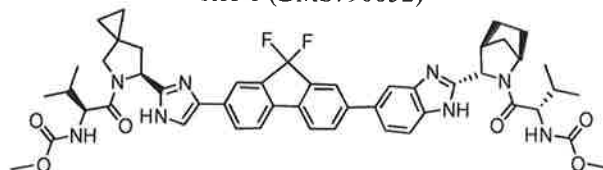
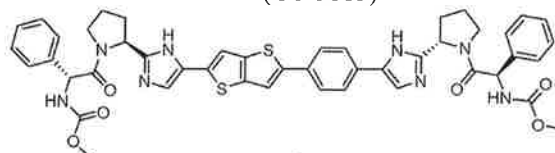


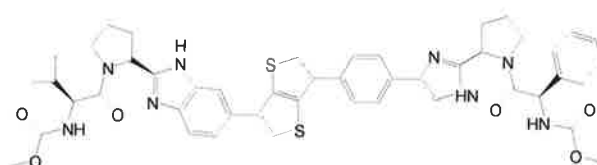
Ref-1 (BMS790052)



Ref-2 (GS-5885)



Ref-3



Ref-4 (DIX-719)

The synthesis and effects of the compounds and intermediates of this invention are illustrated with the following embodiments.

Apparatuses and raw materials used in the embodiments are as follows:

IR spectra data are obtained with Fourier Transform AVATAR™ 360 E.S.P™ IR spectrometer (Thermo Nicolet) and represented in cm^{-1} .

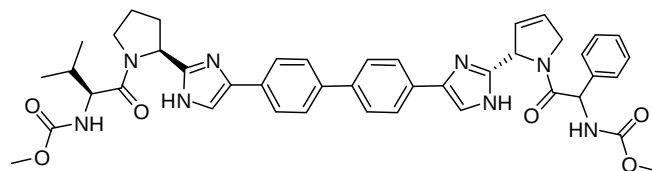
^1H NMR spectra are obtained with Varian Mercury Plus NMR analyzer at 400 or 500 MHz. Chemical shift is recorded in ppm with tetramethylsilane (TMS) as internal standard (CHCl_3 : $\delta = 7.26$ ppm). The recorded data include the following: chemical shift and its splitting constants and coupling constants (s: singlet; d: doublet; t: triplet; q: quartet; br: broad peak; m: multiplet).

Unless otherwise specified, MS data are analyzed with LS-MS (Finnigan LCQ Advantage); all reactions are carried out in argon atmosphere under anhydrous and anaerobic conditions. Solid metal organic compounds are stored in drier under argon atmosphere.

Tetrahydrofuran and ether are added sodium and benzophenone and then distilled.

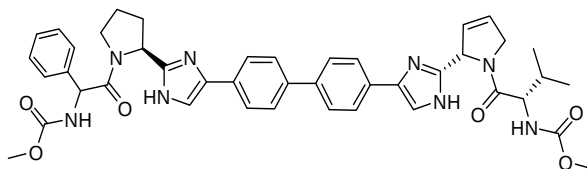
CLAIMS

1. A chemical compound as represented by Formula Ia-70, its stereoisomers, tautomers, pharmaceutically acceptable salts, or their isotopic substitutions in which the hydrogen, oxygen, or nitrogen is replaced by its corresponding isotope,



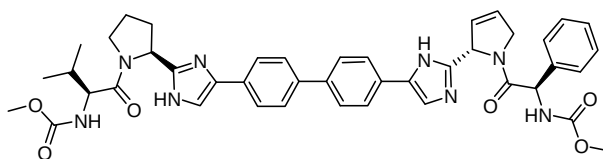
Ia-70

2. A chemical compound as represented by Formula Ia-71, its stereoisomers, tautomers, pharmaceutically acceptable salts, or their isotopic substitutions in which the hydrogen, oxygen, or nitrogen is replaced by its corresponding isotope,



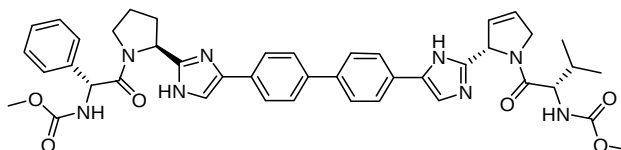
Ia-71

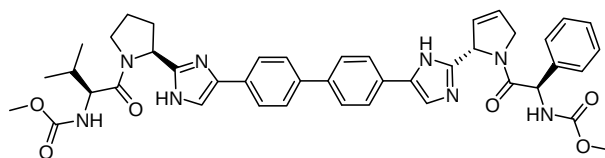
3. A chemical compound as represented by Formula Ia-113, its stereoisomers, tautomers, pharmaceutically acceptable salts, or their isotopic substitutions in which the hydrogen, oxygen, or nitrogen is replaced by its corresponding isotope,



Ia-113

4. A chemical compound as represented by Formula Ia-115, its stereoisomers, tautomers, pharmaceutically acceptable salts, or their isotopic substitutions in which the hydrogen, oxygen, or nitrogen is replaced by its corresponding isotope,





Ia-115

5. A chemical compound as represented by Formula Ia-70, Ia-71, Ia-113 or Ia-115

5 in any one of claims 1-4, their stereoisomers, tautomers, pharmaceutically acceptable salts are used in preparation of HCV inhibitor drugs.

6. A kind of pharmaceutical composition, wherein: a chemical compound as represented by Formula Ia-70, Ia-71, Ia-113 or Ia-115 in any one of claims 1-4, their stereoisomers, tautomers, pharmaceutically acceptable salts, and pharmaceutical
10 acceptable excipient.

7. A kind of pharmaceutical composition according to claim 6, which includes: Immunomodulators, hepatitis C virus (HCV) NS3/4A inhibitors, HCV-NS5B inhibitors, HCV inhibitors of the nucleoside and non-nucleoside and nucleoside derivatives, hepatitis B viral (HBV) inhibitors, antiviral human immunodeficiency virus (HIV) inhibitors,
15 anti-cancer drugs and anti-inflammatory drugs.

8. A kind of pharmaceutical composition according to claim 7, wherein: the described immunomodulators are interferon or interferon derivatives;

The described HBV inhibitors include Lamivudine, Telbivudine, Adefovir Dipivoxil, Emtricitabine, Entecavir, Tenofovir and Telbivudine;

20 The described anti-HIV inhibitors include ritonavir and/or ribavirin,

The described HCV protease inhibitors include VX-950, ZN2007, ABT-450, RG-7227, TMC-435, MK-5172, MK-7009, ACH-1625, GS-9256, TG2349, BMS-650032, IDX320, Yimitasvir phosphate capsule or Seraprevir potassium;

The described hepatitis C virus polymerase inhibitor comprises GS-5885, TMC647055,
25 ABT-267, BMS-791325, PPI-383 or ALS-002158.

9. A kind of pharmaceutical composition according to claim 8, wherein the described interferon is pegylated interferon.

10. A kind of pharmaceutical composition according to any one of Claims 6-9, wherein their uses in preparation of antiviral HCV inhibitors.