MCC950, inhibits exogenously seeded Tau pathology. Finally, ASC deficiency also decreased non-exogenously seeded Tau pathology in PS19 mice.

There is a need to identify and develop specific NLRP3 inflammasome pathway inhibitors and/or modulators of interleukin activity with improved pharmacological and/or physiological and/or physicochemical properties.

The present invention provides compounds of formula (I'), compound of formula (I), compound of formula (II'), or compounds of formula (II) which have surprisingly been found to be capable of modulating a component of the NLRP3 inflammasome pathway, in particular inhibiting the activation, of a component of the NLRP3 inflammasome pathway, such as NLRP3 inflammasome. Thus, such compounds are beneficial in the treatment of a disease, disorder, or abnormality which is responsive to the modulation of a component of the NLRP3 inflammasome pathway and/or which is responsive to the modulation of IL-1 beta and/or IL-18 levels that commonly lead to pathological inflammation.

SUMMARY

Accordingly, the present disclosure provides compounds of formula (I'), compounds of formula (I), compounds of formula (II'), or compounds of formula (II), or stereoisomers, or racemic mixtures, or tautomers, or polymorphs, or pharmaceutically acceptable salts, or prodrugs, or hydrates, or solvates thereof. Within the present disclosure any reference to the compounds of formula (I'), (I), (II') or (II), or the preferred examples thereof is intended to also refer to the stereoisomers, or racemic mixtures, or tautomers, or polymorphs, or pharmaceutically acceptable salts, or prodrugs, or hydrates, or solvates thereof.

The compounds of formula (I'), (I), (II'), or (II), or a stereoisomer, a racemic mixture, a tautomer, a polymorph, a pharmaceutically acceptable salt, a prodrug, a hydrate, or a solvate thereof, are suitable for the treatment, alleviation or prevention of a disease, disorder or an abnormality which is responsive to the modulation, in particular inhibition, of a component of the NLRP3 inflammasome pathway, or which is responsive to the modulation, in particular decrease, of IL-1 beta and/or IL-18 levels. In particular, the component of the inflammasome pathway is the NLRP3 inflammasome. Activation of the NLRP3 inflammasome pathway can trigger the formation of ASC specks, cleavage and activation of Caspase-1 and Caspase-8 and subsequent activation and release IL-1 beta, IL-18, gasdermin D cleavage and pore formation, pyroptosis, and release of IL-1alpha, IL-33, IL-17 and High-Mobility Group Box (HMGB) protein. The compounds of formula (I'), (I), (II'), or (II), or a stereoisomer, a racemic mixture, a tautomer, a polymorph, a pharmaceutically acceptable salt, a

prodrug, a hydrate, or a solvate thereof, have the capability to modulate, in particular decrease, IL-1 beta and/or IL-18 levels.

The compounds of formula (I'), (I), (II'), and (II), or a stereoisomer, a racemic mixture, a tautomer, a polymorph, a pharmaceutically acceptable salt, a prodrug, a hydrate, or a solvate thereof, display high capability in modulating and, in particular inhibiting the activation of, a component of the NLRP3 inflammasome pathway, in particular wherein the component of the inflammasome pathway is the NLRP3 inflammasome. Due to their unique design features, these compounds display properties such as modulating or inhibiting the activation of the NLRP3 inflammasome pathway allowing them to be a successful medicament for the treatment, alleviation or prevention of diseases, disorders and abnormalities responsive to the modulation or inhibition of a component of the NLRP3 inflammasome pathway such as, for example, Alzheimer's disease, Parkinson's disease, CAPS, non-alcoholic fatty liver disease (NAFLD), non-alcoholic steatohepatitis (NASH) and gout.

The disclosure relates to a pharmaceutical composition comprising a compound of formula (I'), (I), (II'), or (II), or a stereoisomer, a racemic mixture, a tautomer, a polymorph, a pharmaceutically acceptable salt, a prodrug, a hydrate, or a solvate thereof, and optionally comprising at least one pharmaceutically acceptable carrier, diluent, adjuvant or excipient.

The present disclosure refers to a compound of formula (I'), (I), (II'), or (II), or a stereoisomer, a racemic mixture, a tautomer, a polymorph, a pharmaceutically acceptable salt, a prodrug, a hydrate, or a solvate thereof, for use as a medicament.

The present disclosure refers to a compound of formula (I'), (I), (II'), or (II), or a stereoisomer, a racemic mixture, a tautomer, a polymorph, a pharmaceutically acceptable salt, a prodrug, a hydrate, or a solvate thereof, for use in the treatment, alleviation or prevention of a disease, disorder, or abnormality which is responsive to the modulation, in particular inhibition of activation, of a component of the NLRP3 inflammasome pathway and/or which is responsive to the modulation, in particular decrease, of IL-1 beta and/or IL-18 levels.

The disclosure also refers to the use of the compound of formula (I'), (I), (II'), or (II), or a stereoisomer, a racemic mixture, a tautomer, a polymorph, a pharmaceutically acceptable salt, a prodrug, a hydrate, or a solvate thereof, for the manufacture of a medicament for treating, alleviating or preventing a disease, disorder or abnormality which is responsive to the modulation, in particular inhibition of activation, of a component of the NLRP3 inflammasome pathway and/or which is responsive to the modulation, in particular decrease, of IL-1 beta and/or IL-18 levels.

The present disclosure is directed to a method of treating, alleviating or preventing a disease, disorder or abnormality which is responsive to the modulation, in particular inhibition of activation, of a component of the NLRP3 inflammasome pathway or which is responsive to the modulation, in particular decrease, of IL-1 beta and/or IL-18 levels, the method comprising administering a therapeutically effective amount of a compound of formula (I'), (I), (II'), or (II), or a stereoisomer, a racemic mixture, a tautomer, a polymorph, a pharmaceutically acceptable salt, a prodrug, a hydrate, or a solvate thereof, to a subject in need thereof (e.g. a patient).

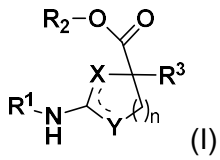
A pharmaceutical composition comprising a combination of a compound of formula (I'), (I), (II'), or (II), or a stereoisomer, a racemic mixture, a tautomer, a polymorph, a pharmaceutically acceptable salt, a prodrug, a hydrate, or a solvate thereof, and at least one further biologically active compound differing from the compound of formula (I'), (I), (II'), or (II), or a stereoisomer, a racemic mixture, a tautomer, a polymorph, a pharmaceutically acceptable salt, a prodrug, a hydrate, or a solvate thereof, and optionally comprising at least one pharmaceutically acceptable carrier, diluent, adjuvant or excipient, is also the subject-matter of the present disclosure.

In particular, the further biologically active compound can be one which is used for the treatment of a disease, disorder, or abnormality associated with a disease targeting different pathomechanism, e.g. an anti-amyloid beta antibody, anti-Tau antibody, amyloid beta small molecule inhibitor, Tau aggregation small molecule inhibitor, anti-alpha synuclein antibody or alpha-synuclein aggregation small molecule inhibitor, anti-TDP-43 antibody or anti-TDP-43 aggregation small molecule inhibitor, among others. When a compound of the disclosure is used in combination with a further biologically active compound, the dose of each compound may differ from the dose if the compound is used as monotherapy.

The disclosure also relates to the use of the compound of formula (I'), (I), (II') or (II), or a stereoisomer, a racemic mixture, a tautomer, a polymorph, a pharmaceutically acceptable salt, a prodrug, a hydrate, or a solvate thereof, as an analytical reference or an *in vitro* screening tool.

The following clauses are also part of the disclosure:

A1. A compound of formula (I)

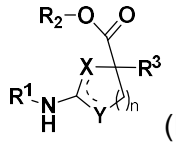


(I)

or stereoisomers, racemic mixtures, tautomers, pharmaceutically acceptable salts, prodrugs, hydrates, or solvates thereof;

The following clauses are also part of the disclosure:

B1. A compound of formula (I)


(I),

or a stereoisomer, a racemic mixture, a tautomer, a polymorph, a pharmaceutically acceptable salt, a prodrug, a hydrate, or a solvate thereof;

wherein

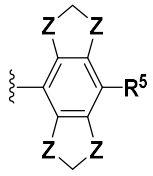
X is independently selected from the group consisting of O, N and S;

Y is independently selected from the group consisting of N and O;

as valency permits, ⸗ is a combination of a single bond and a double bond or is two single bonds;

n is 1 or 2;

R^1 is



wherein

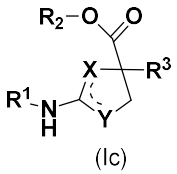
Z is independently selected from the group consisting of CH_2 and O provided that no more than two of **Z** are O;

R^5 is independently selected from the group consisting of hydrogen and halogen;

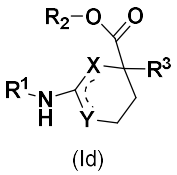
R^2 is independently selected from the group consisting of hydrogen, C_1-C_6alkyl, C_3-C_6cycloalkyl; and

R^3 is independently selected from the group consisting of heteroC_3-C_6cycloalkyl, aryl or heteroaryl, wherein each of them can be optionally substituted with –C_1-C_6alkyl, –O–C_1-C_6alkyl, –Hal, or –C_1-C_6alkyl-OH.

B2. The compound according to clause B1, which is a compound of formula (Ic) or a compound of formula (Id)


(Ic)

or


(Id)

or a stereoisomer, a racemic mixture, a tautomer, a polymorph, a pharmaceutically acceptable salt, a prodrug, a hydrate, or a solvate thereof,

B26. The compound for use according to any one of clauses B13 to B15, wherein the disease, the disorder or the abnormality is a disease, disorder or abnormality of the gastrointestinal tract.

B27. The compound for use according to any one of clauses B13 to B15, wherein the disease, the disorder or the abnormality is a disease, disorder or abnormality of the respiratory system.

B28. The compound for use according to any one of clauses B13 to B15, wherein the disease, the disorder or the abnormality is a disease, disorder or abnormality of the endocrine system.

B29. The compound for use according to any one of clauses B13 to B15, wherein the disease, the disorder or the abnormality is a disease, disorder or abnormality of the central nervous system (CNS).

B30. The compound for use according to any one of clauses B13 to B15, wherein the disease, the disorder or the abnormality is a disease, disorder or abnormality of the liver.

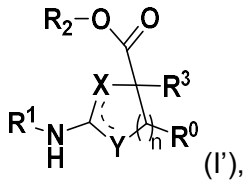
B31. A pharmaceutical composition comprising a combination of a compound according to any one of clauses B1 to B10, or a stereoisomer, a racemic mixture, a tautomer, a polymorph, a pharmaceutically acceptable salt, a prodrug, a hydrate, or a solvate thereof, and at least one further biologically active compound differing from the compound of formula (I) and optionally comprising at least one pharmaceutically acceptable carrier, diluent, adjuvant or excipient.

B32. A combination comprising a therapeutically effective amount of a compound according to any one of clauses B1 to B10, or a stereoisomer, a racemic mixture, a tautomer, a polymorph, a pharmaceutically acceptable salt, a prodrug, a hydrate, or a solvate thereof, and at least one further biologically active compound differing from the compound of formula (I) or the compound of formula (II), and optionally at least one pharmaceutically acceptable carrier, diluent, adjuvant or excipient.

B33. A pharmaceutical composition according to clause B31, or the combination according to clause B32, for use as a medicament.

B34. Use of a compound of formula (I) according to any one of clauses B1 to B10, or a stereoisomer, a racemic mixture, a tautomer, a polymorph, a pharmaceutically acceptable salt, a prodrug, a hydrate, or a solvate thereof, as an analytical reference or an *in vitro* screening tool.

In one aspect, the present disclosure relates to a compound of formula (I')



(I'),

or a stereoisomer, a racemic mixture, a tautomer, a polymorph, a pharmaceutically acceptable salt, a hydrate, or a solvate thereof;

wherein

X is independently selected from the group consisting of O, N and S;

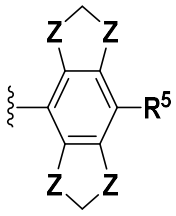
Y is independently selected from the group consisting of N and O;

as valency permits, ⟨ is a combination of a single bond and a double bond or is two single bonds;

n is 1 or 2;

R^0 is H or C_1-C_3alkyl;

R^1 is



wherein

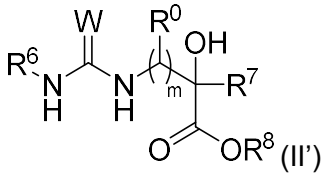
Z is independently selected from the group consisting of CH_2 and O provided that no more than two of **Z** are O;

R^5 is independently selected from the group consisting of hydrogen and halogen;

R^2 is independently selected from the group consisting of hydrogen, C_1-C_6alkyl, C_3-C_6cycloalkyl; and

R^3 is independently selected from the group consisting of heteroC_3-C_6cycloalkyl, aryl or heteroaryl, wherein each of them can be optionally substituted with –C_1-C_6alkyl, –O–C_1-C_6alkyl, –Hal, or –C_1-C_6alkyl-OH.

In another aspect, the present disclosure relates to a compound of formula (II')



(II')

or a stereoisomer, a racemic mixture, a tautomer, a polymorph, a pharmaceutically acceptable salt, a hydrate, or a solvate thereof,

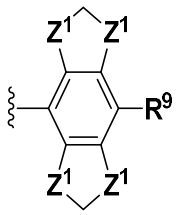
wherein

W is independently selected from the group consisting of O and S;

m is 1 or 2;

R^0 is H or C_1-C_3alkyl;

R^6 is



wherein

$\mathbf{Z^1}$ is independently selected from the group consisting of CH_2 and O provided that no more than two of $\mathbf{Z^1}$ are O;

$\mathbf{R^9}$ is independently selected from the group consisting of hydrogen and halogen;

$\mathbf{R^8}$ is independently selected from the group consisting of hydrogen, C_1-C_6alkyl, C_3-C_6 cycloalkyl; and

$\mathbf{R^7}$ is independently selected from the group consisting of heteroC_3-C_6cycloalkyl, aryl or heteroaryl wherein each of them can be optionally substituted.

In another aspect, the present disclosure relates to a pharmaceutical composition comprising a compound as defined herein, or a stereoisomer, a racemic mixture, a tautomer, a polymorph, a pharmaceutically acceptable salt, a hydrate, or a solvate thereof, and optionally comprising at least one pharmaceutically acceptable carrier, diluent, adjuvant or excipient.

In another aspect, the present disclosure relates to a compound as defined herein, or a stereoisomer, a racemic mixture, a tautomer, a polymorph, a pharmaceutically acceptable salt, a hydrate, or a solvate thereof, for use as a medicament.

In another aspect, the present disclosure relates to use of the compound as defined herein, or a stereoisomer, a racemic mixture, a tautomer, a polymorph, a pharmaceutically acceptable salt, a hydrate, or a solvate thereof, in the manufacture of a medicament for treating, alleviating or preventing a disease, or a disorder or an abnormality which is responsive to the modulation of a component of the NLRP3 inflammasome pathway and/or which is responsive to the modulation of IL-1 beta and/or IL-18 levels.

In another aspect, the present disclosure relates to use of a compound as defined herein, or a stereoisomer, a racemic mixture, a tautomer, a polymorph, a pharmaceutically acceptable salt, a hydrate, or a solvate thereof, as an analytical reference or an *in vitro* screening tool.

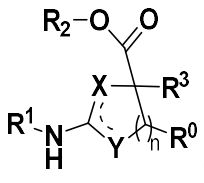
The present disclosure is described hereinafter.

BRIEF DESCRIPTION OF THE FIGURE

Figure 1 shows IL-1β release in peritoneal lavage samples from mice dosed with (1mg/kg or 3 mg/kg) Example 16 and Example 23 by intraperitoneal injection in an LPS-ATP induced peritonitis model.

CLAIMS

1. A compound of formula (I')


(I'),

or a stereoisomer, a racemic mixture, a tautomer, a polymorph, a pharmaceutically acceptable salt, a hydrate, or a solvate thereof;

wherein

X is independently selected from the group consisting of O, N and S;

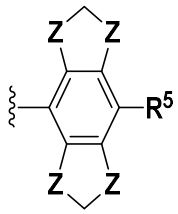
Y is independently selected from the group consisting of N and O;

as valency permits, ⋯ is a combination of a single bond and a double bond or is two single bonds;

n is 1 or 2;

$\mathbf{R^0}$ is H or C_1-C_3alkyl;

$\mathbf{R^1}$ is



wherein

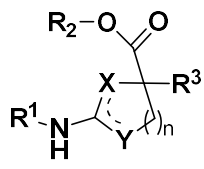
Z is independently selected from the group consisting of CH_2 and O provided that no more than two of **Z** are O;

$\mathbf{R^5}$ is independently selected from the group consisting of hydrogen and halogen;

$\mathbf{R^2}$ is independently selected from the group consisting of hydrogen, C_1-C_6alkyl, C_3-C_6cycloalkyl; and

$\mathbf{R^3}$ is independently selected from the group consisting of heteroC_3-C_6cycloalkyl, aryl or heteroaryl, wherein each of them can be optionally substituted with –C_1-C_6alkyl, –O–C_1-C_6alkyl, –Hal, or –C_1-C_6alkyl-OH.

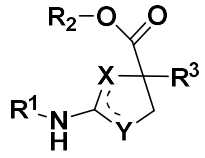
2. The compound according to claim 1, having a formula (I)


(I),

or a stereoisomer, a racemic mixture, a tautomer, a polymorph, a pharmaceutically acceptable salt, a hydrate, or a solvate thereof;

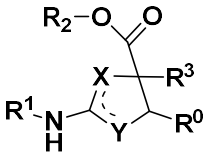
wherein ⟨, **X, Y, n, R**[1], **R**[2] are **R**[3] are as defined in claim 1 and wherein **R**[0] is H.

3. The compound according to claim 1 to 2, which is a compound of formula (Ic), a compound of formula (Ic'), a compound of formula (Id), or a compound of formula (Id')



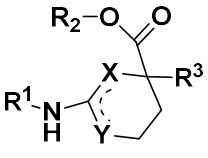
(Ic)

,



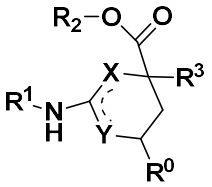
(Ic')

,



(Id)

, or

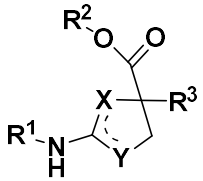


(Id')

or a stereoisomer, a racemic mixture, a tautomer, a polymorph, a pharmaceutically acceptable salt, a hydrate, or a solvate thereof,

wherein ⟨, **X, Y, R**[1], **R**[2] are **R**[3] are as defined in claim 1, and wherein **R**[0] is C_1-C_3alkyl.

4. The compound according to claim 3, which is a compound of formula (Ic)



(Ic)

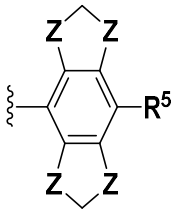
wherein ⟨, **X, Y, R**[1], **R**[2] are **R**[3] are as defined in claim 1.

5. The compound according to any of the preceding claims, wherein

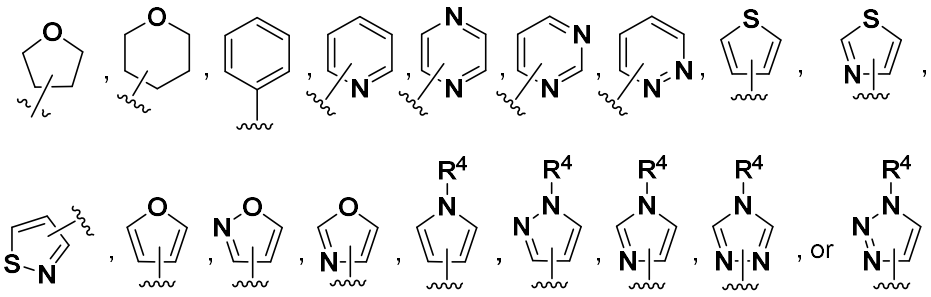
X is O;

Y is N;

as valency permits, ⟨ is the combination of a single bond and a double bond;

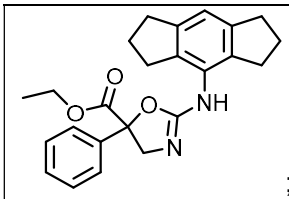
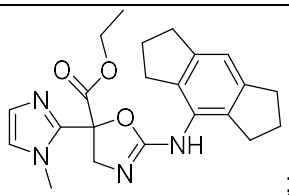
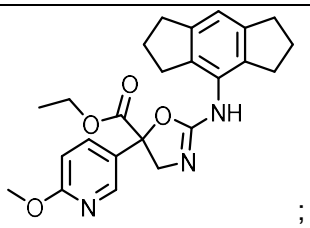
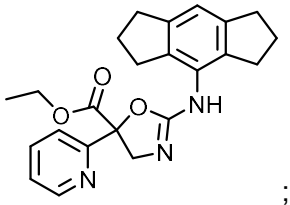
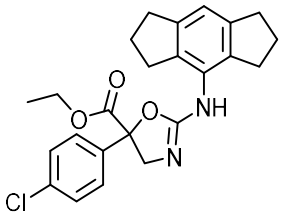
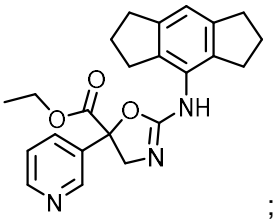
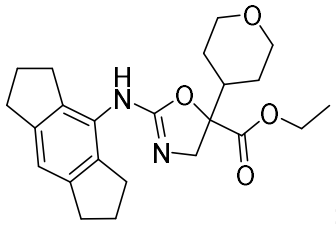
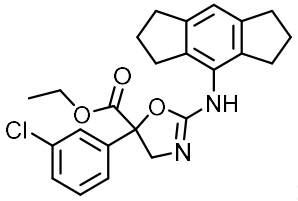
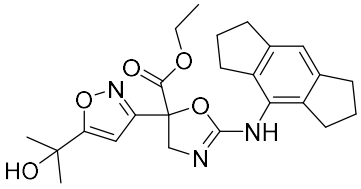
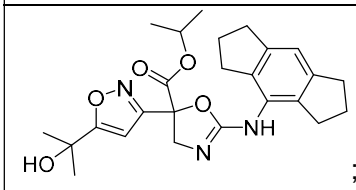
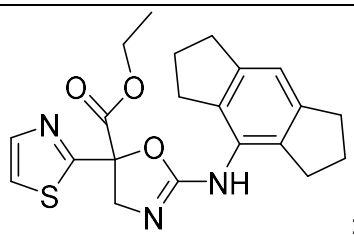
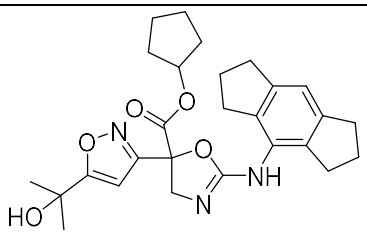
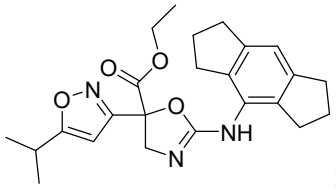
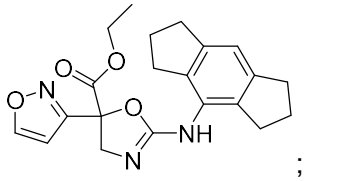
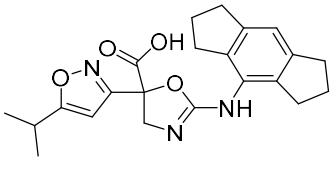
R[1] is , wherein **Z** is CH_2; **R**[5] is hydrogen;

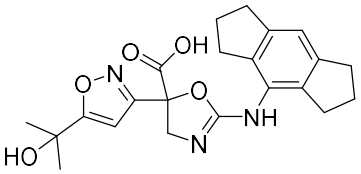
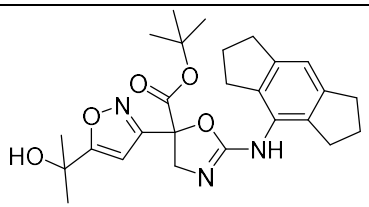
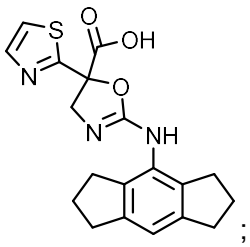
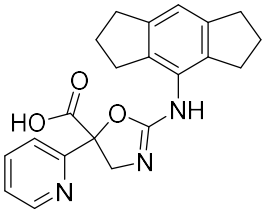
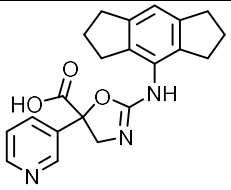
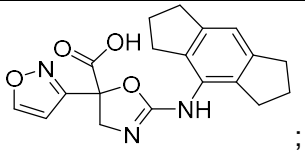
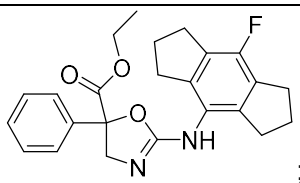
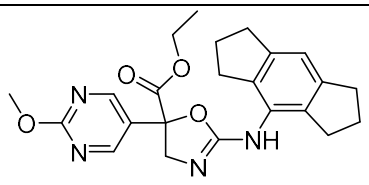
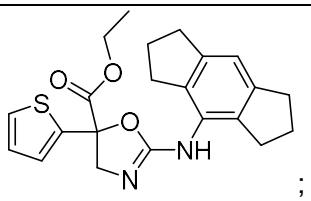
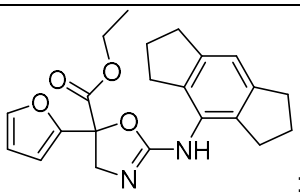
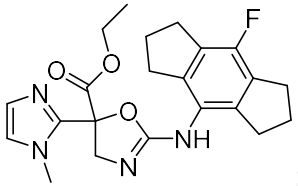
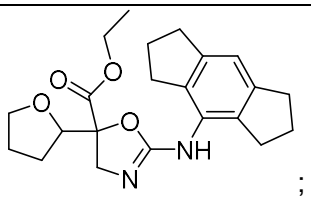
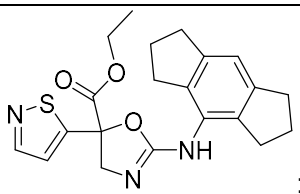
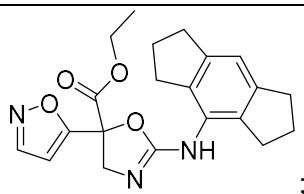
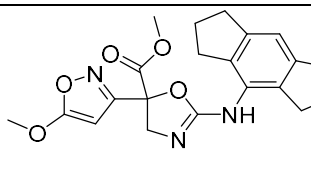
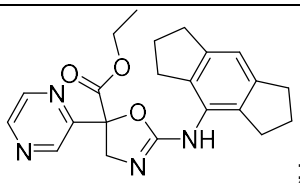
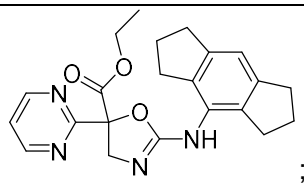
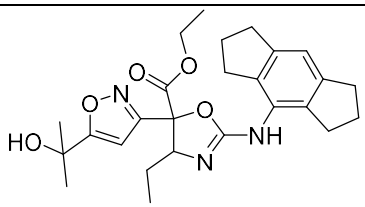
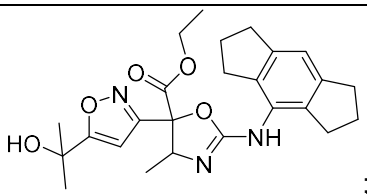
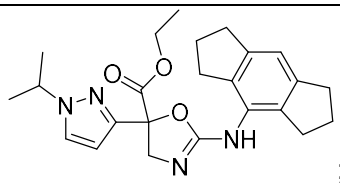
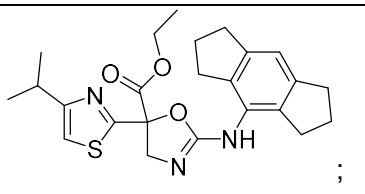
R[3] is

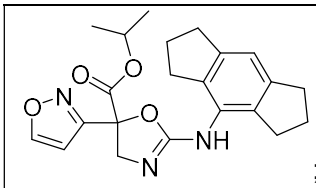
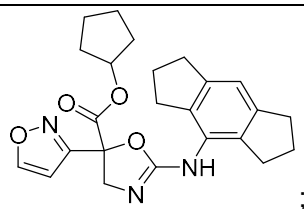
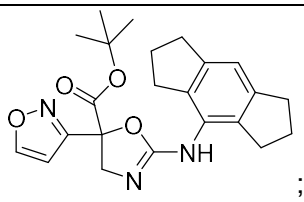
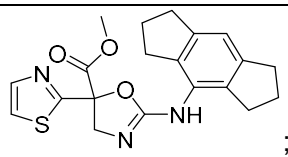
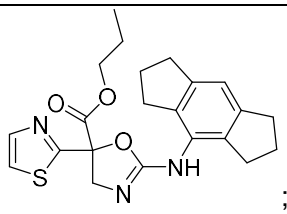
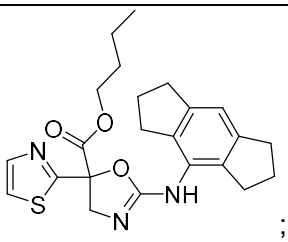
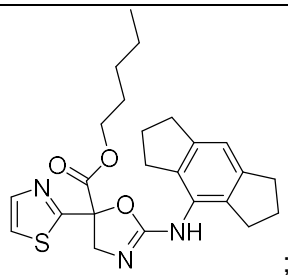
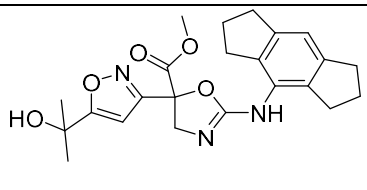
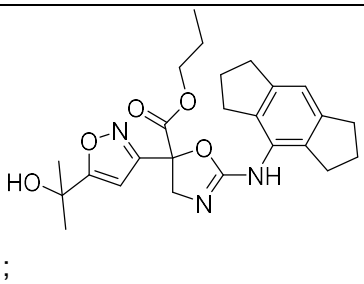
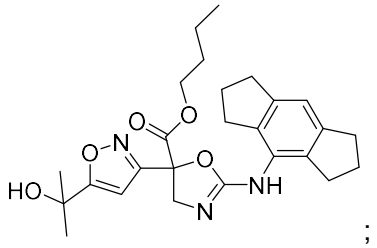
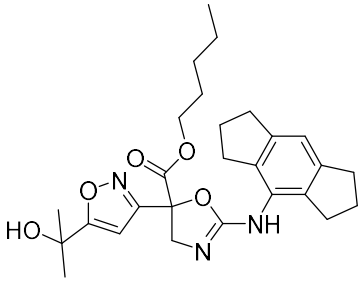
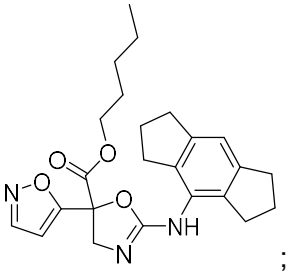
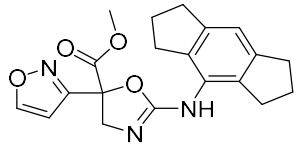
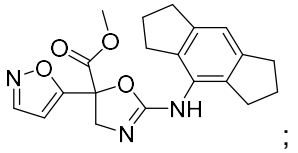
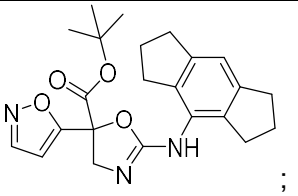


; each of them can be optionally substituted, and **R⁴** is independently selected from the group consisting of hydrogen, C_1-C_6alkyl and C_3-C_6cycloalkyl.

6. The compound according to any of the preceding claims, which is selected from

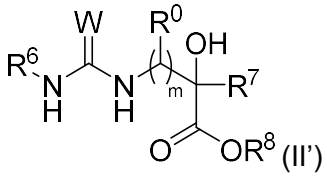
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or a stereoisomer, a racemic mixture, a tautomer, a polymorph, a pharmaceutically acceptable salt, a hydrate, or a solvate thereof.

7. A compound of formula (II')



(II')

or a stereoisomer, a racemic mixture, a tautomer, a polymorph, a pharmaceutically acceptable salt, a hydrate, or a solvate thereof,

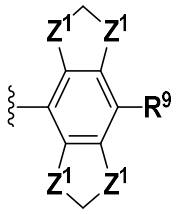
wherein

W is independently selected from the group consisting of O and S;

m is 1 or 2;

$\mathbf{R^0}$ is H or C_1-C_3alkyl;

$\mathbf{R^6}$ is



wherein

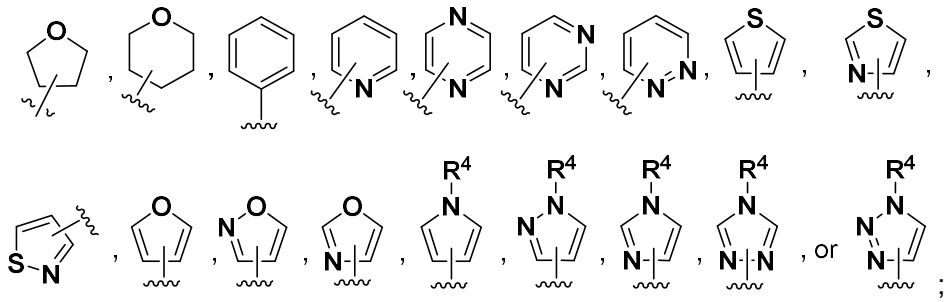
$\mathbf{Z^1}$ is independently selected from the group consisting of CH_2 and O provided that no more than two of $\mathbf{Z^1}$ are O;

$\mathbf{R^9}$ is independently selected from the group consisting of hydrogen and halogen;

$\mathbf{R^8}$ is independently selected from the group consisting of hydrogen, C_1-C_6alkyl, C_3-C_6 cycloalkyl; and

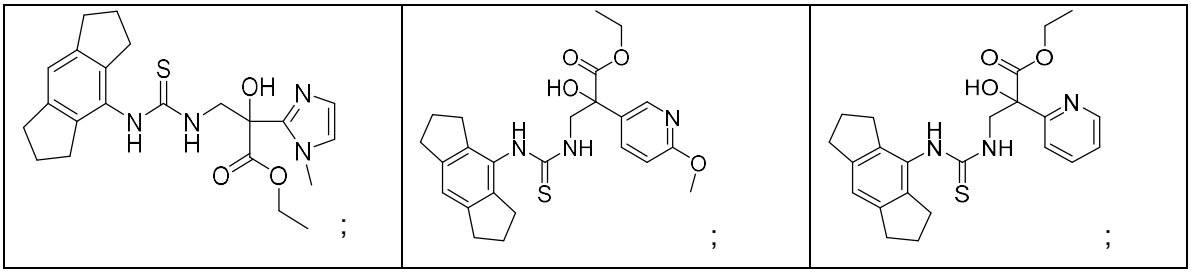
$\mathbf{R^7}$ is independently selected from the group consisting of heteroC_3-C_6cycloalkyl, aryl or heteroaryl wherein each of them can be optionally substituted.

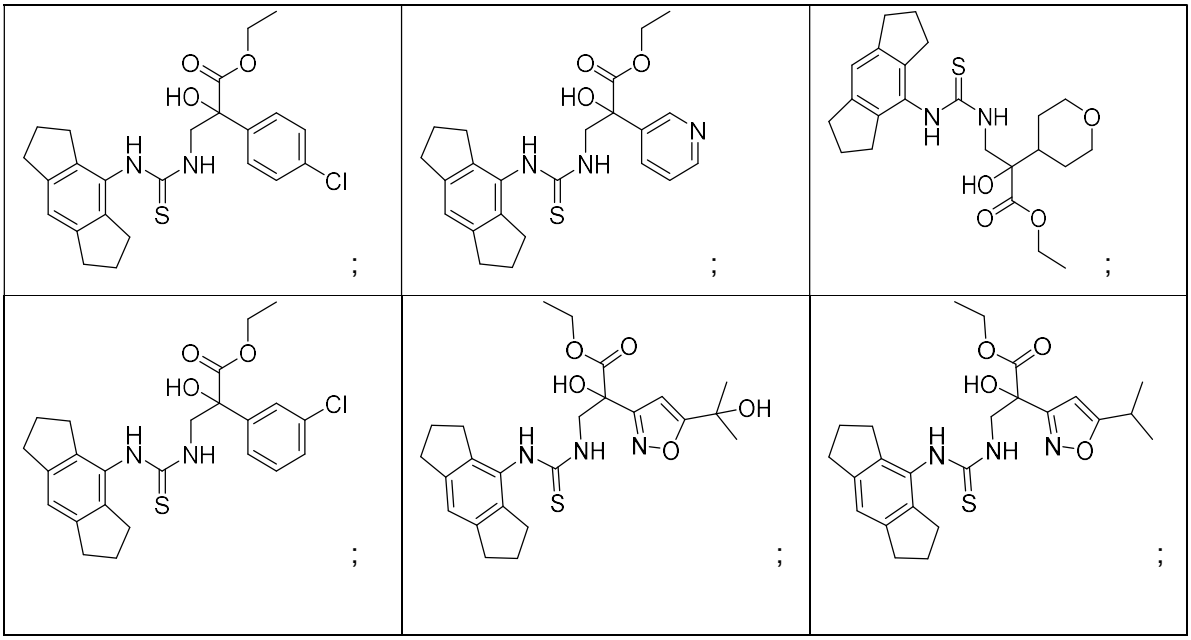
8. The compound according to claim 7, wherein $\mathbf{R^7}$ is



each of them can be optionally substituted and $\mathbf{R^4}$ is independently selected from the group consisting of hydrogen, C_1-C_6alkyl and C_3-C_6cycloalkyl.

9. The compound according to claim 7 or 8, which is





or a stereoisomer, a racemic mixture, a tautomer, a polymorph, a pharmaceutically acceptable salt, a hydrate, or a solvate thereof.

10. A pharmaceutical composition comprising a compound as defined in any one of claims 1 to 9, or a stereoisomer, a racemic mixture, a tautomer, a polymorph, a pharmaceutically acceptable salt, a hydrate, or a solvate thereof, and optionally comprising at least one pharmaceutically acceptable carrier, diluent, adjuvant or excipient.

11. The compound according to any one of claims 1 to 9, or a stereoisomer, a racemic mixture, a tautomer, a polymorph, a pharmaceutically acceptable salt, a hydrate, or a solvate thereof, for use as a medicament.

12. Use of the compound according to any one of claims 1 to 9, or a stereoisomer, a racemic mixture, a tautomer, a polymorph, a pharmaceutically acceptable salt, a hydrate, or a solvate thereof, in the manufacture of a medicament for treating, alleviating or preventing a disease, or a disorder or an abnormality which is responsive to the modulation of a component of the NLRP3 inflammasome pathway and/or which is responsive to the modulation of IL-1 beta and/or IL-18 levels.

13. The use of claim 12, wherein the disease, the disorder or the abnormality is selected from Alzheimer's disease, Parkinson's disease, amyotrophic lateral sclerosis, demyelination, viral encephalitis, epilepsy, stroke, atherosclerosis, asthma, allergic inflammation, cryopyrin-associated periodic syndromes (CAPS), Muckle-Wells syndrome (MWS), familial cold autoinflammatory syndrome (FCAS), neonatal-onset multisystem inflammatory disease (NOMID), gout, pseudo-gout, inflammatory bowel disease, nonalcoholic fatty liver disease, nonalcoholic steatohepatitis, hypertension, myocardial infarction, oxalate-induced nephropathy, graft-versus host disease, type 1 diabetes, type 2 diabetes, rheumatoid arthritis,

myelodysplastic syndrome, familial Mediterranean fever (FMF), TNF receptor associated periodic syndrome (TRAPS), mevalonate kinase deficiency (MKD), hyperimmunoglobulinemia D, periodic fever syndrome (HIDS), deficiency of interleukin 1 receptor (DIRA) antagonist, Majeed syndrome, acne, pyogenic arthritis pyoderma gangrenosum and acne (PAPA), haploinsufficiency of A20 (HA20), PLCG2-associated antibody deficiency and immune dysregulation (PLAID), pediatric granulomatous arthritis (PGA), PLCG2-associated autoinflammation, antibody deficiency and immune dysregulation (APLAID), sideroblastic anemia with B-cell immunodeficiency, periodic fevers, developmental delay (SIFD), chronic nonbacterial osteomyelitis (CNO), Sweet's syndrome, chronic recurrent multifocal osteomyelitis (CRMO), synovitis, pustulosis, acne, eczema, alopecia areata, actinic keratosis, hyperostosis, osteitis syndrome (SAPHO), multiple sclerosis (MS), psoriasis, Behcet's disease, Sjogren's syndrome, Schnitzler syndrome, chronic obstructive pulmonary disorder (COPD), steroid-resistant asthma, asbestosis, silicosis, cystic fibrosis, motor neuron disease, Huntington's disease, cerebral malaria, brain injury from pneumococcal meningitis, obesity, age-related macular degeneration (AMD), corneal infection, uveitis, dry eye, chronic kidney disease, diabetic nephropathy, alcoholic liver disease, skin contact hypersensitivity, sunburn, osteoarthritis, systemic juvenile idiopathic arthritis, adult-onset Still's disease, relapsing polychondritis, Chikungunya virus, Ross River virus, influenza, HIV, Coronaviruses, Dengue, Zika virus, hidradenitis suppurativa (HS), lung cancer metastasis, pancreatic cancers, gastric cancers, myelodisplastic syndrome, leukemia; polymyositis, colitis, helminth infection, bacterial infection, abdominal aortic aneurism, wound healing, depression, psychological stress, pericarditis including Dressler's syndrome, ischaemia reperfusion injury, frontotemporal dementia, HIV-associated neurocognitive disorder, Coronavirus-associated inflammatory pathologies, and traumatic brain injury; preferably the disorder is selected from Alzheimer’s disease, Parkinson’s disease, amyotrophic lateral sclerosis, demyelination, viral encephalitis, epilepsy, stroke, atherosclerosis, asthma, allergic inflammation, cryopyrin-associated periodic syndromes (CAPS), gout, inflammatory bowel disease, non-alcoholic fatty liver disease (NAFLD), non-alcoholic steatohepatitis (NASH), hypertension, myocardial infarction, oxalate-induced nephropathy, graft-versus host disease, type 1 diabetes, type 2 diabetes, rheumatoid arthritis, myelodysplastic syndrome, anti-neutrophil cytoplasmic antibody-associated vasculitis (AAV), lupus nephritis, anti-glomerular basement membrane (GMB) disease, IgA nephropathy, glomerulonephritis (GN), systemic lupus erythematosus (SLE), Focal Segmental Glomerulosclerosis , Minimal change disease (MCD), Psoriatic Arthritis, and Hereditary Recurrent Fevers (HRFs).

14. The use according to claim 13, wherein the disease, the disorder or the abnormality is selected from Alzheimer’s disease, Parkinson’s disease, cryopyrin-associated periodic syndromes

(CAPS), non-alcoholic fatty liver disease (NAFLD), non-alcoholic steatohepatitis (NASH) and gout.

15. Use of a compound according to any one of claims 1 to 9, or a stereoisomer, a racemic mixture, a tautomer, a polymorph, a pharmaceutically acceptable salt, a hydrate, or a solvate thereof, as an analytical reference or an *in vitro* screening tool.