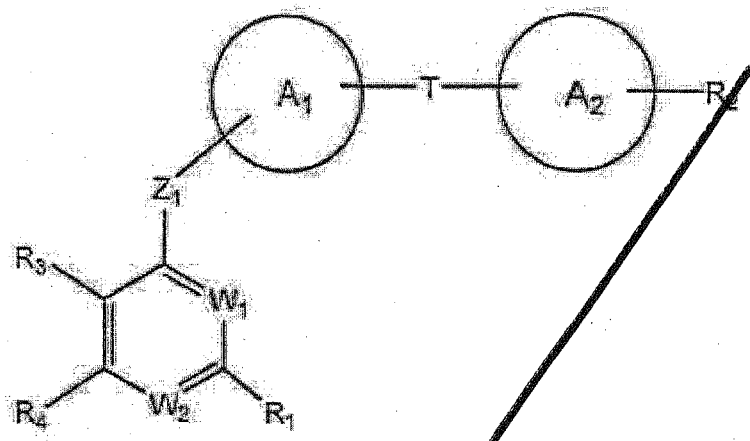
CLAIMS

What is claimed is:

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



I

wherein:

A_1 is C_3-C_{14}carbocyclyl or 3- to 14-membered heterocyclyl, and is substituted with -X_1-R_7, wherein said C_3-C_{14}carbocyclyl and 3- to 14-membered heterocyclyl are optionally substituted with one or more R_A;

X_1 is selected from a bond, -C_S-, -O-, -S-, or -N(R_B)-;

R_7 is selected from C_5-C_{10}carbocyclyl, or 5- to 10-membered heterocyclyl, wherein at each occurrence said C_5-C_{10}carbocyclyl and 5- to 10-membered heterocyclyl are each independently optionally substituted with one or more R_A;

Z_1 is selected from a bond, -C($R_C R_{C'}$)-, -O-, -S-, or -N(R_B)-;

W_1 and W_2 are each independently selected from N or C(R_D);

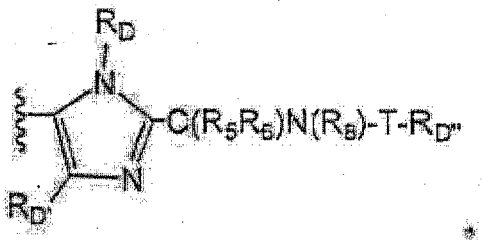
R_1 is selected from hydrogen or R_A;

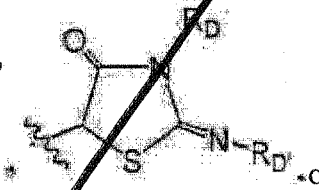
R_3 and R_4 are each independently selected from hydrogen or R_A; or R_3 and R_4, taken together with the carbon atoms to which they are attached, form a C_5-

C_{10}carbocyclic or 5- to 10-membered heterocyclic ring, wherein said C_5-C_{10}carbocyclic and 5- to 10-membered heterocyclic ring are optionally substituted with one or more R_A;

A_2 is C_3-C_{14}carbocyclyl or 3- to 14-membered heterocyclyl, and is optionally substituted with one or more R_A;

R_2 is $-N(R_B)C(O)C(R_5R_6)N(R_8)$-T-$R_D$,





or $-L_K$-B;

R_5 is R_C;

R_6 is $R_{C'}$, and R_8 is R_B; or R_6 and R_8, taken together with the atoms to which they are attached, form a 3- to 10-membered heterocyclic ring which is optionally substituted with one or more R_A;

L_K is C_1-C_6alkylene, C_2-C_6alkenylene, or C_2-C_6alkynylene, each of which is independently optionally substituted at each occurrence with one or more substituents selected from halogen, R_S (except hydrogen), -O-R_S, -S-R_S, -$N(R_SR_{S'})$, -OC(O)R_S, -C(O)OR_S, nitro, phosphate, oxo, thioxo, formyl or cyano; or $-N(R_B)C(O)$- or $-C(O)N(R_B)$-;

B is C_3-C_{10}carbocycle or 3- to 10-membered heterocycle, and is optionally substituted with one or more R_A;

T is independently selected at each occurrence from a bond;

R_A is independently selected at each occurrence from halogen, hydroxy, mercapto, amino, carboxy, nitro, phosphate, oxo, thioxo, formyl, cyano, L_A, or $-L_S-R_E$;

R_B and $R_{B'}$ are each independently selected at each occurrence from hydrogen or C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6carbocyclyl, C_3-C_6carbocyclylC_1-C_6alkyl, 3- to 6-membered heterocyclyl, or (3- or 6-membered heterocyclyl)C_1-C_6alkyl, each of which is independently optionally substituted at each occurrence with one or more substituents selected from halogen, hydroxy, mercapto, amino, carboxy, nitro, phosphate, oxo, thioxo, formyl or cyano;

R_C and $R_{C'}$ are each independently selected at each occurrence from hydrogen; halogen; hydroxy; mercapto; amino; carboxy; nitro; phosphate; oxo; thioxo; formyl; cyano; or C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, or C_3-C_6carbocyclyl, each of which is independently optionally substituted at each occurrence with one or more substituents selected from halogen, hydroxy, mercapto, amino, carboxy, nitro, phosphate, oxo, thioxo, formyl or cyano;

R_D, $R_{D'}$ and $R_{D''}$ are each independently selected at each occurrence from hydrogen or R_A;

L_A is independently selected at each occurrence from C_1-C_6alkyl, C_2-C_6alkenyl, or C_2-C_6alkynyl, each of which is independently optionally substituted at each occurrence with one or more substituents selected from halogen, $-O-R_S$, $-S-R_S$, $-N(R_SR_S)$, $-OC(O)R_S$, $-C(O)OR_S$, nitro, phosphate, oxo, thioxo, formyl or cyano;

L_S, $L_{S'}$ and $L_{S''}$ are each independently selected at each occurrence from a bond; or C_1-C_6alkylene, C_2-C_6alkenylene, or C_2-C_6alkynylene, each of which is independently optionally substituted at each occurrence with one or more substituents selected

from halogen, -O-R_S, -S-R_S, -N($R_S R_{S'}$), -OC(O)R_S, -C(O)OR_S, nitro, phosphate, thioxo, formyl or cyano;

R_E is independently selected at each occurrence from -O-R_S, -S-R_S, -C(O)R_S, -OC(O)R_S, -C(O)OR_S, -N($R_S R_{S'}$), -S(O)R_S, -SO_2R_S, -C(O)N($R_S R_{S'}$), -N(R_S)C(O)$R_{S'}$, -N(R_S)C(O)N($R_{S'}R_{S''}$), -N(R_S)$SO_2R_{S'}$, -SO_2N($R_S R_{S'}$), -N(R_S)SO_2N($R_{S'}R_{S''}$), -N(R_S)S(O)N($R_{S'}R_{S''}$), -OS(O)-R_S, -$OS(O)_2$-R_S, -$S(O)_2$OR_S, -S(O)OR_S, -OC(O)OR_S, -N(R_S)C(O)O$R_{S'}$, -OC(O)N($R_S R_{S'}$), -N(R_S)S(O)-$R_{S'}$, -S(O)N($R_S R_{S'}$), -C(O)N(R_S)C(O)-$R_{S'}$, C_3-C_{10}carbocyclyl, or 3- to 10-membered heterocyclyl, wherein said C_3-C_{10}carbocyclyl and 3-to 10-membered heterocyclyl are each independently optionally substituted at each occurrence with one or more substituents selected from C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, R_S (except hydrogen), halogen, -O-R_B, -S-R_B, -N($R_B R_{B'}$), -OC(O)R_B, -C(O)OR_B, nitro, phosphate, oxo, thioxo, formyl or cyano; and

R_S, $R_{S'}$ and $R_{S''}$ are each independently selected at each occurrence from hydrogen; or C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6carbocyclyl, C_3-C_6carbocyclylC_1-C_6alkyl, 3- to 6-membered heterocyclyl, or (3- or 6-membered heterocyclyl)C_1-C_6alkyl, each of which is independently optionally substituted at each occurrence with one or more substituents selected from halogen, -O-R_B, -S-R_B, -N($R_B R_{B'}$), -OC(O)R_B, -C(O)OR_B, nitro, phosphate, oxo, thioxo, formyl or cyano.

2. The compound or salt of claim 1, wherein:

A_1 is C_3-C_6carbocyclyl or 5- to 6-membered heterocyclyl, which is optionally substituted with one or more R_A, and A_1 is substituted with -X_1-R_7;

R_7 is C_5-C_6carbocyclyl or 5- to 6-membered heterocyclyl, and is optionally substituted with one or more R_A;

R_3 and R_4 are each independently selected from hydrogen or R_A; or R_3 and R_4, taken together with the carbon atoms to which they are attached, form a C_5-C_6carbocyclic or 5- to 6-membered heterocyclic ring, wherein said C_5-C_6carbocyclic and 5- to 6-membered heterocyclic ring are optionally substituted with one or more R_A; and

A_2 is C_5-C_{10}carbocyclyl or 5- to 10-membered heterocyclyl, and is optionally substituted with one or more R_A.

3. The compound or salt of claim 2, wherein A_2 is C_5-C_6carbocyclyl or 5- to 6-membered heterocyclyl, and is optionally substituted with one or more R_A.

4. The compound or salt of claim 2, wherein R_7 is phenyl, and is optionally substituted with one or more R_A.

5. The compound or salt of claim 2, wherein A_1 is phenyl, and is optionally substituted with one or more R_A.

6. The compound or salt of claim 2, wherein A_2 is phenyl, and is optionally substituted with one or more R_A.

7. The compound or salt of claim 2, wherein A_1, A_2 and R_7 are phenyl, and are each independently optionally substituted with one or more R_A.

8. The compound or salt of claim 2, wherein R_3 and R_4, taken together with the carbon atoms to which they are attached, form a C_5-C_6carbocyclic or 5- to 6-membered heterocyclic ring which is optionally substituted with one or more R_A.

9. The compound or salt of claim 2, wherein W_1 and W_2 are N, and Z_1 is-$N(R_B)$-.

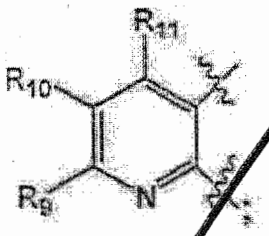
10. The compound or salt of claim 2, wherein:

W_1 and W_2 are N;

Z_1 is -$N(R_B)$-;

X_1 is -CH_2-, -O-, or -S-;

R_3 and R_4, taken together with the carbon atoms to which they are attached, form



R_9, R_{10}, and R_{11} are each independently selected from hydrogen or R_A.

11. The compound or salt of claim 10, wherein

A_1 is phenyl, and is optionally substituted with one or more R_A;

R_7 is phenyl, and is optionally substituted with one or more R_A;

R_1 is hydrogen;

R_9, R_{10}, and R_{11} are each independently selected from hydrogen; halogen; or C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6carbocyclyl, or C_3-C_6carbocyclylC_1-C_6alkyl, each of which is independently optionally substituted at each occurrence with one or more substituents selected from halogen, hydroxy, mercapto, amino, carboxy, nitro, phosphate, oxo, thioxo, formyl or cyano.

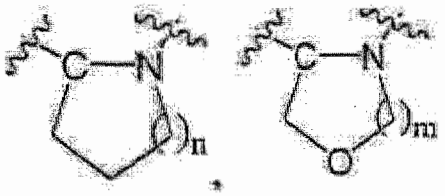
12. The compound or salt of claim 1, wherein R_2 is -$N(R_B)C(O)C(R_5R_6)N(R_8)$-T-$R_D$.

13. The compound or salt of claim 12, wherein R_5 is R_C, and R_6 and R_8 taken together with the atoms to which they are attached form a 5- to 6-membered heterocyclic ring which is optionally substituted with one or more R_A.

14. The compound or salt of claim 12, wherein:

R_5 is H;

R_6 and R_8, taken together with the atoms to which they are attached, form



, each of which is independently optionally substituted with one or more R_A;

n is 0, 1 or 2; and

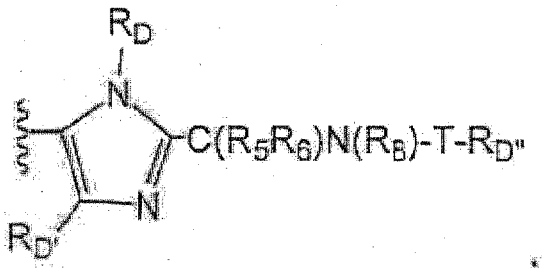
m is 1 or 2.

15. The compound or salt of claim 14, wherein:

-T-R_D is -C(O)-$L_{S'}$-R_{12} or -C(O)-$L_{S''}$-M'-$L_{S'''}$-R_{12}; and

R_{12} is hydrogen; C_1-C_6alkyl, C_2-C_6alkenyl or C_2-C_6alkynyl, each of which is independently optionally substituted at each occurrence with one or more substituents selected from halogen, -O-R_S, -S-R_S, -N($R_S R_{S'}$), -OC(O)R_S, -C(O)OR_S, nitro, phosphate, oxo, thioxo, formyl or cyano; or C_3-C_{10}carbocyclyl or 3- to 10-membered heterocyclyl, each of which is independently optionally substituted at each occurrence with one or more substituents selected from C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, halogen, -D-R_B, -S-R_B, -N($R_B R_{B'}$),OC(O)R_B, -C(O)OR_B, nitro, phosphate, oxo, thioxo, formyl or cyano.

16. The compound or salt of claim 1, wherein R_2 is

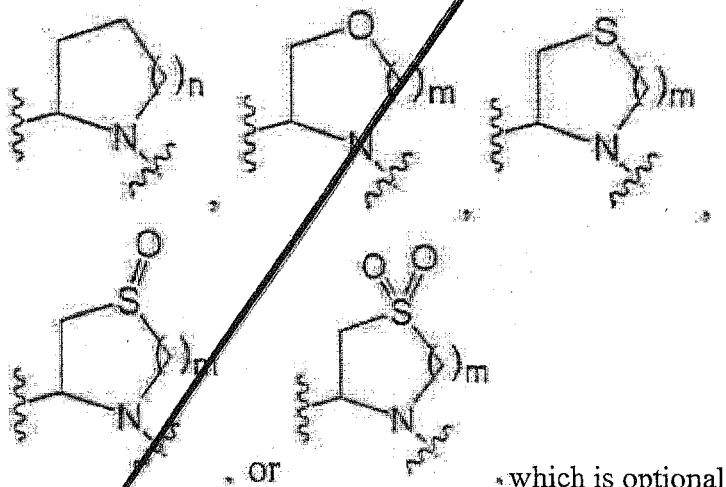


17. The compound or salt of claim 16, wherein R_5 is R_C, and R_6 and R_8, taken together with the atoms to which they are attached, form a 5- to 6-membered heterocyclic ring which is optionally substituted with one or more R_A.

18. The compound or salt of claim 16, wherein:

R_5 is H;

R_6 and R_8, taken together with the atoms to which they are attached, form



which is optionally substituted with one or more R_A;

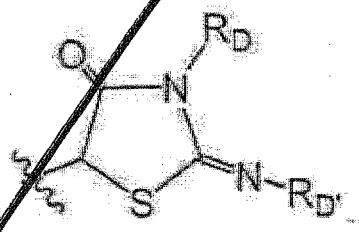
n is 0, 1 or 2; and

m is 1 or 2.

19. The compound or salt of claim 18, wherein:

$-T-R_{D''}$ is $-C(O)-L_{S'}-R_{12}$ or $-C(O)-L_{S'}-M'-L_{S''}-R_{12}$; and

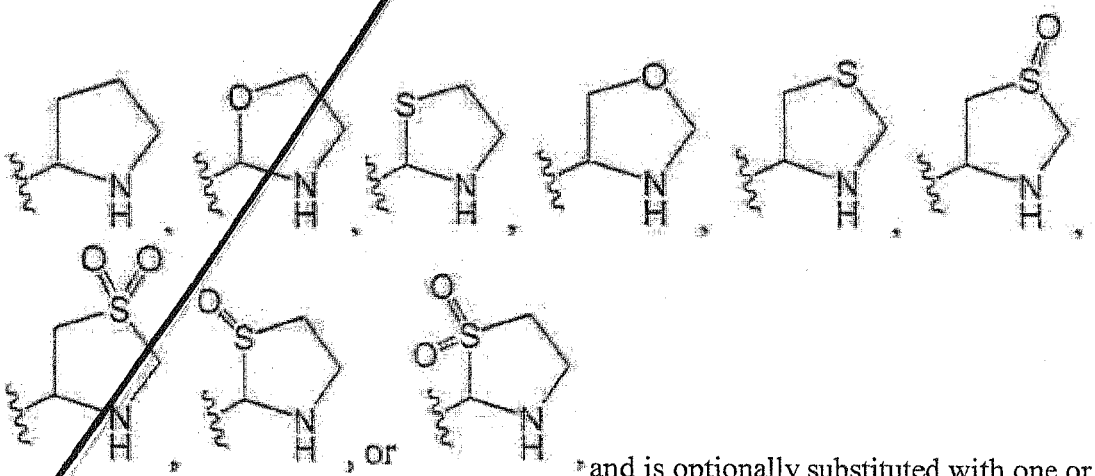
R_{12} is hydrogen; C_1-C_6alkyl, C_2-C_6alkenyl or C_2-C_6alkynyl, each of which is independently optionally substituted at each occurrence with one or more substituents selected from halogen, -O-R_S, -S-R_S, -N($R_S R_{S'}$), -OC(O)R_S, -C(O)OR_S, nitro, phosphate, oxo, thioxo, formyl or cyano; or C_3-C_{10}carbocyclyl or 3- to 10-membered heterocyclyl, each of which is independently optionally substituted at each occurrence with one or more substituents selected from C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, halogen, -O-R_B, -S-R_B, -N($R_B R_{B'}$),OC(O)R_B, -C(O)OR_B, nitro, phosphate, oxo, thioxo, formyl or cyano.

20. The compound or salt of claim 1, wherein R_2 is .

21. The compound or salt of claim 1, wherein R_2 is -L_K-B.

22. The compound or salt of claim 21, wherein B is C_3-C_{10}carbocycle or 3- to 10-membered heterocycle and is optionally substituted with one or more R_A.

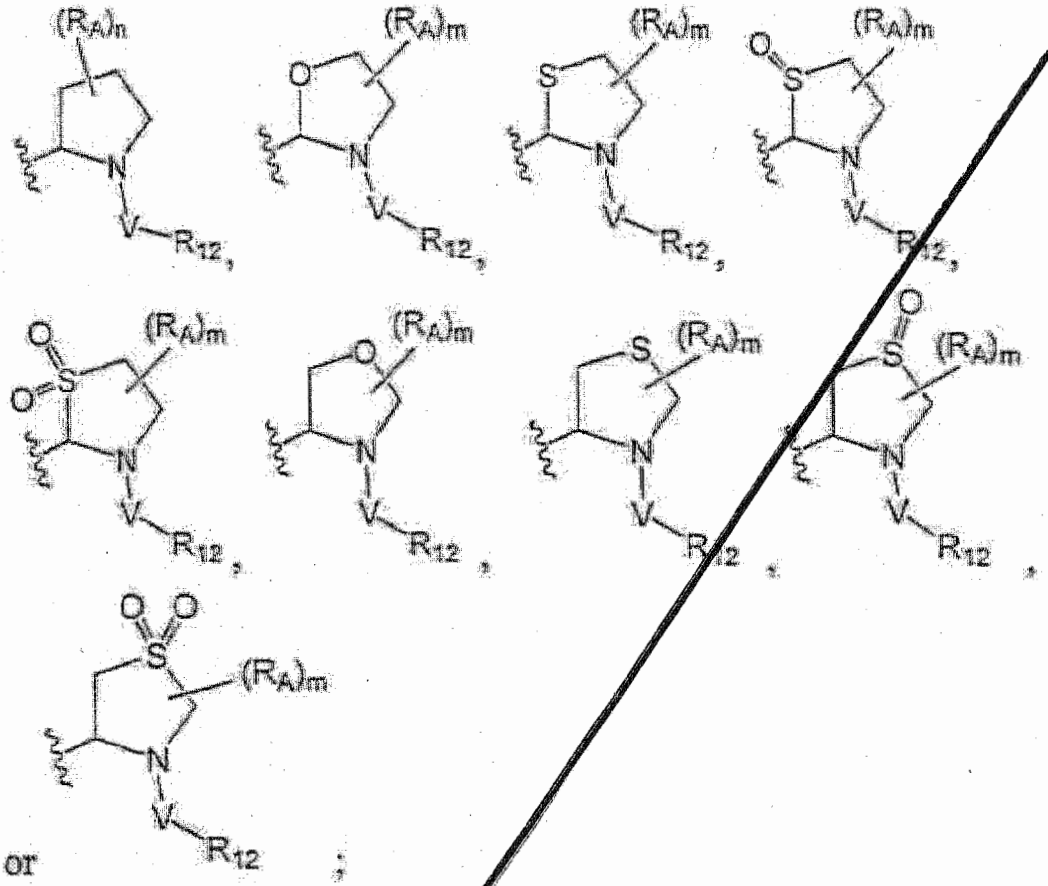
23. The compound or salt of claim 21 wherein B is



and is optionally substituted with one or more R_A.

24. The compound or salt of claim 21, wherein:

B is



or ;

n is 0, 1, 2, 3, or 4;

m is 0, 1, 2, or 3;

V is -C(O)- or -$S(O)_2$-;

R_{12} is $-R_S$, $-OR_S$, or $-N(R_SR_{S'})$.

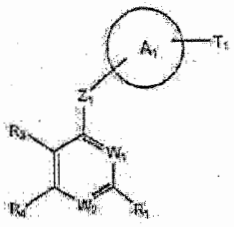
25. A pharmaceutical composition comprising a compound or salt according to claim 1.

26. A method of inhibiting HCV virus replication, comprising contacting, *in vitro*, cells infected with HCV virus with a compound or salt according to one of claims 1-24.

27. Use of a compound or salt according to one of claims 1-24, in the manufacture of a medicament for treating HCV infection.

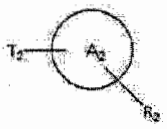
28. A process of making a compound according to claim 1, comprising the step of:

coupling a compound of Formula IV



IV

to a compound of Formula V



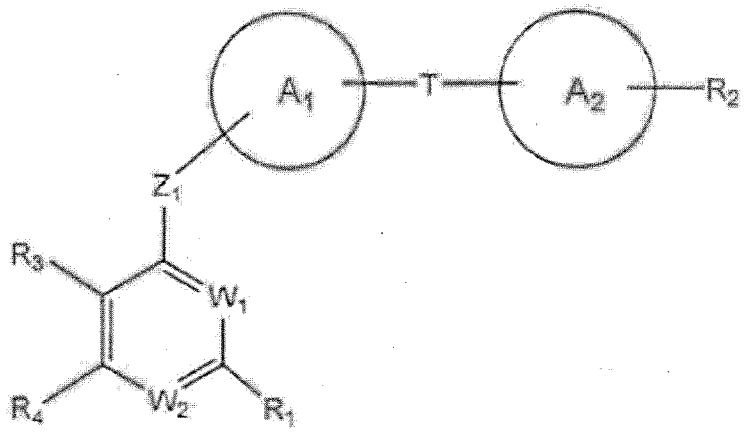
V

wherein T_1 is a carboxylic acid, an activated derivative, or an activated ester, T_2 is an amine or a substituted amine, and A_1, A_2, Z_1, W_1, W_2, R_1, R_2, R_3, and R_4 are as defined in claim 1.

CLAIMS

What is claimed is:

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



I

wherein:

A_1 is phenyl, and is substituted with $-X_1-R_7$, wherein said phenyl is optionally substituted with one or more R_A;

X_1 is selected from $-CH_2-$, -O-, or -S;

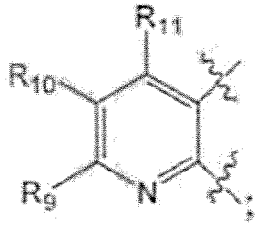
R_7 is phenyl, wherein at each occurrence said phenyl are each independently optionally substituted with one or more R_A;

Z_1 is $-N(R_B)-$;

W_1 and W_2 are N;

R_1 is selected from hydrogen or R_A;

R_3 and R_4, taken together with the carbon atoms to which they are attached, form



R_9, R_{10}, and R_{11} are each independently selected from hydrogen or R_A;

A_2 is C_5-C_{10}carbocyclyl or 5- to 10-membered heterocyclyl, and is optionally substituted with one or more R_A;

R_2 is $-N(R_B)C(O)C(R_5R_6)N(R_8)$-T-$R_D$;

R_5 is R_C;

R_6 is $R_{C'}$, and R_8 is R_B; or R_6 and R_8, taken together with the atoms to which they are attached, form a 3- to 10-membered heterocyclic ring which is optionally substituted with one or more R_A;

T is independently selected at each occurrence from a bond;

R_A is independently selected at each occurrence from halogen, hydroxy, mercapto, amino, carboxy, nitro, phosphate, oxo, thioxo, formyl, cyano, L_A, or -L_S-R_E;

R_B and $R_{B'}$ are each independently selected at each occurrence from hydrogen; or C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6carbocyclyl, C_3-C_6carbocyclylC_1-C_6alkyl, 3- to 6-membered heterocyclyl, or (3- or 6-membered heterocyclyl)C_1-C_6alkyl, each of which is independently optionally substituted at each occurrence with one or more substituents selected from halogen, hydroxy, mercapto, amino, carboxy, nitro, phosphate, oxo, thioxo, formyl or cyano;

R_C and $R_{C'}$ are each independently selected at each occurrence from hydrogen; halogen; hydroxy; mercapto; amino; carboxy; nitro; phosphate; oxo; thioxo; formyl; cyano; or C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, or C_3-C_6carbocyclyl, each of which is independently optionally substituted at each occurrence with one or more substituents selected from halogen, hydroxy, mercapto, amino, carboxy, nitro, phosphate, oxo, thioxo, formyl or cyano;

is selected from hydrogen or R_A;

L_A is independently selected at each occurrence from C_1-C_6alkyl, C_2-C_6alkenyl, or C_2-C_6alkynyl, each of which is independently optionally substituted at each occurrence with one or more substituents selected from halogen, -O-R_S, -S-R_S, -N($R_S$$R_{S'}$), -OC(O)$R_S$, -C(O)O$R_S$, nitro, phosphate, oxo, thioxo, formyl or cyano;

L_S, $L_{S'}$ and $L_{S''}$ are each independently selected at each occurrence from a bond; or C_1-C_6alkylene, C_2-C_6alkenylene, or C_2-C_6alkynylene, each of which is independently optionally substituted at each occurrence with one or more substituents selected from halogen, -O-R_S, -S-R_S, -N($R_S$$R_{S'}$), -OC(O)$R_S$, -C(O)O$R_S$, nitro, phosphate, thioxo, formyl or cyano;

R_E is independently selected at each occurrence from -O-R_S, -S-R_S, -C(O)R_S, -OC(O)R_S, -C(O)OR_S, -N($R_S$$R_{S'}$), -S(O)$R_S$, -$SO_2R_S$, -C(O)N($R_S$$R_{S'}$), -N($R_S$)C(O)$R_{S'}$, -N($R_S$)C(O)N($R_{S'}$$R_{S''}$), -N($R_S$)$SO_2R_{S'}$, -$SO_2$N($R_S$$R_{S'}$), -N($R_S$)$SO_2$N($R_{S'}$$R_{S''}$), -N($R_S$)S(O)N($R_{S'}$$R_{S''}$), -OS(O)-$R_S$, -OS(O)$_2$-$R_S$, -S(O)$_2OR_S$, -S(O)O$R_S$, -OC(O)O$R_S$, -N($R_S$)C(O)O$R_{S'}$, -OC(O)N($R_S$$R_{S'}$), -N($R_S$)S(O)-$R_{S'}$, -S(O)N($R_S$$R_{S'}$), -C(O)N($R_S$)C(O)-$R_{S'}$, C_3-C_{10}carbocyclyl, or 3- to 10-membered heterocyclyl, wherein said C_3-C_{10}carbocyclyl and 3-to 10-membered heterocyclyl are each independently optionally substituted at each occurrence with one or more substituents selected from C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, R_S (except hydrogen), halogen, -O-R_B, -S-R_B, -N($R_B$$R_{B'}$), -OC(O)$R_B$, -C(O)O$R_B$, nitro, phosphate, oxo, thioxo, formyl or cyano; and

R_S, $R_{S'}$ and $R_{S''}$ are each independently selected at each occurrence from hydrogen; or C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6carbocyclyl, C_3-C_6carbocyclylC_1-

C_6alkyl, 3- to 6-membered heterocyclyl, or (3- or 6-membered heterocyclyl)C_1-C_6alkyl, each of which is independently optionally substituted at each occurrence with one or more substituents selected from halogen, -O-R_B, -S-R_B, -N($R_BR_{B'}$), -OC(O)R_B, -C(O)OR_B, nitro, phosphate, oxo, thioxo, formyl or cyano.

2. The compound or salt of claim 1, wherein A_2 is C_5-C_6carbocyclyl or 5- to 6-membered heterocyclyl, and is optionally substituted with one or more R_A.

3. The compound or salt of claim 1, wherein A_2 is phenyl, and is optionally substituted with one or more R_A.

4. The compound or salt of claim 1, wherein

R_1 is hydrogen;

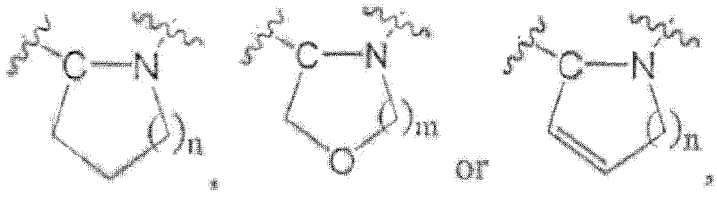
R_9, R_{10}, and R_{11} are each independently selected from hydrogen; halogen; or C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6carbocyclyl, or C_3-C_6carbocyclylC_1-C_6alkyl, each of which is independently optionally substituted at each occurrence with one or more substituents selected from halogen, hydroxy, mercapto, amino, carboxy, nitro, phosphate, oxo, thioxo, formyl or cyano.

5. The compound or salt of claim 1, wherein R_6 and R_8 taken together with the atoms to which they are attached form a 5- to 6-membered heterocyclic ring which is optionally substituted with one or more R_A.

6. The compound or salt of claim 1, wherein:

R_5 is H;

R_6 and R_8, taken together with the atoms to which they are attached, form



, each of which is independently optionally substituted with one or more R_A;

n is 0, 1 or 2; and

m is 1 or 2.

7. The compound or salt of claim 6, wherein:

R_{12} is hydrogen; C_1-C_6alkyl, C_2-C_6alkenyl or C_2-C_6alkynyl, each of which is independently optionally substituted at each occurrence with one or more substituents selected from halogen, -O-R_S, -S-R_S, -N($R_S R_{S'}$), -OC(O)R_S, -C(O)OR_S, nitro, phosphate, oxo, thioxo, formyl or cyano; or C_3-C_{10}carbocyclyl or 3- to 10-membered heterocyclyl, each of which is independently optionally substituted at each occurrence with one or more substituents selected from C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, halogen, -D-R_B, -S-R_B, -N($R_B R_{B'}$),OC(O)R_B, -C(O)OR_B, nitro, phosphate, oxo, thioxo, formyl or cyano.

8. A pharmaceutical composition comprising a compound or salt according to one of claims 1-7.

9. A method of inhibiting HCV virus replication, comprising contacting cells infected with HCV virus with a compound or salt according to one of claims 1-7.

10. Use of a compound or salt according to one of claims 2-4, in the manufacture of a medicament for treating HCV infection, comprising administering to an HCV patient.