

DICHLOROPHENOL HSD17B13 INHIBITORS AND USES THEREOF**CROSS-REFERENCE**

[0001] This application claims the benefit of U.S. Provisional Application Serial No. 63/113,555 filed November 13, 2020; U.S. Provisional Application Serial No. 63/113,557 filed November 13, 2020; U.S. Provisional Application Serial No. 63/170,855 filed April 5, 2021; and U.S. Provisional Application Serial No. 63/225,282 filed July 23, 2021 which are hereby incorporated by reference in their entirety.

BACKGROUND OF THE INVENTION

[0002] Nonalcoholic fatty liver diseases (NAFLDs) including NASH (nonalcoholic steatohepatitis) are considered to be hepatic manifestations of the metabolic syndrome and are characterized by the accumulation of triglycerides in the liver of patients without a history of excessive alcohol consumption. The majority of patients with NAFLD are obese or morbidly obese and have accompanying insulin resistance. The incidence of NAFLD/NASH has been rapidly increasing worldwide consistent with the increased prevalence of obesity, and it is currently the most common chronic liver disease.

[0003] NAFLD is classified into simple steatosis, in which only hepatic steatosis is observed, and NASH, in which intralobular inflammation and ballooning degeneration of hepatocytes is observed along with hepatic steatosis. The proportion of patients with NAFLD who have NASH is still not clear but might range from 20-40%. NASH is a progressive disease and may lead to liver cirrhosis and hepatocellular carcinoma. Twenty percent of NASH patients are reported to develop cirrhosis, and 30-40% of patients with NASH cirrhosis experience liver-related death. Recently, NASH has become the third most common indication for liver transplantation in the United States. Currently, the principal treatment for NAFLD/NASH is lifestyle modification by diet and exercise. However, pharmacological therapy is indispensable because obese patients with NAFLD often have difficulty maintaining improved lifestyles.

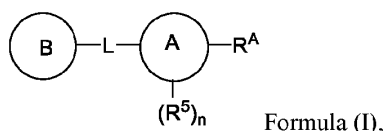
[0004] 17 β -Hydroxysteroid dehydrogenases (HSD17Bs) comprise a large family of 15 members some of which involved in sex hormone metabolism. Some HSD17Bs enzymes also play key roles in cholesterol and fatty acid metabolism. A recent study showed that hydroxysteroid 17 β -dehydrogenase 13 (HSD17B13), an enzyme with unknown biological function, is a novel liver-specific lipid droplet (LD)-associated protein in mouse and humans. HSD17B13 expression is markedly upregulated in patients and mice with non-alcoholic fatty liver disease (NAFLD). Hepatic overexpression of HSD17B13 promotes lipid accumulation in the liver. HSD17B13 could also have potential as a biomarker of chronic liver disease, such as alcoholic liver disease (ALD), non-alcoholic fatty liver disease (NAFLD) (for example: steatosis, nonalcoholic steatohepatitis (NASH), NASH-fibrosis, or cirrhosis), steatohepatitis, and liver cancer.

SUMMARY OF THE INVENTION

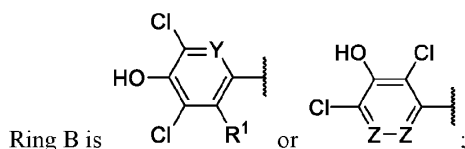
[0005] Provided herein are methods, compounds, and compositions useful for reducing expression or activity of HSD17B13 in a subject in need thereof. Also, provided herein are methods, compounds, and compositions comprising HSD17B13 specific inhibitors, which can be useful in reducing the morbidity

of HSD17B13-related diseases or conditions in a subject in need thereof. Such methods, compounds, and compositions can be useful, for example, to treat, prevent, delay or ameliorate liver disease, metabolic disease, or cardiovascular disease.

[0006] Disclosed herein is a compound of Formula (I), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof:



wherein:



Y is N or CR¹;

each Z is independently N or CR¹;

each R¹ are independently hydrogen, deuterium, halogen, -CN, -OH, -OR^a, -NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl;

L is -O-, -C(=O)NR³-, -NR³C(=O)-, -C(=O)C(R⁴)₂-, or -C(R⁴)₂C(=O)-;

R³ is hydrogen, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl;

each R⁴ is independently hydrogen, deuterium, halogen, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl;

Ring A is a 3- to 12-membered ring optionally comprising 1-4 heteroatoms selected from the group consisting of O, S, N, P, and B;

each R⁵ is independently hydrogen, deuterium, halogen, -CN, -OH, -OR^a, -SH, -SR^a, -NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl;

or two R⁵ on the same atom are taken together to form an oxo;

n is 0-6;

R^A is:

(a) -C(=O)NR¹⁰R¹¹; or

(b) C₄-C₁₀alkyl optionally substituted with one or more R^{Aa}; or

(c) -(C(R¹²)₂)_pcycloalkyl, -(C(R¹²)₂)_pheterocycloalkyl, -(C(R¹²)₂)_paryl, or -(C(R¹²)₂)_pheteroaryl;

wherein the cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is optionally and independently substituted with one or more R^{Ab};

R¹⁰ and R¹¹ are independently hydrogen, C₁-C₁₀alkyl, C₁-C₁₀haloalkyl, C₁-C₁₀deuteroalkyl,

C₁-C₁₀hydroxyalkyl, C₁-C₁₀aminoalkyl, C₁-C₁₀heteroalkyl, C₂-C₁₀alkenyl, C₂-C₁₀alkynyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl, C₁-C₆alkyl(cycloalkyl), C₁-C₆alkyl(heterocycloalkyl),

C₁-C₆alkyl(aryl), or C₁-C₆alkyl(heteroaryl); wherein each alkyl, alkenyl, alkynyl, cycloalkyl,

heterocycloalkyl, aryl, and heteroaryl is optionally and independently substituted with one or more R^{10a} ,

each R^{10a} is independently deuterium, halogen, -CN, -NO₂, -OH, -OR^a, -OC(=O)R^a, -OC(=O)OR^b, -OC(=O)NR^cR^d, -SH, -SR^a, -S(=O)R^a, -S(=O)₂R^a, -S(=O)₂NR^cR^d, -NR^cR^d, -NR^bC(=O)NR^cR^d, -NR^bC(=O)R^a, -NR^bC(=O)OR^b, -NHS(=O)₂R^a, -C(=O)R^a, -C(=O)C(=O)R^a, -C(=O)OR^b, -C(=O)NR^cR^d, -C(=O)C(=O)NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl; wherein each alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is optionally and independently substituted with one or more R^{10b} ,

or two R^{10a} on the same atom are taken together to form an oxo;

each R^{10b} is independently deuterium, halogen, -CN, -NO₂, -OH, -OR^a, -OC(=O)R^a, -OC(=O)OR^b, -OC(=O)NR^cR^d, -SH, -SR^a, -S(=O)R^a, -S(=O)₂R^a, -S(=O)₂NR^cR^d, -NR^cR^d, -NR^bC(=O)NR^cR^d, -NR^bC(=O)R^a, -NR^bC(=O)OR^b, -NHS(=O)₂R^a, -C(=O)R^a, -C(=O)C(=O)R^a, -C(=O)OR^b, -C(=O)NR^cR^d, -C(=O)C(=O)NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl;

or two R^{10b} on the same atom are taken together to form an oxo;

each R^{Aa} are independently deuterium, halogen, -CN, -NO₂, -OH, -OR^a, -OC(=O)R^a, -OC(=O)OR^b, -OC(=O)NR^cR^d, -SH, -SR^a, -S(=O)R^a, -S(=O)₂R^a, -S(=O)₂NR^cR^d, -NR^cR^d, -NR^bC(=O)NR^cR^d, -NR^bC(=O)R^a, -NR^bC(=O)OR^b, -NHS(=O)₂R^a, -C(=O)R^a, -C(=O)C(=O)R^a, -C(=O)OR^b, -C(=O)NR^cR^d, -C(=O)C(=O)NR^cR^d, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl; wherein each alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is optionally and independently substituted with one or more R^{Aaa} ;

or two R^{Aa} on the same atom are taken together to form an oxo;

each R^{Ab} are independently deuterium, halogen, -CN, -NO₂, -OH, -OR^a, -OC(=O)R^a, -OC(=O)OR^b, -OC(=O)NR^cR^d, -SH, -SR^a, -S(=O)R^a, -S(=O)₂R^a, -S(=O)₂NR^cR^d, -NR^cR^d, -NR^bC(=O)NR^cR^d, -NR^bC(=O)R^a, -NR^bC(=O)OR^b, -NHS(=O)₂R^a, -C(=O)R^a, -C(=O)C(=O)R^a, -C(=O)OR^b, -C(=O)NR^cR^d, -C(=O)C(=O)NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl; wherein each alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is optionally and independently substituted with one or more R^{Aaa} ,

or two R^{Ab} on the same atom are taken together to form an oxo;

each R^{Aaa} is independently deuterium, halogen, -CN, -NO₂, -OH, -OR^a, -OC(=O)R^a, -OC(=O)OR^b, -OC(=O)NR^cR^d, -SH, -SR^a, -S(=O)R^a, -S(=O)₂R^a, -S(=O)₂NR^cR^d, -NR^cR^d, -NR^bC(=O)NR^cR^d, -NR^bC(=O)R^a, -NR^bC(=O)OR^b, -NHS(=O)₂R^a, -C(=O)R^a, -C(=O)C(=O)R^a, -C(=O)OR^b, -C(=O)NR^cR^d, -C(=O)C(=O)NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl,

C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl;

each R¹² is independently hydrogen, deuterium, halogen, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl;

or two R¹² on the same carbon are taken together to form a cycloalkyl or a heterocycloalkyl; wherein the cycloalkyl and heterocycloalkyl is optionally substituted with deuterium, halogen, -OH, -OCH₃, -NH₂, -NHCH₃, -N(CH₃)₂, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl;

or two R¹² on adjacent carbon are taken together to form a cycloalkyl optionally substituted with deuterium, halogen, -OH, -OCH₃, -NH₂, -NHCH₃, -N(CH₃)₂, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl;

p is 1-4;

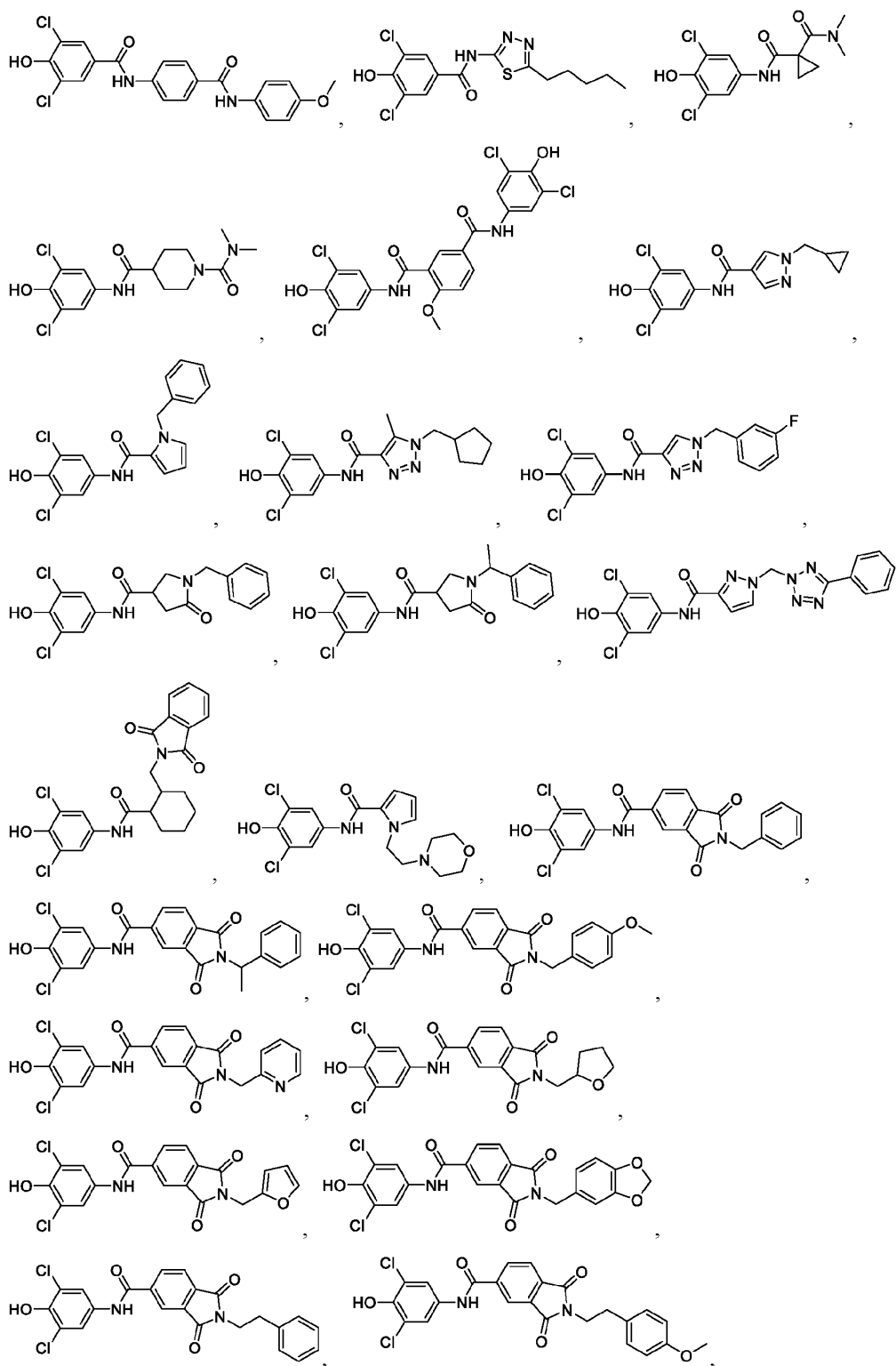
each R^a is independently C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl, C₁-C₆alkyl(cycloalkyl), C₁-C₆alkyl(heterocycloalkyl), C₁-C₆alkyl(aryl), or C₁-C₆alkyl(heteroaryl); wherein each alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is independently optionally substituted with one or more oxo, deuterium, halogen, -CN, -OH, -OCH₃, -S(=O)CH₃, -S(=O)₂CH₃, -S(=O)₂NH₂, -S(=O)₂NHCH₃, -S(=O)₂N(CH₃)₂, -NH₂, -NHCH₃, -N(CH₃)₂, -C(=O)CH₃, -C(=O)OH, -C(=O)OCH₃, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, or C₁-C₆heteroalkyl;

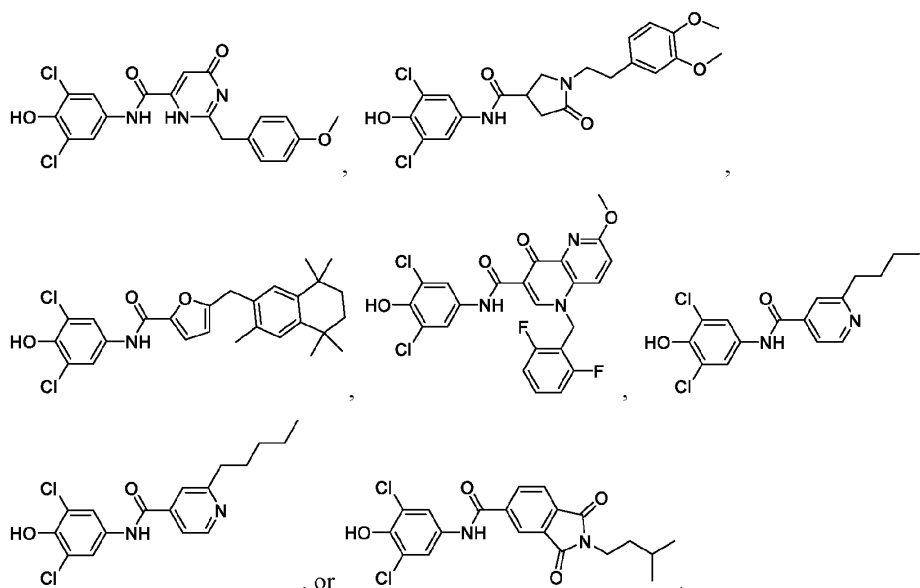
each R^b is independently hydrogen, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl, C₁-C₆alkyl(cycloalkyl), C₁-C₆alkyl(heterocycloalkyl), C₁-C₆alkyl(aryl), or C₁-C₆alkyl(heteroaryl); wherein each alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is independently optionally substituted with one or more oxo, deuterium, halogen, -CN, -OH, -OCH₃, -S(=O)CH₃, -S(=O)₂CH₃, -S(=O)₂NH₂, -S(=O)₂NHCH₃, -S(=O)₂N(CH₃)₂, -NH₂, -NHCH₃, -N(CH₃)₂, -C(=O)CH₃, -C(=O)OH, -C(=O)OCH₃, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, or C₁-C₆heteroalkyl; and

each R^c and R^d are independently hydrogen, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl, C₁-C₆alkyl(cycloalkyl), C₁-C₆alkyl(heterocycloalkyl), C₁-C₆alkyl(aryl), or C₁-C₆alkyl(heteroaryl); wherein each alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is independently optionally substituted with one or more oxo, deuterium, halogen, -CN, -OH, -OCH₃, -S(=O)CH₃, -S(=O)₂CH₃, -S(=O)₂NH₂, -S(=O)₂NHCH₃, -S(=O)₂N(CH₃)₂, -NH₂, -NHCH₃, -N(CH₃)₂, -C(=O)CH₃, -C(=O)OH, -C(=O)OCH₃, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, or C₁-C₆heteroalkyl;

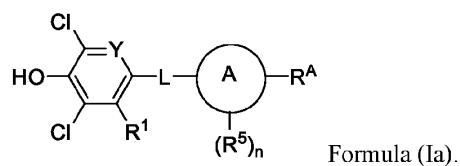
or R^c and R^d are taken together with the atom to which they are attached to form a heterocycloalkyl optionally substituted with one or more oxo, deuterium, halogen, -CN, -OH, -OCH₃, -S(=O)CH₃, -S(=O)₂CH₃, -S(=O)₂NH₂, -S(=O)₂NHCH₃, -S(=O)₂N(CH₃)₂, -NH₂, -NHCH₃, -N(CH₃)₂, -C(=O)CH₃, -

C(=O)OH, -C(=O)OCH₃, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, or C₁-C₆heteroalkyl; provided that the compound is not



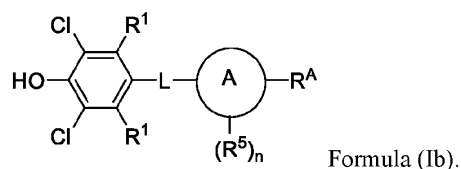


[0007] Disclosed herein is a compound of Formula (Ia), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof:



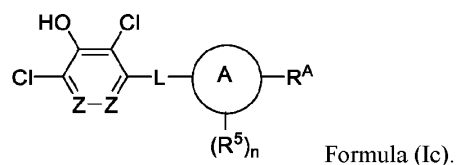
Formula (Ia).

[0008] Disclosed herein is a compound of Formula (Ib), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof:



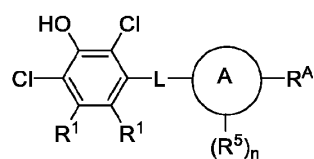
Formula (Ib).

[0009] Disclosed herein is a compound of Formula (Ic), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof:



Formula (Ic).

[0010] Disclosed herein is a compound of Formula (Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof:



Formula (Id).

[0011] Also disclosed herein is a pharmaceutical composition comprising a compound disclosed herein, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, and a pharmaceutically acceptable carrier.

[0012] Also disclosed herein is a method of treating a disease in a subject in need thereof, the method comprising administering a pharmaceutically effective amount of a compound disclosed herein, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, or a pharmaceutical composition disclosed herein. In some embodiments of a method of treating a disease, the disease is a liver disease, a metabolic disease, or a cardiovascular disease. In some embodiments of a method of treating a disease, the disease is NAFLD. In some embodiments of a method of treating a disease, the disease is NASH. In some embodiments of a method of treating a disease, the disease is drug induced liver injury (DILI). In some embodiments of a method of treating a disease, the disease is associated with HSD17B13. In some embodiments of a method of treating a disease, the diseases is alcoholic liver disease. In some embodiments of a method of treating a disease, the disease is cirrhosis. In some embodiments of a method of treating a disease, the disease is decompensated portal hypertension. In some embodiments of a method of treating a disease, the disease is cholestatic liver disease.

INCORPORATION BY REFERENCE

[0013] All publications, patents, and patent applications mentioned in this specification are herein incorporated by reference to the same extent as if each individual publication, patent, or patent application was specifically and individually indicated to be incorporated by reference.

DETAILED DESCRIPTION OF THE INVENTION

Definitions

[0014] In the following description, certain specific details are set forth in order to provide a thorough understanding of various embodiments. However, one skilled in the art will understand that the invention may be practiced without these details. In other instances, well-known structures have not been shown or described in detail to avoid unnecessarily obscuring descriptions of the embodiments. Unless the context requires otherwise, throughout the specification and claims which follow, the word “comprise” and variations thereof, such as, “comprises” and “comprising” are to be construed in an open, inclusive sense, that is, as “including, but not limited to.” Further, headings provided herein are for convenience only and do not interpret the scope or meaning of the claimed invention.

[0015] Reference throughout this specification to “some embodiments” or “an embodiment” means that a particular feature, structure or characteristic described in connection with the embodiment is included in at least one embodiment. Thus, the appearances of the phrases “in one embodiment” or “in an

embodiment” in various places throughout this specification are not necessarily all referring to the same embodiment. Furthermore, the particular features, structures, or characteristics may be combined in any suitable manner in one or more embodiments. Also, as used in this specification and the appended claims, the singular forms “a,” “an,” and “the” include plural referents unless the content clearly dictates otherwise. It should also be noted that the term “or” is generally employed in its sense including “and/or” unless the content clearly dictates otherwise.

[0016] The terms below, as used herein, have the following meanings, unless indicated otherwise:

[0017] “oxo” refers to =O.

[0018] “Carboxyl” refers to -COOH.

[0019] “Alkyl” refers to a straight-chain, or branched-chain saturated hydrocarbon monoradical having from one to about ten carbon atoms, more preferably one to six carbon atoms. Examples include, but are not limited to methyl, ethyl, n-propyl, isopropyl, 2-methyl-1-propyl, 2-methyl-2-propyl, 2-methyl-1-butyl, 3-methyl-1-butyl, 2-methyl-3-butyl, 2,2-dimethyl-1-propyl, 2-methyl-1-pentyl, 3-methyl-1-pentyl, 4-methyl-1-pentyl, 2-methyl-2-pentyl, 3-methyl-2-pentyl, 4-methyl-2-pentyl, 2,2-dimethyl-1-butyl, 3,3-dimethyl-1-butyl, 2-ethyl-1-butyl, n-butyl, isobutyl, sec-butyl, t-butyl, n-pentyl, isopentyl, neopentyl, tert-amyl and hexyl, and longer alkyl groups, such as heptyl, octyl and the like. Whenever it appears herein, a numerical range such as “C₁-C₆ alkyl” or “C₁₋₆alkyl”, means that the alkyl group may consist of 1 carbon atom, 2 carbon atoms, 3 carbon atoms, 4 carbon atoms, 5 carbon atoms or 6 carbon atoms, although the present definition also covers the occurrence of the term “alkyl” where no numerical range is designated. In some embodiments, the alkyl is a C₁₋₁₀alkyl. In some embodiments, the alkyl is a C₁₋₆alkyl. In some embodiments, the alkyl is a C₁₋₅alkyl. In some embodiments, the alkyl is a C₁₋₄alkyl. In some embodiments, the alkyl is a C₁₋₃alkyl. Unless stated otherwise specifically in the specification, an alkyl group may be optionally substituted, for example, with oxo, halogen, amino, nitrile, nitro, hydroxyl, haloalkyl, alkoxy, carboxyl, carboxylate, aryl, cycloalkyl, heterocycloalkyl, heteroaryl, and the like. In some embodiments, the alkyl is optionally substituted with oxo, halogen, -CN, -COOH, -COOMe, -OH, -OMe, -NH₂, or -NO₂. In some embodiments, the alkyl is optionally substituted with halogen, -CN, -OH, or -OMe. In some embodiments, the alkyl is optionally substituted with halogen.

[0020] “Alkenyl” refers to a straight-chain, or branched-chain hydrocarbon monoradical having one or more carbon-carbon double-bonds and having from two to about ten carbon atoms, more preferably two to about six carbon atoms. The group may be in either the *cis* or *trans* conformation about the double bond(s), and should be understood to include both isomers. Examples include, but are not limited to ethenyl (-CH=CH₂), 1-propenyl (-CH₂CH=CH₂), isopropenyl [-C(CH₃)=CH₂], butenyl, 1,3-butadienyl and the like. Whenever it appears herein, a numerical range such as “C₂-C₆ alkenyl” or “C₂₋₆alkenyl”, means that the alkenyl group may consist of 2 carbon atoms, 3 carbon atoms, 4 carbon atoms, 5 carbon atoms or 6 carbon atoms, although the present definition also covers the occurrence of the term “alkenyl” where no numerical range is designated. Unless stated otherwise specifically in the specification, an alkenyl group may be optionally substituted, for example, with oxo, halogen, amino, nitrile, nitro, hydroxyl, haloalkyl, alkoxy, carboxyl, carboxylate, aryl, cycloalkyl, heterocycloalkyl, heteroaryl, and the

like. In some embodiments, the alkenyl is optionally substituted with oxo, halogen, -CN, -COOH, -COOMe, -OH, -OMe, -NH₂, or -NO₂. In some embodiments, the alkenyl is optionally substituted with halogen, -CN, -OH, or -OMe. In some embodiments, the alkenyl is optionally substituted with halogen.

[0021] “Alkynyl” refers to a straight-chain or branched-chain hydrocarbon monoradical having one or more carbon-carbon triple-bonds and having from two to about ten carbon atoms, more preferably from two to about six carbon atoms. Examples include, but are not limited to ethynyl, 2-propynyl, 2-butylnyl, 1,3-butadiynyl and the like. Whenever it appears herein, a numerical range such as “C₂-C₆ alkynyl” or “C₂₋₆alkynyl”, means that the alkynyl group may consist of 2 carbon atoms, 3 carbon atoms, 4 carbon atoms, 5 carbon atoms or 6 carbon atoms, although the present definition also covers the occurrence of the term “alkynyl” where no numerical range is designated. Unless stated otherwise specifically in the specification, an alkynyl group may be optionally substituted, for example, with oxo, halogen, amino, nitrile, nitro, hydroxyl, haloalkyl, alkoxy, carboxyl, carboxylate, aryl, cycloalkyl, heterocycloalkyl, heteroaryl, and the like. In some embodiments, the alkynyl is optionally substituted with oxo, halogen, -CN, -COOH, COOMe, -OH, -OMe, -NH₂, or -NO₂. In some embodiments, the alkynyl is optionally substituted with halogen, -CN, -OH, or -OMe. In some embodiments, the alkynyl is optionally substituted with halogen.

[0022] “Alkylene” refers to a straight or branched divalent hydrocarbon chain. Unless stated otherwise specifically in the specification, an alkylene group may be optionally substituted, for example, with oxo, halogen, amino, nitrile, nitro, hydroxyl, haloalkyl, alkoxy, carboxyl, carboxylate, aryl, cycloalkyl, heterocycloalkyl, heteroaryl, and the like. In some embodiments, the alkylene is optionally substituted with oxo, halogen, -CN, -COOH, COOMe, -OH, -OMe, -NH₂, or -NO₂. In some embodiments, the alkylene is optionally substituted with halogen, -CN, -OH, or -OMe. In some embodiments, the alkylene is optionally substituted with halogen.

[0023] “Alkoxy” refers to a radical of the formula -OR_a where R_a is an alkyl radical as defined. Unless stated otherwise specifically in the specification, an alkoxy group may be optionally substituted, for example, with oxo, halogen, amino, nitrile, nitro, hydroxyl, haloalkyl, alkoxy, carboxyl, carboxylate, aryl, cycloalkyl, heterocycloalkyl, heteroaryl, and the like. In some embodiments, the alkoxy is optionally substituted with halogen, -CN, -COOH, COOMe, -OH, -OMe, -NH₂, or -NO₂. In some embodiments, the alkoxy is optionally substituted with halogen, -CN, -OH, or -OMe. In some embodiments, the alkoxy is optionally substituted with halogen.

[0024] “Aryl” refers to a radical derived from a hydrocarbon ring system comprising 6 to 30 carbon atoms and at least one aromatic ring. The aryl radical may be a monocyclic, bicyclic, tricyclic or tetracyclic ring system, which may include fused (when fused with a cycloalkyl or heterocycloalkyl ring, the aryl is bonded through an aromatic ring atom) or bridged ring systems. In some embodiments, the aryl is a 6- to 10-membered aryl. In some embodiments, the aryl is a 6-membered aryl (phenyl). Aryl radicals include, but are not limited to, aryl radicals derived from the hydrocarbon ring systems of anthrylene, naphthylene, phenanthrylene, anthracene, azulene, benzene, chrysene, fluoranthene, fluorene, as-indacene, s-indacene, indane, indene, naphthalene, phenalene, phenanthrene, pleiadene, pyrene, and

triphenylene. Unless stated otherwise specifically in the specification, an aryl may be optionally substituted, for example, with halogen, amino, nitrile, nitro, hydroxyl, alkyl, alkenyl, alkynyl, haloalkyl, alkoxy, carboxyl, carboxylate, aryl, cycloalkyl, heterocycloalkyl, heteroaryl, and the like. In some embodiments, the aryl is optionally substituted with halogen, methyl, ethyl, -CN, -COOH, COOMe, -CF₃, -OH, -OMe, -NH₂, or -NO₂. In some embodiments, the aryl is optionally substituted with halogen, methyl, ethyl, -CN, -CF₃, -OH, or -OMe. In some embodiments, the aryl is optionally substituted with halogen.

[0025] “Cycloalkyl” refers to a partially or fully saturated, monocyclic or polycyclic carbocyclic ring, which may include fused (when fused with an aryl or a heteroaryl ring, the cycloalkyl is bonded through a non-aromatic ring atom) or bridged ring systems. In some embodiments, the cycloalkyl is fully saturated. Representative cycloalkyls include, but are not limited to, cycloalkyls having from three to fifteen carbon atoms (C₃-C₁₅ cycloalkyl or C₃-C₁₅ cycloalkenyl), from three to ten carbon atoms (C₃-C₁₀ cycloalkyl or C₃-C₁₀ cycloalkenyl), from three to eight carbon atoms (C₃-C₈ cycloalkyl or C₃-C₈ cycloalkenyl), from three to six carbon atoms (C₃-C₆ cycloalkyl or C₃-C₆ cycloalkenyl), from three to five carbon atoms (C₃-C₅ cycloalkyl or C₃-C₅ cycloalkenyl), or three to four carbon atoms (C₃-C₄ cycloalkyl or C₃-C₄ cycloalkenyl). In some embodiments, the cycloalkyl is a 3- to 10-membered cycloalkyl or a 3- to 10-membered cycloalkenyl. In some embodiments, the cycloalkyl is a 3- to 6-membered cycloalkyl or a 3- to 6-membered cycloalkenyl. In some embodiments, the cycloalkyl is a 5- to 6-membered cycloalkyl or a 5- to 6-membered cycloalkenyl. Monocyclic cycloalkyls include, for example, cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, cycloheptyl, and cyclooctyl. Polycyclic cycloalkyls include, for example, adamantyl, norbornyl, decalyl, bicyclo[3.3.0]octane, bicyclo[4.3.0]nonane, cis-decalin, trans-decalin, bicyclo[2.1.1]hexane, bicyclo[2.2.1]heptane, bicyclo[2.2.2]octane, bicyclo[3.2.2]nonane, and bicyclo[3.3.2]decane, and 7,7-dimethyl-bicyclo[2.2.1]heptanyl. Partially saturated cycloalkyls include, for example cyclopentenyl, cyclohexenyl, cycloheptenyl, and cyclooctenyl. Unless stated otherwise specifically in the specification, a cycloalkyl is optionally substituted, for example, with oxo, halogen, amino, nitrile, nitro, hydroxyl, alkyl, alkenyl, alkynyl, haloalkyl, alkoxy, carboxyl, carboxylate, aryl, cycloalkyl, heterocycloalkyl, heteroaryl, and the like. In some embodiments, a cycloalkyl is optionally substituted with oxo, halogen, methyl, ethyl, -CN, -COOH, COOMe, -CF₃, -OH, -OMe, -NH₂, or -NO₂. In some embodiments, a cycloalkyl is optionally substituted with oxo, halogen, methyl, ethyl, -CN, -CF₃, -OH, or -OMe. In some embodiments, the cycloalkyl is optionally substituted with halogen.

[0026] “Halo” or “halogen” refers to bromo, chloro, fluoro or iodo. In some embodiments, halogen is fluoro or chloro. In some embodiments, halogen is fluoro.

[0027] “Haloalkyl” refers to an alkyl radical, as defined above, that is substituted by one or more halo radicals, as defined above, *e.g.*, trifluoromethyl, difluoromethyl, fluoromethyl, trichloromethyl, 2,2,2-trifluoroethyl, 1,2-difluoroethyl, 3-bromo-2-fluoropropyl, 1,2-dibromoethyl, and the like.

[0028] “Hydroxyalkyl” refers to an alkyl radical, as defined above, that is substituted by one or more hydroxyls. In some embodiments, the alkyl is substituted with one hydroxyl. In some embodiments, the

alkyl is substituted with one, two, or three hydroxyls. Hydroxyalkyl include, for example, hydroxymethyl, hydroxyethyl, hydroxypropyl, hydroxybutyl, or hydroxypentyl. In some embodiments, the hydroxyalkyl is hydroxymethyl.

[0029] “Aminoalkyl” refers to an alkyl radical, as defined above, that is substituted by one or more amines. In some embodiments, the alkyl is substituted with one amine. In some embodiments, the alkyl is substituted with one, two, or three amines. Aminoalkyl include, for example, aminomethyl, aminoethyl, aminopropyl, aminobutyl, or aminopentyl. In some embodiments, the aminoalkyl is aminomethyl.

[0030] “Deuteroalkyl” refers to an alkyl radical, as defined above, that is substituted by one or more deuteriums. In some embodiments, the alkyl is substituted with one deuterium. In some embodiments, the alkyl is substituted with one, two, or three deuteriums. In some embodiments, the alkyl is substituted with one, two, three, four, five, or six deuteriums. Deuteroalkyl include, for example, CD₃, CH₂D, CHD₂, CH₂CD₃, CD₂CD₃, CHDCD₃, CH₂CH₂D, or CH₂CHD₂. In some embodiments, the deuteroalkyl is CD₃.

[0031] “Heteroalkyl” refers to an alkyl group in which one or more skeletal atoms of the alkyl are selected from an atom other than carbon, e.g., oxygen, nitrogen (e.g., -NH-, -N(alkyl)-), sulfur, phosphorus, or combinations thereof. A heteroalkyl is attached to the rest of the molecule at a carbon atom of the heteroalkyl. In one aspect, a heteroalkyl is a C₁-C₆ heteroalkyl wherein the heteroalkyl is comprised of 1 to 6 carbon atoms and one or more atoms other than carbon, e.g., oxygen, nitrogen (e.g., -NH-, -N(alkyl)-), sulfur, phosphorus, or combinations thereof wherein the heteroalkyl is attached to the rest of the molecule at a carbon atom of the heteroalkyl. Examples of such heteroalkyl are, for example, -CH₂OCH₃, -CH₂CH₂OCH₃, -CH₂CH₂OCH₂CH₂OCH₃, -CH(CH₃)OCH₃, -CH₂NHCH₃, -CH₂N(CH₃)₂, -CH₂CH₂NHCH₃, or -CH₂CH₂N(CH₃)₂. Unless stated otherwise specifically in the specification, a heteroalkyl is optionally substituted for example, with oxo, halogen, amino, nitrile, nitro, hydroxyl, alkyl, alkenyl, alkynyl, haloalkyl, alkoxy, aryl, cycloalkyl, heterocycloalkyl, heteroaryl, and the like. In some embodiments, a heteroalkyl is optionally substituted with oxo, halogen, methyl, ethyl, -CN, -CF₃, -OH, -OMe, -NH₂, or -NO₂. In some embodiments, a heteroalkyl is optionally substituted with oxo, halogen, methyl, ethyl, -CN, -CF₃, -OH, or -OMe. In some embodiments, the heteroalkyl is optionally substituted with halogen.

[0032] “Heterocycloalkyl” refers to a 3- to 24-membered partially or fully saturated ring radical comprising 2 to 23 carbon atoms and from one to 8 heteroatoms selected from the group consisting of nitrogen, oxygen, phosphorous and sulfur. In some embodiments, the heterocycloalkyl is fully saturated. In some embodiments, the heterocycloalkyl comprises one to three heteroatoms selected from the group consisting of nitrogen, oxygen, and sulfur. In some embodiments, the heterocycloalkyl comprises one to three heteroatoms selected from the group consisting of nitrogen and oxygen. In some embodiments, the heterocycloalkyl comprises one to three nitrogens. In some embodiments, the heterocycloalkyl comprises one or two nitrogens. In some embodiments, the heterocycloalkyl comprises one nitrogen. In some embodiments, the heterocycloalkyl comprises one nitrogen and one oxygen. Unless stated otherwise specifically in the specification, the heterocycloalkyl radical may be a monocyclic, bicyclic, tricyclic or tetracyclic ring system, which may include fused (when fused with an aryl or a heteroaryl ring, the

heterocycloalkyl is bonded through a non-aromatic ring atom) or bridged ring systems; and the nitrogen, carbon, or sulfur atoms in the heterocycloalkyl radical may be optionally oxidized; the nitrogen atom may be optionally quaternized. Representative heterocycloalkyls include, but are not limited to, heterocycloalkyls having from two to fifteen carbon atoms (C_2 - C_{15} heterocycloalkyl or C_2 - C_{15} heterocycloalkenyl), from two to ten carbon atoms (C_2 - C_{10} heterocycloalkyl or C_2 - C_{10} heterocycloalkenyl), from two to eight carbon atoms (C_2 - C_8 heterocycloalkyl or C_2 - C_8 heterocycloalkenyl), from two to seven carbon atoms (C_2 - C_7 heterocycloalkyl or C_2 - C_7 heterocycloalkenyl), from two to six carbon atoms (C_2 - C_6 heterocycloalkyl or C_2 - C_7 heterocycloalkenyl), from two to five carbon atoms (C_2 - C_5 heterocycloalkyl or C_2 - C_5 heterocycloalkenyl), or two to four carbon atoms (C_2 - C_4 heterocycloalkyl or C_2 - C_4 heterocycloalkenyl). Examples of such heterocycloalkyl radicals include, but are not limited to, aziridinyl, azetidiny, oxetanyl, dioxolanyl, thienyl[1,3]dithianyl, decahydroisoquinolyl, imidazoliny, imidazolidinyl, isothiazolidinyl, isoxazolidinyl, morpholiny, octahydroindolyl, octahydroisindolyl, 2-oxopiperazinyl, 2-oxopiperidinyl, 2-oxopyrrolidinyl, oxazolidinyl, piperidinyl, piperazinyl, 4-piperidinyl, pyrrolidinyl, pyrazolidinyl, quinuclidinyl, thiazolidinyl, tetrahydrofuryl, trithianyl, tetrahydropyranyl, thiomorpholiny, thiamorpholiny, 1-oxo-thiomorpholiny, 1,1-dioxo-thiomorpholiny, 1,3-dihydroisobenzofuran-1-yl, 3-oxo-1,3-dihydroisobenzofuran-1-yl, methyl-2-oxo-1,3-dioxol-4-yl, and 2-oxo-1,3-dioxol-4-yl. The term heterocycloalkyl also includes all ring forms of the carbohydrates, including but not limited to the monosaccharides, the disaccharides and the oligosaccharides. Unless otherwise noted, heterocycloalkyls have from 2 to 10 carbons in the ring. It is understood that when referring to the number of carbon atoms in a heterocycloalkyl, the number of carbon atoms in the heterocycloalkyl is not the same as the total number of atoms (including the heteroatoms) that make up the heterocycloalkyl (i.e. skeletal atoms of the heterocycloalkyl ring). In some embodiments, the heterocycloalkyl is a 3- to 8-membered heterocycloalkyl. In some embodiments, the heterocycloalkyl is a 3- to 7-membered heterocycloalkyl. In some embodiments, the heterocycloalkyl is a 3- to 6-membered heterocycloalkyl. In some embodiments, the heterocycloalkyl is a 4- to 6-membered heterocycloalkyl. In some embodiments, the heterocycloalkyl is a 5- to 6-membered heterocycloalkyl. In some embodiments, the heterocycloalkyl is a 3- to 8-membered heterocycloalkenyl. In some embodiments, the heterocycloalkyl is a 3- to 7-membered heterocycloalkenyl. In some embodiments, the heterocycloalkyl is a 3- to 6-membered heterocycloalkenyl. In some embodiments, the heterocycloalkyl is a 4- to 6-membered heterocycloalkenyl. In some embodiments, the heterocycloalkyl is a 5- to 6-membered heterocycloalkenyl. Unless stated otherwise specifically in the specification, a heterocycloalkyl may be optionally substituted as described below, for example, with oxo, halogen, amino, nitrile, nitro, hydroxyl, alkyl, alkenyl, alkynyl, haloalkyl, alkoxy, carboxyl, carboxylate, aryl, cycloalkyl, heterocycloalkyl, heteroaryl, and the like. In some embodiments, the heterocycloalkyl is optionally substituted with oxo, halogen, methyl, ethyl, -CN, -COOH, COOMe, -CF₃, -OH, -OMe, -NH₂, or -NO₂. In some embodiments, the heterocycloalkyl is optionally substituted with halogen, methyl, ethyl, -CN, -CF₃, -OH, or -OMe. In some embodiments, the heterocycloalkyl is optionally substituted with halogen.

[0033] “Heteroaryl” refers to a 5- to 14-membered ring system radical comprising one to thirteen carbon atoms, one to six heteroatoms selected from the group consisting of nitrogen, oxygen, phosphorous, and sulfur, and at least one aromatic ring. In some embodiments, the heteroaryl comprises one to three heteroatoms selected from the group consisting of nitrogen, oxygen, and sulfur. In some embodiments, the heteroaryl comprises one to three heteroatoms selected from the group consisting of nitrogen and oxygen. In some embodiments, the heteroaryl comprises one to three nitrogens. In some embodiments, the heteroaryl comprises one or two nitrogens. In some embodiments, the heteroaryl comprises one nitrogen. The heteroaryl radical may be a monocyclic, bicyclic, tricyclic or tetracyclic ring system, which may include fused (when fused with a cycloalkyl or heterocycloalkyl ring, the heteroaryl is bonded through an aromatic ring atom) or bridged ring systems; and the nitrogen, carbon or sulfur atoms in the heteroaryl radical may be optionally oxidized; the nitrogen atom may be optionally quaternized. In some embodiments, the heteroaryl is a 5- to 10-membered heteroaryl. In some embodiments, the heteroaryl is a 5- to 6-membered heteroaryl. In some embodiments, the heteroaryl is a 6-membered heteroaryl. In some embodiments, the heteroaryl is a 5-membered heteroaryl. Examples include, but are not limited to, azepinyl, acridinyl, benzimidazolyl, benzothiazolyl, benzindolyl, benzodioxolyl, benzofuranyl, benzooxazolyl, benzothiazolyl, benzothiadiazolyl, benzo[b][1,4]dioxepinyl, 1,4-benzodioxanyl, benzonaphthofuranyl, benzoxazolyl, benzodioxolyl, benzodioxinyl, benzopyranyl, benzopyranonyl, benzofuranyl, benzofuranonyl, benzothieryl (benzothiophenyl), benzotriazolyl, benzo[4,6]imidazo[1,2-a]pyridinyl, carbazolyl, cinnolinyl, dibenzofuranyl, dibenzothiophenyl, furanyl, furanonyl, isothiazolyl, imidazolyl, indazolyl, indolyl, indazolyl, isoindolyl, indolinyl, isoindolinyl, isoquinolyl, indoliziny, isoxazolyl, naphthyridinyl, oxadiazolyl, 2-oxoazepinyl, oxazolyl, oxiranyl, 1-oxidopyridinyl, 1-oxidopyrimidinyl, 1-oxidopyrazinyl, 1-oxidopyridazinyl, 1-phenyl-1H-pyrrolyl, phenazinyl, phenothiazinyl, phenoxazinyl, phthalazinyl, pteridinyl, purinyl, pyrrolyl, pyrazolyl, pyridinyl, pyrazinyl, pyrimidinyl, pyridazinyl, quinazoliny, quinoxaliny, quinoliny, quinuclidiny, isoquinoliny, tetrahydroquinoliny, thiazolyl, thiadiazolyl, triazolyl, tetrazolyl, triazinyl, and thiophenyl (i.e., thienyl). Unless stated otherwise specifically in the specification, a heteroaryl may be optionally substituted, for example, with halogen, amino, nitrile, nitro, hydroxyl, alkyl, alkenyl, alkynyl, haloalkyl, alkoxy, carboxyl, carboxylate, aryl, cycloalkyl, heterocycloalkyl, heteroaryl, and the like. In some embodiments, the heteroaryl is optionally substituted with halogen, methyl, ethyl, -CN, -COOH, COOMe, -CF₃, -OH, -OMe, -NH₂, or -NO₂. In some embodiments, the heteroaryl is optionally substituted with halogen, methyl, ethyl, -CN, -CF₃, -OH, or -OMe. In some embodiments, the heteroaryl is optionally substituted with halogen.

[0034] The term “optional” or “optionally” means that the subsequently described event or circumstance may or may not occur, and that the description includes instances where said event or circumstance occurs and instances in which it does not. For example, “optionally substituted alkyl” means either “alkyl” or “substituted alkyl” as defined above. Further, an optionally substituted group may be un-substituted (e.g., -CH₂CH₃), fully substituted (e.g., -CF₂CF₃), mono-substituted (e.g., -CH₂CH₂F) or substituted at a level anywhere in-between fully substituted and mono-substituted (e.g., -CH₂CHF₂, -

CH₂CF₃, -CF₂CH₃, -CFHCHF₂, etc.). It will be understood by those skilled in the art with respect to any group containing one or more substituents that such groups are not intended to introduce any substitution or substitution patterns (e.g., substituted alkyl includes optionally substituted cycloalkyl groups, which in turn are defined as including optionally substituted alkyl groups, potentially ad infinitum) that are sterically impractical and/or synthetically non-feasible. Thus, any substituents described should generally be understood as having a maximum molecular weight of about 1,000 daltons, and more typically, up to about 500 daltons.

[0035] An “effective amount” or “therapeutically effective amount” refers to an amount of a compound administered to a mammalian subject, either as a single dose or as part of a series of doses, which is effective to produce a desired therapeutic effect.

[0036] “Treatment” of an individual (e.g. a mammal, such as a human) or a cell is any type of intervention used in an attempt to alter the natural course of the individual or cell. In some embodiments, treatment includes administration of a pharmaceutical composition, subsequent to the initiation of a pathologic event or contact with an etiologic agent and includes stabilization of the condition (e.g., condition does not worsen) or alleviation of the condition. In some embodiments, treatment also includes prophylactic treatment (e.g., administration of a composition described herein when an individual is suspected to be suffering from a liver disease, e.g., NAFLD).

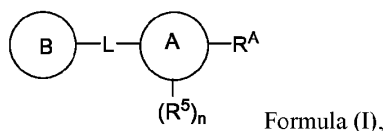
[0037] “Synergy” or “synergize” refers to an effect of a combination that is greater than additive of the effects of each component alone at the same doses.

[0038] “HSD17B13” means hydroxysteroid 17-beta dehydrogenase 13 and refers to any nucleic acid of HSD17B13. For example, in some embodiments, HSD17B13 includes a DNA sequence encoding HSD17B13, an RNA sequence transcribed from DNA encoding HSD17B13 (including genomic DNA comprising introns and exons). HSD17B13 can also refer to any amino acid sequence of HSD17B13 (may include secondary or tertiary structures of the protein molecule), encoded by a DNA sequence and/or RNA sequence. The target may be referred to in either upper or lower case.

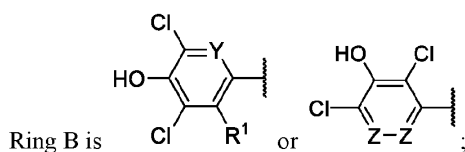
Compounds

[0039] Described herein are compounds of Formula (I), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof useful in the treatment of liver diseases. In some embodiments, the liver disease is NAFLD.

[0040] Disclosed herein is a compound of Formula (I), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof:



wherein:



Y is N or CR¹;

each Z is independently N or CR¹;

each R¹ are independently hydrogen, deuterium, halogen, -CN, -OH, -OR^a, -NR^cR^d, C₁-C₆alkyl,

C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl;

L is -O-, -C(=O)NR³-, -NR³C(=O)-, -C(=O)C(R⁴)₂-, or -C(R⁴)₂C(=O)-;

R³ is hydrogen, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl;

each R⁴ is independently hydrogen, deuterium, halogen, C₁-C₆alkyl, C₁-C₆haloalkyl, or

C₁-C₆deuteroalkyl;

Ring A is a 3- to 12-membered ring optionally comprising 1-4 heteroatoms selected from the group consisting of O, S, N, P, and B;

each R⁵ is independently hydrogen, deuterium, halogen, -CN, -OH, -OR^a, -SH, -SR^a, -NR^cR^d, C₁-C₆alkyl,

C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl;

or two R⁵ on the same atom are taken together to form an oxo;

n is 0-6;

R^A is:

(a) -C(=O)NR¹⁰R¹¹; or

(b) C₄-C₁₀alkyl optionally substituted with one or more R^{Aa}; or

(c) -(C(R¹²)₂)_pcycloalkyl, -(C(R¹²)₂)_pheterocycloalkyl, -(C(R¹²)₂)_paryl, or -(C(R¹²)₂)_pheteroaryl;

wherein the cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is optionally and independently substituted with one or more R^{Ab};

R¹⁰ and R¹¹ are independently hydrogen, C₁-C₁₀alkyl, C₁-C₁₀haloalkyl, C₁-C₁₀deuteroalkyl,

C₁-C₁₀hydroxyalkyl, C₁-C₁₀aminoalkyl, C₁-C₁₀heteroalkyl, C₂-C₁₀alkenyl, C₂-C₁₀alkynyl, cycloalkyl,

heterocycloalkyl, aryl, heteroaryl, C₁-C₆alkyl(cycloalkyl), C₁-C₆alkyl(heterocycloalkyl),

C₁-C₆alkyl(aryl), or C₁-C₆alkyl(heteroaryl); wherein each alkyl, alkenyl, alkynyl, cycloalkyl,

heterocycloalkyl, aryl, and heteroaryl is optionally and independently substituted with one or more

R^{10a};

each R^{10a} is independently deuterium, halogen, -CN, -NO₂, -OH, -OR^a, -OC(=O)R^a, -OC(=O)OR^b, -

OC(=O)NR^cR^d, -SH, -SR^a, -S(=O)R^a, -S(=O)₂R^a, -S(=O)₂NR^cR^d, -NR^cR^d, -NR^bC(=O)NR^cR^d, -

NR^bC(=O)R^a, -NR^bC(=O)OR^b, -NHS(=O)₂R^a, -C(=O)R^a, -C(=O)C(=O)R^a, -C(=O)OR^b, -

C(=O)NR^cR^d, -C(=O)C(=O)NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl,

C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl,

heterocycloalkyl, aryl, or heteroaryl; wherein each alkyl, alkenyl, alkynyl, cycloalkyl,

heterocycloalkyl, aryl, and heteroaryl is optionally and independently substituted with one or more

R^{10b};

or two R^{10a} on the same atom are taken together to form an oxo;

each R^{10b} is independently deuterium, halogen, -CN, -NO₂, -OH, -OR^a, -OC(=O)R^a, -OC(=O)OR^b, -OC(=O)NR^cR^d, -SH, -SR^a, -S(=O)R^a, -S(=O)₂R^a, -S(=O)₂NR^cR^d, -NR^cR^d, -NR^bC(=O)NR^cR^d, -NR^bC(=O)R^a, -NR^bC(=O)OR^b, -NHS(=O)₂R^a, -C(=O)R^a, -C(=O)C(=O)R^a, -C(=O)OR^b, -C(=O)NR^cR^d, -C(=O)C(=O)NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl;

or two R^{10b} on the same atom are taken together to form an oxo;

each R^{Aa} are independently deuterium, halogen, -CN, -NO₂, -OH, -OR^a, -OC(=O)R^a, -OC(=O)OR^b, -OC(=O)NR^cR^d, -SH, -SR^a, -S(=O)R^a, -S(=O)₂R^a, -S(=O)₂NR^cR^d, -NR^cR^d, -NR^bC(=O)NR^cR^d, -NR^bC(=O)R^a, -NR^bC(=O)OR^b, -NHS(=O)₂R^a, -C(=O)R^a, -C(=O)C(=O)R^a, -C(=O)OR^b, -C(=O)NR^cR^d, -C(=O)C(=O)NR^cR^d, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl; wherein each alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is optionally and independently substituted with one or more R^{Aaa};

or two R^{Aa} on the same atom are taken together to form an oxo;

each R^{Ab} are independently deuterium, halogen, -CN, -NO₂, -OH, -OR^a, -OC(=O)R^a, -OC(=O)OR^b, -OC(=O)NR^cR^d, -SH, -SR^a, -S(=O)R^a, -S(=O)₂R^a, -S(=O)₂NR^cR^d, -NR^cR^d, -NR^bC(=O)NR^cR^d, -NR^bC(=O)R^a, -NR^bC(=O)OR^b, -NHS(=O)₂R^a, -C(=O)R^a, -C(=O)C(=O)R^a, -C(=O)OR^b, -C(=O)NR^cR^d, -C(=O)C(=O)NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl; wherein each alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is optionally and independently substituted with one or more R^{Aaa};

or two R^{Ab} on the same atom are taken together to form an oxo;

each R^{Aaa} is independently deuterium, halogen, -CN, -NO₂, -OH, -OR^a, -OC(=O)R^a, -OC(=O)OR^b, -OC(=O)NR^cR^d, -SH, -SR^a, -S(=O)R^a, -S(=O)₂R^a, -S(=O)₂NR^cR^d, -NR^cR^d, -NR^bC(=O)NR^cR^d, -NR^bC(=O)R^a, -NR^bC(=O)OR^b, -NHS(=O)₂R^a, -C(=O)R^a, -C(=O)C(=O)R^a, -C(=O)OR^b, -C(=O)NR^cR^d, -C(=O)C(=O)NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl;

each R¹² is independently hydrogen, deuterium, halogen, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl;

or two R¹² on the same carbon are taken together to form a cycloalkyl or a heterocycloalkyl; wherein the cycloalkyl and heterocycloalkyl is optionally substituted with deuterium, halogen, -OH, -OCH₃, -NH₂, -NHCH₃, -N(CH₃)₂, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl;

or two R¹² on adjacent carbon are taken together to form a cycloalkyl optionally substituted with deuterium, halogen, -OH, -OCH₃, -NH₂, -NHCH₃, -N(CH₃)₂, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl;

p is 1-4;

each R^a is independently C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl,

C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl, C₁-C₆alkyl(cycloalkyl), C₁-C₆alkyl(heterocycloalkyl), C₁-C₆alkyl(aryl), or

C₁-C₆alkyl(heteroaryl); wherein each alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is independently optionally substituted with one or more oxo, deuterium, halogen, -CN, -OH, -OCH₃, -S(=O)CH₃, -S(=O)₂CH₃, -S(=O)₂NH₂, -S(=O)₂NHCH₃, -S(=O)₂N(CH₃)₂, -NH₂, -NHCH₃, -N(CH₃)₂, -C(=O)CH₃, -C(=O)OH, -C(=O)OCH₃, C₁-C₆alkyl, C₁-C₆haloalkyl,

C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, or C₁-C₆heteroalkyl;

each R^b is independently hydrogen, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl,

C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl, C₁-C₆alkyl(cycloalkyl), C₁-C₆alkyl(heterocycloalkyl), C₁-C₆alkyl(aryl), or

C₁-C₆alkyl(heteroaryl); wherein each alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is independently optionally substituted with one or more oxo, deuterium, halogen, -CN, -OH, -OCH₃, -S(=O)CH₃, -S(=O)₂CH₃, -S(=O)₂NH₂, -S(=O)₂NHCH₃, -S(=O)₂N(CH₃)₂, -NH₂, -NHCH₃, -N(CH₃)₂, -C(=O)CH₃, -C(=O)OH, -C(=O)OCH₃, C₁-C₆alkyl, C₁-C₆haloalkyl,

C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, or C₁-C₆heteroalkyl; and

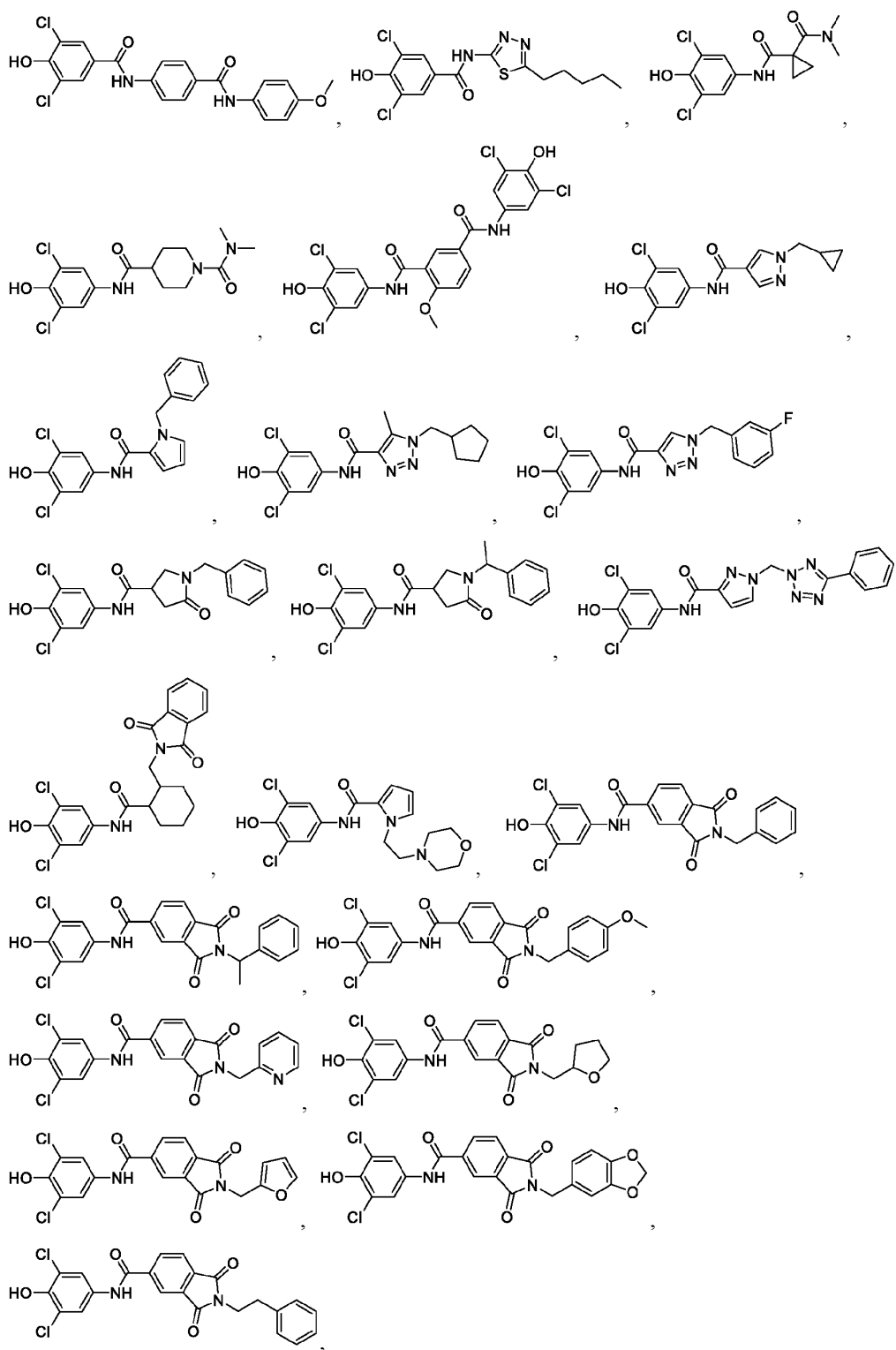
each R^c and R^d are independently hydrogen, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl,

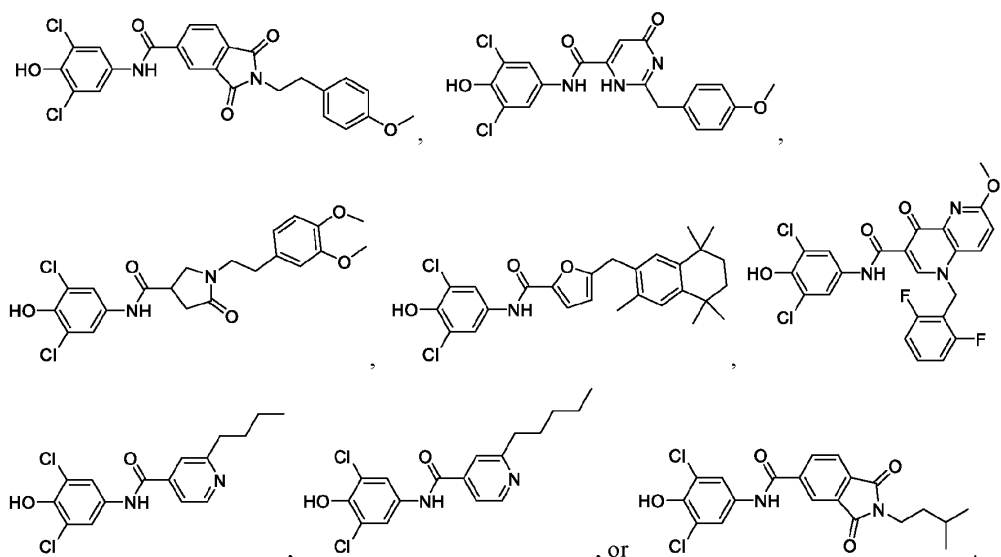
C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl, C₁-C₆alkyl(cycloalkyl), C₁-C₆alkyl(heterocycloalkyl),

C₁-C₆alkyl(aryl), or C₁-C₆alkyl(heteroaryl); wherein each alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is independently optionally substituted with one or more oxo, deuterium, halogen, -CN, -OH, -OCH₃, -S(=O)CH₃, -S(=O)₂CH₃, -S(=O)₂NH₂, -S(=O)₂NHCH₃, -S(=O)₂N(CH₃)₂, -NH₂, -NHCH₃, -N(CH₃)₂, -C(=O)CH₃, -C(=O)OH, -C(=O)OCH₃, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, or C₁-C₆heteroalkyl;

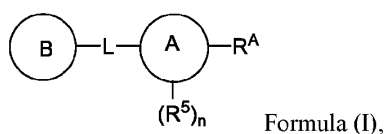
or R^c and R^d are taken together with the atom to which they are attached to form a heterocycloalkyl

optionally substituted with one or more oxo, deuterium, halogen, -CN, -OH, -OCH₃, -S(=O)CH₃, -S(=O)₂CH₃, -S(=O)₂NH₂, -S(=O)₂NHCH₃, -S(=O)₂N(CH₃)₂, -NH₂, -NHCH₃, -N(CH₃)₂, -C(=O)CH₃, -C(=O)OH, -C(=O)OCH₃, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, or C₁-C₆heteroalkyl; provided that the compound is not

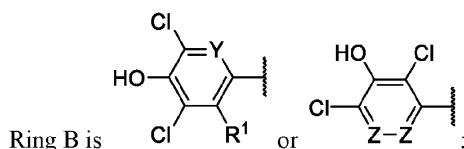




[0041] Disclosed herein is a compound of Formula (I), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof:



wherein:



Y is N or CR¹;

each Z is independently N or CR¹;

each R¹ are independently hydrogen, deuterium, halogen, -CN, -OH, -OR^a, -NR^eR^d, C₁-C₆alkyl,

C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl;

L is -O-, -C(=O)NR³-, -NR³C(=O)-, -C(=O)C(R⁴)₂-, or -C(R⁴)₂C(=O)-;

R³ is hydrogen, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl;

each R⁴ is independently hydrogen, deuterium, halogen, C₁-C₆alkyl, C₁-C₆haloalkyl, or

C₁-C₆deuteroalkyl;

Ring A is a 3- to 12-membered ring optionally comprising 1-4 heteroatoms selected from the group consisting of O, S, N, P, and B;

each R⁵ is independently hydrogen, deuterium, halogen, -CN, -OH, -OR^a, -NR^eR^d, C₁-C₆alkyl,

C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl;

or two R⁵ on the same atom are taken together to form an oxo;

n is 0-6;

R^A is:

- (a) $-\text{C}(=\text{O})\text{NR}^{10}\text{R}^{11}$; or
- (b) C₄-C₁₀alkyl optionally substituted with one or more R^{Aa}; or
- (c) $-(\text{C}(\text{R}^{12})_2)_p$ cycloalkyl, $-(\text{C}(\text{R}^{12})_2)_p$ heterocycloalkyl, $-(\text{C}(\text{R}^{12})_2)_p$ aryl, or $-(\text{C}(\text{R}^{12})_2)_p$ heteroaryl; wherein the cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is optionally and independently substituted with one or more R^{Ab};

R¹⁰ and R¹¹ are independently hydrogen, C₁-C₁₀alkyl, C₁-C₁₀haloalkyl, C₁-C₁₀deuteroalkyl, C₁-C₁₀hydroxyalkyl, C₁-C₁₀aminoalkyl, C₁-C₁₀heteroalkyl, C₂-C₁₀alkenyl, C₂-C₁₀alkynyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl, C₁-C₆alkyl(cycloalkyl), C₁-C₆alkyl(heterocycloalkyl), C₁-C₆alkyl(aryl), or C₁-C₆alkyl(heteroaryl); wherein each alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is optionally and independently substituted with one or more R^{10a},

each R^{10a} is independently deuterium, halogen, -CN, -NO₂, -OH, -OR^a, -OC(=O)R^a, -OC(=O)OR^b, -OC(=O)NR^cR^d, -SH, -SR^a, -S(=O)R^a, -S(=O)₂R^a, -S(=O)₂NR^cR^d, -NR^cR^d, -NR^bC(=O)NR^cR^d, -NR^bC(=O)R^a, -NR^bC(=O)OR^b, -NHS(=O)₂R^a, -C(=O)R^a, -C(=O)C(=O)R^a, -C(=O)OR^b, -C(=O)NR^cR^d, -C(=O)C(=O)NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl; wherein each alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is optionally and independently substituted with one or more R^{10b},

or two R^{10a} on the same atom are taken together to form an oxo;

each R^{10b} is independently deuterium, halogen, -CN, -NO₂, -OH, -OR^a, -OC(=O)R^a, -OC(=O)OR^b, -OC(=O)NR^cR^d, -SH, -SR^a, -S(=O)R^a, -S(=O)₂R^a, -S(=O)₂NR^cR^d, -NR^cR^d, -NR^bC(=O)NR^cR^d, -NR^bC(=O)R^a, -NR^bC(=O)OR^b, -NHS(=O)₂R^a, -C(=O)R^a, -C(=O)C(=O)R^a, -C(=O)OR^b, -C(=O)NR^cR^d, -C(=O)C(=O)NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl;

or two R^{10b} on the same atom are taken together to form an oxo;

each R^{Aa} are independently deuterium, halogen, -CN, -NO₂, -OH, -OR^a, -OC(=O)R^a, -OC(=O)OR^b, -OC(=O)NR^cR^d, -SH, -SR^a, -S(=O)R^a, -S(=O)₂R^a, -S(=O)₂NR^cR^d, -NR^cR^d, -NR^bC(=O)NR^cR^d, -NR^bC(=O)R^a, -NR^bC(=O)OR^b, -NHS(=O)₂R^a, -C(=O)R^a, -C(=O)C(=O)R^a, -C(=O)OR^b, -C(=O)NR^cR^d, -C(=O)C(=O)NR^cR^d, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl; wherein each alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is optionally and independently substituted with one or more R^{Aaa};

or two R^{Aa} on the same atom are taken together to form an oxo;

each R^{Ab} are independently deuterium, halogen, -CN, -NO₂, -OH, -OR^a, -OC(=O)R^a, -OC(=O)OR^b, -OC(=O)NR^cR^d, -SH, -SR^a, -S(=O)R^a, -S(=O)₂R^a, -S(=O)₂NR^cR^d, -NR^cR^d, -NR^bC(=O)NR^cR^d, -NR^bC(=O)R^a, -NR^bC(=O)OR^b, -NHS(=O)₂R^a, -C(=O)R^a, -C(=O)C(=O)R^a, -C(=O)OR^b,

$C(=O)NR^cR^d$, $-C(=O)C(=O)NR^cR^d$, C_1 - C_6 alkyl, C_1 - C_6 haloalkyl, C_1 - C_6 deuteroalkyl, C_1 - C_6 hydroxyalkyl, C_1 - C_6 aminoalkyl, C_1 - C_6 heteroalkyl, C_2 - C_6 alkenyl, C_2 - C_6 alkynyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl; wherein each alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is optionally and independently substituted with one or more R^{Aaa} ,

or two R^{Ab} on the same atom are taken together to form an oxo;

each R^{Aaa} is independently deuterium, halogen, $-CN$, $-NO_2$, $-OH$, $-OR^a$, $-OC(=O)R^a$, $-OC(=O)OR^b$, $-OC(=O)NR^cR^d$, $-SH$, $-SR^a$, $-S(=O)R^a$, $-S(=O)_2R^a$, $-S(=O)_2NR^cR^d$, $-NR^cR^d$, $-NR^bC(=O)NR^cR^d$, $-NR^bC(=O)R^a$, $-NR^bC(=O)OR^b$, $-NHS(=O)_2R^a$, $-C(=O)R^a$, $-C(=O)C(=O)R^a$, $-C(=O)OR^b$, $-C(=O)NR^cR^d$, $-C(=O)C(=O)NR^cR^d$, C_1 - C_6 alkyl, C_1 - C_6 haloalkyl, C_1 - C_6 deuteroalkyl, C_1 - C_6 hydroxyalkyl, C_1 - C_6 aminoalkyl, C_1 - C_6 heteroalkyl, C_2 - C_6 alkenyl, C_2 - C_6 alkynyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl;

each R^{12} is independently hydrogen, deuterium, halogen, C_1 - C_6 alkyl, C_1 - C_6 haloalkyl, or C_1 - C_6 deuteroalkyl;

or two R^{12} on the same carbon are taken together to form a cycloalkyl or a heterocycloalkyl; wherein the cycloalkyl and heterocycloalkyl is optionally substituted with deuterium, halogen, $-OH$, $-OCH_3$, $-NH_2$, $-NHCH_3$, $-N(CH_3)_2$, C_1 - C_6 alkyl, C_1 - C_6 haloalkyl, or C_1 - C_6 deuteroalkyl;

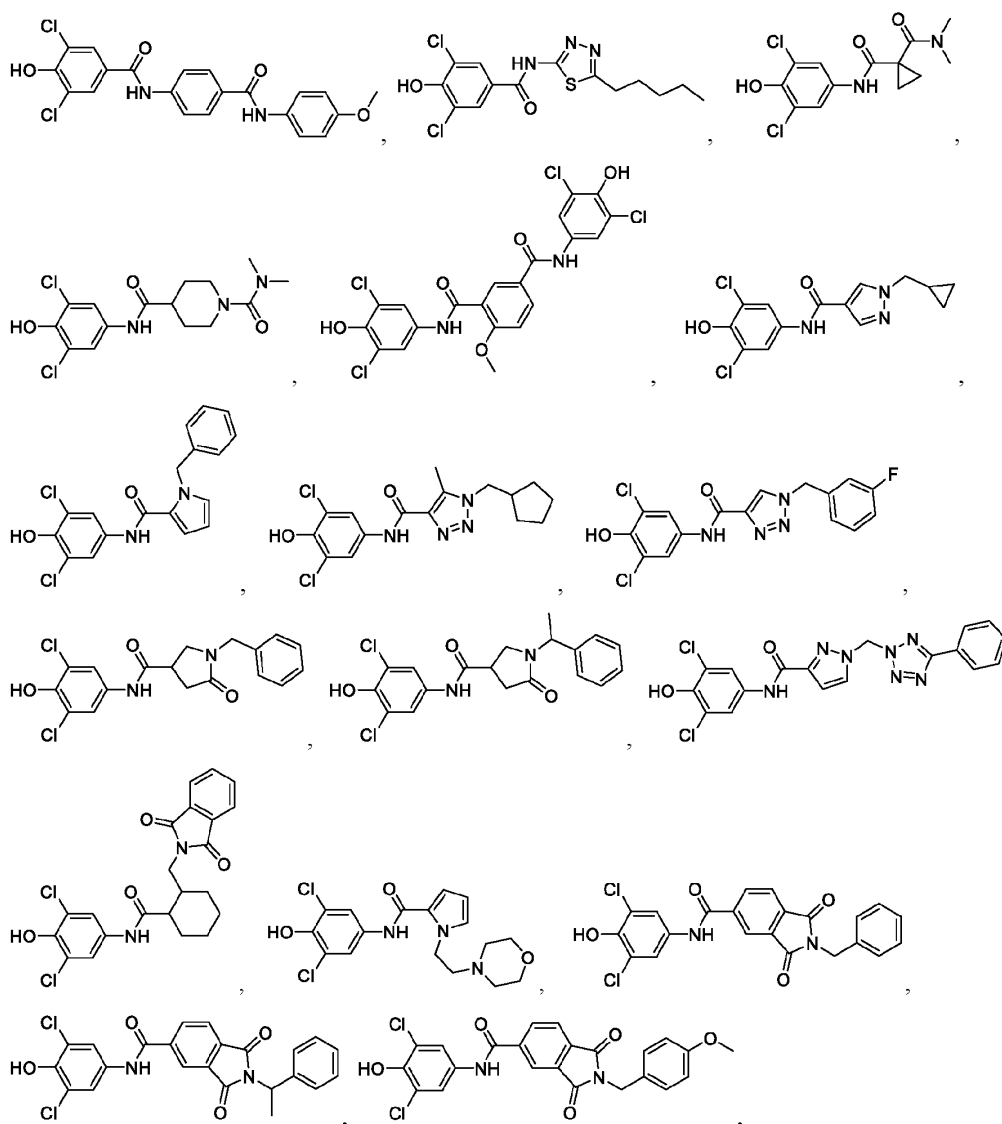
p is 1-4;

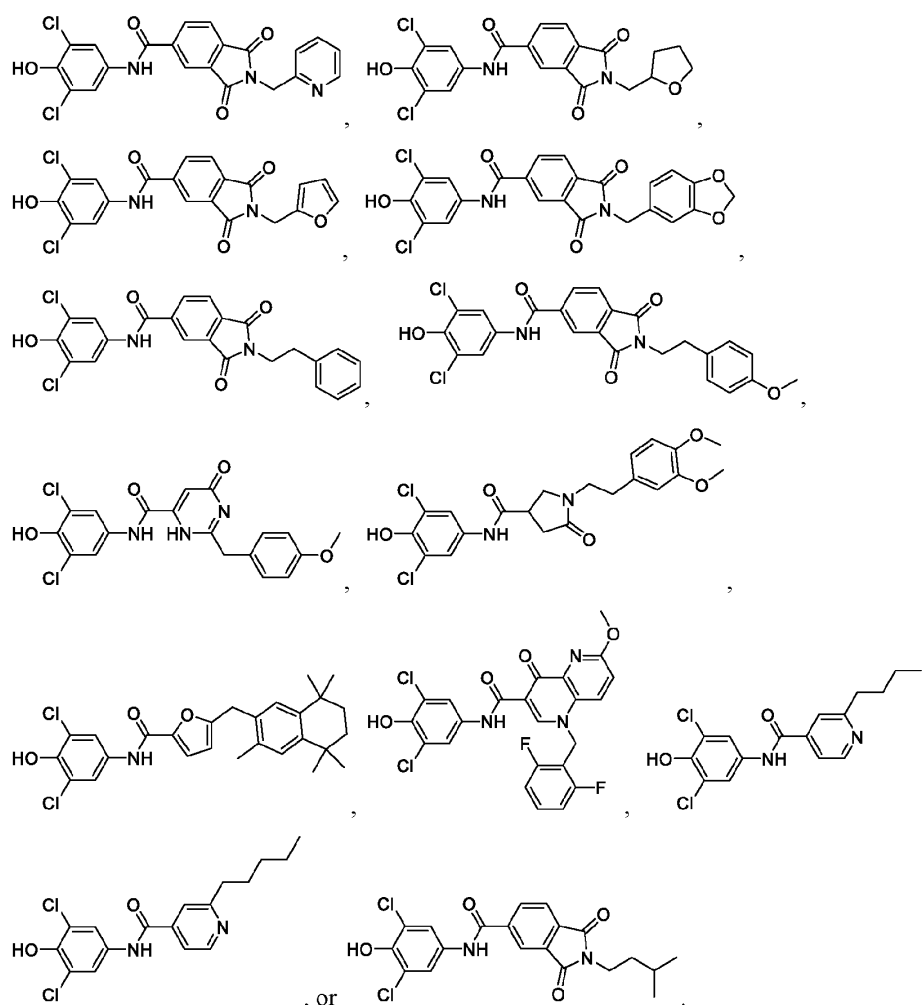
each R^a is independently C_1 - C_6 alkyl, C_1 - C_6 haloalkyl, C_1 - C_6 deuteroalkyl, C_1 - C_6 hydroxyalkyl, C_1 - C_6 aminoalkyl, C_1 - C_6 heteroalkyl, C_2 - C_6 alkenyl, C_2 - C_6 alkynyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl, C_1 - C_6 alkyl(cycloalkyl), C_1 - C_6 alkyl(heterocycloalkyl), C_1 - C_6 alkyl(aryl), or C_1 - C_6 alkyl(heteroaryl); wherein each alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is independently optionally substituted with one or more oxo, deuterium, halogen, $-CN$, $-OH$, $-OCH_3$, $-S(=O)CH_3$, $-S(=O)_2CH_3$, $-S(=O)_2NH_2$, $-S(=O)_2NHCH_3$, $-S(=O)_2N(CH_3)_2$, $-NH_2$, $-NHCH_3$, $-N(CH_3)_2$, $-C(=O)CH_3$, $-C(=O)OH$, $-C(=O)OCH_3$, C_1 - C_6 alkyl, C_1 - C_6 haloalkyl, C_1 - C_6 deuteroalkyl, C_1 - C_6 hydroxyalkyl, C_1 - C_6 aminoalkyl, or C_1 - C_6 heteroalkyl;

each R^b is independently hydrogen, C_1 - C_6 alkyl, C_1 - C_6 haloalkyl, C_1 - C_6 deuteroalkyl, C_1 - C_6 hydroxyalkyl, C_1 - C_6 aminoalkyl, C_1 - C_6 heteroalkyl, C_2 - C_6 alkenyl, C_2 - C_6 alkynyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl, C_1 - C_6 alkyl(cycloalkyl), C_1 - C_6 alkyl(heterocycloalkyl), C_1 - C_6 alkyl(aryl), or C_1 - C_6 alkyl(heteroaryl); wherein each alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is independently optionally substituted with one or more oxo, deuterium, halogen, $-CN$, $-OH$, $-OCH_3$, $-S(=O)CH_3$, $-S(=O)_2CH_3$, $-S(=O)_2NH_2$, $-S(=O)_2NHCH_3$, $-S(=O)_2N(CH_3)_2$, $-NH_2$, $-NHCH_3$, $-N(CH_3)_2$, $-C(=O)CH_3$, $-C(=O)OH$, $-C(=O)OCH_3$, C_1 - C_6 alkyl, C_1 - C_6 haloalkyl, C_1 - C_6 deuteroalkyl, C_1 - C_6 hydroxyalkyl, C_1 - C_6 aminoalkyl, or C_1 - C_6 heteroalkyl; and

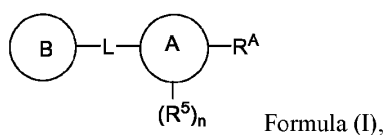
each R^c and R^d are independently hydrogen, C_1 - C_6 alkyl, C_1 - C_6 haloalkyl, C_1 - C_6 deuteroalkyl, C_1 - C_6 hydroxyalkyl, C_1 - C_6 aminoalkyl, C_1 - C_6 heteroalkyl, C_2 - C_6 alkenyl, C_2 - C_6 alkynyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl, C_1 - C_6 alkyl(cycloalkyl), C_1 - C_6 alkyl(heterocycloalkyl), C_1 - C_6 alkyl(aryl), or C_1 - C_6 alkyl(heteroaryl); wherein each alkyl, alkenyl, alkynyl, cycloalkyl,

heterocycloalkyl, aryl, and heteroaryl is independently optionally substituted with one or more oxo, deuterium, halogen, -CN, -OH, -OCH₃, -S(=O)CH₃, -S(=O)₂CH₃, -S(=O)₂NH₂, -S(=O)₂NHCH₃, -S(=O)₂N(CH₃)₂, -NH₂, -NHCH₃, -N(CH₃)₂, -C(=O)CH₃, -C(=O)OH, -C(=O)OCH₃, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, or C₁-C₆heteroalkyl; or R^c and R^d are taken together with the atom to which they are attached to form a heterocycloalkyl optionally substituted with one or more oxo, deuterium, halogen, -CN, -OH, -OCH₃, -S(=O)CH₃, -S(=O)₂CH₃, -S(=O)₂NH₂, -S(=O)₂NHCH₃, -S(=O)₂N(CH₃)₂, -NH₂, -NHCH₃, -N(CH₃)₂, -C(=O)CH₃, -C(=O)OH, -C(=O)OCH₃, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, or C₁-C₆heteroalkyl; provided that the compound is not

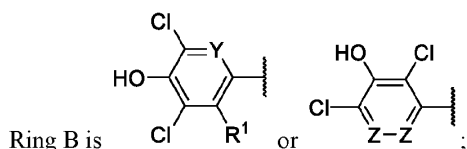




[0042] Disclosed herein is a compound of Formula (I), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof:



wherein:



Y is N or CR¹;

each Z is independently N or CR¹;

each R¹ are independently hydrogen, deuterium, halogen, -CN, -OH, -OR^a, -NR^bR^d, C₁-C₆alkyl,

C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl;

L is -O-, -C(=O)NR³-, -C(=O)C(R⁴)₂-, or -C(R⁴)₂C(=O)-;

R³ is hydrogen, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl;

each R⁴ is independently hydrogen, deuterium, halogen, C₁-C₆alkyl, C₁-C₆haloalkyl, or

C₁-C₆deuteroalkyl;

Ring A is a 3- to 12-membered ring optionally comprising 1-4 heteroatoms selected from the group consisting of O, S, N, P, and B;

each R⁵ is independently hydrogen, deuterium, halogen, -CN, -OH, -OR^a, -SH, -SR^a, -NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl;

or two R⁵ on the same atom are taken together to form an oxo;

n is 0-6;

R^A is:

(a) -C(=O)NR¹⁰R¹¹; or

(b) C₄-C₁₀alkyl optionally substituted with one or more R^{Aa}; or

(c) -(C(R¹²)₂)_pcycloalkyl, -(C(R¹²)₂)_pheterocycloalkyl, -(C(R¹²)₂)_paryl, or -(C(R¹²)₂)_pheteroaryl;

wherein the cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is optionally and independently substituted with one or more R^{Ab};

R¹⁰ and R¹¹ are independently hydrogen, C₁-C₁₀alkyl, C₁-C₁₀haloalkyl, C₁-C₁₀deuteroalkyl,

C₁-C₁₀hydroxyalkyl, C₁-C₁₀aminoalkyl, C₁-C₁₀heteroalkyl, C₂-C₁₀alkenyl, C₂-C₁₀alkynyl, cycloalkyl,

heterocycloalkyl, aryl, heteroaryl, C₁-C₆alkyl(cycloalkyl), C₁-C₆alkyl(heterocycloalkyl),

C₁-C₆alkyl(aryl), or C₁-C₆alkyl(heteroaryl); wherein each alkyl, alkenyl, alkynyl, cycloalkyl,

heterocycloalkyl, aryl, and heteroaryl is optionally and independently substituted with one or more

R^{10a};

each R^{10a} is independently deuterium, halogen, -CN, -NO₂, -OH, -OR^a, -OC(=O)R^a, -OC(=O)OR^b, -

OC(=O)NR^cR^d, -SH, -SR^a, -S(=O)R^a, -S(=O)₂R^a, -S(=O)₂NR^cR^d, -NR^cR^d, -NR^bC(=O)NR^cR^d, -

NR^bC(=O)R^a, -NR^bC(=O)OR^b, -NHS(=O)₂R^a, -C(=O)R^a, -C(=O)C(=O)R^a, -C(=O)OR^b, -

C(=O)NR^cR^d, -C(=O)C(=O)NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl,

C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl,

heterocycloalkyl, aryl, or heteroaryl; wherein each alkyl, alkenyl, alkynyl, cycloalkyl,

heterocycloalkyl, aryl, and heteroaryl is optionally and independently substituted with one or more

R^{10b};

or two R^{10a} on the same atom are taken together to form an oxo;

each R^{10b} is independently deuterium, halogen, -CN, -NO₂, -OH, -OR^a, -OC(=O)R^a, -OC(=O)OR^b, -

OC(=O)NR^cR^d, -SH, -SR^a, -S(=O)R^a, -S(=O)₂R^a, -S(=O)₂NR^cR^d, -NR^cR^d, -NR^bC(=O)NR^cR^d, -

NR^bC(=O)R^a, -NR^bC(=O)OR^b, -NHS(=O)₂R^a, -C(=O)R^a, -C(=O)C(=O)R^a, -C(=O)OR^b, -

C(=O)NR^cR^d, -C(=O)C(=O)NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl,

C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl,

heterocycloalkyl, aryl, or heteroaryl;

or two R^{10b} on the same atom are taken together to form an oxo;

each R^{Aa} are independently deuterium, halogen, -CN, -NO₂, -OH, -OR^a, -OC(=O)R^a, -OC(=O)OR^b, -OC(=O)NR^cR^d, -SH, -SR^a, -S(=O)R^a, -S(=O)₂R^a, -S(=O)₂NR^cR^d, -NR^cR^d, -NR^bC(=O)NR^cR^d, -NR^bC(=O)R^a, -NR^bC(=O)OR^b, -NHS(=O)₂R^a, -C(=O)R^a, -C(=O)C(=O)R^a, -C(=O)OR^b, -C(=O)NR^cR^d, -C(=O)C(=O)NR^cR^d, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl; wherein each alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is optionally and independently substituted with one or more R^{Aaa} ;

or two R^{Aa} on the same atom are taken together to form an oxo;

each R^{Ab} are independently deuterium, halogen, -CN, -NO₂, -OH, -OR^a, -OC(=O)R^a, -OC(=O)OR^b, -OC(=O)NR^cR^d, -SH, -SR^a, -S(=O)R^a, -S(=O)₂R^a, -S(=O)₂NR^cR^d, -NR^cR^d, -NR^bC(=O)NR^cR^d, -NR^bC(=O)R^a, -NR^bC(=O)OR^b, -NHS(=O)₂R^a, -C(=O)R^a, -C(=O)C(=O)R^a, -C(=O)OR^b, -C(=O)NR^cR^d, -C(=O)C(=O)NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl; wherein each alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is optionally and independently substituted with one or more R^{Aaa} ;

or two R^{Ab} on the same atom are taken together to form an oxo;

each R^{Aaa} is independently deuterium, halogen, -CN, -NO₂, -OH, -OR^a, -OC(=O)R^a, -OC(=O)OR^b, -OC(=O)NR^cR^d, -SH, -SR^a, -S(=O)R^a, -S(=O)₂R^a, -S(=O)₂NR^cR^d, -NR^cR^d, -NR^bC(=O)NR^cR^d, -NR^bC(=O)R^a, -NR^bC(=O)OR^b, -NHS(=O)₂R^a, -C(=O)R^a, -C(=O)C(=O)R^a, -C(=O)OR^b, -C(=O)NR^cR^d, -C(=O)C(=O)NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl;

each R^{12} is independently hydrogen, deuterium, halogen, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl;

or two R^{12} on the same carbon are taken together to form a cycloalkyl or a heterocycloalkyl; wherein the cycloalkyl and heterocycloalkyl is optionally substituted with deuterium, halogen, -OH, -OCH₃, -NH₂, -NHCH₃, -N(CH₃)₂, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl;

or two R^{12} on adjacent carbon are taken together to form a cycloalkyl optionally substituted with deuterium, halogen, -OH, -OCH₃, -NH₂, -NHCH₃, -N(CH₃)₂, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl;

p is 1-4;

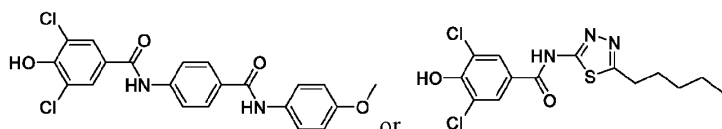
each R^a is independently C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl, C₁-C₆alkyl(cycloalkyl), C₁-C₆alkyl(heterocycloalkyl), C₁-C₆alkyl(aryl), or C₁-C₆alkyl(heteroaryl); wherein each alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is independently optionally substituted with one or more oxo, deuterium, halogen, -CN, -OH, -OCH₃, -S(=O)CH₃, -S(=O)₂CH₃, -S(=O)₂NH₂, -S(=O)₂NHCH₃, -S(=O)₂N(CH₃)₂, -NH₂, -

NHCH₃, -N(CH₃)₂, -C(=O)CH₃, -C(=O)OH, -C(=O)OCH₃, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, or C₁-C₆heteroalkyl;

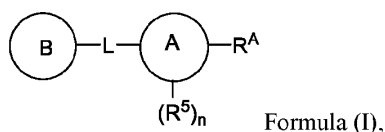
each R^b is independently hydrogen, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl, C₁-C₆alkyl(cycloalkyl), C₁-C₆alkyl(heterocycloalkyl), C₁-C₆alkyl(aryl), or C₁-C₆alkyl(heteroaryl); wherein each alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is independently optionally substituted with one or more oxo, deuterium, halogen, -CN, -OH, -OCH₃, -S(=O)CH₃, -S(=O)₂CH₃, -S(=O)₂NH₂, -S(=O)₂NHCH₃, -S(=O)₂N(CH₃)₂, -NH₂, -NHCH₃, -N(CH₃)₂, -C(=O)CH₃, -C(=O)OH, -C(=O)OCH₃, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, or C₁-C₆heteroalkyl; and

each R^c and R^d are independently hydrogen, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl, C₁-C₆alkyl(cycloalkyl), C₁-C₆alkyl(heterocycloalkyl), C₁-C₆alkyl(aryl), or C₁-C₆alkyl(heteroaryl); wherein each alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is independently optionally substituted with one or more oxo, deuterium, halogen, -CN, -OH, -OCH₃, -S(=O)CH₃, -S(=O)₂CH₃, -S(=O)₂NH₂, -S(=O)₂NHCH₃, -S(=O)₂N(CH₃)₂, -NH₂, -NHCH₃, -N(CH₃)₂, -C(=O)CH₃, -C(=O)OH, -C(=O)OCH₃, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, or C₁-C₆heteroalkyl;

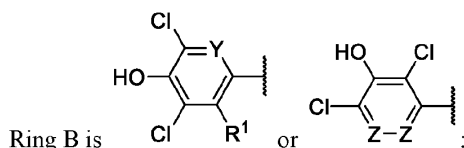
or R^c and R^d are taken together with the atom to which they are attached to form a heterocycloalkyl optionally substituted with one or more oxo, deuterium, halogen, -CN, -OH, -OCH₃, -S(=O)CH₃, -S(=O)₂CH₃, -S(=O)₂NH₂, -S(=O)₂NHCH₃, -S(=O)₂N(CH₃)₂, -NH₂, -NHCH₃, -N(CH₃)₂, -C(=O)CH₃, -C(=O)OH, -C(=O)OCH₃, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, or C₁-C₆heteroalkyl; provided that the compound is not



[0043] Disclosed herein is a compound of Formula (I), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof:



wherein:



Y is N or CR¹;

each Z is independently N or CR¹;

each R^1 are independently hydrogen, deuterium, halogen, -CN, -OH, -OR^a, -NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl;

L is -O-, -C(=O)NR³-, -C(=O)C(R⁴)₂-, or -C(R⁴)₂C(=O)-;

R³ is hydrogen, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl;

each R⁴ is independently hydrogen, deuterium, halogen, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl;

Ring A is a 3- to 12-membered ring optionally comprising 1-4 heteroatoms selected from the group consisting of O, S, N, P, and B;

each R⁵ is independently hydrogen, deuterium, halogen, -CN, -OH, -OR^a, -NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl;

or two R⁵ on the same atom are taken together to form an oxo;

n is 0-6;

R^A is:

(a) -C(=O)NR¹⁰R¹¹; or

(b) C₄-C₁₀alkyl optionally substituted with one or more R^{Aa}; or

(c) -(C(R¹²)₂)_pcycloalkyl, -(C(R¹²)₂)_pheterocycloalkyl, -(C(R¹²)₂)_paryl, or -(C(R¹²)₂)_pheteroaryl; wherein the cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is optionally and independently substituted with one or more R^{Ab};

R¹⁰ and R¹¹ are independently hydrogen, C₁-C₁₀alkyl, C₁-C₁₀haloalkyl, C₁-C₁₀deuteroalkyl, C₁-C₁₀hydroxyalkyl, C₁-C₁₀aminoalkyl, C₁-C₁₀heteroalkyl, C₂-C₁₀alkenyl, C₂-C₁₀alkynyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl, C₁-C₆alkyl(cycloalkyl), C₁-C₆alkyl(heterocycloalkyl), C₁-C₆alkyl(aryl), or C₁-C₆alkyl(heteroaryl); wherein each alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is optionally and independently substituted with one or more R^{10a};

each R^{10a} is independently deuterium, halogen, -CN, -NO₂, -OH, -OR^a, -OC(=O)R^a, -OC(=O)OR^b, -OC(=O)NR^cR^d, -SH, -SR^a, -S(=O)R^a, -S(=O)₂R^a, -S(=O)₂NR^cR^d, -NR^cR^d, -NR^bC(=O)NR^cR^d, -NR^bC(=O)R^a, -NR^bC(=O)OR^b, -NHS(=O)₂R^a, -C(=O)R^a, -C(=O)C(=O)R^a, -C(=O)OR^b, -C(=O)NR^cR^d, -C(=O)C(=O)NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl; wherein each alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is optionally and independently substituted with one or more R^{10b};

or two R^{10a} on the same atom are taken together to form an oxo;

each R^{10b} is independently deuterium, halogen, -CN, -NO₂, -OH, -OR^a, -OC(=O)R^a, -OC(=O)OR^b, -OC(=O)NR^cR^d, -SH, -SR^a, -S(=O)R^a, -S(=O)₂R^a, -S(=O)₂NR^cR^d, -NR^cR^d, -NR^bC(=O)NR^cR^d, -NR^bC(=O)R^a, -NR^bC(=O)OR^b, -NHS(=O)₂R^a, -C(=O)R^a, -C(=O)C(=O)R^a, -C(=O)OR^b, -C(=O)NR^cR^d, -C(=O)C(=O)NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl,

C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl;

or two R^{10b} on the same atom are taken together to form an oxo;

each R^{Aa} are independently deuterium, halogen, -CN, -NO₂, -OH, -OR^a, -OC(=O)R^a, -OC(=O)OR^b, -OC(=O)NR^cR^d, -SH, -SR^a, -S(=O)R^a, -S(=O)₂R^a, -S(=O)₂NR^cR^d, -NR^cR^d, -NR^bC(=O)NR^cR^d, -NR^bC(=O)R^a, -NR^bC(=O)OR^b, -NHS(=O)₂R^a, -C(=O)R^a, -C(=O)C(=O)R^a, -C(=O)OR^b, -C(=O)NR^cR^d, -C(=O)C(=O)NR^cR^d, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl; wherein each alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is optionally and independently substituted with one or more R^{Aaa};

or two R^{Aa} on the same atom are taken together to form an oxo;

each R^{Ab} are independently deuterium, halogen, -CN, -NO₂, -OH, -OR^a, -OC(=O)R^a, -OC(=O)OR^b, -OC(=O)NR^cR^d, -SH, -SR^a, -S(=O)R^a, -S(=O)₂R^a, -S(=O)₂NR^cR^d, -NR^cR^d, -NR^bC(=O)NR^cR^d, -NR^bC(=O)R^a, -NR^bC(=O)OR^b, -NHS(=O)₂R^a, -C(=O)R^a, -C(=O)C(=O)R^a, -C(=O)OR^b, -C(=O)NR^cR^d, -C(=O)C(=O)NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl; wherein each alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is optionally and independently substituted with one or more R^{Aaa};

or two R^{Ab} on the same atom are taken together to form an oxo;

each R^{Aaa} is independently deuterium, halogen, -CN, -NO₂, -OH, -OR^a, -OC(=O)R^a, -OC(=O)OR^b, -OC(=O)NR^cR^d, -SH, -SR^a, -S(=O)R^a, -S(=O)₂R^a, -S(=O)₂NR^cR^d, -NR^cR^d, -NR^bC(=O)NR^cR^d, -NR^bC(=O)R^a, -NR^bC(=O)OR^b, -NHS(=O)₂R^a, -C(=O)R^a, -C(=O)C(=O)R^a, -C(=O)OR^b, -C(=O)NR^cR^d, -C(=O)C(=O)NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl;

each R¹² is independently hydrogen, deuterium, halogen, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl;

or two R¹² on the same carbon are taken together to form a cycloalkyl or a heterocycloalkyl; wherein the cycloalkyl and heterocycloalkyl is optionally substituted with deuterium, halogen, -OH, -OCH₃, -NH₂, -NHCH₃, -N(CH₃)₂, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl;

p is 1-4;

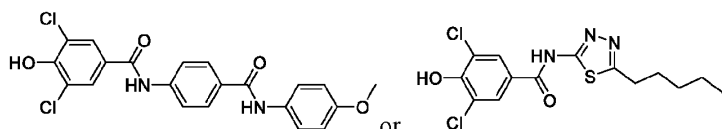
each R^a is independently C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl, C₁-C₆alkyl(cycloalkyl), C₁-C₆alkyl(heterocycloalkyl), C₁-C₆alkyl(aryl), or C₁-C₆alkyl(heteroaryl); wherein each alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is independently optionally substituted with one or more oxo, deuterium, halogen, -CN, -OH, -OCH₃, -S(=O)CH₃, -S(=O)₂CH₃, -S(=O)₂NH₂, -S(=O)₂NHCH₃, -S(=O)₂N(CH₃)₂, -NH₂, -

NHCH₃, -N(CH₃)₂, -C(=O)CH₃, -C(=O)OH, -C(=O)OCH₃, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, or C₁-C₆heteroalkyl;

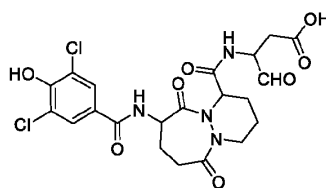
each R^b is independently hydrogen, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl, C₁-C₆alkyl(cycloalkyl), C₁-C₆alkyl(heterocycloalkyl), C₁-C₆alkyl(aryl), or C₁-C₆alkyl(heteroaryl); wherein each alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is independently optionally substituted with one or more oxo, deuterium, halogen, -CN, -OH, -OCH₃, -S(=O)CH₃, -S(=O)₂CH₃, -S(=O)₂NH₂, -S(=O)₂NHCH₃, -S(=O)₂N(CH₃)₂, -NH₂, -NHCH₃, -N(CH₃)₂, -C(=O)CH₃, -C(=O)OH, -C(=O)OCH₃, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, or C₁-C₆heteroalkyl; and

each R^c and R^d are independently hydrogen, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl, C₁-C₆alkyl(cycloalkyl), C₁-C₆alkyl(heterocycloalkyl), C₁-C₆alkyl(aryl), or C₁-C₆alkyl(heteroaryl); wherein each alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is independently optionally substituted with one or more oxo, deuterium, halogen, -CN, -OH, -OCH₃, -S(=O)CH₃, -S(=O)₂CH₃, -S(=O)₂NH₂, -S(=O)₂NHCH₃, -S(=O)₂N(CH₃)₂, -NH₂, -NHCH₃, -N(CH₃)₂, -C(=O)CH₃, -C(=O)OH, -C(=O)OCH₃, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, or C₁-C₆heteroalkyl;

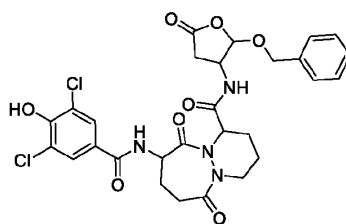
or R^c and R^d are taken together with the atom to which they are attached to form a heterocycloalkyl optionally substituted with one or more oxo, deuterium, halogen, -CN, -OH, -OCH₃, -S(=O)CH₃, -S(=O)₂CH₃, -S(=O)₂NH₂, -S(=O)₂NHCH₃, -S(=O)₂N(CH₃)₂, -NH₂, -NHCH₃, -N(CH₃)₂, -C(=O)CH₃, -C(=O)OH, -C(=O)OCH₃, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, or C₁-C₆heteroalkyl; provided that the compound is not



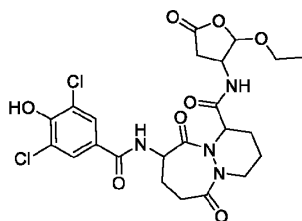
[0044] In some embodiments of a compound of Formula (I), or a pharmaceutically acceptable salt,



solvate, or stereoisomer thereof, the compound is not . In some embodiments of a compound of Formula (I), or a pharmaceutically acceptable salt, solvate, or

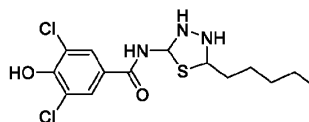


stereoisomer thereof, the compound is not . In some embodiments of a compound of Formula (I), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, the



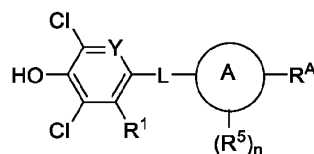
compound is not

[0045] In some embodiments of a compound of Formula (I), or a pharmaceutically acceptable salt,



solvate, or stereoisomer thereof, the compound is not

[0046] In some embodiments of a compound of Formula (I), or a pharmaceutically acceptable salt,

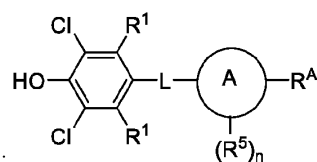


solvate, or stereoisomer thereof, the compound is of Formula (Ia):

[0047] In some embodiments of a compound of Formula (I) or (Ia), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, Y is N.

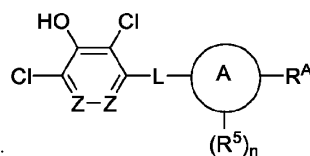
[0048] In some embodiments of a compound of Formula (I) or (Ia), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, Y is CR¹.

[0049] In some embodiments of a compound of Formula (I), or a pharmaceutically acceptable salt,



solvate, or stereoisomer thereof, the compound is of Formula (Ib):

[0050] In some embodiments of a compound of Formula (I), or a pharmaceutically acceptable salt,

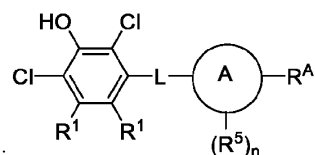


solvate, or stereoisomer thereof, the compound is of Formula (Ic):

[0051] In some embodiments of a compound of Formula (I) or (Ic), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, one Z is CR¹ and one Z is N.

[0052] In some embodiments of a compound of Formula (I) or (Ic), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, each Z is CR¹.

[0053] In some embodiments of a compound of Formula (I), or a pharmaceutically acceptable salt,



solvate, or stereoisomer thereof, the compound is of Formula (Id):

[0054] In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, R¹ is hydrogen, deuterium, halogen, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, R¹ is hydrogen, deuterium, halogen, or C₁-C₆alkyl. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, R¹ is hydrogen, deuterium, or C₁-C₆alkyl. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, R¹ is hydrogen.

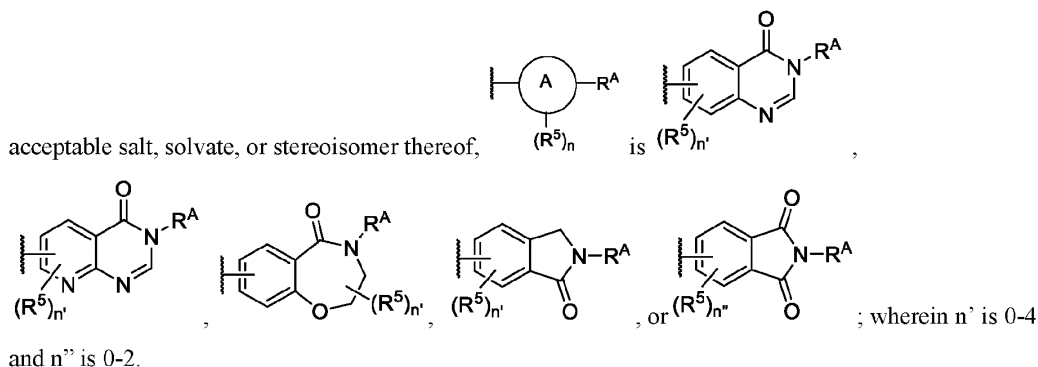
[0055] In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, L is -O-, -C(=O)NR³-, -C(=O)C(R⁴)₂-, or -C(R⁴)₂C(=O)-. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, L is -C(=O)C(R⁴)₂- or -C(R⁴)₂C(=O)-. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, L is -O-. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, L is -NR³C(=O)- or -C(=O)NR³-. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, L is -C(=O)NR³-.

[0056] In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, R³ is hydrogen or C₁-C₆alkyl. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, R³ is hydrogen.

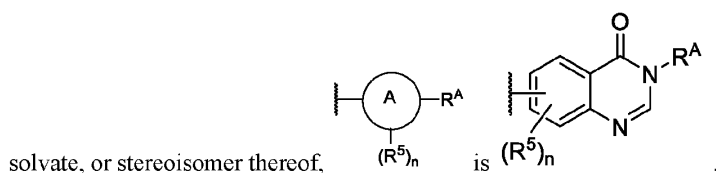
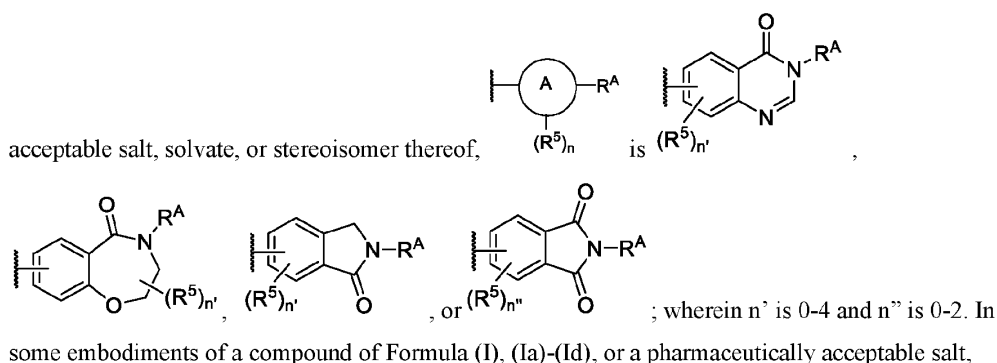
[0057] In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, Ring A is a 3- to 10-membered ring optionally comprising 1-4 heteroatoms selected from the group consisting of O, S, N, P, and B. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, Ring A is a 3- to 10-membered ring optionally comprising 1-4 heteroatoms selected from the group consisting of O, S, or N. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, Ring A is a 3- to 6-membered ring optionally comprising 1-4 heteroatoms selected from the group consisting of O, S, or N. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, Ring A is a 8- to 12-membered bicyclic ring optionally comprising 1-4 heteroatoms

selected from the group consisting of O, S, or N. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, Ring A is a 8- to 10-membered bicyclic ring optionally comprising 1-4 heteroatoms selected from the group consisting of O, S, or N. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, Ring A is phenyl or a 5- or 6-membered heteroaryl. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, Ring A is a 5-membered heteroaryl. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, Ring A is a 6-membered heteroaryl. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, Ring A is thiophene, thiazole, isothiazole, oxazole, isoxazole, phenyl, pyridine, or pyrimidine. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, Ring A is thiazole, isothiazole, oxazole, isoxazole, phenyl, pyridine, or pyrimidine. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, Ring A is thiophene, oxazole, isoxazole, phenyl, pyridine, or pyrimidine. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, Ring A is not thiophene. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, Ring A is not thiazole or isothiazole. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, Ring A is not thiazole. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, Ring A is not isothiazole. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, Ring A is thiophene. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, Ring A is thiazole or isothiazole. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, Ring A is oxazole or isoxazole. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, Ring A is phenyl. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, Ring A is pyridine. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, Ring A is dihydroquinazoline, isoindoline, or 2,3-dihydrobenzooxazepine.

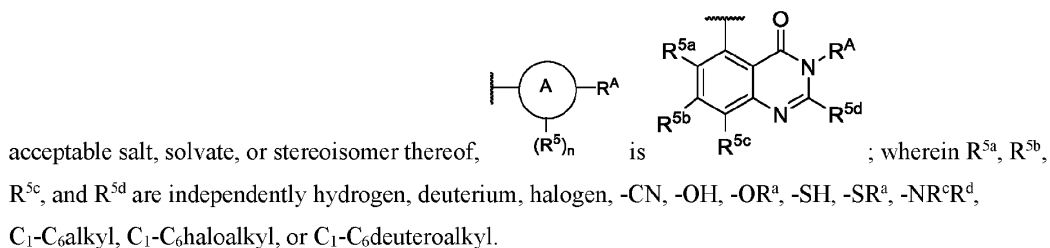
[0058] In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically



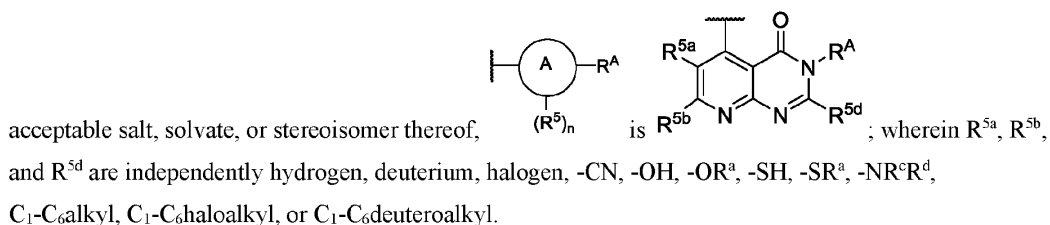
[0059] In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically



[0060] In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically



[0061] In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically



[0062] In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, R^{5a} is deuterium, halogen, -CN, -OH, -OR^a, -SH, -SR^a, -NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl; and R^{5b}, R^{5c}, and R^{5d} are independently hydrogen, deuterium, halogen, -CN, -OH, -OR^a, -SH, -SR^a, -NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl.

[0063] In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, R^{5a} is deuterium, halogen, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl; and R^{5b}, R^{5c}, and R^{5d} are independently hydrogen, deuterium, halogen, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl.

[0064] In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein R^{5b} is deuterium, halogen, -CN, -OH, -OR^a, -NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl; and R^{5a}, R^{5c}, and R^{5d} are independently hydrogen, deuterium, halogen, -CN, -OH, -SH, -SR^a, -OR^a, -NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl.

[0065] In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein R^{5b} is deuterium, halogen, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl; and R^{5a}, R^{5c}, and R^{5d} are independently hydrogen, deuterium, halogen, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl.

[0066] In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein R^{5c} is deuterium, halogen, -CN, -OH, -OR^a, -NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl; and R^{5a}, R^{5b}, and R^{5d} are independently hydrogen, deuterium, halogen, -CN, -OH, -OR^a, -SH, -SR^a, -NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl.

[0067] In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein R^{5c} is deuterium, halogen, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl; and R^{5a}, R^{5b}, and R^{5d} are independently hydrogen, deuterium, halogen, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl.

[0068] In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein R^{5d} is deuterium, halogen, -CN, -OH, -OR^a, -NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl; and R^{5a}, R^{5b}, and R^{5c} are independently hydrogen, deuterium, halogen, -CN, -OH, -OR^a, -NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl.

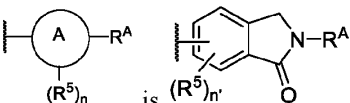
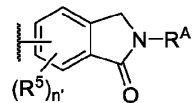
[0069] In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein R^{5d} is deuterium, halogen, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl; and R^{5a}, R^{5b}, and R^{5c} are independently hydrogen, deuterium, halogen, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl.

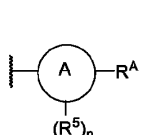
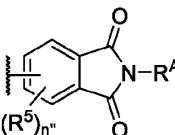
[0070] In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein R^{5c} is deuterium, halogen, -CN, -OH, -OR^a, -

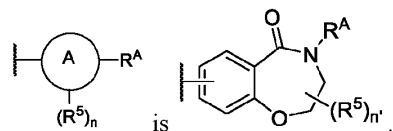
$\text{NR}^{\text{c}}\text{R}^{\text{d}}$, $\text{C}_1\text{-C}_6\text{alkyl}$, $\text{C}_1\text{-C}_6\text{haloalkyl}$, or $\text{C}_1\text{-C}_6\text{deuteroalkyl}$; $\text{R}^{5\text{d}}$ is deuterium, halogen, $-\text{CN}$, $-\text{OH}$, $-\text{OR}^{\text{a}}$, $-\text{NR}^{\text{c}}\text{R}^{\text{d}}$, $\text{C}_1\text{-C}_6\text{alkyl}$, $\text{C}_1\text{-C}_6\text{haloalkyl}$, or $\text{C}_1\text{-C}_6\text{deuteroalkyl}$; and $\text{R}^{5\text{a}}$ and $\text{R}^{5\text{b}}$ are independently hydrogen, deuterium, halogen, $-\text{CN}$, $-\text{OH}$, $-\text{OR}^{\text{a}}$, $-\text{SH}$, $-\text{SR}^{\text{a}}$, $-\text{NR}^{\text{c}}\text{R}^{\text{d}}$, $\text{C}_1\text{-C}_6\text{alkyl}$, $\text{C}_1\text{-C}_6\text{haloalkyl}$, or $\text{C}_1\text{-C}_6\text{deuteroalkyl}$.

[0071] In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein $\text{R}^{5\text{c}}$ is deuterium, halogen, $\text{C}_1\text{-C}_6\text{alkyl}$, $\text{C}_1\text{-C}_6\text{haloalkyl}$, or $\text{C}_1\text{-C}_6\text{deuteroalkyl}$; $\text{R}^{5\text{d}}$ is deuterium, halogen, $\text{C}_1\text{-C}_6\text{alkyl}$, $\text{C}_1\text{-C}_6\text{haloalkyl}$, or $\text{C}_1\text{-C}_6\text{deuteroalkyl}$; and $\text{R}^{5\text{a}}$ and $\text{R}^{5\text{b}}$ are independently hydrogen, deuterium, halogen, $\text{C}_1\text{-C}_6\text{alkyl}$, $\text{C}_1\text{-C}_6\text{haloalkyl}$, or $\text{C}_1\text{-C}_6\text{deuteroalkyl}$.

[0072] In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically

acceptable salt, solvate, or stereoisomer thereof,  is . In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or

stereoisomer thereof,  is . In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof,



[0073] In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, each R^5 is independently hydrogen, deuterium, halogen, $\text{C}_1\text{-C}_6\text{alkyl}$, $\text{C}_1\text{-C}_6\text{haloalkyl}$, or $\text{C}_1\text{-C}_6\text{deuteroalkyl}$; or two R^5 on the same atom are taken together to form an oxo. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, each R^5 is independently hydrogen, deuterium, halogen, or $\text{C}_1\text{-C}_6\text{alkyl}$; or two R^5 on the same atom are taken together to form an oxo. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, each R^5 is independently hydrogen, deuterium, halogen, $\text{C}_1\text{-C}_6\text{alkyl}$, $\text{C}_1\text{-C}_6\text{haloalkyl}$, or $\text{C}_1\text{-C}_6\text{deuteroalkyl}$; or two R^5 on the same atom are taken together to form an oxo. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, each R^5 is independently hydrogen, deuterium, halogen, $\text{C}_1\text{-C}_6\text{alkyl}$, $\text{C}_1\text{-C}_6\text{haloalkyl}$, or $\text{C}_1\text{-C}_6\text{deuteroalkyl}$; or two R^5 on the same atom are taken together to form an oxo. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, each R^5 is independently hydrogen, deuterium, halogen, $\text{C}_1\text{-C}_6\text{alkyl}$, $\text{C}_1\text{-C}_6\text{haloalkyl}$, or $\text{C}_1\text{-C}_6\text{deuteroalkyl}$; or two R^5 on the same atom are taken together to form an oxo.

[0078] In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, R^{11} is hydrogen or C_1 - C_6 alkyl. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, R^{11} is hydrogen.

[0079] In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, R^{10} is C_1 - C_{10} alkyl, C_1 - C_{10} haloalkyl, C_1 - C_{10} deuteroalkyl, C_1 - C_{10} hydroxyalkyl, C_1 - C_{10} aminoalkyl, C_1 - C_{10} heteroalkyl, C_1 - C_6 alkyl(cycloalkyl), C_1 - C_6 alkyl(heterocycloalkyl), C_1 - C_6 alkyl(aryl), or C_1 - C_6 alkyl(heteroaryl); wherein each alkyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is optionally and independently substituted with one or more R^{10a} . In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, R^{10} is C_1 - C_{10} alkyl optionally substituted with one or more R^{10a} . In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, R^{10} is C_1 - C_6 alkyl(cycloalkyl), C_1 - C_6 alkyl(heterocycloalkyl), C_1 - C_6 alkyl(aryl), or C_1 - C_6 alkyl(heteroaryl); wherein each alkyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is optionally and independently substituted with one or more R^{10a} . In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, R^{10} is C_1 - C_6 alkyl(aryl) or C_1 - C_6 alkyl(heteroaryl); wherein each alkyl, aryl, and heteroaryl is optionally and independently substituted with one or more R^{10a} . In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, R^{10} is C_1 - C_6 alkyl(aryl) wherein the aryl is optionally substituted with one or more R^{10a} .

[0080] In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, each R^{10a} is independently deuterium, halogen, -CN, -OH, -OR^a, -NR^cR^d, -C(=O)R^a, -C(=O)OR^b, -C(=O)NR^cR^d, C_1 - C_6 alkyl, C_1 - C_6 haloalkyl, C_1 - C_6 deuteroalkyl, C_1 - C_6 hydroxyalkyl, C_1 - C_6 aminoalkyl, C_1 - C_6 heteroalkyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl; wherein each alkyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is optionally and independently substituted with one or more R^{10b} . In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, each R^{10a} is independently deuterium, halogen, -CN, -OH, -OR^a, -NR^cR^d, C_1 - C_6 alkyl, C_1 - C_6 haloalkyl, C_1 - C_6 deuteroalkyl, C_1 - C_6 hydroxyalkyl, C_1 - C_6 aminoalkyl, or C_1 - C_6 heteroalkyl; wherein each alkyl is optionally and independently substituted with one or more R^{10b} . In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, each R^{10a} is independently deuterium, halogen, -OH, -OR^a, C_1 - C_6 alkyl, C_1 - C_6 haloalkyl, or C_1 - C_6 deuteroalkyl; wherein each alkyl is optionally and independently substituted with one or more R^{10b} . In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, each R^{10a} is independently deuterium, halogen, -OH, -OR^a, C_1 - C_6 alkyl, C_1 - C_6 haloalkyl, or C_1 - C_6 deuteroalkyl. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, each R^{10a} is independently deuterium, halogen, -OR^a, C_1 - C_6 alkyl, or C_1 - C_6 haloalkyl.

[0081] In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, R^A is C_4 - C_{10} alkyl optionally substituted with one or more R^{Aa} .

[0082] In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, each R^{Aa} are independently deuterium, halogen, -CN, -OH, -OR^a, -NR^cR^d, -C(=O)R^a, -C(=O)OR^b, -C(=O)NR^cR^d, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl; wherein each cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is optionally and independently substituted with one or more R^{Aaa} ; or two R^{Aa} on the same atom are taken together to form an oxo. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, each R^{Aa} are independently deuterium, halogen, -CN, -OH, -OR^a, -NR^cR^d, cycloalkyl, or heterocycloalkyl; wherein each cycloalkyl and heterocycloalkyl is optionally and independently substituted with one or more R^{Aaa} . In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, each R^{Aa} are independently deuterium, halogen, -CN, -OH, -OR^a, or -NR^cR^d.

[0083] In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, R^A is -(C(R¹²)₂)_pcycloalkyl, -(C(R¹²)₂)_pheterocycloalkyl, -(C(R¹²)₂)_paryl, or -(C(R¹²)₂)_pheteroaryl; wherein the cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is optionally and independently substituted with one or more R^{Ab} . In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, R^A is -(C(R¹²)₂)_paryl or -(C(R¹²)₂)_pheteroaryl; wherein the aryl and heteroaryl is optionally and independently substituted with one or more R^{Ab} . In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, R^A is -(C(R¹²)₂)_paryl; wherein the aryl is optionally and independently substituted with one or more R^{Ab} .

[0084] In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, each R^{12} is independently hydrogen, deuterium, halogen, or C_1 - C_6 alkyl; or two R^{12} on the same carbon are taken together to form a cycloalkyl or a heterocycloalkyl. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, each R^{12} is hydrogen or two R^{12} on the same carbon are taken together to form a cycloalkyl. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, each R^{12} is hydrogen. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, two R^{12} on the same carbon are taken together to form a cycloalkyl. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, two R^{12} on adjacent carbon are taken together to form a cycloalkyl.

[0085] In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, each R^{Ab} are independently deuterium, halogen, -CN, -OH, -OR^a, -C(=O)R^a, -C(=O)OR^b, -C(=O)NR^cR^d, C_1 - C_6 alkyl, C_1 - C_6 haloalkyl, C_1 - C_6 deuteroalkyl, C_1 - C_6 hydroxyalkyl, C_1 - C_6 aminoalkyl, C_1 - C_6 heteroalkyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl;

wherein each alkyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is optionally and independently substituted with one or more R^{Aaa} ; or two R^{Ab} on the same atom are taken together to form an oxo. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, each R^{Ab} are independently deuterium, halogen, -CN, -OH, -OR^a, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, cycloalkyl, or heterocycloalkyl; wherein each alkyl, cycloalkyl, and heterocycloalkyl is optionally and independently substituted with one or more R^{Aaa} . In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, each R^{Ab} are independently deuterium, halogen, -CN, -OH, -OR^a, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl; wherein each alkyl is optionally and independently substituted with one or more R^{Aaa} .

[0086] In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, each R^{Aaa} is independently deuterium, halogen, -CN, -OH, -OR^a, -C(=O)R^a, -C(=O)OR^b, -C(=O)NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, or C₁-C₆heteroalkyl. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, each R^{Aaa} is independently deuterium, halogen, -CN, -OH, -OR^a, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl.

[0087] In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, p is 1-3. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, p is 1 or 2. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, p is 1. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, p is 2. In some embodiments of a compound of Formula (I), (Ia)-(Id), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, p is 3.

[0088] In some embodiments of a compound disclosed herein, each R^a is independently C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl; wherein each alkyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is independently optionally substituted with one or more oxo, deuterium, halogen, -CN, -OH, -OCH₃, -S(=O)CH₃, -S(=O)₂CH₃, -S(=O)₂NH₂, -S(=O)₂NHCH₃, -S(=O)₂N(CH₃)₂, -NH₂, -NHCH₃, -N(CH₃)₂, -C(=O)CH₃, -C(=O)OH, -C(=O)OCH₃, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl. In some embodiments of a compound disclosed herein, each R^a is independently C₁-C₆alkyl, C₁-C₆haloalkyl, cycloalkyl, or heterocycloalkyl; wherein each alkyl, cycloalkyl, and heterocycloalkyl is independently optionally substituted with one or more oxo, deuterium, halogen, -CN, -OH, -OCH₃, -S(=O)CH₃, -S(=O)₂CH₃, -S(=O)₂NH₂, -S(=O)₂NHCH₃, -S(=O)₂N(CH₃)₂, -NH₂, -NHCH₃, -N(CH₃)₂, -C(=O)CH₃, -C(=O)OH, -C(=O)OCH₃, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl. In some embodiments of a compound disclosed herein, each R^a is independently C₁-C₆alkyl, C₁-C₆haloalkyl, cycloalkyl, or heterocycloalkyl. In some embodiments of a compound disclosed herein, each R^a is

independently C₁-C₆alkyl or C₁-C₆haloalkyl. In some embodiments of a compound disclosed herein, each R^a is independently C₁-C₆alkyl.

[0089] In some embodiments of a compound disclosed herein, each R^b is independently hydrogen, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl; wherein each alkyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is independently optionally substituted with one or more oxo, deuterium, halogen, -CN, -OH, -OCH₃, -S(=O)CH₃, -S(=O)₂CH₃, -S(=O)₂NH₂, -S(=O)₂NHCH₃, -S(=O)₂N(CH₃)₂, -NH₂, -NHCH₃, -N(CH₃)₂, -C(=O)CH₃, -C(=O)OH, -C(=O)OCH₃, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl. In some embodiments of a compound disclosed herein, each R^b is independently hydrogen, C₁-C₆alkyl, C₁-C₆haloalkyl, cycloalkyl, or heterocycloalkyl; wherein each alkyl, cycloalkyl, and heterocycloalkyl is independently optionally substituted with one or more oxo, deuterium, halogen, -CN, -OH, -OCH₃, -S(=O)CH₃, -S(=O)₂CH₃, -S(=O)₂NH₂, -S(=O)₂NHCH₃, -S(=O)₂N(CH₃)₂, -NH₂, -NHCH₃, -N(CH₃)₂, -C(=O)CH₃, -C(=O)OH, -C(=O)OCH₃, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl. In some embodiments of a compound disclosed herein, each R^b is independently hydrogen, C₁-C₆alkyl, C₁-C₆haloalkyl, cycloalkyl, or heterocycloalkyl. In some embodiments of a compound disclosed herein, each R^b is independently hydrogen, C₁-C₆alkyl, or C₁-C₆haloalkyl. In some embodiments of a compound disclosed herein, each R^b is independently hydrogen or C₁-C₆alkyl.

[0090] In some embodiments of a compound disclosed herein, each R^c and R^d are independently hydrogen, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl; wherein each alkyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is independently optionally substituted with one or more oxo, deuterium, halogen, -CN, -OH, -OCH₃, -S(=O)CH₃, -S(=O)₂CH₃, -S(=O)₂NH₂, -S(=O)₂NHCH₃, -S(=O)₂N(CH₃)₂, -NH₂, -NHCH₃, -N(CH₃)₂, -C(=O)CH₃, -C(=O)OH, -C(=O)OCH₃, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl. In some embodiments of a compound disclosed herein, each R^c and R^d are independently hydrogen, C₁-C₆alkyl, C₁-C₆haloalkyl, cycloalkyl, or heterocycloalkyl; wherein each alkyl, cycloalkyl, and heterocycloalkyl is independently optionally substituted with one or more oxo, deuterium, halogen, -CN, -OH, -OCH₃, -S(=O)CH₃, -S(=O)₂CH₃, -S(=O)₂NH₂, -S(=O)₂NHCH₃, -S(=O)₂N(CH₃)₂, -NH₂, -NHCH₃, -N(CH₃)₂, -C(=O)CH₃, -C(=O)OH, -C(=O)OCH₃, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl. In some embodiments of a compound disclosed herein, each R^c and R^d are independently hydrogen, C₁-C₆alkyl, C₁-C₆haloalkyl, cycloalkyl, or heterocycloalkyl. In some embodiments of a compound disclosed herein, each R^c and R^d are independently hydrogen, C₁-C₆alkyl, or C₁-C₆haloalkyl. In some embodiments of a compound disclosed herein, each R^c and R^d are independently hydrogen or C₁-C₆alkyl.

[0091] In some embodiments of a compound disclosed herein, R^c and R^d are taken together with the atom to which they are attached to form a heterocycloalkyl optionally substituted with one or more oxo, deuterium, halogen, -CN, -OH, -OCH₃, -NH₂, -NHCH₃, -N(CH₃)₂, -C(=O)CH₃, -C(=O)OH, -

C(=O)OCH₃, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, or C₁-C₆heteroalkyl.

[0092] In some embodiments of a compound disclosed herein, each R^A, R^{Aa}, R^{Ab}, R¹⁰, R^{10a}, R¹¹, R^a, R^b, R^c, R^d, and the heterocycloalkyl formed when R^c and R^d are taken together is independently substituted with one, two, three, or four substituents as defined herein. In some embodiments of a compound disclosed herein, each R^A, R^{Aa}, R^{Ab}, R¹⁰, R^{10a}, R¹¹, R^a, R^b, R^c, R^d, and the heterocycloalkyl formed when R^c and R^d are taken together is independently substituted with one, two, or three substituents as defined herein. In some embodiments of a compound disclosed herein, each R^A, R^{Aa}, R^{Ab}, R¹⁰, R^{10a}, R¹¹, R^a, R^b, R^c, R^d, and the heterocycloalkyl formed when R^c and R^d are taken together is independently substituted with one or two substituents as defined herein. In some embodiments of a compound disclosed herein, each R^A, R^{Aa}, R^{Ab}, R¹⁰, R^{10a}, R¹¹, R^a, R^b, R^c, R^d, and the heterocycloalkyl formed when R^c and R^d are taken together is independently substituted with one substituent as defined herein.

[0093] Any combination of the groups described above for the various variables is contemplated herein. Throughout the specification, groups and substituents thereof are chosen by one skilled in the field to provide stable moieties and compounds.

[0094] Described herein is a compound of Formula (I), or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, selected from a compound in Table 1.

Table 1. Exemplary compounds

Ex.	Structure	Name
1		N-(3-benzyl-4-oxo-3,4-dihydroquinazolin-5-yl)-3,5-dichloro-4-hydroxybenzamide
2		3,5-dichloro-4-hydroxy-N-(4-oxo-3-(2-(trifluoromethoxy)benzyl)-3,4-dihydroquinazolin-5-yl)benzamide
3		3,5-dichloro-N-(3-(cyclopropylmethyl)-4-oxo-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
4		3,5-dichloro-4-hydroxy-N-(4-oxo-3-((2-oxo-1,2-dihydropyridin-4-yl)methyl)-3,4-dihydroquinazolin-5-yl)benzamide

Ex.	Structure	Name
5		3,5-dichloro-4-hydroxy-N-(3-(2-methoxybenzyl)-4-oxo-3,4-dihydroquinazolin-5-yl)benzamide
6		3,5-dichloro-4-hydroxy-N-(4-(trifluoromethyl)benzyl)-4-oxo-3-(4-dihydroquinazolin-5-yl)benzamide
7		3,5-dichloro-N-(3-(4-fluorobenzyl)-4-oxo-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
8		3,5-dichloro-4-hydroxy-N-(4-(trifluoromethoxy)benzyl)-4-oxo-3-(4-dihydroquinazolin-5-yl)benzamide
9		3,5-dichloro-N-(3-(2-fluorobenzyl)-4-oxo-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
10		3,5-dichloro-4-hydroxy-N-(4-(3-(trifluoromethoxy)benzyl)-4-oxo-3-(4-dihydroquinazolin-5-yl)benzamide
11		3,5-dichloro-4-hydroxy-N-(4-(3-(trifluoromethyl)benzyl)-4-oxo-3-(4-dihydroquinazolin-5-yl)benzamide
12		(S)-3,5-dichloro-N-(3-(1-(3-fluorophenyl)ethyl)-4-oxo-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
13		3,5-dichloro-N-(3-((3-fluoropyridin-4-yl)methyl)-4-oxo-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
14		N-(3-((1,3,4-thiadiazol-2-yl)methyl)-4-oxo-3,4-dihydroquinazolin-5-yl)-3,5-dichloro-4-hydroxybenzamide

Ex.	Structure	Name
15		3,5-dichloro-4-hydroxy-N-(3-(oxazol-4-ylmethyl)-4-oxo-3,4-dihydroquinazolin-5-yl)benzamide
16		3,5-dichloro-N-(3-(3-fluorobenzyl)-4-oxo-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
17		3,5-dichloro-4-hydroxy-N-(4-oxo-3-(pyridin-4-ylmethyl)-3,4-dihydroquinazolin-5-yl)benzamide
18		3,5-dichloro-4-hydroxy-N-(4-oxo-3-(2-(trifluoromethyl)benzyl)-3,4-dihydroquinazolin-5-yl)benzamide
19		3,5-dichloro-4-hydroxy-N-(4-oxo-3-((6-(trifluoromethyl)pyridin-3-yl)methyl)-3,4-dihydroquinazolin-5-yl)benzamide
20		3,5-dichloro-4-hydroxy-N-(4-oxo-3-(1-phenylcyclopropyl)-3,4-dihydroquinazolin-5-yl)benzamide
21		3,5-dichloro-N-(3-(1-(2-fluorophenyl)cyclopropyl)-4-oxo-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
22		4,6-dichloro-N-(3-(3-fluorobenzyl)-4-oxo-3,4-dihydroquinazolin-5-yl)-5-hydroxypicolinamide
23		4,6-dichloro-5-hydroxy-N-(4-oxo-3-(2-(trifluoromethoxy)benzyl)-3,4-dihydroquinazolin-5-yl)picolinamide

Ex.	Structure	Name
24		4-(3,5-dichloro-4-hydroxybenzamido)-N-(2-fluorobenzyl)thiazole-5-carboxamide
25		4-(3,5-dichloro-4-hydroxybenzamido)-N-(2-(trifluoromethyl)phenethyl)thiazole-5-carboxamide
26		4-(3,5-dichloro-4-hydroxybenzamido)-N-(2-(trifluoromethyl)benzyl)thiazole-5-carboxamide
27		4-(3,5-dichloro-4-hydroxybenzamido)-N-(2-(trifluoromethoxy)benzyl)thiazole-5-carboxamide
28		4-(3,5-dichloro-4-hydroxybenzamido)-N-(2,4-difluorobenzyl)thiazole-5-carboxamide
29		4-(3,5-dichloro-4-hydroxybenzamido)-N-(1-(4-fluorophenyl)cyclopropyl)thiazole-5-carboxamide

Ex.	Structure	Name
30		4-(3,5-dichloro-4-hydroxybenzamido)-N-((4,4-difluorocyclohexyl)methyl)thiazole-5-carboxamide
31		5-(3,5-dichloro-4-hydroxybenzamido)-N-(2-fluorobenzyl)-3-methylisothiazole-4-carboxamide
32		5-(3,5-dichloro-4-hydroxybenzamido)-N-(2-(trifluoromethoxy)benzyl)thiazole-4-carboxamide
33		5-(3,5-dichloro-4-hydroxybenzamido)-N-(2-fluorobenzyl)thiazole-4-carboxamide
34		5-(3,5-dichloro-4-hydroxybenzamido)-N-(3-fluorobenzyl)thiazole-4-carboxamide
35		3-(3,5-dichloro-4-hydroxybenzamido)-N-(2-methoxyphenethyl)thiophene-2-carboxamide
36		3,5-dichloro-4-hydroxy-N-(3-(2-methoxyphenethyl)-4-oxo-3,4-dihydroquinazolin-5-yl)benzamide

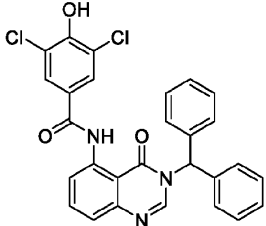
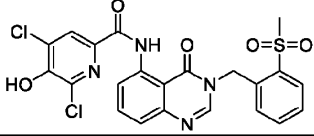
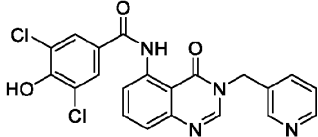
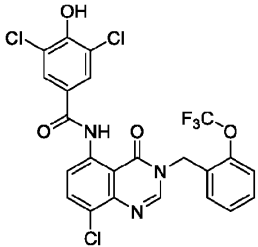
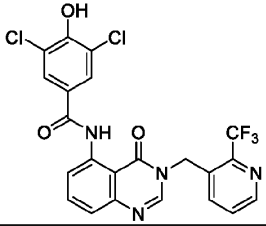
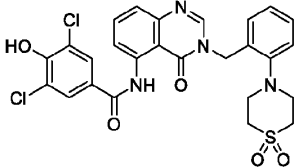
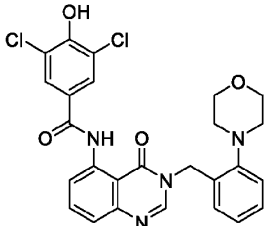
Ex.	Structure	Name
37		5-chloro-3-(3,5-dichloro-4-hydroxybenzamido)-N-(2-(trifluoromethoxy)benzyl)thiophene-2-carboxamide
38		5-chloro-2-(3,5-dichloro-4-hydroxybenzamido)-N-(2-(trifluoromethoxy)phenethyl)thiophene-3-carboxamide
39		N-(3-((1,3,4-thiadiazol-2-yl)methyl)-4-oxo-3,4-dihydroquinazolin-5-yl)-3,5-dichloro-4-hydroxybenzamide
40		4,6-dichloro-5-hydroxy-N-(4-oxo-3-(3-(trifluoromethyl)benzyl)-3,4-dihydroquinazolin-5-yl)picolinamide
41		4,6-dichloro-N-{3-[(1S)-1-(3-fluorophenyl)ethyl]-4-oxo-3,4-dihydroquinazolin-5-yl}-5-hydroxypyridine-2-carboxamide
42		4,6-dichloro-N-{3-[(4-fluorophenyl)methyl]-4-oxo-3,4-dihydroquinazolin-5-yl}-5-hydroxypyridine-2-carboxamide
43		4,6-dichloro-5-hydroxy-N-(4-oxo-3-(2-(trifluoromethyl)benzyl)-3,4-dihydroquinazolin-5-yl)picolinamide
44		4,6-dichloro-N-(3-(2-fluorobenzyl)-4-oxo-3,4-dihydroquinazolin-5-yl)-5-hydroxypicolinamide

Ex.	Structure	Name
45		3,5-dichloro-4-hydroxy-N-(3-(4-(4-methylpiperazin-1-yl)benzyl)-4-oxo-3,4-dihydroquinazolin-5-yl)benzamide
47		(R)-3,5-dichloro-N-(3-(1-(3-fluorophenyl)ethyl)-4-oxo-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
48		3,5-dichloro-N-(3-(3-cyanobenzyl)-4-oxo-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
49		4,6-dichloro-5-hydroxy-N-(4-oxo-3-(3-(trifluoromethoxy)benzyl)-3,4-dihydroquinazolin-5-yl)picolinamide
50		4,6-dichloro-5-hydroxy-N-(4-oxo-3-(4-(trifluoromethoxy)benzyl)-3,4-dihydroquinazolin-5-yl)picolinamide
51		3,5-dichloro-4-hydroxy-N-(3-(2-(methylsulfonyl)benzyl)-4-oxo-3,4-dihydroquinazolin-5-yl)benzamide.
52		N-(3-((1-(tert-butyl)-1H-pyrazol-3-yl)methyl)-4-oxo-3,4-dihydroquinazolin-5-yl)-3,5-dichloro-4-hydroxybenzamide
53		3,5-dichloro-N-(3-(2-cyanobenzyl)-4-oxo-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide

Ex.	Structure	Name
54		3,5-dichloro- <i>N</i> -[4-({[2-(difluoromethoxy)phenyl]methyl}amino)quinazolin-5-yl]-4-hydroxybenzamide
56		3,5-dichloro-4-hydroxy- <i>N</i> -{3-[(1-methyl-1H-pyrazol-3-yl)methyl]-4-oxo-3,4-dihydroquinazolin-5-yl}benzamide
57		3,5-dichloro- <i>N</i> -(3-(3,3-dimethylbutyl)-4-oxo-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
58		3,5-dichloro-4-hydroxy- <i>N</i> -(3-(4-(2-hydroxyethoxy)benzyl)-4-oxo-3,4-dihydroquinazolin-5-yl)benzamide
59		3,5-dichloro-4-hydroxy- <i>N</i> -(3-(4-(methylsulfonyl)benzyl)-4-oxo-3,4-dihydroquinazolin-5-yl)benzamide
60		3,5-dichloro-4-hydroxy- <i>N</i> -(3-(3-(methylsulfonyl)benzyl)-4-oxo-3,4-dihydroquinazolin-5-yl)benzamide.
61		4,6-dichloro- <i>N</i> -(3-(3,3-dimethylbutyl)-4-oxo-3,4-dihydroquinazolin-5-yl)-5-hydroxypicolinamide
62		<i>N</i> -(3-((1-(tert-butyl)-1H-pyrazol-3-yl)methyl)-4-oxo-3,4-dihydroquinazolin-5-yl)-4,6-dichloro-5-hydroxypicolinamide

Ex.	Structure	Name
63		3,5-dichloro-N-(3-(4-(1,1-dioxidothiomorpholino)benzyl)-4-oxo-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
64		3,5-dichloro-4-hydroxy-N-(2-methyl-4-oxo-3-(2-(trifluoromethoxy)benzyl)-3,4-dihydroquinazolin-5-yl)benzamide
65		2,4-dichloro-3-hydroxy-N-(4-oxo-3-(3-(trifluoromethoxy)benzyl)-3,4-dihydroquinazolin-5-yl)benzamide
66		4,6-dichloro-N-(3-(2-cyanobenzyl)-4-oxo-3,4-dihydroquinazolin-5-yl)-5-hydroxypicolinamide
67		N-(3-((1H-indazol-3-yl)methyl)-4-oxo-3,4-dihydroquinazolin-5-yl)-3,5-dichloro-4-hydroxybenzamide
68		3-chloro-5-cyano-4-hydroxy-N-(4-oxo-3-(3-(trifluoromethyl)benzyl)-3,4-dihydroquinazolin-5-yl)benzamide
69		3-(3,5-dichloro-4-hydroxybenzamido)-N-(2-(trifluoromethoxy)benzyl)picolinamide
70		3,5-dichloro-4-hydroxy-N-(4-oxo-3-(2-(trifluoromethoxy)benzyl)-2-(trifluoromethyl)-3,4-dihydroquinazolin-5-yl)benzamide

Ex.	Structure	Name
71		3,5-dichloro-N-(2-((3,3-dimethylbutyl)carbamoyl)phenyl)-4-hydroxybenzamide
72		4,6-dichloro-N-(3-(1-(2-fluorophenyl)cyclopropyl)-4-oxo-3,4-dihydroquinazolin-5-yl)-5-hydroxypicolinamide
73		3-(3,5-dichloro-4-hydroxybenzamido)-N-(2-(trifluoromethoxy)benzyl)isonicotinamide
74		3,5-dichloro-4-hydroxy-N-(4-oxo-3-(1-(2-(trifluoromethoxy)phenyl)ethyl)-3,4-dihydroquinazolin-5-yl)benzamide
75		3,5-dichloro-4-hydroxy-N-(4-oxo-3-((3-(trifluoromethyl)pyridin-2-yl)methyl)-3,4-dihydroquinazolin-5-yl)benzamide
76		3,5-dichloro-N-(3-((1-(2-fluorophenyl)-1H-pyrazol-3-yl)methyl)-4-oxo-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
77		3,5-dichloro-4-hydroxy-N-(4-oxo-3-((1-phenyl-1H-pyrazol-3-yl)methyl)-3,4-dihydroquinazolin-5-yl)benzamide

Ex.	Structure	Name
78		N-(3-benzhydryl-4-oxo-3,4-dihydroquinazolin-5-yl)-3,5-dichloro-4-hydroxybenzamide
79		4,6-dichloro-5-hydroxy-N-(3-(2-(methylsulfonyl)benzyl)-4-oxo-3,4-dihydroquinazolin-5-yl)picolinamide
80		3,5-dichloro-4-hydroxy-N-(4-oxo-3-(pyridin-3-ylmethyl)-3,4-dihydroquinazolin-5-yl)benzamide
81		3,5-dichloro-N-(8-chloro-4-oxo-3-(2-(trifluoromethoxy)benzyl)-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
82		3,5-dichloro-4-hydroxy-N-(4-oxo-3-((2-(trifluoromethyl)pyridin-3-yl)methyl)-3,4-dihydroquinazolin-5-yl)benzamide
83		3,5-dichloro-N-(3-(2-(1,1-dioxidothiomorpholino)benzyl)-4-oxo-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
84		3,5-dichloro-4-hydroxy-N-(3-(2-morpholinobenzyl)-4-oxo-3,4-dihydroquinazolin-5-yl)benzamide

Ex.	Structure	Name
85		3,5-dichloro-N-(4-(2-(dimethylamino)ethoxy)-2-((2-(trifluoromethoxy)benzyl)carbamoyl)phenyl)-4-hydroxybenzamide
86		3,5-dichloro-4-hydroxy-N-(4-(2-hydroxyethoxy)-2-((2-(trifluoromethoxy)benzyl)carbamoyl)phenyl)benzamide
87		3,5-dichloro-4-hydroxy-N-(4-oxo-3-((2-(trifluoromethoxy)pyridin-3-yl)methyl)-3,4-dihydroquinazolin-5-yl)benzamide
88		3,5-dichloro-4-hydroxy-N-(8-methyl-4-oxo-3-(2-(trifluoromethoxy)benzyl)-3,4-dihydroquinazolin-5-yl)benzamide
89		3,5-dichloro-N-(2,8-dimethyl-4-oxo-3-(2-(trifluoromethoxy)benzyl)-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
90		4,6-dichloro-N-(8-chloro-4-oxo-3-(2-(trifluoromethoxy)benzyl)-3,4-dihydroquinazolin-5-yl)-5-hydroxypicolinamide

Ex.	Structure	Name
91		4,6-dichloro-5-hydroxy-N-(8-methyl-4-oxo-3-(2-(trifluoromethoxy)benzyl)-3,4-dihydroquinazolin-5-yl)picolinamide
92		3,5-dichloro-4-hydroxy-N-(4-oxo-3-(2-(trifluoromethoxy)benzyl)-3,4-dihydropyrido[2,3-d]pyrimidin-5-yl)benzamide
93		3,5-dichloro-4-hydroxy-N-(1-methyl-2,4-dioxo-3-(2-(trifluoromethoxy)benzyl)-1,2,3,4-tetrahydroquinazolin-5-yl)benzamide
94		3,5-dichloro-4-hydroxy-N-(6-methyl-4-oxo-3-(2-(trifluoromethoxy)benzyl)-3,4-dihydroquinazolin-5-yl)benzamide
95		3,5-dichloro-N-(2,4-dioxo-3-(2-(trifluoromethoxy)benzyl)-1,2,3,4-tetrahydropyrido[2,3-d]pyrimidin-5-yl)-4-hydroxybenzamide
96		3,5-dichloro-4-hydroxy-N-(2-methyl-4-oxo-3-(2-(trifluoromethoxy)benzyl)-3,4-dihydropyrido[2,3-d]pyrimidin-5-yl)benzamide
97		N-(3-benzyl-4-oxo-3,4-dihydrothieno[2,3-d]pyrimidin-5-yl)-3,5-dichloro-4-hydroxybenzamide
98		N-(3-benzyl-4-oxo-3,4-dihydrothieno[2,3-d]pyrimidin-5-yl)-4,6-dichloro-5-hydroxypicolinamide

Ex.	Structure	Name
99		N-(5-benzyl-1-methyl-4-oxo-4,5-dihydro-1H-pyrazolo[3,4-d]pyrimidin-3-yl)-3,5-dichloro-4-hydroxybenzamide
100		3,5-dichloro-4-hydroxy-N-(4-oxo-3-(pyrazolo[1,5-a]pyridin-3-ylmethyl)-3,4-dihydroquinazolin-5-yl)benzamide
101		4,6-dichloro-5-hydroxy-N-(4-oxo-3-(2-phenylcyclopropyl)-2-(trifluoromethyl)-3,4-dihydroquinazolin-5-yl)picolinamide
102		Rac-3,5-dichloro-4-hydroxy-N-(4-oxo-3-((1R,2S)-2-phenylcyclopropyl)-3,4-dihydroquinazolin-5-yl)benzamide trans Racemic
103		3,5-dichloro-4-hydroxy-N-(4-oxo-3-(2-(trifluoromethoxy)benzyl)-3,4-dihydrothieno[2,3-d]pyrimidin-5-yl)benzamide
104		4,6-dichloro-5-hydroxy-N-(4-oxo-3-(2-(trifluoromethoxy)benzyl)-3,4-dihydrothieno[2,3-d]pyrimidin-5-yl)picolinamide
105		3,5-dichloro-4-hydroxy-N-(3-(2-(1-methyl-1H-pyrazol-3-yl)benzyl)-4-oxo-3,4-dihydroquinazolin-5-yl)benzamide
106		3,5-dichloro-4-hydroxy-N-(4-oxo-3-(2-sulfamoylbenzyl)-3,4-dihydroquinazolin-5-yl)benzamide
107		N-(5-benzyl-1-methyl-4-oxo-4,5-dihydro-1H-pyrazolo[3,4-d]pyrimidin-3-yl)-4,6-dichloro-5-hydroxypicolinamide

Ex.	Structure	Name
108		4,6-dichloro-5-hydroxy-N-(4-oxo-3-((1R,2S)-2-phenylcyclopropyl)-3,4-dihydroquinazolin-5-yl)picolinamide TFA Salt
109		4,6-dichloro-5-hydroxy-N-(4-oxo-3-((1S,2R)-2-phenylcyclopropyl)-3,4-dihydroquinazolin-5-yl)picolinamide
110		4,6-dichloro-5-hydroxy-N-(4-oxo-3-(2-(pyridin-2-yl)benzyl)-3,4-dihydroquinazolin-5-yl)picolinamide
111		3,5-dichloro-4-hydroxy-N-(4-oxo-3-(2-(pyridin-2-yl)benzyl)-3,4-dihydroquinazolin-5-yl)benzamide
112		3,5-dichloro-4-hydroxy-N-(8-methyl-4-oxo-3-(2-(trifluoromethoxy)benzyl)-2-(trifluoromethyl)-3,4-dihydroquinazolin-5-yl)benzamide
113		4,6-dichloro-5-hydroxy-N-(1-methyl-2,4-dioxo-3-(2-(trifluoromethoxy)benzyl)-1,2,3,4-tetrahydroquinazolin-5-yl)picolinamide
114		5-(4,6-dichloro-5-hydroxypicolinamido)-N-(2-fluorobenzyl)-3-methylisothiazole-4-carboxamide
115		(S)-5-(4,6-dichloro-5-hydroxypicolinamido)-N-(1-(2-fluorophenyl)ethyl)-3-methylisothiazole-4-carboxamide
116		3,5-dichloro-4-hydroxy-N-(4-oxo-3-(2-phenylcyclopropyl)-2-(trifluoromethyl)-3,4-dihydroquinazolin-5-yl)benzamide
117		3,5-dichloro-4-hydroxy-N-(3-((1-methyl-1H-indazol-3-yl)methyl)-4-oxo-3,4-dihydroquinazolin-5-yl)benzamide

Ex.	Structure	Name
118		3,5-dichloro-4-hydroxy-N-(1-methyl-4-oxo-5-(2-(trifluoromethoxy)benzyl)-4,5-dihydro-1H-pyrazolo[3,4-d]pyrimidin-3-yl)benzamide
119		4,6-dichloro-5-hydroxy-N-(1-methyl-4-oxo-5-(2-(trifluoromethoxy)benzyl)-4,5-dihydro-1H-pyrazolo[3,4-d]pyrimidin-3-yl)picolinamide
120		1-(4,6-dichloro-5-hydroxypicolinoyl)-N-(2-(trifluoromethoxy)benzyl)piperidine-2-carboxamide
121		3,5-dichloro-4-hydroxy-N-(4-oxo-3-((1S,2R)-2-phenylcyclobutyl)-3,4-dihydroquinazolin-5-yl)benzamide
122		3,5-dichloro-N-(3-((2-chloropyridin-3-yl)methyl)-4-oxo-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
123		3,5-dichloro-4-hydroxy-N-(3-(2-morpholino-1-phenylethyl)-4-oxo-3,4-dihydroquinazolin-5-yl)benzamide
124		3,5-dichloro-4-hydroxy-N-(4-oxo-3-(2-(trifluoromethoxy)benzyl)-3,4-dihydropyrido[4,3-d]pyrimidin-5-yl)benzamide
125		5-(3,5-dichloro-4-hydroxybenzamido)-N-(2-(trifluoromethoxy)benzyl)-2-(trifluoromethyl)thiazole-4-carboxamide

Ex.	Structure	Name
126		(S)-5-(3,5-dichloro-4-hydroxybenzamido)-N-(1-(2-fluorophenyl)ethyl)-3-methylisothiazole-4-carboxamide
127		1-(4,6-dichloro-5-hydroxypicolinoyl)-N-(2-(trifluoromethoxy)benzyl)pyrrolidine-2-carboxamide
128		1-(3,5-dichloro-4-hydroxybenzoyl)-N-(2-(trifluoromethoxy)benzyl)pyrrolidine-2-carboxamide
129		4,6-dichloro-N-{3-[(2-chloropyridin-3-yl)methyl]-4-oxo-3,4-dihydroquinazolin-5-yl}-5-hydroxypyridine-2-carboxamide
130		3,5-dichloro-N-{3-[(3-fluoropyridin-2-yl)methyl]-4-oxo-3,4-dihydroquinazolin-5-yl}-4-hydroxybenzamide
131		4,6-dichloro-5-hydroxy-N-(6-methyl-4-oxo-3-{[2-(trifluoromethoxy)phenyl]methyl}-3,4-dihydroquinazolin-5-yl)pyridine-2-carboxamide
132		3,5-dichloro-N-(8-fluoro-4-oxo-3-{[2-(trifluoromethoxy)phenyl]methyl}-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide

Ex.	Structure	Name
133		4,6-dichloro-N-(8-fluoro-4-oxo-3-([2-(trifluoromethoxy)phenyl]methyl)-3,4-dihydroquinazolin-5-yl)-5-hydroxypyridine-2-carboxamide
134		4,6-dichloro-5-hydroxy-N-[2-([2-(trifluoromethoxy)phenyl]methyl)carbamoyl]cyclopentyl]pyridine-2-carboxamide
137		3,5-dichloro-N-{3-[(2-fluoropyridin-3-yl)methyl]-4-oxo-3,4-dihydroquinazolin-5-yl}-4-hydroxybenzamide
138		4,6-dichloro-N-{3-[(2-fluoropyridin-3-yl)methyl]-4-oxo-3,4-dihydroquinazolin-5-yl}-5-hydroxypyridine-2-carboxamide
140		4,6-dichloro-N-(3-[(3-fluoropyridin-2-yl)methyl]-4-oxo-3,4-dihydroquinazolin-5-yl)-5-hydroxypicolinamide
141		4,6-dichloro-N-(2,8-dimethyl-4-oxo-3-(2-(trifluoromethoxy)benzyl)-3,4-dihydroquinazolin-5-yl)-5-hydroxypicolinamide
142		3,5-dichloro-N-(2,8-dimethyl-4-oxo-3-((2-(trifluoromethyl)pyridin-3-yl)methyl)-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide

Ex.	Structure	Name
143		3,5-dichloro- <i>N</i> -(3-((3-chloropyridin-2-yl)methyl)-4-oxo-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
144		4,6-dichloro-5-hydroxy- <i>N</i> -((1 <i>S</i> ,2 <i>S</i>)-2-((2-(trifluoromethoxy)benzyl)carbamoyl)cyclohexyl)picolinamide
145		4,6-dichloro-5-hydroxy- <i>N</i> -((1 <i>R</i> ,2 <i>R</i>)-2-((2-(trifluoromethoxy)benzyl)carbamoyl)cyclohexyl)picolinamide
146		3,5-dichloro- <i>N</i> -(2,8-dimethyl-4-oxo-3-((3-(trifluoromethyl)pyridin-2-yl)methyl)-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
147		4,6-dichloro- <i>N</i> -(2,8-dimethyl-4-oxo-3-((2-(trifluoromethyl)pyridin-3-yl)methyl)-3,4-dihydroquinazolin-5-yl)-5-hydroxypicolinamide
148		4,6-dichloro- <i>N</i> -(3-((3-chloropyridin-2-yl)methyl)-4-oxo-3,4-dihydroquinazolin-5-yl)-5-hydroxypicolinamide

Ex.	Structure	Name
149		3,5-dichloro- <i>N</i> -(2-(difluoromethyl)-8-methyl-4-oxo-3-(2-(trifluoromethoxy)benzyl)-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
150		4,6-dichloro- <i>N</i> -(8-fluoro-2-methyl-4-oxo-3-(2-(trifluoromethoxy)benzyl)-3,4-dihydroquinazolin-5-yl)-5-hydroxypicolinamide
151		3,5-dichloro- <i>N</i> -(2,8-dimethyl-4-oxo-3-(2-(trifluoromethyl)benzyl)-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
152		3,5-dichloro- <i>N</i> -(2-(fluoromethyl)-8-methyl-4-oxo-3-(2-(trifluoromethoxy)benzyl)-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
153		4,6-dichloro- <i>N</i> -(2,8-dimethyl-4-oxo-3-((3-(trifluoromethyl)pyridin-2-yl)methyl)-3,4-dihydroquinazolin-5-yl)-5-hydroxypicolinamide
154		3,5-dichloro- <i>N</i> -(8-fluoro-2-methyl-4-oxo-3-((3-(trifluoromethyl)pyridin-2-yl)methyl)-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
155		4,6-dichloro- <i>N</i> -(8-fluoro-2-methyl-4-oxo-3-((3-(trifluoromethyl)pyridin-2-yl)methyl)-3,4-dihydroquinazolin-5-yl)-5-hydroxypicolinamide

Ex.	Structure	Name
156		3,5-dichloro-N-(8-chloro-2-methyl-4-oxo-3-(2-(trifluoromethyl)benzyl)-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
157		3,5-dichloro-N-(8-fluoro-2-methyl-4-oxo-3-(1-(2-(trifluoromethoxy)phenyl)ethyl)-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
158		3,5-dichloro-N-(8-fluoro-2-methyl-4-oxo-3-(2-(trifluoromethyl)benzyl)-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
159		4,6-dichloro-N-(8-fluoro-2-methyl-4-oxo-3-(2-(trifluoromethyl)benzyl)-3,4-dihydroquinazolin-5-yl)-5-hydroxypicolinamide
160		4,6-dichloro-N-(2-(difluoromethyl)-8-methyl-4-oxo-3-(2-(trifluoromethoxy)benzyl)-3,4-dihydroquinazolin-5-yl)-5-hydroxypicolinamide
161		3,5-dichloro-N-(2,8-dimethyl-3-((1-methyl-1H-indazol-3-yl)methyl)-4-oxo-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
162		4,6-dichloro-N-(2,8-dimethyl-3-((1-methyl-1H-indazol-3-yl)methyl)-4-oxo-3,4-dihydroquinazolin-5-yl)-5-hydroxypicolinamide

Ex.	Structure	Name
163		4,6-dichloro- <i>N</i> -(2,8-dimethyl-4-oxo-3-(2-(trifluoromethyl)benzyl)-3,4-dihydroquinazolin-5-yl)-5-hydroxypicolinamide
164		3,5-dichloro- <i>N</i> -(2-(difluoromethyl)-8-methyl-4-oxo-3-((3-(trifluoromethyl)pyridin-2-yl)methyl)-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
165		4,6-dichloro- <i>N</i> -(8-chloro-2-methyl-4-oxo-3-((3-(trifluoromethyl)pyridin-2-yl)methyl)-3,4-dihydroquinazolin-5-yl)-5-hydroxypicolinamide
166		3,5-dichloro- <i>N</i> -(8-chloro-2-methyl-4-oxo-3-((3-(trifluoromethyl)pyridin-2-yl)methyl)-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
167		3,5-dichloro- <i>N</i> -(2-(difluoromethyl)-8-methyl-4-oxo-3-(2-(trifluoromethyl)benzyl)-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
168		3,5-dichloro- <i>N</i> -(8-fluoro-2-methyl-4-oxo-3-(2-(trifluoromethoxy)benzyl)-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
169		3,5-dichloro-4-hydroxy- <i>N</i> -(8-methyl-2-(methyl-d3)-4-oxo-3-(2-(trifluoromethoxy)benzyl)-3,4-dihydroquinazolin-5-yl)benzamide

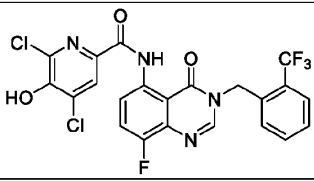
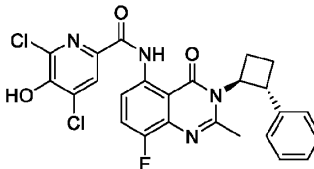
Ex.	Structure	Name
170		4,6-dichloro-N-(8-chloro-2-methyl-4-oxo-3-(2-(trifluoromethyl)benzyl)-3,4-dihydroquinazolin-5-yl)-5-hydroxypicolinamide
171		3,5-dichloro-N-(8-fluoro-2-(methyl-d3)-4-oxo-3-(2-(trifluoromethyl)benzyl)-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
172		3,5-dichloro-N-(3-(3-chloropyridin-2-yl)methyl)-2,8-dimethyl-4-oxo-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
173		(S)-3,5-dichloro-N-(8-fluoro-2-methyl-4-oxo-3-(1-(2-(trifluoromethoxy)phenyl)ethyl)-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
174		(R)-3,5-dichloro-N-(8-fluoro-2-methyl-4-oxo-3-(1-(2-(trifluoromethoxy)phenyl)ethyl)-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
175		rac-4,6-dichloro-5-hydroxy-N-(4-oxo-3-((1R,2S)-2-phenylcyclobutyl)-3,4-dihydroquinazolin-5-yl)picolinamide
176		4,6-dichloro-5-hydroxy-N-(8-methyl-2-(methyl-d3)-4-oxo-3-(2-(trifluoromethoxy)benzyl)-3,4-dihydroquinazolin-5-yl)picolinamide
177		4,6-dichloro-N-(2-(difluoromethyl)-8-methyl-4-oxo-3-((3-(trifluoromethyl)pyridin-2-yl)methyl)-3,4-dihydroquinazolin-5-yl)-5-hydroxypicolinamide

Ex.	Structure	Name
178		4,6-dichloro-N-(3-((3-chloropyridin-2-yl)methyl)-2,8-dimethyl-4-oxo-3,4-dihydroquinazolin-5-yl)-5-hydroxypicolinamide
179		3,5-dichloro-4-hydroxy-N-(8-methyl-2-(methyl-d3)-4-oxo-3-(2-(trifluoromethyl)benzyl)-3,4-dihydroquinazolin-5-yl)benzamide
180		4,6-dichloro-5-hydroxy-N-(8-methyl-2-(methyl-d3)-4-oxo-3-(2-(trifluoromethyl)benzyl)-3,4-dihydroquinazolin-5-yl)picolinamide
181		4,6-dichloro-N-(2-(difluoromethyl)-8-methyl-4-oxo-3-(2-(trifluoromethyl)benzyl)-3,4-dihydroquinazolin-5-yl)-5-hydroxypicolinamide
182		5-(3,5-dichloro-4-hydroxybenzamido)-N-(2-(trifluoromethyl)benzyl)thiazole-4-carboxamide
183		3,5-dichloro-N-(3-((3-fluoropyridin-2-yl)methyl)-2,8-dimethyl-4-oxo-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
184		4,6-dichloro-N-(8-fluoro-2-(methyl-d3)-4-oxo-3-(2-(trifluoromethyl)benzyl)-3,4-dihydroquinazolin-5-yl)-5-hydroxypicolinamide

Ex.	Structure	Name
185		5-(3,5-dichloro-4-hydroxybenzamido)-N-(2-(trifluoromethyl)benzyl)thiazole-4-carboxamide
186		3,5-dichloro-N-(2-(fluoromethyl)-8-methyl-4-oxo-3-(2-(trifluoromethyl)benzyl)-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
187		5-(4,6-dichloro-5-hydroxypicolinamido)-N-((1-methyl-1H-indazol-3-yl)methyl)thiazole-4-carboxamide
188		5-(3,5-dichloro-4-hydroxybenzamido)-N-((1-methyl-1H-indazol-3-yl)methyl)thiazole-4-carboxamide
189		5-(4,6-dichloro-5-hydroxypicolinamido)-N-(3-fluorobenzyl)thiazole-4-carboxamide
190		3,5-dichloro-N-(8-fluoro-2-methyl-3-((1-methyl-1H-indazol-3-yl)methyl)-4-oxo-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide

Ex.	Structure	Name
191		5-(4,6-dichloro-5-hydroxypicolinamido)-N-(2-(trifluoromethoxy)benzyl)thiazole-4-carboxamide
192		5-(4,6-dichloro-5-hydroxypicolinamido)-N-(2-(trifluoromethyl)benzyl)thiazole-4-carboxamide
193		5-(4,6-dichloro-5-hydroxypicolinamido)-N-((6-(trifluoromethyl)pyridin-2-yl)methyl)thiazole-4-carboxamide
194		4,6-dichloro-N-(8-fluoro-2-methyl-3-((1-methyl-1H-indazol-3-yl)methyl)-4-oxo-3,4-dihydroquinazolin-5-yl)-5-hydroxypicolinamide
195		4,6-dichloro-N-(3-((3-fluoropyridin-2-yl)methyl)-2,8-dimethyl-4-oxo-3,4-dihydroquinazolin-5-yl)-5-hydroxypicolinamide
196		5-(4,6-dichloro-5-hydroxypicolinamido)-N-((3-(trifluoromethyl)pyridin-2-yl)methyl)thiazole-4-carboxamide
197		3,5-dichloro-N-(8-fluoro-2-methyl-4-oxo-3-((6-(trifluoromethyl)pyridin-2-yl)methyl)-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide

Ex.	Structure	Name
198		5-(3,5-dichloro-4-hydroxybenzamido)-N-((6-(trifluoromethyl)pyridin-2-yl)methyl)thiazole-4-carboxamide
199		3,5-dichloro-N-(2,8-dimethyl-4-oxo-3-((6-(trifluoromethyl)pyridin-2-yl)methyl)-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
200		3,5-dichloro-N-(2,8-dimethyl-4-oxo-3-((2-(trifluoromethyl)phenyl)methyl-d2)-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
201		4,6-dichloro-N-(2,8-dimethyl-4-oxo-3-([2-(trifluoromethyl)phenyl](² H ₂)methyl)-3,4-dihydroquinazolin-5-yl)-5-hydroxypyridine-2-carboxamide
202		4,6-dichloro-N-(2,8-dimethyl-4-oxo-3-((1R,2S)-2-phenylcyclobutyl)-3,4-dihydroquinazolin-5-yl)-5-hydroxypicolinamide
203		3,5-dichloro-N-(2,8-dimethyl-4-oxo-3-((1R,2S)-2-phenylcyclobutyl)-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
204		3,5-dichloro-N-(8-fluoro-4-oxo-3-(2-(trifluoromethyl)benzyl)-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide
205		4,6-dichloro-N-(2,8-dimethyl-4-oxo-3-((6-(trifluoromethyl)pyridin-2-yl)methyl)-3,4-dihydroquinazolin-5-yl)-5-hydroxypicolinamide

Ex.	Structure	Name
206		4,6-dichloro-N-(8-fluoro-4-oxo-3-(2-(trifluoromethyl)benzyl)-3,4-dihydroquinazolin-5-yl)-5-hydroxypicolinamide
207		4,6-dichloro-N-(8-fluoro-2-methyl-4-oxo-3-((1S,2R)-2-phenylcyclobutyl)-3,4-dihydroquinazolin-5-yl)-5-hydroxypicolinamide

Further Forms of Compounds Disclosed Herein

Isomers/Stereoisomers

[0095] In some embodiments, the compounds described herein exist as geometric isomers. In some embodiments, the compounds described herein possess one or more double bonds. The compounds presented herein include all cis, trans, syn, anti, entgegen (E), and zusammen (Z) isomers as well as the corresponding mixtures thereof. In some situations, the compounds described herein possess one or more chiral centers and each center exists in the R configuration, or S configuration. The compounds described herein include all diastereomeric, enantiomeric, and epimeric forms as well as the corresponding mixtures thereof. In additional embodiments of the compounds and methods provided herein, mixtures of enantiomers and/or diastereoisomers, resulting from a single preparative step, combination, or interconversion are useful for the applications described herein. In some embodiments, the compounds described herein are prepared as their individual stereoisomers by reacting a racemic mixture of the compound with an optically active resolving agent to form a pair of diastereoisomeric compounds, separating the diastereomers and recovering the optically pure enantiomers. In some embodiments, dissociable complexes are preferred. In some embodiments, the diastereomers have distinct physical properties (e.g., melting points, boiling points, solubilities, reactivity, etc.) and are separated by taking advantage of these dissimilarities. In some embodiments, the diastereomers are separated by chiral chromatography, or preferably, by separation/resolution techniques based upon differences in solubility. In some embodiments, the optically pure enantiomer is then recovered, along with the resolving agent, by any practical means that would not result in racemization.

Labeled compounds

[0096] In some embodiments, the compounds described herein exist in their isotopically-labeled forms. In some embodiments, the methods disclosed herein include methods of treating diseases by administering such isotopically-labeled compounds. In some embodiments, the methods disclosed herein include methods of treating diseases by administering such isotopically-labeled compounds as pharmaceutical compositions. Thus, in some embodiments, the compounds disclosed herein include isotopically-labeled compounds, which are identical to those recited herein, but for the fact that one or more atoms are replaced by an atom having an atomic mass or mass number different from the atomic

mass or mass number usually found in nature. Examples of isotopes that can be incorporated into compounds disclosed herein include isotopes of hydrogen, carbon, nitrogen, oxygen, phosphorous, sulfur, fluorine and chloride, such as ^2H , ^3H , ^{13}C , ^{14}C , ^{15}N , ^{18}O , ^{17}O , ^{31}P , ^{32}P , ^{35}S , ^{18}F , and ^{36}Cl , respectively. Compounds described herein, and the pharmaceutically acceptable salts, solvates, or stereoisomers thereof which contain the aforementioned isotopes and/or other isotopes of other atoms are within the scope of this invention. Certain isotopically-labeled compounds, for example those into which radioactive isotopes such as ^3H and ^{14}C are incorporated, are useful in drug and/or substrate tissue distribution assays. Tritiated, i.e., ^3H and carbon-14, i.e., ^{14}C , isotopes are particularly preferred for their ease of preparation and detectability. Further, substitution with heavy isotopes such as deuterium, i.e., ^2H , produces certain therapeutic advantages resulting from greater metabolic stability, for example increased in vivo half-life or reduced dosage requirements.

[0097] In some embodiments, the compounds described herein are labeled by other means, including, but not limited to, the use of chromophores or fluorescent moieties, bioluminescent labels, or chemiluminescent labels.

[0098] In some embodiments, the labeled compounds described herein are used for measuring in vitro and in vivo binding of unlabeled HSD17B13 inhibitors.

Pharmaceutically acceptable salts

[0099] In some embodiments, the compounds described herein exist as their pharmaceutically acceptable salts. In some embodiments, the methods disclosed herein include methods of treating diseases by administering such pharmaceutically acceptable salts. In some embodiments, the methods disclosed herein include methods of treating diseases by administering such pharmaceutically acceptable salts as pharmaceutical compositions.

[00100] In some embodiments, the compounds described herein possess acidic or basic groups and therefore react with any of a number of inorganic or organic bases, and inorganic and organic acids, to form a pharmaceutically acceptable salt. In some embodiments, these salts are prepared *in situ* during the final isolation and purification of the compounds disclosed herein, or a solvate, or stereoisomer thereof, or by separately reacting a purified compound in its free form with a suitable acid or base, and isolating the salt thus formed.

[00101] Examples of pharmaceutically acceptable salts include those salts prepared by reaction of the compounds described herein with a mineral, organic acid or inorganic base, such salts including, acetate, acrylate, adipate, alginate, aspartate, benzoate, benzenesulfonate, bisulfate, bisulfite, bromide, butyrate, butyn-1,4-dioate, camphorate, camphorsulfonate, caproate, caprylate, chlorobenzoate, chloride, citrate, cyclopentanepropionate, decanoate, digluconate, dihydrogenphosphate, dinitrobenzoate, dodecylsulfate, ethanesulfonate, formate, fumarate, glucoheptanoate, glycerophosphate, glycolate, hemisulfate, heptanoate, hexanoate, hexyne-1,6-dioate, hydroxybenzoate, γ -hydroxybutyrate, hydrochloride, hydrobromide, hydroiodide, 2-hydroxyethanesulfonate, iodide, isobutyrate, lactate, maleate, malonate, methanesulfonate, mandelate metaphosphate, methanesulfonate, methoxybenzoate, methylbenzoate, monohydrogenphosphate, 1-naphthalenesulfonate, 2-naphthalenesulfonate, nicotinate, nitrate, palmoate,

pectinate, persulfate, 3-phenylpropionate, phosphate, picrate, pivalate, propionate, pyrosulfate, pyrophosphate, propiolate, phthalate, phenylacetate, phenylbutyrate, propanesulfonate, salicylate, succinate, sulfate, sulfite, succinate, suberate, sebacate, sulfonate, tartrate, thiocyanate, tosylate, undeconate and xylenesulfonate.

[00102] Further, the compounds described herein can be prepared as pharmaceutically acceptable salts formed by reacting the free base form of the compound with a pharmaceutically acceptable inorganic or organic acid, including, but not limited to, inorganic acids such as hydrochloric acid, hydrobromic acid, sulfuric acid, nitric acid, phosphoric acid, metaphosphoric acid, and the like; and organic acids such as acetic acid, propionic acid, hexanoic acid, cyclopentanepropionic acid, glycolic acid, pyruvic acid, lactic acid, malonic acid, succinic acid, malic acid, maleic acid, fumaric acid, p-toluenesulfonic acid, tartaric acid, trifluoroacetic acid, citric acid, benzoic acid, 3-(4-hydroxybenzoyl)benzoic acid, cinnamic acid, mandelic acid, arylsulfonic acid, methanesulfonic acid, ethanesulfonic acid, 1,2-ethanedithionylsulfonic acid, 2-hydroxyethanesulfonic acid, benzenesulfonic acid, 2-naphthalenesulfonic acid, 4-methylbicyclo-[2.2.2]oct-2-ene-1-carboxylic acid, glucoheptonic acid, 4,4'-methylenebis-(3-hydroxy-2-ene-1-carboxylic acid), 3-phenylpropionic acid, trimethylacetic acid, tertiary butylacetic acid, lauryl sulfuric acid, gluconic acid, glutamic acid, hydroxynaphthoic acid, salicylic acid, stearic acid and muconic acid. In some embodiments, other acids, such as oxalic, while not in themselves pharmaceutically acceptable, are employed in the preparation of salts useful as intermediates in obtaining the compounds disclosed herein, solvate, or stereoisomer thereof and their pharmaceutically acceptable acid addition salts.

[00103] In some embodiments, those compounds described herein which comprise a free acid group react with a suitable base, such as the hydroxide, carbonate, bicarbonate, sulfate, of a pharmaceutically acceptable metal cation, with ammonia, or with a pharmaceutically acceptable organic primary, secondary, tertiary, or quaternary amine. Representative salts include the alkali or alkaline earth salts, like lithium, sodium, potassium, calcium, and magnesium, and aluminum salts and the like. Illustrative examples of bases include sodium hydroxide, potassium hydroxide, choline hydroxide, sodium carbonate, $N^+(C_{1-4} \text{ alkyl})_4$, and the like.

[00104] Representative organic amines useful for the formation of base addition salts include ethylamine, diethylamine, ethylenediamine, ethanolamine, diethanolamine, piperazine and the like. It should be understood that the compounds described herein also include the quaternization of any basic nitrogen-containing groups they contain. In some embodiments, water or oil-soluble or dispersible products are obtained by such quaternization.

Solvates

[00105] In some embodiments, the compounds described herein exist as solvates. The invention provides for methods of treating diseases by administering such solvates. The invention further provides for methods of treating diseases by administering such solvates as pharmaceutical compositions.

[00106] Solvates contain either stoichiometric or non-stoichiometric amounts of a solvent, and, in some embodiments, are formed during the process of crystallization with pharmaceutically acceptable solvents such as water, ethanol, and the like. Hydrates are formed when the solvent is water, or alcoholates are

formed when the solvent is alcohol. Solvates of the compounds described herein can be conveniently prepared or formed during the processes described herein. By way of example only, hydrates of the compounds described herein can be conveniently prepared by recrystallization from an aqueous/organic solvent mixture, using organic solvents including, but not limited to, dioxane, tetrahydrofuran or methanol. In addition, the compounds provided herein can exist in unsolvated as well as solvated forms. In general, the solvated forms are considered equivalent to the unsolvated forms for the purposes of the compounds and methods provided herein.

Tautomers

[00107] In some situations, compounds exist as tautomers. The compounds described herein include all possible tautomers within the formulas described herein. Tautomers are compounds that are interconvertible by migration of a hydrogen atom, accompanied by a switch of a single bond and adjacent double bond. In bonding arrangements where tautomerization is possible, a chemical equilibrium of the tautomers will exist. All tautomeric forms of the compounds disclosed herein are contemplated. The exact ratio of the tautomers depends on several factors, including temperature, solvent, and pH.

Method of Treatment

[00108] Provided herein are methods of inhibiting HSD17B13 expression or activity, which can be useful for treating, preventing, or ameliorating a disease associated with HSD17B13 in a subject in need thereof, such as NAFLD or NASH, by administration of a compound that targets HSD17B13, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof.

[00109] Provided herein are methods of inhibiting expression or activity of HSD17B13 in a cell comprising contacting the cell with a HSD17B13 inhibitor disclosed or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, thereby inhibiting expression or activity of HSD17B13 in the cell. In some embodiments, the cell is a hepatocyte cell. In some embodiments, the cell is in the liver. In some embodiments, the cell is in the liver of a subject who has, or is at risk of having a disease, disorder, condition, symptom, or physiological marker associated with a liver disease, metabolic disease, or cardiovascular disease or disorder. In some embodiments, the cells are the adipocytes or monocytes from a subject who has or is at risk of having a disease. In some embodiments, the cells are the lymphocytes from a subject who has or is at risk of having a disease. In some embodiments, the liver disease, metabolic disease, or cardiovascular disease or disorder is metabolic syndrome, fatty liver disease, chronic liver disease, liver cirrhosis, hepatic steatosis, steatohepatitis, nonalcoholic fatty liver disease (NAFLD), alcoholic liver disease, nonalcoholic steatohepatitis (NASH), fulminant Wilson's disease, rapidly fibrosing hepatitis C viral injury, and decompensated portal vein hypertension. In some embodiments, the liver disease, metabolic disease, or cardiovascular disease or disorder is NASH. In some embodiments, the liver disease, metabolic disease, or cardiovascular disease or disorder is cholestatic liver disease.

[00110] In some embodiments, the liver disease is primary biliary cirrhosis or primary sclerosing cholangitis.

[00111] Provided herein are methods of treating, preventing, delaying the onset, slowing the progression, or ameliorating one or more diseases, disorders, conditions, symptoms, or physiological markers associated with HSD17B13 comprising administering to a subject in need thereof a compound disclosed herein, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof. In some embodiments, the subject in need thereof is identified as having, or at risk of having, the disease, disorder, condition, symptom or physiological marker. In some embodiments, the liver disease, metabolic disease, or cardiovascular disease or disorder is metabolic syndrome, liver disease, fatty liver disease, chronic liver disease, liver cirrhosis, hepatic steatosis, steatohepatitis, alcoholic liver disease, nonalcoholic fatty liver disease (NAFLD), and nonalcoholic steatohepatitis (NASH). In some embodiments, the liver disease, metabolic disease, or cardiovascular disease or disorder is NASH.

[00112] Provided herein are methods of reducing, improving, or regulating hepatic steatosis, liver fibrosis, triglyceride synthesis, lipid levels, hepatic lipids, ALT levels, NAFLD Activity Score (NAS), cholesterol levels, or triglyceride levels, or a combination thereof, in a subject in need thereof comprising administering to the subject a compound disclosed herein, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof. In some embodiments, the compound disclosed herein, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, is provided for use in reducing, improving, or regulating hepatic steatosis in the individual. In some embodiments, the compound disclosed herein, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, is provided for use in reducing, improving, or regulating liver fibrosis in the individual. In some embodiments, the compound disclosed herein, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, is provided for use in reducing, improving, or regulating triglyceride synthesis in the individual. In some embodiments, the compound disclosed herein, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, is provided for use in reducing, improving, or regulating lipid levels in the individual. In some embodiments, the compound disclosed herein, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, is provided for use in reducing, improving, or regulating hepatic lipids in the individual. In some embodiments, the compound disclosed herein, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, is provided for use in reducing, improving, or regulating ALT levels in the individual. In some embodiments, the compound disclosed herein, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, is provided for use in reducing, improving, or regulating NAFLD Activity Score in the individual. In some embodiments, the compound disclosed herein, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, is provided for use in reducing, improving, or regulating cholesterol levels in the individual. In some embodiments, the compound disclosed herein, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, is provided for use in reducing, improving, or regulating triglyceride levels in the individual. In some embodiments, the subject is identified as having, or at risk of having a disease, disorder, condition, symptom, or physiological marker associated with a liver disease, metabolic disease, or cardiovascular disease or disorder. In some embodiments, the liver disease, metabolic disease, or cardiovascular disease or disorder is metabolic syndrome, liver disease, fatty liver disease, chronic liver disease, liver cirrhosis, hepatic

steatosis, steatohepatitis, nonalcoholic fatty liver disease (NAFLD), and nonalcoholic steatohepatitis (NASH). In some embodiments, the liver disease, metabolic disease, or cardiovascular disease or disorder is NASH.

[00113] Provided herein are methods for treating, preventing, or delaying onset drug induced liver injury (DILI) in a subject in need thereof. In some embodiments, the liver injury is steatohepatitis. Also provided herein are methods for treating, preventing, or delaying onset drug induced steatohepatitis (DISH) in a subject in need thereof. In some embodiments, the subject in need thereof is receiving chemotherapy for treating cancer. In some embodiments, the subject in need thereof is receiving a treatment for a cardiovascular disease. In some embodiments, the subject in need thereof is receiving treatment for a psychiatric disease/condition. In some embodiments, the subject in need thereof is receiving treatment for pain. In some embodiments, the subject in need thereof is receiving treatment for arthritis. In some embodiments, the chemotherapy is tamoxifen, toremifene, irinotecan, methotrexate, fluorouracil (5-FU), or any combination thereof. In some embodiments, the subject in need thereof is receiving amiodarone, perhexiline, propranolol, or any combination thereof. In some embodiments, the subject in need thereof is receiving amitriptyline, clozapine, or any combination thereof. In some embodiments, the subject in need thereof is receiving methotrexate, pirofen, or any combinations thereof.

Dosing

[00114] In certain embodiments, the compositions containing the compound(s) described herein are administered for prophylactic and/or therapeutic treatments. In certain therapeutic applications, the compositions are administered to a patient already suffering from a disease or condition, in an amount sufficient to cure or at least partially arrest at least one of the symptoms of the disease or condition. Amounts effective for this use depend on the severity and course of the disease or condition, previous therapy, the patient's health status, weight, and response to the drugs, and the judgment of the treating physician. Therapeutically effective amounts are optionally determined by methods including, but not limited to, a dose escalation and/or dose ranging clinical trial.

[00115] In prophylactic applications, compositions containing the compounds described herein are administered to a patient susceptible to or otherwise at risk of a particular disease, disorder or condition. Such an amount is defined to be a "prophylactically effective amount or dose." In this use, the precise amounts also depend on the patient's state of health, weight, and the like. When used in patients, effective amounts for this use will depend on the severity and course of the disease, disorder or condition, previous therapy, the patient's health status and response to the drugs, and the judgment of the treating physician. In one aspect, prophylactic treatments include administering to a mammal, who previously experienced at least one symptom of or risk factor for the disease being treated and is currently in remission, a pharmaceutical composition comprising a compound described herein, or a pharmaceutically acceptable salt thereof, in order to prevent a return of the symptoms of the disease or condition. In one aspect, prophylactic treatments include administering to a mammal having patatin-like phospholipase

domain-containing 3 (PNPLA3) polymorphism, a pharmaceutical composition comprising a compound described herein, or a pharmaceutically acceptable salt thereof, in order to prevent liver damages. The 148 Isoleucine to Methionine protein variant (I148M) of patatin-like phospholipase domain-containing 3 (PNPLA3), a protein is expressed in the liver and is involved in lipid metabolism, has recently been identified as a major determinant of liver fat content. Several studies confirmed that the I148M variant predisposes towards the full spectrum of liver damage associated with fatty liver: from simple steatosis to steatohepatitis and progressive fibrosis. Furthermore, the I148M variant represents a major determinant of progression of alcohol related steatohepatitis to cirrhosis, and to influence fibrogenesis and related clinical outcomes in chronic hepatitis C virus hepatitis, and possibly chronic hepatitis B virus hepatitis, hereditary hemochromatosis and primary sclerosing cholangitis. In some embodiments, PNPLA3 polymorphism is used to predict liver disease progression.

[00116] In certain embodiments wherein the patient's condition does not improve, upon the doctor's discretion the administration of the compounds are administered chronically, that is, for an extended period of time, including throughout the duration of the patient's life in order to ameliorate or otherwise control or limit the symptoms of the patient's disease or condition.

[00117] In certain embodiments wherein a patient's status does improve, the dose of drug being administered is temporarily reduced or temporarily suspended for a certain length of time (*i.e.*, a "drug holiday"). In specific embodiments, the length of the drug holiday is between 2 days and 1 year, including by way of example only, 2 days, 3 days, 4 days, 5 days, 6 days, 7 days, 10 days, 12 days, 15 days, 20 days, 28 days, or more than 28 days. The dose reduction during a drug holiday is, by way of example only, by 10%-100%, including by way of example only 10%, 15%, 20%, 25%, 30%, 35%, 40%, 45%, 50%, 55%, 60%, 65%, 70%, 75%, 80%, 85%, 90%, 95%, and 100%.

[00118] Once improvement of the patient's conditions has occurred, a maintenance dose is administered if necessary. Subsequently, in specific embodiments, the dosage or the frequency of administration, or both, is reduced, as a function of the symptoms, to a level at which the improved disease, disorder or condition is retained. In certain embodiments, however, the patient requires intermittent or daily treatment on a long-term basis upon any recurrence of symptoms.

[00119] The amount of a given agent that corresponds to such an amount varies depending upon factors such as the particular compound, disease condition and its severity, the identity (*e.g.*, weight, sex) of the subject or host in need of treatment, but nevertheless is determined according to the particular circumstances surrounding the case, including, *e.g.*, the specific agent being administered, the route of administration, the condition being treated, and the subject or host being treated.

[00120] In general, however, doses employed for adult human treatment are typically in the range of 0.01 mg-5000 mg per day. In one aspect, doses employed for adult human treatment are from about 1 mg to about 1000 mg per day. In one embodiment, the desired dose is conveniently presented in a single dose or in divided doses administered simultaneously or at appropriate intervals, for example as two, three, four or more sub-doses per day.

[00121] In one embodiment, the daily dosages appropriate for the compound described herein, or a pharmaceutically acceptable salt thereof, are from about 0.01 to about 50 mg/kg per body weight. In some embodiments, the daily dosage or the amount of active in the dosage form are lower or higher than the ranges indicated herein, based on a number of variables in regard to an individual treatment regime. In various embodiments, the daily and unit dosages are altered depending on a number of variables including, but not limited to, the activity of the compound used, the disease or condition to be treated, the mode of administration, the requirements of the individual subject, the severity of the disease or condition being treated, and the judgment of the practitioner.

[00122] Toxicity and therapeutic efficacy of such therapeutic regimens are determined by standard pharmaceutical procedures in cell cultures or experimental animals, including, but not limited to, the determination of the LD₁₀ and the ED₉₀. The dose ratio between the toxic and therapeutic effects is the therapeutic index and it is expressed as the ratio between LD₅₀ and ED₅₀. In certain embodiments, the data obtained from cell culture assays and animal studies are used in formulating the therapeutically effective daily dosage range and/or the therapeutically effective unit dosage amount for use in mammals, including humans. In some embodiments, the daily dosage amount of the compounds described herein lies within a range of circulating concentrations that include the ED₅₀ with minimal toxicity. In certain embodiments, the daily dosage range and/or the unit dosage amount varies within this range depending upon the dosage form employed and the route of administration utilized.

[00123] In any of the aforementioned aspects are further embodiments in which the effective amount of the compound described herein, or a pharmaceutically acceptable salt thereof, is: (a) systemically administered to the mammal; and/or (b) administered orally to the mammal; and/or (c) intravenously administered to the mammal; and/or (d) administered by injection to the mammal; and/or (e) administered topically to the mammal; and/or (f) administered non-systemically or locally to the mammal.

[00124] In any of the aforementioned aspects are further embodiments comprising single administrations of the effective amount of the compound, including further embodiments in which (i) the compound is administered once a day; or (ii) the compound is administered to the mammal multiple times over the span of one day.

[00125] In any of the aforementioned aspects are further embodiments comprising multiple administrations of the effective amount of the compound, including further embodiments in which (i) the compound is administered continuously or intermittently; as in a single dose; (ii) the time between multiple administrations is every 6 hours; (iii) the compound is administered to the mammal every 8 hours; (iv) the compound is administered to the subject every 12 hours; (v) the compound is administered to the subject every 24 hours. In further or alternative embodiments, the method comprises a drug holiday, wherein the administration of the compound is temporarily suspended or the dose of the compound being administered is temporarily reduced; at the end of the drug holiday, dosing of the compound is resumed. In one embodiment, the length of the drug holiday varies from 2 days to 1 year.

Routes of Administration

[00126] Suitable routes of administration include, but are not limited to, oral, intravenous, rectal, aerosol, parenteral, ophthalmic, pulmonary, transmucosal, transdermal, vaginal, otic, nasal, and topical administration. In addition, by way of example only, parenteral delivery includes intramuscular, subcutaneous, intravenous, intramedullary injections, as well as intrathecal, direct intraventricular, intraperitoneal, intralymphatic, and intranasal injections.

[00127] In certain embodiments, a compound as described herein is administered in a local rather than systemic manner, for example, via injection of the compound directly into an organ, often in a depot preparation or sustained release formulation. In specific embodiments, long acting formulations are administered by implantation (for example subcutaneously or intramuscularly) or by intramuscular injection. Furthermore, in other embodiments, the drug is delivered in a targeted drug delivery system, for example, in a liposome coated with organ specific antibody. In such embodiments, the liposomes are targeted to and taken up selectively by the organ. In yet other embodiments, the compound as described herein is provided in the form of a rapid release formulation, in the form of an extended release formulation, or in the form of an intermediate release formulation. In yet other embodiments, the compound described herein is administered topically.

Pharmaceutical Compositions/Formulations

[00128] The compounds described herein are administered to a subject in need thereof, either alone or in combination with pharmaceutically acceptable carriers, excipients or diluents, in a pharmaceutical composition, according to standard pharmaceutical practice. In one embodiment, the compounds of this invention may be administered to animals. The compounds can be administered orally or parenterally, including the intravenous, intramuscular, intraperitoneal, subcutaneous, rectal and topical routes of administration.

[00129] In another aspect, provided herein are pharmaceutical compositions comprising a compound described herein, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, and at least one pharmaceutically acceptable excipient. Pharmaceutical compositions are formulated in a conventional manner using one or more pharmaceutically acceptable excipients that facilitate processing of the active compounds into preparations that can be used pharmaceutically. Proper formulation is dependent upon the route of administration chosen. A summary of pharmaceutical compositions described herein can be found, for example, in Remington: The Science and Practice of Pharmacy, Nineteenth Ed (Easton, Pa.: Mack Publishing Company, 1995); Hoover, John E., Remington's Pharmaceutical Sciences, Mack Publishing Co., Easton, Pennsylvania 1975; Liberman, H.A. and Lachman, L., Eds., Pharmaceutical Dosage Forms, Marcel Decker, New York, N.Y., 1980; and Pharmaceutical Dosage Forms and Drug Delivery Systems, Seventh Ed. (Lippincott Williams & Wilkins 1999), herein incorporated by reference for such disclosure.

[00130] In some embodiments, the pharmaceutically acceptable excipient is selected from carriers, binders, filling agents, suspending agents, flavoring agents, sweetening agents, disintegrating agents, dispersing agents, surfactants, lubricants, colorants, diluents, solubilizers, moistening agents, plasticizers,

stabilizers, penetration enhancers, wetting agents, anti-foaming agents, antioxidants, preservatives, and any combinations thereof.

[00131] The pharmaceutical compositions described herein are administered to a subject by appropriate administration routes, including, but not limited to, oral, parenteral (e.g., intravenous, subcutaneous, intramuscular), intranasal, buccal, topical, rectal, or transdermal administration routes. The pharmaceutical formulations described herein include, but are not limited to, aqueous liquid dispersions, liquids, gels, syrups, elixirs, slurries, suspensions, self-emulsifying dispersions, solid solutions, liposomal dispersions, aerosols, solid oral dosage forms, powders, immediate release formulations, controlled release formulations, fast melt formulations, tablets, capsules, pills, powders, dragees, effervescent formulations, lyophilized formulations, delayed release formulations, extended release formulations, pulsatile release formulations, multiparticulate formulations, and mixed immediate and controlled release formulations.

[00132] Pharmaceutical compositions including compounds described herein, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof are manufactured in a conventional manner, such as, by way of example only, by means of conventional mixing, dissolving, granulating, dragee-making, levigating, emulsifying, encapsulating, entrapping, or compression processes.

[00133] Pharmaceutical compositions for oral use are obtained by mixing one or more solid excipient with one or more of the compounds described herein, optionally grinding the resulting mixture, and processing the mixture of granules, after adding suitable auxiliaries, if desired, to obtain tablets or dragee cores. Suitable excipients include, for example, fillers such as sugars, including lactose, sucrose, mannitol, or sorbitol; cellulose preparations such as, for example, maize starch, wheat starch, rice starch, potato starch, gelatin, gum tragacanth, methylcellulose, microcrystalline cellulose, hydroxypropylmethylcellulose, sodium carboxymethylcellulose; or others such as polyvinylpyrrolidone (PVP or povidone) or calcium phosphate. If desired, disintegrating agents are added, such as the cross-linked croscarmellose sodium, polyvinylpyrrolidone, agar, or alginic acid or a salt thereof such as sodium alginate. In some embodiments, dyestuffs or pigments are added to the tablets or dragee coatings for identification or to characterize different combinations of active compound doses.

[00134] Pharmaceutical compositions that are administered orally include push-fit capsules made of gelatin, as well as soft, sealed capsules made of gelatin and a plasticizer, such as glycerol or sorbitol. The push-fit capsules contain the active ingredients in admixture with filler such as lactose, binders such as starches, and/or lubricants such as talc or magnesium stearate and, optionally, stabilizers. In soft capsules, the active compounds are dissolved or suspended in suitable liquids, such as fatty oils, liquid paraffin, or liquid polyethylene glycols. In some embodiments, stabilizers are added.

[00135] Pharmaceutical compositions for parental use are formulated as infusions or injections. In some embodiments, the pharmaceutical composition suitable for injection or infusion includes sterile aqueous solutions, or dispersions, or sterile powders comprising a compound described herein, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof. In some embodiments, the pharmaceutical composition comprises a liquid carrier. In some embodiments, the liquid carrier is a

solvent or liquid dispersion medium comprising, for example, water, saline, ethanol, a polyol (for example, glycerol, propylene glycol, liquid polyethylene glycols, and the like), vegetable oils, nontoxic glyceryl esters, and any combinations thereof. In some embodiments, the pharmaceutical compositions further comprise a preservative to prevent growth of microorganisms.

Combination

[00136] Disclosed herein are method of treating a liver disease, metabolic disease, or cardiovascular disease using a compound disclosed herein, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, in combination with an additional therapeutic agent.

[00137] In some embodiments, the additional therapeutic agent is used for the treatment of diabetes or diabetes related disorder or conditions.

[00138] In some instances, the additional therapeutic agent comprises a statin, an insulin sensitizing drug, an insulin secretagogue, an alpha-glucosidase inhibitor, a GLP agonist, a GIP agonist, a THR beta agonist, a PDE inhibitor, a DPP-4 inhibitor (such as sitagliptin, vildagliptin, saxagliptin, linagliptin, anagliptin, teneligliptin, alogliptin, gemigliptin, or dutogliptin), a catecholamine (such as epinephrine, norepinephrine, or dopamine), peroxisome proliferator-activated receptor (PPAR)-gamma agonist (e.g., a thiazolidinedione (TZD) [such as pioglitazone, rosiglitazone, rivoglitazone, or troglitazone], aleglitazar, farglitazar, muraglitazar, or tesaglitazar), peroxisome proliferator-activated receptor (PPAR)-alpha agonist, peroxisome proliferator-activated receptor (PPAR)-delta agonist, a farnesoid X receptor (FXR) agonist (e.g., obeticholic acid), or a combination thereof. In some cases, the statin is a HMG-CoA reductase inhibitor. In other instances, additional therapeutic agents include fish oil, fibrate, vitamins such as niacin, retinoic acid (e.g., 9 cis-retinoic acid), nicotinamide ribonucleoside or its analogs thereof, or combinations thereof. In other instances, additional therapeutic agents include ACC inhibitors, FGF19 and FGF21 mimics, CCR2/CCR5 antagonists, or combinations thereof.

[00139] In some embodiments, the additional therapeutic agent is vivitrol.

[00140] In some embodiments, the additional therapeutic agent is a statin such as a HMG-CoA reductase inhibitor, fish oil, fibrate, niacin or a combination thereof. In other instances, the additional therapeutic agent is a dyslipidemia drug that prevent lipid absorption such as orlistat.

[00141] In some embodiments, the additional therapeutic agent is a vitamin such as retinoic acid or tocopheryl acetate for the treatment of diabetes and diabetes related disorder or condition such as lowering elevated body weight and/or lowering elevated blood glucose from food intake.

[00142] In some embodiments, the additional therapeutic agent is a glucose-lowering agent. In some embodiments, the additional therapeutic agent is an anti-obesity agent. In some embodiments, the additional therapeutic agent is selected from among a peroxisome proliferator activated receptor (PPAR) agonist (gamma, dual, or pan), a dipeptidyl peptidase (IV) inhibitor, a glucagon-like peptide-1 (GLP-I) analog, insulin or an insulin analog, an insulin secretagogue, a sodium glucose co-transporter 2 (SGLT2) inhibitor, a glucophage, a human amylin analog, a biguanide, an alpha-glucosidase inhibitor, a meglitinide, a thiazolidinedione, and sulfonylurea. In some embodiments, the additional therapeutic

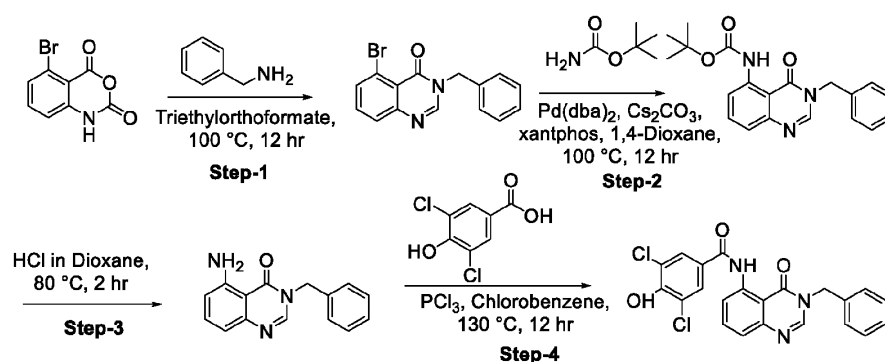
agent is metformin, sitagliptin, saxagliptin, repaglinide, nateglinide, exenatide, liraglutide, insulin lispro, insulin aspart, insulin glargine, insulin detemir, insulin isophane, and glucagon-like peptide 1, or any combination thereof. In some embodiments, the additional therapeutic agent is a lipid-lowering agent.

[00143] In some embodiments, the additional therapeutic agent is an antioxidant, corticosteroid such as budesonide, anti-tumor necrosis factor (TNF), or a combination thereof.

[00144] In some embodiments, the additional therapeutic agent is administered at the same time as the compound disclosed herein. In some embodiments, the additional therapeutic agent and the compound disclosed herein are administered sequentially. In some embodiments, the additional therapeutic agent is administered less frequently than the compound disclosed herein. In some embodiments, the additional therapeutic agent is administered more frequently than the compound disclosed herein. In some embodiments, the additional therapeutic agent is administered prior than the administration of the compound disclosed herein. In some embodiments, the additional therapeutic agent is administered after the administration of the compound disclosed herein.

EXAMPLES

Example 1: Synthesis of N-(3-benzyl-4-oxo-3,4-dihydroquinazolin-5-yl)-3,5-dichloro-4-hydroxybenzamide



Step 1: Synthesis of 3-benzyl-5-bromoquinazolin-4(3H)-one

[00145] To a suspension of 5-bromo-2,4-dihydro-1H-3,1-benzoxazine-2,4-dione (5.00 g, 20.7 mmol) in trimethylorthoformate (12.0 mL) was added benzylamine (2.66 g, 24.8 mmol) at ambient temperature and then heated to 100 °C for 12 h. After completion of the reaction, the reaction mixture was poured into ice cold water (70 mL) and extracted with ethyl acetate (2x250 mL). The combined organics were washed with brine solution (70 mL) and dried over anhydrous sodium sulfate, filtered and concentrated under vacuum to give crude residue that was purified through flash column chromatography using 20% ethyl acetate in hexane as eluent to afford 3-benzyl-5-bromoquinazolin-4(3H)-one (4.50 g, 69 %) as an off-white solid. **LCMS (ES)** m/z calcd. For $C_{15}H_{11}BrN_2O$, 314.01; found, 315.0 (M+H).

Step 2: Synthesis of *tert*-butyl (3-benzyl-4-oxo-3,4-dihydroquinazolin-5-yl)carbamate

[00146] To a stirred solution of 3-benzyl-5-bromo-3,4-dihydroquinazolin-4-one (4.70 g, 14.9 mmol) in 1,4-dioxane (30.0 mL) was added *tert*-butyl carbamate (2.62 g, 22.4 mmol) and Caesium carbonate (9.72

g, 29.8 mmol), the mixture was degassed under nitrogen atmosphere for 10 minutes. To this was added Xantphos (1.73 g, 2.98 mmol), Pd(dba)₂ (858 mg, 1.49 mmol) and then heated to 100 °C for 16 h. After completion the reaction, the reaction mixture was filtered through celite pad and washed with ethyl acetate (50 mL). The filtrate was washed with brine solution (70 mL), dried over anhydrous sodium sulfate, filtered and concentrated under vacuum to give crude residue that was purified through flash column chromatography to afford *tert*-butyl (3-benzyl-4-oxo-3,4-dihydroquinazolin-5-yl)carbamate (5.00 g, 95.41 %) as a yellow solid. LCMS (ES) *m/z* calcd. For C₂₀H₂₁N₃O₃, 351.16; found, 352.2 (M+H).

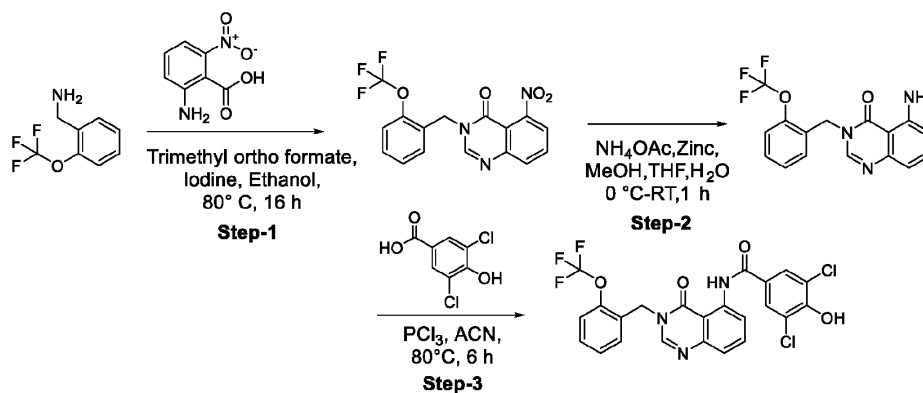
Step 3: Synthesis of 5-amino-3-benzylquinazolin-4(3H)-one

[00147] To a suspended solution of *tert*-butyl N-(3-benzyl-4-oxo-3,4-dihydroquinazolin-5-yl)carbamate (5.24 g, 14.9 mmol) in 1,4-dioxane was added 4M HCl in Dioxane (5.18 mL, 149 mmol) at 0 °C. the resulting reaction mixture was heated to 80 °C for 1 h. After completion the reaction, the reaction mixture was concentrated under reduced vacuum to give crude solid that was triturated with diethyl ether (100 mL) to afford 5-amino-3-benzylquinazolin-4(3H)-one (3.50 g, 93 %, Crude) as a yellow solid. LCMS (ES) *m/z* calcd. For C₁₅H₁₃N₃O, 251.11; found, 252.1 (M+H).

Step 4: Synthesis of N-(3-benzyl-4-oxo-3,4-dihydroquinazolin-5-yl)-3,5-dichloro-4-hydroxybenzamide

[00148] To a stirred solution of 5-amino-3-benzyl-3,4-dihydroquinazolin-4-one (0.2 g, 0.796 mmol) and 3,5-dichloro-4-hydroxybenzoic acid (198 mg, 0.955 mmol) in chlorobenzene (4.00 mL) was added Phosphorus trichloride (0.7 mL, 0.796 mmol) at 0 °C. The resulting reaction mixture was heated to 130 °C for 12 h. After completion of the reaction, the reaction mixture was quenched with ice cold water (30 mL) under stirring for 5 minutes. The obtained solid was collected through filtration. The solid was washed with acetonitrile (15 mL), diethyl ether (15 mL) and dried under vacuum to give crude. The crude material was purified through prep HPLC to afford N-(3-benzyl-4-oxo-3,4-dihydroquinazolin-5-yl)-3,5-dichloro-4-hydroxybenzamide (0.025 g, 7 %) as an off-white solid LCMS (ES) *m/z* calcd. For C₂₂H₁₅Cl₂N₃O₃, 439.05; found, 440.1 (M+H); ¹H NMR (400 MHz, DMSO-*d*₆) δ 12.94 (s, 1H), 11.17 (s, 1H), 8.68 (d, *J* = 8.4 Hz, 1H), 8.61 (s, 1H), 7.85 (m, 3H), 7.35 (m, 5H), 5.26 (s, 2H).

Example 2: Synthesis of 3,5-dichloro-4-hydroxy-N-(4-oxo-3-(2-(trifluoromethoxy)benzyl)-3,4-dihydroquinazolin-5-yl)benzamide



Step 1: Synthesis of 5-nitro-3-(2-(trifluoromethoxy)benzyl)quinazolin-4(3H)-one

[00149] To a stirred solution of 1-[2-(trifluoromethoxy)phenyl]methanamine (3.00 g, 15.7 mmol) in ethanol (25.0 mL) were added 2-amino-6-nitrobenzoic acid (2.86 g, 15.7 mmol), trimethoxymethane (3.74 mL, 31.4 mmol) and iodine (0.2 g, 1.57 mmol) at ambient temperature. The resulting reaction mixture was heated to 80 °C for 16 h. After completion of the reaction, the reaction mixture was concentrated under reduced pressure to give crude residue that was purified by flash chromatography to afford 5-nitro-3-{[2-(trifluoromethoxy)phenyl]methyl}-3,4-dihydroquinazolin-4-one as a yellow solid (2.1 g, 37 % yield). LCMS (ES) *m/z* calcd. C₁₆H₁₀F₃N₃O₄, 365.06; found, 366.1(M+H).

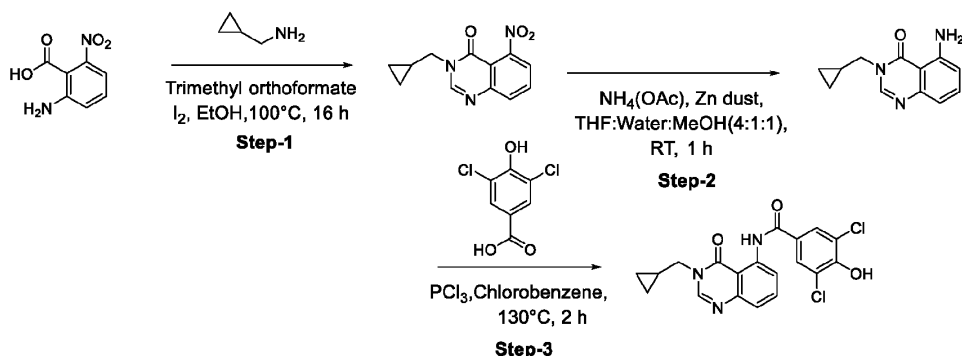
Step 2: Synthesis of 5-amino-3-(2-(trifluoromethoxy)benzyl)quinazolin-4(3H)-one:

[00150] To a stirred solution of 5-nitro-3-{[2-(trifluoromethoxy)phenyl]methyl}-3,4-dihydroquinazolin-4-one (2.10 g, 5.75 mmol) in methanol : water : tetrahydrofuran (1:1:4) (40.0 ml) were added ammonium acetate (4.43 g, 57.5 mmol) and zinc powder (3.76 g, 57.5 mmol) at ambient temperature, and then stirred for 1 h. After completion of the reaction, the reaction mixture was filtered through a celite pad and washed with ethyl acetate (50 mL). the filtrate was washed with water (20 mL), brine (20 mL), dried over sodium sulfate and evaporated under reduced pressure to give crude residue that was purified by flash chromatography to afford 5-amino-3-{[2-(trifluoromethoxy)phenyl]methyl}-3,4-dihydroquinazolin-4-one (1.29 g, 3.85 mmol) as an off-white solid (1.29 g, 67 % yield). LCMS (ES) *m/z* calcd. C₁₆H₁₂F₃N₃O₂, 335.09; found, 336.1(M+H).

Step 3: Synthesis of 3,5-dichloro-4-hydroxy-N-(4-oxo-3-(2-(trifluoromethoxy)benzyl)-3,4-dihydroquinazolin-5-yl)benzamide

[00151] To a stirred solution of 5-amino-3-{[2-(trifluoromethoxy)phenyl]methyl}-3,4-dihydroquinazolin-4-one (0.2 g, 597 μmol) in chlorobenzene (2.00 mL) was added 3,5-dichloro-4-hydroxybenzoic acid (0.12 g, 0.597 mmol) and Phosphorus trichloride (0.7 mL, 0.796 mmol) at 0 °C. The resulting reaction mixture was heated to 130 °C for 6 h. After completion of the reaction, the reaction mixture was quenched with ice cold water (30 mL) under stirring for 5 minutes. The obtained solid was collected through filtration. The solid was washed with methanol (15 mL), pentane (15 mL) and dried under vacuum to afford 3,5-dichloro-4-hydroxy-N-(4-oxo-3-{[2-(trifluoromethoxy)phenyl]methyl}-3,4-dihydroquinazolin-5-yl)benzamide as a brown solid (0.14 g, 45 %). LCMS (ES) *m/z* calcd. C₂₃H₁₄Cl₂F₃N₃O₄, 523.03; found, 524.1(M+H). ¹H NMR (400 MHz, DMSO *d*₆) δ 12.85 (s, 1H), 11.14 (s, 1H), 8.71 (d, *J* = 8.0 Hz, 1H), 8.57 (s, 1H), 7.8 (t, *J* = 8.4 Hz, 3H), 7.49 – 7.37 (m, 5H), 5.35 (s, 2H).

Example 3: Synthesis of 3,5-dichloro-N-(3-(cyclopropylmethyl)-4-oxo-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide



Step 1: Synthesis of 3-(cyclopropylmethyl)-5-nitroquinazolin-4(3H)-one

[00152] To a stirred solution of 2-amino-6-nitrobenzoic acid (3.00 g, 16.5 mmol) and cyclopropylmethanamine (1.52 g, 21.4 mmol) in ethanol (15.0 mL) was added iodine (0.209 g, 1.65 mmol) and trimethylorthoformate (3.64 mL, 32.9 mmol) in a sealed tube and the reaction mixture was stirred at 100°C for 16 h. After completion of reaction, reaction mass was cooled to ambient temperature, reaction mass was concentrated under vacuum. The crude was purified by flash column chromatography as eluent to afford 3-(cyclopropylmethyl)-5-nitroquinazolin-4(3H)-one (2.50 g, 62 %) as yellow gummy solid. LCMS (ES) m/z calculated. for $C_{12}H_{11}N_3O_3$, 245.24; found 246.1 (M+H).

Step 2: Synthesis of 5-amino-3-(cyclopropylmethyl) quinazolin-4(3H)-one.

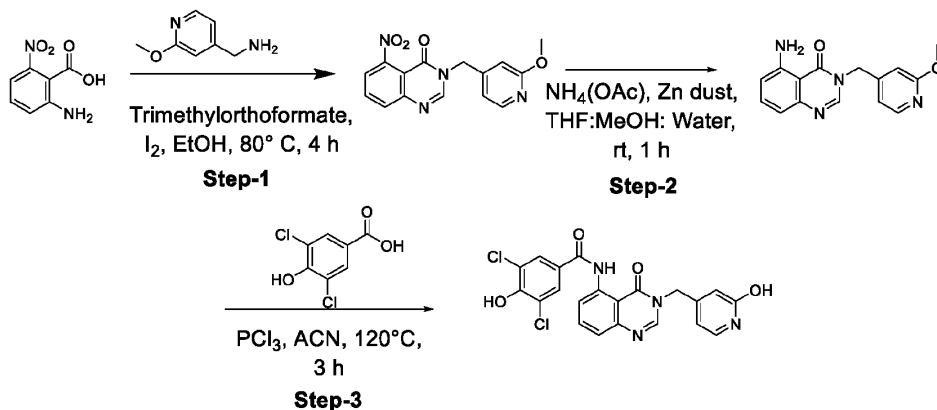
[00153] To a stirred solution of 3-(cyclopropylmethyl)-5-nitroquinazolin-4(3H)-one (2.50 g, 10.2 mmol) in Tetrahydrofuran: Methanol: Water (4:1:1) (25.0 mL) was added zinc dust (6.66 g, 102 mmol) and ammonium acetate (7.86 g, 102 mmol) at 0°C and slowly allowed to stirred at room temperature for 1 h. After completion of the reaction, reaction mass was filtered through celite bed and washed with 50% Methanol in Dichloromethane (100 mL), the obtained filtrate was concentrated under vacuum to give crude residue. The residue was dissolved in 10% Methanol in dichloromethane and washed with ice cold water (50mL), dried over anhydrous sodium sulphate, filtered and evaporated under *vacuum* to afford 5-amino-3-(cyclopropylmethyl) quinazolin-4(3H)-one (2.00 g, 91%) as off-white solid. LCMS (ES) m/z calculated for $C_{12}H_{13}N_3O$, 215.26; found 216.2 (M+H).

Step 3: Synthesis of 3,5-dichloro-N-(3-(cyclopropylmethyl)-4-oxo-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide

[00154] To a stirred solution of 5-amino-3-(cyclopropylmethyl) quinazolin-4(3H)-one (0.150 g, 0.697 mmol) in chlorobenzene (5.0 mL) was added 3,5-dichloro-4-hydroxybenzoic acid (0.144 g, 0.697 mmol) and Phosphorus trichloride (0.03 mL, 0.348 mmol) at 0 °C. The resulting reaction mixture was heated to 130 °C for 2 h. After completion of the reaction, the reaction mixture was quenched with ice cold water (30 mL) under stirring for 5 minutes. The obtained solid was collected through filtration. The crude solid was purified by prep-HPLC to afford 3,5-dichloro-N-(3-(cyclopropylmethyl)-4-oxo-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide (0.025 g, 8.87%) as white solid. LCMS (ES) m/z calcd. for $C_{19}H_{15}Cl_2N_3O_3$, 403.25; found 404.0 (M+1H). 1H -NMR (400 MHz, DMSO- d_6): δ 13.09 (s, 1H),

11.16 (br, 1H), 8.73-8.71(m, 1H), 8.50 (s, 1H), 7.94 (s, 2H), 7.85 (t, $J=8.4$ Hz, 1H), 7.43-7.41 (m, 1H), 3.92 (d, $J=7.2$ Hz, 2H), 1.37-1.31(m, 1H), 0.57-0.45(m, 4H).

Example 4: Synthesis of 3,5-dichloro-4-hydroxy-N-(3-((2-hydroxypyridin-4-yl)methyl)-4-oxo-3,4-dihydroquinazolin-5-yl)benzamide



Step 1: synthesis of 3-[(2-methoxypyridin-4-yl) methyl]-5-nitro-3,4-dihydroquinazolin-4-one

[00155] To a stirred solution of 2-amino-6-nitrobenzoic acid (1.00 g, 5.49 mmol), 1-(2-methoxypyridin-4-yl)methanamine (0.766 mL, 5.49 mmol) and trimethoxymethane (12.0 mL, 110 mmol) in ethanol (10.0 mL) was added Iodine (69.7 mg, 0.549 mmol) and heated to 80° C for 4 h. After completion of reaction, reaction mass was cooled to ambient temperature and concentrated under vacuum to get crude product, crude was diluted with ethyl acetate (100 mL) and stirred for 5 minutes, the solid was collected through filtration and dried under *vacuum* to afford 3-[(2-methoxypyridin-4-yl)methyl]-5-nitro-3,4-dihydroquinazolin-4-one (680 mg, 40%) as an off-white solid. LCMS (ES) m/z calcd. for $C_{15}H_{12}N_4O_4$, 312.0; found 313.0 (M+1H).

Step 2: synthesis of 5-amino-3-[(2-methoxypyridin-4-yl) methyl] quinazolin-4(3H)-one

[00156] To a stirred solution of 3-[(2-methoxypyridin-4-yl)methyl]-5-nitro-3,4-dihydroquinazolin-4-one (680 mg, 2.18 mmol) in THF: Water: MeOH (8:1:1) was added ammonium acetate (1.68 g, 21.8 mmol), zinc (1.42 g, 21.8 mmol) and then stirred at room temperature for 1 h. After completion of reaction, reaction mass was filtered through celite pad and washed with MeOH (10 mL), filtrate was concentrated under *vacuum* to give crude residue that was purified by flash column chromatography to afford 5-amino-3-[(2-methoxypyridin-4-yl)methyl]-3,4-dihydroquinazolin-4-one (600 mg, 98%) as an off-white solid. LCMS (ES) m/z calcd. for $C_{15}H_{14}N_4O_2$, 282.1; found 283 (M+1H).

Step 3: Synthesis of 3,5-dichloro-4-hydroxy-N-(3-((2-hydroxypyridin-4-yl)methyl)-4-oxo-3,4-dihydroquinazolin-5-yl)benzamide

[00157] To a stirred solution of 5-amino-3-[(2-methoxypyridin-4-yl)methyl]-3,4-dihydroquinazolin-4-one (300 mg, 1.06 mmol) in acetonitrile (4.00 mL) was added 3,5-dichloro-4-hydroxybenzoic acid (220 mg, 1.06 mmol), Phosphorus trichloride (0.726 mL, 0.744 mmol) and heated at 120°C for 3 h. After completion of the reaction, the reaction mixture was cooled to ambient temperature and quenched with ice cold water (10 mL) and extracted with ethyl acetate (2x20 mL). The combined organics were washed

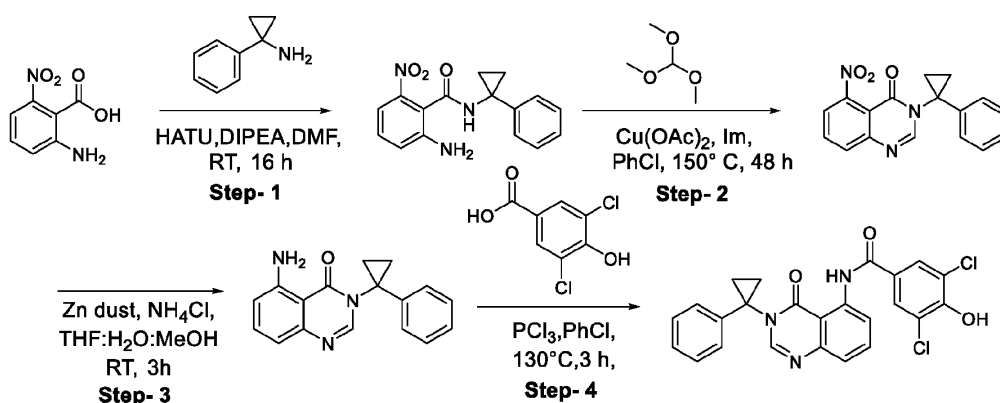
with brine (10 mL) and dried over sodium sulphate, filtered and concentrated under *vacuum* to afford crude. The crude compound was purified by prep-HPLC to afford 3,5-dichloro-4-hydroxy-N-{3-[(2-hydroxypyridin-4-yl)methyl]-4-oxo-3,4-dihydroquinazolin-5-yl}benzamide (29.0 mg, 5.97%) as an off-white solid. LCMS (ES) *m/z* calcd. C₂₁H₁₄Cl₂N₄O₄, 456.0; found, 455.0 (M-1H). ¹H NMR (400 MHz, DMSO *d*₆): δ 12.66 (s, 1H), 11.55 (br, 1H), 8.75 (d, *J*=8 Hz, 1H), 8.50 (s, 1H), 7.79-7.86 (m, 3H), 7.34-7.40 (m, 2H), 7.09 (br, 1H), 6.10-6.16 (m, 2H), 5.11 (s, 2H).

[00158] The following compounds were synthesized as described in Example 2.

Ex.	Spectral data
5	LCMS (ES) <i>m/z</i> calcd. For C ₂₃ H ₁₇ Cl ₂ N ₃ O ₄ , 469.06; found, 470.1 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 12.96 (s, 1H), 11.16 (s, 1H), 8.67 (d, <i>J</i> =8 Hz, 1H), 8.49 (s, 1H), 7.87-7.81 (m, 3H), 7.41 (d, <i>J</i> =8 Hz, 1H), 7.29 (t, <i>J</i> =7.6 Hz, 1H), 7.16 (d, <i>J</i> =7.6 Hz, 1H), 7.03 (d, <i>J</i> =8.4 Hz, 1H), 6.90 (t, <i>J</i> =7.2 Hz, 1H), 5.17 (s, 2H), 3.83 (s, 3H).
6	LCMS (ES) <i>m/z</i> calcd. for C ₂₄ H ₁₆ Cl ₂ F ₃ N ₃ O ₃ , 507.04; found, 508.0 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 12.48 (s, 1H), 8.74 (d, <i>J</i> =8.4 Hz, 1H), 8.56 (s, 1H), 7.78-7.70 (m, 3H), 7.63 (s, 1H), 7.57 (d, <i>J</i> =8 Hz, 2H), 7.29 (d, <i>J</i> =8 Hz, 1H), 7.06 (s, 1H), 5.35 (s, 2H).
7	LCMS (ES) <i>m/z</i> calcd. for C ₂₂ H ₁₄ Cl ₂ F ₃ N ₃ O ₃ , 457.04; found, 458.1 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 12.91 (s, 1H), 11.17 (s, 1H), 8.68 (d, <i>J</i> =8.4 Hz, 1H), 8.61 (s, 1H), 7.88-7.82 (m, 3H), 7.47-7.40 (m, 3H), 7.20-7.15 (m, 2H), 5.24 (s, 2H).
8	LCMS (ES) <i>m/z</i> calcd. for C ₂₃ H ₁₄ Cl ₂ F ₃ N ₃ O ₄ , 523.03; found, 524.0 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 12.90 (s, 1H), 11.17 (s, 1H), 8.71 (d, <i>J</i> =7.6 Hz, 1H), 8.64 (s, 1H), 7.90-7.85 (m, 3H), 7.54 (d, <i>J</i> =8.8 Hz, 2H), 7.44 (d, <i>J</i> =7.6 Hz, 1H), 7.37 (d, <i>J</i> =8 Hz, 2H), 5.32 (s, 2H).
9	LCMS (ES): <i>m/z</i> calcd. for C ₂₂ H ₁₄ Cl ₂ F ₃ N ₃ O ₃ 457.04; found, 458.1 (M+H); ¹ H NMR (400 MHz, DMSO <i>d</i> ₆): δ 12.89 (s, 1H), 11.15 (s, 1H), 8.69 (d, <i>J</i> =7.6 Hz, 1H), 8.59 (s, 1H), 7.89-7.85 (m, 3H), 7.45-7.33 (m, 3H), 7.27-7.17 (m, 2H) and 5.33 (s, 2H).
10	LCMS (ES) <i>m/z</i> calcd. For C ₂₃ H ₁₄ Cl ₂ F ₃ N ₃ O ₄ , 523.03; found 523.8 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.90 (s, 1H), 11.17 (br, 1H), 8.64-8.69 (m, 2H), 7.87-7.82 (m, 3H), 7.48-7.38 (m, 3H), 7.31 (d, <i>J</i> =7.6 Hz, 1H), 5.29 (s, 2H).
11	LCMS (ES) <i>m/z</i> calcd. C ₂₃ H ₁₄ Cl ₂ F ₃ N ₃ O ₃ , 507.04; found, 508.0 (M+H); ¹ H NMR (400 MHz, DMSO <i>d</i> ₆) δ 12.75 (s, 1H), 11.20 (s, 1H), 8.73 (d, <i>J</i> =8.4 Hz, 1H), 8.67 (s, 1H), 7.88 – 7.81 (m, 4H), 7.70 (t, <i>J</i> =8.0 Hz, 2H), 7.61 (t, <i>J</i> =7.6 Hz, 1H), 7.39 (d, <i>J</i> =7.6 Hz, 1H), 5.36 (s, 2H).
12	LCMS (ES) <i>m/z</i> calcd. C ₂₃ H ₁₆ Cl ₂ F ₃ N ₃ O ₃ , 471.06; found, 472.0 (M+H); ¹ H NMR (400 MHz, DMSO <i>d</i> ₆) δ 12.98 (s, 1H), 11.16 (s, 1H), 8.72 (d, <i>J</i> =8.0 Hz, 1H), 8.46 (s, 1H), 7.86 (t, <i>J</i> =8.0 Hz, 3H), 7.46 – 7.41 (m, 2H), 7.34 (d, <i>J</i> =10.4 Hz, 1H), 7.26 (d, <i>J</i> =7.6 Hz, 1H), 7.19 – 7.15 (m, 1H), 6.23 – 6.18 (m, 1H), 1.89 (d, <i>J</i> =7.2 Hz, 3H).
13	LCMS (ES) <i>m/z</i> calcd. for C ₂₁ H ₁₃ Cl ₂ F ₃ N ₃ O ₃ , 458.03; found, 459.0, (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 12.74 (s, 1H), 11.22 (s, 1H), 8.67 (d, <i>J</i> =8.0 Hz, 1H), 8.58 (d, <i>J</i> =2.4 Hz, 2H), 8.36 (d, <i>J</i> =4.8 Hz, 1H), 7.91-7.83 (m, 3H), 7.43 (d, <i>J</i> =7.6 Hz, 1H), 7.31 (t, <i>J</i> =6.4 Hz, 1H), 5.35 (s, 2H).
14	LCMS (ES) <i>m/z</i> calcd. For C ₁₈ H ₁₁ Cl ₂ N ₅ O ₃ S, 447.0; found, 448.0 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.77 (s, 1H), 11.25 (br, 1H), 9.62 (s, 1H), 8.72 (d, <i>J</i> =8.4 Hz, 1H), 8.67 (s, 1H), 7.88-7.92 (m, 3H), 7.47 (d, <i>J</i> =7.6 Hz, 1H), 5.79 (s, 2H).
15	LCMS (ES) <i>m/z</i> calcd. For C ₁₉ H ₁₂ Cl ₂ N ₄ O ₄ , 430.02; found, 431.02 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.86 (s, 1H), 11.17 (br, 1H), 8.70 (d, <i>J</i> =8 Hz, 1H), 8.54 (s, 1H), 8.35 (s, 1H), 8.17 (s, 1H), 7.88-7.82 (m, 2H), 7.40 (d, <i>J</i> =8.4 Hz, 1H), 5.19 (s, 2H).
16	LCMS (ES) <i>m/z</i> calcd. C ₂₂ H ₁₄ Cl ₂ F ₃ N ₃ O ₃ , 457.04; found, 458.1 [M + H] ⁺ ; ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 12.89 (s, 1H), 11.1 (s, 1H), 8.68 (d, <i>J</i> =7.6 Hz, 1H), 8.60 (s, 1H), 7.88 – 7.82 (m, 3H), 7.41 – 7.37 (m, 2H), 7.25 (d, <i>J</i> =9.6 Hz, 2H), 7.15 – 7.10 (m, 1H), 5.27 (s, 2H).

17	LCMS (ES) <i>m/z</i> calcd. C ₂₃ H ₁₅ Cl ₂ F ₃ N ₄ O ₅ , 554.04; found, 439.0 [M + H] ⁺ ; ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 11.14 (s, 1H), 8.72 (d, <i>J</i> = 8.0 Hz, 1H), 8.59 (t, <i>J</i> = 4.0 Hz, 3H), 7.91 – 7.87 (m, 3H), 7.48 – 7.43 (m, 3H), 5.36 (s, 2H).
18	LCMS (ES) <i>m/z</i> calcd. for C ₂₃ H ₁₄ Cl ₂ F ₃ N ₃ O ₃ 507.2; found, 508.1 (M+H); ¹ H NMR (400 MHz, DMSO <i>d</i> ₆): δ 12.9 (s, 1H), 11.13 (br, 1H), 8.72 – 8.70 (m, 1H), 8.57 (s, 1H), 8.92 – 7.81 (m, 4H), 7.63 – 7.59 (m, 1H), 7.55 – 7.48 (m, 2H), 7.15 (d, <i>J</i> = 7.6 Hz, 1H), 5.48 (s, 2H).
19	LCMS (ES) <i>m/z</i> calcd. for C ₂₂ H ₁₃ Cl ₂ F ₃ N ₄ O ₃ , 508.03; found 509.0 (M+H); ¹ H-NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.83 (s, 1H), 11.15 (br, 1H), 8.89 (s, 1H), 8.71 (s, 1H), 8.68 (s, 1H), 8.10 (dd, <i>J</i> = 1.6 Hz, 1H), 7.91–7.85 (m, 4H), 7.46–7.44 (m, 1H), 5.42 (s, 2H).

Example 20: Synthesis of 3,5-dichloro-4-hydroxy-*N*-(4-oxo-3-(1-phenylcyclopropyl)-3,4-dihydroquinazolin-5-yl) benzamide



Step 1: Synthesis of 2-amino-6-nitro-*N*-(1-phenylcyclopropyl) benzamide

[00159] To a stirred solution of 2-amino-6-nitrobenzoic acid (0.5 g, 2.74 mmol) and 1-phenylcyclopropan-1-amine (658 mg, 3.02 mmol) in DMF (5 ml) were added HATU (2.09 g, 4.11 mmol) and DIPEA (0.956 ml, 8.22 mmol) at 0 °C. The resulting reaction mixture was stirred at ambient temperature for 16 h. After completion of the reaction, the reaction mixture was quenched with ice-water, the precipitated solids were filtered and washed with n-hexanes, dried under vacuum to afford 2-amino-6-nitro-*N*-(1-phenylcyclopropyl) benzamide as a beige colour solid (0.620 g, 69%) LCMS (ES) *m/z* calcd for C₁₆H₁₅N₃O₃, 297.1; found 298.1 [M+H]⁺.

Step 2: Synthesis of 5-nitro-3-(1-phenyl cyclo propyl) quinazolin-4(3*H*)-one

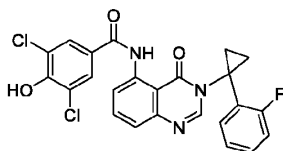
[00160] In a sealed tube, a stirred solution of 2-amino-6-nitro-*N*-(1-phenylcyclopropyl) benzamide (0.62 g, 2.08 mmol) in chlorobenzene (13 ml) were added copper acetate (0.05 mg, 0.2 mmol), trimethylorthoformate (2.28 ml, 20.8 mmol) and imidazole (0.42 g, 3.12 mmol). The resulting reaction mixture was stirred for 48 h at 150° C. After completion of the reaction, the reaction mixture was evaporated in *vacuo* to obtain crude. The crude product was purified by flash chromatography by using 40% ethyl acetate in hexane as an eluent to afford 5-nitro-3-(1-phenylcyclopropyl) quinazolin-4(3*H*)-one as a beige colour solid (0.37 g, 58%). LCMS (ES) *m/z* calcd for C₁₇H₁₃N₃O₃, 307.1; found 308.1 [M+H]⁺.

Step 3: synthesis of 5-amino-3-(1-phenylcyclopropyl) quinazolin-4(3H)-one

[00161] To a stirred solution of 5-nitro-3-(1-phenylcyclopropyl)quinazolin-4(3H)-one (0.37 g, 1.2 mmol) in THF(5 ml), water (0.5 ml) and Methanol (0.5 ml) were added Zn dust (172 mg, 3.6 mmol) and NH₄Cl (270 mg, 6.01 mmol). The resulting reaction mixture was allowed to stirred at ambient temperature for 3 h. After completion of the reaction, the reaction mixture was quenched with ice cold water (15 mL) and extracted with ethyl acetate (25 x 2 mL). The organic phase was washed with brine solution (10 mL) and dried over anhydrous sodium sulphate, filtered and evaporated in *vacuo* to afford 5-amino-3-(1-phenylcyclopropyl) quinazolin-4(3H)-one as a pale yellow solid (0.301 g, crude). LC-MS *m/z* calcd for C₁₇H₁₅N₃O, 277.1; found 278.2 [M+H]⁺.

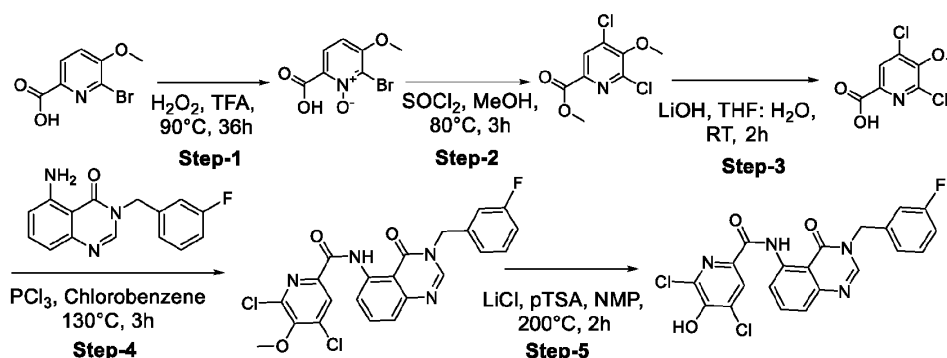
Step 4: 3,5-dichloro-4-hydroxy-N-(4-oxo-3-(1-phenylcyclopropyl)-3,4-dihydro quinazolin-5-yl) benzamide

[00162] To a stirred solution of 5-amino-3-(1-phenyl cyclopropyl) quinazolin-4(3H)-one (0.14 g, 0.505 mmol) in chlorobenzene was added 3,5-dichloro-4-hydroxybenzoic acid (0.092 g, 0.505 mmol) and Phosphorus trichloride (0.06 mL, 0.75 mmol) at 0 °C. The resulting reaction mixture was heated to 130 °C for 3 h. After completion of the reaction, the reaction mixture was poured into water (10 ml) and extracted with ethyl acetate (2 x 25 mL). The organic phase was washed with water, brine solution, dried over anhydrous sodium sulphate, and concentrated to get *crude*. Which was further purified by prep HPLC, pure fractions were collected and lyophilized to afford 3,5-dichloro-4-hydroxy-N-(4-oxo-3-(1-phenylcyclopropyl)-3,4-dihydroquinazolin-5-yl) benzamide as a beige colour solid (10 mg, 4%). LCMS (ES) *m/z* calcd. for C₂₄H₁₇Cl₂N₃O₃, 465.06; found, 466.1. ¹H NMR (400 MHz, DMSO-*d*₆) δ 12.88 (s, 1H), 11.15 (s, 1H), 8.69-8.62 (m, 2H), 7.86-7.82 (m, 3H), 7.43-7.41 (d, *J* = 8 Hz, 1H), 7.32-6.92 (m, *J* = 8.4 Hz, 5H), 1.68-1.61 (m, 4H).

Example 21: Synthesis of 3,5-dichloro-N-(3-(1-(2-fluorophenyl)cyclopropyl)-4-oxo-3,4-dihydroquinazolin-5-yl)-4-hydroxybenzamide

[00163] The title compound was synthesized as described in example 20. LCMS (ES) *m/z* calcd. for C₂₄H₁₆Cl₂FN₃O₃ 483.06; found, 484.0 (M+H)⁺; ¹H NMR (400 MHz, DMSO *d*₆): δ 12.91 (s, 1H), 11.19 (br, 1H), 8.65 – 8.60 (m, 2H), 7.89 (s, 2H), 7.89 – 7.71 (m, 2H), 7.38 - 7.32 (m, 2H), 7.21 – 7.14 (m, 2H), 1.69-1.67 (m, 2H), 1.56-1.54 (m, 2H).

Example 22: 4,6-dichloro-N-{3-[(3-fluorophenyl)methyl]-4-oxo-3,4-dihydroquinazolin-5-yl}-5-hydroxypyridine-2-carboxamide



Step 1: 2-bromo-6-carboxy-3-methoxypyridine 1-oxide

[00164] To a stirred solution of 6-bromo-5-methoxypyridine-2-carboxylic acid (1.20 g, 5.17 mmol) in TFA (20 ml) was added Hydrogen peroxide (20 ml, 50%) and stirred at 90°C for 36 h under nitrogen atmosphere. After completion of the reaction, the reaction mixture was concentrated under reduced pressure to afford 2-bromo-6-carboxy-3-methoxypyridine 1-oxide as off-white solid (1.2 g). LCMS (ES) m/z calcd. for $C_7H_6BrNO_4$, 246.95; found, 248.0 (M+H).

Step 2: methyl 4,6-dichloro-5-methoxypyridine-2-carboxylate

[00165] A mixture of 2-bromo-6-carboxy-3-methoxypyridine 1-oxide (0.8 g, 3.23 mmol) and thionyl chloride (5 ml) was stirred at 80°C for 2 h under nitrogen atmosphere. After completion of the reaction, the excess thionyl chloride was removed under vacuum to give residue that was quenched with methanol under stirring for 1 h. Methanol was removed under reduced pressure to give crude residue that was dissolved in 20% IPA in DCM (10 ml). Organic layer was washed with sodium bicarbonate solution (5 ml), brine solution, dried over anhydrous sodium sulphate, filtered and concentrated. The crude was purified by flash column chromatography using 15% ethyl acetate in hexane as eluent to afford methyl 4,6-dichloro-5-methoxypyridine-2-carboxylate as off-white solid (0.35g). LCMS (ES) m/z calcd. for $C_8H_7Cl_2NO_3$, 234.98; found, 236.0 (M+1). 1H NMR (400 MHz, DMSO- d_6) δ 8.19 (s, 1H), 3.97 (s, 3H), 3.89 (s, 3H).

Step 3: 4,6-dichloro-5-methoxypyridine-2-carboxylic acid

[00166] To a stirred solution of methyl 4,6-dichloro-5-methoxypyridine-2-carboxylate (0.3 g, 1.27 mmol) in THF: water (1:1) (6 ml) was added lithium hydroxide (0.152 g, 6.35 mmol) and then stirred at ambient temperature for 2 h. after completion of the reaction, the reaction mixture was evaporated under vacuum to get residue that was diluted with water (10 mL) and acidified with 1N HCl (pH~6). Obtained solid was filtered and washed with water, dried to afford 4,6-dichloro-5-methoxypyridine-2-carboxylic acid as off-white solid (0.25 g). LCMS (ES) m/z calcd. for $C_7H_5Cl_2NO_3$, 220.96; found, 222.0 (M+H).

Step 4: 4,6-dichloro-N-{3-[(3-fluorophenyl)methyl]-4-oxo-3,4-dihydroquinazolin-5-yl}-5-methoxypyridine-2-carboxamide

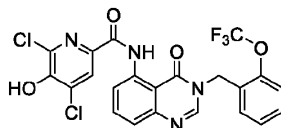
[00167] To a stirred solution of 4,6-dichloro-5-methoxypyridine-2-carboxylic acid (0.05g, 0.225 mmol), 5-amino-3-[(3-fluorophenyl)methyl]-3,4-dihydroquinazolin-4-one (0.06 g, 0.225 mmol) in Chlorobenzene (1 ml) was added Phosphorous trichloride (0.031 mg, 0.225 mmol) at ambient

temperature and then heated to 130°C for 3h. After completion of the reaction, the reaction mixture was poured into ice water (10 ml) and extracted with 20% IPA in DCM (2x10 ml). The combined organic layer was washed with brine solution, dried over anhydrous sodium sulphate, filtered and concentrated to get crude 4,6-dichloro-N-{3-[(3-fluorophenyl)methyl]-4-oxo-3,4-dihydroquinazolin-5-yl}-5-methoxypyridine-2-carboxamide as off-white solid (0.07 g). LCMS (ES) m/z calcd. for C₂₂H₁₅Cl₂FN₄O₃, 472.05; found, 473.0 (M+H).

Step 5: 4,6-dichloro-N-{3-[(3-fluorophenyl)methyl]-4-oxo-3,4-dihydroquinazolin-5-yl}-5-hydroxypyridine-2-carboxamide

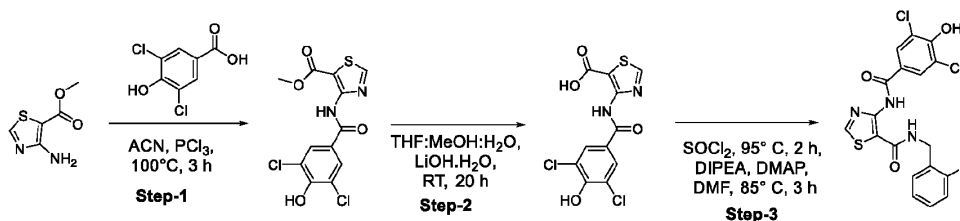
[00168] To a stirred solution of 4,6-dichloro-N-{3-[(3-fluorophenyl)methyl]-4-oxo-3,4-dihydroquinazolin-5-yl}-5-methoxypyridine-2-carboxamide (0.06 g, 0.127 mmol) in 1-methylpyrrolidin-2-one (1.00 mL) was added *p*-toluene sulfonic acid (0.109 g, 0.634 mmol) and lithium chloride (26.9 mg, 0.634 mmol). The resulting reaction mixture was heated to 200°C for 2h. After completion of the reaction, the reaction mixture was quenched with water (5 ml) and extracted with 20% IPA/DCM (10 ml). Organic layer was washed with brine solution, dried over sodium sulphate, filtered and concentrated. The crude was purified by Prep-HPLC to afford 4,6-dichloro-N-{3-[(3-fluorophenyl)methyl]-4-oxo-3,4-dihydroquinazolin-5-yl}-5-hydroxypyridine-2-carboxamide (13.2 mg) as off-white solid. LCMS (ES) m/z calcd. for C₂₁H₁₃Cl₂FN₄O₃, 458.03; found, 459.1 (M+H), ¹H NMR (400 MHz, DMSO-*d*₆) δ 13.52 (s, 1H), 8.84 (d, *J* = 8 Hz, 1H), 8.60 (s, 1H), 8.11 (s, 1H), 7.87 (m, 1H), 7.45 (m, 2H), 7.31 (d, *J* = 8Hz, 1H), 7.26 (d, *J* = 8Hz, 1H), 7.17 (m, 1H), 5.26 (s, 2H).

Example 23: Synthesis of 4,6-dichloro-5-hydroxy-N-(4-oxo-3-{[2-(trifluoromethoxy)phenyl]methyl}-3,4-dihydroquinazolin-5-yl)pyridine-2-carboxamide



[00169] The titled compound was synthesized as described in example 22. LCMS (ES) - m/z calcd. for C₂₂H₁₃Cl₂F₃N₄O₄, 524.03; found, 525.0 (M+H), 99.84 % at 254 nm. ¹H NMR (400 MHz, DMSO-*d*₆) δ 13.5 (s, 1H), 8.84 (d, *J* = 8 Hz, 1H), 8.55 (s, 1H), 8.12 (s, 1H), 7.88-7.84 (m, 1H), 7.49 (m, 3H), 7.37 (m, 2H), 5.33 (s, 2H).

Example 24: Synthesis of 4-(3,5-dichloro-4-hydroxybenzamido)-N-(2-fluorobenzyl)thiazole-5-carboxamide



Step 1: synthesis of methyl 4-(3,5-dichloro-4-hydroxybenzamido) thiazole-5-carboxylate

[00170] To a suspension methyl 4-amino-1,3-thiazole-5-carboxylate (600 mg, 3.79 mmol) and 3,5-dichloro-4-hydroxybenzoic acid (785 mg, 3.79 mmol) in acetonitrile (12.0 mL) was added Phosphorus trichloride (332 μ L, 3.79 mmol) drop wise under nitrogen atmosphere. The reaction mass was heated to 100 °C for 3 h. After completion of reaction, reaction mass was cooled to room temperature and added ice cold water(20 ml), filtered and dried under vacuum to afford methyl 4-(3,5-dichloro-4-hydroxybenzamido)thiazole-5-carboxylate (800 mg, 60%) as yellow solid, LCMS (ES) m/z calcd, For C12H8Cl2N2O4S, 345.96; found, 347 (M+H).

Step 2: synthesis of 4-(3,5-dichloro-4-hydroxybenzamido)thiazole-5-carboxylic acid

[00171] To a stirred solution of methyl 4-(3,5-dichloro-4-hydroxybenzamido)-1,3-thiazole-5-carboxylate (400 mg, 1.15 mmol) in THF: MeOH: H₂O (6:2:2) was added Lithium hydroxide (96.7 mg, 2.30 mmol). The reaction mixture was stirred for 20 hrs at room temperature. After completion of reaction, reaction mass was concentrated to get crude product. The crude was diluted with water (10 mL) and acidified with 1M HCl (10 mL) to pH 2-3 and extracted with EtOAc (2X10 mL) and washed with water (2X15 mL) and brine solution, combined organics were dried over anhydrous sodium sulphate, filtered and concentrated under *vacuum* to afford 4-(3,5-dichloro-4-hydroxybenzamido)-1,3-thiazole-5-carboxylic acid (300 mg, 0.901 mmol) as off white solid, LCMS (ES) m/z calcd, For C11H6Cl2N2O4S, 333.94; found, 334.9(M+H).

Step 3: Synthesis 4-(3,5-dichloro-4-hydroxybenzamido)-N-(2-fluorobenzyl)thiazole-5-carboxamide

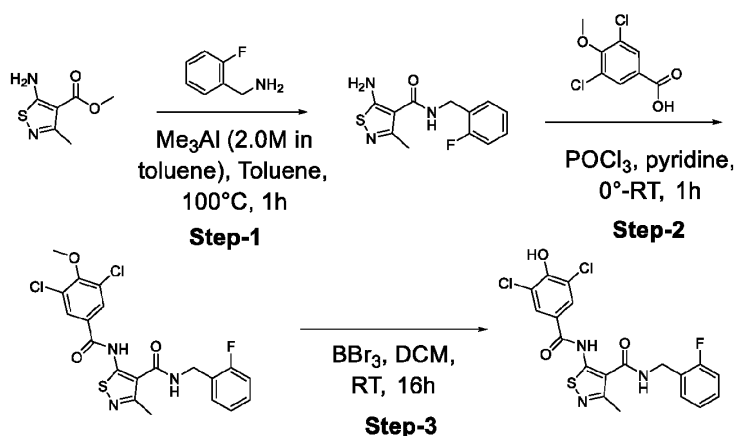
[00172] A stirred solution of 4-(3,5-dichloro-4-hydroxybenzamido)-1,3-thiazole-5-carboxylic acid (140 mg, 0.420 mmol) in thionyl chloride (3.00 mL, 41.4 mmol) was heated to 95°C for 2 h. The excess thionyl chloride was distilled out under Rota evaporator. The obtained residue was dissolved in DMF (1 mL) and added to a stirred solution of (2-fluorophenyl)methanamine (47.8 μ L, 0.420 mmol), DMAP (103 mg, 0.840 mmol), DiPEA (0.734 mL, 4.20 mmol) in DMF(2 mL) and heated at 85 °C for 3 h. After completion of reaction, reaction mixture was cooled to ambient temperature and quenched with water (10 mL) and Extracted with Ethyl acetate (10 mL X 2) and washed with Brine (10 mL) and collect the organic layer, dried over sodium sulphate and filtered concentrated under vacuum to result in crude product which was purified by reverse phase prep-HPLC. Pure fractions were collected and concentrated to afford pure 4-(3,5-dichloro-4-hydroxybenzamido)-N-(2-fluorobenzyl)thiazole-5-carboxamide (30.0 mg, 16%) an off white solid. LCMS (ES) m/z calcd. C18H12Cl2FN3O3S, 439.0; found, 440.0(M+1). ¹H NMR (400 MHz, DMSO *d*₆) δ : 11.02 (br, 1H), 10.94 (s, 1H), 9.12 (s, 1H), 8.71 (br, 1H), 7.93 (s, 2 H), 7.34 (t, *J*=7.8 Hz, 1H), 7.26-7.24 (m, 1H), 7.12-7.03 (m, 2H), 4.41 (d, *J*=4.8 Hz, 2H).

[00173] The following compounds were synthesized as described in Example 24.

Ex.	Spectral data
25	LCMS(ES) m/z , calcd for C20H14Cl2F3N3O3S, 503.31; found 504 (M+H): ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ : 10.97(s, 1H), 9.11(s, 1H), 8.43-8.40(m, 1H), 7.95 (s, 2H), 7.50 (d, <i>J</i> =8.4Hz, 2H), 7.58-7.54(m, 1H), 7.61(d, <i>J</i> =8.4Hz, 1H), 7.40-7.37 (m, 1H), 3.47-3.42 (m, 2H), 2.94(t, <i>J</i> =7.6Hz, 2H).
26	LCMS (ES) m/z calcd. For C19H12Cl2F3N3O3S, 488.9; found, 489.9 (M+1). ¹ H NMR (400 MHz, DMSO <i>d</i> ₆) δ : 11.03 (br, 1H), 10.92 (s, 1H), 9.13 (s, 1H), 8.77-8.74

Ex.	Spectral data
	(m, 1H), 7.93 (s, 2 H), 7.66 (d, $J=7.2$ Hz, 1H), 7.56-7.51 (m, 2 H), 7.45-7.43 (m, 1 H), 4.54 (s, 2 H).
27	LCMS (ES) m/z calcd. for C ₁₉ H ₁₂ Cl ₂ F ₃ N ₃ O ₄ S, 504.99; found, 505.9 (M+H), ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 10.97 (s, 2H), 9.15 (s, 1H), 8.72 (t, $J=5.6$ Hz, 1H), 7.96 (s, 2H), 7.46 (d, $J=7.6$ Hz, 1H), 7.40-7.36 (m, 1H), 7.32-7.27 (m, 2H), 4.47 (d, $J=6.0$ Hz, 2H).
28	LCMS (ES) m/z calcd. for C ₁₈ H ₁₁ Cl ₂ F ₂ N ₃ O ₃ S, 456.99; found, 457.9 (M+H), ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ : 11.0 (s, 1H), 10.93 (s, 1H), 9.14 (s, 1H), 8.69 (t, $J=7.6$ Hz, 1H), 7.94 (s, 2H), 7.44 – 7.38 (m, 1H), 7.15-6.98 (m, 2H), 4.39 (d, $J=5.6$ Hz, 2H).
29	LCMS (ES) m/z calcd. for C ₂₀ H ₁₄ Cl ₂ F ₂ N ₃ O ₃ S, 466.31; found 466.0 [M+H] ⁺ . ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 11.03 (s, 1 H), 10.94 (s, 1 H), 9.11 (s, 1 H), 8.94 (s, 1 H), 7.99 (s, 2 H), 7.21-7.25 (m, 2 H), 7.06 (t, $J=8.8$ Hz, 2 H), 1.14 (d, $J=3.2$ Hz, 4 H).
30	LCMS (ES) m/z calcd. for C ₁₈ H ₁₇ Cl ₂ F ₂ N ₃ O ₃ S, 464.31; found, 466.0 (M+H), ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 11.03 (s, 1H), 10.96 (s, 1H), 9.12 (s, 1H), 8.28-8.25 (m, 1H), 7.99 (s, 2H), 3.10-3.07 (m, 2H), 1.93-1.91 (m, 2H), 1.72-1.57 (m, 5H) and 1.17-1.08 (m, 2H).

Example 31: Synthesis of 5-(3,5-dichloro-4-hydroxybenzamido)-N-(2-fluorobenzyl)-3-methylisothiazole-4-carboxamide



Step 1: Synthesis of 5-amino-N-(2-fluorobenzyl)-3-methylisothiazole-4-carboxamide

[00174] To a stirred solution of methyl 5-amino-3-methyl-1,2-thiazole-4-carboxylate (100 mg, 581 μ mol) and 1-(2-fluorophenyl)methanamine (80.0 μ L, 697 μ mol) in toluene (1.00 mL) cooled to 0°C was added trimethylaluminum (871 μ L, 1.74 mmol) drop-wise. The resulting reaction mixture was heated to 100°C for 1h. After completion of the reaction, the reaction mixture was quenched with cold water (5 mL) and extracted into EtOAc (5 mL x 2). The combined organic layer was washed with brine (10 mL), dried over sodium sulfate and evaporated under reduced pressure to result in 5-amino-N-(2-fluorobenzyl)-3-methylisothiazole-4-carboxamide as a yellow solid (130 mg, 84%). The crude compound was taken to next step without any further purification. LCMS (ES) m/z calcd. For C₁₂H₁₂FN₃OS, 265.31; found, 266 (M+H)⁺.

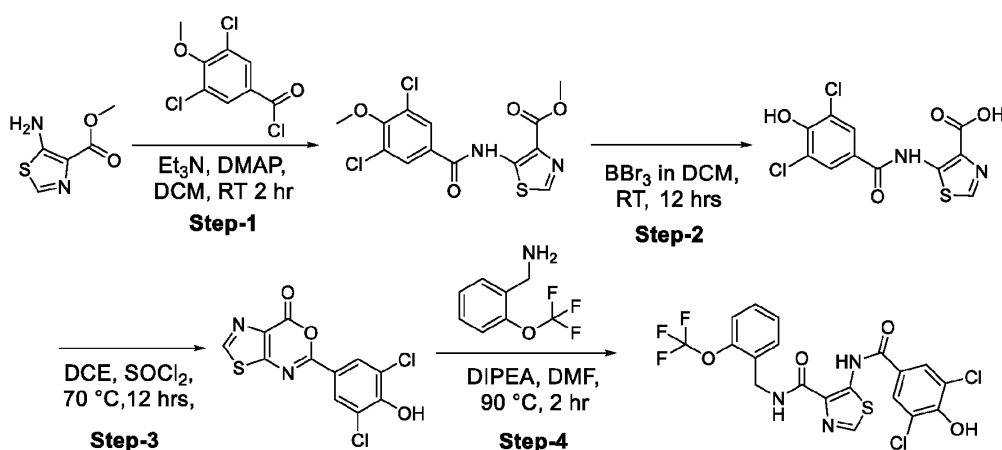
Step 2: Synthesis of 5-(3,5-dichloro-4-methoxybenzamido)-N-(2-fluorobenzyl)-3-methylisothiazole-4-carboxamide

[00175] To a stirred solution of 3,5-dichloro-4-methoxybenzoic acid (200 mg, 905 μmol) in pyridine (2.50 mL) was added phosphoryl chloride (127 μL , 1.36 mmol) at 0°C and allowed to stir for 10 min. To this was added 5-amino-N-[(2-fluorophenyl)methyl]-3-methyl-1,2-thiazole-4-carboxamide (240 mg, 905 μmol) and then stirred at ambient temperature for 1 h. After reaction completion, the reaction mass was quenched with cold water (10 mL). Precipitated solid was filtered, washed with hexane (10 mL) and dried to afford 5-(3,5-dichloro-4-methoxybenzamido)-N-[(2-fluorophenyl)methyl]-3-methyl-1,2-thiazole-4-carboxamide (200 mg, 48%) as a brown solid which was taken as such for next step without further purification. LCMS (ES) m/z calcd. For $\text{C}_{20}\text{H}_{16}\text{Cl}_2\text{FN}_3\text{O}_3\text{S}$, 468.32; found, 468 ($\text{M}+\text{H}$)⁺.

Step 3: Synthesis of 5-(3,5-dichloro-4-hydroxybenzamido)-N-(2-fluorobenzyl)-3-methylisothiazole-4-carboxamide

[00176] To a stirred solution of 5-(3,5-dichloro-4-methoxybenzamido)-N-[(2-fluorophenyl)methyl]-3-methyl-1,2-thiazole-4-carboxamide (200 mg, 427 μmol) in DCM (0.1 mL) cooled to 0°C was added tribromo borane (405 μL , 4.27 mmol) drop-wise and allowed to stirred at ambient temperature for 16h. After completion of the reaction, the reaction mixture was quenched with ice cold water and extracted into EtOAc (10 mL X 2). The combined organic layer was washed with brine (10 mL), dried over sodium sulfate and evaporated under reduced pressure to result in crude compound which was purified by flash chromatography. The column purified compound was purified by reverse phase prep-HPLC to afford pure 5-(3,5-dichloro-4-hydroxybenzamido)-N-[(2-fluorophenyl)methyl]-3-methyl-1,2-thiazole-4-carboxamide (40.0 mg, 20.62%). LCMS (ES) m/z calcd. for $\text{C}_{19}\text{H}_{14}\text{Cl}_2\text{FN}_3\text{O}_3\text{S}$ 454.30; found, 454 ($\text{M}+\text{H}$)⁺. ¹H NMR (400 MHz, DMSO d_6) δ 11.95 (br, 1H), 11.5 (br, 1H), 8.63 (br, 1H), 7.93 (s, 2H), 7.45 (t, $J = 14.8$ Hz, 1H), 7.34 – 7.31 (m, 1H), 7.30 – 7.28 (m, 2H), 4.57 (d, $J = 5.6$ Hz, 2H), 2.48 (br, 3H).

Example 32: Synthesis of 5-(3,5-dichloro-4-hydroxybenzamido)-N-(2-(trifluoromethoxy)benzyl)thiazole-4-carboxamide



Step 1: Synthesis of methyl 5-(3,5-dichloro-4-methoxybenzamido)thiazole-4-carboxylate

[00177] To a stirred solution of methyl 5-amino-1,3-thiazole-4-carboxylate (0.15 g, 0.99 mmol) in dichloromethane (4.00 mL) was added N,N-dimethylpyridin-4-amine (152 mg, 1.24 mmol) and triethylamine (1.73 mL, 12.4 mmol) at ambient temperature and then stirred for 10 minutes. To this was added 3,5-dichloro-4-methoxybenzoyl chloride (298 mg, 1.24 mmol) in dichloromethane (4.00 mL) slowly at 0 °C under nitrogen atmosphere. The reaction mixture was stirred at ambient temperature for another 1 hour. After completion of the reaction, the reaction mixture was quenched with water (30 mL) and extracted with DCM (2 x 100 mL). The combined organics were washed with brine solution (30 mL) and dried over anhydrous sodium sulfate, filtered and dried under *vacuo* to afford crude. The crude material was purified through flash column chromatography to afford methyl 5-(3,5-dichloro-4-methoxybenzamido)thiazole-4-carboxylate (150 mg, 33.37 %) as an off white solid. LCMS (ES) m/z calcd. For C₁₃H₁₀Cl₂N₂O₄S, 359.9; found, 361.0 (M+H).

Step 2: Synthesis of 5-(3,5-dichloro-4-hydroxybenzamido)thiazole-4-carboxylic acid

[00178] To a stirred suspended solution of methyl 5-(3,5-dichloro-4-methoxybenzamido)-1,3-thiazole-4-carboxylate (126 mg, 0.349 mmol) in dichloromethane (0.5 mL) was added borane tribromide (0.596 mL, 3.49 mmol) at 0 °C. The resulting reaction mixture was stirred at ambient temperature for 12 hours. After completion of the reaction, the reaction mixture was quenched with ice cold water (20 mL) and extracted with ethyl acetate (2 x 25 mL). the combined organics were washed with brine solution (20 mL) and dried over anhydrous sodium sulfate, filtered and concentrated under *vacuo* to afford the crude 5-(3,5-dichloro-4-hydroxybenzamido)thiazole-4-carboxylic acid (93.0 mg, 80%, Crude) as an off white solid. LCMS (ES) m/z calcd. for C₁₁H₆Cl₂N₂O₄S, 333.91; found, 335.0 (M+H).

Step 3: Synthesis of 5-(3,5-dichloro-4-hydroxyphenyl)-7H-thiazolo[5,4-d][1,3]oxazin-7-one

[00179] To a stirred solution of 5-(3,5-dichloro-4-hydroxybenzamido)-1,3-thiazole-4-carboxylic acid (93.0 mg, 0.279 mmol) in 1,2-dichloroethane (5 mL) was added thionyl chloride (0.202 mL, 2.79 mmol) and then heated to 70 °C for 2 hours. After completion of the reaction, the reaction mixture was concentrated under *vacuo* to afford crude 5-(3,5-dichloro-4-hydroxyphenyl)-7H-thiazolo[5,4-d][1,3]oxazin-7-one (78.0 mg, 88.67 %, Crude) as a brown coloured solid. LCMS (ES) m/z calcd. For C₁₁H₄Cl₂N₂O₃S, 313.93; found, 312.9 (M-H).

Step 4: Synthesis of 5-(3,5-dichloro-4-hydroxybenzamido)-N-(2-(trifluoromethoxy)benzyl)thiazole-4-carboxamide

[00180] To a stirred solution of 5-(3,5-dichloro-4-hydroxyphenyl)-7H-[1,3]thiazolo[5,4-d][1,3]oxazin-7-one (93.0 mg, 0.295 mmol) in N,N-dimethylformamide (4.00 mL) was added DiPEA (0.154 mL, 0.885 mmol) and 1-[2-(trifluoromethoxy)phenyl]methanamine (67.7 mg, 0.354 mmol) at ambient temperature. The resulting reaction mixture was heated to 90 °C for 2 hours. After completion of the reaction, the reaction mixture was quenched with ice cold water (30 mL) and extracted with ethyl acetate (2 x 50 mL). The combined organics were washed with brine solution (30 mL) and dried over anhydrous sodium sulfate, filtered and concentrated under *vacuo*. The crude material was purified by flash column chromatography to afford 5-(3,5-dichloro-4-hydroxybenzamido)-N-(2-

(trifluoromethoxy)benzyl)thiazole-4-carboxamide (23.0 mg, 15.39 %) as an off white solid. LCMS (ES) m/z calcd. For C₁₉H₁₂Cl₂F₃N₃O₄S, 504.99; found, 503.9 (M-H). ¹H NMR (400 MHz, DMSO-*d*₆) δ 12.35 (s, 1H), 8.31 (s, 1H), 7.94 (s, 2H), 7.68 (br, 1H), 7.50 (d, J = 7.2 Hz, 1H), 7.37-7.25 (m, 3H), 6.30 (s, 1H), 4.77 (d, J = 6 Hz, 2H).

[00181] The following compounds have been synthesized by using a procedure as described in Examples 1-4, 20-24, and 31-32.

Ex.	Spectral data
33	LCMS (ES) m/z calcd. For C ₁₈ H ₁₂ Cl ₂ FN ₃ O ₃ S, 439.0; found, 440.0 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 12.38 (s, 1H), 11.41 (s, 1H), 9.21 (s, 1H), 8.73 (s, 1H), 7.84 (s, 2H), 7.38-7.31 (m, 2H), 7.21-7.17 (m, 2H), 4.60 (d, J = 7.6 Hz, 2H).
34	LCMS (ES) m/z calcd. For C ₁₈ H ₁₂ Cl ₂ FN ₃ O ₃ S, 439.0; found, 439.0 (M-H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 12.40 (s, 1H), 11.30 (s, 1H), 9.32 (t, J = 6.2 Hz, 1H), 8.73 (s, 1H), 7.84 (s, 2H), 7.41-7.35 (m, 1H), 7.21-7.15 (m, 2H), 7.10-7.05 (m, 1H), 4.55 (d, J = 6.4 Hz, 2H).
35	LCMS (ES) m/z calcd. for C ₂₁ H ₁₈ Cl ₂ N ₂ O ₄ S, 464.0; found, 464.9 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 12.09 (s, 1H), 11.10 (s, 1H), 8.40 (s, 1H), 7.99 (d, J = 5.2 Hz, 1H), 7.75 (m, 3H), 7.11-7.18 (m, 2H), 6.93 (d, J = 8 Hz, 1H), 6.83 (t, J = 7 Hz, 1H), 3.77 (s, 3H), 3.45 (d, J = 5.2 Hz, 2H), 2.81 (m, 2H).
36	LCMS (ES) m/z calcd. for C ₂₄ H ₁₉ Cl ₂ N ₃ O ₄ S, 483.08; found, 482.1 (M-H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 13.01 (s, 1H), 11.20 (bs, 1H), 8.68 (d, J = 7.6 Hz, 1H), 7.98 (s, 1H), 7.88 (s, 2H), 7.78 (t, J = 16.8 Hz, 1H), 7.31 (d, J = 8 Hz, 1H), 7.17 (t, J = 14.8 Hz, 1H), 7.09 (d, J = 6.8 Hz, 1H), 6.88 (d, J = 8 Hz, 1H), 6.81 (t, J = 14.4 Hz, 1H), 4.24 (t, J = 12.8 Hz, 2H), 3.55 (s, 3H), 3.02 (t, J = 12.4 Hz, 2H).
37	LCMS (ES) m/z calcd. for C ₂₀ H ₁₂ Cl ₃ F ₃ N ₂ O ₄ S, 537.9; found, 538.8 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 13.09 (s, 1H), 11.31 (bs, 1H), 9.04 (t, J = 6.0 Hz, 1H), 7.81 (s, 2H), 7.65 (s, 1H), 7.49-7.38 (m, 4H), 4.60 (d, J = 5.6 Hz, 2H).
38	LCMS (ES) m/z calcd. for C ₂₁ H ₁₄ Cl ₃ F ₃ N ₂ O ₄ S, 551.97; found, 553.0. ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 13.19 (s, 1H), 11.33 (s, 1H), 8.66 (t, J = 5.2 Hz, 1H), 7.80 (s, 2H), 7.54 (s, 1H), 7.46 (t, J = 9.6 Hz, 1H), 7.39-7.32 (m, 3H), 3.54 (d, J = 6.8 Hz, 2H), 2.96 (t, J = 7.2 Hz, 2H).
39	LCMS (ES) m/z calcd. for C ₁₈ H ₁₁ Cl ₂ N ₅ O ₃ S, 447.0; found, 448.0. ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 12.77 (s, 1H), 11.25 (bs, 1H), 9.62 (s, 1H), 8.72 (d, J = 8.4 Hz, 1H), 8.67 (s, 1H), 7.88-7.92 (m, 3H), 7.47 (d, J = 7.6 Hz, 1H), 5.79 (s, 2H).
40	LCMS (ES): m/z calcd. For C ₂₂ H ₁₃ Cl ₂ F ₃ N ₄ O ₃ , 508.03; found, 509.0 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 13.35 (bs, 1H), 8.83 (d, J = 8.0 Hz, 1H), 8.65 (s, 1H), 7.98 (bs, 1H), 7.89 (s, 1H), 7.84-7.79 (m, 1H), 7.73-7.68 (m, 2H), 7.63-7.59 (m, 1H), 7.38 (d, J = 8.0 Hz, 1H), 5.32 (s, 2H).
41	LCMS (ES): m/z calcd. For C ₂₂ H ₁₅ Cl ₂ FN ₄ O ₃ , 472.05; found, 471.0 (M-H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 13.60 (s, 1H), 8.85 (d, J = 7.6 Hz, 1H), 8.45 (s, 1H), 8.14 (s, 1H), 7.87-7.83 (m, 1H), 7.46-7.40 (m, 2H), 7.36-7.34 (m, 1H), 7.27 (d, J = 7.6 Hz, 1H), 7.20-7.14 (m, 1H), 6.17 (q, J = 7.2 Hz, 1H), 1.90 (d, J = 7.2 Hz, 3H).
42	LCMS (ES): m/z calcd. For C ₂₁ H ₁₃ Cl ₂ FN ₄ O ₃ , 458.03; found, 459.0 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 13.56 (s, 1H), 8.84 (d, J = 7.6 Hz, 1H), 8.61 (s, 1H), 8.13 (s, 1H), 7.87-7.83 (m, 1H), 7.51-7.48 (m, 2H), 7.42 (d, J = 7.6 Hz, 1H), 7.23-7.18 (m, 2H), 5.24 (s, 2H).
43	LCMS (ES): m/z calcd. For C ₂₂ H ₁₃ Cl ₂ F ₃ N ₄ O ₃ , 508.03; found, 509.0 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 13.42 (s, 1H), 8.83 (d, J = 8.0 Hz, 1H), 8.53 (s, 1H), 8.08 (s, 1H), 7.89-7.85 (m, 1H), 7.81 (d, J = 8.0 Hz, 1H), 7.61-7.57 (m, 1H), 7.53-7.49 (m, 1H), 7.46 (d, J = 7.6 Hz, 1H), 7.12 (d, J = 8.0 Hz, 1H), 5.43 (s, 2H).
44	LCMS (ES): m/z calcd. For C ₂₁ H ₁₃ Cl ₂ FN ₄ O ₃ , 458.03; found 459.0 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 13.46 (s, 1H), 8.81 (d, J = 8.0 Hz, 1H), 8.54 (s, 1H), 8.06 (s, 1H), 7.85-7.81 (m, 1H), 7.41-7.34 (m, 3H), 7.23-7.17 (m, 2H), 5.27 (s, 2H).

Ex.	Spectral data
45	LCMS (ES) m/z calcd. For C ₂₇ H ₂₅ Cl ₂ N ₅ O ₃ 537.13; found, 538.1 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.58 (s, 1H), 8.73 (d, J = 7.6 Hz, 1H), 8.52 (s, 1H), 7.74-7.70 (m, 1H), 7.64 (s, 2H), 7.28-7.23 (m, 3H), 6.89 (d, J = 8.8 Hz, 2H), 5.12 (s, 2H), 3.36 (s, 3H hidden underneath DMSO- <i>d</i> ₆ moisture peak), 3.09-3.06 (m, 2H), 2.48 (m, 2H hidden underneath DMSO- <i>d</i> ₆ solvent peak), 2.43-2.40 (m, 2H), 2.17 (s, 2H).
47	LCMS (ES) m/z calcd. For C ₂₃ H ₁₆ Cl ₂ FN ₃ O ₃ , 471.05; found, 472 (M-1). ¹ H NMR (400 MHz, DMSO <i>d</i> ₆): δ 12.99 (s, 1H), 11.17 (s, 1H), 8.72 (d, J = 8.0 Hz, 1H), 8.46 (s, 1H), 7.93 (s, 2H), 7.86 (t, J = 8.4 Hz, 1H), 7.46 – 7.41 (m, 2H), 7.34 (d, J = 10.4 Hz, 1H), 7.26 (d, J = 8.0 Hz, 1H), 7.19 – 7.15 (m, 1H), 6.22 – 6.20 (m, 1H), 1.88 (d, J = 4.0 Hz, 3H).
48	LCMS (ES) m/z calcd. for C ₂₃ H ₁₄ Cl ₂ N ₄ O ₃ , 464.04; found, 465.0 (M+H). ¹ H NMR (400 MHz, DMSO <i>d</i> ₆): 12.82 (s, 1H), 11.09 (bs, 1H), 8.63 (d, J = 7.2 Hz, 1H), 8.56 (s, 1H), 7.86-7.77 (m, 4H), 7.73-7.67 (m, 2H), 7.52 (t, J = 8.0 Hz, 1H), 7.37 (d, J = 8.0 Hz, 1H), 5.25 (s, 2H).
49	LCMS (ES) m/z calcd. for C ₂₂ H ₁₃ Cl ₂ F ₃ N ₄ O ₄ ; 524.03; found, 525.0 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 13.54 (s, 1H), 8.84-8.82 (m, 1H), 8.64 (s, 1H), 8.12 (s, 1H), 7.85 (t, J = 8.0 Hz, 1H), 7.6-7.4 (m, 4H), 7.33-7.32 (m, 1H), 5.29 (s, 2H).
50	LCMS (ES) m/z calcd. For C ₂₂ H ₁₃ Cl ₂ F ₃ N ₄ O ₄ , 524.03; found 525.0 (M+H) ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 13.46 (s, 1H), 8.81 (d, J = 8.4 Hz, 2H), 8.59 (s, 2H), 8.07 (s, 2H), 7.82 (t, J = 7.8 Hz, 1H), 7.52 (d, J = 8 Hz, 1H), 7.40-7.34 (m, 2H), 5.26 (s, 2H).
51	LCMS (ES) m/z calcd. for C ₂₃ H ₁₇ Cl ₂ N ₃ O ₅ S; 518.4; found, 519.9 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.74 (s, 1H), 11.08 (bs, 1H), 8.65 (d, J = 7.6 Hz, 1H), 8.60 (s, 1H), 7.94-7.97 (m, 1H), 7.83 (t, J = 8.0 Hz, 1H), 7.75 (s, 2H), 7.50-7.60 (m, 2H), 7.42 (d, J = 7.6 Hz, 1H), 7.13 (d, J = 7.6 Hz, 1H), 5.61 (s, 2H), 3.44 (s, 3H).
52	LCMS (ES) m/z calcd. for C ₂₃ H ₂₁ Cl ₂ N ₅ O ₃ , 485.13; found, 486.1 (M+H), 99.44 % at 245 nm. ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.85 (bs, 1H), 8.73 (d, J = 8.0 Hz, 1H), 8.48 (s, 1H), 7.83-7.80 (m, 3H), 7.78-7.70 (m, 1H), 7.38 (d, J = 8.0 Hz, 1H), 6.22 (d, J = 2.4 Hz, 1H), 5.246 (s, 2H), 1.49 (s, 9H).
53	LCMS (ES) m/z calcd. For C ₂₃ H ₁₄ Cl ₂ N ₄ O ₃ , 464.0; found, 465.0 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.81 (s, 1H), 11.14 (bs, 1H), 8.70 (d, J = 8.0, 1H), 8.64 (s, 1H), 7.92-7.87 (m, 4H), 7.69-7.65 (m, 1H), 7.54-7.50 (m, 1H), 7.47 (d, J = 8.0 Hz, 1H), 7.40 (d, J = 7.6 Hz, 1H), 5.46 (s, 2H).
54	LCMS (ES) m/z calcd.: C ₂₄ H ₁₈ Cl ₂ F ₂ N ₄ O ₃ , 504.06; found, 505.0 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 10.71 (s, 1H), 8.58 (s, 1H), 7.98 (t, J = 8.0 Hz, 1H), 7.52 (d, J = 8.0 Hz, 1H), 7.44-7.37 (m, 4H), 7.30 (t, J = 8.0 Hz, 4H), 7.09, 6.97 (2s, 1H), 5.28 (s, 2H), 3.3 (s, 3H) at (solvent region).
56	LCMS (ES) m/z calcd. for C ₂₀ H ₁₅ Cl ₂ N ₅ O ₃ , 443.06; found, 444.1 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.96 (s, 1H), 11.17 (s, 1H), 8.69 (d, J = 7.6 Hz, 1H), 8.5 (s, 1H), 7.89 (s, 1H), 7.86 (m, 1H), 7.62 (d, 1H), 7.41 (d, J = 7.6 Hz, 1H), 6.24 (d, J = 2.4 Hz, 2H), 5.2 (s, 2H), 3.74 (s, 3H).
57	LCMS (ES) m/z calcd. for C ₂₁ H ₂₁ Cl ₂ N ₃ O ₃ ; 434.32 found, 434.1 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 13.12 (s, 1H), 11.15 (bs, 1H), 8.68 (d, J = 8 Hz, 1H), 8.51 (s, 1H), 7.94 (s, 2H), 7.84 (t, J = 8 Hz, 1H), 7.41 (d, J = 8 Hz, 1H), 4.08-4.04 (m, 2H), 1.66-1.62 (m, 2H) and 1.01-0.97 (m, 9H).
58	LCMS (ES) m/z calcd. For C ₂₄ H ₁₉ Cl ₂ N ₃ O ₅ , 499.07; found, 498.1 (M-1). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.97 (bs, 1H), 11.15 (bs, 1H), 8.71 (d, J = 8.4 Hz, 1H), 8.61 (s, 1H), 7.91 (s, 2H), 7.85 (t, J = 8.4 Hz, 1H), 7.42-7.35 (m, 3H), 6.93 (d, J = 8.4 Hz, 2H), 5.20 (s, 2H), 4.80 (t, J = 5.6 Hz, 1H), 3.95 (t, J = 5.2 Hz, 2H), 3.70-3.66 (m, 2H).
59	LCMS (ES) m/z calcd. For C ₂₃ H ₁₇ Cl ₂ N ₃ O ₅ S, 517.03; found, 516.0 (M-1). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.84 (s, 1H), 11.17 (bs, 1H), 8.71 (d, J = 8.0 Hz, 1H), 8.64 (s, 1H), 7.93-7.86 (m, 5H), 7.64 (d, J = 8.4 Hz, 2H), 7.45 (d, J = 7.6 Hz, 1H), 5.40 (s, 2H), 3.19 (s, 3H). Purity 98.2% at 245 nm.
60	LCMS (ES) m/z calcd. for C ₂₃ H ₁₇ Cl ₂ N ₃ O ₅ S, 517.03; found 518.0 (M+H), 98.02 % at 254 nm.

Ex.	Spectral data
	¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.88 (s, 1H), 11.17 (bs, 1H), 8.72-8.70 (m, 2H), 8.02 (s, 1H), 7.90-7.85 (m, 4H), 7.74 (d, <i>J</i> = 8.0 Hz, 1H), 7.65 (t, <i>J</i> = 7.6 Hz, 1H), 7.45 (d, <i>J</i> = 8.0 Hz, 1H), 5.39 (s, 2H), 3.21 (s, 3H).
61	LCMS (ES) <i>m/z</i> calcd. for C ₂₀ H ₂₀ Cl ₂ N ₄ O ₃ , 434.09; found, 435.1 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 13.72 (s, 1H), 8.83 (d, <i>J</i> = 8 Hz, 1H), 8.47 (s, 1H), 8.13 (s, 1H), 7.84 (t, 1H), 7.40 (d, <i>J</i> = 7.8 Hz, 1H), 4.07 - 4.02 (m, 2H), 1.66 - 1.62 (m, 2H), 1.01 (s, 9H).
62	LCMS (ES) <i>m/z</i> calcd. for C ₂₂ H ₂₀ Cl ₂ N ₆ O ₃ , 486.10; found, 487.1 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 13.5 (s, 1H), 8.8 (d, <i>J</i> = 8.4 Hz, 1H), 8.4 (s, 1H), 8.1 (s, 1H), 7.8 (t, <i>J</i> = 8.4 Hz, 1H), 7.7 (d, <i>J</i> = 2.4 Hz, 1H), 7.4 (d, <i>J</i> = 7.6 Hz, 1H), 6.2 (d, <i>J</i> = 2.4 Hz, 1H), 5.2 (s, 2H), 1.5 (s, 9H).
63	LCMS (ES) <i>m/z</i> calcd. For C ₂₆ H ₂₂ Cl ₂ N ₄ O ₅ S, 572.07; found 573.0 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 13.01 (s, 1H), 11.17 (s, 1H), 8.70 (d, <i>J</i> = 8 Hz, 1H), 8.62 (s, 1H), 7.93 (s, 2H), 7.85 (t, <i>J</i> = 8.2 Hz, 1H), 7.42 (d, <i>J</i> = 8 Hz, 1H), 7.34 (d, <i>J</i> = 8.8 Hz, 2H), 7.02 (d, <i>J</i> = 8.8 Hz, 2H), 5.18 (s, 2H), 3.76 (s, 4H), 3.08 (s, 4H).
64	LCMS (ES) <i>m/z</i> calcd. for C ₂₄ H ₁₆ Cl ₂ F ₃ N ₃ O ₄ , 537.05; found, 538.0 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ: 12.8 (s, 1H), 11.13 (s, 1H), 8.67 (d, <i>J</i> = 7.6 Hz, 1H), 7.8-7.9 (m, 3H), 7.3-7.4 (m, 4H), 7.13 (d, <i>J</i> = 7.6 Hz, 1H), 5.46 (s, 2H), 3.35 (s, 3H).
65	LCMS (ES) <i>m/z</i> calcd. For C ₂₃ H ₁₄ F ₂ N ₄ O ₃ , 523.03; found 524.0 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.39 (bs, 1H), 10.54 (s, 1H), 8.74 (d, <i>J</i> = 8 Hz, 1H), 8.52 (s, 1H), 7.92 (t, <i>J</i> = 8 Hz, 1H), 7.52-7.43 (m, 3H), 7.40-7.32 (m, 2H), 7.27 (d, <i>J</i> = 6.8 Hz, 1H), 7.16 (d, <i>J</i> = 8 Hz, 1H), 5.26 (s, 2H).
66	LCMS (ES) <i>m/z</i> calcd. For C ₂₂ H ₁₃ Cl ₂ N ₅ O ₃ , 465.04; found 466.0 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 13.40 (s, 1H), 8.77 (d, <i>J</i> = 7.6 Hz, 1H), 8.57 (s, 1H), 8.18 (s, 1H), 8.06- 7.81 (m, 2H), 7.66-7.62 (m, 1H), 7.50-7.37 (m, 3H), 5.38 (s, 2H).
67	LCMS (ES) <i>m/z</i> calcd. For C ₂₃ H ₁₅ Cl ₂ N ₅ O ₃ , 479.06; found, 480.1 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 13.01 (s, 1H), 12.98 (s, 1H), 8.68 (d, <i>J</i> = 8.0 Hz, 1H), 8.62 (s, 1H), 7.93 (d, <i>J</i> = 8.0 Hz, 1H), 7.88 (s, 2H), 7.85-7.81 (m, 1H), 7.50 (d, <i>J</i> = 8.4 Hz, 1H), 7.41 (d, <i>J</i> = 8.4 Hz, 1H), 7.37-7.33 (m, 1H), 7.16-7.12 (m, 1H), 5.62 (s, 2H).
68	LCMS (ES): <i>m/z</i> calcd. For C ₂₄ H ₁₄ ClF ₃ N ₄ O ₃ , 498.07; found, 499.0 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.85 (s, 1H), 8.67-8.66 (m, 2H), 8.12 (d, <i>J</i> = 2.0 Hz, 1H), 8.07 (d, <i>J</i> = 2.0 Hz, 1H), 7.87-7.83 (m, 2H), 7.68-7.66 (m, 2H), 7.60-7.56 (m, 1H), 7.42 (d, <i>J</i> = 7.6 Hz, 1H), 5.34 (s, 2H).
69	LCMS (ES) <i>m/z</i> calcd. C ₂₁ H ₁₄ Cl ₂ F ₃ N ₃ O ₄ , 499.0; found, 498.0 (M-H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 13.0 (s, 1H), 11.17 (s, 1H), 9.82 (t, <i>J</i> = 8.0 Hz, 1H), 9.08-9.06 (m, 1H), 8.43-8.41 (m, 1H), 7.92 (s, 2H), 7.72-7.69 (m, 1H), 7.44-7.37 (m, 4H), 4.64 (d, <i>J</i> = 8.0 Hz, 2H).
70	LCMS (ES) <i>m/z</i> calcd. For C ₂₄ H ₁₃ Cl ₂ F ₆ N ₃ O ₄ , 591.08; found 591.9 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.15 (bs, 1H), 11.18 (s, 1H), 8.86 (d, <i>J</i> = 8 Hz, 1H), 8.03 (t, <i>J</i> = 8.4 Hz, 1H), 7.82 (s, 2H), 7.65 (d, <i>J</i> = 7.6 Hz, 1H), 7.46-7.42 (m, 2H), 7.34-7.27 (m, 2H), 5.45 (d, <i>J</i> = 23.6 Hz, 2H).
71	LCMS (ES) <i>m/z</i> calcd. For C ₂₀ H ₂₂ Cl ₂ N ₂ O ₃ , 408.1; found 409.2 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.39 (s, 1H), 11.07 (s, 1H), 8.77 (d, <i>J</i> = 5.2 Hz, 1H), 8.48 (d, <i>J</i> = 8 Hz, 1H), 7.86 (s, 2H), 7.79 (d, <i>J</i> = 7.2 Hz, 1H), 7.54 (t, <i>J</i> = 7.2 Hz, 1H), 7.20 (t, <i>J</i> = 7.2 Hz, 1H), 3.40 - 3.41 (m, 2H), 1.51 - 1.47 (m, 2H), 0.948 (s, 9H).
72	LCMS (ES) <i>m/z</i> calcd. For C ₂₂ H ₁₃ Cl ₂ N ₅ O ₃ , 484.05; found 485.1 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 13.61 (s, 1H), 8.77 (d, <i>J</i> = 7.6 Hz, 1H), 8.624 (d, <i>J</i> = 3.2 Hz, 1H), 8.10 (s, 1H), 7.83 - 7.81 (m, 2H), 7.39 - 7.37 (m, 2H), 7.21 (m, 2H), 1.68 (s, 2H), 1.56 (s, 2H).
73	LCMS (ES) <i>m/z</i> calcd. for C ₂₁ H ₁₄ Cl ₂ F ₃ N ₃ O ₄ , 499.03; found 500.0 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 11.35 (s, 1H), 11.08 (s, 1H), 9.41 (t, <i>J</i> = 5.6 Hz, 1H), 9.33 (s, 1H), 8.52 (d, <i>J</i> = 4.8 Hz, 1H), 7.73 (d, <i>J</i> = 4.8 Hz, 2H), 7.53 (d, <i>J</i> = 7.2 Hz, 1H), 7.43-7.39 (m, 1H), 7.35-7.30 (m, 3H), 4.55 (d, <i>J</i> = 5.6 Hz, 2H).

Ex.	Spectral data
74	LCMS (ES) m/z calcd. for C ₂₄ H ₁₆ Cl ₂ F ₃ N ₃ O ₄ , calcd 537.05; found 536.0 (M-H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.91 (s, 1H), 11.16 (s, 1H), 8.69 (d, $J=8.0$ Hz, 1H), 8.46 (s, 1H), 7.90-7.80 (m, 3H), 7.56-7.53(m, 2H), 7.40-7.35 (m, 3H), 6.22-6.18 (m, 1H), 1.87-1.86 (m, 3H).
75	LCMS (ES): m/z calcd. for C ₂₂ H ₁₃ ClF ₄ N ₄ O ₃ ; 508.03 found 509.0, (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.81 (s, 1H), 11.12(s, 1H), 8.70-8.68(m, 2H), 8.57(s, 1H), 8.28(d, $J=8$ Hz, 1H), 7.91-7.84(m, 3H), 7.59-7.56(m, 1H), 7.48(d, $J=8$ Hz, 1H) and 5.60 (s, 2H).
76	LCMS (ES) m/z calcd. For C ₂₅ H ₁₆ Cl ₂ FN ₅ O ₃ 523.06; found, 524.1 (M+H), ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 13.0 (s, 1H), 11.14 (s, 1H), 8.7 (d, $J=8.4$ Hz, 1H), 8.61 (s, 2H), 7.95 (s, 2H), 7.89-7.83 (m, 2H), 7.67 (d, $J=7.6$ Hz, 2H), 7.54-7.48 (m, 1H), 7.43 (d, $J=8.0$ Hz, 1H), 7.13 (t, $J=10.0$ Hz, 1H), 5.23 (s, 2H).
77	LCMS (ES) m/z calcd. For C ₂₅ H ₁₇ Cl ₂ N ₅ O ₃ ; 505.07; found, 506.1 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 12.96 (s, 1H), 11.15 (s, 1H), 8.71 (d, $J=7.6$ Hz, 1H), 8.63 (s, 1H), 8.48-8.44 (m, 1H), 7.92-7.85 (m, 2H), 7.76 (d, $J=7.6$ Hz, 3H), 7.49-7.44 (m, 3H), 7.29 (t, $J=7.6$ Hz, 1H), 6.59 (d, $J=2.4$ Hz, 1H), 5.37 (s, 2H).
78	LCMS (ES) m/z calcd. For C ₂₈ H ₁₉ Cl ₂ N ₃ O ₃ , 515.08; found 516.0 (M+H), ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.81 (s, 1H), 11.16 (s, 1H), 8.72 (d, $J=7.6$, 1H), 8.1 (s, 1H), 7.90 - 7.87 (m, 3H), 7.46 - 7.38 (m, 8H), 7.32 - 7.30 (m, 4H).
79	LCMS (ES) m/z calcd. C ₂₂ H ₁₆ Cl ₂ N ₄ O ₅ S, 518.02; found, 519.0(M+1). ¹ H NMR (400 MHz, DMSO <i>d</i> ₆) δ 13.3 (s, 1H), 8.83 (d, $J=8.0$ Hz, 1H), 8.65 (s, 1H), 8.02-8.05 (s, 2H), 7.88 (bs, 1H), 7.59-7.67 (m, 2H), 7.48 (d, $J=7.2$ Hz, 1H), 7.19 (d, $J=6$ Hz, 1H), 5.63 (s, 2H), 3.56 (s, 3H).
80	LCMS (ES) m/z calcd. for C ₂₁ H ₁₄ Cl ₂ N ₄ O ₃ , 440.04; found, 441.1 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 12.87 (s, 1H), 8.68-8.65 (m, 3H), 8.50-8.46 (m, 1H), 7.92-7.79 (m, 4H), 7.41-7.35 (m, 2H), 5.28 (s, 2H).
81	LCMS (ES) m/z calcd. for C ₂₃ H ₁₃ Cl ₃ F ₃ N ₃ O ₄ ; 556.9 found 558.0, (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 12.83 (s, 1H), 11.21 (s, 1H), 8.71-8.68 (m, 2 H), 8.04 (d, $J=8.8$ Hz, 1H), 7.86 (s, 2H), 7.52-7.32 (m, 4H), 5.36 (s, 2 H).
82	LCMS (ES) m/z calcd. for C ₂₂ H ₁₃ Cl ₂ F ₃ N ₄ O ₃ , 508.03; found, 509.0 (M+H). ¹ H NMR (400 MHz, DMSO <i>d</i> ₆): 12.77 (s, 1H), 11.13 (s, 1H), 8.72-8.66 (m, 2H), 8.60 (s, 1H), 7.92-7.88 (m, 1H), 7.84 (s, 2H), 7.74-7.63 (m, 2H), 7.5-7.48 (m, 1H), 5.50 (s, 2H).
83	LCMS (ES) m/z , C ₂₆ H ₂₂ Cl ₂ N ₄ O ₅ S, Calcd ,572.07, found; 571.1 (M-H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.99 (s, 1H), 11.15 (bs, 1H), 8.72 (d, $J=8.0$ Hz, 1H), 8.52 (s, 1H), 7.90-7.85 (m, 3H), 7.45 (d, $J=7.2$ Hz, 1H), 7.38-7.30 (m, 2H), 7.14-7.13 (m, 2H), 5.40 (s, 2H), 3.37 (bs, 4H), 3.25 (bs, 4H).
84	LCMS (ES) m/z calcd. For C ₂₆ H ₂₂ Cl ₂ N ₄ O ₄ 524.1; found, 525.1 (M+1). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 13.0 (s, 1H), 11.15 (s, 1H), 8.7 (d, $J=8.4$ Hz, 1H), 8.54 (s, 1H), 7.89-7.84 (m, 3H), 7.44 (d, $J=8.0$ Hz, 1H), 7.33-7.31 (m, 2H), 7.11-7.10 (m, 2H), 5.36 (s, 2H), 3.78 (bs, 4H), 2.91 (bs, 4H).
85	LCMS (ES) m/z calcd. for. C ₂₆ H ₂₄ Cl ₂ F ₃ N ₃ O ₅ , 585.10; found 584.10 [M - H]; ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 11.93 (s, 1H), 10.21 (bs, 1H), 9.36 (bs, 1H), 8.28 (d, $J=8.8$ Hz, 1H), 7.8 (bs, 2H), 7.30-7.52 (m, 5H), 7.19 (d, $J=8.8$ Hz, 1H), 4.55 (d, $J=8.8$ Hz, 2H), 4.43(m, 2H), 3.52 (m, 2H), 2.88 (s, 6H).
86	LCMS (ES) m/z calcd. for C ₂₄ H ₁₉ Cl ₂ F ₃ N ₂ O ₆ , 558.06; found, 557.0 (M-H). ¹ H NMR (400 MHz, DMSO <i>d</i> ₆): δ 11.78 (s, 1H), 9.28 (s, 1H), 8.18 (d, $J=9.2$ Hz, 1H), 8.12 (s, 1H), 8.04 (s, 2H), 7.51 (d, $J=7.6$ Hz, 1H), 7.42-7.31 (m, 4H), 7.21 (d, $J=8.8$ Hz, 1H), 4.89 (s, 1H), 4.56 (d, $J=5.6$ Hz, 2H), 4.07 (t, $J=4.8$ Hz, 2H), 3.75 (s, 2H).
87	LCMS (ES) m/z calcd. for C ₂₂ H ₁₃ Cl ₂ F ₃ N ₄ O ₄ , 524.03; found, 525.1 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.79 (s, 1H), 11.16 (bs, 1H), 8.68 (d, $J=8$ Hz, 1H), 8.59 (s, 1H), 8.27 (d, $J=4$ Hz, 1H) 7.92 (d, $J=8$ Hz, 1H), 7.85 (t, $J=8$ Hz, 3H), 7.44 - 7.37 (m, 2H), 5.28 (s, 2H).

Ex.	Spectral data
88	LCMS (ES) m/z calcd. for C ₂₄ H ₁₆ Cl ₂ F ₃ N ₃ O ₄ , 537.05; found, 538.1 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ , 12.86 (s, 1H), 11.13 (s, 1H), 8.62 (d, J = 7.2 Hz, 2H), 7.86 (s, 2H), 7.76 (d, J = 8.4 Hz, 1H), 7.50-7.42 (m, 2H), 7.39-7.34 (m, 2H), 5.36 (s, 2H), 3.45 (s, 3H*) [3 methyl proton merged with DMSO solvent peak.].
89	LCMS (ES) m/z calcd. for C ₂₅ H ₁₈ Cl ₂ F ₃ N ₃ O ₄ , 551.06; found 552.10 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ , 12.86 (s, 1H), 11.11 (s, 1H), 8.62 (d, J = 7.2 Hz, 2H), 7.86 (s, 2H), 7.76 (d, J = 8.4 Hz, 1H), 7.50-7.42 (m, 2H), 7.39-7.34 (m, 2H) 5.36 (s, 2H), 3.45 (s, 3H*) [6 methyl proton merged with DMSO solvent peak.].
90	LCMS (ES) m/z calcd. for C ₂₂ H ₁₂ Cl ₃ F ₃ N ₄ O ₄ , 557.99; found 559.01 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ , 13.41 (s, 1H), 11.12 (s, 1H*) hydroxyl proton peak 8.80 (d, J = 9.2 Hz, 1H), 8.66 (s, 1H), 8.02 (t, J = 12.0 Hz, 2H), 7.43-7.34 (m, 4H), 5.31 (s, 2H).
91	LCMS (ES) m/z calcd. for C ₂₃ H ₁₅ Cl ₂ F ₃ N ₄ O ₄ , 538.04; found 539.01 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ , 13.45 (s, 1H), 8.74 (d, J = 8.4 Hz, 1H), 8.58 (s, 1H), 8.09 (s, 1H), 7.74 (d, J = 8.8 Hz, 1H), 7.49-7.42 (m, 2H), 7.39-7.32 (m, 2H), 5.33 (s, 2H) 3.44 (s, 3H*) [3 methyl proton merged with DMSO solvent peak.].
92	LCMS (ES) m/z calcd. for C ₂₂ H ₁₃ Cl ₂ F ₃ N ₄ O ₄ , 524.03; found, 525.1 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ , 12.96 (s, 1H), 11.31 (bs, 1H), 8.86 (d, J = 6 Hz, 1H), 8.79 (s, 1H), 8.54 (d, J = 5.6 Hz, 1H) 7.88 (s, 2H), 7.50 - 7.35 (m, 4H), 5.36 (s, 2H).
93	LCMS (ES) m/z calcd. For C ₂₄ H ₁₆ Cl ₂ F ₃ N ₃ O ₅ 553.04; found, 554.0 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 12.9 (s, 1H), 11.1 (s, 1H), 8.54 (d, J = 8 Hz, 1H), 7.88 (s, 2H), 7.85-7.81 (m, 1H), 7.44 - 7.30 (m, 4H), 7.29-7.23 (m, 1H), 5.27 (s, 2H), 3.56 (s, 3 H).
94	LCMS (ES) m/z calcd. for C ₂₄ H ₁₆ Cl ₂ F ₃ N ₃ O ₄ , 537.05; found, 538.1 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 10.91 (s, 1H), 10.39 (s, 1H), 8.45 (s, 1H), 7.97 (s, 2H), 7.75 (d, J = 8.8 Hz, 1H), 7.57 (d, J = 8.4 Hz, 1H), 7.43-7.29 (m, 3H), 7.17 (d, J = 7.2 Hz, 1H), 5.20 (s, 2H), 2.22 (s, 3H).
95	LCMS (ES) m/z calcd. For C ₂₂ H ₁₃ Cl ₂ F ₃ N ₄ O ₅ , 540.02; found 541.0 (M+H). Purity: 99.27 % at 240 nm. ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 12.70 (s, 1H), 12.28 (s, 1H), 11.33 (s, 2H), 8.51 (d, J = 5.6 Hz, 1H), 8.28 (d, J = 6 Hz, 1H), 7.84 (s, 2H), 7.39-7.35 (m, 3H), 5.16 (s, 2H).
96	LCMS (ES): m/z calcd. for C ₂₃ H ₁₅ Cl ₂ F ₃ N ₄ O ₄ ; 538.04 found, 539.1 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 12.98 (s, 1H), 11.33 (s, 1H), 8.86 (d, J = 5.6 Hz, 1H), 8.52 (d, J = 5.6 Hz, 1H), 7.94-7.84 (m, 2H), 7.49-7.48 (m, 2H), 7.38-7.33 (m, 1H), 7.21-7.20 (m, 1H), 5.46 (s, 2H), 2.55 (s, 3H).
97	LCMS (ES) m/z calcd. C ₂₀ H ₁₃ Cl ₂ N ₃ O ₃ S, 445.01; found, 446.0 (M+H). ¹ H NMR (400 MHz, DMSO <i>d</i> ₆) δ 11.13 (s, 1H), 10.60 (s, 1H), 8.70 (s, 1H), 7.87 (d, J = 7.2 Hz, 1H), 7.83 (s, 2H), 7.37 (d, J = 4.4 Hz, 5H), 5.29 (s, 2H).
98	LCMS (ES) m/z calcd. C ₁₉ H ₁₂ Cl ₂ N ₄ O ₃ S, 446.00; found, 446.8 (M+H). ¹ H NMR (400 MHz, DMSO <i>d</i> ₆) δ 11.4 (s, 1H), 8.67 (s, 1H), 8.10 (s, 1H), 7.99 (s, 1H), 7.37 (d, J = 5.6 Hz, 5H), 5.30 (s, 2H).
99	LCMS (ES) m/z calcd. For C ₂₀ H ₁₅ Cl ₂ N ₅ O ₃ , 443.06; found 443.8 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 11.01 (s, 1H), 10.49 (s, 1H), 8.61 (s, 1H), 7.98 (s, 2H), 7.36-7.28 (m, 5H), 5.13 (s, 2H), 3.89 (s, 3H).
100	LCMS (ES) m/z calcd. For C ₂₃ H ₁₅ Cl ₂ N ₅ O ₃ ; 479.06; found, 480.1 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 13.09 (s, 1H), 8.75 (s, 1 H), 8.67-8.62 (m, 2 H), 8.19 (s, 1 H), 8.05 (d, J = 9.6 Hz, 1H), 7.94 (s, 2 H), 7.82-7.79 (m, 1 H), 7.37 (d, J = 8 Hz, 1H), 7.31-7.28 (m, 1H), 6.95-6.90 (m, 1 H), 6.51 (s, 1 H), 5.40 (s, 2 H).
101	LCMS (ES) m/z calcd. For C ₂₄ H ₁₅ Cl ₂ F ₃ N ₄ O ₃ , 535.30; found 535.1 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 13.46 (s, 1H), 8.97 (d, J = 8.4 Hz, 1H), 8.14 (s, 1H), 7.91 (t, J = 8 Hz, 1H), 7.51-7.46 (m, 2H), 7.33-7.25 (m, 3H), 3.15 (s, 2H), 2.58 (s, 2H), 1.78 (d, J = 6.4, 1H), 1.61 (s, 1H).
102	LCMS (ES) m/z calcd. for C ₂₄ H ₁₇ Cl ₂ N ₃ O ₃ ; 465.06; found, 465.9 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ : 13.23 (s, 1H), 11.17 (s, 1H), 8.72 (d, J = 7.6 Hz, 1H), 8.43 (s, 1H), 7.98 (s, 2H), 7.85 (t, J = 8.4 Hz, 1H), 7.4-7.5 (m, 3H), 7.35 (t, J = 7.6 Hz, 2H), 7.27 (t, J = 7.2 Hz, 1H), 3.35 (m, 2H), 1.6-1.8 (m, 2H).

Ex.	Spectral data
103	LCMS (ES) <i>m/z</i> calcd. C ₂₁ H ₁₂ Cl ₂ F ₃ N ₃ O ₄ S, 528.99; found, 530.1 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 11.12 (s, 1H), 10.53 (s, 1H), 8.63 (s, 1H), 7.87 (s, 1H), 7.81 (s, 2H), 7.49-7.42 (m, 2H), 7.377 (t, <i>J</i> = 7.6 Hz, 1H), 7.27 (d, <i>J</i> = 6.8 Hz, 1H), 5.36 (s, 2H).
104	LCMS (ES) <i>m/z</i> calcd. C ₂₀ H ₁₁ Cl ₂ F ₃ N ₄ O ₄ S, 529.98; found, 531.0 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 11.37 (s, 1H), 8.60 (s, 1H), 8.07 (s, 1H), 7.99 (s, 1H), 7.48-7.43 (m, 2H), 7.39 (m, 1H), 7.26-7.24 (m, 1H), 5.36 (s, 2H).
105	LCMS (ES) <i>m/z</i> calcd. for C ₂₆ H ₁₉ Cl ₂ N ₅ O ₃ , 519.0 found, 520.2 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 12.81 (s, 1H), 11.17 (bs, 1H), 8.68-8.67 (m, 1H), 8.31 (s, 1H), 7.84-7.82 (m, 3H), 7.49-7.34 (m, 5H), 7.24-7.22 (m, 1H), 6.36 (s, 1H), 5.07 (s, 2H), 3.82 (s, 3H).
106	LCMS (ES) <i>m/z</i> calcd. for C ₂₂ H ₁₆ Cl ₂ N ₄ O ₅ S, 518.3; found, 519.1 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 12.92 (s, 1H), 8.72 (d, <i>J</i> = 8.0 Hz, 1H), 8.44 (s, 1H), 8.00 (s, 1H), 7.98-7.92 (m, 1H), 7.91-7.89 (m, 1H), 7.71-7.65 (m, 2H), 7.51-7.49 (m, 3H), 7.04-7.01 (m, 1H), 5.68 (s, 2H), 5.52 (s, 2H).
107	LCMS (ES) <i>m/z</i> calcd. for C ₁₉ H ₁₄ Cl ₂ N ₆ O ₃ , 444; found, 445.2 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 10.05 (bs, 1H), 8.57 (s, 1H), 7.79 (bs, 1H), 7.35 - 7.29 (m, 5H), 5.18 (s, 2H), 3.84 (s, 3H).
108	LCMS (ES) <i>m/z</i> calcd. For C ₂₃ H ₁₆ Cl ₂ N ₄ O ₃ , 466.0; found, 467.1 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ: 13.32 (s, 1H), 8.51 (d, <i>J</i> = 8.0 Hz, 1H), 8.31 (s, 1H), 8.18-8.15 (m, 2H), 7.76-7.21 (m, 1H), 7.57 (d, <i>J</i> = 8.0 Hz, 2H), 7.32-7.22 (m, 3H), 2.92-2.90 (m, 2 H), 1.72-1.70 (m, 1H), 1.63-1.61 (m, 1H).
109	LCMS (ES) <i>m/z</i> calcd. For C ₂₃ H ₁₆ Cl ₂ N ₄ O ₃ , 466.06; found, 467.2 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ: 13.34 (s, 1H), 8.61 (d, <i>J</i> = 8.0 Hz, 1H), 8.33 (s, 1H), 8.1 (bs, 1H), 7.78-7.72 (m, 2H), 7.59-7.58 (m, 2H), 7.34-7.24 (m, 4H), 2.93-2.92 (m, 2H), 1.76-1.10 (m, 1H), 1.66-1.61 (m, 1H).
110	LCMS (ES) <i>m/z</i> calcd. For C ₂₆ H ₁₇ Cl ₂ N ₅ O ₃ , 517.0; found 518.1 (M+H), ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 13.45 (s, 1H), 8.80 (d, <i>J</i> = 7.6 Hz, 1H), 8.70-8.69 (m, 1H), 8.33 (s, 1H), 8.10 (s, 1H), 7.96 -7.94 (m, 1H), 7.82 (t, 1H), 7.73-7.71 (m, 1H), 7.51-7.48 (m, 1H), 7.44-7.39 (m, 4H), 7.38-7.19 (m, 1H), 5.37 (s, 2H).
111	LCMS (ES) <i>m/z</i> calcd. For C ₂₇ H ₁₈ Cl ₂ N ₄ O ₃ , 516.0; found 517.1 (M+H), ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 12.86 (s, 1H), 11.10 (bs, 1H) 8.68-8.66 (m, 2H), 8.37 (s, 1H), 7.93-7.90 (m, 1H), 7.84-7.81 (m, 2H), 7.66-7.64 (m, 1H), 7.50-7.48 (m, 1H), 7.42-7.21 (m, 3H), 7.19-7.06 (m, 1H), 7.06 (s, 1H), 6.93(s, 1H) 5.41 (s, 2H).
112	LCMS (ES) <i>m/z</i> calcd. For C ₂₅ H ₁₅ Cl ₂ F ₆ N ₃ O ₄ , 605.03; found 604.1 (M-H), ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 12.46 (s, 1H), 11.18 (bs, 1H) 8.77 (d, <i>J</i> = 8.8 Hz, 1H), 7.92 (d, <i>J</i> = 8.8 Hz, 1H), 7.83 (s, 2H), 7.46-7.43 (m, 2H), 7.33-7.24 (m, 2H), 5.40 (s, 2H), 2.68 (s, 3H).
113	LCMS (ES) <i>m/z</i> calcd. for C ₂₃ H ₁₅ Cl ₂ F ₃ N ₄ O ₅ , 554.04; found 553.0 (M-H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 13.55 (s, 1H), 8.65 (d, 8 Hz, 1H), 8.08 (s, 1H), 7.80 (t, <i>J</i> = 8.8 Hz, 1H), 7.38 (s, 2H), 7.29 (s, 2H), 7.23-7.21 (m, 1H), 5.24 (s, 2H), 3.54 (s, 3H).
114	LCMS (ES): <i>m/z</i> calcd. For C ₁₈ H ₁₃ Cl ₂ FN ₄ O ₃ S, 454.01; found 455.1 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 12.32 (s, 1H), 8.37 (m, 1H), 8.10 (s, 1H), 7.46 (m, 1H), 7.35-7.33 (m, 1H), 7.24 -7.18 (m, 3H), 4.62 (d, <i>J</i> = 5.6 Hz, 2H), 2.62 (s, 3 H).
115	LCMS (ES): <i>m/z</i> calcd. For C ₁₉ H ₁₅ Cl ₂ FN ₄ O ₃ S, 468.02; found 469.1 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 11.91 (s, 1H), 8.38 (d, <i>J</i> = 7.2 Hz, 1H), 8.11 (s, 1H), 7.54 (t, <i>J</i> = 8 Hz, 1H), 7.33-7.21 (m, 1H), 7.23-7.18 (m, 3H), 5.45 (m, 1H), 2.59 (m, 3H), 1.54-1.53 (m, 3H).
116	LCMS (ES): <i>m/z</i> calcd. For C ₂₅ H ₁₆ Cl ₂ F ₃ N ₃ O ₃ , 533.05; found 532.1 (M-H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 12.85 (bs, 1H), 11.23 (s, 1H), 8.83 (d, <i>J</i> = 8.4 Hz, 1H), 7.97 (s, 2H), 7.93 (t, <i>J</i> = 8 Hz, 1H), 7.52 (d, <i>J</i> = 8 Hz, 1H), 7.38-7.23 (m, 5H), 3.18-3.17 (m, 1H), 2.65-2.48 (m, 1H), 1.84-1.79 (m, 1H), 1.68-1.62 (m, 1H).
117	LCMS (ES): <i>m/z</i> calcd. For C ₂₄ H ₁₇ Cl ₂ N ₅ O ₃ , 493.07; found 492.1 (M-H).

Ex.	Spectral data
	¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 13.01 (s, 1H), 11.16 (s, 1H), 8.70 (d, <i>J</i> = 8 Hz, 1H), 8.65 (s, 1H), 7.97 (d, <i>J</i> = 8.4 Hz, 1H), 7.88-7.81 (m, 3H), 7.63 (d, <i>J</i> = 8.4 Hz, 1H), 7.44-7.39 (m, 2H), 7.20 (t, <i>J</i> = 7.6 Hz, 1H), 5.63 (m, 2H), 3.94 (s, 3H).
118	LCMS (ES): <i>m/z</i> calcd. For C ₂₁ H ₁₄ Cl ₂ F ₃ N ₅ O ₄ , 527.04; found 528.1 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 11.00 (s, 1H), 10.47 (s, 1H), 8.53 (s, 1H), 7.93 (s, 2H), 7.41-7.32 (m, 3H), 7.13 (d, 6.8 Hz, 1H), 5.18 (s, 2H), 3.88 (s, 3H).
119	LCMS (ES): <i>m/z</i> calcd. For C ₂₀ H ₁₃ Cl ₂ F ₃ N ₆ O ₄ , 528.03; found 529.1 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 10.08 (s, 1H), 8.50 (s, 1H), 7.84 (s, 1H), 7.47-7.40 (m, 2H), 7.37-7.33 (m, 1H), 7.20-7.17 (m, 2H), 5.25 (s, 2H), 3.92 (s, 3H).
120	LCMS (ES): <i>m/z</i> calcd. For C ₂₀ H ₁₈ Cl ₂ F ₃ N ₃ O ₄ , 491.06; found 490.1 (M-H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 11.34 (s, 1H), 8.10 (bs, 1H), 7.62 (s, 1H), 7.43-7.33 (m, 4H), 5.1-4.69 (bs, 1H), 4.47-4.37 (m, 2H), 3.00 (s, 1H), 2.09 (m, 2H), 1.63-1.61 m, 3H), 1.47-1.43 (m, 2H); Purity: 98.16 % at 240 nm.
121	LCMS (ES) <i>m/z</i> calcd. C ₂₅ H ₁₉ Cl ₂ N ₃ O ₃ , 479.08; found, 479.8(M+1); ¹ H NMR (400 MHz, DMSO <i>d</i> ₆) δ 12.94 (s, 1H), 11.13 (s, 1H), 8.75 (s, 1H), 8.79 (d, <i>J</i> = 7.6 Hz, 1H), 7.89 (s, 2H), 7.82-7.86 (m, 1H), 7.41 (d, <i>J</i> = 8.0 Hz, 1H), 7.29-7.37 (m, 4H), 7.20-7.23 (m, 1H), 5.33 (q, <i>J</i> = 9.2 Hz, 1H), 4.20 (q, <i>J</i> = 9.2 Hz, 1H), 2.35-2.6 (m, 3H), 1.94-2.03 (m, 1H).
122	LCMS (ES) <i>m/z</i> calcd. C ₂₁ H ₁₃ Cl ₃ N ₄ O ₃ , 474.01; found, 475.0 (M+1); ¹ H NMR (400 MHz, DMSO <i>d</i> ₆) δ 12.79 (s, 1H), 11.3 (s, 1H), 8.71 (d, <i>J</i> = 7.6 Hz, 1H), 8.59 (s, 1H), 8.37-8.39 (m, 1H), 7.84-7.90 (m, 3H), 7.7 (dd, <i>J</i> ₁ = 1.6 Hz, <i>J</i> ₂ = 6.0 Hz, 1H), 7.39-7.47 (m, 2H), 5.33 (s, 2H).
123	LCMS (ES) <i>m/z</i> calcd. C ₂₇ H ₂₄ Cl ₂ N ₄ O ₄ , 538.12; found, 539.1 (M+H). ¹ H NMR (400 MHz, CDCl ₃) δ 12.89 (s, 1H), 8.90 (d, <i>J</i> = 8.4 Hz, 1H), 8.14 (s, 1H), 8.04 (s, 2H), 7.83-7.79 (m, 1H), 7.49-7.41 (m, 5H), 6.53-6.50 (m, 1H), 3.97-3.91 (m, 1H), 3.85 (bs, 4H), 3.62-3.57 (m, 1H), 3.20 (s, 2H), 3.04 (bs, 2H), 2.37-2.34 (m, 1H).
124	LCMS (ES) <i>m/z</i> calcd. C ₂₂ H ₁₃ Cl ₂ F ₃ N ₄ O ₄ , 524.03; found, 525.0 (M+H). ¹ H NMR (400 MHz, DMSO <i>d</i> ₆) δ 8.76 (s, 1H), 8.52 (d, <i>J</i> = 5.6 Hz, 1H), 8.18 (bs, 1H), 8.04 (s, 2H), 7.66 (bs, 1H), 7.51-7.48 (m, 1H), 7.47-7.39 (m, 2H), 7.37 (d, <i>J</i> = 5.6 Hz, 1H), 5.29 (s, 2H).
125	LCMS (ES) <i>m/z</i> calcd. C ₂₀ H ₁₁ Cl ₂ F ₆ N ₃ O ₄ S, 572.98; found, 572.0 (M-H); ¹ H NMR (400 MHz, DMSO <i>d</i> ₆) δ 12.58 (s, 1H), 11.4 (bs, 1H), 9.42 (bs, 1H), 7.85 (s, 2H), 7.38-7.36 (m, 4H), 4.60 (d, <i>J</i> = 6.4 Hz, 2H).
126	LCMS (ES) <i>m/z</i> calcd. C ₂₀ H ₁₆ Cl ₂ FN ₃ O ₃ S, 467.03; found, 468.0 (M+H); ¹ H NMR (400 MHz, DMSO <i>d</i> ₆) δ 11.75 (s, 1H), 8.71 (bs, 1H), 7.96 (bs, 2H), 7.47-7.44 (m, 1H), 7.32-7.28 (m, 1H), 7.21-7.17 (m, 2H), 5.42-5.40 (m, 1H), 2.95 (s, 3H), 1.52 (bs, 3H).
127	LCMS (ES) <i>m/z</i> calcd. C ₁₉ H ₁₆ Cl ₂ F ₃ N ₃ O ₄ , 477.05; found, 478.1 (M+H); ¹ H NMR (400 MHz, DMSO <i>d</i> ₆ at 90 °C) δ 8.15 (bs, 1H), 7.79 (bs, 1H), 7.39-7.27 (m, 4H), 4.75-4.69 (m, 1H), 4.33 (bs, 2H), 3.77 (bs, 2H), 2.05 (bs, 1H), 1.94-1.89 (m, 3H).
128	LCMS (ES) <i>m/z</i> calcd. C ₂₀ H ₁₇ Cl ₂ F ₃ N ₂ O ₄ , 476.05; found, 477.1(M+H); ¹ H NMR (400 MHz, DMSO <i>d</i> ₆ at 90 °C) δ 10.26 (s, 1H), 8.18 (bs, 1H), 7.49 (bs, 2H), 7.40-7.29 (m, 4H), 4.51-4.58 (m, 1H), 4.41-4.30 (m, 2H), 3.65-3.52 (m, 2H), 2.25-2.19 (m, 1H), 1.99-1.89 (m, 3H).
129	LCMS (ES) <i>m/z</i> calcd. For C ₂₀ H ₁₂ Cl ₃ N ₅ O ₃ 475.00; found 476.0 (M+H), ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 13.46 (s, 1H), 8.84 (d, <i>J</i> = 8 Hz, 1H), 8.58 (s, 1H), 8.38-8.37 (m, 1H), 8.12 (s, 1H), 7.87 (t, <i>J</i> = 8.4 Hz, 1H), 7.75 (t, <i>J</i> = 7.6 Hz, 1H), 7.47-7.40 (m, 2H), 5.31 (s, 2H)
130	LCMS (ES) <i>m/z</i> calcd. For C ₂₁ H ₁₃ Cl ₂ FN ₄ O ₃ , 458.03; found 459.1 (M+H), ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.74 (s, 1H), 11.21 (s, 1H), 8.69 (d, <i>J</i> = 8.4 Hz, 1H), 8.54 (s, 1H), 8.28 (s, 1H), 7.87-7.77 (m, 4H), 7.43 (d, <i>J</i> = 8 Hz, 2H), 5.47 (s, 2H).
131	LCMS (ES) <i>m/z</i> calcd. for C ₂₃ H ₁₅ Cl ₂ F ₃ N ₄ O ₄ , 538.04; found 539.0 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 11.24 (s, 1H), 8.45 (s, 1H), 8.06 (s, 1H), 7.78 (d, <i>J</i> = 8.4 Hz, 1H), 7.56 (d, <i>J</i> = 8.4 Hz, 1H), 7.46 – 7.39 (m, 2H), 7.36 – 7.32 (m, 1H), 7.22 – 7.20 (m, 1H), 5.25 (s, 2H), 2.25 (s, 3H);

Ex.	Spectral data
132	LCMS (ES): <i>m/z</i> calcd. for C ₂₃ H ₁₃ Cl ₂ F ₄ N ₃ O ₄ , 541.02; found, 542.1 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.59 (s, 1H), 11.16 (s, 1H), 8.64 (s, 2H), 7.84-7.77 (m, 3H), 7.46-7.35 (m, 4H), 5.34 (s, 2H)
133	LCMS (ES) <i>m/z</i> calcd. for C ₂₂ H ₁₂ Cl ₂ F ₄ N ₄ O ₄ , 542.02; found, 543.0 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 13.28 (s, 1H), 8.80- 8.77 (m, 1H), 8.60 (s, 1H), 8.08 (s, 1H), 7.77 (t, <i>J</i> = 9.6 Hz, 1H), 7.48-7.38 (m, 4H), 5.32 (s, 2H)
134	LCMS (ES): <i>m/z</i> calcd. For C ₂₀ H ₁₈ Cl ₂ F ₃ N ₃ O ₄ , 491.06; found, 492.1 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 11.57 (bs, 1H), 8.34-8.32 (m, 2H), 7.92 (s, 1H), 7.36-7.27 (m, 3H), 7.19-7.15 (m, 1H), 4.45-4.23 (m, 3H), 2.87-2.81 (m, 1H), 2.00-1.91 (m, 2H), 1.75-1.60 (m, 4H)
137	LCMS (ES): <i>m/z</i> calcd. for. C ₂₁ H ₁₃ Cl ₂ FN ₄ O ₃ , 572.0; found 459.1 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.72 (s, 1H), 11.09 (bs, 1H), 8.62 (d, <i>J</i> = 8.0 Hz, 1H), 8.52 (s, 1H), 8.11 (d, <i>J</i> = 8.0 Hz, 1H), 7.88-7.74 (m, 4H), 7.37 (d, <i>J</i> = 8.0 Hz, 1H), 7.26-7.3 (m, 1H), 5.27 (s, 2H)
138	LCMS (ES): <i>m/z</i> calcd. for. C ₂₀ H ₁₂ Cl ₂ FN ₅ O ₃ , 459.03; found 460.1 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 13.49 (s, 1H), 8.83-8.81 (m, 1H), 8.59 (s, 1H), 8.18-8.22 (m, 1H), 8.12 (s, 1H), 7.97-7.95 (m, 1H), 7.88-7.84 (m, 1H), 7.44 (d, <i>J</i> = 7.6 Hz, 1H), 7.38-7.34 (m, 1H), 5.28 (s, 2H)
140	LCMS (ES): <i>m/z</i> calcd. For C ₂₀ H ₁₂ Cl ₂ FN ₅ O ₃ , 459.03; found 460.1 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 13.39 (s, 1H), 8.81 (d, <i>J</i> = 8 Hz, 1H), 8.52 (s, 2H), 8.29 (d, <i>J</i> = 4.8 Hz, 1H), 8.08 (s, 1H), 7.87-7.77 (m, 2H), 7.44-7.40 (m, 2H), 5.45 (s, 2H)
141	LCMS (ES): <i>m/z</i> calcd. For C ₂₄ H ₁₇ Cl ₂ F ₃ N ₄ O ₄ , 552.06; found, 553.0 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 13.43 (s, 1H), 8.72 (d, <i>J</i> = 8 Hz, 1H), 8.09 (s, 1H), 7.73 (d, <i>J</i> = 8.4 Hz, 1H), 7.48-7.45 (m, 2H), 7.37- 7.33 (m, 1H), 7.07 (d, <i>J</i> = 7.6 Hz, 1H), 5.45 (s, 2H), 2.45 (s, 6H)
142	LCMS (ES): <i>m/z</i> calcd. For C ₂₄ H ₁₇ Cl ₂ F ₃ N ₄ O ₃ , 536.06; found 537.1 [M+H]. ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.75 (s, 1H), 11.1 (s, 1H), 8.6-8.67 (m, 1H), 8.59 (d, <i>J</i> = 8.4 Hz, 1H), 8.55-8.53 (m, 2H), 7.76 (d, <i>J</i> = 8.4 Hz, 1H), 7.65-7.63 (m, 2H), 5.57 (s, 2H), 2.36 (s, 6H)
143	LCMS (ES): <i>m/z</i> calcd. For C ₂₁ H ₁₃ Cl ₃ N ₄ O ₃ , 474.01; found 475.0 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.46 (bs, 1H), 8.74 (d, <i>J</i> = 8.4 Hz, 1H), 8.45 (s, 1H), 8.38 (d, <i>J</i> = 4.4 Hz, 1H), 8.01 (d, <i>J</i> = 8.4 Hz, 1H), 7.78 (t, <i>J</i> = 8 Hz, 1H), 7.60 (s, 2H), 7.38 (t, <i>J</i> = 5.2 Hz, 1H), 7.33 (d, <i>J</i> = 8 Hz, 1H), 5.49 (s, 2H)
144	LCMS (ES): <i>m/z</i> calcd. For C ₂₁ H ₂₀ Cl ₂ F ₃ N ₃ O ₄ , 505.08; found, 506.1 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 11.65 (s, 1H), 8.19-8.13 (m, 2H), 7.19 (s, 1H), 7.24-7.18 (m, 3H), 6.81-6.77 (m, 1H), 4.40-4.35 (m, 1H), 4.15- 4.09 (m, 1H), 3.96 - 3.94 (m, 1H), 1.86- 1.71 (m, 2H), 1.71 (bs, 2H) 1.53-1.50 (m, 1H), 1.39-1.30 (m, 2H), 1.24-1.18 (m, 2H).
145	LCMS (ES): <i>m/z</i> calcd. For C ₂₁ H ₂₀ Cl ₂ F ₃ N ₃ O ₄ , 505.08; found, 506.1 (M+H), ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 11.88 (s, 2H), 8.44 (t, <i>J</i> = 5.6 Hz, 1H), 8.15 (d, <i>J</i> = 8.4 Hz, 1H), 7.94 (s, 1H), 7.33 - 7.25 (m, 3H), 7.18 - 6.93 (m, 1H), 4.30 (d, <i>J</i> = 4 Hz, 2H), 4.28 - 4.13 (m, 1H), 2.80 - 2.65 (m, 1H), 2.05 - 2.01 (m, 1H), 2.00 - 1.87 (m, 1H), 1.80 - 1.50 (m, 3H), 1.48 - 1.39 (m, 1H), 1.22 (s, 1H).
146	LCMS (ES): <i>m/z</i> calcd. For C ₂₄ H ₁₇ Cl ₂ F ₃ N ₄ O ₃ , 536.06; found, 537.1 (M+H), 98.67% at 240nm. ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.80 (s, 1H), 11 (bs, 1H), 8.68 (d, <i>J</i> = 4.4 Hz, 1H), 8.55 (d, <i>J</i> = 8 Hz, 1H), 8.28 (d, <i>J</i> = 7.6 Hz, 1H), 7.82 (s, 2H), 7.73 (d, <i>J</i> = 12 Hz, 1H), 7.59 - 7.56 (m, 1H), 5.66 (s, 2H), 2.55 (s, 6H).
147	LCMS (ES): <i>m/z</i> calcd. For C ₂₃ H ₁₆ Cl ₂ F ₃ N ₅ O ₃ , 537.06; found, 538.1 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 13.30 (s, 1H), 8.71 - 8.69 (m, 2H), 8.03 (s, 1H), 7.71 (d, <i>J</i> = 8.4 Hz, 1H), 7.62 - 7.60 (m, 2H), 5.52 (s, 2H), 2.65 - 2.48 (m, 6H)
148	LCMS (ES): <i>m/z</i> calcd. For C ₂₀ H ₁₂ Cl ₃ N ₅ O ₃ 475.1; found 476.1 (M+H), ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 13.40 (s, 1H), 8.83 (d, <i>J</i> = 8 Hz, 1H), 8.48 (s, 1H), 8.38 (d, <i>J</i> = 3.2 Hz, 1H), 8.09 (s, 1H), 8.03 (d, <i>J</i> = 6.8 Hz, 1H), 7.86 (t, <i>J</i> = 8.4 Hz, 1H), 7.43 (m, 1H), 7.38 (t, <i>J</i> = 4.8 Hz, 1H), 5.48 (s, 2H)

Ex.	Spectral data
149	LCMS (ES): m/z calcd. For C ₂₅ H ₁₆ Cl ₂ F ₅ N ₃ O ₄ , 587.04; found, 588.0 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.58 (s, 1H), 11.15 (s, 1H), 8.72 (d, <i>J</i> = 8 Hz, 1H), 7.88-7.83 (m, 3H), 7.44-7.37 (m, 2H), 7.31-7.27 (m, 1H), 7.18-7.05 (m, 2H), 5.46 (s, 2H), 2.55 (s, 3H)
150	LCMS (ES): m/z calcd. For C ₂₃ H ₁₄ Cl ₂ F ₄ N ₄ O ₄ , 556.03; found, 557.1 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 13.24 (s, 1H), 8.78-8.74 (m, 1H), 8.06 (s, 1H), 7.75 (t, <i>J</i> = 9.6 Hz, 1H), 7.40 (t, <i>J</i> = 4.8 Hz, 2H), 7.35-7.30 (m, 1H), 7.14-7.12 (m, 1H), 5.42 (s, 2H), 2.44 (s, 3H)
151	LCMS (ES) m/z calcd. for C ₂₅ H ₁₈ Cl ₂ F ₃ N ₃ O ₃ , 535.07; found, 536.01 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.81 (s, 1H), 8.59 (d, <i>J</i> = 8.4 Hz, 1H), 7.86 (d, <i>J</i> = 6.4 Hz, 3H), 7.76 (d, <i>J</i> = 8.4 Hz, 1H), 7.60-7.54 (m, 2H), 7.05 (d, <i>J</i> = 7.6 Hz, 1H), 5.55 (s, 2H), 2.67 (s, 6H)
152	LCMS (ES) m/z calcd. C ₂₅ H ₁₇ Cl ₂ F ₄ N ₃ O ₄ , 569.05; found, 570.0 (M+1); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.71 (s, 1H), 11.13 (s, 1H), 8.64 (d, <i>J</i> = 8.4 Hz, 1H), 7.82 (s, 1H), 7.79 (d, <i>J</i> = 8.8 Hz, 1H), 7.41-7.43 (m, 2H), 7.26-7.30 (m, 1H), 7.09 (d, <i>J</i> = 8.0 Hz, 2H), 5.54 (d, <i>J</i> = 48.0 Hz, 2H), 5.40 (s, 2H), 2.65 (s, 3H)
153	LCMS (ES) m/z calcd. For C ₂₃ H ₁₆ Cl ₂ F ₃ N ₅ O ₃ , 537.06; found, 538.0 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 13.02 (s, 1H), 8.68 - 8.66 (m, 2H), 8.26 (d, <i>J</i> = 8 Hz, 1H), 7.78 (s, 1H), 7.62 (d, <i>J</i> = 8.4 Hz, 1H), 7.57 - 7.54 (m, 1H), 5.61 (s, 2H), 2.48 (s, 6H)
154	LCMS (ES) m/z calcd. For C ₂₃ H ₁₄ Cl ₂ F ₄ N ₄ O ₃ , 540.04; found 541.1 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.51 (s, 1H), 11.12 (s, 1H), 8.67 (d, <i>J</i> = 4.4 Hz, 1H), 8.58-8.55 (m, 1H), 8.27 (d, <i>J</i> = 8.0 Hz, 1H), 7.80-7.73 (m, 3H), 7.58-7.55 (m, 1H), 5.64 (s, 2H), 2.65 (s, 3H)
155	LCMS (ES): m/z calcd. For C ₂₂ H ₁₃ Cl ₂ F ₄ N ₅ O ₃ , 541.03; found 542.1 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 13.27 (s, 1H), 8.76- 8.69 (m, 2H), 8.29 (d, <i>J</i> = 7.6 Hz, 1H), 8.09 (s, 1H), 7.79-7.76 (m, 1H), 7.60-7.57 (m, 1H), 5.65 (s, 2H), 2.67 (s, 3H)
156	LCMS (ES): m/z calcd. For C ₂₄ H ₁₅ Cl ₃ F ₃ N ₃ O ₃ , 555.01; found 556.0 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.65 (s, 1H), 8.68 (d, <i>J</i> = 9.2 Hz, 1H), 7.98 (d, <i>J</i> = 9.2 Hz, 1H), 7.84 (d, <i>J</i> = 7.6 Hz, 1H), 7.73 (s, 1H), 7.60- 7.50 (m, 3H), 7.14 (d, <i>J</i> = 7.6 Hz, 1H), 5.51 (s, 2H), 2.48 (s, 3H)
157	LCMS (ES): m/z calcd. For C ₂₄ H ₁₅ Cl ₃ F ₃ N ₃ O ₃ , 569.05; found 568.1 (M-H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.63 (s, 1H), 11.16 (s, 1H), 8.56-8.53 (m, 1H), 7.89-7.87 (m, 1H), 7.74-7.68 (m, 3H), 7.51-7.47 (m, 2H), 7.32 (s, 1H), 6.15 (s, 1H), 2.69-2.55 (m, 4H)
158	LCMS (ES): m/z calcd. For C ₂₄ H ₁₅ Cl ₂ F ₄ N ₃ O ₃ , 539.04; found 540.1 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.55 (s, 1H), 11.09 (s, 1H), 8.63-8.60 (m, 1H), 7.85-7.76 (m, 4H), 7.60-7.50 (m, 2H), 7.14-7.12 (d, <i>J</i> = 8 Hz, 1H), 5.52 (s, 2H), 2.48 (s, 3H)
159	LCMS (ES): m/z calcd. For C ₂₃ H ₁₄ Cl ₂ F ₄ N ₄ O ₃ , 540.04; found 541.1 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 13.24 (s, 1H), 8.78-8.75 (m, 1H), 8.09 (s, 1H), 7.84 (d, <i>J</i> = 7.2 Hz, 1H), 7.79-7.74 (m, 1H), 7.60-7.50 (m, 2H), 7.13-7.11 (d, <i>J</i> = 8 Hz, 1H), 5.51 (s, 2H), 2.48 (s, 3H)
160	LCMS (ES): m/z calcd. For C ₂₄ H ₁₅ Cl ₂ F ₅ N ₄ O ₄ , 588.04; found 589.1 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 13.26 (s, 1H), 8.87 (d, <i>J</i> = 8 Hz, 1H), 8.09 (s, 1H), 7.86 (d, <i>J</i> = 8.8 Hz, 1H), 7.44-7.43 (m, 2H), 7.32-7.28 (m, 1H), 7.16-7.03 (m, 2H), 5.45 (s, 2H), 2.57 (s, 3H)
161	LCMS (ES): m/z calcd. For C ₂₆ H ₂₁ Cl ₂ N ₅ O ₃ , 521.10; found 522.2 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 13.03 (s, 1H), 11.19 (s, 1H), 8.57 (m, 1H), 8.00 (m, 1H), 7.91 (s, 2H), 7.71 (d, <i>J</i> = 7.6 Hz, 1H), 7.61 (m, 1H), 7.42 (m, 1H), 7.20 (m, 1H), 5.73 (s, 2H), 3.97 (s, 3H), 2.83 (s, 3H), 3H merged in solvent peak.
162	LCMS (ES): m/z calcd. For C ₂₅ H ₂₀ Cl ₂ N ₆ O ₃ , 522.10; found 523.2 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 13.60 (s, 1H), 8.67 (d, <i>J</i> = 8.4 Hz, 1H), 8.11 (m, 2H), 7.67 (d, <i>J</i> = 8.4 Hz, 1H), 7.60 (d, <i>J</i> = 8.2 Hz, 1H), 7.41 (m, 1H), 7.16-7.13 (m, 1H), 5.67 (s, 2H), 3.96 (s, 3H), 2.82 (s, 3H), 2.45 (s, 3H)
163	LCMS (ES): m/z calcd. For C ₂₄ H ₁₇ Cl ₂ F ₃ N ₄ O ₃ , 536.06; found 537.1 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 13.16 (s, 1H), 8.74 (d, <i>J</i> = 8.4 Hz, 1H), 7.92 (s, 1H), 7.86 (d, <i>J</i>

Ex.	Spectral data
	=7.6 Hz, 1H), 7.70 (d, $J = 8.4$ Hz, 1H), 7.61 (t, $J = 7.4$ Hz, 1H), 7.54 (t, $J = 7.6$ Hz, 1H), 7.03 (d, $J = 7.6$ Hz, 1H), 5.54 (s, 2H), 2.50 (s, 6H)
164	LCMS (ES): m/z calcd. For C ₂₄ H ₁₅ Cl ₂ F ₅ N ₄ O ₃ , 572.04; found, 573.0 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.53 (s, 1H), 11.12 (s, 1H), 8.71-8.65 (m, 2H), 8.28 (d, $J = 7.6$ Hz, 1H), 7.88-7.82 (m, 2H), 7.58-7.55 (m, 1H), 7.16 (t, $J = 52$ Hz, 2H), 5.70 (s, 2H), 2.58 (s, 3H)
165	LCMS (ES): m/z calcd. For C ₂₂ H ₁₃ Cl ₃ F ₃ N ₅ O ₃ , 557.00; found 558.01 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 13.41 (s, 1H), 8.74 (d, $J = 8.8$ Hz, 1H), 8.67 (d, $J = 5.2$ Hz, 1H), 8.27 (d, $J = 7.6$ Hz, 1H), 8.05-7.97 (m, 2H), 7.57 (t, $J = 7.6$ Hz, 1H), 5.62 (s, 2H), 2.65 (s, 3H)
166	LCMS (ES): m/z calcd. For C ₂₃ H ₁₄ Cl ₃ F ₃ N ₄ O ₃ , 556.01; found, 557.0 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.77 (s, 1H), 11.15 (s, 1H), 8.69-8.61 (m, 2H), 8.29 (d, $J = 7.6$ Hz, 1H), 8.02 (d, $J = 8.8$ Hz, 1H), 7.83 (s, 2H), 7.60-7.57 (m, 1H), 5.66 (s, 2H), 2.61 (s, 3H)
167	LCMS (ES): m/z calcd. For C ₂₅ H ₁₆ Cl ₂ F ₅ N ₃ O ₃ , 571.0; found, 572.0 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.53 (s, 1H), 11.12 (s, 1H), 8.70 (d, $J = 8.8$ Hz, 1H), 7.87-7.79 (m, 4H), 7.55-7.46 (m, 2H), 7.26 (t, $J = 55$ Hz, 1H), 7.09 (d, $J = 8$ Hz, 1H), 5.52 (s, 2H), 2.65 (s, 3H)
168	LCMS (ES): m/z calcd. For C ₂₄ H ₁₅ Cl ₂ F ₄ N ₃ O ₄ , 555.0; found, 556.1 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.61 (s, 1H), 11.15 (s, 1H), 8.63-8.59 (m, 1H), 7.84 (s, 2H), 7.77 (t, $J = 8.0$ Hz, 1H), 7.40 (d, $J = 4.4$ Hz, 2H), 7.34-7.30 (m, 1H), 7.16 (d, $J = 7.6$ Hz, 1H), 5.44 (s, 2H), 2.51 (s, 3H)
169	LCMS (ES): m/z calcd. For C ₂₅ H ₁₅ D ₃ Cl ₂ F ₃ N ₃ O ₄ , 554.08; found, 555.2 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.87 (s, 1H), 11.09 (s, 1H), 8.58 (d, $J = 8$ Hz, 1H), 7.86 (s, 2H), 7.73 (d, $J = 8.8$ Hz, 1H), 7.48-7.47 (m, 2H), 7.36-7.32 (m, 1H), 7.11 (d, $J = 8.6$ Hz, 1H), 5.46 (s, 2H), 2.51 (s, 3H)
170	LCMS (ES): m/z calcd. For C ₂₃ H ₁₄ Cl ₃ F ₃ N ₄ O ₃ , 556.01; found, 557.0 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 13.45 (s, 1H), 8.80 (d, $J = 8.8$ Hz, 1H), 8.11 (s, 1H), 8.02 (d, $J = 9.2$ Hz, 1H), 7.86 (d, $J = 7.2$ Hz, 1H), 7.62-7.54 (m, 2H), 7.15 (d, $J = 7.6$ Hz, 1H), 5.53 (s, 2H), 2.48 (s, 3H)
171	LCMS (ES): m/z calcd. For C ₂₄ H ₁₂ D ₃ Cl ₂ F ₄ N ₃ O ₃ , 542.06; found, 543.1 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.55 (s, 1H), 11.13 (s, 1H), 8.63-8.60 (m, 1H), 7.85-7.76 (m, 3H), 7.60-7.50 (m, 2H), 7.13 (d, $J = 8.0$ Hz, 2H), 5.52 (s, 2H)
172	LCMS (ES): m/z calcd. For C ₂₃ H ₁₇ Cl ₃ N ₄ O ₃ , 502.04; found 503.1 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.77 (s, 1H), 11.08 (s, 1H), 8.53 (d, $J = 8.0$ Hz, 1H), 8.36 (d, $J = 4.4$ Hz, 1H), 8.03-8.01 (m, 1H), 7.82 (d, $J = 8$ Hz, 2H), 7.70 (d, $J = 8$ Hz, 1H), 7.40-7.37 (m, 1H), 5.58 (s, 2H), 2.52 (s, 6H)
173	LCMS (ES): m/z calcd. For C ₂₅ H ₁₇ Cl ₂ F ₄ N ₃ O ₄ , 569.05; found 570.1 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.62 (s, 1H), 11.16 (s, 1H), 8.53-8.50 (m, 1H), 7.87-7.84 (m, 1H), 7.71-7.66 (m, 3H), 7.48-7.43 (m, 2H), 7.30 (s, 1H), 6.11 (bs, 1H), 2.67-2.65 (m, 3H), 1.95 (d, $J = 6.8$, 3H)
174	LCMS (ES): m/z calcd. For C ₂₅ H ₁₇ Cl ₂ F ₄ N ₃ O ₄ , 569.05; found 570.1 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.64 (s, 1H), 11.15 (bs, 1H), 8.54 (dd, $J_1 = 4.0$ Hz, $J_2 = 9.2$ Hz, 1H), 7.88 (t, $J = 4.4$ Hz, 1H), 7.74 (s, 3H), 7.51-7.46 (m, 2H), 7.31 (t, $J = 4.0$ Hz, 1H), 6.15 (bs, 1H), 2.70 (s, 3H), 1.97 (d, $J = 4.0$ Hz, 3H)
175	LCMS (ES): m/z calcd. For C ₂₄ H ₁₈ Cl ₂ N ₄ O ₃ , 480.08; found 481.1 [M + H]; ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 13.54 (s, 1H), 8.80 (d, $J = 8.0$ Hz, 1H), 8.71 (s, 1H), 8.11 (s, 1H), 7.81 (t, $J = 8.4$ Hz, 1H), 7.05-7.40 (m, 6H), 5.28-5.36 (m, 1H), 4.15-4.22 (m, 1H), 2.3-2.5 (m, 3H), 1.9-2.0 (m, 1H)
176	LCMS (ES) m/z calcd. For C ₂₄ H ₁₄ D ₃ Cl ₂ F ₃ N ₄ O ₄ , 555.08; found, 556.2 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 13.37 (s, 1H), 8.70 (d, $J = 8.0$, 1H), 8.04 (s, 1H), 7.70 (d, $J = 8.4$ Hz, 1H), 7.45 (d, $J = 4.8$ Hz, 2H), 7.34-7.30 (m, 1H), 7.04 (d, $J = 8.0$ Hz, 1H), 5.43 (s, 2H). *Methyl protons 3H are merging with DMSO- <i>d</i> ₆ peak.
177	LCMS (ES) m/z calcd. for C ₂₃ H ₁₄ Cl ₂ F ₅ N ₅ O ₃ , 573.04; found, 574.2 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 13.26 (s, 1H), 8.82 (d, $J = 8.4$ Hz, 1H), 8.63 (d, $J = 4.4$ Hz, 1H),

Ex.	Spectral data
	8.26 (d, $J = 7.6$, 1H), 8.07 (s, 1H), 7.83 (d, $J = 8.8$ Hz, 1H), 7.56 - 7.53 (m, 1H), 7.12 (t, $J = 52$ Hz, 1H), 5.66 (s, 2H), 2.55 (s, 3H)
178	LCMS (ES) m/z calcd. for C ₂₂ H ₁₆ Cl ₃ N ₅ O ₃ , 503.03; found 504.2 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 13.37 (s, 1H), 8.68 (d, $J = 8.4$ Hz, 1H), 8.40-8.38 (m, 1H), 8.09-8.03 (m, 2H), 7.71 (d, $J = 8.4$ Hz, 1H), 7.42-7.39 (m, 1H), 5.59 (s, 2H), 2.53 (s, 6H)
179	LCMS (ES) m/z calcd. For C ₂₅ H ₁₅ D ₃ Cl ₂ F ₃ N ₃ O ₃ is 538.09; found, 539.2 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 12.82 (s, 1H), 11.10 (s, 1H), 8.60 (d, $J = 8.4$ Hz, 1H), 7.87-7.86 (m, 3H), 7.77-7.75 (m, 1H), 7.62-7.52 (m, 2H), 7.06 (d, $J = 7.6$ Hz, 1H), 5.55 (s, 2H), 2.33 (s, 3H)
180	LCMS (ES) m/z calcd. For C ₂₄ H ₁₄ D ₃ Cl ₂ F ₃ N ₄ O ₃ is 539.08; found, 540.2 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 13.39 (s, 1H), 8.71 (d, $J = 8.4$ Hz, 1H), 8.07 (s, 1H), 7.84 (d, $J = 7.2$ Hz, 1H), 7.72 (d, $J = 8.8$ Hz, 1H), 7.61-7.50 (m, 2H), 7.02 (d, $J = 7.6$ Hz, 1H), 5.52 (s, 2H), 2.46 (s, 3H)
181	LCMS (ES) m/z calcd. for C ₂₄ H ₁₅ Cl ₂ F ₅ N ₄ O ₃ , 572.04; found, 573.2 (M+H); ¹ H NMR (400 MHz, DMSO <i>d</i> ₆) δ 13.12 (s, 1H), 8.88 (d, $J = 8.8$ Hz, 1H), 8.0-7.9 (m, 1H), 7.82 (d, $J = 8.8$ Hz, 1H), 7.58 - 7.48 (m, 2H), 7.11 (t, $J = 55$ Hz, 1H), 7.07 (d, $J = 8.8$ Hz, 2H), 5.55 (s, 1H), 2.68 (s, 3H)
182	LCMS (ES) m/z calcd. C ₁₉ H ₁₂ Cl ₂ F ₃ N ₃ O ₃ S, 488.99; found, 488.1(M-1); ¹ H NMR (400 MHz, DMSO <i>d</i> ₆) δ 12.14 (s, 1H), 9.23 (s, 1H), 8.69 (s, 1H), 7.76 - 7.64 (m, 4H), 7.53 - 7.46 (m, 2H), 4.75 (d, $J = 6.0$ Hz, 2H)
183	LCMS (ES) m/z calcd. For C ₂₃ H ₁₇ Cl ₂ FN ₄ O ₃ , 486.07; found 487.2 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.76 (s, 1H), 8.54 (d, $J = 8.4$ Hz, 1H), 8.29 (d, $J = 4.8$ Hz, 1H), 7.83-7.79 (m, 3H), 7.71 (d, $J = 8.4$ Hz, 1H), 7.45-7.43 (m, 1H), 5.59 (s, 2H), 2.55 (s, 3H), 2.43 (s, 3H) [buried under DMSO peak]
184	LCMS (ES) m/z calcd. C ₂₃ H ₁₁ D ₃ Cl ₂ F ₄ N ₄ O ₃ , 543.0; found, 543.1(M+1); ¹ H NMR (400 MHz, DMSO <i>d</i> ₆) δ 12.81 (s, 1H), 8.81 (dd, $J_1 = 4.8$ Hz, $J_2 = 9.6$ Hz, 1H), 7.86 (d, $J = 7.6$ Hz, 1H), 7.75 (s, 1H), 7.69 (t, $J = 9.6$ Hz, 1H), 7.63 - 7.52 (m, 2H), 7.11 (d, $J = 7.6$ Hz, 1H), 5.53 (s, 2H)
185	LCMS (ES) m/z calcd. C ₁₉ H ₁₂ Cl ₂ F ₃ N ₃ O ₃ S, 488.99; found, 488.1(M-1); ¹ H NMR (400 MHz, DMSO <i>d</i> ₆) δ 12.14 (s, 1H), 9.23 (s, 1H), 8.69 (s, 1H), 7.76 - 7.64 (m, 4H), 7.53 - 7.46 (m, 2H), 4.75 (d, $J = 6.0$ Hz, 2H)
186	LCMS (ES) m/z calcd. for. C ₂₅ H ₁₇ Cl ₂ F ₄ N ₃ O ₃ , 553.06; found 554.2 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 12.68 (s, 1H), 11.10 (s, 1H), 8.67 (d, $J = 8.4$ Hz, 1H), 7.79-7.89 (m, 4H), 7.49-7.58 (m, 2H), 7.08 (d, $J = 7.2$ Hz, 1H), 5.59 (s, 2H), 5.50 (d, $J = 16.4$ Hz, 2H) 2.61 (s, 3H)
187	LCMS (ES) m/z calcd. C ₁₉ H ₁₄ Cl ₂ N ₆ O ₃ S 476.02; found 475.2 (M-H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.83 (s, 1H), 9.05 (t, $J = 6$ Hz, 1H), 8.72 (s, 1H), 8.13 (s, 1H), 7.93 (d, $J = 8$ Hz, 1H), 7.59 (d, $J = 8.8$ Hz, 1H), 7.40-7.36 (m, 1H), 7.13-7.08 (m, 1H), 4.88 (d, $J = 6$ Hz, 2H), 4.01 (s, 3H)
188	LCMS (ES) m/z calcd. C ₁₉ H ₁₄ Cl ₂ N ₅ O ₃ S 475.03; found 475.0 (M-H), ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.45 (s, 1H), 11.34 (bs, 1H), 9.21 (t, $J = 6$ Hz, 1H), 8.69 (s, 1H), 7.89 (d, $J = 8.0$ Hz, 1H), 7.84 (s, 2H), 7.56 (d, $J = 8.8$ Hz, 1H), 7.36 (t, $J = 8$ Hz, 1H), 7.18 (s, 1H), 7.10-7.06 (m, 1H), 4.85 (d, $J = 6$ Hz, 2H), 3.98 (s, 3H)
189	LCMS (ES) m/z calcd. for C ₁₇ H ₁₁ Cl ₂ FN ₄ O ₃ S 439.99; found, 441.1 (M+H), ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 12.78 (s, 1H), 9.20 (s, 1H), 8.74 (s, 1H), 8.14 (s, 1H), 7.39-7.35 (m, 1H), 7.20-7.14 (m, 3H), 4.56 (d, $J = 5.6$ Hz, 2H)
190	LCMS (ES) m/z calcd. For C ₂₅ H ₁₈ Cl ₂ FN ₅ O ₃ , 525.08; found 526.2 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.76 (s, 1H), 11.21 (s, 1H), 8.62 (dd, $J_1 = 4.4$ Hz, $J_2 = 4.4$ Hz, 1H), 8.02 (d, $J = 8$ Hz, 1H), 7.91 (s, 2H), 7.75 (t, $J = 10$ Hz, 1H), 7.63-7.61 (m, 1H), 7.45-7.42 (m, 1H), 7.23-7.19 (m, 1H), 5.73 (s, 2H), 3.98 (s, 3H), 2.85 (s, 3H)
191	LCMS (ES) m/z calcd. For C ₁₈ H ₁₁ Cl ₂ F ₃ N ₄ O ₄ S, 505.98; found, 507.0(M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 12.73 (s, 1H), 9.15 (t, $J = 6.2$, 1H), 8.74 (s, 1H), 8.12 (s, 1H), 7.41-7.35 (m, 4H), 4.58 (d, $J = 6.4$ Hz, 2H)
192	LCMS (ES) m/z calcd. C ₁₈ H ₁₁ Cl ₂ F ₃ N ₄ O ₃ S, 489.99; found, 489.1 (M-1); ¹ H NMR (400 MHz, DMSO <i>d</i> ₆) δ 12.44 (s, 1H), 9.06 (t, $J = 6.0$ Hz, 1H), 8.67 (s, 1H), 7.90 (s,

Ex.	Spectral data
	1H), 7.75 (d, $J = 8.0$ Hz, 1H), 7.65 (d, $J = 7.6$ Hz, 1H), 7.53 – 7.46 (m, 2H), 4.73 (d, $J = 4.0$ Hz, 2H)
193	LCMS (ES) m/z calcd. for C ₁₇ H ₁₀ Cl ₂ F ₃ N ₅ O ₃ S, 490.98; found, 490.1 (M-H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.54 (s, 1H), 9.21 (t, $J = 6$ Hz, 1H), 8.69 (s, 1H), 8.05 (t, $J = 8$ Hz, 1H), 7.96 (s, 1H), 7.78 (d, $J = 7.6$ Hz, 1H), 7.64 (d, $J = 7.6$ Hz, 1H), 4.69 (d, $J = 5.6$ Hz, 2H)
194	LCMS (ES) m/z calcd. For C ₂₄ H ₁₇ Cl ₂ FN ₆ O ₃ , 526.07; found 525.2 (M-H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 13.45 (s, 1H), 8.76-8.73 (m, 1H), 8.14-8.10 (m, 2H), 7.72 (t, $J = 8$ Hz, 1H), 7.61 (d, $J = 8$ Hz, 1H), 7.42 (t, $J = 6.8$ Hz, 1H), 7.18 (t, $J = 7.6$ Hz, 1H), 5.70 (s, 2H), 3.99 (s, 3H), 2.86 (s, 3H)
195	LCMS (ES) m/z calcd. For C ₂₂ H ₁₆ Cl ₂ FN ₅ O ₃ , 487.06; found 488.2 [M+H], ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 13.35 (s, 1H), 8.68 (d, $J = 8.4$ Hz, 1H), 8.29 (d, $J = 4.4$ Hz, 1H), 8.07 (s, 1H), 7.82 (t, $J = 9$ Hz, 1H), 7.70 (d, $J = 8.4$ Hz, 1H), 7.46-7.42 (m, 1H), 5.58 (s, 2H), 2.59 (s, 3H), 2.35 (s, 3H)
196	LCMS (ES) m/z calcd. For C ₁₇ H ₁₀ Cl ₂ F ₃ N ₅ O ₃ S, 490.98; found 492.1 [M+H], ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.66 (s, 1H), 8.95 (t, $J = 5.4$ Hz, 1H), 8.85 (d, $J = 4.8$ Hz, 1H), 8.74 (s, 1H), 8.23 (d, $J = 7.6$ Hz, 1H), 8.08 (s, 1H), 7.60-7.57 (m, 1H), 4.87 (d, $J = 5.2$ Hz, 2H)
197	LCMS (ES) m/z calcd. for C ₂₃ H ₁₄ Cl ₂ F ₄ N ₄ O ₃ , 540.04; found, 541.1 (M+H), ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 12.53 (s, 1H), 11.14 (s, 1H), 8.62-8.59 (m, 1H), 8.13 (t, $J = 15.9$ Hz, 1H), 7.90-7.75 (m, 5H), 5.61 (s, 2H), 2.63 (s, 3H)
198	LCMS (ES) m/z calcd. For C ₁₈ H ₁₁ Cl ₂ F ₃ N ₄ O ₃ S is 489.99; found, 489.0 (M+H), ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆) δ 12.31 (s, 1H), 11.33 (bs, 1H), 9.36 (t, $J = 5.6$ Hz, 1H), 8.75 (s, 1H), 8.07 (t, $J = 8$ Hz, 1H), 7.82-7.79 (m, 3H), 7.68 (d, $J = 8$ Hz, 1H), 4.73 (d, $J = 6$ Hz, 2H)
199	LCMS (ES): m/z C ₂₄ H ₁₇ Cl ₂ F ₃ N ₄ O ₃ calcd. for 536.06; found, 537.1 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): 12.77 (s, 1H), 11.10 (bs, 1H), 8.54 (d, $J = 8.4$ Hz, 1H), 8.09 (t, $J = 7.6$ Hz, 1H), 7.83 - 7.81 (m, 3H), 7.76 (d, $J = 8$ Hz, 1H), 7.70 (d, $J = 8.4$ Hz, 1H), 5.57 (s, 2H), 2.60 (s, 3H) 2.48* (s, 3H) (merged with DMSO peak)
200	LCMS (ES): m/z calcd. for C ₂₅ H ₁₆ D ₂ Cl ₂ F ₃ N ₃ O ₃ , 537.08; found, 538.1 (M+H). ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.82 (s, 1H), 11.08 (bs, 1H), 8.60 (d, $J = 8.4$ Hz, 1H), 7.87 (m, 3H), 7.75 (d, $J = 8.4$ Hz, 1H), 7.62-7.52 (m, 2H), 7.06 (d, $J = 7.6$ Hz, 1H), 2.52* (s, 3H), 2.48* (s, 3H) (*merged with DMSO peak)
201	LCMS (ES) - m/z calcd. for C ₂₄ H ₁₅ D ₂ Cl ₂ F ₃ N ₄ O ₃ is 538.08; found, 539.4 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 13.39 (s, 1H), 8.71 (d, $J = 8.4$ Hz, 1H), 8.07 (s, 1H), 7.85 (d, $J = 7.2$ Hz, 1H), 7.72 (d, $J = 8.4$ Hz, 1H), 7.61-7.57 (m, 1H), 7.54-7.50 (m, 1H), 7.02 (d, $J = 7.6$ Hz, 1H), 2.48 (s, 3H), 2.45 (s, 3H)
202	LCMS (ES): m/z calcd. for C ₂₆ H ₂₂ Cl ₂ N ₄ O ₃ , 508.11; found 509.1 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 13.69 (s, 1H), 8.66 (d, $J = 8.4$ Hz, 1H), 8.12 (s, 1H), 7.65 (d, $J = 8.4$ Hz, 1H), 7.35-7.30 (m, 4H), 7.24-7.20 (m, 1H), 4.97-4.79 (m, 2H), 2.42 (s, 6H), 2.38-2.31 (m, 3H), 2.07-1.96 (m, 1H)
203	LCMS (ES): m/z calcd. for C ₂₇ H ₂₃ Cl ₂ N ₃ O ₃ , 507.11; found 508.2 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 13.00 (s, 1H), 11.09 (bs, 1H), 8.52 (d, $J = 8.4$ Hz, 1H), 7.95 (s, 2H), 7.64 (d, $J = 8.4$ Hz, 1H), 7.36-7.30 (m, 4 H), 7.24-7.21 (m, 1H), 5.0-4.93 (m, 1H), 4.81-4.74 (m, 1H), 3.27-3.20 (m, 1H), 2.40-2.25 (m, 8H), 2.09-1.90 (m, 1H)
204	LCMS (ES): m/z calcd. for C ₂₃ H ₁₃ Cl ₂ F ₄ N ₃ O ₃ , 525.03; found, 524.1 (M-H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 12.51 (s, 1H), 11.08 (bs, 1H), 8.66-8.63 (m, 2H), 7.83-7.78 (m, 4H), 7.60-7.49 (m, 2H), 7.17 (d, $J = 7.2$ Hz, 1H), 5.46 (s, 2H)
205	LCMS (ES): m/z calcd. for C ₂₃ H ₁₆ Cl ₂ F ₃ N ₅ O ₃ , 537.06; found, 538.1 (M+H); ¹ H NMR (400 MHz, DMSO <i>d</i> ₆): δ 13.33 (s, 1H), 8.67 (d, $J = 8.4$ Hz, 1H), 8.12 - 8.05 (m, 2H), 7.83 (d, $J = 8$ Hz, 1H), 7.75 (d, $J = 8$ Hz, 1H), 7.69 (d, $J = 8.8$ Hz, 1H), 5.54 (s, 2H), 2.59 (s, 3H), 2.48* (s, 3H), (* merged with DMSO peak)
206	LCMS (ES): m/z calcd. for C ₂₂ H ₁₂ Cl ₂ F ₄ N ₄ O ₃ is 526.02; found 527.0 (M+H); ¹ H NMR (400 MHz, DMSO- <i>d</i> ₆): δ 13.23 (s, 1H), 8.81-8.78 (m, 1H), 8.60 (s, 1H), 8.08 (s,

Ex.	Spectral data
	1H), 7.82-7.77 (m, 2H), 7.61-7.57 (m, 1H), 7.53-7.49 (m, 1H), 7.17 (d, $J = 7.6$ Hz, 1H), 5.44 (s, 2H)
207	LCMS (ES): m/z calcd. For C ₂₅ H ₁₉ Cl ₂ FN ₄ O ₃ , 512.08; found 513.1 (M+H); ¹ H NMR (400 MHz, DMSO-d ₆) δ 13.54 (s, 1H), 8.72-8.68 (m, 2H), 8.12 (s, 1H), 7.70-7.65 (m, 1H), 7.35-7.28 (m, 3H), 7.22-7.19 (m, 1H), 4.95-4.90 (m, 1H), 4.81-4.76 (m, 1H), 2.36 (s, 3H), 2.33-2.25 (m, 2H), 2.01-1.96 (m, 2H)

Example A: Estrone detection assay for evaluation of HSD17B13 activity and identification of inhibitors

[00182] The liquid chromatography/mass spectrometry (LC/MS) estrone detection assay monitors the conversion of estradiol to estrone by HSD17B13. This assay was undertaken in a 96wp format (Eppendorf deep well Plate 96/500) in an 80 μ l reaction volume containing: 4 μ M of Estradiol (E2; Cayman; #10006315), 6mM NAD⁺ (Sigma; #N0623) and 30 nM HSD17B13 enzyme (in-house; *E. coli* expressed His-tagged, purified, soluble protein) in a reaction containing 1M potassium phosphate buffer pH 7.4, with 0.5% vehicle (DMSO). Reactions were incubated for 2 hours at 26.5°C, and estradiol (E2) conversion to estrone (E1) was quantitated by LC-MS/MS based analyte detection for both E2 and E1 using LCMS grade reagents.

[00183] Reactions were terminated by the addition of two volumes of acetonitrile (MeCN; LCMS grade; CAS# 75/05/8) containing deuterated (D₄)-E1 used as internal standard (Clear Synth; #CS-T-54273; 500 ng/mL final concentration). Samples were applied to pre-prepared Bond Elut-C18 extraction cartridges (3 mL; Agilent; #12102028), washed and eluted in MeCN. Eluates were dried under nitrogen and re-suspended in 60% methanol (LCMS grade methanol; CAS# 67/56/1) before submission for analysis. Aqueous linearity for E2 and E1 were included for quantification.

[00184] Analysis of samples was undertaken on a XBridge BEH C18 column (Waters; #186003033) using 0.1% Diethyl Amine in MeCN (mobile phase A; DEA CAS# 109-89-7) and 0.1% Diethyl Amine in milli-Q water (mobile phase B) in a 3min gradient allowing 25%B. Analytes were detected in negative mode using MRM analysis, with E2 having a RT of 1.85min and E1 having a RT of 2min. Activity of the enzyme, in the absence of NAD⁺, was used to evaluate specificity of conversion. Enzyme activity in the presence of test samples was expressed as a percentage of the uninhibited enzyme activity, and plotted versus inhibitor concentration. Non-linear regression was performed using a four-parameter logistic model and GraphPad Prism software (GraphPad Software, La Jolla, CA). All assessments were undertaken in duplicate evaluations and pooled during extraction process and subsequently injected as duplicates for LC-MS/MS analysis.

[00185] The data is shown in table 2 below:

Table 2:

Ex.	IC ₅₀ with Estradiol	Ex.	IC ₅₀ with Estradiol
1	B	103	B
2	A	104	B
3	B	105	B
4	D	106	E
5	B	107	C

Ex.	IC ₅₀ with Estradiol	Ex.	IC ₅₀ with Estradiol
6	A	108	C
7	B	109	D
8	B	110	B
9	B	112	B
10	A	113	B
11	A	114	B
12	A	115	B
13	C	116	B
14	D	117	A
15	C	118	C
16	B	119	B
17	D	120	D
18	A	121	B
19	B	122	B
20	D	123	B
21	A	124	D
22	A	125	B
23	B	126	A
24	D	127	E
25	B	128	E
26	B	129	B
27	B	130	B
28	D	131	B
29	B	132	A
30	C	133	B
31	B	134	C
32	A	137	B
33	B	138	B
34	A	140	B
35	A	141	A
36	B	142	B
37	A	143	A
38	B	144	E
39	D	145	D
40	B	146	A
41	A	147	B
42	B	148	B
43	A	149	A
44	A	150	A
45	D	151	A
47	A	152	C
48	B	153	B
49	B	154	A
50	B	155	B
51	B	156	A
52	C	157	B
53	A	158	A
54	D	159	B
56	C	160	A
57	B	162	B
58	B	163	B
59	D	164	B
60	C	165	B
61	B	166	B

Ex.	IC ₅₀ with Estradiol	Ex.	IC ₅₀ with Estradiol
62	B	167	A
63	B	168	A
64	A	169	A
65	D	170	B
66	B	171	B
67	A	172	B
68	B	173	B
69	B	174	B
70	B	175	B
71	B	176	A
72	B	177	B
73	B	178	C
74	B	179	A
75	A	180	B
76	A	181	B
77	B	182	A
78	A	183	B
79	C	184	B
80	C	185	A
81	A	186	A
82	A	187	B
83	D	188	A
84	A	189	B
85	E	190	A
86	B	191	A
87	B	192	B
88	A	193	C
89	A	194	B
90	B	195	D
91	B	196	B
92	B	197	C
93	A	198	C
94	B	199	C
95	B	200	A
96	A	201	B
97	B	202	B
98	B	203	A
99	D	204	A
100	B	205	C
101	D	206	A
102	D	207	B

IC₅₀ with Estradiol

A is less than or equal to 0.1 μ M;

B is more than 0.1 μ M and less than or equal to 0.5 μ M;

C is more than 0.5 μ M and less than or equal to 1.0 μ M;

D is more than 1.0 μ M and less than or equal to 10 μ M;

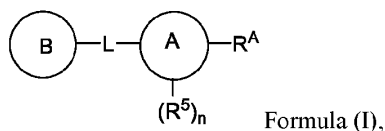
E is more than 10 μ M;

NT: not tested

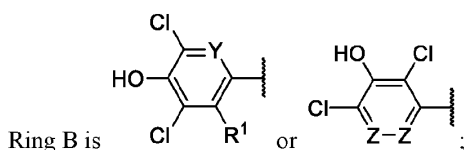
CLAIMS

WHAT IS CLAIMED IS:

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



wherein:



Y is N or CR¹;

each Z is independently N or CR¹;

each R¹ are independently hydrogen, deuterium, halogen, -CN, -OH, -OR^a, -NR^cR^d, C₁-C₆alkyl,

C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl;

L is -O-, -C(=O)NR³-, -NR³C(=O)-, -C(=O)C(R⁴)₂-, or -C(R⁴)₂C(=O)-;

R³ is hydrogen, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl;

each R⁴ is independently hydrogen, deuterium, halogen, C₁-C₆alkyl, C₁-C₆haloalkyl, or

C₁-C₆deuteroalkyl;

Ring A is a 3- to 12-membered ring optionally comprising 1-4 heteroatoms selected from the group consisting of O, S, N, P, and B;

each R⁵ is independently hydrogen, deuterium, halogen, -CN, -OH, -OR^a, -SH, -SR^a, -NR^cR^d, C₁-C₆alkyl,

C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl;

or two R⁵ on the same atom are taken together to form an oxo;

n is 0-6;

R^A is:

(a) -C(=O)NR¹⁰R¹¹; or

(b) C₄-C₁₀alkyl optionally substituted with one or more R^{Aa}; or

(c) -(C(R¹²)₂)_pcycloalkyl, -(C(R¹²)₂)_pheterocycloalkyl, -(C(R¹²)₂)_paryl, or -(C(R¹²)₂)_pheteroaryl;

wherein the cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is optionally and independently substituted with one or more R^{Ab};

R¹⁰ and R¹¹ are independently hydrogen, C₁-C₁₀alkyl, C₁-C₁₀haloalkyl, C₁-C₁₀deuteroalkyl,

C₁-C₁₀hydroxyalkyl, C₁-C₁₀aminoalkyl, C₁-C₁₀heteroalkyl, C₂-C₁₀alkenyl, C₂-C₁₀alkynyl, cycloalkyl,

heterocycloalkyl, aryl, heteroaryl, C₁-C₆alkyl(cycloalkyl), C₁-C₆alkyl(heterocycloalkyl),

C₁-C₆alkyl(aryl), or C₁-C₆alkyl(heteroaryl); wherein each alkyl, alkenyl, alkynyl, cycloalkyl,

heterocycloalkyl, aryl, and heteroaryl is optionally and independently substituted with one or more

R^{10a};

each R^{10a} is independently deuterium, halogen, -CN, -NO₂, -OH, -OR^a, -OC(=O)R^a, -OC(=O)OR^b, -OC(=O)NR^cR^d, -SH, -SR^a, -S(=O)R^a, -S(=O)₂R^a, -S(=O)₂NR^cR^d, -NR^cR^d, -NR^bC(=O)NR^cR^d, -NR^bC(=O)R^a, -NR^bC(=O)OR^b, -NHS(=O)₂R^a, -C(=O)R^a, -C(=O)C(=O)R^a, -C(=O)OR^b, -C(=O)NR^cR^d, -C(=O)C(=O)NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl; wherein each alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is optionally and independently substituted with one or more R^{10b} ,

or two R^{10a} on the same atom are taken together to form an oxo;

each R^{10b} is independently deuterium, halogen, -CN, -NO₂, -OH, -OR^a, -OC(=O)R^a, -OC(=O)OR^b, -OC(=O)NR^cR^d, -SH, -SR^a, -S(=O)R^a, -S(=O)₂R^a, -S(=O)₂NR^cR^d, -NR^cR^d, -NR^bC(=O)NR^cR^d, -NR^bC(=O)R^a, -NR^bC(=O)OR^b, -NHS(=O)₂R^a, -C(=O)R^a, -C(=O)C(=O)R^a, -C(=O)OR^b, -C(=O)NR^cR^d, -C(=O)C(=O)NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl;

or two R^{10b} on the same atom are taken together to form an oxo;

each R^{Aa} are independently deuterium, halogen, -CN, -NO₂, -OH, -OR^a, -OC(=O)R^a, -OC(=O)OR^b, -OC(=O)NR^cR^d, -SH, -SR^a, -S(=O)R^a, -S(=O)₂R^a, -S(=O)₂NR^cR^d, -NR^cR^d, -NR^bC(=O)NR^cR^d, -NR^bC(=O)R^a, -NR^bC(=O)OR^b, -NHS(=O)₂R^a, -C(=O)R^a, -C(=O)C(=O)R^a, -C(=O)OR^b, -C(=O)NR^cR^d, -C(=O)C(=O)NR^cR^d, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl; wherein each alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is optionally and independently substituted with one or more R^{Aaa} ;

or two R^{Aa} on the same atom are taken together to form an oxo;

each R^{Ab} are independently deuterium, halogen, -CN, -NO₂, -OH, -OR^a, -OC(=O)R^a, -OC(=O)OR^b, -OC(=O)NR^cR^d, -SH, -SR^a, -S(=O)R^a, -S(=O)₂R^a, -S(=O)₂NR^cR^d, -NR^cR^d, -NR^bC(=O)NR^cR^d, -NR^bC(=O)R^a, -NR^bC(=O)OR^b, -NHS(=O)₂R^a, -C(=O)R^a, -C(=O)C(=O)R^a, -C(=O)OR^b, -C(=O)NR^cR^d, -C(=O)C(=O)NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl; wherein each alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is optionally and independently substituted with one or more R^{Aaa} ,

or two R^{Ab} on the same atom are taken together to form an oxo;

each R^{Aaa} is independently deuterium, halogen, -CN, -NO₂, -OH, -OR^a, -OC(=O)R^a, -OC(=O)OR^b, -OC(=O)NR^cR^d, -SH, -SR^a, -S(=O)R^a, -S(=O)₂R^a, -S(=O)₂NR^cR^d, -NR^cR^d, -NR^bC(=O)NR^cR^d, -NR^bC(=O)R^a, -NR^bC(=O)OR^b, -NHS(=O)₂R^a, -C(=O)R^a, -C(=O)C(=O)R^a, -C(=O)OR^b, -C(=O)NR^cR^d, -C(=O)C(=O)NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl;

each R¹² is independently hydrogen, deuterium, halogen, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl;

or two R¹² on the same carbon are taken together to form a cycloalkyl or a heterocycloalkyl; wherein the cycloalkyl and heterocycloalkyl is optionally substituted with deuterium, halogen, -OH, -OCH₃, -NH₂, -NHCH₃, -N(CH₃)₂, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl;

or two R¹² on adjacent carbon are taken together to form a cycloalkyl optionally substituted with deuterium, halogen, -OH, -OCH₃, -NH₂, -NHCH₃, -N(CH₃)₂, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl;

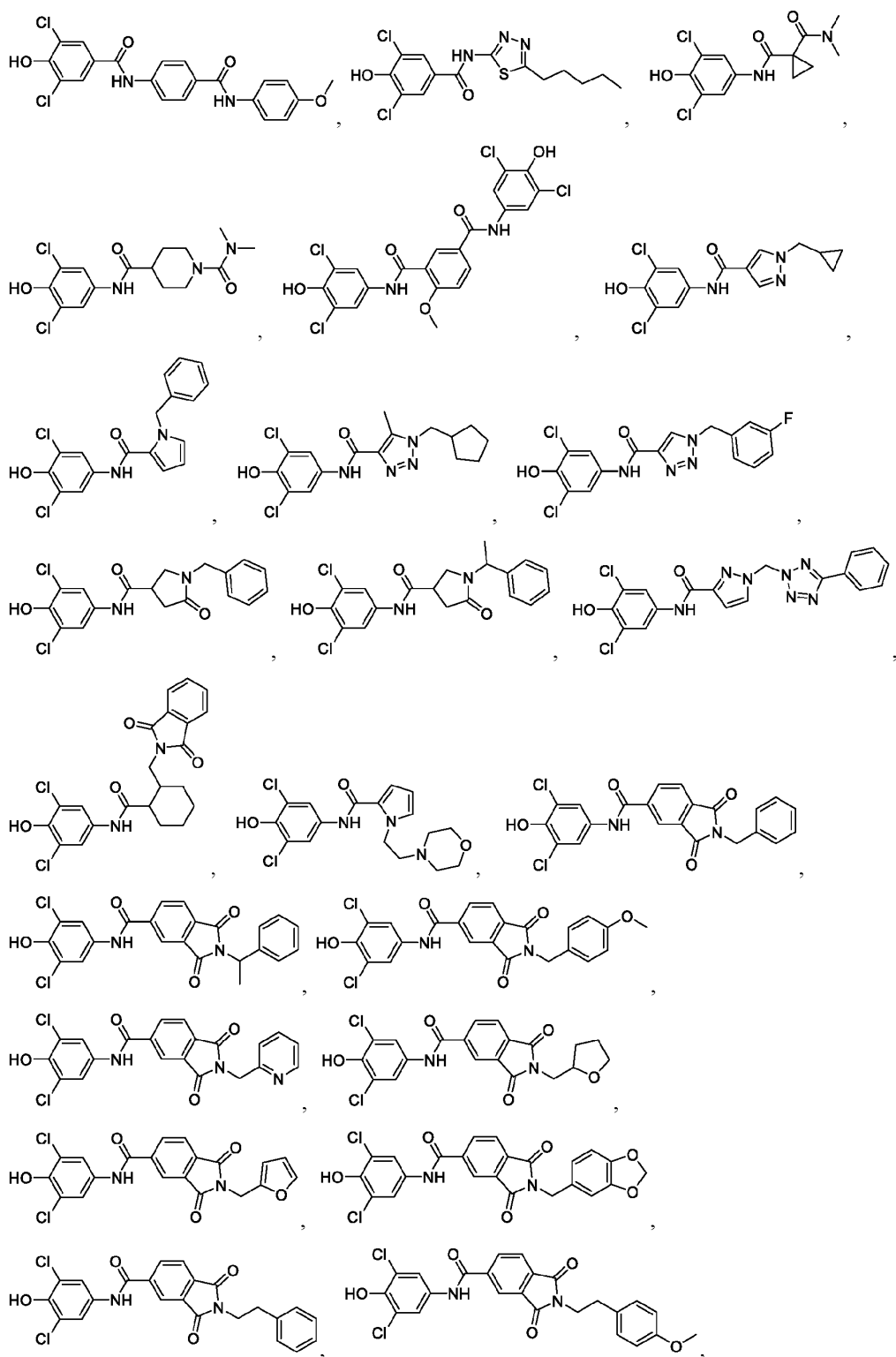
p is 1-4;

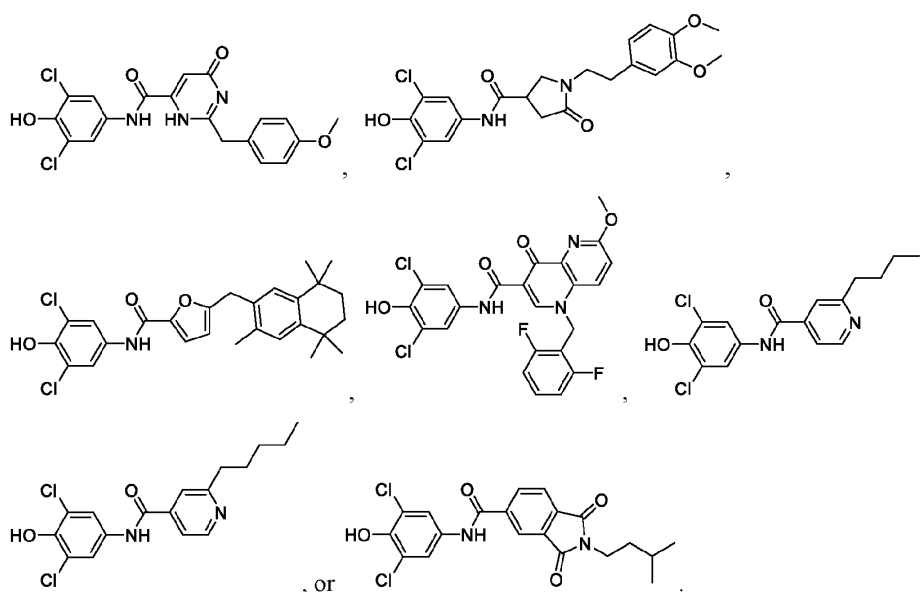
each R^a is independently C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl, C₁-C₆alkyl(cycloalkyl), C₁-C₆alkyl(heterocycloalkyl), C₁-C₆alkyl(aryl), or C₁-C₆alkyl(heteroaryl); wherein each alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is independently optionally substituted with one or more oxo, deuterium, halogen, -CN, -OH, -OCH₃, -S(=O)CH₃, -S(=O)₂CH₃, -S(=O)₂NH₂, -S(=O)₂NHCH₃, -S(=O)₂N(CH₃)₂, -NH₂, -NHCH₃, -N(CH₃)₂, -C(=O)CH₃, -C(=O)OH, -C(=O)OCH₃, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, or C₁-C₆heteroalkyl;

each R^b is independently hydrogen, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl, C₁-C₆alkyl(cycloalkyl), C₁-C₆alkyl(heterocycloalkyl), C₁-C₆alkyl(aryl), or C₁-C₆alkyl(heteroaryl); wherein each alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is independently optionally substituted with one or more oxo, deuterium, halogen, -CN, -OH, -OCH₃, -S(=O)CH₃, -S(=O)₂CH₃, -S(=O)₂NH₂, -S(=O)₂NHCH₃, -S(=O)₂N(CH₃)₂, -NH₂, -NHCH₃, -N(CH₃)₂, -C(=O)CH₃, -C(=O)OH, -C(=O)OCH₃, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, or C₁-C₆heteroalkyl; and

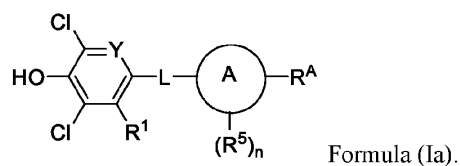
each R^c and R^d are independently hydrogen, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, C₂-C₆alkenyl, C₂-C₆alkynyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl, C₁-C₆alkyl(cycloalkyl), C₁-C₆alkyl(heterocycloalkyl), C₁-C₆alkyl(aryl), or C₁-C₆alkyl(heteroaryl); wherein each alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is independently optionally substituted with one or more oxo, deuterium, halogen, -CN, -OH, -OCH₃, -S(=O)CH₃, -S(=O)₂CH₃, -S(=O)₂NH₂, -S(=O)₂NHCH₃, -S(=O)₂N(CH₃)₂, -NH₂, -NHCH₃, -N(CH₃)₂, -C(=O)CH₃, -C(=O)OH, -C(=O)OCH₃, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, or C₁-C₆heteroalkyl;

or R^c and R^d are taken together with the atom to which they are attached to form a heterocycloalkyl optionally substituted with one or more oxo, deuterium, halogen, -CN, -OH, -OCH₃, -S(=O)CH₃, -S(=O)₂CH₃, -S(=O)₂NH₂, -S(=O)₂NHCH₃, -S(=O)₂N(CH₃)₂, -NH₂, -NHCH₃, -N(CH₃)₂, -C(=O)CH₃, -C(=O)OH, -C(=O)OCH₃, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, or C₁-C₆heteroalkyl; provided that the compound is not

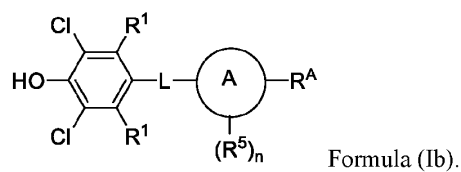




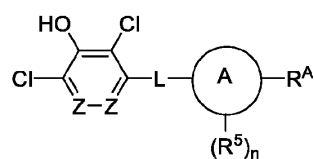
2. The compound of claim 1, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein the compound of Formula (I) is of Formula (Ia):



3. The compound of claim 1 or 2, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:
Y is N.
4. The compound of claim 1 or 2, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:
Y is CR¹.
5. The compound of claim 1, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein the compound of Formula (I) is of Formula (Ib):

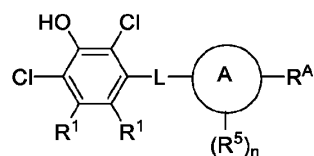


6. The compound of claim 1, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein the compound of Formula (I) is of Formula (Ic):



Formula (Ic).

7. The compound of claim 1 or 6, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:
one Z is CR¹ and one Z is N.
8. The compound of claim 1 or 6, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:
each Z is CR¹.
9. The compound of claim 1, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein the compound of Formula (I) is of Formula (Id):

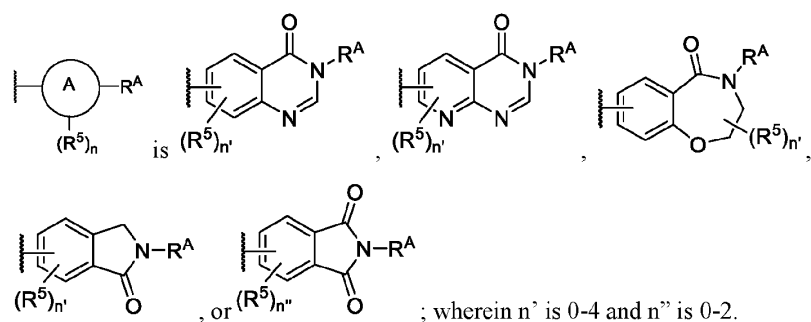


Formula (Id).

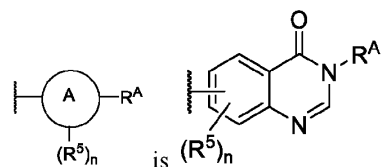
10. The compound of any one of claims 1-9, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:
each R¹ is hydrogen.
11. The compound of any one of claims 1-10, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:
L is -C(=O)NR³.
12. The compound of any one of claims 1-11, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:
R³ is hydrogen.
13. The compound of any one of claims 1-12, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:
Ring A is a 3- to 6-membered ring optionally comprising 1-4 heteroatoms selected from the group consisting of O, S, or N.
14. The compound of any one of claims 1-12, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:
Ring A is a 8- to 12-membered bicyclic ring optionally comprising 1-4 heteroatoms selected from the group consisting of O, S, or N.
15. The compound of any one of claims 1-9, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:
Ring A is phenyl or a 5- or 6-membered heteroaryl.
16. The compound of any one of claims 1-12, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:

Ring A is a 5-membered heteroaryl.

17. The compound of any one of claims 1-12, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:
Ring A is a 6-membered heteroaryl.
18. The compound of any one of claims 1-12, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:
Ring A is thiophene, thiazole, isothiazole, oxazole, isoxazole, phenyl, pyridine, or pyrimidine.
19. The compound of any one of claims 1-12, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:
Ring A is thiazole, isothiazole, oxazole, isoxazole, phenyl, pyridine, or pyrimidine.
20. The compound of any one of claims 1-12, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:
Ring A is dihydroquinazoline, isoindoline, or 2,3-dihydrobenzooxazepine.
21. The compound of any one of claims 1-12, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:



22. The compound of any one of claims 1-12, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:



23. The compound of any one of claims 1-22, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:
each R^5 is independently hydrogen, deuterium, halogen, or C_1 - C_6 alkyl; or two R^5 on the same atom are taken together to form an oxo.
24. The compound of any one of claims 1-23, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:
 n is 0-4.
25. The compound of any one of claims 1-24, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:

n is 0-2.

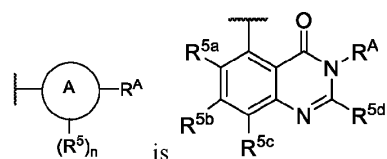
26. The compound of any one of claims 1-25, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:

n is 0 or 1.

27. The compound of any one of claims 1-26, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:

n is 1.

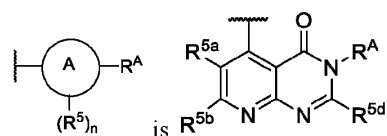
28. The compound of any one of claims 1-12, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:



wherein R^{5a} , R^{5b} , R^{5c} , and R^{5d} are independently

hydrogen, deuterium, halogen, -CN, -OH, -OR^a, -SH, -SR^a, -NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl.

29. The compound of any one of claims 1-12, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:



wherein R^{5a} , R^{5b} , and R^{5d} are independently hydrogen,

deuterium, halogen, -CN, -OH, -OR^a, -SH, -SR^a, -NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl.

30. The compound of claim 28 or 29, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:

R^{5a} is deuterium, halogen, -CN, -OH, -OR^a, -NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, or

C₁-C₆deuteroalkyl; and R^{5b} , R^{5c} , and R^{5d} are independently hydrogen, deuterium, halogen, -CN, -OH, -OR^a, -SH, -SR^a, -NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl.

31. The compound of claim 28 or 29, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:

wherein R^{5b} is deuterium, halogen, -CN, -OH, -OR^a, -NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, or

C₁-C₆deuteroalkyl; and R^{5a} , R^{5c} , and R^{5d} are independently hydrogen, deuterium, halogen, -CN, -OH, -OR^a, -SH, -SR^a, -NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl.

32. The compound of claim 28 or 29, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:

wherein R^{5c} is deuterium, halogen, -CN, -OH, -OR^a, -NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, or

C₁-C₆deuteroalkyl; and R^{5a} , R^{5b} , and R^{5d} are independently hydrogen, deuterium, halogen, -CN, -OH, -OR^a, -SH, -SR^a, -NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl.

33. The compound of claim 28 or 29, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:
 wherein R^{5d} is deuterium, halogen, -CN, -OH, -OR^a, -NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl; and R^{5a}, R^{5b}, and R^{5c} are independently hydrogen, deuterium, halogen, -CN, -OH, -OR^a, -SH, -SR^a, -NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl.
34. The compound of any one of claims 1-33, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:
 R^A is -C(=O)NR¹⁰R¹¹.
35. The compound of any one of claims 1-34, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:
 R^{11} is hydrogen.
36. The compound of any one of claims 1-35, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:
 R^{10} is C₁-C₁₀alkyl, C₁-C₁₀haloalkyl, C₁-C₁₀deuteroalkyl, C₁-C₁₀hydroxyalkyl, C₁-C₁₀aminoalkyl, C₁-C₁₀heteroalkyl, C₁-C₆alkyl(cycloalkyl), C₁-C₆alkyl(heterocycloalkyl), C₁-C₆alkyl(aryl), or C₁-C₆alkyl(heteroaryl); wherein each alkyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is optionally and independently substituted with one or more R^{10a}.
37. The compound of any one of claims 1-36, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:
 R^{10} is C₁-C₁₀alkyl optionally substituted with one or more R^{10a}.
38. The compound of any one of claims 1-37, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:
 R^{10} is C₁-C₆alkyl(aryl) wherein the aryl is optionally substituted with one or more R^{10a}.
39. The compound of any one of claims 1-38, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:
 each R^{10a} is independently deuterium, halogen, -CN, -OH, -OR^a, -NR^cR^d, -C(=O)R^a, -C(=O)OR^b, -C(=O)NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, C₁-C₆heteroalkyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl; wherein each alkyl, cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is optionally and independently substituted with one or more R^{10b}.
40. The compound of any one of claims 1-39, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:
 each R^{10a} is independently deuterium, halogen, -CN, -OH, -OR^a, -NR^cR^d, C₁-C₆alkyl, C₁-C₆haloalkyl, C₁-C₆deuteroalkyl, C₁-C₆hydroxyalkyl, C₁-C₆aminoalkyl, or C₁-C₆heteroalkyl; wherein each alkyl is optionally and independently substituted with one or more R^{10b}.
41. The compound of any one of claims 1-40, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:

- each R^{10a} is independently deuterium, halogen, -OH, -OR^a, C₁-C₆alkyl, C₁-C₆haloalkyl, or C₁-C₆deuteroalkyl; wherein each alkyl is optionally and independently substituted with one or more R^{10b} .
42. The compound of any one of claims 1-33, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:
 R^A is C₄-C₁₀alkyl optionally substituted with one or more R^{Aa} .
43. The compound of any one of claims 1-33, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:
 R^A is -(C(R¹²)₂)_pcycloalkyl, -(C(R¹²)₂)_pheterocycloalkyl, -(C(R¹²)₂)_paryl, or -(C(R¹²)₂)_pheteroaryl;
wherein the cycloalkyl, heterocycloalkyl, aryl, and heteroaryl is optionally and independently substituted with one or more R^{Ab} .
44. The compound of any one of claims 1-33 or 43, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:
 R^A is -(C(R¹²)₂)_paryl or -(C(R¹²)₂)_pheteroaryl; wherein the aryl and heteroaryl is optionally and independently substituted with one or more R^{Ab} .
45. The compound of any one of claims 1-33 or 43 or 44, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:
 R^A is -(C(R¹²)₂)_paryl; wherein the aryl is optionally and independently substituted with one or more R^{Ab} .
46. The compound of any one of claims 1-33 or 43-45, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:
each R^{12} is independently hydrogen, deuterium, halogen, or C₁-C₆alkyl; or two R^{12} on the same carbon are taken together to form a cycloalkyl or a heterocycloalkyl.
47. The compound of any one of claims 1-33 or 43-46, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:
each R^{12} is hydrogen or two R^{12} on the same carbon are taken together to form a cycloalkyl.
48. The compound of any one of claims 1-33 or 43-46, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:
each R^{12} is hydrogen or two R^{12} on adjacent carbon are taken together to form a cycloalkyl.
49. The compound of any one of claims 1-33 or 43-48, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:
each R^{12} is hydrogen.
50. The compound of any one of claims 1-33 or 43-48, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:
two R^{12} on the same carbon are taken together to form a cycloalkyl.
51. The compound of any one of claims 1-33 or 43-48, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:
two R^{12} on adjacent carbon are taken together to form a cycloalkyl.

52. The compound of any one of claims 1-33 or 43-51, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:
p is 1 or 2.
53. The compound of any one of claims 1-33 or 43-52, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:
p is 1.
54. The compound of any one of claims 1-33 or 43-52, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, wherein:
p is 2.
55. A compound selected from a compound found in table 1, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof.
56. A pharmaceutical composition comprising a compound of any one of claims 1-55, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, and a pharmaceutically acceptable carrier.
57. A method of treating a disease in a subject in need thereof, the method comprising administering a pharmaceutically effective amount of a compound of any one of claims 1-55, or a pharmaceutically acceptable salt, solvate, or stereoisomer thereof, or a pharmaceutical composition of claim 56.
58. The method of claim 57, wherein the disease is a liver disease, a metabolic disease, or a cardiovascular disease.
59. The method of claim 57 or 58, wherein the disease is NAFLD.
60. The method of claim 57 or 58, wherein the disease is NASH.
61. The method of claim 57 or 58, wherein the disease is drug induced liver injury (DILI).
62. The method of claim 57 or 58, wherein the disease is associated with HSD17B13.
63. The method of claim 57 or 58, wherein the diseases is alcoholic liver disease.
64. The method of claim 57 or 58, wherein the disease is cirrhosis.
65. The method of claim 57 or 58, wherein the disease is decompensated portal hypertension.
66. The method of claim 57 or 58, wherein the disease is cholestatic liver disease.