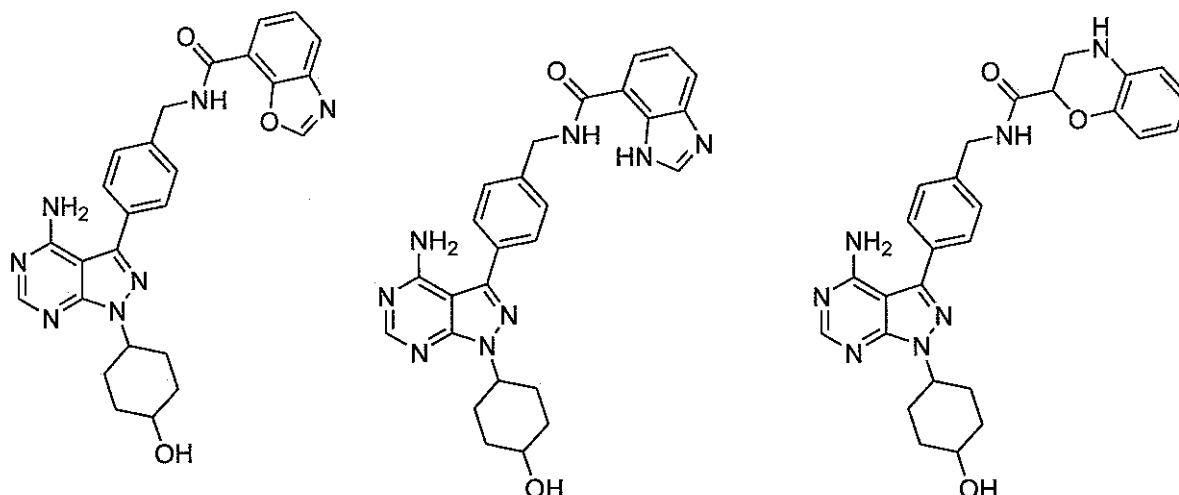




[00101] In another aspect of the invention there is provided a compound of formula (I) for use as a medicament.

- 5 **[00102]** In another aspect there is provided a compound of formula (I) for use in the treatment of a condition which is modulated by Bruton's tyrosine kinase (BTK), wherein the condition modulated by BTK is cancer, lymphoma, leukemia, immunological disease, autoimmune diseases and inflammatory disorders. Usually conditions that are modulated by BTK are conditions that would be treated by the inhibition of BTK using a compound of the present disclosure. A compound of formula
- 10 (I) may be for use in the treatment of a condition treatable by the inhibition of Bruton's tyrosine kinase (BTK).

- [00103]** BTK inhibition is a novel approach for treating many different human diseases associated with the inappropriate activation of B-cells, including B-cell proliferative disorders, B-cell malignancies, immunological disease for example, autoimmune, heteroimmune conditions, and
- 15 inflammatory disorders, or fibrosis. In particular, BTK inhibition is a novel approach for treating many different human diseases associated with the inappropriate activation of B-cells, including B-cell malignancies, immunological disease for example, autoimmune and inflammatory disorders.

- [00104]** In embodiments the condition treatable by the inhibition of BTK may be selected from: cancer, lymphoma, leukemia, autoimmune diseases, inflammatory disorders, heteroimmune
- 20 conditions, or fibrosis. Specific conditions treatable by the inhibition of BTK may be selected from: B-cell malignancy, B-cell lymphoma, diffuse large B cell lymphoma, chronic lymphocyte leukemia, non-Hodgkin lymphoma for example ABC-DLBCL, mantle cell lymphoma, follicular lymphoma, hairy cell leukemia B-cell non-Hodgkin lymphoma, Waldenstrom's macroglobulinemia, multiple myeloma, bone cancer, bone metastasis, follicular lymphoma, chronic lymphocytic lymphoma, B-cell prolymphocyte
- 25 leukemia, lymphoplasmacytic lymphoma/, splenic marginal zone lymphoma, plasma cell myeloma, plasmacytoma, extranodal marginal zone B-cell lymphoma, nodal marginal zone B-cell lymphoma, mediastinal (thymic) large B-cell lymphoma, intravascular large B-cell lymphoma, primary effusion lymphoma, burkitt lymphoma/leukemia, lymphomatoid granulomatosis, inflammatory bowel disease, arthritis, lupus, rheumatoid arthritis, psoriatic arthritis, osteoarthritis, Still's disease, juvenile arthritis,
- 30 diabetes, myasthenia gravis, Hashimoto's thyroiditis, Ord's thyroiditis, Graves' disease Sjogren's syndrome, multiple sclerosis, Guillain-Barre syndrome, acute disseminated encephalomyelitis, Addison's disease, opsoclonus-myoclonus syndrome, ankylosing spondylitis, antiphospholipid

[00113] Arthritis, multiple sclerosis, osteoporosis, irritable bowel syndrome, inflammatory bowel disease, Crohn's disease and lupus are examples of immunological diseases treatable by BTK inhibition. Arthritis is an example of an inflammatory disorder treatable by BTK inhibition. Lupus and Sjögren's syndrome is an example of an autoimmune disease treatable by BTK inhibition.

- 5 **[00114]** Any of the conditions disclosed above as being treatable by BTK inhibition may be treated by a compound of the disclosure, or may be treated in a method comprising administering a compound of the disclosure, or may be treated by a medicament manufactured through the use of a compound of the present disclosure.

- [00115]** In one aspect there is provided a compound of formula (I) for use in the treatment of:
 10 cancer, lymphoma, leukemia, immunological diseases, autoimmune diseases and inflammatory disorders. In one aspect there is provided a compound of formula (I) for use in the treatment of specific conditions selected from: B-cell malignancy, B-cell lymphoma, diffuse large B cell lymphoma, chronic lymphocyte leukemia, non-Hodgkin lymphoma for example ABC-DLBCL, mantle cell lymphoma, follicular lymphoma, hairy cell leukemia B-cell non-Hodgkin lymphoma, Waldenstrom's
 15 macroglobulinemia, multiple myeloma, bone cancer, bone metastasis, arthritis, multiple sclerosis osteoporosis, irritable bowel syndrome, inflammatory bowel disease, Crohn's disease, Sjögren's syndrome, lupus and disorders associated with renal transplant.

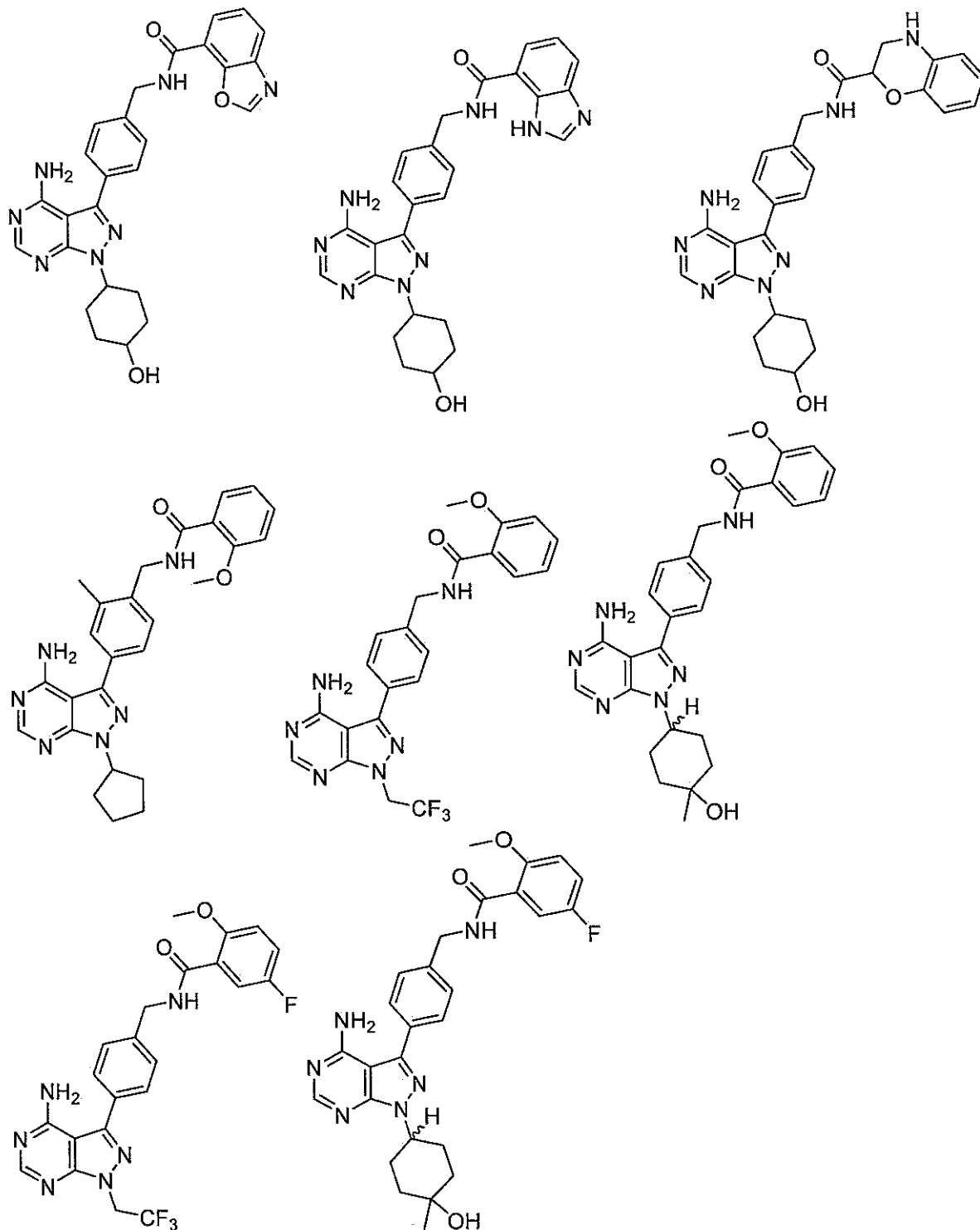
- [00115a]** In one aspect there is provided a compound of formula (I) for use simultaneously, sequentially or separately with an additional anti-tumour agent, in the treatment of cancer,
 20 lymphoma, leukemia, immunological diseases autoimmune diseases or inflammatory disorders.

[00115b] In one aspect there is provided use of a compound of formula (I) in the manufacture of a medicament for the treatment of a condition which is modulated by Bruton's tyrosine kinase in a patient in need thereof, wherein the condition modulated by BTK is cancer, lymphoma, leukemia, immunological disease, autoimmune diseases and inflammatory disorders.

- 25 **[00115c]** In one aspect there is provided use of a compound of formula (I) in the manufacture of a medicament for the treatment of a condition selected from: cancer, lymphoma, leukemia, immunological diseases, autoimmune diseases and inflammatory disorders in a patient in need thereof.

- [00115d]** In one aspect there is provided use of a compound of formula (I) in the manufacture of a
 30 medicament for the treatment of a condition selected from cancer, lymphoma, leukemia, immunological diseases, autoimmune diseases or inflammatory disorders, wherein the medicament is to be administered simultaneously, sequentially or separately with an additional anti-tumour agent to a patient in need thereof.

- [00115e]** In one aspect there is provided use of a compound of formula (I) in the manufacture of a
 35 medicament for combination therapy with an anti-tumor agent.



15. A compound of any preceding claim for use as a medicament.
- 5 16. A compound of any of claims 1 to 14 for use in the treatment of a condition which is modulated by BTK, wherein the condition modulated by BTK is cancer, lymphoma, leukemia, immunological disease, autoimmune diseases and inflammatory disorders.
17. A compound of claim 16, wherein the condition modulated by BTK is selected from: B-cell malignancy, B-cell lymphoma, diffuse large B cell lymphoma, chronic lymphocyte

leukemia, non-Hodgkin lymphoma for example ABC-DLBCL, mantle cell lymphoma, follicular lymphoma, hairy cell leukemia B-cell non-Hodgkin lymphoma, Waldenstrom's macroglobulinemia, multiple myeloma, bone cancer, bone metastasis, arthritis, multiple sclerosis osteoporosis, irritable bowel syndrome, inflammatory bowel disease, Crohn's disease, Sjögren's syndrome and lupus

5 18. A compound of any of claims 1 to 14 for use in the treatment of: cancer, lymphoma, leukemia, immunological diseases, autoimmune diseases and inflammatory disorders.

19. A compound of any of claims 1 to 14 for use in the treatment of specific conditions selected from: B-cell malignancy, B-cell lymphoma, diffuse large B cell lymphoma, chronic lymphocyte leukemia, non-Hodgkin lymphoma for example ABC-DLBCL, mantle cell lymphoma, follicular
10 lymphoma, hairy cell leukemia B-cell non-Hodgkin lymphoma, Waldenstrom's macroglobulinemia, multiple myeloma, bone cancer, bone metastasis, arthritis, multiple sclerosis osteoporosis, irritable bowel syndrome, inflammatory bowel disease, Crohn's disease, Sjögren's syndrome, lupus and disorders associated with renal transplant.

20. A compound of any of claims 1 to 14 for use simultaneously, sequentially or separately with an
15 additional anti-tumour agent, in the treatment of cancer, lymphoma, leukemia, immunological diseases autoimmune diseases or inflammatory disorders.

21. A pharmaceutical composition, wherein the pharmaceutical composition comprises a compound of any of claims 1 to 14 and pharmaceutically acceptable excipients.

22. A pharmaceutical composition of claim 21 wherein the composition is a combination product
20 and comprises an additional pharmaceutically active agent.

23. Use of a compound of claims 1 to 14, in the manufacture of a medicament for the treatment of a condition which is modulated by Bruton's tyrosine kinase in a patient in need thereof, wherein the condition modulated by BTK is cancer, lymphoma, leukemia, immunological disease, autoimmune diseases and inflammatory disorders.

24. Use of a compound of any of claims 1 to 14, in the manufacture of a medicament for the
25 treatment of a condition selected from: cancer, lymphoma, leukemia, immunological diseases, autoimmune diseases and inflammatory disorders in a patient in need thereof.

25. A use of claim 24, wherein the condition is selected from: B-cell malignancy, B-cell lymphoma, diffuse large B cell lymphoma, chronic lymphocyte leukemia, non-Hodgkin lymphoma for example
30 ABC-DLBCL, mantle cell lymphoma, follicular lymphoma, hairy cell leukemia B-cell non-Hodgkin lymphoma, Waldenstrom's macroglobulinemia, multiple myeloma, bone cancer, bone metastasis, arthritis, multiple sclerosis osteoporosis, irritable bowel syndrome, inflammatory bowel disease, Crohn's disease, lupus, Sjögren's syndrome and disorders associated with renal transplant.

26. Use of a compound of any of claims 1 to 14, in the manufacture of a medicament for the
35 treatment of a condition selected from cancer, lymphoma, leukemia, immunological diseases, autoimmune diseases or inflammatory disorders, wherein the medicament is to be administered

simultaneously, sequentially or separately with an additional anti-tumour agent to a patient in need thereof.

27. A use of claim 26, wherein the condition is selected from: B-cell malignancy, B-cell lymphoma, diffuse large B cell lymphoma, chronic lymphocyte leukemia, non-Hodgkin lymphoma for example
5 ABC-DLBCL, mantle cell lymphoma, follicular lymphoma, hairy cell leukemia B-cell non-Hodgkin lymphoma, Waldenstrom's macroglobulinemia, multiple myeloma, bone cancer, bone metastasis, arthritis, multiple sclerosis osteoporosis, irritable bowel syndrome, inflammatory bowel disease, Crohn's disease, lupus, Sjögren's syndrome and disorders associated with renal transplant.

28. A method of providing a combination product, wherein the method comprises providing a
10 compound of any of claims 1 to 14 simultaneously, sequentially or separately with an anti-tumor agent.

29. Use of a compound of any of claims 1 to 14, in the manufacture of a medicament for combination therapy with an anti-tumor agent.