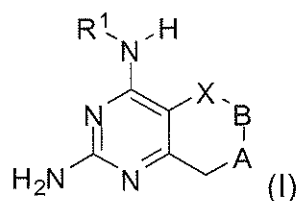


However, there exists a strong need for novel Toll-Like receptor modulators having preferred selectivity, higher potency, higher metabolic stability, and an improved safety profile (for instance a reduced CVS risk) compared to the compounds of the prior art.

- 5 In accordance with a first aspect of the present invention—disclosure, a compound of formula (I) is provided



or a pharmaceutically acceptable salt, tautomer(s), solvate or polymorph thereof, wherein

- 10 A is selected from the group consisting of CH₂, NCOR², CHR³ and CR³R³ in any stereo chemical configuration,

B is selected from the group consisting of CH₂, NCOR⁴, CHR³ and CR³R³ in any stereo chemical configuration,

- with the proviso that when A is NCOR² then B is not NCOR⁴ and with the
15 proviso that A and B are not both selected from CH₂, CHR³ or CR³R³,

X is selected from CH₂ or CHR⁵ in any stereo chemical configuration,

R¹ is selected from C₁₋₈alkyl optionally substituted with one or more of the following: C₁₋₆alkyl, C₃₋₇cycloalkyl, hydroxyl, hydroxyalkyl, amino, nitrile, alkoxy, alkoxy(C₁₋₄)alkyl, carboxylic acid, carboxylic ester, carbamate or sulfone,

- 20 R² is selected from substituted and unsubstituted C₁₋₆alkyl, C₃₋₇cycloalkyl, heterocycle, aryl, heteroaryl, heteroarylalkyl, each of which is optionally substituted by one or more substituents independently selected from halogen, hydroxyl, amino, C₁₋₆alkyl, di-(C₁₋₆)alkylamino, C₁₋₆alkylamino, C₁₋₆alkyl, C₁₋₆alkoxy, C₃₋₆cycloalkyl, carboxylic acid, carboxylic ester, carboxylic amide,
25 heterocycle, aryl, alkenyl, alkynyl, arylalkyl, heteroaryl, heteroarylalkyl or nitrile,

- R³ is selected from hydrogen, substituted and unsubstituted C₁₋₆alkyl, alkoxy, alkoxy-(C₁₋₄)alkyl, C₃₋₇cycloalkyl, C₄₋₇heterocycle, aromatic, bicyclic heterocycle, arylalkyl, heteroaryl, heteroarylalkyl each of which is optionally substituted by one or more substituents independently selected from halogen,
30 hydroxyl, amino, C₁₋₆alkyl, di-(C₁₋₆)alkylamino, C₁₋₆alkylamino, C₁₋₆alkyl,

C₁₋₆alkoxy, C₃₋₆cycloalkyl, carboxylic acid, carboxylic ester, carboxylic amide, heterocycle, aryl, alkenyl, alkynyl, arylalkyl, heteroaryl, heteroarylalkyl or nitrile,

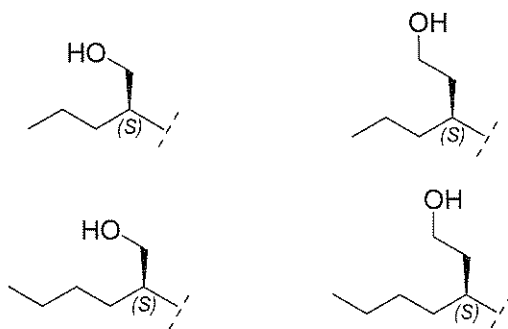
R⁴ is selected from substituted or unsubstituted C₁₋₇alkyl, alkoxy, alkoxy-(C₁₋₄)alkyl, aryl or C₃₋₇cycloalkyl each of which is optionally substituted by
5 heterocycle, nitrile, heteroarylalkyl or heteroaryl and wherein

R⁵ is selected from aromatic, bicyclic heterocycle, aryl, heteroaryl, each of which is optionally substituted by one or more substituents independently selected from halogen, hydroxyl, amino, C₁₋₆alkyl, di-(C₁₋₆)alkylamino, C₁₋₆alkylamino, C₁₋₆alkyl, C₁₋₆alkoxy, C₃₋₆cycloalkyl, carboxylic acid, carboxylic
10 ester, carboxylic amide, heterocycle, aryl, alkenyl, alkynyl, arylalkyl, heteroaryl, heteroarylalkyl or nitrile.

In a first embodiment the present ~~invention~~ disclosure provides compounds of formula (I) wherein R¹ is butyl and wherein A, B, and X are as specified above.

In a further embodiment the ~~disclosure~~ invention concerns compounds of
15 formula (I) wherein R¹ is C₄₋₈alkyl substituted with hydroxyl, and wherein A, B, and X are as specified above.

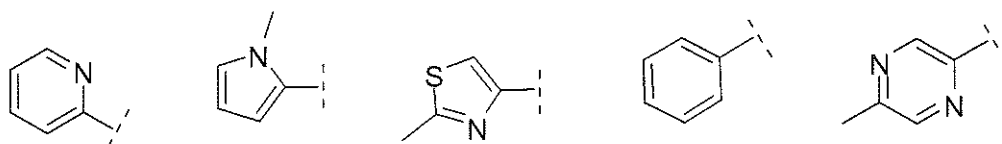
Another embodiment relates to compounds of formula I wherein R¹, being C₄₋₈alkyl substituted with hydroxyl, is one of the following



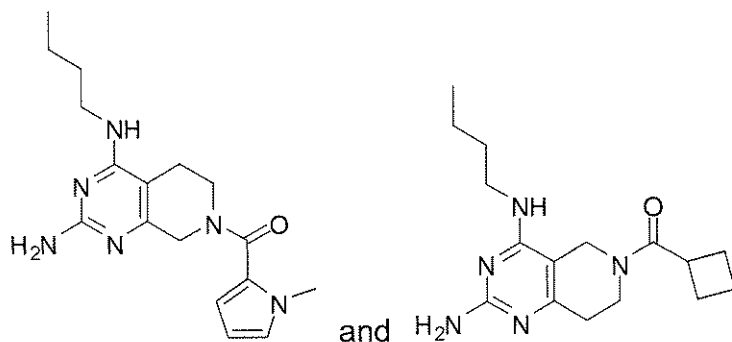
20 Furthermore, the present ~~disclosure~~ invention also provides compounds of formula (I) wherein X is CH₂ and wherein A, and B are as specified above.

In another embodiment the present ~~disclosure~~ invention provides compounds of formula (I) wherein X is CH₂ and wherein A is CH₂ and B are as specified above.

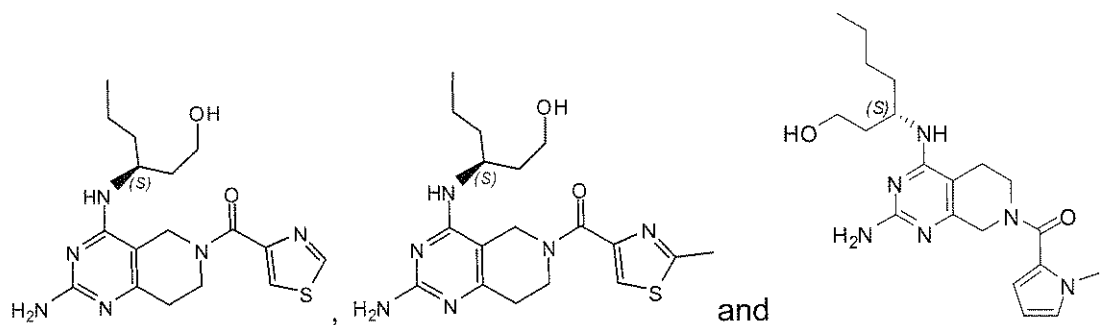
25 Furthermore, the ~~disclosure~~ invention relates to compounds of formula (I) wherein R² is one of the following examples that can be further substituted with C₁₋₃alkyl, hydroxyl, alkoxy, nitrile, heterocycle, carboxylic ester, or carboxylic amide:



Preferred compounds are compound numbers 3 and 1 having the following chemical structures respectively:



- 5 Other preferred compounds according to the ~~disclosure invention~~ are the compounds having the following chemical structures:



- 10 The compounds of formula (I) and their pharmaceutically acceptable salt, tautomer(s), solvate or polymorph thereof have activity as pharmaceuticals, in particular as modulators of Toll-Like Receptors (especially TLR7 and/or TLR8) activity.

- 15 In a further aspect the present ~~disclosure invention~~ provides a pharmaceutical composition comprising a compound of formula (I) or a pharmaceutically acceptable salt, tautomer, solvate or polymorph thereof together with one or more pharmaceutically acceptable excipients, diluents or carriers.

- 20 ~~Furthermore in a further aspect,~~ a compound of formula (I) or a pharmaceutically acceptable salt, tautomer, solvate or polymorph thereof according to the current ~~disclosure invention~~, or a pharmaceutical composition comprising said compound of formula (I) or a pharmaceutically acceptable salt, tautomer, solvate or polymorph thereof can be used as a medicament.

Another aspect of the ~~disclosure invention~~ is that a compound of formula (I) or a pharmaceutically acceptable salt, tautomer, solvate or polymorph thereof, or said pharmaceutical composition comprising said compound of formula (I) or a pharmaceutically acceptable salt, tautomer, solvate or polymorph thereof can be used accordingly in the treatment of a disorder in which the modulation of TLR7 and /or TLR8 is involved.

The term "alkyl" refers to a straight-chain or branched-chain saturated aliphatic hydrocarbon containing the specified number of carbon atoms.

The term "halogen" refers to fluorine, chlorine, bromine or iodine.

10 The term "alkenyl" refers to an alkyl as defined above consisting of at least two carbon atoms and at least one carbon-carbon double bond.

The term "alkynyl" refers to an alkyl as defined above consisting of at least two carbon atoms and at least one carbon-carbon triple bond.

15 The term "cycloalkyl" refers to a carbocyclic ring containing the specified number of carbon atoms.

The term "heteroaryl" means an aromatic ring structure as defined for the term "aryl" comprising at least 1 heteroatom selected from N, O and S, in particular from N and O.

20 The term "aryl" means an aromatic ring structure optionally comprising one or two heteroatoms selected from N, O and S, in particular from N and O. Said aromatic ring structure may have 4, 5, 6 or 7 ring atoms. In particular, said aromatic ring structure may have 5 or 6 ring atoms.

25 The term "bicyclic heterocycle" means an aromatic ring structure, as defined for the term "aryl" comprised of two fused aromatic rings. Each ring is optionally comprised of heteroatoms selected from N, O and S, in particular from N and O.

The term "arylalkyl" means an aromatic ring structure as defined for the term "aryl" optionally substituted with an alkyl group.

30 The term "heteroarylalkyl" means an aromatic ring structure as defined for the term "heteroaryl" optionally substituted by an alkyl group.