New Psychoactive Substances (NPS)

Reference materials **2019**

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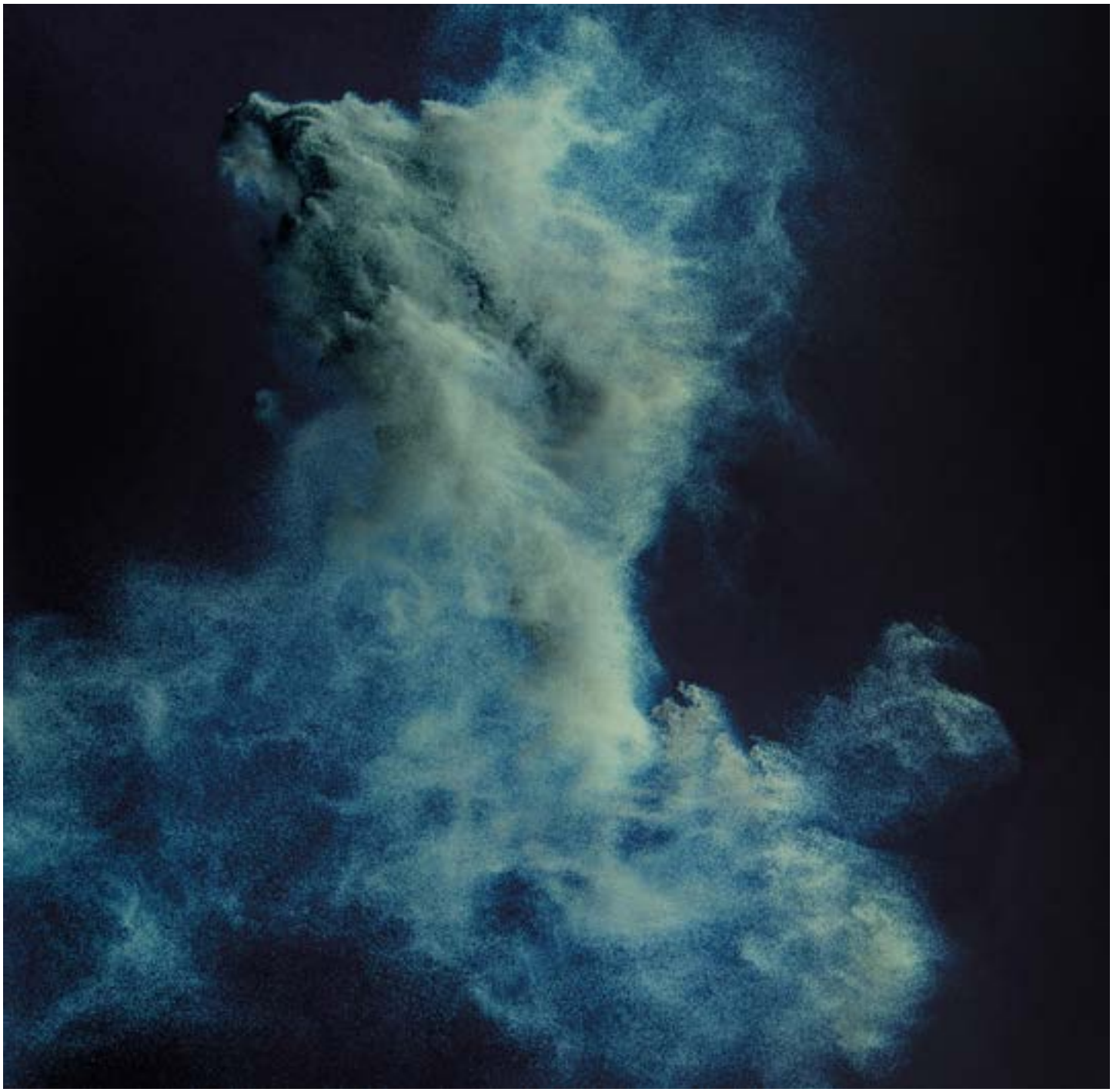

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LGC offers the most extensive and up-to-date range of New Psychoactive Substances (NPS) reference materials.

The challenge

New Psychoactive Substances (NPS) continue to be identified, and it appears that moves by the United Nations and by individual countries to control lists of named NPS may be encouraging the development of yet further variants to avoid these controls.

Strategies used to develop new materials include creating modified versions of pharmaceuticals, 'reviving' forgotten pharmaceuticals from old research literature and making 'bioisosteres' of controlled materials, where sub-units within a controlled molecule are replaced by other units with similar chemical, spatial and electrical characteristics.

The LGC response

In response to the ever-expanding range of NPS being developed, LGC has produced a comprehensive range of reference materials that meet the rapidly changing demands of the NPS landscape. Many of these products are produced under the rigorous quality assurance standards set out in ISO Guide 34. If you don't see what you are looking for, please contact your local sales office as the range of these products is continuously evolving.

LGC Standards provides the widest range of reference materials available from any single supplier. We work closely with leading manufacturers to provide improved access to reference materials, with an increasingly large range of parameters, for laboratories worldwide. LGC Standards has both extensive reference material sales experience and technical expertise that allows us to work in successful partnership with our customers.

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Ref	Substance	Other names
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1.1.3	α,α-Dimethyl-PEA	Phentermine
1.1.4	α,α-Dimethyl-PEA-D5	
1.1.5	β-Methyl-PEA	2-Phenylpropan-1-amine
1.1.6	N,β-Dimethyl-PEA	Benzedrine, Phenylpropylmethylamine
1.1.7	N,N-Diethyl-PEA	
1.1.8	β-Methoxy-PEA	2-MeO-2-phenylethylamine
1.1.9	α-Ethyl-PEA	Butanphenamine, 2-Amino-1-phenylbutane
1.1.10	N-Methyl-α-ethyl-PEA	2-Methylamino-1-phenylbutane
1.1.11	N-Ethyl-α-ethyl-PEA	2-Ethylamino-1-phenylbutane
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1.2.3	2C-B-D6	
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1.2.6	2C-C	2,5-DiMeO-4-Cl-PEA
1.2.7	2C-C-D6	
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1.2.9	2C-D-D6	
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1.2.11	2C-E	2,5-DiMeO-4-Et-PEA
1.2.12	2C-E-13C-D3	
1.2.13	2C-F	2,5-DiMeO-4-F-PEA
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1.2.15	2C-H	2,5-DiMeO-PEA
1.2.16	2C-H-D6	
1.2.17	2C-H-13C-6 (13C in ring)	
1.2.18	N-Me-2C-H	
1.2.19	2C-I	2,5-DiMeO-4-I-PEA
1.2.20	2C-I-D6	
1.2.21	2C-I-13C-D3	
1.2.22	2C-I-13C-6 (13C in ring)	
1.2.23	2C-N	2,5-DiMeO-4-NO2-PEA
1.2.24	2C-N-D6	
1.2.25	2C-N-13C-D3	
1.2.26	2C-P	2,5-DiMeO-4-Pr-PEA
1.2.27	2C-iP	2,5-DiMeO-4-iPr-PEA

Ref	Substance	Other names
1.2.28	2C-T	2,5-DiMeO-4-MeS-PEA
1.2.29	2-CT-2	2,5-DiMeO-4-EtS-PEA
1.2.30	2-CT-2-D6	
1.2.31	2-CT-2-13C-D3	
1.2.32	2-C-T-4	2,5-DiMeO-4-iPrS-PEA
1.2.33	2-C-T-4-13C,D3	
1.2.34	2-C-T-7	2,5-DiMeO-4-PrS-PEA
1.2.35	2-C-T-7-D6	
1.2.36	2-C-T-7-13C,D3	
1.2.37	2-C-T-21	2,5-DiMeO-4-(2-FlEtS)-PEA
1.2.38	2C-O-4	2,5-DiMeO-4-iPrO-PEA
1.2.39	2C-TFM	2,5-DiMeO-4-TriFlMe-PEA
1.2.40	DMPEA	3,4-DiMeO-PEA
1.2.41	2C-O	2,4,5-TriMeO-PEA
1.2.42	2C-G-4	5,6,7,8-TetraH-1,4-DiMeO-2-Naphth-EA
1.2.43	2C-G-N	2-(1,4-DiMeO-Naphth)-EA
1.3	**"2C-X"-NBOMe and related derivatives**	
1.3.1	25B-NBOMe, 2CB-NBOMe, 25B-NB2OMe	N-(2-Methoxybenzyl)-2C-B
1.3.2	25B-NBOMe-D3	
1.3.3	25B-NBOMe-D6	
1.3.4	25B-NB3OMe	N-(3-Methoxybenzyl)-2C-B
1.3.5	25B-NB4OMe	N-(4-Methoxybenzyl)-2C-B
1.3.6	25-B-NBF	N-(2-Fluorobenzyl)-2C-B
1.3.7	25-NBOH	N-(2-Fluorobenzyl)-2C-B
1.3.8	2C-C-NBOMe	N-(2-Methoxybenzyl)-2C-C
1.3.9	25C-NBOMe-D3	
1.3.10	25C-NBOMe-D6	
1.3.11	25C-NB3OMe	N-(3-Methoxybenzyl)-2C-C
1.3.12	25C-NB4OMe	N-(4-Methoxybenzyl)-2C-C
1.3.13	2C-C-NBOH	N-(2-Hydroxybenzyl)-2C-C
1.3.14	25-C-NBF	N-(2-Fluorobenzyl)-2C-C
1.3.15	C30-NBOMe	N-(3,4,5-Trimethoxybenzyl)-2C-C
1.3.16	25D-NBOMe	N-(2-Methoxybenzyl)-2C-D
1.3.17	25D-NBOMe-D3	
1.3.18	25E-NBOMe	N-(2-Methoxybenzyl)-2C-E
1.3.19	25E-NBOH	N-(2-Hydroxybenzyl)-2C-E
1.3.20	25G-NBOMe	N-(2-Methoxybenzyl)-2C-G
1.3.21	25H-NBOMe	N-(2-Methoxybenzyl)-2C-H
1.3.22	25H-NB4OMe	N-(4-Methoxybenzyl)-2C-H
1.3.23	25-H-NBOMe (imine analogue)	N-(2-Methoxybenzylidene)-2C-H
1.3.24	25H-NBOH	N-(2-Hydroxybenzyl)-2C-H
1.3.25	25H-NBF	N-(2-Fluorobenzyl)-2C-H
1.3.26	25H-NBMD	N-(2,3-Methylenedioxybenzyl)-2C-H

Ref	Substance	Other names
1.3.27	25-iP-NBOMe	N-(2-Methoxybenzyl)-2C-iP
1.3.28	25I-NBF	N-(2-Fluorobenzyl)-2C-I
1.3.29	25I-NBOH	N-(2-Hydroxybenzyl)-2C-I
1.3.30	25I-NBOMe	N-(2-Methoxybenzyl)-2C-I
1.3.31	25I-NBOMe-D3	
1.3.32	25I-NBOMe-D6	
1.3.33	25I-NBOMe-D9	
1.3.34	25I-NBOMe (imine analogue)	N-(2-Methoxybenzylidene)-2C-I
1.3.35	25I-NBOMe (3-methoxy isomer)	N-(3-Methoxybenzyl)-2C-I
1.3.36	25I-NBOMe (4-methoxy isomer)	N-(4-Methoxybenzyl)-2C-I
1.3.37	N-Acetyl-25I-NBOMe	
1.3.38	25I-NBMD	N-(2,3-Methylenedioxybenzyl)-2C-I
1.3.39	25N-NBOMe	N-(2-Methoxybenzyl)-2C-N
1.3.40	25P-NBOMe	N-(2-Methoxybenzyl)-2C-P
1.3.41	2-CT-NBOMe	N-(2-Methoxybenzyl)-2C-T
1.3.42	2-CT-2-NBOMe	N-(2-Methoxybenzyl)-2C-T-2
1.3.43	2-CT-4-NBOMe	N-(2-Methoxybenzyl)-2C-T-4
1.3.44	2-CT-7-NBOMe	N-(2-Methoxybenzyl)-2C-T-7
1.3.45	Mescaline-NBOMe	N-(2-MeO benzyl)-3,4,5-TriMeO PEA

1.4	Methylenedioxyphenethylamines & amphetamines	
1.4.1	MDPEA	3,4-Methylenedioxy-PEA
1.4.2	MDMPEA, Homarylamine	N-Methyl-3,4-methylenedioxy-PEA
1.4.3	N-Me Homarylamine	N,N-Dimethyl-3,4-methylenedioxy-PEA
1.4.4	UWA-101	α-Cyclopropyl-3,4-MDO-N-Me-PEA
1.4.5	MDA (Tenamfetamine)	3,4-Methylenedioxy-Amph
1.4.6	MDA-D2	3,4-Methylenedioxy-Amph-D2
1.4.7	MDA-D5	3,4-Methylenedioxy-Amph-D6
1.4.8	MDA-13C6	
1.4.9	2,3-MDA	2,3-Methylenedioxy-Amph
1.4.10	MMDA-2	2-MeO-MDA
1.4.11	MMDA	3-MeO-MDA
1.4.12	MDDM, 3,4-MDDMA	N,N-Dimethyl-MDA
1.4.13	MDPR	N-Propyl-MDA
1.4.14	MDOH	N-Hydroxy-MDA
1.4.15	MDMA ('Ecstasy', 'Adam')	3,4-Methylenedioxy-Methamphet
1.4.16	MDMA-D3	3,4-Methylenedioxy-Methamphet-D3
1.4.17	MDMA-D5	3,4-Methylenedioxy-Methamphet-D5
1.4.18	MDMA-13C-6	
1.4.19	2,3-MDMA	2,3-Methylenedioxy-Methamphet
1.4.20	2,3-MDMA-D3	2,3-Methylenedioxy-Methamphet-D3
1.4.21	MMDMA	5-MeO-MDMA
1.4.22	2-Br-4,5-MDMA	2-Br-4,5-methylenedioxy-Methamphet
1.4.23	2-Cl-4,5-MDMA	2-Cl-4,5-methylenedioxy-Methamphet

Ref	Substance	Other names
1.4.24	N-Hydroxy-MDMA ('FLEA')	
1.4.25	N-tBOC-MDMA (precursor/pro-drug)	N-tert-Butoxycarbonyl MDMA
1.4.26	MDEA ('Eve')	3,4-Methylenedioxy-Ethamphet
1.4.27	MDEA-D5	3,4-Methylenedioxy-Ethamphet-D5
1.4.28	MDEA-D6	3,4-Methylenedioxy-Ethamphet-D6
1.4.29	MDEA-13C6	
1.4.30	MDEA 2,3 isomer	2,3-Methylenedioxy-Ethamphet
1.4.31	BDB ('J')	1-(1,3-Benzodioxol-5-yl)-2-butanamine
1.4.32	BDB-D2	
1.4.33	MBDB ('Eden', 'Methyl-J')	N-Me-(1,3-benzodioxol-5-yl)-2-butanamine
1.4.34	MBDB-D3	
1.4.35	MBDB-D5	
1.4.36	EBDB ('Ethyl-J')	2-EtAmino-1-(3,4-MDOphenyl)butane
1.4.37	3,4-EDMA	3,4-Ethylenedioxy-Methamphet

1.5	Trialkoxyphenethylamines	
1.5.1	2C-O	2,4,5-TriMeO-PEA
1.5.2	2C-O-4	2,5-DiMeO-4-iPrO-PEA
1.5.3	M (Mescaline)	3,4,5-TriMeO-PEA
1.5.4	Mescaline-D9	
1.5.5	Escaline	3,5-DiMeO-4-EtO-PEA
1.5.6	Escaline-D3	
1.5.7	Metaescaline	3,4-DiMeO-5-EtO-PEA
1.5.8	Allylescaline	3,5-DiMeO -4-(CH2:CH2-CH2O)-PEA
1.5.9	Proscaline	3,5-DiMeO-4-PrO-PEA

1.6	"Fly" and "Dragonfly" compounds	
1.6.1	Fly	
1.6.2	2C-B-Fly	
1.6.3	2C-B-Fly-D4	
1.6.4	3C-B-Fly	alpha-Me-2C-B-Fly
1.6.5	Dragonfly	
1.6.6	Bromodragonfly'	1-(8-Bromobenzodifuran-4-yl)-2-aminopropane
1.6.7	'Bromodragonfly'-D5	
1.6.8	'Bromodragonfly'-D6	
1.6.9	R-(-)-Bromodragonfly	

1.7	"Benzofuries" (APBs and APDBs)	
1.7.1	5-(2-Aminoethyl)-2,3-dihydrobenzofuran	5-AEDB
1.7.2	2-(2-Aminopropyl)benzofuran	2-APB
1.7.3	4-(2-Aminopropyl)benzofuran	4-APB
1.7.4	5-(2-Aminopropyl)benzofuran	5-APB
1.7.5	5-(2-Aminopropyl)benzofuran-D5	
1.7.6	5-(2-Aminopropyl)benzofuran-D6	

Ref	Substance	Other names
1.7.7	6-(2-Aminopropyl)benzofuran	6-APB
1.7.8	6-(2-Aminopropyl)benzofuran-D5	
1.7.9	6-(2-Aminopropyl)benzofuran-D6	
1.7.10	4- and 6-(2-Aminopropyl)benzofuran	4- & 6-APB
1.7.11	7-(2-Aminopropyl)benzofuran	7-APB
1.7.12	5-APB-NBOMe	N-MOB-5-APB
1.7.13	N-Methyl 2-(2-Aminopropyl)benzofuran	2-MAPB
1.7.14	N-Methyl 3-(2-Aminopropyl)benzofuran	3-MAPB
1.7.15	N-Methyl 4-(2-Aminopropyl)benzofuran	4-MAPB
1.7.16	N-Methyl 5-(2-Aminopropyl)benzofuran	5-MAPB
1.7.17	N-Methyl 6-(2-Aminopropyl)benzofuran	6-MAPB
1.7.18	N-Methyl 7-(2-Aminopropyl)benzofuran	7-MAPB
1.7.19	4-(N-Ethyl-2-Aminopropyl)benzofuran	4-EAPB
1.7.20	5-(N-Ethyl-2-Aminopropyl)benzofuran	5-EAPB
1.7.21	6-(N-Ethyl-2-Aminopropyl)benzofuran	6-EAPB
1.7.22	4-(2-Aminopropyl)-2,3-dihydrobenzofuran	4-APDB
1.7.23	5-(2-Aminopropyl)-2,3-dihydrobenzofuran	5-APDB
1.7.24	6-(2-Aminopropyl)-2,3-dihydrobenzofuran	6-APDB
1.7.25	7-(2-Aminopropyl)-2,3-dihydrobenzofuran	7-APDB
1.7.26	5-(N-Methyl-2-Aminopropyl)-2,3-dihydrobenzofuran	5-MAPDB

1.8	Other phenethylamine-related compounds	
1.8.1	M-ALPHA	1-Methylamino-1-(3,4-MDOphenyl)propane.HCl
1.8.2	Methylenedioxyaminoindane	MDAI
1.8.3	N-Methyl methylenedioxyaminoindane	MDMAI
1.8.4	5-Methoxy-6-methyl-2-aminoindane	MMAI
1.8.5	Methylenedioxyaminotetralin	MDAT
1.8.6	Heliomethylamine	MDMA methylene homologue

2.0 Metabolites of 'Ecstasy' Chems

Ref	Parent compound	Metabolite
2.1	**MDA**	
2.1.1		3,4-Dihydroxy-Amph
2.1.2		N-Hydroxy-MDA
2.1.3		3-MeO-4-hydroxy-Amph
2.2	**MDMA**	
2.2.1		3,4-Dihydroxy-N-Me-Amph
2.2.2		3,4-Dihydroxy-N-Me-Amph-D3
2.2.3		3-MeO-4-hydroxy-N-Me-Amph
2.2.4		3-MeO-4-hydroxy-N-Me-Amph-D3
2.2.5		3-MeO-4-hydroxy-N-Me-Amph Glucuronide
2.2.6		3-MeO-4-hydroxy-N-Me-Amph-d3 Glucuronide

Ref	Parent compound	Metabolite
2.2.7		3',4'-Dihydroxyphenylacetone
2.3	**MDEA**	
2.3.1		3,4-Dihydroxy-N-Et-Amph
2.3.2		3-MeO-4-hydroxy-N-Et-Amph
2.3.3		3',4'-Dihydroxyphenylacetone
2.4	**BDB**	
2.4.1		3,4-Dihydroxyphenyl-butan-2-amine
2.4.2		3-MeO-4-hydroxyphenyl-butan-2-amine
2.5	**MBDB**	
2.5.1		3,4-Dihydroxyphenyl-N-Me-butan-2-amine
2.5.2		3-MeO-4-hydroxyphenyl-N-Me-butan-2-amine

3.0 Amphetamines

Ref	Substance	Other names
3.1	**Amphetamine**	
3.1.1	Amphetamine	
3.1.2	R(-)-Amphetamine	
3.1.3	S(+)-Amphetamine	Dexamfetamine
3.1.4	S(+)-Amphetamine-D3	
3.1.5	Amphetamine-D3	
3.1.6	Amphetamine-D5 (D on ring)	
3.1.7	Amphetamine-D5 (D on side chain)	
3.1.8	Amphetamine-D6	
3.1.9	Amphetamine-D8	
3.1.10	Amphetamine-D10	
3.1.11	Amphetamine-D11	
3.1.12	Amphetamine- 13C-6 (13C in ring)	
3.1.13	2-Br Amphetamine	
3.1.14	3-Br Amphetamine	
3.1.15	4-Br Amphetamine	
3.1.16	4-Br Amphetamine-D3	
3.1.17	2-Cl Amphetamine	
3.1.18	3-Cl Amphetamine	
3.1.19	4-Cl Amphetamine	
3.1.20	2-Fl Amphetamine	
3.1.21	2-Fl Amphetamine-D5 (D on side chain)	
3.1.22	2-Fl Amphetamine-D6	
3.1.23	3-Fl Amphetamine	
3.1.24	4-Fl Amphetamine	

Ref	Substance	Other names
3.1.25	4-FI Amphetamine-D5 (D on side chain)	
3.1.26	4-Hydroxy Amphetamine	Hydroxyamfetamine
3.1.27	4-Hydroxy Amphetamine-D5	
3.1.28	2-Iodo Amphetamine	
3.1.29	3-Iodo Amphetamine	
3.1.30	4-Iodo Amphetamine	
3.1.31	2-Me Amphetamine	Ortetamine
3.1.32	3-Me Amphetamine	
3.1.33	4-Me Amphetamine	
3.1.34	4-Me Amphetamine-D6	
3.1.35	2-MeO Amphetamine	
3.1.36	3-MeO Amphetamine	
3.1.37	4-MeO-Amphetamine	PMA
3.1.38	4-MeO-Amphetamine 13C6 (13C on ring)	
3.1.39	3-CF3-Amphetamine	Desethylfenfluoramine
3.1.40	4-MeS-Amphetamine	4-MTA, ('Flatliner')
3.1.41	4-Me-Amphetamine NBOMe	4-MA-NBOMe
3.1.42	4-Et-Amphetamine NBOMe	4-EA-NBOMe
3.2	**Dimethoxyamphetamines**	
3.2.1	2,4-DiMeO-Amph	2,4-DMA
3.2.2	2,5-DiMeO-Amph	2,5-DMA
3.2.3	2,5-DiMeO-Amph-D6	2,5-DMA-D6
3.2.4	3,4-DiMeO-Amph	3,4-DMA
3.2.5	3,5-DiMeO-Amph	3,5-DMA
3.2.6	2,5-DiMeO-4-Me-Amph	DOM ('STP')
3.2.7	2,5-DiMeO-4-Me-Amph-D6	DOM-D6
3.2.8	2,5-DiMeO-4-Et-Amph	DOET
3.2.9	2,5-DiMeO-4-Bu-Amph	DOBU
3.2.10	2,5-DiMeO-4-Pentyl-Amph	DOAM
3.2.11	2,5-DiMeO-4-F-Amph	DOF
3.2.12	2,5-DiMeO-4-Cl-Amph	DOC
3.2.13	2,5-DiMeO-4-Cl-Amph-D6	DOC-D6
3.2.14	2,5-DiMeO-4-Br-Amph	DOB ('Bromo-STP')
3.2.15	2,5-DiMeO-4-Br-Amph-D5	
3.2.16	2,5-DiMeO-4-Br-Amph-D6	DOB-D6
3.2.17	2,5-DiMeO-4-I-Amph	DOI
3.2.18	2,5-DiMeO-4-I-Amph-D6	DOI-D6
3.2.19	2,5-DiMeO-4-MeS-Amph	ALEPH
3.2.20	2,5-DiMeO-4-EtS-Amph	ALEPH-2
3.2.21	2,5-DiMeO-4-iPrS-Amph	ALEPH-4
3.2.22	2,5-DiMeO-4-NO2-Amph	DON
3.2.23	2,6-DiMeO-Amph	
3.2.24	3,4-DiMeO-Amph-N-Benzyl	
3.2.25	3,4-DiMeO-Amph-NBOMe	

Ref	Substance	Other names
3.3	**Trialkoxyamphetamines**	
3.3.1	2,3,4-TriMeO-Amph	TMA-3
3.3.2	2,3,5-TriMeO-Amph	TMA-4
3.3.3	2,3,6-TriMeO-Amph	TMA-5
3.3.4	2,4,5-TriMeO-Amph	TMA-2
3.3.5	2,4,6-TriMeO-Amph	TMA-6
3.3.6	3,4,5-TriMeO-Amph	TMA
3.3.7	3,5-DiMeO-4-PrO-Amph	3C-P
3.4	**N-Methyl Amphetamines**	
3.4.1	Methamphetamine	N-Methylamphetamine
3.4.2	Methamphetamine-D3	
3.4.3	Methamphetamine-D5	
3.4.4	Methamphetamine-D6	
3.4.5	Methamphetamine-D8	
3.4.6	Methamphetamine-D9	
3.4.7	Methamphetamine-D11	
3.4.8	Methamphetamine-D14	
3.4.9	Methamphetamine- 13c-6 (13C in ring)	
3.4.10	S(+)-Methamphetamine	
3.4.11	S(+)-Methamphetamine-D3	
3.4.12	R(-)-Methamphetamine	
3.4.13	R(-)-Methamphetamine-D3	
3.4.14	2-FI Methamphetamine	
3.4.15	2-FI Methamphetamine-D5	
3.4.16	3-FI Methamphetamine	
3.4.17	3-FI Methamphetamine-D3	
3.4.18	4-FI Methamphetamine	
3.4.19	4-FI Methamphetamine-D3	
3.4.20	4-FI Methamphetamine-D5 (on side chain)	
3.4.21	2-Cl Methamphetamine	
3.4.22	3-Cl Methamphetamine	
3.4.23	4-Cl Methamphetamine	
3.4.24	2-Br Methamphetamine	
3.4.25	3-Br Methamphetamine	
3.4.26	4-Br Methamphetamine	
3.4.27	2-Me Methamphetamine	
3.4.28	3-Me Methamphetamine	
3.4.29	4-Me Methamphetamine	
3.4.30	4-Me Methamphetamine-NBOMe	4-MMA-NBOMe
3.4.31	2-MeO Methamphetamine	Methoxyphenamine
3.4.32	3-MeO-Methamphetamine	
3.4.33	3-MeO-Methamphetamine-D3	
3.4.34	4-MeO-Methamphetamine	PMMA

Ref	Substance	Other names
3.4.35	4-MeO-Methamphetamine-D3	
3.4.36	4-MeO-Methamphetamine-13C6 (13C on ring)	
3.4.37	4-MeS-Methamphetamine	
3.4.38	4-HO-Methamphetamine	Pholedrine
3.4.39	3-CF3-methamphetamine	
3.4.40	2,5-DiMeO-Methamphet	2,5-DMMA
3.4.41	4-Br-2,5-DiMeO-Methamphet	4-Bromo-2,5-DMMA, 'MDOB'
3.4.42	3,4-DiMeO-Methamphetamine	3,4-DMMA
3.4.43	N,N-Dimethylamphetamine	
3.4.44	N,N-Dimethylamphetamine-D6	
3.4.45	(R)-N,N-Dimethylamphetamine	
3.4.46	(R)-N,N-Dimethylamphetamine-D6	
3.4.47	(S)-N,N-Dimethylamphetamine	
3.4.48	(S)-N,N-Dimethylamphetamine-D6	
3.4.49	N-tBOC-methamphetamine	
3.4.50	Mexedrone	3-MeO-2-MeAmino-1-(4-MePh)-propan-1-one
3.5	**N-Ethyl Amphetamines**	
3.5.1	N-Ethylamphetamine	Ethamphetamine
3.5.2	N-Ethylamphetamine-D5	
3.5.3	(R)-N-Ethylamphetamine	
3.5.4	(R)-N-Ethylamphetamine-D5	
3.5.5	(S)-N-Ethylamphetamine	
3.5.6	(S)-N-Ethylamphetamine-D5	
3.5.7	4-MeO-N-Ethylamphetamine	PMEA
3.5.8	4-MeO-N-Ethylamphetamine-D5	
3.5.9	2-Fluoro-N-ethylamphetamine	
3.5.10	3-Fluoro-N-ethylamphetamine	
3.5.11	4-Fluoro-N-ethylamphetamine	
3.5.12	3-Trifluoromethyl-N-ethylamphetamine	
3.5.13	N-(2-Cyanoethyl)amphetamine	Fenproporex
3.5.14	N-(2-Cyanoethyl)amphetamine-D6	
3.5.15	alpha-Ethylethamphetamine	2-Ethylamino-1-phenylbutane
3.6	**Other Amphetamines**	
3.6.1	N-Propylamphetamine	
3.6.2	N-Butylamphetamine	
3.6.3	N-Benzylamphetamine	Benzphetamine
3.6.4	N-Benzylamphetamine-D3	
3.6.5	(R)-N-Benzylamphetamine	
3.6.6	(R)-N-Benzylamphetamine-D3	
3.6.7	(S)-N-Benzylamphetamine	
3.6.8	(S)-N-Benzylamphetamine-D3	
3.6.9	1-(1-Benzylbutyl)pyrrolidine	Prolintane

Ref	Substance	Other names
3.6.10	N-Acetylamphetamine	
3.6.11	Lisdexamphetamine dimesylate	'Vyvanse'
3.6.12	Lisdexamphetamine dimesylate-D4	
3.6.13	Lidexamphetamine sulphate	
4.0	**Cathinones**	
4.1	**Beta-keto "2C-X" compounds**	
4.1.1	bk-2,5-DiMeO-4-Br-PEA	beta-keto 2C-B
4.2	**Cathinones**	
4.2.1	Cathinone	
4.2.2	Cathinone-D3	
4.2.3	Cathinone-D5	
4.2.4	S(-)-Cathinone	
4.2.5	S(-)-Cathinone-D3	
4.2.6	R(+)-Cathinone	
4.2.7	4-Methylcathinone	Normephedrone
4.2.8	4-MeO-cathinone	
4.2.9	3-Chlorocathinone	
4.2.10	2-Fluoroisocathinone	
4.3	**N-Methyl Cathinone and derivatives**	
4.3.1	Methcathinone	N-Methylcathinone, Ephedrone
4.3.2	Methcathinone-D3	
4.3.3	S(-)-Methcathinone	
4.3.4	R(+)-Methcathinone	
4.3.5	2-Methylmethcathinone	
4.3.6	2-Methylmethcathinone-D3	
4.3.7	3-Methylmethcathinone	
4.3.8	3-Methylmethcathinone-D3	
4.3.9	4-Methylmethcathinone	Mephedrone
4.3.10	4-Methylmethcathinone-D3	
4.3.11	4-Methylmethcathinone-13C6 (on benzene ring)	
4.3.12	4-Methyl-N-methoxymethcathinone	N-Methoxy mephedrone
4.3.13	2-Ethylmethcathinone	
4.3.14	3-Ethylmethcathinone	
4.3.15	4-Ethylmethcathinone	4-EMC
4.3.16	4-Ethylmethcathinone-D3	
4.3.17	2-Methoxymethcathinone	
4.3.18	3-Methoxymethcathinone	
4.3.19	4-Methoxymethcathinone	Methedrone
4.3.20	4-Methoxymethcathinone-D3	
4.3.21	2-Chloromethcathinone	

Ref	Substance	Other names
4.3.22	3-Chloromethcathinone	
4.3.23	4-Chloromethcathinone	Clephedrone
4.3.24	2-Fluoromethcathinone	
4.3.25	2-Fluoromethcathinone-D3	
4.3.26	3-Fluoromethcathinone	
4.3.27	3-Fluoromethcathinone-D3	
4.3.28	4-Fluoromethcathinone	Flephedrone
4.3.29	4-Fluoromethcathinone-D3	
4.3.30	2-Bromomethcathinone	
4.3.31	3-Bromomethcathinone	
4.3.32	4-Bromomethcathinone	Brephedrone
4.3.33	4-Hydroxymethcathinone	
4.3.34	3,4-Dichloromethcathinone	DCMC
4.3.35	3,4-Dimethoxymethcathinone	
4.3.36	2,3-Dimethylmethcathinone	
4.3.37	2,4-Dimethylmethcathinone	
4.3.38	3,4-Dimethylmethcathinone	3,4-DMMC
4.3.39	3,4-Dimethylmethcathinone-D3	
4.3.40	2,4,5-Trimethylmethcathinone	
4.3.41	N,N-Dimethylcathinone	Dimethylpropion, Metamfepramone
4.3.42	N,N-Dimethylcathinone-D6	
4.3.43	4-Methyl-N,N-dimethylcathinone	
4.3.44	4-Ethyl-N,N-dimethylcathinone	
4.3.45	4-Methoxy-N,N-dimethylcathinone	
4.3.46	2-Chloro-N,N-dimethylcathinone	
4.3.47	3-Chloro-N,N-dimethylcathinone	
4.3.48	4-Chloro-N,N-dimethylcathinone	
4.3.49	3,4-Dichloro-N,N-dimethylcathinone	
4.3.50	N-Ethyl-N-methylcathinone	
4.3.51	2-(Methylamino)-1-(thiophen-2-yl)propan-1-one (Thiothinone)	β-keto-MPA (Thiophene analogue of methcathinone)
4.3.52	1-(4-MePh)-2-Methylamino-3-MeO-propan-1-one	Mexedrone

4.4	N-Ethyl Cathinone and derivatives	
4.4.1	N-Ethylcathinone	Ethcathinone
4.4.2	N-Ethylcathinone-D5	
4.4.3	1-Ethylamino-1-phenyl-propan-2-one	iso-Ethcathinone
4.4.4	2-Methyl-N-ethylcathinone	2-MEC
4.4.5	3-Methyl-N-ethylcathinone	3-MEC
4.4.6	4-Methyl-N-ethylcathinone	4-MEC
4.4.7	4-Methyl-N-ethylcathinone-D5	
4.4.8	4-Bromoethcathinone	
4.4.9	2-Fluoroethcathinone	
4.4.10	3-Fluoroethcathinone	
4.4.11	4-Fluoroethcathinone	

Ref	Substance	Other names
4.4.12	2-Chloroethcathinone	
4.4.13	3-Chloroethcathinone	
4.4.14	4-Chloroethcathinone	
4.4.15	4-Chloroethcathinone-D3	
4.4.16	2-Ethyl-N-ethylcathinone	
4.4.17	3-Ethyl-N-ethylcathinone	
4.4.18	4-Ethyl-N-ethylcathinone	
4.4.19	2,3-Dimethyl-N-ethylcathinone	
4.4.20	2,4-Dimethyl-N-ethylcathinone	
4.4.21	3,4-Dimethyl-N-ethylcathinone	
4.4.22	3,4-Dichloro-N-ethylcathinone	DCEC
4.4.23	N-Methyl-N-ethylcathinone	
4.4.24	N,N-Diethylcathinone	Diethylpropion, Amfepramone
4.4.25	N,N-Diethylcathinone-D10	
4.4.26	4-Me-N,N-diethylcathinone	

4.5	N-Propyl Cathinones	
4.5.1	4-Cl-N-iPr cathinone	

4.6	N-Benzyl Cathinones	
4.6.1	4-Methyl-N-benzylcathinone	Benzedrone
4.6.2	4-Methylthio-N-benzylcathinone	
4.6.3	4,N-Dimethyl-benzylcathinone	N-Methyl benzedrone

4.7	Simple Butanones	
4.7.1	2-(Methylamino)-1-phenylbutan-1-one	Buphedrone
4.7.2	2-(Methylamino)-1-phenylbutan-1-one-D3	
4.7.3	2-(Methylamino)-1-(4-Cl-phenyl)-butan-1-one	4-Chlorobuphedrone
4.7.4	2-(Methylamino)-1-(4-F-phenyl)-butan-1-one	4-Fluorobuphedrone
4.7.5	2-(Methylamino)-1-(3-methylphenyl)butan-1-on	3-Methylbuphedrone
4.7.6	2-(Methylamino)-1-(4-methylphenyl)butan-1-one	4-Methylbuphedrone, 4-MeMABP
4.7.7	2-(Methylamino)-1-(4-methylphenyl)butan-1-one-D3	
4.7.8	2-Amino-1-(4-fluorophenyl)butan-1-one	
4.7.9	2-(N,N-Dimethylamino)-1-phenylbutan-1-one	
4.7.10	2-(N,N-Dimethylamino)-1-(4-methylphenyl)butan-1-one	4-Methyl-N-methylbuphedrone
4.7.11	2-(Ethylamino)-1-phenylbutan-1-one	N-Ethylbuphedrone, NEB
4.7.12	2-(Ethylamino)-1-phenyl-3,3-DiMe-butan-1-one	
4.7.13	2-(Ethylamino)-1-(4-methylphenyl)butan-1-one	

4.8	Simple Pentanones	
4.8.1	2-Amino-1-phenylpentan-1-one	Norpentedrone
4.8.2	2-(Methylamino)-1-phenylpentan-1-one	Pentedrone, β-Ethylmethcathinone
4.8.3	1-(Methylamino)-1-phenylpentan-2-one	Isopentedrone
4.8.4	2-(Methylamino)-1-(4-Fl-phenyl)pentan-1-one	4-Fluoropentedrone

Ref	Substance	Other names
4.8.5	2-(Methylamino)-1-(4-Cl-phenyl)pentan-1-one	4-Chloropentedrone
4.8.6	2-(Methylamino)-1-(4-Me-phenyl)pentan-1-one	4-Methylpentedrone
4.8.7	2-(Methylamino)-1-(4-Et-phenyl)pentan-1-one	4-Ethylpentedrone
4.8.8	2-(Dimethylamino)-1-phenylpentan-1-one	
4.8.9	2-(Ethylamino)-1-phenylpentan-1-one	N-Ethyl pentedrone
4.8.10	2-(Ethylamino)-1-(4-Me-phenyl)pentan-1-one	4-Me-N-Ethyl pentedrone
4.8.11	2-(Ethylamino)-1-(4-MeO-phenyl)pentan-1-one	4-MeO-N-Ethyl pentedrone
4.8.12	2-(Ethylamino)-1-(3,4-dimethylphenyl)pentan-1-one	
4.8.13	2-(Ethylamino)-1-(3,4-dimethoxyphenyl)pentan-1-one	DL-4662
4.8.14	2-(Diethylamino)-1-(4-Cl-phenyl)pentan-1-one	4-Cl-N,N-DiEthyl pentedrone
4.8.15	2-(Propylamino)-1-phenylpentan-1-one	
4.8.16	2-(Isopropylamino)-1-phenylpentan-1-one	NiPP
4.8.17	2-(Isopropylamino)-1-(4F-phenyl)pentan-1-one	4F-iPV
4.9	**Simple Hexanones**	
4.9.1	2-(Methylamino)-1-phenyl-hexan-1-one	Hexedrone
4.9.2	2-(Methylamino)-1-(4-methylphenyl)hexan-1-one	4'-Methylhexedrone
4.9.3	2-(Ethylamino)-1-phenyl-hexan-1-one	N-Ethyl hexedrone
4.9.4	2-(Diethylamino)-1-phenyl-hexan-1-one	N,N-Diethyl hexedrone
4.9.5	2-(Butylamino)-1-phenyl-hexan-1-one	N-Butyl hexedrone
4.10	**Simple Heptadrones**	
4.1.1	2-(Ethylamino)-1-phenyl-heptan-1-one	N-Et heptadrone
4.11	**Other Simple Cathinones**	
4.11.1	2-tert-Butyl-1-(3-chlorophenyl)propan-1-one	Bupropion
4.11.2	2-tert-Butyl-1-(3-chlorophenyl)propan-1-one-D9	
4.12	**Methylenedioxycathinones (C3 to C5 sidechains)**	
4.12.1	**C3**	
4.12.1.1	3,4-Methylenedioxycathinone	
4.12.1.2	3,4-Methylenedioxycathinone-D3	
4.12.1.3	2,3-Methylenedioxy-N-methylcathinone	
4.12.1.4	3,4-Methylenedioxy-N-methylcathinone	Methylone (β-keto-MDMA)
4.12.1.5	3,4-Methylenedioxy-N-methylcathinone-D3	
4.12.1.6	3,4-Methylenedioxy-5-methoxy-N-methylcathinone	5-Methoxymethylone
4.12.1.7	3,4-Methylenedioxy-6-methoxy-N-methylcathinone	6-Methoxymethylone
4.12.1.8	3,4-Methylenedioxy-N-ethylcathinone	Ethylone (β-keto-MDEA)
4.12.1.9	3,4-Methylenedioxy-N-ethylcathinone-D5	
4.12.1.10	3,4-Methylenedioxy-N-ethylcathinone (polymorph B)	Ethylone (polymorph B)
4.12.1.11	3,4-Methylenedioxy-5-methyl-N-ethylcathinone	R-MMC
4.12.1.12	3,4-Methylenedioxy-N-propylcathinone	
4.12.1.13	3,4-Methylenedioxy-N-isopropylcathinone	

Ref	Substance	Other names
4.12.1.14	3,4-Methlenedioxy-N-tert-butylcathinone	
4.12.1.15	1-(3,4-Methylenedioxyphenyl)-2-(N,N-dimethylamino)propan-1-one	Dimethylone (β-keto-MDDMA)
4.12.1.16	1-(3,4-Methylenedioxyphenyl)-2-(N-methyl-N-ethylamino) propan-1-one	N-Me ethylone
4.12.1.17	1-(3,4-Methylenedioxyphenyl)-2-(N,N-diethylamino)propan-1-one	Diethylone
4.12.1.18	3,4-Methylenedioxy-N-Acetyl-methcathinone	
4.12.1.19	3,4-Methylenedioxy-N-benzylcathinone	BMDP, Methylenedioxybenzedrone
4.11.2	**C4**	
4.12.2.1	1-(3,4-Methylenedioxyphenyl)-2-amino-butan-1-one	BDB
4.12.2.2	1-(3,4-Methylenedioxyphenyl)-2-(methylamino)-butan-1-one	Butylone (β-keto-MBDB)
4.12.2.3	1-(3,4-Methylenedioxyphenyl)-2-(methylamino)-butan-1-one-D3	
4.12.2.4	1-(3,4-Methylenedioxyphenyl)-2-(N,N-dimethylamino)butan-1-one	Dibutylone (β-keto-MMBDB)
4.12.2.5	1-(3,4-Methylenedioxyphenyl)-2-(N,N-dimethylamino)butan-1-one-D3	
4.12.2.6	1-(3,4-Methylenedioxyphenyl)-2-(N,N-dimethylamino)butan-1-one-D6	
4.12.2.7	1-(3,4-Methylenedioxyophenyl)-2-(ethylamino)butan-1-one	Eutylone
4.12.2.8	1-(3,4-Methylenedioxyophenyl)-2-(ethylamino)butan-1-one-D5	
4.12.2.9	1-(3,4-Methylenedioxyphenyl)-2-(N-methylamino)-3-Me-butan-1-one	
4.12.2.10	1-(3,4-Methylenedioxyphenyl)-2-(N,N-dimethylamino)-3-Me-butan-1-one	
4.12.2.11	1-(3,4-Methylenedioxyophenyl)-2-(ethylamino)-3-Me-butan-1-one	
4.12.2.12	N-Benzyl-(3,4-MDO)-2-aminobutan-1-one	BMDB, N-Benzylnorbutylone
4.12.2.13	1-Indenyl-2-ethylamino-butan-1-one	bk-EABDI
4.12.3	**C5**	
4.12.3.1	1-(1,3-Benzodioxol-5-yl)-2-(methylamino)pentan-1-one	Pentylone (β-keto-MBDP)
4.12.3.2	1-(1,3-Benzodioxol-5-yl)-2-(dimethylamino)pentan-1-one	N,N-Dimethylpentylone, Dipentylone
4.12.3.3	1-(1,3-Benzodioxol-5-yl)-2-(ethylamino)pentan-1-one	N-Ethylpentylone
4.12.3.4	1-(1,3-Benzodioxol-5-yl)-2-(ethylamino)pentan-1-one-D5	
4.12.3.5	1-(1,3-Benzodioxol-5-yl)-2-(diethylamino)pentan-1-one	N,N-Diethylpentylone
4.12.3.6	1-(1,3-Benzodioxol-5-yl)-2-(methyl(isopropyl)amino)pentan-1-one	N-Me-N-iPr pentylone
4.12.3.7	1-(1,3-Benzodioxol-5-yl)-2-(butylamino)pentan-1-one	N-Butyl pentylone
4.12.3.8	1-(1,3-Benzodioxol-5-yl)-2-(iso-butylamino)pentan-1-one	N-isobutyl pentylone
4.12.3.9	1-(1,3-Benzodioxol-5-yl)-2-(sec-butylamino)pentan-1-one	N-sec-butyl pentylone
4.12.3.10	1-(1,3-Benzodioxol-5-yl)-2-(tert-butylamino)pentan-1-one	N-tert-butyl pentylone
4.12.4	**C6**	
4.12.4.1	1-(1,3-Benzodioxol-5-yl)-2-(ethylamino)hexan-1-one	N-Ethylhexylone
4.12.4.2	1-(1,3-Benzodioxol-5-yl)-2-(propylamino)hexan-1-one	N-Propylhexylone
4.13	**Ethylenedioxycathinones**	
4.13.1	3,4-Ethylenedioxy-N-methylcathinone	Analogue of methylone

Ref	Substance	Other names
4.14	**Pyrrolidinocathinones (C3 to C8 sidechains)**	
4.14.1	**C3**	
4.14.1.1	alpha-Pyrrolidinopropiophenone	α-PPP
4.14.1.2	alpha-Pyrrolidinopropiophenone-D5	
4.14.1.3	2-Methyl-alpha-pyrrolidinopropiophenone	
4.14.1.4	3-Methyl-alpha-pyrrolidinopropiophenone	
4.14.1.5	4-Methyl-alpha-pyrrolidinopropiophenone	MPPP
4.14.1.6	4-Methyl-alpha-pyrrolidinopropiophenone-D8	
4.14.1.7	4-Methoxy-alpha-pyrrolidinopropiophenone	
4.14.1.8	4-Methoxy-alpha-pyrrolidinopropiophenone-D8	
4.14.1.9	4-Chloro-alpha-pyrrolidinopropiophenone	
4.14.1.10	3-Fluoro-alpha-pyrrolidinopropiophenone	
4.14.1.11	4-Fluoro-alpha-pyrrolidinopropiophenone	
4.14.1.12	4'-MeS-2-morpholino-2-methylpropiophenone	Irgacure 907, Caccure 907
4.14.2	**C4**	
4.14.2.1	alpha-Pyrrolidinobutiophenone	α-PBP
4.14.2.2	alpha-Pyrrolidinobutiophenone-D8	
4.14.2.3	2-Methyl-alpha-pyrrolidinobutiophenone	
4.14.2.4	3-Methyl-alpha-pyrrolidinobutiophenone	
4.14.2.5	4-Methyl-alpha-pyrrolidinobutiophenone	MPBP
4.14.2.6	4-Methoxy-alpha-pyrrolidinobutiophenone	
4.14.2.7	4-Fluoro-alpha-pyrrolidonobutiophenone	4F-PBP
4.14.2.8	alpha-Piperidinobutiophenone	
4.14.2.9	alpha-Pyrrolidinobutiothiophenone	α-PBT (thiophene analogue of α-PBP)
4.14.3	**C5**	
4.14.3.1	1-Phenyl-2-(1-pyrrolidinyl)-pentan-1-one	Pyrrolidinovalerophenone, α-PVP
4.14.3.2	1-Phenyl-2-(1-pyrrolidinyl)-pentan-1-one-D8	
4.14.3.3	1-(4-Methylphenyl)-2-(1-pyrrolidinyl)-pentan-1-one	Pyrovalerone
4.14.3.4	Pyrovalerone-D8	
4.14.3.5	3-Fluoro-alpha-pyrrolidinopentiophenone	3-Fl- α-PVP
4.14.3.6	4-Fluoro-alpha-pyrrolidinopentiophenone	4-Fl- α-PVP
4.14.3.7	4-Chloro-alpha-pyrrolidinopentiophenone	4-Cl- α-PVP
4.14.3.8	4-Methoxy-alpha-pyrrolidinopentiophenone	MOPPP
4.14.3.9	3,4-Dimethoxy-alpha-pyrrolidinopentiophenone	3,4 DiMeO α-PVP
4.14.3.10	2,5-Dimethyl-alpha-pyrrolidinopentiophenone	2,5 DiMe α-PVP
4.14.3.11	3,4-Dimethyl-alpha-pyrrolidinopentiophenone	3,4 DiMe α-PVP
4.14.4	**C6**	
4.14.4.1	alpha-Pyrrolidinohexanophenone	α-PHP
4.14.4.2	alpha-Pyrrolidinoisohexanophenone	α-PiHP
4.14.4.3	4-Methyl-alpha-pyrrolidinohexanophenone	MPHP
4.14.4.4	4-Methyl-alpha-pyrrolidinohexanophenone-D8	
4.14.4.5	4-Fluoro-alpha-pyrrolidinohexanophenone	4F-PHP, 4F-PV7
4.14.4.6	4-Chloro-alpha-pyrrolidinohexanophenone	

Ref	Substance	Other names
4.14.4.7	3,4-Dimethoxy-alpha-pyrrolidinohexanophenone	
4.14.5	**C7**	
4.14.5.1	1-Phenyl-2-(1-pyrrolidinyl)-heptan-1-one	PV8
4.14.5.2	1-(4-Fl-phenyl)-2-(1-pyrrolidinyl)-heptan-1-one	4-Fl-PV8
4.14.5.3	1-(4-Me-phenyl-2-(1-pyrrolidinyl)-heptan-1-one	4-Me-PV8
4.14.5.4	1-(4-MeO-phenyl-2-(1-pyrrolidinyl)-heptan-1-one	4-MeO-PV8
4.14.6	**C8**	
4.14.6.1	1-Phenyl-2-(1-pyrrolidinyl)-octan-1-one	PV9
4.14.6.2	1-(4-Fl-phenyl)-2-(1-pyrrolidinyl)-octan-1-one	4-Fl-PV9
4.14.6.3	1-(4-MeO-phenyl)-2-(1-pyrrolidinyl)-octan-1-one	4-MeO-PV9
4.14.7	**C9**	
4.14.7.1	1-Phenyl-2-(1-pyrrolidinyl)-nonan-1-one	α-PNP
4.14.7.2	alpha-Pyrrolidinopentiothiophenone	α-PVT (thiophene analogue of pyrovalerone)
4.15	**Methylenedioxypyrrolidinocathinones**	
4.15.1	**C3**	
4.15.1.1	3,4-Methylenedioxyphenyl-alpha-pyrrolidinopropiophenone	MDPPP
4.15.1.2	3,4-Methylenedioxyphenyl-alpha-pyrrolidinopropiophenone-D-8	
4.15.2	**C4**	
4.15.2.1	3,4-Methylenedioxyphenyl-alpha-pyrrolidinobutiophenone	MDPBP
4.15.2.2	3,4-Methylenedioxyphenyl-alpha-pyrrolidinobutiophenone-D8	
4.15.3	**C5**	
4.15.3.1	Methylenedioxypyrovalerone (HCl)	MDPV
4.15.3.2	(-)-Methylenedioxypyrovalerone	
4.15.3.3	(+)-Methylenedioxypyrovalerone	
4.15.3.4	Methylenedioxypyrovalerone (free base)	
4.15.3.5	Methylenedioxypyrovalerone-D8	
4.15.3.6	2,3-Methylenedioxypyrovalerone	
4.15.3.7	1-(2,3-Dihydrobenzofuran-5-yl)-2-(pyrrolidin-1-yl)pentan-1-one	5-DBFPV, 3-Desoxy MDPV
4.15.4	**C6**	
4.15.4.1	3,4-Methylenedioxyphenyl-alpha-pyrrolidinohexanophenone	3,4-MDPHP
4.15.5	**C7**	
4.15.5.1	3,4-Methylenedioxyphenyl-alpha-pyrrolidinoheptanophenone	3,4-MDO-PV8
4.15.6	**C8**	
4.15.6.1	3,4-Methylenedioxyphenyl-alpha-pyrrolidinooctanophenone	3,4-MDO-PV9
4.16	**Naphthyl cathinones**	
4.16.1	2-(Methylamino)-1-(naphthalen-2-yl)pentan-2-one	"NRG3", Naphthyl analogue of pentylone

Ref	Parent compound	Metabolite
4.17	**Naphthyl pyrrolidinocathinones**	
4.17.1	1-Naphthylpyrovalerone	1-Naphyrone
4.17.2	2-Naphthylpyrovalerone	2-Naphyrone
4.17.3	2-Naphthylpyrovalerone-D5	
4.17.4	2-Naphthylpyrovalerone-D8	
4.18	**Tetrahydronaphthyl pyrrolidinocathinones**	
4.18.1	3',4'-Tetramethylene-α-pyrrolidinobutiophenone	TH-PBP
4.18.2	3',4'-Tetramethylene-α-pyrrolidinovalerophenone	TH-PVP, 3',4'-tetramethylenenaphyrone
4.19	**Indanyl analogues of cathinones**	
4.19.1	Indanyl-pentedrone	
4.19.2	Indanyl-N-Et-buphedrone	βk-IBP
4.19.3	Indanyl-N-Et-pentedrone	βk-IVP
4.19.4	Indanyl-α-PBP	5-PPDi
4.19.5	Indanyl-α-PVP	
4.19.6	Indanyl-α-PHP	5-BPDi
4.19.7	Indanyl-α-PBP	
4.20	**Related materials**	
4.20.1	α-Phthalimidopropiophenone	

5.0 Metabolites of Cathinones

Ref	Parent compound	Metabolite
5.1	**Mephedrone**	
5.1.1		4-Methylephedrine
5.1.2		4-Methylephedrine-D3
5.1.3		4-Methylpseudoephedrine
5.1.4		4-Carboxymephedroneg
5.1.5		4-Hysroxytolylmephedrone
5.2	**Methedrone**	
5.2.1		4-Methoxypseudoephedrine
5.3	**Ethcathinone**	
5.3.1		N-Ethylnorephedrine
5.3.2		N-Ethylnorephedrine-D5
5.4	**3,4-Dimethylmethcathinone**	
5.4.1		3,4-Dimethylephedrine
5.4.2		3,4-Dimethylpseudoephedrine
5.4.3		3,4-Dimethylnorephedrine
5.4.4		3,4-Dimethylnorephedrine-D4
5.5	**4-MEC**	
5.5.1		4-Methyl-N-ethylnorephedrine
5.5.2		4-Methyl-N-ethylnorephedrine-D5
5.5.3		4-Methyl-N-ethylpseudoephedrine
5.5.4		4-Methyl-N-ethylephedrine
5.6	**Flephedrone**	
5.6.1		4-Fluoroephedrine
5.6.2		4-Fluoroephedrine-D3
5.6.3		4-Fluoropseudoephedrine
5.7	**4-EMC**	
5.7.1		4-Ethylephedrine
5.8	**Buphedrone**	
5.8.1		Buphedrine
5.8.2		Buphedrine-D3
5.8.3		Pseudobuphedrine
5.9	**Pentedrone**	
5.9.1		2-(Methylamino)-1-phenylpentan-1-ol
5.9.2		(as above, ephedrine stereochemistry)
5.9.3		Norephedrine metab
5.9.4		Norephedrine metab- D5
5.10	**alpha-PVP**	
5.10.1		1-Phenyl-2-(pyrollidin-1-yl)pentan-1-ol
5.11	**MDPV**	
5.11.1		3-Methoxy-4-hydroxypyrovalerone
5.11.2		3,4-Dihydroxypyrovalerone
5.12	**Bupropion**	
5.12.1		Hydroxybupropion

Ref	Substance	Other names

6.0 Tryptamines

Ref	Substance	Other names
6.1	**Tryptamine**	
6.1.1	Tryptamine-D4	
6.2	**alpha-Alkyl Tryptamines**	
6.2.1	alpha-Methyltryptamine	AMT
6.2.2	5-Methoxy-alpha-methyltryptamine	5-MeO-AMT
6.2.3	N-Hydroxy-alpha-methyltryptamine	
6.2.4	alpha-Ethyltryptamine	AET
6.2.5	4-Methyl-alpha-ethyltryptamine	
6.2.6	5-Methoxy-alpha-ethyltryptamine	5-MeO-AET
6.3	**alpha-Alkyl Tryptamines**	
6.3.1	N-Methyltryptamine	
6.3.2	N-Methyltryptamine-D3	
6.3.3	N,N-Dimethyltryptamine	DMT
6.3.4	N,N-Dimethyltryptamine-D4	
6.3.5	N,N-Dimethyltryptamine-N-oxide	
6.3.6	N-Methyl-N-ethyltryptamine	MET
6.3.7	N-Methyl-N-isopropyltryptamine	
6.3.8	N,N-Diethyltryptamine	DET
6.3.9	N,N-Dipropyltryptamine	DPT
6.3.10	N,N-Dipropyltryptamine-D4	
6.3.11	N,N-Diisopropyltryptamine	DiPT
6.3.12	N,N-Diisopropyltryptamine-D4	
6.3.13	N,N-Diisobutyltryptamine	DiBT
6.3.14	N,N-Diallyltryptamine	DALT
6.3.15	RU-28306	DMT with α-carbon linked back to phenyl ring
6.4	**Ring-Methoxy N-Alkyl Tryptamines**	
6.4.1	4-Methoxy-N,N-dimethyltryptamine	4-MeO-DMT
6.4.2	4-Methoxy-N,N-dimethyltryptamine-D4	
6.4.3	4-Methoxy-N,N-diisopropyltryptamine	
6.4.4	5-Methoxytryptamine	
6.4.5	5-Methoxy-N,N-dimethyltryptamine	5-MeO-DMT
6.4.6	5-Methoxy-N,N-diethyltryptamine	
6.4.7	5-Methoxy-N-isopropyltryptamine	Foxy, 5-MeO-DiPT
6.4.8	5-Methoxy-N-isopropyltryptamine-D4	
6.4.9	5-Methoxy-N-methyl-N-isopropyltryptamine	5-MeO-MiPT
6.4.10	5-Methoxy-N-ethyl-N-isopropyltryptamine	

6.4.11	5-Methoxy-N-ethyl-N-propyltryptamine	
6.4.12	5-Methoxy-N,N-dipropyltryptamine	
6.4.13	5-Methoxy-N,N-diisopropyltryptamine	Foxy methoxy, 5-MeO-DiPT
6.4.14	5-Methoxy-N,N-diisopropyltryptamine-D4	
6.4.15	5-Methoxy-N,N-diisopropylbenzofuran	5-MeO-DIBF (5-MeO-DiPT benzofuran analogue)
6.4.16	5-Methoxy-N,N-dibutyltryptamine	5-MeO-DBT
6.4.17	5-Methoxy-N,N-diisobutyltryptamine	5-MeO-DiBT
6.4.18	5-Methoxy-N,N-diallyltryptamine	5-MeO-DALT
6.4.19	6-Methoxy-N,N-diisopropyltryptamine	
6.4.20	7-Methoxy-N,N-diisopropyltryptamine	
6.5	**Ring-Hydroxy N-Alkyl Tryptamines**	
6.5.1	4-Hydroxy-N,N-dimethyltryptamine	Psilocin
6.5.2	4-Hydroxy-N,N-dimethyltryptamine-D4	
6.5.3	4-Hydroxy-N,N-dimethyltryptamine-D10	
6.5.4	4-Hydroxy-N-methyl-N-ethyltryptamine	4-HO-MET, Metocin
6.5.5	4-Hydroxy-N-methyl-N-ethyltryptamine-D4	
6.5.6	4-Hydroxy-N,N-diethyltryptamine	4-HO-DET
6.5.7	4-Hydroxy-N,N-diethyltryptamine-D4	
6.5.8	4-Hydroxy-N-methyl-N-propyltryptamine	
6.5.9	4-Hydroxy-N-methyl-N-isopropyltryptamine	4-HO-MiPT
6.5.10	4-Hydroxy-N-methyl-N-isopropyltryptamine-D4	
6.5.11	4-Hydroxy-N,N-dipropyltryptamine	4-HO-DPT
6.5.12	4-Hydroxy-N,N-diisopropyltryptamine	4-HO-DiPT
6.5.13	5-Hydroxy-N-methyltryptamine	5-HO-MPT
6.5.14	5-Hydroxy-N,N-dimethyltryptamine	5-HO-DMT, Bufotenine
6.5.15	5-Hydroxy-N,N-dimethyltryptamine-D4	
6.6	**Ring-Acetoxy N-Alkyl Tryptamines**	
6.6.1	4-Acetoxy-N,N-dimethyltryptamine	O-Acetylpsilocin, 4-AcO-DMT
6.6.2	4-Acetoxy-N,N-dimethyltryptamine-D4	
6.6.3	4-Acetoxy-N-methyl-N-ethyltryptamine	4-AcO-MET
6.6.4	4-Acetoxy-N-methyl-N-isopropyltryptamine	4-AcO-MiPT
6.6.5	4-Acetoxy-N,N-diethyltryptamine	4-AcO-DET
6.6.6	4-Acetoxy-N,N-dipropyltryptamine	4-AcO-DPT
6.6.7	4-Acetoxy-N,N-diisopropyltryptamine	4-AcO-DiPT, Ipracetin
6.7	**Other mushroom hallucinogens**	
6.7.1	4-Phosphoryloxy-tryptamine	Norbaeocystin
6.7.2	4-Phosphoryloxy-N-methyltryptamine	Baeocystin
6.7.3	4-Phosphoryloxy-N,N-dimethyltryptamine	Psilocybin
6.7.4	4-Phosphoryloxy-N,N-dimethyltryptamine-D4	
6.7.5	4-Phosphoryloxy-N,N,N-trimethyltryptamine	Aeruginascin

Ref	Substance	Other names
6.8	**Lysergamide and related materials**	
6.8.1	Lysergic acid	
6.8.2	Lysergic acid amide	Ergine
6.8.3	Lysergic acid N,N-diethylamide	LSD
6.8.4	Lysergic acid N,N-diethylamide-D3	
6.8.5	Lysergic acid N,N-diethylamide-D10	
6.8.6	Lysergic acid N-methyl-N-propylamide	LAMPA
6.8.7	Lysergic acid ethylisopropylamide	EiPLA
6.8.8	iso-LSD	
6.8.9	iso-LSD-D10	
6.8.10	nor-LSD	
6.8.11	1-Acetyl LSD	ALD-52
6.8.12	1-Propionyl LSD	1P-LSD
6.8.13	1-Butyryl LSD	1B-LSD
6.8.14	2-Bromo-lysergic acid N,N-diethylamide	BOL-148
6.8.15	2-Oxo-3-hydroxy-LSD	
6.8.16	Lysergic acid 2,4-dimethylazetide	LSZ
6.8.17	Lysergic acid 2,4-dimethylazetide-D3	
6.8.18	Lysergol	
6.8.19	N-Pyrrolidyllysergamide	LPD-824
6.8.20	N-Morpholinyllysergamide	LSM-775

6.9	**Related compounds**	
6.9.1	Ergotamine	
6.9.2	Ergonovine	Ergometrine
6.9.3	Harmaline	
6.9.4	Harmine	

7.0	**Piperazines**	
7.1	**Benzylpiperazines**	
7.1.1	Benzylpiperazine	BZP
7.1.2	Benzylpiperazine-D7	
7.1.3	Benzylpiperazine-D8	
7.1.4	1-Benzyl-2-methylpiperazine	
7.1.5	1-Benzyl-3-methylpiperazine	3-MBZP
7.1.6	1-Benzyl-4-methylpiperazine	MBZP
7.1.7	1-(4-Fluorobenzyl)piperazine	
7.1.8	1-(3-Me-benzyl)piperazine	
7.1.9	1-(2,5-Dimethoxybenzyl)piperazine	2C-H BZP
7.1.10	1-(2,5-Dimethoxy-4-bromobenzyl)piperazine	2C-B-BZP
7.1.11	1-(2,3,4-Trimethoxybenzyl)piperazine	Trimetazedine
7.1.12	3,4-Methylenedioxybenzylpiperazine	1-Piperonylpiperazine
7.1.13	1,4-Dibenzylpiperazine	N,N-Dibenzylpiperazine, DBZP
7.1.14	Benzoylpiperazine	
7.1.15	Benzoylpiperazine-D8	
7.1.16	2-Benzylpiperazine	2-BZP
7.1.17	1-Me-3-BZP	4-Me-2-BZP
7.1.18	Bucinnazine, AP-237 (analgesic with mu-opioid activity)	

7.2	**Phenylpiperazines**	
7.2.1	Phenylpiperazine	
7.2.2	Phenylpiperazine-D4	
7.2.3	1-(2-Chlorophenyl)piperazine	oCPP
7.2.4	1-(3-Chlorophenyl)piperazine	mCPP
7.2.5	1-(3-Chlorophenyl)piperazine-D6	
7.2.6	1-(4-Chlorophenyl)piperazine	pCPP
7.2.7	1-(2-Fluorophenyl)piperazine	
7.2.8	1-(3-Fluorophenyl)piperazine	
7.2.9	1-(4-Fluorophenyl)piperazine	
7.2.10	1-(2-Trifluoromethyl)phenylpiperazine	o-TFMPP
7.2.11	1-(3-Trifluoromethyl)phenylpiperazine	m-TFMPP
7.2.12	1-(4-Trifluoromethyl)phenylpiperazine	p-TFMPP
7.2.13	1-(2-Methoxyphenyl)piperazine	2-MeOPP
7.2.14	1-(2-Methoxyphenyl)piperazine-D8	
7.2.15	1-(3-Methoxyphenyl)piperazine	3-MeOPP
7.2.16	1-(4-Methoxyphenyl)piperazine	4-MeOPP
7.2.17	1-(2,3-Dichlorophenyl)piperazine	
7.2.18	2-(4-Fluorophenyl)piperazine	
7.2.19	2-(3-Trifluoromethylphenyl)piperazine	

Synthetic Cannabinoids

Organisation of our listing of available reference standards

Most synthetic cannabinoids have structures made up from four major components – a core, a tail, a bridge and a secondary structure. Our listing of available standards divides the synthetic cannabinoids firstly according to their core structure and, where thereare a great many variants, further sub-divides them according to their secondarystructures, as set out in the 'Contents' listing on page 4.

Trivial Nomenclature of Synthetic Cannabinoids

Many of the original synthetic cannabinoids that made an appearance on the market in the early 2000s came from the publication of pharmaceutical research that was conducted initially in the 20th century.

The trivial nomenclature of these compounds stems from this research:

JWH (products synthesized by **J**ohn. **W**. **H**uffman of Clemson University in the USA)

HU (products synthesized by Professor Raphael Mechoulam at the **H**ebrew **U**niversity in Jerusalem)

CP (created by Pfizer)

WIN (products developed by former US pharmaceutical company, Sterling **Win**throp)

AM (products synthesised by **A**lexandros **M**akriyannis at Northeastern University, USA. Many are halogenated JWH compounds)

UR (produced by American pharmaceutical company Abbott Laboratories).

The 'third generation' of synthetic cannabinoids which currently dominate the market are often referred to using trivial names which are a combination of abbreviations for their four component parts.

These abbreviations are arranged in the sequence:

(secondary structure) +(tail)+(core) +(bridge) to produce names such as 'QUPIC' (**qu**inolinyl secondary structure)+(**p**entyl tail)+(**i**ndole core) +(**c**arboxylate bridge) and 'AB-FUBINACA' (1-amino-3-methylbutan-1-one secondary structure)+(4-fluorobenzyl tail) +(indazole core)+(carboxamide bridge).

Ref	Substance	Other names
8.0	**Synthetic Cannabinoids**	
Ref	Substance	Other names
	(1) Pyrrole core	
8.1	**Naphthoyl pyrroles**	
8.1.1	1-Pentyl-3-naphthoylpyrrole	JWH-030
8.1.2	1-Hexyl-3-naphthoylpyrrole	JWH-031
8.1.3	1-Pentyl-5-phenyl-3-naphthoylpyrrole	JWH-145
8.1.4	1-Heptyl-5-phenyl-3-naphthoylpyrrole	JWH-146
8.1.5	1-Hexyl-5-phenyl-3-naphthoylpyrrole	JWH-147
8.1.6	1-Hexyl-5-phenyl-3-naphthoylpyrrole-D5	
8.1.7	1-Pentyl-2-methyl-3(4-methylnaphthoyl)pyrrole	JWH-149
8.1.8	1-Pentyl-5-(2-fluorophenyl)-3-naphthoylpyrrole	JWH-307
8.1.9	1-Pentyl-4-(2-fluorophenyl)-3-naphthoylpyrrole	JWH-307 3' isomer
8.1.10	1-Pentyl-5-(4-fluorophenyl)-3-nephthoylpyrrple	JWH-308
8.1.11	1-Pentyl-5-naphthyl-3-naphthoylpyrrole	JWH-309
8.1.12	1-Pentyl-5-(3-fluorophenyl)-3-naphthoylpyrrole	JWH-368
8.1.13	1-Pentyl-5-(2-chlorophenyl)-3-naphthoylpyrrole	JWH-369
8.1.14	1-Pentyl-5-(2-methylphenyl)-3-naphthoylpyrrole	JWH-370
	(2) Indene core	
8.2	**Naphthyl indenes**	
8.2.1	1-((3-Pentylindenylidene)methyl)naphthylene	JWH-176
	(3) Indole core	
8.3	**Naphthoyl indoles**	
8.3.1	3-(1-Naphthoyl)indole	
8.3.2	1-Pentylindole	
8.3.3	1-(5-Fluoropentyl)indole	
8.3.4	1-Cyclohexylmethylindole	
8.3.5	1-Pentyl-2-methyl-3-(1-naphthoyl)indole	JWH-007
8.3.6	1-Pentyl-2-methyl-3-(1-naphthoyl)indole-D9	
8.3.7	1-(1-Methylhexyl)-2-methyl-3-(1-naphthoyl)indole	JWH-011
8.3.8	1-Propyl-2-methyl-3-(1-naphthoyl)indole	JWH-015
8.3.9	1-Propyl-2-methyl-3-(1-naphthoyl)indole-D7	
8.3.10	1-Butyl-2-methyl-3-(1-naphthoyl)indole	JWH-016
8.3.11	1-Butyl-2-methyl-3-(1-naphthoyl)indole-D9	
8.3.12	1-Pentyl-3-(1-naphthoyl)indole	JWH-018, AM-678
8.3.13	1-Pentyl-3-(1-naphthoyl)indole-D9	
8.3.14	1-Pentyl-3-(1-naphthoyl)indole-D11	
8.3.15	1-Pentyl-3-(2-naphthoyl)indole	JWH-018 2-naphthyl isomer
8.3.16	1-Pentyl-6-methoxy -3-(1-naphthoyl)indole	JWH-018 (6-methoxy homologue)
8.3.17	1-(1-Methylhexyl)-3-(1-naphthoyl)indole	JWH-018 (1-methylhexyl homologue)

Ref	Substance	Other names
8.3.18	1-Hexyl-3-(1-naphthoyl)indole	JWH-019
8.3.19	1-Hexyl-3-(1-naphthoyl)indole-D13	
8.3.20	1-(2-Fl-hexyl)-3-(1-naphthoyl)indole	JWH-019 2-Fl-hexyl isomer
8.3.21	1-(3-Fl-hexyl)-3-(1-naphthoyl)indole	JWH-019 3-Fl-hexyl isomer
8.3.22	1-(4-Fl-hexyl)-3-(1-naphthoyl)indole	JWH-019 4-Fl-hexyl isomer
8.3.23	1-(5-Fl-hexyl)-3-(1-naphthoyl)indole	JWH-019 5-Fl-hexyl isomer
8.3.24	1-(6-Fl-hexyl)-3-(1-naphthoyl)indole	JWH-019 6-Fl-hexyl isomer
8.3.25	1-Heptyl-3-(1-naphthoyl)indole	JWH-020
8.3.26	1-Naphthalenyl-(1-(4-pentan-1-yl)-1H-indole-3yl) methanone	JWH-022
8.3.27	1-Ethyl-3-(1-naphthoyl)indole	JWH-071
8.3.28	1-Propyl-3-(1-naphthoyl)indole	JWH-072
8.3.29	1-Propyl-3-(1-naphthoyl)indole-D7	
8.3.30	1-Butyl-3-(1-naphthoyl)indole	JWH-073
8.3.31	1-Butyl-3-(1-naphthoyl)indole-D7	
8.3.32	1-Butyl-3-(1-naphthoyl)indole-D9	
8.3.33	1-Butyl-3-(2-naphthoyl)indole	JWH-073 2-naphthyl isomer
8.3.34	1-Butyl-3-(6-methoxynaphthoyl)indole	JWH-073 (6-methoxy analogue)
8.3.35	1-(2-Methylbutyl)-(1-naphthoyl)indole	JWH-073 (2-methylbutyl analogue)
8.3.36	1-(3-Methylbutyl)-(1-naphthoyl)indole	JWH-073 (3-methylbutyl analogue)
8.3.37	1-Butyl-3-(1-(2-methyl)naphthoyl)indole	JWH-073 (2-methylnaphthoyl analogue)
8.3.38	1-Butyl-3-(1-(4-methyl)naphthoyl)indole	JWH-073 (4-methylnaphthoyl analogue)
8.3.39	1-Butyl-3-(4-methoxynaphthoyl)indole	JWH-080
8.3.40	1-Butyl-3-(4-methoxynaphthoyl)indole-D9	
8.3.41	1-Pentyl-3-(4-methoxynaphthoyl)indole	JWH-081
8.3.42	1-Pentyl-3-(4-methoxynaphthoyl)indole-D9	
8.3.43	1-Pentyl-3-(4-methoxynaphthoyl)indole-D11	
8.3.44	1-Pentyl-3-(2-methoxynaphthoyl)indole	JWH-081 2-methoxynaphthyl isomer
8.3.45	1-Pentyl-3-(3-methoxynaphthoyl)indole	JWH-081 3-methoxynaphthyl isomer
8.3.46	1-Pentyl-3-(5-methoxynaphthoyl)indole	JWH-081 5-methoxynaphthyl isomer
8.3.47	1-Pentyl-3-(6-methoxynaphthoyl)indole	JWH-166, JWH-081 6-methoxynaphthyl isomer
8.3.48	1-Pentyl-3-(7-methoxynaphthoyl)indole	JWH-081 7-methoxynaphthyl isomer
8.3.49	1-Pentyl-3-(8-methoxynaphthoyl)indole	JWH-081 8-methoxynaphthyl isomer
8.3.50	1-Pentyl-2-methyl-3-(4-methoxy-naphthoyl)indole	JWH-098
8.3.51	1-Pentyl-2-methyl-3-(4-methoxy-naphthoyl)indole-D9	
8.3.52	1-Pentyl-2-ethyl-3-(1-naphthoyl)indole	JWH-116
8.3.53	1-Pentyl-3-(4-methylnaphthoyl)indole	JWH-122
8.3.54	1-Pentyl-3-(4-methylnaphthoyl)indole-D9	
8.3.55	1-Pentyl-3-(4-methylnaphthoyl)indole-D11	
8.3.56	1-Pentyl-3-(2-methylnaphthoyl)indole	JWH-122(2-methylnaphthyl analogue)
8.3.57	1-Pentyl-3-(3-methylnaphthoyl)indole	JWH-122(3-methylnaphthyl analogue)
8.3.58	1-Pentyl-3-(5-methylnaphthoyl)indole	JWH-122(5-methylnaphthyl analogue)
8.3.59	1-Pentyl-3-(6-methylnaphthoyl)indole	JWH-122(6-methylnaphthyl analogue)
8.3.60	1-Pentyl-3-(7-methylnaphthoyl)indole	JWH-122(7-methylnaphthyl analogue)
8.3.61	1-Pentyl-3-(8-methylnaphthoyl)indole	JWH-122(8-methylnaphthyl analogue)

Ref	Substance	Other names
8.3.62	1-(Pent-4-enyl)-3(4-methylnaphthoyl)indole	JWH-122 (4-pentenyl analogue)
8.3.63	1-(5F-Pentyl)-2-ethyl-3-(1-naphthoyl)indole	JWH-122 5-F analogue
8.3.64	1-(5Cl-Pentyl)-2-ethyl-3-(1-naphthoyl)indole	JWH-122 5-Cl analogue
8.3.65	1-(5Br-Pentyl)-2-ethyl-3-(1-naphthoyl)indole	JWH-122 5-Br analogue
8.3.66	1-(5I-Pentyl)-2-ethyl-3-(1-naphthoyl)indole	JWH-122 5-I analogue
8.3.67	(1-Propyl-1H-indol-3-yl)(4-propyl-1-naphthalenyl)-methanone	JWH-180
8.3.68	(1-Propyl-1H-indol-3-yl)(4-propyl-1-naphthalenyl)-methanone-D7	
8.3.69	1-Pentyl-3-(4-propyl-1-naphthyl)indole	JWH-182
8.3.70	1-(2-(4-Morpholinyl)ethyl)-3-(4-methyl-1-naphthoyl)indole	JWH-193
8.3.71	1-(2-(4-Morpholinyl)ethyl)-3-(4-methoxy-1-naphthoyl)indole	JWH-198
8.3.72	1-(2-(4-Morpholinyl)ethyl)-3-(1-naphthoyl)indole	JWH-200, WIN 55,225
8.3.73	1-(2-(4-Morpholinyl)ethyl)-3-(1-naphthoyl)indole-D4	
8.3.74	1-(2-(4-Morpholinyl)ethyl)-3-(1-naphthoyl)indole-D5	
8.3.75	1-(2-(4-Morpholinyl)ethyl)-3-(2-naphthoyl)indole	JWH-200 2-naphthyl isomer
8.3.76	1-Pentyl-3-(4-ethyl-naphthoyl)indole	JWH-210
8.3.77	1-Pentyl-3-(4-ethyl-naphthoyl)indole-D9	
8.3.78	1-Pentyl-3-(4-ethyl-naphthoyl)indole-D11	
8.3.79	1-Pentyl-3-(2-ethyl-naphthoyl)indole	JWH-210 2-ethylnaphthyl isomer
8.3.80	1-Pentyl-3-(3-ethyl-naphthoyl)indole	JWH-210 3-ethylnaphthyl isomer
8.3.81	1-Pentyl-3-(5-ethyl-naphthoyl)indole	JWH-210 5-ethylnaphthyl isomer
8.3.82	1-Pentyl-3-(6-ethyl-naphthoyl)indole	JWH-210 6-ethylnaphthyl isomer
8.3.83	1-Pentyl-3-(7-ethyl-naphthoyl)indole	JWH-210 7-ethylnaphthyl isomer
8.3.84	1-Pentyl-3-(8-ethyl-naphthoyl)indole	JWH-210 8-ethylnaphthyl isomer
8.3.85	1-(5-Fluoropentyl)-3-(4-ethylnaphthyl)indole	5-Fluoro JWH-210 , EAM2201
8.3.86	1-Pentyl-2-methyl-3-(4-ethyl-naphthoyl)indole	JWH-213
8.3.87	1-Pentyl-3-(4-bromonaphthoyl)indole	JWH-387
8.3.88	1-Pentyl-3-(4-chloronaphthoyl)indole	JWH-398
8.3.89	1-Pentyl-3-(4-chloronaphthoyl)indole-D9	
8.3.90	1-Pentyl-3-(4-chloronaphthoyl)indole-D11	
8.3.91	1-Pentyl-3-(2-chloronaphthoyl)indole	JWH-398 2-chloronaphthyl isomer
8.3.92	1-Pentyl-3-(3-chloronaphthoyl)indole	JWH-398 3-chloronaphthyl isomer
8.3.93	1-Pentyl-3-(5-chloronaphthoyl)indole	JWH-398 5-chloronaphthyl isomer
8.3.94	1-Pentyl-3-(6-chloronaphthoyl)indole	JWH-398 6-chloronaphthyl isomer
8.3.95	1-Pentyl-3-(7-chloronaphthoyl)indole	JWH-398 7-chloronaphthyl isomer
8.3.96	1-Pentyl-3-(8-chloronaphthoyl)indole	JWH-398 8-chloronaphthyl isomer
8.3.97	1-Pentyl-3-(4-fluoronaphthoyl)indole	JWH-412
8.3.98	1-Pentyl-3-(8-bromonaphthoyl)indole	JWH-424
8.3.99	(1-Methylpiperidinyl)methyl homologue of JWH-018	AM1220
8.3.100	(1-Methylpiperidinyl)methyl homologue of JWH-018-D5	
8.3.101	(1-Methylazepen-3-yl)methyl homologue of JWH-018	AM1220 azepane isomer
8.3.102	1-(5-Fluoropentyl)-3-naphthoyl-6-nitroindole	AM1235
8.3.103	1-(5-Fluoropentyl)-3-(1-naphthoyl)indole	AM2201
8.3.104	1-(5-Fluoropentyl)-3-(1-naphthoyl)indole-D4	

Ref	Substance	Other names
8.3.105	1-(5-Fluoropentyl)-3-(1-naphthoyl)indole-D5	
8.3.106	1-(5-Fluoropentyl)-3-(2-naphthoyl)indole	AM2201 (2-naphthyl homologue)
8.3.107	1-(3-Chloropentyl)-3-(1-naphthoyl)indole	AM2201 (3-chloro homologue)
8.3.108	1-(5-Chloropentyl)-3-(1-naphthoyl)indole	AM2201 (5-chloro homologue)
8.3.109	1-(5-Fluoropentyl)-3-(4-Methoxynaphthyl)indole	AM2201 (4-methoxy homologue)
8.3.110	[1-(5-Fluoropentyl)-1H-indol-3-yl](4-methyl-1-naphthalenyl)-methanone	MAM-2201
8.3.111	[1-(5-Fluoropentyl)-1H-indol-3-yl](4-methyl-1-naphthalenyl)-methanone-D5	
8.3.112	[1-(2-Fluoropentyl)-1H-indol-3-yl](4-methyl-1-naphthalenyl)-methanone	MAM-2201 2-Fluoroisomer
8.3.113	[1-(3-Fluoropentyl)-1H-indol-3-yl](4-methyl-1-naphthalenyl)-methanone	MAM-2201 3-Fluoroisomer
8.3.114	[1-(4-Fluoropentyl)-1H-indol-3-yl](4-methyl-1-naphthalenyl)-methanone	MAM-2201 4-Fluoroisomer
8.3.115	[1-(5-Chloropentyl)-1H-indol-3-yl](4-methyl-1-naphthalenyl)-methanone	MAM-2201 5-Chloro analogue
8.3.116	1-(5-Fluoropentyl)-1H-indol-3-yl](4-ethyl-1-naphthalenyl)-methanone	EAM-2201
8.3.117	1-(5-Fluoropentyl)-1H-indol-3-yl](4-fluoro-1-naphthalenyl)-methanone	
8.3.118	1-(5-Fluoropentyl)-1H-indol-3-yl](4-chloro-1-naphthalenyl)-methanone	5F-JWH-398, Cl-2201
8.3.119	1-(4-Cyanobutyl)-3-(naphthylen-1-oyl)indole	AM2232, SGT-18
8.3.120	1-(4Fluorobenzyl)-1H-indol-3-yl-(1-naphthalenyl)-methanone	FUB-JWH-018
8.3.121	1-(4Fluorobenzyl)-1H-indol-3-yl-(1-naphthalenyl)-methanone-D5	
8.3.122	1-(Cyclohexylmethyl)-1H-indol-3-yl-(4-Me-1-naphthalenyl)-methanone	CHM-122, CHM-JWH-122

8.4	Naphthyl methyl indoles	
8.4.1	1-Pentyl-3-(1-naphthylmethyl)indole	JWH-175
8.4.2	1-Pentyl-3-(1-naphthylmethyl)indole-D11	

8.5	Phenylacetyl indoles	
8.5.1	1-Pentyl-3-(phenylacetyl)indole	JWH-167
8.5.2	1-Pentyl-3-(4-methoxyphenylacetyl)indole	JWH-201
8.5.3	1-Pentyl-3-(4-methoxyphenylacetyl)indole-D11	
8.5.4	1-Pentyl-3-(2-chlorophenylacetyl)indole	JWH-203
8.5.5	1-Pentyl-3-(2-chlorophenylacetyl)indole-D11	
8.5.6	1-Pentyl-3-(3-chlorophenylacetyl)indole	JWH-203 3-chlorophenyl isomer
8.5.7	1-Pentyl-3-(4-chlorophenylacetyl)indole	JWH-203 4-chlorophenyl isomer
8.5.8	1-Pentyl-3-(2-bromophenylacetyl)indole	JWH-249
8.5.9	1-Pentyl-3-(2-methoxyphenylacetyl)indole	JWH-250
8.5.10	1-Pentyl-3-(2-methoxyphenylacetyl)indole-D5	
8.5.11	1-Pentyl-3-(2-methoxyphenylacetyl)indole-D11	
8.5.12	1-Pentyl-3-(2-methylphenylacetyl)indole	JWH-251
8.5.13	1-Pentyl-3-(2-methylphenylacetyl)indole-D11	
8.5.14	1-Pentyl-3-(3-methylphenylacetyl)indole	JWH-251 3-methyl isomer
8.5.15	1-Pentyl-3-(4-methylphenylacetyl)indole	JWH-251 4-methyl isomer
8.5.16	1-Pentyl-3-(3-methoxyphenylacetyl)indole	JWH-302
8.5.17	1-Pentyl-3-(3-methoxyphenylacetyl)indole-D11	
8.5.18	1-(1-Methyl-2-piperidinyl)methyl-3-(2-methoxyphenylacetyl) indole	Cannabipiperidiethanone
8.5.19	1(2-Cyclohexylethyl)-3-(2-methoxyphenylacetyl)indole	RCS-8
8.5.20	1(2-Cyclohexylethyl)-3-(2-methoxyphenylacetyl)indole-D3	
8.5.21	1(2-Cyclohexylethyl)-3-(3-methoxyphenylacetyl)indole	RCS-8(3-methoxy homologue)
8.5.22	1(2-Cyclohexylethyl)-3-(4-methoxyphenylacetyl)indole	RCS-8(4-methoxy homologue)

8.6	Naphthylacetyl indoles	
8.6.1	1-Me-3-(naphthalen-1-ylacetyl)indole	NAMIE
8.6.2	1-Butyl-7-MeO-3-(naphthalen-1-ylacetyl)indole	7'-MeO-NABuTIE
8.6.3	1-Pentyl-3-(naphthalen-1-ylacetyl)indole	NAPIE

8.7	Azetidinoyl indoles	
8.7.1	Azetidin-1-yl-1(1-(4-Flbenzyl)indol-1-yl methanone	AZE-FUBICA, AZE-FUBIM

8.8	Benzoyl indoles	
8.8.1	1-Pentyl-3-(2-iodobenzoyl)indole	AM679
8.8.2	1-(5-Fluoropentyl)-3-(2-iodobenzoyl)indole	AM694
8.8.3	1-(5-Fluoropentyl)-3-(3-iodobenzoyl)indole	AM694 3-Iodo isomer
8.8.4	1-(5-Fluoropentyl)-3-(4-iodobenzoyl)indole	AM694 4-Iodo isomer
8.8.5	1-(N-Methyl-2-piperidinyl)methyl-3-(2-iodobenzoyl)indole	AM2233
8.8.6	1-(N-Methyl-2-piperidinyl)methyl-3-(2-iodobenzoyl) indole-D5	
8.8.7	1-Butyl-3-(4-methoxybenzoyl)indole	RCS-4 (C4 homologue)
8.8.8	1-Pentyl-3-(4-methoxybenzoyl)indole	RCS-4
8.8.9	1-Pentyl-3-(4-methoxybenzoyl)indole-D9	
8.8.10	1-Pentyl-3-(4-methoxybenzoyl)indole-D11	
8.8.11	1-Pentyl-3-(2-methoxybenzoyl)indole	RCS-4(2-methoxy homologue)
8.8.12	1-Pentyl-3-(3-methoxybenzoyl)indole	RCS-4(3-methoxy homologue)

8.9	Pyrrolidinoyl indoles	
8.9.1	1-(5-Fluoropentyl)-3-pyrrolidine-1-carbonylindole	5F-PY-PICA

8.10	Pyridinoyl indoles	
8.10.1	5-Fluoropentyl-3-pyridinoylindole	

8.11	Piperidinyl indoles	
8.11.1	1-(5-Fluoropentyl)-4-benzylpiperazin-1-ylindane methanone	5F-BEPIRAPIM, NNL2

Ref	Substance	Other names
8.12	**Adamantoyl indoles**	
8.12.1	Adamantyl(1-pentylindol-3-yl)methanone	AB-001
8.12.2	Adamantyl(1-(5-fluoropentyl)indol-3-yl)methanone	5-Fl AB001
8.12.3	1-[(N-Methylpiperidin-2-yl)methyl]-3-(adamant-1-oyl)indole	AM1248
8.12.4	1-(N-Methylazepan-3-yl)-3-(adamant-1-oyl)indole	AM1248 azepane isomer
8.13	**Tetramethylcyclopropoyl indoles**	
8.13.1	(1H-Indol-3-yl)-(2,2,3,3-tetramethylcyclopropyl)methanone	
8.13.2	1-(Pentylindol-3-yl)-(2,2,3,3-tetramethylcyclopropyl)methanone	UR-144
8.13.3	1-(Pentylindol-3-yl)-(2,2,3,3-tetramethylcyclopropyl)methanone-D4	
8.13.4	1-(Pentylindol-3-yl)-(3,3,4-trimethylpentenyl)methanone	(= UR-144 GC-MS degradation product)
8.13.5	1-(Pent-4-eneylindol-3-yl)-(2,2,3,3-tetramethylcyclopropyl) methanone	UR-144 (N-pentenyl analogue)
8.13.6	1-(5-Fluoropentylindol-3-yl)-(2,2,3,3-tetramethylcyclopropyl) methanone	5FUR-144, XLR-11
8.13.7	1-(5-Fluoropentylindol-3-yl)-(2,2,3,3-tetramethylcyclopropyl) methanone-D5	
8.13.8	1-(5-Fl-Pentylindol-3-yl)-(3,3,4-trimethylpentenyl)methanone	(= XLR11 GC-MS degradation product)
8.13.9	1-(5-Fluorobutylindol-3-yl)-(2,2,3,3-tetramethylcyclopropyl) methanone	XLR-12
8.13.10	1-(5-Bromopentylindol-3-yl)-(2,2,3,3-tetramethylcyclopropyl) methanone	UR-144 (5-bromopentyl analogue)
8.13.11	1-(5-Methylheptyl-3-yl)-(2,2,3,3-tetramethylcyclopropylmethanone	UR-144 (N-(5-methylheptyl) analogue)
8.13.12	1-(Heptylindol-3-yl)-(2,2,3,3-tetramethylcyclopropyl)methanone	UR-144 (N-heptyl analogue)
8.13.13	1-(2-Chloropentylindol-3-yl)-(2,2,3,3-tetramethylcyclopropyl) methanone	UR-144 N-(2-chloropentyl) analogue
8.13.14	1-(3-Chloropentylindol-3-yl)-(2,2,3,3-tetramethylcyclopropyl) methanone	UR-144 N-(3-chloropentyl) analogue
8.13.15	1-(5-Chloropentylindol-3-yl)-(2,2,3,3-tetramethylcyclopropyl) methanone	UR-144 N-(4-chloropentyl) analogue
8.13.16	1-(5-Chloropentylindol-3-yl)-(2,2,3,3-tetramethylcyclopropyl) methanone	UR-144 N-(5-chloropentyl) analogue
8.13.17	1-(5-Pentyl-2-Me-indol-3-yl)-(2,2,3,3-tetramethylcyclopropyl) methanone	M-144
8.13.18	1-(4-Fluorobenzyl)-(2,2,3,3-tetramethylcyclopropyl)methanone	FUB-144
8.13.19	1-(Methyltetrahydropyran-4-ylindole-3-yl)-(2,2,3,3,-tetramethylcyclopropyl)methanone	A834,735
8.13.20	1-(2-(4-Morpholinyl)ethyl)-(2,2,3,3-tetramethylcyclopropyl) methanone	A796,260
8.13.21	1-(1-Methyl-2-piperidinyl)-(2,2,3,3-tetramethylcyclopropyl) methanone	AB-005
8.13.22	1-(1-Methyl-2-azepanyl)-(2,2,3,3-tetramethylcyclopropyl) methanone	AB-005 azepane homologue
8.14	**3,4,4-Trimethyl-pent-2-en-1-one indoles**	

Ref	Substance	Other names
8.14.1	3,4,4-Trimethyl-1-(1-(2-morpholinoethyl)-1H-indol-3-yl)pent-2-en-1-one)	JWH-200 analogue 1
8.15	**Indole carboxamides**	
8.15.1	N-(Methylcyclopropyl)-1-(5Fpentyl)indole carboxamide	5F-CYPPICA
8.15.2	N-Phenyl-1-pentylindol-3-carboxamide	SDB-006 N-Phenyl analogue
8.15.3	N-Phenyl-1-(5F-pentyl)indol-3-carboxamide	5-F-Phenyl PICA, LTI-701
8.15.4	N-Benzyl-1-pentylindol-3-carboxamide	SDB-006
8.15.5	N-Benzyl-1-(5Fl-pentyl)indol-3-carboxamide	5 Fl SDB-006
8.15.6	N-(1-Naphthalenyl)-1-pentylindol-3-carboxamide	NNE1, MN-24
8.15.7	N-(2-Naphthalenyl)-1-pentylindol-3-carboxamide	NNE1 2-naphthyl isomer
8.15.8	N-(1-Naphthalenyl)-1-(2-fluoropentyl)indol-3-carboxamide	2-Fl NNEI, 2-Fl MN-24
8.15.9	N-(1-Naphthalenyl)-1-(3-fluoropentyl)indol-3-carboxamide	3-Fl NNE1, 3-Fl MN-24
8.15.10	N-(1-Naphthalenyl)-1-(4-fluoropentyl)indol-3-carboxamide	4-Fl NNE1, 4-Fl MN-24
8.15.11	N-(1-Naphthalenyl)-1-(5-fluoropentyl)indol-3-carboxamide	5-Fl NNE1, 5-Fl MN-24
8.15.12	N-(2-Naphthalenyl)-1-(5-fluoropentyl)indol-3-carboxamide	5-Fl NNE1 2-naphthyl isomer
8.15.13	N-(1-Naphthalenyl)-1-(5-Cl-pentyl)indol-3-carboxamide	5-C-NNE1
8.15.14	N-(1-Naphthalenyl)-1-(4-Fl-benzyl)indol-3-carboxamide	FDU-NNE1
8.15.15	N-Adamantyl-1-pentylindol-3-carboxamide	APICA, 2NE1, SDB-001
8.15.16	N-Adamantyl-1-(5-fluoropentyl)indol-3-carboxamide	5Fl APICA, STS-135, 2NE2
8.15.17	N-(1-Amino-3-methyl)-1-oxobutan-2-yl-1-(5-Fl-pentyl) indole-3-carboxamide	5-Fl-ABICA
8.15.18	N-(1-Amino-3,3-dimethyl)-1-oxobutan-2-yl-1-pentylindole-3-carboxamide	ADBICA, ADB-PICA
8.15.19	N-(1-Amino-3,3-dimethyl)-1-oxobutan-2-yl-1-pentylindole-3-carboxamide-D9	
8.15.20	N-(1-Amino-3,3-dimethyl)-1-oxobutan-2-yl-1-(5Fl-pentyl) indole-3-carboxamide	5-Fl ADBICA
8.15.21	N-(1-MeO-3-Me-1-oxobutan-2-yl)-1-pentylindole-3-carboxamide	MMB-018
8.15.22	N-(1-MeO-3-Me-1-oxobutan-2-yl)-1-pent-4-enylindole-3-carboxamide	MMB-4en-PICA, MMB022
8.15.23	N-(1-MeO-3-Me-1-oxobutan-2-yl)-1-(5Fl-pentyl)indole-3-carboxamide	5F-MMB-PICA, MMB-2201, I-AMB
8.15.24	N-(1-MeO-3,3-dimethyl-1-oxobutan-2-yl)-1-(5Fl-pentyl) indole-3-carboxamide	5F-MDMB-PICA
8.15.25	N-(1-MeO-3,3-dimethyl-1-oxobutan-2-yl)-1-(5Fl-pentyl) indole-3-carboxamide-D5	
8.15.26	N-(1-Amino-1-oxo-3-phenylpropan-2-yl)-1-pentylindole-3-carboxamide	APP-PICA
8.15.27	N-(1-Amino-1-oxo-3-phenylpropan-2-yl)-1-(5-Fl-pentyl) indole-3-carboxamide	5F-APP-PICA, PX-1
8.15.28	N-(1-Amino-3-methyl-1-oxobutan-2-yl)-1-cyclohexylmethylindole carboxamide	AB-CHMICA
8.15.29	N-(1-Methoxy-3-methyl)-1-oxobutan-2-yl)-1-cyclohexylmethylindole carboxamide	MMB-CHMICA
8.15.30	N-(1-Methoxy)-1-oxopentan-2-yl)-1-cyclohexylmethylindole carboxamide	MEP-CHMICA
8.15.31	N-(1-Methoxy-3,3-dimethyl)-1-oxobutan-2-yl-1-cyclohexylmethylindole carboxamide	MDMB-CHMICA
8.15.32	N-(1-Methoxy-3-methyl)-1-oxobutan-2-yl-1-benzylindole carboxamide	AB-BICA

Ref	Substance	Other names
8.15.33	N-(1-Methoxy-3,3-dimethyl)-1-oxobutan-2-yl-1-benzylindole carboxamide	ADB-BICA
8.15.34	N-(1-Amino-3-methyl)-1-oxobutan-2-yl-1-(4-Fl-benzyl)indole carboxamide	AB-FUBICA
8.15.35	N-(1-Amino-3,3-dimethyl)-1-oxobutan-2-yl-1-(4-Fl-benzyl) indole carboxamide	ADB-FUBICA
8.15.36	N-(1-Methoxy-3-methyl)-1-oxobutan-2-yl)-1-(4-Fl-benzyl) indole carboxamide	MMB-FUBICA
8.15.37	N-(1-Methoxy-3,3-dimethyl)-1-oxobutan-2-yl)-1-(4-Fl-benzyl) indole carboxamide	MDMB-FUBICA
8.15.38	N-(1-Methoxy-1-oxopentan-2-yl)-1-(4-Fl-benzyl)indole carboxamide	MEP-FUBICA, MMB-FUBICA isomer 1
8.15.39	N-(1-Phenyl-butan-2-yl)-1-(4-Fl-benzyl)indole carboxamide	Ethylphenyl-FUBICA
8.15.40	N-Fenchyl-1-(2-morpholinoethyl)-7-MeO-indole-3-carboxamide	MN-25
8.15.41	N-Fenchyl-1-(2-morpholinoethyl)-2-Me-7-MeO-indole-3-carboxamide	2-Me MN-25
8.15.42	N-(Quinolin-8-yl)-1-pentyl-indole-3-carboxamide	JWH-018 Quinolinyl carboxamide
8.15.43	N-(Quinolin-8-yl)-1-(5-Fl pentyl)-indole-3-carboxamide	AM2201 Quinolinyl carboxamide
8.15.44	N-(1-Methyl-1-phenylethyl) -1-pentylindol-3-carboxamide	Cumyl-PICA
8.15.45	N-(1-Methyl-1-(4Cl-phenyl)ethyl) -1-pentylindol-3-carboxamide	4-Cl Cumyl-PICA, SGT-157
8.15.46	N-(1-Methyl-1-phenylethyl) -1-(5-fluoropentyl)indol-3-carboxamide	5-Fl Cumyl-PICA
8.15.47	N-(1-Methyl-1-(4F-phenyl)ethyl) -1-(5-fluoropentyl)indol-3-carboxamide	(4F-Cumyl)-5F-PICA, SGT-64
8.15.48	N-(1-Phenyl-methyl propanoate)-1-(5-fluoropentyl)indol-3-carboxamide	5F-MPP-PICA, MPHP-2201
8.15.49	N-(1-Phenyl-butyl)-1-(5-fluoropentyl)indol-3-carboxamide	5F-Ethylbenzyl-PICA

8.16	Indole carboxylates	
8.16.1	Methyl 1-pentylindole-3-carboxylate	
8.16.2	Methyl 1-(5-fluoropentyl)indole-3-carboxylate	
8.16.3	Methyl 1-(cyclohexylmethyl)indole-3-carboxylate	M-CHMIC
8.16.4	Naphthalenyl-1-pentyl-3-carboxlate	CBL-018
8.16.5	Naphthalenyl-1-(5-fluoropentyl)indole-3-carboxylate	NM-2201, CBL-2201
8.16.6	Naphthalenyl-1-(4-fluorobenzyl)indole-3-carboxylate	FDU-PB22, ADUPB-22

8.17	Quinolinyl indole carboxylates	
8.17.1	Quinolin-8-yl-1-pentyl-1H-indole-3-carboxylate	PB-22, QUPIC
8.17.2	Quinolin-8-yl-1-pentyl-1H-indole-3-carboxylate-D9	
8.17.3	Quinolin-8-yl-1-pentyl-1H-indole-3-carboxylate-D11	
8.17.4		PB-22 3-quinolinyl isomer
8.17.5		PB-22 4-quinolinyl isomer
8.17.6		PB-22 5-quinolinyl isomer
8.17.7		PB-22 6-quinolinyl isomer
8.17.8		PB-22 7-quinolinyl isomer
8.17.9		PB-22 6-hydroxyquinolinyl isomer
8.17.10		PB-22 5-hydroxyisoquinolinyl isomer

Ref	Substance	Other names
8.17.11		PB-22 6-hydroxyisoquinolinyl isomer
8.17.12		PB-22 7-hydroxyisoquinolinyl isomer
8.17.13		PB-22 8-hydroxyisoquinolinyl isomer
8.17.14	Quinolin-8-yl-1-(5-fluoropentyl)-1H-indole-3-carboxylate	5-Fluoro PB-22
8.17.15		5-Fluoro PB-22 3-HOquinoline isomer
8.17.16		5-Fluoro PB-22 4-HOquinoline isomer
8.17.17		5-Fluoro PB-22 5-HOquinoline isomer
8.17.18		5-Fluoro PB-22 6-HOquinoline isomer
8.17.19		5-Fluoro PB-22 7-HOquinoline isomer
8.17.20		5-Fl PB-22 4-HOisoquinoline
8.17.21		5-Fl PB-22 5-HOisoquinoline
8.17.22		5-Fl PB-22 6-HOisoquinoline
8.17.23		5-Fl PB-22 7-HOisoquinoline
8.17.24		5-Fl PB-22 8-HOisoquinoline
8.17.25		5-Fluoropentyl PB-22 (2-Fl isomer)
8.17.26		5-Fluoropentyl PB-22 (3-Fl isomer)
8.17.27		5-Fluoropentyl PB-22 (4-Fl isomer)
8.17.28	Quinolin-8-yl-1-(4-fluorobenzyl)-1H-indole-3-carboxylate	FUB-PB-22
8.17.29	Quinolin-8-yl-1-cyclohexylmethyl-1H-indole-3-carboxylate	BB-22, QUCHIC
8.17.30		BB-22 3-quinolinyl isomer
8.17.31		BB-22 4-quinolinyl isomer
8.17.32		BB-22 5-quinolinyl isomer
8.17.33		BB-22 6-quinolinyl isomer
8.17.34		BB-22 7-quinolinyl isomer
8.17.35		BB-22 4-hydroxyisoquinolinyl isomer
8.17.36		BB-22 5-hydroxyisoquinolinyl isomer
8.17.37		BB-22 7-hydroxyisoquinolinyl isomer
8.17.38		BB-22 8-hydroxyisoquinolinyl isomer

8.18	Pyridinoyl indoles	
8.18.1	5-Fluoropentyl-3-pyridinoylindole	

8.19	Piperidinyl indole carboxamides	
8.19.1	(4-Methylpiperidin-1-yl)-1-pentylindole carboxide	

8.20	Thiazole indoles	
8.20.1	N-Pentyl-3-thiazole-indole analogue 1	PTI-1
8.20.2	N-Pentyl-3-thiazole-indole analogue 2	PTI-2

	(4) Indazole core	
8.21	Naphthoyl indazoles	
8.21.1	1-Naphthalenyl(1-pentyl-1-H-indazol-3-yl)methanone	THJ 018, JWH-018 indazole analogue
8.21.2	1-(4-MeO-naphthalenyl)(1-pentyl-1-H-indazol-3-yl)methanone	THJ-081, SGT-035

Ref	Substance	Other names
8.21.3	1-Naphthalenyl(1-(5-Fl-pentyl)-1-H-indazol-3-yl)methanone	THJ 2201, AM-2201 indazole analogue
8.21.4	1-Naphthalenyl(1-(5-Cl-pentyl)-1-H-indazol-3-yl)methanone	5-Cl-THJ-018
8.21.5	1-Naphthalenyl(1-(5-Br-pentyl)-1-H-indazol-3-yl)methanone	5-Br-THJ-018
8.22	**Tetramethylcyclopropoyl indazoles**	
8.22.1	1-(5-Fluoropentylindazol-3-yl)-(2,2,3,3-tetramethylcyclopropyl)methanone	FAB-144
8.22	**Indazole carboxamides**	
8.23.1	N-(1-Naphthalenyl)-1-pentylindazole-3-carboxamide	MN-18
8.23.2	N-(1-Naphthalenyl)-2-pentylindazole-3-carboxamide	MN-18 2-indazole isoner
8.23.3	N-(1-Naphthalenyl)-1-(5-fluoropentyl)indazole-3-carboxamide	5-Fl-MN-18
8.23.4	N-Adamantyl-1-pentylindazole-3-carboxamide	AKB-48, APINACA
8.23.5	N-Adamantyl-1-pentylindazole-3-carboxamide-D9	
8.23.6	N-Adamantyl-1-pentylindazole-3-carboxamide-D11	
8.23.7	N-Adamantyl-1-(5-fluoropentyl)indazole-3-carboxamide	5-F AKB48, 5-F APINACA
8.23.8	N-Adamantyl-1-(5-chloropentyl)indazole-3-carboxamide	5-Cl AKB48, 5-Cl APINACA
8.23.9	N-Adamantyl-1-(5-bromopentyl)indazole-3-carboxamide	5-Br AKB48, 5-Br APINACA
8.23.10	N-Adamantyl-1-(4-fluorobenzyl)indazole-3-carboxamide	FUB-APINACA, AKB-48 4-Fl benzyl analogue
8.23.11	N-Adamantyl-1-cyclohexylmethylindazole-3-carboxamide	ACHMINACA
8.23.12	N-Adamant-1-yl -1-tetrahydropyranylindazole-3-carboxamide	ATHPINACA, Adamant-1-yl THPINACA
8.23.13	N-Adamant-2-yl -1-tetrahydropyranylindazole-3-carboxamide	ATHPINACA, Adamant-2-yl THPINACA
8.23.14	N-(1-Adamantyl)-1-[(tetrahydropyran-4-yl)methyl]-1H-indazole-3-carboxamide	Adamant-1-yl-THPINACA isomer 1
8.23.15	N-(2-Adamantyl)-1-[(tetrahydropyran-4-yl)methyl]-1H-indazole-3-carboxamide	Adamant-2-yl-THPINACA isomer 2
8.23.16	N-(1-Amino-3-methyl-1-oxobutan-2-yl)-1-(pentyl-1H-indazole)-3-carboxamide	AB-PINACA
8.23.17	AB-PINACA-D9	AB-PINACA-D9
8.23.18	N-(1-Amino-3-methyl-1-oxobutan-2-yl)-1-(2-fluoropentyl-1H-indazole)-3-carboxamide	2-Fl-AB-PINACA
8.23.19	N-(1-Amino-3-methyl-1-oxobutan-2-yl)-1-(3-fluoropentyl-1H-indazole)-3-carboxamide	3-Fl-AB-PINACA
8.23.20	N-(1-Amino-3-methyl-1-oxobutan-2-yl)-1-(4-fluoropentyl-1H-indazole)-3-carboxamide	4-Fl AB-PINACA
8.23.21	N-(1-Amino-3-methyl-1-oxobutan-2-yl)-1-(5-fluoropentyl-1H-indazole)-3-carboxamide	5-Fl AB-PINACA
8.23.22	N-(1-Amino-3-methyl-1-oxobutan-2-yl)-1-(5-chloropentyl-1H-indazole)-3-carboxamide	5-Cl AB-PINACA
8.23.23	N-(1-Amino-3,3-dimethyl)-1-oxobutan-2-yl-1-pentylindazole -3 -carboxamide	ADB-PINACA
8.23.24	N-(1-Amino-3,3-dimethyl)-1-oxobutan-2-yl-1-pentylindazole -3-carboxamide-D9	ADB-PINACA-D9
8.23.25	N-(1-Amino-3,3-dimethyl)-1-oxobutan-2-yl-1-(5 Fl pentyl) indazole -3-carboxamide	5-Fl ADB-PINACA
8.23.26	N-(1-Amino-2,3-dimethyl-1-oxobutan-2-yl)-1-pentylindazole-3-carboxamide	ADB-PINACA Isomer 1
8.23.27	N-(1-Amino-3-methyl-1-oxopentan-2-yl)-1-pentylindazole-3-carboxamide	ADB-PINACA Isomer 2

Ref	Substance	Other names
8.23.28	N-(1-Amino-3-methyl-1-oxopentan-2-yl)-1-(5F-pentyl)indazole-3-carboxamide	5-Fluoro-ADB-PINACA Isomer 2
8.23.29	N-(1-Amino-4-methyl-1-oxopentan-2-yl)-1-pentylindazole-3-carboxamide	ADB-PINACA Isomer 4
8.23.30	N-(1-Amino-1-oxohexan-2-yl)-1-pentylindazole-3-carboxamide	ADB-PINACA Isomer 3
8.23.31	N-(1-Amino-3,3-dimethyl)-1-oxobutan-2-yl-1-(benzyl)indazole-3-carboxamide	ADB-BINACA
8.23.32	[N-(4-Fluorobenzyl) analogue of AB-PINACA]	AB-FUBINACA
8.23.33	[N-(4-Fluorobenzyl) analogue of AB-PINACA]-D4	AB-FUBINACA-D4
8.23.34	[N-(2-Fluorobenzyl) analogue of AB-PINACA]	2-Fl-benzyl isomer of AB-FUBINACA
8.23.35	[N-(3-Fluorobenzyl) analogue of AB-PINACA]	3-Fl-benzyl isomer of AB-FUBINACA
8.23.36	N-Me-N-(1-amino-1-oxobutan-2-yl)-1-(4-Fl-benzyl)indazole carboxamide	N-Me AB-FUBINACA
8.23.37	N-(1-amino-1-oxobutan-2-yl)-2-(4-Fl-benzyl)indazole carboxamide	AB-FUBINACA 2'-indazole isomer
8.23.38	2-(1-Pentylindazole)-3-carboxamide-3-Me-methylbutanoate	AMB
8.23.39	2-(1-(2-Fluoropentyl)indazole)-3-carboxamide-3-Me-methylbutanoate	2-Fl-AMB
8.23.40	2-(1-(3-Fluoropentyl)indazole)-3-carboxamide-3-Me-methylbutanoate	3-Fl-AMB
8.23.41	2-(1-(4-Fluoropentyl)indazole)-3-carboxamide-3-Me-methylbutanoate	4-Fl-AMB
8.23.42	2-(1-(5-Fluoropentyl)indazole)-3-carboxamide-3-Me-methylbutanoate	5-Fl-AMB
8.23.43	N-(1-MeO-3-Me-1-oxobutan-2-yl)-1-(4-Fl-benzyl)indazole-3-carboxamide	FUB-AMB
8.23.44	N-(1-MeO-3,3-dimethyl-1-oxobutan-2-yl)-indazole carboxamide	MDMB-INACA
8.23.45	N-(1-MeO-3,3-dimethyl-1-oxobutan-2-yl)-1-(penten-4-yl) indazole carboxamide	MDMB-4en-PINACA
8.23.46	N-(1-MeO-3,3-dimethyl-1-oxobutan-2-yl)-1-(2-Fl pentyl) indazole carboxamide	2-Fl-ADB, 2F-MDMB-PINACA
8.23.47	N-(1-MeO-3,3-dimethyl-1-oxobutan-2-yl)-1-(3-Fl pentyl) indazole carboxamide	3-Fl-ADB, 3F-MDMB-PINACA
8.23.48	N-(1-MeO-3,3-dimethyl-1-oxobutan-2-yl)-1-(4-Fl pentyl) indazole carboxamide	4-Fl-ADB, 4F-MDMB-PINACA
8.23.49	N-(1-MeO-3,3-dimethyl-1-oxobutan-2-yl)-1-(5-Fl pentyl) indazole carboxamide	5-Fl-ADB, 5F-MDMB-PINACA
8.23.50		(R)-5Fl-ADB
8.23.51		(S)-5Fl-ADB
8.23.52	N-(1-EtO-3-methyl-1-oxobutan-2-yl)]-1-[5-Fl pentyl]indazole carboxamide	5F-EMB-PINACA
8.23.53	N-(1-EtO-3,3-dimethyl-1-oxobutan-2-yl)]-1-[5-Fl pentyl] indazole carboxamide	5F-EDMB-PINACA
8.23.54	N-[1-Aminocarbonyl-2,2-dimethylpropyl]-1-[4-Fl benzyl] indazole carboxamide	ADB-FUBINACA
8.23.55	N-[1-Ethylaminocarbonyl-2,2-dimethylpropyl]-1-[4-Fl benzyl] indazole carboxamide	EADB-FUBINACA
8.23.56	N-(1-Amino-1-oxo-3-phenylpropan-2-yl)-1-([4-Fl benzyl) indazole-3-carboxamide	APP-FUBINACA
8.23.57	N-(1-MeO-3-methyl-1-oxobutan-2-yl)]-1-[4-Fl benzyl]indazole carboxamide	MMB-FUBINACA

Ref	Substance	Other names
8.23.58	N-(1-EtO-3-methyl-1-oxobutan-2-yl)]-1-[4-Fl benzyl]indazole carboxamide	EMB-FUBINACA
8.23.59	N-(1-MeO-3,3-dimethyl-1-oxobutan-2-yl)]-1-[4-Fl benzyl] indazole carboxamide	MDMB-FUBINACA
8.23.60	N-(1-MeO-1-oxopentan-2-yl) -1-[4-Fl benzyl]indazole carboxamide	MEP-FUBINACA
8.23.61	2-(1-(5-Fluoropentyl)indazole)-3-carboxamide-3-Me-ethylbutanoate	5-Fl-AEB
8.23.62	N-(1-Amino-3-methyl-1-oxobutan-2-yl)-1-(cylohexyl-Me)-1H-indazole)-3-carboxamide	AB-CHMINACA
8.23.63	AB-CHMINACA-D4	
8.23.64	N-(1-Amino-3-methyl-1-oxobutan-2-yl)-2-(cylohexyl-Me)-1H-indazole)-3-carboxamide	AB-CHMINACA 2'-indazole isomer
8.23.65	N-(1-Amino-3,3-dlmethyl-1-oxobutan-2-yl)-1-(cylohexyl-Me)-1H-indazole)-3-carboxamide	MAB-CHMINACA, ADB-CHMINACA
8.23.66	MAB-CHMINACA-D4	
8.23.67	N-(1-MeO-3-methyl-1-oxobutan-2-yl)-1-(cylohexyl-Me)-1H-indazole)-3-carboxamide	MA-CHMINACA
8.23.68	N-(1-MeO-3,3-dimethyl-1-oxobutan-2-yl)-1-(cylohexyl-Me)-1H-indazole)-3-carboxamide	MDMB-CHMINACA
8.23.69	N-(1-Amino-1-oxo-3-phenylpropan-2-yl)-1-(5-Fl-pentyl) indazole-3-carboxamide	PX-2
8.23.70	N-(1-Amino-1-oxo-3-phenylpropan-2-yl)-1-(cyclohexyl-Mel) indazole-3-carboxamide	APP-CHMINACA, PX-3
8.23.71	N-(1-Me-1-Ph-ethyl)-1-pentyl-1H-indazole-3-carboxamide	CUMYL-PINACA, SGT-24
8.23.72	N-(1-Me-1-Ph-ethyl)-1-(5-Fl-pentyl)-1H-indazole-3-carboxamide	5F-CUMYL-PINACA, SGT-25
8.23.73	N-(1-Me-1-(4F-Ph)-ethyl)-1-(5-Fl-pentyl)-1H-indazole-3-carboxamide	4F-CUMYL-PINACA, SGT-65
8.23.74	N-(1-Me-1-(4Cl-Ph)-ethyl)-1-(5-Fl-pentyl)-1H-indazole-3-carboxamide	SGT-157
8.23.75	N-(1-Phenylpropyl)-1-(4-CN-butyl)-1H-indazole-3-carboxamide	Ethylbenzyl-CYBINACA
8.23.76	N-(1-MeO-3,3-dimethyl-1-oxobutan-2-yl)-1-(4-Fl butyl)indazole carboxamide	4F-MDMB BUTINACA
8.23.77	N-(1-MeO-3,3-dimethyl-1-oxobutan-2-yl)-2-(4-Fl butyl)indazole carboxamide	4F-MDMB BUTINACA 2'-indazole isomer
8.23.78	N-(1-Amino-1-oxo-3-phenylpropan-2-yl)-1-butyl-indazole carboxamide	APP-BUTINACA
8.23.79	N-(1-Me-1-Ph-ethyl)-1-(4-CN-butyl)-1H-indazole-3-carboxamide	4-CN-CUMYL-BUTINACA, SGT-78
8.23.80	N-(1-Me-1-Ph-ethyl)-2-(4-CN-butyl)-2H-indazole-3-carboxamide	4-CN-CUMYL-BUTINACA isomer 2
8.23.81	N-(1-Me-1-Ph-ethyl)-1-[(tetrahydropyran-4-yl)nethyl]-1H-indazole-3-carboxamide	CUMYL-THPINACA
8.23.82	N-Cumyl-1-(2-(piperidin-1-yl)ethyl)-indazole carboxamide	STG-234
8.23.83	N-Cumyl-1-(2-(4,4-DiF-piperidin-1-yl)ethyl)-indazole carboxamide	STG-235
8.23.84	N-(2,2-DiMe-1-phenylpropyl)-1-(5-Fl pentyl)-indazole-3-carboxamide	5F-TBB-PINACA

8.24	Quinolinyl indazole carboxamides	
8.24.1	Quinolin-8-yl-1-pentyl-1H-indazole-3-carboxamide	THJ
8.24.2	Quinolin-8-yl-1-(5-fluoropentyl)-1H-indazole-3-carboxamide	5Fl -THJ
8.24.3	Dihydroquinolin-l-yl-1-pentyl-1H-indazole-3-carboxamide	SGT-88

8.25	Indazole carboxylates	
8.25.1	1-(4-Flbenzyl)-indazole- 3-(Me-carboxylate)	MFUBINAC
8.25.2	Isobutyl-1-pentyl-1H-indazole-3-carboxylate	iBu-PINAC
8.25.3	1-MeO-3,3-dimethyl-1-oxobut-2-yl-1-(cyclohexylmethyl)-1H-indazole-3-carboxylate	MO-CHMINACA

8.26	Naphthyl indazole carboxylates	
8.26.1	Naphthalenyl-pentylindazole carboxylate	SDB-005
8.26.2	Naphthalenyl-(5-Fl-pentyl)indazole carboxylate	5-Fl-SDB-005
8.26.3	Naphthalenyl-(2-Fl phenyl)indazole carboxylate	3-CAF

8.26	Adamantyl indazole carboxylates	
8.27.1	Adamantyl-1-pentyl-1H-indazole carboxylate	APINAC, AKB-57
8.27.2	Adamntyl-1-(5F-pentyl)-1H-indazole carboxylate	5F-APINAC, 5F-AKB-57

8.28	Quinolinyl indazole carboxylates	
8.28.1	Quinolin-8-yl-1-pentyl-1H-indazole-3-carboxylate	NPB-22
8.28.2	Quinolin-8-yl-1-(5-Fl-pentyl)-1H-indazole-3-carboxylate	5-Fl-NPB-22
8.28.3	Quinolin-8-yl -1-(4-Fl-benzyl)-1H-indazole-3-carboxylate	FUB-NPB-22

8.29	Pyrrolidinyl indazole methanones	
8.29.1	1-(5Fpentyl)-1H-indazol-3-ylpyrrolidin-1-yl methanone	5F-PY-PINACA

	(5) Benzimidazole core	
8.30	Naphthoyl benzimidazoles	
8.30.1	Naphththalen-1-yl(1-pentyl-1H-benzo[d]imidazol-2-yl)methanone	JWH-018 benzimidazole analogue
8.30.2	Naphththalen-1-yl(1-(5-Fl-pentyl)-1H-benzo[d]imidazol-2-yl) methanone	AM-2201 benzimidazole , FUBIMINA

	(6) Carbazole core	
8.31	Naphthoyl carbazoles	
8.31.1	3-(1-naphthoyl)-9-pentylcarbazole	EG-018
8.31.2	3-(1-naphthoyl)-9-(5-fluoropentyl)carbazole	EG-2201

8.32	Other carbazoles	
8.32.1	Me-2-(9-(cuclohexylMe)-9H-carbazole-3-carboxamido)-3,3-DiMebutanoate	MDMB-CHMCZCA

	(7) Azaindole core
8.33	Azaindole carboxamides

Ref	Substance	Other names
8.33.1	1-(5-Fl-pentyl)-N-(naphthalen-1-yl)-1H-pyrrolo[3,2-c]pyridine-3-carboxamide	5-Fl-PCN, 5F-MN-21
8.33.2	1-(4-CN-butyl)-N-cumyl-1H-pyrollo[2,3-b]pyridine-3-carboxamide	Cumyl-4-CN-B7AICA
8.33.3	1-(5-Fl-pentyl)-N-cumyl-1H-pyrollo[2,3-b]pyridine-3-carboxamide	5F-Cumyl-P7AICA
8.33.4	1-(4-Fl benzyl)-N-(1-amino-3-methyl-1-oxobutan-2-yl)-1H-pyrollo[2,3-b]pyridine-3-carboxamide	AB-7-FUBAICA
8.33.5	1-(5-Fl-pentyl)-quinolin-8-yl-azaindole carboxylate	5F-7-QUPAIC
8.33.6	2-(1-(5F-pentyl)-1H-pyrrolo[3,2-b]pyridine-3-carboxamido-3,3-dimethylbutanoate	5F-MDMB-P4AICA
8.33.7		5F-MDMB-P6AICA
8.33.8	2-(1-(5F-pentyl)-1H-pyrrolo[2,3-b]pyridine-3-carboxamido-3,3-dimethylbutanoate	5F-MDMB-P7AICA

	(8) Pyrazole core	
8.34	**Pyrazole carboxamides**	
8.34.1	1-CHM-5-(4F-Ph) pyrazole carboxamide-N-(1-NH2-3-Me-1-Oxobutanoate)	5,3-AB-CHFUPYCA, AB-CHMFUPPYCA
8.34.2	1-CHM-3-(4F-Ph) pyrazole carboxamide-N-(1-NH2-3-Me-1-Oxobutanoate)	3,5-AB-CHFUPYCA, AB-CHMFUPPYCA [AZ-037?]
8.34.3	1-(5-FIP)-5-(4-F-Ph) pyrazole carboxamide-N-(1-NH2-3-Me-1-Oxobutanoate)	5F-AB-FUPPYCA, [AZ-037 ?]
8.34.4	1-(5-FIP)-3-(4-F-Ph) pyrazole carboxamide-N-(1-NH2-3,3-diMe-1-Oxobutanoate)	5F-ADB-FUPYCA
8.34.5	2-(5-FIP)-5-(4-F-Ph) pyrazole carboxamide-N-(1-NH2-3-Me-1-Oxobutanoate)	[AZ-037?]

	(9) Carbolin-1-one core	
8.35	**Carbolin-1-one core**	
8.35.1	2-Cumyl-5-pentyl-gamma-carbolin-1-one	Cumyl PeGaClone, SGT-151
8.35.2	2-Cumyl-5-(5F-pentyl)-gamma-carbolin-1-one	5F-Cumyl PeGaClone

8.36	**Other synthetic cannabinoids**	
8.36.1	2-(3-Hydroxycyclohexyl)-5-(1,1-dimethylhexyl)phenol	CP 47,497 (C6 homologue)
8.36.2	2-(3-Hydroxycyclohexyl)-5-(1,1-dimethylheptyl)phenol	CP 47,497
8.36.3	2-(3-Hydroxycyclohexyl)-5-(1,1-dimethylheptyl)phenol-D5	
8.36.4	2-(3-Hydroxycyclohexyl)-5-(1,1-dimethylheptyl)phenol-D11	
8.36.5	2-(3-Hydroxycyclohexyl)-5-(1,1-dimethyloctyl)phenol	CP 47,497 (C8 homologue)
8.36.6	2-(3-Hydroxycyclohexyl)-5-(1,1-dimethyloctyl)phenol-D7	CP 47,497 (C8 homologue)-D7
8.36.7	2-(3-Hydroxycyclohexyl)-5-(1,1-dimethylnonyl)phenol	CP 47,497 (C9 homologue)
8.36.8	2-(2(3-Hydroxypropyl)-5-hydroxycyclohexyl)-5-(1,1-dimethylheptyl)phenol	CP 55,940
8.36.9	2-(2(3-Hydroxypropyl)-5-hydroxycyclohexyl)-5-(1,1-dimethylheptyl)phenol-D11	CP 55,940-D11
8.36.10	1,1-Dimethylheptyl-11-hydroxy-THC	HU-210
8.36.11	1,1-Dimethylheptyl-11-hydroxy-THC-D6	
8.36.12	HU-243	HU-243

Ref	Parent compound	Metabolite
8.36.13	HU-243-D6	
8.36.14	HU-308	
8.36.15	Pravadoline	WIN 48,098
8.36.16	6-Bromopravadoline	WIN 54,461
8.36.17		WIN 55,212-2
8.36.18	1-Naphthalenyl -1-(4-pentyloxy)naphthenyl methanone	CB-13 or CRA-13
8.36.19		A-796,260 (LTI-258)
8.36.20		A-796,260 impurity
8.36.21		A-836,339
8.36.22		ORG 28611
8.36.23		URB-754
8.36.24	3-(2-MeObenzyl)-5-MeO-7-pentyl-2H-1-benzopyran-2-one	PSB-SB1202
8.36.25	BAY 59-3074	

8.37	**Mixed standards**	
8.37.1	Spice Mix : JWH-200, JWH-250, HU-211	
8.37.2	CP-47,497 & CP-47,497 C8 homologue	
8.37.3	Spice Mix 2 : JWH-019, JWH-081 , JWH-122 and AM2201	
8.37.4	Spice Mix 3 : RCS-4 & -8, JWH 203 & 210, AM2233	
8.37.5	Synth cannabinoid Mix 1 : JWH-018, -073, -122, -210, -250, AM-2201, MAM-2201	
8.37.6	UR-144, 5-Cl-UR-144, XLR-144 + UR-144 & XLR-144 degradants	
8.37.7	Synth cannabinoid mix 3 : PB22, 5F-PB-22, 5F-PB-22 (3-OH Quinolynyl),	
8.37.8	FUB-PB-22, FUB-UR-144 , MMB-FUBINACA, , 5F-NNEI, , NM-2201, THJ-2201	

9.0 Synthetic Cannabinoid Metabolites

Ref	Parent compound	Metabolite
9.1	**Indole core**	
9.1.1	JWH-007	N-(5-Hydroxypentyl) metabolite
9.1.2		N-Pentanoic acid metabolite
9.1.3		N-Pentanoic acid metabolite-D4
9.1.4	JWH-016	N-(4-Hydroxybutyl) metabolite
9.1.5		N-Butanoic metabolite
9.1.6		N-Butanoic metabolite-D4
9.1.7	JWH-018	2-Hydroxyindole metabolite
9.1.8		2-Hydroxyindole metabolite-D9
9.1.9		4-Hydroxyindole metabolite
9.1.10		4-Hydroxyindole metabolite-D9
9.1.11		5-Hydroxyindole metabolite
9.1.12		5-Hydroxyindole metabolite-D9
9.1.13		6-Hydroxyindole metabolite

Ref	Parent compound	Metabolite
9.1.14		6-Hydroxyindole metabolite-D9
9.1.15		7-Hydroxyindole metabolite
9.1.16		7-Hydroxyindole metabolite-D9
9.1.17		N-Propanoic acid metabolite
9.1.18		N-Pentanoic acid metabolite
9.1.19		N-Pentanoic acid metabolite-D4
9.1.20		N-Pentanoic acid metabolite-D5
9.1.21		N-(2-Hydroxypentyl) metabolite
9.1.22		N-(3-Hydroxypentyl) metabolite
9.1.23		N-(4-Hydroxypentyl) metabolite
9.1.24		N-(4-Hydroxypentyl) metabolite-D5
9.1.25		N-(5-Hydroxypentyl) metabolite
9.1.26		N-(5-Hydroxypentyl) metabolite-D5
9.1.27		N-(5-Hydroxypentyl) metabolite glucuronide
9.1.28		N-(5-Hydroxypentyl) metabolite glucuronide-D5
9.1.29		N-(4-Keto-pentyl) metabolite
9.1.30	JWH-019	5-Hydroxyindole metabolite
9.1.31		N-(5-Hydroxyhexyl) metabolite
9.1.32		N-(5-Hydroxyhexyl) metabolite-D5
9.1.33		N-(6-Hydroxyhexyl) metabolite
9.1.34		N-(6-Hydroxyhexyl) metab glucuronide
9.1.35	JWH-072	N-Propanoic acid metabolite
9.1.36	JWH-073	2-Hydroxyindole metabolite
9.1.37		2-Hydroxyindole metabolite-D7
9.1.38		4-Hydroxyindole metabolite
9.1.39		4-Hydroxyindole metabolite-D7
9.1.40		5-Hydroxyindole metabolite
9.1.41		5-Hydroxyindole metabolite-D7
9.1.42		6-Hydroxyindole metabolite
9.1.43		6-Hydroxyindole metabolite-D7
9.1.44		7-Hydroxyindole metabolite
9.1.45		7-Hydroxyindole metabolite -D7
9.1.46		N-Butanoic acid metabolite
9.1.47		N-Butanoic acid metabolite-D4
9.1.48		N-Butanoic acid metabolite-D5
9.1.49		N-(2-Hydroxybutyl) metabolite
9.1.50		N-(3-Hydroxybutyl) metabolite
9.1.51		N-(3-Hydroxybutyl) metabolite-D5
9.1.52		N-(4-Hydroxybutyl) metabolite
9.1.53		N-(4-Hydroxybutyl) metabolite-D5
9.1.54		N-(4-OH butyl)-β-D-glucuronide
9.1.55	JWH-081	N-(4-Hydroxypentyl) metabolite
9.1.56		N-(4-Hydroxypentyl) metabolite-D5
9.1.57		N-(5-Hydroxypentyl) metabolite
9.1.58		N-(5-Hydroxypentyl) metabolite-D5

Ref	Parent compound	Metabolite
9.1.59		N-Pentanoic acid metabolite
9.1.60		N-Pentanoic acid metabolite-D4
9.1.61		N-Pentanoic acid metabolite-D5
9.1.62		4-Hydroxynaphthyl metabolite
9.1.63	JWH-098	N-(5-Hydroxypentyl) metabolite
9.1.64		N-Pentanoic acid metabolite
9.1.65		N-Pentanoic acid metabolite-D4
9.1.66	JWH-122	N-(4-Hydroxypentyl) metabolite
9.1.67		N-(4-Hydroxypentyl) metabolite-D4
9.1.68		N-(5-Hydroxypentyl) metabolite
9.1.69		N-(5-Hydroxypentyl) metabolite-D5
9.1.70		N-Pentanoic acid metabolite
9.1.71		N-Pentanoic acid metabolite-D4
9.1.72	JWH-122 2-methylnaphthyl analogue	N-(5-Hydroxypentyl) metabolite
9.1.73	JWH-200	4-Hydroxyindole metabolite
9.1.74		5-Hydroxyindole metabolite
9.1.75		6-Hydroxyindole metabolite
9.1.76		7-Hydroxyindole metabolite
9.1.77	JWH-203	N-(4-Hydroxypentyl) metabolite
9.1.78		N-(5-Hydroxypentyl) metabolite
9.1.79		N-Pentanoic acid metabolite
9.1.80		N-Pentanoic acid metabolite-D4
9.1.81		N-Pentanoic acid metabolite-D5
9.1.82	JWH-210	N-(5-Carboxypentyl) metabolite
9.1.83		N-(4-Hydroxypentyl) metabolite
9.1.84		N-(4-Hydroxypentyl) metabolite-D5
9.1.85		N-(5-Hydroxypentyl) metabolite
9.1.86		5-Hydroxyindole metabolite
9.1.87	JWH-250	5-Hydroxyindole metabolite
9.1.88		N-(4-Hydroxypentyl) metabolite
9.1.89		N-(4-Hydroxypentyl) metabolite-D5
9.1.90		N-(5-Hydroxypentyl) metabolite
9.1.91		N-(5-Hydroxypentyl) metabolite-D5
9.1.92		N-(5-Carboxypentyl) metabolite
9.1.93		N-(5-Carboxypentyl) metabolite-D4
9.1.94	JWH-398	N-(5-Hydroxypentyl) metabolite
9.1.95		N-(4-Hydroxypentyl) metabolite
9.1.96		N-(4-Hydroxypentyl) metabolite-D5
9.1.97		N-Pentanoic acid metabolite
9.1.98		N-Pentanoic acid metabolite-D5
9.1.99	AM694	N-(5-Hydroxypentyl) metabolite
9.1.100		N-Pentanoic acid metabolite
9.1.101		N-Pentanoic acid metabolite -D5
9.1.102	AM2201	2-Hydroxyindole metabolite
9.1.103	(Note: loss of terminal Fl can lead to JWH-018 metabolites)	5-Hydroxyindole metabolite

Ref	Parent compound	Metabolite
9.1.104		6-Hydroxyindole metabolite
9.1.105		7-Hydroxyindole metabolite
9.1.106		N-(4-Hydroxypentyl) metabolite
9.1.107		N-(4-Hydroxypentyl) metabolite-D5
9.1.108		N-(5-Hydroxypentyl) metabolite
9.1.109	MAM2201	N-Pentanoic acid metabolite
9.1.110	(Note: loss of terminal FI can lead to JWH-122 metabolites)	N-Pentanoic acid metabolite-D5
9.1.111		N-(4-Hydroxypentyl) metabolite
9.1.112		N-(4-Hydroxypentyl) metabolite-D5 (on indole)
9.1.113		N-Pentanoic acid metabolite
9.1.114	RCS-4	N-(5-Hydroxypentyl) metabolite
9.1.115		N-(5-Hydroxypentyl) metabolite-D5
9.1.116		N-(4-Hydroxypentyl) metabolite
9.1.117		N-(4-Hydroxypentyl) metabolite-D5
9.1.118		N-Pentanoic acid metabolite
9.1.119		N-Pentanoic acid metabolite-D4
9.1.120		N-Pentanoic acid metabolite-D5
9.1.121		N-(4-Hydroxypentyl)-4-hydroxy metab
9.1.122		N-(5-Hydroxypentyl)-4-hydroxy metab
9.1.123		N-(4-Oxopentyl)-4-hydroxy metab
9.1.124		4-Hydroxyphenyl metabolite
9.1.125	RCS-4 2-methoxy homologue	N-(5-Hydroxypentyl) metabolite
9.1.126		N-Pentanoic acid metabolite
9.1.127		N-Pentanoic acid metabolite-D4
9.1.128	RCS-4 3-methoxy homologue	N-(5-Hydroxypentyl) metabolite
9.1.129		N-Pentanoic acid metabolite
9.1.130		N-Pentanoic acid metabolite-D4
9.1.131	UR-144	N-(2-Hydroxypentyl) metabolite
9.1.132		N-(4-Hydroxypentyl) metabolite
9.1.133		N-(4-Hydroxypentyl) metabolite-D5
9.1.134		N-(5-Hydroxypentyl) metabolite
9.1.135		N-(5-Hydroxypentyl) metabolite-D5
9.1.136		N-Pentanoic acid metabolite
9.1.137		N-Pentanoic acid metabolite-D5
9.1.138	UR-144 degradent	N-Pentanoic acid metabolite
9.1.139	XLR11 (5F-UR-144)	N-(4-Hydroxypentyl) metabolite
9.1.140		N-(4-Hydroxypentyl) metabolite-D5
9.1.141		6-Hydroxyindole metabolite
9.1.142	APICA	N-(4-Hydroxypentyl) metabolite
9.1.143	5F-APICA (STS-135)	N-(4-Hydroxypentyl) metabolite
9.1.144	ADBICA	N-(4-Hydroxypentyl) metabolite
9.1.145		N-(5-Hydroxypentyl) metabolite
9.1.146		N-Pentanoic acid metabolite
9.1.147	MDMB-CHMICA	O-desmethyl acid
9.1.148		Butanoic acid metabolite

Ref	Parent compound	Metabolite
9.1.149	MMB-FUBICA	O-desmethyl acid
9.1.150	MDMB-FUBICA	O-desmethyl acid
9.1.151	5F-MDMB-PICA	O-desmethyl acid
9.1.152		N-propionic acid
9.1.153		Butanoic acid metabolite
9.1.154	CUMYL-PICA	N-Pentanoic acid metabolite
9.1.155	PB-22	3-Carboxyindole metabolite
9.1.156		N-(4-Hydroxypentyl) metabolite
9.1.157		N-(4-Hydroxypentyl) metabolite-D5 (on indole)
9.1.158		N-(5-Hydroxypentyl) metabolite
9.1.159		N-(4-OH pentyl) 3-carboxyindole
9.1.160		N-(5-OH pentyl) 3-carboxyindole
9.1.161		N-Pentanoic acid metabolite
9.1.162		N-Pentanoic acid metabolite-D5 (on indole)
9.1.163	5-FI -PB22	3-Carboxyindole metabolite
9.1.164		3-Carboxyindole metabolite-D5
9.1.165	FUB-PB22	3-Carboxyindole metabolite
9.1.166	BB-22	3-Carboxyindole metabolite

9.2	Indazole core	
9.2.1	FUBIMINA	N-Pentanoic acid metabolite
9.2.2	MN-18	N-(5-Hydroxypentyl) metabolite
9.2.3	THJ-2201	N-(5-Hydroxypentyl) metabolite
9.2.4		N-Pentanoic acid metabolite
9.2.5	AKB-48 (APINACA)	N-(4-Hydroxypentyl) metabolite
9.2.6		N-(5-Hydroxypentyl) metabolite
9.2.7		N-(5-Hydroxypentyl) metabolite-D4
9.2.8		N-Pentanoic acid metabolite
9.2.9	5-FI AKB-48	N-(4-Hydroxypentyl) metabolite
9.2.10		N-Pentanoic acid metabolite
9.2.11	AB-PINACA	N-(4-Hydroxypentyl) metabolite
9.2.12		5-Hydroxypentyl metabolite
9.2.13		N-Pentanoic acid metabolite
9.2.14		3-Carboxyindazole metabolite
9.2.15	5-FI AB-PINACA	N-(4-Hydroxypentyl) metabolite
9.2.16		3-Carboxyindazole metabolite
9.2.17	ADB-PINACA	N-(4-Hydroxypentyl) metabolite
9.2.18		N-(5-Hydroxypentyl) metabolite
9.2.19		N-Pentanoic acid metabolite
9.2.20		N-Pentanoic acid metabolite-D4
9.2.21	AMB	N-Pentanoic acid metabolite
9.2.22		N-(5-Hydroxypentyl) metabolite
9.2.23	5-FI-AMB	M6 Metab (-OMe replaced by -OH & 5F by COOH)
9.2.24		M7 Metab (terminal -OMe replaced by -OH)

Ref	Substance	Other names
9.2.25		N-(5-Hydroxypentyl) metabolite
9.2.26		N-(5-OHpentyl) and -OMe replaced by -OH
9.2.27		N-Pentanoic acid metabolite
9.2.28	AB-CHMINACA	M1A (4 -OH on cyclohexyl ring)
9.2.29		M1B (3 -OH on cyclohexyl ring)
9.2.30		M2 (terminal -NH2 replaced by -OH)
9.2.31		M3A (dihydroxylated)
9.2.32		M4 (carboxamide replaced by carboxyl)
9.2.33		M4-D4
9.2.34		M5A (ring hydroxylated, 2nd structure lost)
9.2.35		M6 (carboxylated)
9.2.36	MAB-CHMINACA	M1 (4-OH on cyclohexyl ring)
9.2.37		M2 (terminal -NH2 replaced by -OH)
9.2.38		M3 (-NH2 replaced by -OH & 4 -OH on CHX)
9.2.39		M6 (carboxylated on terminal carbon)
9.2.40		M7 (-NH2 rep by -OH & -COOH on term C)
9.2.41		M10 (-NH2 eliminated and lactone formed)
9.2.42		M11 (-OH on CHX ring & on terminal carbon)
9.2.43	AB-FUBINACA	M3 (terminal -NH2 replaced by -OH)
9.2.44		M4 (caboxylic acid on indazole)
9.2.45	ADB-FUBINACA	(terminal -NH2 replaced by -OH)
9.2.46		(terminal -NH2 replaced by -OMe)
9.2.47	MDMB-FUBINACA	M1 (terminal -OMe replaced by OH
9.2.48	5F-MDMB-PINACA (5F-ADB)	O-desmethyl acid
9.2.49		N-(5-Hydroxypentyl) metabolite
9.2.50	4F-MDMB-BUTINACA	N-Butanoic acid metabolite
9.2.51		N-4-Hydroxybutyl metabolite
9.2.52		3-Carboxyindazole metabolite
9.2.53	4F-MDMB-BUTINACA 2'-indazole isomer	3-Carboxyindazole metabolite
9.2.54	CUMYL-BUTINACA	N-(4-Hydroxybutyl) metabolite

9.3	Other materials	
9.3.1	CP 47,497	C-7 Hydroxy metabolite
9.3.2	CP 47,497 C-8 homolog	C-8 Hydroxy metabolite
9.3.3	MDMB-CHMCZCA	M3 (COOH replaces sidechain)
9.3.4	FUBIMINA	N-(5-Hydroxypentyl) metabolite

10.0 Other NPS Chemicals

Ref	Substance	Other names

10.1	Cocaine-like materials	
10.1.1	Benzocaine	
10.1.2	Benzocaine -D4	

Ref	Substance	Other names
10.1.3	Caffeine	
10.1.4	Caffeine-D9	
10.1.5	Cinchocaine	Dibucaine, Nupercaine
10.1.6	Dimethocaine	3-DiEtAmino-2,2-dimethylpropy-4-aminobenzoate
10.1.7	N-(2,6-DiMePhenyl)-1-piperadineacetamide	(Lidocaine with DiEt-amino cyclised)
10.1.8	4-Fluorococaine	
10.1.9	4-Fluorotropacocaine	3β-(p-Fluorobenzoyloxy)tropane, 3-p-FBT
10.1.10	Lidocaine (Lignocaine)	2-DiEtAmino-N-(2,6-DiMePhenyl)acetamide
10.1.11	Lidocaine-D10	
10.1.12	Mepivacaine	Carbocaine,
10.1.13	Nitracaine	3-DiEtAmino-2,2-dimethylpropy-4-nitrobenzoate
10.1.14	Octacaine	3-(Diethylamino)-N-phenylbutanamide
10.1.15	Prilocaine	N-(2-MePhenyl)-2-(propylamino)propanamide
10.1.16	Procainamide	
10.1.17	Procaine	2-Ethylamino-4-aminobenzoate
10.1.18	Procaine-D4	
10.1.19	RTI 111	Dichloropane
10.1.20	RTI 111-D3	
10.1.21	Synephrine	Oxedrine
10.1.22	Tetracaine	
10.1.23	Tetracaine-D6	

10.2	Benzodiazepine-like materials	
10.2.1	Adinazolam	
10.2.2	Bentazepam	Thiadipone
10.2.3	Bromazolam	
10.2.4	Clonazolam	Clonitrazolam
10.2.5	Clonazolam-D4	
10.2.6	Cloniprazepam	
10.2.7	Deschloroetizolam	
10.2.8	1-Demethylphenazolam	
10.2.9	Diclazepam	
10.2.10	Diclazepam-D4	
10.2.11	Difludiazepam	Ro 07-4065
10.2.12	Estazolam	
10.2.13	Etizolam	
10.2.14	Etizolam-D3	
10.2.15	Etizolam-D8	
10.2.16	Flualprazolam	
10.2.17	Flubromazepam	
10.2.18	Flubromazepam isomer (Fl and Br reversed)	Iso-flubromazepam
10.2.19	Flubromazolam	
10.2.20	Fluclotizolam	
10.2.21	Fludiazepam	

Ref	Substance	Other names
10.2.22	Flunitrazolam	
10.2.23	Flurazepam	
10.2.24	Flutoprazepam (Japanese pharmaceutical)	
10.2.25	Fonazepam	Desmethylflunitrazepam
10.2.26	9-Hydroxyetizolam	
10.2.27	3-Hydroxyflubromazepam	
10.2.28	3-Hydroxyflunitrazepam	
10.2.29	3-Hydroxyphenazepam	
10.2.30	3-Hydroxyphenazepam-D4	
10.2.31	Meclonazepam	
10.2.32	Meclonazepam-D3	
10.2.33	Meclonazepam-D4	
10.2.34	Methylclonazepam	Me on N of benzodiazepine fused rings
10.2.35	Metizolam	
10.2.36	Nifoxipam	
10.2.37	Nifoxipam-D4	
10.2.38	Nimetazepam	
10.2.39	Nimetazepam-D3	
10.2.40	Nitrazolam	
10.2.41	Nordiazepam	Ro5-2180
10.2.42	Phenazepam	
10.2.43	Phenazepam-D4	
10.2.44	Phenazolam	
10.2.45	Pivoxazepam	
10.2.46	Pyrazolam	
10.2.47	Ru 07-3953	
10.2.48	Ru 07-4065	N-Me form of Ru 07-3953
10.2.49	Tofisopam	
10.2.50	Mixed standard : 11 NPS benzos, each at 100ug/ml	
10.2.51	Mixed standard : 7 NPS benzos, each at 100ug/ml	

10.3	Other pharmaceuticals	
10.3.1	Benzydamine	
10.3.2	Dextromethorphan HBr	DXM
10.3.3	Dextromethorphan-D3	
10.3.4	Fencamfamine	
10.3.5	Fencamfamine-D5	
10.3.6	Gabapentin	
10.3.7	Gabapentin-D4	
10.3.8	Gabapentin-D10 (on cyclohexyl)	
10.3.9	Gabapentin-13C 3	
10.3.10	Lefetamine	
10.3.11	Methylphenidate	
10.3.12	Methylphenidate-D9	
10.3.13	Methylphenidate-D10	
10.3.14	Phenibut	
10.3.15	Pregabalin	Lyrica, 3-Aminomethyl-5-methylhexanoic acid
10.3.16	Pregabalin-D4	
10.3.17	Pregabalin-D6	
10.3.18	Pregabalin- 13C, D3	
10.3.19	Propylhexedrine	Benzedrex, Oberin
10.3.20	Quetiapine	
10.3.21	Quetiapine-D8	
10.3.22	Tramadol	
10.3.23	Tramadol-D6	
10.3.24	Tramadol-13C, D3	

10.4	Methaqualone-related materials	
10.4.1	Afloqualone	
10.4.2	Diproqualone	
10.4.3	Etaqualome	
10.4.4	Mebroqualone	
10.4.5	Methaqualone	
10.4.6	Methaqualone-D5	
10.4.7	Methaqualone-D7	

10.5	Methylphenidate ('Ritalin')-related materials	
10.5.1	4-Fluoromethylphenidate	
10.5.2	4-Me-methylphenidate	
10.5.3	3,4-Dichloromethylphenidate	3,4-DCMP
10.5.4	Ethylphenidate	Ethyl homologue of Methylphenidate
10.5.5	4-Fluoroethylphenidate	
10.5.6	Propylphenidate	
10.5.7	Isopropylphenidate	
10.5.8	Methylnaphthidate	HDMP-28
10.5.9	Ethylnaphthidate	HDEP-28

10.6	Modafinil-related materials	
10.6.1	Adrafanil, CRL-40,028	N-HO Modafinil (pro-drug for Modafinil)
10.6.2	Fluorafinil, Fladrafinil, CRL-40,941	N-HO-4,4'-difluoro analogue of Modafinil
10.6.3	Modafiendz	N-Me-4,4'-difluoro analogue of Modafinil
10.6.4	Fluorenol	9-Hydroxyfluorene

10.7	Phenmetrazine-related materials	
10.7.1	Phenmetrazine	Preludin
10.7.2	Phenmetrazine-D5	
10.7.3	Phendimetrazine	N-Me Preludin (pro-drug for phenmetrazine)
10.7.4	Phendimetrazine-D5	

Ref	Substance	Other names
10.7.5	3-Fluorophenmetrazine	
10.7.6	3-Methyl-2-(p-tolyl)morpholine	4-MPM
10.8	**'Designer' forms of pharmaceuticals**	
10.8.1	Camfetamine	N-Methyl homologue of Fencamfamine
10.8.2	Desmethylprodine	Analogue of Pethidine ("MPPP")
10.8.3	O-Desmethyltramadol	Active metabolite of Tramadol
10.8.4	O-Desmethyltramadol-D6	
10.8.5	Desomorphine	'Krokodil'
10.8.6	Desomorphine-D3	
10.8.7	Etaqualone	(2-Ethylphenyl) homologue of Methaqualone
10.8.8	Etaqualone-D3	
10.8.9	Mebroqualone	2-Br analogue of Methaqualone
10.9	**Lefetamine-related materials**	
10.9.1	Ephenidine	
10.9.2	Diphenidine	
10.9.3	2-Methoxyphenidine	MXP
10.9.4	Fluorolintane	
10.9.5	1-(1,3-Diphenylpropan-2-yl)pyrollidene	Prolintane with benzyl instead of propyl
10.10	**Pipradrol-related materials**	
10.10.1	Pipradrol	
10.10.2	Pipradrol-D5	
10.10.3	Diphenyl(piperidin-3-yl)methanol	Pipradrol 3-isomer
10.10.4	Diphenyl(piperidin-4-yl)methanol	Azacyclanol, Pipradrol 4-isomer
10.10.5	Diphenylmethylpiperidine	Desoxypipradrol, 2-DPMP
10.10.6	Diphenyl-2-pyrrolidinemethanol	Diphenylprolinol, D2PM
10.10.7	2-Diphenylmethylpyrrolidine	Desoxy-D2PM
10.11	**Plant chemicals**	
10.11.1	Arecoline	
10.11.2	Cathine	
10.11.3	Glaucine	
10.11.4	Harmaline	
10.11.5	Harmine	
10.11.6	Harmine-D3	
10.11.7	Tetrahydroharmine	
10.11.8	Hordenine	
10.11.9	Ibogaine	
10.11.10	Mitragynine	
10.11.11	Mitragynine-D3	
10.11.12	7-Hydroxymitraginine	
10.11.13	Paynantheine	

Ref	Substance	Other names
10.11.14	Salvinorin A	
10.11.15	Salvinorin B	
10.11.16	Scopolamine	
10.11.17	Scopolamine-D3	
10.11.18	Speciogynine	Diastereoisomer of mitragynine
10.11.19	Speciocilatine	Kratom component
10.11.20	Yangonin	
10.11.21	Yohimbine	
10.12	**Materials with alcohol-like effects**	
10.12.1	GHB	gamma-Hydroxybutyrate
10.12.2	GHB-D6	
10.12.3	GHB-13C- 2	
10.12.4	GBL	gamma-Butyrolactone
10.12.5	GVL	gamma-Valerolactone
10.12.6	1,4-BD	1,4-Butanediol
10.12.7	2M2B	2-Methyl-2-butanol
10.12.8	Methylpentynol	3-Methylpent-1-yn-3-ol
10.13	**Indanes**	
10.13.1	1-Aminoindane	
10.13.2	2-Aminoindane	2-AI
10.13.3	5-Aminoindane	5-AI
10.13.4	N-Methyl-2-aminoindane	NM2-AI
10.13.5	5-Iodoaminoindane	5-IAI
10.13.6	4,5-Methylenedioxyaminoindane	
10.13.7	5,6-Methylenedioxyaminoindane	MDAI
10.13.8	N-Methyl-5,6-methylenedioxy-2-aminoindane	MDMAI
10.13.9	5-Methoxy-2-aminoindane	5-MeO-2AI
10.13.10	5-Methoxy-6-methyl-2-aminoindane	MMAI
10.13.11	6,7-MDO-1,2,3,4-tetrahydroisoquinoline	TDIQ
10.14	**Thiophene analogues of amphetamines**	
10.14.1	alpha-Methyl-2-thiopheneethanamine	Thienoamphetamine; Thiopropamine
10.14.2	1-(Thiophen-2-yl)-2-methylaminopropane.HCl	Methiopropamine, MPA
10.14.3	1-(Thiophen-3-yl)-2-methylaminopropane.HCl	Methiopropamine 3' isomer, 3-MPA
10.15	**Benzofuran analogue of tryptamine**	
10.15.1	5-Methoxy-di-isobutyl-benzofuran	5-MeO DiBF
10.16	**Aminorex-related materials**	
10.16.1	4-Methylaminorex	
10.16.2	4,4'-Dimethylaminorex	4,4'-DMAR, 'Serotoni'

Ref	Substance	Other names
10.17	**Octodrine-related materials**	
10.17.1	1,3-Dimethylbutylamine	1,3-DMBA
10.17.2	1,3-Dimethylamylamine	Methylhexanamine, DMAA, Geranamine
10.17.3	Dimethylamylamine-D4	
10.17.4	1,4-Dimethylpentylamine	5-Me-2-hexanamine
10.17.5	1,5-Dimethylhexylamine	Octodrine
10.18	**Other materials**	
10.18.1	5-(2-Aminopropyl)indole	5-API, 5-IT
10.18.2	6-(2-Aminopropyl)indole	6-API, 6-IT
10.18.3	5-(2-Aminopropyl)-2,3-dihydro-1H-indene	5-APDI, IAP
10.18.4	2-Aminotetralin	2A-T
10.18.5	Bromantane	
10.18.6	Diclofensine	
10.18.7	Memantine	
10.18.8	Mephtetramine	MTTA
10.18.9	Methamnetamine	
10.18.10	Methylenedioxyaminotetralin	MDAT
10.18.11	Methoxypiperamide	MeOP, MEXP
10.18.12	3-[2-(2-Methoxybenzylamino)ethyl]-1-H-quinazoline-2,4-dione	RH-34
10.18.13	N-Me-N-(4-Me-phenyl)-2-Me-propanamide	2-NMC
10.18.14	NSI-189	
10.18.15	Xylazine	
11.0	**Aryl Cyclohexylamines**	
11.1	Phencyclidine	PCP
11.2	Phencyclidine-D5	
11.3	3-Hydroxy-PCP	3-OH-PCP (OH on phenyl ring)
11.4	3-Methoxy phencyclidine	3-MeO-PCP
11.5	3-Methoxy phencyclidine-D3	
11.6	4-Methoxy phencyclidine	4-MeO-PCP
11.7	4-Methoxy phencyclidine-D4	
11.8	1-(1-Phenylcyclohexyl)-4-hydroxypiperidine	4-OH-PCP, PHP(OH on piperidine ring)
11.9	trans-4-Phenyl-4-piperidinocyclohexanol	PCHP, 4-PPC (PCP metabolite)
11.10	N-Ethylphenylcyclohexylamine	Eticyclidine, PCE
11.11	3-Methoxy eticyclidine	3-MeO-PCE
11.12	4-Methoxy eticyclidine	4-MeO-PCE
11.13	N-Propyl-1-phenylcyclohexylamine	PCPr, Phencyclamine
11.14	N-(3-Methoxypropyl)-1-phenylcyclohexylamine	PCMPA
11.15	N-(2-Ethoxyethyl)-1-phenylcyclohexanamine	PCEEA
11.16	4-(1-(3-Methoxyphenyl)cyclohexyl)morpholine	3-MeO-PCMo
11.17	Benocyclidine	Benzothiophenylcyclohexylpiperidine, BTCP
11.18	Benocyclidine-D10	BTCP-D10
11.19	Ketamine	

Ref	Substance	Other names
11.20	Ketamine-D4	
11.21	Ketamine-D6	
11.22	(S)-Ketamine	
11.23	(R)-Ketamine	
11.24	2-Methoxyketamine	2-MK
11.25	Norketamine	
11.26	Norketamine-D4	
11.27	Dehydronorketamine	
11.28	Dehydronorketamine-D4	
11.29	N-Ethylnorketamine	NEK
11.30	N-Propylnorketamine	
11.31	Deschlorononketamine	
11.32	Deschloroketamine	
11.33	Deschloro-N-ethyl-ketamine	
11.34	2-Fluoro deschloroketamine	
11.35	Methoxetamine	MXE
11.36	Methoxetamine-D3	
11.37	Methoxmetamine	MMXE (nor-methoxetamine)
11.38	Tiletamine	
11.39	Tiletamine-D5	
11.40	Rolicyclidine	PCPy
11.41	Rolicyclidine-D5	
11.42	Tenocyclidine	TCP
11.43	Tenocyclidine-D10	

Fentanyls reference materials.

LGC offers the most extensive and up-to-date range of fentanyls reference materials.

The challenge

The illicit use of synthetic opioids, and particularly fentanyls, has become an increasing cause for concern, particularly in North America and Europe. These materials produce their effects via the mu-opioid receptors which respond to morphine, but fentanyls have a significantly greater potency, so that overdose and death by respiratory arrest is a serious risk. Where fentanyls have entered the opioid misuse market, deaths by overdose have increased significantly.

Although encountered as diverted pharmaceuticals, fentanyls are also being illicitly synthesised. As well as being sold as heroin replacements or 'boosters', fentanyls have increasingly been seen in the form of counterfeit pharmaceuticals, usually intended to have the appearance of tablets containing oxycodone or hydrocodone, such as Vicodin or Oxycontin. In North America, where a significant population of abusers of prescription opioids already existed, circulation and use of fentanyl-containing tablets have become widespread, with many deaths resulting, to the extent that a 'health emergency' has recently been declared in British Columbia (Canada).

The potency of fentanyls means that seizures suspected to contain them should be handled with caution, and personal protective equipment is advisable to prevent accidental ingestion or contamination. It also means that there are usually only very low levels of material to be found in biological samples, so that they may be overlooked, particularly if other 'traditional' opiates are present.

The US Centre for Disease Control (CDC) has issued a Health Advisory notice advising that, where there is a local increase in opiate overdoses, or if fentanyls have been identified in local drug seizures, fentanyls should be looked for in toxicology testing. Similarly, the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) has warned of a risk of under-reporting of fentanyls and called for enhanced forensic identification.

The LGC response

In response to the increasing problem of fentanyls and 'designer' versions, a range of reference materials have been produced for these materials, their precursors and their major metabolites.

LGC Standards provides the widest range of reference materials available from any single supplier. We work closely with leading manufacturers to provide improved access to reference materials, with an increasingly large range of parameters, for laboratories worldwide. LGC Standards has both extensive reference material sales experience and technical expertise that allows us to work in successful partnership with our customers.

Ref	Substance	Other names
12.0	**Fentanyls**	
12.1	**Precursors and impurities**	
12.1.1	4-Piperidone	
12.1.2	4-Anilopiperadine	
12.1.3	4-Anilino-1-benzylpiperidine	
12.1.4	N-Benzyl-4-piperidone	
12.1.5	N-Benzyl-3-Me-4-piperidone	
12.1.6	N-Phenethyl-4-piperidone	NPP
12.1.7	Despropionylfentanyl	4-ANPP
12.1.8	Despropionylfentanyl-D5	
12.1.9	Despropionylfentanyl-13C6	
12.1.10	Despropionyl-ortho-fluorofentanyl (F on aniline ring)	2F-4-ANPP
12.1.11	Despropionyl-meta-fluorofentanyl (F on aniline ring)	3F-4-ANPP
12.1.12	Despropionyl-para-fluorofentanyl (F on aniline ring)	4F-4-ANPP
12.1.13	Despropionyl-ortho-Me fentanyl (Me on aniline ring)	2-Me-4-ANPP
12.1.14	Despropionyl-meta-Me fentanyl (Me on aniline ring)	3-Me-4-ANPP
12.1.15	Despropionyl-para-Me fentanyl (Me on aniline ring)	4-Me-4-ANPP
12.1.16	Despropionyl-para-MeO fentanyl (MeO on aniline ring)	4-MeO-4-ANPP
12.1.17	Despropionyl-3-Me-fentanyl (Me on piperidine ring)	3'-Me-4-ANPP
12.1.18	4-Anilino-1-benzylpiperidine	4-ANBP, Benzyl analogue of 4-ANPP
12.1.19	ortho-Fluoro-4-anilino-1-benzylpiperidine	o-F-4-ANBP
12.1.20	meta-Fluoro-4-anilino-1-benzylpiperidine	m-F-4-ANBP
12.1.21	para-Fluoro-4-anilino-1-benzylpiperidine	p-F-4-ANBP

12.2	**Fentanyl and other pharmaceutical fentanyls**	
12.2.1	**Alfentanils**	
12.2.1.1	Alfetanil	4-MeOMe on piperidine & 4-Et-2-Oxo-2-tetrazolin-1-yl ethyl
12.2.1.2	Alfetanil-D3	replacing phenethyl
12.2.2	**Carfentanyls**	
12.2.2.1	Carfentanil	4-Carboxymethyl on piperidine
12.2.2.2	Carfentanil-D5	
12.2.2.3	N-Me carfentanil	
12.2.2.4	Acetyl carfentanil	Acetyl replaces propionyl
12.2.2.5	Acetyl carfentanil-D3	
12.2.2.6	Benzyl carfentanil	Benzyl replaces phenethyl
12.2.3	**Fentanyls**	
12.2.3.1	Fentanyl	
12.2.3.2	Fentanyl-D5	13C6 in aniline ring
12.2.3.3	Fentanyl-13C6	
12.2.4	**Lofentanils**	
12.2.4.1	Lofentanil	Carfentanil plus 3-Me on piperidine
12.2.4.2	Lofentanil-D3	

Ref	Substance	Other names
12.2.5	**Remifentanils**	
12.2.5.1	Remifentanil	Carfentanil with 2-MeO carbonylethyl replacing Phenethyl
12.2.5.2	Remifentanil-13C6	
12.2.6	**Sufentanils**	
12.2.6.1	Sufentanil	4-MeOMe on piperidine & 2-Thienylethyl for phenethyl
12.2.6.2	Sufentanil-D3	
12.2.6.3	Sufentanil-D5	

13.0	Derivatives of Fentanyl	
13.1	**Substitution on aniline ring**	
13.1.1	ortho-Methylfentanyl	2-Me Fentanyl
13.1.2	meta-Methylfentanyl	3-Me Fentanyl
13.1.3	para-Methylfentanyl	4-Me Fentanyl
13.1.4	para-Methoxyfentanyl	4-MeO Fentanyl
13.1.5	ortho-Fluorofentanyl	2-Fluorofentanyl
13.1.6	meta-Fluorofentanyl	3-Fluorofentanyl
13.1.7	para-Fluorofentanyl	4-Fluorofentanyl
13.1.8	para-Fluorofentanyl-D3	
13.1.9	para-Fluorofentanyl-D5	
13.1.10	para-Fluorofentanyl-13C6	13C in phenethyl ring
13.1.11	para-Bromofentanyl	4-Bromofentanyl
13.1.12	para-Chlorofentanyl	4-Chlorofentanyl
13.1.13	2'-Fluoro-ortho-fluorofentanyl	
13.1.14	3'-Fluoro-ortho-fluorofentanyl	

13.2	Substitution on piperidine ring	
13.2.1	3-Fluorofentanyl	
13.2.2	cis-3-Methylfentanyl	
13.2.3	cis-3-Methylfentanyl-D3	
13.2.4	trans-3-Methylfentanyl	
13.2.5	β-Hydroxy-3-Methylfentanyl	Ohmefentanyl (β-Hydroxy on phenethyl chain)
13.2.6	β-Hydroxy-3-Methylfentanyl-D3	
13.2.7	2-Hydroxyfentanyl	
13.2.8	2-Hydroxyfentanyl-D5	
13.2.9	2-Oxofentanyl	
13.2.10	2-Oxofentanyl-D5	
13.2.11	4-Phenylfentanyl	Phenyl replaces 4-carbomethoxy of Carfentanil
13.2.12	2'-Fluoro-ortho-fluoro-cis-3-methylfentanyl	
13.2.13	3'-Fluoro-ortho-fluoro-cis-3-methylfentanyl	
13.2.14	4'-Fluoro-para-fluoro-cis-3-methylfentanyl	
13.2.15	2'-Fluoro-para-fluoro-trans-3-methylfentanyl	
13.2.16	3'-Fluoro-para-fluoro-trans-3-methylfentanyl	
13.2.17	4'-Fluoro-para-fluoro-trans-3-methylfentanyl	

13.3	Opening of piperidine ring	
13.3.1	2,3-seco-Fentanyl	
13.3.2	Diampromide	

13.4	Substitution on phenethyl ring and chain	
13.4.1	alpha-Methylfentanyl	
13.4.2	alpha-Methylfentanyl-D3	
13.4.3	beta-Hydroxyfentanyl	
13.4.4	beta-Hydroxyfentanyl-D3	
13.4.5	beta-Methylfentanyl	
13.4.6	2'-Methyl fentanyl	Me on phenethyl ring
13.4.7	3'-Methyl fentanyl	Me on phenethyl ring
13.4.8	4'-Methyl fentanyl	Me on phenethyl ring
13.4.9	2'-Fluoro fentanyl	F on phenethyl ring
13.4.10	3'-Fluoro fentanyl	F on phenethyl ring
13.4.11	4'-Fluoro fentanyl	F on phenethyl ring
13.4.12	3',5'-DiMeO fentanyl	DiMeO on phenethyl ring

13.5	Replacement of phenethyl group	
13.5.1	Benzyl fentanyl	Benzyl replaces phenethyl
13.5.2	Benzyl fentanyl-D3	
13.5.3	meta-Fluoro benzyl fentanyl	F on aniline ring
13.5.4	para-Fluoro benzyl fentanyl	F on aniline ring
13.5.5	cis-3-Methyl benzyl fentanyl	3-Me on piperidine ring,
13.5.6	Benzyl carfentanil	Methyl carboxylate at 4 position of piperidine ring
13.5.7	meta-Fluoro acetyl benzyl fentanyl	Acetyl replaces propionyl and F on aniline ring
13.5.8	Benzyl acryl fentanyl	Acryl replaces propionyl
13.5.9	Benzyl benzoyl fentanyl	Benzoyl replaces propionyl
13.5.10	Benzyl furanyl fentanyl	Furanyl replaces propionyl
13.5.11	m-Fluoro cyclopropyl benzyl fentanyl	Cyclopropyl replaces propionyl and F on aniline ring
13.5.12	p-Fluoro cyclopropyl benzyl fentanyl	Cyclopropyl replaces propionyl and F on aniline ring
13.5.13	N-(3-Ethylindole)fentanyl	Indol-3-ylethyl replaces phenethyl
13.5.14	Furanylethylfentanyl	Furanylethyl replaces phenethyl
13.5.15	Thienyl fentanyl	Thienylmethyl replaces phenethyl
13.5.16	Thienyl fentanyl-D3	
13.5.17	Thiofentanyl	Thienylethyl replaced phenethyl
13.5.18	Thiofentanyl-D3	
13.5.19	cis-3-Methylthiofentanyl	
13.5.20	trans-3-Methylthiofentanyl	
13.5.21	trans-3-Methylthiofentanyl-D3	
13.5.22	alpha-Methylthiofentanyl	
13.5.23	beta-Hydroxythiofentanyl	
13.5.24	beta-Hydroxythiofentanyl-D3	

Ref	Substance	Other names
13.5.25	beta-Hydroxythiofentanyl-D5	
13.5.26	beta-Hydroxythiofentanyl-13C6	
13.5.27	beta-Hydroxythioacetylfentanyl	Acetyl replaces propionyl
13.6	**Substitution on propionyl group**	
13.6.1	alpha-Chlorofentanyl	Cl on C adjacent to terminal C of propionyl
13.6.2	alpha-Chlorofentanyl-D5	
13.6.3	alpha-MeO fentanyl	MeO on C adjacent to terminal C of propionyl
13.6.4	omega-Hydroxyfentanyl	OH on terminal C of propionyl
13.6.5	omega-Hydroxyfentanyl-D5	
13.6.6	omega-1-Hydroxyfentanyl	OH on C adjacent to terminal C of propionyl
13.6.7	omega-1-Hydroxyfentanyl-D5	
13.7	**Replacement of propionyl group**	
13.7.1	**Acetyl fentanyls**	
13.7.1.1	Acetyl fentanyl	
13.7.1.2	Acetyl fentanyl-D3	
13.7.1.3	Acetyl fentanyl-D5	
13.7.1.4	Acetyl fentanyl -13C6	
13.7.1.5	2'-Me Acetyl fentanyl	2-Me on phenylethyl ring
13.7.1.6	3'-Me Acetyl fentanyl	3-Me on phenylethyl ring
13.7.1.7	4'-Me Acetyl fentanyl	4-Me on phenylethyl ring
13.7.1.8	Acetyl fentanyl, 4'-Me (on phenylethyl) analogue-D5	
13.7.1.9	ortho- Me Acetyl fentanyl	2-Me on phenyl ring
13.7.1.10	meta-Me Acetyl fentanyl	
13.7.1.11	para- Me Acetyl fentanyl	
13.7.1.12	para-F Acetyl fentanyl	
13.7.1.13	para-Cl Acetyl fentanyl	
13.7.1.14	para-MeO Acetyl fentanyl	
13.7.1.15	alpha-Methyl acetylfentanyl	Me on phenethyl chain
13.7.1.16	alpha-Methyl acetylfentanyl-D3	
13.7.1.17	beta-Methyl acetylfentanyl	
13.7.2	**Acrylfentanyls**	
13.7.2.1	Acrylfentanyl (Acryloyl fentanyl)	
13.7.2.2	Acrylfentany-D5	
13.7.2.3	ortho-Me acrylfentanyl	
13.7.2.4	para-Me acrylfentanyl	
13.7.2.5	para-MeO-acrylfentanyl	
13.7.2.6	ortho-Fluoro acrylfentanyl	
13.7.2.7	meta-Fluoro acrylfentanyl	
13.7.2.8	para-Fluoro acrylfentanyl	
13.7.2.9	para-Cl acrylfentanyl	
13.7.2.10	3,3-Dimethylacrylfentanyl	Senecioyl fentanyl
13.7.2.11	Acryl benzylfentanyl	(benzyl replaces phenethyl)

Ref	Substance	Other names
13.7.3	**Benzodioxole fentanyls**	
13.7.3.1	Benzodioxole fentanyl	Methylenedioxyphenyl fentanyl
13.7.3.2	Benzodioxole fentanyl-D5	
13.7.3.3	2,3-Benzodioxole fentanyl	
13.7.4	**Benzoyl fentanyls**	
13.7.4.1	Benzoyl fentanyl	Phenyl fentanyl
13.7.4.2	Benzoyl fentanyl-D5	
13.7.5	**Butyryl fentanyls**	
13.7.5.1	Butyryl fentanyl	
13.7.5.2	Butyryl fentanyl-D5	
13.7.5.3	α-Methyl-butyryl fentanyl	
13.7.5.4	cis-3-Methyl-butyryl fentanyl	
13.7.5.5	para-Me-butyryl fentany	
13.7.5.6	ortho-MeO-butyryl fentanyl	
13.7.5.7	para-MeO-butyryl fentanyl	
13.7.5.8	para-MeO-butyryl fentanyl-D7	
13.7.5.9	para-Chlorobutyrylfentanyl	
13.7.5.10	ortho-Fluorobutyrylfentanyl	2-FBF
13.7.5.11	meta-Fluorobutyrylfentanyl	3-FBF
13.7.5.12	para-Fluorobutyrylfentanyl	4-FBF
13.7.5.13	para-Fluorobutyrylfentanyl-D7	
13.7.5.14	para-Fluorobutyrylfentanyl-13C6	13C in phenethyl ring
13.7.5.15	para-Hydroxybutyryl fentanyl	
13.7.5.16	2-Methylbutyryl fentanyl	2-Me on butyryl chain
13.7.6	**Isobutyryl fentanyls**	
13.7.6.1	Isobutyryl fentanyl	
13.7.6.2	Isobutyryl fentanyl-D5	
13.7.6.3	para-Chloroisobutyrylfentanyl	4-Cl-iBF
13.7.6.4	ortho-Fluoroisobutyrylfentanyl	2-F-iBF
13.7.6.5	meta-Fluoroisobutyrlylfentanyl	3-F-iBF
13.7.6.6	para-Fluoroisobutyrylfentanyl	4-F-iBF
13.7.6.7	para-Fluoroisobutyrylfentanyl-D7	
13.7.6.8	para-Methylisobutyrylfentanyl	
13.7.7	**Crotonyl fentanyls**	
13.7.7.1	Crotonyl fentanyl	
13.7.7.2	Crotonyl fentanyl-D5	
13.7.7.3	para-F-crotonyl fentanyl	
13.7.7.4	2-Me crotonyl **- see Tigloyl Fentanyl**	
13.7.7.5	3-Me crotonyl fentanyl - see 3,3-DiMe **Acryl fentanyl**	
13.7.8	**Cyclobutyl fentanyls**	
13.7.8.1	Cyclobutyl fentanyl	
13.7.8.2	Cyclobutyl fentanyl-D5	
13.7.8.3	para-Chlorocyclobutyl fentanyl	

Ref	Substance	Other names
13.7.9	**Cyclopentyl fentanyls**	
13.7.9.1	Cyclopentyl fentanyl	
13.7.9.2	Cyclopentyl fentanyl-D5	
13.7.9.3	para-Me cyclopentyl fentanyl	
13.7.9.4	para-F cyclopentyl fentanyl	
13.7.9.5	para-Cl cyclopentyl fentanyl	
13.7.10	**Cyclopentenyl fentanyls**	
13.7.10.1	Cyclopentenyl fentanyl	
13.7.11	**Cyclopropyl fentanyls**	
13.7.11.1	Cyclopropyl fentanyl	
13.7.11.2	Cyclopropyl fentanyl-D5	
13.7.11.3	Cyclopropyl fentanyl-13C6	13C in aniline ring
13.7.11.4	para-Fluorocyclopropylfentanyl	
13.7.11.5	para-Chlorocyclopropyl fentanyl	
13.7.11.6	ortho-Me cyclopropylfentanyl	
13.7.11.7	meta-Me cyclopropylfentanyl	
13.7.11.8	para-Me cyclopropylfentanyl	
13.7.11.9	2,2,3,3-TetraMe Cyclopropyl fentanyl	
13.7.12	**Cyclohexylfentanyls**	
13.7.12.1	Cyclohexylfentanyl	
13.7.12.2	Cyclohexylfentanyl-D5	
13.7.13	**Ethoxyacetylfentanyls**	
13.7.13.1	Ethoxyacetylfentanyl	
13.7.14	**Ethylformate fentanyls**	
13.7.14.1	Fentanyl methylcarbamate	N-(Methylmethanoic)-despropionylfentanyl
13.7.14.2	Fentanyl carbamate; Ethylformate fentanyl	N-(Ethylmethanoic)-despropionylfentanyl
13.7.15	**Furanyl fentanyls**	
13.7.15.1	Furanyl fentanyl	
13.7.15.2	Furanyl fentanyl-D5	
13.7.15.3	Furanyl fentanyl-13C6	13C in aniline ring
13.7.15.4	ortho-Me furanylfentanyl (2-Me phenyl analogue)	
13.7.15.5	meta-Me furanylfentanyl (3-Me phenyl analogue)	
13.7.15.6	para-Me furanylfentanyl (4-Me phenyl analogue)	
13.7.15.7	ortho-MeO furanylfentanyl	
13.7.15.8	meta-MeO furanylfentanyl	
13.7.15.9	para-MeO furanylfentanyl	
13.7.15.10	ortho-F furanylfentayl (2-F phenyl analogue)	
13.7.15.11	meta-F furanylfentayl (3-F phenyl analogue)	
13.7.15.12	para-F furanylfentayl (4-F phenyl analogue)	
13.7.15.13	para-Cl furanylfentanyl	
13.7.15.14	ortho-iPr furanyl fentanyl	
13.7.15.15	3-Furanyl fentanyl (3-furan positional isomer)	
13.7.15.16	3-Furanyl fentanyl (3-furan positional isomer)-D5	

Ref	Substance	Other names
13.7.15.17	para-F 3-furanylfentayl (3-furan positional isomer)	
13.7.15.18	para-Cl 3-furanylfentayl (3-furan positional isomer)	
13.7.16	**Fentanyl methylcarbamates (see Fentanyl formates)**	
13.7.17	**Hexanoyl fentanyls**	
13.7.17.1	Hexanoyl fentanyl	
13.7.18	**Heptanoyl fentanyls**	
13.7.18.1	Heptanoyl fentanyl	
13.7.19	**Methacrylfentanyls**	
13.7.19.1	Methacrylfentanyl	
13.7.20	**Methoxyacetylfentanyls**	
13.7.20.1	Methoxyacetylfentanyl	
13.7.20.2	Methoxyacetylfentanyl-D5	
13.7.20.3	ortho-Me-methoxyacetylfentanyl	Me on phenyl ring
13.7.20.4	meta-Me-methoxyacetylfentanyl	
13.7.20.5	para-Me-methoxyacetylfentanyl	
13.7.20.6	ortho-Fluoro-methoxyacetyl fentanyl	Ocfentanil
13.7.20.7	ortho-Fluoro-methoxyacetyl fentanyl-D3	
13.7.20.8	ortho-Fluoro-methoxyacetyl fentanyl-D5	
13.7.20.9	meta-Fluoromethoxyacetylfentanyl	
13.7.20.10	para-Fluoromethoxyacetylfentanyl	
13.7.20.11	para-Chloromethoxyacetylfentanyl	
13.7.21	**Ocfentanil : see ortho-Fluoro-methoxyacetyl fentanyl**	
13.7.22	**Phenyl fentanyls**	
13.7.22.1	Phenyl fentanyl	(Benzoyl replaces propionyl)
13.7.22.2	Phenyl fentanyl-D5	
13.7.22.3	ortho-Me phenyl fentanyl	Me on phenyl ring (not benzoyl)
13.7.23	**Phenylacetyl fentanyls**	
13.7.23.1	Phenylacetyl fentanyl	
13.7.24	**Phenoxyacetyl fentanyls**	
13.7.24.1	Phenoxyacetyl fentanyl	
13.7.25	**Phenylpropionyl fentanyls**	
13.7.25.1	3-Phenylpropionyl fentanyl	β'-phenyl fentanyl
13.7.26	**Pivaloyl fentanyls**	
13.7.26.1	Pivaloyl fentanyl	(2,2-DiMe propionyl)
13.7.27	**Pyruvyl fentanyls**	
13.7.27.1	Pyruvyl fentanyl	
13.7.27.2	Pyruvyl fentanyl-D5	
13.7.28	**Senecioyl fentanyls - see Dimethylacrylfentanyl**	
13.7.29	**Tetrahydrofuranyl fentanyls**	
13.7.29.1	Tetrahydrofuran fentanyl	
13.7.29.2	Tetrahydrofuran fentanyl-D5	
13.7.29.3	3-Tetrahydrofuran fentanyl (3-furan positional isomer)	

Ref	Substance	Other names
13.7.29.4	para-Fluoro tetrahydrofuran fentanyl	
13.7.29.5	para-Me tetrahydrofyranyl fentanyl	
13.7.29.6	para-MeO tetrahydrofyranyl fentanyl	
13.7.30	**Tetramethylcyclopropyl fentanyls**	
13.7.30.1	2,2,3,3-TetraMe Cyclopropyl fentanyl	
13.7.30.2	2,2,3,3-TetraMe Cyclopropyl fentanyl-D5	
13.7.31	**Tetrahydrothiophene fentanyls**	
13.7.31.1	Tetrahydrothiophene fentanyl	
13.7.32	**Thiophene fentanyls**	
13.7.32.1	Thiophene fentanyl	
13.7.32.2	Thiophene fentanyl-D5	
13.7.32.3	3-Thiophene fentanyl	
13.7.33	**Thiophene fentanyls**	
13.7.33.1	Tigloyl fentanyl	2-Me-but-2-enamide
13.7.34	**Toluoyl fentanyl**	
13.7.34.1	para-Toluoyl fentanyl	
13.7.35	**Urea fentanyls**	
13.7.35.1	Urea fentanyl	N,N-Di-Methylamido-despropionyl fentanyl
13.7.36	**Valerylfentanyls**	
13.7.36.1	Valerylfentanyl	Pentanoyl fentanyl
13.7.36.2	Valerylfentanyl-D5	
13.7.36.3	Valerylfentanyl-D9	
13.7.36.4	Valerylfentanyl-13C6	
13.7.36.5	ortho-Fluoro valerylfentanyl	2-F on phenyl ring
13.7.36.6	meta-Fluoro valerylfentanyl	3-F on phenyl ring
13.7.36.7	para-Fluoro valerylfentanyl	4-F on phenyl ring
13.7.36.8	para-Chloro valerylfentanyl	
13.7.36.9	para-MeO valerylfentanyl	
13.7.37	**Isovalerylfentanyls**	
13.7.37.1	Isovalerylfentanyl	

14.0	Mixed fentanyl standards	
14.1	6 Fentanyls + U47700	F+ Acetyl, Acryl, Butyl, Cyclopropyl & Furanyl
14.2	6 Fentanyls + U48800 and U49900	FiB, o-F, 3-Me, MeOacetyl, cyclopentyl, THF
14.3	7 Fentanyls, each @ 100 ug/ml	F+ Acetyl, Acryl, Butyrl ,4-CliBF, Furanyl & OcF
14.4	13 fentanyls + W15 & W18, each @ 100ug/ml	

15.0	Norfentanyl metabolites (loss of phenethyl chain, or equivalent)	
15.1	Acetyl norfentanyl	
15.2	Acetyl norfentanyl-D5	
15.3	Acetyl norfentanyl-13C6	
15.4	Butyryl norfentanyl	

Ref	Substance	Other names
15.5	Isobutyryl norfentanyl	
15.6	Cyclopropyl norfentanyl	
15.7	N-Me cyclopropyl norfentanyl	
15.8	Furanyl norfentanyl	
15.9	omega-1-Hydroxynorfentanyl	
15.10	omega-1-Hydroxynorfentanyl-D5	
15.11	Methoxyacetylnorfentanyl	
15.12	cis-3-Methylnorfentanyl	
15.13	trans-3-Methylnorfentanyl	
15.14	Norcarfentanil	
15.15	N-Me-Norcarfentanil	
15.16	Noralfentanil	
15.17	Norfentanyl	
15.18	Norfentanyl-D3	
15.19	Norfentanyl-D5	
15.20	N-Me-norfentanyl	
15.21	Norlofentanil	
15.22	Norlofentanil-D3	
15.23	Normethylfentanyl	
15.24	Normethylfentanyl-D3	
15.25	N-Me-Norremifentanil	
15.26	Norsulfentanil	
15.27	Norsulfentanil-D3	

16.0	Other metabolites	
16.1	Butyryl fentanyl carboxy metabolite	
16.2	Despropionyl-2'F-ortho-F fentanyl	
16.3	Remifentanil acid	
16.4	Valeryl fentanyl carboxy metabolite	

17.0	Other Synthetic opioids	
17.1	N-[(1-dimethylamino)cyclohexylmethyl] benzamide	AH-7563
17.2	3,4-DiCl-N-[(1-dimethylamino)cyclohexylmethyl] benzamide	AH 7921
17.3	AH-7921-D3	
17.4	AH-7921-D6	
17.5	3,4-DiCl-N-[(1-methylamino)cyclohexylmethyl] benzamide	N-Desmethyl AH-7921
17.6	3,4-DiCl-N-[(1-amino)cyclohexylmethyl] benzamide	N,N-Didesmethyl AH-7921
17.7	3,4-DiCl-N-[(1-piperidinyl)cyclohexylmethyl] benzamide	AH-7959
17.8	3,4-DiCl-N-[(1-(4-Me-1-piperazinyl)cyclohexylmethyl] benzamide	AH-8507
17.9	4-Cl-N-[(1-dimethylamino)cyclohexylmethyl] benzamide	AH 8529
17.10	3-Cl-N-[(1-dimethylamino)cyclohexylmethyl] benzamide	AH 8532
17.11	2-Cl-N-[(1-dimethylamino)cyclohexylmethyl] benzamide	AH 8533
17.12	1-Cyclohexyl-4-(1,2-diphenylethyl)piperazine	MT-45, IC6

Ref	Substance	Other names
17.13	1-Cyclohexyl-4-(1,2-diphenylethyl)piperazine-D11	
17.14	(S) -(+)-1-Cyclohexyl-4-(1,2-diphenylethyl)piperazine	S-(+)-MT-45
17.15	(R) -(-)-1-Cyclohexyl-4-(1,2-diphenylethyl)piperazine	R-(-)-MT45
17.16	1-Cyclohexyl-4-(1,2-diphenylethyl)piperazine-D11	
17.17	2F-MT-45	F on phenyl ring
17.18	3F-MT-45	F on phenyl ring
17.19	4F-MT-45	F on phenyl ring
17.20	4-Cl-N-[1-(2-phenylethyl)-2-piperidinylidene] benzene sulphonide	W-15
17.21	4-Cl-N-[1-(2-phenylethyl)-2-piperidinylidene] benzene sulphonide-D4	
17.22	4-Cl-N-[1-(2-(4-nitrophenyl)ethyl)-2-piperidinylidene] benzene sulphonide	W-18
17.23	4-Cl-N-[1-(2-(4-nitrophenyl)ethyl)-2-piperidinylidene] benzene sulphonide-D4	
17.24	4-Cl-N-[2-piperidinylidene] benzene sulphonide	Nor W-15, Nor-W-18, Nor-W-19
17.25	4-Cl-N-[2-piperidinylidene] benzene sulphonide-D4	
17.26	N-(1-(4-Aminophenyl)piperidin-2-ylidene 4-Cl-benzene sulphonamide	W-19
17.27	N-(1-(4-Aminophenyl)piperidin-2-ylidene 4-Cl-benzene sulphonamide-D4	
17.28	N-(1-(4-Aminophenyl)piperidin-2-ylidene benzene sulphonamide	Deschloro W-19
17.29	N-(1-(4-(N-Acetyl)aminophenyl)piperidin-2-ylidene benzene sulphonamide	N-Acetyl W-19
17.30	Tapentadol	
17.31	Tapentadol-D3	
17.32	Tapentadol-D5	
17.33	N-Desmethyl tapentadol	
17.34	N-(2-Dimethylaminocyclohexyl)-3,4-dichloro-benzamide	U-47109
17.35	N-(2-Dimethylaminocyclohexyl)-3,4-dichloro-N-Me-benzamide	U-47700
17.36	U-47700-D6	
17.37	N-(2-Methylaminocyclohexyl)-3,4-dichloro-N-Me-benzamide	N-Desmethyl-U-47700
17.38	N-(2-Methylaminocyclohexyl)-3,4-dichloro-N-Me-benzamide -D3	
17.39	N-(2-Aminocyclohexyl)-3,4-dichloro-N-Me-benzamide	N,N-Didesmethyl-U-47700
17.40	N-(2-Methylaminocyclohexyl)-3,4-methylenedioxy-N-Me-benzamide	3,4-Methylenedioxy U-47700
17.41	N-(2-Methylaminocyclohexyl)-3,4-ethylenedioxy-N-Me-benzamide	3,4-Ethylenedioxy U-47700
17.42	N-(2-Dimethylaminocyclohexyl)-3,4-dichloro-N-Pr-benzamide	Propyl U-47700
17.43	N-(2-Dimethylaminocyclohexyl)-3,4-dichloro-N-iPr-benzamide	isoPropyl U-47700
17.44	4-Br-N-((2-dimethylamino)cyclohexyl)-benzamide	Bromadoline, U-47931E
17.45	4-Br-N-((2-dimethylamino)cyclohexyl)-N-Me-benzamide	N-Me-U-47931E
17.46	4-Cl-N-((2-dimethylamino)cyclohexyl)-N-Me-benzamide	U-48520
17.47	2-(2,4-Dichlorophenyl)-N-(2-dimethylamino)cyclohexyl-N-methylacetamide	U-48800
17.48	2-(2,4-Dichlorophenyl)-N-(2-dimethylamino)cyclohexyl-N-methylacetamide-D3	

Ref	Substance	Other names
17.49	U-48800-13C3-15N2	
17.50	N-(2-Diethylaminocyclohexyl)-3,4-dichloro-N-Me-benzamide	U49900 (N,N-Di-ethyl analogue of U-47700)
17.51	N-(2-(1-Pyrrolodinyl)cyclohexyl)-3,4-dichloro-N-Me-benzeneacetamide	U-50488
17.52	N-(2-(1-Pyrrolodinyl)cyclohexyl)-3,4-dichloro-N-Me-benzeneacetamide-D3	
17.53	N-(2-Dimethylaminocyclohexyl)-3,4-dichloro-N-Me-benzeneacetamide	U-51754
17.54	N-(2-Dimethylaminocyclohexyl)-3,4-dichloro-N-Me-benzeneacetamide-D3	
17.55	N-(2-Dimethylaminocyclohexyl)-2-biphenyl-N-methylacetamide	4-Phenyl U-51754
17.56	N-(2-Dimethylaminocyclohexyl)-2-(3,4-ethlenedioxyphenyl)-N-Me-benzeneacetamide	3,4-Ethylenedioxy U-51754
17.57	N-2-(DiMethylaminocyclohexyl)-N-phenylpropionamide	UF-17
17.58	N-2-(DiMethylaminocyclohexyl)-N-phenylfuran-2-carboxamide	Furanyl UF-17
17.59		U-62066, Spiradoline
17.60	4-(4-Br-phenyl)-4-(dimethylamino)-1-(2-phenethyl)cyclohexanol	Bromadol
17.61	Herkinorin	Salvinorin A analogue; μ-opioid agonist
17.62	Piperidylthiambutene	Piperidyl analogue of UN-controlled N-alkyl forms
17.63	Isotonitazene	Etonitazene with -OiPr for -OEt

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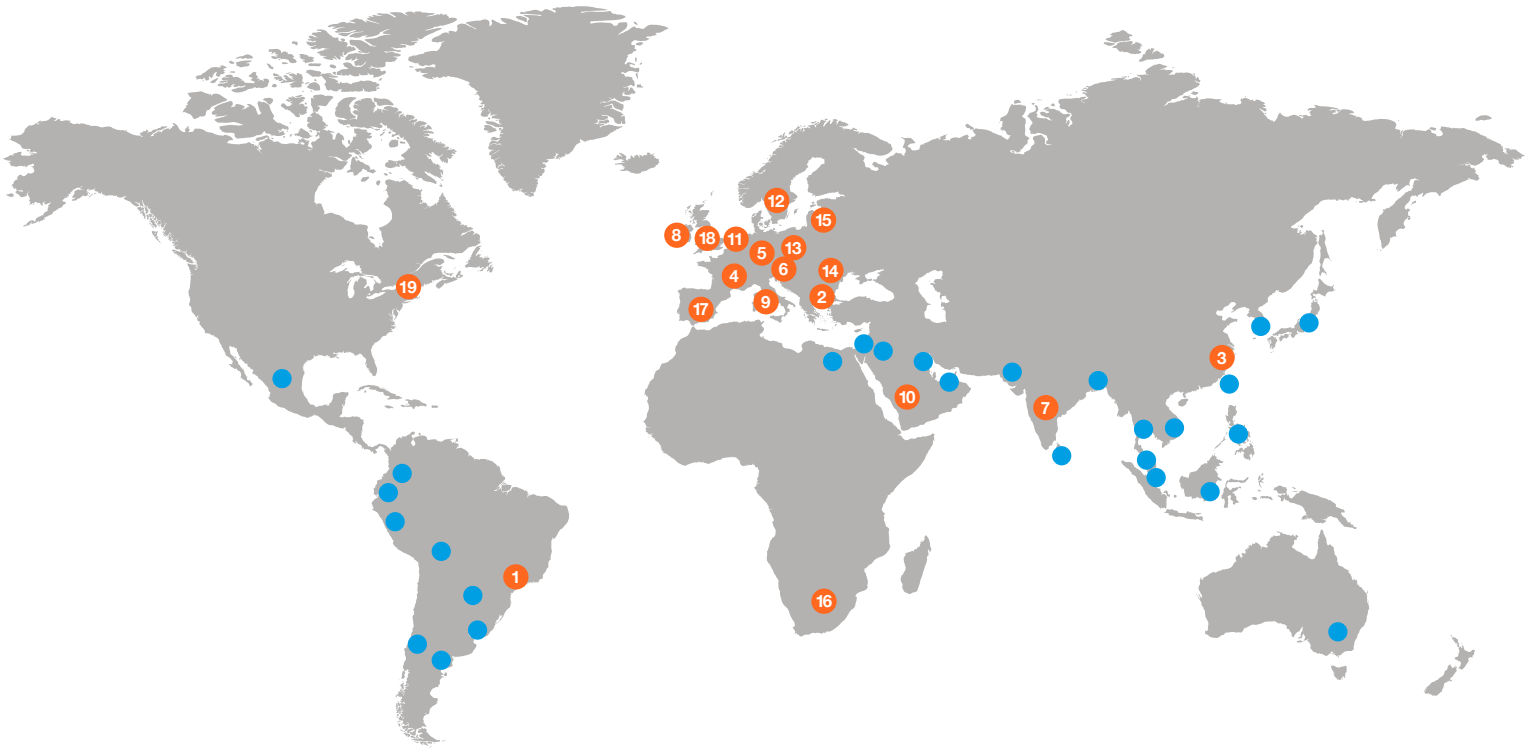

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