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CLAIMS

1. A mono-phosphate salt of 6-fluoro-2-[4-(pyridin-2-yl)but-3-yn-1-yl]imidazo[1,2-a]pyridine.
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2. A crystalline form of the mono-phosphate salt of 6-fluoro-2-[4-(pyridin-2-yl)but-3-yn-1-yl]imidazo[1,2-a]pyridine.
3. A crystalline form (Polymorph I) of the mono-phosphate salt of 6-fluoro-2-[4-(pyridin-2-yl)but-3-yn-1-yl]imidazo[1,2-a]pyridine characterized by at least 3
10 peaks selected from X-Ray diffraction peaks obtained with a $\text{Cu}_{K\alpha}$ radiation at 2θ (2 Theta (deg)) = 8.4, 10.2, 12.5, 15.7, 16.8, 18.6, 20.5, 21.3, 28.1, 29.4.
4. A crystalline form (Polymorph I) of the mono-phosphate salt of 6-fluoro-2-[4-(pyridin-2-yl)but-3-yn-1-yl]imidazo[1,2-a]pyridine characterized by the X-Ray
15 powder diffraction pattern shown on Figure 1.
5. A crystalline form (Polymorph I) of the mono-phosphate salt of 6-fluoro-2-[4-(pyridin-2-yl)but-3-yn-1-yl]imidazo[1,2-a]pyridine characterized by an
20 infrared spectrum having sharp bands at 3059, 2937, 2233, 1592, 1564, 1537, 1515, 1477, 1429, 1317, 1262, 1168, 1162, 1117, 863, 819, 772, 691.
6. A crystalline form (Polymorph I) of the mono-phosphate salt of 6-fluoro-2-[4-(pyridin-2-yl)but-3-yn-1-yl]imidazo[1,2-a]pyridine characterized by an
25 infrared spectrum shown on Figure 2.
7. A crystalline form (Polymorph II) of the mono-phosphate salt of 6-fluoro-2-[4-(pyridin-2-yl)but-3-yn-1-yl]imidazo[1,2-a]pyridine characterized by by at least

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3 peaks selected from X-Ray diffraction peaks obtained with a $\text{Cu}_{K\alpha}$ radiation at 2θ (2 Theta (deg)) = 8.5, 10.0, 12.5, 15.8, 17.1, 18.2, 18.7, 19.4, 20.2, 20.8, 25.7, 27.6.

- 5 8. A crystalline form (Polymorph II) of the mono-phosphate salt of 6-fluoro-2-[4-(pyridin-2-yl)but-3-yn-1-yl]imidazo[1,2-a]pyridine characterized by the X-Ray powder diffraction pattern shown on Figure 3.
- 10 9. An amorphous form of the mono-phosphate salt of 6-fluoro-2-[4-(pyridin-2-yl)but-3-yn-1-yl]imidazo[1,2-a]pyridine.
- 15 10. A process for the preparation of a compound according to claims 3 to 6, comprising the steps of a) salt formation of 6-fluoro-2-[4-(pyridin-2-yl)but-3-yn-1-yl]imidazo[1,2-a]pyridine with phosphoric acid with subsequent spontaneous precipitation, and re-crystallization of the product of step a) in ethanol:water (80:20).
- 20 11. A process for the preparation of a compound according to claims 7 and 8, comprising the steps of a) salt formation of 6-fluoro-2-[4-(pyridin-2-yl)but-3-yn-1-yl]imidazo[1,2-a]pyridine with phosphoric acid with subsequent spontaneous precipitation, and re-crystallization of the product of step a) in water:acetone (80:20).
- 25 12. A pharmaceutical composition comprising a therapeutically effective amount of a compound according to claims 1 to 9, or a combination of two of the polymorph forms of a compound according to claims 1 to 9, and at least one pharmaceutically acceptable carrier, diluent or excipient.

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13. A method useful for treating or preventing disorders in which the mGlu₅ receptor plays a role, wherein the disorders are selected from the group consisting of: epilepsy, ischemia, neuropathic or inflammatory pain, psychiatric disorders such as psychotic disorders, central nervous system disorders selected from addiction, tolerance or dependence, affective disorders, such as depression and anxiety, attention-deficit/hyperactivity disorder, bipolar disorder, movement disorders, neuroprotection, migraine, neurological disorders such as neurodegeneration, neurotoxicity, Parkinson's disease, PD-LID, dystonia, memory impairment, Alzheimer's disease, dementia, delirium tremens, attentional disorders, eating disorders, mood disorders, cognitive disorders, personality disorders, behavioural disorders, substance of abuse related disorders, including alcohol, nicotine, cocaine, amphetamine, benzodiazepine, analgesics, opiate or other substance tolerance or dependence, bulimia nervosa, anorexia nervosa, gambling dependence, sex dependence, obsessive compulsive disorders, panic disorder, phobia, post-traumatic stress disorder, generalized anxiety disorder, seasonal affective disorders, acute stress disorder, inherited disorders such as Fragile X syndrome, autism, obesity and gastrointestinal disorders, for example, gastro-esophageal reflux disease (GERD), lower esophageal sphincter diseases or disorders, diseases of gastrointestinal motility, colitis, Crohn's disease or irritable bowel syndrome (IBS), comprising the step of administering to a mammalian patient in need of such treatment or prevention, an effective amount of a compound/composition according to claims 1 to 9 and 12.
14. A method useful for treating or preventing dystonia, comprising administering to a mammalian patient in need of such treatment or prevention, an effective amount of a compound/composition according to claims 1 to 9 and 12.
15. A method useful for treating or preventing Parkinson's disease L-DOPA dyskinesia, comprising administering to a mammalian patient in need of such

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treatment or prevention, an effective amount of a compound/composition according to claims 1 to 9 and 12.

- 5 16. A method useful for treating or preventing movement disorders, comprising administering to a mammalian patient in need of such treatment or prevention, an effective amount of a compound/composition according to claims 1 to 9 and 12.
- 10 17. A method useful for treating or preventing autism, comprising administering to a mammalian patient in need of such treatment or prevention, an effective amount of a compound/composition according to claims 1 to 9 and 12.
- 15 18. A method useful for treating or preventing Fragile X, comprising administering to a mammalian patient in need of such treatment or prevention, an effective amount of a compound/composition according to claims 1 to 9 and 12.
- 20 19. A method useful for treating or preventing anxiety, comprising administering to a mammalian patient in need of such treatment or prevention, an effective amount of a compound/composition according to claims 1 to 9 and 12.
- 25 20. A method useful for treating or preventing depression, comprising administering to a mammalian patient in need of such treatment or prevention, an effective amount of a compound/composition according to claims 1 to 9 and 12.

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21. A method useful for treating or preventing pain, comprising administering to a mammalian patient in need of such treatment or prevention, an effective amount of a compound/composition according to claims 1 to 9 and 12.
- 5 22. Use of a compound according to claims 1 to 9 in the manufacture of a medicament for a use as defined in any of claims 13 to 21.
23. A composition according to claim 12 for treating or preventing a disorder as defined in any of claims 13 to 21.

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CLAIMS

1. A mono-phosphate salt of 6-fluoro-2-[4-(pyridin-2-yl)but-3-yn-1-yl]imidazo[1,2-a]pyridine.
2. A crystalline form of the mono-phosphate salt of 6-fluoro-2-[4-(pyridin-2-yl)but-3-yn-1-yl]imidazo[1,2-a]pyridine.
3. A crystalline form (Polymorph I) of the mono-phosphate salt of 6-fluoro-2-[4-(pyridin-2-yl)but-3-yn-1-yl]imidazo[1,2-a]pyridine characterized by at least 3 peaks selected from X-Ray diffraction peaks obtained with a $\text{Cu}_{K\alpha}$ radiation at 2θ (2 Theta (deg)) = 8.4, 10.2, 12.5, 15.7, 16.8, 18.6, 20.5, 21.3, 28.1, 29.4.
4. A crystalline form (Polymorph I) of the mono-phosphate salt of 6-fluoro-2-[4-(pyridin-2-yl)but-3-yn-1-yl]imidazo[1,2-a]pyridine characterized by the X-Ray powder diffraction pattern shown on Figure 1.
5. A crystalline form (Polymorph I) of the mono-phosphate salt of 6-fluoro-2-[4-(pyridin-2-yl)but-3-yn-1-yl]imidazo[1,2-a]pyridine characterized by an infrared spectrum having sharp bands at 3059, 2937, 2233, 1592, 1564, 1537, 1515, 1477, 1429, 1317, 1262, 1168, 1162, 1117, 863, 819, 772, 691.
6. A crystalline form (Polymorph I) of the mono-phosphate salt of 6-fluoro-2-[4-(pyridin-2-yl)but-3-yn-1-yl]imidazo[1,2-a]pyridine characterized by an infrared spectrum shown on Figure 2.
7. A crystalline form (Polymorph II) of the mono-phosphate salt of 6-fluoro-2-[4-(pyridin-2-yl)but-3-yn-1-yl]imidazo[1,2-a]pyridine characterized by at least 3 peaks selected

from X-Ray diffraction peaks obtained with a $\text{Cu}_{K\alpha}$ radiation at 2θ (2 Theta (deg)) = 8.5, 10.0, 12.5, 15.8, 17.1, 18.2, 18.7, 19.4, 20.2, 20.8, 25.7, 27.6.

8. A crystalline form (Polymorph II) of the mono-phosphate salt of 6-fluoro-2-[4-(pyridin-2-yl)but-3-yn-1-yl]imidazo[1,2-a]pyridine characterized by the X-Ray powder diffraction pattern shown on Figure 3.
9. An amorphous form of the mono-phosphate salt of 6-fluoro-2-[4-(pyridin-2-yl)but-3-yn-1-yl]imidazo[1,2-a]pyridine.
10. A process for the preparation of a compound according to claims 3 to 6, comprising the steps of a) salt formation of 6-fluoro-2-[4-(pyridin-2-yl)but-3-yn-1-yl]imidazo[1,2-a]pyridine with phosphoric acid with subsequent spontaneous precipitation, and re-crystallization of the product of step a) in ethanol:water (80:20).
11. A process for the preparation of a compound according to claims 7 and 8, comprising the steps of a) salt formation of 6-fluoro-2-[4-(pyridin-2-yl)but-3-yn-1-yl]imidazo[1,2-a]pyridine with phosphoric acid with subsequent spontaneous precipitation, and re-crystallization of the product of step a) in water:acetone (80:20).
12. A pharmaceutical composition comprising a therapeutically effective amount of a compound according to claims 1 to 9, or a combination of two of the polymorph forms of a compound according to claims 1 to 9, and at least one pharmaceutically acceptable carrier, diluent or excipient.
13. Use of a compound according to claims 1 to 9, or a composition according to claim 12, in the manufacture of a medicament for treating or preventing disorders in which the mGlu_5 receptor plays a role, wherein the disorders are selected from the group consisting of: epilepsy, ischemia, neuropathic or inflammatory pain, psychiatric disorders such as psychotic disorders, central nervous system disorders selected from addiction, tolerance or dependence, affective disorders, such as depression and anxiety,

attention-deficit/hyperactivity disorder, bipolar disorder, movement disorders, neuroprotection, migraine, neurological disorders such as neurodegeneration, neurotoxicity, Parkinson's disease, PD-LID, dystonia, memory impairment, Alzheimer's disease, dementia, delirium tremens, attentional disorders, eating disorders, mood disorders, cognitive disorders, personality disorders, behavioural disorders, substance of abuse related disorders, including alcohol, nicotine, cocaine, amphetamine, benzodiazepine, analgesics, opiate or other substance tolerance or dependence, bulimia nervosa, anorexia nervosa, gambling dependence, sex dependence, obsessive compulsive disorders, panic disorder, phobia, post-traumatic stress disorder, generalized anxiety disorder, seasonal affective disorders, acute stress disorder, inherited disorders such as Fragile X syndrome, autism, obesity and gastrointestinal disorders, for example, gastro-esophageal reflux disease (GERD), lower esophageal sphincter diseases or disorders, diseases of gastrointestinal motility, colitis, Crohn's disease or irritable bowel syndrome (IBS).

14. Use of a compound according to claims 1 to 9, or a composition according to claim 12, in the manufacture of a medicament for treating or preventing dystonia.
15. Use of a compound according to claims 1 to 9, or a composition according to claim 12, in the manufacture of a medicament for treating or preventing Parkinson's disease L-DOPA dyskinesia.
16. Use of a compound according to claims 1 to 9, or a composition according to claim 12, in the manufacture of a medicament for treating or preventing movement disorders.
17. Use of a compound according to claims 1 to 9, or a composition according to claim 12, in the manufacture of a medicament for treating or preventing autism.
18. Use of a compound according to claims 1 to 9, or a composition according to claim 12, in the manufacture of a medicament for treating or preventing Fragile X.

19. Use of a compound according to claims 1 to 9, or a composition according to claim 12, in the manufacture of a medicament for treating or preventing anxiety.
20. Use of a compound according to claims 1 to 9, or a composition according to claim 12, in the manufacture of a medicament for treating or preventing depression.
21. Use of a compound according to claims 1 to 9, or a composition according to claim 12, in the manufacture of a medicament for treating or preventing pain.
22. A composition according to claim 12 for treating or preventing a disorder as defined in any of claims 13 to 21.