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(71) Applicant: **AURIGENE ONCOLOGY LIMITED**
 [IN/IN]; 39/40(P), KIADB Industrial Area, Electronics City
 Phase II, Karnataka, Bangalore 560100 (IN).

(72) Inventors: **ABBINENI, Chandrasekhar**; Plot#387, IKI-
 GAI, Journalists' colony phase 3, Gopanpally, Telangana,
 Hyderabad 500032 (IN). **SAMAJDAR, Susanta**; R801,
 HM Tambourine, JP Nagar 6th Phase, Karnataka, Banga-
 lore 560078 (IN). **TALLURI, Krishna Chaitanya**; Flat
 no. 401, Srinadha Nilayam, opp. ALIND Employees colony
 park, Sudarshan Nagar, Lingampalli, Hyderabad 500019
 (IN).

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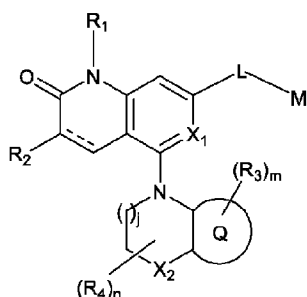
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(54) Title: HETEROCYCLIC COMPOUNDS AS CBP SELECTIVE DEGRADERS

(57) Abstract: The present invention provides heterocyclic compounds of formula (I), which are therapeutically useful as CBP degraders. These compounds are useful in the treatment and/or prevention of diseases or disorders mediated by CBP in an individual. The present invention also provides preparation of the compounds and pharmaceutical compositions comprising at least one of the compounds of formula (I) or a pharmaceutically acceptable salt or a stereoisomer thereof.



Formula (I)

HETEROCYCLIC COMPOUNDS AS CBP SELECTIVE DEGRADERS

The present application claims priority to and the benefit of Indian Patent Application No. IN 202341063268, filed on September 20, 2023, which application is incorporated herein by reference in their entirety.

5 FIELD OF THE INVENTION

The present application is directed to heterocyclic compounds of formula (I) as CBP selective degraders, useful for the treatment of cancer. The disclosure also provides pharmaceutically acceptable compositions comprising compounds of the present application and methods of using said compositions in the treatment of diseases associated with CBP
10 degradation.

BACKGROUND OF THE INVENTION

CREB binding protein (CBP or CREBBP) and its paralog E1A binding protein (p300) are ubiquitously expressed histone acetyl transferases (HAT). They act by scaffolding or as co-activator and enhancer of different transcription factors like HIF1a, BRCA-1, p53, c-Myc, PD-
15 L1, Estrogen receptor (ER) and Androgen receptor (AR) (Pao, G. M.; Janknecht, R.; Ruffner, H.; Hunter, T.; Verma, I. M. Proc. Natl. Acad. Sci. USA. 2000, 97, 1020; Frønsdal, K.; Engedal, N.; Slagsvold, T.; Saatcioglu, F. J. Biol. Chem. 1998, 273, 31853). CBP and p300 are multidomain proteins that harbour different functional units imperative for chromatin remodelling and transcription like Bromodomain (BD), Histone acetyl transferase (HAT)
20 domain, KIX domain etc. These two closely related epigenetic modulators are known to play oncogenic role in a variety of cancers (Chen, C. J.; Deng, Z.; Kim, A. Y.; Blobel, G. A.; Lieberman, P. M. Mol. Cell. Biol. 2001, 21, 476; Attar, N.; Kurdistan, S. K. Cold Spring Harb. Perspect. Med. 2017, 7, a026534).

The implication of selective inhibition of either of these proteins in various cancer has
25 been reported in the literature due to differential dependency on either of the paralogs. A synthetic lethal relationship between these paralogs in cancer set up has also been well established recently (Ogiwara et al., Cancer Discov. 2016 Apr;6(4):430-45). However, none of the reported inhibitors of the various domains described above could selectively target CBP or p300 alone due to high sequence homology.

30 Paralog selectivity in recent time has been proved to be possible with degrader approach due to differentiated ternary complex formation (Gadd *et al.*, Nat Chem Biol. 2017 May; 13(5):

514–521). Inherent advantages of the degrader approach are stronger phenotype due to greater potency, sustained action due to catalytic mode of action, overcoming resistance and greater selectivity.

CBP selective degraders offer synthetic lethality in p300 mutant, CBP dependent, ER positive and Wnt- β Catenin aberrated cancers.

Selective synthetic lethality in p300 mutant and CBP dependent cancers: CBP mutation frequency is reported to be higher in several cancers including skin cancers (27%), small cell lung cancers (8%), lymphoma (8-13%) and bladder cancer (10%) (Attar, N.; Kurdistani, S. K. Cold Spring Harb. Perspect. Med. 2017, 7, a026534). Greater tolerability is expected with CBP selective degraders since p300 is spared in normal cells.

Potential utility in breast cancer treatment: There is a strong association observed between CBP levels and the expression of ER α and HER2 in breast cancer suggesting a potential oncogenic role of CBP in breast cancer (Ramadan et al., The impact of CBP expression in estrogen receptor-positive breast cancer. Clin Epigenet **13**, 72, 2021).

As a modifier of Wnt / β -catenin signaling: Several cancers depend on Wnt / β -catenin signaling for their survival. Interaction of CBP with β -catenin is essential to promote progenitor maintenance, tumor cell proliferation and self-renewal (Emami et al., A small molecule inhibitor of b-catenin/CREB-binding protein transcription, Proc Natl Acad Sci, 2004, 24;101(34):12682-7; Federico et al., Defining the effects of Inhibiting the β -catenin-CBP Signaling Axis with the Small Molecule E7386 by Integrative Analysis of Omics Data, Cancer Res 2020;80(16 Suppl): Abstract nr 6566).

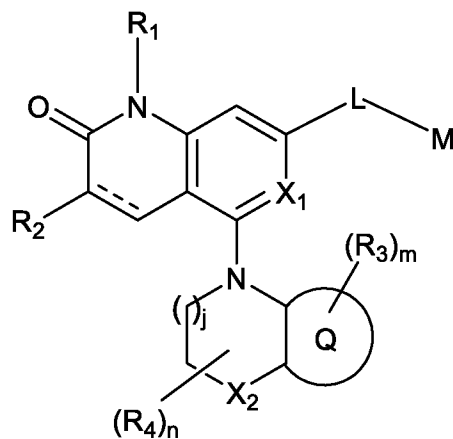
Selective degraders of CBP are expected to enhance the efficacy of standard of care drugs or immune checkpoint blockers by governing the acetylation and transcription of oncogenic factors and co-stimulatory molecules involved in tumor progression.

Selective degradation of CBP activity therefore provides a promising route to the treatment of certain cancers. Accordingly, compounds that can degrade the activity of CBP are of interest in cancer therapy.

SUMMARY OF THE INVENTION

Provided herein heterocyclic compounds and pharmaceutical compositions thereof used for the treatment of diseases or disorders mediated by CBP.

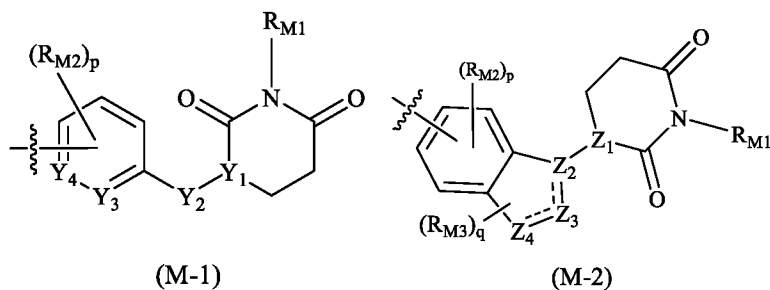
In one aspect, the present invention provides compounds of formula (I):



(I)

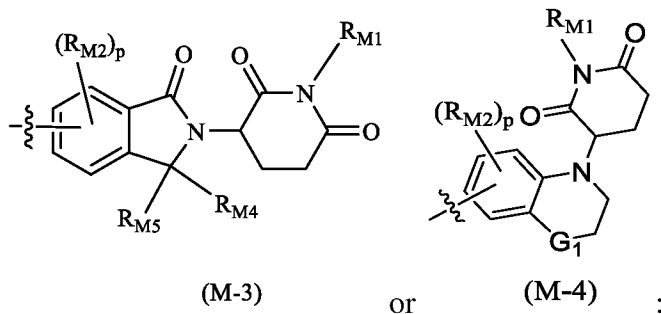
or a pharmaceutically acceptable salt, a stereoisomer, a tautomer, an N-oxide or an ester thereof; wherein

M is represented by formula (M-1), (M-2), (M-3) or (M-4):



(M-1)

(M-2)



(M-3)

(M-4)

or

;

each Y_1 and Z_1 is independently N or CH;

Y_2 is a bond, $-C(O)NH-$, $-NH-C(O)-$, $-O-$ or $-NR_Y-$; wherein the asterisk mark [*] represents the point of attachment with the ring having Y_1 ;

each Y_3 and Y_4 is independently N or C;

Z_2 is N or C; each Z_3 and Z_4 is independently C, O or N; wherein at least one of Z_2 , Z_3 and Z_4 is C;

G₁ is -CH₂-, NH, S or O;

R_{M1} is hydrogen or (C₁-C₄)alkyl;

R_{M2} at each occurrence is independently halo, cyano, (C₁-C₄)alkyl, halo(C₁-C₄)alkyl or (C₁-C₄)alkoxy;

5 R_{M3} at each occurrence is independently hydrogen or (C₁-C₄)alkyl; or two R_{M3} on the same carbon atom together represent an oxo group; alternatively, R_{M2} and R_{M3} on adjacent rings together with the atoms to which they are attached combine to form a 5 to 8 membered fused ring;

10 each R_{M4} and R_{M5} is independently hydrogen or (C₁-C₄)alkyl; or R_{M4} and R_{M5} together represent an oxo group;

L is $\overset{\xi}{\underset{\xi}{-}}L_1-L_2-L_3\overset{\xi}{\underset{\xi}{-}}*$; wherein the asterisk mark [*] represents the point of attachment with M;

15 L₁ is -O-, -O-(CH₂)_k-O-*, unsubstituted or substituted 6 to 10-membered arylene, or unsubstituted or substituted 3 to 12-membered heterocycloalkylene; wherein the substituent at each occurrence is independently selected from one or more hydroxy, halo, (C₁-C₄)alkyl, halo(C₁-C₄)alkyl or (C₁-C₄)alkoxy; wherein the asterisk mark [*] represents the point of attachment with L₂;

20 L₂ is a bond or unsubstituted or substituted (C₁-C₆)alkylene, wherein one or more methylene units of the alkylene is optionally and independently replaced with any combination of -C(O)-, -O-, -N(R₅)-, (C₂-C₆)alkenylene, (C₂-C₆)alkynylene or (C₃-C₆)cycloalkylene; wherein the substituent is independently selected from one or more oxo, halo, cyano, hydroxy or (C₁-C₄)alkoxy ;

25 L₃ is a bond, unsubstituted or substituted 6 to 10-membered arylene, unsubstituted or substituted 3 to 12-membered cycloalkylene or unsubstituted or substituted 3 to 12-membered heterocycloalkylene; wherein the substituent at each occurrence is independently selected from one or more hydroxy, halo, (C₁-C₄)alkyl, halo(C₁-C₄)alkyl or (C₁-C₄)alkoxy;

R_Y is hydrogen or (C₁-C₄)alkyl;

==== represents a single bond or a double bond;

X₁ represents -CR_{X1} or N;

X₂ represents N, O, S or C;

R_{X1} represents hydrogen, -OR_a, (C₁-C₄)alkyl, (C₂-C₆)alkynyl-OH, -N((C₁-C₄)alkyl)₂, unsubstituted or substituted (C₃-C₁₂)cycloalkyl, unsubstituted or substituted 5 to 6-membered heterocycloalkyl or unsubstituted or substituted 5 to 6-membered heteroaryl; wherein the
5 substituent at each occurrence is independently selected from one or more (C₁-C₄)alkyl, (C₁-C₆)acyl, halogen, -CN, oxo, -NH₂, -OH, -NHCO-(C₁-C₄)alkyl, -SO₂NH₂ and -CONH-(C₁-C₄)alkyl;

R_a represents hydrogen, unsubstituted or substituted (C₁-C₄)alkyl, halo(C₁-C₄)alkyl, (C₁-C₄)alkoxy, (5 to 6-membered heterocycloalkyl)-(C₁-C₄)alkyl-, unsubstituted or substituted
10 5 to 6-membered heterocycloalkyl, unsubstituted or substituted 5 to 6-membered heteroaryl, (5 to 6-membered heteroaryl)-(C₁-C₄)alkyl-; wherein the substituent on alkyl is independently selected from one or more -OH, -COOH, -COO-(C₁-C₄)alkyl, (C₁-C₄)alkoxy, -NH((C₁-C₄)alkyl)₂, -CONH-O-(C₁-C₄)alkyl and 5 to 6-membered heterocycloalkyl; and wherein the substituent on heterocycloalkyl and heteroaryl are independently selected from alkyl, oxo and
15 acyl;

Q represents fused 5- to 6-membered heteroaryl ring or fused benzo ring;

R₁ represents hydrogen, (C₁-C₄)alkyl or halo(C₁-C₄)alkyl;

R₂ represents hydrogen, (C₁-C₄)alkyl or -NH₂;

R₃, at each occurrence, independently, represents hydrogen, halo, cyano, unsubstituted
20 or substituted (C₁-C₄)alkyl, (C₁-C₄)alkoxy, halo(C₁-C₄)alkyl, -CHO, (C₁-C₄)acyl, -CONH₂, -CONH-(C₁-C₄)alkyl, -COO-(C₁-C₄)alkyl, -COOH, -OH, -SO₂NH₂, -SO₂NH-(C₁-C₄)alkyl, -SO₂N((C₁-C₄)alkyl)₂, -SO₂NH-aryl, -SO-(C₁-C₄)alkyl, -SO₂-(C₁-C₄)alkyl, -SO₂NHCO-(C₁-C₄)alkyl, -SO₂NHCO-halo(C₁-C₄)alkyl, -S(O)(NH)-(C₁-C₄)alkyl, -NH-SO₂-(C₁-C₄)alkyl, -NHCO-(C₁-C₄)alkyl, -N(alkyl)CO-(C₁-C₄)alkyl, unsubstituted or substituted (C₆-C₁₂)aryl,
25 unsubstituted or substituted 5- to 6-membered heteroaryl, unsubstituted or substituted 5- to 6-membered heterocycloalkyl, (C₃-C₁₂)carbocyclyl or (C₃-C₁₂)cycloalkyl; wherein the substituent at each occurrence is independently one or more (C₁-C₄)alkyl, (C₁-C₄)alkoxy, -OH, -COOH, -COO-(C₁-C₄)alkyl, -CONH-(C₁-C₄)alkyl, -CN, -NH₂, -N((C₁-C₄)alkyl)₂, (C₁-C₆)acyl, oxo, -SO₂-(C₁-C₄)alkyl or aryl-(C₁-C₄)alkyl;

R₄, at each occurrence, independently, represents hydrogen, unsubstituted or substituted
30 (C₁-C₄)alkyl, halo(C₁-C₄)alkyl, (C₁-C₆)acyl, -CONH-(C₁-C₄)alkyl, oxo, -SO₂-(C₁-C₄)alkyl, aryl-(C₁-C₄)alkyl, unsubstituted or substituted (C₆-C₁₂)aryl, unsubstituted or substituted 5- to

6-membered heteroaryl, unsubstituted or substituted 5- to 6-heterocycloalkyl or (C₃-C₁₂)cycloalkyl; wherein the substituent at each occurrence is independently one or more (C₁-C₄)alkoxy, -COOCH₂CH₃, -COOH or -CONH-(C₁-C₄)alkyl;

R₅ is hydrogen or (C₁-C₄)alkyl;

5 subscript j is 0, 1, 2 or 3;

subscript k is 1, 2, 3, 4 or 5;

subscript m is 1, 2, 3 or 4;

subscript n is 1, 2, 3 or 4;

subscript p is 0, 1, 2 or 3; and

10 subscript q is 0, 1, 2, 3, 4 or 5.

In yet another aspect, the present invention provides a pharmaceutical composition comprising a compound of formula (I), a pharmaceutically acceptable salt, a stereoisomer, a tautomer, an N-oxide or an ester thereof and at least one pharmaceutically acceptable carrier or excipient (such as a pharmaceutically acceptable carrier or diluent).

15 In another aspect, the present invention provides a pharmaceutical composition for the treatment of diseases or conditions that are dependent upon degradation of CBP.

In yet another aspect, the present invention relates to preparation of compounds of formula (I).

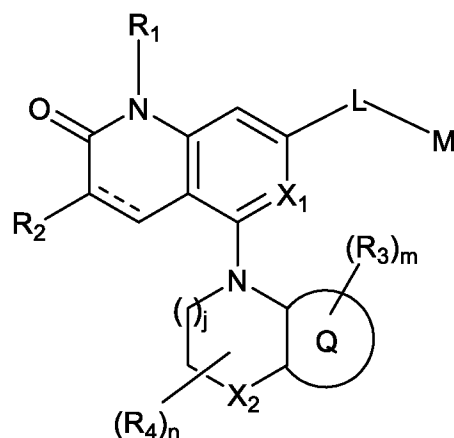
20 Another aspect of the present invention provides methods of treating CBP-mediated diseases or disorders by administering a therapeutically effective amount of a compound of formula (I) a pharmaceutically acceptable salt or a stereoisomer, to a subject in need thereof.

Yet another aspect of the present invention provides methods of treating CBP-mediated diseases or disorders wherein the CBP-mediated disease or disorder is cancer, by administering a therapeutically effective amount of a compound of formula (I) or a pharmaceutically acceptable salt or a stereoisomer, to a subject in need thereof.

DETAILED DESCRIPTION OF THE INVENTION

30 The present invention relates to heterocyclic compounds acting as degraders of CBP and pharmaceutical compositions comprising said compounds. The present invention also relates to a use of said compounds and composition comprising said compounds for the treatment and/ or prevention of diverse array of CBP-mediated diseases or disorders.

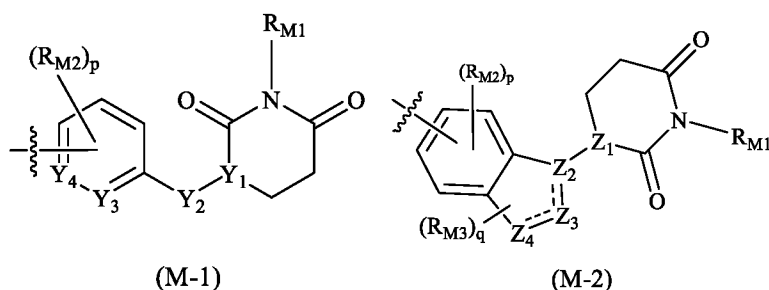
In one embodiment, the present invention provides compounds of formula (I),



(I)

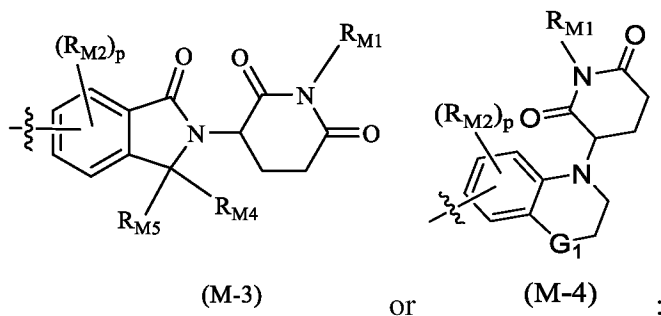
or a pharmaceutically acceptable salt, a stereoisomer, a tautomer, an N-oxide or an ester thereof; wherein

M is represented by formula (M-1), (M-2), (M-3) or (M-4):



(M-1)

(M-2)



(M-3)

(M-4)

or

;

each Y_1 and Z_1 is independently N or CH;

Y_2 is a bond, $-C(O)NH-$ *, $-NH-C(O)-$ *, $-O-$ or $-NR_Y-$; wherein the asterisk mark [*] represents the point of attachment with the ring having Y_1 ;

each Y_3 and Y_4 is independently N or C;

Z_2 is N or C; each Z_3 and Z_4 is independently C, O or N; wherein at least one of Z_2 , Z_3 and Z_4 is C;

G₁ is -CH₂-, NH, S or O;

R_{M1} is hydrogen or (C₁-C₄)alkyl;

R_{M2} at each occurrence is independently halo, cyano, (C₁-C₄)alkyl, halo(C₁-C₄)alkyl or (C₁-C₄)alkoxy;

5 R_{M3} at each occurrence is independently hydrogen or (C₁-C₄)alkyl; or two R_{M3} on the same carbon atom together represent an oxo group; alternatively, R_{M2} and R_{M3} on adjacent rings together with the atoms to which they are attached combine to form a 5 to 8 membered fused ring;

10 each R_{M4} and R_{M5} is independently hydrogen or (C₁-C₄)alkyl; or R_{M4} and R_{M5} together represent an oxo group;

L is $\overset{\xi}{\underset{\xi}{-}}L_1-L_2-L_3\overset{\xi}{\underset{\xi}{-}}*$; wherein the asterisk mark [*] represents the point of attachment with M;

15 L₁ is -O-, -O-(CH₂)_k-O-*, unsubstituted or substituted 6 to 10-membered arylene, or unsubstituted or substituted 3 to 12-membered heterocycloalkylene; wherein the substituent at each occurrence is independently selected from one or more hydroxy, halo, (C₁-C₄)alkyl, halo(C₁-C₄)alkyl or (C₁-C₄)alkoxy; wherein the asterisk mark [*] represents the point of attachment with L₂;

20 L₂ is a bond or unsubstituted or substituted (C₁-C₆)alkylene, wherein one or more methylene units of the alkylene is optionally and independently replaced with any combination of -C(O)-, -O-, -N(R₅)-, (C₂-C₆)alkenylene, (C₂-C₆)alkynylene or (C₃-C₆)cycloalkylene; wherein the substituent is independently selected from one or more oxo, halo, cyano, hydroxy or (C₁-C₄)alkoxy ;

25 L₃ is a bond, unsubstituted or substituted 6 to 10-membered arylene, unsubstituted or substituted 3 to 12-membered cycloalkylene or unsubstituted or substituted 3 to 12-membered heterocycloalkylene; wherein the substituent at each occurrence is independently selected from one or more hydroxy, halo, (C₁-C₄)alkyl, halo(C₁-C₄)alkyl or (C₁-C₄)alkoxy;

R_Y is hydrogen or (C₁-C₄)alkyl;

==== represents a single bond or a double bond;

X₁ represents -CR_{X1} or N;

X₂ represents N, O, S or C;

R_{X1} represents hydrogen, -OR_a, (C₁-C₄)alkyl, (C₂-C₆)alkynyl-OH, -N((C₁-C₄)alkyl)₂, unsubstituted or substituted (C₃-C₁₂)cycloalkyl, unsubstituted or substituted 5 to 6-membered heterocycloalkyl or unsubstituted or substituted 5 to 6-membered heteroaryl; wherein the
5 substituent at each occurrence is independently selected from one or more (C₁-C₄)alkyl, (C₁-C₆)acyl, halogen, -CN, oxo, -NH₂, -OH, -NHCO-(C₁-C₄)alkyl, -SO₂NH₂ and -CONH-(C₁-C₄)alkyl;

R_a represents hydrogen, unsubstituted or substituted (C₁-C₄)alkyl, halo(C₁-C₄)alkyl, (C₁-C₄)alkoxy, (5 to 6-membered heterocycloalkyl)-(C₁-C₄)alkyl-, unsubstituted or substituted
10 5 to 6-membered heterocycloalkyl, unsubstituted or substituted 5 to 6-membered heteroaryl, (5 to 6-membered heteroaryl)-(C₁-C₄)alkyl-; wherein the substituent on alkyl is independently selected from one or more -OH, -COOH, -COO-(C₁-C₄)alkyl, (C₁-C₄)alkoxy, -NH((C₁-C₄)alkyl)₂, -CONH-O-(C₁-C₄)alkyl and 5 to 6-membered heterocycloalkyl; and wherein the substituent on heterocycloalkyl and heteroaryl are independently selected from alkyl, oxo and
15 acyl;

Q represents fused 5- to 6-membered heteroaryl ring or fused benzo ring;

R₁ represents hydrogen, (C₁-C₄)alkyl or halo(C₁-C₄)alkyl;

R₂ represents hydrogen, (C₁-C₄)alkyl or -NH₂;

R₃, at each occurrence, independently, represents hydrogen, halo, cyano, unsubstituted
20 or substituted (C₁-C₄)alkyl, (C₁-C₄)alkoxy, halo(C₁-C₄)alkyl, -CHO, (C₁-C₄)acyl, -CONH₂, -CONH-(C₁-C₄)alkyl, -COO-(C₁-C₄)alkyl, -COOH, -OH, -SO₂NH₂, -SO₂NH-(C₁-C₄)alkyl, -SO₂N((C₁-C₄)alkyl)₂, -SO₂NH-aryl, -SO-(C₁-C₄)alkyl, -SO₂-(C₁-C₄)alkyl, -SO₂NHCO-(C₁-C₄)alkyl, -SO₂NHCO-halo(C₁-C₄)alkyl, -S(O)(NH)-(C₁-C₄)alkyl, -NH-SO₂-(C₁-C₄)alkyl, -NHCO-(C₁-C₄)alkyl, -N(alkyl)CO-(C₁-C₄)alkyl, unsubstituted or substituted (C₆-C₁₂)aryl,
25 unsubstituted or substituted 5- to 6-membered heteroaryl, unsubstituted or substituted 5- to 6-membered heterocycloalkyl, (C₃-C₁₂)carbocyclyl or (C₃-C₁₂)cycloalkyl; wherein the substituent at each occurrence is independently one or more (C₁-C₄)alkyl, (C₁-C₄)alkoxy, -OH, -COOH, -COO-(C₁-C₄)alkyl, -CONH-(C₁-C₄)alkyl, -CN, -NH₂, -N((C₁-C₄)alkyl)₂, (C₁-C₆)acyl, oxo, -SO₂-(C₁-C₄)alkyl or aryl-(C₁-C₄)alkyl;

R₄, at each occurrence, independently, represents hydrogen, unsubstituted or substituted
30 (C₁-C₄)alkyl, halo(C₁-C₄)alkyl, (C₁-C₆)acyl, -CONH-(C₁-C₄)alkyl, oxo, -SO₂-(C₁-C₄)alkyl, aryl-(C₁-C₄)alkyl, unsubstituted or substituted (C₆-C₁₂)aryl, unsubstituted or substituted 5- to

6-membered heteroaryl, unsubstituted or substituted 5- to 6-heterocycloalkyl or (C₃-C₁₂)cycloalkyl; wherein the substituent at each occurrence is independently one or more (C₁-C₄)alkoxy, -COOCH₂CH₃, -COOH or -CONH-(C₁-C₄)alkyl;

R₅ is hydrogen or (C₁-C₄)alkyl;

5 subscript j is 0, 1, 2 or 3;

subscript k is 1, 2, 3, 4 or 5;

subscript m is 1, 2, 3 or 4;

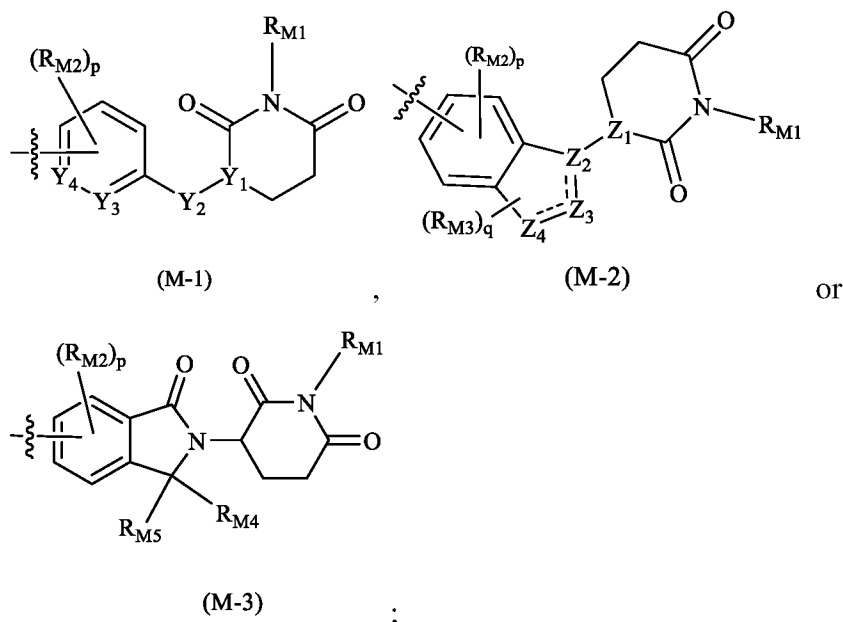
subscript n is 1, 2, 3 or 4;

subscript p is 0, 1, 2 or 3; and

10 subscript q is 0, 1, 2, 3, 4 or 5.

In another embodiment, the present invention provides compounds of formula (I) or a pharmaceutically acceptable salt, a stereoisomer, a tautomer, an N-oxide or an ester thereof; wherein

M is represented by formula (M-1), (M-2) or (M-3):



each Y₁ and Z₁ is independently N or CH;

Y₂ is a bond, -C(O)NH-*, -NH-C(O)-*, -O- or -NR_Y-; wherein the asterisk mark [*] represents the point of attachment with the ring having Y₁;

20 each Y₃ and Y₄ is independently N or C;

Z₂ is N or C; each Z₃ and Z₄ is independently C, O or N; wherein at least one of Z₂, Z₃ and Z₄ is C;

R_{M1} is hydrogen or (C₁-C₄)alkyl;

R_{M2} at each occurrence is independently halo, cyano, (C₁-C₄)alkyl or (C₁-C₄)alkoxy;

5 R_{M3} at each occurrence is independently hydrogen or (C₁-C₄)alkyl; or two R_{M3} on the same carbon atom together represent an oxo group;

each R_{M4} and R_{M5} is hydrogen; or R_{M4} and R_{M5} together represent an oxo group;

L is $\overset{\textcircled{\text{L}}}{\text{---}}\text{---}\overset{\textcircled{\text{L}}}{\text{---}}\text{---}\overset{\textcircled{\text{L}}}{\text{---}}\text{---}\overset{\textcircled{\text{L}}}{\text{---}}\text{---}$; wherein the asterisk mark [*] represents the point of attachment with M;

10 L₁ is -O-, -O-(CH₂)_k-O-*, unsubstituted or substituted 6 to 10-membered arylene, or unsubstituted or substituted 3 to 12-membered heterocycloalkylene; wherein the substituent at each occurrence is independently selected from one or more hydroxy, halo, (C₁-C₄)alkyl, halo(C₁-C₄)alkyl or (C₁-C₄)alkoxy; wherein the asterisk mark [*] represents the point of attachment with L₂;

15 L₂ is a bond, -C(O)-, (C₁-C₄)alkylene, (C₂-C₆)alkynylene, halo(C₁-C₄)alkylene, or *-C(O)-(C₁-C₄)alkylene; wherein the asterisk mark [*] represents the point of attachment with L₁;

L₃ is a bond, unsubstituted or substituted 6 to 10-membered arylene or unsubstituted or substituted 3 to 12-membered heterocycloalkylene; wherein the substituent at each
20 occurrence is independently selected from one or more hydroxy, halo, (C₁-C₄)alkyl, halo(C₁-C₄)alkyl or (C₁-C₄)alkoxy;

R_Y is hydrogen or (C₁-C₄)alkyl;

==== represents a single bond or a double bond;

X₁ represents -CR_{X1} or N;

25 X₂ represents N, O, S or C;

R_{X1} represents hydrogen, -OR_a, (C₁-C₄)alkyl, (C₂-C₆)alkynyl-OH, -N((C₁-C₄)alkyl)₂, unsubstituted or substituted (C₃-C₁₂)cycloalkyl, unsubstituted or substituted 5 to 6-membered heterocycloalkyl or unsubstituted or substituted 5 to 6-membered heteroaryl; wherein the

substituent at each occurrence is independently selected from one or more (C₁-C₄)alkyl, (C₁-C₆)acyl, halogen, -CN, oxo, -NH₂, -OH, -NHCO-(C₁-C₄)alkyl, -SO₂NH₂ and -CONH-(C₁-C₄)alkyl;

R_a represents hydrogen, unsubstituted or substituted (C₁-C₄)alkyl, halo(C₁-C₄)alkyl, (C₁-C₄)alkoxy, (heterocycloalkyl)-(C₁-C₄)alkyl-, unsubstituted or substituted 5 to 6-membered heterocycloalkyl, unsubstituted or substituted 5 to 6-membered heteroaryl, (heteroaryl)-(C₁-C₄)alkyl-; wherein the substituent on alkyl is independently selected from one or more -OH, -COOH, -COO-(C₁-C₄)alkyl, (C₁-C₄)alkoxy, -NH((C₁-C₄)alkyl)₂, -CONH-O-(C₁-C₄)alkyl and 5 to 6-membered heterocycloalkyl; and wherein the substituent on heterocycloalkyl and heteroaryl are independently selected from alkyl, oxo and acyl;

Q represents fused 5- to 6-membered heteroaryl ring or fused benzo ring;

R₁ represents hydrogen, (C₁-C₄)alkyl or halo(C₁-C₄)alkyl;

R₂ represents hydrogen, (C₁-C₄)alkyl or -NH₂;

R₃, at each occurrence, independently, represents hydrogen, halogen, -CN, unsubstituted or substituted (C₁-C₄)alkyl, (C₁-C₄)alkoxy, halo(C₁-C₄)alkyl, -CHO, (C₁-C₄)acyl, -CONH-(C₁-C₄)alkyl, -COO-(C₁-C₄)alkyl, -COOH, -OH, -SO₂NH₂, -SO₂NH-(C₁-C₄)alkyl, -SO₂N((C₁-C₄)alkyl)₂, -SO₂NH-aryl, -SO-(C₁-C₄)alkyl, -SO₂-(C₁-C₄)alkyl, -SO₂NHCO-(C₁-C₄)alkyl, -SO₂NHCO-halo(C₁-C₄)alkyl, -S(O)(NH)-(C₁-C₄)alkyl, -NHSO₂-(C₁-C₄)alkyl, -NHCO-(C₁-C₄)alkyl, -N(alkyl)CO-(C₁-C₄)alkyl, unsubstituted or substituted (C₆-C₁₂)aryl, unsubstituted or substituted 5- to 6-membered heteroaryl, unsubstituted or substituted 5- to 6-membered heterocycloalkyl, (C₃-C₁₂)carbocyclyl or (C₃-C₁₂)cycloalkyl; wherein the substituent at each occurrence is independently one or more (C₁-C₄)alkyl, (C₁-C₄)alkoxy, -OH, -COOH, -COO-(C₁-C₄)alkyl, -CONH-(C₁-C₄)alkyl, -CN, -NH₂, -N((C₁-C₄)alkyl)₂, (C₁-C₆)acyl, oxo, -SO₂-(C₁-C₄)alkyl or aryl-(C₁-C₄)alkyl;

R₄, at each occurrence, independently, represents hydrogen, unsubstituted or substituted (C₁-C₄)alkyl, halo(C₁-C₄)alkyl, (C₁-C₆)acyl, -CONH-(C₁-C₄)alkyl, oxo, -SO₂-(C₁-C₄)alkyl, aryl-(C₁-C₄)alkyl, unsubstituted or substituted (C₆-C₁₂)aryl, unsubstituted or substituted 5- to 6-membered heteroaryl, unsubstituted or substituted 5- to 6-membered heterocycloalkyl or (C₃-C₁₂)cycloalkyl; wherein the substituent at each occurrence is independently one or more (C₁-C₄)alkoxy, -COOCH₂CH₃, -COOH or -CONH-(C₁-C₄)alkyl;

subscript j is 0, 1, 2 or 3;

subscript k is 1, 2, 3, 4 or 5;

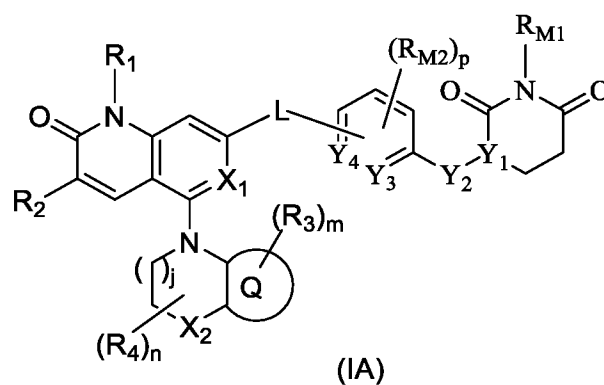
subscript m is 1, 2, 3 or 4;

subscript n is 1, 2, 3 or 4;

subscript p is 0, 1, 2 or 3; and

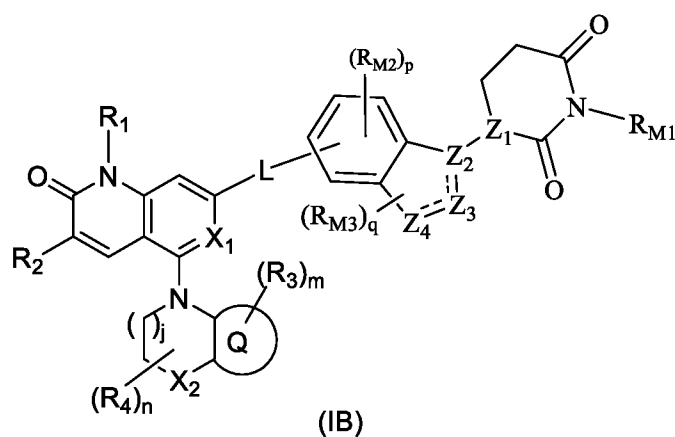
5 subscript q is 0, 1, 2, 3, 4 or 5.

In another aspect of an embodiment, provided herein are compounds of formula (IA),



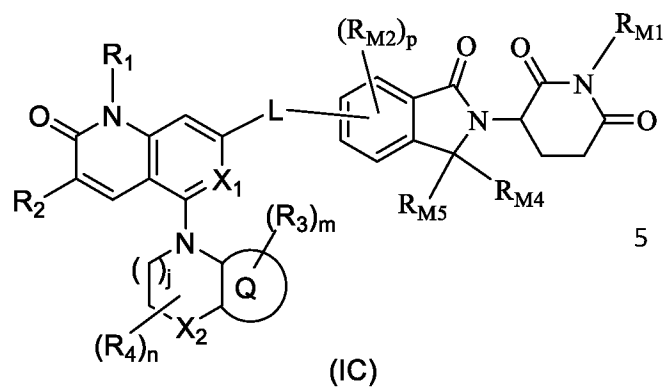
or a pharmaceutically acceptable salt, a stereoisomer, a tautomer, an N-oxide or an ester thereof.

10 In yet another aspect of an embodiment, provided herein are compounds of formula (IB),



or a pharmaceutically acceptable salt, a stereoisomer, a tautomer, an N-oxide or an ester thereof.

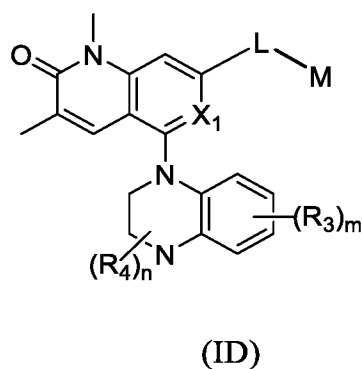
15 In yet another aspect of an embodiment, provided herein are compounds of formula (IC),



or a pharmaceutically acceptable salt, a stereoisomer, a tautomer, an N-oxide or an ester thereof.

In yet another aspect of an embodiment, provided herein are compounds of formula

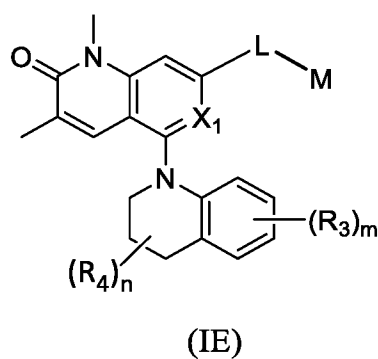
10 (ID),



or a pharmaceutically acceptable salt, a stereoisomer, a tautomer, an N-oxide or an ester thereof.

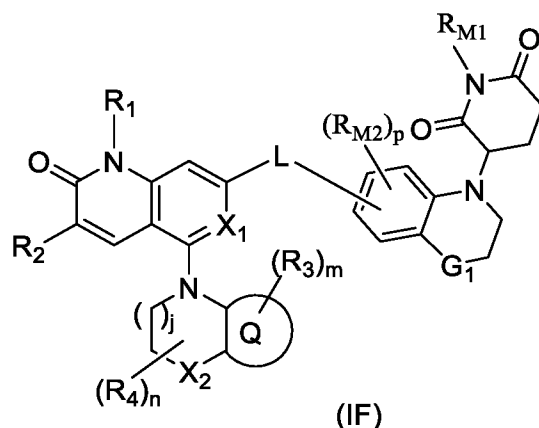
In yet another aspect of an embodiment, provided herein are compounds of formula

15 (IE),



or a pharmaceutically acceptable salt, a stereoisomer, a tautomer, an N-oxide or an ester thereof.

In yet another aspect of an embodiment, provided herein are compounds of formula (IF),



or a pharmaceutically acceptable salt, a stereoisomer, a tautomer, an N-oxide or an ester thereof.

In yet another embodiment, represents , , , ; wherein asterisk mark [*] represents the point of attachment to the ring containing X₁; and represents the points of fusion with Q.

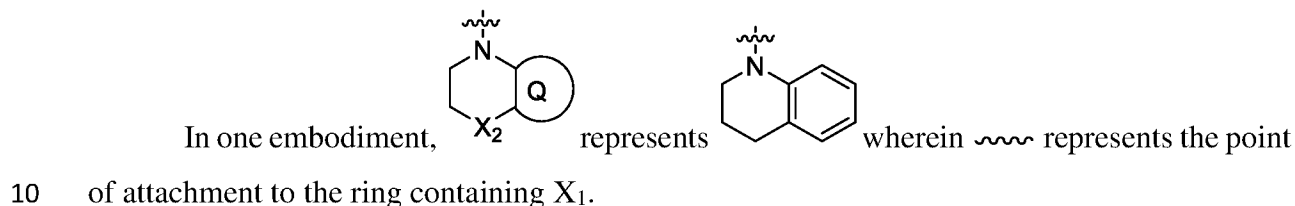
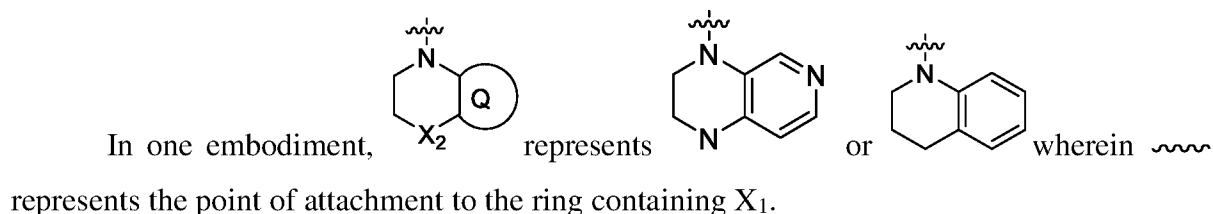
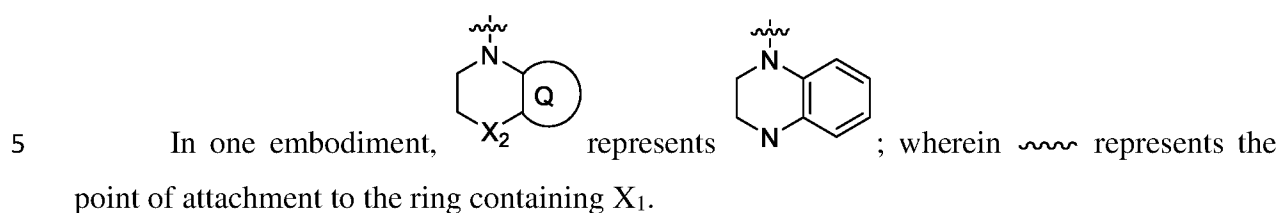
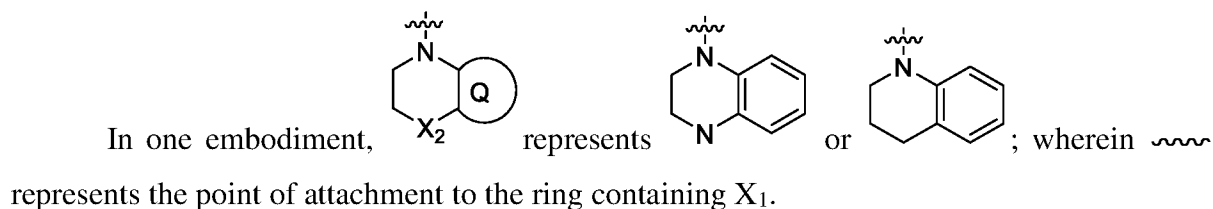
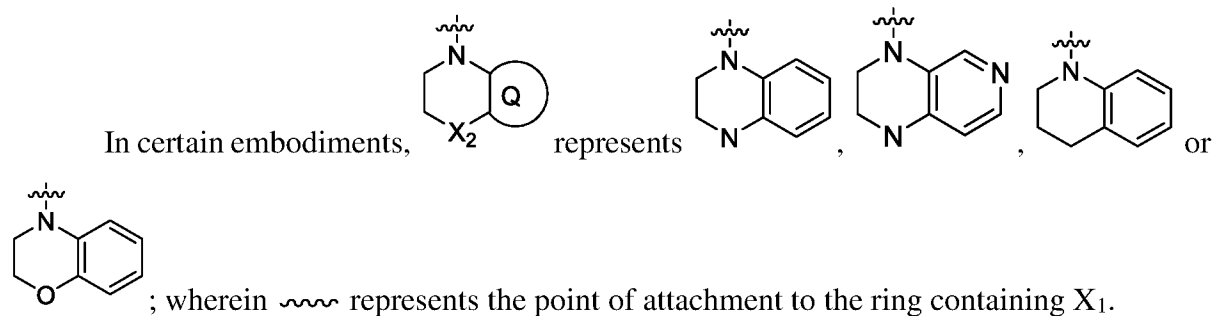
In certain embodiments, Q represents fused 5- to 6-membered heteroaryl ring.

In yet another embodiment, Q represents fused benzo ring.

In yet another embodiment, Q represents or ; wherein represents the points of fusion with the ring containing X₂.

In certain embodiments, represents , , , ,

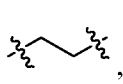
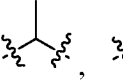
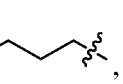
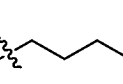
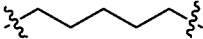
or ; wherein represents the point of attachment to the ring containing X₁.

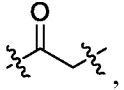
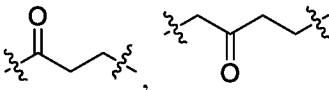


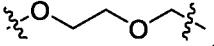
In certain embodiments, L₁ is -O-, -O-(CH₂)_k-O-* or unsubstituted or substituted 3 to 12-membered heterocycloalkylenyl.

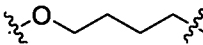
In certain embodiments, L₁ is -O-, -O-(CH₂)_k-O-* or 3 to 12-membered heterocycloalkylenyl.

15 In certain embodiments, L₂ is a bond or unsubstituted or substituted (C₁-C₆)alkylenyl, wherein one or more methylene units of the alkylenyl is optionally and independently replaced with any combination of -C(O)-, -O-, -N(R₅)-, (C₂-C₆)alkenylenyl, (C₂-C₆)alkynylenyl or (C₃-C₆)cycloalkylene; wherein the substituent is independently selected from one or more oxo, halo, cyano, hydroxy or (C₁-C₄)alkoxy.

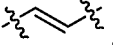
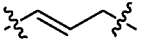
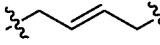
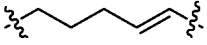
In certain embodiments, L₂ is -CH₂-, , , ,  or .

In certain embodiments, L₂ is an unsubstituted or substituted (C₁-C₆)alkylenyl, wherein one or more methylene units of the alkylenyl is optionally and independently replaced with -C(O)-. In one embodiment, L₂ is an unsubstituted or substituted (C₁-C₆)alkylenyl, wherein one methylene unit of the alkylenyl is replaced with -C(O)-. In some embodiments, ^{*}-(C₁-C₄)alkylenyl-C(O)- or ^{*}-C(O)-(C₁-C₄)alkylenyl-. In some embodiments L₂ is ,  or -C(O)-. In one embodiment, L₂ is -C(O)-.

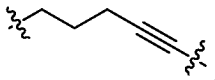
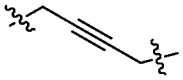
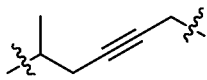
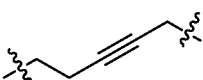
In certain embodiments, L₂ is an unsubstituted or substituted (C₁-C₆)alkylenyl, wherein one or more methylene units of the alkylenyl is optionally and independently replaced with -O-. In some embodiments L₂ is .

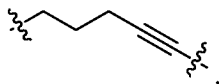
In one embodiment, L₂ is an unsubstituted or substituted (C₁-C₆)alkylenyl, wherein one methylene unit of the alkylenyl is replaced with -O-. In some embodiments L₂ is . In some embodiments, L₂ is -O-.

In certain embodiments, L₂ is an unsubstituted or substituted (C₁-C₆)alkylenyl, wherein one or more methylene units of the alkylenyl is optionally and independently replaced with (C₂-C₆)alkenylenyl. In one embodiment, L₂ is an unsubstituted or substituted (C₁-C₆)alkylenyl, wherein two methylene units of the alkylenyl are replaced with (C₂-C₆)alkenylenyl.

In some embodiments, L₂ is , ,  or .

In certain embodiments, L₂ is an unsubstituted or substituted (C₁-C₆)alkylenyl, wherein one or more methylene units of the alkylenyl is optionally and independently replaced with (C₂-C₆)alkynylenyl. In one embodiment, L₂ is an unsubstituted or substituted (C₁-C₆)alkylenyl, wherein two methylene units of the alkylenyl are replaced with (C₂-C₆)alkynylenyl.

In some embodiments, L₂ is , ,  or .



In some embodiments, L₂ is

In certain embodiments, L₂ is an unsubstituted or substituted (C₁-C₆)alkylenyl, wherein one or more methylene units of the alkylenyl is optionally and independently replaced with -N(R₅)-. In one embodiment, L₂ is an unsubstituted or substituted (C₁-C₆)alkylenyl, wherein one
 5 methylene unit of the alkylenyl is replaced with -N(R₅)-. In one embodiment, L₂ is -N(R₅)-. In some embodiments, L₂ is -N(R₅)-, wherein R₅ is hydrogen or (C₁-C₄)alkyl.

In certain embodiments, L₂ is a bond or unsubstituted or substituted (C₁-C₆)alkylenyl, wherein one or more methylene units of the alkylenyl is optionally and independently replaced with any combination of -C(O)-, -O- or -N(R₅)-. In some embodiments, L₂ is -C(O)-O-, -O-
 10 C(O)-, -C(O)-NH-, -NH-C(O)-, -C(O)-NH-C(O)- or -NH-C(O)-NH-.

According to the preceding embodiments, L₂ is a bond, -C(O)-, unsubstituted or substituted (C₁-C₆)alkylenyl, (C₂-C₆)alkenylenyl, (C₂-C₆)alkynylenyl, halo(C₁-C₄)alkylenyl, *(C₁-C₄)alkylenyl-C(O)- or *-C(O)-(C₁-C₄)alkylenyl; wherein the substituent at each
 15 occurrence is independently selected from one or more oxo, halo or cyano; wherein the asterisk mark [*] represents the point of attachment with L₁.

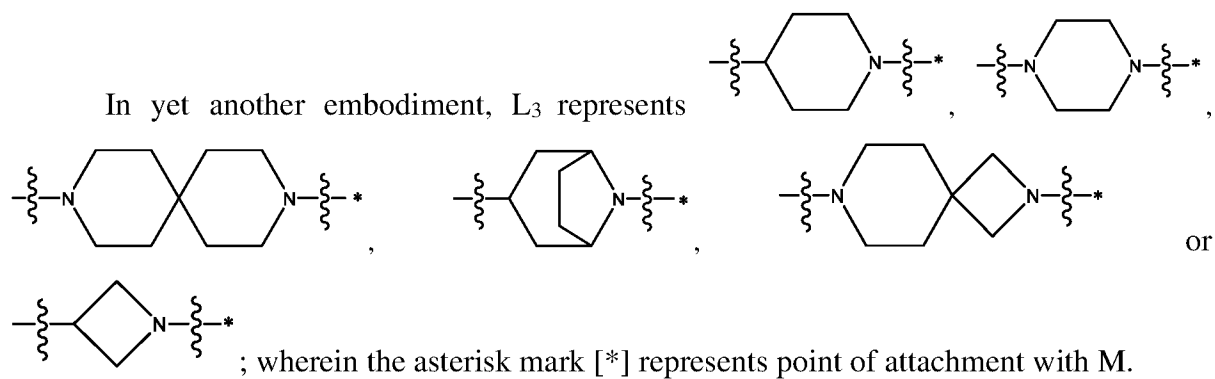
In certain embodiments, L₂ is a bond, -C(O)-, unsubstituted or substituted (C₁-C₆)alkylenyl, (C₂-C₆)alkynylenyl or *-C(O)-(C₁-C₄)alkylenyl; wherein the substituent at each occurrence is independently selected from one or more oxo, halo or cyano; wherein the asterisk
 mark [*] represents the point of attachment with L₁.

20 In certain embodiments, L₂ is a bond, -C(O)-, (C₁-C₆)alkylenyl, (C₂-C₆)alkynylenyl or *-C(O)-(C₁-C₄)alkylenyl; wherein the asterisk mark [*] represents the point of attachment with L₁.

In certain embodiments, L₂ is (C₁-C₆)alkylenyl.

In certain embodiments, L₃ is a bond, unsubstituted or substituted 3 to 12-membered
 25 cycloalkylenyl or unsubstituted or substituted 3 to 12-membered heterocycloalkylenyl.

In certain embodiments, L₃ is independently a bond, or unsubstituted or substituted 3 to 12-membered heterocycloalkylenyl.



In certain embodiments, L_2 is a bond or C_1 - C_6 alkylenyl.

5 In certain embodiments, L_2 is a bond or C_1 - C_4 alkylenyl.

In certain embodiments, L_2 and L_3 each are bond.

In certain embodiments, L_2 is a bond.

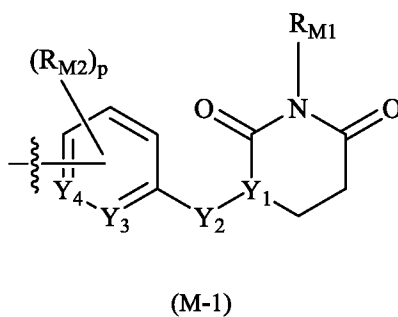
In certain embodiments, L_3 is a bond.

In certain embodiments, L_1 is directly attached to L_3 when L_2 is a bond.

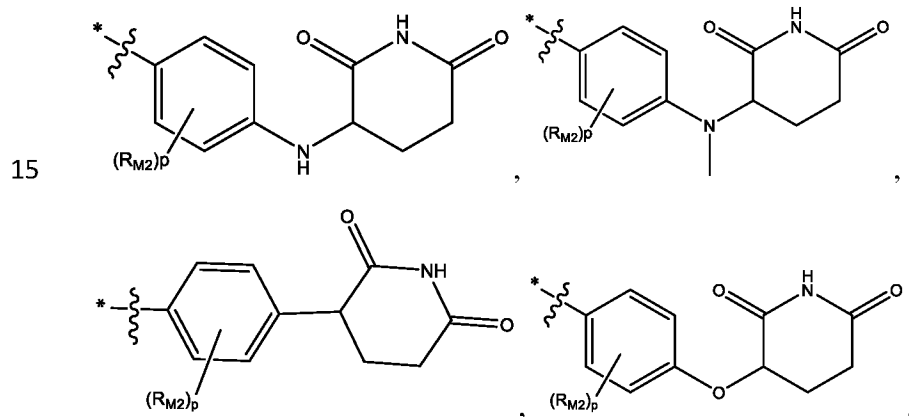
10 In certain embodiments, L_1 is directly attached to M when L_2 and L_3 are each bond.

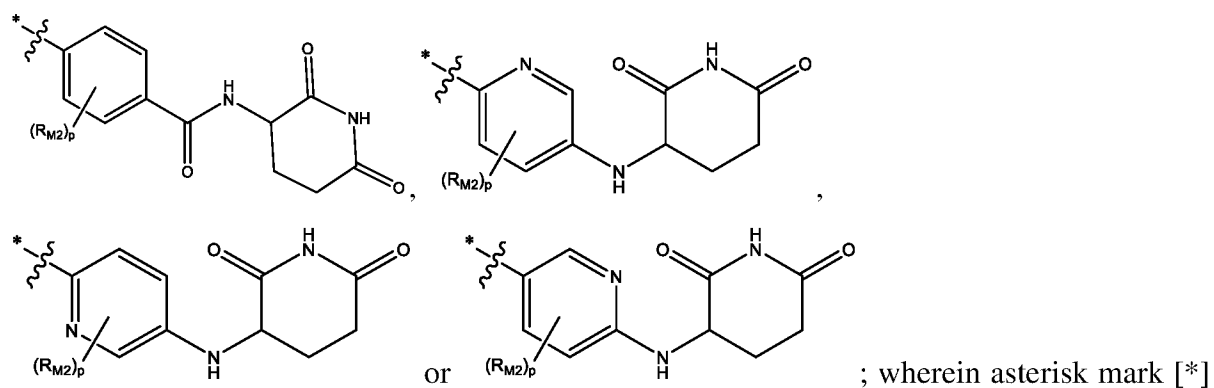
In certain embodiments, L_2 is directly attached to M when L_3 is a bond.

In certain embodiments, M is (M-1):



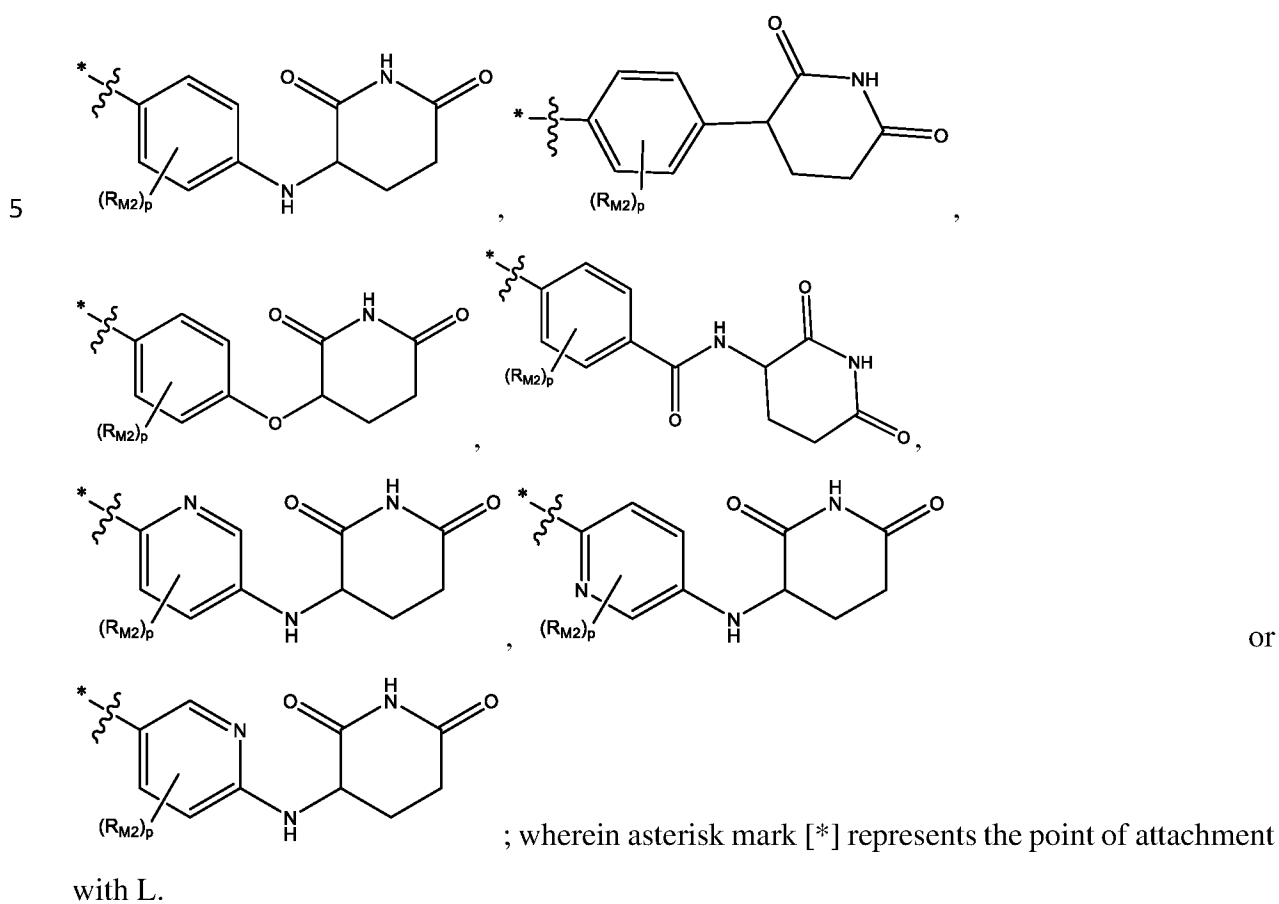
In yet another embodiment, (M-1) represents:



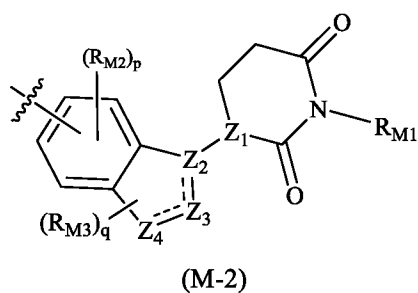


represents the point of attachment with L.

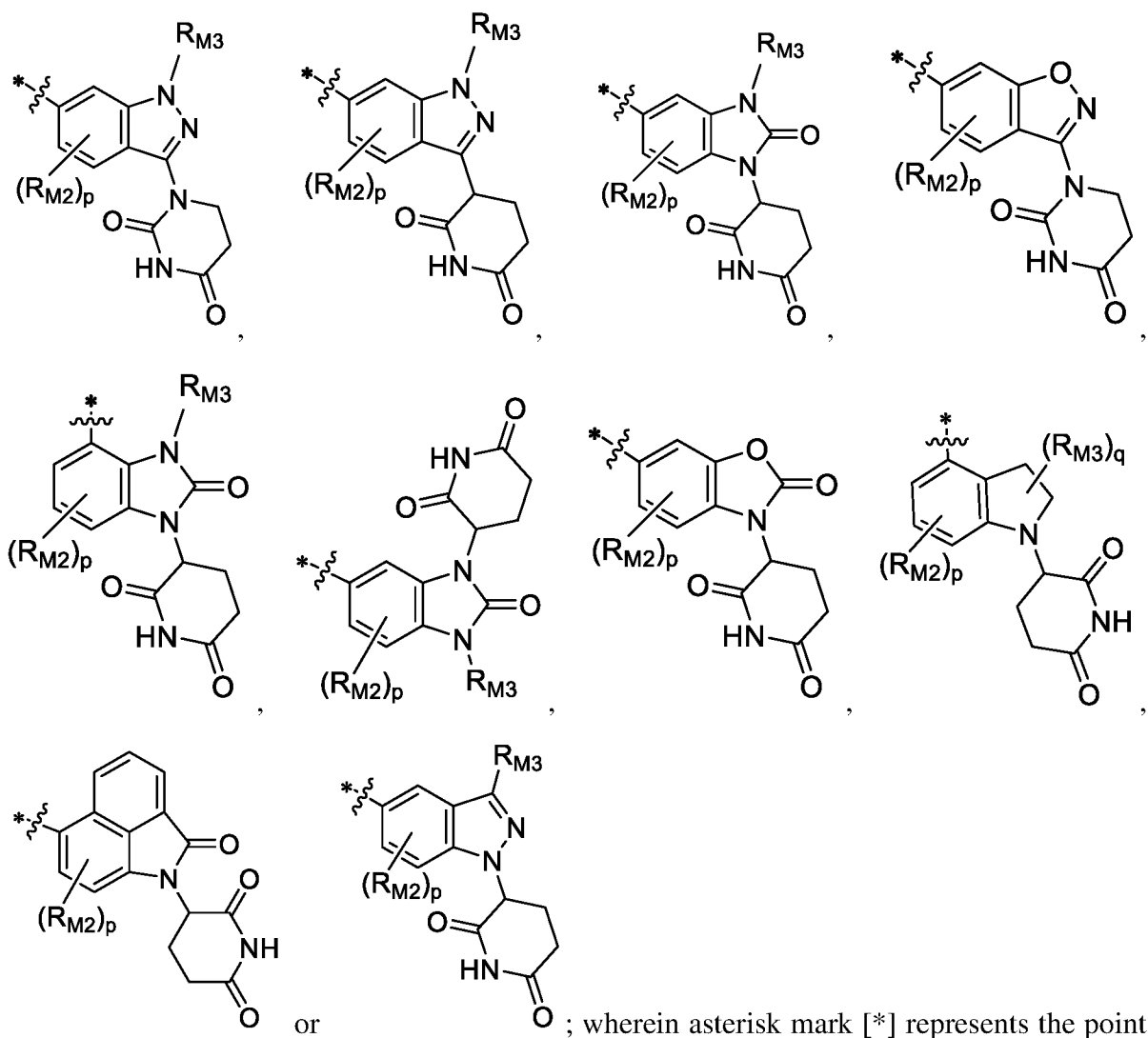
In yet another embodiment, (M-1) represents:



10 In certain embodiments, M is (M-2):

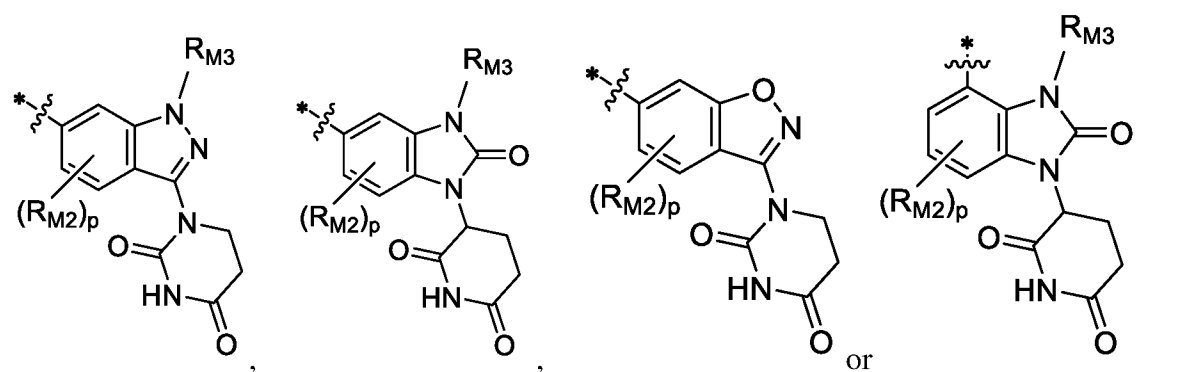


In one embodiment, (M-2) represents:



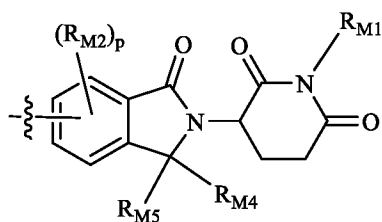
5 of attachment with L.

In yet another embodiment, (M-2) represents:



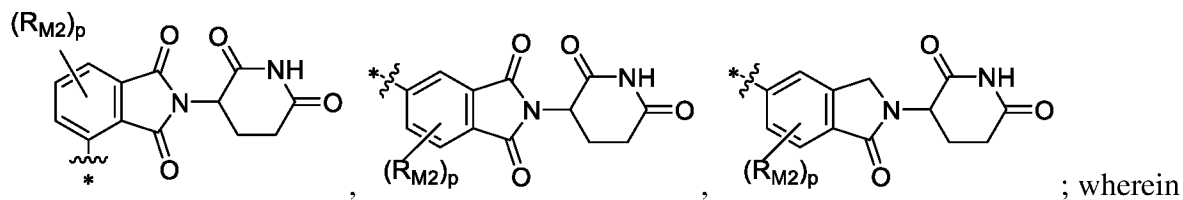
wherein asterisk mark [*] represents the point of attachment with L.

In certain embodiments, M is (M-3):



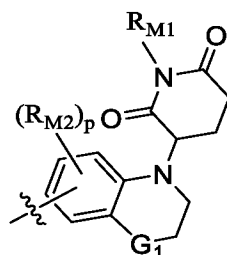
(M-3)

In yet another embodiment, (M-3) represents:



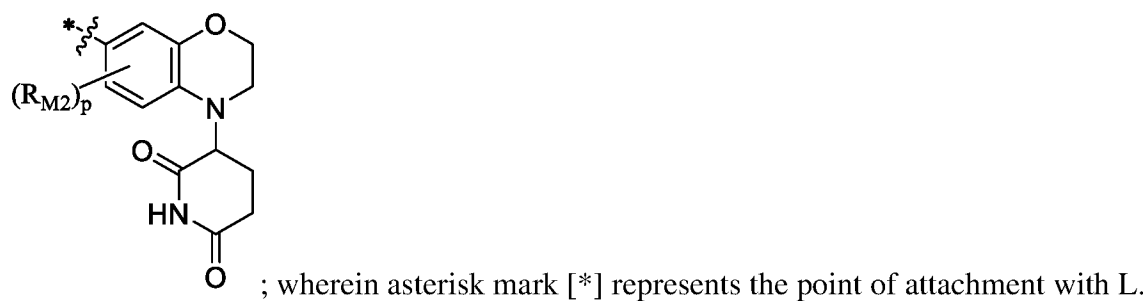
5 asterisk mark [*] represents the point of attachment with L.

In certain embodiments, M is (M-4):



(M-4)

In yet another embodiment, (M-4) represents:



10 In certain embodiments, R₁ is hydrogen or (C₁-C₄)alkyl.

In certain embodiments, R₂ is hydrogen or (C₁-C₄)alkyl.

In certain embodiments, R₃ at each occurrence, independently, is hydrogen, cyano, halo, (C₁-C₄)alkyl, halo(C₁-C₄)alkyl, (C₁-C₄)alkoxy or unsubstituted or substituted 5- to 6-membered heteroaryl.

5 In certain embodiments, R₃ at each occurrence, independently, is hydrogen, cyano, halo, (C₁-C₄)alkyl, halo(C₁-C₄)alkyl, (C₁-C₄)alkoxy or 5 to 6-membered heteroaryl.

In certain embodiments, R₄, at each occurrence, independently is hydrogen or unsubstituted or substituted (C₁-C₄)alkyl.

In certain embodiments, R₄, at each occurrence, independently is hydrogen or (C₁-C₄)alkyl.

10 In one embodiment, the compound is selected from:

Comp. No.	IUPAC name
1	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
2	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
3	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)oxy)phenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
4	7'-(1-((1-(4-((2,6-dioxopiperidin-3-yl)oxy)phenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1',3'-dimethyl-2'-oxo-1',2',3,4-tetrahydro-2H-[1,5'-biquinoline]-7-carbonitrile
5	7'-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1',3'-dimethyl-2'-oxo-1',2',3,4-tetrahydro-2H-[1,5'-biquinoline]-7-carbonitrile
6	4-(7-(4-((1-(4-((2,6-dioxopiperidin-3-yl)oxy)phenyl)piperidin-4-yl)methyl)piperazin-1-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

7	4-(7-(4-((4-(4-((2,6-dioxopiperidin-3-yl)oxy)phenyl)piperazin-1-yl)methyl)piperidin-1-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
8	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)oxy)-2-fluorophenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
9	4-(4-((4-(5-(7-cyano-4-methyl-3,4-dihydroquinoxalin-1(2H)-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-7-yl)piperidin-1-yl)methyl)piperidin-1-yl)-N-(2,6-dioxopiperidin-3-yl)-3-fluorobenzamide
10	4-(4-((4-(5-(7-cyano-4-methyl-3,4-dihydroquinoxalin-1(2H)-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-7-yl)piperidin-1-yl)methyl)piperidin-1-yl)-N-(2,6-dioxopiperidin-3-yl)-2-fluorobenzamide
11	4-(7-(1-((1-(5-((2,6-dioxopiperidin-3-yl)amino)-3-fluoropyridin-2-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
12	4-(7-(1-((1-(5-((2,6-dioxopiperidin-3-yl)amino)pyridin-2-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
13	4-(7-(1-((1-(2-fluoro-4-((1-methyl-2,6-dioxopiperidin-3-yl)amino)phenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
14	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydro-1,6-naphthyridin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
15	3-((4-(4-((4-(1,3-dimethyl-5-(4-methyl-7-(trifluoromethyl)-3,4-dihydroquinoxalin-1(2H)-yl)-2-oxo-1,2-dihydroquinolin-7-yl)piperidin-1-yl)methyl)piperidin-1-yl)-3-fluorophenyl)amino)piperidine-2,6-dione
16	4-(7-(9-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)methyl)-3,9-diazaspiro[5.5]undecan-3-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
17	4-(7-(1'-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)-[1,4'-bipiperidin]-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

18	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)methyl)pyrrolidin-3-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
19	4-(7-(1-((1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
20	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluoro-5-methoxyphenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
21	4-(7-(2-((1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)piperidin-4-yl)methyl)-2,7-diazaspiro[3.5]nonan-7-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
22	4-(7-(9-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)-3,9-diazaspiro[5.5]undecan-3-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
23	4-(7-(1-(2-(1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)ethyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
24	4-(7-(1-(2-(1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)-4-hydroxypiperidin-4-yl)acetyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
25	4-(7-(1-(1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidine-4-carbonyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
26	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-3,4-dihydro-2H-benzo[b][1,4]oxazine-6-carbonitrile
27	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-3-fluorophenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

28	3-((4-(4-((4-(1,3-dimethyl-5-(1-methyl-2,3-dihydropyrido[3,4-b]pyrazin-4(1H)-yl)-2-oxo-1,2-dihydroquinolin-7-yl)piperidin-1-yl)methyl)piperidin-1-yl)-3-fluorophenyl)amino)piperidine-2,6-dione
29	4-(7-(6-((1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)piperidin-4-yl)methyl)-2,6-diazaspiro[3.3]heptan-2-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
30	4-(7-(9-((1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)piperidin-4-yl)methyl)-3,9-diazaspiro[5.5]undecan-3-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
31	4-(7-(1-((1-(1-(2,6-dioxopiperidin-3-yl)-3-methyl-2-oxo-2,3-dihydro-1H-benzo[d]imidazol-5-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
32	4-(7-(4-((1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)piperidin-4-yl)methyl)piperazin-1-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
33	4-(7-(1-((1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-7-fluoro-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
34	1-(6-(4-((4-(5-(7-chloro-4-methyl-3,4-dihydroquinoxalin-1(2H)-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-7-yl)piperidin-1-yl)methyl)piperidin-1-yl)-5-fluoro-1-methyl-1H-indazol-3-yl)dihydropyrimidine-2,4(1H,3H)-dione
35	4-(7-(1-((1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)benzo[d]isoxazol-6-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
36	3-((4-(4-((4-(7-(difluoromethyl)-1',3'-dimethyl-2'-oxo-1',2',3,4-tetrahydro-2H-[1,5'-biquinolin]-7'-yl)piperidin-1-yl)methyl)piperidin-1-yl)-3-fluorophenyl)amino)piperidine-2,6-dione
37	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-N,N,1-trimethyl-1,2,3,4-tetrahydroquinoxaline-6-sulfonamide

38	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)azetidin-3-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
39	4-(7-(1-((1-(1-(2,6-dioxopiperidin-3-yl)-3-methyl-2-oxo-2,3-dihydro-1H-benzo[d]imidazol-4-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
40	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-7-fluoro-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
41	3-((4-(4-((4-(5-(7-chloro-4-methyl-3,4-dihydroquinoxalin-1(2H)-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-7-yl)piperidin-1-yl)methyl)piperidin-1-yl)-3-fluorophenyl)amino)piperidine-2,6-dione
42	3-((4-(4-((4-(1,3-dimethyl-5-(4-methyl-3,4-dihydroquinoxalin-1(2H)-yl)-2-oxo-1,2-dihydroquinolin-7-yl)piperidin-1-yl)methyl)piperidin-1-yl)-3-fluorophenyl)amino)piperidine-2,6-dione
43	3-((4-(4-((4-(1,3-dimethyl-5-(4-methyl-7-(1-methyl-1H-pyrazol-4-yl)-3,4-dihydroquinoxalin-1(2H)-yl)-2-oxo-1,2-dihydroquinolin-7-yl)piperidin-1-yl)methyl)piperidin-1-yl)-3-fluorophenyl)amino)piperidine-2,6-dione
44	1-(6-(4-((4-(1,3-dimethyl-5-(4-methyl-3,4-dihydroquinoxalin-1(2H)-yl)-2-oxo-1,2-dihydroquinolin-7-yl)piperidin-1-yl)methyl)piperidin-1-yl)-5-fluoro-1-methyl-1H-indazol-3-yl)dihydropyrimidine-2,4(1H,3H)-dione
45	3-((3-fluoro-4-(4-((4-(5-(7-methoxy-4-methyl-3,4-dihydroquinoxalin-1(2H)-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-7-yl)piperidin-1-yl)methyl)piperidin-1-yl)phenyl)amino)piperidine-2,6-dione
46	7'-(1-((1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1',3'-dimethyl-2'-oxo-1',2',3,4-tetrahydro-2H-[1,5'-biquinoline]-7-carbonitrile
47	3-((4-(4-((4-(5-(7-(difluoromethyl)-3,4-dihydroquinolin-1(2H)-yl)-1,3-dimethyl-2-oxo-1,2-dihydro-1,6-naphthyridin-7-yl)piperidin-1-yl)methyl)piperidin-1-yl)-3-fluorophenyl)amino)piperidine-2,6-dione
48	4-(7-(1-((1-(3-(2,6-dioxopiperidin-3-yl)-1-methyl-2-oxo-2,3-dihydro-1H-benzo[d]imidazol-5-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

49	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-ethyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
50	4-(7-(1-((1-(4-(2,6-dioxopiperidin-3-yl)-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
51	4-(7-(1-((1-(3-(2,6-dioxopiperidin-3-yl)-1-methyl-1H-indazol-6-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
52	4-(7-(4-((4-(1-(2,6-dioxopiperidin-3-yl)-3-methyl-2-oxo-2,3-dihydro-1H-benzo[d]imidazol-5-yl)piperazin-1-yl)methyl)piperidin-1-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
53	4-(7-(1-((1-(3-(2,6-dioxopiperidin-3-yl)-2-oxo-2,3-dihydrobenzo[d]oxazol-6-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
54	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-3-methoxyphenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
55	4-(7-(4-((4-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-1-yl)methyl)piperidin-1-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
56	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2,6-difluorophenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
57	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)methyl)-3,3-difluoropiperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
58	4-(7-(1-((1-(1-(2,6-dioxopiperidin-3-yl)indolin-4-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
59	4-(7-(1-((1-(1-(2,6-dioxopiperidin-3-yl)-6-fluoro-3-methyl-2-oxo-2,3-dihydro-1H-benzo[d]imidazol-5-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-

	oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
60	4-(7-(1-((1-(1-(2,6-dioxopiperidin-3-yl)indolin-5-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
61	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)(methyl)amino)-2-fluorophenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
62	4-(7-(1-((1-(1-(2,6-dioxopiperidin-3-yl)-2-oxo-1,2-dihydrobenzo[cd]indol-6-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
63	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carboxamide
64	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-N,1-dimethyl-1,2,3,4-tetrahydroquinoxaline-6-carboxamide
65	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-7-methoxy-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
66	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)pyrrolidin-3-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
67	4-(7-(1-((8-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)-8-azabicyclo[3.2.1]octan-3-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
68	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)-4-hydroxypiperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
69	4-(7-(1-(((2R)-1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)-2-methylpiperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

70	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-(trifluoromethyl)phenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
71	4-(7-(1-((1-(2-chloro-4-((2,6-dioxopiperidin-3-yl)amino)phenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
72	4-(7-(1-((1-(2-cyano-4-((2,6-dioxopiperidin-3-yl)amino)phenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
73	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-methylphenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
74	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-methoxyphenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
75	4-(7-(1-(((2S)-1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)-2-methylpiperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
76	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)-4-fluoropiperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
77	4-(7-(1-(1-(1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)ethyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
78	4-(7-(1-((1-(5-((2,6-dioxopiperidin-3-yl)amino)-3-fluoropyridin-2-yl)-4-hydroxypiperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
79	4-(7-(1-(2-(1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)-4-hydroxypiperidin-4-yl)acetyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

80	4-(7-(1-((1-(2-(2,6-dioxopiperidin-3-yl)-1,3-dioxoisindolin-4-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
81	4-(7-(1-((1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)-4-hydroxypiperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
82	4-(7-(1-((1-(1-(2,6-dioxopiperidin-3-yl)-3-methyl-2-oxo-2,3-dihydro-1H-benzo[d]imidazol-5-yl)-4-hydroxypiperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
83	4-(7-(1-((1-(1-(2,6-dioxopiperidin-3-yl)-1H-indazol-5-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
84	4-(7-(1-((4-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)cyclohexyl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
85	4-(7-(1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
86	4-(7-(1-((1-(2-(2,6-dioxopiperidin-3-yl)-1,3-dioxoisindolin-5-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
87	7'-(1-((1-(2-(2,6-dioxopiperidin-3-yl)-1,3-dioxoisindolin-5-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1',3'-dimethyl-2'-oxo-1',2',3,4-tetrahydro-2H-[1,5'-biquinoline]-7-carbonitrile
88	5-(4-((4-(1,3-dimethyl-5-(4-methyl-6-(1-methyl-1H-pyrazol-4-yl)-3,4-dihydroquinoxalin-1(2H)-yl)-2-oxo-1,2-dihydroquinolin-7-yl)piperidin-1-yl)methyl)piperidin-1-yl)-2-(2,6-dioxopiperidin-3-yl)isoindoline-1,3-dione
89	5-(4-((4-(1',3'-dimethyl-2'-oxo-1',2',3,4-tetrahydro-2H-[1,5'-biquinolin]-7'-yl)piperidin-1-yl)methyl)piperidin-1-yl)-2-(2,6-dioxopiperidin-3-yl)isoindoline-1,3-dione

90	3-(4-(4-((4-(7-(difluoromethyl)-1',3'-dimethyl-2'-oxo-1',2',3,4-tetrahydro-2H-[1,5'-biquinolin]-7'-yl)piperidin-1-yl)methyl)piperidin-1-yl)phenyl)piperidine-2,6-dione
91	3-(5-(4-((4-(7-(difluoromethyl)-1',3'-dimethyl-2'-oxo-1',2',3,4-tetrahydro-2H-[1,5'-biquinolin]-7'-yl)piperidin-1-yl)methyl)piperidin-1-yl)-1-oxoisindolin-2-yl)piperidine-2,6-dione
92	3-((4-(4-((4-(5-(7-chloro-4-methyl-3,4-dihydroquinoxalin-1(2H)-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-7-yl)piperidin-1-yl)methyl)piperidin-1-yl)-3-fluorophenyl)amino)piperidine-2,6-dione
93	3-((4-(4-((4-(1,3-dimethyl-5-(4-methyl-6-(1-methyl-1H-pyrazol-4-yl)-3,4-dihydroquinoxalin-1(2H)-yl)-2-oxo-1,2-dihydroquinolin-7-yl)piperidin-1-34yl)methyl)piperidin-1-yl)-3-fluorophenyl)amino)piperidine-2,6-dione
94	4-(7-(4-(4-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperazin-1-yl)butoxy)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
95	4-(7-(2-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)methoxy)ethoxy)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
96	4-(7-(1-(5-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)pent-4-yn-1-yl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
97	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-3-fluorophenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
98	4-(7-(1-((1-(6-((2,6-dioxopiperidin-3-yl)amino)-4-fluoropyridin-3-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
99	4-(7-(1-((1-(6-((2,6-dioxopiperidin-3-yl)amino)-2-fluoropyridin-3-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
100	4-(7-(9-((1-(5-((2,6-dioxopiperidin-3-yl)amino)-3-fluoropyridin-2-yl)piperidin-4-yl)methyl)-3,9-diazaspiro[5.5]undecan-3-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

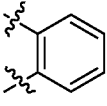
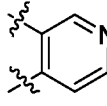
101	4-(7-(1-((1-(5-((2,6-dioxopiperidin-3-yl)amino)-3-fluoropyridin-2-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydro-1,6-naphthyridin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
102	4-(7-(2-((1-(5-((2,6-dioxopiperidin-3-yl)amino)-3-fluoropyridin-2-yl)piperidin-4-yl)methyl)-2,7-diazaspiro[3.5]nonan-7-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
103	7'-(1-((1-(5-((2,6-dioxopiperidin-3-yl)amino)-3-fluoropyridin-2-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1',3'-dimethyl-2'-oxo-1',2',3,4-tetrahydro-2H-[1,5'-biquinoline]-7-carbonitrile
104	4-(7-(1-(2-(1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)-4-hydroxypiperidin-4-yl)acetyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
105	4-(7-(4-((2-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)-2,7-diazaspiro[3.5]nonan-7-yl)methyl)piperidin-1-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
106	4-(7-(1-((8-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)-8-azabicyclo[3.2.1]octan-3-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
107	4-(7-(1-(2-(4-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)piperidin-1-yl)acetyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
108	4-(7-(9-((1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)piperidin-4-yl)methyl)-3,9-diazaspiro[5.5]undecan-3-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
109	4-(7-(6-((1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)piperidin-4-yl)methyl)-2,6-diazaspiro[3.3]heptan-2-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
110	4-(7-(1-((1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-

	dihydroquinolin-5-yl)-1-methyl-7-(1-methyl-1H-pyrazol-4-yl)-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
111	1-(6-(4-((4-(7-(difluoromethyl)-1',3'-dimethyl-2'-oxo-1',2',3,4-tetrahydro-2H-[1,5'-biquinolin]-7'-yl)piperidin-1-yl)methyl)piperidin-1-yl)-5-fluoro-1-methyl-1H-indazol-3-yl)dihydropyrimidine-2,4(1H,3H)-dione
112	4-(7-(8-((1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)piperidin-4-yl)methyl)-1-oxa-8-azaspiro[4.5]decan-3-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
113	4-(7-(1-((1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)piperidin-4-yl)difluoromethyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
114	1-(6-(4-((4-(5-(7-chloro-4-methyl-3,4-dihydroquinoxalin-1(2H)-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-7-yl)piperidin-1-yl)methyl)piperidin-1-yl)-5-fluoro-1-methyl-1H-indazol-3-yl)dihydropyrimidine-2,4(1H,3H)-dione
115	4-(7-(1-((1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-3,4-dihydro-2H-benzo[b][1,4]oxazine-6-carbonitrile
116	4-(7-(1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
117	1-(6-(4-((4-(1,3-dimethyl-5-(4-methyl-7-(trifluoromethyl)-3,4-dihydroquinoxalin-1(2H)-yl)-2-oxo-1,2-dihydroquinolin-7-yl)piperidin-1-yl)methyl)piperidin-1-yl)-5-fluoro-1-methyl-1H-indazol-3-yl)dihydropyrimidine-2,4(1H,3H)-dione

or a pharmaceutically acceptable salt, a stereoisomer, a tautomer, an N-oxide or an ester thereof.

In one embodiment, ----- represents an optional bond. In one embodiment, ===== represents single bond. In one embodiment, ===== represents double bond.

5 In one embodiment, Q represents fused 5- to 6-membered heteroaryl ring. In one embodiment, Q represents fused 6-membered heteroaryl ring. In one embodiment, Q represents fused benzo ring.

In one embodiment, Q represents , or ; wherein  represents the points of fusion with the ring having X₂.

Method of treatment

In one embodiment, the present invention provides a compound of formula (I) or a pharmaceutically acceptable salt thereof; for the treatment of diseases or disorders mediated by CBP in a subject.

In one embodiment, the present invention provides the use of a compound of formula (I), (IA), (IB), (IC), (ID), (IE) and (IF) or a pharmaceutical acceptable salt or a stereoisomer thereof for the degradation of CBP.

In one embodiment, the present invention provides a method of increasing efficacy of a cancer treatment comprising administering to the individual a therapeutically effective amount of a compound of formula (I) or a pharmaceutical acceptable salt or a stereoisomer thereof.

In one embodiment, the methods provided herein are useful in treating a CBP-mediated disease or disorder involving fibrosis. In one embodiment, the CBP-mediated disease or disorder is a fibrotic disease. In one embodiment, fibrotic diseases include pulmonary fibrosis, silicosis, cystic fibrosis, renal fibrosis, liver fibrosis, liver cirrhosis, primary sclerosing cholangitis, primary biliary cirrhosis, endomyocardial fibrosis, mediastinal fibrosis, myelofibrosis, retroperitoneal fibrosis, progressive massive fibrosis, nephrogenic systemic fibrosis, Crohn's disease, keloid, myocardial infarction, systemic sclerosis or arthro fibrosis.

In one embodiment, the present invention provides a method of treating CBP-mediated disease or disorder comprising administering to the subject in need thereof a therapeutically effective amount of compound of formula (I), (IA), (IB), (IC), (ID), (IE) and (IF) or a pharmaceutical acceptable salt or a stereoisomer thereof.

In one embodiment, the present invention provides a compound of formula (I), (IA), (IB), (IC), (ID), (IE) and (IF) or a pharmaceutical acceptable salt or a stereoisomer thereof for use in the treatment of CBP-mediated disease or disorder in an individual.

In one embodiment, the present invention provides a use of compound of formula (I), (IA), (IB), (IC), (ID), (IE) and (IF) or a pharmaceutical acceptable salt or a stereoisomer thereof

in the manufacture of a medicament for the treatment of CBP-mediated disease or disorder in an individual.

In one embodiment, CBP bromodomain-mediated disease or disorder is selected from cancer, fibrosis, inflammation, or an inflammatory disease and disorder.

5 In one embodiment, CBP bromodomain-mediated disease or disorder is a fibrotic lung disease selected from pulmonary fibrosis, idiopathic pulmonary fibrosis, fibrotic interstitial lung disease, renal fibrosis, interstitial pneumonia, fibrotic variant of non-specific interstitial pneumonia, cystic fibrosis, lung fibrosis, chronic obstructive pulmonary lung disease (COPD), lung cirrhosis and pulmonary arterial hypertension. In one embodiment, CBP bromodomain-
 10 mediated disease or disorder is fibrotic interstitial lung disease. In one embodiment, CBP bromodomain-mediated disease or disorder is interstitial pneumonia. In one embodiment, CBP bromodomain-mediated disease or disorder is fibrotic variant of non-specific interstitial pneumonia. In one embodiment, CBP bromodomain-mediated disease or disorder is cystic fibrosis. In one embodiment, CBP bromodomain-mediated disease or disorder is lung fibrosis.
 15 In one embodiment, CBP bromodomain-mediated disease or disorder is chronic obstructive pulmonary lung disease (COPD). In one embodiment, CBP bromodomain-mediated disease or disorder or pulmonary arterial hypertension.

In one embodiment, CBP bromodomain-mediated disease or disorder is cancer. In one embodiment, CBP bromodomain-mediated disease or disorder is cancer selected from acoustic
 20 neuroma, acute leukemia, acute myeloid leukemia (AML), acute lymphocytic leukemia, acute myelocytic leukemia (monocytic, myeloblastic, adenocarcinoma, angiosarcoma, astrocytoma, myelomonocytic and promyelocytic), acute T-cell leukemia, basal cell carcinoma, bile duct carcinoma, bladder cancer, brain cancer, breast cancer, bronchogenic carcinoma, cancer of male and female reproductive system, cervical cancer, chondrosarcoma, chordoma,
 25 choriocarcinoma, chronic leukemia, chronic lymphocytic leukemia, chronic myelocytic (granulocytic) leukemia, chronic myelogenous leukemia, colon cancer, colorectal cancer, craniopharyngioma, cystadenocarcinoma, diffuse large B-cell lymphoma (DLBCL), Skin squamous cell carcinoma, Marginal zone B-cell Lymphoma, Salivary gland carcinoma, Esophageal squamous cell carcinoma, Cervical squamous cell carcinoma, B cell follicular
 30 lymphoma, B cell lymphoma, T cell leukemia, Prostate cancer (AR+ve), Normal prostate epithelium carcinoma, Normal breast epithelium carcinoma, Liver cancer, Burkitt's lymphoma, dysproliferative changes (dysplasias and metaplasias), embryonal carcinoma,

endometrial cancer, endotheliosarcoma, ependymoma, epithelial carcinoma, erythroleukemia, esophageal cancer, estrogen-receptor positive breast cancer, essential thrombocythemia, Ewing's tumor, fibrosarcoma, follicular lymphoma, gastro-intestinal tumors including GIST, germ cell testicular cancer, glioma, glioblastoma, gliosarcoma, head and neck squamous cell carcinoma, heavy chain disease, hemangioblastoma, hepatoma, hepatocellular cancer, hormone insensitive prostate cancer, leiomyosarcoma, leukemia, NPM1c mutant leukemia, liposarcoma, lung cancer, lymphagioendotheliosarcoma, lymphangiosarcoma, lymphoblastic leukemia, lymphoma (Hodgkin's and non-Hodgkin's), Merkel cell carcinoma, malignancies and hyperproliferative diseases or disorders of the bladder, breast, colon, lung, ovaries, pancreas, prostate, skin and uterus, lymphoid malignancies of T-cell or B-cell origin, medullary carcinoma, medulloblastoma, melanoma, meningioma, mesothelioma, multiple myeloma, myelogenous leukemia, myeloma, myxosarcoma, neuroblastoma, NUT midline carcinoma (NMC), non-small cell lung cancer, oligodendroglioma, oral cancer, osteogenic sarcoma, ovarian cancer, pancreatic cancer, papillary adenocarcinomas, papillary carcinoma, pinealoma, polycythemia vera, prostate cancer, rectal cancer, renal cell carcinoma, retinoblastoma, rhabdomyosarcoma, sarcoma, sebaceous gland carcinoma, seminoma, skin cancer, small cell lung carcinoma, solid tumors (carcinomas and sarcomas), small cell lung cancer, stomach cancer, squamous cell carcinoma, synovioma, sweat gland carcinoma, thyroid cancer, Waldenstrom's macroglobulinemia, testicular tumors, uterine cancer and Wilms' tumor.

In one embodiment, the cancer is lung cancer, breast cancer, pancreatic cancer, colorectal cancer, and/or melanoma. In one embodiment, the cancer is lung cancer. In one embodiment, the lung cancer is NSCLC i.e., non-small cell lung cancer. In one embodiment, the cancer is breast cancer. In one embodiment, the cancer is melanoma.

In one embodiment, the present invention provides a method of treating lymphoma, leukemia, or prostate cancer in an individual comprising administering the individual an effective amount of compound of formula (I) or a pharmaceutical acceptable salt, a stereoisomer, a tautomer, an N-oxide or an ester thereof.

In one embodiment, CBP-mediated diseases or disorders also include an inflammatory diseases, an inflammatory conditions, and autoimmune diseases selected from Addison's disease, acute gout, ankylosing spondylitis, asthma, atherosclerosis, Behcet's disease, bullous skin diseases, chronic obstructive pulmonary disease (COPD), Crohn's disease, dermatitis, eczema, giant cell arteritis, glomerulonephritis, hepatitis, hypophysitis, inflammatory bowel

disease, Kawasaki disease, lupus nephritis, multiple sclerosis, myocarditis, myositis, nephritis, organ transplant rejection, osteoarthritis, pancreatitis, pericarditis, Polyarteritis nodosa, pneumonitis, primary biliary cirrhosis, psoriasis, psoriatic arthritis, rheumatoid arthritis, scleritis, sclerosing cholangitis, sepsis, systemic lupus erythematosus, Takayasu's Arteritis, toxic shock, thyroiditis, type I diabetes, ulcerative colitis, uveitis, vitiligo, vasculitis, and Wegener's granulomatosis.

In one embodiment, CBP-mediated disease or disorder is:

- a) a fibrotic lung disease selected from pulmonary fibrosis, idiopathic pulmonary fibrosis, fibrotic interstitial lung disease, renal fibrosis, interstitial pneumonia, fibrotic variant of non-specific interstitial pneumonia, cystic fibrosis, lung fibrosis, chronic obstructive pulmonary lung disease (COPD), lung cirrhosis and pulmonary arterial hypertension; or
- b) a cancer selected from acoustic neuroma, acute leukemia, acute myeloid leukemia (AML), acute lymphocytic leukemia, acute myelocytic leukemia (monocytic, myeloblastic, adenocarcinoma, angiosarcoma, astrocytoma, myelomonocytic and promyelocytic), acute T-cell leukemia, basal cell carcinoma, bile duct carcinoma, bladder cancer, brain cancer, breast cancer, bronchogenic carcinoma, cancer of male and female reproductive system, cervical cancer, chondrosarcoma, chordoma, choriocarcinoma, chronic leukemia, chronic lymphocytic leukemia, chronic myelocytic (granulocytic) leukemia, chronic myelogenous leukemia, colon cancer, colorectal cancer, craniopharyngioma, cystadenocarcinoma, diffuse large B-cell lymphoma (DLBCL), Skin squamous cell carcinoma, Marginal zone B-cell Lymphoma, Salivary gland carcinoma, Esophageal squamous cell carcinoma, Cervical squamous cell carcinoma, B cell follicular lymphoma, B cell lymphoma, T cell leukemia, Prostate cancer (AR+ve), Normal prostate epithelium carcinoma, Normal breast epithelium carcinoma, Liver cancer, Burkitt's lymphoma, dysproliferative changes (dysplasias and metaplasias), embryonal carcinoma, endometrial cancer, endotheliosarcoma, ependymoma, epithelial carcinoma, erythroleukemia, esophageal cancer, estrogen-receptor positive breast cancer, essential thrombocythemia, Ewing's tumor, fibrosarcoma, follicular lymphoma, gastro-intestinal tumors including GIST, germ cell testicular cancer, glioma, glioblastoma, gliosarcoma, head and neck squamous cell carcinoma, heavy chain disease, hemangioblastoma, hepatoma, hepatocellular cancer, hormone insensitive prostate cancer, leiomyosarcoma, leukemia, liposarcoma, lung cancer, lymphagioendotheliosarcoma, lymphangiosarcoma, lymphoblastic leukemia, lymphoma (Hodgkin's and non-Hodgkin's), malignancies and hyperproliferative disorders

of the bladder, breast, colon, lung, ovaries, pancreas, prostate, skin and uterus, lymphoid malignancies of T-cell or B-cell origin, medullary carcinoma, medulloblastoma, melanoma, meningioma, mesothelioma, multiple myeloma, myelogenous leukemia, myeloma, myxosarcoma, neuroblastoma, NUT midline carcinoma (NMC), non-small cell lung cancer, oligodendroglioma, oral cancer, osteogenic sarcoma, ovarian cancer, pancreatic cancer, papillary adenocarcinomas, papillary carcinoma, pinealoma, polycythemia vera, prostate cancer, rectal cancer, renal cell carcinoma, retinoblastoma, rhabdomyosarcoma, sarcoma, sebaceous gland carcinoma, seminoma, skin cancer, small cell lung carcinoma, solid tumors (carcinomas and sarcomas), small cell lung cancer, stomach cancer, squamous cell carcinoma, synovioma, sweat gland carcinoma, thyroid cancer, Waldenstrom's macroglobulinemia, testicular tumors, uterine cancer and Wilms' tumor; or

- c) an inflammatory diseases, an inflammatory conditions, and an autoimmune diseases, selected from Addison's disease, acute gout, ankylosing spondylitis, asthma, atherosclerosis, Behcet's disease, bullous skin diseases, chronic obstructive pulmonary disease (COPD), Crohn's disease, dermatitis, eczema, giant cell arteritis, glomerulonephritis, hepatitis, hypophysitis, inflammatory bowel disease, Kawasaki disease, lupus nephritis, multiple sclerosis, myocarditis, myositis, nephritis, organ transplant rejection, osteoarthritis, pancreatitis, pericarditis, Polyarteritis nodosa, pneumonitis, primary biliary cirrhosis, psoriasis, psoriatic arthritis, rheumatoid arthritis, scleritis, sclerosing cholangitis, sepsis, systemic lupus erythematosus, Takayasu's Arteritis, toxic shock, thyroiditis, type I diabetes, ulcerative colitis, uveitis, vitiligo, vasculitis or Wegener's granulomatosis. In one embodiment, CBP-mediated diseases or disorders also include AIDS; chronic kidney diseases, including, but are not limited to diabetic nephropathy, hypertensive nephropathy, HIV-associated nephropathy, glomerulonephritis, lupus nephritis, IgA nephropathy, focal segmental glomerulosclerosis, membranous glomerulonephritis, minimal change disease, polycystic kidney disease and tubular interstitial nephritis; acute kidney injury or disease or condition including, but are not limited to ischemia-reperfusion induced, cardiac and major surgery induced, percutaneous coronary intervention induced, radio-contrast agent induced, sepsis induced, pneumonia induced, and drug toxicity induced, obesity, dyslipidemia, hypercholesterolemia, Alzheimer's disease, metabolic syndrome, hepatic steatosis, type II diabetes, insulin resistance and diabetic retinopathy.

In some embodiments, the compounds of the present disclosure are CBP selective degraders.

In some embodiments, the compounds of the present disclosure are CBP selective over p300.

5 Definitions

Unless defined otherwise, all technical and scientific terms used herein have the same meaning as is commonly understood by one of skill in art to which the subject matter herein belongs. As used in the specification and the appended claims, unless specified to the contrary, the following terms have the meaning indicated in order to facilitate the understanding of the present invention.

The singular forms “a”, “an” and “the” encompass plural references unless the context clearly indicates otherwise.

As used herein, the terms “optional” or “optionally” mean that the subsequently described event or circumstance may occur or may not occur and that the description includes instances where the event or circumstance occurs as well as instances in which it does not. For example, “optionally substituted alkyl” refers to the alkyl that may be substituted as well as the event or circumstance where the alkyl is not substituted. As another instance, “optionally substituted” refers to a substituent that may be present as well as the event or circumstance where the substituent is not present.

The term “substituted” refers to moieties having substituents replacing hydrogen on one or more carbons of the backbone. It will be understood that “substitution” or “substituted with” includes the implicit proviso that such substitution is in accordance with permitted valence of the substituted atom and the substituent and that the substitution results in a stable compound, e.g., which does not spontaneously undergo transformation such as by rearrangement, cyclization, elimination, etc. As used herein, the term “substituted” is contemplated to include all permissible substituents of organic compounds. In a broad aspect, the permissible substituents include acyclic and cyclic, branched and unbranched, carbocyclic and heterocyclic, aromatic and non-aromatic substituents of organic compounds. The permissible substituents can be one or more and the same or different for appropriate organic compounds. For purposes of this invention, the heteroatoms such as nitrogen may have hydrogen substituents and/or any permissible substituents of organic compounds described herein which satisfy the valences of the heteroatoms. Substituents can include any substituents described

herein, for example, a halogen, a hydroxyl, a carbonyl (such as a carboxyl, an alkoxycarbonyl, a formyl or an acyl), a thiocarbonyl (such as a thioester, a thioacetate or a thioformate), an alkoxy, an oxo, a phosphoryl, a phosphate, a phosphonate, a phosphinate, an amino, an amido, an amidine, an imine, a cyano, a nitro, an azido, a sulfhydryl, an alkylthio, a sulfate, a sulfonate, a sulfamoyl, a sulfonamido, a sulfonyl, a heteroaryl a heterocycloalkyl, an aralkyl or an aromatic or heteroaromatic moiety. It will be understood by those skilled in the art that substituents can themselves be substituted, if appropriate. Unless specifically stated as “unsubstituted,” references to chemical moieties herein are understood to include substituted variants. For example, reference to an “aryl” group or moiety implicitly includes both substituted and unsubstituted variants.

As used herein, the term “alkyl” refers to saturated aliphatic groups, including but not limited to C₁-C₁₀ straight-chain alkyl groups or C₃-C₁₀ branched-chain alkyl groups. Preferably, the “alkyl” group refers to C₁-C₆ straight-chain alkyl groups or C₃-C₆ branched-chain alkyl groups. In one embodiment, the “alkyl” group refers to C₁-C₄ straight-chain alkyl groups or C₃-C₈ branched-chain alkyl groups. Examples of “alkyl” include, but are not limited to, methyl, ethyl, 1-propyl, 2-propyl, n-butyl, sec-butyl, tert-butyl, 1-pentyl, 2-pentyl, 3-pentyl, neo-pentyl, 1-hexyl, 2-hexyl, 3-hexyl, 1-heptyl, 2-heptyl, 3-heptyl, 4-heptyl, 1-octyl, 2-octyl, 3-octyl and 4-octyl. The “alkyl” group may be optionally substituted.

As used herein, the term “alkylenyl” refers to a divalent alkyl group, wherein the “alkyl” group is as defined above. Examples of “alkylenyl” include, but are not limited to, -CH₂-, -CH₂CH₂-, -CH(CH₃)CH₂-, -CH₂CH₂CH₂CH₂-, -CH(CH₃)CH₂CH₂CH₂- and -CH₂CH(CH₃)CH₂CH₂-.

As used herein, the term “acyl” refers to -C(O)-R wherein R is alkyl group as defined above. In one embodiment, acyl contains (C₁-C₆)alkyl and preferably (C₁-C₄)alkyl. Exemplary acyl groups include, but not limited to acetyl, propanoyl, 2-methylpropanoyl, t-butylacetyl and butanoyl.

As used herein, the term “ester” refers to -C(O)OR, wherein R is alkyl group as defined above. In one embodiment, an ester contains (C₁-C₆)alkyl and preferably (C₁-C₄)alkyl. Exemplary ester groups include, but not limited to, methoxycarbonyl, ethoxycarbonyl, propoxycarbonyl, butoxycarbonyl, *tert*-butoxy carbonyl and pentoxycarbonyl.

As used herein, “alkenyl” refers to an alkyl group having one or more double carbon-carbon bonds. Alkenyl groups include, but are not limited to, ethenyl, propenyl, cyclohexenyl,

1-propenyl, 2-propenyl (allyl), iso-propenyl, 2-methyl-1-propenyl, 1-butenyl, and 2-butenyl. Alkenyl groups may be unsubstituted or substituted by one or more suitable substituents, as defined above.

The term “alkenylenyl” refers to a divalent “alkenyl” as defined above. An “alkenylenyl” group may be substituted or unsubstituted with one or more substituents as described herein. Representative examples of alkenylenyl groups include, but are not limited to, $-C(H)=C(H)-$, $-C(H)=C(H)-CH_2-$, $-C(H)=C(H)-CH_2-CH_2-$, $-CH_2-C(H)=C(H)-CH_2-$, $-C(H)=C(H)-CH(CH_3)-$ and $-CH_2-C(H)=C(H)-CH(CH_2CH_3)-$.

The term “alkynyl”, as used herein, refers to an alkyl group as described above having at least one carbon-carbon triple bond and is intended to include both “unsubstituted alkynyls” and “substituted alkynyls”, the latter of which refers to alkynyl moieties having substituents replacing a hydrogen on one or more carbons of the alkynyl group. Such substituents may occur on one or more carbons that are included or not included in one or more triple bonds. Moreover, such substituents include all those contemplated for alkyl groups, as discussed above, except where stability is prohibitive. For example, substitution of alkynyl groups by one or more alkyl, carbocyclyl, aryl, heterocyclyl, or heteroaryl groups is contemplated. Alkynylenyl groups may be unsubstituted or substituted by one or more suitable substituents, as defined above. Preferably, the “alkynyl” group refers to C_2-C_6 alkynyl. Examples of “alkynyl” includes, but not limited to ethynyl, propynyl, butynyl and pentynyl.

The term “alkynylenyl”, as used herein, refers to a divalent “alkynyl” as defined above.

As used herein, the term “halo” or “halogen” alone or in combination with other term(s) means fluorine, chlorine, bromine or iodine.

As used herein, the term “haloalkyl” means alkyl substituted with one or more halogen atoms, wherein the halo and alkyl groups are as defined above. The term “halo” is used herein interchangeably with the term “halogen” means F, Cl, Br or I. In one embodiment, haloalkyl contains (C_1-C_6) alkyl and preferably (C_1-C_4) alkyl. Examples of “haloalkyl” include, but not limited to, fluoromethyl, difluoromethyl, chloromethyl, trifluoromethyl and 2,2,2-trifluoroethyl. The term “haloalkylenyl”, as used herein, refers to a divalent “haloalkyl” as defined above.

As used herein, the term “hydroxy” or “hydroxyl” alone or in combination with other term(s) means $-OH$.

As used herein, the term “oxo” refers to $=O$ group.

As used herein, the term “cyano” refers to $-\text{CN}$; and the term “cyanoalkyl” refers to alkyl substituted with $-\text{CN}$; wherein the alkyl groups are as defined above.

As used herein, the term “alkoxy” alone or in combination with other term(s), refers to the group alkyl-O- or $-\text{O-alkyl}$, where alkyl groups are as defined above. Exemplary alkoxy-groups include but are not limited to methoxy, ethoxy, n-propoxy, n-butoxy, t-butoxy and the like. An alkoxy group can be unsubstituted or substituted with one or more suitable groups.

The term “amino” or “amine” refers to a primary amine ($-\text{NH}_2$), secondary amine ($\begin{array}{c} \text{H} \\ | \\ \text{N} \\ / \quad \backslash \end{array}$, wherein ‘N’ is substituted with two substituents other than hydrogen) or tertiary amine ($\begin{array}{c} \text{N} \\ / \quad | \quad \backslash \end{array}$, wherein ‘N’ is substituted with three substituents other than hydrogen) group.

As used herein, “amido” refers to $-\text{CONH}_2$ group.

As used herein, the term “cycloalkyl” alone or in combination with other term(s) means ($\text{C}_3\text{-C}_{12}$) saturated cyclic hydrocarbon ring. A cycloalkyl may be a single ring, which typically contains from 3 to 7 carbon ring atoms. Examples of single ring cycloalkyls include but are not limited to cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl and cycloheptyl. A cycloalkyl may alternatively be polycyclic or contain more than one ring. Examples of polycyclic cycloalkyls include bridged, fused and spirocyclic carbocyclyls. In one embodiment, cycloalkyl refers to ($\text{C}_3\text{-C}_7$)cycloalkyl. As used herein, the term “cycloalkylenyl” or “cycloalkylene” refers to a divalent cycloalkyl group as defined above. “cycloalkylenyl” or “cycloalkylene” is typically a divalent cycloalkyl that connects one part of a molecule to another.

As used herein the term, “carbocycle” or “carbocyclyl” used alone or as part of a larger moiety, refer to a radical of a saturated or partially unsaturated cyclic aliphatic monocyclic or bicyclic ring system, as described herein, having the specified number of carbons. Exemplary carbocyclyls have from 3 to 18 carbon atoms, for example 3 to 12 carbon atoms, wherein the aliphatic ring system is optionally substituted as defined and described herein. Bicyclic carbocycles having 7 to 12 atoms can be arranged, for example, as a bicyclo [4,5], [5,5], [5,6], or [6,6] system, and bicyclic carbocycles having 9 or 10 ring atoms can be arranged as a bicyclo [5, 6] or [6, 6] system, or as bridged systems such as bicyclo[2.2.1]heptane, bicyclo[2.2.2]octane and bicyclo[3.2.2]nonane. The aliphatic ring system is optionally substituted as defined and described herein. Examples of monocyclic carbocycles include, but are not limited to, cycloalkyls and cycloalkenyls, such as cyclopropyl, cyclobutyl, cyclopentyl,

1-cyclopent-1-enyl, 1-cyclopent-2-enyl, 1-cyclopent-3-enyl, cyclohexyl, 1-cyclohex-1-enyl, 1-cyclohex-2-enyl, 1-cyclohex-3-enyl, cyclohexadienyl, cycloheptyl, cyclooctyl, cyclononyl, cyclodecyl, cycloundecyl, cyclododecyl, and the like. The terms “carbocyclyl” or “carbocycle,” also includes aliphatic rings that are fused to one or more aromatic or nonaromatic rings, such as decahydronaphthyl, tetrahydronaphthyl, decalin, or bicyclo[2.2.2]octane.

As used herein, the term “combination,” “combined,” and related terms refers to the simultaneous or sequential administration of therapeutic agents in accordance with this invention. For example, a compound of the present invention may be administered with another therapeutic agent simultaneously or sequentially in separate unit dosage forms or together in a single unit dosage form. Accordingly, the present invention provides a single unit dosage form comprising a compound of formula (I), an additional therapeutic agent, and a pharmaceutically acceptable carrier, adjuvant, or vehicle.

The term “heterocycloalkyl” refers to a non-aromatic, saturated or partially saturated, or bridged bicyclic, or spirocyclic, or monocyclic or polycyclic ring system of 3 to 15 member, unless the ring size is specifically mentioned, having at least one heteroatom or hetero-group selected from O, N, NH, -S(O)-, -S(O)₂ and S with the remaining ring atoms being independently selected from the group consisting of carbon, oxygen, nitrogen and sulfur. The term “heterocycloalkyl” also refers to the bridged bicyclic ring system having at least one heteroatom or hetero group selected from O, N, NH, -S(O)-, -S(O)₂ and S. Examples of “heterocycloalkyl” include, but not limited to, azetidiny, oxetanyl, imidazolidinyl, pyrrolidinyl, oxazolidinyl, thiazolidinyl, pyrazolidinyl, tetrahydrofuranyl, piperidinyl, dihydropyridinyl, piperazinyl, tetrahydropyranyl, morpholinyl, thiomorpholinyl, 1,4-dioxanyl, dioxidothiomorpholinyl, oxapiperazinyl, oxapiperidinyl, tetrahydrofuryl, tetrahydropyranyl, tetrahydrothiophenyl, dihydropyranyl, indolinyl, indolinylmethyl, isoindolinyl, oxoisoindolinyl, dioxoisoindolinyl, aza-bicyclooctanyl, diazabicyclooctanyl, azocinyl, chromanyl, isochromanyl, xanthenyl and 2-oxa-6-azaspiro[3.3]heptanyl. Preferably “heterocycloalkyl” refers to 5- to 12-membered ring. In one embodiment, “heterocycloalkyl” refers to 5- to 6-membered ring selected from the group consisting of imidazolidinyl, pyrrolidinyl, oxazolidinyl, thiazolidinyl, pyrazolidinyl, tetrahydrofuranyl, piperidinyl, piperazinyl, tetrahydropyranyl, morpholinyl, thiomorpholinyl, 1,4-dioxanyl and N-oxides thereof. More preferably, “heterocycloalkyl” includes azetidiny, pyrrolidinyl, morpholinyl and piperidinyl. As used herein, the term “heterocycloalkylenyl” refers to a divalent

heterocycloalkyl group as defined herein. All “heterocycloalkyl” / “heterocycloalkylenyl” are optionally substituted by one or more aforesaid groups.

As used herein, the term “heteroaryl” refers to an aromatic heterocyclic ring system containing, unless the ring size is specifically mentioned, 5 to 20 ring atoms, suitably 5 to 10 ring atoms, which may be a single ring (monocyclic) or multiple rings (bicyclic, tricyclic or polycyclic) fused together or linked covalently. Preferably, “heteroaryl” is a 5- to 6-membered ring. The rings may contain from 1 to 4 heteroatoms selected from N, O and S, wherein the N or S atom is optionally oxidized or the N atom is optionally quarternized. Any suitable ring position of the heteroaryl moiety may be covalently linked to the defined chemical structure.

Examples of heteroaryl include, but are not limited to: furanyl, thienyl, pyrrolyl, pyrazolyl, imidazolyl, oxazolyl, cinnolinyl, isoxazolyl, thiazolyl, isothiazolyl, 1H-tetrazolyl, oxadiazolyl, triazolyl, pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, benzoxazolyl, benzisoxazolyl, benzothiazolyl, benzofuranyl, benzothienyl, benzotriazinyl, phthalazinyl, thianthrene, dibenzofuranyl, dibenzothienyl, benzimidazolyl, indolyl, isoindolyl, indazolyl, quinolinyl, isoquinolinyl, quinazolinyl, quinoxalinyl, purinyl, pteridinyl, 9H-carbazolyl, α -carboline, indoliziny, benzoisothiazolyl, pyrrolopyridyl, pyrazolopyrimidyl, furopyridinyl, purinyl, benzothiadiazolyl, benzooxadiazolyl, benzotriazolyl, benzotriadiazolyl, carbazolyl, dibenzothienyl, acridinyl and the like. Preferably “heteroaryl” refers to 5- to 6-membered ring selected from the group consisting of furanyl, thienyl, pyrrolyl, pyrazolyl, imidazolyl, oxazolyl, cinnolinyl, isoxazolyl, thiazolyl, isothiazolyl, 1H-tetrazolyl, oxadiazolyl, triazolyl, pyridyl, pyrimidinyl, pyrazinyl and pyridazinyl. More preferably, pyrazolyl, pyridyl, oxazolyl and furanyl. All heteroaryls are optionally substituted by one or more aforesaid groups.

In one embodiment, heteroaryl (for e.g., pyridine or pyridyl) can be optionally substituted by oxo to form a respective pyridine-N-oxide or pyridyl-N-oxide.

As used herein, the term “aryl” is optionally substituted monocyclic, bicyclic or polycyclic aromatic hydrocarbon ring system of about 6 to 14 carbon atoms. In one embodiment, “aryl” refers to C₆-C₁₀ aryl group. Examples of a C₆-C₁₄ aryl group include, but are not limited to, phenyl, naphthyl, biphenyl, anthryl, fluorenyl, indanyl, biphenylenyl and acenaphthyl. Aryl group can be unsubstituted or substituted with one or more suitable groups.

As used herein, the term “arylenyl” refers to a divalent aryl group, wherein the aryl group is as defined above.

As used herein, the term 'arylalkyl' refers to a group wherein the 'alkyl' group is substituted with one or more 'aryl' groups.

"Heteroarylalkyl" refers to a group of the formula $-R_bR_e$ where R_b is an alkylene chain as defined above and R_e is a heteroaryl group as defined above. Unless stated otherwise specifically in the specification, a heteroarylalkyl group may be optionally substituted.

"Heterocycloalkylalkyl" refers to $-(\text{alkylene})\text{-heterocycloalkyl}$, where the alkylene and heterocycloalkyl groups are as defined herein.

The term "heteroatom" as used herein designates a sulfur, nitrogen or oxygen atom.

As used herein, the term 'compound(s)' comprises the compounds disclosed in the present invention.

As used herein, the terms "comprise" and "comprising" are generally used in the sense of "include" and "including," that is to say permitting the presence of one or more additional features or components. The term "including" as well as other forms thereof, such as "include", "includes" and "included" is not limiting.

As used herein, the term "or" means "and/or" unless stated otherwise.

As used herein, the term "composition" is intended to encompass a product comprising the specified ingredients in the specified amounts, as well as any product which results, directly or indirectly, from combination of the specified ingredients in the specified amounts.

As used herein, the term "pharmaceutical composition" refers to a composition(s) containing a therapeutically effective amount of at least one compound of formula (I), (IA), (IB), (IC), (ID), (IE) and (IF), a pharmaceutically acceptable salt or a stereoisomer thereof; and a pharmaceutically acceptable carrier.

The pharmaceutical composition(s) usually contain(s) about 1% to 99%, for example, about 5% to 75% or from about 25% to about 50% or from about 10% to about 30% by weight of the compound of formula (I) or pharmaceutically acceptable salt, a stereoisomer, a tautomer, an N-oxide or an ester thereof. The amount of the compound of formula (I) or pharmaceutically acceptable salt thereof in the pharmaceutical composition(s) can range from about 1 mg to about 1000 mg or from about 2.5 mg to about 500 mg or from about 5 mg to about 250 mg or in any range falling within the broader range of 1 mg to 1000 mg or higher or lower than the afore mentioned range.

The term "stereoisomers" refers to any enantiomers, diastereoisomers, or geometrical isomers of the compounds of Formula (I), (IA), (IB), (IC), (ID), (IE) and (IF) wherever they are chiral or when they bear one or more double bonds. When the compounds of the formula (I), (IA), (IB), (IC), (ID), (IE) and (IF) are chiral, they can exist in racemic or in optically active form. It should be understood that the disclosure encompasses all stereochemical isomeric forms, including diastereomeric, enantiomeric and epimeric forms, as well as *d*-isomers and *l*-isomers and mixtures thereof. Individual stereoisomers of compounds can be prepared synthetically from commercially available starting materials which contain chiral centers or by preparation of mixtures of enantiomeric products followed by separation such as conversion to a mixture of diastereomers followed by separation or recrystallization, chromatographic techniques, direct separation of enantiomers on chiral chromatographic columns, or any other appropriate method known in the art. Starting compounds of particular stereochemistry are either commercially available or can be made and resolved by techniques known in the art. Additionally, the compounds of the present disclosure may exist as geometric isomers. The present disclosure includes all *cis*, *trans*, *syn*, *anti*, *R* and *S*, *entgegen* (*E*) and *zusammen* (*Z*) isomers as well as the appropriate mixtures thereof.

The term "tautomer" refers to compounds in which hydrogen atoms are transposed to other parts of the molecules and the chemical bonds between the atoms of the molecules are consequently rearranged. Compounds of the present invention, free form and salts thereof, may exist in multiple tautomeric forms. It is understood that all tautomeric forms, insofar as they may exist, are included within the invention. For example, pyridine or pyridyl can be optionally substituted by oxo to form a respective pyridone or pyridon-yl and may include its tautomeric form such as a respective hydroxy-pyridine or hydroxy-pyridyl, provided said tautomeric form may be obtainable.

As used herein, the term "treat", "treating" and "treatment" refer to a method of alleviating or abrogating a disease and/or its attendant symptoms.

As used herein, the term "prevent", "preventing" and "prevention" refer to a method of preventing the onset of a disease and/or its attendant symptoms or barring a subject from acquiring a disease.

As used herein, the term "subject" refers to an animal, preferably a mammal and most preferably a human.

As used herein, the term, “therapeutically effective amount” refers to an amount of a compound of formula (I), a pharmaceutically acceptable salt or a stereoisomer thereof; or a composition comprising the compound of formula (I) or a pharmaceutically acceptable salt or a stereoisomer thereof, effective in producing the desired therapeutic or pharmacological response in a particular subject suffering from a disease or disorder mediated by CBP bromodomain. Particularly, the term “therapeutically effective amount” includes the amount of the compound of formula (I), a pharmaceutically acceptable salt or a stereoisomer thereof, when administered, that elicits a positive modification or alteration in the disease or disorder to be treated or is sufficient to effectively prevent development of or alleviate to some extent, one or more of the symptoms associated with the disease or disorder being treated in a subject. In respect of the therapeutic amount of the compound, the amount of the compound used for the treatment of a subject is low enough to avoid undue or severe side effects, within the scope of sound medical judgment can also be considered. The therapeutically effective amount of the compound or composition will be varied depending upon factors such as the condition of the subject being treated, the severity of the condition being treated or prevented, the duration of the treatment, the nature of concurrent therapy, the age and physical condition of the end user, the specific compound or composition employed the particular pharmaceutically acceptable carrier utilized.

“Pharmaceutically acceptable” means that, which is useful in preparing a pharmaceutical composition that is generally safe, non-toxic and neither biologically nor otherwise undesirable and includes that which is acceptable for veterinary as well as human pharmaceutical use.

As used herein, the phrase “pharmaceutically acceptable excipient/carrier” refers to pharmaceutically substances such as a liquid or solid filler, diluent, solvent, or encapsulating material. By “pharmaceutically acceptable” it is meant that the substance is compatible with the other ingredients of a composition or formulation and not deleterious to the recipient thereof. Excipients are generally safe, non-toxic and neither biologically nor otherwise undesirable, including those which are acceptable for human pharmaceutical use as well as veterinary use. See, e.g., Remington: The Science and Practice of Pharmacy, 23rd Ed. (Academic Press, 2020); Handbook of Pharmaceutical Excipients, 9th ed., Sheskey et al, Eds. (Pharmaceutical Press; 2020); Handbook of Pharmaceutical Additives, 3rd ed.; Ash and Ash Eds. ; Gower Publishing Company: 2007; Pharmaceutical Preformulation and Formulation, 2nd ed. ; Gibson Ed.; CRC Press LLC: Boca Raton, Fla., 2009.

As used herein, “pharmaceutically acceptable salt(s)” refers to derivatives of the disclosed compounds wherein the parent compound is modified by converting an existing acid or base moiety to its salt form. Examples of pharmaceutically acceptable salts include, but are not limited to, mineral or organic acid salts of basic residues such as amines; alkali or organic salts of acidic residues such as carboxylic acids; and the like. The pharmaceutically acceptable salts of the present disclosure include non-toxic salts of the parent compound formed, for example, from non-toxic inorganic or organic acids. The pharmaceutically acceptable salts of the present disclosure can be synthesized from the parent compound which contains a basic or acidic moiety by various chemical methods. Generally, such salts can be prepared by reacting the free acid or base forms of these compounds with a stoichiometric amount of the appropriate base or acid in water or in an organic solvent, or in a mixture of the two.

The present invention also provides methods for formulating the disclosed compounds as for pharmaceutical administration.

In a preferred embodiment, when such pharmaceutical compositions are for human administration, particularly for invasive routes of administration (i.e., routes, such as injection or implantation, that circumvent transport or diffusion through an epithelial barrier), the aqueous solution is pyrogen-free or substantially pyrogen-free. The excipients can be chosen, for example, to effect delayed release of an agent or to selectively target one or more cells, tissues organs. The pharmaceutical composition can be in dosage unit form such as tablet, capsule (including sprinkle capsule and gelatin capsule), granule, lyophile for reconstitution, powder, solution, syrup, suppository, injection or the like. The composition can also be present in a transdermal delivery system, e.g., a skin patch. The composition can also be present in a solution suitable for topical administration, such as an eye drop.

In one embodiment, present invention provides a pharmaceutical composition comprising the compound of formula (I) and a pharmaceutically acceptable salt thereof.

Pharmaceutical composition and use thereof

The compounds of the present invention may be used as single drug or as a pharmaceutical composition in which the compound is mixed with various pharmacologically acceptable materials.

The compounds of the invention are typically administered in the form of a pharmaceutical composition. Such compositions can be prepared using procedures well known in the pharmaceutical art and comprise at least one compound of this invention. The

pharmaceutical composition of the present patent application comprises one or more compounds described herein and one or more pharmaceutically acceptable excipients. Typically, the pharmaceutically acceptable excipients are approved by regulatory authorities or are generally regarded as safe for human or animal use. The pharmaceutically acceptable
5 excipients include, but are not limited to, carriers, diluents, glidants and lubricants, preservatives, buffering agents, chelating agents, polymers, gelling agents, viscosifying agents and solvents.

The pharmaceutical composition can be administered by oral, parenteral or inhalation routes. Examples of the parenteral administration include administration by injection,
10 percutaneous, transmucosal, trans-nasal and transpulmonary administrations.

Examples of suitable carriers include, but are not limited to, water, salt solutions, alcohols, polyethylene glycols, peanut oil, olive oil, gelatin, lactose, terra alba, sucrose, dextrin, magnesium carbonate, sugar, amylose, magnesium stearate, talc, agar, pectin, acacia, stearic acid, lower alkyl ethers of cellulose, silicic acid, fatty acids, fatty acid amines, fatty acid
15 monoglycerides and diglycerides, fatty acid esters and polyoxyethylene.

The pharmaceutical composition may also include one or more pharmaceutically acceptable auxiliary agents, wetting agents, suspending agents, preserving agents, buffers, sweetening agents, flavouring agents, colorants or any combination of the foregoing.

The pharmaceutical compositions may be in conventional forms, for example, tablets,
20 capsules, solutions, suspensions, injectables or products for topical application. Further, the pharmaceutical composition of the present invention may be formulated so as to provide desired release profile.

Administration of the compounds of the invention, in pure form or in an appropriate pharmaceutical composition, can be carried out using any of the accepted routes of
25 administration of pharmaceutical compositions. The route of administration may be any route which effectively transports the active compound of the patent application to the appropriate or desired site of action. Suitable routes of administration include, but are not limited to oral, nasal, buccal, dermal, intradermal, transdermal, parenteral, rectal, subcutaneous, intravenous, intraurethral, intramuscular or topical.

Solid oral formulations include, but are not limited to, tablets, capsules (soft or hard
30 gelatin), dragees (containing the active ingredient in powder or pellet form), troches and lozenges.

Liquid formulations include, but are not limited to, syrups, emulsions and sterile injectable liquids, such as suspensions or solutions.

Topical dosage forms of the compounds include ointments, pastes, creams, lotions, powders, solutions, eye or ear drops, impregnated dressings and may contain appropriate conventional additives such as preservatives, solvents to assist drug penetration.

The pharmaceutical compositions of the present patent application may be prepared by conventional techniques known in literature.

In one embodiment, the present invention provides a pharmaceutical composition comprising a compound of formula (I), (IA), (IB), (IC), (ID), (IE) and (IF) or a pharmaceutically acceptable salt or a stereoisomer thereof and at least one pharmaceutically acceptable carrier or excipient.

In one embodiment, the present invention provides a composition comprising a compound of the disclosure and an excipient and/or pharmaceutically acceptable carrier for treating diseases or conditions or disorders that are dependent upon CBP signalling pathway.

In one embodiment, the present invention provides a compound of formula (I), (IA), (IB), (IC), (ID), (IE) and (IF) or a pharmaceutically acceptable salt or a stereoisomer thereof for use as a medicament.

In one embodiment, the present invention provides a compound of formula (I), (IA), (IB), (IC), (ID), (IE) and (IF) or a pharmaceutically acceptable salt or a stereoisomer thereof for use in the treatment of cancer.

In one embodiment, the present invention provides a compound of formula (I), (IA), (IB), (IC), (ID), (IE) and (IF) or a pharmaceutically acceptable salt or a stereoisomer thereof for use in degrading the target protein in a subject, wherein the target protein is CBP.

In one embodiment, the present invention provides a compound of formula (I), (IA), (IB), (IC), (ID), (IE) and (IF) or a pharmaceutically acceptable salt or a stereoisomer thereof for use in the treatment of CBP-mediated disorder.

In one embodiment, CBP-mediated disease or disorder is:

a) a fibrotic lung disease selected from pulmonary fibrosis, idiopathic pulmonary fibrosis, fibrotic interstitial lung disease, renal fibrosis, interstitial pneumonia, fibrotic variant of non-specific interstitial pneumonia, cystic fibrosis, lung fibrosis, chronic obstructive pulmonary lung disease (COPD), lung cirrhosis and pulmonary arterial hypertension; or

b) a cancer selected from acoustic neuroma, acute leukemia, acute myeloid leukemia (AML), acute lymphocytic leukemia, acute myelocytic leukemia (monocytic, myeloblastic, adenocarcinoma, angiosarcoma, astrocytoma, myelomonocytic and promyelocytic), acute T-cell leukemia, basal cell carcinoma bile duct carcinoma, bladder cancer, brain cancer, breast cancer, bronchogenic carcinoma, cancer of male and female reproductive system, cervical cancer, chondrosarcoma, chordoma, choriocarcinoma, chronic leukemia, chronic lymphocytic leukemia, chronic myelocytic (granulocytic) leukemia, chronic myelogenous leukemia, colon cancer, colorectal cancer, craniopharyngioma, cystadenocarcinoma, diffuse large B-cell lymphoma (DLBCL), Skin squamous cell carcinoma, Marginal zone B-cell Lymphoma, Salivary gland carcinoma, Esophageal squamous cell carcinoma, Cervical squamous cell carcinoma, B cell follicular lymphoma, B cell lymphoma, T cell leukemia, Prostate cancer (AR+ve), Normal prostate epithelium carcinoma, Normal breast epithelium carcinoma, Liver cancer, Burkitt's lymphoma, dysproliferative changes (dysplasias and metaplasias), embryonal carcinoma, endometrial cancer, endotheliosarcoma, ependymoma, epithelial carcinoma, erythroleukemia, esophageal cancer, estrogen-receptor positive breast cancer, essential thrombocythemia, Ewing's tumor, fibrosarcoma, follicular lymphoma, gastro-intestinal tumors including GIST, germ cell testicular cancer, glioma, glioblastoma, gliosarcoma, head and neck squamous cell carcinoma, heavy chain disease, hemangioblastoma, hepatoma, hepatocellular cancer, hormone insensitive prostate cancer, leiomyosarcoma, leukemia, liposarcoma, lung cancer, lymphagioendotheliosarcoma, lymphangiosarcoma, lymphoblastic leukemia, lymphoma (Hodgkin's and non-Hodgkin's), malignancies and hyperproliferative disorders of the bladder, breast, colon, lung, ovaries, pancreas, prostate, skin and uterus, lymphoid malignancies of T-cell or B-cell origin, medullary carcinoma, medulloblastoma, melanoma, meningioma, mesothelioma, multiple myeloma, myelogenous leukemia, myeloma, myxosarcoma, neuroblastoma, NUT midline carcinoma (NMC), non-small cell lung cancer, oligodendroglioma, oral cancer, osteogenic sarcoma, ovarian cancer, pancreatic cancer, papillary adenocarcinomas, papillary carcinoma, pinealoma, polycythemia vera, prostate cancer, rectal cancer, renal cell carcinoma, retinoblastoma, rhabdomyosarcoma, sarcoma, sebaceous gland carcinoma, seminoma, skin cancer, small cell lung carcinoma, solid tumors (carcinomas and sarcomas), small cell lung cancer, stomach cancer, squamous cell carcinoma, synovioma, sweat gland carcinoma, thyroid cancer, Waldenstrom's macroglobulinemia, testicular tumors, uterine cancer and Wilms' tumor; or

- c) an inflammatory diseases, an inflammatory conditions, and an autoimmune diseases, selected from Addison's disease, acute gout, ankylosing spondylitis, asthma, atherosclerosis, Behcet's disease, bullous skin diseases, chronic obstructive pulmonary disease (COPD), Crohn's disease, dermatitis, eczema, giant cell arteritis, glomerulonephritis, hepatitis, hypophysitis, inflammatory bowel disease, Kawasaki disease, lupus nephritis, multiple sclerosis, myocarditis, myositis, nephritis, organ transplant rejection, osteoarthritis, pancreatitis, pericarditis, Polyarteritis nodosa, pneumonitis, primary biliary cirrhosis, psoriasis, psoriatic arthritis, rheumatoid arthritis, scleritis, sclerosing cholangitis, sepsis, systemic lupus erythematosus, Takayasu's Arteritis, toxic shock, thyroiditis, type I diabetes, ulcerative colitis, uveitis, vitiligo, vasculitis and Wegener's granulomatosis.

Use of a compound of any one of formula (I), (IA), (IB), (IC), (ID), (IE) and (IF) or a pharmaceutical acceptable salt or a stereoisomer thereof, in the manufacture of a medicament for the treatment of CBP-mediated disease or disorder.

In one embodiment, the CBP-mediated disease or disorder is:

- a) a fibrotic lung disease selected from pulmonary fibrosis, idiopathic pulmonary fibrosis, fibrotic interstitial lung disease, renal fibrosis, interstitial pneumonia, fibrotic variant of non-specific interstitial pneumonia, cystic fibrosis, lung fibrosis, chronic obstructive pulmonary lung disease (COPD), lung cirrhosis and pulmonary arterial hypertension; or
- b) a cancer selected from acoustic neuroma, acute leukemia, acute myeloid leukemia (AML), acute lymphocytic leukemia, acute myelocytic leukemia (monocytic, myeloblastic, adenocarcinoma, angiosarcoma, astrocytoma, myelomonocytic and promyelocytic), acute T-cell leukemia, basal cell carcinoma, bile duct carcinoma, bladder cancer, brain cancer, breast cancer, bronchogenic carcinoma, cancer of male and female reproductive system, cervical cancer, chondrosarcoma, chordoma, choriocarcinoma, chronic leukemia, chronic lymphocytic leukemia, chronic myelocytic (granulocytic) leukemia, chronic myelogenous leukemia, colon cancer, colorectal cancer, craniopharyngioma, cystadenocarcinoma, diffuse large B-cell lymphoma (DLBCL), Skin squamous cell carcinoma, Marginal zone B-cell Lymphoma, Salivary gland carcinoma, Esophageal squamous cell carcinoma, Cervical squamous cell carcinoma, B cell follicular lymphoma, B cell lymphoma, T cell leukemia, Prostate cancer (AR+ve), Normal prostate epithelium carcinoma, Normal breast epithelium carcinoma, Liver cancer, Burkitt's lymphoma, dysproliferative changes (dysplasias and metaplasias), embryonal carcinoma, endometrial cancer, endotheliosarcoma, ependymoma,

epithelial carcinoma, erythroleukemia, esophageal cancer, estrogen-receptor positive breast cancer, essential thrombocythemia, Ewing's tumor, fibrosarcoma, follicular lymphoma, gastro-intestinal tumors including GIST, germ cell testicular cancer, glioma, glioblastoma, gliosarcoma, head and neck squamous cell carcinoma, heavy chain disease, hemangioblastoma, hepatoma, hepatocellular cancer, hormone insensitive prostate cancer, leiomyosarcoma, leukemia, liposarcoma, lung cancer, lymphagioendotheliosarcoma, lymphangiosarcoma, lymphoblastic leukemia, lymphoma (Hodgkin's and non-Hodgkin's), malignancies and hyperproliferative disorders of the bladder, breast, colon, lung, ovaries, pancreas, prostate, skin and uterus, lymphoid malignancies of T-cell or B-cell origin, medullary carcinoma, medulloblastoma, melanoma, meningioma, mesothelioma, multiple myeloma, myelogenous leukemia, myeloma, myxosarcoma, neuroblastoma, NUT midline carcinoma (NMC), non-small cell lung cancer, oligodendroglioma, oral cancer, osteogenic sarcoma, ovarian cancer, pancreatic cancer, papillary adenocarcinomas, papillary carcinoma, pinealoma, polycythemia vera, prostate cancer, rectal cancer, renal cell carcinoma, retinoblastoma, rhabdomyosarcoma, sarcoma, sebaceous gland carcinoma, seminoma, skin cancer, small cell lung carcinoma, solid tumors (carcinomas and sarcomas), small cell lung cancer, stomach cancer, squamous cell carcinoma, synovioma, sweat gland carcinoma, thyroid cancer, Waldenstrom's macroglobulinemia, testicular tumors, uterine cancer and Wilms' tumor; or

c) an inflammatory diseases, an inflammatory conditions, and an autoimmune diseases, selected from Addison's disease, acute gout, ankylosing spondylitis, asthma, atherosclerosis, Behcet's disease, bullous skin diseases, chronic obstructive pulmonary disease (COPD), Crohn's disease, dermatitis, eczema, giant cell arteritis, glomerulonephritis, hepatitis, hypophysitis, inflammatory bowel disease, Kawasaki disease, lupus nephritis, multiple sclerosis, myocarditis, myositis, nephritis, organ transplant rejection, osteoarthritis, pancreatitis, pericarditis, Polyarteritis nodosa, pneumonitis, primary biliary cirrhosis, psoriasis, psoriatic arthritis, rheumatoid arthritis, scleritis, sclerosing cholangitis, sepsis, systemic lupus erythematosus, Takayasu's Arteritis, toxic shock, thyroiditis, type I diabetes, ulcerative colitis, uveitis, vitiligo, vasculitis and Wegener's granulomatosis.

Suitable doses of the compounds for use in treating the diseases or disorders described herein can be determined by those skilled in the relevant art. Therapeutic doses are generally identified through a dose ranging study in humans based on preliminary evidence derived from the animal studies. Doses must be sufficient to result in a desired therapeutic benefit without

causing unwanted side effects. Mode of administration, dosage forms and suitable pharmaceutical excipients can also be well used and adjusted by those skilled in the art. All changes and modifications are envisioned within the scope of the present patent application.

According to one embodiment, the compounds of the present invention can also contain unnatural proportions of atomic isotopes at one or more of the atoms that constitute such compounds. For example, the present invention also embraces isotopically-labeled variants of the present invention which are identical to those recited herein, but for the fact that one or more atoms of the compound are replaced by an atom having the atomic mass or mass number different from the predominant atomic mass or mass number usually found in nature for the atom. All isotopes of any particular atom or element as specified are contemplated within the scope of the compounds of the invention and their uses. Exemplary isotopes that can be incorporated in to compounds of the invention include isotopes of hydrogen, carbon, nitrogen, oxygen, phosphorous, sulfur, fluorine, chlorine and iodine, such as ^2H ("D"), ^3H , ^{11}C , ^{13}C , ^{14}C , ^{13}N , ^{15}N , ^{15}O , ^{17}O , ^{18}O , ^{32}P , ^{33}P , ^{35}S , ^{18}F , ^{36}Cl , ^{123}I and ^{125}I . Isotopically labeled compounds of the present inventions can generally be prepared by following procedures analogous to those disclosed in the schemes and/or in the examples herein below, by substituting an isotopically labeled reagent for a non-isotopically labeled reagent.

EXPERIMENTAL

The present application provides methods for the preparation of compound of formula (I) according to the description provided herein using appropriate methods and/or materials. It is to be understood by those skilled in the art that known variations of the conditions and processes of the following procedures can be used to prepare these intermediates and compounds. Moreover, by utilizing the procedures described in detail, one of ordinary skill in the art can prepare additional compounds of the present disclosure.

Following general guidelines apply to all experimental procedures described here. Until otherwise stated, experiments are performed under positive pressure of nitrogen, temperature described are the external temperature (i.e. oil bath temperature). Reagents and solvents received from vendors are used as such without any further drying or purification. Molarities mentioned here for reagents in solutions are approximate as it was not verified by a prior titration with a standard. All reactions are stirred under magnetic stir bar. Cooling to minus temperature was done by acetone / dry ice or wet ice / salts. Magnesium sulfate and sodium sulfate were used as solvent drying agent after reaction work up and are interchangeable.

Removing of solvents under reduced pressure or *under vacuum* means distilling of solvents in rotary evaporator.

Compounds of this disclosure may be made by synthetic chemical processes, examples of which are shown herein. It is meant to be understood that the order of the steps in the processes may be varied, that reagents, solvents and reaction conditions may be substituted for those specifically mentioned and that vulnerable moieties may be protected and deprotected, as necessary.

The specifics of the process for preparing compounds of the present disclosure are detailed in the experimental section.

The present disclosure shall be illustrated by means of some examples, which are not construed to be viewed as limiting the scope of the disclosure.

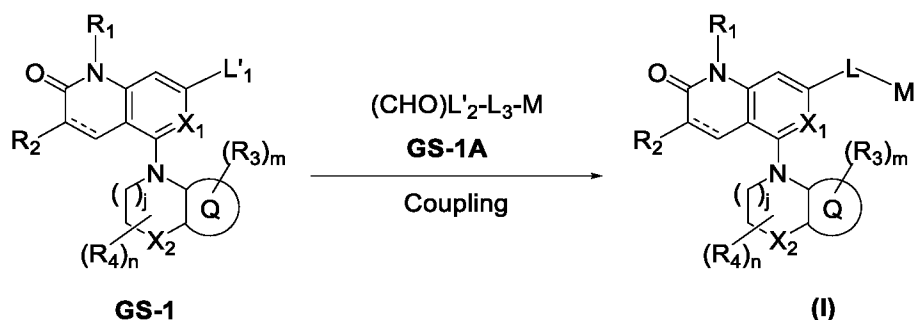
Unless otherwise stated, work-up includes distribution of the reaction mixture between the organic and aqueous phases, separation of layers and drying the organic layer over anhydrous sodium sulphate, filtration and evaporation of the solvent. Purification, unless otherwise mentioned, includes purification by silica gel chromatographic techniques, generally using ethyl acetate/petroleum ether mixture of a suitable polarity as the mobile phase.

Analysis for the compounds of the present disclosure unless mentioned, was conducted in general methods well known to a person skilled in the art. Having described the disclosure with reference to certain preferred embodiments, other embodiments will become apparent to one skilled in the art from consideration of the specification. The disclosure is further defined by reference to the following examples, describing in detail the analysis of the compounds of the disclosure.

It will be apparent to those skilled in the art that many modifications, both to materials and methods, may be practiced without departing from the scope of the disclosure. Some of the intermediates were taken to next step based on TLC results, without further characterization, unless otherwise specified.

GENERAL SCHEME

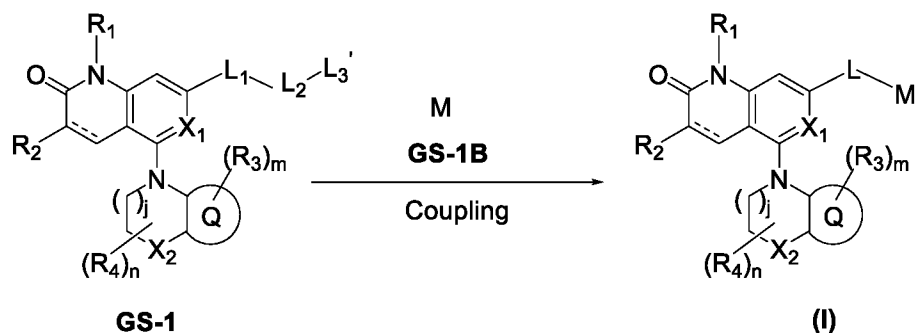
General Scheme-1:



L, M, R₁, R₂, R₃, R₄, X₁, X₂, and Q
is as defined as in specification.

Some compounds of the present invention may be generally synthesized utilizing the process outlined in General Scheme-1. The intermediate GS-1 was reacted with GS-1A in presence of suitable reagents and solvents (Na(OAc)₃BH, AcOH, DMSO-THF) to afford a compound of formula (I).

General Scheme-2:



R₁, R₂, R₃, R₄, X₁, X₂, L, M, and Q
are as defined as in specification

Some compounds of the present invention may be generally synthesized utilizing the process outlined in General Scheme-2. The intermediate GS-1 was reacted with GS-1B in the presence of suitable reagents and solvents (DIPEA, DMSO, CS₂CO₃, PEPPSI-IHept-Cl) to afford a compound of formula (I).

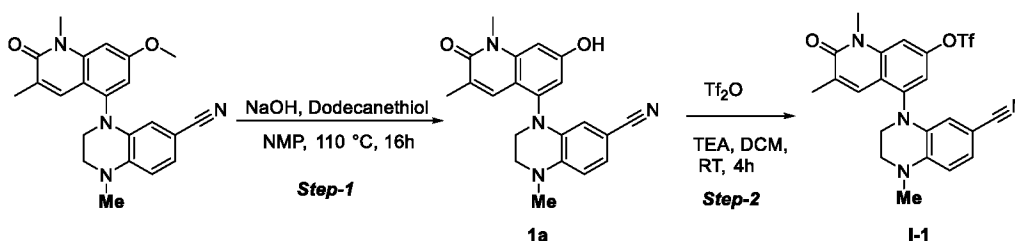
The following abbreviations refer respectively to the definitions herein:

MeOH – Methanol, NaOH – Sodium hydroxide, AcOH-Acetic acid, DCM – Dichloromethane, NMP –N-Methylpyrrolidone, Tf₂O – Trifluoromethanesulfonic anhydride, PtO₂-Platinum(IV)

oxide, DCI- D-chiro-inositol, DAST-Diethylaminosulfur trifluoride, DMF – N,N-Dimethylformamide, EtOH-Ethanol, EtOAc – Ethyl acetate, THF – Tetrahydrofuran, ACN - acetonitrile, RuPhos - Dicyclohexyl(2',6'-diisopropoxy-[1,1'-biphenyl]-2-yl)phosphine, DMSO- Dimethyl sulfoxide, DIPEA- N,N-Diisopropylethylamine, NaCNBH₃-Sodium cyanoborohydride, KOAc – Potassium acetate, Na₂SO₄ - Sodium sulphate, Na₂CO₃ – Sodium carbonate, Na(OAc)₃BH – Sodium triacetoxyborohydride, NaHCO₃-Sodium bicarbonate, K₂CO₃ – Potassium carbonate, NH₄Cl-Ammonium chloride, Cs₂CO₃-Cesium carbonate, TFA-Trifluoroacetic acid, TEA – Triethyl amine, HCl – Hydrochloric acid, H₂O- Water, H₂-Hydrogen, Pd(pph₃)₂Cl₂. DCM –Bis(triphenylphosphine)palladium(II) dichloride
 10 Dichloromethane complex; Pd(dppf)Cl₂ – [1,1'-Bis (diphenylphosphino)ferrocene] dichloropalladium(II), complex with dichloromethane, PdCl₂(PPh₃)₂- Bis (triphenylphosphine) palladium(II) dichloride, Pd(OH)₂- Palladium hydroxide, Pd(OAc)₂ – Palladium (II) acetate, Pd(amphos)Cl₂- Bis(di-tert-butyl(4- dimethylaminophenyl) phosphine)dichloropalladium(II), HATU-Hexafluorophosphate Azabenzotriazole Tetramethyl Uronium, Zn-Zinc; mL –
 15 Milliliter, TLC – Thin layer chromatography, RT – Room temperature, h – Hour, N – Normality, M – Molarity, ¹HNMR – Proton nuclear magnetic resonance, DMSO-d₆ – Deuterated Dimethyl sulfoxide, CDCl₃ – Deuterated chloroform, CD₃OD- Deuterated Methanol, s – Singlet, d – Doublet, dd – doublet of doublet, t –Triplet, dt – Doublet of triplets, m – Multiplet, H – Proton, MHz – Mega hertz, Hz – Hertz, Ppm – Parts per million, Bs – Broad singlet, HPLC – High-performance liquid chromatography, LCMS – Liquid chromatography
 20 Mass spectroscopy, g – Gram, mmol – Milli mol, mL- Milli litre, Comp. – Compound, Int. – Intermediate, No. – Number and °C – degree centigrade.

Intermediates

25 **Intermediate I-1: Synthesis of 5-(7-cyano-4-methyl-3,4-dihydroquinoxalin-1(2H)-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-7-yl trifluoromethanesulfonate**



Step-1: Synthesis of 4-(7-hydroxy-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

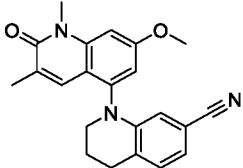
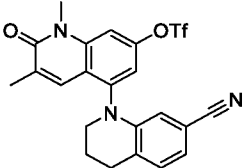
The starting material 4-(7-methoxy-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile (12 g, 32.04 mmol) was synthesized by following the procedure described in WO2022053967 A1; Page-139, example-84, intermediate-E84a. A solution of this starting compound in NMP (75 mL) was added sodium hydroxide (3.84 g, 96.14 mol) followed by dodecanethiol (9.73 g, 48.07 mmol) at room temperature. The mixture was stirred at 110 °C for 16 h. The reaction mixture was then cooled to room temperature and acidified with 1N HCl solution (pH 2). Precipitated solid was filtered and washed with hexane, dried under vacuum to afford **Intermediate 1a** (8g, 69.2%) (LC-MS: 361.05 [M+H]⁺).

Step-2: Synthesis of 5-(7-cyano-4-methyl-3,4-dihydroquinoxalin-1(2H)-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-7-yl trifluoromethanesulfonate

A solution of Intermediate 1a (8 g, 22.19 mmol) in DCM (300 mL) was cooled to 0 °C and added TEA (13.91 mL, 99.80 mmol) followed by dropwise addition of trifluoromethanesulfonic anhydride (15.65 g, 55.49 mmol). The reaction mixture was quenched with water after 4 h. Organic portion was washed with saturated sodium bicarbonate solution and brine solution, dried over sodium sulphate and concentrated to residue. The residue was purified by silica gel (60-120 mesh) column chromatography using 0-50% ethyl acetate in hexane as eluent. This afforded **Intermediate I-1** (5.1 g, 46.66%). LC-MS: 493.5 [M+H]⁺.

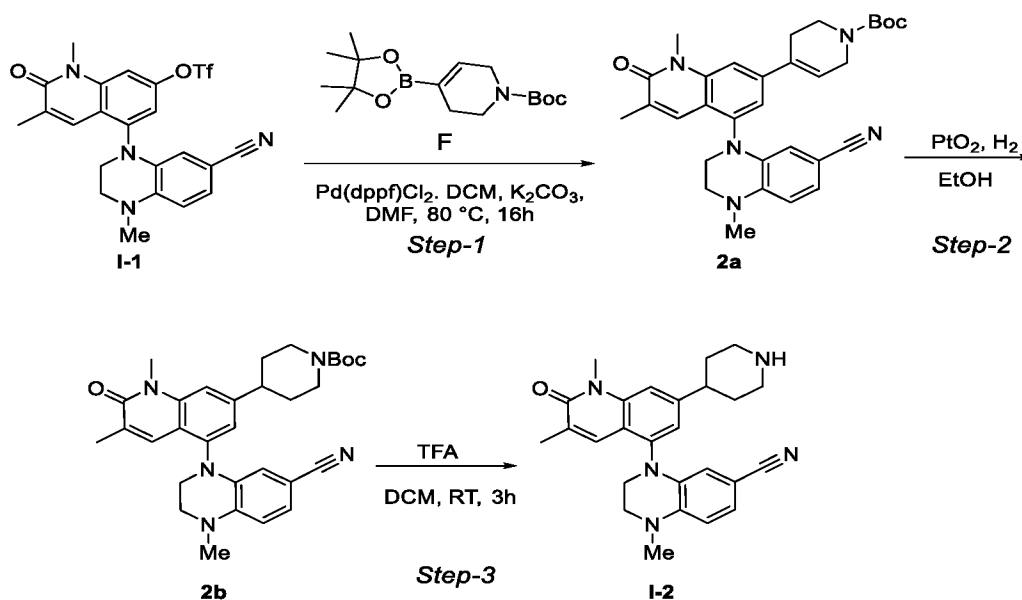
The Intermediates listed in below **Table-A** were prepared by reacting the corresponding starting material and using a procedure similar to the one described in the synthesis of **Intermediate I-1** with appropriate variations in quantities of reagents, solvents and reaction conditions. The characterization data of the compounds are summarized herein the below table.

Table-A:

Intermediate No.	Starting material used	Intermediate structure	characterization data
A1			LC-MS: 477.90 [M+H] ⁺ .

	(Synthesized as shown in Compound 184; Page-176, WO2022053967 A1)		
A2	I-16		LC-MS: 536.05 [M+H] ⁺ .
A3	I-39		LC-MS: 480.1 [M+H] ⁺ .
A4	K1		LC-MS: 469.05 [M+H] ⁺ .

Intermediate I-2: Synthesis of 4-(1,3-dimethyl-2-oxo-7-(piperidin-4-yl)-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile



Step-1: Synthesis of tert-butyl 4-(5-(7-cyano-4-methyl-3,4-dihydroquinoxalin-1(2H)-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-7-yl)-3,6-dihydropyridine-1(2H)-carboxylate

To a degassed solution of Intermediate I-1 (5.1 g, 10.35 mmol) and tert-butyl 4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-3,6-dihydropyridine-1(2H)-carboxylate (4.80 g, 15.53 mmol) in DMF (50 mL), was added potassium carbonate (4.29 g, 31.06 mmol), Pd(dppf)Cl₂.DCM (1.26 mg, 1.55 mmol) and heated to 80 °C for 16 h. The reaction mixture was passed through celite pad and diluted with ethyl acetate. The organic portion was washed with brine solution, dried over sodium sulphate and concentrated to dryness to get residue. The residue was purified by silica gel (60-120 mesh) column chromatography using 0-50% ethyl acetate in hexane as eluent. This afforded **Intermediate 2a** (5.1 g, 46.66%). LC-MS: 526.20 [M+H]⁺.

Step-2: Synthesis of tert-butyl 4-(5-(7-cyano-4-methyl-3,4-dihydroquinoxalin-1(2H)-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-7-yl)piperidine-1-carboxylate

A solution of the Intermediate 2a (3.1 g, 5.89 mmol), was added PtO₂ (0.40 g, 1.76 mmol) in 2:1 ethyl acetate and ethanol mixture (90 mL) and 1 ml of acetic acid. The reaction mixture was stirred under positive pressure of hydrogen in bladder for 24 h. After completion of the reaction, PtO₂ was filtered off and filtrate concentrated to get the crude compound. The residue was purified by silica gel (60-120 mesh) column chromatography using 0-50% ethyl acetate in hexane as eluent. This afforded **Intermediate 2b** (2.3 g, 73.92%). LC-MS: 528.20 [M+H]⁺.

Step-3: Synthesis of 4-(1,3-dimethyl-2-oxo-7-(piperidin-4-yl)-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

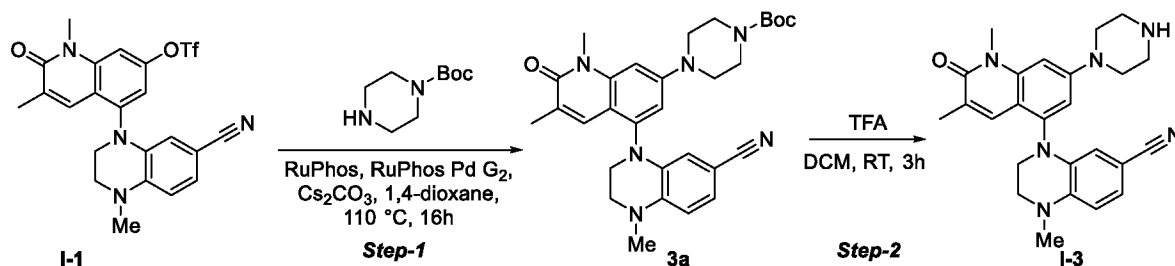
To a stirred solution of the Intermediate 2b (2.3 g, 4.35 mmol) in DCM (20 mL), was added TFA (4 mL) at 0 °C and the reaction mixture was stirred for 3 h at RT. The reaction mixture was concentrated under vacuum and diluted with DCM. Then mixture was washed with saturated sodium bicarbonate solution and brine solution, dried over sodium sulphate and concentrated to yield crude product, **Intermediate I-2** (1.9 g, crude) which was preceded to the next step without purification. LC-MS: 428.15 [M+H]⁺.

The Intermediates listed in below **Table-B** were prepared by reacting the corresponding starting material and using a procedure similar to the one described in the synthesis of Intermediate I-2 with appropriate variations in quantities of reagents, solvents and reaction conditions. The characterization data of the compounds are summarized herein the below table.

Table-B:

Intermediate No.	Starting material used	Intermediate structure	Characterization data
B1	A1		LC-MS: 413.10 [M+H] ⁺ .
B2	I-1 and 		LC-MS: 414.1 [M+H] ⁺
B3	A2		LC-MS: 471.2 [M+H] ⁺
B4	A3		LC-MS: 415.1 [M+H] ⁺
B5	A4		LC-MS: 404.1 [M+H] ⁺
B6	I-1 and 		LC-MS: 464.1 [M+H] ⁺

Intermediate I-3: Synthesis of 4-(1,3-dimethyl-2-oxo-7-(piperazin-1-yl)-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile



Step-1: Synthesis of tert-butyl 4-(5-(7-cyano-4-methyl-3,4-dihydroquinoxalin-1(2H)-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-7-yl)piperazine-1-carboxylate

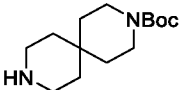
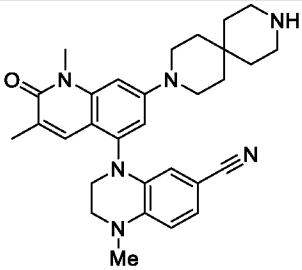
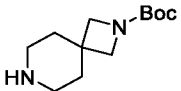
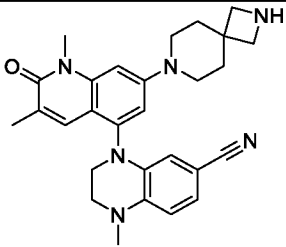
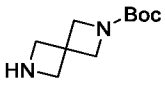
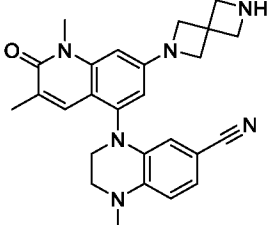
To a degassed solution of Intermediate I-1 (1.5 g, 2.62 mmol) and tert-butyl piperazine-1-carboxylate (0.49 g, 2.62 mmol) in 1,4-dioxane (20 mL), was added RuPhos Pd G₂ (0.102 g, 0.13 mmol), RuPhos (0.122 g, 0.26 mmol) and Cesium carbonate (1.70 g, 5.23 mmol). The mixture was stirred at 110 °C for 16 h. After completion of reaction, the reaction mixture was passed through celite pad, and diluted with ethyl acetate. The organic portion was washed with brine solution, dried over sodium sulphate and concentrated to dryness to get residue. The residue was purified by silica gel (60-120mesh) column chromatography using 60-80% ethyl acetate in hexane as eluent. This afforded **Intermediate 3a** (0.5 g, 31.35%). LC-MS: 529.25 [M+H]⁺.

Step-2: Synthesis of 4-(1,3-dimethyl-2-oxo-7-(piperazin-1-yl)-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

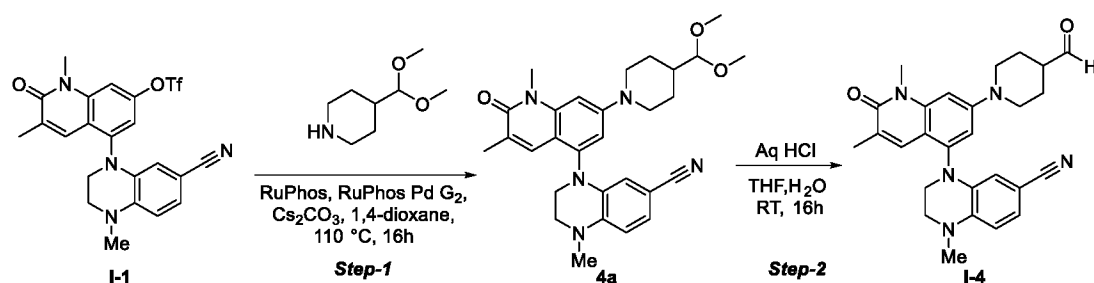
To a stirred solution of Intermediate 3a (0.8 g, 1.51 mmol) in DCM (5 mL), was added TFA (3 mL) at 0 °C and reaction was stirred for 3 h at RT. The reaction mixture was concentrated under vacuum and diluted with DCM. Then the mixture was washed with saturated sodium bicarbonate solution and brine solution, dried over sodium sulphate and concentrated to afford **Intermediate I-3**. This was used as such in the next step without purification (1.9 g, crude) I-3. LC-MS: 429.30 [M+H]⁺.

The compound listed in below **Table-C** were prepared by reacting appropriate intermediates using a procedure similar to the one described in the synthesis of **Intermediate I-3** with appropriate variations. The characterization data of the compounds are summarized herein the below table.

Table-C:

Intermediate No.	Reagents used	Intermediate structure	Characterization data
C1	 and I-1		LC-MS: 497.20 [M+H] ⁺
C2	 and I-1		LC-MS: 469.15 [M+H] ⁺
C3	 and I-1		LC-MS: 441.8 [M+H] ⁺

Intermediate I-4: Synthesis of 4-(7-(4-formylpiperidin-1-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile



5 Step-1: Synthesis of 4-(7-(4-(dimethoxymethyl)piperidin-1-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

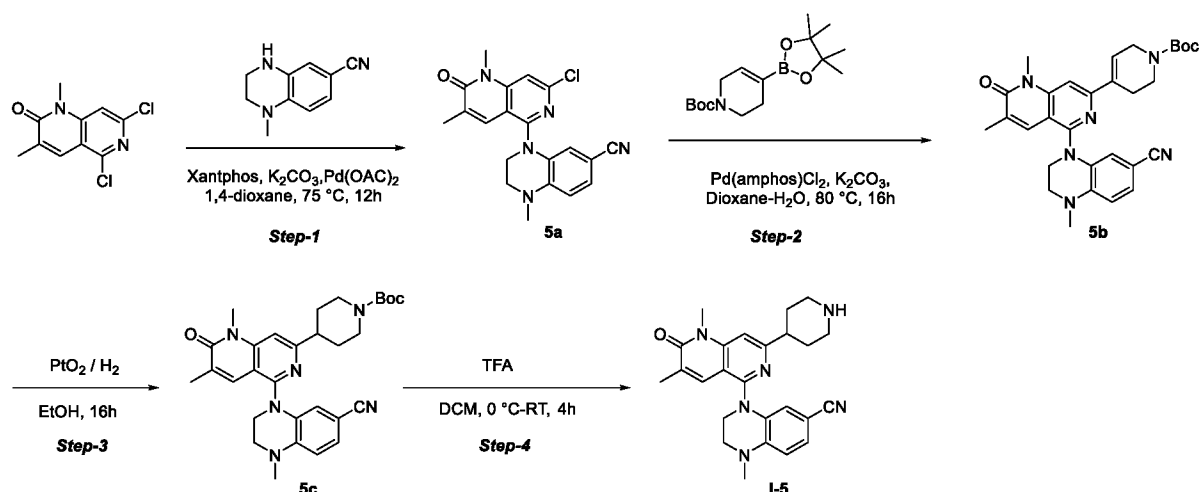
Intermediate 4a was synthesized by following a similar procedure to the one described in the synthesis of Intermediate 3a with appropriate variations in quantities of reagents, solvents and reaction conditions. LC-MS: 502.25[M+H]⁺.

Step-2: Synthesis of 4-(7-(4-formylpiperidin-1-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

To a stirred solution of Intermediate 4a (0.8 g, 1.59 mmol) in THF (5mL), was added concentrated HCl (1 mL) in water (1 mL) at 0 °C and the reaction was stirred for 16 h at RT.

- 5 The reaction mixture was concentrated under vacuum and diluted with DCM, then the mixture was washed with saturated sodium bicarbonate solution and brine solution, dried over sodium sulphate and concentrated to yield crude product **Intermediate I-4** which was used for next step without purification (1.9 g, crude). LC-MS: 456.15 [M+H]⁺.

Intermediate I-5: Synthesis of 4-(1,3-dimethyl-2-oxo-7-(piperidin-4-yl)-1,2-dihydro-1,6-naphthyridin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile



Step-1: 4-(7-chloro-1,3-dimethyl-2-oxo-1,2-dihydro-1,6-naphthyridin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

The starting compound 5,7-dichloro-1,3-dimethyl-1,6-naphthyridin-2(1H)-one (2 g, 8.22 mmol) was synthesized by following the procedure described in WO2022053967 A1; Page-71, Intermediate-N36. To a degassed solution of this starting compound in dioxane (20 mL), was added 1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile (1.42 g, 8.22 mmol), K₂CO₃ (3 g, 24.6 mmol), Xantphos (0.95 g, 1.64 mmol) and Pd(OAc)₂ (0.185 g, 0.82 mmol). The mixture was stirred at 75 °C in a screw cap sealed tube for 12 h. After completion, the reaction mixture was cooled to RT, filtered through celite bed, washed with ethyl acetate and the filtrate was concentrated to get crude **Intermediate 5a** (1.1 g, 35.2%). The crude compound was purified on flash chromatograph using 30-60% ethyl acetate in hexane as eluent. LC-MS: 380.2 [M+H]⁺.

Step-2: Synthesis of tert-butyl 4-(5-(7-cyano-4-methyl-3,4-dihydroquinoxalin-1(2H)-yl)-1,3-dimethyl-2-oxo-1,2-dihydro-1,6-naphthyridin-7-yl)-3,6-dihydropyridine-1(2H)-carboxylate

The **Intermediate 5b** was prepared using a similar procedure described in the synthesis of Intermediate 2a with appropriate variations in coupling method, reactants, quantities of reagents, solvents and reaction conditions. LC-MS: 527.3 [M+H]⁺

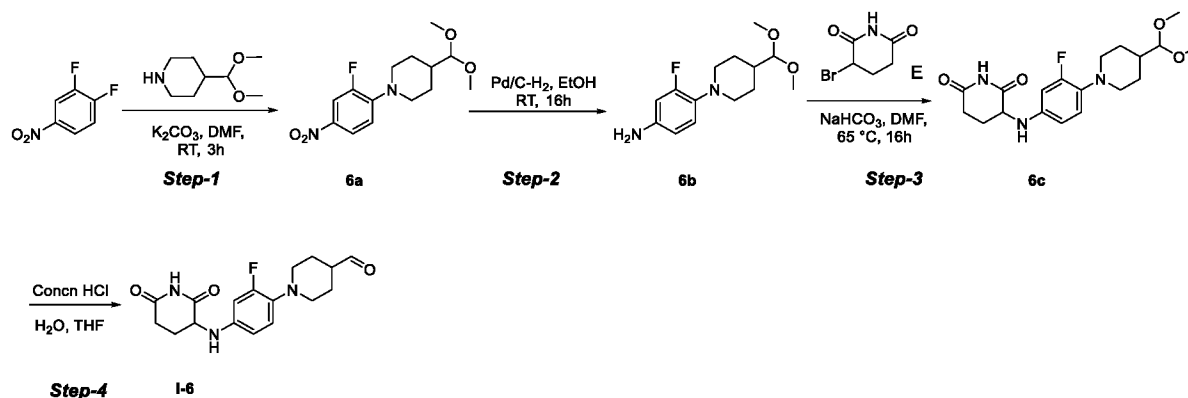
Step-3: tert-butyl 4-(5-(7-cyano-4-methyl-3,4-dihydroquinoxalin-1(2H)-yl)-1,3-dimethyl-2-oxo-1,2-dihydro-1,6-naphthyridin-7-yl)piperidine-1-carboxylate

The **Intermediate 5c** was prepared using a similar procedure described in the synthesis of Intermediate 2b with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 529.4 [M+H]⁺

Step-4: 4-(1,3-dimethyl-2-oxo-7-(piperidin-4-yl)-1,2-dihydro-1,6-naphthyridin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

The **Intermediate I-5** was prepared using a similar procedure described in the synthesis of Intermediate I-2 with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 429.3 [M+H]⁺

Intermediate I-6: Synthesis of 1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidine-4-carbaldehyde



Step-1: Synthesis of 4-(dimethoxymethyl)-1-(2-fluoro-4-nitrophenyl)piperidine

To a stirred solution of 1,2-difluoro-4-nitrobenzene (1 g, 6.28 mmol) in DMF (5 mL), was added K_2CO_3 (1.30 g, 9.42 mmol) followed by 4-(dimethoxymethyl)piperidine (1 g, 6.28 mmol). Then, the reaction mixture was stirred at RT for 3h. After the completion of reaction,

the reaction mixture was quenched with ice cold water and the precipitated solid was filtered and dried under vacuum to afford **Intermediate 6a** (1.8 g). LC-MS: 299 [M+H]⁺.

Step-2: Synthesis of 4-(4-(dimethoxymethyl)piperidin-1-yl)-3-fluoroaniline

To a solution of Intermediate 6a (1.8 g, 6.03 mmol), was added Pd/C (10% loading) (0.32 g, 3.02 mmol) in ethanol (20 mL). The reaction mixture was stirred under positive pressure of hydrogen in bladder for 16 h. After completion of the reaction, Pd/C was filtered off and filtrate was concentrated to afford **Intermediate 6b** which was taken for next step without purification. (1.5 g, 73.92%). LC-MS: 269.09 [M+H]⁺.

Step-3: Synthesis of 3-((4-(4-(dimethoxymethyl)piperidin-1-yl)-3-fluorophenyl)amino)piperidine-2,6-dione

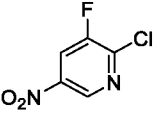
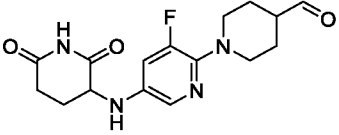
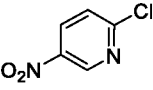
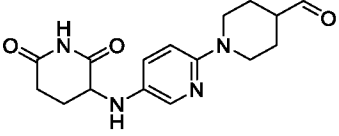
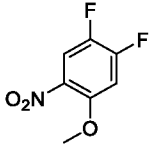
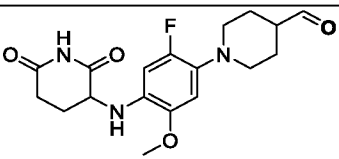
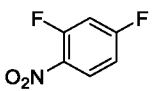
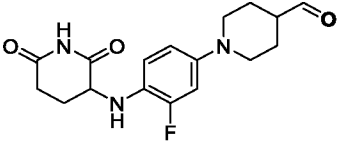
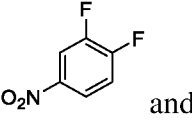
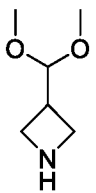
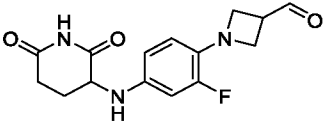
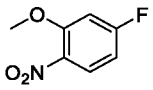
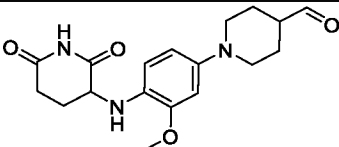
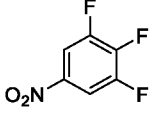
To a stirred solution of Intermediate 6b (0.5 g, 1.86 mmol) in DMF (5 mL), was added NaHCO₃ (0.45 g, 5.40 mmol) followed by 3-bromopiperidine-2,6-dione (0.50 g, 2.60 mmol). Then, the reaction mixture was stirred at 65 °C for 16 h. After the completion of reaction, the reaction mixture was quenched with ice cold water and was extracted with ethyl acetate. The organic portion was washed with saturated brine solution, dried over sodium sulphate and concentrated to get the crude **Intermediate 6c** (1.0 g), LC-MS: 380.05 [M+H]⁺.

Step-4: Synthesis of 1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidine-4-carbaldehyde

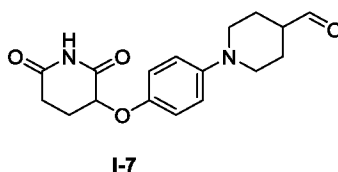
To a stirred solution of the Intermediate 6c (1g, 2.63 mmol) in THF (17mL), was added concentrated HCl (1.9 mL) in water (1.9 mL) at 0 °C. The reaction mixture was stirred for 16 h at RT. The reaction mixture was concentrated under vacuum and diluted with DCM. Then the organic layer was washed with saturated sodium bicarbonate solution and brine solution, dried over sodium sulphate and concentrated to yield crude **Intermediate I-6** which was used for next step without purification (0.95 g, crude). LC-MS: 332.0[M-H]⁻.

The compound listed in below **Table-D** were prepared by reacting appropriate Intermediates using a procedure similar to the one described in the synthesis of **Intermediate I-6** with appropriate variations. The characterization data of the compounds are summarized herein the below table.

Table-D:

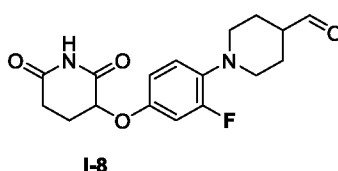
Intermediate No.	Starting material used	Intermediate structure	Characterization data
D1			LC-MS: 335.00 [M+H] ⁺ .
D2			LC-MS: 317.10 [M+H] ⁺
D3			LC-MS: 362.1 [M-H] ⁻
D4			LC-MS: 334.0 [M+H] ⁺
D5	 and 		LC-MS: 306.1 [M+H] ⁺
D6			LC-MS: 364.05 [M+H ₂ O+H] ⁺
D7			LC-MS: 352.1 [M+H] ⁺

Intermediate I-7: Synthesis of 1-(4-((2,6-dioxopiperidin-3-yl)oxy)phenyl)piperidine-4-carbaldehyde



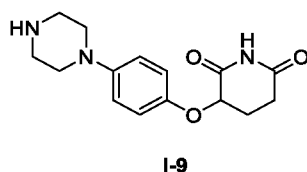
The above **Intermediate I-7** was prepared by following the similar procedure described in WO2023017446 A1; Page -967, step-5 of example-36, with appropriate variations in reactants, quantities of reagents, solvents and reaction conditions, LC-MS: 317.10 [M+H]⁺.

5 Intermediate I-8: Synthesis of 1-(4-((2,6-dioxopiperidin-3-yl)oxy)-3-fluorophenyl)piperidine-4-carbaldehyde



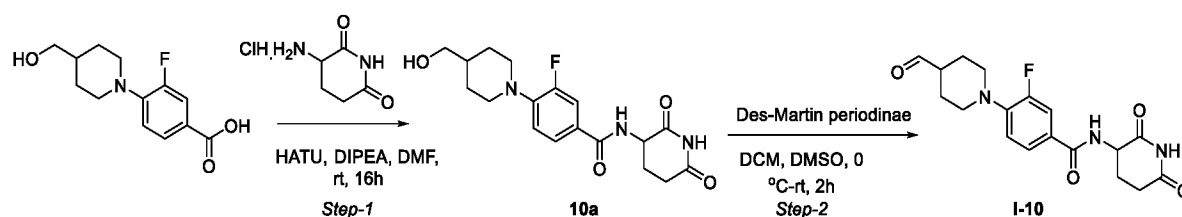
The above Intermediate I-8 was prepared by following the similar procedure described in WO202317442 A1; Page-963, step-4 of example-35, with appropriate variations in reactants, quantities of reagents, solvents and reaction conditions, LC-MS: 335.00 [M+H]⁺.

Intermediate I-9: Synthesis of 3-(4-(piperazin-1-yl)phenoxy)piperidine-2,6-dione



The above Intermediate I-9 was synthesized by following the similar procedure described in WO2021127561 A1; Page-414, step-2 of example-3, with appropriate variations in reactants, quantities of reagents, solvents and reaction conditions, LC-MS: 290.00 [M+H]⁺.

Intermediate I-10: Synthesis of N-(2,6-dioxopiperidin-3-yl)-3-fluoro-4-(4-formylpiperidin-1-yl)benzamide



Step-1: Synthesis of N-(2,6-dioxopiperidin-3-yl)-2-fluoro-4-(4-(hydroxymethyl)piperidin-1-yl)benzamide

The starting compound 2-fluoro-4-(4-(hydroxymethyl)piperidin-1-yl)benzoic acid (1 g, 3.94 mmol) was synthesized by following the procedure described in WO2021249534 A1; Page-
 27, intermediate I-26. To a solution of this starting compound in DMF (10 mL), was added
 N,N-diisopropylethylamine (2.55 mL, 19.74 mmol), HATU (2.25 g, 5.92 mmol) and 3-
 aminopiperidine-2,6-dione hydrochloride (0.78 g, 4.73 mmol). The mixture was stirred for 16
 h. After completion of reaction, the reaction mixture was quenched with water and was
 extracted with ethyl acetate. The organic portion was washed with saturated brine solution,
 dried over sodium sulphate and concentrated to get the crude product. The crude was purified
 by flash chromatography using 0-2% methanol in DCM as eluent to give pure titled
Intermediate 10a (1.2 g, 86.7%). LC-MS: 364.05 [M+H]⁺.

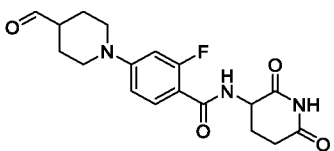
Step-2: Synthesis of N-(2,6-dioxopiperidin-3-yl)-3-fluoro-4-(4-formylpiperidin-1-yl)benzamide

To a solution of the Intermediate 10a (0.4 g, 1.1 mmol) in DCM (32 mL) and DMSO(4 mL),
 was added Des-Martin periodinane (0.93 g, 2.2 mmol) at 0 °C and stirred at the room temperature
 for 2 h. After the completion of reaction, the reaction mixture was diluted with ice cold water,
 extracted with DCM and the layers were separated. The organic layer was dried over sodium
 sulphate, filtered and concentrated to get crude compound. The crude was purified by
 combiflash using 0-5% DCM: MeOH as an eluent to get **Intermediate I-10** (0.39 g, 98%), LC-
 MS: 362.1 [M+H]⁺.

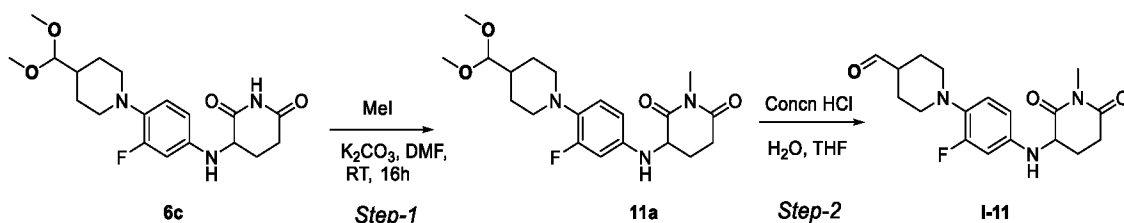
The compound listed in below **Table-E** was prepared by reacting appropriate Intermediates
 using a procedure similar to the one described in the synthesis of Intermediate **I-10** with
 appropriate variations. The characterization data of the compounds are summarized herein the
 below table.

Table-E:

Intermediate No.	Starting material used	Intermediate structure	characterization data
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E1	I-17		LC-MS: 362.00 [M+H] ⁺ .
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Intermediate I-11: Synthesis of 1-(2-fluoro-4-((1-methyl-2,6-dioxopiperidin-3-yl)amino)phenyl)piperidine-4-carbaldehyde

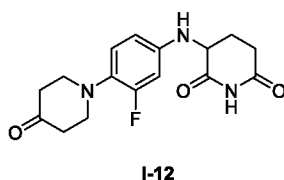


- 5 **Step-1: Synthesis of 3-((4-(4-(dimethoxymethyl)piperidin-1-yl)-3-fluorophenyl)amino)-1-methylpiperidine-2,6-dione** To a stirred solution of the Intermediate 6c (0.5 g, 1.31 mmol) in DMF (5 mL), was added K₂CO₃ (0.54 g, 3.95 mmol) followed by methyl iodide (0.74 g, 2.63 mmol) at 0 °C. Then, the reaction mixture was stirred at RT for 16 h. After the completion of reaction, the reaction mixture was quenched with ice cold water and was extracted with ethyl acetate. The organic portion was washed with saturated brine solution, dried over sodium sulphate and concentrated to get the crude compound. The crude was purified by flash chromatography using 0-30% ethyl acetate in hexane as eluent to give pure **Intermediate 11a** (0.23 g, 44.35%).

15 **Step-2: Synthesis of 1-(2-fluoro-4-((1-methyl-2,6-dioxopiperidin-3-yl)amino)phenyl)piperidine-4-carbaldehyde**

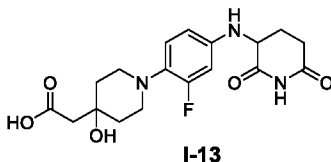
Intermediate I-11 was prepared using a procedure similar to the one described in the step-4 as in synthesis of the Intermediate I-6 with appropriate variations in reactants quantities of reagents, solvents and reaction conditions LC-MS: 348.05 [M+H]⁺.

20 **Intermediate I-12: Synthesis of 3-((3-fluoro-4-(4-oxopiperidin-1-yl)phenyl)amino)piperidine-2,6-dione**



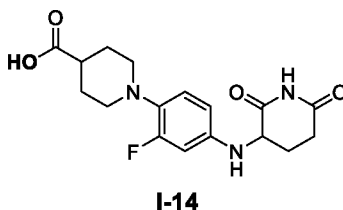
The above **Intermediate I-12** was synthesized by following the procedure described in WO2022032026 A1; Page 216-217, example 26, with appropriate variations in reactants, quantities of reagents, solvents and reaction conditions, LC-MS: 318 [M-H]⁻.

Intermediate I-13: Synthesis of 2-(1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)-4-hydroxypiperidin-4-yl)acetic acid



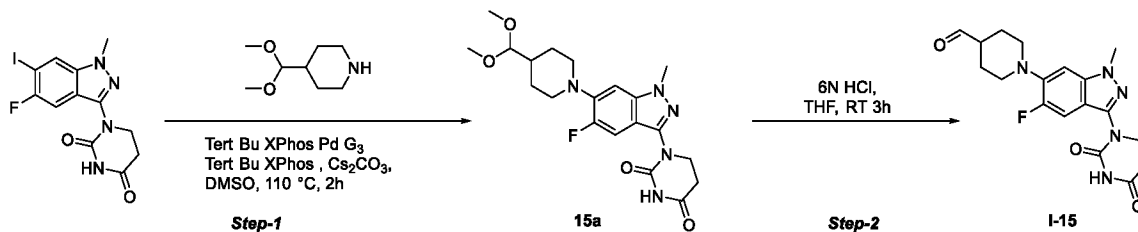
The above **Intermediate I-13** was synthesized by following the procedure described in WO2021255212 A1; Page 157-159, step-1 to step-6, with appropriate variations in reactants, quantities of reagents, solvents and reaction conditions. LC-MS: 380.05 [M+H]⁺.

Intermediate I-14: Synthesis of 1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidine-4-carboxylic acid



The above **Intermediate I-14** was synthesized by following the procedure described in WO2021255212 A1; Page 153-154, step 1 to 4, with appropriate variations in reactants, quantities of reagents, solvents and reaction conditions. LC-MS: 350.1 [M+H]⁺.

Intermediate I-15: 1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)piperidine-4-carbaldehyde



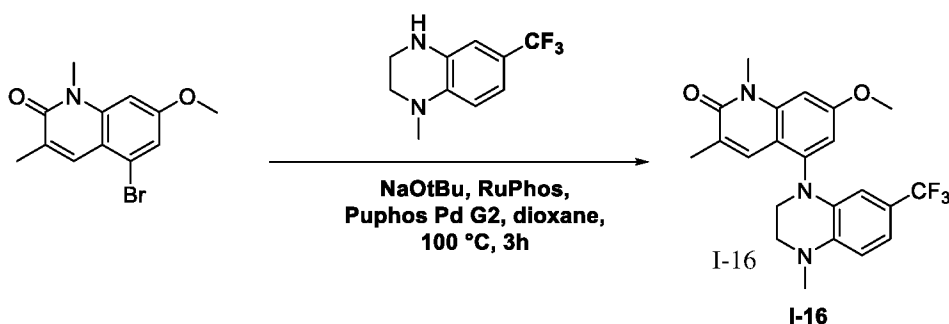
Step-1: Synthesis of 1-(6-(4-(dimethoxymethyl)piperidin-1-yl)-5-fluoro-1-methyl-1H-indazol-3-yl)dihydropyrimidine-2,4(1H,3H)-dione

The starting material 1-(5-fluoro-6-iodo-1-methyl-1H-indazol-3-yl) dihydropyrimidine-2,4(1H,3H)-dione was synthesized by following the procedure described in WO2022261250A1; Page -288, step-1 to 5. The above **Intermediate 15a** was prepared as described in the synthesis of Intermediate 3a with appropriate variations in reactants, quantities of reagents, solvents and reaction conditions. LC-MS: 420.2 [M+H]⁺.

Step-2: Synthesis of 1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl) piperidine-4-carbaldehyde

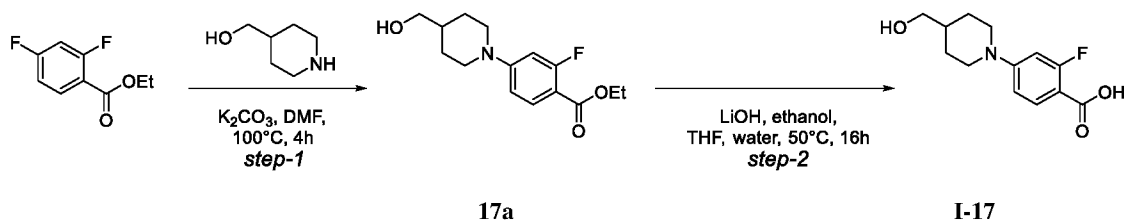
The **Intermediate-I-15** was prepared using a similar procedure described in the step-4 in synthesis of Intermediate I-6 with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 374.05 [M+H]⁺

Intermediate I-16: Synthesis of 7-methoxy-1,3-dimethyl-5-(4-methyl-7-(trifluoromethyl)-3,4-dihydroquinoxalin-1(2H)-yl)quinolin-2(1H)-one



A degassed mixture of 5-bromo-7-methoxy-1,3-dimethylquinolin-2(1H)-one, (1.4 g, 4.96 mmol) (which was synthesized by using a similar procedure described in WO2022053967A1, Page-63), 1-methyl-6-(trifluoromethyl)-1,2,3,4-tetrahydro-quinoxaline (1.28 g, 5.9 mmol) and NaOtBu (1.19 g, 12.4 mmol) in dioxane (30mL) was added RuPhos (0.278 g, 0.59 mmol), Ru Phos Pd G2 (0.058 g, 0.07 mmol) and heated to 100°C for 3h. The reaction mixture was then cooled to RT and diluted with ethyl acetate, washed with water followed by brine solution. The organic portion was dried over Na₂SO₄ and concentrated. The crude compound was purified on combi flash chromatograph using 0-30% ethyl acetate in hexane as eluent. This afforded pure titled **Intermediate I-16** (1.32 g, 63.7%). LC-MS: 418.05 [M+H]⁺.

Intermediate I-17: Synthesis of 2-fluoro-4-(4-(hydroxymethyl)piperidin-1-yl)benzoic acid



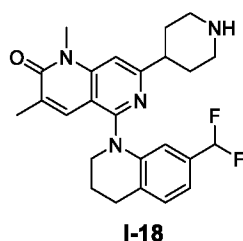
Step-1: Synthesis of ethyl 2-fluoro-4-(4-(hydroxymethyl)piperidin-1-yl)benzoate

A stirred mixture of ethyl 2,4-difluorobenzoate (2 g, 10.7 mmol), piperidin-4-ylmethanol (1.48 g, 12.8 mmol), K_2CO_3 (4.4 g, 32.2 mmol) in DMF (100 mL), was heated to 100 °C. After completion of the reaction, the mixture was cooled to RT, diluted with water, extracted with ethyl acetate and the organic portion was washed with water, dried over Na_2SO_4 and concentrated. The crude compound was purified on flash chromatograph using 0-50% ethyl acetate in hexane to afford the titled **Intermediate 17a** (1.6g, 52.9%). LC-MS: 282.1 $[\text{M}+\text{H}]^+$.

Step-2: Synthesis of 2-fluoro-4-(4-(hydroxymethyl)piperidin-1-yl)benzoic acid

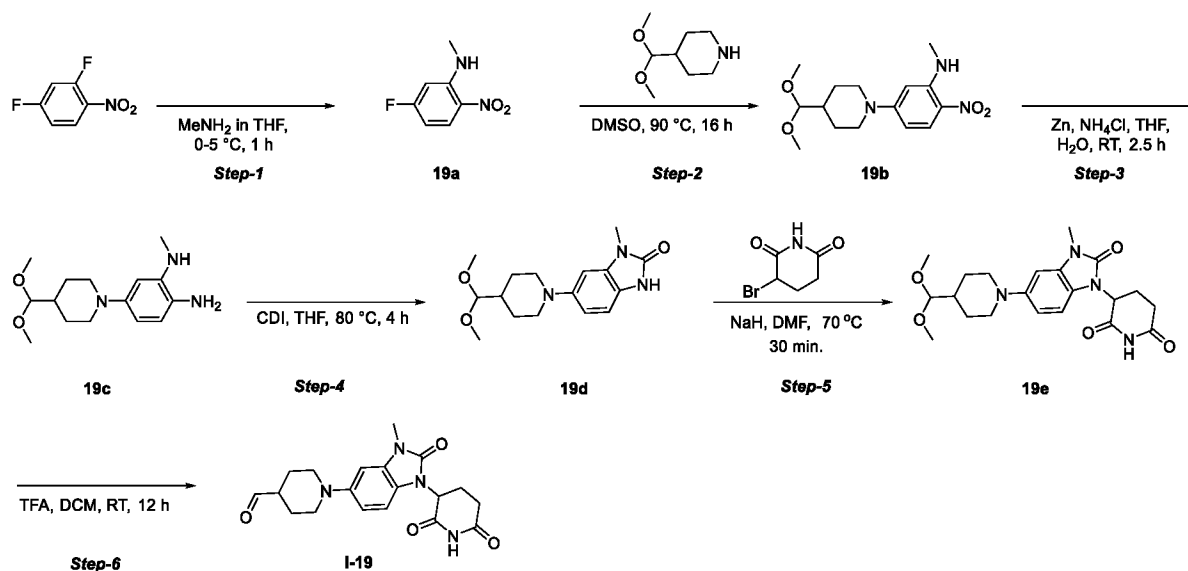
A solution of intermediate 17a (1.6 g, 5.68 mmol) in ethanol (11 mL), THF (24 mL) and water (24 mL), was added LiOH (1.19 g, 28.4 mmol) and the reaction mixture was heated to 50 °C for 16 h. After completion of the reaction, the mixture was cooled to RT, acidified with 1N HCl, extracted with ethyl acetate and the organic portion was washed with water, dried over Na_2SO_4 and concentrated to get the **Intermediate I-17** (1 g). LC-MS: 254.0 $[\text{M}+\text{H}]^+$.

Intermediate I-18: 5-(7-(difluoromethyl)-3,4-dihydroquinolin-1(2H)-yl)-1,3-dimethyl-7-(piperidin-4-yl)-1,6-naphthyridin-2(1H)-one



Intermediate I-18 was prepared using a similar procedure described in step-1 to step-4 of the synthesis of Intermediate I-5 with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 439.21 $[\text{M}+\text{H}]^+$.

Intermediate I-19: Synthesis of 1-(1-(2,6-dioxopiperidin-3-yl)-3-methyl-2-oxo-2,3-dihydro-1H-benzo[d]imidazol-5-yl)piperidine-4-carbaldehyde



Step-1: Synthesis of 5-fluoro-N-methyl-2-nitroaniline

To an ice-cold solution of 2,4-difluoro-1-nitrobenzene 10 g, 62.8 mmol) in THF (100 mL) was added methylamine in THF (3.9 g, 31 mmol) dropwise and stirred for 1 h. Then the reaction mixture was concentrated. The residue was added water and extracted with ethyl acetate, the organic portion was dried over anhydrous sodium sulphate and concentrated to afford **Intermediate 19a** (8.5 g). LC-MS: 170.9 [M+H]⁺.

Step-2: Synthesis of 5-(4-(dimethoxymethyl)piperidin-1-yl)-N-methyl-2-nitroaniline

A stirred solution of Intermediate 19a (10 g, 58.7 mmol), DIPEA (22.7 g, 176.3 mmol) in DMSO (50 mL) was cooled to 0 °C and added 4-(dimethoxymethyl)piperidine (11.2 g, 70.5 mmol). The mixture was then heated to 90 °C in a screw cap seal tube and stirred for 16 h. TLC showed the absence of starting material, the mixture was cooled to RT, diluted with ice cold water. The precipitate formed was filtered and dried under vacuum to afford **Intermediate 19b** (18.7 g). LC-MS: 310.1 [M+H]⁺.

Step-3: Synthesis of 5-(4-(dimethoxymethyl)piperidin-1-yl)-N1-methylbenzene-1,2-diamine

To a stirred solution of Intermediate 19b (5 g, 16.1 mmol) in THF (50 mL), was added ammonium chloride (8.6 g, 161.1 mmol) in water (25 mL) followed by zinc powder (8.4 g, 129.2 mmol) in portions at 0 °C. The resulting mixture was stirred at RT for 2.5 h, then filtered through celite pad and washed with ethyl acetate. Organic portion was washed with water followed by brine, dried over anhydrous Na₂SO₄ and concentrated to get **Intermediate 19c** (4.8 g). LC-MS: 280.1 [M+H]⁺.

Step-4: Synthesis of 6-(4-(dimethoxymethyl)piperidin-1-yl)-1-methyl-1,3-dihydro-2H-benzo[d]imidazol-2-one

To a stirred solution of Intermediate 19c (4.8 g, 17.1 mmol) in acetonitrile (56 mL) was added CDI (5.5 g, 34.3 mmol) in portions at RT. The resulting mixture was stirred at 80 °C for 4 h.

- 5 Then the mixture was then cooled to RT, diluted with ice cold water and extracted with ethyl acetate, the organic portion was dried over anhydrous sodium sulphate and concentrated to get crude. The crude compound was purified with flash chromatograph using 60% ethyl acetate in hexane to afford **Intermediate 19d** (2.6 g, 49.5%). LC-MS: 306.1 [M+H]⁺.

Step-5: Synthesis of 3-(5-(4-(dimethoxymethyl)piperidin-1-yl)-3-methyl-2-oxo-2,3-dihydro-1H-benzo[d]imidazol-1-yl)piperidine-2,6-dione

To a stirred solution of Intermediate 19d (2 g, 6.5 mmol) in DMF (40 mL) was added NaH (0.629 g, 26.2 mmol) under nitrogen and heated to 70 °C for 30 min. To this, a solution of 3-bromopiperidine-2,6-dione (2.51 g, 13 mmol) in DMF (10 mL) at once at 70 °C. The mixture was stirred till the effervescence ceases, then cooled in an ice bath and quenched with saturated

- 15 Aq. Ammonium chloride solution, extracted with ethyl acetate, organic portion was washed with water, dried over Na₂SO₄ and concentrated to get crude compound. The crude compound was purified by silica gel flash chromatograph using 0-2% methanol in DCM. This afforded **Intermediate 19e** (1.1 g, 40.3%). LC-MS: 417.2 [M+H]⁺.

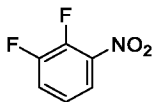
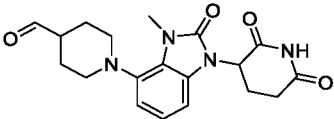
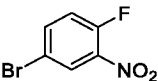
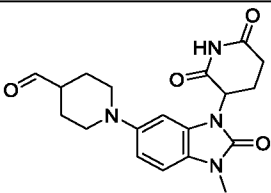
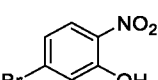
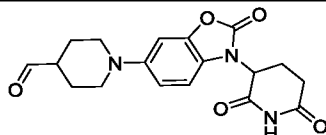
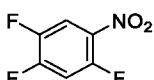
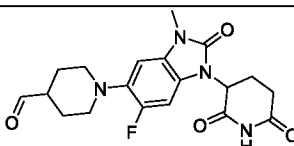
Step-6: Synthesis of 1-(1-(2,6-dioxopiperidin-3-yl)-3-methyl-2-oxo-2,3-dihydro-1H-benzo[d]imidazol-5-yl)piperidine-4-carbaldehyde

A mixture of Intermediate 19e (1 g, 2.4 mmol) in DCM (10 mL) and TFA (2.7 g, 24 mmol) was stirred for 12 h at RT and concentrated. The residue obtained was basified with sat. NaHCO₃ solution, extracted with DCM and concentrated to get **Intermediate I-19**.

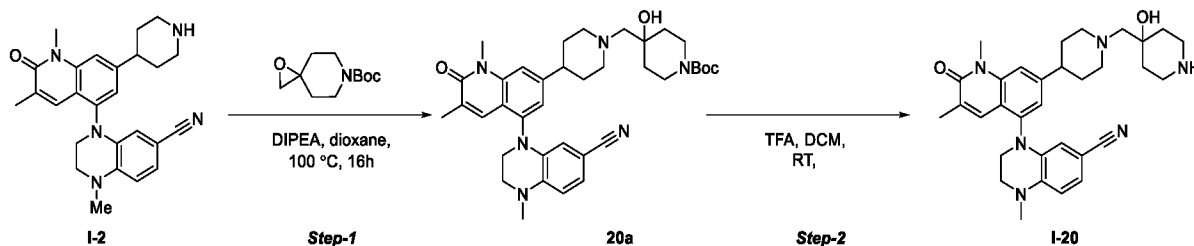
- 25 The compound listed in below **Table-F** was prepared by reacting appropriate Intermediates using a procedure similar to the one described in the synthesis of **Intermediate I-19** with appropriate variations. The characterization data of the compounds are summarized herein the below table.

Table-F

Intermediate No.	Starting material used	Intermediate structure	characterization data
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F1			LC-MS: 371.1 [M+H] ⁺
F2			LC-MS: 371.2 [M+H] ⁺
F3			LC-MS: 358.1 [M+H] ⁺
F4			LC-MS: 389.1 [M+H] ⁺

Intermediate I-20: Synthesis of 4-(7-(1-((4-hydroxypiperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile



Step-1: Synthesis of tert-butyl 4-((4-(5-(7-cyano-4-methyl-3,4-dihydroquinoxalin-1(2H)-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-7-yl)piperidin-1-yl)methyl)-4-hydroxypiperidine-1-carboxylate

A mixture of Intermediate I-2 (0.5 g, 1.16 mmol), tert-butyl 1-oxa-6-azaspiro[2.5]octane-6-carboxylate (0.37 g, 1.37 mmol) and DIPEA (0.45 g, 3.5 mmol) in dioxane (10 mL) was stirred at 100 °C for 16 h. TLC showed the absence of starting material, reaction mixture was diluted with water and extracted with ethyl acetate. The organic portion was washed with brine solution dried over sodium sulphate and concentrated. The crude compound was purified by silica gel flash chromatography using 2% methanol in DCM. This afforded **Intermediate 20a** (0.44g, 58.7%). LC-MS: 641.3 [M+H]⁺.

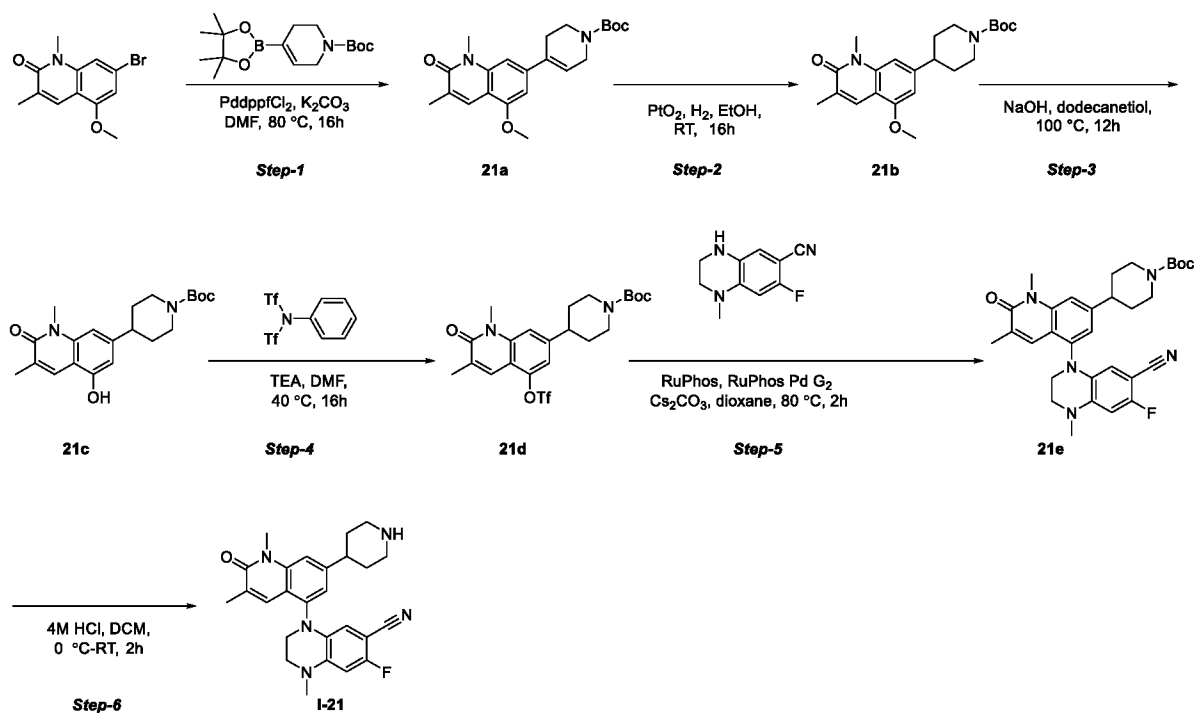
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15

Step-2: Synthesis of 4-(7-(1-((4-hydroxypiperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

Intermediate I-20 was synthesized by following a similar procedure to the one described in the step-3 in synthesis of Intermediate I-2 with appropriate variations in quantities of reagents, solvents and reaction conditions. LC-MS: 541.3[M+H]⁺.

Intermediate I-21: Synthesis of tert-butyl 4-(1,3-dimethyl-2-oxo-5-(((trifluoromethyl)sulfonyl)oxy)-1,2-dihydroquinolin-7-yl)piperidine-1-carboxylate



Step-1: Synthesis of tert-butyl 4-(5-methoxy-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-7-yl)-3,6-dihydropyridine-1(2H)-carboxylate

Intermediate 21a was prepared using a similar procedure described in the synthesis of Intermediate 2a by using 7-bromo-5-methoxy-1,3-dimethylquinolin-2(1H)-one which was synthesized by following the procedure described in WO2022053967 A1; Page-62, Intermediate-N12, with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 385.1 [M+H]⁺.

Step-2: Synthesis of tert-butyl 4-(5-methoxy-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-7-yl)piperidine-1-carboxylate

Intermediate 21b was prepared using a similar procedure described in the synthesis of Intermediate 2b with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 387.1 [M+H]⁺.

Step-3: Synthesis of tert-butyl 4-(5-hydroxy-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-7-yl)piperidine-1-carboxylate

To a stirred solution of Intermediate 21b (1 g, 2.58 mmol) in NMP taken in a screw cap sealed tube was added NaOH (0.31 g, 7.7 mmol) and dodecanthiol (0.78 g, 3.88 mmol). The mixture was stirred at 100 °C for 12 h. After completion of reaction, ice-cold water was added and acidified with 1N HCl to pH 2-3. The precipitate formed was filtered and washed with water and dried to afford the **Intermediate 21c** (0.65g). LC-MS: 373.3 [M+H]⁺.

Step-4: Synthesis of tert-butyl 4-(1,3-dimethyl-2-oxo-5-(((trifluoromethyl)sulfonyl)oxy)-1,2-dihydroquinolin-7-yl)piperidine-1-carboxylate

A mixture of Intermediate 21c (0.55 g, 1.47 mmol), triethylamine (0.44 g, 4.43 mmol), N-Phenyl-trifluoromethanesulfonimide in DMF (6 mL) was stirred at 40 °C for 16 h. After completion of reaction, the reaction mixture was cooled to RT and added ice-cold water. Precipitate formed was filtered and washed with water to get **Intermediate 21d** (0.61 g) LC-MS: 505.1 [M+H]⁺.

Step-5: Synthesis of tert-butyl 4-(5-(7-cyano-6-fluoro-4-methyl-3,4-dihydroquinoxalin-1(2H)-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-7-yl)piperidine-1-carboxylate

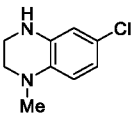
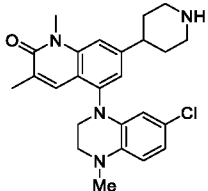
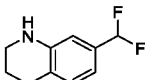
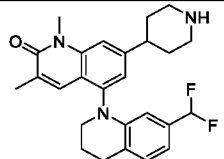
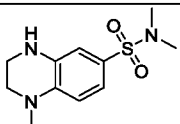
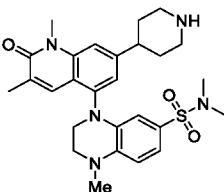
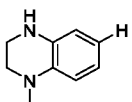
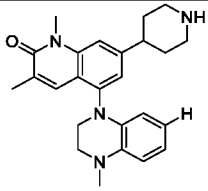
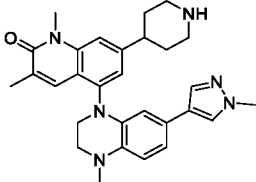
The 7-fluoro-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile was prepared using procedure similar to Intermediate-S1 in page-74 of WO2022053967 and the **Intermediate 21e** was prepared using a similar procedure described in the synthesis of Intermediate I-16 with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 546.4 [M+H]⁺.

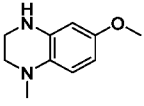
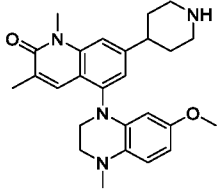
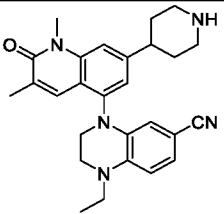
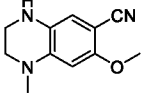
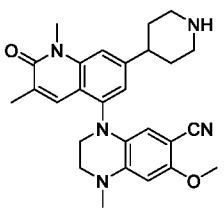
Step-6: Synthesis of 4-(1,3-dimethyl-2-oxo-7-(piperidin-4-yl)-1,2-dihydroquinolin-5-yl)-7-fluoro-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

The Intermediate **I-21** was prepared using a similar procedure described in the step -3 in synthesis of Intermediate I-2 with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 446.1 [M+H]⁺.

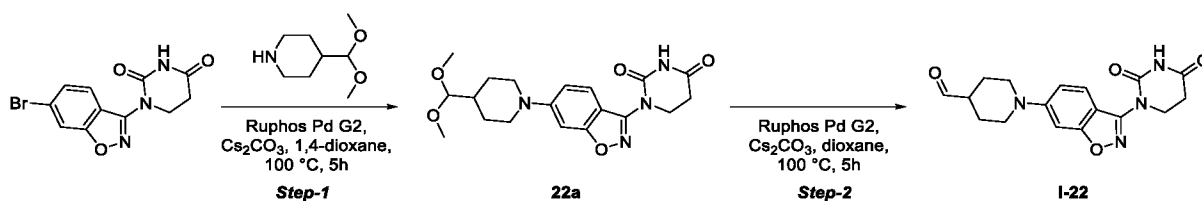
The compound listed in below **Table-G** was prepared by reacting appropriate Intermediates using a procedure similar to the one described in the synthesis of Intermediate **I-21** with appropriate variations. The characterization data of the compounds are summarized herein the below table.

5 **Table-G**

Intermediate No.	Reagents used	Intermediate structure	characterization data
G1			LC-MS: 437.1 [M+H] ⁺
G2			LC-MS: 438.1 [M+H] ⁺
G3	 (Synthesized as described for Intermediate-S46, Page-82 of WO2022053967A1)		LC-MS: 510.3 [M+H] ⁺
G4			LC-MS: 403.2 [M+H] ⁺
G5	I-25		LC-MS: 483.3 [M+H] ⁺

G6	 (Synthesized as described in Tetrahedron Letters (2006), 47(38), 6899-6902)		LC-MS: 433.2 [M+H] ⁺
G7	I-27		LC-MS: 442.2 [M+H] ⁺
G8	 (Prepared using procedure similar to Intermediate-S1 in page-74 of WO2022053967)		LC-MS: 458.2 [M+H] ⁺

Intermediate I-22: Synthesis of 1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)benzo[d]isoxazol-6-yl)piperidine-4-carbaldehyde



5 Step-1: Synthesis of 1-(6-(4-(dimethoxymethyl)piperidin-1-yl)benzo[d]isoxazol-3-yl)dihydropyrimidine-2,4(1H,3H)-dione

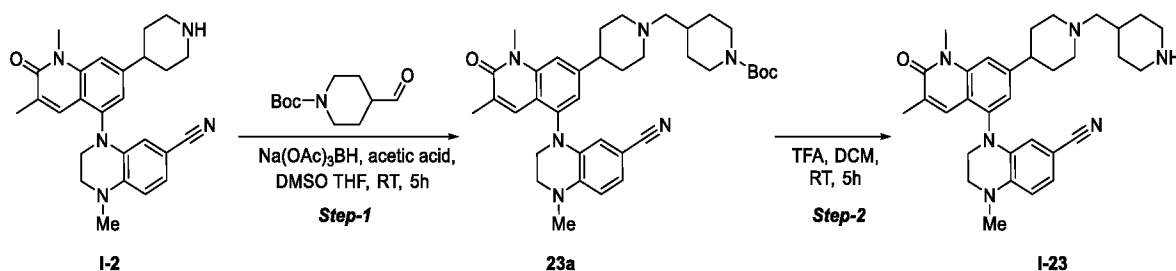
A mixture of 1-(6-bromobenzo[d]isoxazol-3-yl)dihydropyrimidine-2,4(1H,3H)-dione (Which was prepared using the procedure described in Step-4 of Reference 66 in page-173 of patent WO2023250029) (0.45 g, 1.45 mmol), 4-(dimethoxymethyl)piperidine (0.46 g, 2.9 mmol) and Cs₂CO₃ (1.41 g, 4.35 mmol) in 1,4-dioxane taken in a sealed tube was degassed and stirred at 100 °C for 5 h. Then the mixture was cooled to RT, filtered through celite bed, washed with EtOAc and filtrate was concentrated. The residue was purified by silica gel flash

chromatograph using 50-60% ethyl acetate in hexane as eluent. This afforded the Intermediate 22a (0.21 g, 37.2%). LC-MS: 389.1 [M+H]⁺.

Step-2: Synthesis of 1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)benzo[d]isoxazol-6-yl)piperidine-4-carbaldehyde

- 5 The **Intermediate I-22** was prepared using a similar procedure described in step -4 of the synthesis of Intermediate I-6 with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 343.1 [M+H]⁺.

Intermediate I-23: Synthesis of 4-(1,3-dimethyl-2-oxo-7-(1-(piperidin-4-ylmethyl)piperidin-4-yl)-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile



Step-1: Synthesis of tert-butyl 4-((4-(5-(7-cyano-4-methyl-3,4-dihydroquinoxalin-1(2H)-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-7-yl)piperidin-1-yl)methyl)piperidine-1-carboxylate

- 15 To a stirred solution of Intermediate I-2 (0.1 g, 0.23 mmol), tert-butyl 4-formylpiperidine-1-carboxylate (0.06 g, 0.28 mmol) in DMSO (1 mL), THF (5 mL) was added acetic acid (0.1 mL) and heated to 65 °C for 1 h. Then the reaction mixture was cooled RT and added Na(OAc)₃BH (0.099 g, 0.46 mmol) and the mixture was stirred at RT under nitrogen. After stirring for 3 h, the reaction mixture was quenched with water, basified with sat. NaHCO₃ solution and extracted with EtOAc. The organic portion was washed with water, brine, dried over sodium sulphate, filtered and concentrated to give Intermediate 23a(0.16g). LC-MS: 625.3 [M+H]⁺.

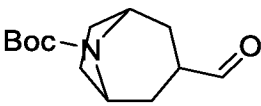
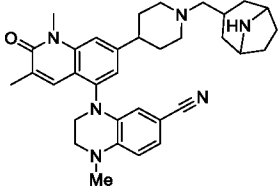
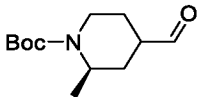
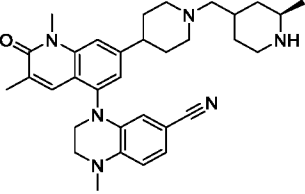
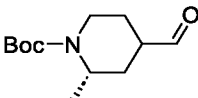
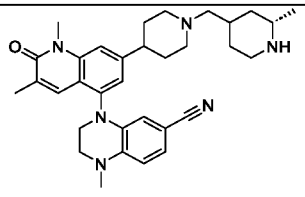
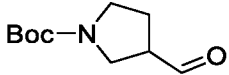
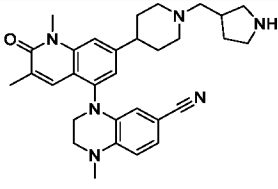
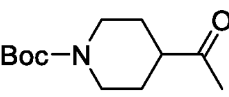
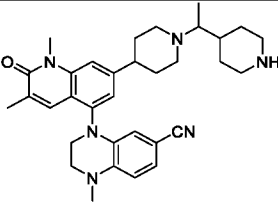
Step-2: Synthesis of 4-(1,3-dimethyl-2-oxo-7-(1-(piperidin-4-ylmethyl)piperidin-4-yl)-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

- 25 To a stirred solution of Intermediate 23a (0.15 g, 0.24 mmol) in DCM (5 mL) was added TFA (0.5 mL) and stirred for 5 h at RT. Then the reaction mixture was added water, basified with

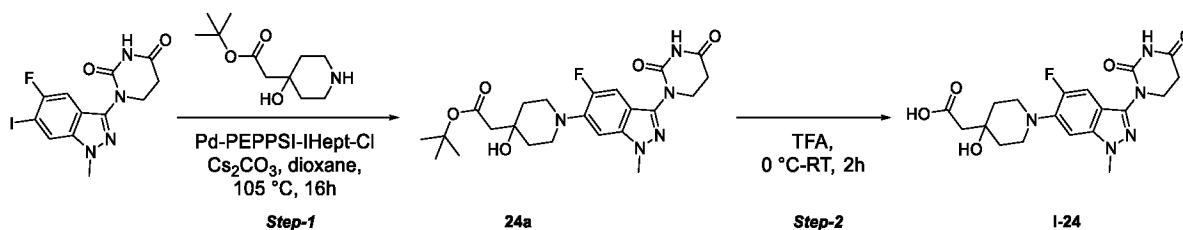
Sat. NaHCO₃, extracted with DCM, dried over Na₂SO₄ and concentrated to afford **Intermediate I-23** (0.13 g). LC-MS: 525.8 [M+H]⁺.

The compound listed in below **Table-H** was prepared by reacting appropriate Intermediates using a procedure similar to the one described in the synthesis of Intermediate **I-23** with appropriate variations. The characterization data of the compounds are summarized herein the below table.

Table-H

Intermediate No.	Reagent used	Intermediate structure	characterization data
H1			LC-MS: 551.3 [M+H] ⁺
H2			LC-MS: 539.3 [M+H] ⁺
H3			-
H4			LC-MS: 511.2 [M+H] ⁺
H5			LC-MS: 539.3 [M+H] ⁺

Intermediate I-24: Synthesis of 2-(1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)-4-hydroxypiperidin-4-yl)acetic acid



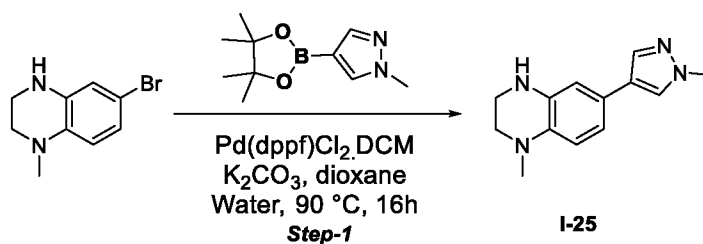
Step-1: Synthesis of tert-butyl 2-(1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)-4-hydroxypiperidin-4-yl)acetate

A stirred mixture of 1-(5-fluoro-6-iodo-1-methyl-1H-indazol-3-yl)dihydropyrimidine-2,4(1H,3H)-dione (0.4 g, 1.03 mmol) (which was synthesized by following the procedure described in WO2022261250 A1; Page -288, step-5), tert-butyl 2-(4-hydroxypiperidin-4-yl)acetate (0.55 g, 2.55 mmol), Cs_2CO_3 (0.672 g, 2.02 mmol) and dioxane (8 mL) in a screw cap sealed tube was degassed and added Pd-PEPPSI-IHept-Cl (0.1 g, 0.1 mmol). Then the seal tube was closed and heated at $105\text{ }^\circ\text{C}$ for 16 h. Then the reaction mixture was cooled to RT, diluted with water and extracted with ethyl acetate. The organic portion was dried over anhydrous sodium sulphate and concentrated. The crude compound was purified by silica gel flash chromatography using 0-0.5 % methanol in DCM as eluent. This afforded Intermediate 24a(0.32 g). LC-MS: 476.3 $[\text{M}+\text{H}]^+$.

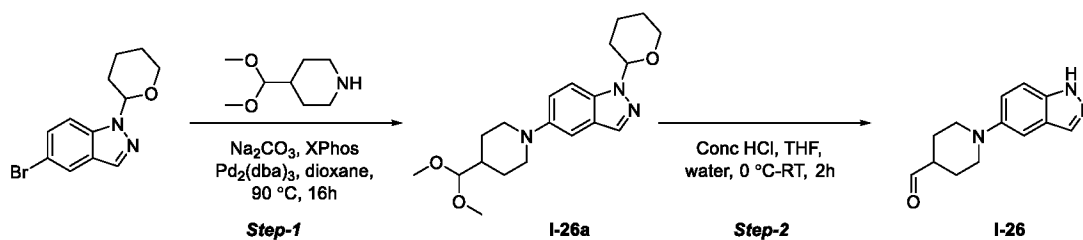
Step-2: Synthesis of 2-(1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)-4-hydroxypiperidin-4-yl)acetic acid

A solution of Intermediate 24a (0.3 g, 0.63 mmol) was cooled to $0\text{ }^\circ\text{C}$ and added TFA (0.5 mL) dropwise. The reaction mass was stirred at RT for 5h and concentrated to get the Intermediate I-24 (0.3g). LC-MS: 420.2 $[\text{M}+\text{H}]^+$

Intermediate I-25: Synthesis of 1-methyl-6-(1-methyl-1H-pyrazol-4-yl)-1,2,3,4-tetrahydroquinoxaline



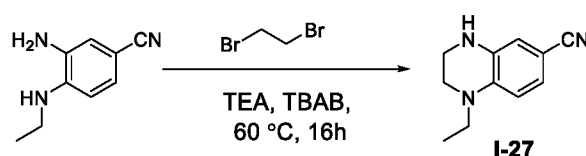
The **Intermediate I-25** was prepared using a similar procedure described in the synthesis of Intermediate 21a with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 229.1 $[\text{M}+\text{H}]^+$.

Intermediate I-26: Synthesis of 1-(1H-indazol-5-yl)piperidine-4-carbaldehyde**Step-1: Synthesis of 5-(4-(dimethoxymethyl)piperidin-1-yl)-1-(tetrahydro-2H-pyran-2-yl)-1H-indazole**

- 5 Intermediate 26a was prepared using a similar procedure described in the synthesis of Intermediate I-6 with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 360.1 [M+H]⁺.

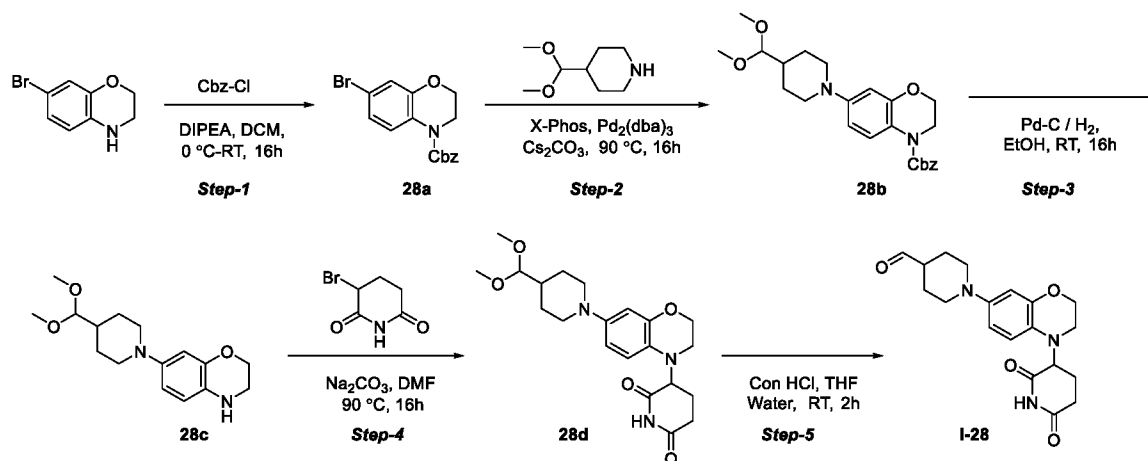
Step-2: Synthesis of 1-(1H-indazol-5-yl)piperidine-4-carbaldehyde

- 10 Intermediate I-26 was prepared using a similar procedure described in the step-4 as in synthesis of Intermediate I-6 with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 230.1 [M+H]⁺.

Intermediate I-27: Synthesis of 1-ethyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

- 15 A mixture of 3-amino-4-(ethylamino)benzonitrile (1.5 g, 9.3 mmol), 1,2-dibromoethane (6.9 g, 37.2 mmol), TBAB (12 g, 37.2 mmol) in triethylamine (3.7 g, 37.2 mmol) was heated to 60 °C for 16 h. After completion of reaction, the reaction mixture was cooled to RT, diluted with ethyl acetate and washed with water. The organic portion was washed with water dried over anhydrous Na₂SO₄ and concentrated. The residue was purified by silica gel flash chromatography using 30% ethyl acetate in hexane to get the **Intermediate I-27** (2 g, 57.4%).
- 20 LC-MS: 188.1 [M+H]⁺.

Intermediate I-28: Synthesis of 1-(4-(2,6-dioxopiperidin-3-yl)-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)piperidine-4-carbaldehyde



Step-1: Synthesis of benzyl 7-bromo-2,3-dihydro-4H-benzo[b][1,4]oxazine-4-carboxylate

A stirred solution of 7-bromo-3,4-dihydro-2H-benzo[b][1,4]oxazine 0.2 g, 0.93 mmol), DIPEA (0.362 g, 2.8 mmol) in DCM (4 mL) was cooled to 0 °C and added benzyl chloroformate (0.175 g, 1.03 mmol) slowly. The resultant mixture was stirred at RT for 16 h. After completion of reaction, the reaction mixture was diluted with water and extracted with DCM. The organic portion was dried over anhydrous sodium sulphate and concentrated. The crude compound was purified by combi flash column chromatograph using 30% ethyl acetate as eluent. This afforded the Intermediate 28a. LC-MS: 349.9 [M+H]⁺.

Step-2: Synthesis of benzyl 7-(4-(dimethoxymethyl)piperidin-1-yl)-2,3-dihydro-4H-benzo[b][1,4]oxazine-4-carboxylate

Intermediate 28b was prepared using a similar procedure described in step-1 of the synthesis of Intermediate I-6 with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 427.1 [M+H]⁺.

Step-3: Synthesis of 7-(4-(dimethoxymethyl)piperidin-1-yl)-3,4-dihydro-2H-benzo[b][1,4]oxazine

Pd-C (10% load) (0.055 g, 106.4 mmol) was carefully added to a stirred solution of Intermediate 28b (0.22 g, 0.516 mmol) in ethanol (2 mL). The reaction mixture was then stirred under positive pressure of hydrogen using a bladder for 16 h. After completion of reaction, reaction mixture was filtered through a celite pad and washed with ethanol. The filtrate was concentrated to get the Intermediate 28c (0.13 g). LC-MS: 293.15 [M+H]⁺.

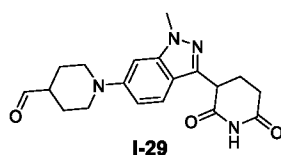
Step-4: Synthesis of 3-(7-(4-(dimethoxymethyl)piperidin-1-yl)-2,3-dihydro-4H-benzo[b][1,4]oxazin-4-yl)piperidine-2,6-dione

Intermediate 28d was prepared using a similar procedure described in step-5 of the synthesis of Intermediate 19e with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 404.1 [M+H]⁺.

Step-5: Synthesis of 1-(4-(2,6-dioxopiperidin-3-yl)-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)piperidine-4-carbaldehyde

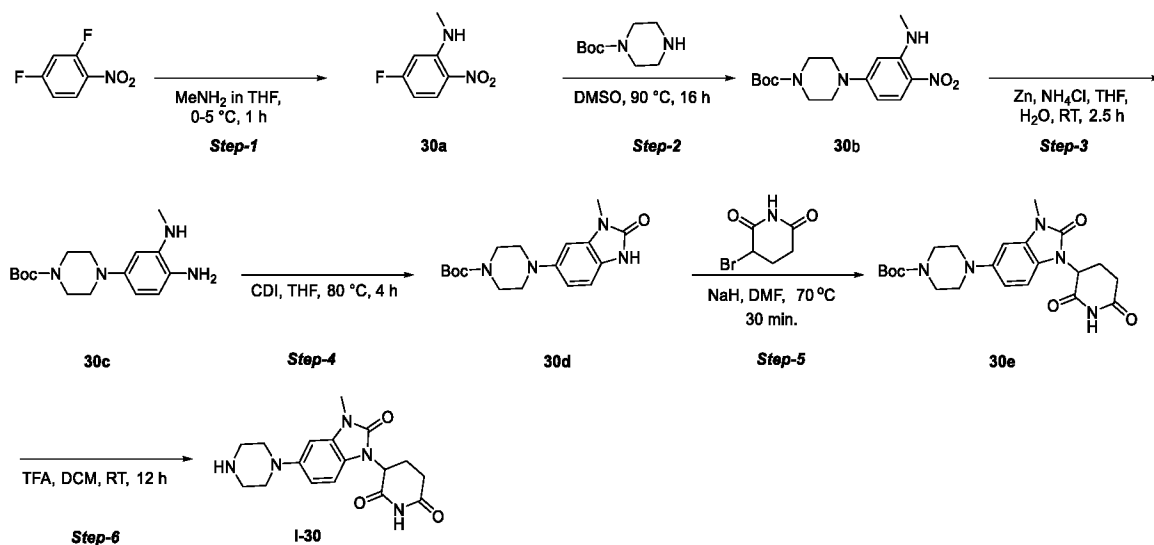
Intermediate I-28 was prepared using a similar procedure described in step-4 of the synthesis of Intermediate I-6 with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 368.1 [M+H]⁺.

Intermediate I-29: Synthesis of 1-(3-(2,6-dioxopiperidin-3-yl)-1-methyl-1H-indazol-6-yl)piperidine-4-carbaldehyde



The above Intermediate I-29 was prepared by following the similar procedure described in WO2023083194 A1; Page -295, Step-4 of example- 76 (76-6), with appropriate variations in reactants, quantities of reagents, solvents and reaction conditions. LC-MS: 355.2 [M+H]⁺.

Intermediate I-30: Synthesis of 3-(3-methyl-2-oxo-5-(piperazin-1-yl)-2,3-dihydro-1H-benzo[d]imidazol-1-yl)piperidine-2,6-dione



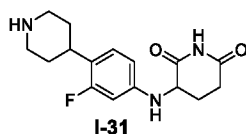
Step-1 to Step-5: Synthesis of tert-butyl 4-(1-(2,6-dioxopiperidin-3-yl)-3-methyl-2-oxo-2,3-dihydro-1H-benzo[d]imidazol-5-yl)piperazine-1-carboxylate

Intermediate I-30e was prepared using a similar procedure described in the synthesis of Intermediate 19e with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 444.1 [M+H]⁺.

Step-6: Synthesis of 3-(3-methyl-2-oxo-5-(piperazin-1-yl)-2,3-dihydro-1H-benzo[d]imidazol-1-yl)piperidine-2,6-dione

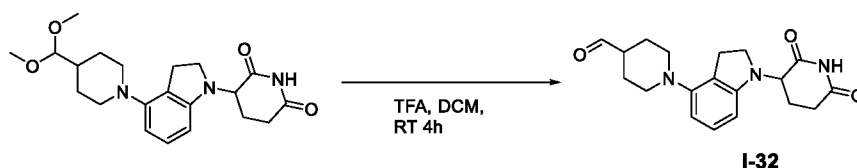
I-30 was prepared using a similar procedure described in the synthesis of Intermediate I-21 (Step-6) with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 344.1 [M+H]⁺.

Intermediate I-31: Synthesis of 3-((3-fluoro-4-(piperidin-4-yl)phenyl)amino)piperidine-2,6-dione



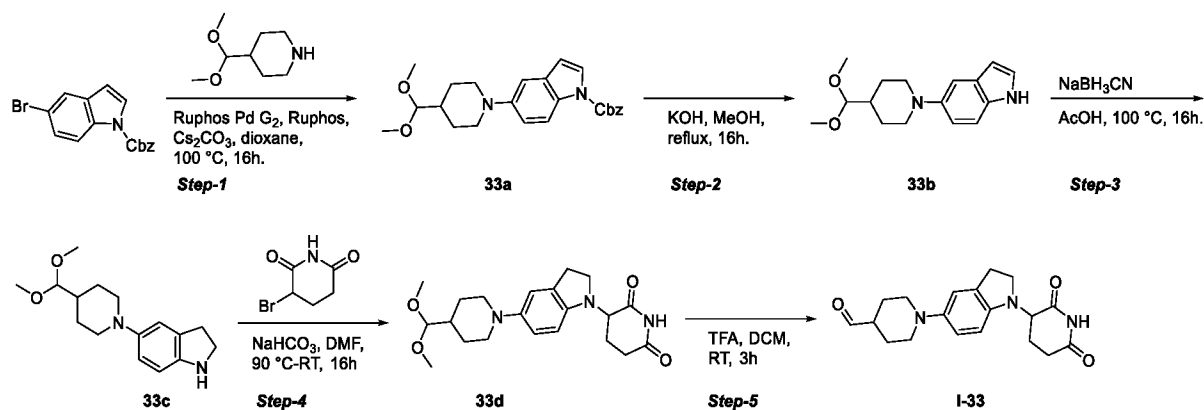
The above Intermediate I-31 was prepared by following the similar procedure described in WO2023055952 A1; Page -215, Step-4 of example- 5 (7), with appropriate variations in reactants, quantities of reagents, solvents and reaction conditions. LC-MS: 306.1 [M+H]⁺.

Intermediate I-32: Synthesis of 1-(1-(2,6-dioxopiperidin-3-yl)indolin-4-yl)piperidine-4-carbaldehyde



A mixture of 3-(4-(4-(dimethoxymethyl)piperidin-1-yl)indolin-1-yl)piperidine-2,6-dione (which was prepared by following the similar procedure described in WO2023239750; Page- 424, Step-5 of Scheme-48, with appropriate variations in reactants, quantities of reagents, solvents and reaction conditions) (0.2 g, 0.516 mmol), TFA (1 mL) in DCM (5 mL) was stirred under nitrogen at RT for 4 h. The reaction mixture was then concentrated, and the residue obtained was triturated with ether twice. The solid obtained was dried to Intermediate I-32d (0.185 g). LC-MS: 342.1 [M+H]⁺.

Intermediate I-33: Synthesis of 1-(1-(2,6-dioxopiperidin-3-yl)indolin-5-yl)piperidine-4-carbaldehyde



Step-1: Synthesis of benzyl 5-(4-(dimethoxymethyl)piperidin-1-yl)-1H-indole-1-carboxylate

- 5 Intermediate **33a** was prepared using a similar procedure described in the synthesis of Intermediate I-16 with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 429.1 [M+H]⁺.

Step-2: Synthesis of 5-(4-(dimethoxymethyl)piperidin-1-yl)-1H-indole

- 10 A mixture of Intermediate **33a** (1.2 g, 2.79 mmol), potassium hydroxide (4.7 g, 56.1 mmol) in methanol was refluxed for 16 h. After completion of the reaction, the reaction mixture was cooled to RT, diluted with water, extracted with ethyl acetate. The organic portion was dried over anhydrous sodium sulphate and concentrated. The residue was purified in silica gel flash chromatograph using 50% ethyl acetate in hexane to afford **Intermediate 33b** (0.5 g, 66.1%). LC-MS: 275.1 [M+H]⁺.

15 Step-3: Synthesis of 5-(4-(dimethoxymethyl)piperidin-1-yl)indoline

- Sodium cyanoborohydride (0.57 g, 9.12 mmol) was carefully added to a stirred solution of Intermediate **33b** (0.5g, 1.82 mmol) in acetic acid (6 mL) and the mixture was allowed to stir for 16 h at RT. The reaction mixture was then neutralised with sodium bicarbonate and extracted with ethyl acetate. The organic portion was dried over anhydrous sodium sulphate and concentrated. The residue was purified in silica gel flash chromatograph using 30% ethyl acetate in hexane to afford **Intermediate 33c** (0.35 g, 69.3%). LC-MS: 277.1 [M+H]⁺.
- 20

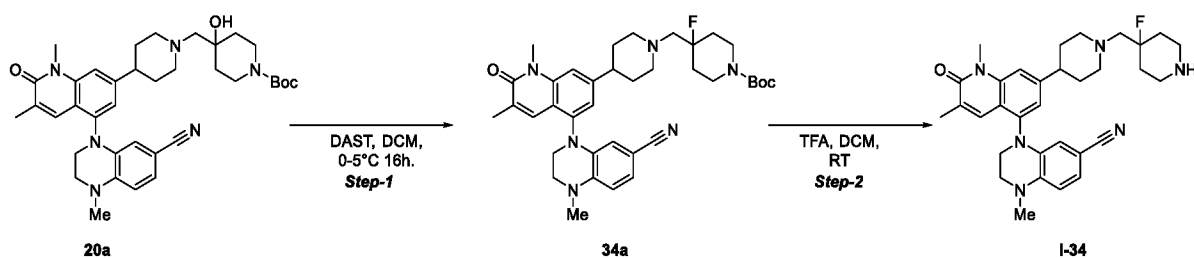
Step-4: Synthesis of 3-(5-(4-(dimethoxymethyl)piperidin-1-yl)indolin-1-yl)piperidine-2,6-dione

Intermediate 33d was prepared using a similar procedure described in the synthesis of Intermediate I-19e with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 388.1 [M+H]⁺.

Step-5: Synthesis of 1-(1-(2,6-dioxopiperidin-3-yl)indolin-5-yl)piperidine-4-carbaldehyde

5 **Intermediate I-33** was prepared using a similar procedure described in the synthesis of Intermediate I-6 with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 342.1 [M+H]⁺

Intermediate I-34: Synthesis of 4-(7-(1-((4-fluoropiperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile



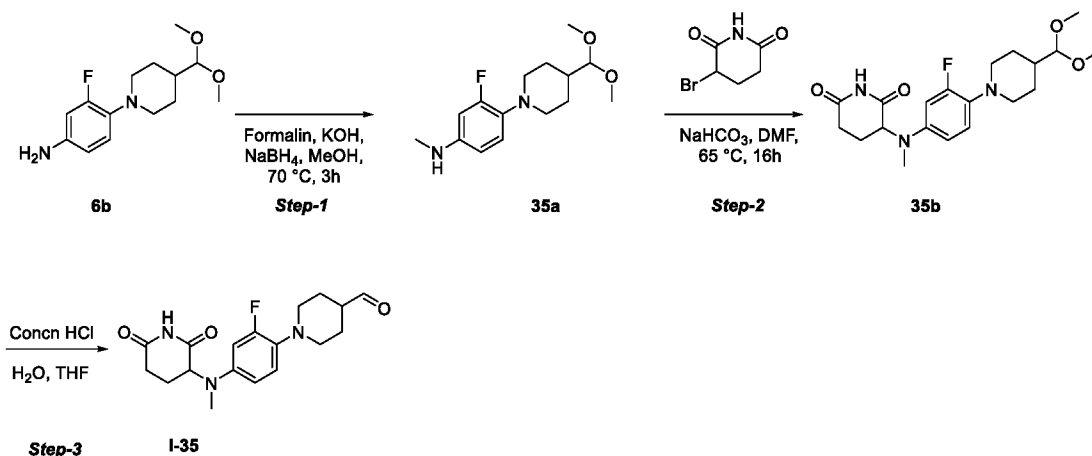
Step-1: Synthesis of tert-butyl 4-((4-(5-(7-cyano-4-methyl-3,4-dihydroquinoxalin-1(2H)-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-7-yl)piperidin-1-yl)methyl)-4-fluoropiperidine-1-carboxylate

15 A stirred solution of Intermediate 20a (0.24 g, 0.375 mmol) in DCM (6 mL) was cooled to 0 °C and added DAST (0.06g, 0.038 mmol) dropwise. The reaction mixture was gradually warmed to RT and stirred for 16 h. After completion, the reaction mixture was diluted with water and extracted with DCM, the organic portion was dried over anhydrous sodium sulphate and concentrated. The residue was purified in silica gel flash chromatograph using 4% methanol in DCM to afford Intermediate 34a (0.17 g, 70.5%). LC-MS: 643.3 [M+H]⁺.

Step-2: Synthesis of 4-(7-(1-((4-fluoropiperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

Intermediate I-34 was prepared using a similar procedure described in step-2 of synthesis of Intermediate I-20 with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 543.2 [M+H]⁺.

Intermediate I-35: Synthesis of 1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidine-4-carbaldehyde



Step-1: Synthesis of 1-(4-((2,6-dioxopiperidin-3-yl)(methyl)amino)-2-fluorophenyl)piperidine-4-carbaldehyde

A mixture of Intermediate 6b (3 g, 11.1 mmol), KOH (1.25 g, 22.3 mmol), formalin (0.5 g, 16.7 mmol) in methanol (30 mL) was heated to 70 °C for 3 h. Then the reaction mixture was cooled to 0 °C, and added sodium borohydride (0.84 g, 22.3 mmol) in portions. This mixture was heated again to 70 °C for 2 h. The reaction mixture was then cooled to RT and concentrated. The crude compound was purified in silica gel flash chromatograph using 20-30% ethyl acetate in hexane to afford the **Intermediate 35a** (0.9 g, 28.5%). LC-MS: 283.1 [M+H]⁺.

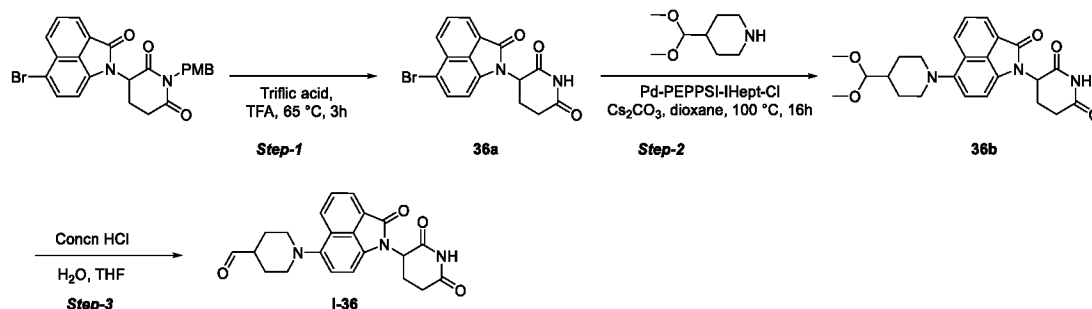
Step-2: Synthesis of 3-((4-(4-(dimethoxymethyl)piperidin-1-yl)-3-fluorophenyl)(methyl)amino)piperidine-2,6-dione

Intermediate 35b was prepared using a similar procedure described in the synthesis of Intermediate 19e with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 394.1 [M+H]⁺.

Step-3: Synthesis of 1-(4-((2,6-dioxopiperidin-3-yl)(methyl)amino)-2-fluorophenyl)piperidine-4-carbaldehyde

Intermediate I-35 was prepared using a similar procedure described in the synthesis of Intermediate I-6 with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 348.2 [M+H]⁺.

Intermediate I-36: Synthesis of 1-(1-(2,6-dioxopiperidin-3-yl)-2-oxo-1,2-dihydrobenzo[cd]indol-6-yl)piperidine-4-carbaldehyde



Step-1: Synthesis of 3-(6-bromo-2-oxobenzo[cd]indol-1(2H)-yl)piperidine-2,6-dione

- 5 A solution of 3-(6-bromo-2-oxobenzo[cd]indol-1(2H)-yl)-1-(4-methoxybenzyl)piperidine-2,6-dione (0.4 g, 0.834 mmol) (Which was prepared by following the similar procedure described in WO2023109892; Page -78, Step-2 of Example-18) in TFA (8 mL) was cooled to 0 °C and added triflic acid (0.182 g, 0.42 mmol) slowly. The resultant mixture was heated to 65 °C for 3h. Then the mixture was cooled to RT, quenched with Aq. NaHCO₃ solution and
 10 extracted with DCM. The organic portion was dried over Na₂SO₄ and concentrated. The crude compound was purified in silica gel flash chromatograph using 60% ethyl acetate in hexane to afford **Intermediate 36a** (0.2 g, 66.7%). LC-MS: 360.8 [M+H]⁺.

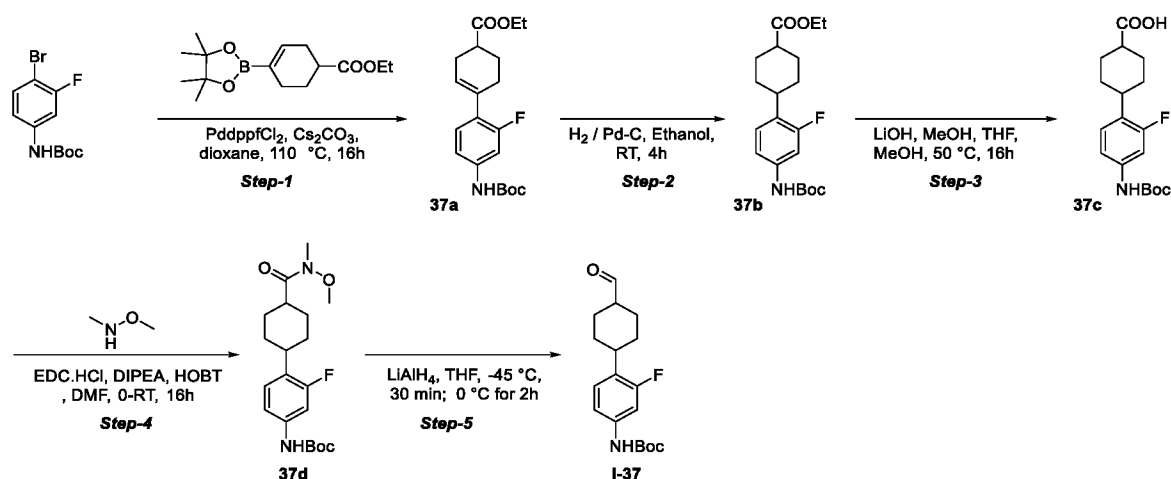
Step-2: Synthesis of 3-(6-(4-(dimethoxymethyl)piperidin-1-yl)-2-oxobenzo[cd]indol-1(2H)-yl)piperidine-2,6-dione

- 15 **Intermediate 36b** was prepared using a similar procedure described in the synthesis of Intermediate I-16 with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 438.05 [M+H]⁺.

Step-3: Synthesis of 1-(1-(2,6-dioxopiperidin-3-yl)-2-oxo-1,2-dihydrobenzo[cd]indol-6-yl)piperidine-4-carbaldehyde

- 20 **Intermediate I-36** was prepared using a similar procedure described in the synthesis of Intermediate I-6 with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 392.0 [M+H]⁺.

Intermediate I-37: Synthesis of tert-butyl (3-fluoro-4-(4-formylcyclohexyl)phenyl)carbamate



Step-1: Synthesis of ethyl 4'-((tert-butoxycarbonyl)amino)-2'-fluoro-2,3,4,5-tetrahydro-[1,1'-biphenyl]-4-carboxylate

Intermediate 37a was prepared using a similar procedure described in the synthesis of Intermediate 2a with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions.

Step-2: Synthesis of ethyl 4-(4-((tert-butoxycarbonyl)amino)-2-fluorophenyl)cyclohexane-1-carboxylate

Intermediate 37b was prepared using a similar procedure described in the synthesis of Intermediate 2b with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions.

Step-3: Synthesis of 4-(4-((tert-butoxycarbonyl)amino)-2-fluorophenyl)cyclohexane-1-carboxylic acid

Intermediate 37c was prepared using a similar procedure described in the step-2 of synthesis of Intermediate I-17 with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 336.05 $[\text{M}-\text{H}]^-$.

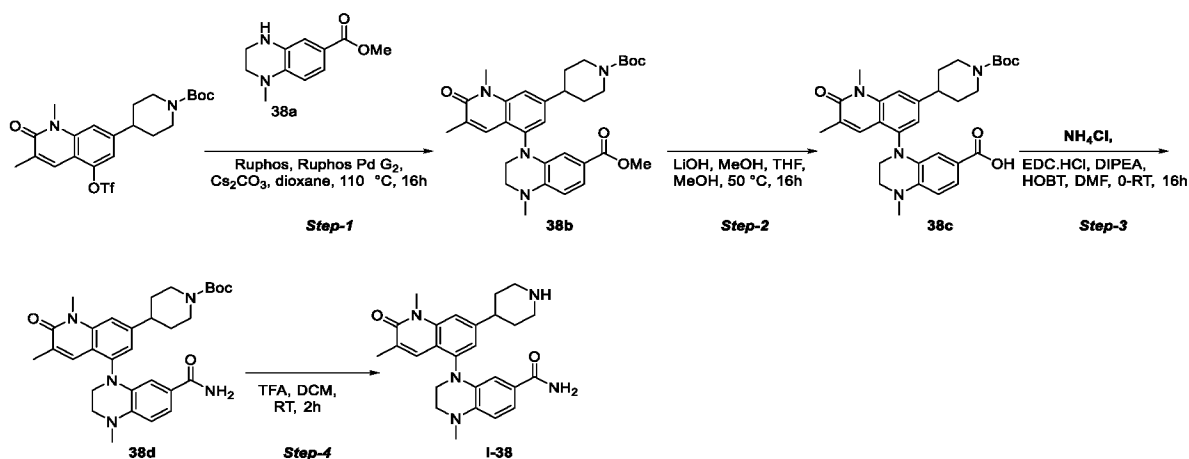
Step-4: Synthesis of tert-butyl (3-fluoro-4-(4-(methoxy(methyl)carbamoyl)cyclohexyl)phenyl)carbamate

Intermediate 37d was prepared using a similar procedure described in the synthesis of Intermediate 10a with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 336.05 $[\text{M}-\text{H}]^-$.

Step-5: Synthesis of tert-butyl (3-fluoro-4-(4-formylcyclohexyl)phenyl)carbamate

A solution of Intermediate 37d (1.5 g, 3.9 mmol) in THF (20 mL) was cooled to -78 °C and added 2M solution of LiAlH₄ (0.18 g, 4.7 mmol) in tetrahydrofuran over 10 minutes. The reaction mixture was stirred at -45 °C for 30 minutes and warmed to 0 °C and stirred for 2 h. The mixture was then quenched with Aq. ammonium chloride and extracted into ethyl acetate. The combined organic portion was washed with brine, dried over Na₂SO₄ and concentrated to give the **Intermediate I-37** (1 g).

Intermediate: I-38: Synthesis of 4-(1,3-dimethyl-2-oxo-7-(piperidin-4-yl)-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carboxamide



Step-1: Synthesis of methyl 4-(7-(1-(tert-butoxycarbonyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carboxylate

The intermediate 38a is synthesized as described for intermediate-S51, Page-83 of WO2022053967A1, with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. Intermediate 38b was prepared using a similar procedure described in the synthesis of I-16 with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 561.1 [M+H]⁺.

Step-2: Synthesis of 4-(7-(1-(tert-butoxycarbonyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carboxylic acid

Intermediate 38c was prepared using a similar procedure described in the step-2 of synthesis of I-17 with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 547.2 [M+H]⁺.

Step-3: Synthesis of tert-butyl 4-(5-(7-carbamoyl-4-methyl-3,4-dihydroquinoxalin-1(2H)-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-7-yl)piperidine-1-carboxylate

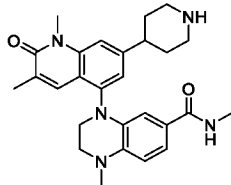
Intermediate 38d was prepared using a similar procedure described in the synthesis of I-10a with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 546.2 [M+H]⁺.

Step-4: Synthesis of 4-(1,3-dimethyl-2-oxo-7-(piperidin-4-yl)-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carboxamide

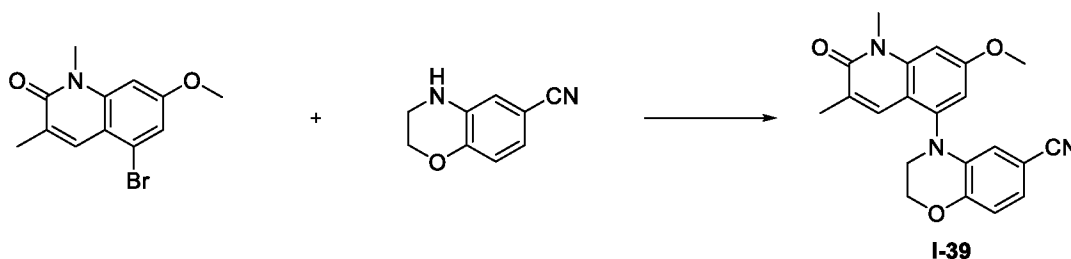
Intermediate I-38 was prepared using a similar procedure described in the step-4 as in synthesis of I-6 with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 446.1 [M+H]⁺.

The compound listed in below **Table-J** was prepared by reacting appropriate Intermediates using a procedure similar to the one described in Intermediate **I-38** with appropriate variations. The characterization data of the compounds are summarized herein the below table.

Table-J

Intermediate No.	Starting material used	Intermediate structure	characterization data
J1	38c & MeNH ₂ .HCl		LC-MS: 460.3 [M+H] ⁺

Intermediate: I-39: Synthesis of 4-(7-methoxy-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-3,4-dihydro-2H-benzo[b][1,4]oxazine-6-carbonitrile



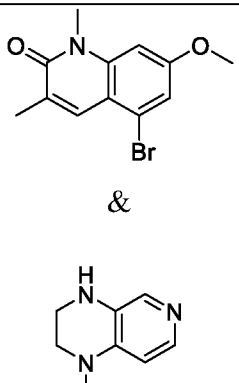
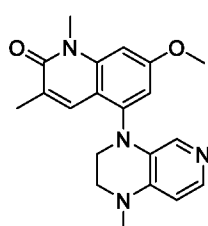
Starting material 5-bromo-7-methoxy-1,3-dimethylquinolin-2(1H)-one was synthesized by using a similar procedure described in WO2022053967A1, Page-63. **Intermediate I-39** was prepared using a similar procedure described in the synthesis of I-16 with appropriate variations

in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 351 [M+H]⁺.

The compound listed in below **Table-K** was prepared by reacting appropriate Intermediates using a procedure similar to the one described in Intermediate **I-39** with appropriate variations.

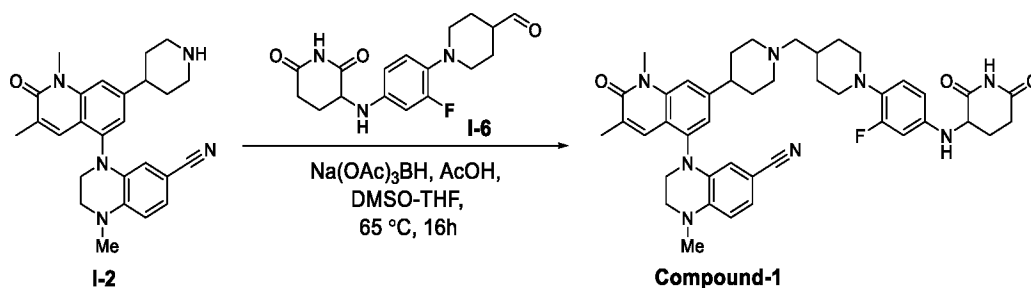
5 The characterization data of the compounds are summarized herein the below table.

Table-K

Intermediate No.	Starting material used	Intermediate structure	characterization data
K1			LC-MS: 460.3 [M+H] ⁺

EXAMPLES

Example-1: 4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile (Compound-1)



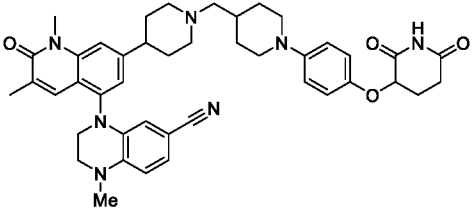
To a solution of Intermediate I-2 (0.1 g, 0.24 mmol) in THF (10 mL), DMSO (2 mL) and acetic acid (0.1mL) mixture, was added Intermediate I-6. The resulting reaction mass was stirred at 65 °C for 1 h. Later, sodium triacetoxy borohydride (0.15 g, 0.72 mmol) was added portion-wise and stirred at RT for 16 h. After the completion of reaction, the reaction mixture was

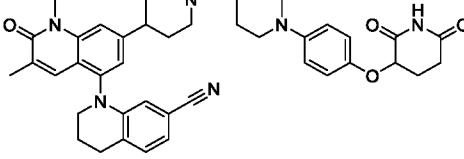
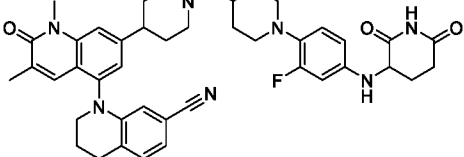
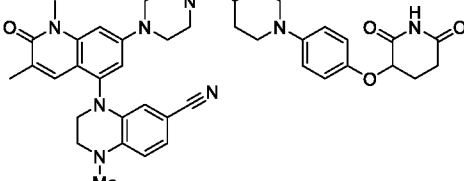
diluted with ice cold water, extracted with DCM and the layers were separated. Organic layer was washed with saturated brine solution, dried over sodium sulphate, filtered and concentrated to get crude compound. The crude was purified by Combi flash using 0-5% DCM: MeOH as an eluent to get pure product Compound-1 (0.13 g, 73.60%).

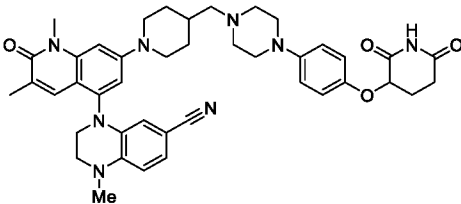
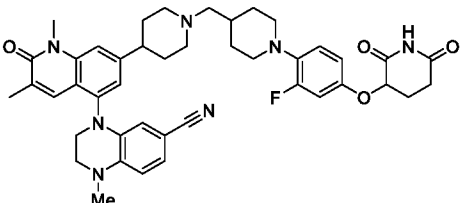
- 5 ¹H NMR (DMSO-D₆, 400MHz): δ 10.78 (s, 1H), 7.61 (s, 1H), 7.34 (s, 1H), 7.15 (s, 1H), 7.04-7.02 (m, 1H), 7.85-7.80 (m, 1H), 7.65-7.62 (m, 1H), 7.52-7.49 (m, 1H), 7.43-7.40 (m, 1H), 5.98 (s, 1H), 5.88-5.85 (m, 1H), 4.25-4.20 (m, 1H), 3.85-3.82 (m, 2H), 3.70 (s, 3H), 3.51-3.48 (m, 2H), 3.25-3.20 (m, 2H), 3.05 (s, 3H), 2.98-2.95 (m, 2H), 2.70-2.62 (m, 4H), 2.24-2.22 (m, 3H), 2.11 (s, 3H), 2.05-1.98 (m, 5H), 1.90-1.71 (m, 6H), 1.70-1.68 (m, 2H); LC-MS: 745.35
- 10 [M+H]⁺; HPLC: 92.27%

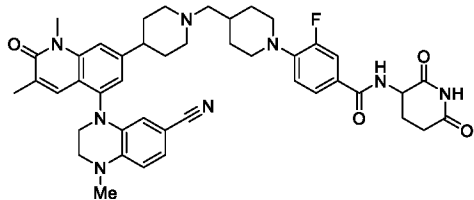
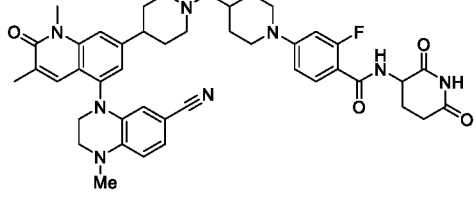
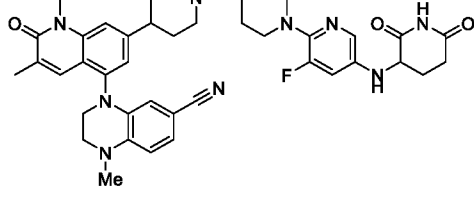
The compounds listed in **Table-1** were prepared by reacting appropriate intermediates using a procedure similar to the one described in the synthesis of Compound-1 with appropriate variations. The characterization data of the compounds are summarized herein the below table.

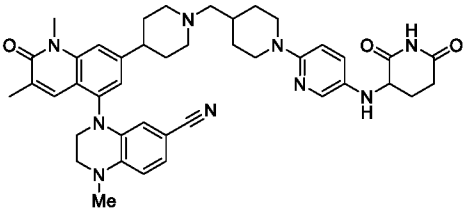
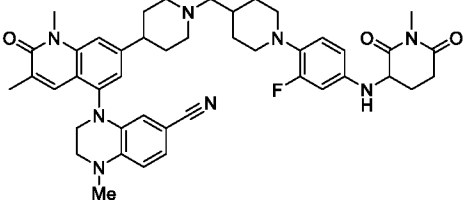
Table-1:

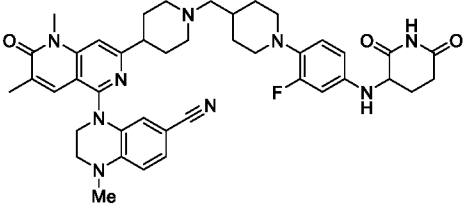
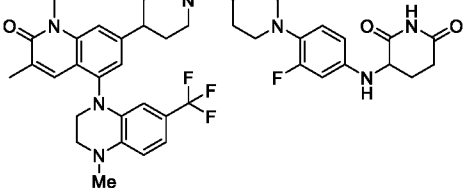
Com p. No	Inter medi ates used	Structure	Characterization data
2	I-2 & I-7		¹ H NMR (DMSO-D ₆ , 400MHz): δ 10.98 (s, 1H), 7.65 (s, 1H), 7.15 (s, 1H), 7.05 (m, 1H), 6.92-6.84 (m, 4H), 6.81-6.76 (m, 1H), 5.91 (s, 1H), 5.05 (s, 1H), 3.89-3.86 (m, 1H), 3.71 (s, 3H), 3.55-3.42 (s, 6H), 3.05 (s, 3H), 3.01-2.95 (m, 4H), 2.78-2.65 (m, 5H), 2.15 (s, 3H), 2.05-1.95 (m, 5H), 1.90-1.85 (m, 7H), 1.62-1.58 (m, 1H); LC-MS: 728.15 [M+H] ⁺ .

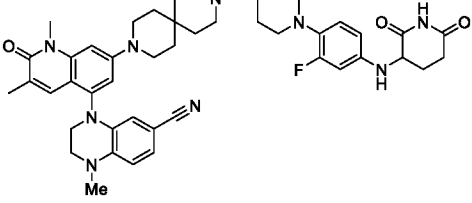
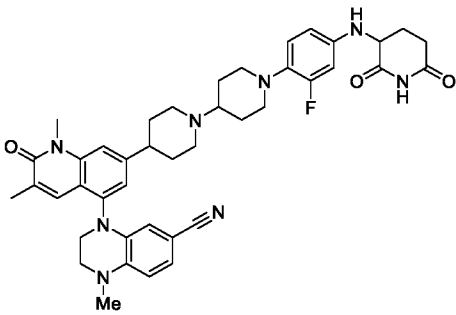
3	B1 & I-7		¹ H NMR (DMSO-D ₆ , 400MHz): δ 10.77 (s, 1H), 7.59 (s, 1H), 7.38 (s, 1H), 7.22-7.20 (m, 1H), 7.15 (s, 1H), 7-6.95 (m, 1H), 6.9-6.81 (m, 4H), 6.05 (s, 1H), 4.98-4.92 (m, 1H), 3.82 (s, 3H), 3.71-3.61 (m, 1H), 3.60-3.45 (m, 3H), 3.10-2.90 (m, 2H), 2.71-2.65 (m, 3H), 2.60-2.51 (m, 3H), 2.10 (s, 3H), 2.08-2.05 (m, 2H), 2.04-1.93 (m, 6H), 1.72-1.68 (m, 8H), 1.63-1.53 (m, 2H); LC-MS: 713.30 [M+H] ⁺ ; HPLC: 92.95%
4	B1 & I-6		¹ H NMR (DMSO-D ₆ , 400MHz): δ 10.77 (s, 1H), 7.59 (s, 1H), 7.39 (s, 1H), 7.25-7.23 (m, 1H), 7.15 (s, 1H), 6.96-6.95 (m, 1H), 6.83-6.78 (m, 1H), 6.47-6.38 (m, 2H), 6.05 (s, 1H), 5.76-5.68 (m, 1H), 4.25-4.20 (m, 1H), 3.71 (s, 3H), 3.65-3.63 (m, 2H), 3.45-3.38 (m, 1H), 3.10-3.05 (m, 2H), 2.95-2.90 (m, 4H), 2.80-2.78 (m, 2H), 2.61-2.55 (m, 3H), 2.19-2.15 (m, 3H), 2.04-1.93 (m, 8H), 1.72-1.68 (m, 8H); LC-MS: 730.30 [M+H] ⁺ .
5	I-3 & I-7		¹ H NMR (DMSO-D ₆ , 400MHz): δ 10.77 (s, 1H), 7.47 (s, 1H), 7.02-7.01 (m, 1H), 6.91-7.82 (m, 5H), 6.75 (s, 1H), 6.65-6.63 (m, 1H), 6.05 (s, 1H), 4.98-4.92 (m, 1H), 3.80-3.75 (m, 1H), 3.73-

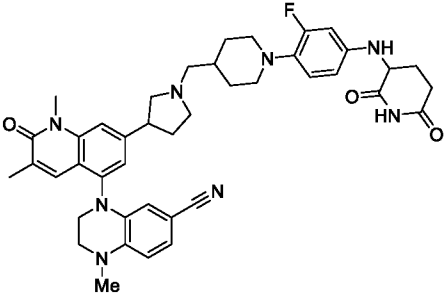
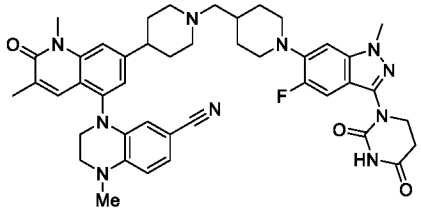
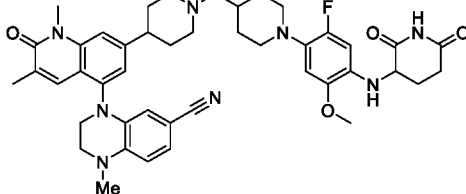
			3.70 (m, 1H), 3.65 (s, 3H), 3.55-3.45 (m, 4H), 3.35-3.32 (m, 5H), 3.02 (s, 3H), 2.72-2.52 (m, 6H), 2.35-2.21 (m, 4H), 2.02 (s, 3H), 1.92-1.84 (m, 2H), 1.75-1.68 (m, 1H), 1.40-1.38 (m, 3H); LC-MS: 729.30 [M+H] ⁺ .
6	I-4 & I-9		¹ H NMR (DMSO- <i>d</i> ₆ , 400MHz): δ 10.77 (s, 1H), 7.46 (s, 1H), 7.01-7.01 (m, 1H), 6.92-6.89 (m, 5H), 6.73-6.70 (m, 1H), 6.65-6.63 (m, 1H), 5.98 (s, 1H), 4.98-4.92 (m, 1H), 3.92-3.65 (m, 5H), 3.70 (s, 3H), 3.50-3.48 (m, 2H), 2.86-2.71 (m, 7H), 2.68-2.65 (m, 2H), 2.60-2.55 (m, 4H), 2.32-2.21 (m, 4H), 2.20-2.15 (m, 2H), 2.14-2.10 (m, 2H), 1.95-1.90 (m, 1H), 1.98-1.95 (m, 3H), 1.86-1.82 (m, 1H); LC-MS: 729.30 [M+H] ⁺ .
7	I-2 & I-8		¹ H NMR (DMSO-D ₆ , 400MHz): δ 10.77 (s, 1H), 7.61 (s, 1H), 7.34 (s, 1H), 7.13 (s, 1H), 7.04-7.02 (m, 1H), 6.97-6.83 (m, 2H), 6.87-6.75 (m, 1H), 6.65-6.60 (m, 1H), 5.98 (s, 1H), 5.22-5.11 (m, 1H), 3.88-3.80 (m, 2H), 3.70 (s, 3H), 3.51-3.48 (m, 2H), 3.25-3.20 (m, 2H), 3.05 (s, 3H), 2.98-2.95 (m, 2H), 2.73-2.62 (m, 6H), 2.24-2.22 (m, 4H), 2.21 (s, 3H), 2.10-1.98 (m, 2H), 1.97-1.85 (m, 7H),

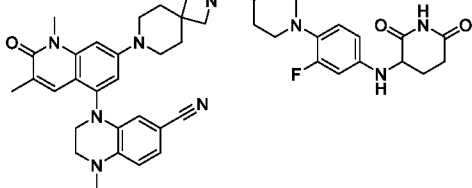
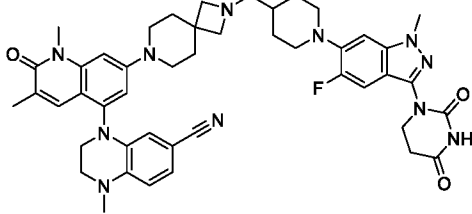
			1.81-1.78 (m, 1H), LC-MS: 746.30 [M+H] ⁺ .
8	I-2 & I-10		¹ H NMR (DMSO-D ₆ , 400MHz): δ 10.98 (s, 1H), 9.45 (s, 1H), 7.88 (s, 1H), 7.61 (s, 1H), 7.35 (s, 1H), 7.20-6.95 (m, 4H), 6.73-6.70 (m, 1H), 5.98 (s, 1H), 4.78-4.75 (m, 1H), 3.77-3.75 (m, 2H), 3.10 (s, 3H), 2.98-2.95 (m, 1H), 2.90-2.80 (m, 7H), 2.31-2.25 (m, 2H), 2.15 (s, 3H), 2.10-1.98 (m, 2H), 1.95-1.80 (m, 7H), 1.70-1.68 (m, 7H), 1.55-1.50 (m, 3H); LC-MS: 773.35 [M+H] ⁺ .
9	I-2 & E1		¹ H NMR (DMSO-D ₆ , 400MHz): δ 10.88 (s, 1H), 8.63 (m, 1H), 7.65-7.60 (m, 3H), 7.35 (s, 1H), 7.35 (s, 1H), 7.25-7.10 (m, 3H), 6.73-6.70 (m, 1H), 5.98 (s, 1H), 4.75-4.70 (m, 1H), 3.77-3.75 (m, 2H), 3.10 (s, 3H), 2.99-2.95 (m, 1H), 2.91-2.80 (m, 7H), 2.31-2.25 (m, 2H), 2.15 (s, 3H), 2.15-1.98 (m, 2H), 1.95-1.80 (m, 7H), 1.70-1.68 (m, 7H), 1.56-1.50 (m, 2H); LC-MS: 773.35 [M+H] ⁺ .
10	I-2 & D1		¹ H NMR (DMSO-D ₆ , 400MHz): δ 10.77 (s, 1H), 7.71-7.68 (m, 2H), 7.34 (s, 1H), 7.15 (s, 1H), 6.97-6.83 (m, 3H), 6.71-6.62 (m, 1H), 5.98 (s, 1H), 4.42-4.25 (m, 1H), 3.88-3.80 (m, 2H), 3.70 (s, 3H), 3.51-3.48 (m, 6H), 3.05 (s,

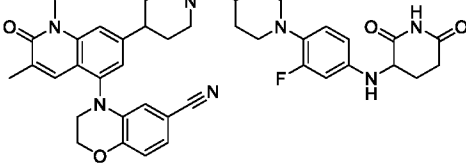
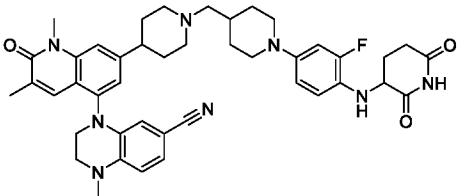
			3H), 3.02-2.95 (m, 2H), 2.73-2.62 (m, 7H), 2.24-2.22 (m, 2H), 2.10 (s, 3H), 2.05-1.98 (m, 2H), 1.85-1.75 (m, 7H); LC-MS: 746.40 [M+H] ⁺ .
11	I-2 & D2		¹ H NMR (DMSO-D ₆ , 400MHz): δ 10.78 (s, 1H), 7.69 (d, 1H), 7.61 (s, 1H), 7.34 (s, 1H), 7.14 (s, 1H), 7.04-7.02 (m, 3H), 6.66-6.65 (m, 1H), 5.89-5.88 (m, 1H), 5.36 (d, 1H), 4.25-4.20 (m, 1H), 4.05-3.95 (m, 2H), 3.85-3.82 (m, 2H), 3.70 (s, 3H), 3.51-3.48 (m, 6H), 3.05 (s, 3H), 2.98-2.95 (m, 2H), 2.70-2.62 (m, 3H), 2.24-2.22 (m, 2H), 2.11 (s, 3H), 2.05-1.98 (m, 4H), 1.90-1.71 (m, 6H), 1.70-1.68 (m, 1H), ; LC-MS: 728.40 [M+H] ⁺ .
12	I-2 & I-11		¹ H-NMR (DMSO-D ₆), 400MHz): δ 7.65 (s, 1H), 7.15 (s, 1H), 7.05 (s, 1H), 6.92-6.84 (m, 4H), 6.81-6.76 (m, 1H), 5.91 (s, 1H), 5.05 (s, 1H), 3.89-3.86 (m, 1H), 3.71 (s, 3H), 3.55-3.42 (s, 6H), 3.05 (s, 3H), 3.01 (s, 3H), 3.01-2.95 (m, 4H), 2.78-2.65 (m, 5H), 2.15 (s, 3H), 2.05-1.95 (m, 5H), 1.90-1.85 (m, 7H), 1.62-1.58 (m, 1H),); LC-MS: 759.35 [M+H] ⁺ .
13	I-5		¹ H-NMR (DMSO-D ₆), 400MHz): δ 10.77 (s, 1H), 7.54

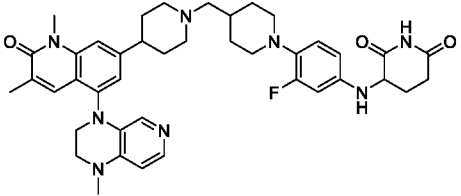
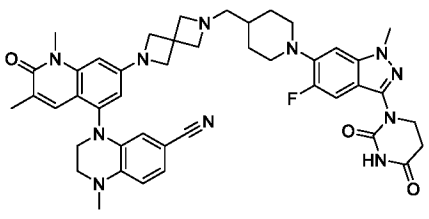
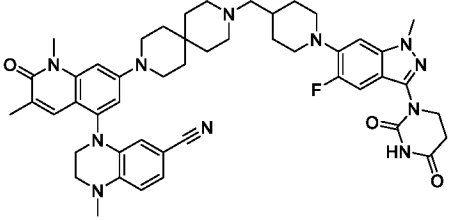
	& I-6		(s, 1H), 7.20 (s, 1H), 7.15 (d, 1H), 6.83 (t, 1H), 6.72 (d, 1H), 6.56-6.55 (m, 1H), 6.49-6.39 (m, 1H), 6.25 (s, 1H), 5.78 (d, 1H), 4.3-4.2 (m, 1H), 3.75-3.74 (m, 2H), 3.65-3.62 (s, 4H), 3.16-3.07 (m, 2H), 3.04 (s, 3H), 2.99-2.92 (m, 2H), 2.78-2.45 (m, 2H), 2.68-2.66 (m, 3H), 2.49-2.47 (m, 3H), 2.20 (d, 2H), 2.15-2.11 (m, 2H), 2.04-2.04 (s, 3H), 1.99-1.98 (m, 3H), 1.85-1.83 (m, 6H); LC-MS: 746.35 [M+H] ⁺ .
14	B3 & I-6		¹ H-NMR (CD ₃ OD), 400MHz): δ 7.77 (s, 1H), 7.39 (s, 1H), 7.15 (d, 1H), 6.97-6.93 (m, 2H), 6.74 (d, 1H), 6.57-6.48 (m, 2H), 6.107 (d, 1H), 4.3-4.2 (m, 1H), 3.84 (s, 3H), 3.72-3.62 (m, 2H), 3.36 (s, 3H), 3.33-3.32 (m, 1H), 3.28 (d, 1H), 3.15-3.14 (m, 1H), 3.06 (s, 3H), 2.82-2.81 (m, 2H), 2.81-2.79 (m, 1H), 2.79-2.74 (m, 1H), 2.67-2.66 (m, 1H), 2.45-2.35 (m, 2H), 2.37-2.29 (m, 1H), 2.28-2.27 (m, 2H), 2.17 (s, 3H), 1.96-1.91 (m, 7H), 1.9-1.88 (m, 1H), 1.5-1.4 (m, 2H); LC-MS: 788.35 [M+H] ⁺ .
15	C1 & I-6		¹ H-NMR (DMSO-D ₆ , 400MHz): δ 10.77 (s, 1H), 7.45 (m, 2H), 7.05 (s, 1H), 6.92 (s, 1H), 6.88-6.81 (m, 2H), 6.53-

			6.52 (m, 1H), 6.48-6.45 (m, 1H), 6.41-6.38 (m, 1H), 5.98 (s, 1H), 5.81-5.78 (m, 1H), 4.31-4.28 (m, 1H), 3.85-3.71 (m, 2H), 3.70 (s, 3H), 3.55-3.45 (m, 5H), 3.41-3.38 (m, 2H), 3.15-3.10 (m, 2H), 3.05 (s, 3H), 2.72-2.68 (m, 2H), 2.65-2.62 (m, 2H), 2.45-2.40 (m, 2H), 2.38-2.30 (m, 1H), 2.05 (s, 3H), 1.95-1.80 (m, 8H), 1.68-1.55 (m, 8H); LC-MS: 814.4 [M+H] ⁺ .
16	I-2 & I-12		¹ H-NMR (DMSO-D ₆ , 400MHz): δ 10.8 (s, 1H), 7.61 (s, 1H), 7.34 (s, 1H), 7.13 (s, 1H), 7.05-7.02 (m, 1H), 6.86 (t, 1H), 6.68 (d, 1H), 6.52-6.48 (m, 1H), 6.42-6.39 (m, 1H), 5.89 (s, 1H), 5.8 (d, 1H), 4.3-4.2 (m, 1H), 3.85-3.7 (m, 5H), 3.51 (m, 2H), 3.25-3.19 (m, 2H), 3.09-2.95 (m, 5H), 2.75-2.65 (m, 3H), 2.60-2.49 (m, 2H), 2.48-2.4 (m, 2H), 2.35-2.15 (m, 2H), 2.1 (s, 1H), 2.05-1.95 (m, 1H), 1.9-1.75 (m, 8H), 1.65-1.55 (m, 2H); LC-MS: 731.30 [M+H] ⁺ .
17	B2		¹ H-NMR (DMSO-D ₆ , 400MHz): δ 10.8 (s, 1H), 7.62 (s, 1H), 7.41 (s, 1H), 7.24-7.23 (m, 1H), 7.03 (t, 1H), 6.82-6.81 (m, 1H), 6.67 (d, 1H), 6.52-6.48 (m, 1H), 6.42-6.40 (m, 1H), 5.95-5.9 (m, 1H),

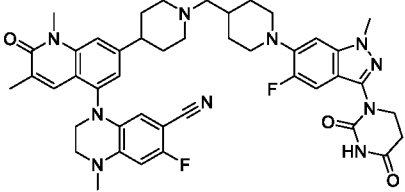
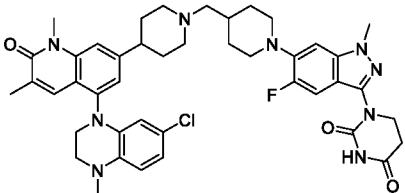
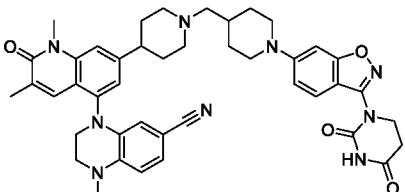
	& I-6		5.79-5.76 (m, 1H), 4.3-4.2 (m, 1H), 3.8-3.7 (m, 2H), 3.73 (s, 3H), 3.6-3.51 (m, 1H), 3.5-3.4 (m, 2H), 3.11-3.10 (m, 2H), 3.09 (s, 3H), 2.80-2.78 (m, 2H), 2.73-2.72 (m, 2H), 2.51-2.49 (m, 4H), 2.08 (s, 5H), 1.87-1.77 (m, 5H), 1.51 (m, 2H), 1.30-1.24 (m, 2H); LC-MS: 731.30 [M+H] ⁺ .
18	I-2 & I-15		¹ HNMR (DMSO-D ₆ , 400MHz): δ 10.52 (s, 1H), 7.62 (s, 1H), 7.35-7.32 (m, 2H), 7.14 (s, 1H), 7.09-7.07 (s, 1H), 7.05 (d, 1H), 7.03 (d, 1H), 6.68 (d, 1H), 5.89 (s, 1H), 3.94-3.91 (m, 3H), 3.89 (m, 2H), 3.87 (m, 1H), 3.75 (m, 1H), 3.71 (m, 1H), 3.46 (m, 3H), 3.43 (m, 2H), 3.38-3.36 (m, 3H), 3.33-3.31(m, 1H), 3.30-3.28 (m, 1H) 3.03 (m, 3H), 2.98 (m, 1H), 2.75-2.72 (m, 2H), 2.25-2.24 (m, 2H), 2.08-2.07 (m, 3H), 2.02 (m, 2H), 1.91-1.87 (m, 4H), 1.35-1.34 (m, 2H). 1.25-1.23(m, 2H); LC-MS: 785.4.4 [M+H] ⁺ .
19	I-2 & D3		¹ HNMR (DMSO-D ₆ , 400MHz): δ 10.84 (s, 1H), 7.62 (s, 1H), 7.34 (s, 1H), 7.14 (s, 1H), 7.05-7.02 (m, 1H), 6.68-6.65 (m, 1H), 6.61-6.59 (m, 1H), 6.55-6.51 (m, 1H), 5.88 (s, 1H), 5.08 (m, 1H), 4.32 (m, 1H), 3.75 (m, 1H), 3.78-3.71 (m, 4H), 3.65 (m, 3H), 3.6-3.4

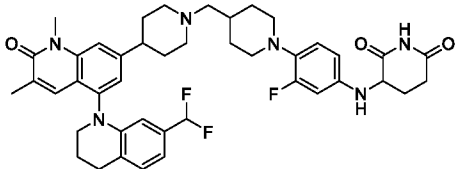
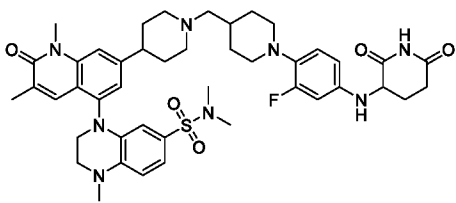
			(m, 2H), 3.2-3.1 (m, 2H), 3.1-3.0 (m, 3H), 2.98 (m, 2H), 2.68-2.67 (m, 2H) 2.66-2.65 (m, 4H), 2.39-2.32 (m, 2H), 2.2-2.20 (m, 1H), 2.07(m, 3H), 1.99-1.81 (m, 3H), 1.78(m, 7H), 1.6(m, 1H). LC-MS: 775.4 [M+H]+.
20	C2 & I-6		¹ H-NMR (400 MHz, CDCl ₃) δ 7.94 (s, 1H), 7.47 (s, 1H), 7.04 (d, 1H), 6.89-6.91 (t, 1H), 6.66-6.59 (d, 2H), 6.57 (d, 1H), 6.46-6.404 (m, 2H), 6.212 (s, 1H), 4.60-4.061 (d, 1H), 4.05-3.98 (m, 1H), 3.81-3.74 (m, 5H), 3.64-3.59 (m, 1H), 3.48-3.44 (m, 1H), 3.32-3.28 (t, 8H), 3.081 (s, 3H), 2.88-2.86 (m, 1H), 2.799-2.76 (m, 1H), 2.64-2.53 (m, 5H), 2.18 (s, 3H), 2.17-1.98 (m, 4H), 1.97-1.89 (m, 2H), 1.96-1.83 (m, 3H), 1.51-1.46 (m, 3H).
21	C2 & I-15		¹ H-NMR (DMSO-D ₆ , 400 MHz) δ 10.5 (s, 1H), 7.46 (s, 1H), 7.34 (d, 1H), 7.08 (d, 1H), 7.00-7.02 (m, 1H), 6.9 (d, 1H), 6.74 (d, 1H), 6.65 (d, 1H), 5.9 (d, 1H), 3.93 (s, 3H), 3.9-3.6 (m, 5H), 3.65 (s, 3H), 3.52-3.49 (m, 4H), 3.43 (d, 2H), 3.02 (s, 3H), 3.00 (s, 3H), 2.75 (t, 2H), 2.68-2.66 (m, 4H), 2.38 (d, 2H), 2.01 (s, 3H), 1.79 (m, 6H), 1.35-1.29 (m,

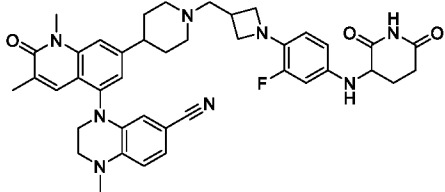
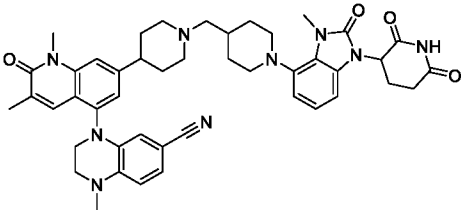
			2H), 1.24 (s, 2H). LC-MS: 826.4 [M+H] ⁺ .
26	B4 & I-6		¹ H-NMR (DMSO-D ₆ , 400 MHz) δ 10.77 (s, 1H), 8.14 (s, 1H), 7.37 (s, 1H), 7.2 (d, 1H), 7.1 (d, 1H), 7.07 (d, 1H), 7.0 (d, 1H), 6.83 (t, 1H), 6.52 (dd, 1H), 6.42 (dd, 1H), 6.24 (d, 1H), 5.79 (d, 1H), 4.65-4.55 (m, 1H), 4.5-4.4 (m, 1H), 4.3-4.2 (m, 1H), 3.85-3.75 (m, 1H), 3.71 (s, 3H), 3.65-3.55 (m, 1H), 3.15 (d, 2H), 3.05 (d, 1H), 2.8-2.65 (m, 3H), 2.6-2.55 (m, 2H), 2.3-2.2 (m, 2H), 2.15-1.95 (m, 5H), 1.9-1.7 (m, 7H), 1.7-1.55 (m, 1H), 1.3-1.2 (m, 3H). LC-MS: 732.3 [M+H] ⁺ .
27	I-2 & D4		¹ H-NMR (400 MHz, DMSO-d ₆) δ 11.06 (s, 1H), 8.55 (s, 1H), 7.74 (s, 1H), 7.42 (s, 1H), 7.17 (s, 1H), 7.04 (d, 1H), 6.85 (d, 1H), 6.72-6.69 (m, 3H), 6.01 (s, 1H), 4.60 (s, 3H), 4.17-4.11 (m, 1H), 3.85 (s, 3H), 3.80-3.70 (m, 3H), 3.30-3.20 (m, 2H), 3.15-3.09 (m, 4H), 2.89-2.85 (m, 2H), 2.77-2.75 (m, 2H), 2.55-2.40 (m, 6H), 2.18 (s, 3H), 2.05-1.90 (m, 7H), 1.60-1.40 (m, 2H). LC-MS: 745.3 [M+H] ⁺ .

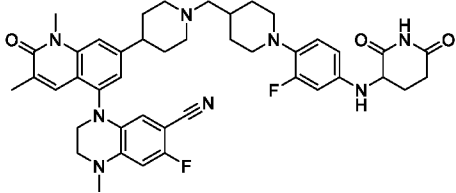
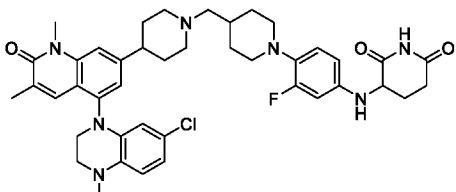
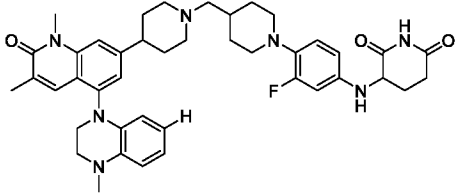
28	B5 & I-6		¹H-NMR (400 MHz, DMSO) δ 10.7 (s, 1H), 7.72 (t, 2H), 7.31 (s, 1H), 7.12 (s, 1H), 6.86 (t, 2H), 6.65 (d, 1H), 6.50 (dd, 1H), 6.49 (dd, 1H), 6.44 (dd, 1H), 5.77 (d, 1H), 4.25-4.21(m, 1H), 3.82-3.77 (m, 1H), 3.705 (s, 3H), 3.51 (s, 3H), 3.43-3.42 (m, 1H), 3.16-3.15 (m, 1H), 3.13 (d, 2H), 3.06 (s, 3H), 3.02 (d, 2H), 2.73-2.71 (m, 2H), 2.67 (d, 2H), 2.59 (s, 3H), 2.29-2.25 (m, 1H), 2.10 (s, 3H), 2.08-1.99 (m, 2H), 1.85-1.76 (m, 5H), 1.6 (m, 2H). LC-MS: 721.35 [M+H]⁺.
29	C3 & I-15		¹H-NMR (400 MHz, DMSO) δ 10.52 (s, 1H), 7.46 (s, 2H), 7.35 (d, 1H), 7.09 (d, 1H), 7.03 (dd, 2H), 6.66 (d, 1H), 6.34 (bs, 1H), 6.24 (s, 1H), 5.9 (d, 1H), 4.1 (bs, 1H), 3.93 (s, 3H), 3.8-3.7 (m, 2H), 3.62 (s, 3H), 3.55-3.45 (m, 4H), 3.45-3.4 (m, 3H), 3.3-3.25 (m, 4H), 3.02 (s, 3H), 2.75 (t, 1H), 2.7-2.6 (m, 3H), 2.67 (d, 2H), 2 (s, 3H), 1.85 (d, 2H), 1.5-1.3 (m, 3H). LC-MS: 798.4 [M+H]⁺.
30	C1 & I-15		¹H-NMR (400 MHz, DMSO) δ 10.25 (s, 1H), 7.46 (s, 1H), 7.33 (d, 1H), 7.06 (d, 1H), 7.02 (d, 1H), 6.90 (s, 1H), 6.73 (s, 1H), 6.64 (d, 1H), 5.89 (d, 1H), 3.94

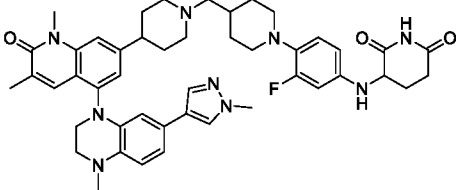
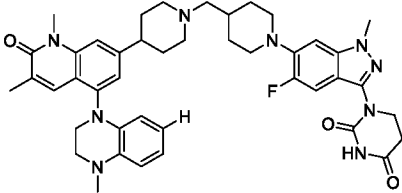
			(s, 3H), 3.89 (t, 2H), 3.85 (d, 1H), 3.74 (m, 2H), 3.65 (s, 3H), 3.51-3.45 (m, 5H), 3.26 (s, 5H), 3.02 (s, 3H), 2.74 (t, 2H), 2.71 (d, 2H), 2.49-2.44 (m, 2H), 2.36 (m, 2H), 2.02-2.01 (s, 3H), 1.84 (d, 2H), 1.56 (s, 7H), 1.24 (m, 3H). LC-MS: 854.4 [M+H] ⁺ .
31	I-2 & I-19		¹ H-NMR (MeOD, 400 MHz) δ 7.74 (s, 1H), 7.42 (s, 1H), 7.16 (s, 1H), 7.04-6.99 (m, 2H), 6.9 (d, 1H), 6.84 (dd, 1H), 6.72 (d, 1H), 6.01 (d, 1H), 5.32-5.27 (m, 1H), 3.85 (s, 3H), 3.82-3.75 (m, 1H), 3.62 (d, 3H), 3.5-3.4 (m, 1H), 3.4 (m, 3H), 3.1 (s, 3H), 2.9-2.89 (m, 1H), 2.83-2.71 (m, 5H), 2.39 (bs, 2H), 2.22-2.17 (m, 8H), 1.97-1.95 (m, 6H), 1.85-1.75 (m, 1H), 1.5-1.4 (m, 2H). LC-MS: 782.1 [M+H] ⁺ .
32	I-3 & I-15		¹ H-NMR (DMSO-D ₆ , 400 MHz) δ 10.52 (s, 1H), 8.4 (s, 1H), 7.5 (s, 1H), 7.35 (d, 1H), 7.1 (d, 1H), 7.03 (d, 1H), 6.92 (d, 1H), 6.75 (d, 1H), 6.66 (d, 1H), 5.9 (s, 1H), 4.0 (s, 1H), 3.8 (t, 2H), 3.85-3.3 (m, 1H), 3.8-3.7 (m, 1H), 3.66 (s, 3H), 3.55-3.4 (m, 6H), 3.02 (s, 3H), 2.75-2.65 (m, 5H), 2.54-2.53 (m, 6H), 2.29 (d, 2H), 2.02 (s, 3H), 1.89 (d, 2H), 1.8-1.7

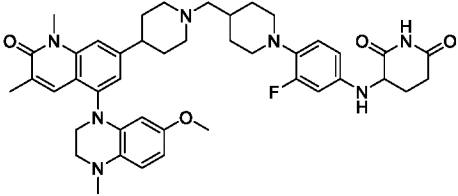
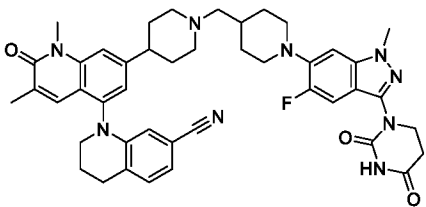
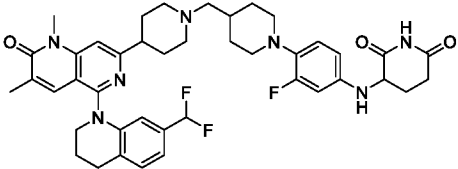
			(m, 1H), 1.37-1.34 (m, 2H). LC-MS: 786.6 [M+H] ⁺ .
33	I-21 & I-15		¹H-NMR (400 MHz, DMSO-d₆) δ 10.52 (s, 1H), 8.28 (s, 1H), 7.64 (s, 1H), 7.35-7.32 (m, 2H), 7.11-7.07 (m, 2H), 6.64-6.61 (d, 1H), 5.82-5.80 (d, 1H), 3.94 (s, 3H), 3.91-3.87 (t, 2H), 3.77-3.74 (m, 2H), 3.70 (s, 3H), 3.50 (m, 4H), 3.06 (s, 3H), 3.05-2.98 (m, 2H), 2.75-2.67 (m, 6H), 2.26-2.24 (m, 2H), 2.08 (s, 3H), 2.03-1.99 (m, 2H), 1.87-1.65 (m, 5H), 1.35-1.26 (m, 2H). LC-MS: 803.35 [M+H]⁺.
34	G1 & I-15		¹H-NMR (400 MHz, DMSO-d₆) δ 10.52 (s, 1H), 8.33 (s, 1H), 7.60 (s, 1H), 7.35-7.34 (m, 2H), 7.14 (s, 1H), 7.09 (d, 1H), 6.58 (s, 2H), 5.68 (s, 1H), 3.94 (s, 3H), 3.91-3.80 (m, 3H), 3.71 (s, 3H), 3.55-3.50 (m, 4H), 3.50-3.40 (m, 2H), 3.30-3.20 (m, 2H), 3.05-2.95 (m, 2H), 2.90 (s, 3H), 2.76-2.67 (m, 4H), 2.25-2.24 (d, 2H), 2.09-1.99 (m, 6H), 1.88-1.81 (m, 4H), 1.25-1.24 (m, 1H). LC-MS: 794.35 [M+H]⁺.
35	I-2		¹H-NMR (400 MHz, DMSO-d₆) δ 10.81 (s, 1H), 7.62-7.58 (m, 3H), 7.34 (s, 1H), 7.14 (s, 1H), 7.07-7.02 (m, 2H), 6.98 (d, 1H), 6.68 (d, 1H), 5.89 (d, 1H), 4.05 (t,

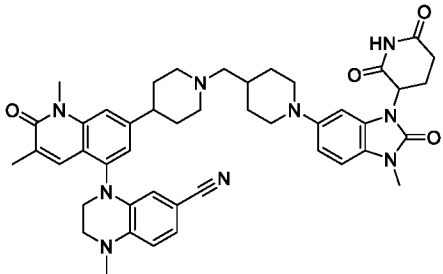
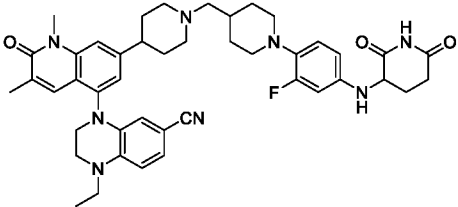
	& I-22		2H), 3.95-3.85 (m, 2H), 3.85-3.75 (m, 2H), 3.71 (s, 3H), 3.6-3.4 (m, 3H), 3.17 (s, 3H), 3-2.95 (m, 2H), 2.84 (t, 2H), 2.77 (t, 2H), 2.7-2.65 (m, 1H), 2.21 (d, 2H), 2.08 (s, 3H), 2.01 (t, 2H), 1.85-1.7 (m, 5H), 1.25-1.15 (m, 2H). LC-MS: 754.3 [M+H] ⁺ .
36	G2 & I-6		¹ H-NMR (DMSO-D ₆ , 400 MHz) δ 10.77 (s, 1H), 8.2 (s, 1H), 7.63 (s, 1H), 7.34 (s, 1H), 7.15-7.11 (m, 2H), 6.85-6.8 (m, 1H), 6.74 (d, 1H), 6.6 (s, 1H), 6.52-6.51 (m, 1H), 6.42-6.39 (m, 1H), 6.03 (s, 1H), 5.78 (d, 1H), 4.27-4.24 (m, 1H), 3.7 (s, 3H), 3.65-3.55 (m, 2H), 3.5-3.45 (m, 2H), 3.15-3.05 (m, 2H), 3.0-2.9 (m, 3H), 2.8-2.65 (m, 3H), 2.6-2.55 (m, 3H), 2.2 (d, 2H), 2.15-2.05 (m, 5H), 2.05-1.95 (m, 2H), 1.9-1.7 (m, 4H), 1.65-1.55 (m, 1H). 1.3-1.2 (m, 3H). LC-MS: 755.3 [M+H] ⁺ .
37	G3 & I-6		¹ H-NMR (400 MHz, DMSO-d ₆) δ 10.77 (s, 1H), 7.64 (s, 1H), 7.32 (s, 1H), 7.14 (s, 1H), 6.99 (dd, 1H), 6.83 (t, 1H), 6.74 (d, 1H), 6.52 (dd, 1H), 6.42 (dd, 1H), 6.1 (d, 1H), 5.78 (d, 1H), 4.3-4.2 (m, 1H), 3.85-3.8 (m, 1H), 3.75-3.7 (m, 4H), 3.65-3.55 (m, 1H), 3.5-3.45 (m, 1H), 3.15 (d, 2H), 3.04

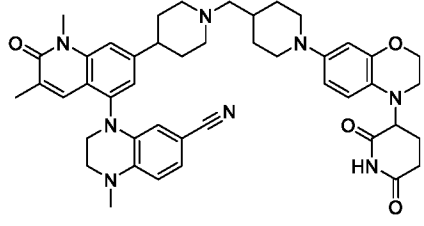
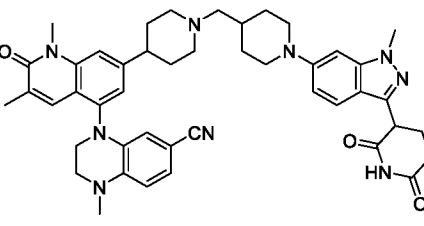
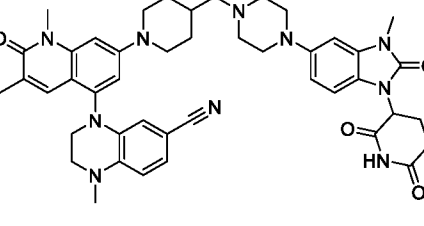
			(s, 3H), 2.97 (d, 2H), 2.73-2.65 (m, 2H), 2.59-2.45 (m, 3H), 2.32 (s, 6H), 2.19 (d, 2H), 2.09-1.99 (m, 5H), 1.86-1.76 (m, 6H), 1.62-1.55 (m, 1H), 1.29-1.24 (m, 4H). LC-MS: 827.6 [M+H] ⁺ .
38	I-2 & D5		¹ H-NMR (400 MHz, DMSO-d ₆) δ 10.76 (s, 1H), 8.44 (bs, 1H), 7.61 (s, 1H), 7.34 (d, 1H), 7.13 (s, 1H), 7.02 (d, 1H), 6.66 (d, 1H), 6.46 (d, 1H), 6.41-6.34 (m, 2H), 5.89-5.88 (m, 1H), 5.54-5.51 (m, 1H), 4.25-4.15 (m, 1H), 3.87-3.65 (m, 9H), 3.03 (s, 3H), 2.59-2.85 (m, 3H), 2.73-2.54 (m, 5H), 2.15-2 (m, 7H), 1.83-1.76 (m, 5H). LC-MS: 717.3 [M+H] ⁺ .
39	I-2 & F1		¹ H-NMR (400 MHz, DMSO) δ 11.08 (s, 1H), 10.78 (s, 1H), 7.62 (s, 1H), 7.34 (s, 1H), 7.13 (s, 1H), 7.05 (d, 1H), 6.97 (t, 1H), 6.93 (m, 2H), 6.72 (d, 1H), 6.65 (d, 1H), 5.9 (s, 1H), 5.37-5.33 (m, 1H), 3.85-3.75 (m, 2H), 3.74 (s, 3H), 3.65 (s, 2H), 3.55 (t, 2H), 3.5-3.4 (m, 2H), 3.18-3.16 (m, 2H), 3.11 (s, 3H), 2.98-2.94 (m, 1H), 2.73-2.68 (m, 3H), 2.41-2.45 (m, 3H), 2.08 (s, 3H), 1.07-2.01 (m, 2H), 1.9 (s, 6H), 1.6-1.7 (m, 1H), 1.41-1.3 (m, 2H). LC-MS: 782.45 [M+H] ⁺ .

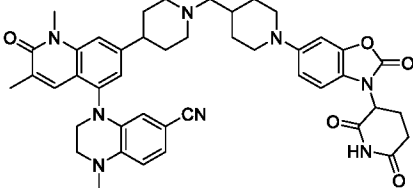
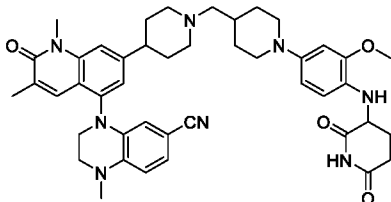
40	I-21 & I-6		¹H-NMR (400 MHz, DMSO-d₆) δ 10.80 (s, 1H), 7.64 (s, 1H), 7.32 (s, 1H), 7.10 (s, 1H), 6.86-6.81 (t, 1H), 6.65-6.61 (d, 1H), 6.52-6.40 (m, 2H), 5.82-5.77 (m, 2H), 4.25 (m, 1H), 3.77-3.70 (m, 5H), 3.51-3.49 (m, 2H), 3.13-3.11 (m, 2H), 3.06 (s, 3H), 2.98-2.89 (m, 2H), 2.73-2.67 (m, 2H), 2.59-2.55 (m, 3H), 2.20 (m, 1H), 2.08 (m, 4H), 2.01-1.98 (m, 2H), 1.87-1.77 (m, 5H), 1.34-1.24 (m, 5H). LC-MS: 763.4 [M+H]⁺.
41	G1 & I-6		¹H-NMR (400 MHz, DMSO-d₆) δ 10.77 (s, 1H), 7.60 (s, 1H), 7.33 (s, 1H), 7.18 (s, 1H), 6.83 (t, 1H), 6.58-6.57 (m, 2H), 6.55-6.40 (m, 2H), 5.78-5.76 (m, 1H), 5.68 (s, 1H), 4.25-4.2 (m, 1H), 3.80 (m, 1H), 3.71 (s, 3H), 3.55 (m, 2H), 3.13-3.10 (m, 2H), 2.96 (m, 2H), 2.90 (s, 3H), 2.73-2.55 (m, 6H), 2.21-2.19 (m, 2H), 2.11-2.06 (m, 4H), 1.97-1.85 (m, 3H), 1.77-1.54 (m, 9H). LC-MS: 754.35 [M+H]⁺.
42	G4 & I-6		¹H-NMR (400 MHz, DMSO-d₆) δ 10.77 (s, 1H), 7.65 (s, 1H), 7.26 (s, 1H), 7.05 (s, 1H), 6.83 (t, 1H), 6.63-6.6 (m, 2H), 6.52 (dd, 1H), 6.47 (dd, 1H), 6.37-6.35 (m, 1H),

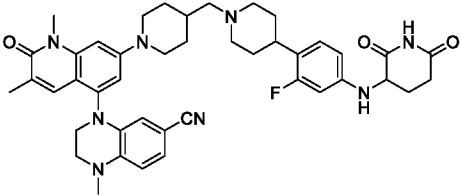
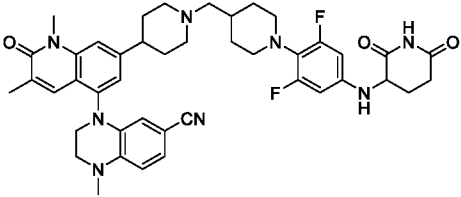
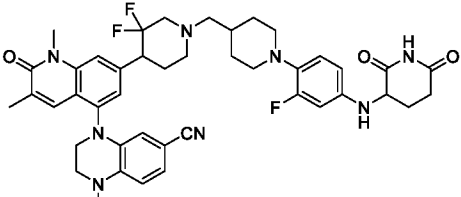
			5.84 (d, 1H), 5.78 (d, 1H), 4.25-4.23 (m, 1H), 3.69 (s, 4H), 3.18 (d, 3H), 2.97-2.91 (m, 2H), 2.9 (s, 4H), 2.73-2.52 (m, 4H), 2.2 (bs, 2H), 2.09-2.06 (m, 7H), 1.86-1.79 (m, 7H), 1.65-1.55 (m, 1H), 1.26-1.24 (m, 3H). LC-MS: 720.4 [M+H] ⁺ .
43	G5 & I-6		¹ H-NMR (DMSO-D ₆ , 400 MHz) δ 10.77 (s, 1H), 8.24 (s, 1H), 7.72 (s, 1H), 7.55 (s, 1H), 7.29 (d, 2H), 7.05 (s, 1H), 6.84-6.79 (m, 2H), 6.65 (d, 1H), 6.51 (dd, 1H), 6.42 (dd, 1H), 6.09 (d, 1H), 5.78 (d, 1H), 4.26-4.23 (m, 1H), 3.79-3.65 (m, 8H), 3.11 (d, 2H), 2.96-2.91 (m, 5H), 2.73-2.59 (m, 5H), 2.2 (d, 1H), 2.09-2.07 (m, 5H), 2.02 (t, 2H), 1.86-1.76 (m, 7H), 1.62-1.58 (m, 1H), 1.27-1.22 (m, 3H). LC-MS: 800.4 [M+H] ⁺ .
44	G4 & I-15		¹ H-NMR (DMSO-D ₆ , 400 MHz) δ 10.52 (s, 1H), 7.65 (s, 1H), 7.35 (d, 1H), 7.27 (s, 1H), 7.09-7.06 (m, 2H), 6.63-6.59 (m, 2H), 6.37-6.33 (m, 1H), 5.86 (d, 1H), 3.94 (s, 3H), 3.89 (t, 2H), 3.7 (s, 4H), 3.46 (d, 3H), 3.05-2.95 (m, 2H), 2.91 (s, 3H), 2.75-2.65 (m, 5H), 2.25-2 (m, 2H), 2.07 (d, 6H), 1.9-1.75 (m, 8H),

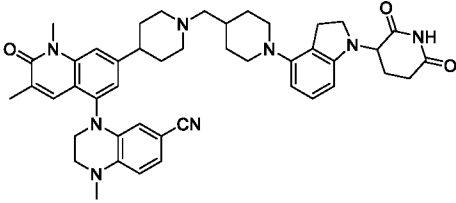
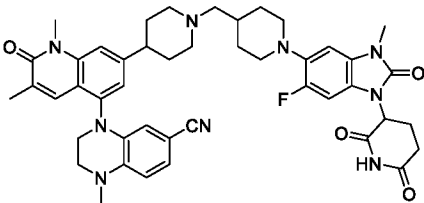
			1.4-1.3 (m, 2H). LC-MS: 760.4 [M+H] ⁺ .
45	G6 & I-6		¹ H-NMR (DMSO-D ₆ , 400 MHz) δ 10.77 (s, 1H), 7.61 (s, 1H), 7.3 (d, 1H), 7.08 (d, 1H), 6.83 (s, 1H), 6.55-6.47 (m, 3H), 6.2 (dd, 1H), 5.78 (d, 1H), 5.4 (d, 1H), 4.25 (m, 1H), 3.8-3.7 (m, 1H), 3.7 (s, 3H), 3.6-3.5 (m, 1H), 3.42 (s, 3H), 3.4-3.35 (m, 1H), 3.3-3.2 (m, 2H), 3.15 (d, 2H), 3 (d, 2H), 2.84 (s, 3H), 2.8-2.7 (m, 1H), 2.6-2.55 (m, 5H), 2.25-2.15 (m, 2H), 2.08 (s, 3H), 2.05-1.95 (m, 2H), 1.9-1.7 (m, 8H), 1.65-1.55 (m, 1H). LC-MS: 750.4 [M+H] ⁺ .
46	B1 & I-15		¹ H NMR (DMSO-D ₆ , 400MHz): δ 10.52 (s, 1H), 7.57 (s, 1H), 7.46 (s, 1H), 7.32-7.39 (m, 1H), 7.21 (d, 1H), 7.07-7.10 (m, 1H), 6.42 (m, 1H), 6.01 (d, 1H), 3.94 (s, 3H), 3.89-3.94 (t, 2H), 3.72 (d, 3H), 3.65-3.69 (m, 1H), 3.4-3.55 (m, 3H), 3.15-3.19 (m, 1H), 2.95-3.05 (m, 3H), 2.6-2.8 (m, 8H), 2.34-2.36 (m, 1H), 2.23-2.25 (m, 1H), 2.0-2.19 (m, 6H), 1.85-1.88 (m, 5H), 1.34-1.37 (m, 3H), LCMS m/z: 770.5 (M+H) ⁺ .
47	I-18 &		¹ H NMR (DMSO-D ₆ , 400MHz): δ 10.77 (s, 1H), 7.62 (s, 1H), 7.23-7.19 (m, 2H), 6.9-6.55 (m,

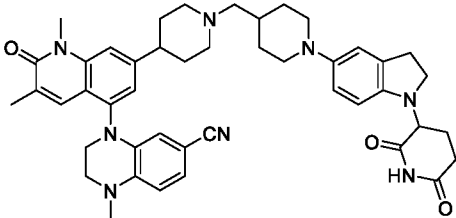
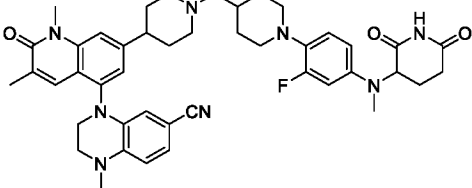
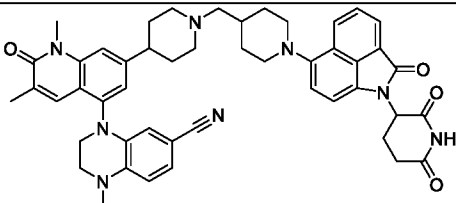
	I-6		3H), 6.4-6.51 (m, 2H), 6.32 (s, 1H), 5.77 (d, 1H), 4.25-4.23 (m, 1H), 3.68-3.65 (m, 5H), 3.15-3.05 (m, 2H), 2.95-2.85 (m, 4H), 2.75-2.55 (m, 6H), 2.2-2.15 (m, 2H), 2.1-2.02 (m, 7H), 1.99-1.7 (m, 8H), 1.65-1.55 (m, 1H). LC-MS: 756.3 [M+H] ⁺ .
48	I-2 & F2		¹ HNMR (DMSO-D6, 400MHz): δ 11.06 (s, 1H), 7.62 (s, 1H), 7.34 (s, 1H), 7.14 (s, 1H), 6.99-7.02 (m, 2H), 6.79 (s, 1H), 6.66-6.70 (t, 2H), 5.89 (d, 1H), 5.31-5.36 (m, 1H), 3.71-3.81 (m, 5H), 3.50-3.59 (m, 5H), 3.29 (s, 3H), 3.30 (s, 3H), 2.96-2.99 (m, 2H), 2.60-2.89 (m, 7H), 2.20-2.22 (m, 2H), 2.07 (d, 2H), 1.95-2.05 (m, 3H), 1.6-1.85 (m, 8H), LCMS m/z: 782.6 (M+H) ⁺ .
49	G7 & I-6		¹ HNMR (CD3OD), 400MHz): δ 7.79 (s, 1H), 7.4 (s, 1H), 7.18-7.13 (m, 2H), 7.04 (d, 1H), 6.78 (d, 1H), 6.66-6.59 (m, 2H), 6.07 (d, 1H), 4.35-4.31 (m, 1H), 3.85-3.79 (m, 5H), 3.59-3.5 (m, 5H), 3.23-3.14 (m, 5H), 2.83-2.75 (m, 2H), 2.69 (s, 6H), 2.3-2.27 (m, 3H), 2.19 (d, 3H), 2.18-1.73 (m, 4H), 1.75-1.69 (m, 2H), 1.33-1.26 (m, 2H). LCMS m/z: 759.4 (M+H) ⁺ .

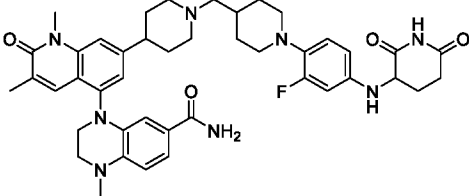
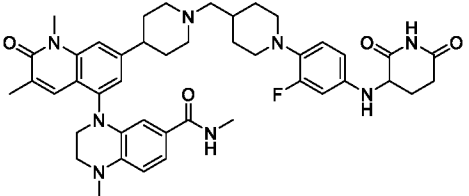
50	I-2 & I-28		¹ H NMR (DMSO-D ₆ , 400MHz): δ 10.78 (s, 1H), 7.62 (s, 1H), 7.34 (s, 1H), 7.13 (s, 1H), 7.05 (d, 1H), 6.69-6.66 (m, 2H), 6.39-6.34 (m, 2H), 5.89 (d, 1H), 4.8 (dd, 1H), 4.17-4.14 (m, 2H), 3.85-3.75 (m, 2H), 3.71 (s, 3H), 3.6-3.4 (m, 5H), 3.2-3.1 (m, 2H), 3.03 (s, 3H), 3-2.95 (m, 2H), 2.85-2.75 (m, 1H), 2.75-2.5 (m, 5H), 2.45-2.35 (m, 1H), 2.3-2.15 (m, 4H), 1.99 (s, 3H), 2.05-1.95 (m, 2H), 1.9-1.7 (m, 6H). LC-MS: 769.4 [M+H] ⁺ .
51	I-2 & I-29		¹ H NMR (DMSO-D ₆ , 400MHz): δ 10.85 (s, 1H), 7.62 (s, 1H), 7.47 (d, 1H), 7.35 (s, 1H), 7.146 (s, 1H), 7.02 (d, 1H), 6.92 (s, 1H), 6.82 (d, 1H), 6.66-6.68 (d, 1H), 5.89 (d, 1H), 4.23-4.27 (m, 1H), 3.89 (s, 4H), 3.79-3.81 (m, 4H), 3.71 (s, 3H), 3.49-3.51 (m, 3H), 2.99-3.08 (m, 5H), 2.6-2.8 (m, 5H), 2.15-2.35 (m, 4H), 2.05 (s, 3H), 1.95-2.04 (m, 2H), 1.75-1.85 (m, 7H). LCMS m/z: 766.5 (M+H) ⁺ .
52	I-4 & I-30		¹ H-NMR (DMSO-D ₆ , 400 MHz) δ 11.05 (s, 1H), 8.45 (bs, 1H), 7.46 (s, 1H), 7.02 (dd, 1H), 6.95 (d, 1H), 6.89 (d, 1H), 6.84 (d, 1H), 6.73 (s, 1H), 6.65-6.62 (m, 2H), 5.9 (d, 1H), 5.3-5.27 (m,

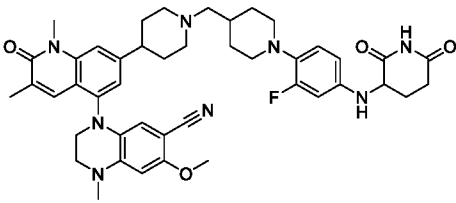
			1H), 3.96-3.93 (m, 2H), 3.84-3.7 (m, 2H), 3.65 (s, 3H), 3.55-3.45 (m, 3H), 3.32 (s, 3H), 3.12 (m, 4H), 3.02 (s, 3H), 2.9-2.85 (m, 3H), 2.7-2.45 (m, 6H), 2.25 (d, 2H), 2.05-1.95 (m, 4H), 1.85-1.75 (m, 3H). LC-MS: 783.4 [M+H] ⁺ .
53	I-2 & F3		1H-NMR (DMSO-D6, 400 MHz) δ 11.18 (s, 1H), 8.28 (s, 1H), 7.62 (s, 1H), 7.34 (dd, 1H), 7.14 (s, 1H), 7.08-7.02 (m, 3H), 6.79 (dd, 1H), 6.68 (d, 1H), 5.89 (d, 1H), 5.31 (dd, 1H), 3.85-3.75 (m, 2H), 3.76 (s, 4H), 3.61-3.56 (m, 4H), 3.03 (s, 3H), 2.99 (d, 2H), 2.71-2.6 (m, 6H), 2.2 (d, 1H), 2.15-2.13 (m, 1H), 2.07 (s, 3H), 2.2 (t, 2H), 1.85-1.67 (m, 6H), 1.23-1.21 (m, 2H). LC-MS: 769.3 [M+H] ⁺ .
54	I-2 & D6		1HNMR (DMSO-D6, 400MHz): δ 10.85 (s, 1H), 8.33 (s, 1H), 7.621 (s, 1H), 7.34 (s, 1H), 7.14 (s, 1H), 7.02 (d, 1H), 6.61 (d, 1H), 6.524-6.562 (m, 2H), 6.35 (d, 1H), 5.89 (d, 1H), 4.84-4.87 (m, 1H), 4.1-4.2 (m, 1H), 3.85 (s, 3H), 3.75 (s, 3H), 3.49-3.58 (m, 7H), 3.05 (s, 3H), 3.0 (m, 2H), 2.8 (m, 1H), 2.2-2.5 (m, 3H), 2.0 (s, 3H), 1.6-2.0 (m, 9H), 1.24 (m, 5H), LCMS m/z: 757.5 (M+H) ⁺ .

55	I-4 & I-31		¹H-NMR (DMSO-D₆, 400 MHz) δ 10.79 (s, 1H), 7.48 (s, 1H), 7.03-6.99 (m, 2H), 6.79 (s, 1H), 6.73 (s, 1H), 6.64 (d, 1H), 6.46-6.43 (m, 2H), 6.01 (bs, 1H), 5.89 (s, 1H), 4.33-4.31 (m, 1H), 3.96-3.92 (m, 2H), 3.85-3.82 (m, 1H), 3.75-3.72 (m, 1H), 3.66 (s, 3H), 3.52-3.5 (m, 3H), 3.02 (s, 3H), 2.86-2.85 (m, 4H), 2.75-2.6 (m, 4H), 2.21-1.15 (m, 1H), 2.1-2.07 (m, 1H), 2.02-1.98 (m, 6H), 1.89-1.81 (m, 4H), 1.71-1.63 (m, 3H), 1.48-1.44 (m, 1H). LC-MS: 745.4 [M+H]⁺.
56	I-2 & D7		¹H-NMR (DMSO-D₆, 400 MHz) δ 10.8 (s, 1H), 7.61 (s, 1H), 7.34 (s, 1H), 7.13 (s, 1H), 7.04 (dd, 1H), 6.67 (d, 1H), 6.33 (d, 2H), 6.23 (d, 1H), 5.89 (d, 1H), 4.35-4.25 (m, 1H), 3.85-3.75 (m, 2H), 3.71 (s, 3H), 3.6-3.4 (m, 2H), 3.03 (s, 3H), 3-2.9 (m, 6H), 2.8-2.6 (m, 2H), 2.25-2.15 (m, 2H), 2.1-1.95 (m, 6H), 1.9-1.7 (m, 7H), 1.65-1.55 (m, 1H), 1.25-1.2 (m, 1H), 0.9-0.8 (m, 2H). LC-MS: 763.3 [M+H]⁺.
57	B6 & I-6		¹H-NMR (DMSO-D₆, 400MHz): δ 10.77 (s, 1H), 7.67 (s, 1H), 7.41 (s, 1H), 7.15-7.18 (m, 1H), 7.03 (d, 1H), 6.83 (t, 1H), 6.67 (d, 1H), 6.48 (d, 1H), 6.42 (d, 1H),

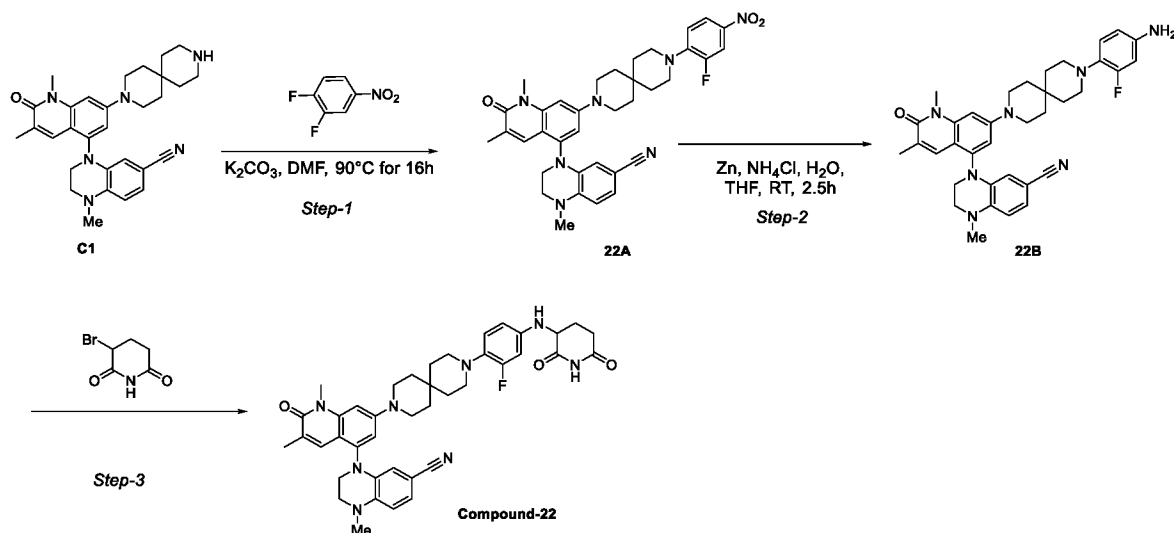
			6.42 (d, 1H), 5.95-5.85 (m, 1H), 5.7-5.8 (m, 1H), 4.24-4.1 (m, 1H), 3.75-3.77 (m, 2H), 3.70 (s, 3H), 3.35-3.59 (m, 3H), 3.09-3.29 (m, 4H), 3.05 (s, 4H), 2.5-2.75 (m, 4H), 2.19-2.49 (m, 6H), 2.12 (s, 4H), 1.67-1.89 (m, 5H), LCMS m/z: 779.1 (M+H) ⁺ .
58	I-2 & I-32		¹ H NMR (DMSO-D ₆ , 400MHz): δ 10.77 (s, 1H), 8.37 (s, 1H), 7.62 (s, 1H), 7.34 (s, 1H), 7.14 (d, 1H), 7.05 (dd, 1H), 6.9 (t, 1H), 6.6 (d, 1H), 6.2-6.1 (m, 1H), 5.8 (d, 1H), 4.59-4.56 (m, 1H), 3.74-3.71 (m, 5H), 3.59-3.45 (m, 4H), 3.45-3.38 (m, 2H), 3.29-3.2 (m, 2H), 3.03 (s, 3H), 2.99-2.96 (m, 2H), 2.85-2.75 (m, 3H), 2.65-2.55 (m, 2H), 2.25-2.19 (m, 3H), 2.07 (s, 3H), 2.03-1.97 (m, 2H), 1.9-1.68 (m, 7H), 1.69-1.6 (m, 1H), 1.24-1.21 (m, 2H). LC-MS: 753.45 [M+H] ⁺ .
59	I-2 & F4		¹ H NMR (DMSO-D ₆ , 400MHz): δ 11.11 (s, 1H), 7.63 (s, 1H), 7.34 (s, 1H), 7.14 (d, 2H), 7.05 (dd, 1H), 6.94 (d, 1H), 6.65 (d, 1H), 5.9 (d, 1H), 5.3-5.28 (m, 1H), 3.8-3.7 (m, 2H), 3.71 (s, 3H), 3.59-3.45 (m, 2H), 3.28-3.25 (m, 5H), 3.16-3.1 (m, 3H), 3.03 (s, 3H), 2.89-2.54 (m, 8H), 2.45-2.15 (m, 2H), 2.2 (d, 2H), 2.08-

			1.95 (m, 1H), 1.91-1.8 (m, 6H), 1.78-1.7 (m, 1H), 1.35-1.32 (m, 2H). LC-MS: 800.1 [M+H] ⁺ .
60	I-2 & I-33		¹ H NMR (DMSO-D6, 400MHz): δ 7.68 (s, 1H), 7.32 (s, 2H), 7.07 (dd, 3H), 6.69 (d, 2H), 5.97 (d, 1H), 3.77-3.72 (m, 8H), 3.64 (d, 3H), 3.61-3.51 (m, 4H), 3.17-3.12 (m, 5H), 3.04 (s, 5H), 2.95-2.89 (m, 2H), 2.78-2.74 (m, 2H), 2.67 (s, 3H), 2.49-2.46 (m, 4H), 2.06 (t, 4H), 1.4-1.38 (m, 2H). LC-MS: 753.1 [M+H] ⁺ .
61	I-2 & I-35		¹ H NMR (DMSO-D6, 400MHz): δ 10.77 (s, 1H), 7.62 (s, 1H), 7.34 (s, 1H), 7.14 (s, 1H), 7.04 (dd, 1H), 6.67 (t, 1H), 6.65-6.62 (m, 2H), 6.52-6.51 (m, 1H), 5.8 (d, 1H), 4.81-4.77 (m, 1H), 3.81-3.71 (m, 2H), 3.74 (s, 3H), 3.56-3.49 (m, 2H), 3.17-3.14 (m, 2H), 3.03 (s, 3H), 2.99-2.96 (m, 2H), 2.83-2.8 (m, 1H), 2.68 (s, 4H), 2.59-2.56 (m, 3H), 2.3-2.19 (m, 3H), 2.07 (s, 3H), 2.02-1.97 (m, 2H), 1.87-1.77 (m, 7H), 1.65-1.58 (m, 1H), 1.27-1.23 (m, 2H). LC-MS: 759.4 [M+H] ⁺ .
62	I-2 & I-36		¹ H-NMR (DMSO-D6, 400 MHz) δ 11.1 (s, 1H), 8.44 (s, 1H), 8.24 (d, 1H), 8.08 (d, 1H), 7.84-7.8 (m, 1H), 7.62 (s, 1H), 7.35 (s, 2H), 7.15 (s, 1H), 7.02 (t, 1H), 7-

			6.9 (m, 1H), 6.68 (d, 1H), 5.9 (d, 1H), 3.9-3.75 (m, 1H), 3.71 (s, 3H), 3.6-3.55 (m, 2H), 3.5 (s, 2H), 3.05 (s, 3H), 3.0-2.95 (m, 2H), 2.95-2.9 (m, 1H), 2.8-2.65 (m, 3H), 2.3-2.1 (m, 5H), 2.05 (s, 3H), 2.05-1.95 (m, 4H), 1.95-1.7 (m, 6H), 1.55-1.5 (m, 2H). LC-MS: 803.2 [M+H] ⁺ .
63	I-38 & I-6		¹ H-NMR (DMSO-D ₆ , 400 MHz) δ 10.77 (s, 1H), 7.65 (s, 1H), 7.49 (bs, 1H), 7.29 (s, 1H), 7.23 (d, 1H), 7.04 (s, 1H), 6.85 (t, 1H), 6.8-6.7 (m, 1H), 6.6 (d, 1H), 6.51 (s, 1H), 6.48 (s, 1H), 6.4-6.39 (s, 2H), 5.78 (d, 1H), 4.29-4.23 (m, 1H), 3.8-3.71 (m, 4H), 3.64-3.52 (m, 2H), 3.12 (d, 2H), 3-2.9 (m, 5H), 2.59-2.57 (m, 3H), 2.21 (d, 2H), 2.1-2.05 (m, 4H), 2.05-1.99 (m, 3H), 1.82-1.79 (m, 6H), 1.66-1.54 (m, 1H), 1.76 (m, 6H). LC-MS: 763.4 [M+H] ⁺ .
64	J1 & I-6		¹ H-NMR (DMSO-D ₆ , 400 MHz) δ 10.77 (s, 1H), 8.14 (bs, 1H), 7.89-7.86 (m, 1H), 7.67 (s, 1H), 7.28 (s, 1H), 7.18 (dd, 1H), 7 (s, 1H), 6.85 (t, 1H), 6.62 (d, 1H), 6.52-6.49 (m, 2H), 6.43 (dd, 1H), 5.8 (d, 1H), 4.25-4.23 (m, 1H), 3.71 (s, 3H), 3.63-3.53 (m, 3H), 3.4-3.32 (m, 3H), 3.1 (d, 3H), 2.99 (s, 3H), 2.76-2.69 (m,

			3H), 2.59 (d, 4H), 2.56-2.51 (m, 4H), 2.1-2.07 (m, 4H), 1.89-1.77 (m, 6H), 1.72-1.68 (m, 1H), 1.29-1.24 (m, 2H). LC-MS: 777.4 [M+H] ⁺ .
65	G8 & I-6		¹ H-NMR (DMSO-D ₆ , 400 MHz) δ 10.77 (s, 1H), 7.79 (bs, 1H), 7.66 (s, 1H), 7.01 (s, 1H), 6.85 (t, 1H), 6.55 (d, 1H), 6.48 (d, 1H), 6.32 (s, 1H), 5.83 (s, 1H), 5.77 (d, 1H), 5.31 (s, 1H), 4.29-4.21 (m, 1H), 3.84 (s, 3H), 3.69 (s, 2H), 3.51-3.49 (m, 2H), 3.13-2.98 (m, 8H), 2.6-2.55 (m, 6H), 2.2-2.17 (m, 2H), 2.07 (s, 5H), 2.05-1.91 (m, 2H), 1.89-1.78 (m, 7H), 1.6-1.58 (m, 2H). LC-MS: 775.4 [M+H] ⁺ .

Example-2: Synthesis of 4-(7-(9-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)-3,9-diazaspiro[5.5]undecan-3-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile (Compound-22)



Step-1: Synthesis of 4-(7-(9-(2-fluoro-4-nitrophenyl)-3,9-diazaspiro[5.5]undecan-3-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

Intermediate 22A was prepared using a similar procedure described in the synthesis of Intermediate 6a with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 636.4 [M+H]⁺

Step-2: Synthesis of 4-(7-(9-(4-amino-2-fluorophenyl)-3,9-diazaspiro[5.5]undecan-3-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

To a stirred solution of Intermediate 22A (0.2 g, 0.315 mmol) in THF (1 mL) and methanol (1 mL), was added ammonium chloride (0.034 g, 0.63 mmol) in water (0.2 mL) followed by zinc powder (0.062 g, 0.94 mmol) at 0 °C. The resulting mixture was stirred at RT for 2.5 h. After completion of reaction, the mixture was filtered through celite pad, followed by ethyl acetate washing. The filtrate was extracted with ethyl acetate and washed with water and brine, dried over anhydrous Na₂SO₄ and concentrated to afford **Intermediate 22B** (0.2 g). LC-MS: 606.6 [M+H]⁺.

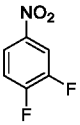
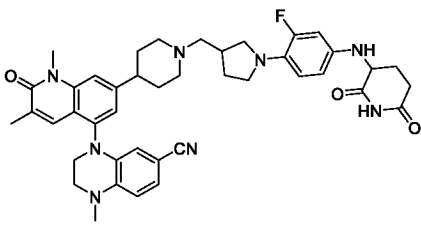
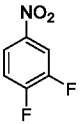
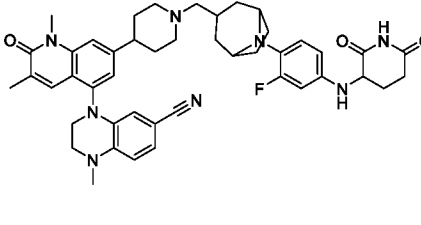
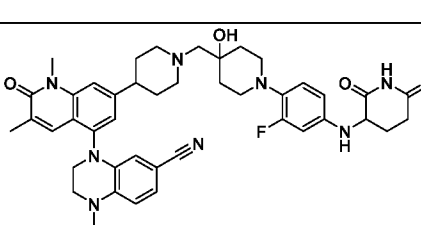
Step-3: Synthesis of 4-(7-(9-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)-3,9-diazaspiro[5.5]undecan-3-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

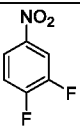
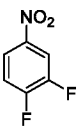
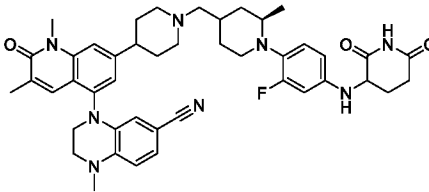
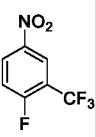
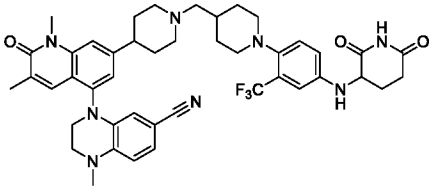
The compound-22 was prepared using a similar procedure described in the synthesis of **Intermediate 6c** with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. The crude compound was purified in preparative TLC using 5% DCM in MeOH to afford pure title **Compound-22** (0.015g, 12.6%).

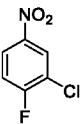
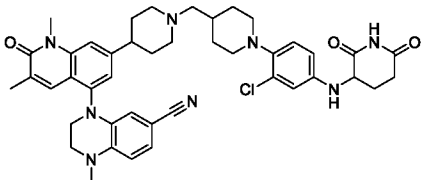
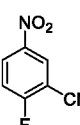
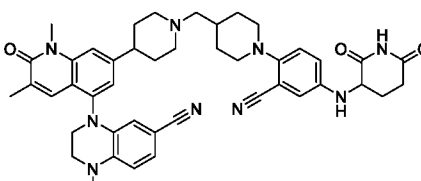
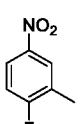
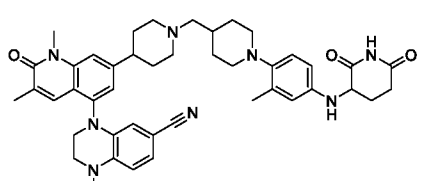
¹HNMR (CD₃OD, 400MHz): δ 7.6 (s, 1H), 7.02-6.99 (m, 2H), 6.91 (d, 1H), 6.85-6.84 (m, 1H), 6.74 (d, 1H), 6.58-6.50 (m, 2H), 6.04 (d, 1H), 4.27-4.23 (m, 1H), 3.87-3.86 (m, 1H), 3.79 (m, 4H), 3.62-3.61 (m, 1H), 3.45-3.42 (m, 4H), 3.08 (s, 3H), 3.05-2.95 (m, 3H), 2.83-2.62 (m, 3H), 2.35-2.3 (m, 1H), 2.12 (s, 3H), 1.95 (m, 2H), 1.76 (m, 8H); LC-MS: 717.7 [M+H]⁺.

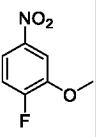
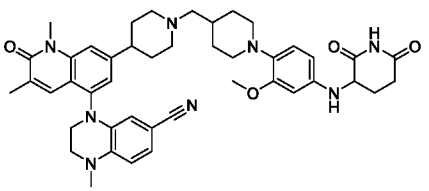
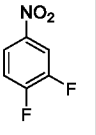
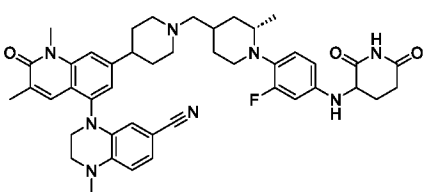
The compounds listed in **Table-2** were prepared by reacting appropriate Intermediates using a procedure similar to the one described in the synthesis of Compound-22 with appropriate variations. The characterization data of the compounds are summarized herein the below table.

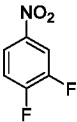
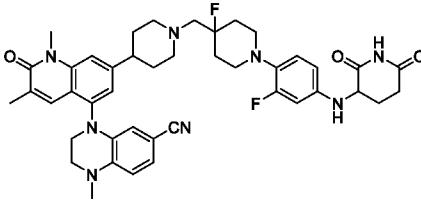
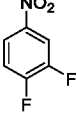
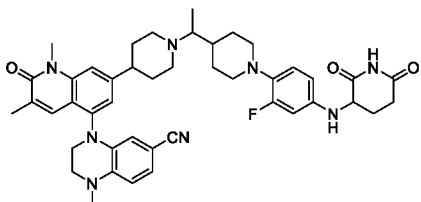
Table-2

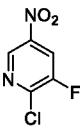
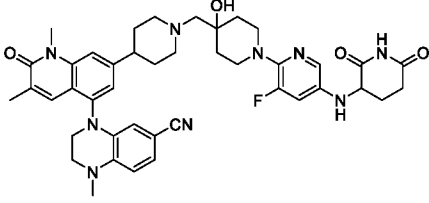
Comp. No	Inter media tes used	Structure	Characterization data
66	H4 & 		^1H NMR (DMSO- D_6 , 400MHz): δ 10.77 (s, 1H), 7.67 (s, 1H), 7.31 (s, 1H), 7.08-7.04 (m, 2H), 6.7-6.63 (m, 2H), 6.56 (dd, 1H), 6.44 (dd, 1H), 5.96 (s, 1H), 5.64 (d, 1H), 4.35-4.3 (m, 1H), 3.8-3.65 (m, 8H), 3.18 (t, 2H), 3.1-2.95 (m, 7H), 2.75-2.7 (m, 1H), 2.65-2.55 (m, 3H), 2.5-2.45 (m, 4H), 2.2-2.05 (m, 6H), 2.05-1.95 (m, 2H), 1.9-1.8 (m, 1H), 1.75-1.6 (m, 1H). LC-MS: 731.5 $[\text{M}+\text{H}]^+$.
67	H1 & 		^1H NMR (DMSO- D_6 , 400MHz): δ 10.78 (s, 1H), 8.8 (bs, 1H), 7.67-7.64 (m, 1H), 7.31 (s, 1H), 7.07-7.03 (m, 2H), 6.79 (bs, 1H), 6.7 (d, 1H), 6.54 (d, 1H), 6.42 (d, 1H), 5.97 (d, 1H), 5.88 (d, 1H), 4.25-4.15 (m, 1H), 4.03 (s, 2H), 3.8-3.65 (m, 8H), 3.05-2.9 (m, 9H), 2.8-2.75 (m, 1H), 2.65-2.55 (m, 1H), 2.05-1.95 (m, 7H), 2.95-2.75 (m, 6H), 2.7-2.6 (m, 2H), 2.55-2.4 (m, 2H). LC-MS: 771.4 $[\text{M}+\text{H}]^+$.
68	I-20 & 		^1H NMR (DMSO- D_6 , 400MHz): δ 10.77 (s, 1H), 7.62 (s, 1H), 7.36-7.34 (m, 2H), 7.14 (s, 1H), 7.05 (dd, 1H), 6.86 (t, 1H), 6.68 (d, 1H),

			6.52 (dd, 1H), 6.43 (dd, 1H), 5.88 (s, 1H), 5.78 (d, 1H), 4.29-4.25 (m, 1H), 4.01 (bs, 1H), 3.85-3.74 (m, 2H), 3.7 (s, 3H), 3.58 (d, 1H), 3.5 (d, 1H), 3.07 (s, 1H), 3.03 (s, 3H), 2.89-2.87 (d, 5H), 2.73-2.69 (m, 1H), 2.59 (t, 1H), 2.34-2.32 (m, 2H), 2.14-2.11 (m, 1H), 2.1 (s, 3H), 2.08-2.01 (m, 1H), 1.87 (dd, 2H), 1.83-1.74 (m, 5H), 1.55 (d, 2H), 1.39 (s, 1H). LC-MS: 761.3 [M+H] ⁺ .
69	H2 & 		¹ H NMR (DMSO-D ₆ , 400MHz): δ 10.77 (s, 1H), 7.61 (s, 1H), 7.34 (s, 1H), 7.14 (s, 1H), 7.04 (dd, 1H), 6.8 (t, 1H), 6.67 (d, 1H), 6.49 (s, 1H), 6.43-6.4 (m, 1H), 5.89 (d, 1H), 5.78 (d, 1H), 4.3-4.2 (m, 1H), 3.85-3.7 (m, 6H), 3.6-3.4 (m, 3H), 3.05-2.95 (m, 6H), 2.8-2.6 (m, 4H), 2.3-2.15 (m, 2H), 2.08 (s, 4H), 2.05-1.95 (m, 3H), 1.90-1.7 (m, 6H), 1.6-1.45 (m, 2H), 0.86 (d, 3H); LC-MS: 759.4 [M+H] ⁺ .
70	I-23 & 		¹ H NMR (DMSO-D ₆ , 400MHz): δ 10.78 (s, 1H), 7.62 (s, 1H), 7.34 (s, 1H), 7.29 (d, 1H), 7.19 (s, 1H), 7.05 (dd, 1H), 6.92-6.87 (m, 2H), 6.67 (d, 1H), 6.15 (d, 1H), 5.89 (s, 1H), 4.45-4.35 (m, 1H), 3.85-3.7 (m, 5H), 3.6-3.4 (m, 3H), 3.03 (s, 3H), 3-2.95 (m, 2H), 2.85-2.75 (m, 2H), 2.75-2.5 (m, 5H), 2.25 (bs,

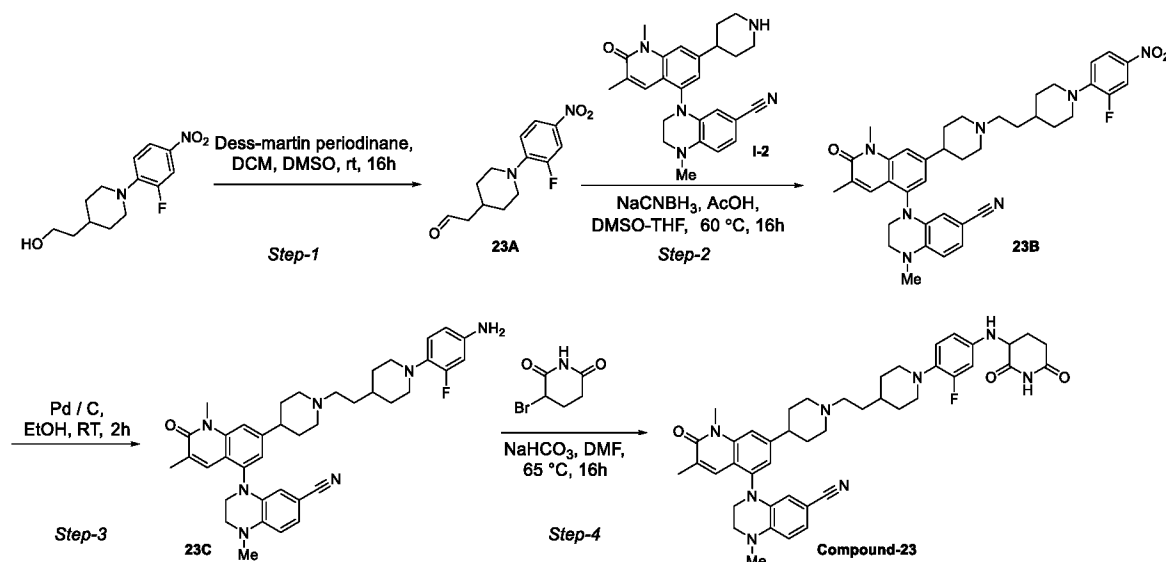
			2H), 2.08-1.95 (m, 8H), 1.85-1.7 (m, 6H), 1.2-1.15 (m, 1H); LC-MS: 795.3 [M+H] ⁺ .
71	I-23 & 		¹ H-NMR (DMSO-D ₆ , 400 MHz): δ 10.77 (s, 1H), 7.62 (s, 1H), 7.34 (d, 1H), 7.14 (s, 1H), 7.05 (dd, 1H), 6.95 (d, 1H), 6.75 (d, 1H), 6.68 (d, 1H), 6.61 (dd, 1H), 5.89 (d, 1H), 5.88 (d, 1H), 4.33-4.26 (m, 1H), 3.8-3.76 (m, 1H), 3.71 (s, 3H), 3.5-3.45 (m, 5H), 3.08-2.98 (m, 8H), 2.73-2.68 (m, 2H), 2.59 2.51 (m, 2H), 2.22-2.18 (m, 2H), 2.08 (s, 3H), 2.07-1.98 (m, 4H), 1.85-1.75 (m, 7H). LC-MS: 761.3 [M+H] ⁺ .
72	I-23 & 		¹ H NMR (DMSO-D ₆ , 400MHz): δ 7.61 (s, 1H), 7.34 (s, 1H), 7.14 (s, 1H), 7.05-7.01 (m, 2H), 6.99-6.91 (m, 2H), 6.67 (d, 1H), 5.97 (d, 1H), 5.89 (d, 1H), 3.79-3.71 (m, 6H), 3.56-3.49 (m, 2H), 3.22-3.2 (m, 3H), 3.03 (s, 4H), 2.99 (d, 2H), 2.69-2.62 (m, 3H), 2.23 (d, 2H), 2.08-1.99 (m, 7H), 1.85-1.78 (m, 7H), 1.65-1.62 (m, 1H), 1.32-1.24 (m, 3H). LC-MS: 752.4 [M+H] ⁺ .
73	I-23 & 		¹ H NMR (CD ₃ OD, 400MHz): δ 7.74 (s, 1H), 7.41 (s, 1H), 7.1d (d, 1H), 7.04-7.01 (dd, 2H), 6.93 (d, 1H), 6.71 (d, 1H), 6.63-6.62 (m, 1H), 6 (d, 1H), 4.24-4.21 (m, 1H), 3.84 (s, 5H), 3.65-3.51 (m, 2H), 3.15-3.1 (m, 6H), 3.02 (d, 2H),

			2.82-2.59 (m, 4H), 2.35 (d, 3H), 2.25 (s, 2H), 2.17 (d, 5H), 1.94-1.86 (m, 6H), 1.75-1.69 (s, 2H), 1.49-1.3 (m, 4H). LC-MS: 741.3 [M+H] ⁺ .
74	I-23 & 		¹ H NMR (CD ₃ OD, 400MHz): δ 7.73 (s, 1H), 7.41 (s, 1H), 7.16 (d, 1H), 7.04 (dd, 1H), 6.87 (d, 1H), 6.71 (d, 1H), 6.47 (d, 1H), 6.32-6.29 (d, 1H), 6.0 (d, 1H), 4.28-4.24 (m, 1H), 3.85-3.83 (m, 7H), 3.69-3.5 (m, 2H), 3.3-3.27 (m, 2H), 3.13-3.09 (m, 5H), 2.83-2.78 (m, 3H), 2.58-2.74 (t, 2H), 2.35 (d, 3H), 2.17-2.11 (m, 5H), 1.96-1.85 (m, 7H), 1.75-1.7 (m, 1H), 1.48-1.45 (m, 2H). LC-MS: 757.3 [M+H] ⁺ .
75	H3 & 		¹ H NMR (DMSO-D ₆ , 400MHz): δ 10.77 (s, 1H), 7.61 (s, 1H), 7.34 (s, 1H), 7.14 (s, 1H), 7.04 (dd, 1H), 6.8 (t, 1H), 6.67 (d, 1H), 6.49 (s, 1H), 6.43-6.4 (m, 2H), 5.89 (s, 1H), 5.78 (d, 1H), 4.26-4.22 (m, 1H), 3.85-3.7 (m, 5H), 3.56-3.49 (m, 3H), 3.05-2.95 (m, 6H), 2.8-2.6 (m, 3H), 2.3-2.15 (m, 2H), 2.08 (s, 5H), 2.05-1.95 (m, 3H), 1.90-1.7 (m, 6H), 1.6-1.45 (m, 2H), 0.86 (d, 3H); LC-MS: 759.25 [M+H] ⁺ .

76	I-34 & 		¹ H NMR (DMSO-D ₆ , 400MHz): δ 10.78 (s, 1H), 7.61 (s, 1H), 7.34 (s, 1H), 7.15 (s, 1H), 7.02 (dd, 1H), 6.9 (dd, 1H), 6.88 (t, 1H), 6.68 (d, 1H), 6.54 (dd, 1H), 6.44 (dd, 1H), 5.88 (s, 1H), 5.82, (s, 1H), 5.33, (t, 1H), 4.31-4.23 (m, 1H), 3.82-3.78 (m, 1H), 3.71 (s, 3H), 3.56-3.51 (m, 1H), 3.49-3.45 (m, 1H), 3.09-3.03 (m, 5H), 2.94 (d, 2H), 2.88-2.73 (m, 2H), 2.79-2.73 (m, 1H), 2.68-2.67 (m, 1H), 2.59 (s, 1H), 2.46 (s, 1H), 2.29-2.22 (m, 2H), 2.12-2.05 (m, 1H), 2.08 (s, 3H), 2.03-1.9 (m, 3H), 1.86-1.84 (m, 5H), 1.47-1.42 (m, 1H). LC-MS: 763.5 [M+H] ⁺ .
77	H5 & 		¹ H NMR (CD ₃ OD, 400MHz): δ 7.76 (s, 1H), 7.42 (s, 1H), 7.16 (s, 1H), 7.04 (dd, 1H), 6.97-6.92 (m, 1H), 6.7 (d, 1H), 6.57-6.49 (m, 2H), 6 (d, 1H), 4.6 (s, 1H), 4.29-4.21 (m, 1H), 3.7-3.69 (m, 4H), 3.65-3.5 (m, 2H), 3.4-3.35 (m, 2H), 3.3-3.25 (m, 1H), 3.24-3.15 (m, 2H), 3.1 (s, 3H), 3.09-3.01 (m, 1H), 2.82-2.74 (m, 1H), 2.71-2.69 (m, 3H), 2.4 (t, 1H), 2.37-2.29 (m, 1H), 2.24-2.1 (m, 6H), 2.09-2 (m, 2H), 1.98-1.83 (m, 3H), 1.7-1.55 (m, 3H), 1.33-1.28 (m, 3H). LC-MS: 759.3 [M+H] ⁺ .

78	I-20 & 		¹ HNMR (DMSO- <i>d</i> ₆ , 400MHz): δ 10.80 (s, 1H), 8.67-8.6 (m, 1H), 7.65-7.69 (m, 1H), 7.56-7.59 (s, 1H), 7.3-7.4 (s, 1H), 6.9-7.1 (m, 3H), 6.65-6.71 (m, 1H), 5.96 (d, 1H), 5.88-5.95 (m, 1H), 5.63 (s, 1H), 4.35 (m, 1H), 3.65-3.9 (m, 5H), 3.3-3.65 (m, 7H), 3.1-3.3 (m, 3H), 3.03 (s, 3H), 2.55-2.8 (m, 2H), 2.2-2.3 (m, 2H), 2.1 (m, 5H), 1.85-2.05 (m, 4H), 1.75 (m, 4H). LCMS m/z: 762.10 (M+H) ⁺ .
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Example-3: Synthesis of 4-(7-(1-(2-(1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)ethyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile (Compound-23)



Step-1: Synthesis of 2-(1-(2-fluoro-4-nitrophenyl)piperidin-4-yl)acetaldehyde

The starting material 2-(1-(2-fluoro-4-nitrophenyl)piperidin-4-yl)ethan-1-ol (0.5 g, 1.8 mmol) was synthesized by following the procedure described in WO2007148711 A; Page-48, Int-25.

10 A solution of this starting compound in DCM (40 mL), and DMSO (5 mL), was added Dess-

martin periodinane at 0 °C. The reaction mixture was stirred at RT for 16 h. After completion of reaction, the reaction mixture was quenched with ice cold water and extracted twice with DCM. Combined organic portion was washed with water and brine, dried over anhydrous Na₂SO₄ and concentrated to get the **Intermediate 23A** (0.55 g). LC-MS: 267.0 [M+H]⁺.

5 **Step-2: Synthesis of 4-(7-(1-(2-(1-(2-fluoro-4-nitrophenyl)piperidin-4-yl)ethyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile**

The **intermediate 23B** was prepared using a similar procedure described in the synthesis of Compound-1 with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 678.3 [M+H]⁺.

Step-3: Synthesis of 4-(7-(1-(2-(1-(4-amino-2-fluorophenyl)piperidin-4-yl)ethyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

The **Intermediate 23C** was prepared using a similar procedure described in the synthesis of Intermediate 6b with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 648.3 [M+H]⁺.

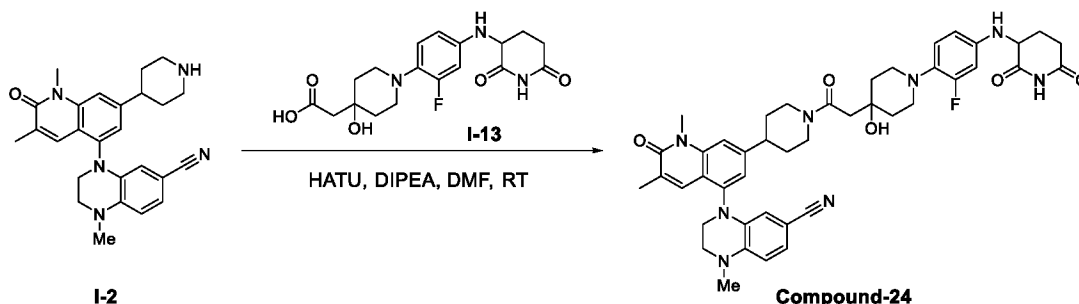
Step-4: Synthesis of 4-(7-(1-(2-(1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)ethyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

20 **Compound-23** was prepared using a similar procedure described in the synthesis of **Intermediate 6c** with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions.

¹HNMR (DMSO-D₆, 400MHz): δ 10.8 (s, 1H), 7.6 (s, 1H), 7.41 (s, 1H), 7.34 (s, 1H), 7.15 (d, 1H), 7.02-6.7 (m, 1H), 6.6 (d, 1H), 6.51-6.42 (m, 1H), 6.42-6.39 (m, 1H), 5.88 (s, 1H), 5.75 (d, 1H), 4.93 (s, 1H), 4.3-4.2 (m, 1H), 3.75-3.73 (m, 2H), 3.7 (s, 3H), 3.6-3.49 (m, 2H), 3.1-3.08 (m, 2H), 3.05 (s, 3H), 3.01-2.98 (m, 2H), 2.8-2.49 (m, 5H), 2.36-2.32 (m, 2H), 2.075 (s, 3H), 2.0-1.97 (m, 2H), 1.83-1.73 (m, 7H), 1.44-1.42 (m, 3H), 1.34-1.29 (m, 2H); LC-MS: 759.35 [M+H]⁺.

30 **Example-4: Synthesis of 4-(7-(1-(2-(1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)-4-hydroxypiperidin-4-yl)acetyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-**

**dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
(Compound-24)**



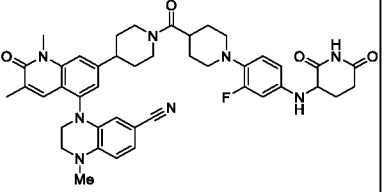
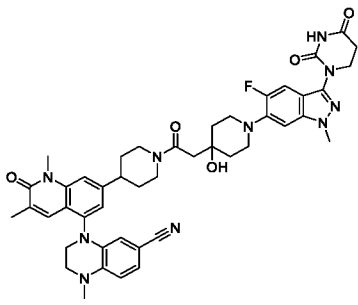
To a stirred solution of the Intermediate I-13 (0.1 g, 0.264 mmol) in DMF (2 mL), was added
 5 HATU (0.151 g, 0.39 mmol), DIPEA (0.102g, 0.79 mmol) and stirred at RT for 15 mins. The
 reaction mixture was then added Intermediate I-2 (0.113 g, 0.264 mmol) and continued stirring
 at RT for 1.5 h. After completion of reaction, cold water was added to RM, the solid separated
 was filtered and dried. The crude compound was purified by preparative HPLC. Method used:
 Mobile phase-A was 0.05% TFA in water and B was acetonitrile. Gradient program: 30% B at
 10 0 min, 40% B at 2 min, 90% B at 6 min, 100% B at 10 min. Column used: Triart C-18, C18
 (250 ×10mm) 5μ with a flow rate of 9 mL/min. This afforded **Compound-24** (0.01 g).

¹HNMR (DMSO-D₆, 400MHz): δ 10.8 (s, 1H), 7.74 (s, 1H), 7.41 (s, 1H), 7.2 (s, 1H), 7.15 (d,
 1H), 6.86 (t, 1H), 6.67 (d, 1H), 6.5 (d, 1H), 6.4 (d, 1H), 5.9 (s, 1H), 5.7 (d, 1H), 5.34 (t, 1H),
 4.9 (s, 1H), 4.65 (d, 1H), 4.2-4.17 (m, 2H), 3.93-3.92 (m, 2H), 3.81(s, 3H), 3.55-3.49 (m, 2H),
 15 3.17-3.12 (m, 2H), 3.09 (s, 3H), 2.9-2.86 (m, 3H), 2.65-2.55 (m, 2H), 2.08 (m, 4H), 2.03-1.97
 (m, 2H), 1.9-1.87 (m, 3H), 1.74-1.64 (m, 7H); LC-MS: 789.35 [M+H]⁺;

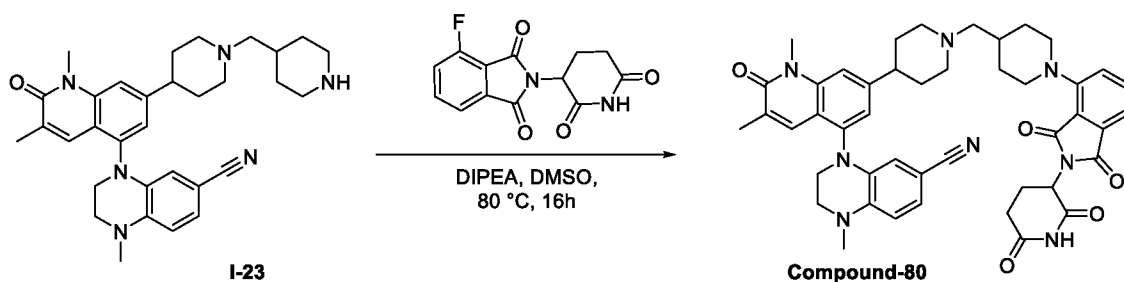
Compounds in the table were prepared using a similar procedure described in the synthesis of
 Compound-24 with appropriate variations in coupling method, reactants, quantities of reagents
 and solvents, and reaction conditions. The characterization data of the compound is
 20 summarized in the Table-3.

Table-3:

Comp . No.	Interm ediate s used	Structure	Characterization data

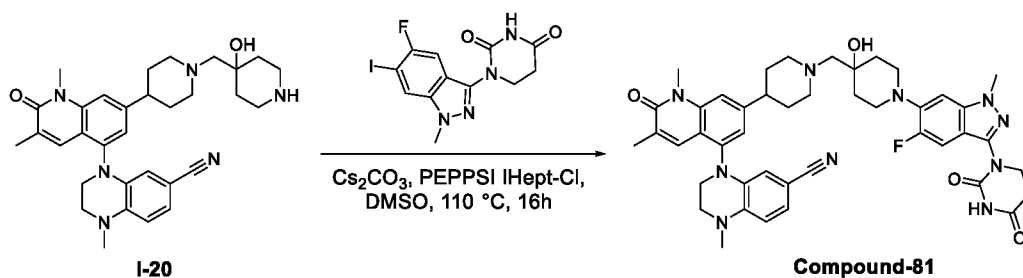
25	I-2 & I-14		¹ HNMR (CD ₃ OD , 400MHz): δ 7.73 (s, 1H), 7.42 (s, 1H), 7.39-7.35 (m, 1H), 7.17-7.12 (m, 2H), 7.08-7.01 (m, 2H), 6.71 (d, 1H), 5.99 (d, 1H), 5.37-5.35 (m, 1H), 4.74- 4.72 (m, 2H), 4.3-4.2 (m, 1H), 3.85 (s, 3H), 3.76 (m, 1H), 3.65 (m, 2H), 3.46 (m, 2H), 3.368 (m, 1H), 3.14 (s, 4H), 2.92-2.88 (m, 1H), 2.8-2.76 (m, 4H), 2.56-2.53 (m, 2H), 2.19-2.17 (m, 3H), 2.09-2.04 (m, 6H), 1.91-1.88 (m, 3H) ; LC-MS: 759.35 [M+H] ⁺ .
79	I-2 & I-24		¹ HNMR (CD ₃ OD , 400MHz): δ 10.5 (s, 1H), 7.62 (s, 1H), 7.36-7.31 (m, 2H), 7.16-7.11 (m, 2H), 7.3 (t, 2H), 7.04 (dd, 1H), 6.67 (d, 1H), 5.88 (s, 1H), 5.06 (s, 1H), 4.68 (d, 1H), 4.21(d, 1H), 3.94 (s, 3H), 3.91 (m, 2H), 3.89-3.74 (m, 2H), 3.71 (s, 3H), 3.56 (d, 1H), 3.49 (d, 1H), 3.2-3.15 (m, 3H), 3.1-3.07 (m, 2H), 3.02 (s, 3H), 2.74 (t, 2H), 2.67-2.58 (m, 2H), 2.08 (s, 3H), 1.91-1.83 (m, 4H), 1.91-1.76 (m, 3H), 1.65-1.55 (m, 1H) ; LC-MS: 829.3 [M+H] ⁺ .

Example-5: Synthesis of 4-(7-(1-((1-(2-(2,6-dioxopiperidin-3-yl)-1,3-dioxoisindolin-4-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile (Compound-80)



A mixture of Intermediate I-23 (0.12 g, 0.229 mmol) and 2-(2,6-dioxopiperidin-3-yl)-4-fluoroisoindoline-1,3-dione (0.095 g, 0.344 mmol), DIPEA (0.089 g, 0.069 mmol) in DMSO (3 mL) was heated to 80 °C for 16 h. The reaction mixture was then cooled to RT, quenched with water, extracted with ethyl acetate. The organic portion was washed twice with water, followed by brine, dried over Na₂SO₄ and concentrated. The crude compound was purified by preparative HPLC. Preparative HPLC conditions: Column name Luna, Omega ps, C18, Dimension 250 x 21.2 mm, 5 micron; Flow Rate 15.0 ml per minute. Mobile phase-A was 0.1% Formic acid in Water and B was Acetonitrile. Gradient program: 20% B at 0 min, 30% B at 2nd min, 60% B at 10th min and 90% B at 15th min. This afforded the pure title compound-80 (0.052 g, 29%). ¹HNMR (DMSO-D₆, 400MHz): δ 11.08 (s, 1H), 7.68 (t, 1H), 7.61 (s, 1H), 7.35-7.31 (m, 4H), 7.14 (s, 1H), 7.04 (dd, 1H), 6.67 (d, 1H), 5.89 (s, 1H), 5.11 (dd, 1H), 5.88 (s, 1H), 3.85-3.75 (m, 2H), 3.76 (s, 3H), 3.6-3.45 (m, 4H), 3.03 (s, 3H), 3-2.95 (m, 2H), 2.91-2.85 (m, 3H), 2.75-2.55 (m, 2H), 2.24 (d, 2H), 2.07 (s, 3H), 2.05-1.95 (m, 3H), 1.9-1.7 (m, 6H), 1.4-1.2 (m, 2H); LC-MS: 781.3 [M+H]⁺.

Example-6: Synthesis of 4-(7-(1-((1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)-4-hydroxypiperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile (Compound-81)

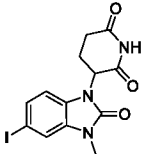
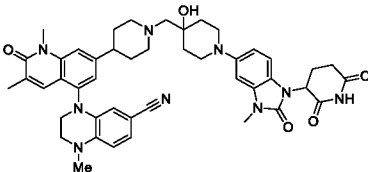


A solution of Intermediate I-20 (0.1 g, 0.185 mmol), 1-(5-fluoro-6-iodo-1-methyl-1H-indazol-3-yl)dihydropyrimidine-2,4(1H,3H)-dione (0.144 g, 0.34 mol) in DMSO (7 mL) was degassed with N₂ and added Cesium carbonate, PEPPSI IHept-Cl. The mixture was stirred at 110 °C for 16 h. The reaction mixture was then cooled to RT, diluted with ice cold water and extracted

with 5% methanol in DCM. The organic portion was dried over anhydrous sodium sulphate and concentrated. The crude compound was purified by prep HPLC. Preparative HPLC conditions: Column name Luna-C18, Dimension 250 x 21.2 mm, 5 micron; Flow Rate 16.0 ml per minute. Mobile phase-A was 0.1% Formic acid in Water and B was Acetonitrile. Gradient program: 20% B at 0 min, 30% B at 2nd min, 58% B at 10th min and 100% B at 15th min. This afforded the pure title compound-81 (0.020 g, 13.6%). ¹H-NMR (DMSO-D₆, 400 MHz) δ 10.52 (s, 1H), 8.4 (s, 1H), 7.5 (s, 1H), 7.35 (d, 1H), 7.1 (d, 1H), 7.03 (d, 1H), 6.92 (d, 1H), 6.75 (d, 1H), 6.66 (d, 1H), 5.9 (s, 1H), 4.0 (s, 1H), 3.8 (t, 2H), 3.85-3.3 (m, 1H), 3.8-3.7 (m, 1H), 3.66 (s, 3H), 3.55-3.4 (m, 6H), 3.02 (s, 3H), 2.75-2.65 (m, 5H), 2.54-2.53 (m, 6H), 2.29 (d, 2H), 2.02 (s, 3H), 1.89 (d, 2H), 1.8-1.7 (m, 1H), 1.37-1.34 (m, 2H). LC-MS: 801.3 [M+H]⁺.

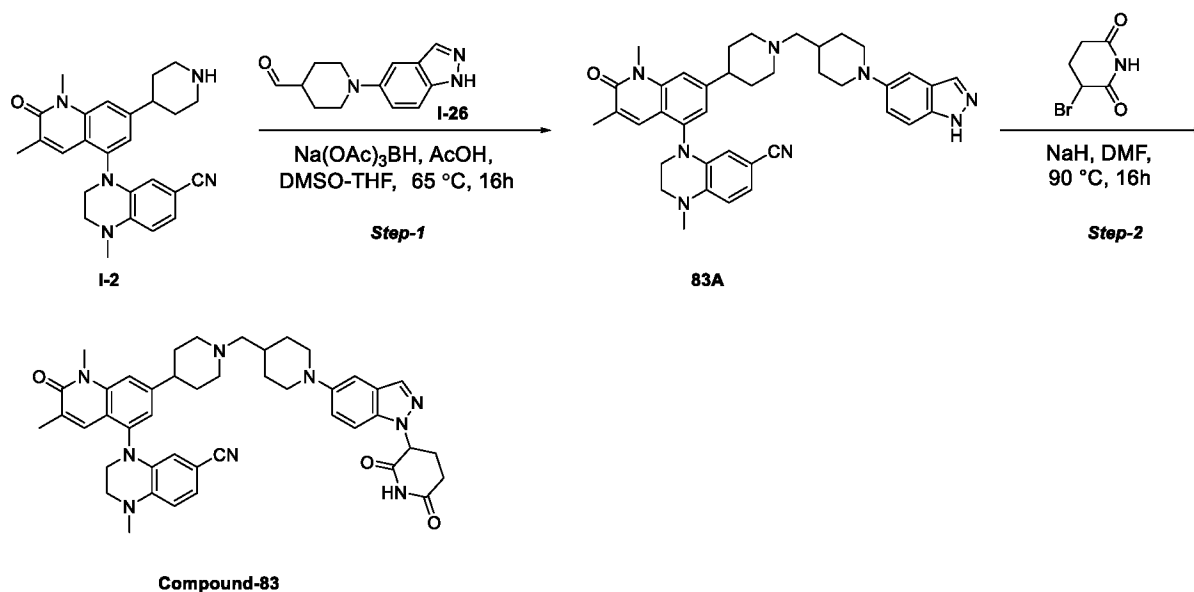
Compound-82 in the table were prepared using a similar procedure described in the synthesis of Compound-81 with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. The characterization data of the compound is summarized in the Table-4.

Table-4:

Comp. No.	Intermediates used	Structure	Characterization data
82	I-20 &  (Prepared using procedure similar to Intermediate-6 of Example-9 in page-225 of WO2023055952, with appropriate variations in		¹ H-NMR (DMSO-D ₆ , 400 MHz) δ 11.08 (s, 1H), 8.74 (bs, 1H), 7.68-7.65 (m, 1H), 7.39-7.25 (m, 1H), 7.09-6.94 (m, 4H), 6.74-6.66 (m, 2H), 5.97 (s, 1H), 5.33-5.29 (m, 2H), 3.8-3.72 (m, 7H), 3.62-3.57 (m, 3H), 3.33 (m, 4H), 3.27-3.27 (m, 6H), 3.03 (s, 3H), 2.95-2.85 (m, 1H), 2.7-2.64 (m, 2H), 2.25-2.17 (m, 2H), 2.1 (s, 3H), 2.04-1.98 (m, 3H), 1.8 (bs,

	coupling method, reactants, quantities of reagents and solvents, and reaction conditions)		4H). LC-MS: 798.7 [M+H] ⁺ .
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Example-8: Synthesis of 4-(7-(1-((4-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)cyclohexyl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile (Compound-83)



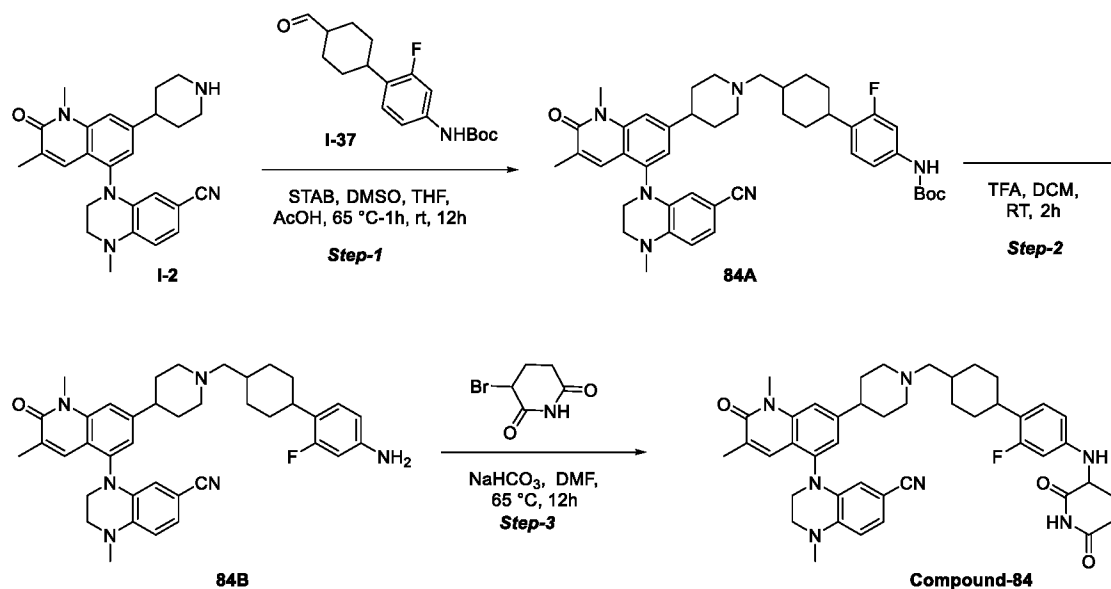
Step-1: Synthesis of 4-(7-(1-((1-(1H-indazol-5-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

Intermediate 83A was prepared using a similar procedure described in the synthesis of Compound-1 with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 641.2 [M+H]⁺.

Step-2: Synthesis of 4-(7-(1-((1-(1-(2,6-dioxopiperidin-3-yl)-1H-indazol-5-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

Compound-83 was prepared using a similar procedure described in the synthesis of I-19e with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. The crude compound was purified by prep HPLC. Preparative HPLC conditions: Column name Luna-C18, Dimension 250 x 21.2 mm, 5 micron; Flow Rate 16.0 mL per minute. Mobile phase-A was 0.1% Formic acid in Water and B was Acetonitrile. Gradient program: 25% B at 0 min, 30% B at 2nd min, 40% B at 10th min. This afforded the pure title compound-83 (0.008 g, 6.8%). ¹H NMR (DMSO-D₆, 400MHz): δ 11.06 (s, 1H), 8.25 (d, 1H), 7.93 (s, 1H), 7.62 (s, 1H), 7.46 (t, 1H), 7.35 (s, 1H), 7.24 (d, 1H), 7.12 (d, 2H), 7.05 7.05 (d, 1H), 6.67 (d, 1H), 5.89 (s, 1H), 5.78-5.77 (m, 1H), 4.11 (bs, 1H), 3.82 (d, 1H), 3.76-3.71 (m, 4H), 3.6-3.5 (m, 4H), 3.5-3.45 (m, 2H), 3.17 (s, 2H), 3.03 (s, 3H), 2.98 (d, 2H), 2.73 (d, 1H), 2.65-2.55 (m, 1H), 2.45-2.35 (m, 1H), 2.23 (d, 3H), 2.08 (s, 3H), 2.05-1.95 (m, 2H), 1.9-1.75 (m, 5H), 1.7-1.64 (m, 1H). LC-MS: 752.4 [M+H]⁺. LC-MS: 752.2 [M+H]⁺.

Example-9: Synthesis of 4-(7-(1-((4-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)cyclohexyl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile (Compound-84)



Step-1: Synthesis of tert-butyl (4-(4-((4-(5-(7-cyano-4-methyl-3,4-dihydroquinoxalin-1(2H)-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-7-yl)piperidin-1-yl)methyl)cyclohexyl)-3-fluorophenyl)carbamate

Intermediate 84A was prepared using a similar procedure described in the synthesis of Compound-1 with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 733.3 [M+H]⁺

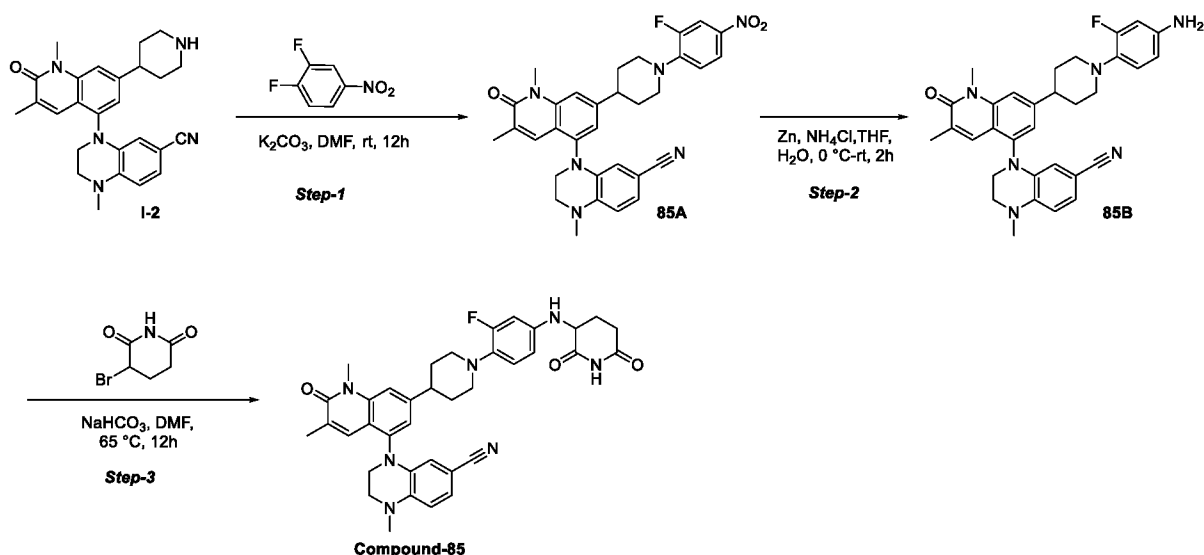
Step-2: Synthesis of 4-(7-(1-((4-(4-amino-2-fluorophenyl)cyclohexyl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

Intermediate 84B was prepared using a similar procedure described in step-3 of the synthesis of I-2 with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 633.4 [M+H]⁺.

Step-3: Synthesis of 4-(7-(1-((4-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)cyclohexyl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

Compound-84 was prepared using a similar procedure described in the synthesis of Intermediate 6c with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. The crude compound was purified by preparative HPLC. Preparative HPLC conditions: Column name KINETEX C18, dimension 250 x 21.2mm, 5 micron; Flow Rate 15 mL per minute. Mobile phase-A was 0.1% Formic acid in Water and B was Acetonitrile. Gradient program: 25% B at 0 min, 35% B at 2nd min, 40% B at 10th min. This afforded the pure title compound-84 (0.070 g, 14.8%). ¹HNMR (DMSO-*d*₆, 400MHz): δ 10.78(s, 1H), 8.26 (s, 1H), 7.61(s, 1H), 7.3 (s, 1H), 7.21 (s, 1H), 7.12 (d, 1H), 6.95-6.98 (m, 1H), 6.65 (d, 1H), 6.4-6.45 (m, 1H), 5.95-5.97 (m, 1H), 5.88 (d, 1H), 4.28-4.297 (m, 1H), 3.78-3.81 (m, 3H), 3.76 (s, 3H), 3.02 (s, 3H), 2.96-2.99 (m, 2H) 2.67-2.74 (m, 2H), 2.16-2.18 (m, 2H), 2.07 (m, 4H), 2-2.03 (m, 2H), 1.88-1.98 (m, 3H), 1.81-1.87 (m, 4H), 1.74-1.77 (m, 3H), 1.57-1.71 (m, 3H), 1.41-1.44 (m, 2H), 0.97-1 (m, 2H), LCMS m/z: 744.5 (M+H)⁺.

Example 10: Synthesis of 4-(7-(1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile (Compound-85)



Step-1: Synthesis of 4-(7-(1-(2-fluoro-4-nitrophenyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

Intermediate 85A was prepared using a similar procedure described in the synthesis of Intermediate 6a with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 567.4 [M+H]⁺.

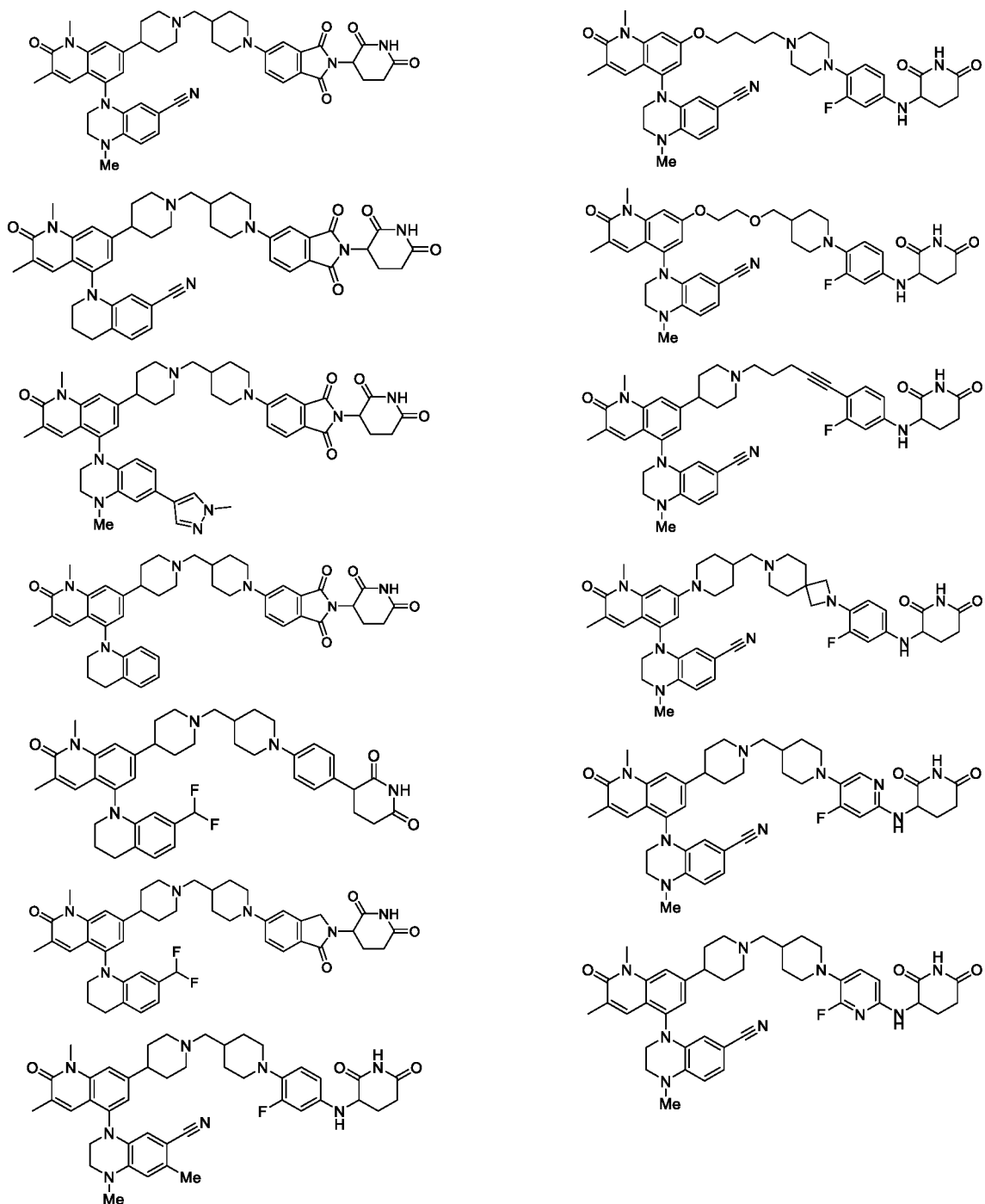
Step-2: Synthesis of 4-(7-(1-(4-amino-2-fluorophenyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

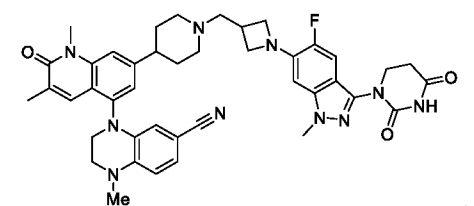
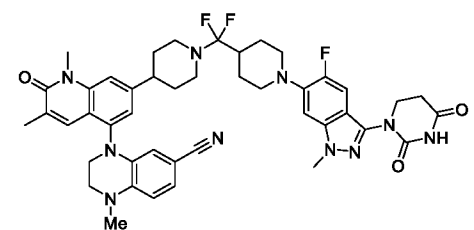
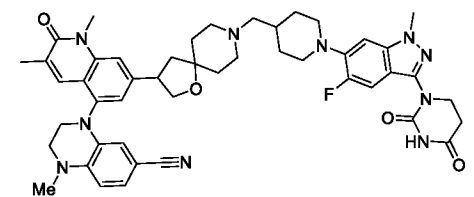
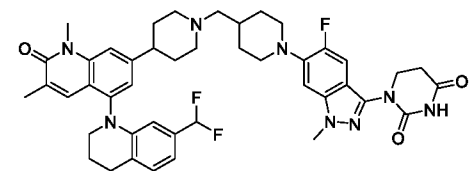
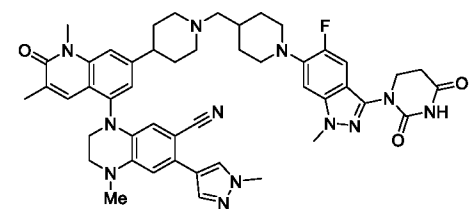
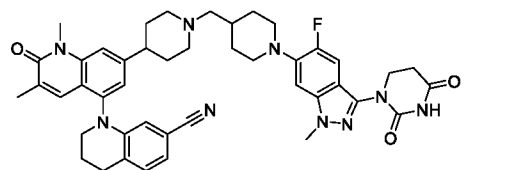
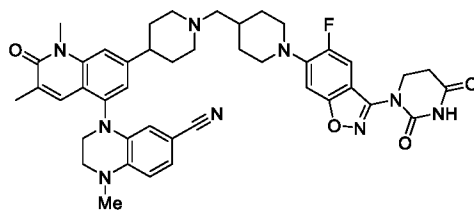
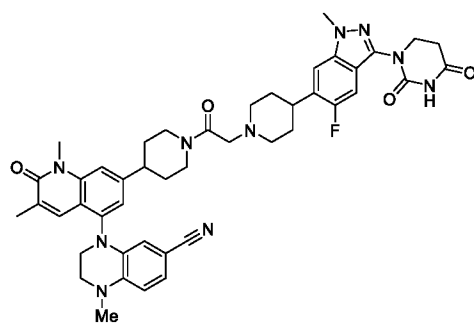
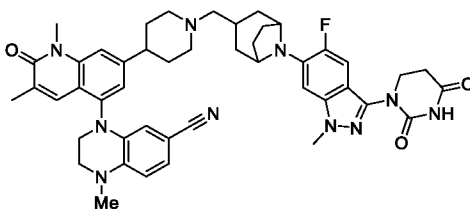
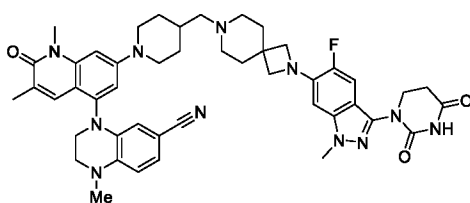
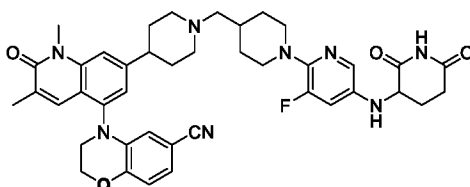
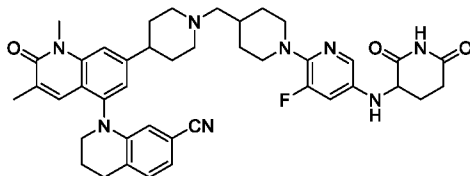
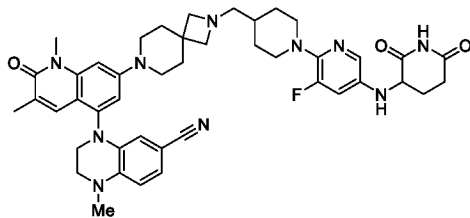
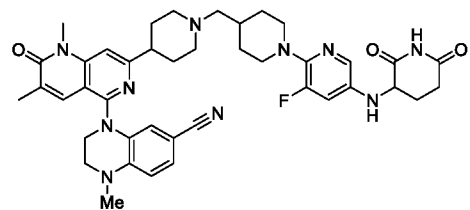
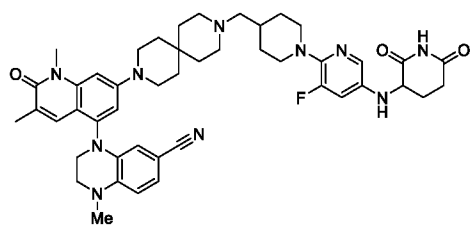
Intermediate 85B was prepared using a similar procedure described in the synthesis of 6b with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. LC-MS: 537.3 [M+H]⁺.

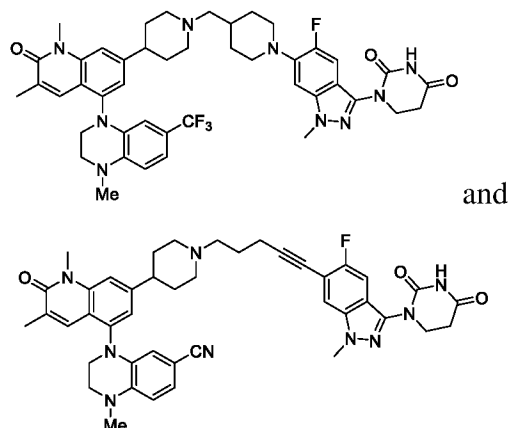
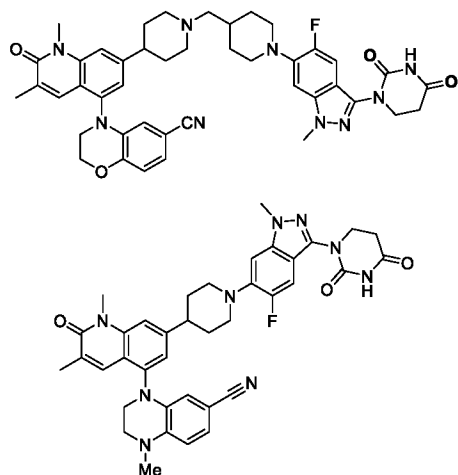
Step-3: Synthesis of 4-(7-(1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

Compound-85 was prepared using a similar procedure described in the synthesis of Intermediate 6c with appropriate variations in coupling method, reactants, quantities of reagents and solvents, and reaction conditions. The crude compound was purified by flash chromatograph using 0-100% ethyl acetate as eluent to afford pure Compound-85 (0.14 g, 38.6%). ¹HNMR (DMSO-*d*₆, 400MHz): δ 10.78(s, 1H), 7.62 (s, 1H), 7.39 (s, 1H), 7.19 (d, 1H), 7.03 (dd, 1H), 7.89 (t, 1H), 6.67 (d, 1H), 6.54 (dd, 1H), 6.44 (dd, 1H), 5.9 (d, 1H), 5.81 (d, 1H), 4.27-4.25 (m, 1H), 3.83-3.81 (m, 2H), 3.72 (s, 3H), 3.57-3.47 (m, 2H), 3.25 (d, 2H), 3.03 (s, 3H), 2.79-2.7 (m, 5H), 2.1 (d, 4H), 1.97-1.83 (m, 5H). LC-MS: 648.4 [M+H]⁺.

Although the present application has been illustrated by certain of the preceding examples, it is not to be construed as being limited thereby; but rather, the present application encompasses the generic area as hereinbefore disclosed. For example, the compounds below which can be prepared by following similar procedure as described in above schemes/examples with suitable modifications known to the one ordinary skilled in the art are also included in the scope of the present application:







Biology:

U2OS-HiBiT Assay Protocol

U2OS-CBP HiBiT and U2OS-p300 HiBiT cells were seeded and incubated overnight at 37°C in a CO₂ incubator for adherence. Next day, both the cells were pretreated with various concentrations of degrader for 24 hrs in the incubator. Working HiBiT-lytic reagent was added to the cells and incubated on orbital shaker at room temperature for 20 mins. Post incubation, the chemiluminescent signal was read using a luminometer.

Selected compounds of the present invention were screened in the above-mentioned assay procedure and the percentage of CBP degradation in HiBiT assay at 0.2μM were determined.

Exemplary compounds of the present application were screened by the above-mentioned assay and the results were tabulated.

The % degradation values for certain exemplary compounds at 0.2 μM are compiled in the table-5 below.

Table-5: % CBP degradation values of exemplary compounds

Comp. No.	% CBP degradation in HiBiT assay at 0.2 μM	Comp. No.	% CBP degradation in HiBiT assay at 0.2 μM
1	48	37	33
2	27	38	46
4	28	47	38
7	28	48	27

10	62	49	27
11	40	50	74
14	52	51	73
15	47	53	18
17	28	57	87
18	66	58	56
19	44	57	87
20	59	60	54
21	47	61	43
25	36	68	64
28	15	69	51
29	11	71	33
30	45	73	21
31	38	76	81
32	21	80	53
33	38	81	74
34	14	83	74
35	18		

Proliferation Assay Protocol

RKO cells were seeded and incubated overnight for adherence at 37°C in a CO₂ incubator. Cells were pretreated with various dilutions of the exemplary compounds for 168 hrs in the incubator after which detection reagent was added and incubated for 20 mins on plate shaker at room temperature. The chemiluminescent signal was detected using a luminometer. Analysis was performed and GI₅₀ values were determined. Exemplary compounds of the present application were screened by the above-mentioned assay and the results were tabulated.

The GI₅₀ values for certain exemplary compounds are compiled in the table-6 below, wherein “A” refers to an GI₅₀ value less than 0.05 µM, “B” refers to an GI₅₀ value in range of 0.05 µM to 10 µM (both inclusive) and “C” refers to an GI₅₀ value greater than 10 µM.

Table-6: GI₅₀ values in μ M - Proliferation assay RKO of exemplary compounds

GI₅₀ (μM) in range Proliferation assay RKO (7 days) N=1	Compounds
A	1, 10, 15, 18, 19, 20, 21, 31, 33, 34, 35, 37, 46, 51, 53, 57, 58, 59, 60, 61, 68, 71, 76, 78, 81 and 83;
B	4, 11, 13, 14, 16, 24, 25, 27, 29, 30, 38, 40, 41, 44, 49, 50, 52, 56, 69, 70, 73, 74, 75, 77, 79, 80 and 84; and
C	3, 7, 12, 17, 22, 23, 26, 28, 32, 36, 39, 42, 43, 45, 47, 48, 54, 55, 62, 63, 64, 65, 66, 67, 72 and 85.

Incorporation by Reference

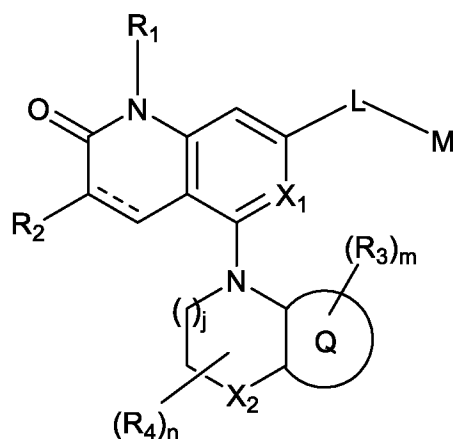
All publications and patents mentioned herein are hereby incorporated by reference in their entirety as if each individual publication or patent were specifically and individually indicated to be incorporated by reference. In case of conflict, the present application, including any definitions herein, will control.

Equivalents

While specific embodiments of the subject invention have been discussed, the above specification is illustrative and not restrictive. Many variations of the invention will become apparent to those skilled in the art upon review of this specification and the claims below. The full scope of the invention should be determined by reference to the claims, along with their full scope of equivalents, and the specification, along with such variations.

We Claim:

1. A compound of formula (I):

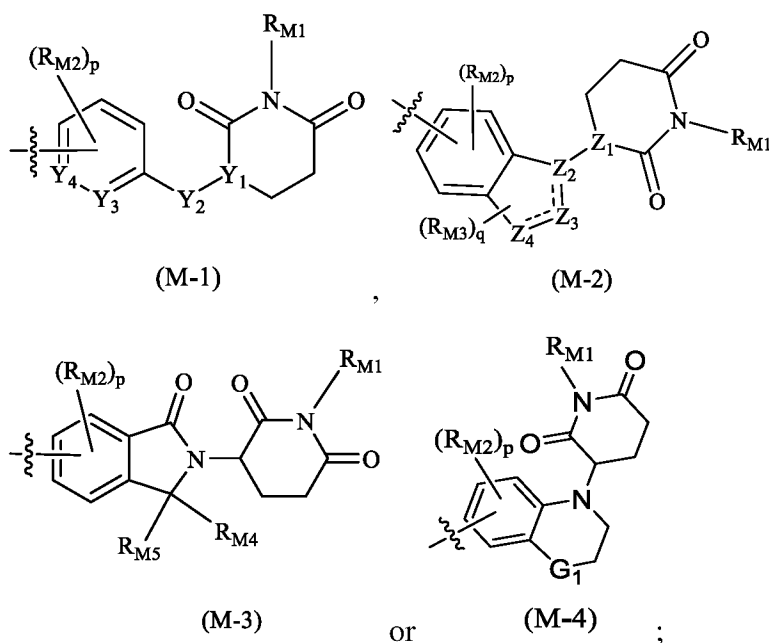


(I)

or a pharmaceutically acceptable salt, a stereoisomer, a tautomer, an N-oxide or an

- 5 ester thereof; wherein

M is represented by formula (M-1), (M-2), (M-3) or (M-4):



each Y_1 and Z_1 is independently N or CH;

- 10 Y_2 is a bond, $-C(O)NH-$ *, $-NH-C(O)-$ *, $-O-$ or $-NR_Y-$; wherein the asterisk mark [*] represents the point of attachment with the ring having Y_1 ;

each Y_3 and Y_4 is independently N or C;

Z_2 is N or C; each Z_3 and Z_4 is independently C, O or N; wherein at least one of Z_2 , Z_3 and Z_4 is C;

G_1 is $-\text{CH}_2-$, NH, S or O;

R_{M1} is hydrogen or $(\text{C}_1\text{-C}_4)\text{alkyl}$;

5 R_{M2} at each occurrence is independently halo, cyano, $(\text{C}_1\text{-C}_4)\text{alkyl}$, halo $(\text{C}_1\text{-C}_4)\text{alkyl}$ or $(\text{C}_1\text{-C}_4)\text{alkoxy}$;

R_{M3} at each occurrence is independently hydrogen or $(\text{C}_1\text{-C}_4)\text{alkyl}$; or two R_{M3} on the same carbon atom together represent an oxo group; alternatively, R_{M2} and R_{M3} on adjacent rings together with the atoms to which they are attached combine to form a 5 to 8 membered
10 fused ring;

each R_{M4} and R_{M5} is independently hydrogen or $(\text{C}_1\text{-C}_4)\text{alkyl}$; or R_{M4} and R_{M5} together represent an oxo group;

L is $\overset{\xi}{\underset{\xi}{-}}\text{L}_1\text{-L}_2\text{-L}_3\overset{\xi}{\underset{\xi}{-}}*$; wherein the asterisk mark [*] represents the point of attachment with M;

15 L_1 is $-\text{O}-$, $-\text{O}-(\text{CH}_2)_k\text{-O}-*$, unsubstituted or substituted 6 to 10-membered arylene, or unsubstituted or substituted 3 to 12-membered heterocycloalkylene; wherein the substituent at each occurrence is independently selected from one or more hydroxy, halo, $(\text{C}_1\text{-C}_4)\text{alkyl}$, halo $(\text{C}_1\text{-C}_4)\text{alkyl}$ or $(\text{C}_1\text{-C}_4)\text{alkoxy}$; wherein the asterisk mark [*] represents the point of attachment with L_2 ;

20 L_2 is a bond or unsubstituted or substituted $(\text{C}_1\text{-C}_6)\text{alkylene}$, wherein one or more methylene units of the alkylene is optionally and independently replaced with any combination of $-\text{C}(\text{O})-$, $-\text{O}-$, $-\text{N}(\text{R}_5)-$, $(\text{C}_2\text{-C}_6)\text{alkenylene}$, $(\text{C}_2\text{-C}_6)\text{alkynylene}$ or $(\text{C}_3\text{-C}_6)\text{cycloalkylene}$; wherein the substituent is independently selected from one or more oxo, halo, cyano, hydroxy or $(\text{C}_1\text{-C}_4)\text{alkoxy}$;

25 L_3 is a bond, unsubstituted or substituted 6 to 10-membered arylene, unsubstituted or substituted 3 to 12-membered cycloalkylene or unsubstituted or substituted 3 to 12-membered heterocycloalkylene; wherein the substituent at each occurrence is independently selected from one or more hydroxy, halo, $(\text{C}_1\text{-C}_4)\text{alkyl}$, halo $(\text{C}_1\text{-C}_4)\text{alkyl}$ or $(\text{C}_1\text{-C}_4)\text{alkoxy}$;

R_Y is hydrogen or $(\text{C}_1\text{-C}_4)\text{alkyl}$;

----- represents a single bond or a double bond;

X₁ represents -CR_{X1} or N;

X₂ represents N, O, S or C;

R_{X1} represents hydrogen, -OR_a, (C₁-C₄)alkyl, (C₂-C₆)alkynyl-OH, -N((C₁-C₄)alkyl)₂, unsubstituted or substituted (C₃-C₁₂)cycloalkyl, unsubstituted or substituted 5 to 6-membered heterocycloalkyl or unsubstituted or substituted 5 to 6-membered heteroaryl; wherein the substituent at each occurrence is independently selected from one or more (C₁-C₄)alkyl, (C₁-C₆)acyl, halogen, -CN, oxo, -NH₂, -OH, -NHCO-(C₁-C₄)alkyl, -SO₂NH₂ and -CONH-(C₁-C₄)alkyl;

R_a represents hydrogen, unsubstituted or substituted (C₁-C₄)alkyl, halo(C₁-C₄)alkyl, (C₁-C₄)alkoxy, (5 to 6-membered heterocycloalkyl)-(C₁-C₄)alkyl-, unsubstituted or substituted 5 to 6-membered heterocycloalkyl, unsubstituted or substituted 5 to 6-membered heteroaryl, (5 to 6-membered heteroaryl)-(C₁-C₄)alkyl-; wherein the substituent on alkyl is independently selected from one or more -OH, -COOH, -COO-(C₁-C₄)alkyl, (C₁-C₄)alkoxy, -NH((C₁-C₄)alkyl)₂, -CONH-O-(C₁-C₄)alkyl and 5 to 6-membered heterocycloalkyl; and wherein the substituent on heterocycloalkyl and heteroaryl are independently selected from alkyl, oxo and acyl;

Q represents fused 5- to 6-membered heteroaryl ring or fused benzo ring;

R₁ represents hydrogen, (C₁-C₄)alkyl or halo(C₁-C₄)alkyl;

R₂ represents hydrogen, (C₁-C₄)alkyl or -NH₂;

R₃, at each occurrence, independently, represents hydrogen, halo, cyano, unsubstituted or substituted (C₁-C₄)alkyl, (C₁-C₄)alkoxy, halo(C₁-C₄)alkyl, -CHO, (C₁-C₄)acyl, -CONH₂, -CONH-(C₁-C₄)alkyl, -COO-(C₁-C₄)alkyl, -COOH, -OH, -SO₂NH₂, -SO₂NH-(C₁-C₄)alkyl, -SO₂N((C₁-C₄)alkyl)₂, -SO₂NH-aryl, -SO-(C₁-C₄)alkyl, -SO₂-(C₁-C₄)alkyl, -SO₂NHCO-(C₁-C₄)alkyl, -SO₂NHCO-halo(C₁-C₄)alkyl, -S(O)(NH)-(C₁-C₄)alkyl, -NHSO₂-(C₁-C₄)alkyl, -NHCO-(C₁-C₄)alkyl, -N(alkyl)CO-(C₁-C₄)alkyl, unsubstituted or substituted (C₆-C₁₂)aryl, unsubstituted or substituted 5- to 6-membered heteroaryl, unsubstituted or substituted 5- to 6-membered heterocycloalkyl, (C₃-C₁₂)carbocyclyl or (C₃-C₁₂)cycloalkyl; wherein the substituent at each occurrence is independently one or more (C₁-C₄)alkyl, (C₁-C₄)alkoxy, -OH, -COOH, -COO-(C₁-C₄)alkyl, -CONH-(C₁-C₄)alkyl, -CN, -NH₂, -N((C₁-C₄)alkyl)₂, (C₁-C₆)acyl, oxo, -SO₂-(C₁-C₄)alkyl or aryl-(C₁-C₄)alkyl;

R₄, at each occurrence, independently, represents hydrogen, unsubstituted or substituted (C₁-C₄)alkyl, halo(C₁-C₄)alkyl, (C₁-C₆)acyl, -CONH-(C₁-C₄)alkyl, oxo, -SO₂-(C₁-C₄)alkyl, aryl-(C₁-C₄)alkyl, unsubstituted or substituted (C₆-C₁₂)aryl, unsubstituted or substituted 5- to 6-membered heteroaryl, unsubstituted or substituted 5- to 6-heterocycloalkyl or (C₃-C₁₂)cycloalkyl; wherein the substituent at each occurrence is independently one or more (C₁-C₄)alkoxy, -COOCH₂CH₃, -COOH or -CONH-(C₁-C₄)alkyl;

R₅ is hydrogen or (C₁-C₄)alkyl;

subscript j is 0, 1, 2 or 3;

subscript k is 1, 2, 3, 4 or 5;

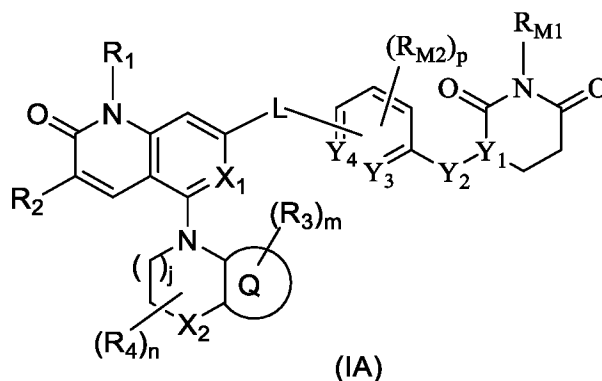
subscript m is 1, 2, 3 or 4;

subscript n is 1, 2, 3 or 4;

subscript p is 0, 1, 2 or 3; and

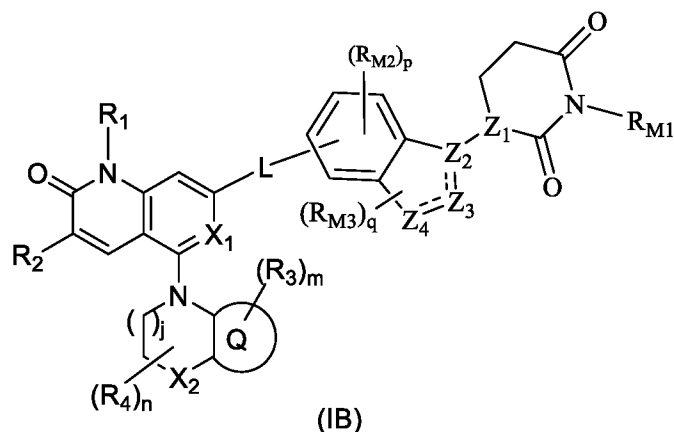
subscript q is 0, 1, 2, 3, 4 or 5.

2. The compound of claim 1, represented by compound of formula (IA):



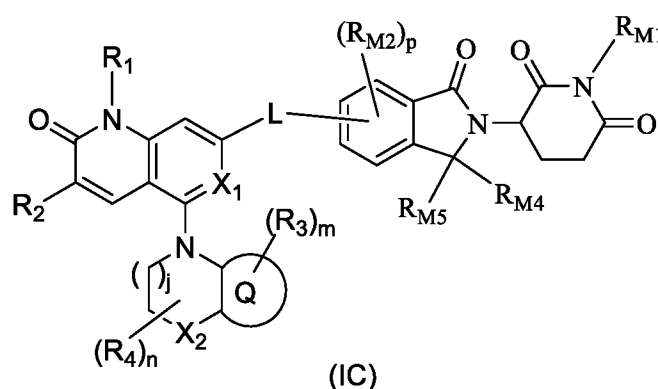
or a pharmaceutically acceptable salt, a stereoisomer, a tautomer, an N-oxide or an ester thereof.

3. The compound of claim 1, represented by compound of formula (IB):



or a pharmaceutically acceptable salt, a stereoisomer, a tautomer, an N-oxide or an ester thereof.

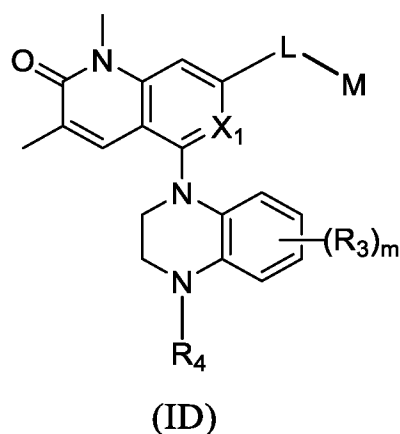
4. The compound of claim 1, represented by compound of formula (IC):



5

or a pharmaceutically acceptable salt, a stereoisomer, a tautomer, an N-oxide or an ester thereof.

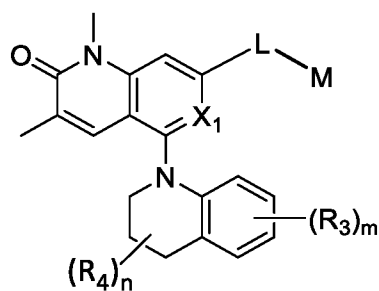
5. The compound of claim 1, represented by compound of formula (ID):



10

or a pharmaceutically acceptable salt, a stereoisomer, a tautomer, an N-oxide or an ester thereof.

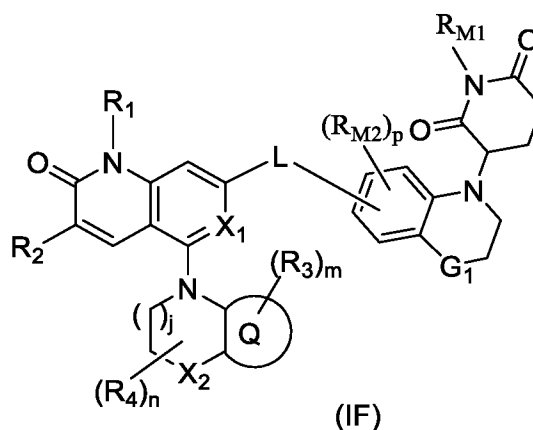
6. The compound of claim 1, represented by compound of formula (IE):



(IE)

or a pharmaceutically acceptable salt, a stereoisomer, a tautomer, an N-oxide or an ester thereof.

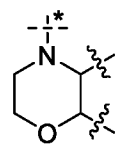
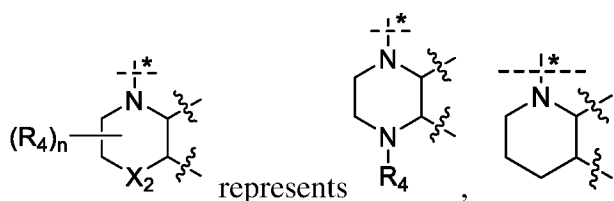
7. The compound of claim 1, represented by compound of formula (IF):



(IF)

or a pharmaceutically acceptable salt, a stereoisomer, a tautomer, an N-oxide or an ester thereof.

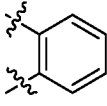
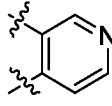
8. The compound of claim 1, wherein

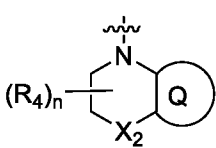
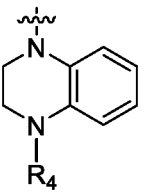


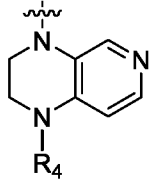
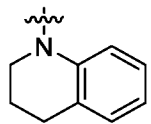
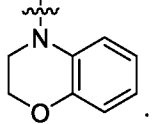
; wherein asterisk mark [*] represents the point of attachment to the ring containing X₁; and represents the points of fusion with Q.

9. The compound of claim 1, wherein Q represents fused 5- to 6-membered heteroaryl ring.

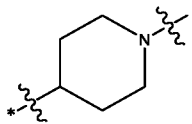
10. The compound of claim 1, wherein Q represents fused benzo ring.

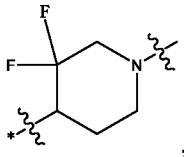
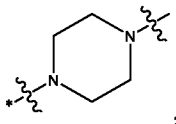
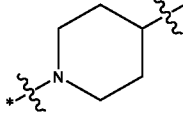
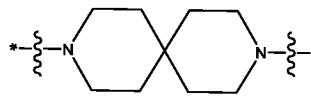
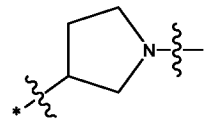
11. The compound of claim 1, wherein Q represents  or ; wherein  represents the points of fusion with the ring containing X₂.

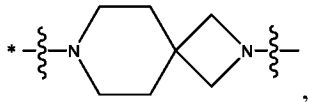
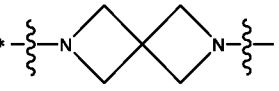
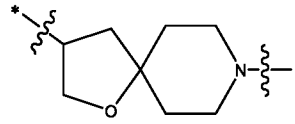
12. The compound of claim 1, wherein  represents ,

,  or ; wherein  represents the point of attachment to the
5 ring containing X₁.

13. The compound as claimed in claim 1, wherein L₁ is -O-, -O-(CH₂)_k-O-* or unsubstituted or substituted 3 to 12-membered heterocycloalkylenyl.

14. The compound as claimed in claim 1, wherein L₁ represents ,

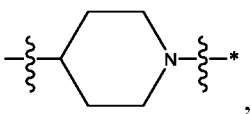
, , , , ,

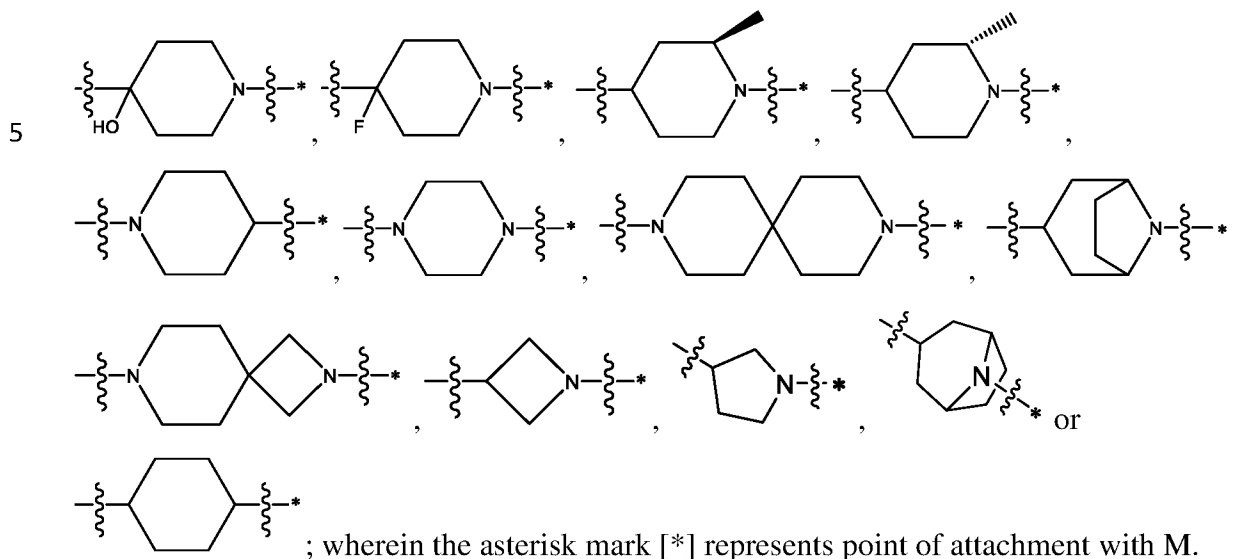
,  or ; wherein the asterisk mark [*] represents point of attachment with ring containing X₁.

15. The compound as claimed in claim 1, wherein L₂ is a bond, -C(O)-, unsubstituted or substituted (C₁-C₄)alkylenyl, (C₂-C₆)alkenylenyl, (C₂-C₆)alkynylenyl, halo(C₁-C₄)alkylenyl, *(C₁-C₄)alkylenyl-C(O)- or *-C(O)-(C₁-C₄)alkylenyl; wherein the asterisk mark [*]
15 represents the point of attachment with L₁.

16. The compound as claimed in claim 1, wherein L₂ is a bond, -C(O)-, unsubstituted or substituted (C₁-C₄)alkylenyl, (C₂-C₆)alkynylenyl or *-C(O)-(C₁-C₄)alkylenyl; wherein the asterisk mark [*] represents the point of attachment with L₁.

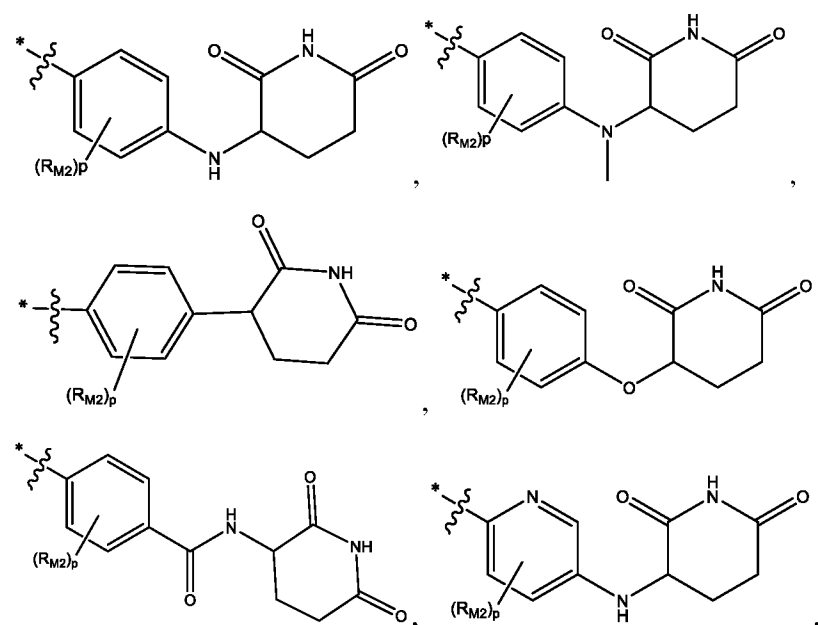
17. The compound as claimed in claim 1, wherein L₃ is a bond, unsubstituted or substituted 3 to 12-membered cycloalkylenyl or unsubstituted or substituted 3 to 12-membered heterocycloalkylenyl.

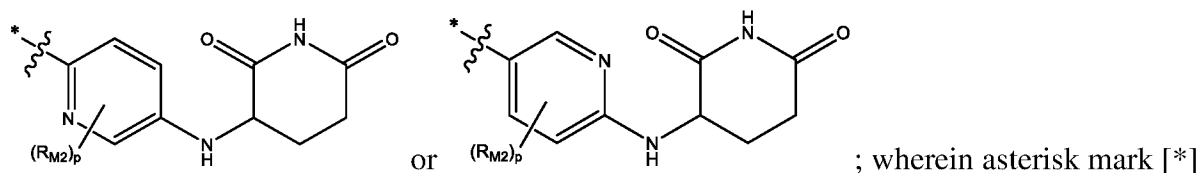
18. The compound as claimed in claim 1, wherein L₃ represents ,



19. The compound as claimed in claim 1, wherein L₂ is a bond or unsubstituted or substituted C₁-C₄ alkylene.

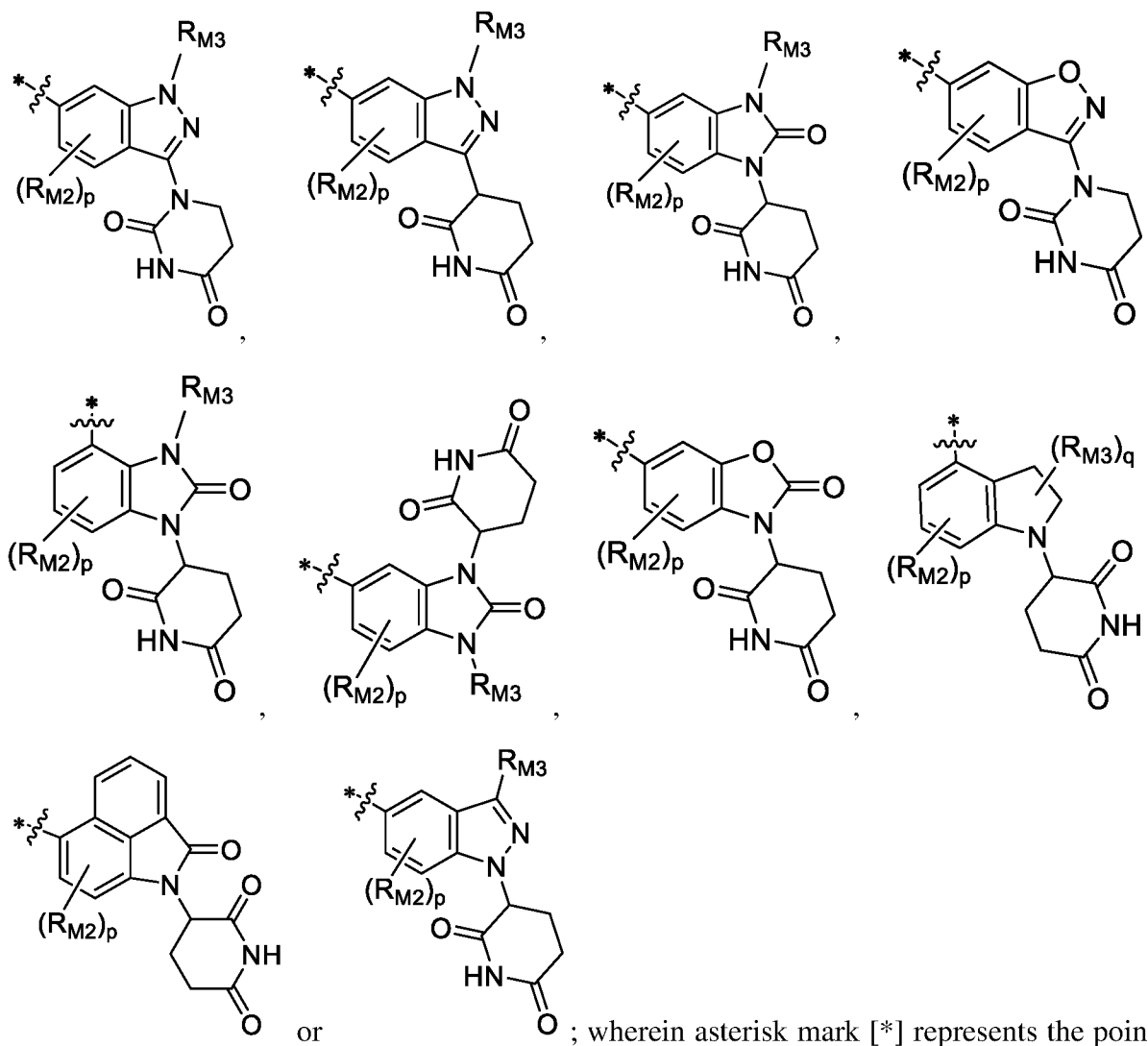
20. The compound as claimed in claim 1, wherein (M-1) represents:



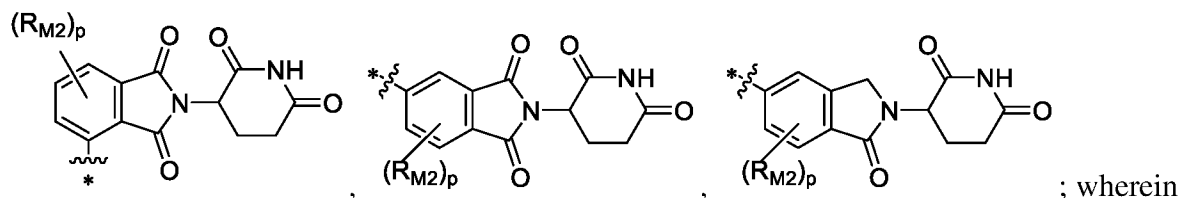


represents the point of attachment with L.

21. The compound as claimed in claim 1, wherein (M-2) represents:

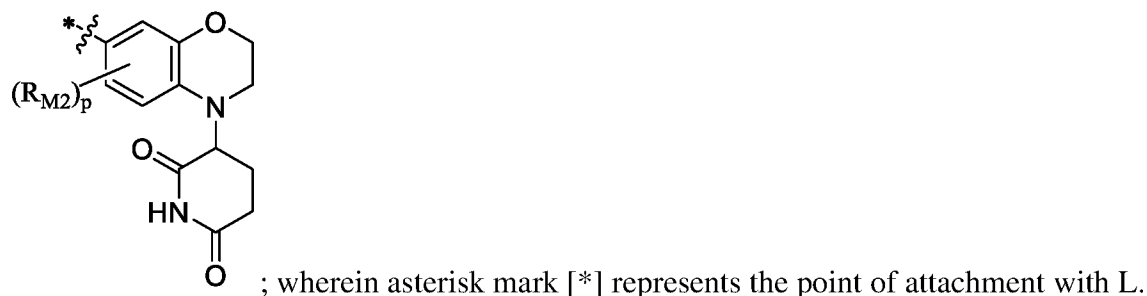


22. The compound as claimed in claim 1, wherein (M-3) represents:



asterisk mark [*] represents the point of attachment with L.

23. The compound as claimed in claim 1, wherein (M-4) represents:



5 24. The compound as claimed in claim 1, wherein R_1 is hydrogen or (C_1-C_4) alkyl.

25. The compound as claimed in claim 1, wherein R_2 is hydrogen or (C_1-C_4) alkyl.

26. The compound as claimed in claim 1, wherein R_3 at each occurrence, independently, is hydrogen, cyano, halo, (C_1-C_4) alkyl, halo (C_1-C_4) alkyl, (C_1-C_4) alkoxy or unsubstituted or substituted 5- to 6-membered heteroaryl.

10 27. The compound as claimed in claim 1, wherein R_4 , at each occurrence, independently is hydrogen or unsubstituted or substituted (C_1-C_4) alkyl.

28. A compound selected from:

Comp. No.	IUPAC name
1	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
2	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
3	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)oxy)phenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

4	7'-(1-((1-(4-((2,6-dioxopiperidin-3-yl)oxy)phenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1',3'-dimethyl-2'-oxo-1',2',3,4-tetrahydro-2H-[1,5'-biquinoline]-7-carbonitrile
5	7'-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1',3'-dimethyl-2'-oxo-1',2',3,4-tetrahydro-2H-[1,5'-biquinoline]-7-carbonitrile
6	4-(7-(4-((1-(4-((2,6-dioxopiperidin-3-yl)oxy)phenyl)piperidin-4-yl)methyl)piperazin-1-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
7	4-(7-(4-((4-(4-((2,6-dioxopiperidin-3-yl)oxy)phenyl)piperazin-1-yl)methyl)piperidin-1-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
8	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)oxy)-2-fluorophenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
9	4-(4-((4-(5-(7-cyano-4-methyl-3,4-dihydroquinoxalin-1(2H)-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-7-yl)piperidin-1-yl)methyl)piperidin-1-yl)-N-(2,6-dioxopiperidin-3-yl)-3-fluorobenzamide
10	4-(4-((4-(5-(7-cyano-4-methyl-3,4-dihydroquinoxalin-1(2H)-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-7-yl)piperidin-1-yl)methyl)piperidin-1-yl)-N-(2,6-dioxopiperidin-3-yl)-2-fluorobenzamide
11	4-(7-(1-((1-(5-((2,6-dioxopiperidin-3-yl)amino)-3-fluoropyridin-2-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
12	4-(7-(1-((1-(5-((2,6-dioxopiperidin-3-yl)amino)pyridin-2-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
13	4-(7-(1-((1-(2-fluoro-4-((1-methyl-2,6-dioxopiperidin-3-yl)amino)phenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
14	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydro-1,6-naphthyridin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

15	3-((4-(4-((4-(1,3-dimethyl-5-(4-methyl-7-(trifluoromethyl)-3,4-dihydroquinoxalin-1(2H)-yl)-2-oxo-1,2-dihydroquinolin-7-yl)piperidin-1-yl)methyl)piperidin-1-yl)-3-fluorophenyl)amino)piperidine-2,6-dione
16	4-(7-(9-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)methyl)-3,9-diazaspiro[5.5]undecan-3-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
17	4-(7-(1'-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)-[1,4'-bipiperidin]-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
18	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)methyl)pyrrolidin-3-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
19	4-(7-(1-((1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
20	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluoro-5-methoxyphenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
21	4-(7-(2-((1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)piperidin-4-yl)methyl)-2,7-diazaspiro[3.5]nonan-7-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
22	4-(7-(9-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)-3,9-diazaspiro[5.5]undecan-3-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
23	4-(7-(1-(2-(1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)ethyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
24	4-(7-(1-(2-(1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)-4-hydroxypiperidin-4-yl)acetyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

25	4-(7-(1-(1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidine-4-carbonyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
26	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-3,4-dihydro-2H-benzo[b][1,4]oxazine-6-carbonitrile
27	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-3-fluorophenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
28	3-((4-(4-((4-(1,3-dimethyl-5-(1-methyl-2,3-dihydropyrido[3,4-b]pyrazin-4(1H)-yl)-2-oxo-1,2-dihydroquinolin-7-yl)piperidin-1-yl)methyl)piperidin-1-yl)-3-fluorophenyl)amino)piperidine-2,6-dione
29	4-(7-(6-((1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)piperidin-4-yl)methyl)-2,6-diazaspiro[3.3]heptan-2-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
30	4-(7-(9-((1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)piperidin-4-yl)methyl)-3,9-diazaspiro[5.5]undecan-3-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
31	4-(7-(1-((1-(1-(2,6-dioxopiperidin-3-yl)-3-methyl-2-oxo-2,3-dihydro-1H-benzo[d]imidazol-5-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
32	4-(7-(4-((1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)piperidin-4-yl)methyl)piperazin-1-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
33	4-(7-(1-((1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-7-fluoro-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
34	1-(6-(4-((4-(5-(7-chloro-4-methyl-3,4-dihydroquinoxalin-1(2H)-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-7-yl)piperidin-1-yl)methyl)piperidin-1-yl)-5-fluoro-1-methyl-1H-indazol-3-yl)dihydropyrimidine-2,4(1H,3H)-dione

35	4-(7-(1-((1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)benzo[d]isoxazol-6-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
36	3-((4-(4-((4-(7-(difluoromethyl)-1',3'-dimethyl-2'-oxo-1',2',3,4-tetrahydro-2H-[1,5'-biquinolin]-7'-yl)piperidin-1-yl)methyl)piperidin-1-yl)-3-fluorophenyl)amino)piperidine-2,6-dione
37	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-N,N,1-trimethyl-1,2,3,4-tetrahydroquinoxaline-6-sulfonamide
38	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)azetidin-3-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
39	4-(7-(1-((1-(1-(2,6-dioxopiperidin-3-yl)-3-methyl-2-oxo-2,3-dihydro-1H-benzo[d]imidazol-4-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
40	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-7-fluoro-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
41	3-((4-(4-((4-(5-(7-chloro-4-methyl-3,4-dihydroquinoxalin-1(2H)-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-7-yl)piperidin-1-yl)methyl)piperidin-1-yl)-3-fluorophenyl)amino)piperidine-2,6-dione
42	3-((4-(4-((4-(1,3-dimethyl-5-(4-methyl-3,4-dihydroquinoxalin-1(2H)-yl)-2-oxo-1,2-dihydroquinolin-7-yl)piperidin-1-yl)methyl)piperidin-1-yl)-3-fluorophenyl)amino)piperidine-2,6-dione
43	3-((4-(4-((4-(1,3-dimethyl-5-(4-methyl-7-(1-methyl-1H-pyrazol-4-yl)-3,4-dihydroquinoxalin-1(2H)-yl)-2-oxo-1,2-dihydroquinolin-7-yl)piperidin-1-yl)methyl)piperidin-1-yl)-3-fluorophenyl)amino)piperidine-2,6-dione
44	1-(6-(4-((4-(1,3-dimethyl-5-(4-methyl-3,4-dihydroquinoxalin-1(2H)-yl)-2-oxo-1,2-dihydroquinolin-7-yl)piperidin-1-yl)methyl)piperidin-1-yl)-5-fluoro-1-methyl-1H-indazol-3-yl)dihydropyrimidine-2,4(1H,3H)-dione
45	3-((3-fluoro-4-(4-((4-(5-(7-methoxy-4-methyl-3,4-dihydroquinoxalin-1(2H)-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-7-yl)piperidin-1-yl)methyl)piperidin-1-yl)phenyl)amino)piperidine-2,6-dione

46	7'-(1-((1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1',3'-dimethyl-2'-oxo-1',2',3,4-tetrahydro-2H-[1,5'-biquinoline]-7-carbonitrile
47	3-((4-(4-((4-(5-(7-(difluoromethyl)-3,4-dihydroquinolin-1(2H)-yl)-1,3-dimethyl-2-oxo-1,2-dihydro-1,6-naphthyridin-7-yl)piperidin-1-yl)methyl)piperidin-1-yl)-3-fluorophenyl)amino)piperidine-2,6-dione
48	4-(7-(1-((1-(3-(2,6-dioxopiperidin-3-yl)-1-methyl-2-oxo-2,3-dihydro-1H-benzo[d]imidazol-5-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
49	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-ethyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
50	4-(7-(1-((1-(4-(2,6-dioxopiperidin-3-yl)-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
51	4-(7-(1-((1-(3-(2,6-dioxopiperidin-3-yl)-1-methyl-1H-indazol-6-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
52	4-(7-(4-((4-(1-(2,6-dioxopiperidin-3-yl)-3-methyl-2-oxo-2,3-dihydro-1H-benzo[d]imidazol-5-yl)piperazin-1-yl)methyl)piperidin-1-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
53	4-(7-(1-((1-(3-(2,6-dioxopiperidin-3-yl)-2-oxo-2,3-dihydrobenzo[d]oxazol-6-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
54	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-3-methoxyphenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
55	4-(7-(4-((4-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-1-yl)methyl)piperidin-1-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

56	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2,6-difluorophenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
57	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)methyl)-3,3-difluoropiperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
58	4-(7-(1-((1-(1-(2,6-dioxopiperidin-3-yl)indolin-4-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
59	4-(7-(1-((1-(1-(2,6-dioxopiperidin-3-yl)-6-fluoro-3-methyl-2-oxo-2,3-dihydro-1H-benzo[d]imidazol-5-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
60	4-(7-(1-((1-(1-(2,6-dioxopiperidin-3-yl)indolin-5-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
61	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)(methyl)amino)-2-fluorophenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
62	4-(7-(1-((1-(1-(2,6-dioxopiperidin-3-yl)-2-oxo-1,2-dihydrobenzo[cd]indol-6-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
63	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carboxamide
64	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-N,1-dimethyl-1,2,3,4-tetrahydroquinoxaline-6-carboxamide
65	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-7-methoxy-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

66	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)pyrrolidin-3-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
67	4-(7-(1-((8-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)-8-azabicyclo[3.2.1]octan-3-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
68	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)-4-hydroxypiperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
69	4-(7-(1-(((2R)-1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)-2-methylpiperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
70	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-(trifluoromethyl)phenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
71	4-(7-(1-((1-(2-chloro-4-((2,6-dioxopiperidin-3-yl)amino)phenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
72	4-(7-(1-((1-(2-cyano-4-((2,6-dioxopiperidin-3-yl)amino)phenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
73	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-methylphenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
74	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-methoxyphenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
75	4-(7-(1-(((2S)-1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)-2-methylpiperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

76	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)-4-fluoropiperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
77	4-(7-(1-(1-(1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)ethyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
78	4-(7-(1-((1-(5-((2,6-dioxopiperidin-3-yl)amino)-3-fluoropyridin-2-yl)-4-hydroxypiperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
79	4-(7-(1-(2-(1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)-4-hydroxypiperidin-4-yl)acetyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
80	4-(7-(1-((1-(2-(2,6-dioxopiperidin-3-yl)-1,3-dioxoisindolin-4-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
81	4-(7-(1-((1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)-4-hydroxypiperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
82	4-(7-(1-((1-(1-(2,6-dioxopiperidin-3-yl)-3-methyl-2-oxo-2,3-dihydro-1H-benzo[d]imidazol-5-yl)-4-hydroxypiperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
83	4-(7-(1-((1-(1-(2,6-dioxopiperidin-3-yl)-1H-indazol-5-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
84	4-(7-(1-((4-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)cyclohexyl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
85	4-(7-(1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

86	4-(7-(1-((1-(2-(2,6-dioxopiperidin-3-yl)-1,3-dioxoisindolin-5-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
87	7'-(1-((1-(2-(2,6-dioxopiperidin-3-yl)-1,3-dioxoisindolin-5-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1',3'-dimethyl-2'-oxo-1',2',3,4-tetrahydro-2H-[1,5'-biquinoline]-7-carbonitrile
88	5-(4-((4-(1,3-dimethyl-5-(4-methyl-6-(1-methyl-1H-pyrazol-4-yl)-3,4-dihydroquinoxalin-1(2H)-yl)-2-oxo-1,2-dihydroquinolin-7-yl)piperidin-1-yl)methyl)piperidin-1-yl)-2-(2,6-dioxopiperidin-3-yl)isoindoline-1,3-dione
89	5-(4-((4-(1',3'-dimethyl-2'-oxo-1',2',3,4-tetrahydro-2H-[1,5'-biquinolin]-7'-yl)piperidin-1-yl)methyl)piperidin-1-yl)-2-(2,6-dioxopiperidin-3-yl)isoindoline-1,3-dione
90	3-(4-(4-((4-(7-(difluoromethyl)-1',3'-dimethyl-2'-oxo-1',2',3,4-tetrahydro-2H-[1,5'-biquinolin]-7'-yl)piperidin-1-yl)methyl)piperidin-1-yl)phenyl)piperidine-2,6-dione
91	3-(5-(4-((4-(7-(difluoromethyl)-1',3'-dimethyl-2'-oxo-1',2',3,4-tetrahydro-2H-[1,5'-biquinolin]-7'-yl)piperidin-1-yl)methyl)piperidin-1-yl)-1-oxoisindolin-2-yl)piperidine-2,6-dione
92	3-((4-(4-((4-(5-(7-chloro-4-methyl-3,4-dihydroquinoxalin-1(2H)-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-7-yl)piperidin-1-yl)methyl)piperidin-1-yl)-3-fluorophenyl)amino)piperidine-2,6-dione
93	3-((4-(4-((4-(1,3-dimethyl-5-(4-methyl-6-(1-methyl-1H-pyrazol-4-yl)-3,4-dihydroquinoxalin-1(2H)-yl)-2-oxo-1,2-dihydroquinolin-7-yl)piperidin-1-34yl)methyl)piperidin-1-yl)-3-fluorophenyl)amino)piperidine-2,6-dione
94	4-(7-(4-(4-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperazin-1-yl)butoxy)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
95	4-(7-(2-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)piperidin-4-yl)methoxy)ethoxy)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
96	4-(7-(1-(5-(4-((2,6-dioxopiperidin-3-yl)amino)-2-fluorophenyl)pent-4-yn-1-yl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

97	4-(7-(1-((1-(4-((2,6-dioxopiperidin-3-yl)amino)-3-fluorophenyl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
98	4-(7-(1-((1-(6-((2,6-dioxopiperidin-3-yl)amino)-4-fluoropyridin-3-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
99	4-(7-(1-((1-(6-((2,6-dioxopiperidin-3-yl)amino)-2-fluoropyridin-3-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
100	4-(7-(9-((1-(5-((2,6-dioxopiperidin-3-yl)amino)-3-fluoropyridin-2-yl)piperidin-4-yl)methyl)-3,9-diazaspiro[5.5]undecan-3-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
101	4-(7-(1-((1-(5-((2,6-dioxopiperidin-3-yl)amino)-3-fluoropyridin-2-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydro-1,6-naphthyridin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
102	4-(7-(2-((1-(5-((2,6-dioxopiperidin-3-yl)amino)-3-fluoropyridin-2-yl)piperidin-4-yl)methyl)-2,7-diazaspiro[3.5]nonan-7-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
103	7'-(1-((1-(5-((2,6-dioxopiperidin-3-yl)amino)-3-fluoropyridin-2-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1',3'-dimethyl-2'-oxo-1',2',3,4-tetrahydro-2H-[1,5'-biquinoline]-7-carbonitrile
104	4-(7-(1-(2-(1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)-4-hydroxypiperidin-4-yl)acetyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
105	4-(7-(4-((2-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)-2,7-diazaspiro[3.5]nonan-7-yl)methyl)piperidin-1-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
106	4-(7-(1-((8-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)-8-azabicyclo[3.2.1]octan-3-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile

107	4-(7-(1-(2-(4-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)piperidin-1-yl)acetyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
108	4-(7-(9-((1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)piperidin-4-yl)methyl)-3,9-diazaspiro[5.5]undecan-3-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
109	4-(7-(6-((1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)piperidin-4-yl)methyl)-2,6-diazaspiro[3.3]heptan-2-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
110	4-(7-(1-((1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-7-(1-methyl-1H-pyrazol-4-yl)-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
111	1-(6-(4-((4-(7-(difluoromethyl)-1',3'-dimethyl-2'-oxo-1',2',3,4-tetrahydro-2H-[1,5'-biquinolin]-7'-yl)piperidin-1-yl)methyl)piperidin-1-yl)-5-fluoro-1-methyl-1H-indazol-3-yl)dihydropyrimidine-2,4(1H,3H)-dione
112	4-(7-(8-((1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)piperidin-4-yl)methyl)-1-oxa-8-azaspiro[4.5]decan-3-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
113	4-(7-(1-((1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)piperidin-4-yl)difluoromethyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
114	1-(6-(4-((4-(5-(7-chloro-4-methyl-3,4-dihydroquinoxalin-1(2H)-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-7-yl)piperidin-1-yl)methyl)piperidin-1-yl)-5-fluoro-1-methyl-1H-indazol-3-yl)dihydropyrimidine-2,4(1H,3H)-dione
115	4-(7-(1-((1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)piperidin-4-yl)methyl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-3,4-dihydro-2H-benzo[b][1,4]oxazine-6-carbonitrile

116	4-(7-(1-(3-(2,4-dioxotetrahydropyrimidin-1(2H)-yl)-5-fluoro-1-methyl-1H-indazol-6-yl)piperidin-4-yl)-1,3-dimethyl-2-oxo-1,2-dihydroquinolin-5-yl)-1-methyl-1,2,3,4-tetrahydroquinoxaline-6-carbonitrile
117	1-(6-(4-((4-(1,3-dimethyl-5-(4-methyl-7-(trifluoromethyl)-3,4-dihydroquinoxalin-1(2H)-yl)-2-oxo-1,2-dihydroquinolin-7-yl)piperidin-1-yl)methyl)piperidin-1-yl)-5-fluoro-1-methyl-1H-indazol-3-yl)dihydropyrimidine-2,4(1H,3H)-dione

or a pharmaceutically acceptable salt or a stereoisomer thereof.

29. A pharmaceutical composition comprising a compound of any one of claims 1 to 28, or a pharmaceutically acceptable salt or a stereoisomer thereof and at least one pharmaceutically acceptable carrier or excipient.

5 30. A method of treating a CBP-mediated disease or disorder in a subject comprising administering the subject in need thereof a therapeutically effective amount of compound according to any one of claims 1 to 28, or a pharmaceutical acceptable salt or a stereoisomer thereof.

10 31. The method of claim 30, wherein CBP-mediated disease or disorder is a fibrotic lung disease selected from pulmonary fibrosis, idiopathic pulmonary fibrosis, fibrotic interstitial lung disease, renal fibrosis, interstitial pneumonia, fibrotic variant of non-specific interstitial pneumonia, cystic fibrosis, lung fibrosis, chronic obstructive pulmonary lung disease (COPD), lung cirrhosis and pulmonary arterial hypertension.

15 32. The method of claim 31, wherein the CBP-mediated disease or disorder is a cancer selected from acoustic neuroma, acute leukemia, acute myeloid leukemia (AML), acute lymphocytic leukemia, acute myelocytic leukemia (monocytic, myeloblastic, adenocarcinoma, angiosarcoma, astrocytoma, myelomonocytic and promyelocytic), acute T-cell leukemia, basal cell carcinoma, bile duct carcinoma, bladder cancer, brain cancer, breast cancer, bronchogenic carcinoma, cancer of male and female reproductive system, cervical cancer, chondrosarcoma, 20 chordoma, choriocarcinoma, chronic leukemia, chronic lymphocytic leukemia, chronic myelocytic (granulocytic) leukemia, chronic myelogenous leukemia, colon cancer, colorectal cancer, craniopharyngioma, cystadenocarcinoma, diffuse large B-cell lymphoma (DLBCL), Skin squamous cell carcinoma, Marginal zone B-cell Lymphoma, Salivary gland carcinoma, Esophageal squamous cell carcinoma, Cervical squamous cell carcinoma, B cell follicular 25 lymphoma, B cell lymphoma, T cell leukemia, Prostate cancer (AR+ve), Normal prostate

epithelium carcinoma, Normal breast epithelium carcinoma, Liver cancer, Burkitt's lymphoma, dysproliferative changes (dysplasias and metaplasias), embryonal carcinoma, endometrial cancer, endotheliosarcoma, ependymoma, epithelial carcinoma, erythroleukemia, esophageal cancer, estrogen-receptor positive breast cancer, essential thrombocythemia,

5 Ewing's tumor, fibrosarcoma, follicular lymphoma, gastro-intestinal tumors including GIST, germ cell testicular cancer, glioma, glioblastoma, gliosarcoma, head and neck squamous cell carcinoma, heavy chain disease, hemangioblastoma, hepatoma, hepatocellular cancer, hormone insensitive prostate cancer, leiomyosarcoma, leukemia, NPM1c mutant leukemia, liposarcoma, liposarcoma, lung cancer, lymphagioendotheliosarcoma, lymphangiosarcoma,

10 lymphoblastic leukemia, lymphoma (Hodgkin's and non-Hodgkin's), Merkel cell carcinoma, malignancies and hyperproliferative diseases or disorders of the bladder, breast, colon, lung, ovaries, pancreas, prostate, skin and uterus, lymphoid malignancies of T-cell or B-cell origin, medullary carcinoma, medulloblastoma, melanoma, meningioma, mesothelioma, multiple myeloma, myelogenous leukemia, myeloma, myxosarcoma, neuroblastoma, NUT midline

15 carcinoma (NMC), non-small cell lung cancer, oligodendroglioma, oral cancer, osteogenic sarcoma, ovarian cancer, pancreatic cancer, papillary adenocarcinomas, papillary carcinoma, pinealoma, polycythemia vera, prostate cancer, rectal cancer, renal cell carcinoma, retinoblastoma, rhabdomyosarcoma, sarcoma, sebaceous gland carcinoma, seminoma, skin cancer, small cell lung carcinoma, solid tumors (carcinomas and sarcomas), small cell lung

20 cancer, stomach cancer, squamous cell carcinoma, synovioma, sweat gland carcinoma, thyroid cancer, Waldenstrom's macroglobulinemia, testicular tumors, uterine cancer and Wilms' tumor.

33. The method of claim 30, wherein the CBP-mediated disease or disorder is an inflammatory diseases, an inflammatory conditions, and an autoimmune diseases, selected from Addison's disease, acute gout, ankylosing spondylitis, asthma, atherosclerosis, Behcet's

25 disease, bullous skin diseases, chronic obstructive pulmonary disease (COPD), Crohn's disease, dermatitis, eczema, giant cell arteritis, glomerulonephritis, hepatitis, hypophysitis, inflammatory bowel disease, Kawasaki disease, lupus nephritis, multiple sclerosis, myocarditis, myositis, nephritis, organ transplant rejection, osteoarthritis, pancreatitis, pericarditis, Polyarteritis nodosa, pneumonitis, primary biliary cirrhosis, psoriasis, psoriatic

30 arthritis, rheumatoid arthritis, scleritis, sclerosing cholangitis, sepsis, systemic lupus erythematosus, Takayasu's Arteritis, toxic shock, thyroiditis, type I diabetes, ulcerative colitis, uveitis, vitiligo, vasculitis and Wegener's granulomatosis.

34. The compound according to any one of claims 1 to 28, or a pharmaceutically acceptable salt or a stereoisomer thereof, for use as a medicament.
35. The compound of any one of claims 1 to 28, or a pharmaceutically acceptable salt or a stereoisomer thereof, for use in the treatment of cancer.
- 5 36. The compound of any one of claims 1 to 28, or a pharmaceutically acceptable salt or a stereoisomer thereof, for use in degrading the target protein in a subject, wherein the target protein is CBP.
37. The compound of any one of claims 1 to 28, or a pharmaceutically acceptable salt or a stereoisomer thereof, for use in the treatment of CBP-mediated disorder.
- 10 38. The compound for use of claim 37, wherein CBP-mediated disease or disorder is
- a) a fibrotic lung disease selected from idiopathic pulmonary fibrosis, fibrotic interstitial lung disease, interstitial pneumonia, fibrotic variant of non-specific interstitial pneumonia, cystic fibrosis, lung fibrosis, chronic obstructive pulmonary lung disease (COPD) and pulmonary arterial hypertension; or
- 15 b) a cancer selected from acoustic neuroma, acute leukemia, acute myeloid leukemia (AML), acute lymphocytic leukemia, acute myelocytic leukemia (monocytic, myeloblastic, adenocarcinoma, angiosarcoma, astrocytoma, myelomonocytic and promyelocytic), acute T-cell leukemia, basal cell carcinoma bile duct carcinoma, bladder cancer, brain cancer, breast cancer, bronchogenic carcinoma, cancer of male and female reproductive system,
- 20 cervical cancer, chondrosarcoma, chordoma, choriocarcinoma, chronic leukemia, chronic lymphocytic leukemia, chronic myelocytic (granulocytic) leukemia, chronic myelogenous leukemia, colon cancer, colorectal cancer, craniopharyngioma, cystadenocarcinoma, diffuse large B-cell lymphoma (DLBCL), Skin squamous cell carcinoma, Marginal zone B-cell Lymphoma, Salivary gland carcinoma, Esophageal squamous cell carcinoma, Cervical
- 25 squamous cell carcinoma, B cell follicular lymphoma, B cell lymphoma, T cell leukemia, Prostate cancer (AR+ve), Normal prostate epithelium, Normal breast epithelium, Liver cancer, Burkitt's lymphoma, dysproliferative changes (dysplasias and metaplasias), embryonal carcinoma, endometrial cancer, endotheliosarcoma, ependymoma, epithelial carcinoma, erythroleukemia, esophageal cancer, estrogen-receptor positive breast cancer,
- 30 essential thrombocythemia, Ewing's tumor, fibrosarcoma, follicular lymphoma, gastro-intestinal tumors including GIST, germ cell testicular cancer, glioma, glioblastoma,

gliosarcoma, head and neck squamous cell carcinoma, heavy chain disease, hemangioblastoma, hepatoma, hepatocellular cancer, hormone insensitive prostate cancer, leiomyosarcoma, leukemia, liposarcoma, lung cancer, lymphagioendotheliosarcoma, lymphangiosarcoma, lymphoblastic leukemia, lymphoma (Hodgkin's and non-Hodgkin's), malignancies and hyperproliferative disorders of the bladder, breast, colon, lung, ovaries, pancreas, prostate, skin and uterus, lymphoid malignancies of T-cell or B-cell origin, medullary carcinoma, medulloblastoma, melanoma, meningioma, mesothelioma, multiple myeloma, myelogenous leukemia, myeloma, myxosarcoma, neuroblastoma, NUT midline carcinoma (NMC), non-small cell lung cancer, oligodendroglioma, oral cancer, osteogenic sarcoma, ovarian cancer, pancreatic cancer, papillary adenocarcinomas, papillary carcinoma, pinealoma, polycythemia vera, prostate cancer, rectal cancer, renal cell carcinoma, retinoblastoma, rhabdomyosarcoma, sarcoma, sebaceous gland carcinoma, seminoma, skin cancer, small cell lung carcinoma, solid tumors (carcinomas and sarcomas), small cell lung cancer, stomach cancer, squamous cell carcinoma, synovioma, sweat gland carcinoma, thyroid cancer, Waldenstrom's macroglobulinemia, testicular tumors, uterine cancer and Wilms' tumor; or

c) an inflammatory diseases, an inflammatory conditions, and an autoimmune diseases, selected from Addison's disease, acute gout, ankylosing spondylitis, asthma, atherosclerosis, Behcet's disease, bullous skin diseases, chronic obstructive pulmonary disease (COPD), Crohn's disease, dermatitis, eczema, giant cell arteritis, glomerulonephritis, hepatitis, hypophysitis, inflammatory bowel disease, Kawasaki disease, lupus nephritis, multiple sclerosis, myocarditis, myositis, nephritis, organ transplant rejection, osteoarthritis, pancreatitis, pericarditis, Polyarteritis nodosa, pneumonitis, primary biliary cirrhosis, psoriasis, psoriatic arthritis, rheumatoid arthritis, scleritis, sclerosing cholangitis, sepsis, systemic lupus erythematosus, Takayasu's Arteritis, toxic shock, thyroiditis, type I diabetes, ulcerative colitis, uveitis, vitiligo, vasculitis and Wegener's granulomatosis.

39. Use of a compound of any one of claims 1 to 28, or a pharmaceutical acceptable salt or a stereoisomer thereof, in the manufacture of a medicament for the treatment of CBP-mediated disease or disorder.

40. The use of claim 39, wherein the CBP-mediated disease or disorder is

a) a fibrotic lung disease selected from pulmonary fibrosis, idiopathic pulmonary fibrosis, fibrotic interstitial lung disease, renal fibrosis, interstitial pneumonia, fibrotic variant of non-

specific interstitial pneumonia, cystic fibrosis, lung fibrosis, chronic obstructive pulmonary lung disease (COPD), lung cirrhosis and pulmonary arterial hypertension; or

- b) a cancer selected from acoustic neuroma, acute leukemia, acute myeloid leukemia (AML), acute lymphocytic leukemia, acute myelocytic leukemia (monocytic, myeloblastic, adenocarcinoma, angiosarcoma, astrocytoma, myelomonocytic and promyelocytic), acute T-cell leukemia, basal cell carcinoma, bile duct carcinoma, bladder cancer, brain cancer, breast cancer, bronchogenic carcinoma, cancer of male and female reproductive system, cervical cancer, chondrosarcoma, chordoma, choriocarcinoma, chronic leukemia, chronic lymphocytic leukemia, chronic myelocytic (granulocytic) leukemia, chronic myelogenous leukemia, colon cancer, colorectal cancer, craniopharyngioma, cystadenocarcinoma, diffuse large B-cell lymphoma (DLBCL), Skin squamous cell carcinoma, Marginal zone B-cell Lymphoma, Salivary gland carcinoma, Esophageal squamous cell carcinoma, Cervical squamous cell carcinoma, B cell follicular lymphoma, B cell lymphoma, T cell leukemia, Prostate cancer (AR+ve), Normal prostate epithelium carcinoma, Normal breast epithelium carcinoma, Liver cancer, Burkitt's lymphoma, dysproliferative changes (dysplasias and metaplasias), embryonal carcinoma, endometrial cancer, endotheliosarcoma, ependymoma, epithelial carcinoma, erythroleukemia, esophageal cancer, estrogen-receptor positive breast cancer, essential thrombocythemia, Ewing's tumor, fibrosarcoma, follicular lymphoma, gastro-intestinal tumors including GIST, germ cell testicular cancer, glioma, glioblastoma, gliosarcoma, head and neck squamous cell carcinoma, heavy chain disease, hemangioblastoma, hepatoma, hepatocellular cancer, hormone insensitive prostate cancer, leiomyosarcoma, leukemia, liposarcoma, lung cancer, lymphagioendotheliosarcoma, lymphangiosarcoma, lymphoblastic leukemia, lymphoma (Hodgkin's and non-Hodgkin's), malignancies and hyperproliferative disorders of the bladder, breast, colon, lung, ovaries, pancreas, prostate, skin and uterus, lymphoid malignancies of T-cell or B-cell origin, medullary carcinoma, medulloblastoma, melanoma, meningioma, mesothelioma, multiple myeloma, myelogenous leukemia, myeloma, myxosarcoma, neuroblastoma, NUT midline carcinoma (NMC), non-small cell lung cancer, oligodendroglioma, oral cancer, osteogenic sarcoma, ovarian cancer, pancreatic cancer, papillary adenocarcinomas, papillary carcinoma, pinealoma, polycythemia vera, prostate cancer, rectal cancer, renal cell carcinoma, retinoblastoma, rhabdomyosarcoma, sarcoma, sebaceous gland carcinoma, seminoma, skin cancer, small cell lung carcinoma, solid tumors (carcinomas and sarcomas), small cell lung cancer, stomach cancer, squamous cell carcinoma, synovioma, sweat gland

carcinoma, thyroid cancer, Waldenstrom's macroglobulinemia, testicular tumors, uterine cancer and Wilms' tumor; or

- c) an inflammatory diseases, an inflammatory conditions, and an autoimmune diseases, selected from Addison's disease, acute gout, ankylosing spondylitis, asthma, atherosclerosis, Behcet's disease, bullous skin diseases, chronic obstructive pulmonary disease (COPD), Crohn's disease, dermatitis, eczema, giant cell arteritis, glomerulonephritis, hepatitis, hypophysitis, inflammatory bowel disease, Kawasaki disease, lupus nephritis, multiple sclerosis, myocarditis, myositis, nephritis, organ transplant rejection, osteoarthritis, pancreatitis, pericarditis, Polyarteritis nodosa, pneumonitis, primary biliary cirrhosis, psoriasis, psoriatic arthritis, rheumatoid arthritis, scleritis, sclerosing cholangitis, sepsis, systemic lupus erythematosus, Takayasu's Arteritis, toxic shock, thyroiditis, type I diabetes, ulcerative colitis, uveitis, vitiligo, vasculitis and Wegener's granulomatosis.

INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2024/059098

A. CLASSIFICATION OF SUBJECT MATTER					
INV.	C07D401/14	C07D413/14	C07D451/02	C07D471/04	C07D471/10
	C07D487/10	C07D491/107	A61P11/00	A61P29/00	A61P35/00
	A61P37/00	A61K31/498	A61K31/4709	A61K31/497	A61K31/538
According to International Patent Classification (IPC) or to both national classification and IPC					
B. FIELDS SEARCHED					
Minimum documentation searched (classification system followed by classification symbols) C07D A61P A61K					
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched					
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) EPO-Internal, WPI Data, BIOSIS, EMBASE, CHEM ABS Data					
C. DOCUMENTS CONSIDERED TO BE RELEVANT					
Category*	Citation of document, with indication, where appropriate, of the relevant passages				Relevant to claim No.
E	WO 2024/249888 A2 (ONCOPIA THERAPEUTICS INC D/B/A SK LIFE SCIENCE LABS [US]) 5 December 2024 (2024-12-05) the whole document in particular abstract, the examples and the claims -----				1 - 40
X,P	WO 2024/130095 A1 (UNIV MICHIGAN [US] ET AL.) 20 June 2024 (2024-06-20) the whole document in particular abstract, the examples and the claims -----				1 - 40
Y	WO 2022/053967 A1 (AURIGENE DISCOVERY TECH LTD [IN]) 17 March 2022 (2022-03-17) the whole document in particular abstract, the examples (*example 153) and the claims ----- - / - -				1 - 40
☒ Further documents are listed in the continuation of Box C. ☒ See patent family annex.					
* Special categories of cited documents : "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance;; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance;; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family					
Date of the actual completion of the international search 31 January 2025			Date of mailing of the international search report 17/02/2025		
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016			Authorized officer Papathoma, Sofia		

INTERNATIONAL SEARCH REPORT

International application No

PCT/IB2024/059098

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 2022/042707 A1 (CULLGEN SHANGHAI INC [CN]) 3 March 2022 (2022-03-03) the whole document in particular abstract, the examples (*compounds P-191 and P-192) and the claims -----	1 - 40

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
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					WO 2022042707 A1 03-03-2022