IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

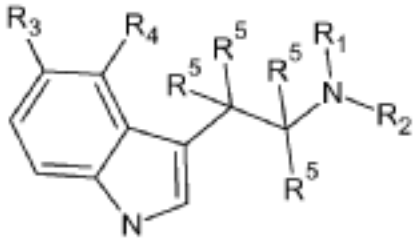
In re Application of: Thompson; Scott Confirmation No.: 2743
Serial No.: 17/940,950 Group No.:
Filing or 371(c) Date: September 8, 2022 Examiner:
Entitled: Methods of Treating Psychological and Brain Disorders

THIRD-PARTY PRE-ISSUANCE SUBMISSION

Examiner:

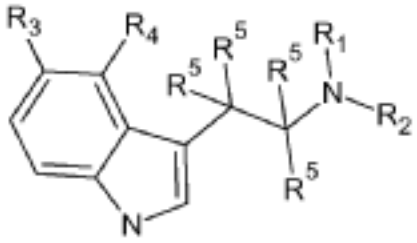
The following documents, which are also identified in the Form PTO/SB/429 filed herewith, are submitted for your consideration as being of potential relevance to the examination of the present application:

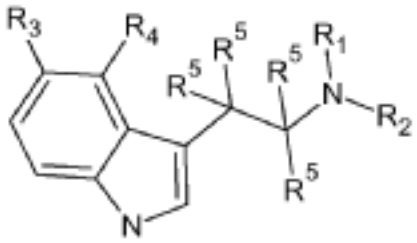
1. Int'l Pat. App. No. WO/2019/081764 (Combination Product for the Treatment of Neurological and/or Psychiatric Disorders) (Published 05/02/2019)
2. Int'l Pat. App. No. WO/2020/212952 (Treatment of Depression and Other Various Disorders with Psilocybin) (Published 10/22/2020)
3. Bionity (2013) List of Psilocybin Mushrooms (Retrieved 02/07/2023) (https://web.archive.org/web/20130808112655/https://www.bionity.com/en/encyclopedia/List_of_Psilocybin_mushrooms.html)

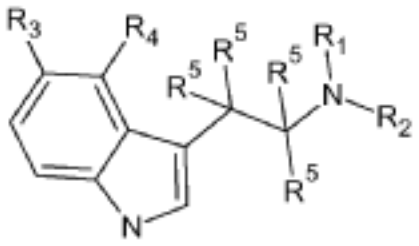
25. A method for treating depression or symptoms thereof in a subject in need thereof, comprising: (a) administering to the subject a serotonin receptor 2A antagonist; and (b) administering to the subject a serotonin agonist	1. Int'l Pat. App. No. WO/2019/081764 (Combination Product for the Treatment of Neurological and/or Psychiatric Disorders) (Published 05/02/2019) From **claim 2** "A pharmaceutical combination product comprising: compound described by the **following formula (I)**:  wherein R1 is selected from the group consisting of methyl, ethyl, n-propyl, allyl and isopropyl;

selected from psilocybin, psilocin, LSD and lisurgide; wherein the serotonin agonist is administered separately, sequentially or simultaneously with the serotonin receptor 2A antagonist.	wherein R2 is selected from the group consisting of methyl, ethyl, n-propyl, allyl and isopropyl; wherein R3 is selected from the group consisting of hydrogen, methoxy, methyl, hydroxy and a halogen; and wherein R4 is selected from the group consisting of hydrogen, hydroxy, phosphoryloxy and acetoxy; wherein R5 is selected from the group consisting of deuterium (^{2}H) and protium (^{1}H); and (ii) a **5-HT2A receptor antagonist**; for use in the treatment and/or prevention of psychiatric and/or neurological disorders. From page 18, lines 21-29 **"**Preferably, the compound described by formula (I) is N,N-dimethyltryptamine, N,N-diethyltryptamine, N,N-dipropyltryptamine, N,N-diisopropyltryptamine, 5-methoxy-N,N-dimethyltryptamine, 5-methoxy-N,N-diisopropyltryptamine, 5-hydroxy-N,N-dimethyltryptamine (bufotenin), **4-phosphoryloxy-N,N-dimethyltryptamine (psilocybin), 4-hydroxy-N,N-dimethyltryptamine (psilocin)**, N,N-diallyltryptamine, 5-Fluoro-N,N-diallyltryptamine, 5-Chloro-N,N-diallyltryptamine, 5-Bromo-N,N-diallyltryptamine, 5-Methyl-N,N-diallyltryptamine, 5-Methoxy-N,N-diallyltryptamine, a,a,3,3,-tetradeutero-5-Methoxy-dimethyltryptamine, α,α,β,β,-tetradeutero-dimethyltryptamine and/or O-acetylpsilocin." From **claim 9** "The combination product according to anyone of claims 2-8 for use in the treatment and/or prevention of a disorder selected from the group consisting of acquired brain injury, ataxia, brain tumor, dementia, dystonia, epilepsy, functional and dissociative neurological symptoms, meningitis, motor neuron disease, multiple sclerosis, muscular dystrophy, myalgic encephalomyelitis, Parkinson's disease, progressive supranuclear palsy, Huntington's disease, Alzheimer's disease, fronto-temporal dementia, vascular dementia, cognitive decline associated with aging, spina bifida, hydrocephalus, spinal injury, stroke, Tourette syndrome, transverse myelitis, panic disorder, agoraphobia, social anxiety disorder, phobias, post-traumatic stress disorder, obsessive compulsive disorder, generalized anxiety disorder, bipolar disorder, **depression**, anorexia nervosa, binge eating disorder, bulimia nervosa, psychosis, schizophrenia, substance addiction and personality disorders."

26. The method of **claim 25**, wherein the serotonin agonist is administered separately with the serotonin receptor 2A antagonist.	1. Int'l Pat. App. No. WO/2019/081764 (Combination Product for the Treatment of Neurological and/or Psychiatric Disorders) (Published 05/02/2019) From page 32, lines 2-5 "A compound described by formula (I) and a 5-HT2A receptor antagonist may be **administered together or separately** to an individual who suffers from one or more psychiatric and/or neurological disorders and/or who is at risk of suffering from one or more psychiatric and/or neurological disorders."
27. The method of **claim 25**, wherein the serotonin agonist is administered sequentially with the serotonin receptor 2A antagonist	1. Int'l Pat. App. No. WO/2019/081764 (Combination Product for the Treatment of Neurological and/or Psychiatric Disorders) (Published 05/02/2019) From page 32, lines 2-5 "A compound described by formula (I) and a 5-HT2A receptor antagonist may be **administered together or separately** to an individual who suffers from one or more psychiatric and/or neurological disorders and/or who is at risk of suffering from one or more psychiatric and/or neurological disorders."
28. The method of **claim 27**, wherein the serotonin agonist is administered after the administration of the serotonin receptor 2A antagonist.	1. Int'l Pat. App. No. WO/2019/081764 (Combination Product for the Treatment of Neurological and/or Psychiatric Disorders) (Published 05/02/2019) From page 32, lines 2-5 "A compound described by formula (I) and a 5-HT2A receptor antagonist may be **administered together or separately** to an individual who suffers from one or more psychiatric and/or neurological disorders and/or who is at risk of suffering from one or more psychiatric and/or neurological disorders."
29. The method of **claim 25**, wherein the serotonin agonist is administered simultaneously with the serotonin	1. Int'l Pat. App. No. WO/2019/081764 (Combination Product for the Treatment of Neurological and/or Psychiatric Disorders) (Published 05/02/2019) From page 32, lines 2-5 "A compound described by formula (I) and a 5-HT2A receptor antagonist may be **administered together or separately** to an individual who suffers from one or more psychiatric and/or neurological disorders and/or who is at risk of suffering from one or more psychiatric and/or neurological disorders."

receptor 2A antagonist.	
30. The method of **claim 25**, wherein the serotonin agonist is psilocybin or psilocin	1. Int'l Pat. App. No. WO/2019/081764 (Combination Product for the Treatment of Neurological and/or Psychiatric Disorders) (Published 05/02/2019) From **claim 2** "A pharmaceutical combination product comprising: compound described by the **following formula (I)**:  wherein R1 is selected from the group consisting of methyl, ethyl, n-propyl, allyl and isopropyl; wherein R2 is selected from the group consisting of methyl, ethyl, n-propyl, allyl and isopropyl; wherein R3 is selected from the group consisting of hydrogen, methoxy, methyl, hydroxy and a halogen; and wherein R4 is selected from the group consisting of hydrogen, hydroxy, phosphoryloxy and acetoxy; wherein R5 is selected from the group consisting of deuterium (^{2}H) and protium (^{1}H); and (ii) a 5-HT2A receptor antagonist; for use in the treatment and/or prevention of psychiatric and/or neurological disorders. From page 18, lines 21-29 **"**Preferably, the compound described by formula (I) is N,N-dimethyltryptamine, N,N-diethyltryptamine, N,N-dipropyltryptamine, N,N-diisopropyltryptamine, 5-methoxy-N,N-dimethyltryptamine, 5-methoxy-N,N-diisopropyltryptamine, 5-hydroxy-N,N-dimethyltryptamine (bufotenin), **4-phosphoryloxy-N,N-dimethyltryptamine (psilocybin), 4-hydroxy-N,N-dimethyltryptamine (psilocin)**, N,N-diallyltryptamine, 5-Fluoro-N,N-diallyltryptamine, 5-Chloro-N,N-diallyltryptamine, 5-Bromo-N,N-diallyltryptamine, 5-Methyl-N,N-diallyltryptamine, 5-Methoxy-N,N-diallyltryptamine, a,a,3,3,-tetradeutero-5-

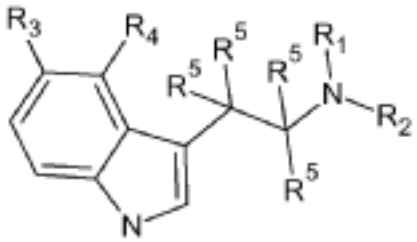
	Methoxy-dimethyltryptamine, α,α,β,β,-tetradeutero-dimethyltryptamine and/or O-acetylpsilocin.”
31. The method of **claim 30**, wherein the serotonin agonist is psilocybin.	1. Int’l Pat. App. No. WO/2019/081764 (Combination Product for the Treatment of Neurological and/or Psychiatric Disorders) (Published 05/02/2019) From **claim 2** “A pharmaceutical combination product comprising: compound described by the **following formula (I)**:  wherein R1 is selected from the group consisting of methyl, ethyl, n-propyl, allyl and isopropyl; wherein R2 is selected from the group consisting of methyl, ethyl, n-propyl, allyl and isopropyl; wherein R3 is selected from the group consisting of hydrogen, methoxy, methyl, hydroxy and a halogen; and wherein R4 is selected from the group consisting of hydrogen, hydroxy, phosphoryloxy and acetoxy; wherein R5 is selected from the group consisting of deuterium (^{2}H) and protium (^{1}H); and (ii) a 5-HT2A receptor antagonist; for use in the treatment and/or prevention of psychiatric and/or neurological disorders. From page 18, lines 21-29 **“**Preferably, the compound described by formula (I) is N,N-dimethyltryptamine, N,N-diethyltryptamine, N,N-dipropyltryptamine, N,N-diisopropyltryptamine, 5-methoxy-N,N-dimethyltryptamine, 5-methoxy-N,N-diisopropyltryptamine, 5-hydroxy-N,N-dimethyltryptamine (bufotenin), **4-phosphoryloxy-N,N-dimethyltryptamine (psilocybin),** 4-hydroxy-N,N-dimethyltryptamine (psilocin), N,N-diallyltryptamine, 5-Fluoro-N,N-diallyltryptamine, 5-Chloro-N,N-diallyltryptamine, 5-Bromo-N,N-diallyltryptamine, 5-Methyl-N,N-

	diallyltryptamine, 5-Methoxy-N,N-diallyltryptamine, a,a,3,3,-tetradeutero-5-Methoxy-dimethyltryptamine, α,α,β,β,-tetradeutero-dimethyltryptamine and/or O-acetylpsilocin.”
32. The method of **claim 30**, wherein the serotonin agonist is psilocin.	1. Int’l Pat. App. No. WO/2019/081764 (Combination Product for the Treatment of Neurological and/or Psychiatric Disorders) (Published 05/02/2019) From **claim 2** “A pharmaceutical combination product comprising: compound described by the **following formula (I)**:  wherein R1 is selected from the group consisting of methyl, ethyl, n-propyl, allyl and isopropyl; wherein R2 is selected from the group consisting of methyl, ethyl, n-propyl, allyl and isopropyl; wherein R3 is selected from the group consisting of hydrogen, methoxy, methyl, hydroxy and a halogen; and wherein R4 is selected from the group consisting of hydrogen, hydroxy, phosphoryloxy and acetoxy; wherein R5 is selected from the group consisting of deuterium (^{2}H) and protium (^{1}H); and (ii) a 5-HT2A receptor antagonist; for use in the treatment and/or prevention of psychiatric and/or neurological disorders. From page 18, lines 21-29 **“**Preferably, the compound described by formula (I) is N,N-dimethyltryptamine, N,N-diethyltryptamine, N,N-dipropyltryptamine, N,N-diisopropyltryptamine, 5-methoxy-N,N-dimethyltryptamine, 5-methoxy-N,N-diisopropyltryptamine, 5-hydroxy-N,N-dimethyltryptamine (bufotenin), 4-phosphoryloxy-N,N-dimethyltryptamine (psilocybin), **4-hydroxy-N,N-dimethyltryptamine (psilocin)**, N,N-diallyltryptamine, 5-Fluoro-N,N-diallyltryptamine, 5-Chloro-N,N-

	diallyltryptamine, 5-Bromo-N,N-diallyltryptamine, 5-Methyl-N,N-diallyltryptamine, 5-Methoxy-N,N-diallyltryptamine, a,a,3,3,-tetradeutero-5-Methoxy-dimethyltryptamine, α,α,β,β,-tetradeutero-dimethyltryptamine and/or O-acetylpsilocin."
33. The method of **claim 30**, wherein the psilocybin or psilocin is present in the form of an extract from a mushroom or a truffle.	1. Int'l Pat. App. No. WO/2019/081764 (Combination Product for the Treatment of Neurological and/or Psychiatric Disorders) (Published 05/02/2019) From page 19, lines 15-19 **"Psilocybin** (PubChem ID 10624) and **psilocin** (PubChem ID 4980) can be **extracted from mushrooms**, chemically synthesized (Hofmann et al., 1959. Helvetica Chimica Acta. 42 (5): 1557-72) or purchased from Sigma-Aldrich (Cat. No. P-097 and P2279). O-acetylpsilocin (PubChem ID 15429212) can be synthesized as described in US 3,075,992." 2. Int'l Pat. App. No. WO/2020/212952 (Treatment of Depression and Other Various Disorders with Psilocybin) (Published 10/22/2020) From page 27, lines 9-11 **"**In some embodiments, psilocybin manufactured prior to crystallization may be produced using one of the following methods: synthetic or biological, e.g. by fermentation or obtained by **extraction from mushrooms.**
34. The method of **claim 33**, wherein the mushroom or truffle is from the genus *Psilocybe, Gymnopilus, Panaeolus, Copelandia, Hypholoma, Pluteus, Inocybe, Conocybe, Panaeolina, Gerronema, Agrocybe, Galerina* and/or *Mycena.*	3. Bionity (2013) List of Psilocybin Mushrooms (Retrieved 02/07/2023) (https://web.archive.org/web/20130808112655/https://www.bionity.com/en/encyclopedia/List_of_Psilocybin_mushrooms.html) From **List of Psilocybin mushrooms** "**Agrocybe… Conocybe… Copelandia… Galerina… Gerronema… Gymnopilus… Hypholoma… Inocybe… Mycena… Panaeolus… Pluteus… Psilocybe…**"
35. The method of **claim 33**,	3. Bionity (2013) List of Psilocybin Mushrooms (Retrieved 02/07/2023) (https://web.archive.org/web/20130808112655/https://www.bionity.com/en/encyclopedia/List_of_Psilocybin_mushrooms.html)

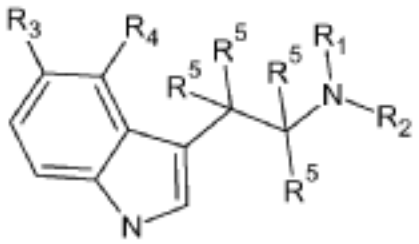
wherein the mushroom or truffle is *P. azurescens, P. semilanceata, P. cyanescens, P. cubensis, P. subcubensis, P. tampanensis, P. mexicana, P. atlantis,* and/or *P. semilanceata.*	From **List of Psilocybin mushrooms** "… ***Psilocybe atlantis… Psilocybe azurescens… Psilocybe cubensis… Psilocybe cyanescens… Psilocybe Mexicana… Psilocybe semilanceata… Psilocybe subcubensis… Psilocybe tampanensis…***"
36. The method of **claim 25**, wherein the serotonin receptor 2A antagonist is ketanserin.	1. Int'l Pat. App. No. WO/2019/081764 (Combination Product for the Treatment of Neurological and/or Psychiatric Disorders) (Published 05/02/2019) From **claim 4 "**The combination product for use according to any one of claims 1 -3 wherein the 5-HT2A receptor antagonist is selected from the group consisting of Methiothepin, Ritanserin, **Ketanserin**, Flibanserin, Methysergide, Trazodone, Nefazodone, Cinitapride, Cyproheptadine, Brexpiprazole, Cariprazine, Agomelatine, Pimavanserin, Eplivanserin, Volinanserin, Altanserin, Setoperone, LY-367,265, 1 -(1 -Naphthyl)piperazine, SB 206553, Pirenperone, SB-215505, Metergoline, Deramciclane, Amperozide, Glemanserin, 5-MeO-NBpBrT, Adatanserin, AM DA, Cinanserin, Fananserin, Iferanserin, AC-90179, LY86057, GSK-215083, Cyamemazine, Mesulergine, BF-1 , LY215840, Sergolexole, Spiramide, LY53857, Amesergide, LY108742, Pipamperone, LY314228 and 5-I- 91 150."
37. The method of **claim 36**, wherein the serotonin receptor 2A antagonist is ketanserin.	1. Int'l Pat. App. No. WO/2019/081764 (Combination Product for the Treatment of Neurological and/or Psychiatric Disorders) (Published 05/02/2019) From **claim 4 "**The combination product for use according to any one of claims 1 -3 wherein the 5-HT2A receptor antagonist is selected from the group consisting of Methiothepin, Ritanserin, **Ketanserin**, Flibanserin, Methysergide, Trazodone, Nefazodone, Cinitapride, Cyproheptadine, Brexpiprazole, Cariprazine, Agomelatine, Pimavanserin, Eplivanserin, Volinanserin, Altanserin, Setoperone, LY-367,265, 1 -(1 -Naphthyl)piperazine, SB 206553, Pirenperone, SB-215505, Metergoline, Deramciclane, Amperozide, Glemanserin, 5-MeO-NBpBrT, Adatanserin, AM DA, Cinanserin, Fananserin, Iferanserin, AC-90179, LY86057, GSK-

	215083, Cyamemazine, Mesulergine, BF-1 , LY215840, Sergolexole, Spiramide, LY53857, Amesergide, LY108742, Pipamperone, LY314228 and 5-I- 91 150."
38. The method of **claim 36**, wherein the serotonin receptor 2A antagonist is ritanserin.	1. Int'l Pat. App. No. WO/2019/081764 (Combination Product for the Treatment of Neurological and/or Psychiatric Disorders) (Published 05/02/2019) From **claim 4 "**The combination product for use according to any one of claims 1 -3 wherein the 5-HT2A receptor antagonist is selected from the group consisting of Methiothepin, **Ritanserin**, Ketanserin, Flibanserin, Methysergide, Trazodone, Nefazodone, Cinitapride, Cyproheptadine, Brexpiprazole, Cariprazine, Agomelatine, Pimavanserin, Eplivanserin, Volinanserin, Altanserin, Setoperone, LY-367,265, 1 -(1 -Naphthyl)piperazine, SB 206553, Pirenperone, SB-215505, Metergoline, Deramciclane, Amperozide, Glemanserin, 5-MeO-NBpBrT, Adatanserin, AM DA, Cinanserin, Fananserin, Iferanserin, AC-90179, LY86057, GSK-215083, Cyamemazine, Mesulergine, BF-1 , LY215840, Sergolexole, Spiramide, LY53857, Amesergide, LY108742, Pipamperone, LY314228 and 5-I- 91 150."
39. The method of **claim 25**, wherein the depression is major depression, psychotic depression, treatment-resistant depression (TRD), or postpartum depression.	2. Int'l Pat. App. No. WO/2020/212952 (Treatment of Depression and Other Various Disorders with Psilocybin) (Published 10/22/2020) From page 2, lines 5-11 "In some embodiments, the disclosure provides a method of treating a subject in need thereof, the method comprising administering to the subject a therapeutically effective dose of psilocybin or a metabolite thereof, wherein the subject has one or more of the following diseases, disorders, or conditions: Disruptive Mood Dysregulation Disorder, **Major Depressive Disorder (MDD)**, **Treatment-Resistant Depression**, Persistent Depressive Disorder (Dysthymia), Premenstrual Dysphoric Disorder, Substance/Medication-Induced Depressive Disorder, **Post-Partum Depression**, Depressive Disorder due to Another Medical Condition, …"
40. The method of **claim 25**, wherein the administration of the serotonin receptor 2A antagonist reduces	1. Int'l Pat. App. No. WO/2019/081764 (Combination Product for the Treatment of Neurological and/or Psychiatric Disorders) (Published 05/02/2019) From **claim 2** "A pharmaceutical combination product comprising: compound described by the **following formula (I)**:

hallucinogenic effects of the serotonin agonist without impairing antidepressant effects of the serotonin agonist.	 wherein R1 is selected from the group consisting of methyl, ethyl, n-propyl, allyl and isopropyl; wherein R2 is selected from the group consisting of methyl, ethyl, n-propyl, allyl and isopropyl; wherein R3 is selected from the group consisting of hydrogen, methoxy, methyl, hydroxy and a halogen; and wherein R4 is selected from the group consisting of hydrogen, hydroxy, phosphoryloxy and acetoxy; wherein R5 is selected from the group consisting of deuterium (^{2}H) and protium (^{1}H); and (ii) a 5-HT2A receptor antagonist; for use in the treatment and/or prevention of psychiatric and/or neurological disorders. From page 18, lines 21-29 **“**Preferably, the compound described by formula (I) is N,N-dimethyltryptamine, N,N-diethyltryptamine, N,N-dipropyltryptamine, N,N-diisopropyltryptamine, 5-methoxy-N,N-dimethyltryptamine, 5-methoxy-N,N-diisopropyltryptamine, 5-hydroxy-N,N-dimethyltryptamine (bufotenin), 4-phosphoryloxy-N,N-dimethyltryptamine (psilocybin), **4-hydroxy-N,N-dimethyltryptamine (psilocin)**, N,N-diallyltryptamine, 5-Fluoro-N,N-diallyltryptamine, 5-Chloro-N,N-diallyltryptamine, 5-Bromo-N,N-diallyltryptamine, 5-Methyl-N,N-diallyltryptamine, 5-Methoxy-N,N-diallyltryptamine, a,a,3,3,-tetradeutero-5-Methoxy-dimethyltryptamine, α,α,β,β,-tetradeutero-dimethyltryptamine and/or O-acetylpsilocin.” From claim 12 “The combination product for use according to any one of claims 1 -10, wherein **the 5-HT2A receptor antagonist alleviates or eliminates the hallucinogenic and/or psychedelic side effects caused by the compound described by formula (I).**”

41. The method of **claim 25**, wherein the serotonin receptor 2A antagonist increases locomotor activity of the subject.	2. Int'l Pat. App. No. WO/2020/212952 (Treatment of Depression and Other Various Disorders with Psilocybin) (Published 10/22/2020) From **claim 1** "A method of **treating depression** in a subject in need thereof, the method comprising administering an effective amount of **psilocybin** or an active metabolite thereof to the subject." From **claim 9** "The method of claim 8, wherein the sign or symptom of depression is depressed mood, diminished interest in activities, weight loss or gain, decrease or increase in appetite, insomnia or hypersomnia, **psychomotor agitation or retardation**, fatigue or loss of energy, feelings of worthlessness or excessive or inappropriate guilt, diminished ability to concentrate or indecisiveness, or suicidal ideation or behavior. From **claim 21** "The method of any one of claims 1 -19, wherein the method further comprises administering to the subject at least one additional therapeutic to reduce the **sign or symptom of depression**." From **claim 22** "The method of claim 21 , wherein the at least one additional therapeutic is a selective serotonin reuptake inhibitor, a serotonin and norepinephrine reuptake inhibitor, a tricyclic antidepressant, a tetracyclic antidepressant, a dopamine reuptake inhibitor, a **5-HT2 receptor antagonist,** a 5-HT1 receptor antagonist, a 5-HT1 receptor antagonist, a monoamine oxidase inhibitor, or a noradrenergic antagonist." From **claim 23 "**The method of claim 21 or 22, wherein the **at least one additional therapeutic is administered prior to administration of psilocybin.**" From **claim 24"**The method of claim 21 or 22, wherein the **at least one additional therapeutic is administered after administration of psilocybin.**"
42. A method for treating anhedonia in a subject in need thereof, comprising: (a) administering to the subject a serotonin receptor 2A antagonist; and	2. Int'l Pat. App. No. WO/2020/212952 (Treatment of Depression and Other Various Disorders with Psilocybin) (Published 10/22/2020) From **claim 1** "A method of **treating depression** in a subject in need thereof, the method comprising administering an effective amount of **psilocybin** or an active metabolite thereof to the subject." From **claim 9** "The method of claim 8, wherein the sign or symptom of depression is depressed mood, **diminished interest in activities**, weight loss or gain, decrease or increase in appetite, insomnia or hypersomnia, psychomotor agitation or retardation, fatigue or loss of energy, feelings of worthlessness or excessive or inappropriate guilt, diminished ability to concentrate or indecisiveness, or suicidal ideation or behavior.

(b) administering to the subject a serotonin agonist selected from psilocybin, psilocin, LSD and lisurgide; wherein the serotonin agonist is administered separately, sequentially or simultaneously with the serotonin receptor 2A antagonist.	From **claim 21** "The method of any one of claims 1 -19, wherein the method further comprises administering to the subject at least one additional therapeutic to reduce the **sign or symptom of depression**." From **claim 22** "The method of claim 21 , wherein the at least one additional therapeutic is a selective serotonin reuptake inhibitor, a serotonin and norepinephrine reuptake inhibitor, a tricyclic antidepressant, a tetracyclic antidepressant, a dopamine reuptake inhibitor, a **5-HT2 receptor antagonist,** a 5-HT1 receptor antagonist, a 5-HT1 receptor antagonist, a monoamine oxidase inhibitor, or a noradrenergic antagonist." From **claim 23 "**The method of claim 21 or 22, wherein the **at least one additional therapeutic is administered prior to administration of psilocybin.**" From **claim 24"**The method of claim 21 or 22, wherein the **at least one additional therapeutic is administered after administration of psilocybin.**"
43. A method for reducing suicidal ideation in a subject having depression, comprising: (a) administering to the subject a serotonin receptor 2A antagonist; and (b) administering to the subject a serotonin agonist selected from psilocybin, psilocin, LSD and lisurgide, wherein the serotonin agonist is administered	2. Int'l Pat. App. No. WO/2020/212952 (Treatment of Depression and Other Various Disorders with Psilocybin) (Published 10/22/2020) From **claim 1** "A method of **treating depression** in a subject in need thereof, the method comprising administering an effective amount of **psilocybin** or an active metabolite thereof to the subject." From **claim 9** "The method of claim 8, wherein the sign or symptom of depression is depressed mood, diminished interest in activities, weight loss or gain, decrease or increase in appetite, insomnia or hypersomnia, psychomotor agitation or retardation, fatigue or loss of energy, feelings of worthlessness or excessive or inappropriate guilt, diminished ability to concentrate or indecisiveness, or **suicidal ideation** or behavior. From **claim 21** "The method of any one of claims 1 -19, wherein the method further comprises administering to the subject at least one additional therapeutic to reduce the **sign or symptom of depression**." From **claim 22** "The method of claim 21 , wherein the at least one additional therapeutic is a selective serotonin reuptake inhibitor, a serotonin and norepinephrine reuptake inhibitor, a tricyclic antidepressant, a tetracyclic antidepressant, a dopamine reuptake inhibitor, a **5-HT2 receptor antagonist,** a 5-HT1 receptor antagonist, a 5-HT1 receptor antagonist, a monoamine oxidase inhibitor, or a noradrenergic antagonist."

separately, sequentially or simultaneously with the serotonin receptor 2A antagonist.	From **claim 23 "**The method of claim 21 or 22, wherein the **at least one additional therapeutic is administered prior to administration of psilocybin.**" From **claim 24"**The method of claim 21 or 22, wherein the **at least one additional therapeutic is administered after administration of psilocybin.**"
44. A method for reducing hallucinogenic effects of a serotonin agonist in a subject, comprising administering to the subject a serotonin receptor 2A antagonist; wherein serotonin agonist is selected from psilocybin, psilocin, LSD and lisurgide; and the serotonin agonist is administered to the subject after the administration of the serotonin receptor 2A antagonist.	1. Int'l Pat. App. No. WO/2019/081764 (Combination Product for the Treatment of Neurological and/or Psychiatric Disorders) (Published 05/02/2019) From **claim 2** "A pharmaceutical combination product comprising: compound described by the **following formula (I)**:  wherein R1 is selected from the group consisting of methyl, ethyl, n-propyl, allyl and isopropyl; wherein R2 is selected from the group consisting of methyl, ethyl, n-propyl, allyl and isopropyl; wherein R3 is selected from the group consisting of hydrogen, methoxy, methyl, hydroxy and a halogen; and wherein R4 is selected from the group consisting of hydrogen, hydroxy, phosphoryloxy and acetoxy; wherein R5 is selected from the group consisting of deuterium (^{2}H) and protium (^{1}H); and (ii) a 5-HT2A receptor antagonist; for use in the treatment and/or prevention of psychiatric and/or neurological disorders.

	From page 18, lines 21-29 **"**Preferably, the compound described by formula (I) is N,N-dimethyltryptamine, N,N-diethyltryptamine, N,N-dipropyltryptamine, N,N-diisopropyltryptamine, 5-methoxy-N,N-dimethyltryptamine, 5-methoxy-N,N-diisopropyltryptamine, 5-hydroxy-N,N-dimethyltryptamine (bufotenin), 4-phosphoryloxy-N,N-dimethyltryptamine (psilocybin), **4-hydroxy-N,N-dimethyltryptamine (psilocin)**, N,N-diallyltryptamine, 5-Fluoro-N,N-diallyltryptamine, 5-Chloro-N,N-diallyltryptamine, 5-Bromo-N,N-diallyltryptamine, 5-Methyl-N,N-diallyltryptamine, 5-Methoxy-N,N-diallyltryptamine, a,a,3,3,-tetradeutero-5-Methoxy-dimethyltryptamine, α,α,β,β,-tetradeutero-dimethyltryptamine and/or O-acetylpsilocin." From claim 12 "The combination product for use according to any one of claims 1 -10, wherein **the 5-HT2A receptor antagonist alleviates or eliminates the hallucinogenic and/or psychedelic side effects caused by the compound described by formula (I).**" From page 32, lines 2-5 "A compound described by formula (I) and a 5-HT2A receptor antagonist may be **administered together or separately** to an individual who suffers from one or more psychiatric and/or neurological disorders and/or who is at risk of suffering from one or more psychiatric and/or neurological disorders."