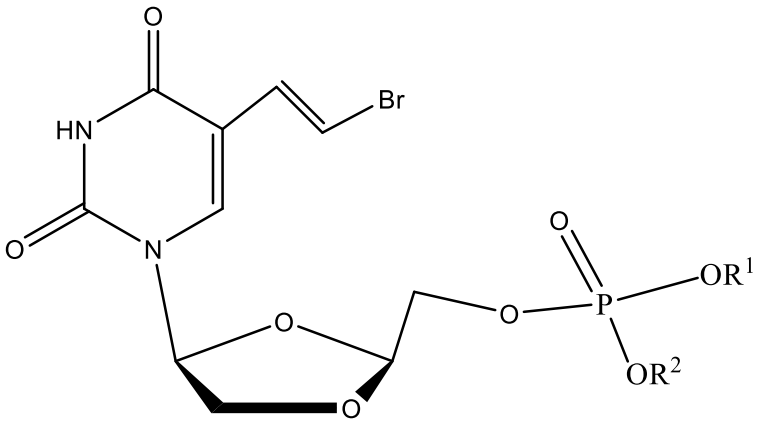
Claims:

1. A prodrug compound of L-BHDU according to the chemical structure **I**:



Where R^1 is a $-(CH_2)_n-O-R^{1a}$ group or a $-(CH_2)_j-O-C(O)O_k-R^{2a}$ group;

R^2 is H, a $-(CH_2)_n-O-R_{1a}$ group or a $-(CH_2)_j-O-C(O)O_k-R_{2a}$ group;

R^{1a} is C_{12}-C_{22} alkyl group;

R^{2a} is independently a C_1-C_{12} alkyl group, often a C_2-C_6 alkyl group, a C_3-C_4 alkyl group, an isopropyl, t-butyl or sec-butyl group, or an isopropyl or t-butyl group;

Each j is independently 1-6, 1-3, often 1 or 2;

Each k is 0 or 1;

Each n is independently 1-6; or

A pharmaceutically acceptable salt, solute or polymorph thereof.

2. The compound according to claim 1 wherein R^1 is a $-(CH_2)_n-O-R^{1a}$ group, R^{1a} is a C_{14}-C_{20} alkyl group and n is 2 or 3.

3. The compound according to claim 2 wherein R^{1a} is a C_{16}-C_{18} alkyl group and n is 2 or 3.

4. The compound according to claim 3 wherein R^{1a} is a C_{16} or C_{18} alkyl group and R^2 is H.

5. The compound according to claim 4 wherein R^{1a} is a C_{18} alkyl group and n is 2.

6. The compound according to claim 4 wherein R^{1a} is a C_{16} alkyl group and n is 2.

7. The compound according to claim 1, wherein R^1 is a $-(CH_2)_n-O-R^{1a}$ group and R^2 is H.

8. The compound according to claim 1 wherein R^1 is a $(CH_2)_j-O-C(O)O_k-R^{2a}$ group and R^2 is H or a $-(CH_2)_j-O-C(O)O_k-R^{2a}$ group.

9. The compound according to claim 8 wherein R^2 is a $-(CH_2)_j-O-C(O)O_k-R^{2a}$ group and j is 1-4.

10. The compound according to claim 9 wherein j is 1 or 2 and R^{2a} is a C_1-C_{12} alkyl group.

11. The compound according to claim 10 wherein j is 1 or 2 and R^{2a} is a C_2-C_6 alkyl group.

12. The compound according to claim 11 wherein j is 1 and R^{2a} is a C_3 or C_4 alkyl group.

13. The compound according to claim 11 wherein j is 2 and R^{2a} is a C_3 or C_4 alkyl group.

14. The compound according to claim 1 wherein R^1 is $-(CH_2)_j-O-C(O)O_k-R^{2a}$ and j is 1.

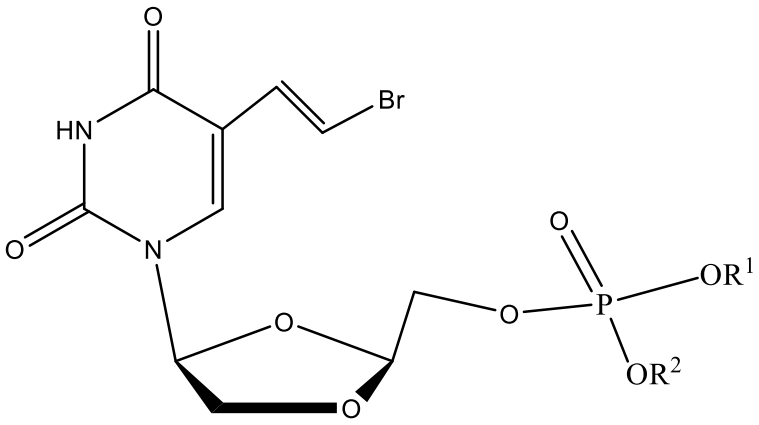
15. The compound according to claim 14 wherein k is 0 or 1.

16. The compound according to claim 15 wherein k is 0.

17. The compound according to claim 15 wherein k is 1.

18. The compound according to claim 8 wherein R^1 and R^2 are the same.

19. A compound according to the chemical structure:

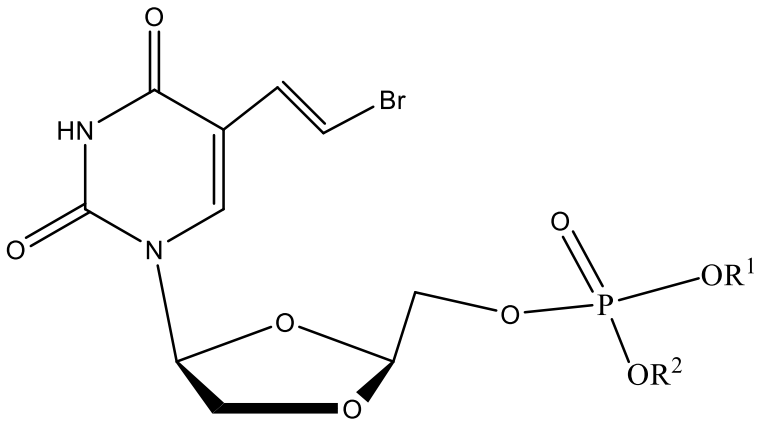


Wherein R^1 is a $-(CH_2)_n-O-R^{1a}$ group, n is 2 or 3, R^{1a} is a C_{16} or C_{18} alkyl group and R_2 is H, or a pharmaceutically acceptable salt thereof.

20. The compound according to claim 19 wherein n is 2 and R^{1a} is a C_{18} alkyl group.

21. The compound according to claim 19 wherein n is 3 and R^{1a} is a C_{16} alkyl group.

22. A compound according to the chemical structure:



Wherein R^1 and R^2 are each a $-(CH_2)_j-O-C(O)O_k-R^{2a}$ group;

R^{2a} is independently an isopropyl or a t-butyl group;

Each j is independently 1 or 2;

Each k is 0 or 1; or

A pharmaceutically acceptable salt thereof.

23. The compound according to claim 22 wherein R^1 and R^2 are identical, j is 1, k is 1 and R^{2a} is an isopropyl group.

24. The compound according to claim 22 wherein R^1 and R^2 are identical, j is 1, k is 0 and R^{2a} is a tert-butyl group.

25. A pharmaceutical composition comprising an effective amount of a compound according to claim 1 in combination with a pharmaceutically acceptable carrier, additive or excipient.

26. The composition according to claim 25 further including an additional bioactive agent.

27. The composition according to claim 26 wherein said bioactive agent is acyclovir, brivudine, foscarnet, cidofovir (CDV), valacyclovir, famciclovir, zoster-immune globulin (ZIG), vidarabine or a mixture thereof.

28. The composition according to claim 26 wherein said bioactive agent is 5-fluoro uracil.

29. The composition according to claim 27 wherein said bioactive agent is foscarnet, cidovovir or a mixture thereof.

30. Use of a composition according to claim 25 in the manufacture of a medicament for treating a viral infection in a patient in need, wherein the viral infection is a varicella zoster virus (VZV) infection, a herpes simplex virus I (HSV-1) infection or a herpes simplex virus II (HSV-2) infection.

31. Use according to claim 30 wherein said virus infection is a VZV infection.

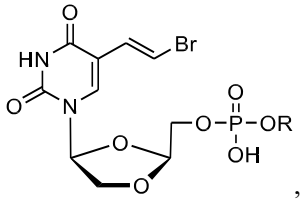
32. Use according to claim 31 wherein said virus infection is caused by wild type VZV or mutant VZV (TK-, TS- or TK-TS-).

33. Use according to claim 30 wherein said virus infection is a HSV-1 infection.

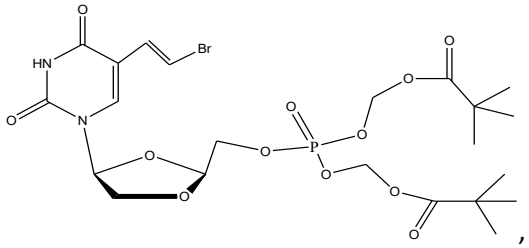
34. Use according to claim 30 wherein said virus infection is a HSV-2 infection.

35. Use of a compound according to claim 1 in the manufacture of a medicament for treating a viral infection, wherein the viral infection is a varicella zoster virus (VZV) infection, a herpes simplex virus I (HSV-1) infection or a herpes simplex virus II (HSV-2) infection.

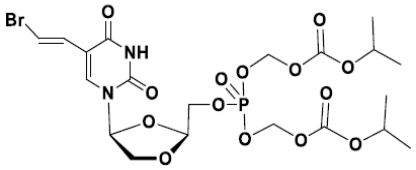
36. Use according to claim 35 wherein said compound is



, where R is $C_{18}H_{37}O(CH_2)_2$- ,



,



, or

A pharmaceutically acceptable salt thereof.

37. Use of a composition according to claim 25 in the manufacture of a medicament for reducing the likelihood of a viral infection in a patient in need, wherein the viral infection is a varicella zoster virus (VZV) infection, a herpes simplex virus I (HSV-1) infection or a herpes simplex virus II (HSV-2) infection.

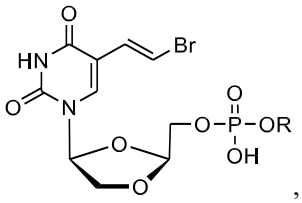
38. Use according to claim 37 wherein said virus infection is a VZV infection.

39. Use according to claim 37 wherein said virus infection is a HSV-1 infection.

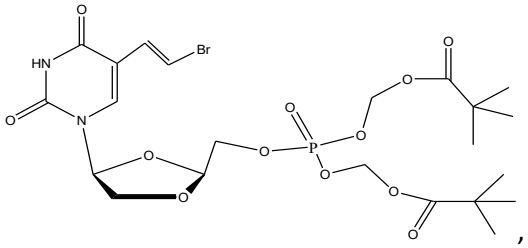
40. Use according to claim 37 wherein said virus infection is a HSV-2 infection.

41. Use of a compound according to claim 1 in the manufacture of a medicament for inhibiting or resolving complications of a VZV infection in a patient or subject in need, wherein said complications are postherpetic neuralgia, zoster multiplex, myelitis, herpes ophthalmicus, or zoster sine herpete.

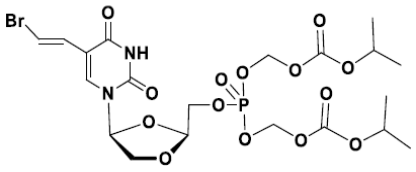
42. Use according to claim 41 wherein said compound is



, where R is $C_{18}H_{37}O(CH_2)_2$- ,



,



, or

A pharmaceutically acceptable salt thereof.

43. Use of a compound according to any one of claims 19-24 in the manufacture of a medicament for reducing the likelihood of a viral infection in a patient in need, wherein the viral infection is a varicella zoster virus (VZV) infection, a herpes simplex virus I (HSV-1) infection or a herpes simplex virus II (HSV-2) infection.

44. Use according to claim 43 wherein said virus infection is a VZV infection.

45. Use according to claim 43 wherein said virus infection is a HSV-1 infection.

46. Use according to claim 43 wherein said virus infection is a HSV-2 infection.