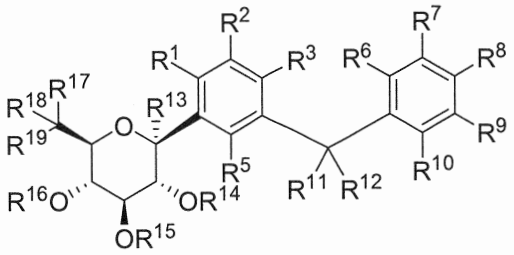
CLAIMS

1. A composition comprising a compound having the structure:



or any stereoisomer or tautomer thereof, or any pharmaceutically acceptable salt or solvate thereof, wherein one of R^1, R^2, R^3 and R^5 represents hydrogen, deuterium, halo, cyano, nitro, amino, hydroxy, C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_3-C_{10} cycloalkyl, C_5-C_{10} cycloalkenyl, C_1-C_6 alkoxy, C_3-C_{10} cycloalkoxy, (C_1-C_6 alkoxy)C_1-C_6 alkoxy, C_5-C_7 cycloalkenyloxy, aryl, heteroaryl, aryloxy, heteroaryloxy, (C_2-C_4 alkenyl)C_1-C_3 alkoxy, (C_2-C_4 alkynyl)C_1-C_3 alkoxy, (aryl)C_1-C_3 alkoxy, (heteroaryl)C_1-C_3 alkoxy, (C_3-C_{10} cycloalkyl)C_1-C_3 alkyl, (C_3-C_{10} cycloalkyl)C_1-C_3 alkoxy, (C_5-C_{10} cycloalkenyl)C_1-C_3 alkyl, (C_5-C_{10} cycloalkenyl)C_1-C_3 alkoxy, (C_1-C_4 alkoxy)C_1-C_3 alkyl, (C_3-C_7 cycloalkoxy)C_1-C_3 alkyl, (C_3-C_7 cycloalkoxy)C_2-C_4 alkenyl, (C_3-C_7 cycloalkoxy)C_2-C_4 alkynyl, (C_3-C_7 cycloalkoxy)C_1-C_3 alkoxy, (C_1-C_4 alkylamino)C_1-C_3 alkyl, di-(C_1-C_3 alkylamino)C_1-C_3 alkyl, tri-(C_1-C_4 alkyl)silyl-C_1-C_6 alkyl, tri-(C_1-C_4 alkyl)silyl-C_2-C_6 alkenyl, tri-(C_1-C_4 alkyl)silyl-C_2-C_6 alkynyl, tri-(C_1-C_4 alkyl)silyl-C_1-C_6 alkoxy, (C_3-C_7 cycloalkyl)C_2-C_5 alkenyl, (C_3-C_7 cycloalkyl)C_3-C_5 alkenyloxy, (C_3-C_7 cycloalkyl)C_3-

C_5 alkynyloxy, (C_5-C_8 cycloalkenyl)C_3-C_5 alkenyloxy, (C_5-C_8 cycloalkenyl)C_3-C_5 alkynyloxy, C_3-C_6 cycloalkylidenmethyl, (C_1-C_4 alkyl)carbonyl, arylcarbonyl, heteroarylcarbonyl, aminocarbonyl, (C_1-C_4 alkyl)aminocarbonyl, di-(C_1-C_3 alkyl)aminocarbonyl, hydroxycarbonyl, (C_1-C_4 alkoxy)carbonyl, C_1-C_4 alkylamino, di-(C_1-C_3 alkyl)amino, (C_1-C_4 alkyl)carbonylamino, arylcarbonylamino, heteroarylcarbonylamino, C_1-C_4 alkylsulfonylamino, arylsulfonylamino, C_1-C_4 alkylthio, C_1-C_4 alkylsulfinyl, C_1-C_4 alkylsulfonyl, C_3-C_{10} cycloalkylthio, C_3-C_{10} cycloalkylsulfinyl, C_3-C_{10} cycloalkylsulfonyl, C_5-C_{10} cycloalkenylthio, C_5-C_{10} cycloalkenylsulfinyl, C_5-C_{10} cycloalkenylsulfonyl, arylthio, arylsulfinyl or arylsulfonyl;

two of the remaining groups R^1, R^2, R^3 and R^5 each independently represent hydrogen, deuterium, halo, cyano, nitro, hydroxy, C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_3-C_{10} cycloalkyl, C_1-C_3 alkoxy or C_3-C_{10} cycloalkoxy; and

one of the remaining groups R^1, R^2, R^3 and R^5 represents hydrogen or deuterium;

one of the groups R^6, R^7, R^8, R^9 and R^{10} represents hydrogen, deuterium, halo, cyano, nitro, amino, hydroxy, C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_3-C_{10} cycloalkyl, C_5-C_{10} cycloalkenyl, C_1-C_6 alkoxy, C_3-C_{10} cycloalkoxy, (C_1-C_6 alkoxy)C_1-C_6 alkoxy, (C_1-C_3 alkoxy)C_3-C_7 cycloalkoxy, C_5-C_7 cycloalkenyloxy, aryl, heteroaryl, aryloxy, heteroaryloxy, (C_2-C_4 alkenyl)C_1-C_3 alkoxy, (C_2-C_4 alkynyl)C_1-C_3 alkoxy, (aryl)C_1-C_3 alkoxy, (heteroaryl)C_1-C_3 alkoxy, (C_3-C_{10} cycloalkyl)C_1-C_3 alkyl, (C_3-C_{10} cycloalkyl)C_1-C_3 alkoxy, (C_5-C_{10} cycloalkenyl)C_1-C_3 alkyl, (C_5-C_{10} cycloalkenyl)C_1-C_3 alkoxy, (C_1-C_4 alkoxy)C_1-C_3 alkyl, (C_3-C_7 cycloalkoxy)C_1-C_3 alkyl, (C_3-C_7 cycloalkoxy)C_2-C_4 alkenyl, (C_3-C_7 cycloalkoxy)C_2-C_4 alkynyl, (C_3-C_7 cycloalkoxy)C_1-C_3 alkoxy, (C_1-C_4 alkylamino)C_1-C_3 alkyl, di-(C_1-C_3 alkylamino)C_1-C_3 alkyl, tri-(C_1-C_4 alkyl)silyl-C_1-C_6 alkyl, tri-(C_1-C_4 alkyl)silyl-C_2-C_6 alkenyl, tri-(C_1-C_4 alkyl)silyl-C_2-C_6 alkynyl, tri-(C_1-C_4 alkyl)silyl-C_1-C_6 alkoxy, (C_3-C_7 cycloalkyl)C_2-C_5 alkenyl, (C_3-C_7 cycloalkyl)C_3-C_5 alkenyloxy, (C_3-C_7 cycloalkyl)C_3-C_5 alkynyloxy, (C_5-C_8 cycloalkenyl)C_3-C_5 alkenyloxy, (C_5-C_8 cycloalkenyl)C_3-C_5 alkynyloxy, C_3-C_6 cycloalkylidenmethyl, (C_1-C_4 alkyl)carbonyl, arylcarbonyl, heteroarylcarbonyl, aminocarbonyl, (C_1-C_4 alkyl)aminocarbonyl, di-(C_1-C_3 alkyl)aminocarbonyl, hydroxycarbonyl, (C_1-C_4 alkoxy)carbonyl, C_1-C_4 alkylamino, di-(C_1-C_3 alkyl)amino, (C_1-C_4 alkyl)carbonylamino, arylcarbonylamino, heteroarylcarbonylamino, C_1-C_4 alkylsulfonylamino, arylsulfonylamino, C_1-C_4 alkylthio, C_1-C_4 alkylsulfinyl, C_1-C_4 alkylsulfonyl, C_3-C_{10} cycloalkylthio, C_3-C_{10}

~~cycloalkylsulfinyl, C_3-C_{10} cycloalkylsulfonyl, C_5-C_{10} cycloalkenylthio, C_5-C_{10}~~ cycloalkenylsulfinyl, C_5-C_{10} cycloalkenylsulfonyl, arylthio, arylsulfinyl or arylsulfonyl; two of the remaining groups R^6, R^7, R^8, R^9 and R^{10} each independently represent hydrogen, deuterium, halo, cyano, nitro, hydroxy, C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_3-C_{10} cycloalkyl, C_1-C_3 alkoxy or C_3-C_{10} cycloalkoxy; and two of the remaining groups R^6, R^7, R^8, R^9 and R^{10} each independently represent hydrogen or deuterium;

R^{14}, R^{15} and R^{16} each independently represent hydrogen, (C_1-C_{18} alkyl)carbonyl, (C_1-C_{18} alkyl)oxycarbonyl, arylcarbonyl, aryl-(C_1-C_3 alkyl)carbonyl, (C_3-C_{10} cycloalkyl)carbonyl, C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, (C_5-C_7 cycloalkenyl)C_1-C_3 alkyl, (aryl)C_1-C_3 alkyl, (heteroaryl)C_1-C_3 alkyl, C_3-C_7 cycloalkyl, C_5-C_7 cycloalkenyl, aryl, heteroaryl, (C_3-C_7 cycloalkyl)C_1-C_3 alkyl, (C_5-C_7 cycloalkenyl)C_1-C_3 alkyl, (aryl)C_1-C_3 alkyl, (heteroaryl)C_1-C_3 alkyl, C_1-C_4 alkylsulfonyl, arylsulfonyl, (aryl)C_1-C_3 alkylsulfonyl, trimethylsilyl or *t*-butyldimethylsilyl;

R^{19} represents hydroxy, (C_1-C_{18} alkyl)carbonyloxy, (C_1-C_{18} alkyl)oxycarbonyloxy, arylcarbonyloxy, aryl-(C_1-C_3 alkyl)carbonyloxy, (C_3-C_{10} cycloalkyl)carbonyloxy, hydrogen, deuterium, halo, C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, (C_3-C_{10} cycloalkyl)C_1-C_3 alkyl, (C_5-C_7 cycloalkenyl)C_1-C_3 alkyl, (aryl)C_1-C_3 alkyl, (heteroaryl)C_1-C_3 alkyl, C_1-C_6 alkoxy, C_2-C_6 alkenyloxy, C_2-C_6 alkynyloxy, C_3-C_7 cycloalkoxy, C_5-C_7 cycloalkenyloxy, aryloxy, heteroaryloxy, (C_3-C_7 cycloalkyl)C_1-C_3 alkoxy, (C_5-C_7 cycloalkenyl)C_1-C_3 alkoxy, (aryl)C_1-C_3 alkoxy, (heteroaryl)C_1-C_3 alkoxy, aminocarbonyl, hydroxycarbonyl, (C_1-C_4 alkyl)aminocarbonyl, di-(C_1-C_3 alkyl)aminocarbonyl, (C_1-C_4 alkoxy)carbonyl, (aminocarbonyl)C_1-C_3 alkyl, (C_1-C_4 alkyl)aminocarbonyl-(C_1-C_3)alkyl, di-(C_1-C_3 alkyl)aminocarbonyl-(C_1-C_3)alkyl, (hydroxycarbonyl)C_1-C_3 alkyl, (C_1-C_4 alkoxy)carbonyl-(C_1-C_3)alkyl, (C_3-C_7 cycloalkoxy)C_1-C_3 alkyl, (C_5-C_7 cycloalkenyloxy)C_1-C_3 alkyl, (aryloxy)C_1-C_3 alkyl, (heteroaryloxy)C_1-C_3 alkyl, C_1-C_4 alkylsulfonyloxy, arylsulfonyloxy, (aryl)C_1-C_3 alkylsulfonyloxy, trimethylsilyloxy, *t*-butyldimethylsilyloxy, or cyano,

wherein alkyl, alkenyl, alkynyl, cycloalkyl and cycloalkenyl groups or portions optionally may be partly or completely substituted with fluorine or deuterium and may be mono- or disubstituted by identical or different substituents selected from chlorine, hydroxy, C_1-C_3 alkoxy and C_1-C_3 alkyl, and in cycloalkyl and cycloalkenyl groups or portions one or two methylene groups are optionally replaced

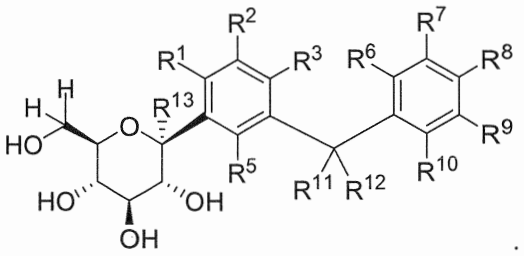
independently of one another by NR^a, O, S, CO, SO or SO_2; R^a independently represents hydrogen, C_1-C_4 alkyl or (C_1-C_4 alkyl)carbonyl, wherein alkyl groups or portions optionally may be partly or completely substituted with fluorine or deuterium; and wherein

at least one of R^1-R^{19} is –D or comprises –D, wherein said composition has an isotopic enrichment factor for deuterium of at least 5.

2. The composition of claim 1, wherein said composition further comprises an amino acid.

3. The composition of claim 2, wherein said amino acid is L-proline or L-phenylalanine.

4. The composition of claim 1, comprising a compound having the following structure,



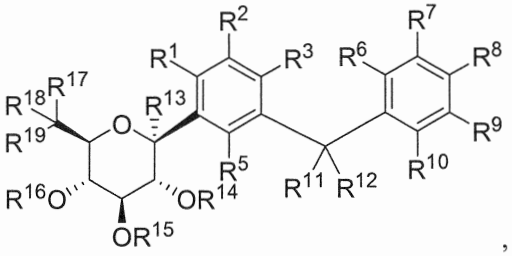
5. The composition of claim 1, wherein R^{11} and R^{12} are both –D.

6. The composition of claim 1, wherein R^{13} is –D.

7. The composition of claim 1, wherein one of R^1, R^2, R^3, or R^5 is halogen.

8. The composition of claim 7, wherein R^3 is –Cl.

9. A composition having a structure according to the following formula,



, wherein

each R^1, R^2, R^3 and R^5 is, independently, -H, -D, halogen, or an optionally deuterated substituent selected from hydroxyl, optionally substituted alkyl, haloalkyl, optionally substituted alkoxyalkyl, optionally substituted alkoxy, haloalkoxy, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, and optionally substituted alkcycloalkyl;

each R^6, R^7, R^8, R^9, R^{10}, and R^{19} is, independently, -H, -D, halogen, or an optionally deuterated substituent selected from hydroxyl, optionally substituted carbamoyl, optionally substituted alkyl, haloalkyl, optionally substituted alkoxyalkyl, optionally substituted alkoxy, haloalkoxy, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, and optionally substituted alkcycloalkyl; and

each R^{14}, R^{15}, and R^{16} is, independently, -H, -D, optionally substituted alkyl, haloalkyl, optionally substituted alkoxyalkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted alkcycloalkyl, $-C(O)R^A$, $-C(O)OR^A$, or $-C(O)NR^AR^B$, wherein each R^A and R^B is, independently, hydrogen, deuterium, or an optionally deuterated substituent selected from optionally substituted alkyl, optionally substituted alkenyl, optionally substituted cycloalkyl, and optionally substituted aryl.

10. The composition of claim 9, wherein R^8 is -D, halogen, or an optionally deuterated substituent selected from hydroxyl, optionally substituted alkyl, haloalkyl, optionally substituted alkoxyalkyl, optionally substituted alkoxy, haloalkoxy, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, and optionally substituted alkcycloalkyl.

11. The composition of claim 10, wherein R^2 is H; R^3 is halogen; R^5, R^6, R^7, R^9, and R^{10} are H; and R^{14}, R^{15}, and R^{16} are, independently, selected from H, D, $-C(O)R^A$, $-C(O)OR^A$, and $-C(O)NR^AR^B$.

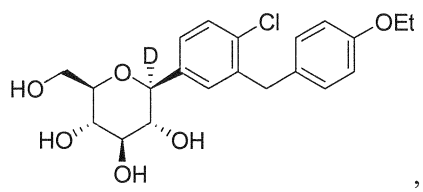
12. The composition of claim 11, wherein R^3 is –Cl.

13. ~~The composition of claim 11, wherein R^{11} and R^{12} are both –D.~~

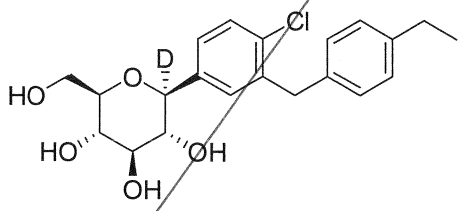
14. The composition of claim 11, wherein R^{13} is –D.

15. The composition of claim 11, wherein R^{8} is a deuterated substituent.

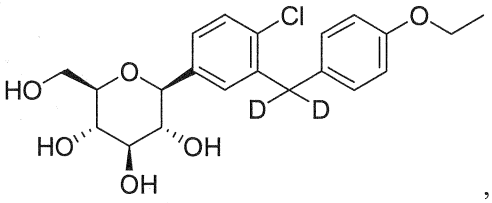
16. The composition of claim 1, wherein said compound is selected from the group consisting of:



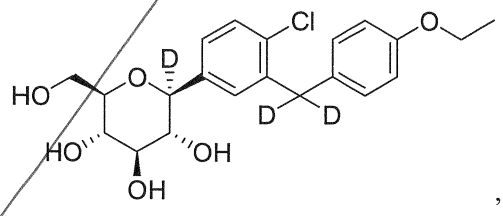
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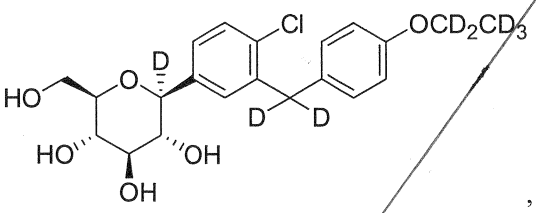
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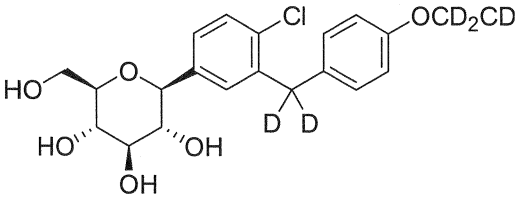
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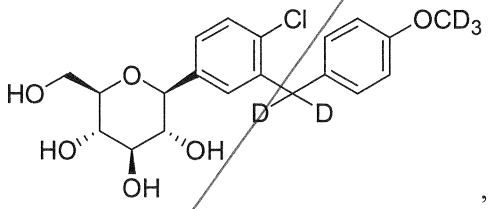
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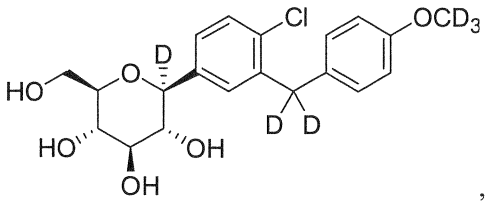
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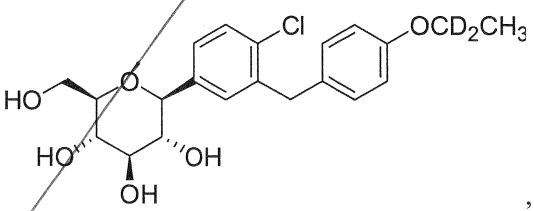
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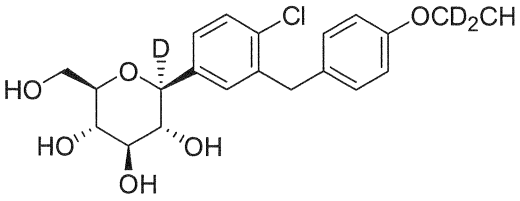
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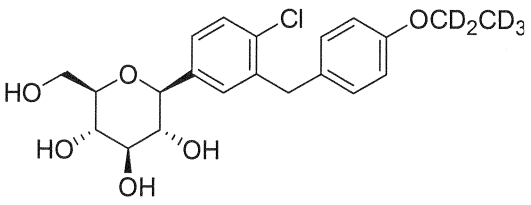
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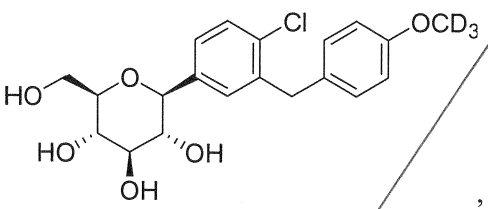
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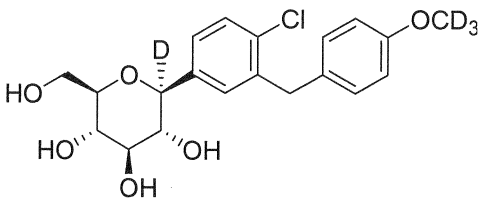
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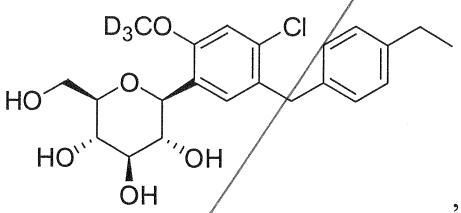
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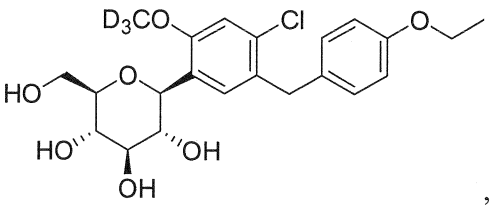
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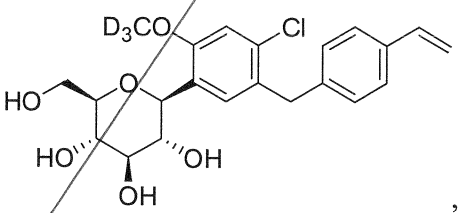
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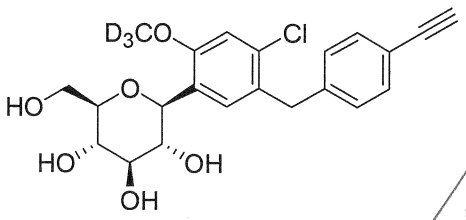
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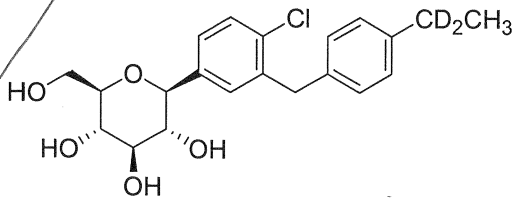
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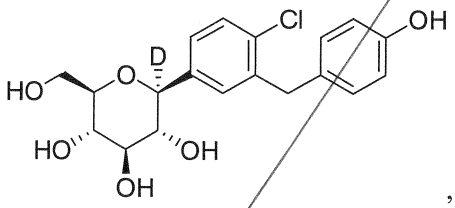
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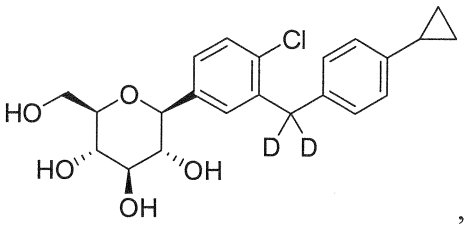
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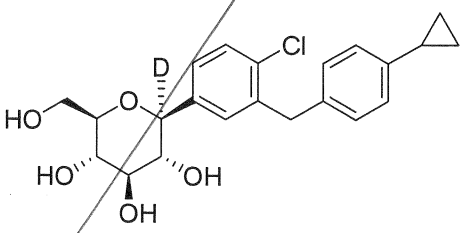
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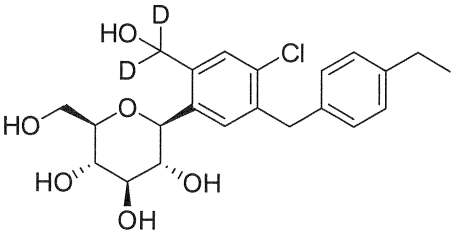
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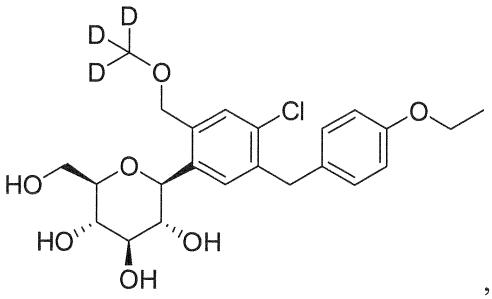
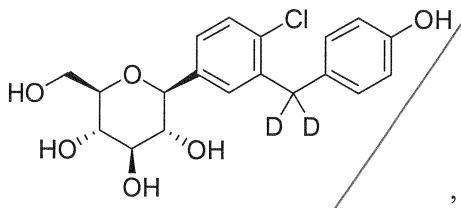
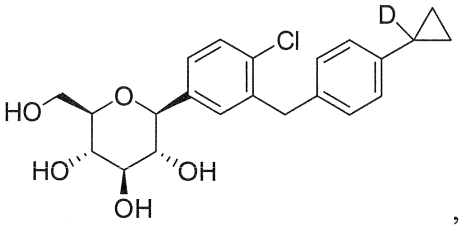
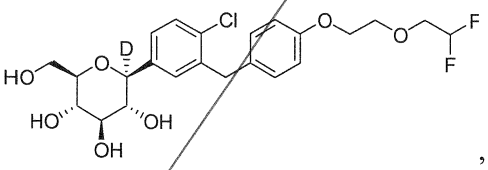
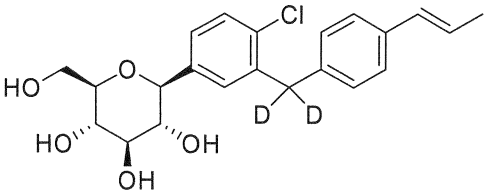
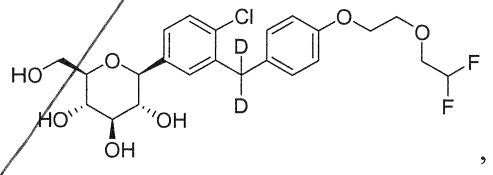
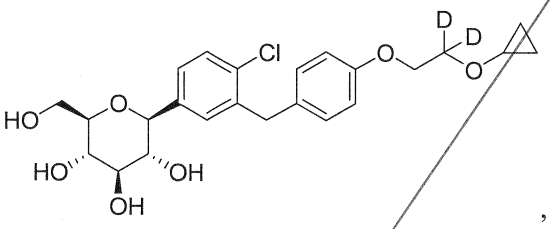
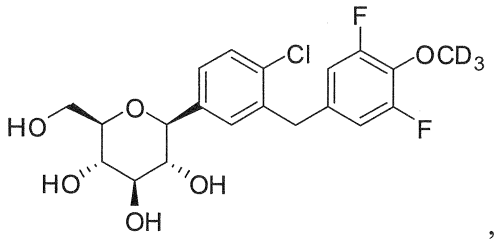
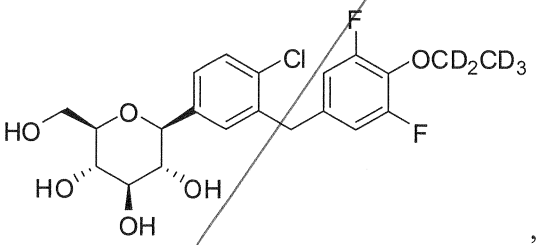
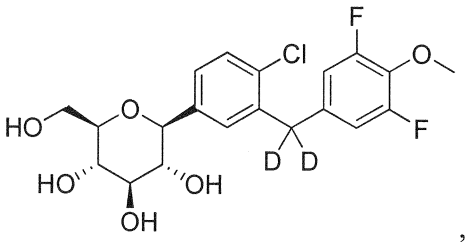
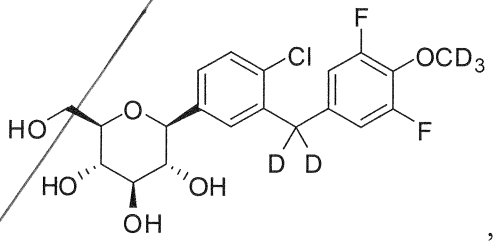
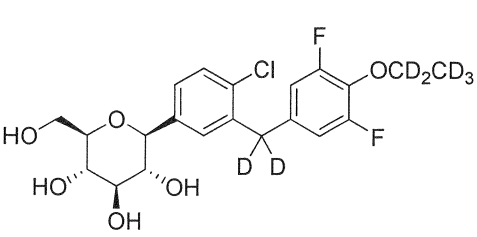
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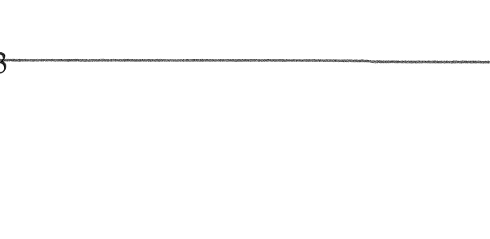

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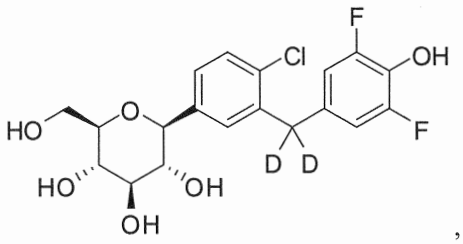
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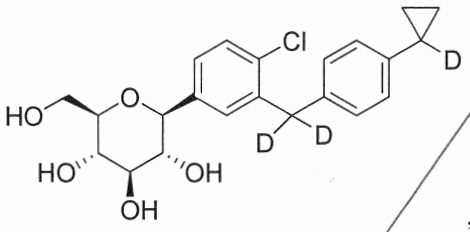
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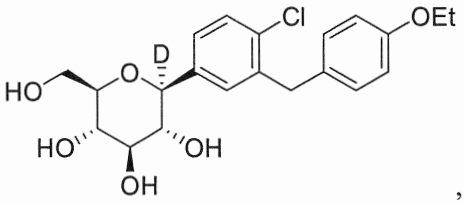
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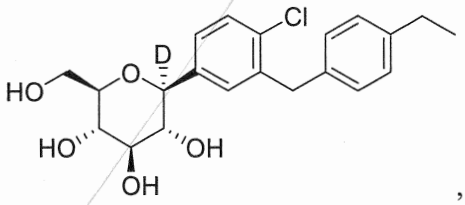
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or any stereoisomer or tautomer thereof, or any pharmaceutically acceptable salt or solvate thereof.

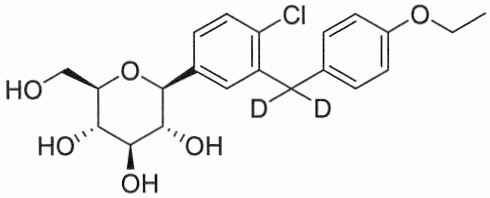
17. The composition of claim 16, wherein said compound is selected from:



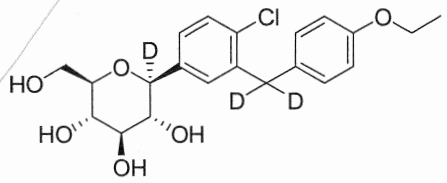
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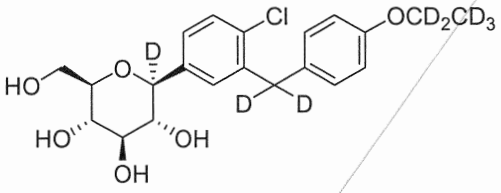
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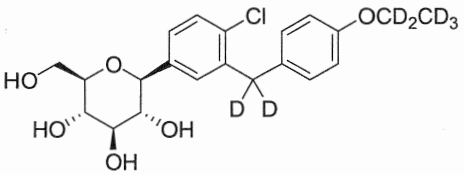
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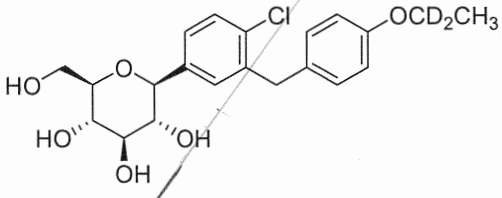
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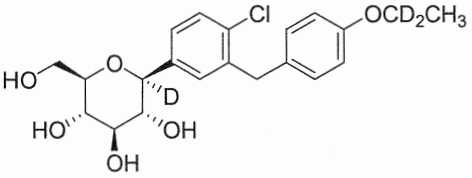
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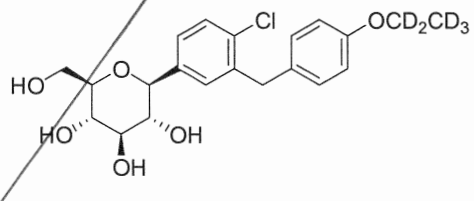
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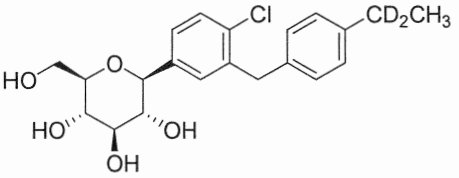
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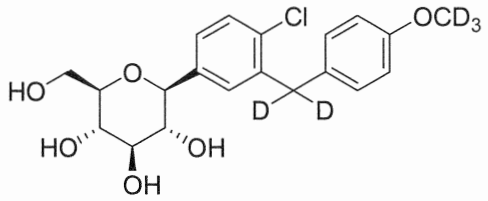
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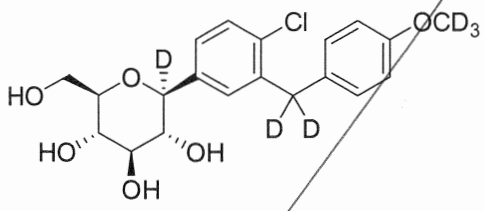


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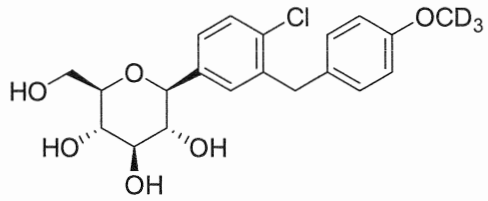
~~or any stereoisomer or tautomer thereof, or any pharmaceutically acceptablesalt or~~ solvate thereof.

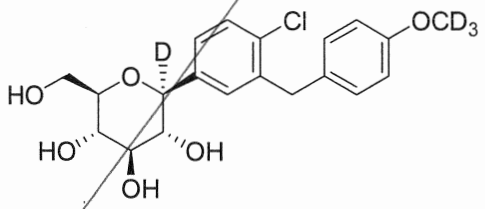
18. The composition of claim 16, wherein said compound is selected from:



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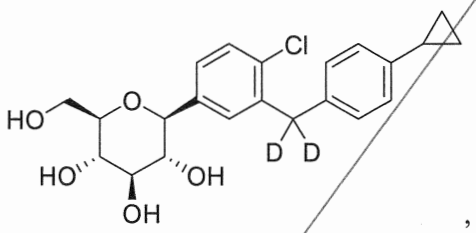
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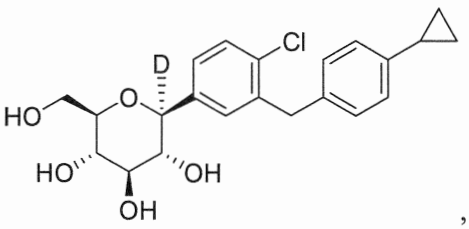
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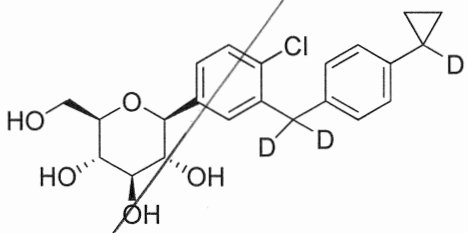
or any stereoisomer or tautomer thereof, or any pharmaceutically acceptable salt or solvate thereof.

19. The composition of claim 16, wherein said compound is selected from:



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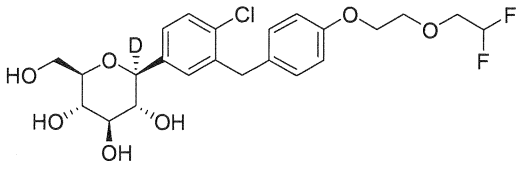
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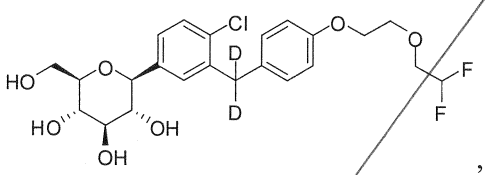
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or any stereoisomer or tautomer thereof, or any pharmaceutically acceptable salt or solvate thereof.

~~20. The composition of claim 16, wherein said compound is selected from:~~



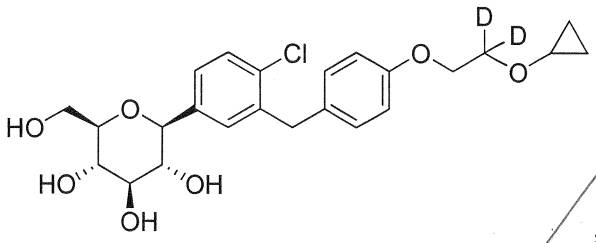
and



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or any stereoisomer or tautomer thereof, or any pharmaceutically acceptable salt or solvate thereof.

21. The composition of claim 16, wherein said compound is



, or any stereoisomer or tautomer thereof, or any pharmaceutically acceptable salt or solvate thereof.

22. The composition of claim 1, wherein R^1-R^{19} have 1-5 deuterium atoms.

23. The composition of claim 1, wherein said isotopic enrichment factor for deuterium is at least 500, 1000, or 3000.

24. The composition of any of claims 1-24, wherein said composition further comprises a pharmaceutically acceptable carrier, and wherein said compound of Formula (I) is present in an effective amount.

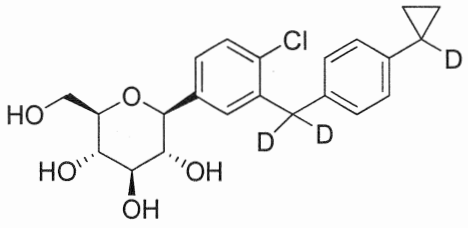
25. Use of the composition of any of claims 1-24 in the manufacture of a medicament for treating or preventing a disease affected by inhibition of the sodium-dependent glucose transporter (SGLT).

26. The use of claim 25, wherein said disease affected by inhibition of the SGLT is: type 1 diabetes mellitus, type 2 diabetes mellitus, hyperglycemia, diabetic complications, insulin resistance, metabolic syndrome (Syndrome X), hyperinsulinemia, hypertension, hyperuricemia, obesity, edema, dyslipidemia, chronic heart failure, or atherosclerosis.

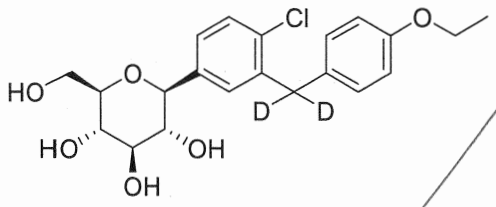
27. The use of claim 25, wherein said use further comprises administration of a second therapeutic agent.

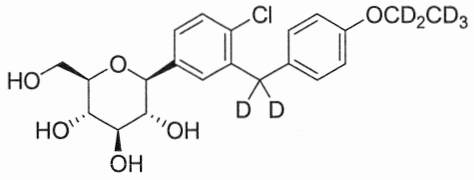
28. The use of claim 27, wherein said therapeutic agent is: an antidiabetic agent, a lipid-lowering/lipid-modulating agent, an agent for treating diabetic complications, an anti-obesity agent, an antihypertensive agent, an antihyperuricemic agent, an agent for treating chronic heart failure, or an agent for treating atherosclerosis.

29. The use of claim 25, wherein said compound is selected from the group consisting of:

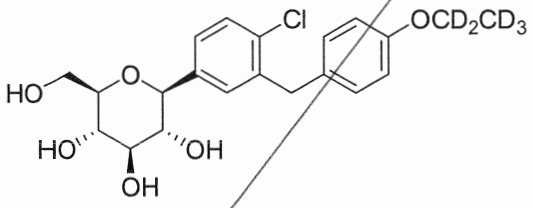


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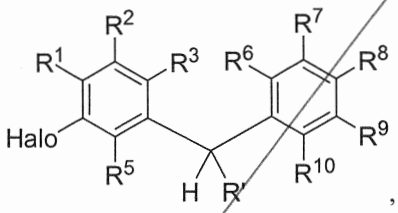
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or any stereoisomer or tautomer thereof, or any pharmaceutically acceptable salt or solvate thereof.

30. A method of enriching the deuterium content of a diarylmethylene compound, wherein said method comprises

(a) combining:

i. a diarylmethylene compound having a structure according to



, wherein R' is H or D, Halo represents a halogen; and each of R^1-R^3 and R^5-R^{10} is as recited in claim 1 or claim 9; and

ii. a mixture comprising deuterium oxide and sodium hydride; and

iii. a phase-transfer catalyst;

wherein the combination of reagents (i), (ii), and (iii) results in the incorporation of deuterium at the methylene bridge of said diarylmethylene compound; and

(b) optionally combining the product obtained in step (a) one or more times with the reagents (ii) and (iii).

31. The method of claim 30, wherein the mixture of (ii) further comprises mineral oil.

32. The method of claim 30, wherein the mixture of step (a) stirs at 20-30 °C for at least 30 minutes.

33. The method of claim 32, wherein the mixture of step (a) stirs at 20-30 °C for 1-24 hours.

34. The method of claim 31, wherein said sodium hydride is a 50%-75% (w/w) dispersion in mineral oil.

35. The method of claim 34, wherein said dispersion is 60%.

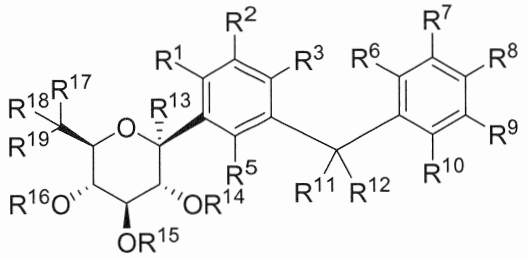
36. The method of claim 30, wherein said phase-transfer catalyst is a tetraalkylammonium salt.

37. The method of claim 36, wherein said phase transfer catalyst is tetrabutylammonium bisulfate.

38. The method of claim 30, wherein 1-20 mol% of said phase transfer catalyst relative to said diarylmethylene compound is used in the mixture of (a).

CLAIMS

1. A composition comprising a compound having the structure:



or any stereoisomer or tautomer thereof, or any pharmaceutically acceptable salt or solvate thereof, wherein

each R^{11}, R^{12}, R^{13}, R^{17}, and R^{18} is, independently, -H, -D, or halogen;

one of R^1, R^2, R^3 and R^5 represents hydrogen, deuterium, halo, cyano, nitro, amino, hydroxy, C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_3-C_{10} cycloalkyl, C_5-C_{10} cycloalkenyl, C_1-C_6 alkoxy, C_3-C_{10} cycloalkoxy, (C_1-C_6 alkoxy)C_1-C_6 alkoxy, C_5-C_7 cycloalkenyloxy, aryl, heteroaryl, aryloxy, heteroaryloxy, (C_2-C_4 alkenyl)C_1-C_3 alkoxy, (C_2-C_4 alkynyl)C_1-C_3 alkoxy, (aryl)C_1-C_3 alkoxy, (heteroaryl)C_1-C_3 alkoxy, (C_3-C_{10} cycloalkyl)C_1-C_3 alkyl, (C_3-C_{10} cycloalkyl)C_1-C_3 alkoxy, (C_5-C_{10} cycloalkenyl)C_1-C_3 alkyl, (C_5-C_{10} cycloalkenyl)C_1-C_3 alkoxy, (C_1-C_4 alkoxy)C_1-C_3 alkyl, (C_3-C_7 cycloalkoxy)C_1-C_3 alkyl, (C_3-C_7 cycloalkoxy)C_2-C_4 alkenyl, (C_3-C_7 cycloalkoxy)C_2-C_4 alkynyl, (C_3-C_7 cycloalkoxy)C_1-C_3 alkoxy, (C_1-C_4 alkylamino)C_1-C_3 alkyl, di-(C_1-C_3 alkylamino)C_1-C_3 alkyl, tri-(C_1-C_4 alkyl)silyl-C_1-C_6 alkyl, tri-(C_1-C_4 alkyl)silyl-C_2-C_6 alkenyl, tri-(C_1-C_4 alkyl)silyl-C_2-C_6 alkynyl, tri-(C_1-C_4 alkyl)silyl-C_1-C_6 alkoxy, (C_3-C_7 cycloalkyl)C_2-C_5 alkenyl, (C_3-C_7 cycloalkyl)C_3-C_5 alkenyloxy, (C_3-C_7 cycloalkyl)C_3-C_5 alkynyloxy, (C_5-C_8 cycloalkenyl)C_3-C_5 alkenyloxy, (C_5-C_8 cycloalkenyl)C_3-C_5 alkynyloxy, C_3-C_6 cycloalkylidenmethyl, (C_1-C_4 alkyl)carbonyl, arylcarbonyl, heteroarylcarbonyl, aminocarbonyl, (C_1-C_4 alkyl)aminocarbonyl, di-(C_1-C_3 alkyl)aminocarbonyl, hydroxycarbonyl, (C_1-C_4 alkoxy)carbonyl, C_1-C_4 alkylamino, di-(C_1-C_3 alkyl)amino, (C_1-C_4 alkyl)carbonylamino, arylcarbonylamino, heteroarylcarbonylamino, C_1-C_4 alkylsulfonylamino, arylsulfonylamino, C_1-C_4 alkylthio, C_1-C_4 alkylsulfinyl, C_1-C_4 alkylsulfonyl, C_3-C_{10} cycloalkylthio, C_3-C_{10} cycloalkylsulfinyl, C_3-C_{10} cycloalkylsulfonyl, C_5-C_{10} cycloalkenylthio, C_5-C_{10} cycloalkenylsulfinyl, C_5-C_{10} cycloalkenylsulfonyl, arylthio, arylsulfinyl or arylsulfonyl;

two of the remaining groups R^1, R^2, R^3 and R^5 each independently represent hydrogen, deuterium, halo, cyano, nitro, hydroxy, C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_3-C_{10} cycloalkyl, C_1-C_3 alkoxy or C_3-C_{10} cycloalkoxy; and
one of the remaining groups R^1, R^2, R^3 and R^5 represents hydrogen or deuterium;
one of the groups R^6, R^7, R^8, R^9 and R^{10} represents hydrogen, deuterium, halo, cyano, nitro, amino, hydroxy, C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_3-C_{10} cycloalkyl, C_5-C_{10} cycloalkenyl, C_1-C_6 alkoxy, C_3-C_{10} cycloalkoxy, (C_1-C_6 alkoxy)C_1-C_6 alkoxy, (C_1-C_3 alkoxy)C_3-C_7 cycloalkoxy, C_5-C_7 cycloalkenyloxy, aryl, heteroaryl, aryloxy, heteroaryloxy, (C_2-C_4 alkenyl)C_1-C_3 alkoxy, (C_2-C_4 alkynyl)C_1-C_3 alkoxy, (aryl)C_1-C_3 alkoxy, (heteroaryl)C_1-C_3 alkoxy, (C_3-C_{10} cycloalkyl)C_1-C_3 alkyl, (C_3-C_{10} cycloalkyl)C_1-C_3 alkoxy, (C_5-C_{10} cycloalkenyl)C_1-C_3 alkyl, (C_5-C_{10} cycloalkenyl)C_1-C_3 alkoxy, (C_1-C_4 alkoxy)C_1-C_3 alkyl, (C_3-C_7 cycloalkoxy)C_1-C_3 alkyl, (C_3-C_7 cycloalkoxy)C_2-C_4 alkenyl, (C_3-C_7 cycloalkoxy)C_2-C_4 alkynyl, (C_3-C_7 cycloalkoxy)C_1-C_3 alkoxy, (C_1-C_4 alkylamino)C_1-C_3 alkyl, di-(C_1-C_3 alkylamino)C_1-C_3 alkyl, tri-(C_1-C_4 alkyl)silyl-C_1-C_6 alkyl, tri-(C_1-C_4 alkyl)silyl-C_2-C_6 alkenyl, tri-(C_1-C_4 alkyl)silyl-C_2-C_6 alkynyl, tri-(C_1-C_4 alkyl)silyl-C_1-C_6 alkoxy, (C_3-C_7 cycloalkyl)C_2-C_5 alkenyl, (C_3-C_7 cycloalkyl)C_3-C_5 alkenyloxy, (C_3-C_7 cycloalkyl)C_3-C_5 alkynyloxy, (C_5-C_8 cycloalkenyl)C_3-C_5 alkenyloxy, (C_5-C_8 cycloalkenyl)C_3-C_5 alkynyloxy, C_3-C_6 cycloalkylidenmethyl, (C_1-C_4 alkyl)carbonyl, arylcarbonyl, heteroarylcarbonyl, aminocarbonyl, (C_1-C_4 alkyl)aminocarbonyl, di-(C_1-C_3 alkyl)aminocarbonyl, hydroxycarbonyl, (C_1-C_4 alkoxy)carbonyl, C_1-C_4 alkylamino, di-(C_1-C_3 alkyl)amino, (C_1-C_4 alkyl)carbonylamino, arylcarbonylamino, heteroarylcarbonylamino, C_1-C_4 alkylsulfonylamino, arylsulfonylamino, C_1-C_4 alkylthio, C_1-C_4 alkylsulfinyl, C_1-C_4 alkylsulfonyl, C_3-C_{10} cycloalkylthio, C_3-C_{10} cycloalkylsulfinyl, C_3-C_{10} cycloalkylsulfonyl, C_5-C_{10} cycloalkenylthio, C_5-C_{10} cycloalkenylsulfinyl, C_5-C_{10} cycloalkenylsulfonyl, arylthio, arylsulfinyl or arylsulfonyl; two of the remaining groups R^6, R^7, R^8, R^9 and R^{10} each independently represent hydrogen, deuterium, halo, cyano, nitro, hydroxy, C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_3-C_{10} cycloalkyl, C_1-C_3 alkoxy or C_3-C_{10} cycloalkoxy; and two of the remaining groups R^6, R^7, R^8, R^9 and R^{10} each independently represent hydrogen or deuterium;
R^{14}, R^{15} and R^{16} each independently represent hydrogen, (C_1-C_{18} alkyl)carbonyl, (C_1-C_{18} alkyl)oxycarbonyl, arylcarbonyl, aryl-(C_1-C_3 alkyl)carbonyl, (C_3-C_{10} cycloalkyl)carbonyl, C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, (C_5-C_7

cycloalkenyl)C_1-C_3 alkyl, (aryl)C_1-C_3 alkyl, (heteroaryl)C_1-C_3 alkyl, C_3-C_7 cycloalkyl, C_5-C_7 cycloalkenyl, aryl, heteroaryl, (C_3-C_7 cycloalkyl)C_1-C_3 alkyl, (C_5-C_7 cycloalkenyl)C_1-C_3 alkyl, (aryl)C_1-C_3 alkyl, (heteroaryl)C_1-C_3 alkyl, C_1-C_4 alkylsulfonyl, arylsulfonyl, (aryl)C_1-C_3 alkylsulfonyl, trimethylsilyl or *t*-butyldimethylsilyl;

R^{19} represents hydroxy, (C_1-C_{18} alkyl)carbonyloxy, (C_1-C_{18} alkyl)oxycarbonyloxy, arylcarbonyloxy, aryl-(C_1-C_3 alkyl)carbonyloxy, (C_3-C_{10} cycloalkyl)carbonyloxy, hydrogen, deuterium, halo, C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, (C_3-C_{10} cycloalkyl)C_1-C_3 alkyl, (C_5-C_7 cycloalkenyl)C_1-C_3 alkyl, (aryl)C_1-C_3 alkyl, (heteroaryl)C_1-C_3 alkyl, C_1-C_6 alkoxy, C_2-C_6 alkenyloxy, C_2-C_6 alkynyloxy, C_3-C_7 cycloalkoxy, C_5-C_7 cycloalkenyloxy, aryloxy, heteroaryloxy, (C_3-C_7 cycloalkyl)C_1-C_3 alkoxy, (C_5-C_7 cycloalkenyl)C_1-C_3 alkoxy, (aryl)C_1-C_3 alkoxy, (heteroaryl)C_1-C_3 alkoxy, aminocarbonyl, hydroxycarbonyl, (C_1-C_4 alkyl)aminocarbonyl, di-(C_1-C_3 alkyl)aminocarbonyl, (C_1-C_4 alkoxy)carbonyl, (aminocarbonyl)C_1-C_3 alkyl, (C_1-C_4 alkyl)aminocarbonyl-(C_1-C_3)alkyl, di-(C_1-C_3 alkyl)aminocarbonyl-(C_1-C_3)alkyl, (hydroxycarbonyl)C_1-C_3 alkyl, (C_1-C_4 alkoxy)carbonyl-(C_1-C_3)alkyl, (C_3-C_7 cycloalkoxy)C_1-C_3 alkyl, (C_5-C_7 cycloalkenyloxy)C_1-C_3 alkyl, (aryloxy)C_1-C_3 alkyl, (heteroaryloxy)C_1-C_3 alkyl, C_1-C_4 alkylsulfonyloxy, arylsulfonyloxy, (aryl)C_1-C_3 alkylsulfonyloxy, trimethylsilyloxy, *t*-butyldimethylsilyloxy, or cyano,

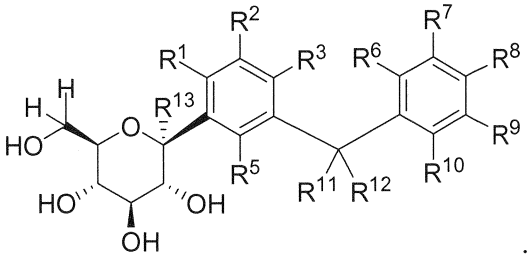
wherein alkyl, alkenyl, alkynyl, cycloalkyl and cycloalkenyl groups or portions optionally may be partly or completely substituted with fluorine or deuterium and may be mono- or disubstituted by identical or different substituents selected from chlorine, hydroxy, C_1-C_3 alkoxy and C_1-C_3 alkyl, and in cycloalkyl and cycloalkenyl groups or portions one or two methylene groups are optionally replaced independently of one another by NR^a, O, S, CO, SO or SO_2; R^a independently represents hydrogen, C_1-C_4 alkyl or (C_1-C_4 alkyl)carbonyl, wherein alkyl groups or portions optionally may be partly or completely substituted with fluorine or deuterium; and wherein

at least one of R^1-R^{19} is –D or comprises –D, wherein said composition has an isotopic enrichment factor for deuterium of at least 5 for said compound.

2. The composition of claim 1, wherein said composition further comprises an amino acid.

3. The composition of claim 2, wherein said amino acid is L-proline or L-phenylalanine.

4. The composition of claim 1, comprising a compound having the following structure,



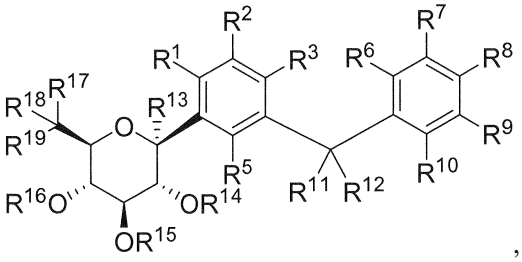
5. The composition of claim 1, wherein R^{11} and R^{12} are both –D.

6. The composition of claim 1, wherein R^{13} is –D.

7. The composition of claim 1, wherein one of R^1, R^2, R^3, or R^5 is halogen.

8. The composition of claim 7, wherein R^3 is –Cl.

9. A composition having a structure according to the following formula,



, wherein

each R^1, R^2, R^3 and R^5 is, independently, -H, -D, halogen, or an optionally deuterated substituent selected from hydroxyl, optionally substituted alkyl, haloalkyl, optionally substituted alkoxyalkyl, optionally substituted alkoxy, haloalkoxy, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, and optionally substituted alkcycloalkyl;

each R^6, R^7, R^8, R^9, R^{10}, and R^{19} is, independently, -H, -D, halogen, or an optionally deuterated substituent selected from hydroxyl, optionally substituted carbamoyl, optionally substituted alkyl, haloalkyl, optionally substituted alkoxyalkyl, optionally substituted alkoxy, haloalkoxy, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, and optionally substituted alkcycloalkyl;

each R^{11}, R^{12}, R^{13}, R^{17}, and R^{18} is, independently, -H, -D, or halogen; and

each R^{14}, R^{15}, and R^{16} is, independently, -H, optionally substituted alkyl, haloalkyl, optionally substituted alkoxyalkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted alkcycloalkyl, $-C(O)R^A$, $-C(O)OR^A$, or $-C(O)NR^AR^B$, wherein each R^A and R^B is, independently, hydrogen, deuterium, or an optionally deuterated substituent selected from optionally substituted alkyl, optionally substituted alkenyl, optionally substituted cycloalkyl, and optionally substituted aryl;

wherein at least one of R^1, $-R^{19}$ is -D or comprises -D, wherein said composition has an isotopic enrichment factor for deuterium of at least 5 for said compound.

10. The composition of claim 9, wherein R^8 is -D, halogen, or an optionally deuterated substituent selected from hydroxyl, optionally substituted alkyl, haloalkyl, optionally substituted alkoxyalkyl, optionally substituted alkoxy, haloalkoxy, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, and optionally substituted alkcycloalkyl.

11. The composition of claim 10, wherein R^2 is H; R^3 is halogen; R^5, R^6, R^7, R^9, and R^{10} are H; and R^{14}, R^{15}, and R^{16} are, independently, selected from H, D, $-C(O)R^A$, $-C(O)OR^A$, and $-C(O)NR^AR^B$.

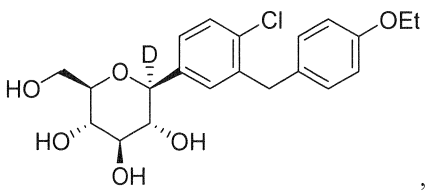
12. The composition of claim 11, wherein R^3 is –Cl.

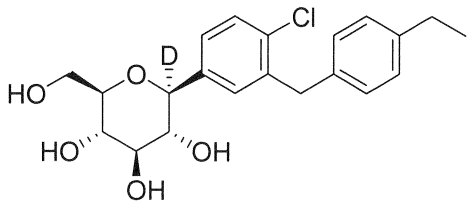
13. The composition of claim 11, wherein R^{11} and R^{12} are both –D.

14. The composition of claim 11, wherein R^{13} is –D.

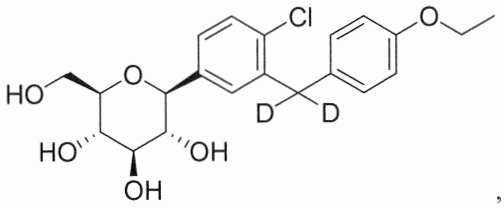
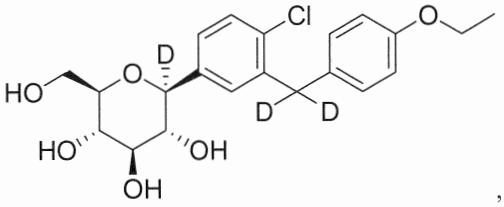
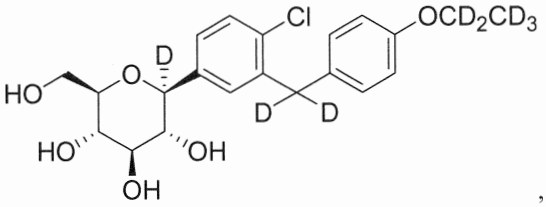
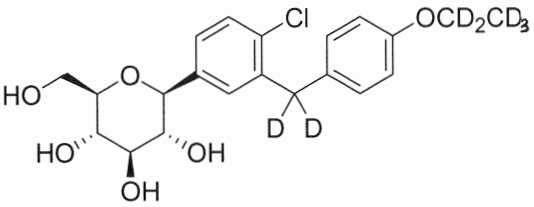
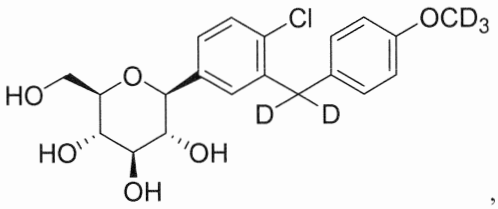
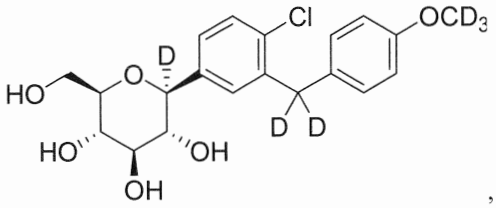
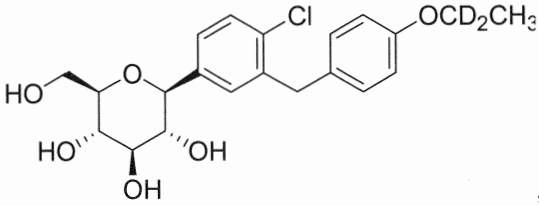
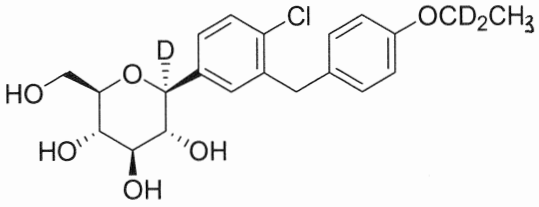
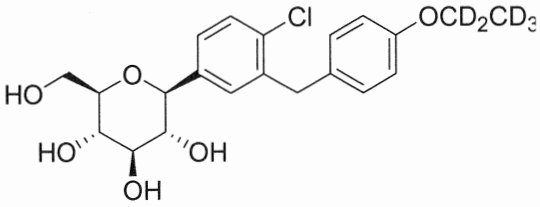
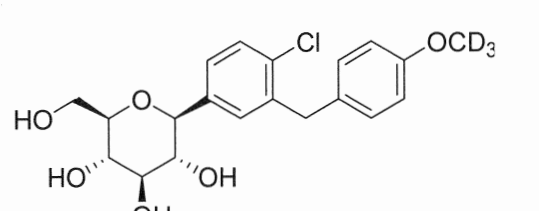
15. The composition of claim 11, wherein R^8 is a deuterated substituent.

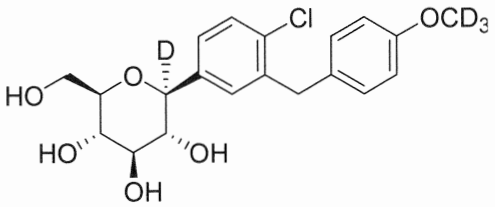
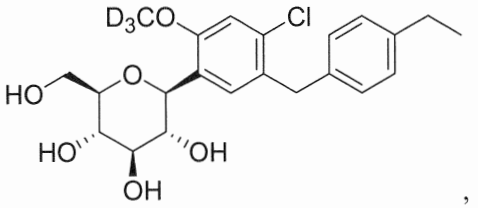
16. The composition of claim 1, wherein said compound is selected from the group consisting of:



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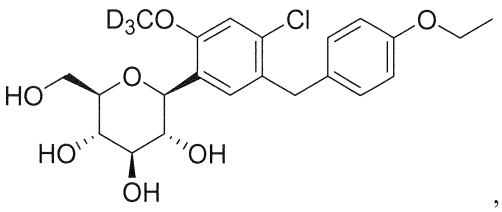
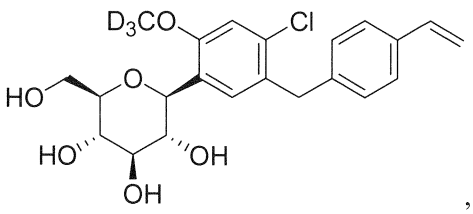
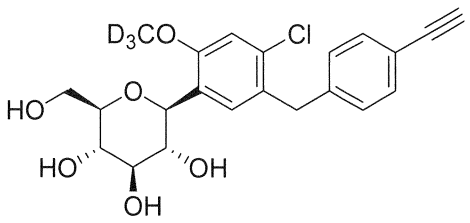
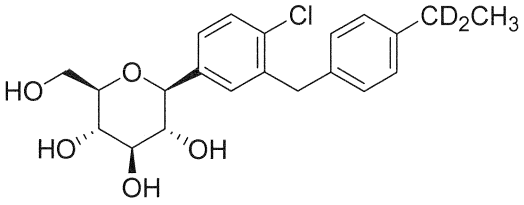
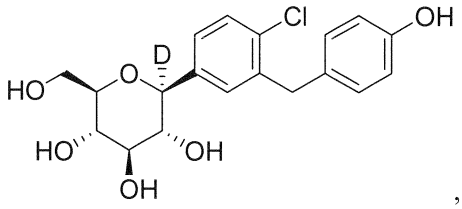
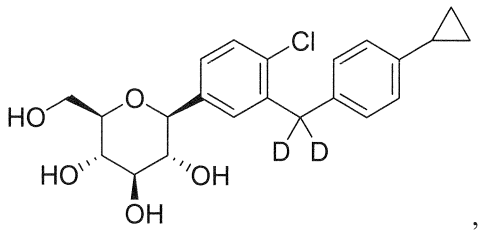
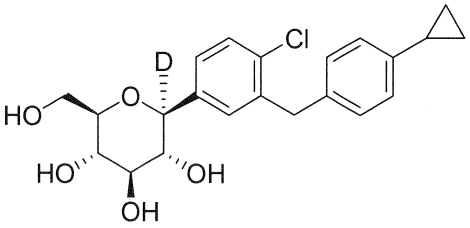
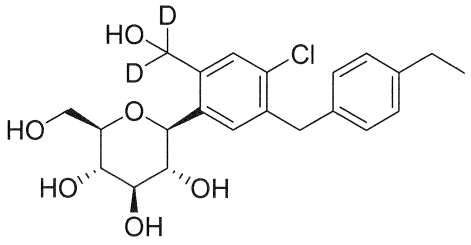
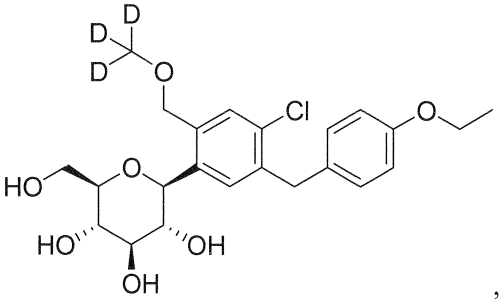
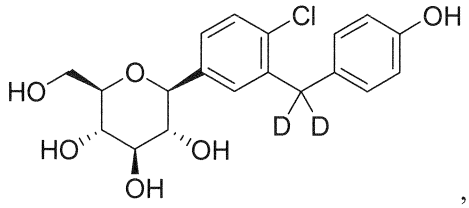
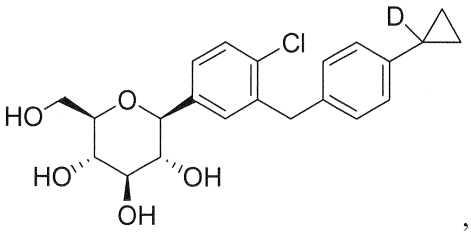
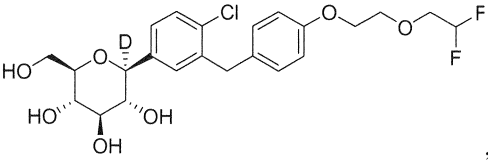
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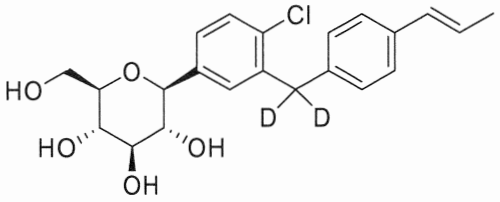
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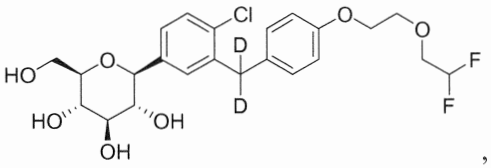
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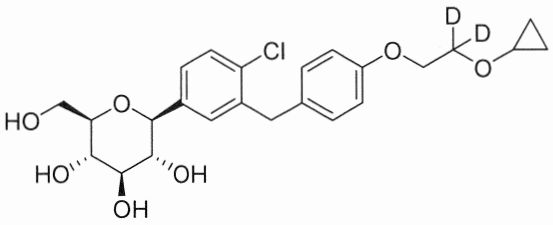

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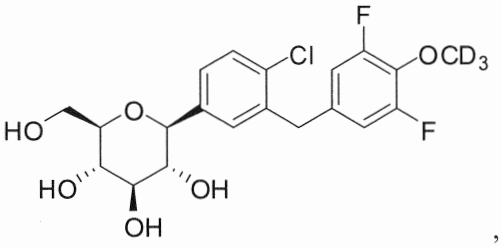
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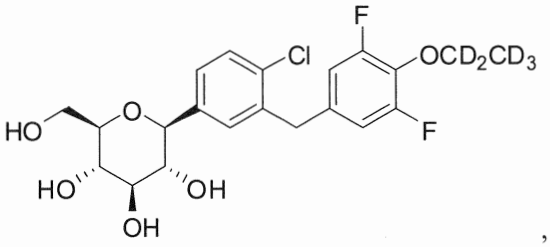
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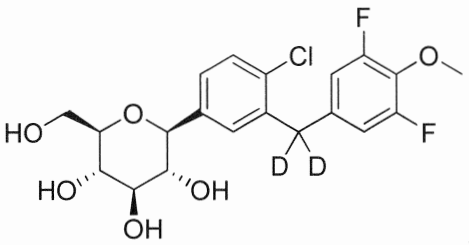


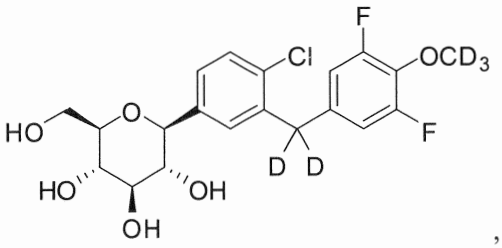
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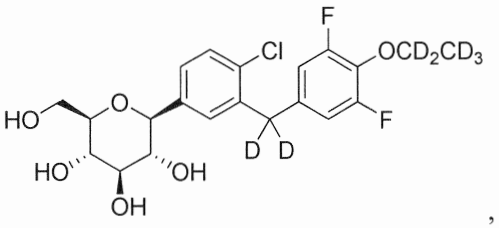
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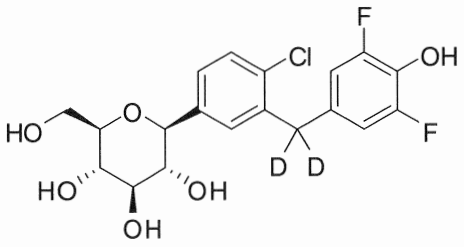
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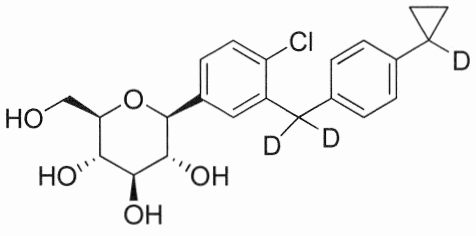
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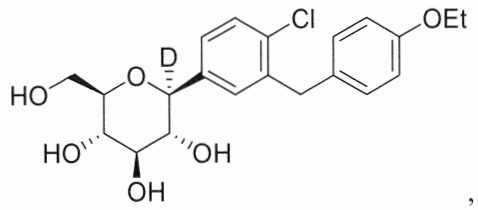
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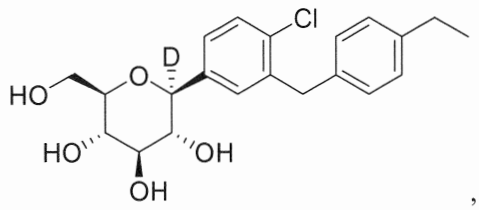
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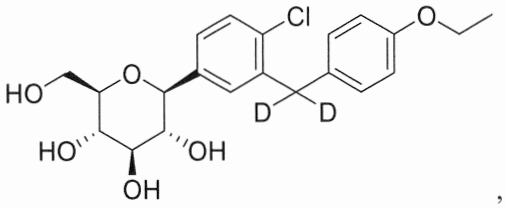
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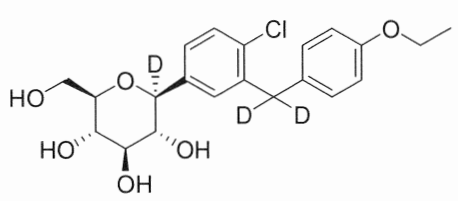
or any stereoisomer or tautomer thereof, or any pharmaceutically acceptable salt or solvate thereof.

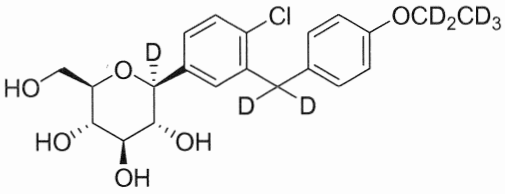
17. The composition of claim 16, wherein said compound is selected from:

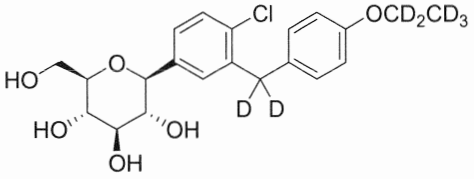


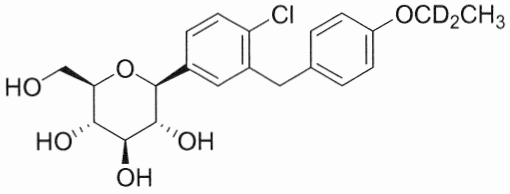
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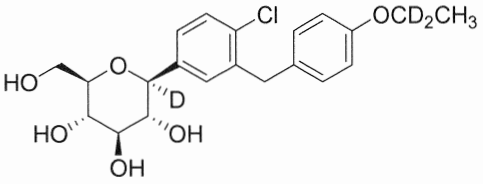
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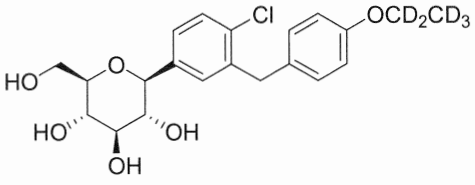
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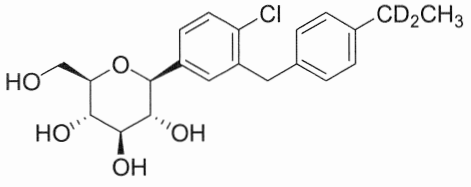
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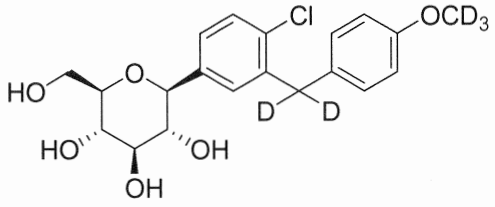
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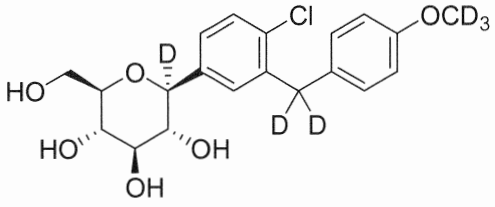
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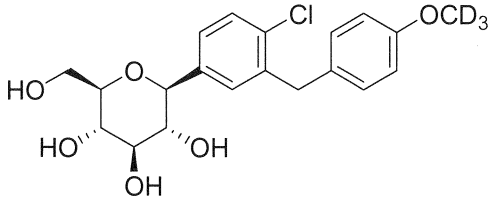
or any stereoisomer or tautomer thereof, or any pharmaceutically acceptablesalt or solvate thereof.

18. The composition of claim 16, wherein said compound is selected from:

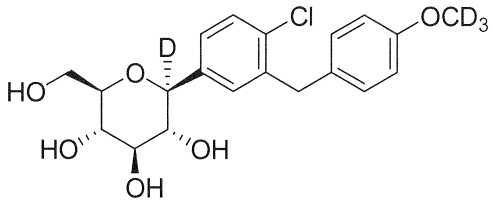


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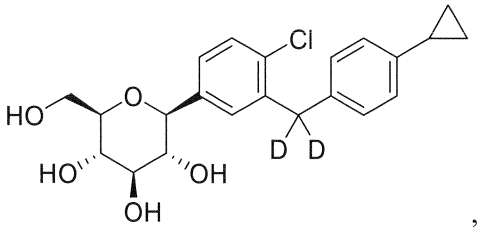


and

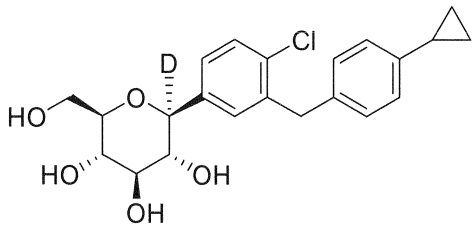
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or any stereoisomer or tautomer thereof, or any pharmaceutically acceptable salt or solvate thereof.

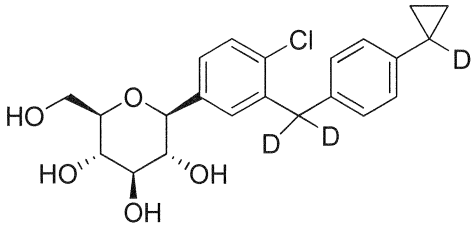
19. The composition of claim 16, wherein said compound is selected from:



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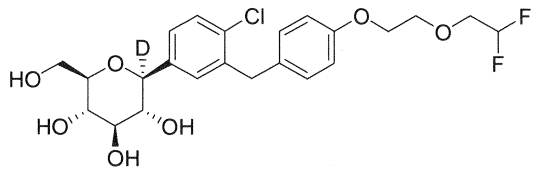
, and



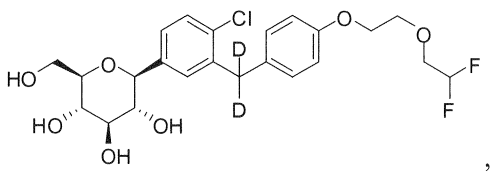
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or any stereoisomer or tautomer thereof, or any pharmaceutically acceptable salt or solvate thereof.

20. The composition of claim 16, wherein said compound is selected from:



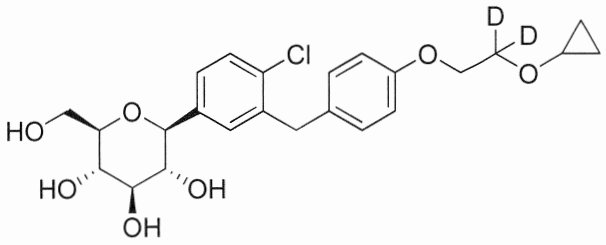
and



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or any stereoisomer or tautomer thereof, or any pharmaceutically acceptable salt or solvate thereof.

21. The composition of claim 16, wherein said compound is



, or any stereoisomer or tautomer thereof, or any pharmaceutically acceptable salt or solvate thereof.

22. The composition of claim 1, wherein R^1-R^{19} have 1-5 deuterium atoms.

23. The composition of claim 1, wherein said isotopic enrichment factor for deuterium is at least 500, 1000, or 3000.

24. The composition of any one of claims 1-23, wherein said composition further comprises a pharmaceutically acceptable carrier, and wherein said compound of Formula (I) is present in an effective amount.

25. Use of the composition of any one of claims 1-23 in the manufacture of a medicament for treating or preventing a disease affected by inhibition of the sodium-dependent glucose transporter (SGLT).

26. The use of claim 25, wherein said disease affected by inhibition of the SGLT is: type 1 diabetes mellitus, type 2 diabetes mellitus, hyperglycemia, diabetic complications, insulin resistance, metabolic syndrome (Syndrome X), hyperinsulinemia, hypertension, hyperuricemia, obesity, edema, dyslipidemia, chronic heart failure, or atherosclerosis.

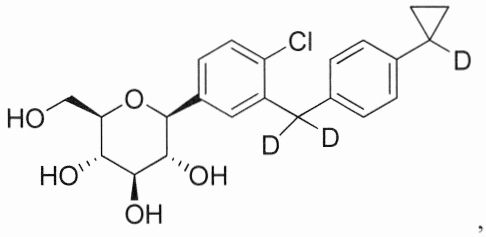
27. The use of claim 26, wherein said disease is type 1 diabetes mellitus or type 2 diabetes mellitus.

28. The use of claim 25, wherein said use further comprises administration of a second therapeutic agent.

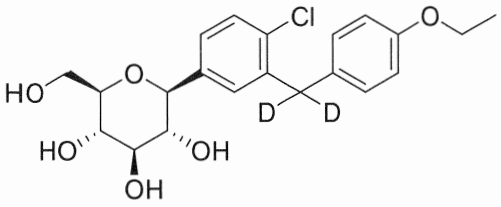
29. The use of claim 28, wherein said second therapeutic agent is: an antidiabetic agent, a lipid-lowering/lipid-modulating agent, an agent for treating diabetic complications, an anti-obesity

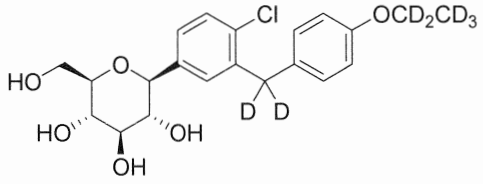
agent, an antihypertensive agent, an antihyperuricemic agent, an agent for treating chronic heart failure, or an agent for treating atherosclerosis.

30. The use of claim 25, wherein said compound is selected from the group consisting of:

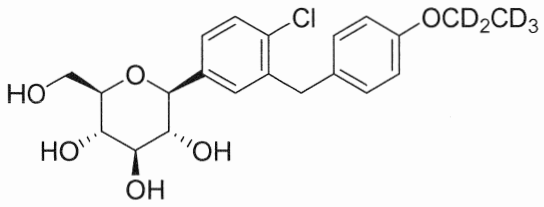


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and ,

or any stereoisomer or tautomer thereof, or any pharmaceutically acceptable salt or solvate thereof.