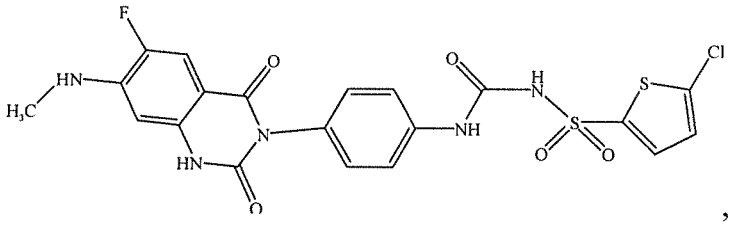
WHAT IS CLAIMED IS:

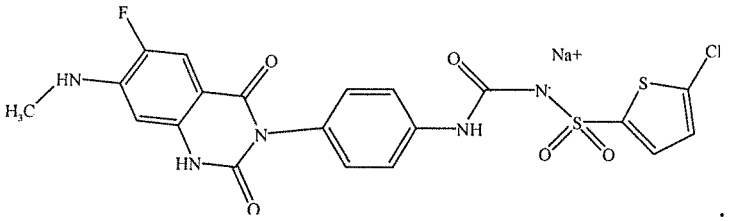
1. A compound having the formula:



,

or a pharmaceutically acceptable salt or hydrate thereof.

2. The compound of claim 1, having the formula:



.

3. The compound of claim 2 having an amorphous form characterized by an X-ray powder diffraction pattern comprising a broad peak substantially between about 15 and about 30 °2θ.

4. The compound of claim 3 having an amorphous form which provides at least one of:

(i) an infra red spectrum substantially in accordance with FIG 7;

(ii) an X-ray powder diffraction pattern substantially in accordance with FIG. 4; and

(iii) a DSC scan substantially in accordance with FIG. 18.

5. The compound of claim 4 having an amorphous form which provides an X-ray powder diffraction pattern substantially in accordance with FIG. 4.

6. The compound of claim 3 having an amorphous form characterized by an infra red spectrum comprising absorption peaks at about 3560, 1711, 1632, 1556, 1512, 1445, 1407, 1375, 1309, 1280, 1227, 1133, 1092, 1032, 987, 905, 781, 770 and 691 cm^{-1}.

7. The compound of claim 3 having an amorphous form obtained by at least one of:

(i) heating [4-(6-fluoro-7-methylamino-2,4-dioxo-1,4-dihydro-2H-quinazolin-3-yl)-phenyl]-5-chloro-thiophen-2-yl-sulfonylurea sodium salt in at least one solvent selected from the group consisting of isopropanol, acetonitrile, ethanol and combinations thereof; and crystallizing at a temperature of from about 50 °C to -10 °C;

(ii) crystallizing [4-(6-fluoro-7-methylamino-2,4-dioxo-1,4-dihydro-2H-quinazolin-3-yl)-phenyl]-5-chloro-thiophen-2-yl-sulfonylurea sodium salt from at least one solvent selected from the group consisting of isopropanol, acetonitrile, ethanol and combinations thereof; and

(iii) heating [4-(6-fluoro-7-methylamino-2,4-dioxo-1,4-dihydro-2H-quinazolin-3-yl)-phenyl]-5-chloro-thiophen-2-yl-sulfonylurea sodium salt in high humidity.

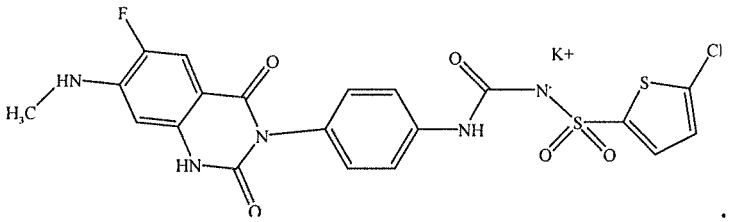
8. A method of producing a compound of claim 3, comprising at least one of:

(i) heating [4-(6-fluoro-7-methylamino-2,4-dioxo-1,4-dihydro-2H-quinazolin-3-yl)-phenyl]-5-chloro-thiophen-2-yl-sulfonylurea sodium salt in at least one solvent selected from the group consisting of isopropanol, acetonitrile, ethanol and combinations thereof; and crystallizing at a temperature of from about 50 °C to -10 °C;

(ii) crystallizing [4-(6-fluoro-7-methylamino-2,4-dioxo-1,4-dihydro-2H-quinazolin-3-yl)-phenyl]-5-chloro-thiophen-2-yl-sulfonylurea sodium salt from at least one solvent selected from the group consisting of isopropanol, acetonitrile, ethanol and combinations thereof; and

(iii) heating [4-(6-fluoro-7-methylamino-2,4-dioxo-1,4-dihydro-2H-quinazolin-3-yl)-phenyl]-5-chloro-thiophen-2-yl-sulfonylurea sodium salt in high humidity.

9. The compound of claim 1, having the formula:



10. The compound of claim 9 in a crystalline solid form A characterized by an X-ray powder diffraction pattern comprising peaks at about 9.5 and about 25.5 °2θ.

11. The compound of claim 10 in a crystalline solid form A characterized by at least one of:

(i) an infra red spectrum substantially in accordance with FIG. 5;

(ii) an X-ray powder diffraction pattern substantially in accordance with FIG 2; and

(iii) a DSC scan substantially in accordance with FIG 14.

12. The compound of claim 11 in a crystalline solid form A characterized by an infra red spectrum substantially in accordance with FIG. 5.

13. The compound of claim 10 in a crystalline solid form A further characterized by at least one of:

(i) an infra red spectrum comprising absorption peaks at about 3559, 3389, 3324, 1698, 1623, 1563, 1510, 1448, 1431, 1403, 1383, 1308, 1269, 1206, 1174, 1123, 1091, 1072, 1030, 987, 939, 909, 871, 842, 787, 780, 769, 747, 718, 701, 690 and 667 cm^{-1}; and

(ii) a DSC maximum endotherm at about 246 °C.

14. The compound of claim 12 in a crystalline solid form A characterized by an infra red spectrum comprising absorption peaks at about 3559, 3389, 3324, 1698, 1623, 1563, 1510, 1448, 1431, 1403, 1383, 1308, 1269, 1206, 1174, 1123, 1091, 1072, 1030, 987, 939, 909, 871, 842, 787, 780, 769, 747, 718, 701, 690 and 667 cm^{-1}.

15. The compound of claim 10 in a crystalline solid form A characterized by an infrared spectrum comprising peaks at about 3389 cm^{-1} and about 1698 cm^{-1}.

16. The compound of claim 13 in a crystalline solid form A characterized by a DSC maximum endotherm at about 246 °C.

17. The compound of claim 10 in a crystalline solid form A obtained by at least one of:

(i) crystallizing [4-(6-fluoro-7-methylamino-2,4-dioxo-1,4-dihydro-2H-quinazolin-3-yl)-phenyl]-5-chloro-thiophen-2-yl-sulfonylurea potassium salt in at least

one solvent selected from the group consisting of ethanol, methanol and combinations thereof and drying such that the crystal contained some solvent; and

(ii) heating [4-(6-fluoro-7-methylamino-2,4-dioxo-1,4-dihydro-2H-quinazolin-3-yl)-phenyl]-5-chloro-thiophen-2-yl-sulfonylurea potassium salt in at least one solvent selected from the group consisting of ethanol, methanol and combinations thereof; crystallizing at a temperature of from about 50 °C to -10 °C and drying until the crystals contained at least about 0.05% solvent.

18. A method of producing a compound of claim 10, comprising at least one of:

(i) crystallizing [4-(6-fluoro-7-methylamino-2,4-dioxo-1,4-dihydro-2H-quinazolin-3-yl)-phenyl]-5-chloro-thiophen-2-yl-sulfonylurea potassium salt from at least one solvent selected from the group consisting of ethanol, methanol, and combinations thereof and drying such that the crystal contained some solvent; and

(ii) heating [4-(6-fluoro-7-methylamino-2,4-dioxo-1,4-dihydro-2H-quinazolin-3-yl)-phenyl]-5-chloro-thiophen-2-yl-sulfonylurea potassium salt in at least one solvent selected from the group consisting of ethanol, methanol, and combinations thereof; crystallizing at a temperature of from about 50 °C to -10 °C and drying until the crystals contained at least about 0.05% solvent.

19. The compound of claim 9 in a crystalline solid form B characterized by an X-ray powder diffraction pattern comprising peaks at about 20.3°2θ and about 25.1 °2θ.

20. The compound of claim 19 in a crystalline solid form B characterized by at least one of:

(i) an infra red spectrum substantially in accordance with FIG. 6;

(ii) an X-ray powder diffraction pattern substantially in accordance with FIG. 3; and

(iii) a DSC scan substantially in accordance with FIG. 16.

21. The compound of claim 20 in a crystalline solid form B characterized by an infra red spectrum substantially in accordance with FIG. 6.

22. The compound of claim 19 in a crystalline solid form B further characterized by at least one of:

(i) an infra red spectrum comprising absorption peaks at about 3584, 3327, 3189, 2935, 2257, 2067, 1979, 1903, 1703, 1654, 1630, 1590, 1557, 1512, 1444, 1429, 1406, 1375, 1346, 1317, 1288, 1276, 1243, 1217, 1182, 1133, 1093, 1072, 1033, 987, 943, 907, 883, 845, 831, 805, 776, 727, 694 and 674 cm^{-1}; and

(ii) a DSC maximum endotherm at about 293 °C.

23. The compound of claim 22 in a crystalline solid form B characterized by an infra red spectrum comprising absorption peaks at about 3584, 3327, 3189, 2935, 2257, 2067, 1979, 1903, 1703, 1654, 1630, 1590, 1557, 1512, 1444, 1429, 1406, 1375, 1346, 1317, 1288, 1276, 1243, 1217, 1182, 1133, 1093, 1072, 1033, 987, 943, 907, 883, 845, 831, 805, 776, 727, 694 and 674 cm^{-1}.

24. The compound of claim 19 in a crystalline solid form B characterized by an infrared spectrum comprising peaks at about 3327 cm^{-1} and about 1630 cm^{-1}.

25. The compound of claim 22 in a crystalline solid form B characterized by a DSC maximum endotherm at about 293 °C.

26. The compound of claim 19 in a crystalline solid form B obtained by at least one of:

(i) heating [4-(6-fluoro-7-methylamino-2,4-dioxo-1,4-dihydro-2H-quinazolin-3-yl)-phenyl]-5-chloro-thiophen-2-yl-sulfonylurea potassium salt from a solvent combination of ethanol and water; crystallizing at a temperature of from about 50 °C to -10 °C and drying until the crystals contain less than 0.05% solvent; and

(ii) crystallizing [4-(6-fluoro-7-methylamino-2,4-dioxo-1,4-dihydro-2H-quinazolin-3-yl)-phenyl]-5-chloro-thiophen-2-yl-sulfonylurea potassium salt from a solvent combination of ethanol and water and drying such that the crystal contained less than 0.05% solvent.

27. A method of producing a compound of claim 19, comprising at least one of:

(i) heating [4-(6-fluoro-7-methylamino-2,4-dioxo-1,4-dihydro-2H-quinazolin-3-yl)-phenyl]-5-chloro-thiophen-2-yl-sulfonylurea potassium salt in a solvent combination of ethanol and water; crystallizing at a temperature of from about 50 °C to -10 °C and drying until the crystals contain less than 0.05% solvent; and

(ii) crystallizing [4-(6-fluoro-7-methylamino-2,4-dioxo-1,4-dihydro-2H-quinazolin-3-yl)-phenyl]-5-chloro-thiophen-2-yl-sulfonylurea potassium salt from a solvent combination of ethanol and water and drying such that the crystal contained less than 0.05% solvent.

28. The compound of any one of claims 1 to 7, 9 to 17 and 19 to 26 that is in an isolated and purified form.

29. A pharmaceutical composition comprising a therapeutically effective amount of a compound according to claim 1 and a pharmaceutically acceptable vehicle or carrier.

30. The pharmaceutical composition of claim 29 wherein the compound in the composition is in at least one solid form selected from the group consisting of Form A, Form B, and the amorphous form.

31. The pharmaceutical composition of claim 29 wherein at least one of Form A, Form B, and the amorphous form are present in a therapeutically effective amount.

32. The pharmaceutical composition of any one of claims 29 to 31, wherein the composition is selected from the group consisting of a solid oral composition, a tablet, a capsule, an aerosol and a dry powder for inhalation.

33. The pharmaceutical composition of claim 29, wherein said therapeutically effective amount is an amount effective to inhibit platelet aggregation in the mammal.

34. The pharmaceutical composition of claim 33, wherein said platelet aggregation is platelet ADP-dependent aggregation, and optionally said mammal is a human.

35. The pharmaceutical composition of claim 29, wherein said compound is an effective inhibitor of [^{3}H]2-MeS-ADP binding to platelet ADP receptors.

36. A pharmaceutical composition comprising a therapeutically effective amount of a compound according to claim 1 and an additional therapeutic agent, and optionally wherein the additional therapeutic agent is useful for treating a condition or disorder

selected from the group consisting of thrombosis, acute myocardial infarction, unstable angina, chronic stable angina, transient ischemic attacks, strokes, peripheral vascular disease, preeclampsia/eclampsia, deep venous thrombosis, embolism, disseminated intravascular coagulation and thrombotic cytopenic purpura, thrombotic and restenotic complications following invasive procedures resulting from angioplasty, carotid graft endarterectomy, post CABG (coronary artery bypass graft) surgery, vascular graft surgery, stent placements and insertion of endovascular devices, prostheses, and hypercoagulable states related to genetic predisposition or cancers.

37. A compound of any one of claims 1 to 28 or a pharmaceutically acceptable salt or hydrate thereof, for use in a method for preventing or treating thrombosis and thrombosis related conditions in a mammal.

38. A compound of any one of claims 1 to 28 or a pharmaceutically acceptable salt or hydrate thereof, for use in a method for preventing or treating a condition or disorder mediated at least in part by ADP-induced platelet aggregation in a mammal.

39. The compound of claim 38, for use in said method wherein said mammal is prone to or suffers from a cardiovascular disease, and optionally wherein said cardiovascular disease is at least one selected from the group consisting of acute myocardial infarction, unstable angina, chronic stable angina, transient ischemic attacks, strokes, peripheral vascular disease, preeclampsia/eclampsia, deep venous thrombosis, embolism, disseminated intravascular coagulation and thrombotic cytopenic purpura, thrombotic and retenotic complications following invasive procedures resulting from angioplasty, carotid endarterectomy, post CABG (coronary artery bypass graft) surgery, vascular graft surgery, stent, in-stent thrombosis, and insertion of endovascular devices and prostheses, and hypercoagulable states related to genetic predisposition or cancers.

40. The compound of claim 37, for use in said method wherein the compound is administered orally, parenterally or topically.

41. The compound of claim 37, for use in said method wherein the compound is administered in combination with a second therapeutic agent.

42. The compound of claim 41, for use in said method wherein the patient is a human.

43. The compound of claim 41, for use in said method wherein the second therapeutic agent is useful for treating a condition or disorder selected from the group consisting of acute myocardial infarction, unstable angina, chronic stable angina, transient ischemic attacks, strokes, peripheral vascular disease, preeclampsia/eclampsia, deep venous thrombosis, embolism, disseminated intravascular coagulation and thrombotic cytopenic purpura, thrombotic and restenotic complications following invasive procedures resulting from angioplasty, carotid endarterectomy, post CABG (coronary artery bypass graft) surgery, vascular graft surgery, stent placements and insertion of endovascular devices, prostheses, and hypercoagulable states related to genetic predisposition and cancer.

44. The compound of claim 41, for use in said method wherein said compound is administered in combination with a second therapeutic agent selected from the group consisting of antiplatelet compounds, anticoagulants, fibrinolytics, anti-inflammatory compounds, cholesterol-lowering agents, proton pump inhibitors, blood pressure-lowering agents, serotonin blockers, and nitrates (i.e. nitroglycerin).

45. The compound of claim 44, for use in said method wherein said second therapeutic agent is:

(a) an antiplatelet compound selected from the group consisting of GPIIB-IIIa antagonists, aspirin, phosphodiesterase III inhibitors and thromboxane A2 receptor antagonists;

(b) an anticoagulant selected from the group consisting of thrombin inhibitors, coumadin, heparin, and fXa inhibitors; or

(c) an anti-inflammatory compound selected from the group consisting of non-steroidal anti-inflammatory agents, cyclooxygenase-2 inhibitors and rheumatoid arthritis agents.

46. A compound of any one of claims 1 to 28 or a pharmaceutically acceptable salt or hydrate thereof, for use in a method for preventing the occurrence of a secondary ischemic event.

47. The compound of claim 46, for use in said method wherein said primary and/or secondary ischemic event is selected from the group consisting of:

(a) myocardial infarction, stable or unstable angina, acute reocclusion after percutaneous coronary intervention, and/or stenting, restenosis, peripheral vessel balloon angioplasty and/or stenting, thrombotic stroke, transient ischemic attack, reversible ischemic neurological deficit and intermittent claudication; or

(b) percutaneous coronary intervention (PCI) including angioplasty and/or stent, acute myocardial infarction (AMI), unstable angina (USA), coronary artery disease (CAD), transient ischemic attacks (TIA), stroke, peripheral vascular disease (PVD), Surgeries-coronary bypass, carotid endarterectomy.

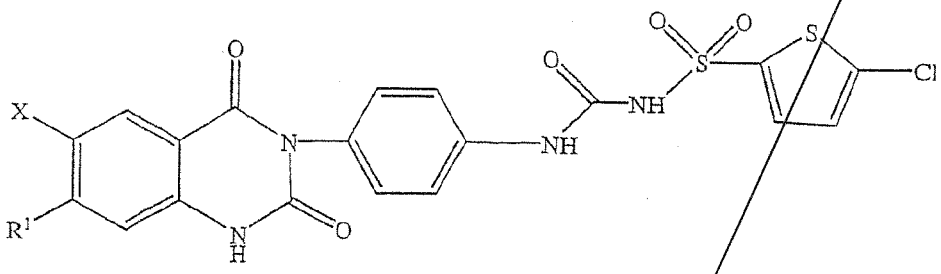
48. A method for the preparation of a pharmaceutical composition comprising admixing a therapeutically effective amount of the compound of any one of claims 1 to 28 or a pharmaceutically acceptable salt or hydrate thereof, with a pharmaceutically acceptable vehicle or carrier.

49. The pharmaceutical composition of claim 29, wherein the composition is in a form suitable for intravenous administration.

50. The pharmaceutical composition of claim 30, wherein the composition comprises a therapeutically effective amount of the compound in Form A.

WHAT IS CLAIMED IS:

1. A compound having the following formula:



(I)

wherein:

X is selected from the group consisting of F and I;

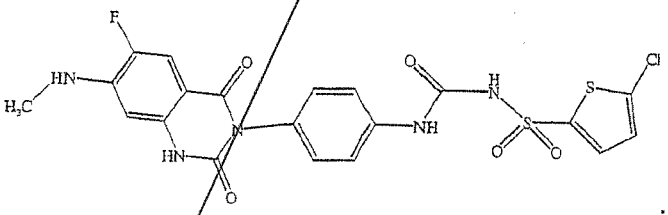
R^1 is selected from the group consisting of H, halogen, -OH, -C_{1-10}-alkyl and C_{1-6}-alkylamino or a pharmaceutically acceptable derivative thereof.

2. The compound of claim 1 wherein R^1 is -C_{1-10}-alkyl or C_{1-6}-alkylamino.

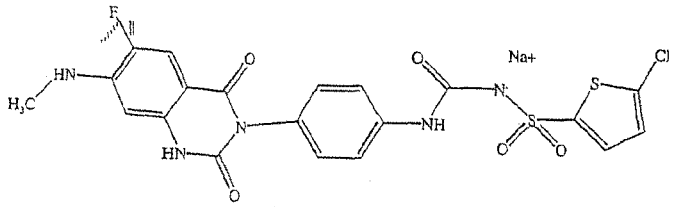
3. The compound of claim 1, wherein R^1 is C_{1-6}-alkylamino.

4. The compound of claim 1, wherein X is F.

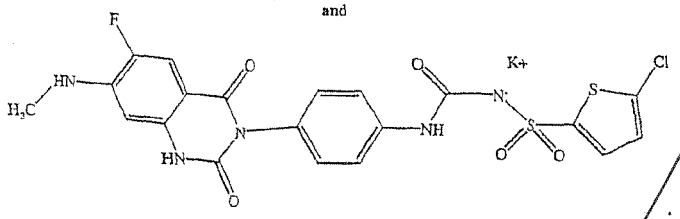
5. The compound of claim 1, having the formula:



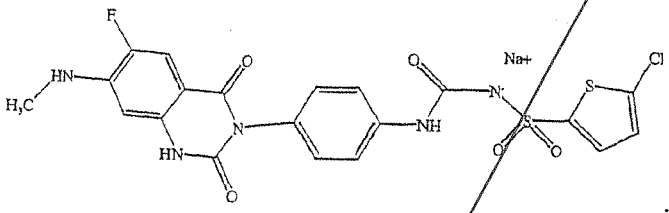
6. The compound of claim 1, wherein the pharmaceutically acceptable derivative is selected from the group consisting of:



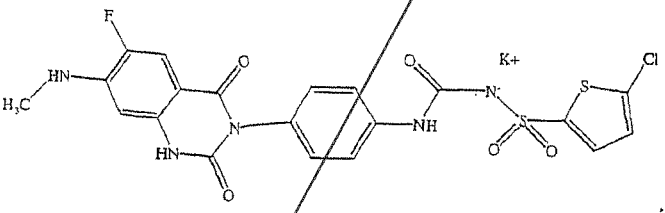
and



7. The compound of claim 1, having the formula:



8. The compound of claim 1, having the formula:



9. The compound of claim 1, that is in an isolated and purified form.

10. The compound of claim 8 in a crystalline solid form A characterized by at least one of:

(i) an infra red spectrum substantially in accordance with FIG. 5;

(ii) an X-ray powder diffraction pattern substantially in accordance with FIG. 2; and

(iii) a DSC scan substantially in accordance with FIG. 14.

11. The compound of claim 8 in a crystalline solid form A characterized by an infra red spectrum substantially in accordance with FIG. 5.

12. The compound of claim 8 in a crystalline solid form A characterized by at least one of:

(i) an infra red spectrum comprising absorption peaks at about 3559, 3389, 3324, 1698, 1623, 1563, 1510, 1448, 1431, 1403, 1383, 1308, 1269, 1206, 1174, 1123, 1091, 1072, 1030, 987, 939, 909, 871, 842, 787, 780, 769, 747, 718, 701, 690 and 667 cm^{-1};

(ii) an X-ray powder diffraction pattern comprising peaks at about 9.5 and about 25.5 °2θ; and

(iii) a DSC maximum endotherm at about 246 °C.

13. The compound of claim 8 in a crystalline solid form A characterized by an infra red spectrum comprising absorption peaks at about 3559, 3389, 3324, 1698, 1623, 1563, 1510, 1448, 1431, 1403, 1383, 1308, 1269, 1206, 1174, 1123, 1091, 1072, 1030, 987, 939, 909, 871, 842, 787, 780, 769, 747, 718, 701, 690 and 667 cm^{-1}.

14. The compound of claim 8 in a crystalline solid form A characterized by an infrared spectrum comprising peaks at about 3389 cm^{-1} and about 1698 cm^{-1}.

15. The compound of claim 8 in a crystalline solid form A characterized by an X-ray powder diffraction pattern comprising peaks at about 9.5 and about 25.5 °2θ.

16. The compound of claim 8 in a crystalline solid Form A characterized by

an X-ray Powder diffraction pattern comprising a peak at about 9.5 and about 25.5 °2θ and an infrared spectrum comprising at least one peak selected from about 3389 cm^{-1} and about 1698 cm^{-1}.

17. The compound of claim 8 in a crystalline solid form A characterized by a DSC maximum endotherm at about 246 °C.

18. The compound of claim 8 in a crystalline solid form B characterized by at least one of:

(i) an infra red spectrum substantially in accordance with FIG. 6;

(ii) an X-ray powder diffraction pattern substantially in accordance with FIG. 3; and

(iii) a DSC scan substantially in accordance with FIG. 16.

19. The compound of claim **8** in a crystalline solid form B characterized by an infra red spectrum substantially in accordance with FIG. 6.

20. The compound of claim **8** in a crystalline solid form B characterized by at least one of:

(i) an infra red spectrum comprising absorption peaks at about 3584, 3327, 3189, 2935, 2257, 2067, 1979, 1903, 1703, 1654, 1630, 1590, 1557, 1512, 1444, 1429, 1406, 1375, 1317, 1346, 1317, 1288, 1276, 1243, 1217, 1182, 1133, 1182, 1133, 1093, 1072, 1033, 987, 943, 907, 883, 845, 831, 805, 776, 727, 694 and 674 cm^{-1};

(ii) an X-ray powder diffraction pattern comprising peaks at about 20.3°2θ and about 25.1 °2θ; and

(iii) a DSC maximum endotherm at about 293 °C.

21. The compound of claim **8** in a crystalline solid form B characterized by an infra red spectrum comprising absorption peaks at about 3584, 3327, 3189, 2935, 2257, 2067, 1979, 1903, 1703, 1654, 1630, 1590, 1557, 1512, 1444, 1429, 1406, 1375, 1317, 1346, 1317, 1288, 1276, 1243, 1217, 1182, 1133, 1182, 1133, 1093, 1072, 1033, 987, 943, 907, 883, 845, 831, 805, 776, 727, 694 and 674 cm^{-1}.

22. The compound of claim **8** in a crystalline solid form B characterized by an infrared spectrum comprising peaks at about 3327 cm^{-1} and about 1630 cm^{-1}.

23. The compound of claim **8** in a crystalline solid form B characterized by an X-ray powder diffraction pattern comprising peaks at about 20.3°2θ and about 25.1 °2θ.

24. The compound of claim **8** in a crystalline solid Form B characterized by

an X-ray Powder diffraction pattern comprising a peak at about 20.3°2θ and about 25.1 °2θ and an infrared spectrum comprising at least one peak selected from about 3327 cm^{-1} and about 1630 cm^{-1}.

25. The compound of claim **8** in a crystalline solid form B characterized by a DSC maximum endotherm at about 293 °C.

26. The compound of claim **7** having an amorphous form which provides at least one of:

(i) an infra red spectrum substantially in accordance with FIG. 7;

(ii) an X-ray powder diffraction pattern substantially in accordance with FIG. 4; and

(iii) a DSC scan substantially in accordance with FIG. 18.

27. The compound of claim **7** having an amorphous form characterized by an infra red spectrum comprising absorption peaks at about 3560, 1711, 1632, 1556, 1512, 1445, 1407, 1375, 1309, 1280, 1227, 1133, 1092, 1032, 987, 905, 781, 770 and 691 cm^{-1}.

28. The compound of claim **7** having an amorphous form which provides an X-ray powder diffraction pattern substantially in accordance with FIG. 4.

29. The compound of claim **7** having an amorphous form characterized by an X-ray powder diffraction pattern comprising a broad peak substantially between about 15 and about 30 °2θ.

30. The compound of claim **8** in a crystalline solid form A obtained by at least one of:

(i) crystallizing [4-(6-fluoro-7-methylamino-2,4-dioxo-1,4-dihydro-2H-quinazolin-3-yl)-phenyl]-5-chloro-thiophen-2-yl-sulfonylurea potassium salt in at least one solvent selected from the group consisting of ethanol, methanol and combinations thereof and drying such that the crystal contained some solvent; and

(ii) heating [4-(6-fluoro-7-methylamino-2,4-dioxo-1,4-dihydro-2H-quinazolin-3-yl)-phenyl]-5-chloro-thiophen-2-yl-sulfonylurea potassium salt in at least one solvent selected from the group consisting of ethanol, methanol and combinations thereof;

crystallizing at a temperature of from about 50 °C to -10 °C and drying until the crystals contained at least about 0.05% solvent.

31. The compound of claim **8** in a crystalline solid form B obtained by at least one of:

(i) heating [4-(6-fluoro-7-methylamino-2,4-dioxo-1,4-dihydro-2H-quinazolin-3-yl)-phenyl]-5-chloro-thiophen-2-yl-sulfonylurea potassium salt from a solvent combination of ethanol and water; crystallizing at a temperature of from about 50 °C to -10 °C and drying until the crystals contain less than 0.05% solvent; and

(ii) crystallizing [4-(6-fluoro-7-methylamino-2,4-dioxo-1,4-dihydro-2H-quinazolin-3-yl)-phenyl]-5-chloro-thiophen-2-yl-sulfonylurea potassium salt from a solvent combination of ethanol and water and drying such that the crystal contained less than 0.05% solvent.

32. The compound of claim **7** having an amorphous form obtained by at least one of:

(i) heating [4-(6-fluoro-7-methylamino-2,4-dioxo-1,4-dihydro-2H-quinazolin-3-yl)-phenyl]-5-chloro-thiophen-2-yl-sulfonylurea sodium salt in at least one solvent selected from the group consisting of isopropanol, acetonitrile, ethanol and combinations thereof; and crystallizing at a temperature of from about 50 °C to -10 °C;

(ii) crystallizing [4-(6-fluoro-7-methylamino-2,4-dioxo-1,4-dihydro-2H-quinazolin-3-yl)-phenyl]-5-chloro-thiophen-2-yl-sulfonylurea sodium salt from at least one solvent selected from the group consisting of isopropanol, acetonitrile, ethanol and combinations thereof; and

(iii) heating [4-(6-fluoro-7-methylamino-2,4-dioxo-1,4-dihydro-2H-quinazolin-3-yl)-phenyl]-5-chloro-thiophen-2-yl-sulfonylurea sodium salt in high humidity.

33. The compound of claim **10** or **18**, that is in an isolated and purified form.

34. The compound of claim **26**, that is in an isolated and purified form.

35. A pharmaceutical composition comprising a therapeutically effective amount of a compound according to claim 1 and a pharmaceutically acceptable vehicle or carrier.

36. The pharmaceutical composition of claim 35, wherein the compound in the composition is in at least one solid form.

37. The pharmaceutical composition of claim 35 wherein said solid form is selected from the group consisting of Form A, Form B, and the amorphous form.

38. The pharmaceutical composition of claim 35 wherein at least one of Form A, Form B, and the amorphous form are present in a therapeutically effective amount.

39. The pharmaceutical composition of claims 37 to 38, wherein the composition is selected from the group consisting of a solid oral composition, a tablet, a capsule, and a dry powder for inhalation.

40. The pharmaceutical composition of claim 39 wherein the solid oral composition is a tablet or a capsule.

41. The pharmaceutical composition of claim 35, wherein said therapeutically effective amount is an amount effective to inhibit platelet aggregation in the mammal.

42. The pharmaceutical composition of claim 41, wherein said platelet aggregation is platelet ADP-dependent aggregation.

43. The pharmaceutical composition of claim 42, wherein said mammal is a human.

44. The pharmaceutical composition of claim 35, wherein said compound is an effective inhibitor of [^{3}H]2-MeS-ADP binding to platelet ADP receptors.

45. The pharmaceutical composition of claim 35, wherein the composition is a solid oral composition.

46. The pharmaceutical composition of claim 35, wherein the composition is a tablet or capsule.

47. The pharmaceutical composition of claim 35, wherein the composition is an aerosol or dry powder for inhalation.

48. A pharmaceutical composition comprising a therapeutically effective amount of a compound according to claim 1 and an additional therapeutic agent.

49. The pharmaceutical composition according to claim 48, wherein the additional therapeutic agent is useful for treating a condition or disorder selected from the group consisting of thrombosis, acute myocardial infarction, unstable angina, chronic stable angina, transient ischemic attacks, strokes, peripheral vascular disease, preeclampsia/eclampsia, deep venous thrombosis, embolism, disseminated intravascular coagulation and thrombotic cytopenic purpura, thrombotic and restenotic complications following invasive procedures resulting from angioplasty, carotid endarterectorny, post CABG (coronary artery bypass graft) surgery, vascular gram surgery, stent placements and insertion of endovascular devices, prostheses, and hypercoagulable states related to genetic predisposition or cancers.

50. A method of producing [4-(6-fluoro-7-methylamino-2,4-dioxo-1,4-dihydro-2H-quinazolin-3-yl)-phenyl]-5-chloro-thiophen-2-yl-sulfonylurea potassium salt in a crystalline solid form A, comprising at least one of:

(i) crystallizing [4-(6-fluoro-7-methylamino-2,4-dioxo-1,4-dihydro-2H-quinazolin-3-yl)-phenyl]-5-chloro-thiophen-2-yl-sulfonylurea potassium salt from at least one solvent selected from the group consisting of ethanol, methanol, and combinations thereof and drying such that the crystal contained some solvent; and

(ii) heating [4-(6-fluoro-7-methylamino-2,4-dioxo-1,4-dihydro-2H-quinazolin-3-yl)-phenyl]-5-chloro-thiophen-2-yl-sulfonylurea potassium salt in at least one solvent selected from the group consisting of ethanol, methanol, and combinations thereof; crystallizing at a temperature of from about 50 °C to -10 °C and drying until the crystals contained at least about 0.05% solvent.

51. A method of producing [4-(6-fluoro-7-methylamino-2,4-dioxo-1,4-dihydro-2H-quinazolin-3-yl)-phenyl]-5-chloro-thiophen-2-yl-sulfonylurea potassium salt in a crystalline solid form B, comprising at least one of:

(i) heating [4-(6-fluoro-7-methylamino-2,4-dioxo-1,4-dihydro-2H-quinazolin-3-yl)-phenyl]-5-chloro-thiophen-2-yl-sulfonylurea potassium salt in a solvent combination of ethanol and water; crystallizing at a temperature of from about 50 °C to -10 °C and drying until the crystals contain less than 0.05% solvent; and

(ii) crystallizing [4-(6-fluoro-7-methylamino-2,4-dioxo-1,4-dihydro-2H-quinazolin-3-yl)-phenyl]-5-chloro-thiophen-2-yl-sulfonylurea potassium salt from a solvent combination of ethanol and water and drying such that the crystal contained less than 0.05% solvent.

52. A method of producing [4-(6-fluoro-7-methylamino-2,4-dioxo-1,4-dihydro-2H-quinazolin-3-yl)-phenyl]-5-chloro-thiophen-2-yl-sulfonylurea sodium salt in an amorphous form, comprising at least one of:

(i) heating [4-(6-fluoro-7-methylamino-2,4-dioxo-1,4-dihydro-2H-quinazolin-3-yl)-phenyl]-5-chloro-thiophen-2-yl-sulfonylurea sodium salt in at least one solvent selected from the group consisting of isopropanol, acetonitrile, ethanol and combinations thereof; and crystallizing at a temperature of from about 50 °C to -10 °C;

(ii) crystallizing [4-(6-fluoro-7-methylamino-2,4-dioxo-1,4-dihydro-2H-quinazolin-3-yl)-phenyl]-5-chloro-thiophen-2-yl-sulfonylurea sodium salt from at least one solvent selected from the group consisting of isopropanol, acetonitrile, ethanol and combinations thereof; and

(iii) heating [4-(6-fluoro-7-methylamino-2,4-dioxo-1,4-dihydro-2H-quinazolin-3-yl)-phenyl]-5-chloro-thiophen-2-yl-sulfonylurea sodium salt in high humidity.

53. A method for preventing or treating thrombosis and thrombosis related conditions in a mammal comprising the step of administering to a mammal a therapeutically effective amount of a compound of claim 1 or a pharmaceutically acceptable salt thereof.

54. A method for preventing or treating a condition or disorder mediated at least in part by ADP-induced platelet aggregation in a mammal comprising the step of administering to a mammal in need of such treatment in a therapeutically effective amount of a composition of claim 1 or a pharmaceutically acceptable salt thereof.

55. The method of claim 54, wherein said mammal is prone to or suffers from a cardiovascular disease.

56. The method of claim 55, wherein said cardiovascular disease is at least one selected from the group consisting of acute myocardial infarction, unstable angina, chronic stable angina, transient ischemic attacks, strokes, peripheral vascular disease, preeclampsia/eclampsia, deep venous thrombosis, embolism, disseminated intravascular coagulation and thrombotic cytopenic purpura, thrombotic and retenotic complications following invasive procedures resulting from angioplasty, carotid endarterectomy, post CABG (coronary artery bypass graft) surgery, vascular gram surgery, stent, in-stent thrombosis, and insertion of endovascular devices and prostheses, and hypercoagulable states related to genetic predisposition or cancers.

57. The method of claim 53, wherein the compound is administered orally, parenterally or topically

58. The method of claim 53, wherein the compound is administered in combination with a second therapeutic agent.

59. The method of claim 58, wherein the patient is a human.

60. The method of claim 58, wherein the second therapeutic agent is useful for treating a condition or disorder selected from the group consisting of acute myocardial infarction, unstable angina, chronic stable angina, transient ischemic attacks, strokes, peripheral vascular disease, preeclampsia/eclampsia, deep venous thrombosis, embolism, disseminated intravascular coagulation and thrombotic cytopenic purpura, thrombotic and restenotic complications following invasive procedures resulting from angioplasty, carotid endarterectomy, post CABG (coronary artery bypass graft) surgery, vascular gram surgery, stent placements and insertion of endovascular devices, prostheses, and hypercoagulable states related to genetic predisposition and cancer.

61. The method in accordance with claim 58, wherein said compound is administered in combination with a second therapeutic agent selected from the group consisting of antiplatelet compounds, anticoagulants, fibrinolytics, anti-inflammatory

compounds, cholesterol-lowering agents, proton pump inhibitors, blood pressure-lowering agents, serotonin blockers, and nitrates (i.e. nitroglycerin).

62. The method in accordance with claim **61**, wherein said second therapeutic agent is an antiplatelet compound selected from the group consisting of GPIIB-IIIa antagonists, aspirin, phosphodiesterase III inhibitors and thromboxane A2 receptor antagonists.

63. The method in accordance with claim **61**, wherein said second therapeutic agent is an anticoagulant selected from the group consisting of thrombin inhibitors, coumadin, heparin and Lovenox®, and fXa inhibitors.

64. The method in accordance with claim **61**, wherein said second therapeutic agent is an anti-inflammatory compound selected from the group consisting of non-steroidal anti-inflammatory agents, cyclooxygenase-2 inhibitors and rheumatoid arthritis agents.

65. A method for preventing the occurrence of a secondary ischemic event comprising administering to a patient who has suffered a primary ischemic event a therapeutically effective amount of a compound of claim **1**, together with a pharmaceutically acceptable carrier.

66. The method in accordance with claim **65**, wherein said primary and/or secondary ischemic event is selected from the group consisting of myocardial infarction, stable or unstable angina, acute reocclusion after percutaneous coronary intervention, and/or stenting, restenosis, peripheral vessel ballon angioplasty and/or stenting, thrombotic stroke, transient ischemic attack, reversible ischemic neurological deficit and intermittent claudication.

67. The method in accordance with claim **65**, wherein said primary and/or secondary ischemic event is selected from the group consisting of percutaneous coronary intervention (PCI) including angioplasty and/or stent , acute myocardial infarction (AMI), unstable angina (USA), coronary artery disease (CAD), transient ischemic attacks (TIA), stroke, peripheral vascular disease (PVD), Surgeries-coronary bypass, carotid endarectomy.

68. A method for the preparation of a pharmaceutical composition comprising admixing a therapeutically effective amount of the compound of claim 1 with a pharmaceutically acceptable vehicle or carrier.