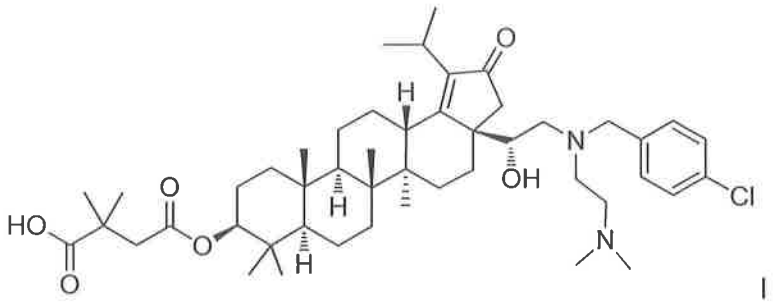
Claims:

1. A LAP pharmaceutical composition, comprising: a compound of Table 1 or a pharmaceutically acceptable salt thereof.

2. A LAP pharmaceutical composition, comprising: the compound of Formula I



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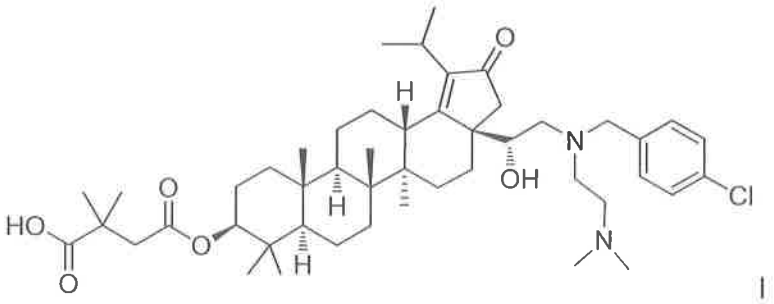
or a pharmaceutically acceptable salt thereof.

3 ~~A method for the treatment of an HIV infection in a human having an HIV infection, comprising: administering to the human~~Use of a LAP pharmaceutical composition including at least one betulin derivative or a pharmaceutically acceptable salt thereof, in the manufacture of a medicament for the treatment of an HIV infection in a human.

4. ~~A method for the treatment of an HIV infection in a human having an HIV infection, comprising: administering to the human~~ Use of a LAP pharmaceutical composition including the compound of Formula I



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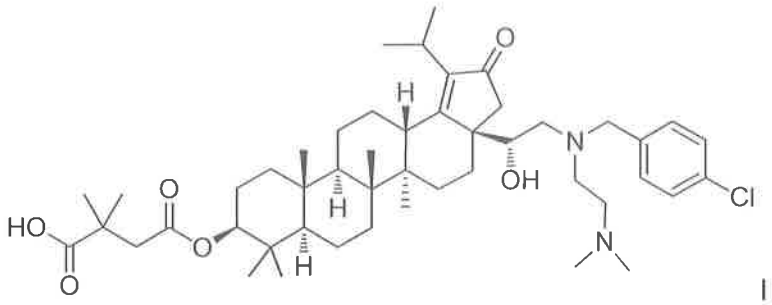
or a pharmaceutically acceptable salt thereof, in the manufacture of a medicament for the treatment of an HIV infection in a human.

5 A ~~method for the prevention of an HIV infection in a human having an HIV infection, comprising: administering to the human~~Use of a LAP pharmaceutical composition including at least one betulin derivative or a pharmaceutically acceptable salt thereof in the manufacture of a medicament for the prevention of an HIV infection in a human.

6. ~~A method for the prevention of an HIV infection in a human having an HIV infection, comprising: administering to the human~~Use of a LAP pharmaceutical composition including the compound of Formula I



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or a pharmaceutically acceptable salt thereof in the manufacture of a medicament for the prevention of an HIV infection in a human.

7. The pharmaceutical composition according to claim 2, further comprising a surfactant system.

8. The pharmaceutical composition according to claim 7, wherein the surfactant system comprises a surfactant in an amount ranging from about 0.1% (w/v) to about 3% (w/v) surfactant.

9. The pharmaceutical composition according to claim 7, wherein the surfactant system comprises a surfactant in an amount ranging from about 0.2% (w/v) to about 0.4% (w/v) surfactant.

10. The pharmaceutical composition according to claim 7, wherein the surfactant system comprises about 0.4% (w/v) surfactant.

11. The pharmaceutical composition according to claim 7, wherein the surfactant system comprises a surfactant selected from the group consisting of polyoxyethylene sorbitan fatty acid esters, poloxamers, sorbitan esters of fatty acids (SPAN), polyethoxylated castor oil and its derivatives, tocopheryl polyethylene glycol succinate, and polyvinyl alcohols.

12. The pharmaceutical composition according to claim 11, wherein the surfactant system comprises a surfactant that is polysorbate 80.

13. The pharmaceutical composition according to claim 7, wherein the surfactant system comprises a stabilizer that is selected from the group consisting of polyethylene glycols, carboxymethylcellulose calcium, carboxymethylcellulose sodium, methylcellulose, hydroxyethylcellulose, hydroxypropylcellulose, hydroxymethylpropylcellulose,

polysaccharides, hyarluronic acid, polyvinyl alcohol (PVA) and polyvinylpyrrolidone (PVP).

14. The pharmaceutical composition according to claim 13, wherein the surfactant system comprises a stabilizer that is polyethylene glycol.

15. The pharmaceutical composition according to claim 14, wherein the surfactant system comprises a stabilizer that is PEG-3350.

16. The pharmaceutical composition according to claim 13, wherein the surfactant system comprises a stabilizer in an amount that ranges from about 1% (w/v) to about 5% (w/v) stabilizer.

17. The pharmaceutical composition according to claim 16, wherein the surfactant system comprises about 2% (w/v) stabilizer.

18. The pharmaceutical composition according to claim 7, wherein the surfactant system comprises a buffer salt.

19. The pharmaceutical composition according to claim 18, wherein the surfactant system comprises a buffer salt that is phosphate buffered saline.

~~19~~20. The pharmaceutical composition according to claim 18, wherein the surfactant system comprises a buffer salt at a concentration of about 10mM.

~~20~~21. The pharmaceutical composition according to claim 2, wherein the compound of Formula I is in a crystalline form prior to encapsulating into a microparticle and combining with a surfactant system.

~~21~~22. The pharmaceutical composition according to claim 2, wherein the compound of Formula I is in an amorphous microparticle form.

~~22~~23. The pharmaceutical composition according to claim 2, wherein the compound of Formula I is in a microparticle form, wherein the microparticles of the compound of Formula I range in size from about 0.05 μm to about 100 μm.

~~23~~24. The pharmaceutical composition according to claim 2, wherein the compound of Formula I is in a microparticle form, wherein the microparticles of the compound of Formula I range in size from about 0.1 μm to about 5 μm.

~~24~~25. The pharmaceutical composition according to claim 2, wherein the compound of Formula I is encapsulated in a polymer.

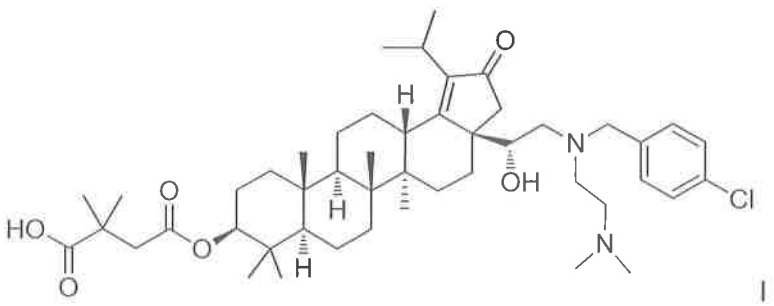
~~25~~26. The pharmaceutical composition according to claim ~~24~~25, wherein the compound of Formula I is encapsulated in a polymer that comprises poly (lactic-*co*-glycolic) acid.

~~26~~27. The ~~method~~ use according to claim 4, wherein the human is to be administered the LAP pharmaceutical composition including the compound of Formula I, on a dosing regimen ranging from about every week to about every three months.

~~27~~28. The ~~method~~ use according to claim ~~26~~27, wherein the human is to be administered the LAP pharmaceutical composition including the compound of Formula I, on a dosing regimen ranging from about every week to about every two months.

~~28~~29. The ~~method~~ use according to claim ~~26~~27, wherein the human is to be administered the LAP pharmaceutical composition including the compound of Formula I, on a dosing regimen that is monthly.

~~29~~30. A LAP pharmaceutical composition, comprising: the compound of Formula I



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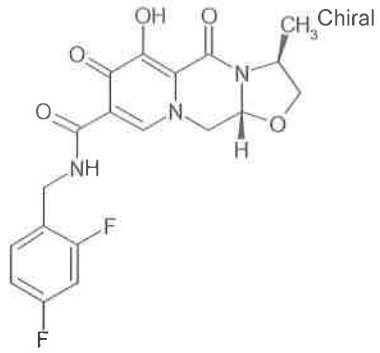
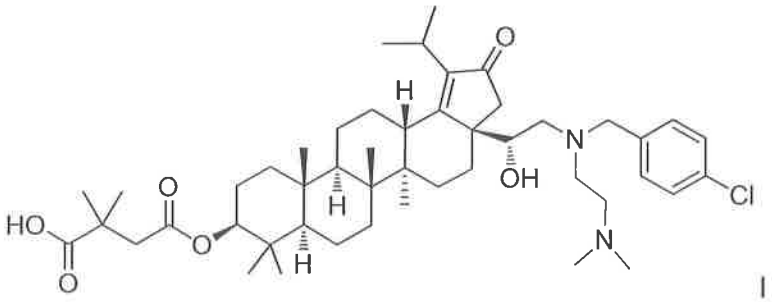
or a pharmaceutically acceptable salt thereof,
in combination with one or more additional compounds selected from the group consisting of dolutegravir, ritonavir, rilpivirine, and a compound having the following structure:



, or a pharmaceutically salt thereof.

~~30~~31. ~~A method for the treatment of an HIV infection in a human having an HIV infection, comprising: administering to the human~~Use of a LAP pharmaceutical composition including the compound of Formula I



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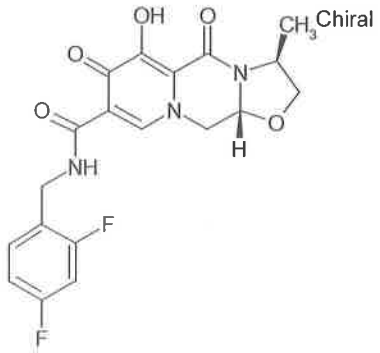
or a pharmaceutically acceptable salt thereof,

in combination with one or more additional compounds selected from the group consisting of dolutegravir, ritonavir, rilpivirine, and a compound having the following structure:



, in the manufacture of a medicament for treatment of an HIV infection in a human.

~~31~~32. The pharmaceutical composition according to claim 2, wherein the compound of Formula I is in a microparticle form, wherein the microparticles of the compound of Formula I range in size from about 0.05 μm to about 100 μm, wherein said microparticles comprise substantially the same size.

~~32~~33. The pharmaceutical composition according to claim 2, wherein the compound of Formula I is in a microparticle form, wherein the microparticles of the compound of

Formula I range in size from about 0.05 μm to about 100 μm, wherein said microparticles comprise two or more substantially different particle sizes that provide for earlier and later release after administration to a subject and result in varying absorption kinetics therein.

~~33~~34. The pharmaceutical composition according to claim 2, wherein the compound of Formula I is in a microparticle form, wherein the microparticles of the compound of Formula I range in size from about 0.05 μm to about 0.5 μm.

~~34~~35. The pharmaceutical composition according to claim 2, wherein the compound of Formula I is in a microparticle form, wherein the microparticles of the compound of Formula I range in size from about 0.5 μm to about 5 μm.

~~35~~36. The pharmaceutical composition according to claim 2, wherein the compound of Formula I is in a microparticle form, wherein the microparticles of the compound of Formula I range in size from about 5 μm to about 25 μm.

~~36~~37. The pharmaceutical composition according to claim 2, wherein the compound of Formula I is in a microparticle form, wherein the microparticles of the compound of Formula I range in size from about 25 μm to about 100 μm.

~~37~~38. The pharmaceutical composition according to claim 2, wherein the compound of Formula I is present in an amount ranging from about 20 mg to about 100 mg.

~~38~~39. The pharmaceutical composition according to claim 2, wherein the compound of Formula I is present in an amount ranging from about 100 mg to about 200 mg.

~~39~~40. The pharmaceutical composition according to claim 2, wherein the compound of Formula I is present in an amount ranging from about 200 mg to about 400 mg.

~~40~~41. The pharmaceutical composition according to claim 2, wherein the compound of Formula I is present in an amount ranging from about 400 mg to about 800 mg.

~~41~~42. The ~~method~~ use according to claim 4, wherein the compound of Formula I is to be administered initially to the subject as a loading dose in amount that ranges from 400 mg to 800 mg and then is administered as a maintenance dose thereafter in an amount that ranges from about 20 mg to about 300 mg.

~~42~~43. The ~~method~~ use according to claim 4, wherein the LAP composition comprising the compound of Formula I is to be administered to the subject only after the subject has been administered treatment comprising a generally accepted anti-retroviral regimen.