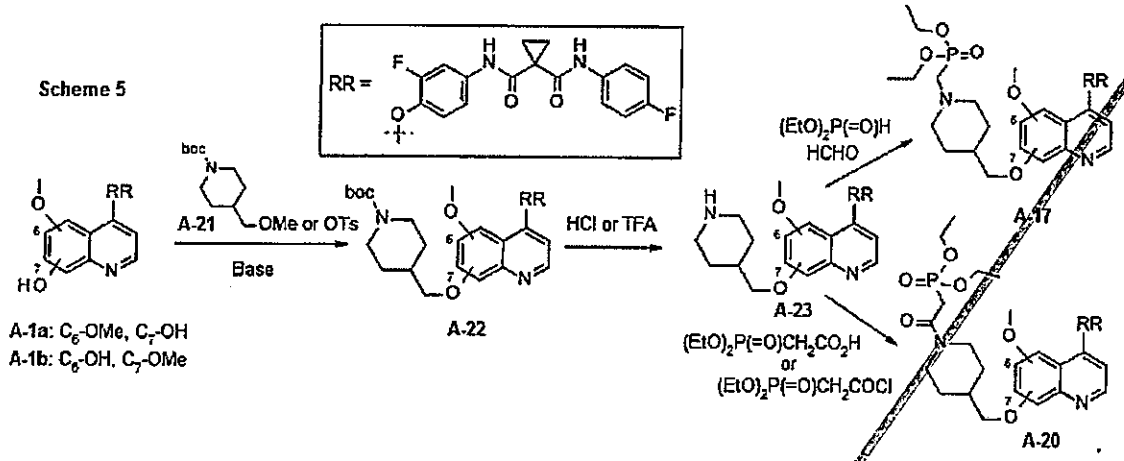
Scheme 5



16. Use of a pharmaceutical composition comprising the phosphorus-containing group-substituted quinolines according to any of claims 1-9, wherein the composition is used for treating diseases associated with the abnormal activities of protein kinases.

17. The use according to claim 16, wherein the protein kinase is c-Met, KDR or VEGFR2, RET, PDGFR-β, c-KIT, Flt3, MEK5, DDR1, LOK, CSF1R, EPHA7, EPHA8, EPHB6, MKNK2, BLK, HIPK4, HCK, or Flt4.

18. The use according to claim 16, wherein the protein kinase is RON, ALK (or Anaplastic Lymphoma Kinase), EGF1R, HER2, HER3, HER4, PDGFR-α, c-fms, FLT1, Src, Frk, Btk, CsK, Abl, Fes, Fps, Fak, AcK, Yes, Fyn, Lyn, Lck, Hck, Fgr, Yrk, PDK1, TAK1, Tie-2, Tie-1, YSK4, TRK A, TRK B, TRK C, SLK, PKN2, PLK4, MST1R, MAP4K, or DDR2.

19. The use according to claim 16, wherein the disease is psoriasis, hepatic cirrhosis, diabetes, angiogenesis-mediated diseases, eye diseases, immune system diseases, or cardiovascular diseases.

20. The use according to claim 16, wherein the disease is tumor comprising solid tumor and liquid tumors.

21. The use according to claim 16, wherein the tumor comprises: lung cancer, bone cancer, pancreatic cancer, skin cancer, head and neck cancer, skin or intraocular melanoma, uterine cancer, ovarian cancer, rectal cancer, anal region cancer, stomach cancer, colon cancer, breast cancer, fallopian tube cancer, endometrial cancer , cervical cancer, vaginal cancer, vulva cancer, Hodgkin's disease, esophageal cancer, intestinal cancer, endocrine system cancer, thyroid cancer, parathyroid cancer, soft tissue sarcoma, urethral cancer, penile cancer, prostate cancer, chronic or acute leukemia, bladder cancer, kidney or ureter cancer, renal cancer, central nervous

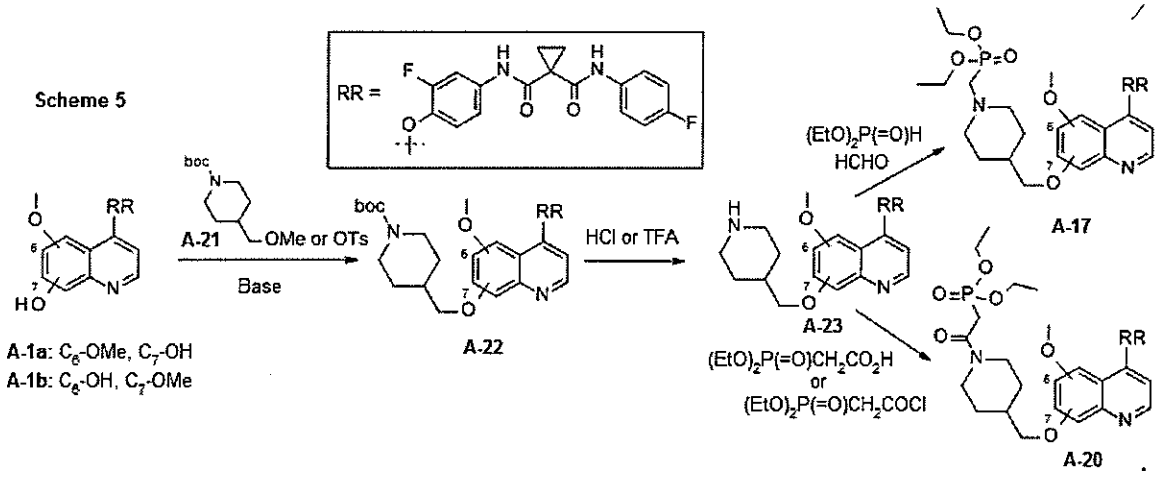
system (CNS) tumors, spinal axis tumors, pituitary adenomas, gastrointestinal stromal tumors, colorectal cancer, non-small cell lung cancer, small cell lung cancer, mastocytosis, glioma, sarcoma, lymphoma, or a combination of any thereof.

22. A medicament for treating protein kinase abnormal activity-associated diseases, comprising the compound according to any of claims 1-9 or pharmaceutically acceptable salt, solvate, prodrug thereof, or a racemate orenantiomer of the compound according to any of claims 1-9 or pharmaceutically acceptable salt, solvate, prodrug thereof.

23. The medicament according to claim 22, wherein it further comprises at least one pharmaceutically acceptable carrier.

24. The medicament according to claim 22, wherein it is in a form of the following Formulations:

(1) oral formulation; (2) injectable formulation; (3) anal suppository; (4) nasal inhalation; (5) eye drop; (6) skin patch.



16. Use of a pharmaceutical composition comprising the phosphorus-containing group-substituted quinolines according to any of claims 1-9 in the preparation of a medicament for treating diseases associated with the abnormal activities of protein kinases.

17. The use according to claim 16, wherein the protein kinase is c-Met, KDR or VEGFR2, RET, PDGFR-β, c-KIT, Flt3, MEK5, DDR1, LOK, CSF1R, EPHA7, EPHA8, EPHB6, MKNK2, BLK, HIPK4, HCK, or Flt4.

18. The use according to claim 16, wherein the protein kinase is RON, ALK (or Anaplastic Lymphoma Kinase), EGF1R, HER2, HER3, HER4, PDGFR-α, c-fms, FLT1, Src, Frk, Btk, CsK, Abl, Fes, Fps, Fak, AcK, Yes, Fyn, Lyn, Lck, Hck, Fgr, Yrk, PDK1, TAK1, Tie-2, Tie-1, YSK4, TRK A, TRK B, TRK C, SLK, PKN2, PLK4, MST1R, MAP4K, or DDR2.

19. The use according to claim 16, wherein the disease is psoriasis, hepatic cirrhosis, diabetes, angiogenesis-mediated diseases, eye diseases, immune system diseases, or cardiovascular diseases.

20. The use according to claim 16, wherein the disease is tumor comprising solid tumor and liquid tumors.

21. The use according to claim 16, wherein the tumor comprises: lung cancer, bone cancer, pancreatic cancer, skin cancer, head and neck cancer, skin or intraocular melanoma, uterine cancer, ovarian cancer, rectal cancer, anal region cancer, stomach cancer, colon cancer, breast cancer, fallopian tube cancer, endometrial cancer , cervical cancer, vaginal cancer, vulva cancer, Hodgkin's disease, esophageal cancer, intestinal cancer, endocrine system cancer, thyroid cancer, parathyroid cancer, soft tissue sarcoma, urethral cancer, penile cancer, prostate cancer, chronic or acute

leukemia, bladder cancer, kidney or ureter cancer, renal cancer, central nervous system (CNS) tumors, spinal axis tumors, pituitary adenomas, gastrointestinal stromal tumors, colorectal cancer, non-small cell lung cancer, small cell lung cancer, mastocytosis, glioma, sarcoma, lymphoma, or a combination of any thereof.

22. A medicament for treating protein kinase abnormal activity-associated diseases, comprising the compound according to any of claims 1-9 or pharmaceutically acceptable salt, solvate, prodrug thereof, or a racemate orenantiomer of the compound according to any of claims 1-9 or pharmaceutically acceptable salt, solvate, prodrug thereof.

23. The medicament according to claim 22, wherein it further comprises at least one pharmaceutically acceptable carrier.

24. The medicament according to claim 22, wherein it is in a form of the following Formulations:

(1) oral formulation; (2) injectable formulation; (3) anal suppository; (4) nasal inhalation; (5) eye drop; (6) skin patch.