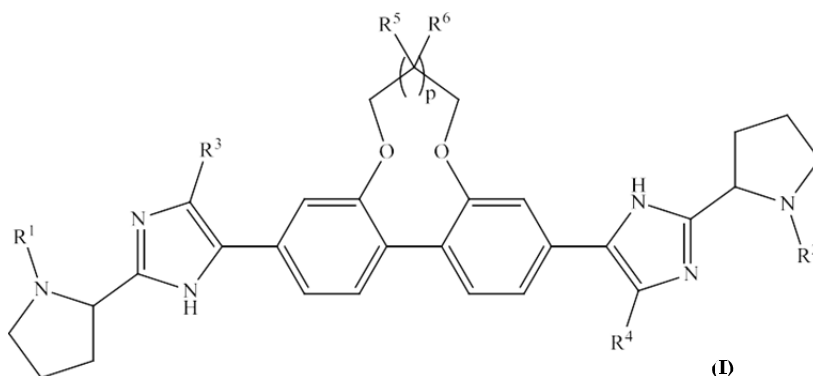


CLAIMS

1. A compound of formula (I), its tautomeric forms, its stereoisomers, or pharmaceutically acceptable salts thereof,



5 wherein,

R^1 and R^2 are each independently selected from hydrogen, substituted- or unsubstituted- alkyl, substituted- or unsubstituted- cycloalkyl, substituted- or unsubstituted- aryl, substituted- or unsubstituted- heteroaryl, substituted- or unsubstituted- heterocyclyl, $R^{7a}C(=O)-$, $R^{7a}S(=O)_2-$, $R^{7a}OC(=O)-$, $(R^8)R^7NC(=O)-$, $R^{7a}OC(=O)N(R^8)CR^b(R^a)C(=O)-$, $R^{7a}OC(=O)N(R^8)CR^b(R^a)C(R^d)(R^c)C(=O)-$, $R^{7a}C(=O)N(R^8)C(R^b)(R^a)C(=O)-$, $R^{7a}C(=O)N(R^8)CR^b(R^a)C(R^d)(R^c)C(=O)-$, $(R^8)R^7NC(=O)N(R^9)C(R^b)(R^a)C(=O)-$, and $R^8(R^7)NC(=O)N(R^9)CR^b(R^a)C(R^d)(R^c)C(=O)-$;

10

R^3 and R^4 are each independently selected from hydrogen, halogen, substituted- or unsubstituted- alkyl, and substituted- or unsubstituted- cycloalkyl;

15

R^5 and R^6 are independently selected from hydrogen, substituted- or unsubstituted- alkyl; or

R^5 and R^6 are groups, which together with the carbon atom to which they are attached form a substituted- or unsubstituted- 3 to 6 membered carbocycle or a substituted- or unsubstituted- 5 to 6 membered heterocycle; or R^5 and R^6 are groups, wherein two R^5 groups attached to two different carbon atoms, two R^6 groups attached to two different

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carbon atoms, or an R⁵ group attached to one carbon atom and an R⁶ group attached to a different carbon atom, together with the carbon atoms to which they are attached form a substituted- or unsubstituted- 3 to 6 membered carbocycle or a substituted- or unsubstituted- 5 to 6 membered heterocycle;

R⁷ is selected from hydrogen, substituted- or unsubstituted- alkyl, substituted- or unsubstituted- cycloalkyl, substituted- or unsubstituted- aryl, substituted- or unsubstituted- heteroaryl, and substituted- or unsubstituted- heterocyclyl;

R⁸ and R⁹ are each independently selected from hydrogen and substituted- or unsubstituted- alkyl;

R^{7a} is independently selected from substituted- or unsubstituted- alkyl, substituted- or unsubstituted- cycloalkyl, substituted- or unsubstituted- aryl, substituted- or unsubstituted- heteroaryl, and substituted- or unsubstituted- heterocyclyl;

R^a, R^b, R^c and R^d are independently selected from hydrogen, substituted- or unsubstituted- C₁₋₆ alkyl, substituted- or unsubstituted- aryl, substituted- or unsubstituted- heteroaryl, substituted- or unsubstituted- cycloalkyl, and substituted- or unsubstituted- heterocyclyl, or R^a, R^b, R^c and R^d together with the carbon atom(s) to which they are attached forming substituted- or unsubstituted- carbocycle, substituted- or unsubstituted- heterocycle;

p is an integer selected from 1, 2, and 3;

when the alkyl group is a substituted alkyl group, the alkyl is substituted with 1 to 4 substituents selected independently from oxo, halogen, cyano, perhaloalkyl, cycloalkyl, aryl, heteroaryl, heterocyclyl, R^{10a}O-, (alkyl)S(=O)₂-, (alkyl)C(=O)-, (alkyl)OC(=O)-, (alkyl)C(=O)O-, R¹⁰N(H)C(=O)-, R¹⁰(alkyl)NC(=O)-, (alkyl)C(=O)N(H)-, R¹⁰N(H)-, R¹⁰(alkyl)N-, R¹⁰(H)NC(=O)N(H)-, and R¹⁰(alkyl)NC(=O)N(H)-;

when the 'cycloalkyl' and the carbocyclic groups are substituted, each of them is substituted with with 1 to 3 substituents selected independently from oxo, halogen, cyano, C₁₋₆ alkyl, perhaloalkyl, R^{10a}O-, (alkyl)S(=O)₂-, (alkyl)C(=O)-, (alkyl)OC(=O)-, (alkyl)C(=O)O-, R¹⁰(H)NC(=O)-, R¹⁰(alkyl)NC(=O)-, (alkyl)C(=O)N(H)-, R¹⁰(H)N-, R¹⁰(alkyl)N-, R¹⁰(H)NC(=O)N(H)-, and R¹⁰(alkyl)NC(=O)N(H)-;

when the aryl group is substituted, it is substituted with 1 to 3 substituents selected independently from halogen, cyano, hydroxy, C₁₋₆ alkyl, perhaloalkyl, alkyl-O-, perhaloalkyl-O-, alkyl(alkyl)N-, alkyl(H)N-, H₂N-, alkyl-S(=O)₂-, alkyl-C(=O)(alkyl)N-, alkyl-C(=O)N(H)-, alkyl(alkyl)NC(=O)-, alkyl(H)NC(=O)-, H₂NC(=O)-, alkyl(alkyl)NS(=O)₂-, alkyl(H)NS(=O)₂-, and H₂NS(=O)₂-;

when the heteroaryl group is substituted, it is substituted with 1 to 3 substituents selected independently from halogen, cyano, hydroxy, C₁₋₆ alkyl, perhaloalkyl, alkyl-O-, perhaloalkyl-O-, alkyl(alkyl)N-, alkyl(H)N-, H₂N-, alkyl-S(=O)₂-, alkyl-C(=O)(alkyl)N-, alkyl-C(=O)N(H)-, alkyl(alkyl)NC(=O)-, alkyl(H)NC(=O)-, H₂NC(=O)-, alkyl(alkyl)NS(=O)₂-, alkyl(H)NS(=O)₂-, and H₂NS(=O)₂-;

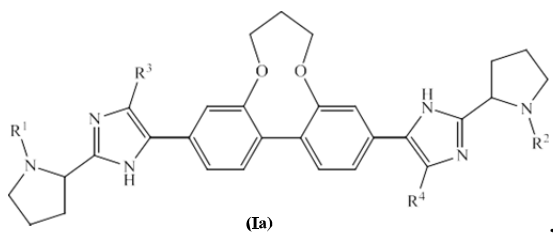
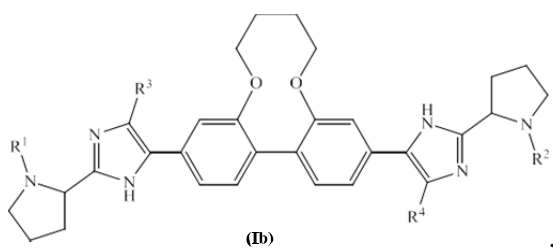
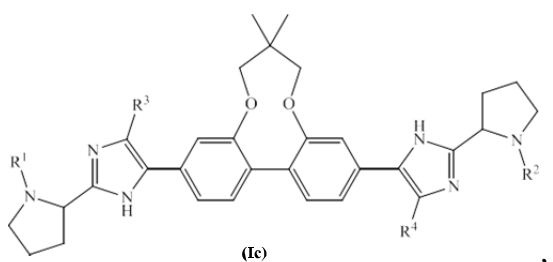
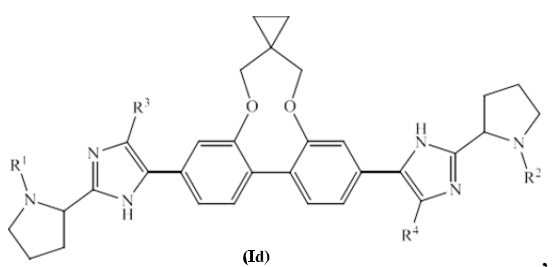
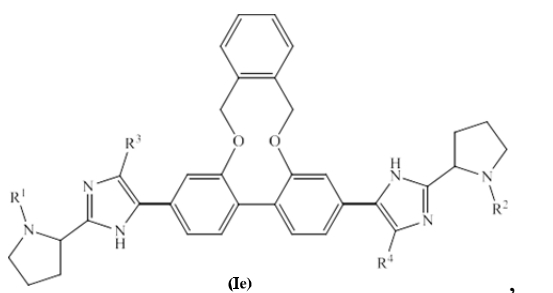
when the heterocyclic group is substituted, it can be substituted either on a ring carbon atom or a ring heteroatom; thus, when it substituted on a ring carbon atom, it is substituted with 1-3 substituents selected independently from halogen, cyano, oxo, C₁₋₆ alkyl, perhaloalkyl, R^{10a}O-, (alkyl)OC(=O)-, (alkyl) C(=O)O-, R¹⁰(H)NC(=O)-, R¹⁰(alkyl)NC(=O)-, (alkyl)C(=O)N(H)-, R¹⁰(H)N-, R¹⁰(alkyl)N-, R¹⁰(H)NC(=O)N(H)-, and R¹⁰(alkyl)NC(=O)N(H)-;

when the 'heterocyclic' group is substituted on a ring heteroatom, e.g. nitrogen, it is substituted with 1 or more substituents selected from C₁₋₆ alkyl, (alkyl)SO₂-, (alkyl)C(=O)-, (alkyl)OC(=O)-, R¹⁰(H)NC(=O)-, and R¹⁰(alkyl)NC(=O)-;

R¹⁰ is selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocyclyl; and

R^{10a} is selected from hydrogen, alkyl, perhaloalkyl, cycloalkyl, aryl, heteroaryl, and heterocyclyl.

2. The compound of formula (I), its tautomeric form, its stereoisomers, or its pharmaceutically acceptable salt, as claimed in claim 1, wherein compound of formula I is selected from



and

- 3.** The compound of formula (I), its tautomeric form, its stereoisomers, or its pharmaceutically acceptable salt, as claimed in claim 1 ~~or 2~~, wherein R^1 and R^2 are selected from $R^{7a}C(=O)-$, $R^{7a}S(=O)_2-$, $R^{7a}OC(=O)-$, $(R^8)R^7NC(=O)-$, $R^{7a}OC(=O)N(R^8)CR^b(R^a)C(=O)-$, $R^{7a}OC(=O)N(R^8)CR^b(R^a)C(R^d)(R^c)C(=O)-$, $R^{7a}C(=O)N(R^8)C(R^b)(R^a)C(=O)-$, $R^{7a}C(=O)N(R^8)CR^b(R^a)C(R^d)(R^c)C(=O)-$, $(R^8)R^7NC(=O)N(R^9)C(R^b)(R^a)C(=O)-$, and $R^8(R^7)NC(=O)N(R^9)CR^b(R^a)C(R^d)(R^c)C(=O)-$.
- 4.** The compound of formula (I), its tautomeric form, its stereoisomers, or its pharmaceutically acceptable salt, as claimed in ~~any one of claims 1 to 3~~, wherein R^1 and R^2 are selected from $R^{7a}OC(=O)N(R^8)CR^b(R^a)C(=O)-$, $R^{7a}OC(=O)N(R^8)CR^b(R^a)C(R^d)(R^c)C(=O)-$, $R^{7a}C(=O)N(R^8)C(R^b)(R^a)C(=O)-$, $R^{7a}C(=O)N(R^8)CR^b(R^a)C(R^d)(R^c)C(=O)-$, $(R^8)R^7NC(=O)N(R^9)C(R^b)(R^a)C(=O)-$, and $R^8(R^7)NC(=O)N(R^9)CR^b(R^a)C(R^d)(R^c)C(=O)-$.
- 5.** The compound of formula (I), its tautomeric form, its stereoisomers, or its pharmaceutically acceptable salt, as claimed in ~~any one of claims 1 to 4~~, wherein R^1 and R^2 both are specifically selected as $R^{7a}OC(=O)N(R^8)CR^b(R^a)C(=O)-$.
- 6.** The compound of formula (I), its tautomeric form, its stereoisomers, or its pharmaceutically acceptable salt, as claimed in ~~any one of claims 1 to 5~~, wherein R^3 and R^4 are selected independently from hydrogen, chloro, ethyl, and cyclopropyl.
- 7.** The compound of formula (I), its tautomeric form, its stereoisomers, or its pharmaceutically acceptable salt, as claimed in ~~any one of claims 1 to 6~~, wherein the compound is selected from
- dimethyl ((2S,2'S)-((2S,2'S)-2,2'-(5,5'-(7,8-dlhydro-6H-dibenzo[f,h][1,5]dioxonine-3,11-diyl)bis(1H-imidazole-5,2-diyl))bis(pyrrolidine-2,1-diyl))bis(3-methyl-1-oxobutane-2,1-diyl))dicarbamate;
- methyl ((S)-1-((S)-2-(5-(11-(2-((S)-1-((S)-2-(methoxycarbonyl)amino-3-methylbutanoyl)pyrrolidin-2-yl)-1H-imidazol-5-yl)-7,8-dihydro-6H-

dibenzo[*f,h*][1,5]dioxonin-3-yl)-4-chloro-1*H*-imidazol-2-yl)pyrrolidin-1-yl)-3-methyl-1-oxobutan-2-yl)carbamate;

5 dimethyl ((2*S*,2'*S*)-((2*S*,2'*S*)-2,2'-(5,5'-(7,8-dihydro-6*H*-dibenzo[*f,h*][1,5]dioxonine-3,11-diyl)bis(4-chloro-1*H*-imidazole-5,2-diyl))bis(pyrrolidine-2,1-diyl))bis(3-methyl-1-oxobutane-2,1-diyl))dicarbamate;

10 dimethyl ((2*S*,2'*S*)-((2*S*,2'*S*)-2,2'-(5,5'-(6,7,8,9-tetrahydrodibenzo[*b,d*][1,6]dioxecine-3,12-diyl)bis(1*H*-imidazole-5,2-diyl))bis(pyrrolidine-2,1-diyl))bis(3-methyl-1-oxobutane-2,1-diyl))dicarbamate;

dimethyl ((2*S*,2'*S*)-((2*S*,2'*S*)-2,2'-(5,5'-(7,7-dimethyl-7,8-dihydro-6*H*-dibenzo[*f,h*][1,5]dioxonine-3,11-diyl)bis(1*H*-imidazole-5,2-diyl))bis(pyrrolidine-2,1-diyl))bis(3-methyl-1-oxobutane-2,1-diyl))dicarbamate;

15 methyl ((*S*)-1-((*S*)-2-(5-(11-(2-((*S*)-1-((*S*)-2-(methoxycarbonyl)amino-3-methylbutanoyl)pyrrolidin-2-yl)-4-chloro-1*H*-imidazol-5-yl)-7,7-dimethyl-7,8-dihydro-6*H*-dibenzo[*f,h*][1,5]dioxonin-3-yl)-1*H*-imidazol-2-yl)pyrrolidin-1-yl)-3-methyl-1-oxobutan-2-yl)carbamate;

20 dimethyl ((2*S*,2'*S*)-((2*S*,2'*S*)-2,2'-(5,5'-(7,7-dimethyl-7,8-dihydro-6*H*-dibenzo[*f,h*][1,5]dioxonine-3,11-diyl)bis(4-chloro-1*H*-imidazole-5,2-diyl))bis(pyrrolidine-2,1-diyl))bis(3-methyl-1-oxobutane-2,1-diyl))dicarbamate;

25 dimethyl ((2*S*,2'*S*)-((2*S*,2'*S*)-2,2'-(5,5'-(7,7-dimethyl-7,8-dihydro-6*H*-dibenzo[*f,h*][1,5]dioxonine-3,11-diyl)bis(4-ethyl-1*H*-imidazole-5,2-diyl))bis(pyrrolidine-2,1-diyl))bis(3-methyl-1-oxobutane-2,1-diyl))dicarbamate;

30 dimethyl ((2*S*,2'*S*)-((2*S*,2'*S*)-2,2'-(5,5'-(7,7-dimethyl-7,8-dihydro-6*H*-dibenzo[*f,h*][1,5]dioxonine-3,11-diyl)bis(4-cyclopropyl-1*H*-imidazole-5,2-diyl))bis(pyrrolidine-2,1-diyl))bis(3-methyl-1-oxobutane-2,1-diyl))dicarbamate;

dimethyl ((2S,2'S)-((2S,2'S)-2,2'-(5,5'-(6',8'-dihydrospiro[cyclopropane-1,7'-dibenzo[f,h][1,5]dioxonine]-3',11'-diyl)bis(1*H*-imidazole-5,2-diyl))bis(pyrrolidine-2,1-diyl))bis(3-methyl-1-oxobutane-2,1-diyl))dicarbamate; and

5 dimethyl ((2S,2'S)-((2S,2'S)-2,2'-(5,5'-(6,11-dihydrotribenzo[b,d,h][1,6]dioxecine-3,14-diyl)bis(1*H*-imidazole-5,2-diyl))bis(pyrrolidine-2,1-diyl))bis(3-methyl-1-oxobutane-2,1-diyl))dicarbamate.

10 **8.** A pharmaceutical composition comprising a compound or a combination of compounds according to ~~any one of claims 1-7~~, a tautomeric form, a stereoisomer, or a pharmaceutically acceptable salt thereof, in combination with a pharmaceutically acceptable carrier or excipient.

15 **9.** A ~~method of~~ use of a compound or combination of compounds according to claim 1 in the manufacture of a medicament for inhibiting the replication of an RNA-containing virus comprising contacting said virus with a therapeutically effective amount of a compound or combination of compounds of ~~any one of claims 1-7~~, a tautomeric form, a stereoisomer, or a pharmaceutically acceptable salt thereof.

20 **10.** A ~~method of~~ use of a compound or combination of compounds according to claim 1 in the manufacture of a medicament for treating or preventing infection caused by an RNA-containing virus comprising administering to a patient in need of such treatment or prevention a therapeutically effective amount of a compound or combination of compounds of ~~any one of claims 1-7~~, a tautomeric form, a stereoisomer, or a pharmaceutically acceptable salt thereof.

11. The ~~method~~ medicament of claim 10, wherein the RNA-containing virus is hepatitis C virus.

30 **12.** The ~~method~~ medicament of claim 10, further comprising the step of co-administering one or more agents selected from a host immune modulator and an antiviral agent, or a combination thereof.

- 13.** The ~~method~~ medicament of claim 12, wherein the host immune modulator is selected from interferon-alpha, pegylated-interferon-alpha, interferon-beta, interferon-gamma, consensus interferon, a cytokine, and a vaccine.
- 5 **14.** The ~~method~~ medicament of claim 12, wherein the antiviral agent inhibits replication of HCV by inhibiting a host cellular function associated with viral replication.
- 15.** The ~~method~~ medicament of claim 12, wherein the antiviral agent inhibits the replication of HCV by targeting a protein of the viral genome.
- 10 **16.** The ~~method~~ medicament of claim 12, wherein said antiviral agent is an inhibitor of a HCV viral protein, a replication process or a combination thereof, wherein said targeting protein or replication process is selected from helicase, protease, polymerase, metalloprotease, NS4A, NS4B, NS5A, assembly, entry, and IRES.
- 15 **17.** The ~~method~~ medicament of claim 12, further comprising the step of co-administering an agent or combination of agents that treat or alleviate symptoms of HCV infection selected from cirrhosis and inflammation of the liver.
- 18.** The ~~method~~ medicament of claim 12, further comprising the step of co-administering one or more agents that treat patients for disease caused
20 by hepatitis B (HBV) infection.
- 19.** The ~~method~~ medicament of claim 12, further comprising the step of co-administering one or more agents that treat patients for disease caused by human immunodeficiency virus (HIV) infection.
- 25 **20.** The pharmaceutical composition of claim 8, further comprising an agent selected from interferon, pegylated interferon, ribavirin, amantadine, an HCV protease inhibitor, an HCV polymerase inhibitor, an HCV helicase inhibitor, or an internal ribosome entry site inhibitor.

- 21.** The composition of claim 8, further comprising a cytochrome P450 monooxygenase inhibitor or a pharmaceutically acceptable salt thereof.
- 22.** A ~~method of~~ use of a compound or combination of compounds according to claim 1 in the manufacture of a medicament for treating hepatitis C infection in a subject in need thereof comprising co-administering to said subject a cytochrome P450 monooxygenase inhibitor or a pharmaceutically acceptable salt thereof, and a compound of ~~any one of~~ claims 1-7, a tautomeric form, a stereoisomer, or a pharmaceutically acceptable salt thereof.
- 23.** ~~A compound according to any one of claims 1-7, or a pharmaceutically acceptable salt thereof, for use in treating or preventing an infection in a patient caused by an RNA-containing virus.~~