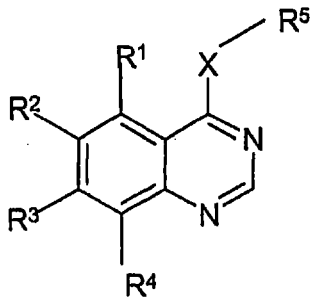
CLAIMS

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1. The use of a compound of formula (I)



(I)

or a salt, ester or amide thereof;

where X is O, or S, S(O) or $S(O)_2$, or NR^6 where R^6 is hydrogen or C_{1-6}alkyl,;

R^5 is an optionally substituted 5-membered heteroaromatic ring,

R^1, R^2, R^3, R^4 are independently selected from, halo, cyano, nitro, trifluoromethyl, C_{1-3}alkyl, -NR^7R^8 (wherein R^7 and R^8, which may be the same or different, each represents hydrogen or C_{1-3}alkyl), or -X^1R^9 (wherein X^1 represents a direct bond, -O-, -CH_2-, -OCO-, carbonyl, -S-, -SO-, -SO_2-, -NR^{10}CO-, -$CONR^{11}$-, -SO_2NR^{12}-, -$NR^{13}SO_2$- or -NR^{14}- (wherein R^{10}, R^{11}, R^{12}, R^{13} and R^{14} each independently represents hydrogen, C_{1-3}alkyl or C_{1-3}alkoxyC_{2-3}alkyl), and R^9 is selected from one of the following groups:

1) hydrogen or C_{1-5}alkyl which may be unsubstituted or which may be substituted with one or more groups selected from hydroxy, fluoro or amino,

2) C_{1-5}alkylX^2COR^{15} (wherein X^2 represents -O- or -NR^{16}- (in which R^{15} represents hydrogen, C_{1-3}alkyl or C_{1-3}alkoxyC_{2-3}alkyl) and R^{16} represents C_{1-3}alkyl, -$NR^{17}R^{18}$ or -OR^{19} (wherein R^{17}, R^{18} and R^{19} which may be the same or different each represents hydrogen, C_{1-3}alkyl or C_{1-3}alkoxyC_{2-3}alkyl));

3) C_{1-5}alkylX^3R^{20} (wherein X^3 represents -O-, -S-, -SO-, -SO_2-, -OCO-, -NR^{21}CO-, -$CONR^{22}$-, -SO_2NR^{23}-, -$NR^{24}SO_2$- or -NR^{25}- (wherein R^{21}, R^{22}, R^{23}, R^{24} and R^{25} each independently represents hydrogen, C_{1-3}alkyl or C_{1-3}alkoxyC_{2-3}alkyl) and R^{20} represents hydrogen, C_{1-3}alkyl, cyclopentyl, cyclohexyl or a 5-6-membered saturated heterocyclic group with 1-2

heteroatoms, selected independently from O, S and N, which C_{1-3}alkyl group may bear 1 or 2 substituents selected from oxo, hydroxy, halogeno and C_{1-4}alkoxy and which cyclic group may bear 1 or 2 substituents selected from oxo, hydroxy, halogeno, C_{1-4}alkyl, C_{1-4}hydroxyalkyl and C_{1-4}alkoxy);

4) C_{1-5}alkylX^4C_{1-5}alkylX^5R^{26} (wherein X^4 and X^5 which may be the same or different are each -O-, -S-, -SO-, $-SO_2-$, $-NR^{27}CO-$, $-CONR^{28}-$, $-SO_2NR^{29}-$, $-NR^{30}SO_2-$ or $-NR^{31}-$ (wherein R^{27}, R^{28}, R^{29}, R^{30} and R^{31} each independently represents hydrogen, C_{1-3}alkyl or C_{1-3}alkoxyC_{2-3}alkyl) and R^{26} represents hydrogen or C_{1-3}alkyl);

5) R^{32} (wherein R^{32} is a 5-6-membered saturated heterocyclic group (linked via carbon or nitrogen) with 1-2 heteroatoms, selected independently from O, S and N, which heterocyclic group may bear 1 or 2 substituents selected from oxo, hydroxy, halogeno, C_{1-4}alkyl, C_{1-4}hydroxyalkyl, C_{1-4}alkoxy, C_{1-4}alkoxyC_{1-4}alkyl and C_{1-4}alkylsulphonylC_{1-4}alkyl);

6) C_{1-5}alkylR^{32} (wherein R^{32} is as defined hereinbefore);

7) C_{2-5}alkenylR^{32} (wherein R^{32} is as defined hereinbefore);

8) C_{2-5}alkynylR^{32} (wherein R^{32} is as defined hereinbefore);

9) R^{33} (wherein R^{33} represents a pyridone group, a phenyl group or a 5-6-membered aromatic heterocyclic group (linked via carbon or nitrogen) with 1-3 heteroatoms selected from O, N and S, which pyridone, phenyl or aromatic heterocyclic group may carry up to 5 substituents on an available carbon atom selected from hydroxy, halogeno, amino, C_{1-4}alkyl, C_{1-4}alkoxy, C_{1-4}hydroxyalkyl, C_{1-4}aminoalkyl, C_{1-4}alkylamino, C_{1-4}hydroxyalkoxy, carboxy, trifluoromethyl, cyano, $-CONR^{34}R^{35}$ and $-NR^{36}COR^{37}$ (wherein R^{34}, R^{35}, R^{36} and R^{37}, which may be the same or different, each represents hydrogen, C_{1-4}alkyl or C_{1-3}alkoxyC_{2-3}alkyl));

10) C_{1-5}alkylR^{33} (wherein R^{33} is as defined hereinbefore);

11) C_{2-5}alkenylR^{33} (wherein R^{33} is as defined hereinbefore);

12) C_{2-5}alkynylR^{33} (wherein R^{33} is as defined hereinbefore);

13) C_{1-5}alkylX^6R^{33} (wherein X^6 represents -O-, -S-, -SO-, $-SO_2-$, $-NR^{38}CO-$, $-CONR^{39}-$, $-SO_2NR^{40}-$, $-NR^{41}SO_2-$ or $-NR^{42}-$ (wherein R^{38}, R^{39}, R^{40}, R^{41} and R^{42} each independently represents hydrogen, C_{1-3}alkyl or C_{1-3}alkoxyC_{2-3}alkyl) and R^{33} is as defined hereinbefore);

14) C_{2-5}alkenylX^7R^{33} (wherein X^7 represents -O-, -S-, -SO-, $-SO_2-$, $-NR^{43}CO-$, $-CONR^{44}-$, $-SO_2NR^{45}-$, $-NR^{46}SO_2-$ or $-NR^{47}-$ (wherein R^{43}, R^{44}, R^{45}, R^{46} and R^{47} each independently represents hydrogen, C_{1-3}alkyl or C_{1-3}alkoxyC_{2-3}alkyl) and R^{33} is as defined hereinbefore);

15) C_{2-5}alkynylX^8R^{33} (wherein X^8 represents -O-, -S-, -SO-, $-SO_2$-, $-NR^{48}CO$-, $-CONR^{49}$-, $-SO_2NR^{50}$-, $-NR^{51}SO_2$- or $-NR^{52}$- (wherein R^{48}, R^{49}, R^{50}, R^{51} and R^{52} each independently represents hydrogen, C_{1-3}alkyl or C_{1-3}alkoxyC_{2-3}alkyl) and R^{33} is as defined hereinbefore);

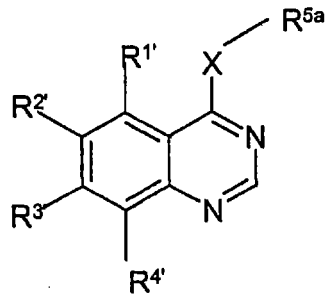
16) C_{1-3}alkylX^9C_{1-3}alkylR^{33} (wherein X^9 represents -O-, -S-, -SO-, $-SO_2$-, $-NR^{53}CO$-, $-CONR^{54}$-, $-SO_2NR^{55}$-, $-NR^{56}SO_2$- or $-NR^{57}$- (wherein R^{53}, R^{54}, R^{55}, R^{56} and R^{57} each independently represents hydrogen, C_{1-3}alkyl or C_{1-3}alkoxyC_{2-3}alkyl) and R^{33} is as defined hereinbefore); and

17) C_{1-3}alkylX^9C_{1-3}alkylR^{32} (wherein X^9 and R^{28} are as defined hereinbefore);

in the preparation of a medicament for use in the inhibition of aurora 2 kinase.

2. A method for inhibiting aurora 2 kinase in a warm blooded animal, such as man, in need of such treatment, which comprises administering to said animal an effective amount of a compound of formula (I), as defined in claim 1 or a pharmaceutically acceptable salt, or an *in vivo* hydrolysable ester thereof.

3. A compound of formula (IA)



(IA)

or a salt, ester or amide thereof;

where X is as defined in relation to formula (I);

$R^{1'}$, $R^{2'}$, $R^{3'}$, $R^{4'}$ are equivalent to R^1, R^2, R^3, R^4 as defined in relation to formula (I) and R^{5a} is an optionally substituted 5-membered heteroaromatic ring, subject to the following provisos:

(i) that where R^{5a} is a pyrazole group, it carries a substitutent of formula (k), (II) of (VI) above,

(ii) that where X is NH and R^{5a} is a substituted pyrazolone or tetrazolyl group, at least one of $R^{1'}$, $R^{2'}$, $R^{3'}$ and $R^{4'}$ is other than hydrogen; or

(iii) that where X is O and R^{5a} is 1-methyl-4-nitro-1H-imidazol-5-yl, at least one of $R^{1'}$, $R^{2'}$, $R^{3'}$ and $R^{4'}$ is other than hydrogen;

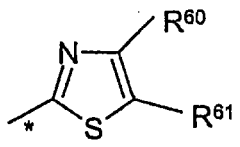
or a pharmaceutically acceptable salt, or an *in vivo* hydrolysable ester thereof.

4. A method for inhibiting aurora 2 kinase in a warm blooded animal, such as man, in need of such treatment, which comprises administering to said animal an effective amount of a compound of formula (I), as defined in claim 3 or a pharmaceutically acceptable salt, or an *in vivo* hydrolysable ester thereof.

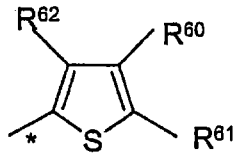
5. A compound according to claim 1 or 3 for use in a method of treatment of the human or animal body by therapy.

6. A pharmaceutical composition comprising a compound according to claim 1 or 3, in combination with a pharmaceutically acceptable carrier.

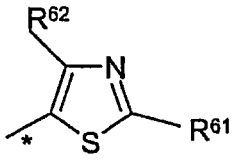
7. The composition as recited in Claim 3 wherein R^{5a} is selected from the group consisting of:



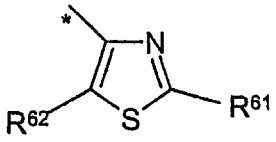
(a)



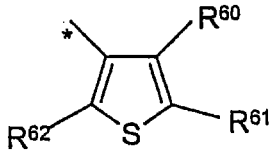
(b)



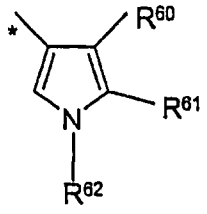
(c)



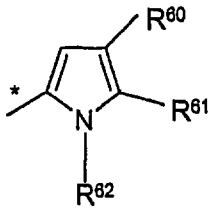
(d)



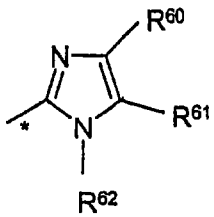
(e)



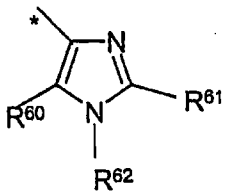
(f)



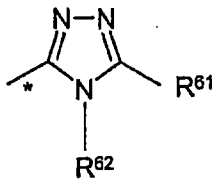
(g)



(h)



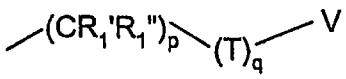
(i)



(j)

wherein where R^{60}, R^{61} and R^{62} are independently selected from hydrogen or a substituent group and * indicates the point of attachment to the group X in formula (IA).

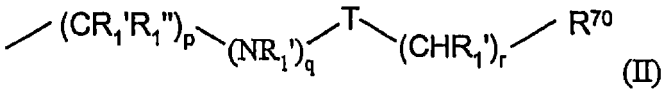
8. The composition as recited in Claim 7 wherein R^{60}, R^{61} or R^{62} is a group of sub-formula (k):



(k)

wherein p and q are independently 0 or 1 and R_1' and R_1'' are independently hydrogen, hydroxy, optionally substituted alkyl, optionally substituted cycloalkyl, halogen, cyano, optionally substitued alkyl, or optionally substituted alkyenyl, wherein R_1' can form with R_1'' a 3 to 6 membered ring; wherein T is C=O, SO_n, C(=NOR)CO, C(O)C(O), C=NCN, or CV=NO or wherein n = 0, 1 or 2 and V is independently R^{63} or $N(R^{63})R^{64}$ wherein R^{63} and R^{64} are independently selected from hydrogen, optionally substituted hydrocarbyl or optionally substituted heterocyclyl, or R^{63} and R^{64} together with the nitrogen atom to which they are attached form an optionally substituted heterocyclic ring.

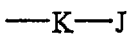
9. The composition as recited in Claim 7 wherein R^{60}, R^{61} or R^{62} is a group of sub-formula:



(II)

wherein p and q are independently 0 or 1, and r is 0, 1, 2, 3 or 4 and wherein R and R' are independently hydrogen, hydroxy, optionally substituted alkyl, optionally substituted cycloalkyl, halogen, cyano, optionally substitued alkyl, optionally substituted alkyenyl, wherein R can form with R' a 3 to 6 membered ring; wherein T is C=O, SO_n, C(=NOR)CO, C(O)C(O), C=NCN, or CV=NO or wherein n = 0, 1 or 2 and V is independently R^{63} or $N(R^{63})R^{64}$ wherein R^{63} and R^{64} are independently selected from hydrogen, optionally substituted hydrocarbyl or optionally substituted heterocyclyl, or R^{63} and R^{64} together with the nitrogen atom to which they are attached form an optionally substituted heterocyclic ring; wherein R^{70} is hydrogen, hydroxy (other than where q is 0), C_{1-6}alkyl, C_{1-6}alkoxy, amino, *N*-C_{1-6}alkylamino, *N*,*N*-(C_{1-6}alkyl)$_2$amino, hydroxyC_{2-6}alkoxy, C_{1-6}alkoxyC_{2-6}alkoxy, aminoC_{2-6}alkoxy, *N*-C_{1-6}alkylaminoC_{2-6}alkoxy, *N*,*N*-(C_{1-6}alkyl)$_2$aminoC_{2-6}alkoxy or C_{3-7}cycloalkyl,

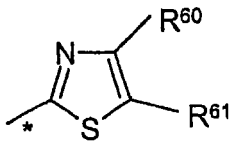
or R^{70} is of the Formula (III):



(III)

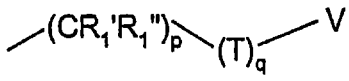
wherein J is aryl, heteroaryl or heterocyclyl and K is a bond, oxy, imino, *N*-(C_{1-6}alkyl)imino, oxyC_{1-6}alkylene, iminoC_{1-6}alkylene, *N*-(C_{1-6}alkyl)iminoC_{1-6}alkylene, -NHC(O) -, -SO_2NH-, -NHSO_2- or -NHC(O)-C_{1-6}alkylene.

10. The composition as recited in Claim 7 wherein R^{5a} is represented by:



(a)

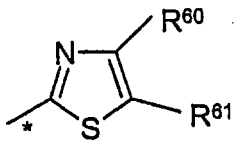
and wherein R^{60} is halogen, CN, or $CONR^{63}R^{64}$, and wherein R61 is sub-formula (k):



(k)

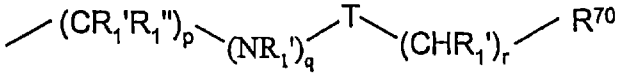
wherein p and q are independently 0 or 1 and R_1' and R_1'' are indedpendently hydrogen, hydroxy, optionally substituted alkyl, optionally substituted cycloalkyl, halogen, cyano, optionally substitued alkyl, optionally substituted alkyenyl, R_1' can form with R_1'' a 3 to 6 membered ring; wherein T is C=O, SO_n, C(=NOR)CO, C(O)C(O)), C=NCN, or V=NO or wherein n = 0, 1 or 2 and V is independently R^{63} or $N(R^{63})R^{64}$ wherein R^{63} and R^{64} are independently selected from hydrogen, optionally substituted hydrocarbyl or optionally substituted heterocyclyl, or R^{63} and R^{64} together with the nitrogen atom to which they are attached form an optionally substituted heterocyclic ring.

11. The composition as recited in Claim 7 wherein R^{5a} is represented by:



(a)

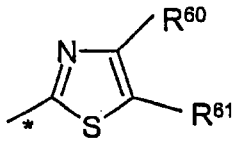
and wherein R^{60} is halogen, CN, or $CONR^{63}R^{64}$, and wherein R61 is sub-formula (k):



(II)

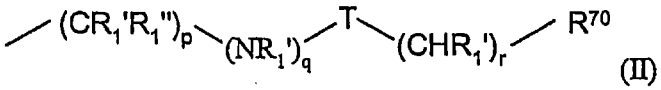
wherein p and q are independently 0 or 1, r is 0, 1, 2, 3 or 4 and R and R' are independently hydrogen, hydroxy, optionally substituted alkyl, optionally substituted cycloalkyl, halogen, cyano, optionally substitued alkyl, optionally substituted alkyenyl, R can form with the other R group a 3 to 6 membered ring; wherein T is C=O, SO_n, C(=NOR)CO, C(O)C(O)), C=NCN, or V=NO or wherein n = 0, 1 or 2 and V is independently R^{63} or $N(R^{63})R^{64}$ wherein R^{63} and R^{64} are independently selected from hydrogen, optionally substituted hydrocarbyl or optionally substituted heterocyclyl, or R^{63} and R^{64} together with the nitrogen atom to which they are attached form an optionally substituted heterocyclic ring; wherein R^{70} is hydrogen, hydroxy (other than where q is 0), C_{1-6}alkyl, C_{1-6}alkoxy, amino, *N*-C_{1-6}alkylamino, *N*,*N*-(C_{1-6}alkyl)$_2$amino, hydroxyC_{2-6}alkoxy, C_{1-6}alkoxyC_{2-6}alkoxy, aminoC_{2-6}alkoxy, *N*-C_{1-6}alkylaminoC_{2-6}alkoxy, *N*,*N*-(C_{1-6}alkyl)$_2$aminoC_{2-6}alkoxy or C_{3-7}cycloalkyl.

12. The composition as recited in Claim 7 wherein R^{5a} is represented by:



(a)

and wherein R^{60} is halogen, CN, or $CONR^{63}R^{64}$, and wherein R61 is sub-formula (k):



(II)

wherein p and q are independently 0 or 1, r is 0, 1, 2, 3 or 4 and R and R' are independently hydrogen, hydroxy, optionally substituted alkyl, optionally substituted cycloalkyl, halogen,

cyano, optionally substitued alkyl, optionally substituted alkyenyl, R can form with the other R group a 3 to 6 membered ring; wherein T is C=O, SO_n, C(=NOR)CO, C(O)C(O)), C=NCN, or V=NO or wherein n = 0, 1 or 2 and V is independently R^{63} or $N(R^{63})R^{64}$ wherein R^{63} and R^{64} are independently selected from hydrogen, optionally substituted hydrocarbyl or optionally substituted heterocyclyl, or R^{63} and R^{64} together with the nitrogen atom to which they are attached form an optionally substituted heterocyclic ring; wherein R^{70} is of the Formula (III):

—K—J (III)

wherein J is aryl, heteroaryl or heterocyclyl and K is a bond, oxy, imino, *N*-(C_{1-6}alkyl)imino, oxyC_{1-6}alkylene, iminoC_{1-6}alkylene, *N*-(C_{1-6}alkyl)iminoC_{1-6}alkylene, -NHC(O) -, -SO_2NH-, -$NHSO_2$- or -NHC(O)-C_{1-6}alkylene-,

and any aryl, heteroaryl or heterocyclyl group in a R^{70} group may be optionally substituted by one or more groups selected from hydroxy, halo, trifluoromethyl, cyano, mercapto, nitro, amino, carboxy, carbamoyl, formyl, sulphamoyl, C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{1-6}alkoxy, -O-(C_{1-3}alkyl)-O-, C_{1-6}alkylS(O)$_n$- (wherein n is 0-2), *N*-C_{1-6}alkylamino, *N,N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkoxycarbonyl, *N*-C_{1-6}alkylcarbamoyl, *N,N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{2-6}alkanoyl, C_{1-6}alkanoyloxy, C_{1-6}alkanoylamino, *N*-C_{1-6}alkylsulphamoyl, *N,N*-(C_{1-6}alkyl)$_2$sulphamoyl, C_{1-6}alkylsulphonylamino and C_{1-6}alkylsulphonyl-*N*-(C_{1-6}alkyl)amino,

or any aryl, heteroaryl or heterocyclyl group in a R^{70} group may be optionally substituted with one or more groups of the Formula (IV):

—B^1—$(CH_2)_p$—A^1 (IV)

wherein A^1 is halo, hydroxy, C_{1-6}alkoxy, cyano, amino, *N*-C_{1-6}alkylamino, *N,N*-(C_{1-6}alkyl)$_2$amino, carboxy, C_{1-6}alkoxycarbonyl, carbamoyl, *N*-C_{1-6}alkylcarbamoyl or *N,N*-(C_{1-6}alkyl)$_2$carbamoyl, p is 1 - 6, and B^1 is a bond, oxy, imino, *N*-(C_{1-6}alkyl)imino or -NHC(O)-, with the proviso that p is 2 or more unless B^1 is a bond or -NHC(O)-;

or any aryl, heteroaryl or heterocyclyl group in a R^{70} group may be optionally substituted with one or more groups of the Formula (V):

$$—E^1—D^1 \qquad (V)$$

wherein D^1 is aryl, heteroaryl or heterocyclyl and E^1 is a bond, C_{1-6}alkylene, oxyC_{1-6}alkylene, oxy, imino, *N*-(C_{1-6}alkyl)imino, iminoC_{1-6}alkylene, *N*-(C_{1-6}alkyl)-iminoC_{1-6}alkylene, C_{1-6}alkylene-oxyC_{1-6}alkylene, C_{1-6}alkylene-iminoC_{1-6}alkylene, C_{1-6}alkylene-*N*-(C_{1-6}alkyl)-iminoC_{1-6}alkylene, -NHC(O)-, -$NHSO_2$-, -SO_2NH- or -NHC(O)-C_{1-6}alkylene-, and any aryl, heteroaryl or heterocyclyl group in a substituent on D^1 may be optionally substituted with one or more groups selected from hydroxy, halo, C_{1-6}alkyl, C_{1-6}alkoxy, carboxy, C_{1-6}alkoxycarbonyl, carbamoyl, *N*-C_{1-6}alkylcarbamoyl, *N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{2-6}alkanoyl, amino, *N*-C_{1-6}alkylamino and *N,N*-(C_{1-6}alkyl)$_2$amino,

and any C_{3-7}cycloalkyl or heterocyclyl group in a R^{70} group may be optionally substituted with one or two oxo or thioxo substituents,

and any of the R^{70} groups defined hereinbefore which comprises a CH_2 group which is attached to 2 carbon atoms or a CH_3 group which is attached to a carbon atom may optionally bear on each said CH_2 or CH_3 group a substituent selected from hydroxy, amino, C_{1-6}alkoxy, *N*-C_{1-6}alkylamino, *N,N*-(C_{1-6}alkyl)$_2$amino and heterocyclyl.

13. A method for inhibiting aurora 2 kinase in a warm blooded animal, such as man, in need of such treatment, which comprises administering to said animal an effective amount of a compound of formula (I), as defined in any one of Claims 7-12 or a pharmaceutically acceptable salt, or an *in vivo* hydrolysable ester thereof.

14. A compound as in any one of Claims 7-12, for use in a method of treatment of the human or animal body by therapy.

15. A pharmaceutical composition comprising a compound according to Claims 7-12 in combination with a pharmaceutically acceptable carrier.

16. A method for inhibiting aurora 2 kinase in a warm blooded animal, such as man, in need of such treatment, which comprises administering to said animal an effective amount of

a compound of any one of Claims 7-12 or a pharmaceutically acceptable salt, or an *in vivo* hydrolysable ester thereof.

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