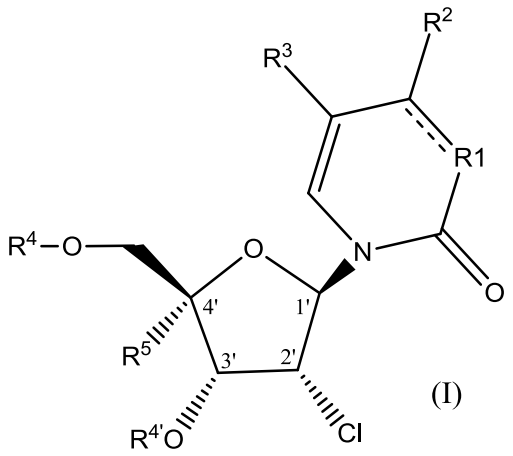
What is Claimed:

1. A compound of Formula I, or a pharmaceutically acceptable salt thereof:



(I)

wherein:

R^1 is selected from NH and N;

the dashed line (----), in conjunction with the solid line to which it is parallel, represents an optional double bond;

R^2 is selected from oxo or NH_2, with the proviso that, when R^2 is oxo, R^1 is NH and the bond represented by the dashed line (----), in conjunction with the solid line to which it is parallel, is a single bond; and with the proviso that, when R^2 is NH_2, R^1 is N and the bond represented by the dashed line (----), in conjunction with the solid line to which it is parallel, is a double bond;

R^3 is selected from the group of H, F, CH_2F, CHF_2, and CF_3;

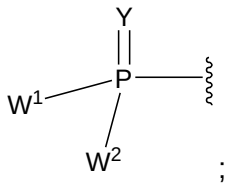
R^5 is selected from the group of CN; unsubstituted C_1-C_4 alkyl; C_1-C_4 alkyl substituted with 1, 2, or 3 halogens; C_1-C_4 alkyl substituted with 1 substituent selected from –S-CH_3 and –O-CH_3; C_2-C_4 alkenyl; C_2-C_4 alkynyl; unsubstituted C_3-C_6 cycloalkyl; and C_3-C_6 cycloalkyl substituted by 1, 2, or 3 substituents selected from F and CH_3;

$R^{4'}$ is selected from the group of H, -C(=O)R^6, -C(=O)OR^6, and -C(=O)NR^6R^7;

R^4 is selected from the group of H, -C(=O)R^6, -C(=O)OR^6, and -C(=O)NR^6R^7;

or

a) R^4 is a group of the formula:



;

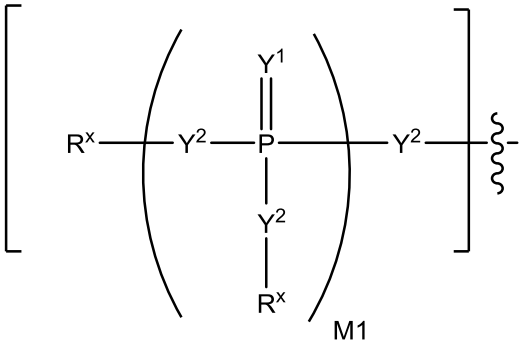
wherein:

each Y is O, S, NR, $^+N(O)(R)$, N(OR), $^+N(O)(OR)$, or $N–NR_2$; and

W^1 and W^2, when taken together, are $–Y^3(C(R^y)_2)_3Y^3$-;

or one of W^1 or W^2 together with $R^{4'}$ is $–Y^3$- and the other of W^1 or W^2 is Formula Ia;

or W^1 and W^2 are each, independently, a group of the Formula Ia:



Formula Ia

wherein:

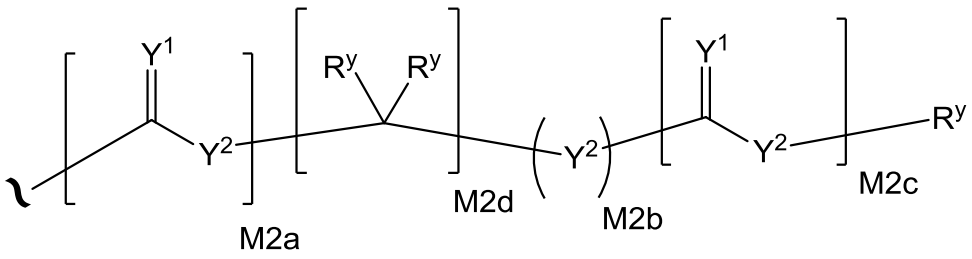
each Y^1 is, independently, O, S, NR, $^+N(O)(R)$, N(OR), $^+N(O)(OR)$, or $N–NR_2$;

each Y^2 is independently a bond, O, CR_2, -O-CR_2-, NR, $^+N(O)(R)$, N(OR), $^+N(O)(OR)$, $N–NR_2$, S, S–S, S(O), or $S(O)_2$;

each Y^3 is a single bond;

M1 is 0, 1, 2, or 3;

each R^x is independently R^y or the formula:



wherein:

each M2a, M2b, and M2c is independently 0 or 1;

M2d is 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 or 12;

each R^y is independently H, F, Cl, Br, I, OH, R, -C(=Y^1)R, -C(=Y^1)OR, -C(=Y^1)N(R)$_2$, -N(R)$_2$, -$^+$N(R)$_3$, -SR, -S(O)R, -S(O)$_2$R, -S(O)(OR), -S(O)$_2$(OR), -OC(=Y^1)R, -OC(=Y^1)OR, -OC(=Y^1)(N(R)$_2$), -SC(=Y^1)R, -SC(=Y^1)OR, -SC(=Y^1)(N(R)$_2$), -N(R)C(=Y^1)R, -N(R)C(=Y^1)OR, -N(R)C(=Y^1)N(R)$_2$, –SO_2NR_2, –CN, –N_3, –NO_2, –OR, or W^3;

or when taken together, two R^y on the same carbon atom form a carbocyclic ring having 3, 4, 5, 6, or 7 carbon ring atoms;

or when taken together, two R^y on the same carbon atom form along with the carbon atom a heterocycle having 3, 4, 5, 6, or 7 ring atoms wherein one ring atom is selected from O or N and all other ring atoms are carbon;

each R is independently H, (C_1-C_8) alkyl, (C_1-C_8) substituted alkyl, (C_2-C_8)alkenyl, (C_2-C_8) substituted alkenyl, (C_2-C_8) alkynyl, (C_2-C_8) substituted alkynyl, C_6–C_{10} aryl, C_6–C_{10} substituted aryl, a 3- to 10-membered heterocycle, a substituted 3- to 10-membered heterocycle, a 5- to 12-membered heteroaryl, a substituted 5- to 12-membered heteroaryl, arylalkyl, substituted arylalkyl, heteroarylalkyl, or substituted heteroarylalkyl; and

W^3 is W^4 or W^5;

W^4 is R, -C(Y^1)R^y, -C(Y^1)W^5, -SO_2R^y, or -SO_2W^5;

W^5 is selected from phenyl, naphthyl, a C_3-C_8 carbocycle, or a 3- to 10-membered heterocycle, wherein W^5 is independently substituted with 0, 1, 2, 3, 4, 5, or 6 R^y groups;

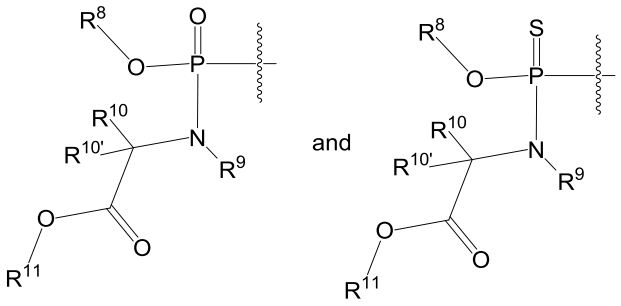
each R^6 and R^7 is independently H, (C_1-C_8)alkyl, (C_2-C_8)alkenyl, (C_2-C_8)alkynyl, (C_4–C_8)carbocyclylalkyl, C_6–C_{10} aryl, C_6–C_{10} substituted aryl, 5- to 10-membered heteroaryl,

substituted 5- to 10-membered heteroaryl, -C(=O)(C_1-C_8)alkyl, -S(O)$_n$(C_1-C_8)alkyl or aryl(C_1-C_8)alkyl;

or R^6 and R^7 taken together with a nitrogen to which they are both attached form a 3- to 7- membered heterocycle wherein any one ring carbon atom of said heterocycle can optionally be replaced with -O-, -S- or –NR^a-;

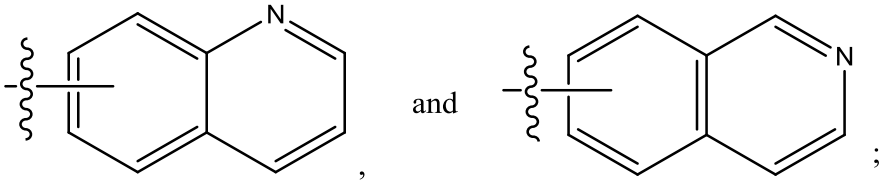
and wherein each (C_1-C_8)alkyl, (C_2-C_8)alkenyl, (C_2-C_8)alkynyl or aryl(C_1-C_8)alkyl of each R^6 or R^7 is, independently, optionally substituted with one, two, three, or four substituents selected from halo, hydroxy, CN, N_3, N(R^a)$_2$ or OR^a; and wherein one, two, or three of the non-terminal carbon atoms of each said (C_1-C_8)alkyl may be optionally replaced with -O-, -S- or –NR^a-; or

b) R^4 is a group selected from:



wherein:

R^8 is selected from phenyl, 1-naphthyl, 2-naphthyl,



;

R^9 is selected from H and CH_3;

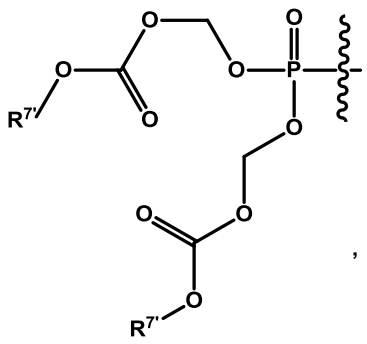
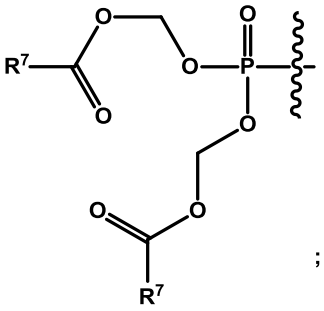
R^{10} is selected from H and C_1-C_6 alkyl;

$R^{10'}$ is selected from H and C_1-C_6 alkyl;

or R^{10} and $R^{10'}$, together with the carbon atom to which they are bound, form a 3-, 4-, 5-, or 6-membered spirocycle wherein all ring atoms of the spirocycle are carbon;

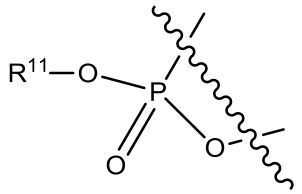
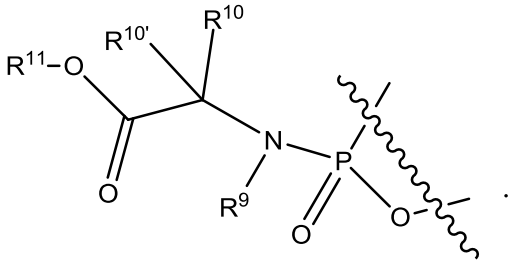
or R^{10} and $R^{10'}$, together with the carbon atom to which they are bound, form a 3-, 4-, 5-, or 6-membered spirocycle wherein 1 or 2 of the ring atoms of the spirocycle are selected from the group of O, S, and N, and all other ring atoms of the spirocycle are carbon;

R^{11} is selected from H, C_1-C_8 alkyl, benzyl, C_3-C_6 cycloalkyl, $–CH_2$-C_3-C_6 cycloalkyl, $–CH_2CH_2$-S-C(O)-C_3-C_6 alkyl,

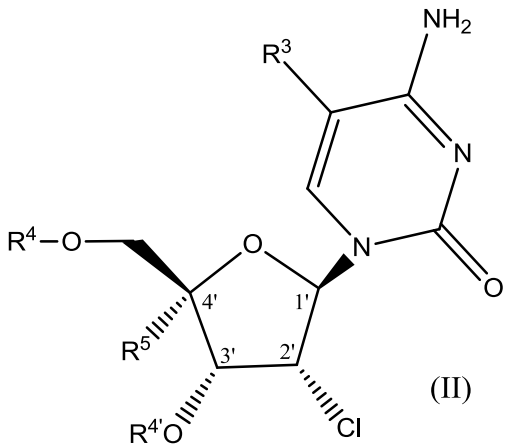

, and

;

$R^{7'}$ is selected from C_1-C_8 alkyl, -O-C_1-C_8 alkyl, benzyl, -O-benzyl, -CH_2-C_3-C_6 cycloalkyl, and CF_3; or

c) R^4 and $R^{4'}$ combine to form the structure selected from:

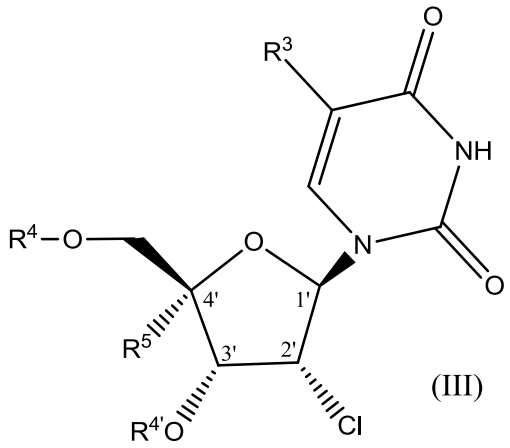

and

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2. A compound according to Claim 1 of Formula (II), or a pharmaceutically acceptable salt thereof:


(II)

wherein R^3, R^4, $R^{4'}$, and R^5 are as defined in Claim 1.

3. A compound according to Claim 1 of Formula (III), or a pharmaceutically acceptable salt thereof:



(III)

wherein R^3, R^4, $R^{4'}$, and R^5 are as defined in Claim 1.

4. A compound according to any of Claims 1, 2, and 3, or a pharmaceutically acceptable salt thereof, wherein R^3, R^4, and R^5 are as defined in Claim 1 and $R^{4'}$ is hydrogen.

5. A compound according to any of Claims 1, 2, 3, and 4, or a pharmaceutically acceptable salt thereof, wherein R^5 is selected from the group of CN; unsubstituted C_1-C_3 alkyl; C_1-C_3 alkyl substituted with 1, 2, or 3 halogens selected from F and Cl; C_1-C_3 alkyl substituted with 1 substituent selected from –S-CH_3 and –O-CH_3; C_2-C_3 alkenyl; C_2-C_3 alkynyl; unsubstituted C_3-C_5 cycloalkyl; and C_3-C_5 cycloalkyl substituted by 1, 2, or 3 substituents selected from F and CH_3.

6. A compound according to any of Claims 1, 2, 3, 4, and 5, or a pharmaceutically acceptable salt thereof, wherein R^3 is hydrogen.

7. A compound according to any of Claims 1, 2, 3, 4, and 5, or a pharmaceutically acceptable salt thereof, wherein R^3 is F.

8. A compound according to any of Claims 1, 2, 3, 4, 5, and 6, or a pharmaceutically acceptable salt thereof, wherein R^3 and R^4 are each hydrogen.

9. A compound according to any of Claims 1, 2, 3, 4, 5, 6, and 8, or a pharmaceutically acceptable salt thereof, wherein R^3, R^4, and $R^{4'}$ are each hydrogen.

10. A compound according to any of Claims 1, 2, 3, 4, 5, and 7, or a pharmaceutically acceptable salt thereof, wherein R^3 is F and R^4 is hydrogen.

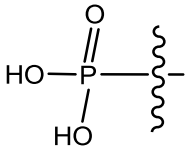
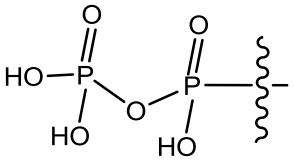
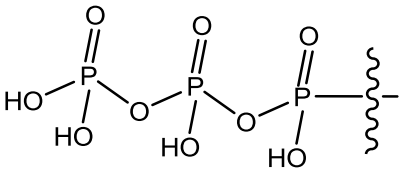
11. A compound according to any of Claims 1, 2, 3, 4, 5, 7, and 10, or a pharmaceutically acceptable salt thereof, wherein R^3 is F and R^4 and $R^{4'}$ are each hydrogen.

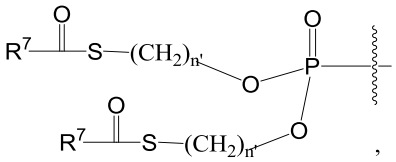
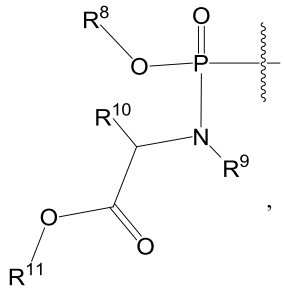
12. A compound according to any of Claims 1, 2, 3, 4 and 5 or a pharmaceutically acceptable salt thereof, wherein R^3 is selected from the group of H and F; and R^5 is selected from the group of CN, methyl, ethyl, propyl, vinyl, propenyl, ethynyl, CH_2F, CHF_2, CH_2Cl, CH_2SMe, -CH_2OMe, and cyclopropyl.

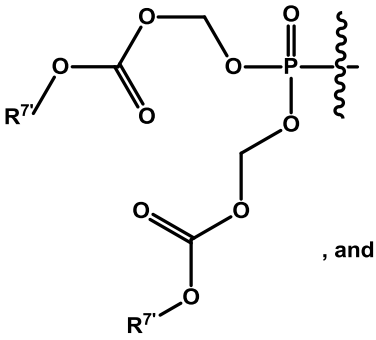
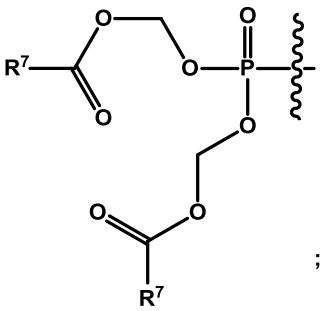
13. A compound according to any of Claims 1, 2, 3, 4 and 5 or a pharmaceutically acceptable salt thereof, wherein R^3 is selected from the group of H and F; R^5 is selected from the group of CN, methyl, ethyl, propyl, vinyl, propenyl, ethynyl, CH_2F, CHF_2, CH_2Cl, CH_2SMe, -CH_2OMe, and cyclopropyl; and $R^{4'}$ is hydrogen.

14. A compound according to any of Claims 1, 2, 3, 4, 5, 12 and 13, or a pharmaceutically acceptable salt thereof, wherein R^3 is selected from the group of H and F; R^5 is selected from the group of CN, methyl, ethyl, propyl, vinyl, propenyl, ethynyl, CH_2F, CHF_2, CH_2Cl, CH_2SMe, -CH_2OMe, and cyclopropyl; R^4 is H; and $R^{4'}$ is hydrogen.

15. A compound according to any of Claims 1, 2, 3, 4, 5, 6, and 7, or a pharmaceutically acceptable salt thereof, wherein R^4 is selected from:


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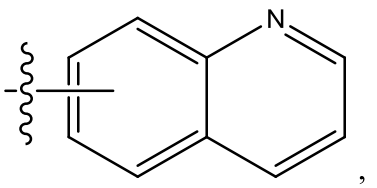
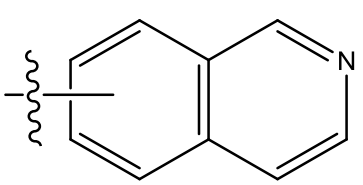
wherein:

n' is selected from 1, 2, 3, and 4;

R^7 is selected from C_1-C_8 alkyl, -O-C_1-C_8 alkyl, benzyl, -O-benzyl, -CH_2-C_3-C_6 cycloalkyl, -O-CH_2-C_3-C_6 cycloalkyl, and CF_3;

$R^{7'}$ is selected from C_1-C_8 alkyl, -O-C_1-C_8 alkyl, benzyl, -O-benzyl, -CH_2-C_3-C_6 cycloalkyl, and CF_3;

R^8 is selected from phenyl, 1-naphthyl, 2-naphthyl,

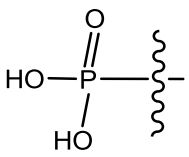
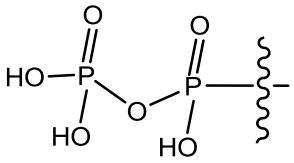
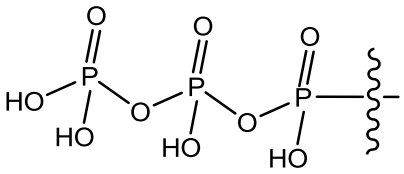
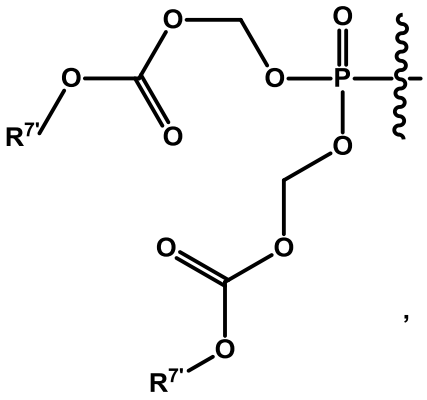
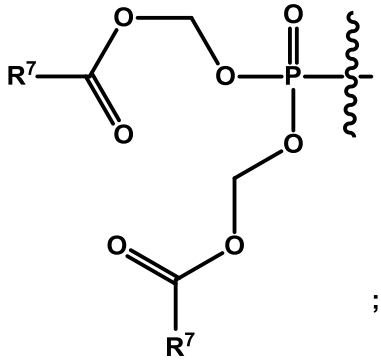
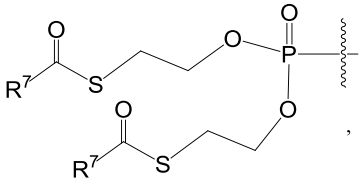
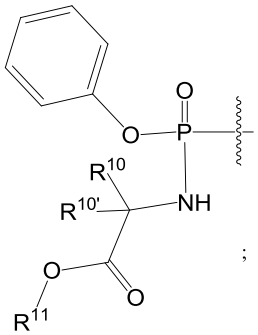

, and

;

R^9 is selected from H and CH_3;

R^{10} is selected from H and C_1-C_6 alkyl;

R^{11} is selected from H, C_1-C_8 alkyl, benzyl, C_3-C_6 cycloalkyl, and $–CH_2$-C_3-C_6 cycloalkyl.

16. A compound according to any of Claims 1, 2, 3, 4, 5, 6, 7, and 15, or a pharmaceutically acceptable salt thereof, wherein R^4 is selected from:


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,

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, and

;

wherein:

R^7 is selected from C_1-C_8 alkyl, -O-C_1-C_8 alkyl, benzyl, and -CH_2-C_3-C_6 cycloalkyl;

$R^{7'}$ is selected from C_1-C_8 alkyl, -O-C_1-C_8 alkyl, benzyl, -O-benzyl, -CH_2-C_3-C_6 cycloalkyl, and CF_3;

R^{10} is selected from H and C_1-C_6 alkyl;

$R^{10'}$ is selected from H and C_1-C_6 alkyl;

or R^{10} and $R^{10'}$, together with the carbon atom to which they are bound, form a 3-, 4-, 5-, or 6-membered spirocycle wherein all ring atoms of the spirocycle are carbon;

or R^{10} and $R^{10'}$, together with the carbon atom to which they are bound, form a 3-, 4-, 5-, or 6-membered spirocycle wherein 1 or 2 of the ring atoms of the spirocycle are selected from the group of O, S, and N, and all other ring atoms of the spirocycle are carbon; and

R^{11} is selected from C_1-C_8 alkyl, benzyl, C_3-C_6 cycloalkyl, and $–CH_2$-C_3-C_6 cycloalkyl.

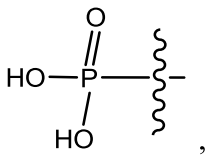
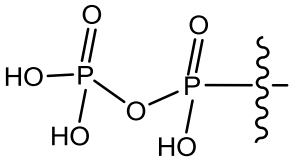
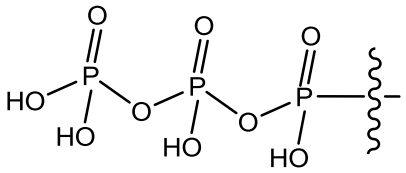
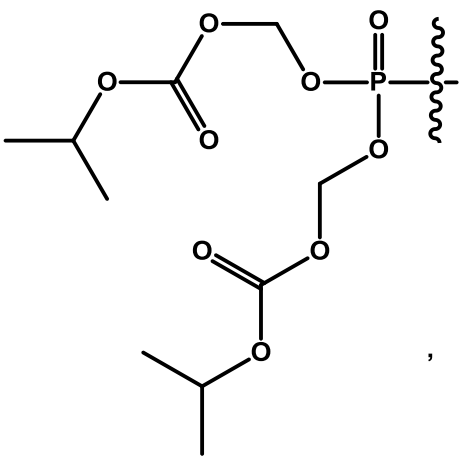
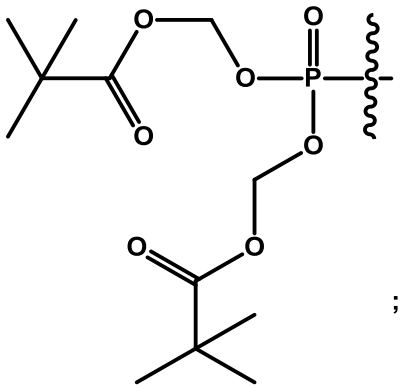
17. A compound according to any of Claims 1, 2, 3, 4, 5, 15, and 16, or a pharmaceutically acceptable salt thereof, wherein:

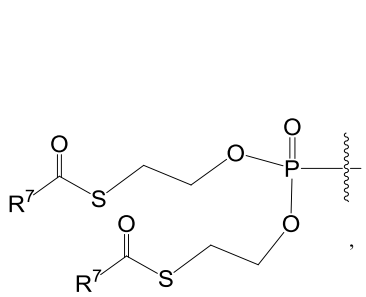
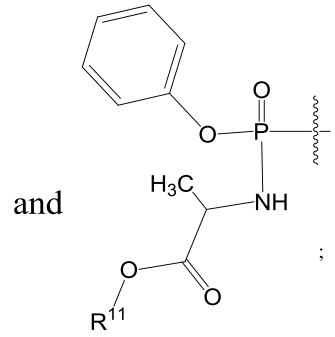
R^3 is selected from the group of H and F;

$R^{4'}$ is hydrogen;

R^5 is selected from the group of CN, methyl, ethyl, propyl, vinyl, propenyl, ethynyl, CH_2F, CHF_2, CH_2Cl, CH_2SMe, $-CH_2OMe$, and cyclopropyl; and

R^4 is selected from the group of:


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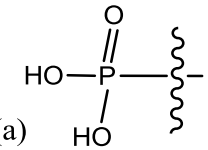
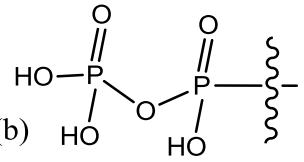
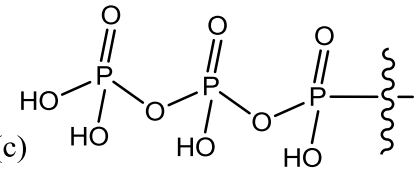



wherein:

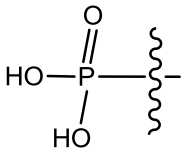
R^7 is selected from C_1-C_8 alkyl, -O-C_1-C_8 alkyl, benzyl, and -CH_2-C_3-C_6 cycloalkyl; and

R^{11} is selected from C_1-C_8 alkyl, benzyl, C_3-C_6 cycloalkyl, and –CH_2-C_3-C_6 cycloalkyl.

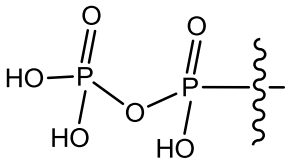
18. A compound according to any of Claims 1, 2, 3, 4, 5, 6, 7, 15, 16, and 17, or a pharmaceutically acceptable salt thereof, wherein R^4 is selected from:

(a) , (b) , and (c) .

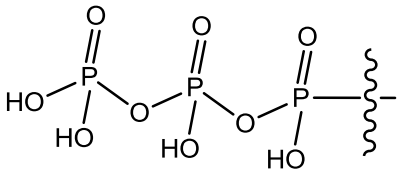
19. A compound according to any of Claims 1, 2, 3, 4, 5, 6, 7, 15, 16, 17 and 18 or a pharmaceutically acceptable salt thereof, wherein R^4 is:

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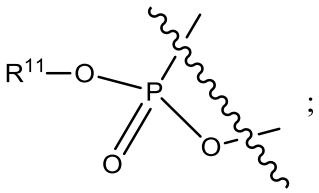
20. A compound according to any of Claims 1, 2, 3, 4, 5, 6, 7, 15, 16, 17 and 18 or a pharmaceutically acceptable salt thereof, wherein R^4 is:



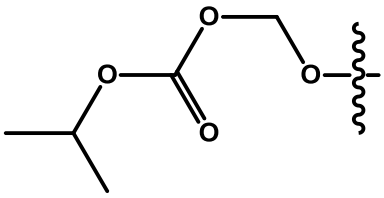
21. A compound according to any of Claims 1, 2, 3, 4, 5, 6, 7, 15, 16, 17 and 18 or a pharmaceutically acceptable salt thereof, wherein R^4 is:



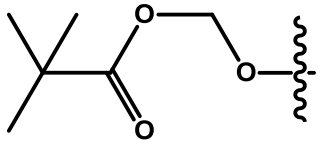
22. A compound according to any of Claims 1, 2, 3, 5, 6, 7, and 12, or a pharmaceutically acceptable salt thereof, wherein R^4 and $R^{4'}$ combine to form the structure:



and R^{11} is selected from H, C_1-C_8 alkyl, benzyl, C_3-C_6 cycloalkyl, $–CH_2$-C_3-C_6 cycloalkyl,

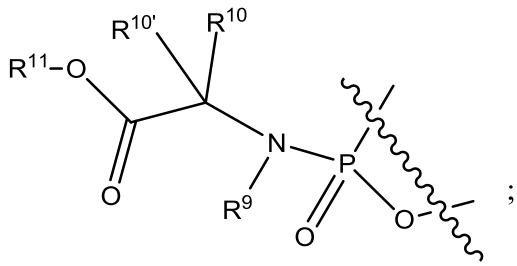


, and



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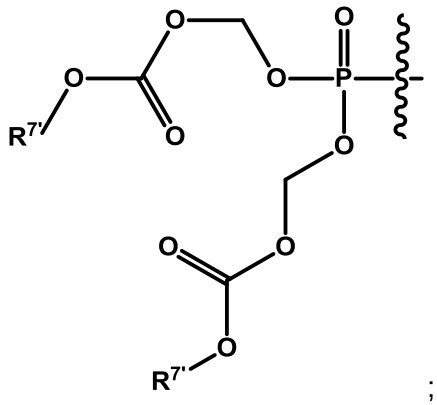
23. A compound according to any of Claims 1, 2, 3, 5, 6, 7, and 12, or a pharmaceutically acceptable salt thereof, wherein R^4 and $R^{4'}$ combine to form the structure:



;

wherein R^9 is selected from H and CH_3; R^{10} is selected from H and C_1-C_6 alkyl; $R^{10'}$ is selected from H and C_1-C_6 alkyl; and R^{11} is selected from H, C_1-C_8 alkyl, benzyl, C_3-C_6 cycloalkyl, and $–CH_2$-C_3-C_6 cycloalkyl.

24. A compound according to any of Claims 1, 2, 3, 4, 5, 6, 7, 12, 15, and 16, or a pharmaceutically acceptable salt thereof, wherein R^4 is:

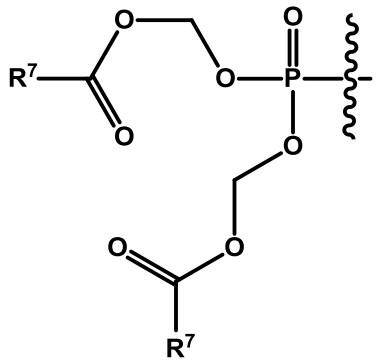


;

and $R^{7'}$ is selected from C_1-C_8 alkyl, -O-C_1-C_8 alkyl, benzyl, -O-benzyl, -CH_2-C_3-C_6 cycloalkyl, and CF_3;

25. A compound according to any of Claims 1, 2, 3, 4, 5, 6, 7, 15, 16, and 17, or a pharmaceutically acceptable salt thereof, wherein $R^{7'}$ is isopropyl.

26. A compound according to any of Claims 1, 2, 3, 4, 5, 6, 7, 15 and 16, or a pharmaceutically acceptable salt thereof, wherein R^4 is:

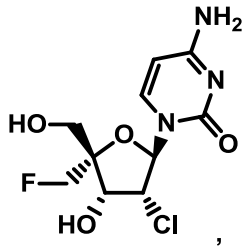


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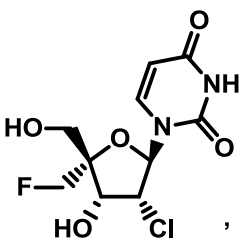
and R^7 is selected from C_1-C_8 alkyl, -O-C_1-C_8 alkyl, benzyl, -O-benzyl, -CH_2-C_3-C_6 cycloalkyl, -O-CH_2-C_3-C_6 cycloalkyl, and CF_3.

27. A compound according to any of Claims 1, 2, 3, 4, 5, 6, 7, 15, 16, and 17, or a pharmaceutically acceptable salt thereof, wherein R^7 is t-butyl.

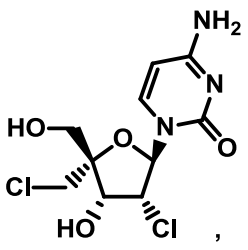
28. A compound of Claims 1 4, 5, 12, 13, and 14, selected from the group of:



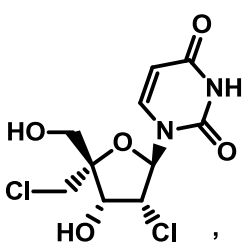
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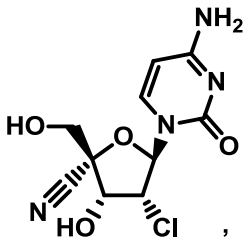
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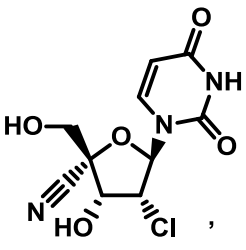
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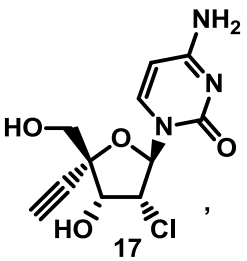
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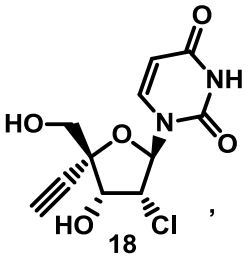
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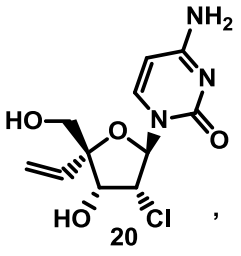
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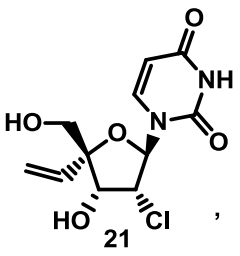


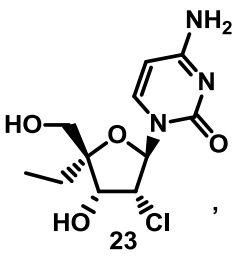
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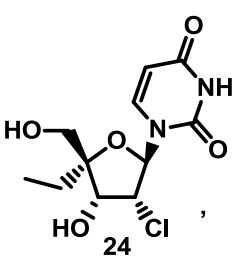


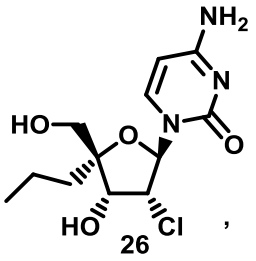
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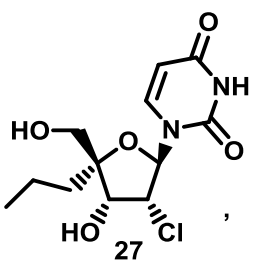

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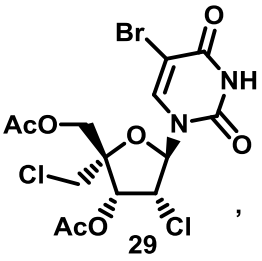

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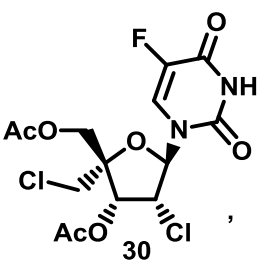

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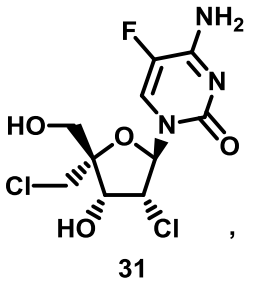

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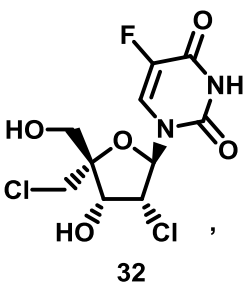

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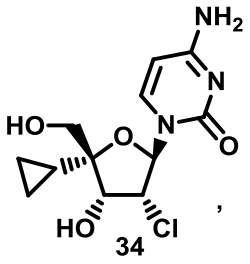

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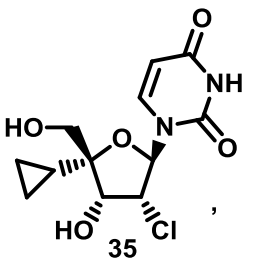

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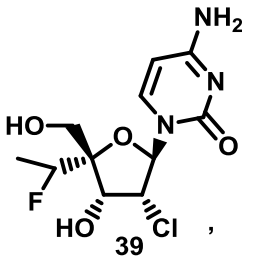

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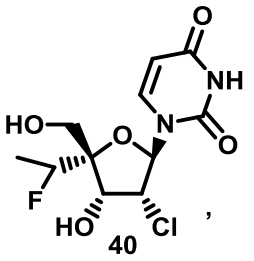

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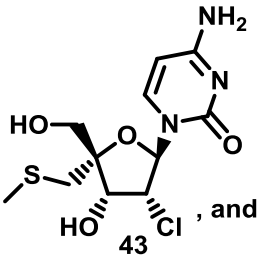

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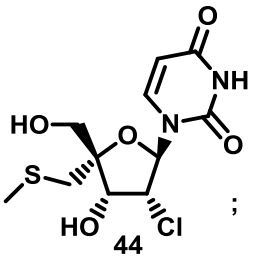

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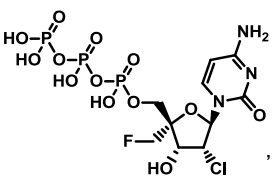

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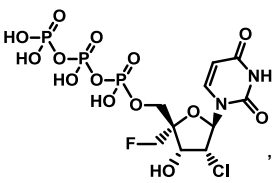

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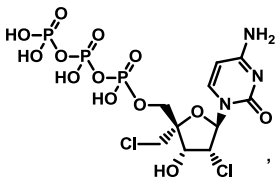

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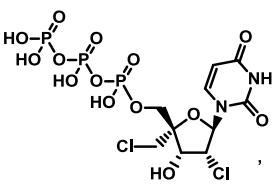
or a pharmaceutically acceptable salt thereof.

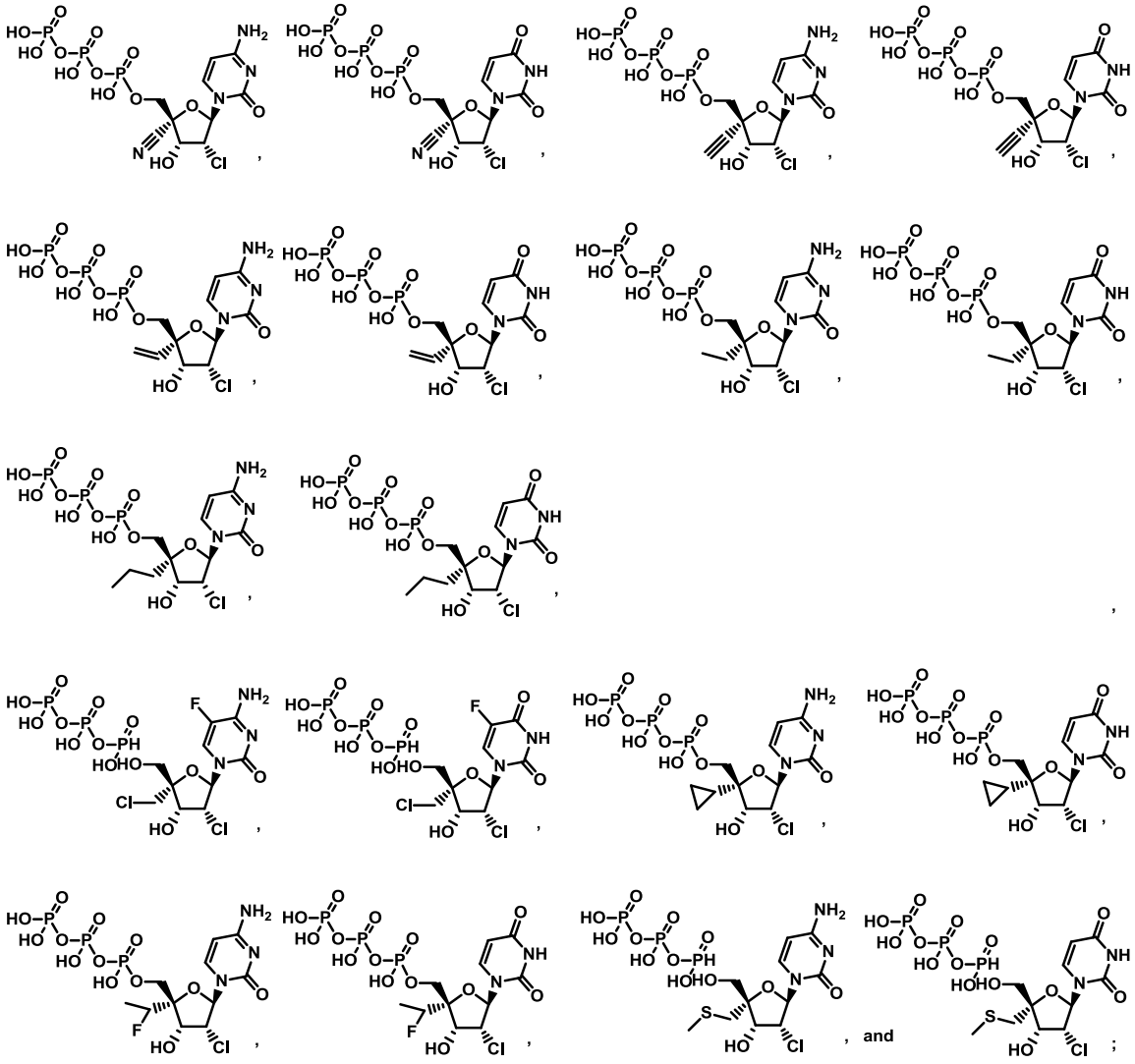
29. A compound of any of Claims 1, 4, 5, 12, 13, 15, 16, 17, 18, and 21, selected from the group


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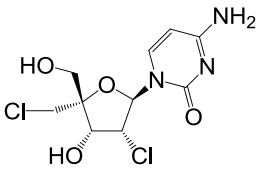

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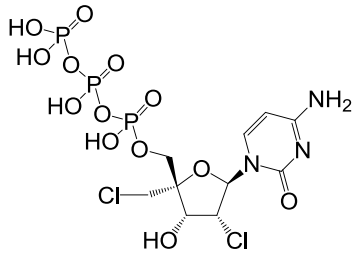
or a pharmaceutically acceptable salt thereof.

30. A compound any of Claims 1, 2, 4, 5, 6, 8, 9, 12, 13, and 14, of the formula:



or a pharmaceutically acceptable salt thereof.

31. A compound of any of Claims 1, 2, 4, 5, 6, 12, 13, 15, 16, 17, 18 and 29 of the formula:



or a pharmaceutically acceptable salt thereof.

32. A pharmaceutical composition comprising a compound of any of Claims 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, and 31, or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier or excipient.

33. The use of a compound of any of Claims 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, and 31, or a pharmaceutically acceptable salt thereof, in the preparation of a medicament useful for treatment of a *Pneumovirinae* virus infection in a human.

34. The use according to claim 33 wherein the *Pneumovirinae* virus infection is a respiratory syncytial virus infection

35. The use according to claim 33 or 34 wherein the medicament comprises at least one additional active therapeutic agent.

36. The use according to any one of claims 33 to 35 wherein the human is also experiencing bronchiolitis.

37. The use according to any one of claims 33 to 35 wherein the human is also experiencing pneumonia.

38. The use of a compound of any of Claims 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, and 31, or a pharmaceutically acceptable salt thereof, in the preparation of a medicament useful for improving respiratory symptoms in a human experiencing a human respiratory syncytial virus infection.

39. The use according to any one of claims 33 to 35, wherein the medicament is formulated as a combined preparation for simultaneous, separate, or sequential use.