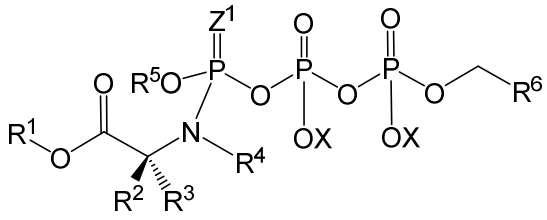
CLAIMS

1. A compound of formula (I), or a pharmaceutically acceptable salt thereof:



(**I**)

wherein

R^1 is independently at each occurrence selected from: C_1-C_{24}-alkyl, C_3-C_{24}-alkenyl, C_3-C_{24}-alkynyl, C_0-C_4-alkylene-C_3-C_8-cycloalkyl and C_0-C_4-alkylene-aryl;

R^2 and R^3 are each independently at each occurrence selected from H, C_1-C_6-alkyl and C_1-C_3-alkylene-R^7; or R^2 and R^3 together with the atom to which they are attached form a 3- to 6-membered cycloalkyl or heterocycloalkyl group;

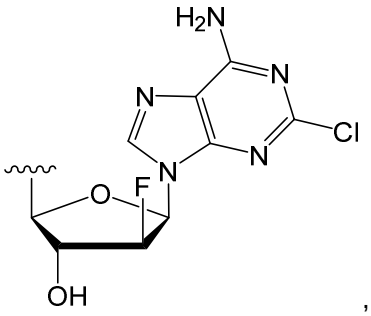
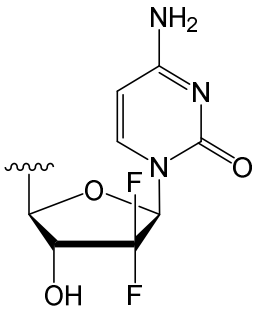
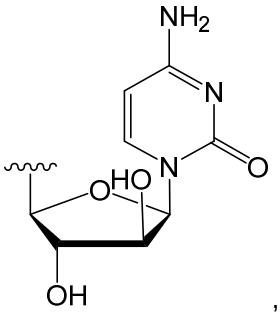
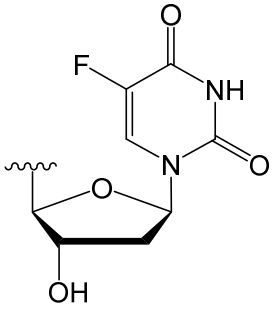
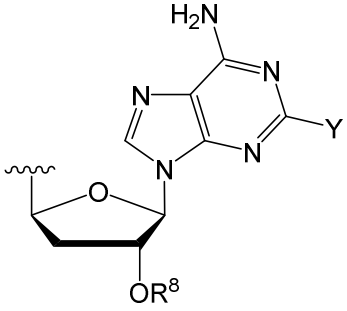
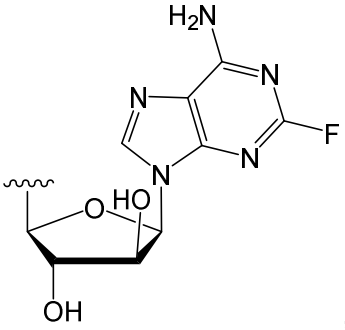
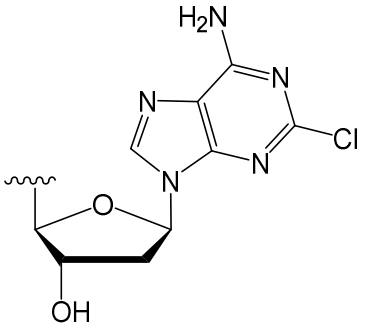
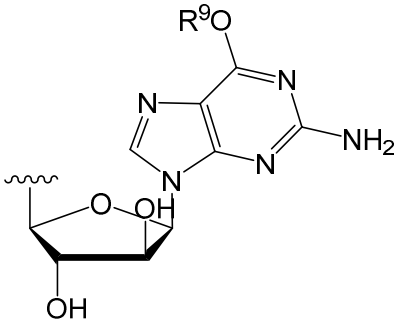
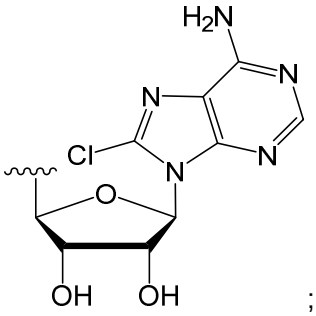
R^4 is independently at each occurrence H or C_1-C_4-alkyl;

or R^4, a group selected from R^2 and R^3 and the atoms to which they are attached may form a 3- to 6-membered heterocycloalkyl group;

R^5 is independently at each occurrence selected from aryl, 5-, 6-, 9- or 10-membered heteroaryl, C_3-C_8-cycloalkyl, 3- to 7-membered heterocycloalkyl, C_1-C_3-alkylene-R^{5a} and C_1-C_8-alkyl, said aryl being optionally fused to C_6-C_8-cycloalkyl;

R^{5a} is independently at each occurrence selected from aryl, 5-, 6-, 9- or 10-membered heteroaryl, C_3-C_8-cycloalkyl, 3- to 7-membered heterocycloalkyl, said aryl being optionally fused to C_6-C_8-cycloalkyl;

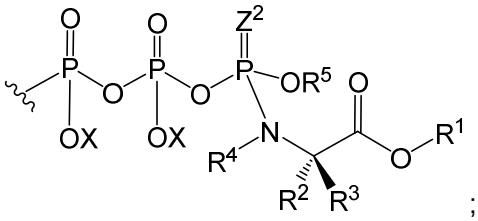
R^6 is independently selected from:

and ;

R^7 is independently at each occurrence selected from aryl, imidazole, indole, SR^a, OR^a, CO_2R^a, $CO_2NR^aR^a$, NR^aR^b and $NH(=NH)NH_2$;

R^8 is independently selected from H and



;

Z^1 and Z^2 are each independently selected from O and S;

R^9 is independently selected from H and Me;

Y is independently selected from H, F, Cl and OMe;

X is at each occurrence selected from H and a pharmaceutically acceptable cation; provided that in at least one occurrence X is a pharmaceutically acceptable cation;

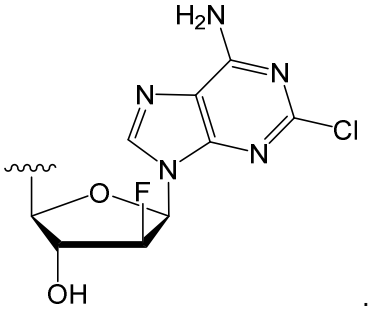
wherein any aryl group is either phenyl or naphthyl;

wherein where any of R^1, R^2, R^3, R^4, R^5 or R^7 is an alkyl, cycloalkyl, heterocycloalkyl, aryl or heteroaryl, that alkyl, cycloalkyl, heterocycloalkyl, aryl or heteroaryl group is optionally substituted with from 1 to 4 substituents selected from: halo, nitro, cyano, NR^aR^a, $NR^aS(O)_2R^a$, $NR^aC(O)R^a$, $NR^aCONR^aR^a$, $NR^aCO_2R^a$, OR^a; SR^a, SOR^a, SO_3R^a, SO_2R^a, $SO_2NR^aR^a$, CO_2R^a $C(O)R^a$, $CONR^aR^a$, $CR^aR^aNR^aR^a$, C_1-C_4-alkyl, C_2-C_4-alkenyl, C_2-C_4-alkynyl and C_1-C_4-haloalkyl;

wherein R^a is independently at each occurrence selected from: H and C_1-C_4-alkyl; and R^b is independently at each occurrence selected from: H, and C_1-C_4-alkyl and C(O)-C_1-C_4-alkyl.

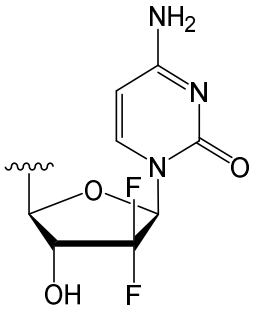
2. A compound of claim 1, wherein R^4 is H.

3. A compound of claim 1 or claim 2, wherein R^6 is



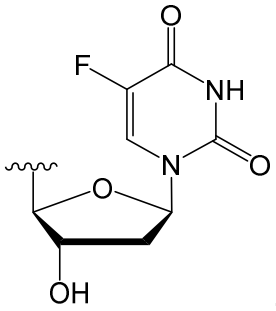
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4. A compound of claim 1 or claim 2, wherein R^6 is



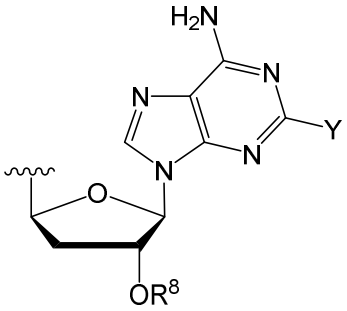
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5. A compound of claim 1 or claim 2, wherein R^6 is



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6. A compound of claim 1 or claim 2, wherein R^6 is



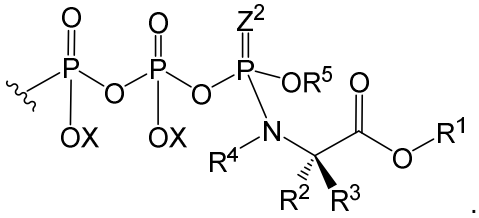
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7. A compound of claim 6, wherein Y is H.

8. A compound of claim 6, wherein Y is F.

9. A compound of any one of claims 6 to 8, wherein R^8 is H.

10. A compound of any one of claims 6 to 8, wherein R^8 is

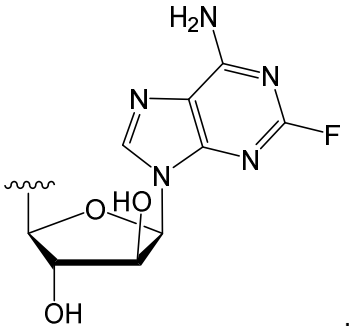


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11. A compound of claim 10, wherein Z^2 is O.

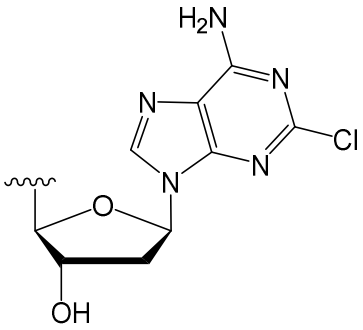
12. A compound of claim 10, wherein Z^2 is S.

13. A compound of claim 1 or claim 2, wherein R^6 is



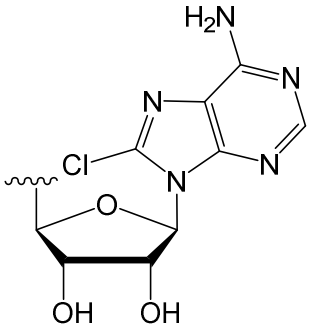
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14. A compound of claim 1 or claim 2, wherein R^6 is



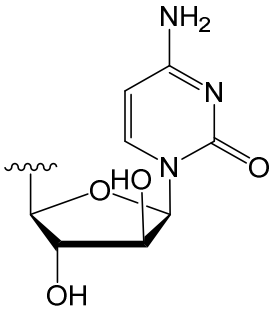
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15. A compound of claim 1 or claim 2, wherein R^6 is



.

16. A compound of claim 1 or claim 2, wherein R^6 is



17. A compound of any one of claims 1 to 16, wherein R^1 is selected from C_5-C_7-cycloalkyl, C_1-C_8-alkyl and benzyl.

18. A compound of claim 17, wherein R^1 is benzyl.

19. A compound of claim 17, wherein R^1 is C_1-C_8-alkyl, e.g. ethyl.

20. A compound of any one of claims 1 to 19, wherein R^3 is H.

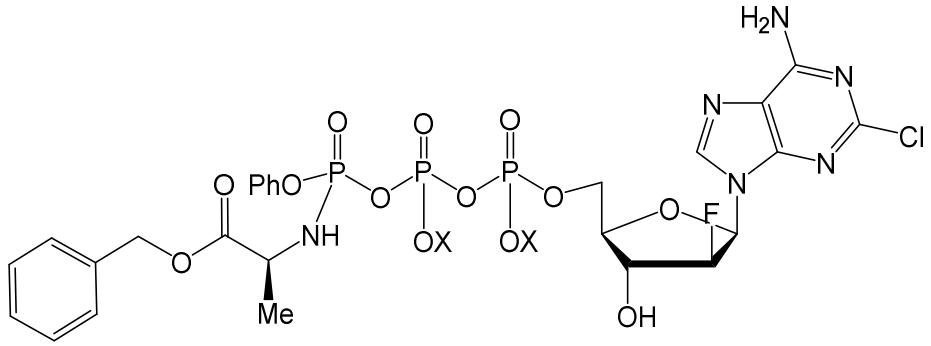
21. A compound of any one of claims 1 to 20, wherein R^2 is C_1-C_4-alkyl.

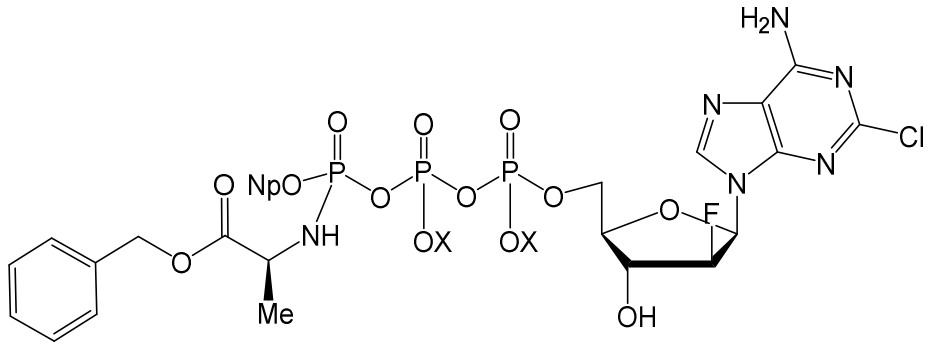
22. A compound of any one of claims 1 to 20, wherein R^2 is H.

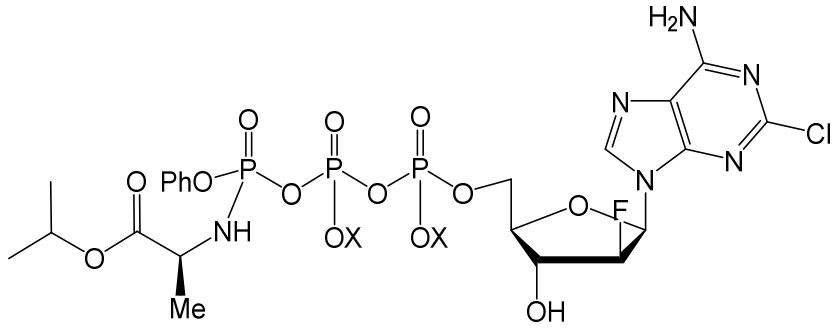
23. A compound of any one of claims 1 to 22, wherein R^5 is phenyl.

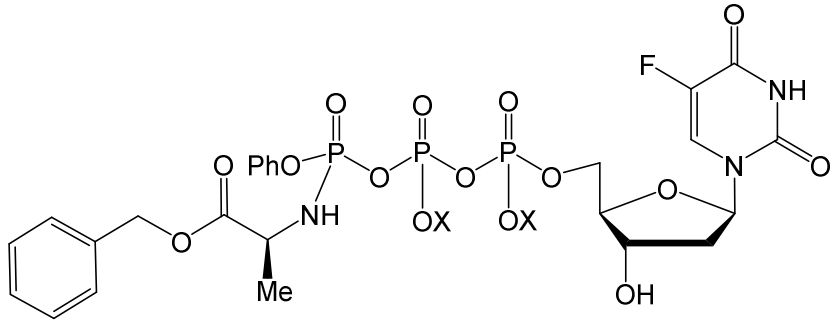
24. A compound of any one of claims 1 to 22, wherein R^5 is naphthyl.

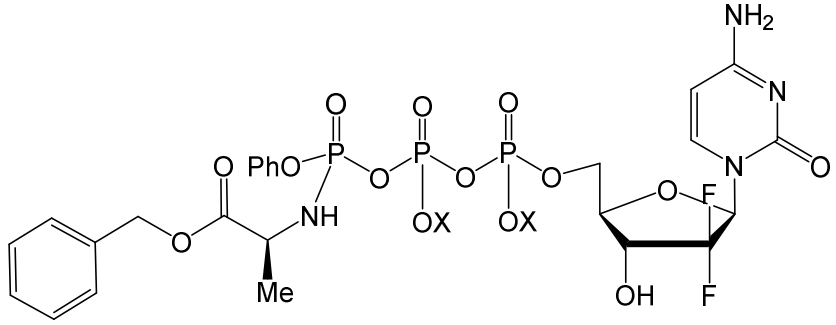
25. A compound of claim 1, wherein the compound of formula (I) is selected from:

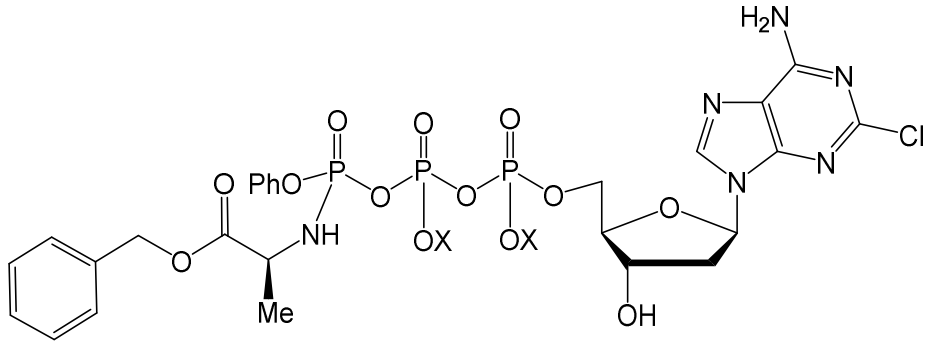


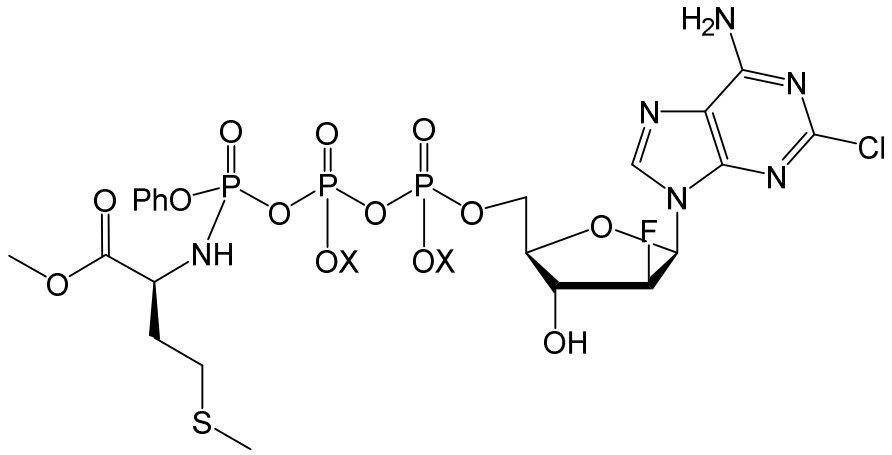

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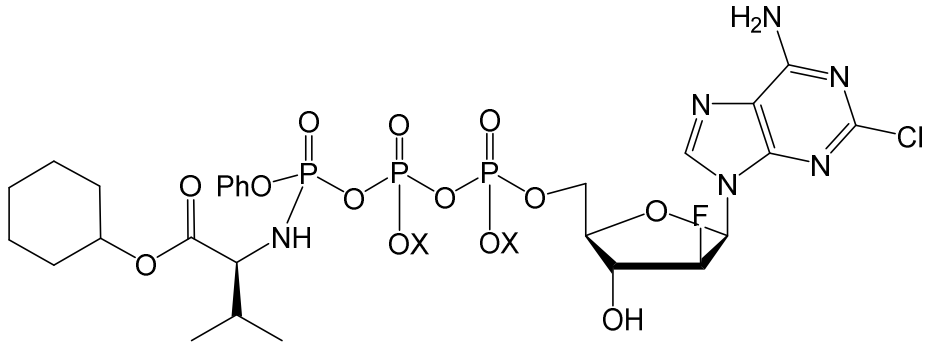

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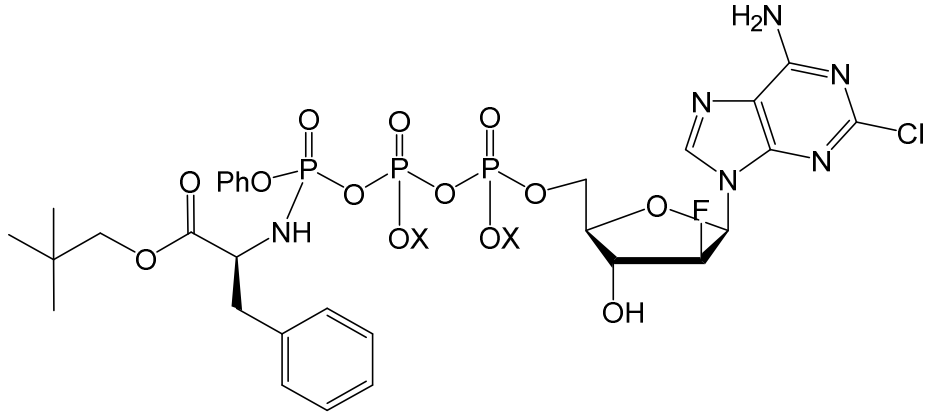

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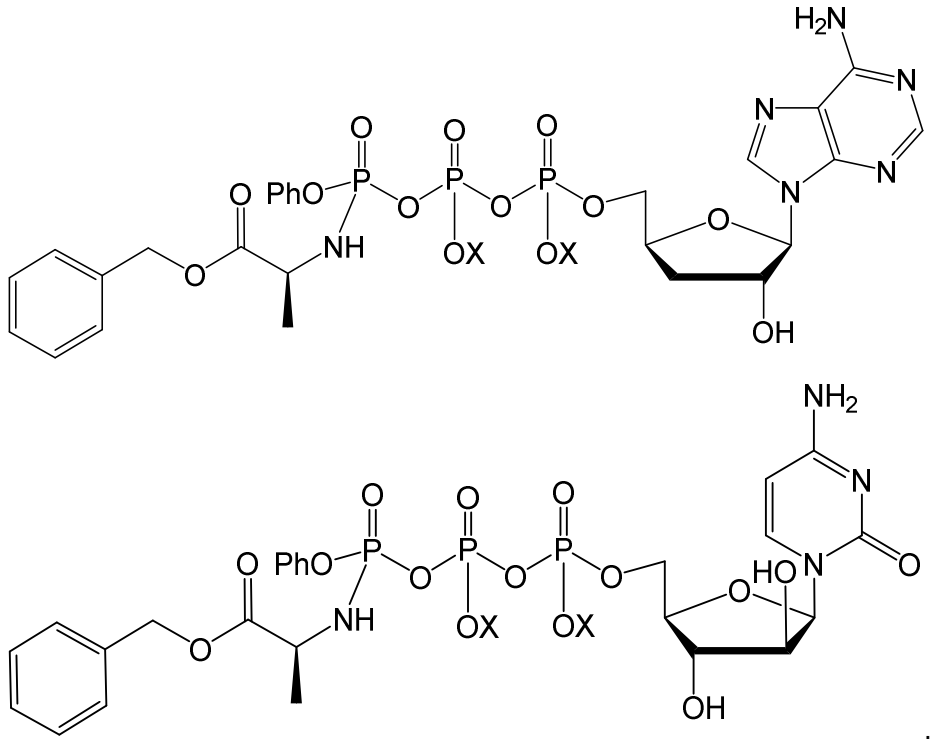

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PhO
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26. A compound of any one of claims 1 to 25, wherein X is at one occurrence H and at one occurrence a metal cation or an ammonium cation.

27. A compound of any one of claims 1 to 25, wherein X is at each occurrence the same and is a metal cation or an ammonium cation.

28. A compound of any one of claims 1 to 27 for medical use.

29. A compound of any one of claims 1 to 27 for use in treating cancer.

30. A compound for use of claim 29, wherein the cancer is leukaemia or lymphoma.

31. A compound for use of claim 30, wherein the cancer is a leukaemia selected from the group consisting of acute myeloid leukaemia (AML), acute lymphoid leukaemia (ALL), chronic myeloid leukaemia (CML), chronic lymphoid leukaemia (CLL) and biphenotypic acute leukaemia (BAL).

32. A compound for use of claim 30, wherein the cancer is a lymphoma selected from the group consisting of Hodgkin's lymphoma and non-Hodgkin's lymphoma.

33. A pharmaceutical composition comprising compounds of any one of claims 1 to 27 and at least one pharmaceutically acceptable excipient.

34. Use of a compound of any one of claims 1 to 27 in the manufacture of a medicament for treating cancer.

35. The use in claim 34, wherein the cancer is leukaemia or lymphoma.

36. The use in claim 35, wherein the cancer is a leukaemia selected from the group consisting of acute myeloid leukaemia (AML), acute lymphoid leukaemia (ALL), chronic myeloid leukaemia (CML), chronic lymphoid leukaemia (CLL) and biphenotypic acute leukaemia (BAL).

37. The use in claim 35, wherein the cancer is a lymphoma selected from the group consisting of Hodgkin's lymphoma and non-Hodgkin's lymphoma.