

WHAT IS CLAIMED IS:

1. The compound is selected from
 (RS)-N-(5-(4-amino-1-(1-(5-fluoro-3-(3-fluorophenyl)-4-oxo-4H-chromen-2-yl)ethyl)-1H-pyrazolo[3,4-d]pyrimidin-3-yl)-2-methoxyphenyl)methanesulfonamide;
 (S)-N-(5-(4-amino-1-(1-(5-fluoro-3-(3-fluorophenyl)-4-oxo-4H-chromen-2-yl)ethyl)-1H-pyrazolo[3,4-d]pyrimidin-3-yl)-2-methoxyphenyl)methanesulfonamide;
 (R)-N-(5-(4-amino-1-(1-(5-fluoro-3-(3-fluorophenyl)-4-oxo-4H-chromen-2-yl)ethyl)-1H-pyrazolo[3,4-d]pyrimidin-3-yl)-2-methoxyphenyl)methanesulfonamide;
 and pharmaceutically acceptable salts thereof.
2. A compound of claim 1 selected from (S)-N-(5-(4-amino-1-(1-(5-fluoro-3-(3-fluorophenyl)-4-oxo-4H-chromen-2-yl)ethyl)-1H-pyrazolo[3,4-d]pyrimidin-3-yl)-2-methoxyphenyl)methanesulfonamide and pharmaceutically acceptable salts thereof.
3. The compound according to claim 2, wherein the compound is substantially free of (R)-N-(5-(4-amino-1-(1-(5-fluoro-3-(3-fluorophenyl)-4-oxo-4H-chromen-2-yl)ethyl)-1H-pyrazolo[3,4-d]pyrimidin-3-yl)-2-methoxyphenyl)methanesulfonamide and pharmaceutically acceptable salt thereof.
4. The compound of claim 2 or 3, wherein the compound has an enantiomeric excess greater than about 95%.
5. A pharmaceutical composition comprising a compound according to any one of claims 1-4 and at least one pharmaceutically acceptable carrier.
6. A compound of any one of claims 1 to 4 or a composition of claim 5 for use in the treatment of a disease, disorder or condition that would benefit from inhibiting catalytic activity of a PI3 δ/γ kinase.
7. A compound of any one of claims 1 to 4 or a composition of claim 5 for use in the treatment of a PI3K associated disease, disorder or condition.
8. The compound or composition for use according to claim 7 further comprising administering an additional active agent selected from anti-cancer agents, anti-inflammatory agents, immunosuppressive agents, steroids, non-steroidal anti-inflammatory agents, antihistamines, analgesics, and mixtures thereof.
9. The compound or composition for use according to claim 6, wherein the disease, disorder or condition that would benefit from inhibiting catalytic activity of a PI3 δ/γ kinase is selected from proliferative diseases, a bone disorder, an inflammatory disease, an

immune disease, a nervous system disease, a metabolic disease, a respiratory disease, thrombosis, and cardiac disease

10. The compound or composition for use according to claim 6, wherein the disease, disorder or condition that would benefit from inhibiting catalytic activity of a PI3 δ/γ kinase is selected from the carcinoma of bladder, breast, colon, kidney, liver, lung, small cell lung cancer, esophagus, gall bladder, ovary, pancreas, stomach, cervix, thyroid, prostate, and skin, including squamous cell carcinoma; leukemia, chronic lymphocytic leukemia (CLL), acute lymphocytic leukemia, acute lymphoblastic leukemia, B-cell lymphoma, T-cell lymphoma, Hodgkin's lymphoma (HL), non-Hodgkin's lymphoma (NHL), hairy cell lymphoma and Burkett's lymphoma; acute and chronic myelogenous leukemias, acute myeloid leukemia (AML), multiple myeloma (MM), small lymphocytic lymphoma (SLL), or indolent non-Hodgkin's lymphoma (I-NHL), myelodysplastic syndrome and promyelocytic leukemia; fibrosarcoma and rhabdomyosarcoma; astrocytoma, neuroblastoma, glioma and schwannomas; melanoma, seminoma, teratocarcinoma, osteosarcoma, xenoderoma pigmentosum, keratoctanthoma, thyroid follicular cancer and Kaposi's sarcoma in a patient in need thereof.

11. The compound or composition for use according to claim 7, wherein the PI3K associated disease, disorder or condition is an immune system-related disease, a disease or disorder involving inflammation, cancer or other proliferative disease, a hepatic disease or disorder, or a renal disease or disorder.

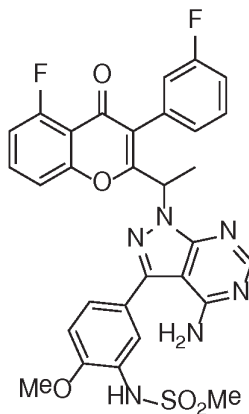
12. The compound or composition for use according to claim 6 or claim 7, wherein the disease, disorder or condition is selected from leukemia, acute lymphocytic leukemia, acute lymphoblastic leukemia, B-cell lymphoma, T-cell lymphoma, Hodgkin's lymphoma, non-Hodgkin's lymphoma, hairy cell lymphoma, Burkett's lymphoma, acute and chronic myelogenous leukemias, myelodysplastic syndrome or promyelocytic leukemia in a patient in need thereof.

13. The compound or composition for use according to claim 6 or claim 7, wherein the disease, disorder or condition is selected from asthma, chronic obstructive pulmonary disease (COPD), rheumatoid arthritis, inflammatory bowel disease, glomerulonephritis, neuroinflammatory diseases, multiple sclerosis, uveitis, psoriasis, lupus, osteoarthritis, allergic rhinitis, lupus or experimental autoimmune encephalomyelitis (EAE), lupus erythematosus and disorders of the immune system.

14. A compound selected from
 (S)-2-(1-(4-amino-3-(4-methoxy-3-nitrophenyl)-1H-pyrazolo[3,4-d]pyrimidin-1-yl)ethyl)-5-fluoro-3-(3-fluorophenyl)-4H-chromen-4-one,

(S)-2-(1-(4-amino-3-(3-amino-4-methoxyphenyl)-1H-pyrazolo[3,4-d]pyrimidin-1-yl)ethyl)-5-fluoro-3-(3-fluorophenyl)-4H-chromen-4-one,
and salts thereof.

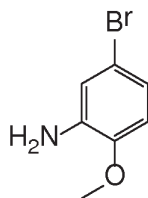
15. A process for the preparation of a compound of claim 1 of formula **(I)**



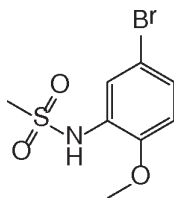
(I)

comprising the steps of:

(a) reacting 5-bromo-2-methoxyaniline with methane sulphonyl chloride

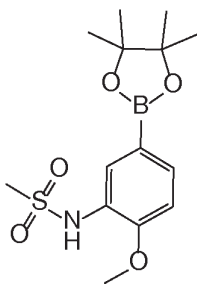


to give N-(5-bromo-2-methoxyphenyl)methanesulfonamide (Intermediate **1**)



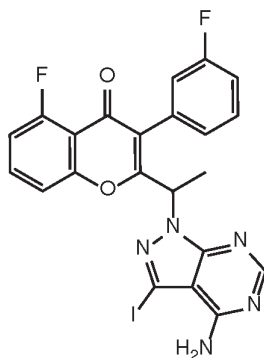
Intermediate **1**;

(b) reacting Intermediate **1** with bis(pinacolato)diboron to give N-(2-methoxy-5-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)phenyl)methanesulfonamide (Intermediate **2**)



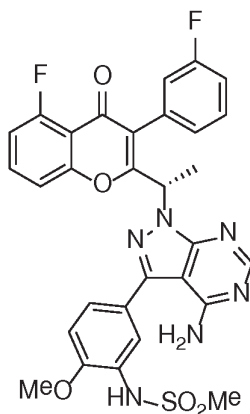
Intermediate **2**;

- (c) reacting 2-(1-(4-amino-3-iodo-1H-pyrazolo[3,4-d]pyrimidin-1-yl)ethyl)-5-fluoro-3-(3-fluorophenyl)-4H-chromen-4-one



with intermediate **2** in the presence of a suitable base to give a compound of formula **(I)**.

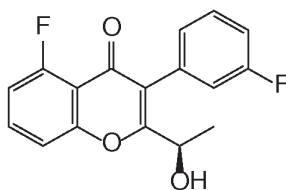
16. A process for the preparation of a compound of claim 1 of formula **(A1)**



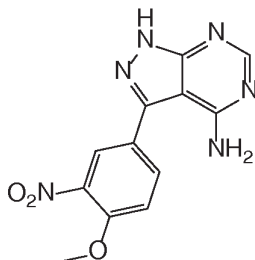
(A1)

comprising the steps of:

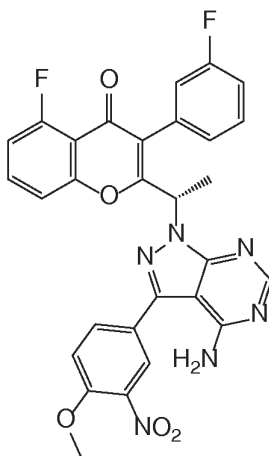
- (a) reacting (R)-5-fluoro-3-(3-fluorophenyl)-2-(1-hydroxyethyl)-4H-chromen-4-one



with 3-(4-methoxy-3-nitrophenyl)-1H-pyrazolo[3,4-d]pyrimidin-4-amine

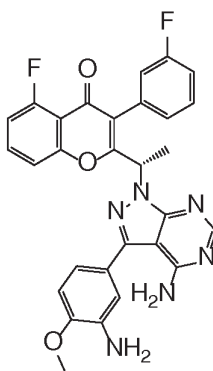


under Mitsunobu conditions using triphenylphosphine and diisopropylazodicarboxylate to give (S)-2-(1-(4-amino-3-(4-methoxy-3-nitrophenyl)-1H-pyrazolo[3,4-d]pyrimidin-1-yl)ethyl)-5-fluoro-3-(3-fluorophenyl)-4H-chromen-4-one (Intermediate **3**)



Intermediate **3**;

(b) reducing intermediate **3** to give (S)-2-(1-(4-amino-3-(3-amino-4-methoxyphenyl)-1H-pyrazolo[3,4-d]pyrimidin-1-yl)ethyl)-5-fluoro-3-(3-fluorophenyl)-4H-chromen-4-one (Intermediate **4**)



Intermediate **4**;

(c) reacting Intermediate **4** with methanesulphonyl chloride to give a compound of the formula (**A1**).