It is another objective of the present invention to provide compounds that are useful for the manufacture of a medicament for the treatment of CNS disorders.

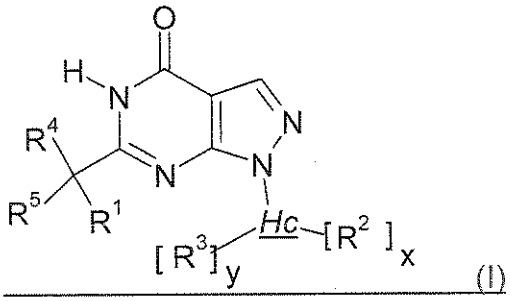
Yet another objective of the present invention is to provide compounds which show a better side effect profile compared to the compounds of the prior art.

Another objective of the present invention is to provide compounds that have a favourable selectively profile in favour for PDE9A inhibition over other PDE family members and by this may provide advantage over the prior art compounds.

Yet another objective is to provide such a medicament not only for treatment but also for prevention or modification of the corresponding disease.

## SUMMARY

In a first aspect, there is provided a compound according to general formula I,



(I)

wherein

***Hc*** is selected from the group of tetrahydropyranyl, tetrahydrofuranyl, piperidinyl, pyrrolidinyl;

$R^1$ being selected from the group of

phenyl, 2-, 3- and 4-pyridyl-, cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, ethyl, 1- and 2-propyl, 1- and 2-butyl-, 1-, 2- and 3-pentyl-, tetrahydrofuranyl and tetrahydropyranyl,

where these groups may optionally be substituted by one or more substituents independently of one another selected from the group consisting of fluorine, chlorine, bromine, iodine, oxo, NC-, $C_{1-6}$-alkyl-O-, $C_{1-6}$-alkyl-, $CF_3O$-, and $CF_3$- ;

$R^2$ independently of any other $R^2$ being selected from the group of H- and $C_{1-6}$-alkyl-,

and in cases $R^2$ is attached to a nitrogen which is a ring member of ***Hc***, this $R^2$ shall be independently of any other $R^2$: H-, $C_{1-6}$-alkyl-CO-, $C_{1-6}$-alkyl-O-CO-, $C_{1-6}$-alkyl-, phenyl-CO-, phenyl-O-CO-, $(C_{1-6}\text{-alkyl})_2$N-CO-,

where the above-mentioned members may optionally be substituted independently of one another by one or more fluorine substituents;

$R^3$ being selected from the group of

H-, hydroxy and $C_{1-6}$-alkyl-O-, whereby $C_{1-6}$-alkyl-O- may optionally be substituted by one or more fluorine, chlorine, bromine and HO-;

$R^4$ and $R^5$ independently of one another being selected from the group of H-, fluorine, and methyl;

**x** is 0, 1, 2, 3 or 4;

**y** is 0 or 1;

and pharmaceutically acceptable salts thereof.

In a second aspect, there is provided a compound as defined herein for use as a medicament.

In a third aspect, there is provided a compound as defined herein for use in the treatment of a disease that is accessible by the inhibition of PDE9.

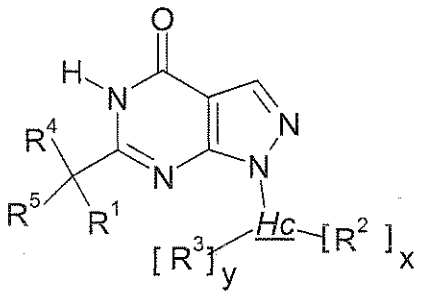
In a fourth aspect, there is provided a compound as defined herein for use in the treatment, amelioration or prevention of cognitive impairment being related to perception, concentration, cognition, learning or memory.

In a fifth aspect, there is provided a pharmaceutical composition comprising a compound as defined herein and a pharmaceutical carrier.

In a sixth aspect, there is provided a combination of a compound as defined herein with another active agent for the treatment of Alzheimer's disease.

## DETAILED DESCRIPTION OF THE PRESENT INVENTION

The compounds of the present invention are characterised by general formula I:



(I),

with the following definitions (substituents may be printed in bold for better reading):

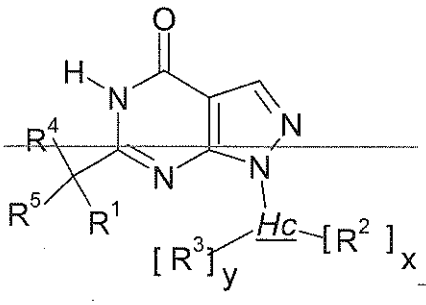
Substituent ***Hc*** is defined by the following definitions **Hc**$^{i}$, whereby the index i describes the order of preference, ascending from **Hc**$^{1}$ to more preferably (i.e. **Hc**$^{2}$), and so on:

**Hc**$^{1}$:

***Hc*** is a mono-, bi- or tricyclic heterocyclyl group, the ring members of which are carbon atoms and at least 1, preferably 1, 2 or 3, heteroatom(s), which are selected

## Claims

1. A compound according to general formula I



(I)

with

*Hc* is a mono-, bi- or tricyclic heterocyclyl group, the ring members of which are carbon atoms and at least 1, preferably 1, 2 or 3, heteroatom(s), which are selected from the group of nitrogen, oxygen and sulphur, which is in the form of $-S(O)_r-$ with r being 0, 1 or 2, and

- said heterocyclyl group is or comprises 1 non-aromatic, saturated, or partly unsaturated monocyclic ring which comprises at least 1 heteroatom as ring member and
- said heterocyclyl group is bound to the scaffold by said 1 non-aromatic, saturated, or partly unsaturated monocyclic ring which comprises at least 1 heteroatom as ring member;

$R^1$ being selected from the group of

$C_{1-8}$-alkyl-, $C_{2-8}$-alkenyl-, $C_{2-8}$-alkynyl-, $C_{1-6}$-alkyl-S-, $C_{1-6}$-alkyl-S-$C_{1-3}$-alkyl-, $C_{3-7}$-cycloalkyl-, $C_{3-7}$-cycloalkyl-$C_{1-6}$-alkyl-, $C_{3-7}$-cycloalkyl-$C_{2-6}$-alkenyl-, $C_{3-7}$-cycloalkyl-$C_{2-6}$-alkynyl-, $C_{3-7}$-heterocycloalkyl-, $C_{3-7}$-heterocycloalkyl-$C_{1-6}$-alkyl-, $C_{3-7}$-heterocycloalkyl-$C_{2-6}$-alkenyl-, $C_{3-7}$-heterocycloalkyl-$C_{2-6}$-alkynyl-, aryl, aryl-$C_{1-6}$-alkyl-, aryl-$C_{2-6}$-alkenyl-, aryl-$C_{2-6}$-alkynyl-, heteroaryl, heteroaryl-$C_{1-6}$-alkyl-, heteroaryl-$C_{2-6}$-alkenyl-, and heteroaryl-$C_{2-6}$-alkynyl-,

where the above-mentioned members may optionally be substituted by one or more substituents independently of one another selected from the group consisting of fluorine, chlorine, bromine, iodine, oxo, HO-, NC-, $O_2N$-, $F_3C$-, $HF_2C$-, $FH_2C$-, $F_3C$-$CH_2$-, $F_3C$-O-, $HF_2C$-O-, HO-$C_{1-6}$-alkyl-, $R^{10}$-O-$C_{1-6}$-alkyl-, $R^{10}$-S-$C_{1-6}$-alkyl-, $C_{1-6}$-alkyl-, $C_{2-6}$-alkenyl-, $C_{2-6}$-alkynyl-, $C_{3-7}$-cycloalkyl-, $C_{3-7}$-cycloalkyl-$C_{1-6}$-alkyl-, $C_{3-7}$-cycloalkyl-O-, $C_{3-7}$-cycloalkyl-$C_{1-6}$-alkyl-O-, aryl, aryl-$C_{1-6}$-alkyl-, heteroaryl, heteroaryl-$C_{1-6}$-alkyl-, heteroaryl-O-, heteroaryl-$C_{1-6}$-alkyl-O-, N-linked-pyridine-2-one, N-linked-pyridine-2-one-$C_{1-6}$-alkyl-, N-linked-pyridine-2-one-$C_{1-6}$-alkyl-O-, $C_{3-7}$-heterocycloalkyl-, $C_{3-7}$-heterocycloalkyl-$C_{1-6}$-alkyl-, $C_{3-7}$-heterocycloalkyl-O- with $C_{3-7}$-heterocycloalkyl being bound to O via one of its ring C-atoms, $C_{3-7}$-heterocycloalkyl-$C_{1-6}$-alkyl-O- with $C_{3-7}$-heterocycloalkyl being bound to the $C_{1-6}$-alkyl- via one of its ring C-atoms, $(R^{10})_2N$-, $(R^{10})_2N$-$C_{1-6}$-alkyl-, $R^{10}$-O-, $R^{10}$-S-, $R^{10}$-CO-, $R^{10}$O-CO-, $(R^{10})_2N$-CO-, $(R^{10})_2N$-CO-$C_{1-6}$-alkyl-, $R^{10}$-CO-$(R^{10})N$-, $R^{10}$-CO-$(R^{10})N$-$C_{1-6}$-alkyl-, $R^{10}$-CO-O-, $R^{10}$O-CO-O-, $R^{10}$O-CO-O-$C_{1-6}$-alkyl-, $R^{10}$O-CO-$(R^{10})N$-, $R^{10}$O-CO-$(R^{10})N$-$C_{1-6}$-alkyl-, $(R^{10})_2N$-CO-O-$C_{1-6}$-alkyl-, $(R^{10})_2N$-CO-$(R^{10})N$-$C_{1-6}$-alkyl-, $R^{10}$-$SO_2$-$(R^{10})N$-, $R^{10}$-$SO_2$-$(R^{10})N$-$C_{1-6}$-alkyl-, $(R^{10})_2N$-$SO_2$-$(R^{10})N$-$C_{1-6}$-alkyl-, $(R^{10})_2N$-$SO_2$-, $(R^{10})_2N$-$SO_2$-$C_{1-6}$-alkyl-, and/or $C_{1-6}$-alkyl-$SO_2$-;

whereby any of the $C_{3-7}$-cycloalkyl-, $C_{3-7}$-heterocycloalkyl-, aryl-, heteroaryl-, N-linked-pyridine-2-one-, $(R^{10})_2N$-CO-$C_{1-6}$-alkyl- groups mentioned above may optionally be substituted by one or more substituents independently of one another selected from the group consisting of fluorine, chlorine, bromine, HO-, NC-, $O_2N$-, $F_3C$-, $HF_2C$-, $FH_2C$-, $F_3C$-$CH_2$-, $F_3C$-O-, $HF_2C$-O-, $C_{3-7}$-heterocycloalkyl-, $R^{10}$-O-$C_{1-6}$-alkyl-, $R^{10}$-S-$C_{1-6}$-alkyl-, $C_{1-6}$-alkyl-, $(R^{10})_2N$-, $(R^{10})_2N$-$C_{1-6}$-alkyl-, $R^{10}$-O-, $R^{10}$-S-, $R^{10}$-CO-, $R^{10}$O-CO-, $(R^{10})_2N$-CO-, $(R^{10})_2N$-CO-$C_{1-6}$-alkyl-, $R^{10}$-CO-$(R^{10})N$-, $R^{10}$-CO-$(R^{10})N$-$C_{1-6}$-alkyl-, $R^{10}$-CO-O-, $R^{10}$O-CO-O-, $R^{10}$O-CO-O-$C_{1-6}$-alkyl-, $R^{10}$O-CO-$(R^{10})N$-, $R^{10}$O-CO-$(R^{10})N$-$C_{1-6}$-alkyl-, $(R^{10})_2N$-CO-O-, $(R^{10})_2N$-CO-$(R^{10})N$-, $(R^{10})_2N$-$SO_2$-$(R^{10})N$-, $(R^{10})_2N$-CO-O-$C_{1-6}$-alkyl-, $(R^{10})_2N$-CO-$(R^{10})N$-$C_{1-6}$-alkyl-, $R^{10}$-$SO_2$-$(R^{10})N$-, $R^{10}$-$SO_2$-$(R^{10})N$-$C_{1-6}$-alkyl-, $(R^{10})_2N$-$SO_2$-$(R^{10})N$-$C_{1-6}$-alkyl-, $(R^{10})_2N$-$SO_2$-, $(R^{10})_2N$-$SO_2$-$C_{1-6}$-alkyl-, and/or $C_{1-6}$-alkyl-$SO_2$-;

$R^2$ independently of any other $R^2$ being selected from the group of:

H-, fluorine, NC-, $F_3C$-, $HF_2C$-, $FH_2C$-, $F_3C$-$CH_2$-, carboxy-, $C_{1-6}$-alkyl-, $C_{2-6}$-alkenyl-, $C_{2-6}$-alkynyl-, $C_{1-6}$-alkyl-S-, $C_{1-6}$-alkyl-S-$C_{1-3}$-alkyl-, preferably $C_{1-6}$-alkyl-S-$C_{2-3}$-alkyl-, $C_{3-7}$-cycloalkyl-, $C_{3-7}$-cycloalkyl-$C_{1-6}$-alkyl-, $C_{3-7}$-cycloalkyl-$C_{2-6}$-alkenyl-, $C_{3-7}$-cycloalkyl-$C_{2-6}$-alkynyl-, $C_{3-7}$-heterocycloalkyl-, $C_{3-7}$-heterocycloalkyl-$C_{1-6}$-alkyl-, $C_{3-7}$-heterocycloalkyl-$C_{2-6}$-alkenyl-, $C_{3-7}$-heterocycloalkyl-$C_{2-6}$-alkynyl-, aryl, aryl-$C_{1-6}$-alkyl-, aryl-$C_{2-6}$-alkenyl-, aryl-$C_{2-6}$-alkynyl-, heteroaryl-, heteroaryl-$C_{1-6}$-alkyl-, heteroaryl-$C_{2-6}$-alkenyl-, heteroaryl-$C_{2-6}$-alkynyl-, $R^{10}$-O-$C_{2-3}$-alkyl-, $(R^{10})_2N$-, $R^{10}$O-CO-, $(R^{10})_2$N-CO-, $R^{10}$-CO-$(R^{10})$N-, $R^{10}$-CO-, $(R^{10})_2$N-CO-$(R^{10})$N-, $R^{10}$-O-CO-$(R^{10})$N-, $R^{10}$-$SO_2$-$(R^{10})$N-, $C_{1-6}$-alkyl-$SO_2$- and oxo,

where the above-mentioned members may optionally be substituted by one or more substituents independently of one another selected from the group consisting of fluorine, chlorine, bromine, NC-, $O_2N$-, $F_3C$-, $HF_2C$-, $FH_2C$-, $F_3C$-$CH_2$-, HO-$C_{1-6}$-alkyl-, $C_{1-6}$-alkyl-O-, $C_{1-6}$-alkyl-O-$C_{1-6}$-alkyl-, $C_{1-6}$-alkyl-, $(R^{10})_2N$-, $(R^{10})_2N$-$C_{1-3}$-alkyl-, and $(R^{10})_2$N-CO-,

and in case $R^2$ is attached to a nitrogen which is a ring member of *Hc*, this $R^2$ shall be independently of any other $R^2$: H-, $F_3C$-$CH_2$-, $HF_2C$-$CH_2$-, $C_{1-6}$-alkyl-, $C_{2-6}$-alkenyl-, $C_{2-6}$-alkynyl-, $C_{1-6}$-alkyl-S-$C_{1-3}$-alkyl-, $C_{3-7}$-cycloalkyl-, $C_{3-7}$-cycloalkyl-$C_{1-6}$-alkyl-, $C_{3-7}$-cycloalkyl-$C_{2-6}$-alkenyl-, $C_{3-7}$-cycloalkyl-$C_{2-6}$-alkynyl-, $C_{3-7}$-heterocycloalkyl-, $C_{3-7}$-heterocycloalkyl-$C_{1-6}$-alkyl-, $C_{3-7}$-heterocycloalkyl-$C_{2-6}$-alkenyl-, $C_{3-7}$-heterocycloalkyl-$C_{2-6}$-alkynyl-, aryl, aryl-$C_{1-6}$-alkyl-, heteroaryl, heteroaryl-$C_{1-6}$-alkyl-, $R^{10}$-O-$C_{1-3}$-alkyl-, $R^{10}$O-CO-, $(R^{10})_2$N-CO-, $R^{10}$-CO-, $R^{10}$-$SO_2$-, or $C_{1-6}$-alkyl-$SO_2$-,

where the above-mentioned members may optionally be substituted by one or more substituents independently of one another selected from the group consisting of fluorine, HO-, NC-, $O_2N$-, $F_3C$-, $HF_2C$-, $FH_2C$-, $F_3C$-$CH_2$-, HO-$C_{1-6}$-alkyl-, $R^{10}$-O-$C_{1-6}$-alkyl-, $C_{1-6}$-alkyl-, $R^{10}$-O-, $(R^{10})_2N$-, $(R^{10})_2N$-$C_{1-3}$-alkyl-, and $(R^{10})_2$N-CO-;

$R^3$ being selected from the group of

H-, hydroxy and $R^{10}$-O-;

$R^4$ and $R^5$ independently of one another being selected from the group of H-, fluorine, $F_3C$-, $HF_2C$-, $FH_2C$-, and $C_{1-3}$-alkyl-,

or

**$R^4$ and $R^5$ together** with the carbon atom to which they are bound form a 3- to 6-membered cycloalkyl group,

where the above-mentioned members including the carbocyclic ring formed may optionally be substituted independently of one another by one or more substituents selected from the group consisting of

fluorine, HO-, NC-, $O_2N$-, $F_3C$-, $HF_2C$-, $FH_2C$-, $F_3C$-$CH_2$-, HO-$C_{1-6}$-alkyl-, $CH_3$-O-$C_{1-6}$-alkyl-, $C_{1-6}$-alkyl-, $C_{1-6}$-alkyl-O- and $(C_{1-6}$-alkyl-$)_2$N-CO-;

$R^{10}$ independently from any other $R^{10}$ being selected from the group of

H- (but not in case it is part of a group being selected from $R^{10}$O-CO-, $R^{10}$-$SO_2$- or $R^{10}$-CO-), $F_3C$-$CH_2$-, $C_{1-6}$-alkyl-, $C_{2-6}$-alkenyl-, $C_{3-7}$-cycloalkyl-, $C_{3-7}$-cycloalkyl-$C_{1-3}$-alkyl-, $C_{3-7}$-heterocycloalkyl-, $C_{3-7}$-heterocycloalkyl-$C_{1-6}$-alkyl-, aryl, aryl-$C_{1-3}$-alkyl-, heteroaryl, and heteroaryl-$C_{1-3}$-alkyl-,

and in case where two $R^{10}$ groups both are bound to the same nitrogen atom they may together with said nitrogen atom form a 3 to 7 membered heterocycloalkyl ring, and wherein one of the $-CH_2$-groups of the heterocycloalkyl ring formed may be replaced by -O-, -S-, -NH-, -N($C_{3-6}$-cycloalkyl)-, -N($C_{3-6}$-cycloalkyl-$C_{1-4}$-alkyl)- or -N($C_{1-4}$-alkyl)-, preferably, and in particular preferably in case of $(R^{10})_2$N-CO-, these two $R^{10}$ together with said nitrogen atom they are bound to form a group selected

from the group of piperidinyl, piperazinyl, pyrrolidinyl, morpholinyl and thiomorpholinyl,
and

where the above-mentioned members may optionally be substituted by one or more substituents independently of one another selected from the group consisting of fluorine, chlorine, bromine, HO-, NC-, $O_2N$-, $F_3C$-, $HF_2C$-, $FH_2C$-, $F_3C$-$CH_2$-, HO-$C_{1-6}$-alkyl-, $CH_3$-O-$C_{1-6}$-alkyl-, $C_{1-6}$-alkyl- and $C_{1-6}$-alkyl-O-;

x independently of any y: x = 0, 1, 2, 3 or 4, preferably x = 0, 1 or 2, preferably x = 0 or 1, more preferably x = 0;

y independently of any x: y = 0, or 1, more preferably y = 0;

and pharmaceutically acceptable salts thereof,

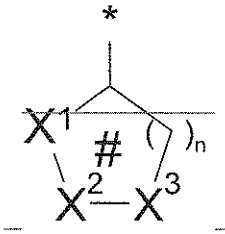
with the proviso for each applicable embodiment of formula I of the invention that

if *Hc* is oxetanyl, which is bound via the carbon atom next to the oxygen of the oxetanyl, there is no substituent attached to said carbon atom via a $-CH_2$-group.

2. A compound according to claim 1, wherein

*Hc* is a heterocyclyl group according to a formula being selected from the group of formulae I.1, I.2 and I.3:

formula I.1:



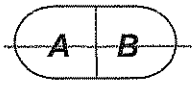
with

n = 1, 2, 3;

$X^1$, $X^2$, $X^3$, independently from each other being $CH_2$, $CHR^2$, $CHR^3$, $C(R^2)_2$, $CR^2R^3$, O, NH, $NR^2$, or $S(O)_r$ with r = 0, 1, 2, whereby at least one of $X^1$, $X^2$, $X^3$ is O, NH, $NR^2$ or $S(O)_r$;

#: meaning that the ring is not aromatic, while for n = 1 one bond within the ring system optionally may be a double bond and for n = 2 or n = 3 one bond or two bonds within the ring system optionally may be (a) double bond(s), thereby replacing ring-member bound hydrogen atoms, whereby such double bond(s) preferably being a C-C double bond, more preferably the ring being saturated;

formula I.2:




with

*A* being the ring system of formula I.1;

*B* being a 3, 4, 5 or 6 membered second ring system that is annelated to *A* and that besides the two atoms and one bond - which may be a single or a double bond - it shares with *A* consists only of carbon atoms and that may be saturated, partially saturated or aromatic; the substituents $R^2$ and/or $R^3$ independently of each other and independently of each x or y may be at ring *A* or ring *B*; whereby the two ring atoms that are shared by the two ring systems *A* and *B* both may be carbon atoms, both may be nitrogen atoms or one may be a carbon and the other one may be a nitrogen atom, whereby two carbon atoms or one carbon and one nitrogen atom are preferred and two carbon atoms are more preferred;

formula I.3:




with

*A*, being the ring system of formula I.1;

*C* being a 3, 4, 5 or 6 membered saturated or partially saturated second ring system that is spiro fused to *A* and that besides the one atom it shares with *A* consists only of carbon atoms and the substituents $R^2$ and/or $R^3$ independently of each other and independently of each x and y may be at ring *A* or ring *C*;

$R^1$ being selected from the group of

$C_{1-8}$-alkyl-, $C_{3-7}$-cycloalkyl-, $C_{3-7}$-cycloalkyl-$C_{1-3}$-alkyl-, $C_{3-7}$-heterocycloalkyl-, $C_{3-7}$-heterocycloalkyl-$C_{1-6}$-alkyl-, aryl, aryl-$C_{1-6}$-alkyl-, heteroaryl- and heteroaryl-$C_{1-6}$-alkyl-,

where the above-mentioned members may optionally be substituted by one or more substituents independently of one another selected from the group consisting of fluorine, chlorine, bromine, iodine, oxo, HO-, NC-, $O_2N$-, $F_3C$-, $HF_2C$-, $FH_2C$-, $F_3C$-$CH_2$-, $F_3C$-O-, $HF_2C$-O-, $R^{10}$-O-$C_{1-6}$-alkyl-, $C_{1-6}$-alkyl-, $C_{2-6}$-alkenyl-, $C_{2-6}$-alkynyl-, $C_{3-7}$-cycloalkyl-, $C_{3-7}$-cycloalkyl-$C_{1-6}$-alkyl-, aryl, aryl-$C_{1-6}$-alkyl-, heteroaryl, heteroaryl-$C_{1-6}$-alkyl-, N-linked-pyridine-2-one, N-linked-pyridine-2-one-$C_{1-6}$-alkyl-, $C_{3-7}$-heterocycloalkyl-, $C_{3-7}$-heterocycloalkyl-$C_{1-6}$-alkyl-, tetrahydrofuranyl-O-, tetrahydropyranyl-O-, piperidinyl-O- with piperidinyl being bound to O via one of its ring C-atoms, pyrrolidinyl-O- with pyrrolidinyl being bound to O via one of its ring C-atoms, $(R^{10})_2N$-, $(R^{10})_2N$-$C_{1-6}$-alkyl-, $R^{10}$-O-, $(R^{10})_2N$-CO-, $(R^{10})_2N$-CO-$C_{1-6}$-alkyl-, $R^{10}$-CO-$(R^{10})N$-, $R^{10}$-CO-$(R^{10})N$-$C_{1-6}$-alkyl-, $R^{10}O$-CO-O-, and/or $R^{10}O$-CO-$(R^{10})N$-,

whereby any of the $C_{3-7}$-cycloalkyl-, $C_{3-7}$-heterocycloalkyl-, aryl, heteroaryl, N-linked-pyridine-2-one, tetrahydrofuranyl, tetrahydropyranyl, piperidinyl, pyrrolidinyl-, $(R^{10})_2N$-$CO$-$C_{1-6}$-alkyl- groups mentioned above may optionally be substituted by one or more substituents independently of one another selected from the group consisting of fluorine, chlorine, bromine, NC-, $O_2N$-, $F_3C$-, $HF_2C$-, $FH_2C$-, $F_3C$-$CH_2$-, $F_3C$-O-, $HF_2C$-O-, $C_{3-7}$-heterocycloalkyl-, $R^{10}$-O-$C_{1-6}$-alkyl-, $C_{1-6}$-alkyl-, $R^{10}$-O-, $R^{10}$-CO-, $R^{10}O$-CO-, benzyl-O-, and/or $(R^{10})_2N$-CO-, whereby piperidinyl or pyrrolidinyl preferably are substituted by $R^{10}$-CO-;

$R^2$ independently of any other $R^2$ being selected from the group of

H-, fluorine, $F_3C$-, $HF_2C$-, $FH_2C$-, $F_3C$-$CH_2$-, $C_{1-6}$-alkyl- (preferably $C_{2-6}$-alkyl), $(R^{10})_2N$-CO-, $R^{10}$-CO-$(R^{10})N$-,

where the above-mentioned members may optionally be substituted by one or more substituents independently of one another selected from the group consisting of fluorine, chlorine, bromine and $C_{1-6}$-alkyl-,

and in cases $R^2$ is attached to a nitrogen which is a ring member of ***Hc***, this $R^2$ shall be independently of any other $R^2$: H-, $F_3C$-$CH_2$-, $HF_2C$-$CH_2$-, $C_{1-6}$-alkyl-, $C_{3-7}$-cycloalkyl-, $C_{3-7}$-cycloalkyl-$C_{1-6}$-alkyl-, $C_{3-7}$-heterocycloalkyl-, $C_{3-7}$-heterocycloalkyl-$C_{1-6}$-alkyl-, aryl, aryl-$C_{1-6}$-alkyl-, heteroaryl, heteroaryl-$C_{1-6}$-alkyl-, $R^{10}$-O-$C_{1-3}$-alkyl-, $R^{10}O$-CO-, $(R^{10})_2N$-CO-, $R^{10}$-CO-, or $C_{1-6}$-alkyl-$SO_2$-, where these substituents may optionally be substituted independently of one another by one or more substituents selected from the group consisting of fluorine and $C_{1-6}$-alkyl-;

$R^3$ being selected from the group of

H-, hydroxy, $C_{1-6}$-alkyl-O-, whereby $C_{1-6}$-alkyl-O- may optionally be substituted by one or more fluorine, chlorine, bromine and HO-;

$R^4$ and $R^5$ independently of one another being selected from the group of H-, fluorine, and methyl;

$R^{10}$ independently from any other $R^{10}$ being selected from the group of

H- (but not in case it is part of a group being selected from $R^{10}$O-CO- or $R^{10}$-CO-), $C_{1-6}$-alkyl-, $C_{3-7}$-cycloalkyl-, $C_{3-7}$-cycloalkyl-$C_{1-3}$-alkyl-, aryl and heteroaryl,

and in case where two $R^{10}$ groups both are bound to the same nitrogen atom they may together with said nitrogen atom form a 3 to 7 membered heterocycloalkyl ring, and wherein one of the $-CH_2$-groups of the heterocycloalkyl ring formed may be replaced by -O-, -NH-, -N($C_{3-6}$-cycloalkyl)-, -N($C_{3-6}$-cycloalkyl-$C_{1-4}$-alkyl)- or -N($C_{1-4}$-alkyl)-, preferably, and in particular preferably in case of $(R^{10})_2$N-CO-, these two $R^{10}$ together with said nitrogen atom they are bound to form a group selected from the group of piperidinyl, piperazinyl, pyrrolidinyl, morpholinyl and thiomorpholinyl,
and

where the above-mentioned members may optionally be substituted by one or more substituents independently of one another selected from the group consisting of fluorine, NC-, $F_3C$-, $HF_2C$-, $FH_2C$-, $F_3C$-$CH_2$-, $CH_3$-O-$C_{1-6}$-alkyl-, $C_{1-6}$-alkyl-, and $C_{1-6}$-alkyl-O-;

x independently of any y: x = 0, 1, 2, 3 or 4, preferably x = 0, 1 or 2, preferably x = 0 or 1, more preferably x = 0;

y independently of any x: y = 0, or 1, more preferably y = 0;

and pharmaceutically acceptable salts thereof.

3. A compound according to claim 1, wherein

*Hc* is a monocyclic, non-aromatic, saturated heterocyclic group of 4 to 8, preferably 5, 6 or 7 ring atoms, whereby said ring atoms are carbon atoms and 1, 2 or 3 heteroatom(s), preferably 1 heteroatom, the heteroatom(s) being selected from oxygen, nitrogen and sulphur, the sulphur being in the form of $-S(O)_r-$ with r being 0, 1 or 2, preferably with r being 0 and whereby preferably said heterocyclic group being attached to the scaffold by a carbon ring atom which is not directly attached to said ring heteroatom;

$R^4$ being selected from the group of

$C_{1-8}$-alkyl-, $C_{3-7}$-cycloalkyl-, $C_{3-7}$-cycloalkyl-$C_{1-3}$-alkyl-, $C_{3-7}$-heterocycloalkyl-, $C_{3-7}$-heterocycloalkyl-$C_{1-6}$-alkyl-, aryl-, aryl-$C_{1-6}$-alkyl-, heteroaryl- and heteroaryl-$C_{1-6}$-alkyl-,

where the above-mentioned members may optionally be substituted by one or more substituents independently of one another selected from the group consisting of fluorine, chlorine, bromine, iodine, oxo, HO-, NC-, $O_2N$-, $F_3C$-, $HF_2C$-, $FH_2C$-, $F_3C$-$CH_2$-, $F_3C$-O-, $HF_2C$-O-, $R^{10}$-O-$C_{1-6}$-alkyl-, $C_{1-6}$-alkyl-, $C_{2-6}$-alkenyl-, $C_{2-6}$-alkynyl-, $C_{3-7}$-cycloalkyl-, $C_{3-7}$-cycloalkyl-$C_{1-6}$-alkyl-, aryl, aryl-$C_{1-6}$-alkyl-, heteroaryl, heteroaryl-$C_{1-6}$-alkyl-, N-linked-pyridine-2-one, N-linked-pyridine-2-one-$C_{1-6}$-alkyl-, $C_{3-7}$-heterocycloalkyl-, $C_{3-7}$-heterocycloalkyl-$C_{1-6}$-alkyl-, tetrahydrofuranyl-O-, tetrahydropyranyl-O-, piperidinyl-O- with piperidinyl being bound to O via one of its ring C-atoms, pyrrolidinyl-O- with pyrrolidinyl being bound to O via one of its ring C-atoms, $(R^{10})_2N$-, $(R^{10})_2N$-$C_{1-6}$-alkyl-, $R^{10}$-O-, $(R^{10})_2N$-CO-, $(R^{10})_2N$-CO-$C_{1-6}$-alkyl-, $R^{10}$-CO-$(R^{10})N$-, $R^{10}$-CO-$(R^{10})N$-$C_{1-6}$-alkyl-, $R^{10}O$-CO-O-, and/or $R^{10}O$-CO-$(R^{10})N$-,

whereby any of the $C_{3-7}$-cycloalkyl-, $C_{3-7}$-heterocycloalkyl-, aryl, heteroaryl, N-linked-pyridine-2-one, tetrahydrofuranyl, tetrahydropyranyl, piperidinyl, pyrrolidinyl-, $(R^{10})_2N$-CO-$C_{1-6}$-alkyl- groups mentioned above may optionally be substituted by one or more substituents independently of one another selected from the group consisting of fluorine, chlorine, bromine, NC-, $O_2N$-, $F_3C$-, $HF_2C$-, $FH_2C$-, $F_3C$-$CH_2$-, $F_3C$-O-, $HF_2C$-O-, $C_{3-7}$-heterocycloalkyl-, $R^{10}$-O-$C_{1-6}$-alkyl-, $C_{1-6}$-alkyl-, $R^{10}$-O-, $R^{10}$-CO-, $R^{10}$O-CO-, benzyl-O-, and/or $(R^{10})_2N$-CO-, whereby piperidinyl or pyrrolidinyl preferably are substituted by $R^{10}$-CO-;

$R^2$ independently of any other $R^2$ being selected from the group of H- and $C_{1-6}$-alkyl-,

and in cases $R^2$ is attached to a nitrogen which is a ring member of ***Hc***, this $R^2$ shall be independently of any other $R^2$: H-, $C_{1-6}$-alkyl-CO-, $C_{1-6}$-alkyl-O-CO-, $C_{1-6}$-alkyl-, phenyl-CO-, phenyl-O-CO-, $(C_{1-6}$-alkyl$)_2$N-CO-,

where the above-mentioned members may optionally be substituted independently of one another by one or more fluorine substituents;

$R^3$ being selected from the group of

H-, hydroxy and $C_{1-6}$-alkyl-O-, whereby $C_{1-6}$-alkyl-O- may optionally be substituted by one or more fluorine, chlorine, bromine and HO-;

$R^4$ and $R^5$ independently of one another being selected from the group of H-, fluorine, and methyl, preferably both being H;

$R^{10}$ independently from any other $R^{10}$ being $C_{1-6}$-alkyl-, phenyl, pyridyl and in case $R^{10}$ is a substituent of a nitrogen atom $R^{10}$ is selected from the group of H, $C_{1-6}$-alkyl-, phenyl and pyridyl,

where the above-mentioned members may optionally be substituted by one or more substituents independently of one another selected from the group consisting of fluorine, $F_3C$-, $HF_2C$-, $FH_2C$-, $F_3C$-$CH_2$-, $CH_3$-O-$C_{1-6}$-alkyl-, $C_{1-6}$-alkyl-, and $C_{1-6}$-alkyl-O-;

x independently of any y: x = 0, 1, 2, 3 or 4, preferably x = 0, 1 or 2, preferably x = 0 or 1, more preferably x = 0;

y independently of any x: y = 0, or 1, more preferably y = 0;

and pharmaceutically acceptable salts thereof,

with the proviso that

if *Hc* is oxetanyl, which is bound via the carbon atom next to the oxygen of the oxetanyl, there is no $CH_2$-group attached to said carbon atom.

4. A compound according to claim 1, wherein

*Hc* is selected from the group of tetrahydropyranyl, tetrahydrofuranyl, piperidinyl, pyrrolidinyl and piperazinyl, more preferably tetrahydropyranyl, tetrahydrofuranyl, piperidinyl, pyrrolidinyl, and thereof preferably , 3- and 4-tetrahydropyranyl, 3- and 4-piperidinyl and 3- pyrrolidinyl;

$R^1$ being selected from the group of

$C_{1-8}$-alkyl-, $C_{3-7}$-cycloalkyl-, $C_{3-7}$-cycloalkyl-$C_{1-3}$-alkyl-, $C_{3-7}$-heterocycloalkyl-, $C_{3-7}$-heterocycloalkyl-$C_{1-6}$-alkyl-, aryl, aryl-$C_{1-6}$-alkyl-, heteroaryl and heteroaryl-$C_{1-6}$-alkyl-,

where the above-mentioned members may optionally be substituted by one or more substituents independently of one another selected from the group consisting of fluorine, chlorine, bromine, iodine, oxo, HO-, NC-, $O_2N$-, $F_3C$-, $HF_2C$-, $FH_2C$-, $F_3C$-$CH_2$-, $F_3C$-O-, $HF_2C$-O-, $R^{10}$-O-$C_{1-6}$-alkyl-, $C_{1-6}$-alkyl-, $C_{2-6}$-alkenyl-, $C_{2-6}$-alkynyl-, $C_{3-7}$-cycloalkyl-, $C_{3-7}$-cycloalkyl-$C_{1-6}$-alkyl-, aryl, aryl-$C_{1-6}$-alkyl-, heteroaryl, heteroaryl-$C_{1-6}$-alkyl-, N-linked-pyridine-2-one, N-linked-pyridine-2-one-$C_{1-6}$-alkyl-, $C_{3-7}$-heterocycloalkyl-, $C_{3-7}$-heterocycloalkyl-$C_{1-6}$-alkyl-, tetrahydrofuranyl-O-, tetrahydropyranyl-O-, piperidinyl-O- with piperidinyl being bound to O via one of its ring C-atoms, pyrrolidinyl-O- with pyrrolidinyl being bound to O via one of its ring C-atoms, $(R^{10})_2N$-, $(R^{10})_2N$-$C_{1-6}$-alkyl-, $R^{10}$-O-, $(R^{10})_2N$-CO-, $(R^{10})_2N$-CO-$C_{1-6}$-alkyl-, $R^{10}$-CO-$(R^{10})N$-, $R^{10}$-CO-$(R^{10})N$-$C_{1-6}$-alkyl-, $R^{10}$O-CO-O-, and/or $R^{10}$O-CO-$(R^{10})N$-,

whereby any of the $C_{3-7}$-cycloalkyl-, $C_{3-7}$-heterocycloalkyl-, aryl, heteroaryl, N-linked-pyridine-2-one, tetrahydrofuranyl, tetrahydropyranyl, piperidinyl, pyrrolidinyl-, $(R^{10})_2N$-CO-$C_{1-6}$-alkyl- groups mentioned above may optionally be substituted by one or more substituents independently of one another selected from the group consisting of fluorine, chlorine, bromine, NC-, $O_2N$-, $F_3C$-, $HF_2C$-, $FH_2C$-, $F_3C$-$CH_2$-, $F_3C$-O-, $HF_2C$-O-, $C_{3-7}$-heterocycloalkyl-, $R^{10}$-O-$C_{1-6}$-alkyl-, $C_{1-6}$-alkyl-, $R^{10}$-O-, $R^{10}$-CO-, $R^{10}$O-CO-, benzyl-O-, and/or $(R^{10})_2N$-CO-, whereby piperidinyl or pyrrolidinyl preferably are substituted by $R^{10}$-CO-;

$R^2$ independently of any other potential $R^2$ being selected from the group of H- and $C_{1-6}$-alkyl-,

and in cases $R^2$ is attached to a nitrogen which is a ring member of *Hc*, this $R^2$ shall be independently of any other $R^2$: H-, $C_{1-6}$-alkyl-CO-, $C_{1-6}$-alkyl-O-CO-, $C_{1-6}$-alkyl-, phenyl-CO-, phenyl-O-CO-, $(C_{1-6}$-alkyl$)_2N$-CO-;

where the above-mentioned members may optionally be substituted independently of one another by one or more fluorine substituents;

$R^3$ being selected from the group of

H-, hydroxy and $C_{1-6}$-alkyl-O-, whereby $C_{1-6}$-alkyl-O- may optionally be substituted by one or more fluorine, chlorine, bromine and HO-;

$R^4$ and $R^5$ independently of one another being selected from the group of H-, fluorine, and methyl, preferably $R^4$ and $R^5$ being H;

$R^{10}$ independently from any other $R^{10}$ being selected from the group of $C_{1-6}$-alkyl-, phenyl and pyridyl and in case $R^{10}$ is a substituent of a nitrogen atom $R^{10}$ is selected from the group of H, $C_{1-6}$-alkyl-, phenyl and pyridyl,

where the above-mentioned members may optionally be substituted by one or more substituents selected from the group consisting of

fluorine, $F_3C$-, $HF_2C$-, $FH_2C$-, $F_3C$-$CH_2$-, $CH_3$-O-$C_{1-6}$-alkyl-, $C_{1-6}$-alkyl-, and $C_{1-6}$-alkyl-O-;

x independently of any y: x = 0, 1, 2, 3 or 4, preferably x = 0, 1 or 2, preferably x = 0 or 1, more preferably x = 0;

y independently of any x: y = 0, or 1, more preferably y = 0;

and pharmaceutically acceptable salts thereof.

5. A compound according to claim 1, wherein

*Hc* is selected from the group of tetrahydropyranyl, tetrahydrofuranyl, piperidinyl, pyrrolidinyl and piperazinyl, whereby preferably the tetrahydropyranyl is 3- or 4-tetrahydropyranyl, the tetrahydrofuranyl is 3-tetrahydrofuranyl, and the piperidinyl is 3- or 4-piperidinyl; more preferably *Hc* is tetrahydropyranyl, tetrahydrofuranyl, piperidinyl, pyrrolidinyl, and thereof preferably , 3- and 4-tetrahydropyranyl, 3- and 4-piperidinyl and 3- pyrrolidinyl;

$R^1$ being selected from the group of

phenyl, 2-, 3- and 4-pyridyl, pyrimidinyl, pyrazolyl, thiazolyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, cycloheptyl, cyclopentylmethyl, ethyl, propyl, 1- and 2-butyl-, 1-, 2- and 3-pentyl-, tetrahydrofuranyl, and tetrahydropyranyl,

where these groups may optionally be substituted by one or more substituents independently of one another selected from the group consisting of fluorine, chlorine, bromine, iodine, oxo, HO-, NC-, $C_{1-6}$-alkyl-O-, $C_{1-6}$-alkyl-, $C_{3-7}$-cycloalkyl-, $C_{3-7}$-cycloalkyl-O-, $C_{3-7}$-cycloalkyl-$C_{1-3}$-alkyl-O-, $CF_3O$-, $CF_3$-, $C_{3-7}$-heterocycloalkyl-, $C_{3-7}$-heterocycloalkyl-$C_{1-6}$-alkyl-, HO-$C_{1-6}$-alkyl-, oxadiazolyl, oxazolyl, isoxazolyl, triazolyl, thiazolyl, pyrrolyl, furanyl, pyrazolyl, pyridyl, pyridazinyl, pyrimidinyl, $(R^{10})_2N$-CO-$C_{1-6}$-alkyl-, $(R^{10})_2N$-CO- and/or phenyl,

whereby the oxadiazolyl, oxazolyl, isoxazolyl, triazolyl, thiazolyl, pyrrolyl, furanyl, pyrazolyl, pyridyl, pyridazinyl, pyrimidinyl and phenyl group mentioned above may optionally be substituted by one or more substituents independently of one another selected from the group consisting of fluorine, $CH_3$-, $CF_3$-, $CH_3O$-, $CF_3O$-, $H_2NCO$-, NC-, morpholinyl and/or benzyl-O-;

$R^2$ independently of any other potential $R^2$ being selected from the group of H- and $C_{1-6}$-alkyl-,

and in cases $R^2$ is attached to a nitrogen which is a ring member of ***Hc***, this $R^2$ shall be independently of any other $R^2$: H-, $C_{1-6}$-alkyl-CO-, $C_{1-6}$-alkyl-O-CO-, $C_{1-6}$-alkyl-, phenyl-CO-, phenyl-O-CO-, $(C_{1-6}\text{-alkyl})_2$N-CO-,

where the above-mentioned members may optionally be substituted independently of one another by one or more fluorine substituents;

$R^3$ being selected from the group of

H-, hydroxyl and $C_{1-6}$-alkyl-O-, whereby $C_{1-6}$-alkyl-O- may optionally be substituted by one or more fluorine, chlorine, bromine and HO-;

$R^4$ and $R^5$ independently of one another being selected from the group of H-, fluorine, and methyl, preferably $R^4$ and $R^5$ both being H;

$R^{10}$ independently from any other $R^{10}$ is selected from the group of H, $C_{1-6}$-alkyl-, phenyl and pyridyl,

where the above-mentioned members may optionally be substituted by one or more substituents independently of one another selected from the group consisting of

fluorine, $F_3C$-, $HF_2C$-, $FH_2C$-, $F_3C$-$CH_2$-, $CH_3$-O-$C_{1-6}$-alkyl-, $C_{1-6}$-alkyl-, and $C_{1-6}$-alkyl-O-;

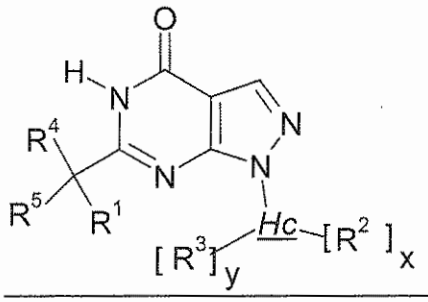
x independently from each other x = 0, 1, 2, 3 or 4, preferably x = 0, 1 or 2, preferably x = 0 or 1, more preferably x = 0;

y independently from each other y = 0, or 1, more preferably y = 0;

~~and pharmaceutically acceptable salts thereof.~~

**Claims**

1~~6~~. A compound according to general formula I~~claim 1~~,



(I)

wherein

***Hc*** is selected from the group of tetrahydropyranyl, tetrahydrofuranyl, piperidinyl, pyrrolidinyl~~, piperazinyl, preferably tetrahydropyranyl, tetrahydrofuranyl, piperidinyl, pyrrolidinyl, and thereof preferably , 3- and 4-tetrahydropyranyl, 3- and 4-piperidinyl and 3- pyrrolidinyl~~;

$\mathbf{R^1}$ being selected from the group of

phenyl, 2-, 3- and 4-pyridyl-, cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, ethyl, 1- and 2-propyl, 1- and 2-butyl-, 1-, 2- and 3-pentyl-, tetrahydrofuranyl and tetrahydropyranyl,

where these groups may optionally be substituted by one or more substituents independently of one another selected from the group consisting of fluorine, chlorine, bromine, iodine, oxo, NC-, $C_{1-6}$-alkyl-O-, $C_{1-6}$-alkyl-, $CF_3O$-, and $CF_3$~~-, oxadiazolyl, triazolyl, pyrazolyl, furanyl, pyridyl, and/or phenyl, whereby the oxadiazolyl, triazolyl, pyrazolyl, furanyl, pyridyl and phenyl group mentioned above may optionally be substituted by one or more substituents independently of one another selected from the group consisting of fluorine, $CH_3$-, $CH_3O$-, $H_2NCO$- and/or NC-~~;

$\mathbf{R^2}$ independently of any other $\mathbf{R^2}$ being selected from the group of H- and $C_{1-6}$-alkyl-,

and in cases $R^2$ is attached to a nitrogen which is a ring member of ***Hc***, this $\mathbf{R^2}$ shall be independently of any other $\mathbf{R^2}$: H-, $C_{1-6}$-alkyl-CO-, $C_{1-6}$-alkyl-O-CO-, $C_{1-6}$-alkyl-, phenyl-CO-, phenyl-O-CO-, $(C_{1-6}\text{-alkyl})_2N$-CO-,

where the above-mentioned members may optionally be substituted independently of one another by one or more fluorine substituents;

$R^3$ being selected from the group of

H-, hydroxy and $C_{1-6}$-alkyl-O-, whereby $C_{1-6}$-alkyl-O- may optionally be substituted by one or more fluorine, chlorine, bromine and HO-;

$R^4$ and $R^5$ independently of one another being selected from the group of H-, fluorine, and methyl~~, preferably $R^4$ and $R^5$ both being H~~;

~~x independently of any y:~~ **x** is= 0, 1, 2, 3 or 4~~, preferably x = 0, 1 or 2, preferably x = 0 or 1, more preferably x = 0~~;

~~y independently of any x:~~ **y** is= 0~~,~~ or 1~~, more preferably y = 0~~;

and pharmaceutically acceptable salts thereof.

2~~7~~. A compound according to claim 1, wherein

***Hc*** is selected from the group of ~~piperidinyl and pyrrolidinyl, preferably~~ 3- or 4-piperidinyl and 3- pyrrolidinyl;

$R^1$ being selected from the group of

phenyl, 2-, 3- and 4-pyridyl-, cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, ethyl, 1- and 2-propyl, 1- and 2-butyl-, 1-, 2- and 3-pentyl-, tetrahydrofuranyl and tetrahydropyranyl,

where these groups may optionally be substituted by one or more substituents independently selected from the group consisting of fluorine, chlorine, bromine, iodine, oxo, NC-, $C_{1-6}$-alkyl-O-, $C_{1-6}$-alkyl-, $CF_3O$-, and $CF_3$-~~, oxadiazolyl, triazolyl, pyrazolyl, furanyl, pyridyl, and/or phenyl,~~

~~whereby the oxadiazolyl, triazolyl, pyrazolyl, furanyl, pyridyl and phenyl group mentioned above may optionally be substituted by one or more substituents independently of one another selected from the group consisting of fluorine, $CH_3$-, $CH_3O$-, $H_2NCO$- and/or NC-~~;

$R^2$ independently of any other $R^2$ being selected from the group of H- and $C_{1-6}$-alkyl-,

and in cases $R^2$ is attached to a nitrogen which is a ring member of ***Hc***, this $R^2$ shall be independently of any other $R^2$: H-, $C_{1-6}$-alkyl-CO-, $C_{1-6}$-alkyl-O-CO-, $C_{1-6}$-alkyl-, phenyl-CO-, phenyl-O-CO-, $(C_{1-6}\text{-alkyl})_2N$-CO-,

where the above-mentioned members may optionally be substituted independently of one another by one or more fluorine substituents;

$R^3$ being selected from the group of

H-, hydroxy and $C_{1-6}$-alkyl-O-, whereby $C_{1-6}$-alkyl-O- may optionally be substituted by one or more fluorine, chlorine, bromine and HO-;

$R^4$ and $R^5$ independently of one another being selected from the group of H-, fluorine, and methyl~~, preferably $R^4$ and $R^5$ both being H~~;

~~x independently of any y:~~ **x** is= 0, 1, 2, 3 or 4~~, preferably x = 0, 1 or 2, preferably x = 0 or 1, more preferably x = 0~~;

~~y independently of any x:~~ **y** is= 0, or 1~~, more preferably y = 0~~;

and pharmaceutically acceptable salts thereof.

~~8. A compound according to claim 1, wherein~~

~~*Hc* is selected from the group of piperidinyl and pyrrolidinyl, preferably 3- or 4-piperidinyl and 3- pyrrolidinyl;~~

~~$R^1$ being selected from the group of~~

~~phenyl, 2-, 3- and 4-pyridyl-, cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, cycloheptyl, cyclopentylmethyl, ethyl, propyl, 1- and 2-butyl-, 1-, 2- and 3-pentyl-, tetrahydrofuranyl, and tetrahydropyranyl,~~

~~where these groups may optionally be substituted by one or more substituents independently of each other selected from the group consisting of NC-, $C_{1-6}$-alkyl-O-, $C_{1-6}$-alkyl-, $CF_3O$-, $CF_3$- and halogen, the halogen preferably being selected from fluorine, chlorine and bromine.~~

~~$R^2$ independently of any other $R^2$ being selected from the group of H- and $C_{1-6}$-alkyl-,~~

~~and in cases $R^2$ is attached to a nitrogen which is a ring member of *Hc*, this $R^2$ shall be independently of any other $R^2$: H-, $C_{1-6}$-alkyl-CO-, $C_{1-6}$-alkyl-O-CO-, $C_{1-6}$-alkyl-, phenyl-CO-, phenyl-O-CO-, $(C_{1-6}\text{-alkyl})_2$N-CO-,~~

~~where the above-mentioned members may optionally be substituted independently of one another by one or more fluorine substituents;~~

~~$R^4$ and $R^5$ both being H~~

~~x = 0 or 1;~~

~~y = 0;~~

~~and pharmaceutically acceptable salts thereof.~~

~~3~~9. A compound according to claim 1, wherein

***Hc*** is selected from the group of ~~tetrahydropyranyl and tetrahydrofuranyl, preferably~~ 3- or 4-tetrahydropyranyl and 3-tetrahydrofuranyl.

$R^1$ being selected from the group of

phenyl, 2-, 3- and 4-pyridyl-, cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, ethyl, 1- and 2-propyl, 1- and 2-butyl-, 1-, 2- and 3-pentyl-, tetrahydrofuranyl and tetrahydropyranyl,

where these groups may optionally be substituted by one or more substituents independently selected from the group consisting of fluorine, chlorine, bromine, iodine, oxo, NC-, $C_{1-6}$-alkyl-O-, $C_{1-6}$-alkyl-, $CF_3O$-, $CF_3$~~-, oxadiazolyl, triazolyl, pyrazolyl, furanyl, pyridyl, and/or phenyl,~~

~~whereby the oxadiazolyl, triazolyl, pyrazolyl, furanyl, pyridyl and phenyl group mentioned above may optionally be substituted by one or more substituents independently of one another selected from the group consisting of fluorine, $CH_3$-, $CH_3O$-, $H_2NCO$- and/or NC-~~;

$R^2$ independently of any other $R^2$ being selected from the group of H- and $C_{1-6}$-alkyl-,

where the above-mentioned $C_{1-6}$-alkyl-group(s) may optionally be substituted independently of one another by one or more fluorine substituents;

$R^3$ being selected from the group of

H-, hydroxy and $C_{1-6}$-alkyl-O-, whereby $C_{1-6}$-alkyl-O- may optionally be substituted by one or more fluorine, chlorine, bromine and HO-;

$R^4$ and $R^5$ independently of one another being selected from the group of H-, fluorine, and methyl~~, preferably $R^4$ and $R^5$ both being H~~;

**x** ~~independently of any y: x =~~ is 0, 1, 2, 3 or 4~~, preferably x = 0, 1 or 2, preferably x = 0 or 1, most preferably x = 0~~;

**y** ~~independently of any x: y =~~ is 0, or 1~~, most preferably y = 0~~;

and pharmaceutically acceptable salts thereof.

~~10. A compound according to claim 1, wherein~~

~~*Hc* is selected from the group of tetrahydropyranyl and tetrahydrofuranyl, preferably 3- or 4-tetrahydropyranyl and 3-tetrahydrofuranyl.~~

~~$R^4$ being selected from the group of~~

phenyl, 2-, 3- and 4-pyridyl-, cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, cycloheptyl, cyclopentylmethyl, ethyl, propyl, 1- and 2-butyl-, 1-, 2- and 3-pentyl-, tetrahydrofuranyl, and tetrahydropyranyl,

where these groups may optionally be substituted by one or more substituents independently of each other selected from the group consisting of NC-, $C_{1-6}$-alkyl-O-, $C_{1-6}$-alkyl-, $CF_3O$-, $CF_3$- and halogen, the halogen preferably being selected from fluorine, chlorine and bromine.

$R^2$ independently of any other $R^2$ being selected from the group of H- and $C_{1-6}$-alkyl-,

where the above-mentioned $C_{1-6}$-alkyl-group(s) may optionally be substituted independently of one another by one or more fluorine substituents;

$R^3$ being selected from the group of

H-, hydroxy and $C_{1-6}$-alkyl-O-, whereby $C_{1-6}$-alkyl-O- may optionally be substituted by one or more fluorine, chlorine, bromine and HO-;

$R^4$ and $R^5$ independently of one another being selected from the group of H-, fluorine, and methyl, preferably $R^4$ and $R^5$ both being H;

x independently of any y: x = 0, 1, 2, 3 or 4, preferably x = 0, 1 or 2, preferably x = 0 or 1, most preferably x = 0;

y independently of any x: y = 0, or 1, most preferably y = 0;

and pharmaceutically acceptable salts thereof.

11. A compound according to claim 1, wherein

*Hc* is selected from the group of tetrahydropyranyl and tetrahydrofuranyl, preferably 3- or 4-tetrahydropyranyl and 3-tetrahydrofuranyl.

$R^1$ being selected from the group of

phenyl, 2-, 3- and 4-pyridyl-, cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, cycloheptyl, cyclopentylmethyl, ethyl, propyl, 1- and 2-butyl-, 1-, 2- and 3-pentyl-, tetrahydrofuranyl, and tetrahydropyranyl,

where these groups may optionally be substituted by one or more substituents independently of each other selected from the group consisting of NC-, $C_{1-6}$-alkyl-O-, $C_{1-6}$-alkyl-, $CF_3O$-, $CF_3$- and halogen, the halogen preferably being selected from fluorine, chlorine and bromine.

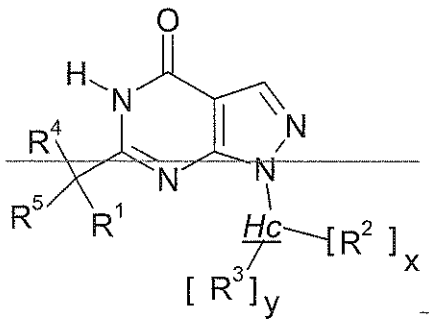
$R^4$ and $R^5$ both being H

x = 0;

y = 0;

and pharmaceutically acceptable salts thereof.

12. A compound according to general formula I of claim 1



(I),

wherein;

*Hc* is a mono-, bi- or tricyclic heterocyclyl group, the ring members of which are carbon atoms and at least 1, preferably 1, 2 or 3, heteroatom(s), which are selected from the group of nitrogen, oxygen and sulphur, which is in the form of $-S(O)_r-$ with r being 0, 1 or 2, and

- said heterocyclyl group is or comprises 1 non-aromatic, saturated, or partly unsaturated monocyclic ring which comprises at least 1 heteroatom as ring member and
- said heterocyclyl group is bound to the scaffold by said 1 non-aromatic, saturated, or partly unsaturated monocyclic ring which comprises at least 1 heteroatom as ring member.

$R^1$ being selected from the group of

$C_{1-8}$-alkyl-, $C_{2-8}$-alkenyl-, $C_{2-8}$-alkynyl-, $C_{1-6}$-alkyl-S-, $C_{1-6}$-alkyl-S-$C_{1-3}$-alkyl-, $C_{3-7}$-cycloalkyl-, $C_{3-7}$-cycloalkyl-$C_{1-6}$-alkyl-, $C_{3-7}$-cycloalkyl-$C_{2-6}$-alkenyl-, $C_{3-7}$-cycloalkyl-$C_{2-6}$-alkynyl-, $C_{3-7}$-heterocycloalkyl-, $C_{3-7}$-heterocycloalkyl-$C_{1-6}$-alkyl-, $C_{3-7}$-heterocycloalkyl-$C_{2-6}$-alkenyl-, $C_{3-7}$-heterocycloalkyl-$C_{2-6}$-alkynyl-, aryl, aryl-$C_{1-6}$-alkyl-, heteroaryl, and heteroaryl-$C_{1-6}$-alkyl-,

where the above-mentioned members may optionally be substituted independently of one another by one or more substituents selected from the group consisting of fluorine, chlorine, bromine, HO-, NC-, $O_2N$-, $F_3C$-, $HF_2C$-, $FH_2C$-, $F_3C$-$CH_2$-, $F_3C$-O-,

$HF_2C$-O-, HO-$C_{1-6}$-alkyl-, $R^{10}$-O-$C_{1-6}$-alkyl-, $R^{10}$-S-$C_{1-6}$-alkyl-, $C_{1-6}$-alkyl-, $C_{3-7}$-cycloalkyl-, $C_{3-7}$-cycloalkyl-$C_{1-6}$-alkyl-, $C_{3-7}$-cycloalkyl-O-, $C_{3-7}$-cycloalkyl-$C_{1-6}$-alkyl-O-, aryl, aryl-$C_{1-6}$-alkyl-, heteroaryl, heteroaryl-$C_{1-6}$-alkyl-, heteroaryl-O-, heteroaryl-$C_{1-6}$-alkyl-O-, $C_{3-7}$-heterocycloalkyl-, $C_{3-7}$-heterocycloalkyl-$C_{1-6}$-alkyl-, $C_{3-7}$-heterocycloalkyl-O- with $C_{3-7}$-heterocycloalkyl being bound to O via one of its ring C-atoms, $C_{3-7}$-heterocycloalkyl-$C_{1-6}$-alkyl-O- with $C_{3-7}$-heterocycloalkyl being bound to the $C_{1-6}$-alkyl via one of its ring-C-atoms, $(R^{10})_2N$-, $(R^{10})_2N$-$C_{1-6}$-alkyl-, $R^{10}$-O-, $R^{10}$-S-, $R^{10}$-CO-, $R^{10}$O-CO-, $(R^{10})_2N$-CO-, $(R^{10})_2N$-CO-$C_{1-6}$-alkyl-, $R^{10}$-CO-$(R^{10})N$-, $R^{10}$-CO-$(R^{10})N$-$C_{1-6}$-alkyl-, $R^{10}$-CO-O-, $R^{10}$O-CO-O-, $R^{10}$O-CO-O-$C_{1-6}$-alkyl-, $R^{10}$O-CO-$(R^{10})N$-, $R^{10}$O-CO-$(R^{10})N$-$C_{1-6}$-alkyl-, $(R^{10})_2N$-CO-O-$C_{1-6}$-alkyl-, $(R^{10})_2N$-CO-$(R^{10})N$-$C_{1-6}$-alkyl-, $R^{10}$-$SO_2$-$(R^{10})N$-, $R^{10}$-$SO_2$-$(R^{10})N$-$C_{1-6}$-alkyl-, $(R^{10})_2N$-$SO_2$-$(R^{10})N$-$C_{1-6}$-alkyl-, $(R^{10})_2N$-$SO_2$-, $(R^{10})_2N$-$SO_2$-$C_{1-6}$-alkyl-, and $C_{1-6}$-alkyl-$SO_2$-,

whereby any of the $C_{3-7}$-cycloalkyl-, $C_{3-7}$-heterocycloalkyl-, aryl-, heteroaryl-groups mentioned above may optionally be substituted by HO-, NC-, $O_2N$-, $F_3C$-, $HF_2C$-, $FH_2C$-, $F_3C$-$CH_2$-, $F_3C$-O-, $HF_2C$-O-, HO-$C_{1-6}$-alkyl-, $R^{10}$-O-$C_{1-6}$-alkyl-, $R^{10}$-S-$C_{1-6}$-alkyl-, $C_{1-6}$-alkyl-, $(R^{10})_2N$-, $(R^{10})_2N$-$C_{1-6}$-alkyl-, $R^{10}$-O-, $R^{10}$-S-, $R^{10}$-CO-, $R^{10}$O-CO-, $(R^{10})_2N$-CO-, $(R^{10})_2N$-CO-$C_{1-6}$-alkyl-, $R^{10}$-CO-$(R^{10})N$-, $R^{10}$-CO-$(R^{10})N$-$C_{1-6}$-alkyl-, $R^{10}$-CO-O-, $R^{10}$O-CO-O-, $R^{10}$O-CO-O-$C_{1-6}$-alkyl-, $R^{10}$O-CO-$(R^{10})N$-, $R^{10}$O-CO-$(R^{10})N$-$C_{1-6}$-alkyl-, $(R^{10})_2N$-CO-O-, $(R^{10})_2N$-CO-$(R^{10})N$-, $(R^{10})_2N$-$SO_2$-$(R^{10})N$-, $(R^{10})_2N$-CO-O-$C_{1-6}$-alkyl-, $(R^{10})_2N$-CO-$(R^{10})N$-$C_{1-6}$-alkyl-, $R^{10}$-$SO_2$-$(R^{10})N$-, $R^{10}$-$SO_2$-$(R^{10})N$-$C_{1-6}$-alkyl-, $(R^{10})_2N$-$SO_2$-$(R^{10})N$-$C_{1-6}$-alkyl-, $(R^{10})_2N$-$SO_2$-, $(R^{10})_2N$-$SO_2$-$C_{1-6}$-alkyl-, or $C_{1-6}$-alkyl-$SO_2$-;

$R^2$ independently of any other $R^2$ being selected from the group of

H-, fluorine, NC-, $F_3C$-, $HF_2C$-, $FH_2C$-, $F_3C$-$CH_2$-, carboxy-, $C_{1-6}$-alkyl- (preferably $C_{2-6}$-alkyl), $C_{2-6}$-alkenyl-, $C_{2-6}$-alkynyl-, $C_{1-6}$-alkyl-S-, $C_{1-6}$-alkyl-S-$C_{1-3}$-alkyl-, $C_{3-7}$-cycloalkyl-, $C_{3-7}$-cycloalkyl-$C_{1-6}$-alkyl-, $C_{3-7}$-cycloalkyl-$C_{2-6}$-alkenyl-, $C_{3-7}$-cycloalkyl-

$C_{2-6}$-alkynyl-, $C_{3-7}$-heterocycloalkyl-, $C_{3-7}$-heterocycloalkyl-$C_{1-6}$-alkyl-, $C_{3-7}$-heterocycloalkyl-$C_{2-6}$-alkenyl-, $C_{3-7}$-heterocycloalkyl-$C_{2-6}$-alkynyl-, aryl, aryl-$C_{1-6}$-alkyl-, heteroaryl, heteroaryl-$C_{1-6}$-alkyl-, $R^{10}$-O-$C_{2-3}$-alkyl-, $(R^{10})_2N$-, $R^{10}$O-CO-, $(R^{10})_2N$-CO-, $R^{10}$-CO-$(R^{10})N$-, $R^{10}$-CO-, $(R^{10})_2N$-CO-$(R^{10})N$-, $R^{10}$-$SO_2$-$(R^{10})N$-, and $C_{1-6}$-alkyl-$SO_2$-,

where the above-mentioned members may optionally be substituted independently of one another by one or more substituents selected from the group consisting of fluorine, chlorine, bromine, NC-, $O_2N$-, $F_3C$-, $HF_2C$-, $FH_2C$-, $F_3C$-$CH_2$-, HO-$C_{1-6}$-alkyl-, $C_{1-6}$-alkyl-O-$C_{1-6}$-alkyl-, $C_{1-6}$-alkyl-, $(R^{10})_2N$-, $(R^{10})_2N$-$C_{1-3}$-alkyl-, and $(R^{10})_2N$-CO-,

and in case $R^2$ is attached to a nitrogen which is a ring member of *Hc*, this $R^2$ shall be independently of any other $R^2$: H-, $F_3C$-$CH_2$-, $HF_2C$-$CH_2$-, $C_{1-6}$-alkyl-, $C_{2-6}$-alkenyl-, $C_{2-6}$-alkynyl-, $C_{1-6}$-alkyl-S-$C_{1-3}$-alkyl-, $C_{3-7}$-cycloalkyl-, $C_{3-7}$-cycloalkyl-$C_{1-6}$-alkyl-, $C_{3-7}$-cycloalkyl-$C_{2-6}$-alkenyl-, $C_{3-7}$-cycloalkyl-$C_{2-6}$-alkynyl-, $C_{3-7}$-heterocycloalkyl-, $C_{3-7}$-heterocycloalkyl-$C_{1-6}$-alkyl-, $C_{3-7}$-heterocycloalkyl-$C_{2-6}$-alkenyl-, $C_{3-7}$-heterocycloalkyl-$C_{2-6}$-alkynyl-, aryl, aryl-$C_{1-6}$-alkyl-, heteroaryl, heteroaryl-$C_{1-6}$-alkyl-, $R^{10}$-O-$C_{1-3}$-alkyl-, $R^{10}$O-CO-, $(R^{10})_2N$-CO-, $R^{10}$-CO-, $R^{10}$-$SO_2$-, or $C_{1-6}$-alkyl-$SO_2$-,

where the above-mentioned members may optionally be substituted independently of one another by one or more substituents selected from the group consisting of fluorine, HO-, NC-, $O_2N$-, $F_3C$-, $HF_2C$-, $FH_2C$-, $F_3C$-$CH_2$-, HO-$C_{1-6}$-alkyl-, $R^{10}$-O-$C_{1-6}$-alkyl-, $C_{1-6}$-alkyl-, $R^{10}$-O-, $(R^{10})_2N$-, $(R^{10})_2N$-$C_{1-3}$-alkyl-, and $(R^{10})_2N$-CO-;

$R^3$ independently being selected from the group of H-, hydroxy and $R^{10}$-O-;

$R^4$ and $R^5$ independently of one another being selected from the group of H-, fluorine, $F_3C$-, $HF_2C$-, $FH_2C$-, and $C_{1-3}$-alkyl-,

or

$R^4$ and $R^5$ together with the carbon atom to which they are bound form a 3- to 6-membered cycloalkyl group,

where the above-mentioned members including the carbocyclic ring formed may optionally be substituted independently of one another by one or more substituents selected from the group consisting of fluorine, HO-, NC-, $O_2N$-, $F_3C$-, $HF_2C$-, $FH_2C$-, $F_3C$-$CH_2$-, HO-$C_{1-6}$-alkyl-, $CH_3$-O-$C_{1-6}$-alkyl-, $C_{1-6}$-alkyl-, $C_{1-6}$-alkyl-O- and ($C_{1-6}$-alkyl-)$_2$N-CO-;

$R^{10}$ independently from any other $R^{10}$ being selected from the group of

H- (but not in case it is part of a group being selected from $R^{10}$-O-CO-, $R^{10}$-$SO_2$- or $R^{10}$-CO-), $F_3C$-$CH_2$-, $C_{1-6}$-alkyl-, $C_{2-6}$-alkenyl-, $C_{3-7}$-cycloalkyl-, $C_{3-7}$-cycloalkyl-$C_{1-3}$-alkyl-, aryl, aryl-$C_{1-3}$-alkyl-, heteroaryl, and heteroaryl-$C_{1-3}$-alkyl-,

and in case where two $R^{10}$ groups both are bound to the same nitrogen atom they may together with said nitrogen atom form a 3- to 7-membered heterocycloalkyl ring, and wherein one of the $CH_2$-groups of the heterocycloalkyl ring formed may be replaced by -O-, -S-, -NH-, -N($C_{3-6}$-cycloalkyl)-, -N($C_{3-6}$-cycloalkyl-$C_{1-4}$-alkyl)- or -N($C_{1-4}$-alkyl)- preferably, and in particular preferably in case of ($R^{10}$)$_2$N-CO-, these two $R^{10}$ groups together with said nitrogen atom they are bound to form a group selected from piperidinyl, piperazinyl, pyrrolidinyl, morpholinyl and thiomorpholinyl, and where the above-mentioned members may optionally be substituted independently of one another by one or more substituents selected from the group consisting of fluorine, chlorine, bromine, HO-, NC-, $O_2N$-, $F_3C$-, $HF_2C$-, $FH_2C$-, $F_3C$-$CH_2$-, HO-$C_{1-6}$-alkyl-, $CH_3$-O-$C_{1-6}$-alkyl-, $C_{1-6}$-alkyl- and $C_{1-6}$-alkyl-O-;

**x** = 0, 1, 2, 3 or 4, preferably **x** = 0, 1 or 2, preferably **x** = 0 or 1, most preferably **x** = 0;

y = 0, or 1, most preferably y = 0;

and pharmaceutically acceptable salt forms or solvates thereof,

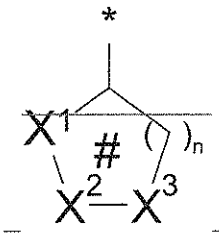
with the proviso that

if ***Hc*** is oxetanyl, which is bound via the carbon atom next to the oxygen of the oxetanyl, there is no substituent attached to said carbon atom via a $-CH_2-$ spacer.

13. A compound according to claim 12, wherein

***Hc*** is a heterocyclyl group according to a formula being selected from the group of formulae I.1, I.2 and I.3:

formula I.1:



with

n = 1, 2, 3;

$X^1$, $X^2$, $X^3$, independently from each other being $CH_2$, $CHR^2$, $CHR^3$, $C(R^2)_2$, $CR^2R^3$, O, NH, $NR^2$, or $S(O)_r$ with r = 0, 1, 2, whereby at least one of $X^1$, $X^2$, $X^3$ is O, NH, $NR^2$ or $S(O)_r$;

#: meaning that the ring is not aromatic, while for n = 1 one bond within the ring system optionally may be a double bond and for n = 2 or n = 3 one bond or two bonds within the ring system optionally may be (a) double bond(s), thereby replacing ring-member bound hydrogen atoms, whereby such double bond(s) preferably being a C-C double bond, more preferably the ring being saturated;

formula I.2:




with

*A* being the ring system of formula I.1;

*B* being a 3, 4, 5 or 6 membered second ring system that is annelated to *A* and that besides the two atoms and one bond – which may be a single or a double bond – it shares with *A* consists only of carbon atoms and that may be saturated, partially saturated or aromatic; the substituents $R^2$ and/or $R^3$ independently of each other and independently of each x or y may be at ring *A* or ring *B*; whereby the two ring atoms that are shared by the two ring systems *A* and *B* both may be carbon atoms, both may be nitrogen atoms or one may be a carbon and the other one may be a nitrogen atom, whereby two carbon atoms or one carbon and one nitrogen atom are preferred and two carbon atoms are more preferred;

formula I.3:




with

*A*, being the ring system of formula I.1;
*C* being a 3, 4, 5 or 6 membered saturated or partially saturated second ring system that is spiro fused to *A* and that besides the one atom it shares with *A* consists only of carbon atoms and the substituents $R^2$ and/or $R^3$ independently of each other and independently of each x and y may be at ring *A* or ring *C*;
$R^1$ being selected from the group of

$C_{1-8}$-alkyl-, $C_{3-7}$-cycloalkyl-, $C_{3-7}$-cycloalkyl-$C_{1-3}$-alkyl-, $C_{3-7}$-heterocycloalkyl-, aryl and heteroaryl,

where the above-mentioned members may optionally be substituted independently of one another by one or more substituents selected from the group consisting of fluorine, chlorine, bromine, HO-, NC-, $O_2N$-, $F_3C$-, $HF_2C$-, $FH_2C$-, $F_3C$-$CH_2$-, $F_3C$-O-, $HF_2C$-O-, HO-$C_{1-6}$-alkyl-, $R^{10}$-O-$C_{1-6}$-alkyl-, $C_{1-6}$-alkyl-, $C_{3-7}$-cycloalkyl-, $C_{3-7}$-cycloalkyl-$C_{1-6}$-alkyl-, aryl, aryl-$C_{1-6}$-alkyl-, heteroaryl, heteroaryl-$C_{1-6}$-alkyl-, $C_{3-7}$-heterocycloalkyl-, $C_{3-7}$-heterocycloalkyl-$C_{1-6}$-alkyl-, tetrahydrofuranyl-O-, tetrahydropyranyl-O-, piperidinyl-O- with piperidinyl being bound to O via one of its ring C-atoms, pyrrolidinyl-O- with pyrrolidinyl being bound to O via one of its ring C-atoms, $(R^{10})_2N$-, $(R^{10})_2N$-$C_{1-6}$-alkyl-, $R^{10}$-O-, $(R^{10})_2N$-CO-, $(R^{10})_2N$-CO-$C_{1-6}$-alkyl-, $R^{10}$-CO-$(R^{10})N$-, $R^{10}$-CO-$(R^{10})N$-$C_{1-6}$-alkyl-, $R^{10}O$-CO-O-, and $R^{10}O$-CO-$(R^{10})N$-;

whereby any of the $C_{3-7}$-cycloalkyl-, $C_{3-7}$-heterocycloalkyl-, aryl-, heteroaryl, tetrahydrofuranyl, tetrahydropyranyl, piperidinyl, pyrrolidinyl-groups mentioned above may optionally be substituted by NC-, $O_2N$-, $F_3C$-, $HF_2C$-, $FH_2C$-, $F_3C$-$CH_2$-, $F_3C$-O-, $HF_2C$-O-, $R^{10}$-O-$C_{1-6}$-alkyl-, $C_{1-6}$-alkyl-, $R^{10}$-O-, $R^{10}$-CO-, $R^{10}O$-CO-, or $(R^{10})_2N$-CO-, whereby piperidinyl or pyrrolidinyl preferably are substituted by $R^{10}$-CO-;

$R^2$ independently of any other $R^2$ being selected from the group of

H-, fluorine, $F_3C$-, $HF_2C$-, $FH_2C$-, $F_3C$-$CH_2$-, $C_{1-6}$-alkyl- (preferably $C_{2-6}$-alkyl), $(R^{10})_2N$-CO-, $R^{10}$-CO-$(R^{10})N$-,

where the above-mentioned members may optionally be substituted independently of one another by one or more substituents selected from the group consisting of fluorine, chlorine, bromine and $C_{1-6}$-alkyl-,

and in case $R^2$ is attached to a nitrogen which is a ring member of *Hc*, this $R^2$ shall be independently of any other $R^2$: H-, $F_3C$-$CH_2$-, $HF_2C$-$CH_2$-, $C_{1-6}$-alkyl-, $C_{3-7}$-cycloalkyl-, $C_{3-7}$-cycloalkyl-$C_{1-6}$-alkyl-, $C_{3-7}$-heterocycloalkyl-, $C_{3-7}$-heterocycloalkyl-$C_{1-6}$-alkyl-, aryl, aryl-$C_{1-6}$-alkyl-, heteroaryl, heteroaryl-$C_{1-6}$-alkyl-, $R^{10}$-O-$C_{1-3}$-alkyl-, $R^{10}$O-CO-, $(R^{10})_2$N-CO-, $R^{10}$-CO-, or $C_{1-6}$-alkyl-$SO_2$-,

where the above-mentioned members may optionally be substituted independently of one another by one or more substituents selected from the group consisting of fluorine and $C_{1-6}$-alkyl-;

$R^3$ independently of any other $R^3$ being selected from the group of

H-, hydroxy and $C_{1-6}$-alkyl-O-, whereby $C_{1-6}$-alkyl-O- may optionally be substituted by one or more fluorine, chlorine, bromine and HO-; preferably $R^3$ being H-;

$R^4$ and $R^6$ independently of one another being selected from the group of H-, fluorine, and methyl; preferably independently of one another being H- or fluorine, more preferably $R^4$ and $R^5$ both being H;

$R^{10}$ independently from any other potential $R^{10}$ being selected from the group of

$C_{1-6}$-alkyl-, $C_{3-7}$-cycloalkyl-, aryl and heteroaryl,

and in case where two $R^{10}$ groups both are bound to the same nitrogen atom they may together with said nitrogen atom form a 3 to 7 membered heterocycloalkyl ring, and wherein one of the $-CH_2-$groups of the heterocycloalkyl ring formed may be replaced by -O-, -NH-, $-N(C_{3-6}$-cycloalkyl)-, $-N(C_{3-6}$-cycloalkyl-$C_{1-4}$-alkyl)- or $-N(C_{1-4}$-alkyl)- preferably, and in particular preferably in case of $(R^{10})_2N$-CO-, these two $R^{10}$ together with said nitrogen they are bound to form a group selected from piperidinyl, piperazinyl, pyrrolidinyl, morpholinyl and thiomorpholinyl,
and

where the above-mentioned members may optionally be substituted independently of one another by one or more substituents selected from the group consisting of fluorine, NC-, $F_3C$-, $HF_2C$-, $FH_2C$-, $F_3C-CH_2$-, $CH_3-O-C_{1-6}$-alkyl-, $C_{1-6}$-alkyl-, and $C_{1-6}$-alkyl-O-;

**x** = 0, 1, 2, 3 or 4, preferably **x** = 0, 1 or 2, preferably **x** = 0 or 1, most preferably **x** = 0;

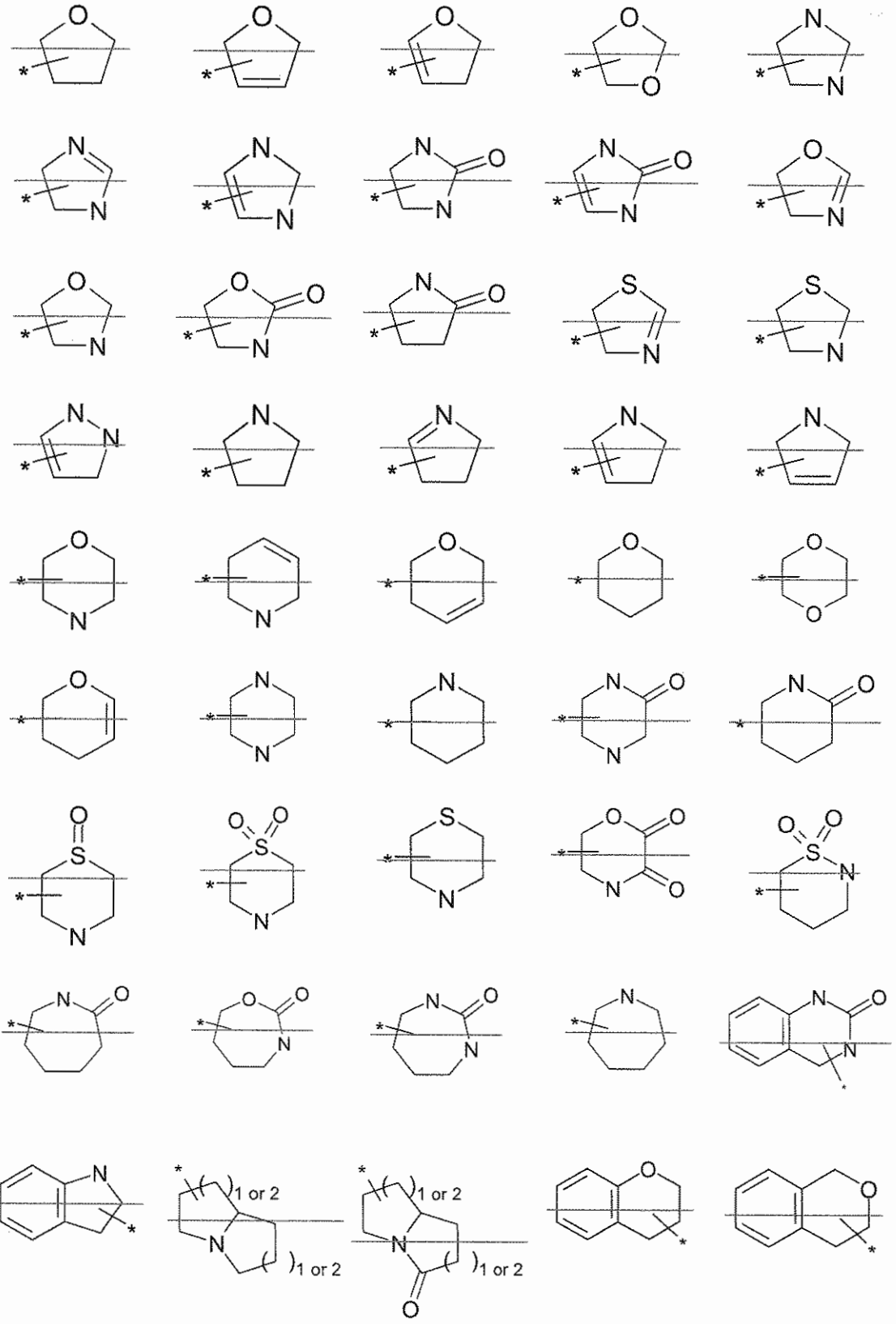
**y** = 0, or 1, most preferably **y** = 0;

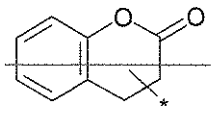
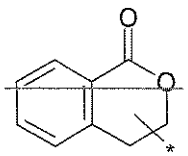
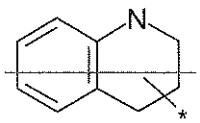
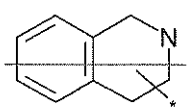
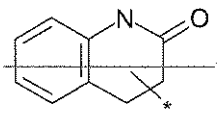
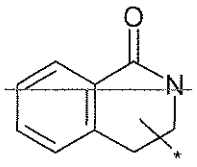
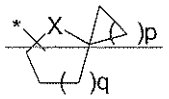
and pharmaceutically acceptable salt forms or solvates thereof.

14. A compound according to claim 12, wherein

*Hc* being a heterocyclyl group selected from the group of



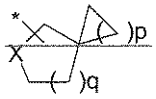

1 or 2
1 or 2
1 or 2
1 or 2

X = O, S or N

p = 1, 2, 3, 4 or 5

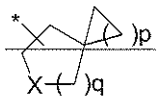
q = 1, 2 or 3



X = O, S or N

p = 1, 2, 3, 4 or 5

q = 1, 2 or 3



X = O, S or N

p = 1, 2, 3, 4 or 5

q = 1, 2 or 3

$R^1$ being selected from the group of

$C_{1-8}$-alkyl-, $C_{3-7}$-cycloalkyl-, $C_{3-7}$-cycloalkyl-$C_{1-3}$-alkyl-, $C_{3-7}$-heterocycloalkyl-, aryl and heteroaryl,

where the above-mentioned members may optionally be substituted independently of one another by one or more substituents selected from the group consisting of fluorine, chlorine, bromine, HO-, NC-, $O_2N$-, $F_3C$-, $HF_2C$-, $FH_2C$-, $F_3C$-$CH_2$-, $F_3C$-O-, $HF_2C$-O-, HO-$C_{1-6}$-alkyl-, $R^{10}$-O-$C_{1-6}$-alkyl-, $C_{1-6}$-alkyl-, $C_{3-7}$-cycloalkyl-, $C_{3-7}$-cycloalkyl-$C_{1-6}$-alkyl-, aryl, aryl-$C_{1-6}$-alkyl-, heteroaryl, heteroaryl-$C_{1-6}$-alkyl-, $C_{3-7}$-heterocycloalkyl-, $C_{3-7}$-heterocycloalkyl-$C_{1-6}$-alkyl-, tetrahydrofuranyl-O-, tetrahydropyranyl-O-, piperidinyl-O- with piperidinyl being bound to O via one of its ring C-atoms, pyrrolidinyl-O- with pyrrolidinyl being bound to O via one of its ring C-atoms, $(R^{10})_2N$-, $(R^{10})_2N$-$C_{1-6}$-alkyl-, $R^{10}$-O-, $(R^{10})_2N$-CO-, $(R^{10})_2N$-CO-$C_{1-6}$-alkyl-, $R^{10}$-CO-$(R^{10})N$-, $R^{10}$-CO-$(R^{10})N$-$C_{1-6}$-alkyl-, $R^{10}O$-CO-O-, and $R^{10}O$-CO-$(R^{10})N$-;

whereby any of the $C_{3-7}$-cycloalkyl-, $C_{3-7}$-heterocycloalkyl-, aryl, heteroaryl, tetrahydrofuranyl, tetrahydropyranyl, piperidinyl, pyrrolidinyl-groups mentioned above may optionally be substituted by NC-, $O_2N$-, $F_3C$-, $HF_2C$-, $FH_2C$-, $F_3C$-$CH_2$-, $F_3C$-O-, $HF_2C$-O-, $R^{10}$-O-$C_{1-6}$-alkyl-, $C_{1-6}$-alkyl-, $R^{10}$-O-, $R^{10}$-CO-, $R^{10}O$-CO-, or $(R^{10})_2N$-CO-, whereby piperidinyl or pyrrolidinyl preferably are substituted by $R^{10}$-CO-;

$R^2$ independently of any other $R^2$ being selected from the group of

H-, fluorine, $F_3C$-, $HF_2C$-, $FH_2C$-, $F_3C$-$CH_2$-, $C_{1-6}$-alkyl- (preferably $C_{2-6}$-alkyl), $(R^{10})_2N$-CO-, $R^{10}$-CO-$(R^{10})N$-,

where the above-mentioned members may optionally be substituted independently of one another by one or more substituents selected from the group consisting of fluorine, chlorine, bromine and $C_{1-6}$-alkyl-,

and in case $R^2$ is attached to a nitrogen which is a ring member of *Hc*, this $R^2$ shall be independently of any other $R^2$: H-, $F_3C$-$CH_2$-, $HF_2C$-$CH_2$-, $C_{1-6}$-alkyl-, $C_{3-7}$-cycloalkyl-, $C_{3-7}$-cycloalkyl-$C_{1-6}$-alkyl-, $C_{3-7}$-heterocycloalkyl-, $C_{3-7}$-heterocycloalkyl-$C_{1-6}$-alkyl-, aryl, aryl-$C_{1-6}$-alkyl-, heteroaryl, heteroaryl-$C_{1-6}$-alkyl-, $R^{10}$-O-$C_{1-3}$-alkyl-, $R^{10}$O-CO-, $(R^{10})_2N$-CO-, $R^{10}$-CO-, or $C_{1-6}$-alkyl-$SO_2$-,

where the above-mentioned members may optionally be substituted independently of one another by one or more substituents selected from the group consisting of fluorine and C1-6-alkyl-;

$R^3$ being selected from the group of

independently of any other $R^3$: H-, hydroxyl and $C_{1-6}$-alkyl-O-, whereby $C_{1-6}$-alkyl-O- may optionally be substituted by one or more fluorine, chlorine, bromine and HO-;

$R^4$ and $R^5$ independently of one another being selected from the group of H-, fluorine, and methyl; preferably independently of one another being selected from the group of H- and fluorine, more preferably $R^4$ and $R^5$ both being H;

$R^{10}$ independently from any other $R^{10}$ being selected from the group of

$C_{1-6}$-alkyl-, $C_{3-7}$-cycloalkyl-, aryl and heteroaryl

where the above-mentioned members may optionally be substituted independently of one another by one or more substituents selected from the group consisting of fluorine, $F_3C$-, $HF_2C$-, $FH_2C$-, $F_3C$-$CH_2$-, $CH_3$-O-$C_{1-6}$-alkyl-, $C_{1-6}$-alkyl-, and $C_{1-6}$-alkyl-O-;

x = 0, 1, 2, 3 or 4, preferably x = 0, 1 or 2, preferably x = 0 or 1, most preferably x = 0;

y = 0, or 1, most preferably y = 0;

and pharmaceutically acceptable salt forms or solvates thereof

with the proviso that

if *Hc* is oxetanyl, which is bound via the carbon atom next to the oxygen of the oxetanyl, there is no substituent attached to said carbon atom via a -$CH_2$- spacer.

15. A compound according to claim 13, wherein

*Hc* being selected from the group of tetrahydropyranyl, tetrahydrofuranyl, piperidinyl, pyrrolidinyl;

and

$R^2$ independently of any other $R^2$ being selected from the group of H- and $C_{1-6}$-alkyl-,

and in cases $R^2$ is attached to a nitrogen which is a ring member of *Hc*, this $R^2$ shall be independently of any other $R^2$: H-, $C_{1-6}$-alkyl-CO-, $C_{1-6}$-alkyl-O-CO-, $C_{1-6}$-alkyl-, phenyl-CO-, phenyl-O-CO-, $(C_{1-6}\text{-alkyl})_2$N-CO-,

where the above-mentioned members may optionally be substituted independently of one another by one or more fluorine substituents;

and

$R^4$ and $R^5$ being H

and

$R^{10}$ independently from any other $R^{10}$ being selected from the group of $C_{1-6}$-alkyl-, phenyl, and pyridyl

where the above-mentioned members may optionally be substituted independently of one another by one or more substituents selected from the group consisting of fluorine, $F_3C$-, $HF_2C$-, $FH_2C$-, $F_3C$-$CH_2$-, $CH_3$-O-$C_{1-6}$-alkyl-, $C_{1-6}$-alkyl-, and $C_{1-6}$-alkyl-O-.

16. A compound according to claim 15, wherein

*Hc* being selected from the group of tetrahydropyranyl, tetrahydrofuranyl, piperidinyl, pyrrolidinyl;

and

$R^1$ being selected from the group of

phenyl, 2-, 3- and 4-pyridyl, pyrimidinyl, pyrazolyl, thiazolyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, cycloheptyl, cyclopentylmethyl, ethyl, propyl, 1- and 2-butyl-, 1-, 2- and 3-pentyl-, tetrahydrofuranyl and tetrahydropyranyl,

where these groups may optionally be substituted by one or more substituents selected from the group consisting of HO-, NC-, $C_{1-6}$-alkyl-O-, $C_{1-6}$-alkyl-, $C_{3-7}$-cycloalkyl-O-, $C_{3-7}$-cycloalkyl-$C_{1-3}$-alkyl-O-, $CF_3O$-, $CF_3$-, fluorine, chlorine, bromine, $C_{3-7}$-heterocycloalkyl- and $C_{3-7}$-heterocycloalkyl-$C_{1-6}$-alkyl-.

$R^2$ independently of any other $R^2$ being selected from the group of H- and $C_{1-6}$-alkyl-,

and in cases $R^2$ is attached to a nitrogen which is a ring member of *Hc*, this $R^2$ shall be independently of any other $R^2$: H-, $C_{1-6}$-alkyl-CO-, $C_{1-6}$-alkyl-O-CO-, $C_{1-6}$-alkyl-, phenyl-CO-, phenyl-O-CO-, $(C_{1-6}\text{-alkyl})_2$N-CO-,

where the above-mentioned members may optionally be substituted independently of one another by one or more fluorine substituents;

and

$R^3$ independently of any other $R^3$ being selected from the group of

H-, hydroxy and $C_{1-6}$-alkyl-O-, whereby $C_{1-6}$-alkyl-O- may optionally be substituted by one or more fluorine, chlorine, bromine and HO-; preferably $R^3$ being H-;

and

$R^4$ and $R^5$ being H

and

x = 0, 1, 2, 3 or 4, preferably x = 0, 1 or 2, preferably x = 0 or 1, most preferably x = 0;

y = 0, or 1, most preferably y = 0;

and pharmaceutically acceptable salt forms or solvates thereof.

17. A compound according to claim 1, wherein

*Hc* being selected from the group of tetrahydropyranyl, tetrahydrofuranyl, piperidinyl, pyrrolidinyl;

and

$R^1$ being selected from the group of

phenyl, 2-, 3- and 4-pyridyl-, cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, cycloheptyl, cyclopentylmethyl, ethyl, propyl, 1- and 2-butyl-, 1-, 2- and 3-pentyl-, tetrahydrofuranyl, and tetrahydropyranyl,

where these groups may optionally be substituted by one or more substituents selected from the group consisting of NC-, $C_{1-6}$-alkyl-O-, $C_{1-6}$-alkyl-, $CF_3O$-, $CF_3$- and halogen, the halogen preferably being selected from the group of fluorine, chlorine and bromine.

$R^2$ independently of any other $R^2$ being selected from the group of H- and $C_{1-6}$-alkyl-,

and in cases $R^2$ is attached to a nitrogen which is a ring member of *Hc*, this $R^2$ shall be independently of any other $R^2$: H-, $C_{1-6}$-alkyl-CO-, $C_{1-6}$-alkyl-O-CO-, $C_{1-6}$-alkyl-, phenyl-CO-, phenyl-O-CO-, $(C_{1-6}\text{-alkyl})_2$N-CO-,

where the above-mentioned members may optionally be substituted independently of one another by one or more fluorine substituents;

and

$R^3$ independently of any other $R^3$ being selected from the group of

~~H-, hydroxy and $C_{1-6}$-alkyl-O-, whereby $C_{1-6}$-alkyl-O- may optionally be substituted by one or more fluorine, chlorine, bromine and HO-; preferably $R^3$ being H-;~~

~~and~~

~~$R^4$ and $R^5$ being H~~

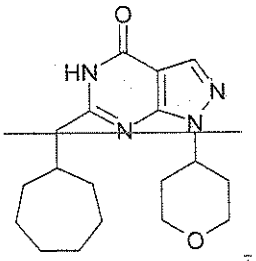
~~and~~

~~x = 0, 1, 2, 3 or 4, preferably x = 0, 1 or 2, preferably x = 0 or 1, most preferably x = 0;~~

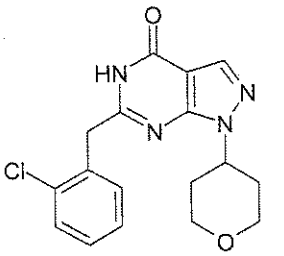
~~y = 0, or 1, most preferably y = 0;~~

~~and pharmaceutically acceptable salt forms or solvates thereof.~~

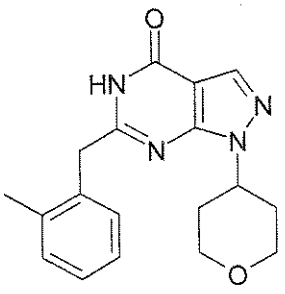
4~~2~~. TheA compound according to claim 1 ~~characterised in that the compound is~~ selected from the group consisting of



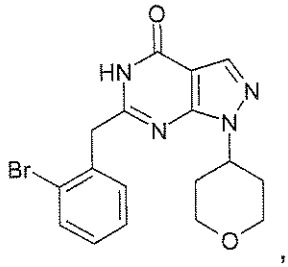
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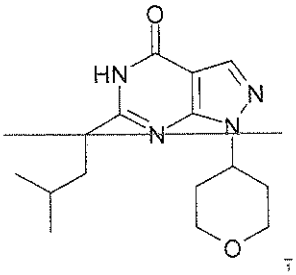
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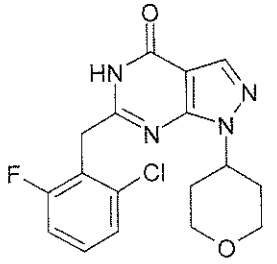
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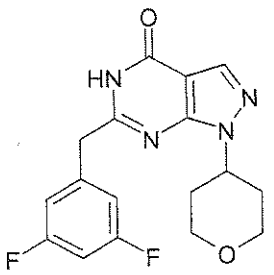
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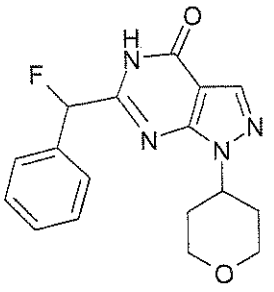


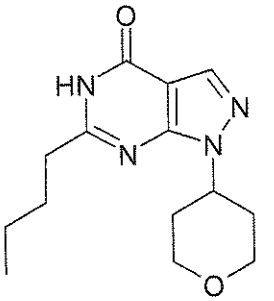
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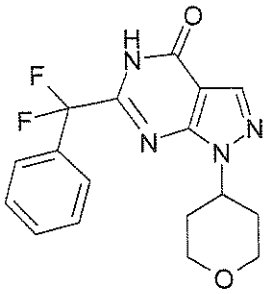


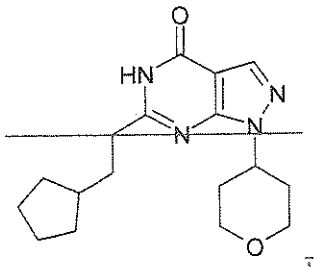
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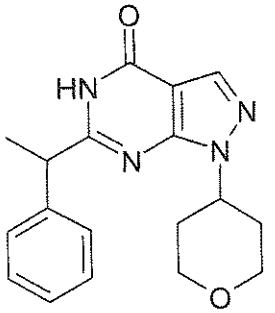

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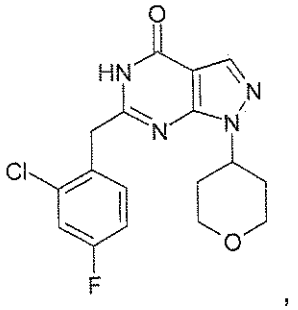

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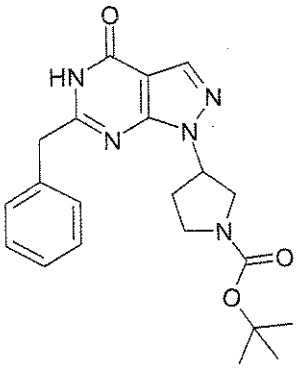

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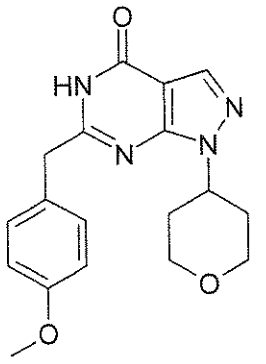

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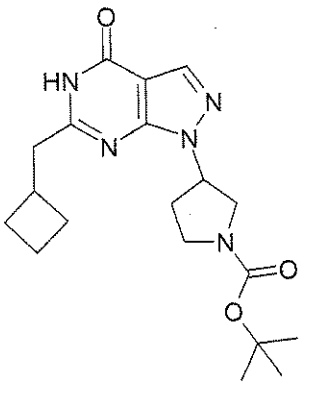

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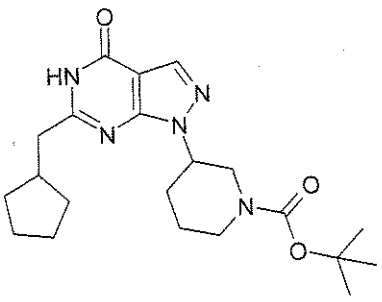

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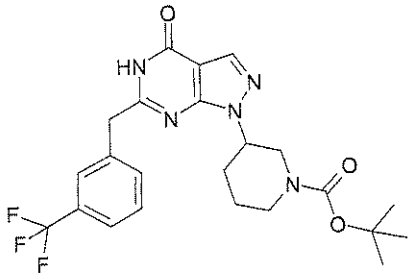

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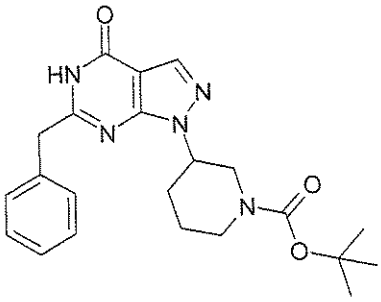

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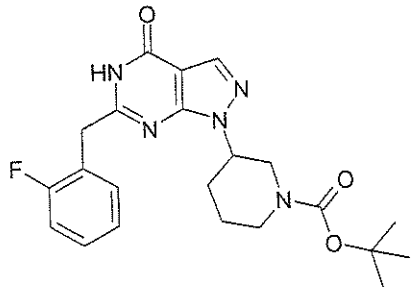
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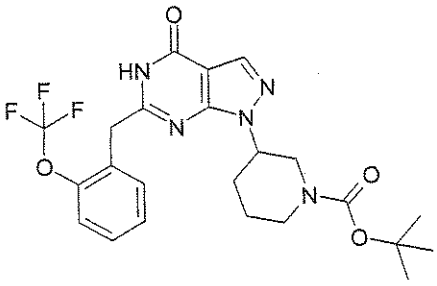
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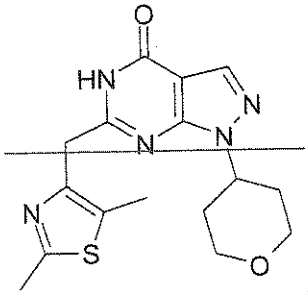
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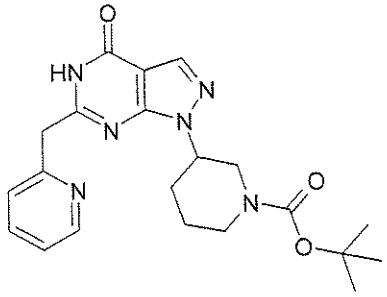
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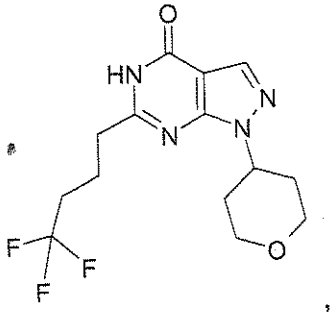
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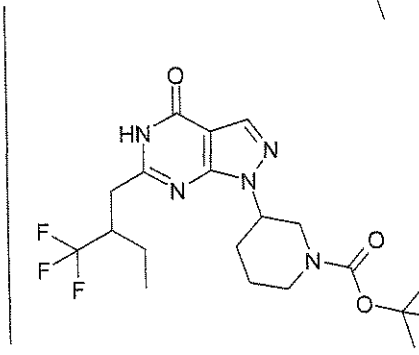
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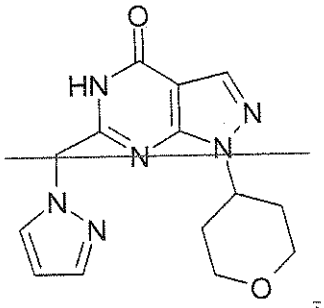
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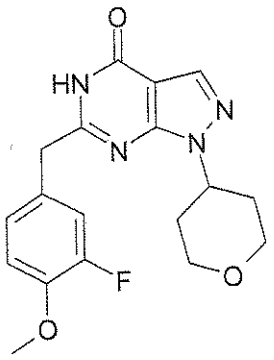
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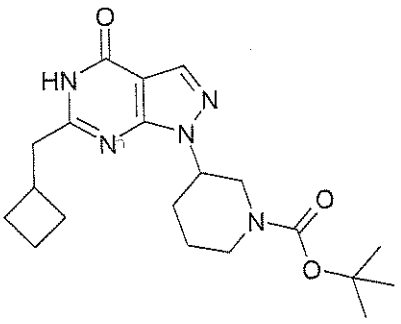
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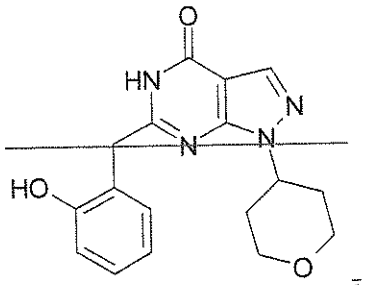
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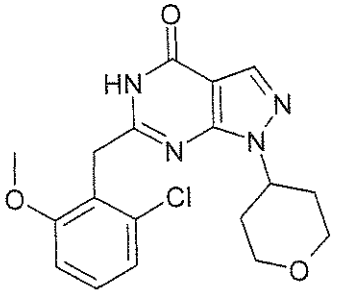
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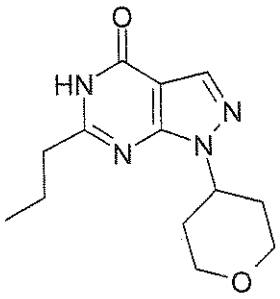
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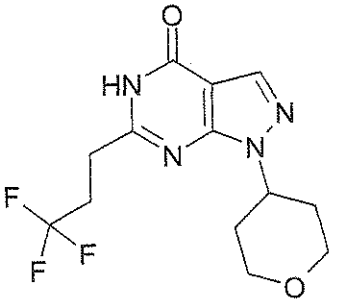
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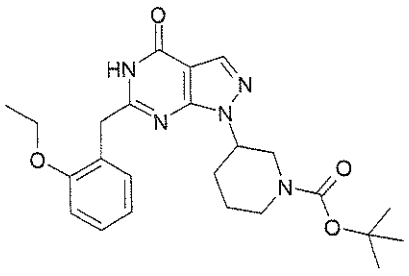
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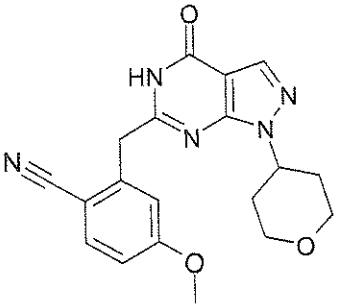
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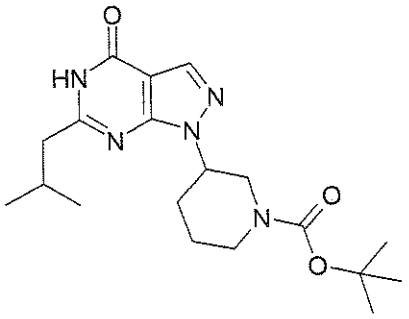
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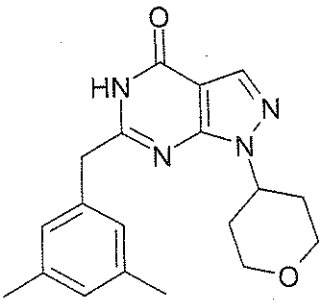
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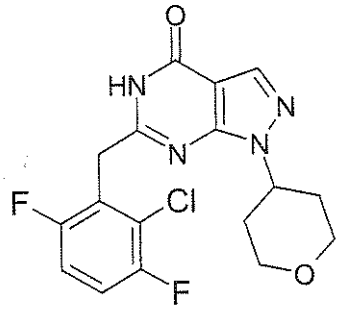
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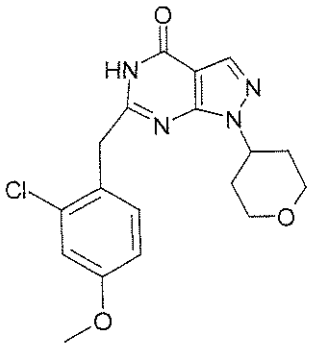


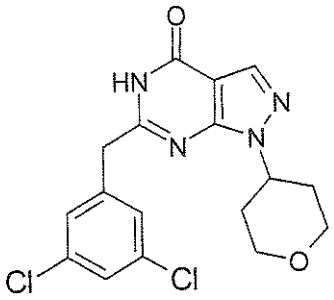
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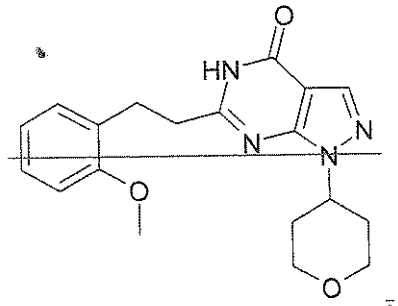


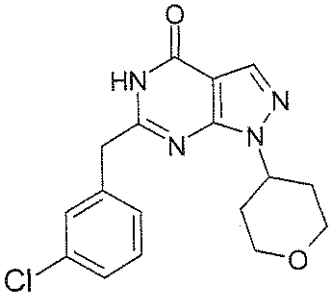
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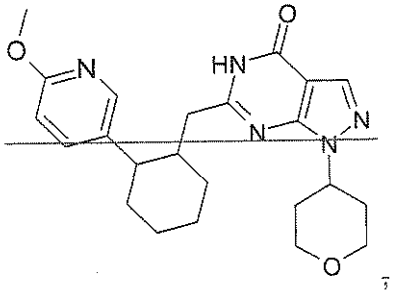


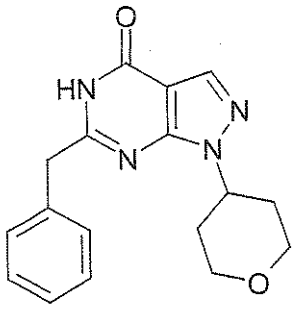


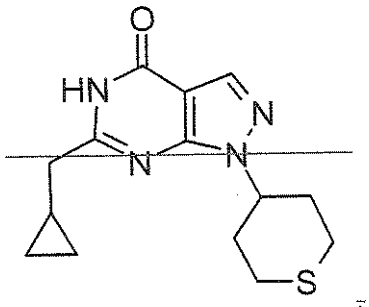


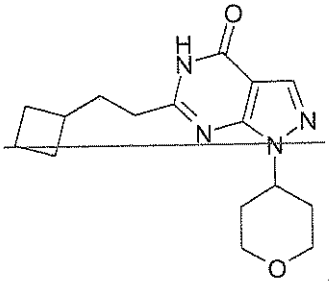


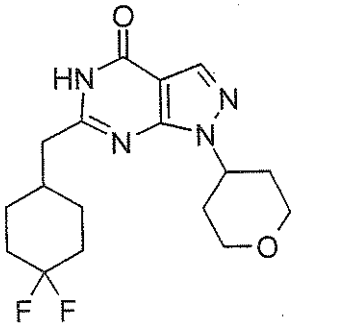


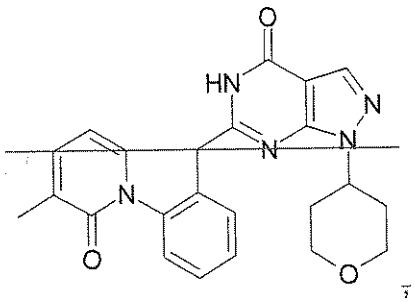


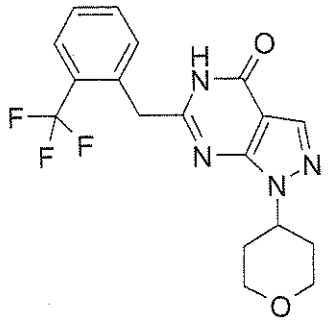


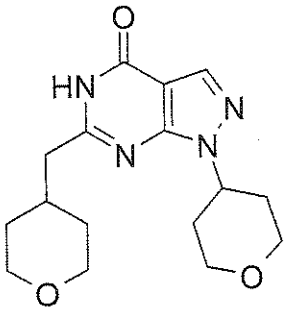


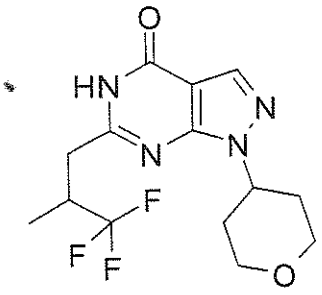


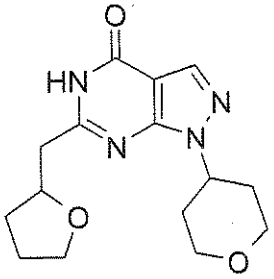


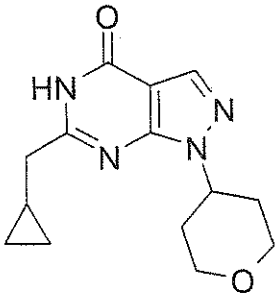


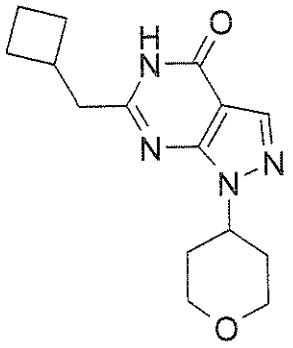


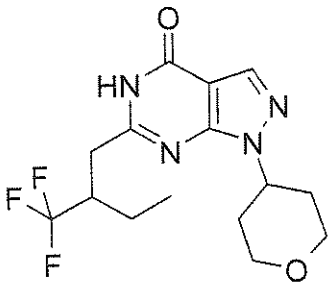


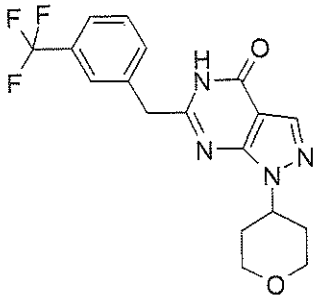




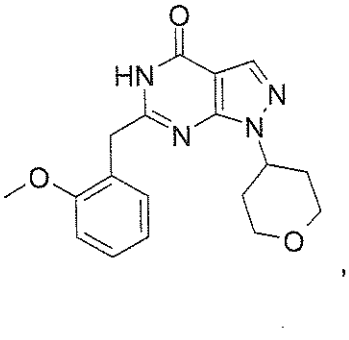


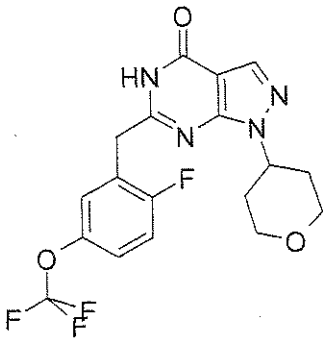


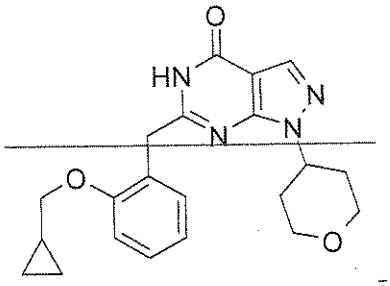


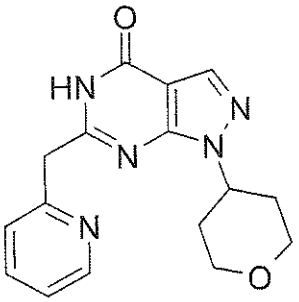


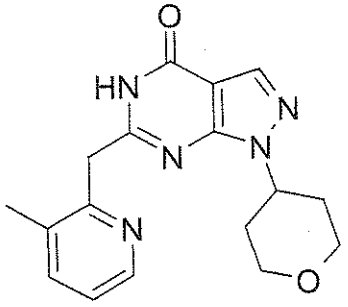


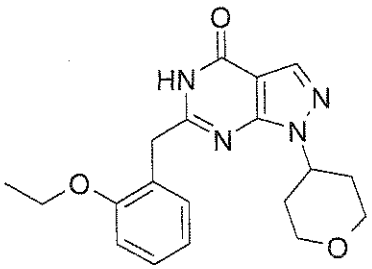


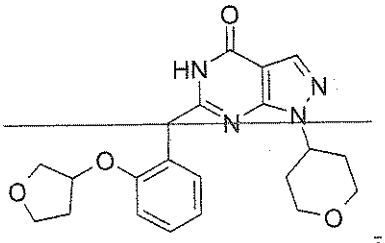


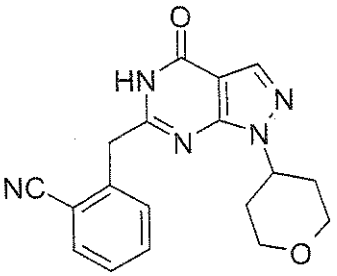


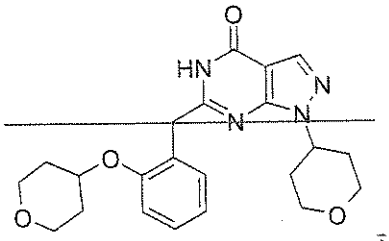


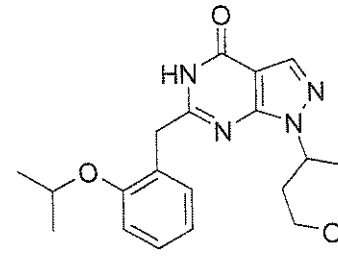


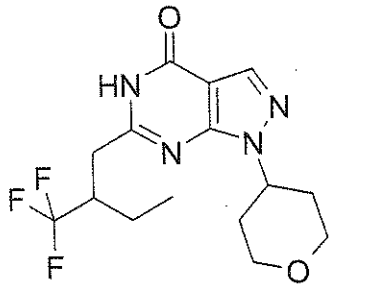


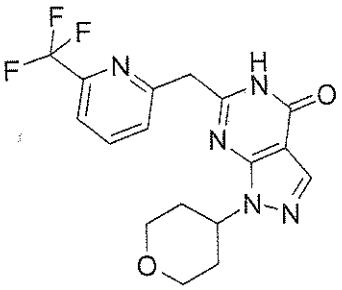


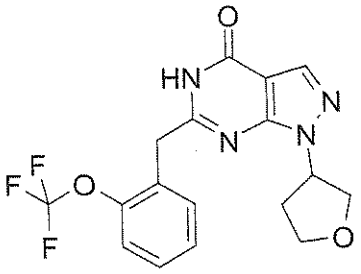


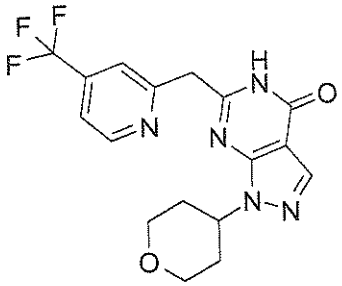


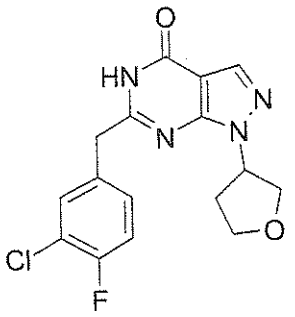


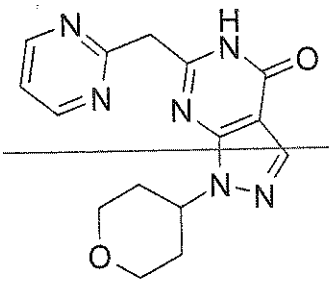


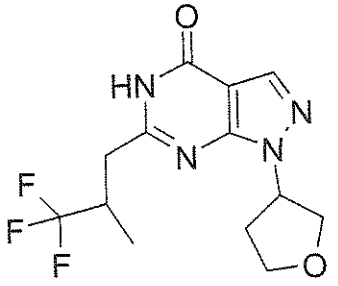


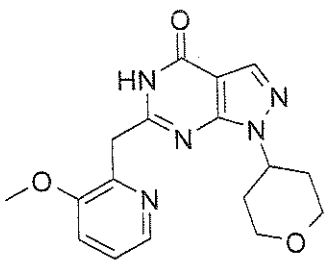


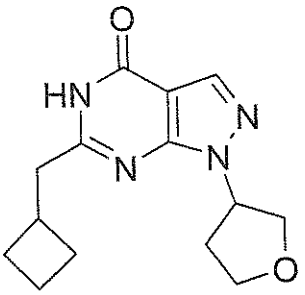


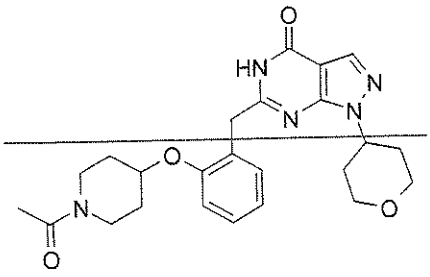


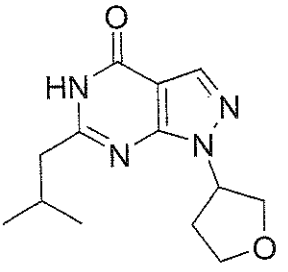


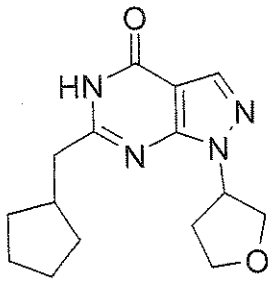


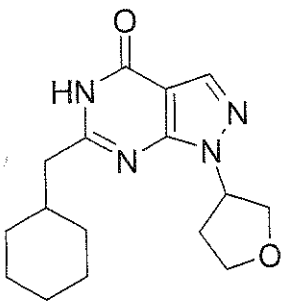




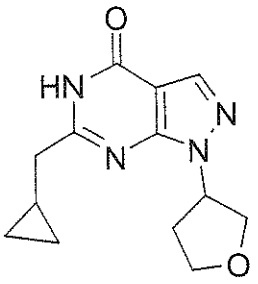




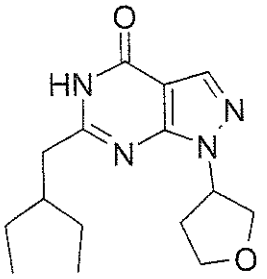




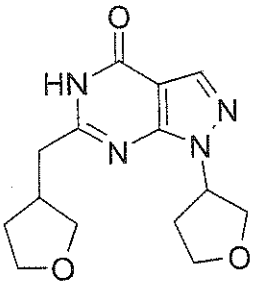
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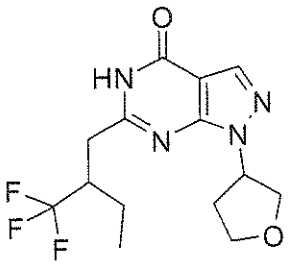
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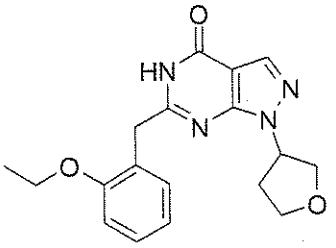
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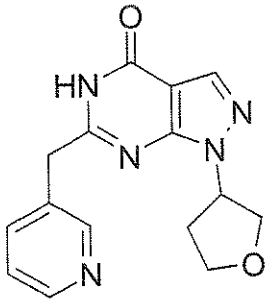
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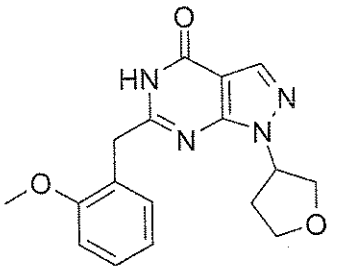
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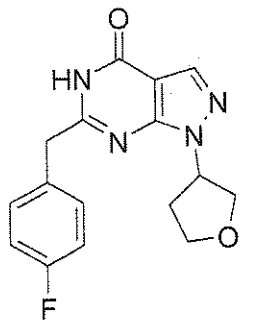
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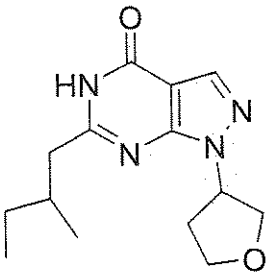
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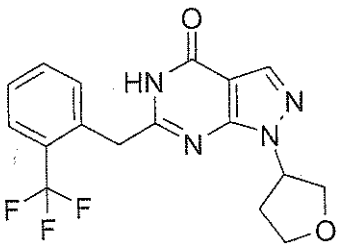
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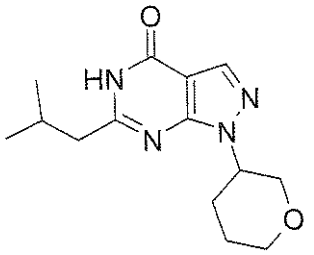
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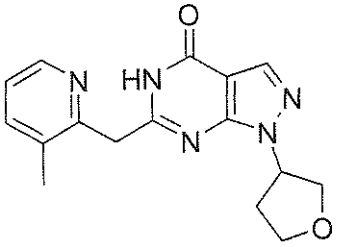
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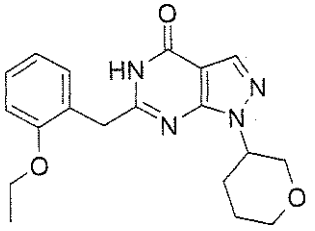
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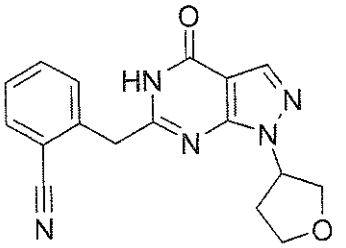
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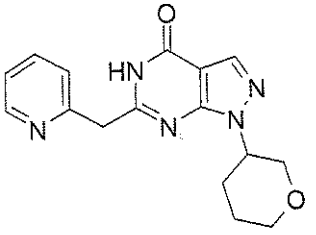
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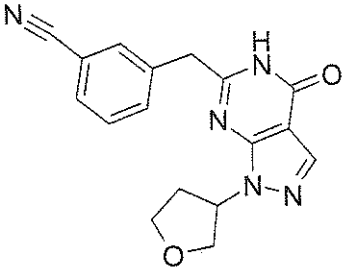
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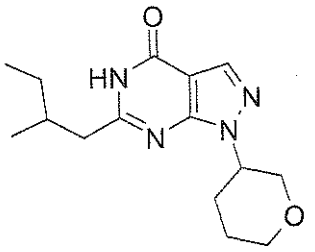
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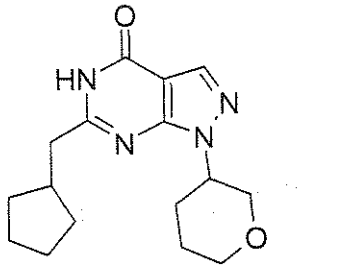
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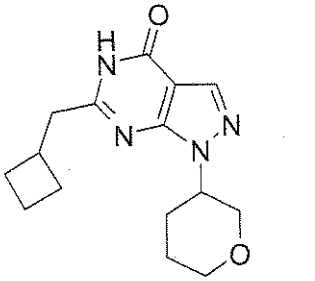
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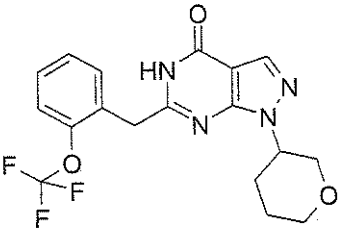
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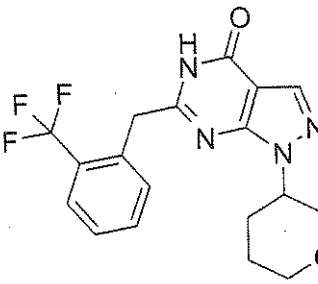
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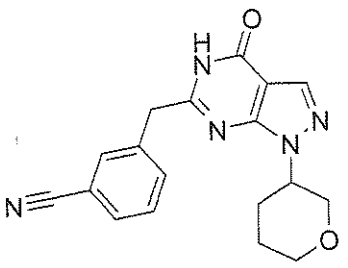
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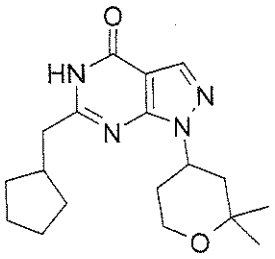
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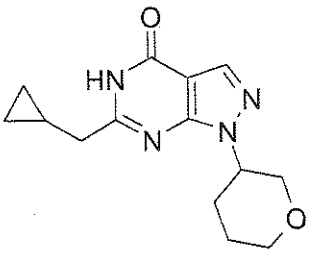
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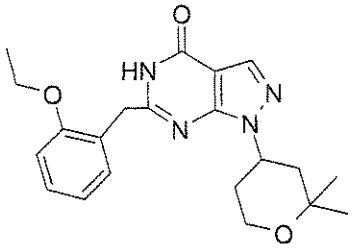
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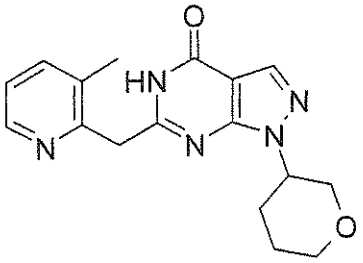
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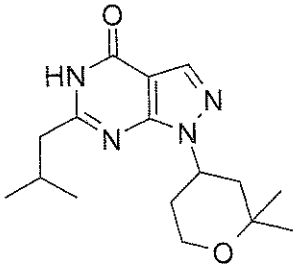
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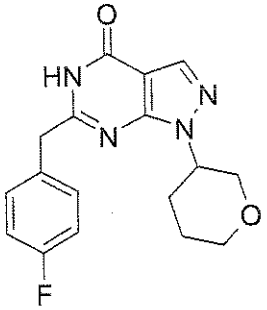
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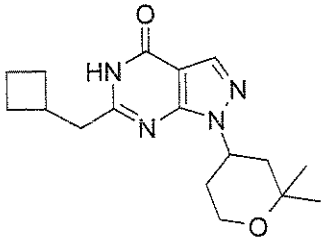
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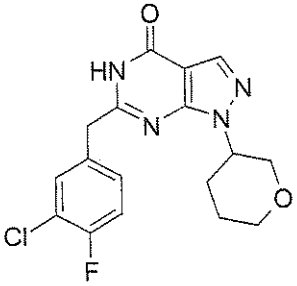
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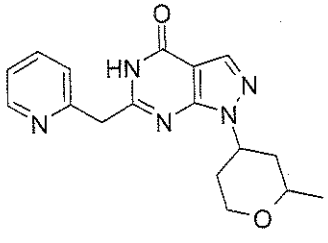
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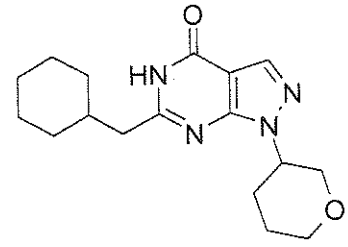
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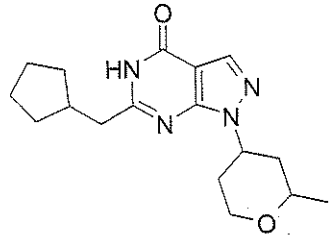
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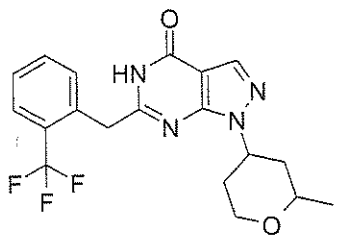
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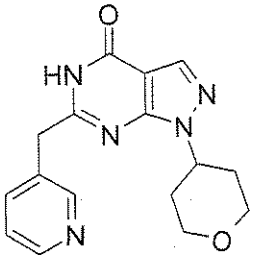
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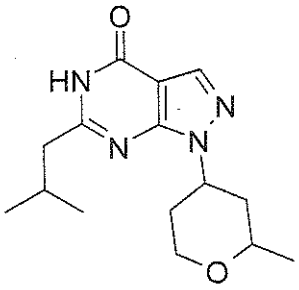
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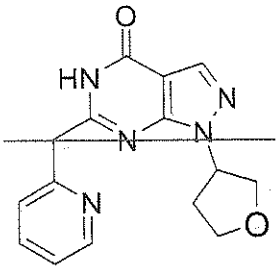
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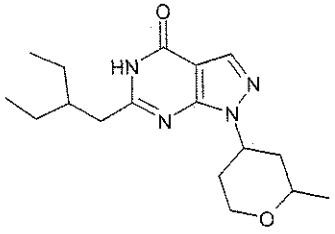
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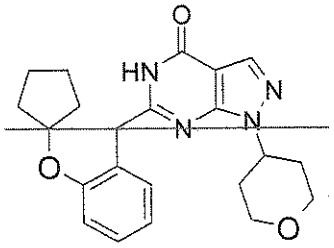
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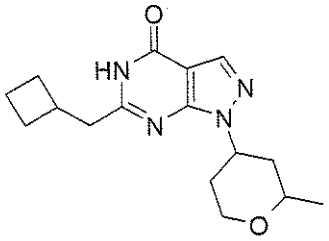
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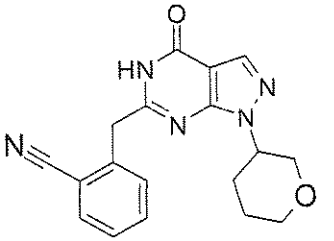
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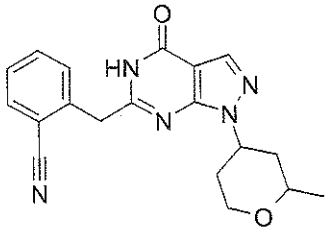
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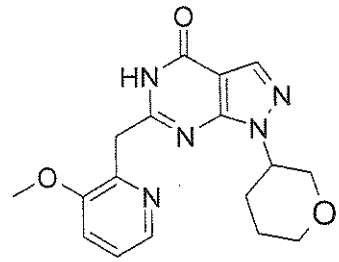
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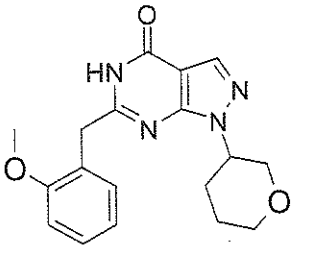
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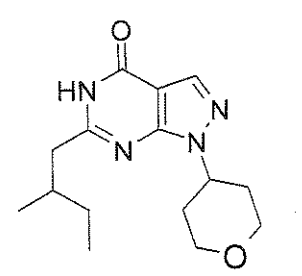
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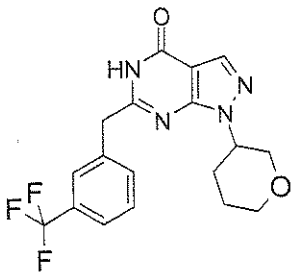
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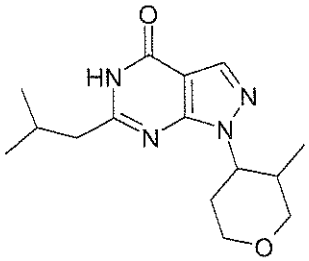
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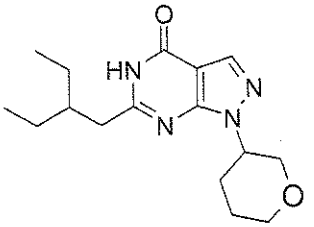
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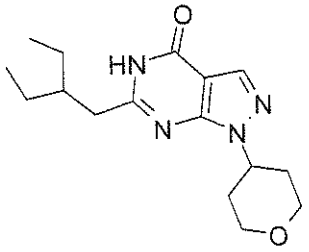
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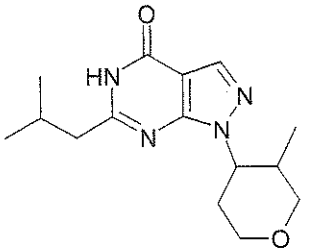
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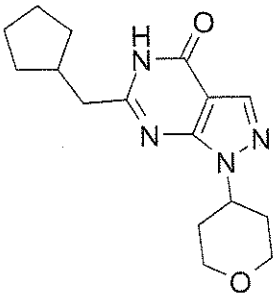
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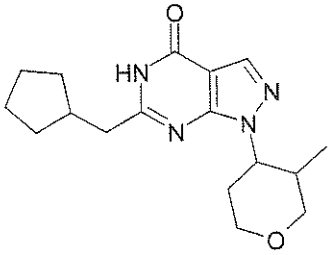
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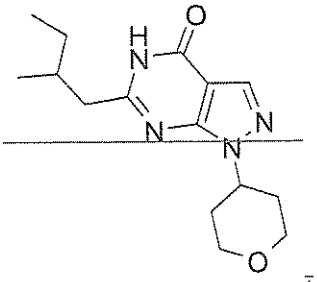
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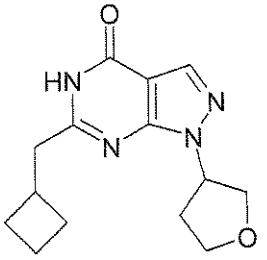
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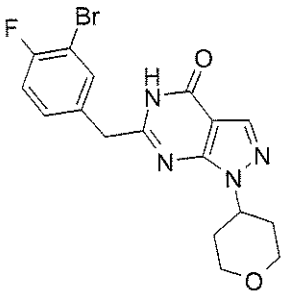
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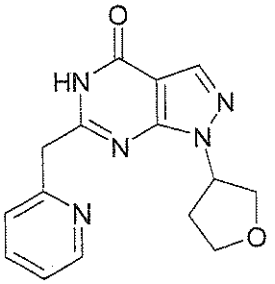
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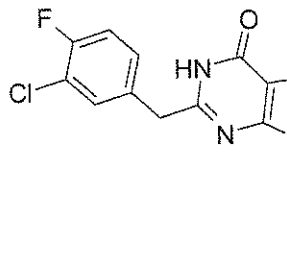
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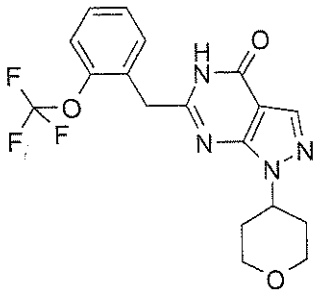
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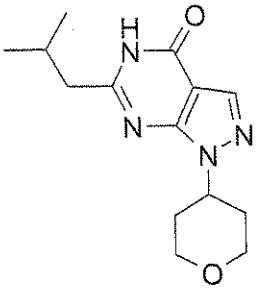
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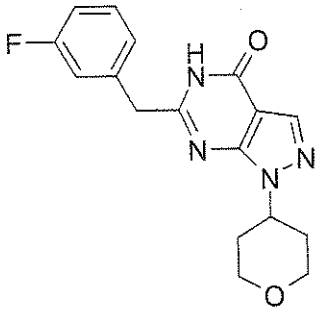
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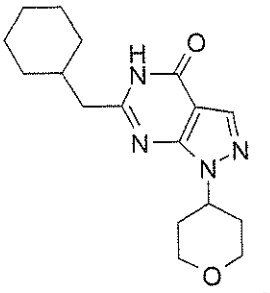
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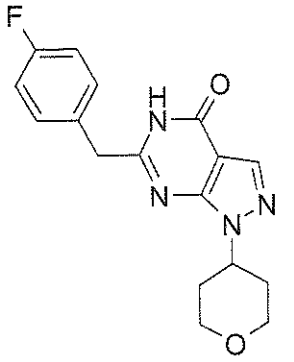
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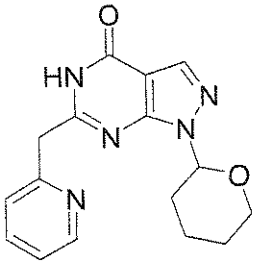
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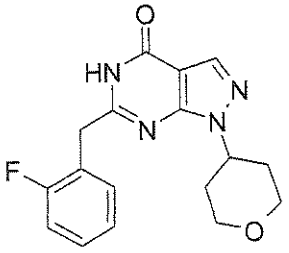
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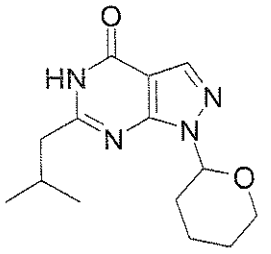
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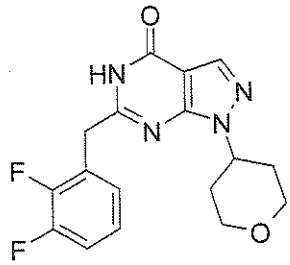
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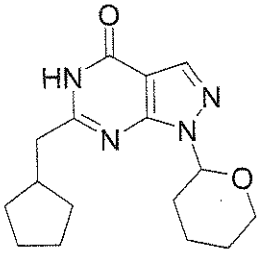
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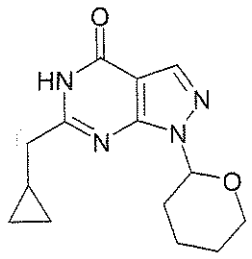
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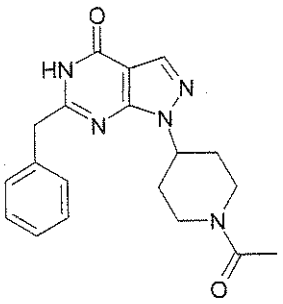
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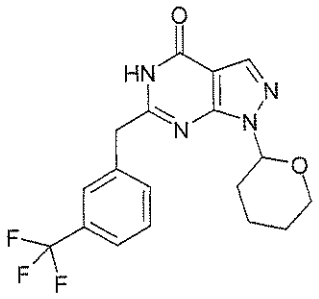
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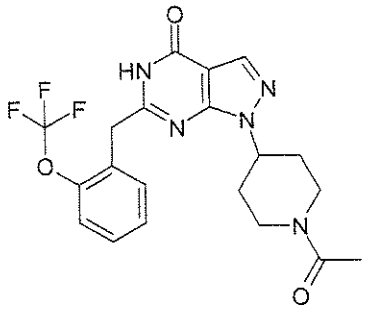
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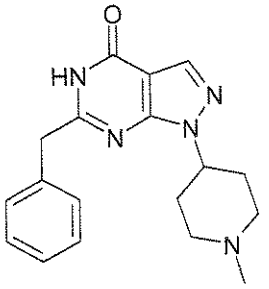
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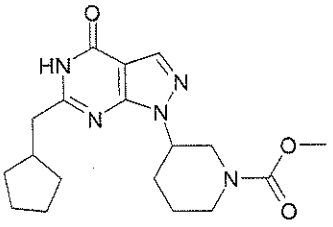
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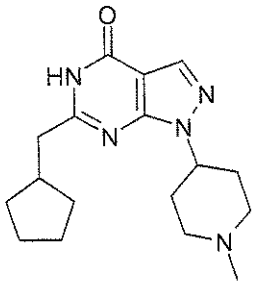
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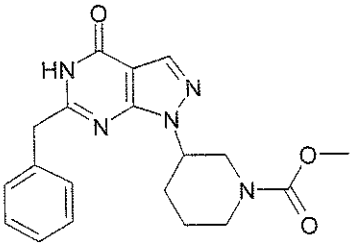
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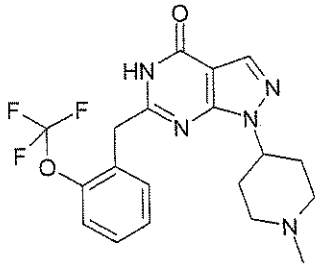
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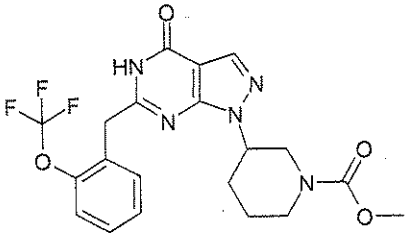
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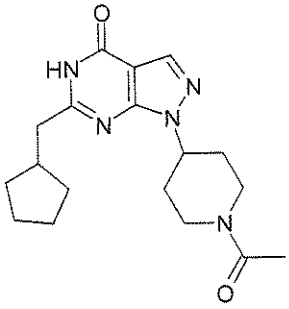
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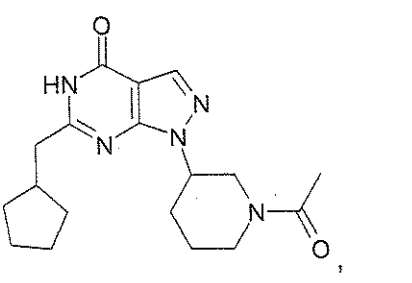
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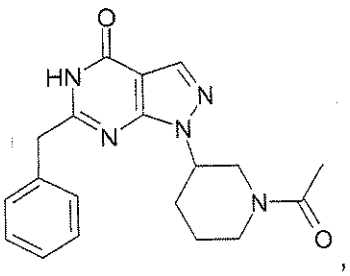
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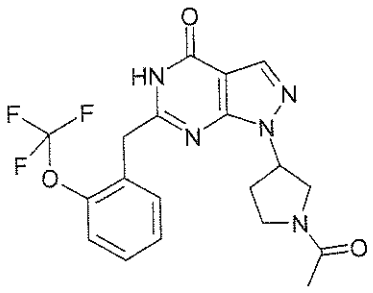
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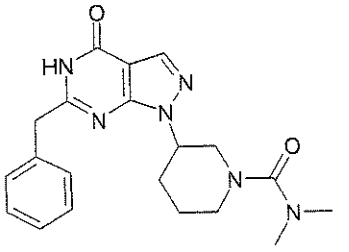
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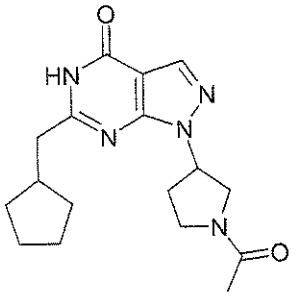
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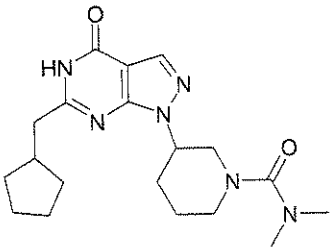
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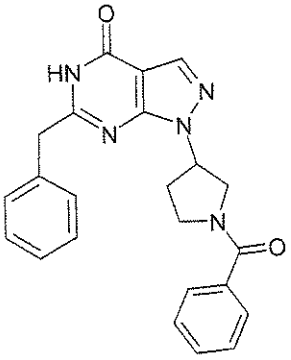
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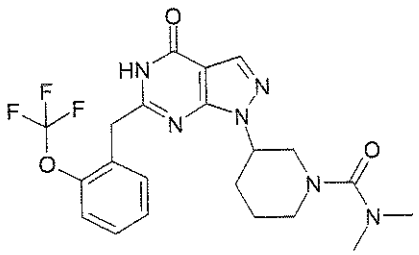
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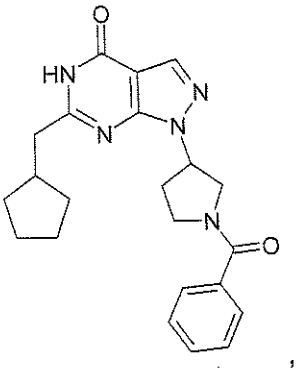
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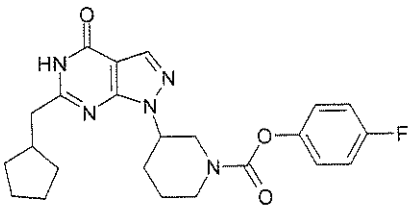
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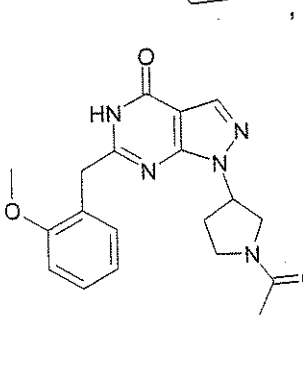
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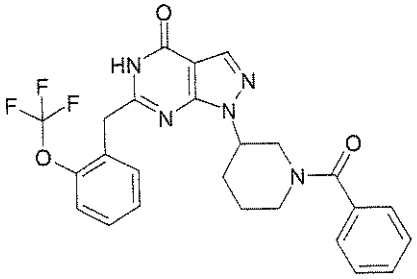
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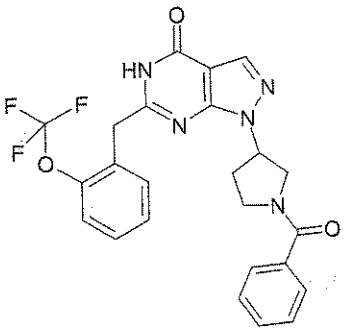
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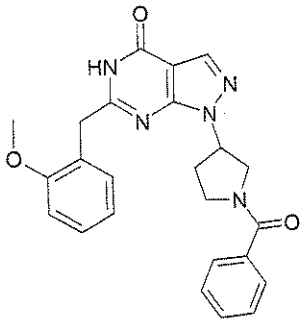
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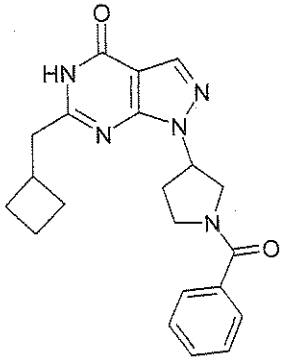
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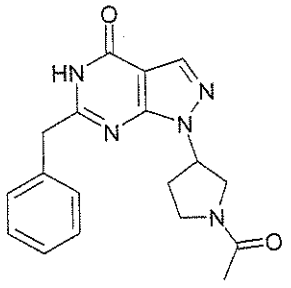
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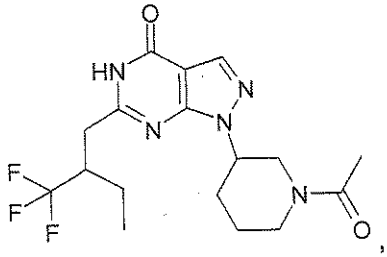
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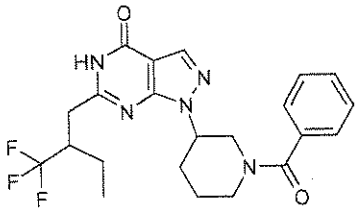
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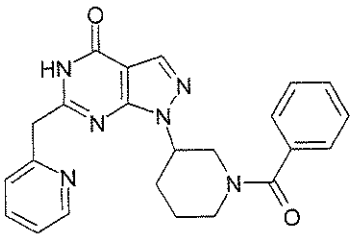
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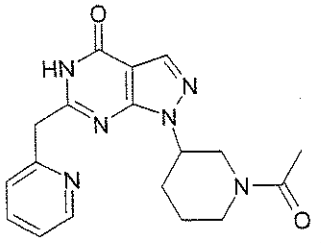
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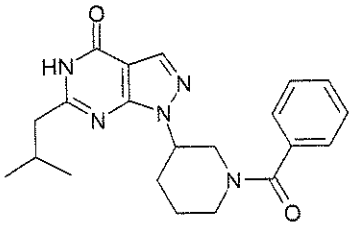
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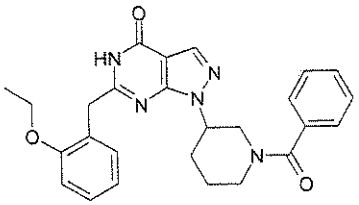
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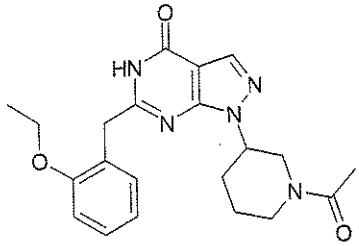
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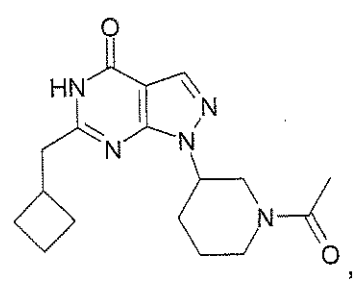
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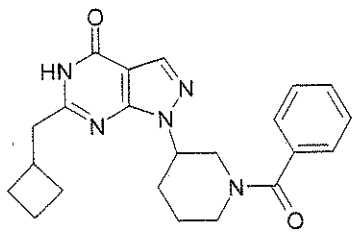
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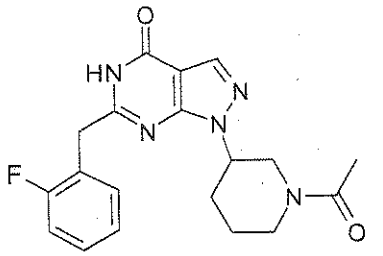
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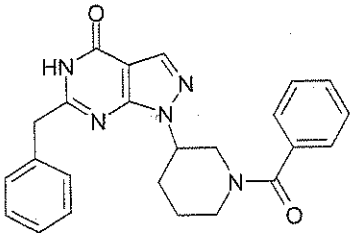
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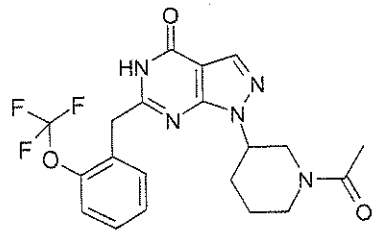
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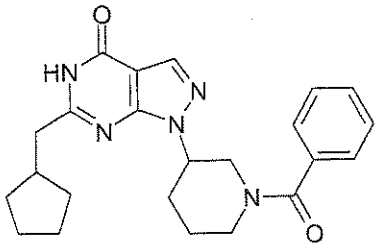
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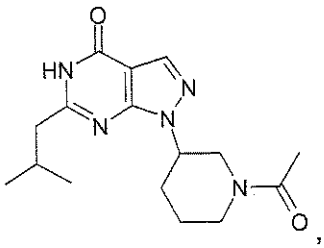
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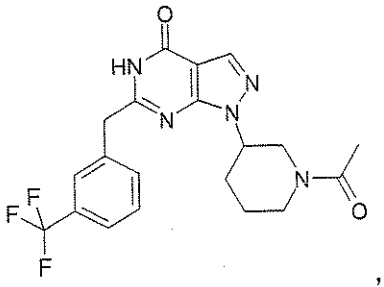
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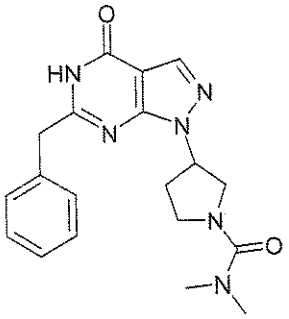
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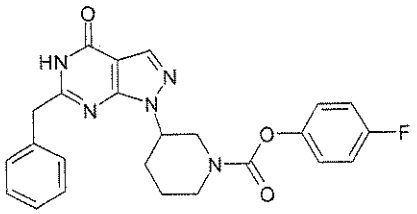
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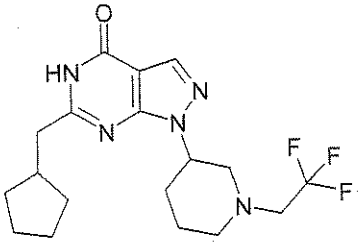
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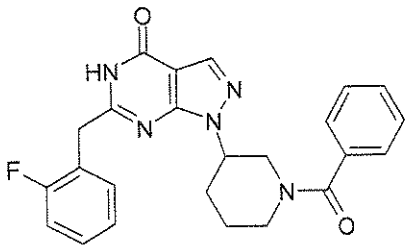
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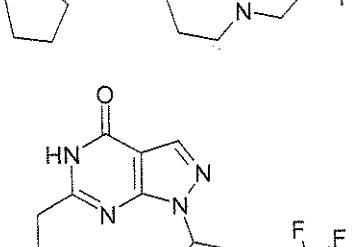
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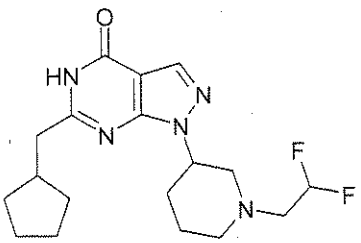
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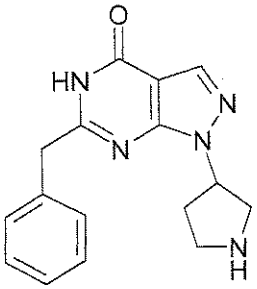
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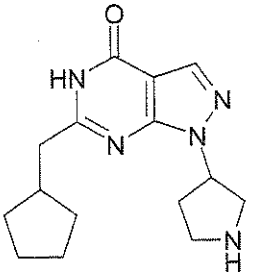
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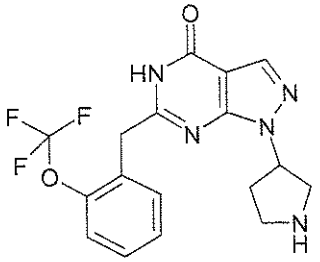
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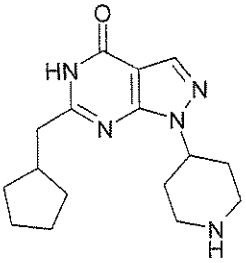
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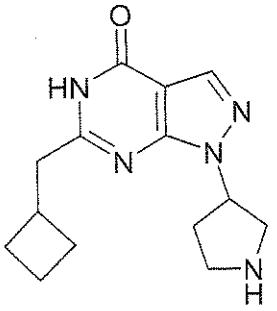
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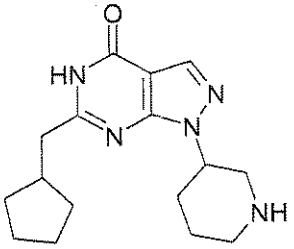
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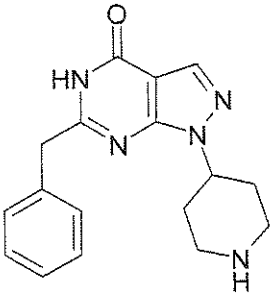
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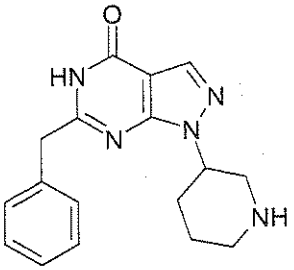
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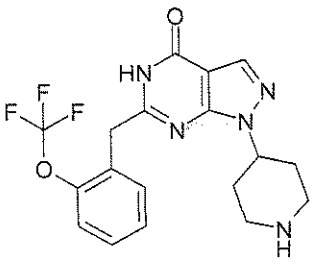
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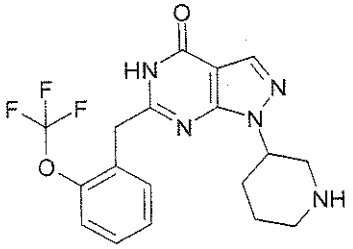
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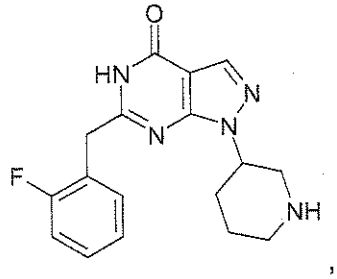
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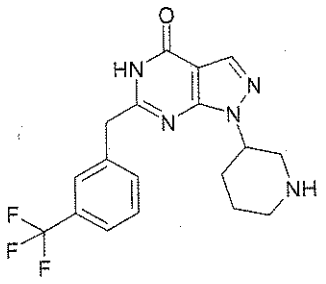
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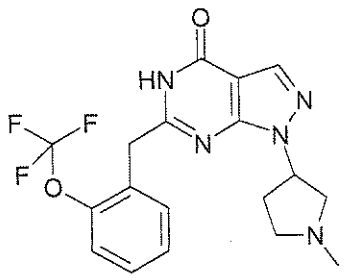
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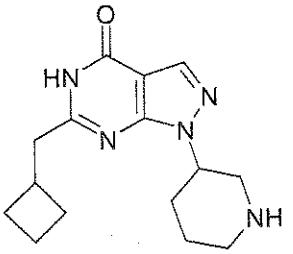
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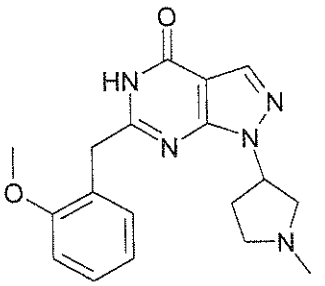
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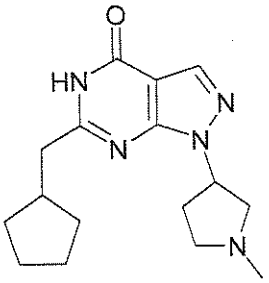
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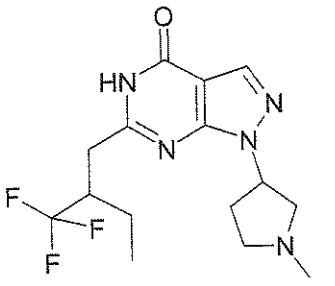
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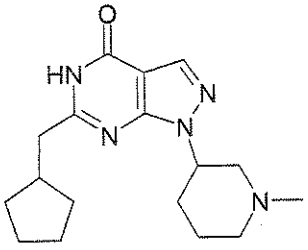
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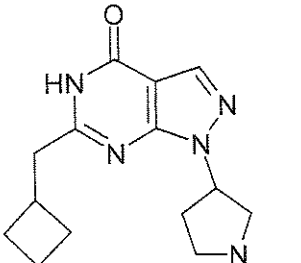
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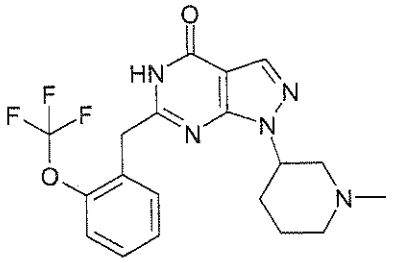
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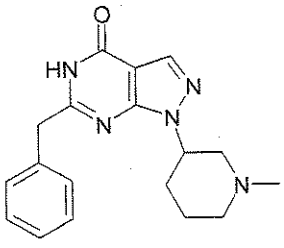
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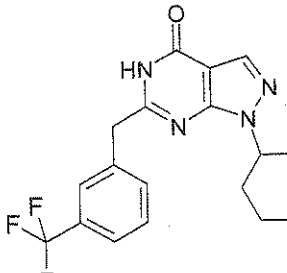
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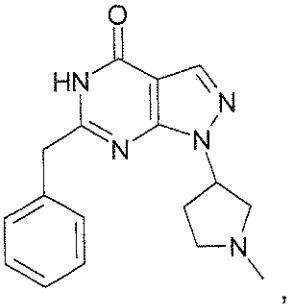
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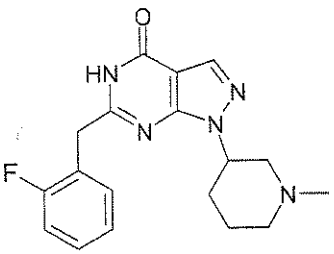
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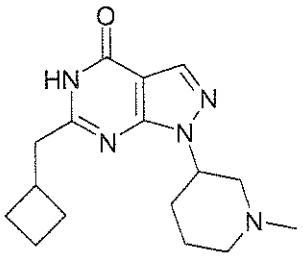
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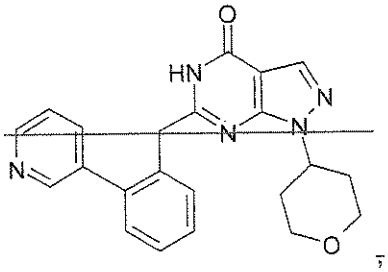
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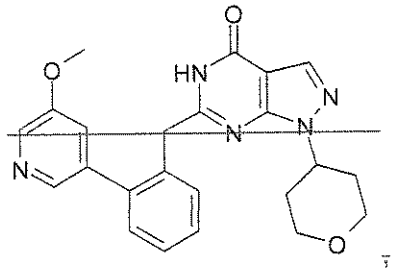


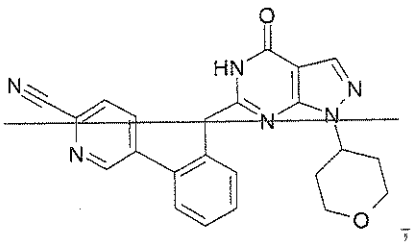
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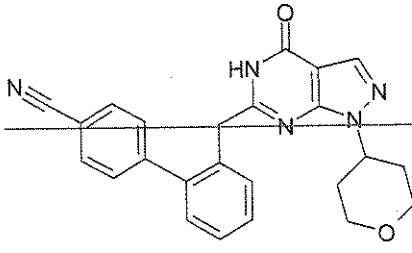


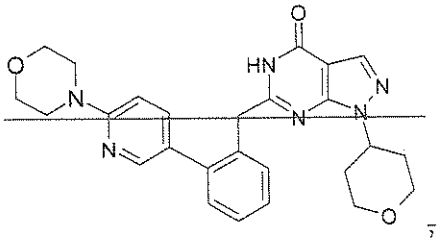
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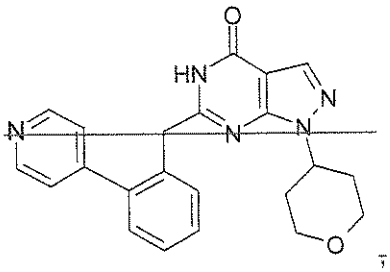


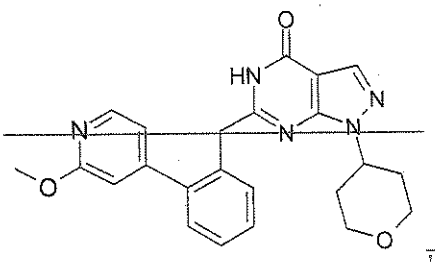


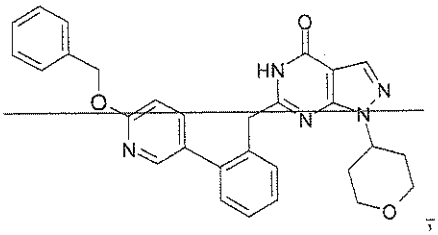


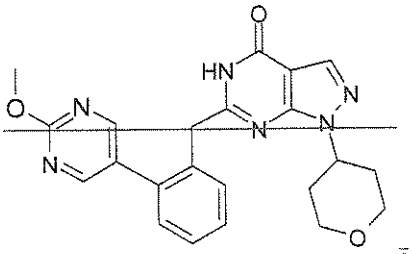


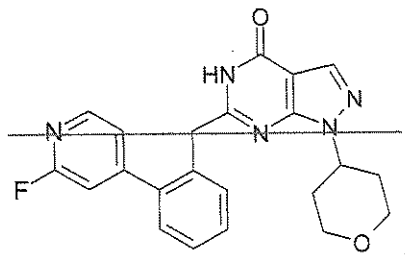


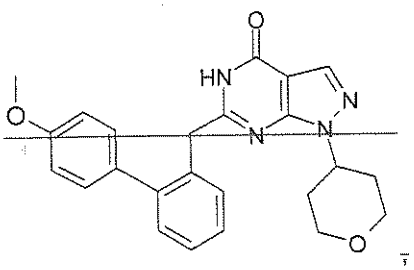


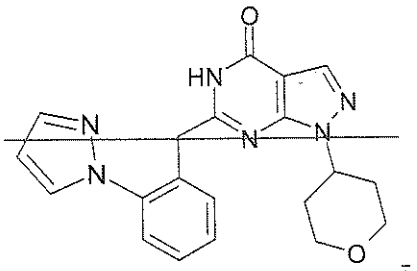


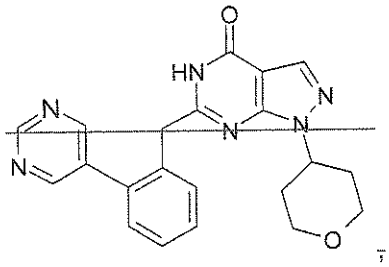


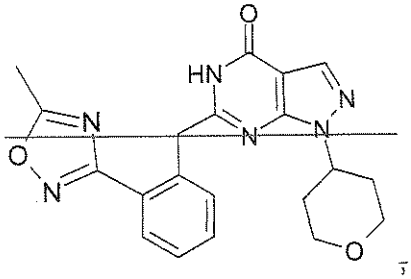


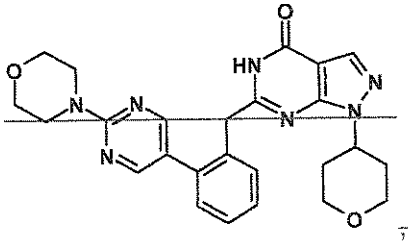


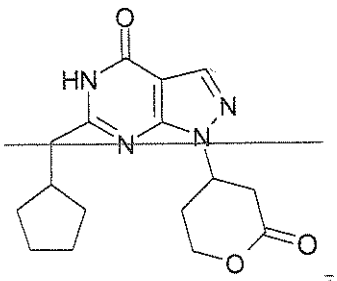


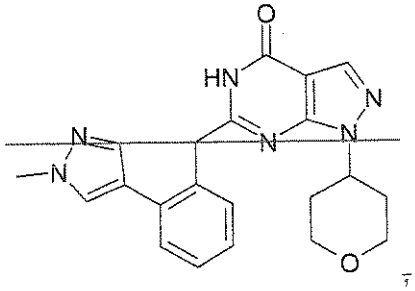


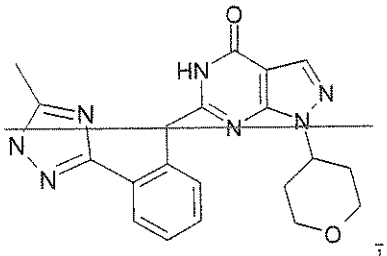




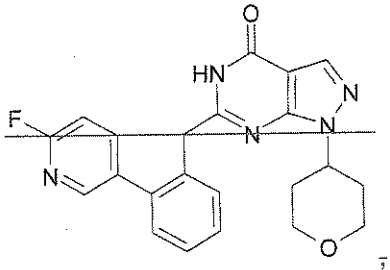


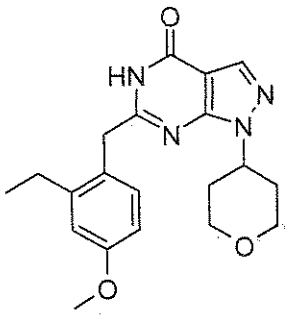


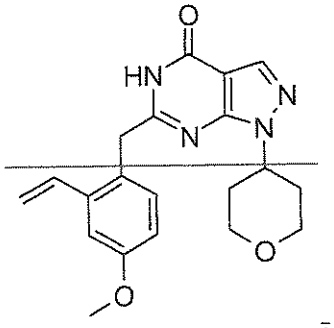


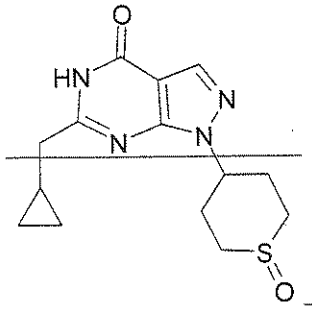


and

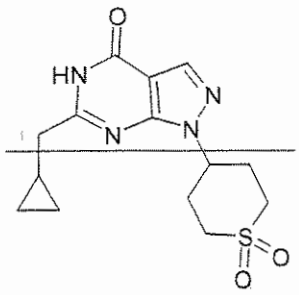






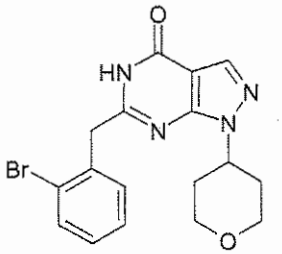


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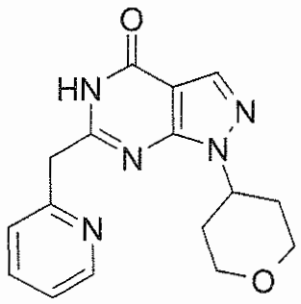
and the stereoisomeres of each thereof or tautomeres of each thereof or solvates of each thereof or pharmaceutically acceptable salts of each thereof.

5. The compound according to any of claims 1, 3 and 4, in which the compound is



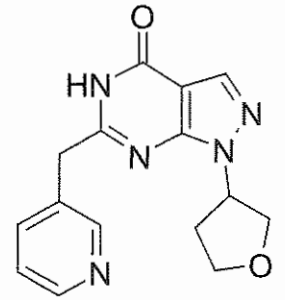
or tautomeres thereof or solvates thereof or pharmaceutically acceptable salts thereof.

6. The compound according to any of claims 1, 3 and 4, in which the compound is



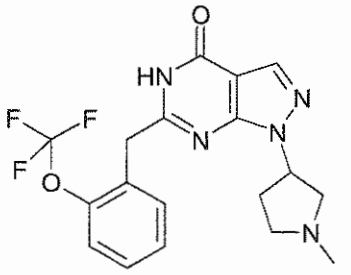
or tautomeres thereof or solvates thereof or pharmaceutically acceptable salts thereof.

7. The compound according to any of claims 1, 3 and 4, in which the compound is



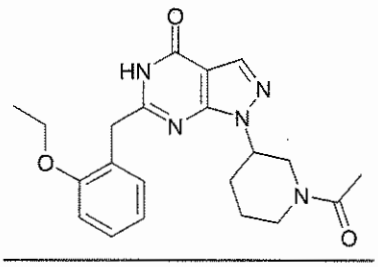
or the stereoisomeres thereof or tautomeres thereof or solvates thereof or pharmaceutically acceptable salts thereof.

8. The compound according to any of claims 1, 2 and 4, in which the compound is



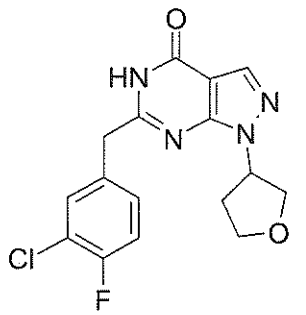
or the stereoisomeres thereof or tautomeres thereof or solvates thereof or pharmaceutically acceptable salts thereof.

9. The compound according to any of claims 1, 2 and 4, in which the compound is



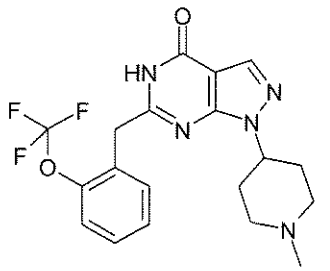
or the stereoisomeres thereof or tautomeres thereof or solvates thereof or pharmaceutically acceptable salts thereof.

10. The compound according to any of claims 1, 3 and 4, in which the compound is



or the stereoisomeres thereof or tautomeres thereof or solvates thereof or pharmaceutically acceptable salts thereof.

11. The compound according to any of claims 1, 2 and 4, in which the compound is



or tautomeres thereof or solvates thereof or pharmaceutically acceptable salts thereof.

1219. TheA compound according to any of claims 1 to 1118 for use as a medicament.,

~~preferably as a medicament for the treatment of a CNS disease, more preferably as a medicament for the treatment of a CNS disease, the treatment of which is accessible by the inhibition of PDE9.~~

1320. The compound according to any of claims 1 to 11 for use ~~Use of a compound according to claims 1 to 18 for the manufacture of a medicament for~~ in the treatment of a disease that is accessible by the inhibition of PDE9.

1421. The compound according to any of claims 1 to 11 for use~~Use of a compound according to any of claims 1 to 18 for the manufacture of medicament for~~ in the treatment, amelioration or prevention of cognitive impairment being related to perception, concentration, cognition, learning or memory.

1522. The compound~~Use~~ according to claim 1421, for use in ~~characterised in that the medicament is for~~ the treatment, amelioration or prevention of cognitive impairment being related to age-associated learning and memory impairments, age-associated memory losses, vascular dementia, craniocerebral trauma, stroke, dementia occurring after strokes (post stroke dementia), post-traumatic dementia, general concentration impairments, concentration impairments in children with learning and memory problems, Alzheimer's disease, Lewy body dementia, dementia with degeneration of the frontal

lobes, including Pick's syndrome, Parkinson's disease, progressive nuclear palsy, dementia with corticobasal degeneration, amyotropic lateral sclerosis (ALS), Huntington's disease, multiple sclerosis, thalamic degeneration, Creutzfeld-Jacob dementia, HIV dementia, schizophrenia with dementia or Korsakoff's psychosis.

16~~23~~. The ~~Use of a~~ compound according to any of claims 14 or~~to~~ 15~~8~~ for use in ~~the manufacture of medicament for~~ the treatment of Alzheimer's disease.

17~~24~~. The ~~Use of a~~ compound according to any of claims 14 or~~to~~ 15~~8~~ for use in ~~the manufacture of medicament for~~ the treatment of cognitive impairment which is due to Alzheimer's disease.

~~25. Use of a compound according to any of claims 1 to 18 for the manufacture of medicament for the treatment of sleep disorders, bipolar disorder, metabolic syndrome, obesity, diabetis mellitus, hyperglycemia, dyslipidemia, impaired glucose tolerance, or a disease of the testes, brain, small intestine, skeletal muscle, heart, lung, thymus or spleen.~~

18~~26~~. Pharmaceutical composition comprising a compound according to any of claims 1 to 11~~8~~ and a pharmaceutical carrier.

~~27. Method for the treatment of a condition as defined in any of claims 19 to 25 in a patient comprising administering to said patient a therapeutically active amount of a compound according to any of claims 1 to 18.~~

19~~28~~. Combination of a compound according to any of claims 1 to 11~~18~~ with another active agent for the treatment of Alzheimer's disease.