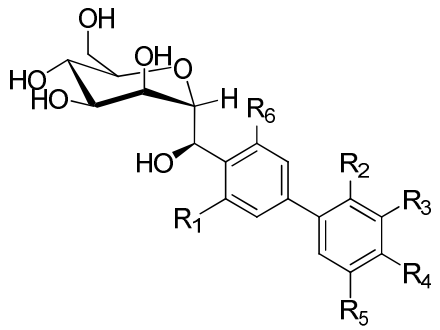
What is claimed is:

1. A compound of Formula I, or a pharmaceutically acceptable salt thereof,



(I)

in which

R_1 is CH_3, CF_3, or Cl;

R_2 is F, Cl, OR', or H;

R_3, R_4, and R_5 are independently H, F, Cl, Br, C_{3-6}cycloalkyl, OR', -N(C_{1-6}alkyl)$_2$, C_{2-6} alkenyl, C_{2-6} alkynyl, or C_{1-6} alkyl ~~(~~optionally substituted with up to seven fluorine atoms, up to one hydroxy, up to one -N(C_{1-6}alkyl)$_2$, and up to one -OC_{1-6}alkyl~~)~~; provided not all R_3, R_4, and R_5 are hydrogen simultaneously.

R_6 is H or F;

R' is independently H or C_{1-6} alkyl optionally substituted with up to seven fluorine atoms.

2. A compound or pharmaceutically acceptable salt thereof according to claim 1, wherein R_1 is CH_3 or CF_3.

3. A compound or pharmaceutically acceptable salt thereof according to claim 1 or 2, wherein R_1 is CH_3.

4. A compound or a pharmaceutically acceptable salt thereof of claim 1 in which

R_1 is CH_3 or CF_3;

R_2 is H;

R_3 is F;

R_4 is CH_3, Cl, Br, vinyl, CF_3, F, or H;

R_5 is F or H; and

R_6 is H.

5. The compound of claim 4 that is selected from:

(2R,3S,4S,5S,6R)-2-((R)-(3',5'-~~Difluoro~~difluoro-3,4'-dimethyl-[1,1'-biphenyl]-4-yl)(hydroxy)methyl)-6-(hydroxymethyl)tetrahydro-2H-pyran-3,4,5-triol~~.~~;

~~6. The compound of claim 4 that is~~ (2R,3S,4S,5S,6R)-2-((R)-(4'-Chloro-3',5'-difluoro-3-methyl-[1,1'-biphenyl]-4-yl)(hydroxy)methyl)-6-(hydroxymethyl)tetrahydro-2H-pyran-3,4,5-triol~~.~~;

~~7. The compound of claim 4 that is~~ (2R,3S,4S,5S,6R)-2-((R)-(4'-~~Bromo~~bromo-3',5'-difluoro-3-methyl-[1,1'-biphenyl]-4-yl)(hydroxy)methyl)-6-(hydroxymethyl)tetrahydro-2H-pyran-3,4,5-triol~~.~~;

~~8. The compound of claim 4 that is~~ (2R,3S,4S,5S,6R)-2-((R)-(3',5'-~~Difluoro~~difluoro-3-methyl-4'-vinyl-[1,1'-biphenyl]-4-yl)(hydroxy)methyl)-6-(hydroxymethyl)tetrahydro-2H-pyran-3,4,5-triol~~.~~;

~~9. The compound of claim 4 that is~~ (2R,3S,4S,5S,6R)-2-((R)-(3'-~~Fluoro~~fluoro-3-methyl-4'-(trifluoromethyl)-[1,1'-biphenyl]-4-yl)(hydroxy)methyl)-6-(hydroxymethyl)tetrahydro-2H-pyran-3,4,5-triol~~.~~;

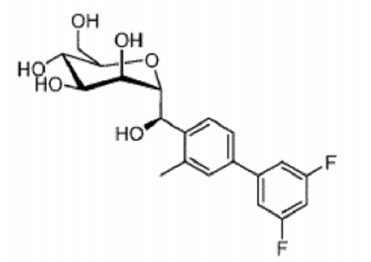
~~10. The compound of claim 4 that is~~ (2R,3S,4S,5S,6R)-2-((R)-(3'-~~Fluoro~~fluoro-3-methyl-5'-(trifluoromethyl)-[1,1'-biphenyl]-4-yl)(hydroxy)methyl)-6-(hydroxymethyl)tetrahydro-2H-pyran-3,4,5-triol~~.~~;

~~11. The compound of claim 4 that is~~ (2R,3S,4S,5S,6R)-2-((R)-~~Hydroxy~~hydroxy(3',4',5'-trifluoro-3-methyl-[1,1'-biphenyl]-4-yl)methyl)-6-(hydroxymethyl)tetrahydro-2H-pyran-3,4,5-triol~~.~~;

~~12. The compound of claim 4 that is~~ (2R,3S,4S,5S,6R)-2-((R)-(3',5'-~~Difluoro~~difluoro-3-(trifluoromethyl)-[1,1'-biphenyl]-4-yl)(hydroxy)methyl)-6-(hydroxymethyl)tetrahydro-2H-pyran-3,4,5-triol~~.~~;

~~13. The compound of claim 4 that is~~ (2R,3S,4S,5S,6R)-2-((R)-(3',5'-~~Difluoro~~difluoro-3-methyl-[1,1'-biphenyl]-4-yl)(hydroxy)methyl)-6-(hydroxymethyl)tetrahydro-2H-pyran-3,4,5-triol.

6. A compound of any one of claims 1 to 5, wherein the compound is



.

~~14~~7. A compound or a pharmaceutically acceptable salt thereof recited in any one of claims 1-~~13~~ 6 for use as a medicament.

~~15~~8. A compound or a pharmaceutically acceptable salt thereof as recited in any one of claims 1-~~13~~ 6 for use in the prevention or treatment of a disease or condition ameliorated by the inhibition of FimH function or activity.

~~16~~9. A compound or a pharmaceutically acceptable salt thereof as recited in any one of claims 1-~~13~~ 6 for use in the prevention or treatment of a bacterial infection, Crohn's disease (CD), and Inflammatory Bowel Disease (IBD).

~~17~~10. A compound or a pharmaceutically acceptable salt thereof as recited in any one of claims 1-~~13~~ 6 for use in the prevention or treatment of urinary tract infection (UTI).

~~18. A compound or a pharmaceutically acceptable salt thereof as recited in any one of claims 1-13 for use in the manufacture of a medicament for the prevention or treatment of a disease or condition ameliorated by the inhibition of FimH function or activity.~~

~~19. A compound or a pharmaceutically acceptable salt thereof as recited in any one of claims 1-13 for use in the manufacture of a medicament for the prevention or treatment of a bacterial infection, Crohn's disease (CD), and Inflammatory Bowel Disease (IBD).~~

~~20. A compound or a pharmaceutically acceptable salt thereof as recited in any one of claims 1-13 for use in the manufacture of a medicament for the prevention or treatment of urinary tract infection.~~

~~21. A pharmaceutical composition comprising a compound or a pharmaceutically acceptable salt thereof as recited in any one of claims 1-13 together with a pharmaceutically acceptable carrier.~~

~~22. A method of inhibition of FimH function comprising contacting FimH with a compound or a pharmaceutically acceptable salt thereof as recited in any one of claims 1-13.~~

~~23. A method of treatment of a FimH-mediated disease comprising the administration of a therapeutically effective amount of a compound or a pharmaceutically acceptable salt thereof as recited in any one of claims 1-13 to a human patient in need thereof.~~

~~24. The method as recited in claim 23 wherein said disease is chosen from a bacterial infection, Crohn's disease (CD), and Inflammatory Bowel Disease (IBD).~~

~~25. The method as recited in claim 24 wherein said bacterial infection is a urinary tract infection.~~

~~26. The method as recited in claim 25 wherein said urinary tract infection is recurrent.~~

~~27~~11. ~~The method as recited in claim 25~~ A compound or a pharmaceutically acceptable salt thereof as recited in claim 10, wherein said urinary tract infection is recurrent or chronic.

~~28~~12. A compound or a pharmaceutically acceptable salt thereof as recited in claim 9, ~~The method as recited in claim 24~~ wherein said bacterial infection is an antibiotic-resistant bacterial infection.

13. A pharmaceutical composition comprising a compound or a pharmaceutically acceptable salt thereof as recited in any one of claims 1-6 together with a pharmaceutically acceptable carrier.

~~29. The method as recited in claim 24 wherein said disease is Crohn's disease.~~

~~30. A method of treatment of a FimH-mediated disease comprising the administration of:~~
~~a. a therapeutically effective amount of a compound or a pharmaceutically acceptable salt thereof as recited any one of claims 1-13; and~~
~~b. another therapeutic agent.~~

~~31. The method as recited in claim 30 wherein said disease is Urinary Tract Infection.~~

~~32. The method as recited in claim 30 wherein said disease is Crohn's Disease.~~

~~33. The method as recited in claim 30 wherein said disease is Inflammatory Bowel Disease.~~

~~34~~14. A pharmaceutical composition comprising a compound or a pharmaceutically acceptable salt thereof as recited in any one of claims 1-~~13~~ 6 formulated for oral (PO) administration.~~,~~

~~35. The pharmaceutical composition as recited in claim 34,~~ particularly wherein said composition is ~~chosen from~~ a tablet ~~and~~ or a capsule.

15. A compound or a pharmaceutically acceptable salt thereof as recited in any one of claims 1-6; and another therapeutic agent.

~~36. A pharmaceutical composition comprising a compound or a pharmaceutically acceptable salt thereof as recited in any one of claims 1-13 formulated for topical administration.~~