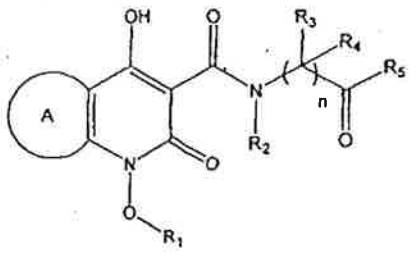
We claim:

1. A compound of the general formula (I),



(I)

wherein

R_1 represents hydrogen, optionally substituted (C_1-C_{10})alkyl, (C_2-C_{10})alkenyl, (C_2-C_{10})alkynyl, (C_3-C_8)cycloalkyl, (C_5-C_8)cycloalkenyl, aryl, heteroaryl, heterocyclyl, aralkyl, cycloalkanylalkyl, heteroaralkyl, heterocyclylalkyl groups;

R_2 represents hydrogen, optionally substituted alkyl, cycloalkyl, aryl, heteroaryl, heterocyclyl and acyl groups;

R_3 and R_4 each independently represents hydrogen, optionally substituted alkyl, cycloalkyl, aryl, heterocyclyl, heteroaryl groups; or R_3 and R_4 together with the carbon atom to which they are attached forms a cycloalkyl, or heterocyclyl group wherein the heterocyclyl group may further contain one or more heteroatoms selected from O, N & S; R_5 is selected from the group comprising of $-OR_6$, $-COOR_6$, $-NR_7COR_6$ and $-NR_7SO_2R_6$ wherein each of R_6 and R_7 at each occurrence are independently selected from the group comprising of hydrogen, optionally substituted groups selected from alkyl, cycloalkyl, aryl, heterocyclyl and heteroaryl; 'A' represents a 5-7 membered saturated or unsaturated carbocyclic or heterocyclic ring system wherein the heterocyclic ring further contains one or more heteroatoms selected from N, O or $S(O)_m$; The said cycle representing 'A' is further substituted by one or more substituents selected from the group of substituents represented by R_8; 'm' represents integers from 0-2 and 'n' represents integers from 1-4.

2. The compound as claimed in claim 1, wherein R_1 is selected from (C_1-C_{10})alkyl, (C_2-C_{10})alkenyl, (C_2-C_{10})alkynyl, (C_3-C_8)cycloalkyl, cycloalkanylalkyl, aryl, heteroaryl, heterocyclyl, aralkyl, heterocyclylalkyl groups.

3. The compound as claimed in claim 1, wherein R_2 is selected from hydrogen, optionally substituted alkyl, cycloalkyl and acyl groups.

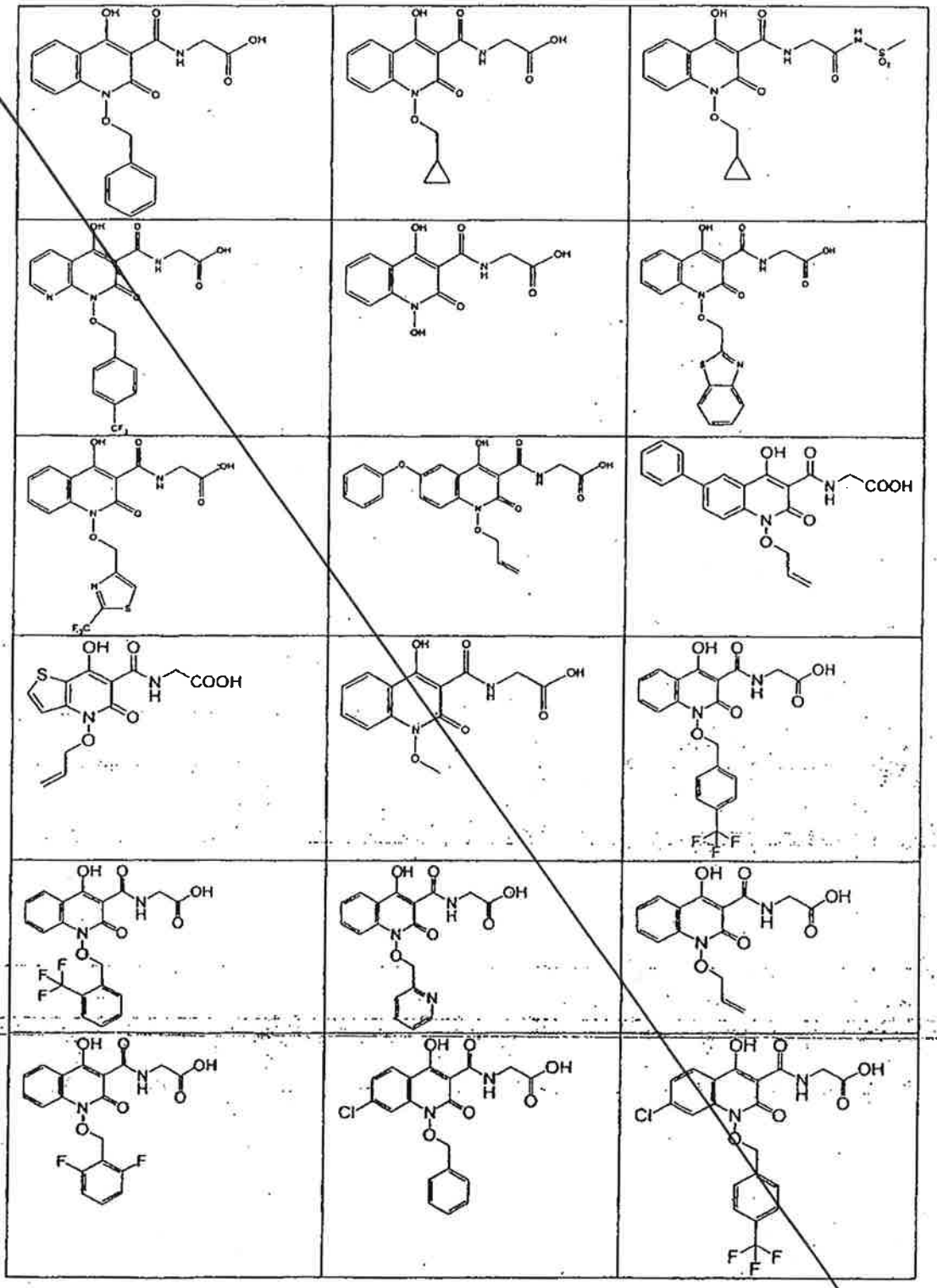
4. The compound as claimed in claim 1, wherein R_3 and R_4 is independently selected from hydrogen, optionally substituted alkyl, cycloalkyl groups or R_3 and R_4 together with the carbon atom to which they are attached form a cycloalkyl, or heterocyclyl ring.

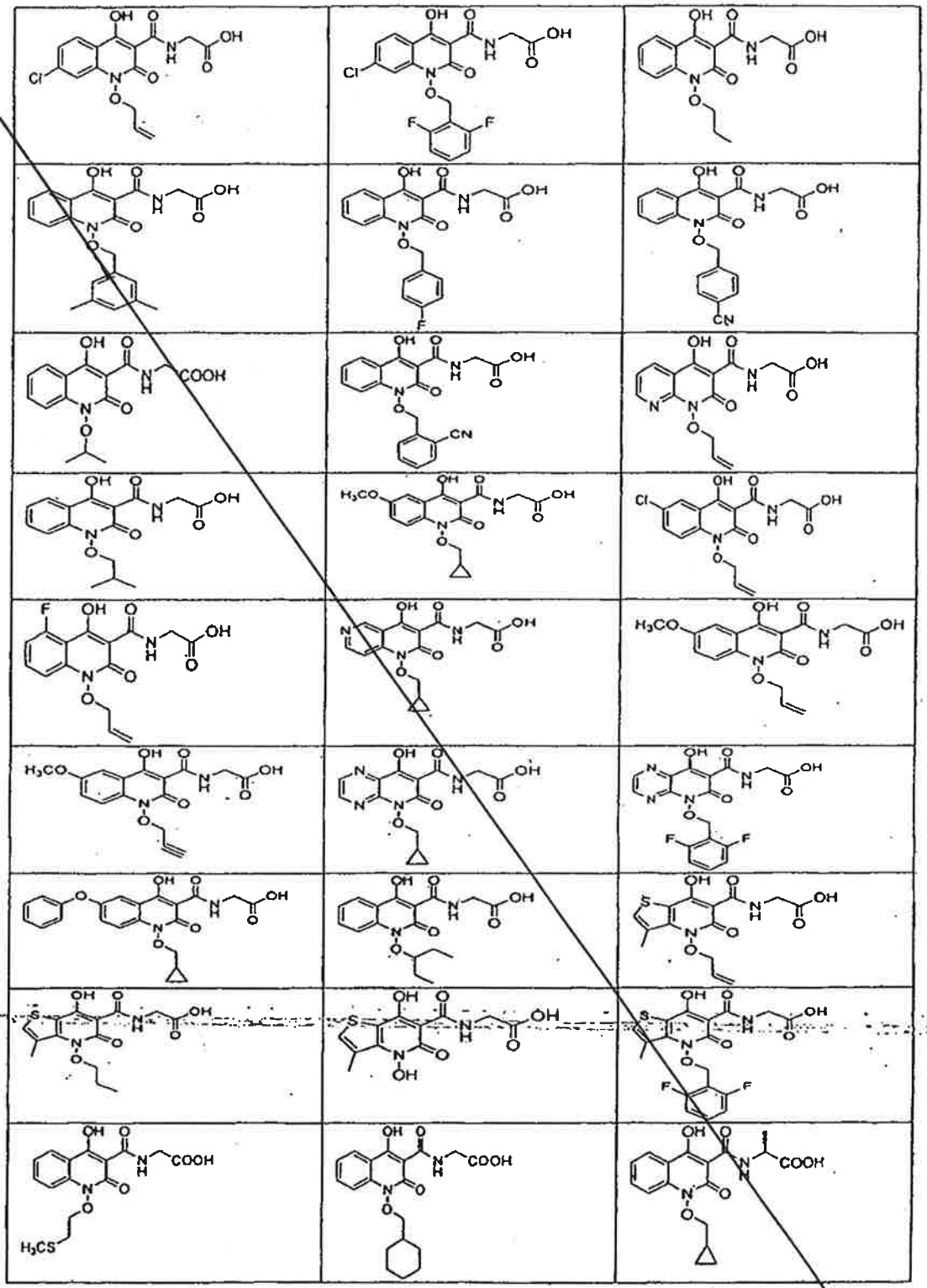
5. The compound as claimed in claim 1, wherein R_5 is selected from the group consisting of $-OR_6$, $-NR_7COR_6$ and $-NR_7SO_2R_6$, wherein R_6 and R_7 are as defined earlier.

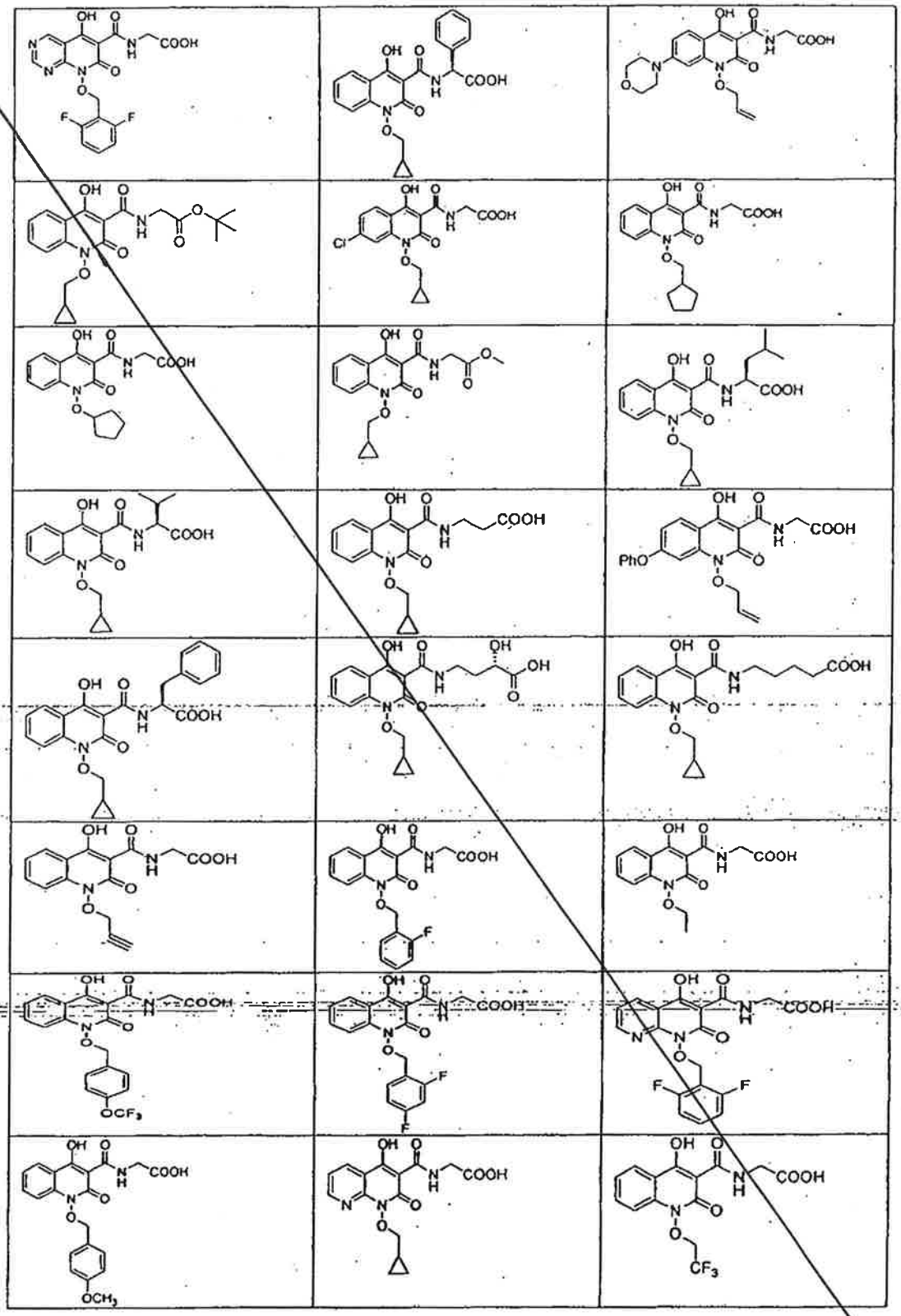
6. The compound as claimed in claim 1, wherein R_8 is selected from the group consisting of hydrogen, hydroxy, cyano, halo, haloalkyl, (C_1-C_{10})alkyl, (C_2-C_{10})alkenyl, (C_2-C_{10})alkynyl, (C_3-C_8)cycloalkyl, aryl, heterocyclyl, heteroaryl aralkyl, heterocyclylalkyl, $-COR_9$, $-COOR_9$, $-OR_9$, $-S(O)_mR_9$, $-NR_9R_{10}$, $-CONR_9R_{10}$, $-N(R_9)COR_{10}$, $-N(R_9)COOR_{10}$, $-OCH_2COR_9$, $-N(R_9)CH_2COR_{10}$, $-N(R_9)CONR_9R_{10}$, $-SO_2NR_9R_{10}$, $-N(R_9)SO_2R_{10}$ derivatives wherein each of R_9 and R_{10} at each occurrence independently represents hydrogen, hydroxy, alkoxy, haloalkyl, optionally substituted (C_1-C_{10})alkyl, (C_2-C_{10})alkenyl, (C_2-C_{10})alkynyl, (C_3-C_8)cycloalkyl, (C_5-C_8)cycloalkenyl, optionally substituted amino, aryl, heteroaryl, heterocyclyl, aralkyl, heterocyclylalkyl groups, or wherever feasible or R_9 and R_{10} together with the atom to which they are attached may form a 5-8 membered cyclic ring containing 0-2 additional heteroatoms selected from –O-, $-NR_7-$ and $S(O)_m$, wherein R_7 and m are as defined earlier.

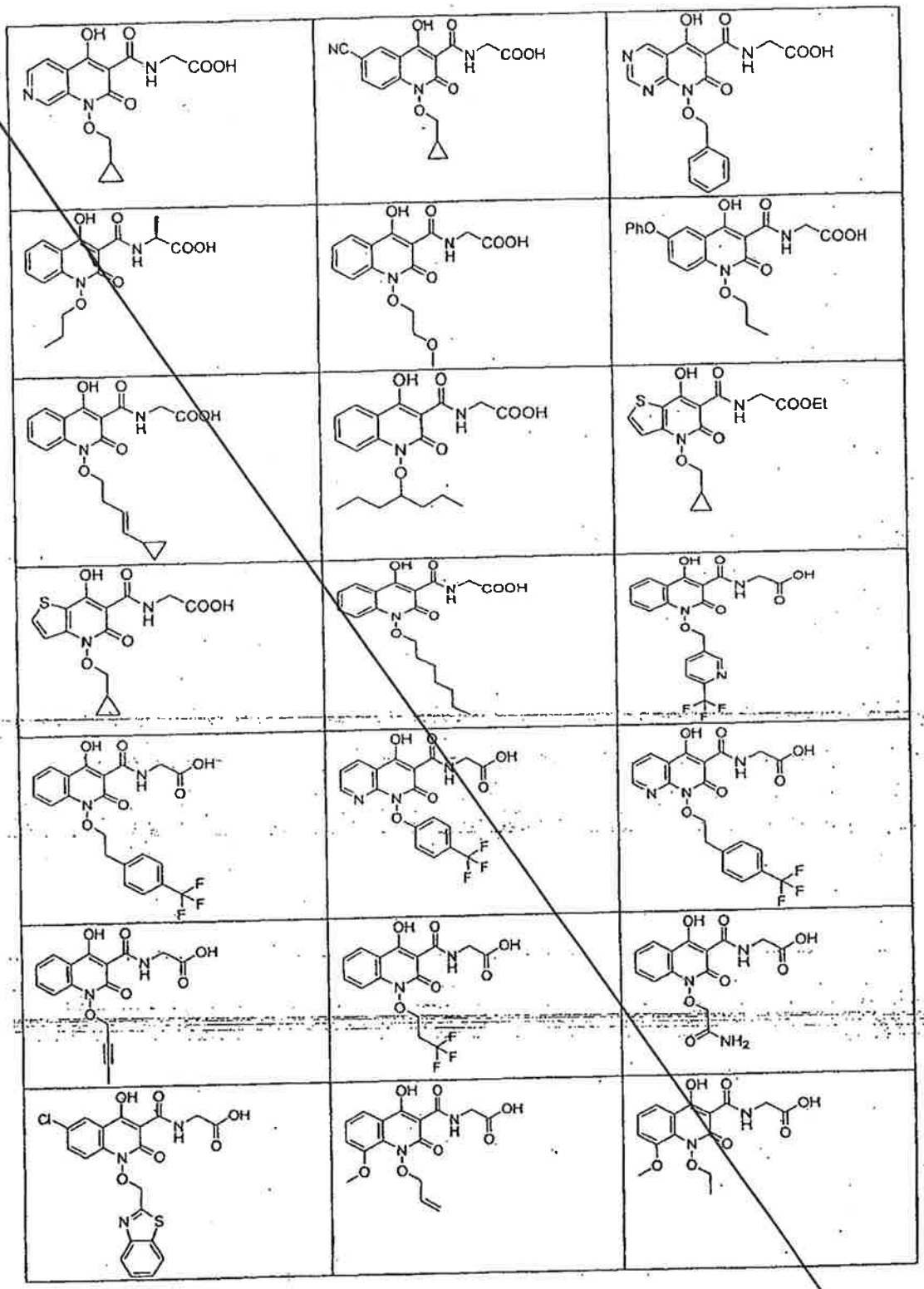
7. The compound as claimed in claim 1, wherein the substitution on R_1 or R_8 is independently selected from hydrogen, hydroxy, cyano, halo, nitro, oxo, imino, haloalkyl, (C_1-C_{10})alkyl, (C_2-C_{10})alkenyl, (C_2-C_{10})alkynyl, (C_3-C_8)cycloalkyl, aryl, heterocyclyl, heteroaryl, aralkyl, heterocyclylalkyl, $-COR_9$, $-C(O)COR_9$, $-COOR_9$, $-OR_9$, $-S(O)_mR_9$, $-NR_9R_{10}$, $-CONR_9R_{10}$, $-N(R_9)COR_{10}$, $-N(R_9)COOR_{10}$, $-NR_9NR_{10}COR_9$, $-OCH_2COR_9$, $-N(R_9)CH_2COR_{10}$, $-N(R_9)CONR_9R_{10}$, $-P(O)(OR_{10})_2$, $-SO_2NR_9R_{10}$, $-N(R_9)SO_2R_{10}$ derivatives, wherein R_9 & R_{10} are as defined earlier.

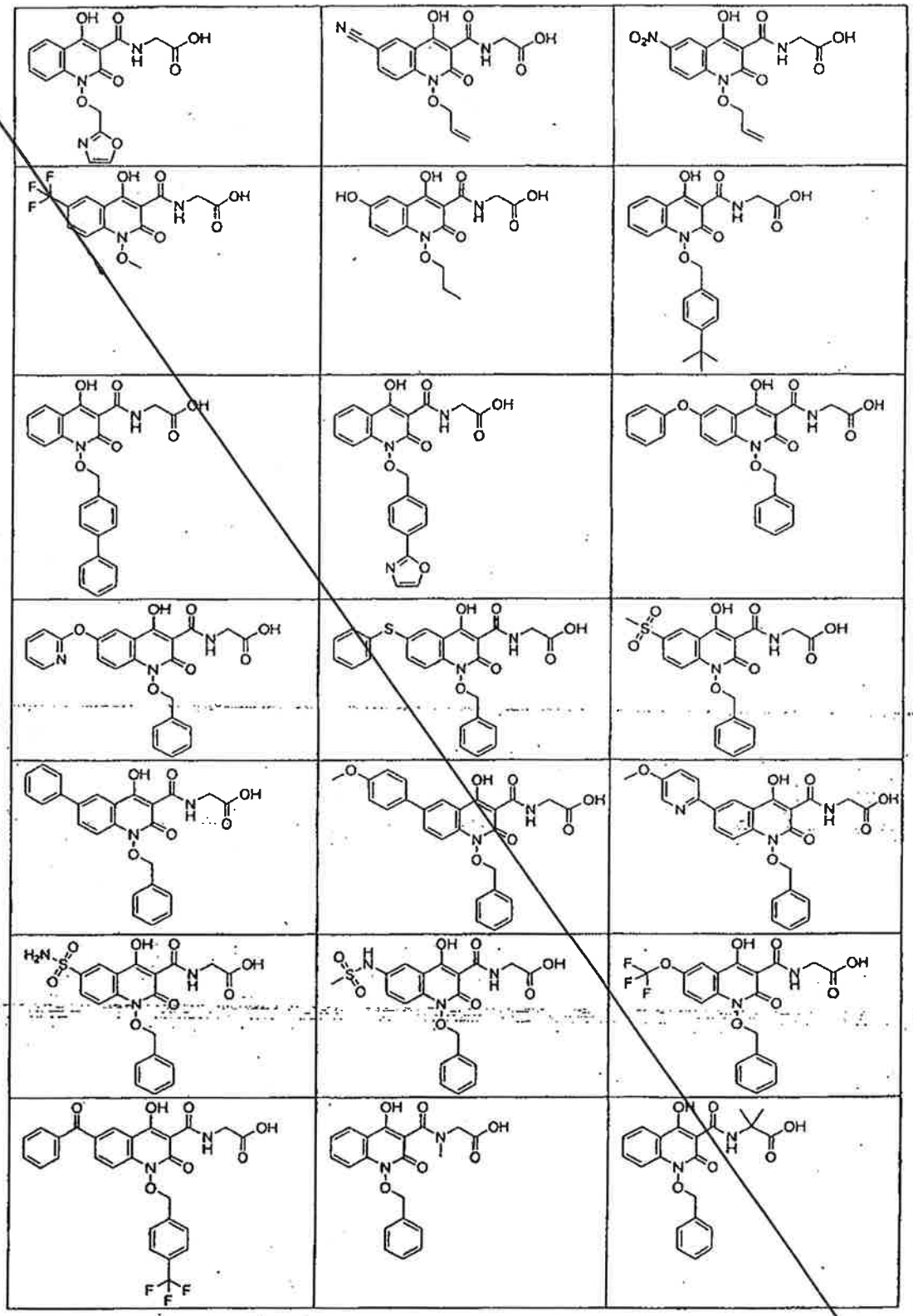
8. A compound as claimed in claim 1 selected from the group comprising of:

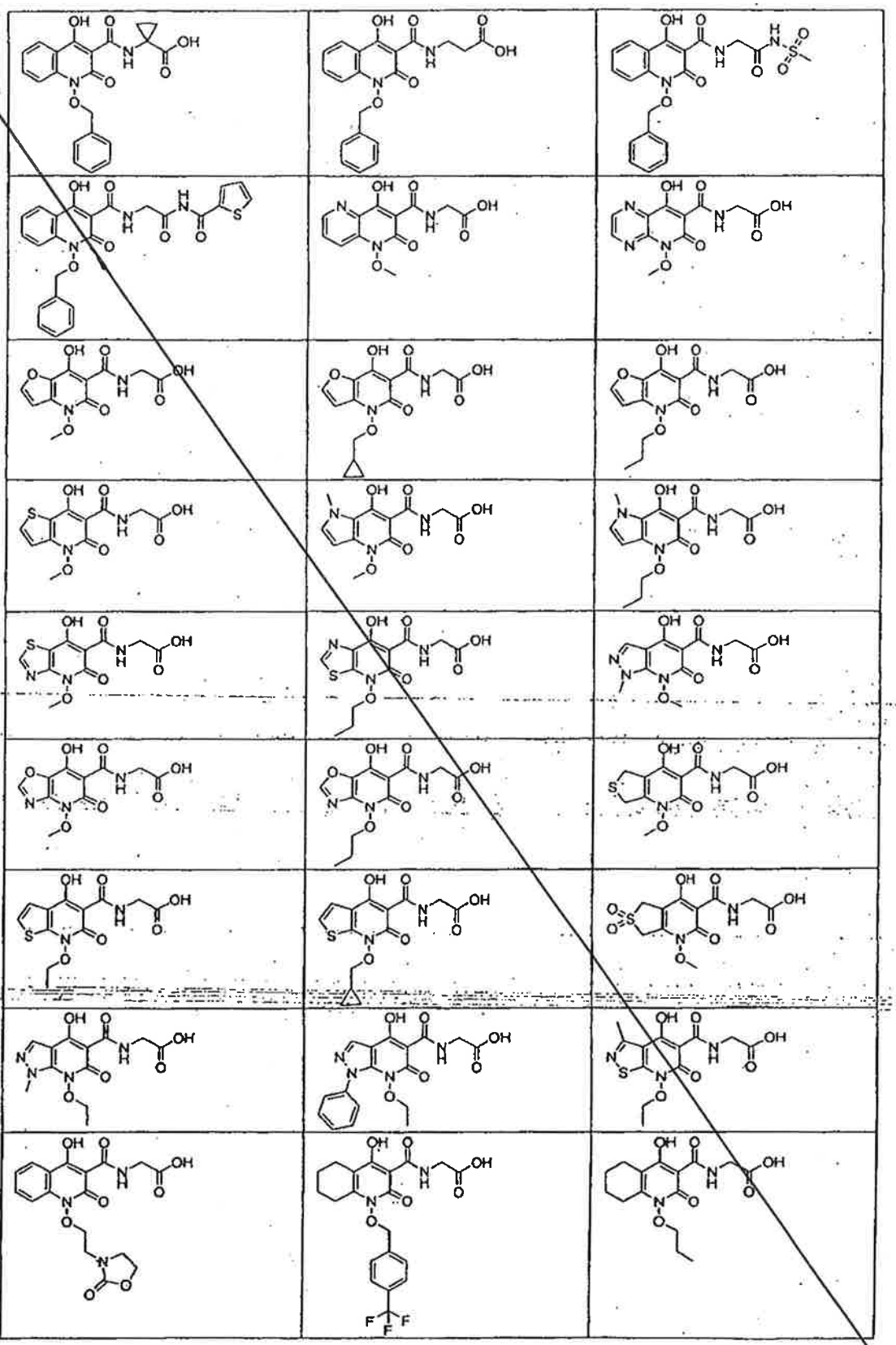


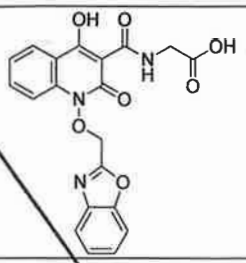






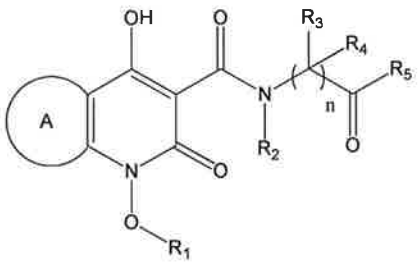




9. A pharmaceutical composition comprising a therapeutically effective amount of a compound of formula (**I**) as claimed in any of the preceding claims and optionally one or more pharmaceutically acceptable carriers, diluents or excipients.
10. The use of a compound of formula (I) or its pharmaceutical composition as claimed in any of the preceding claims for the manufacture of a medicament for the treatment of conditions mediated by HIF prolyl hydroxylase.
11. Use of a compound of formula (I) as claimed in any of the preceding claims or its suitable pharmaceutical composition in the manufacture of a medicament for the treatment of anemia in a patient.
12. A pharmaceutical composition comprising compound of formula (I) as claimed in any of the preceding claims along with suitable excipients suitable for the treatment of diseases through the inhibition of HIF prolyl hydroxylase.

1. A compound of the general formula (I),



(I)

wherein

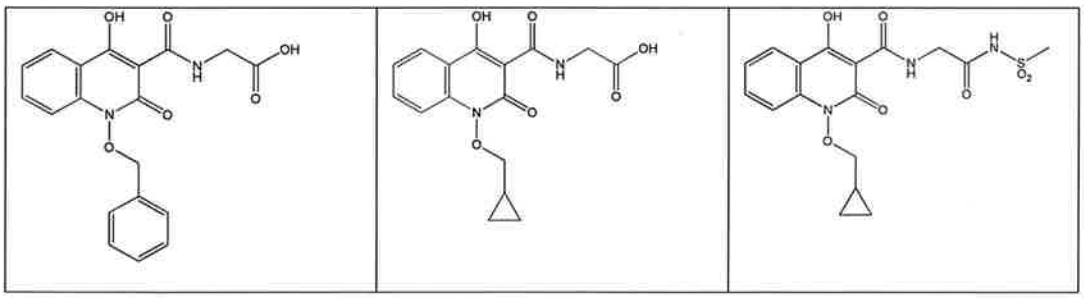
R_1 represents hydrogen, optionally substituted (C_1-C_{10})alkyl, (C_2-C_{10})alkenyl, (C_2-C_{10})alkynyl, (C_3-C_8)cycloalkyl, (C_5-C_8)cycloalkenyl, aryl, heteroaryl, heterocyclyl, aralkyl, cycloalkanylalkyl, heteroaralkyl, heterocyclylalkyl groups, wherein the substitution on R_1 is independently selected from hydrogen, hydroxy, cyano, halo, nitro, oxo, imino, haloalkyl, (C_1-C_{10})alkyl, (C_2-C_{10})alkenyl, (C_2-C_{10})alkynyl, (C_3-C_8)cycloalkyl, aryl, heterocyclyl, heteroaryl, aralkyl, heterocyclylalkyl, -COR_9, -$C(O)COR_9$, -$COOR_9$, -OR_9, -$S(O)_mR_9$, -NR_9R_{10}, -$CONR_9R_{10}$, -$N(R_9)COR_{10}$, -$N(R_9)COOR_{10}$, -$NR_9NR_{10}COR_9$, -OCH_2COR_9, -$N(R_9)CH_2COR_{10}$, -$N(R_9)CONR_9R_{10}$, -$P(O)(OR_{10})_2$, -$SO_2NR_9R_{10}$, -$N(R_9)SO_2R_{10}$ derivatives;

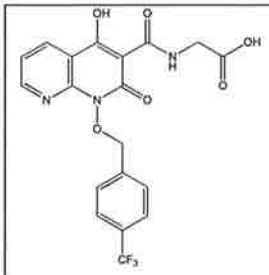
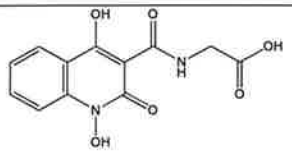
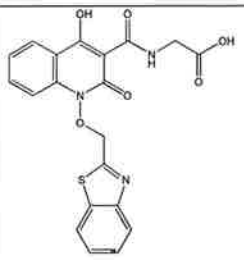
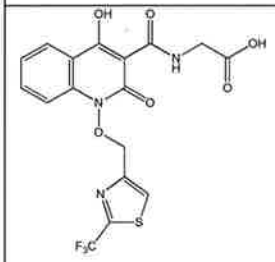
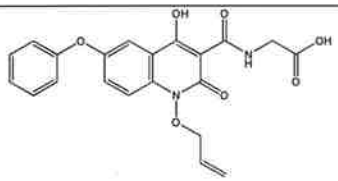
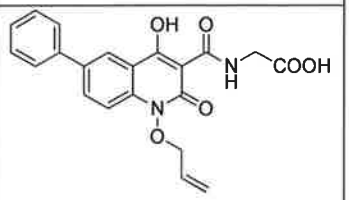
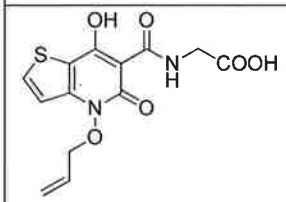
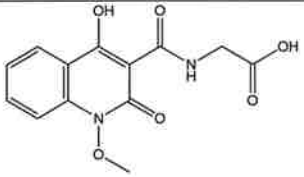
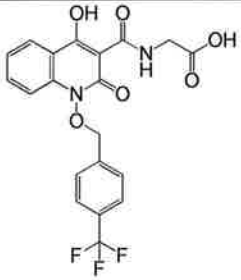
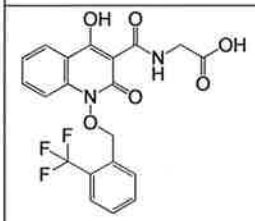
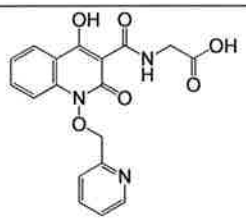
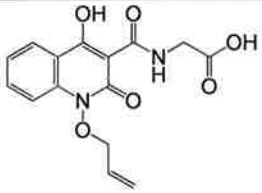
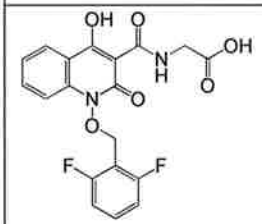
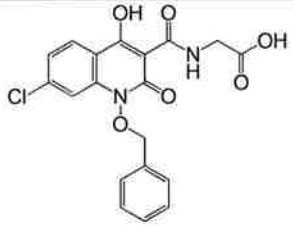
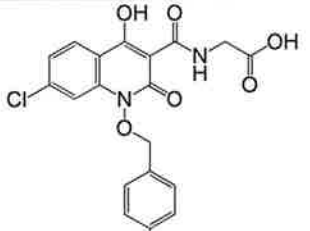
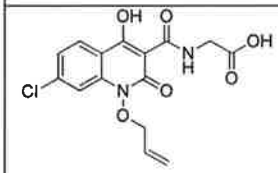
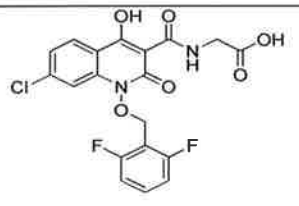
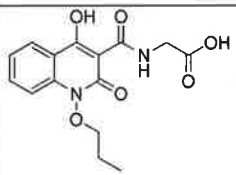
R_2 represents hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, heterocyclyl and acyl groups;

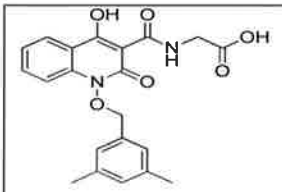
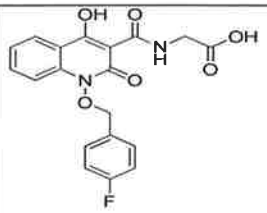
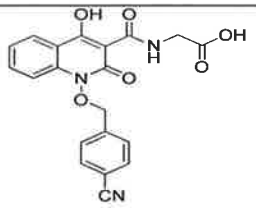
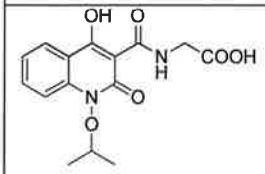
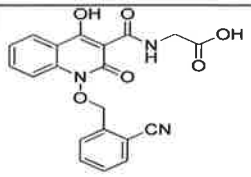
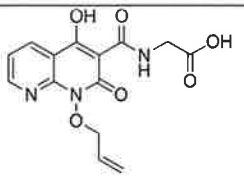
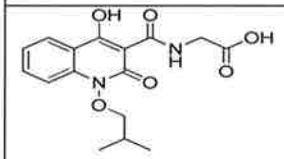
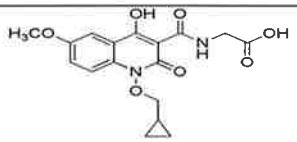
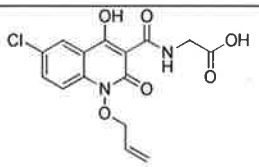
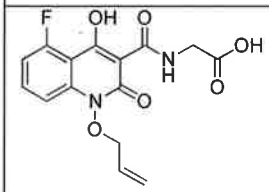
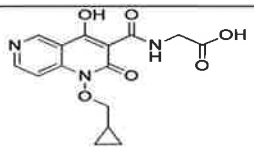
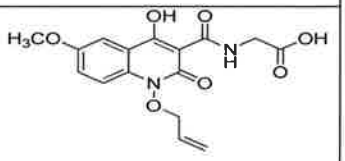
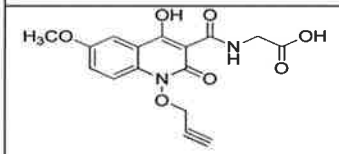
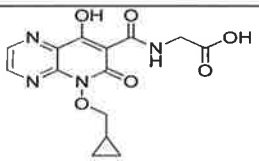
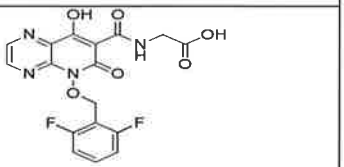
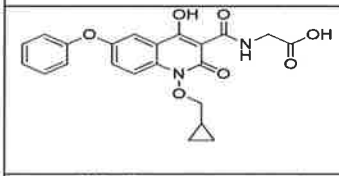
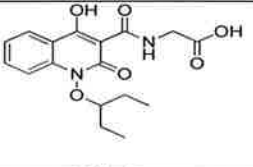
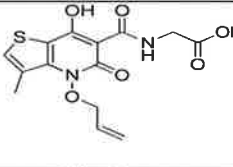
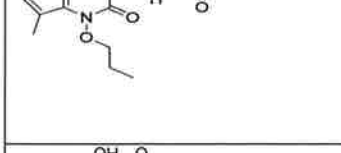
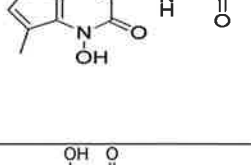
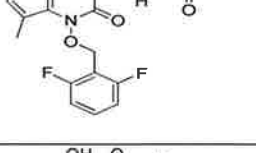
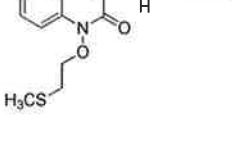
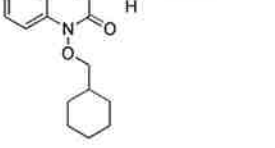
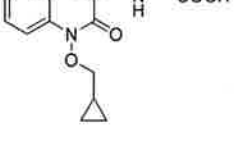
R_3 and R_4 each independently represents hydrogen, alkyl, cycloalkyl, aryl, heterocyclyl, heteroaryl groups; or R_3 and R_4 together with the carbon atom to which they are attached forms a cycloalkyl, or heterocyclyl group wherein the heterocyclyl group may further contain one or more heteroatoms selected from O, N & S; R_5 is selected from the group comprising of –OR_6, -$COOR_6$, -NR_7COR_6 and -$NR_7SO_2R_6$ wherein each of R_6 and R_7 at each occurrence are independently selected from the group comprising of hydrogen, alkyl, cycloalkyl, aryl, heterocyclyl and heteroaryl; 'A' represents a 5-7 membered saturated or unsaturated carbocyclic or heterocyclic ring system wherein the heterocyclic ring further contains one or more heteroatoms selected from N, O or $S(O)_m$; The said cycle representing 'A' is further substituted by one or more substituents selected from the group of

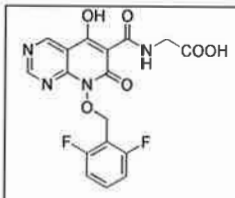
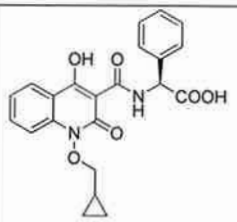
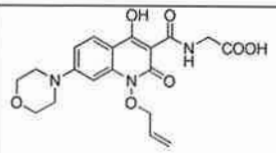
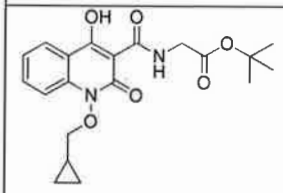
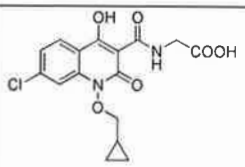
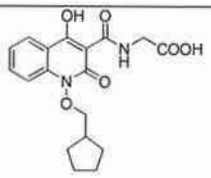
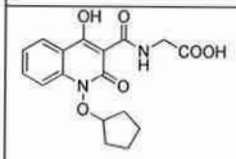
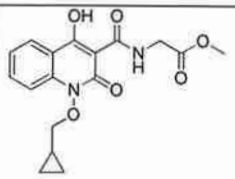
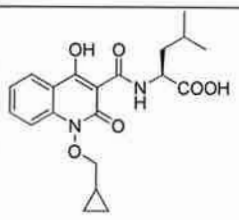
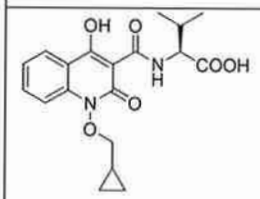
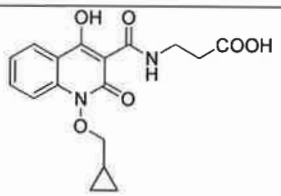
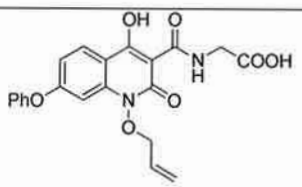
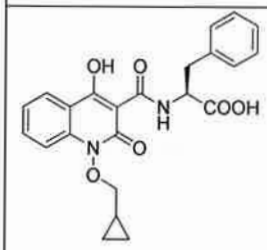
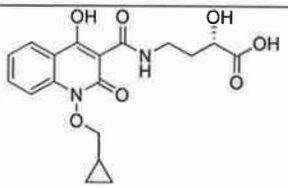
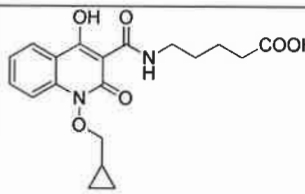
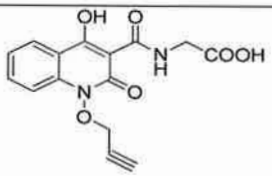
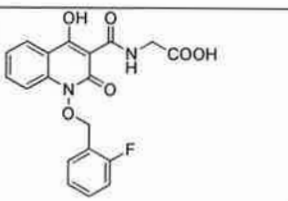
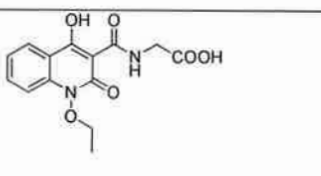
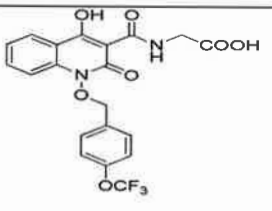
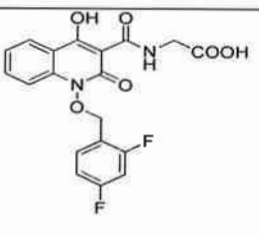
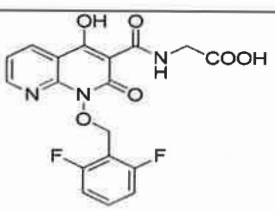
substituents represented by R_8 wherein R_8 is selected from the group consisting of hydrogen, hydroxy, cyano, halo, haloalkyl, $(C_1\text{-}C_{10})$alkyl, $(C_2\text{-}C_{10})$alkenyl, $(C_2\text{-}C_{10})$alkynyl, $(C_3\text{-}C_8)$cycloalkyl, aryl, heterocyclyl, heteroaryl aralkyl, heterocyclylalkyl, $-COR_9$, $-COOR_9$, $-OR_9$, $-S(O)_mR_9$, $-NR_9R_{10}$, $-CONR_9R_{10}$, $-N(R_9)COR_{10}$, $-N(R_9)COOR_{10}$, $-OCH_2COR_9$, $-N(R_9)CH_2COR_{10}$, $-N(R_9)CONR_9R_{10}$, $-SO_2NR_9R_{10}$, $-N(R_9)SO_2R_{10}$ derivatives; R_9 and R_{10} at each occurrence independently represents hydrogen, hydroxy, alkoxy, haloalkyl, $(C_1\text{-}C_{10})$alkyl, $(C_2\text{-}C_{10})$alkenyl, $(C_2\text{-}C_{10})$alkynyl, $(C_3\text{-}C_8)$cycloalkyl, $(C_5\text{-}C_8)$cycloalkenyl, amino, aryl, heteroaryl, heterocyclyl, aralkyl, heterocyclylalkyl groups, or wherever feasible or R_9 and R_{10} together with the atom to which they are attached may form a 5-8 membered cyclic ring containing 0-2 additional heteroatoms selected from –O-, $-NR_7$- and $S(O)_m$, wherein R_7 and m are as defined earlier; 'm' represents integers from 0-2 and 'n' represents integers from 1-4.

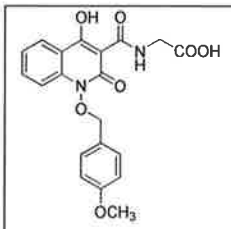
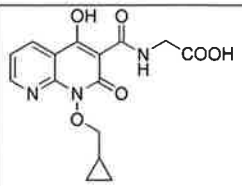
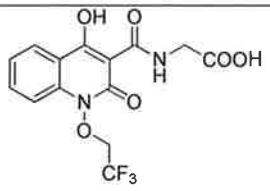
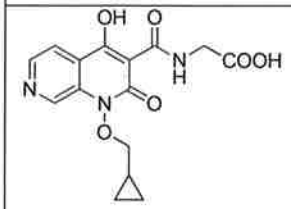
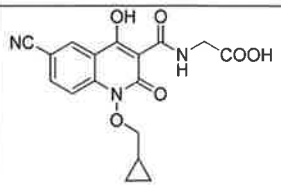
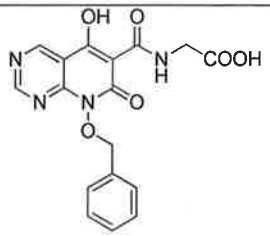
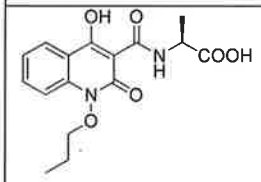
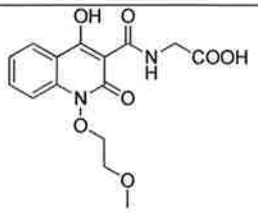
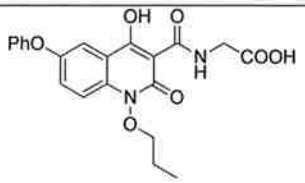
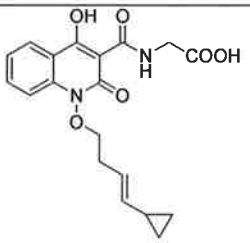
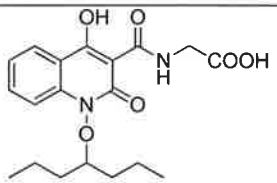
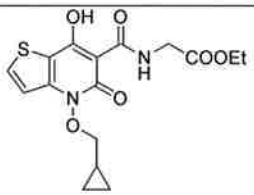
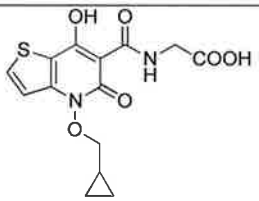
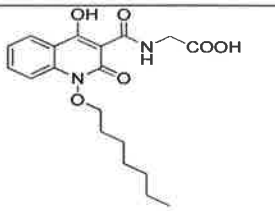
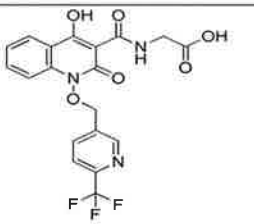
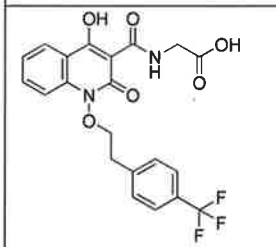
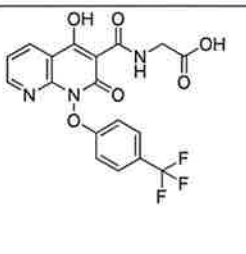
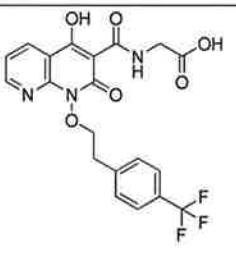
2. The compound as claimed in claim 1, wherein R_1 is selected from $(C_1\text{-}C_{10})$alkyl, $(C_2\text{-}C_{10})$alkenyl, $(C_2\text{-}C_{10})$alkynyl, $(C_3\text{-}C_8)$cycloalkyl, cycloalkanylalkyl, aryl, heteroaryl, heterocyclyl, aralkyl, heterocyclylalkyl groups.
3. The compound as claimed in claim 1, wherein R_2 is selected from hydrogen, alkyl, cycloalkyl and acyl groups.
4. The compound as claimed in claim 1, wherein R_3 and R_4 is independently selected from hydrogen, alkyl, cycloalkyl groups or R_3 and R_4 together with the carbon atom to which they are attached form a cycloalkyl, or heterocyclyl ring.
5. The compound as claimed in claim 1, wherein R_5 is selected from the group consisting of $-OR_6$, $-NR_7COR_6$ and $-NR_7SO_2R_6$, wherein R_6 and R_7 are as defined earlier.
6. A compound as claimed in claim 1 selected from the group comprising of:

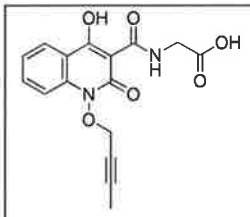
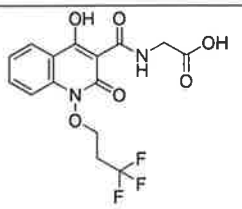
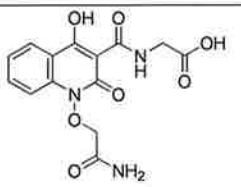
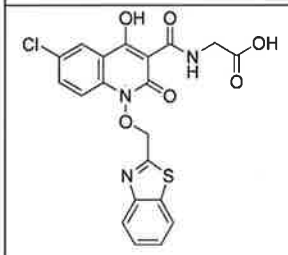
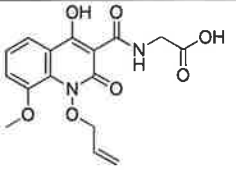
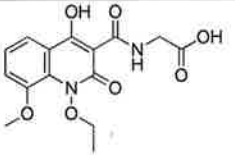
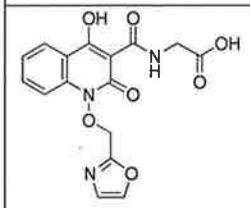
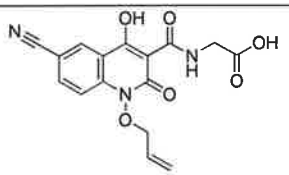
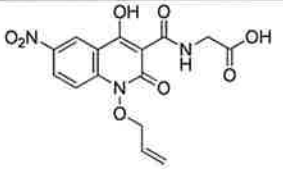
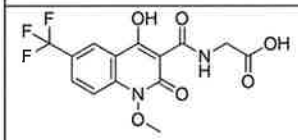
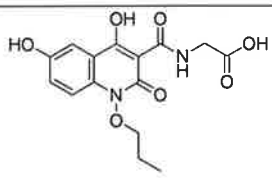
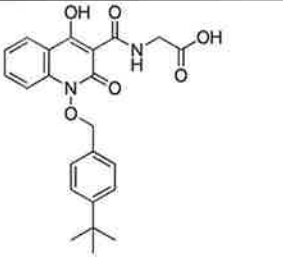
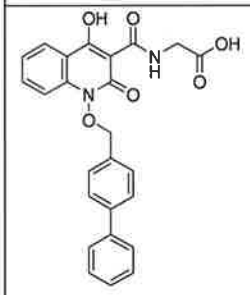
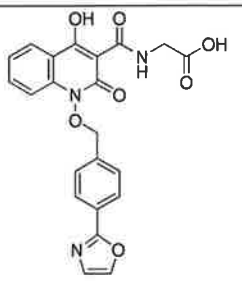
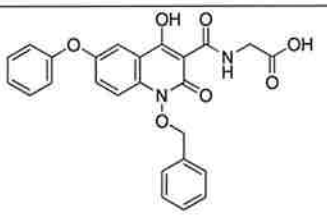
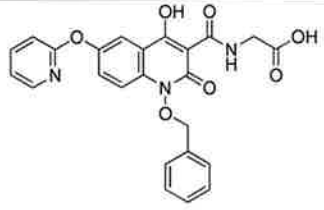
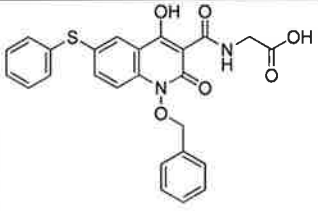
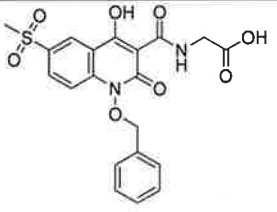


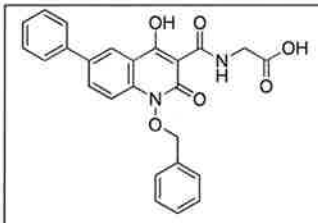
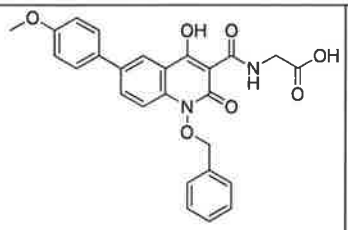
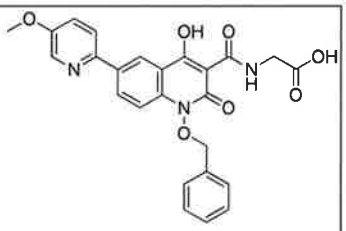
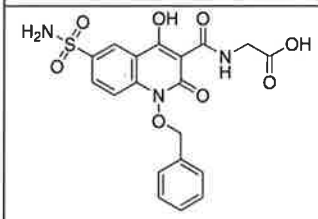
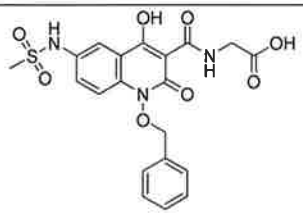
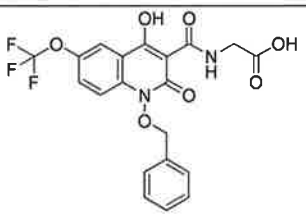
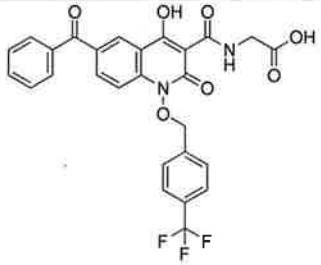
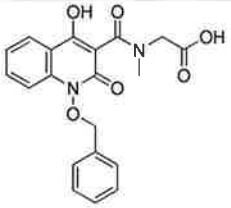
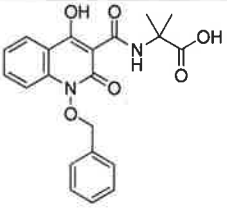
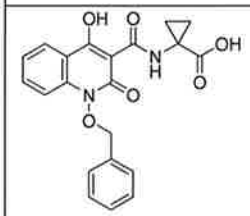
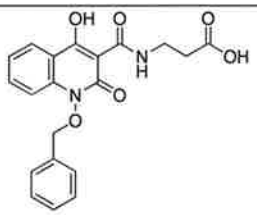
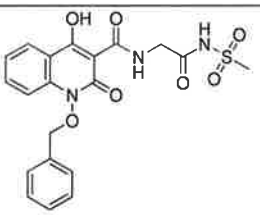
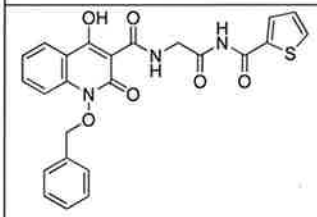
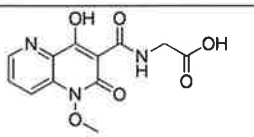
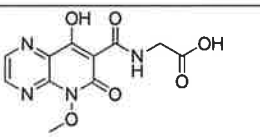
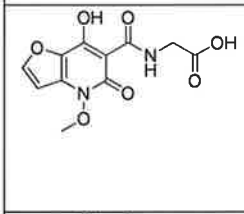
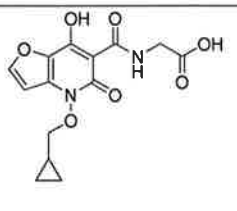
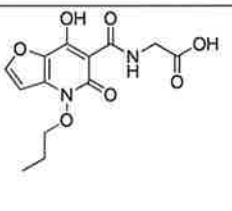
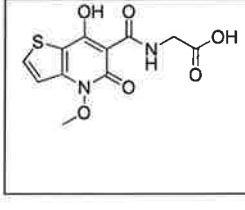
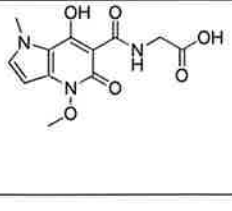
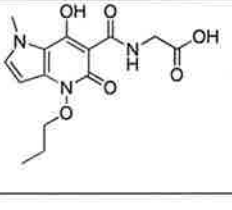
		
		
		
		
		
		

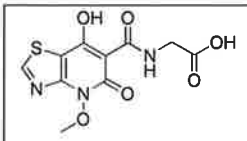
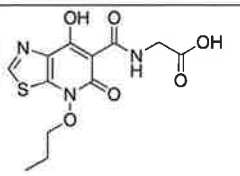
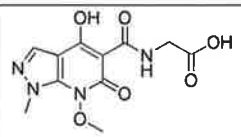
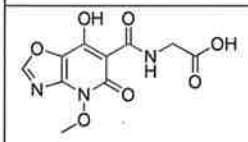
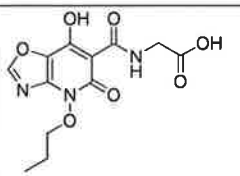
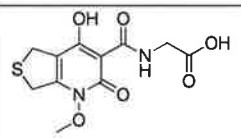
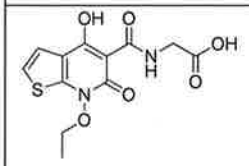
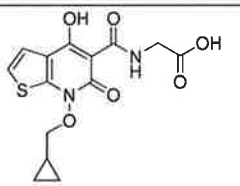
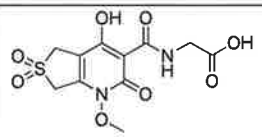
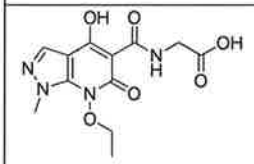
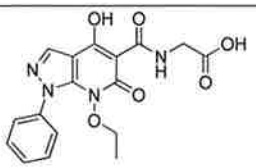
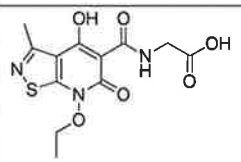
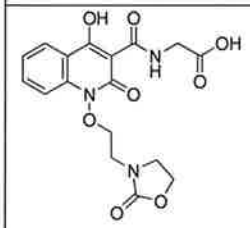
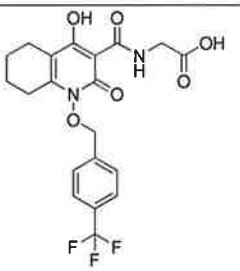
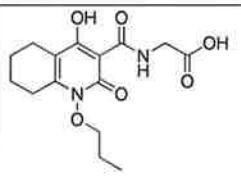
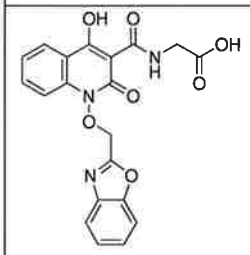
		
		
		
		
		
		
		
		
		

7. A pharmaceutical composition comprising a therapeutically effective amount of a compound of formula (**I**) as claimed in any of the preceding claims and optionally one or more pharmaceutically acceptable carriers, diluents or excipients.
8. The use of a compound of formula (I) or its pharmaceutical composition as claimed in any of the preceding claims for the manufacture of a medicament for the treatment of conditions mediated by HIF prolyl hydroxylase.

9. Use of a compound of formula (I) according to any of the preceding claims or its suitable pharmaceutical composition in the manufacture of a medicament for the treatment of anemia in a patient.
10. A pharmaceutical composition comprising compound of formula (I) as claimed in any of the preceding claims along with suitable excipients suitable for the treatment of diseases through the inhibition of HIF prolyl hydroxylase.