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- DECEMBER 2009 -

CP-47,497 SEIZED IN WISCONSIN

The Wisconsin State Crime Laboratory received a submission of fine white powder, suspected cocaine or methamphetamine. Analysis of the powder (total net mass 11 milligrams) by Marquis (orange), Meckes (dark green), and GC/MS confirmed the presence of 2-[(1R,3S)-3-hydroxy-cyclohexyl]-5-(2-methylnonan-2-yl)phenol (See Figure 1), the 1,1-dimethyloctyl homologue of CP-47,497 (not quantitated, but a high loading based on the TIC). This is the first submission of a synthetic cannabinoid to the Wisconsin State Crime Laboratory.

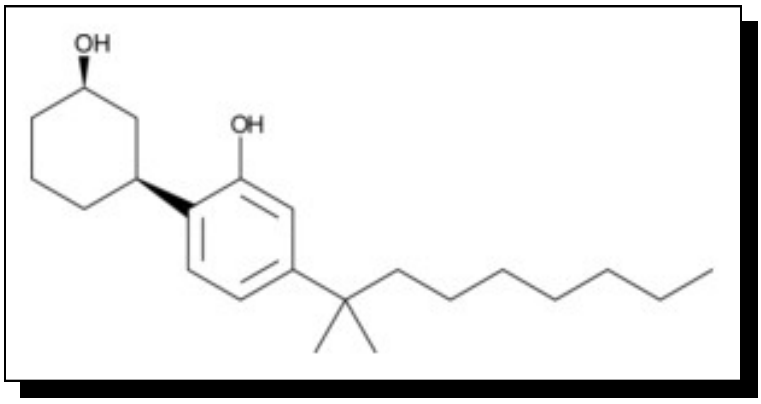

Figure 1

[Editor's Note: Many European nations have controlled CP-47,497 and its C6, C8, and C9 homologues. The C8 homologue is the main active ingredient found in many "Spice" products.]

COCAINE IN METALLIC ROLLERS FOR PASTA MACHINE SEIZED IN ITALY

The Laboratorio Indagini Chimiche of the Interregional Forensic Science Police Laboratories received four aluminum rollers containing compressed off-white powder, suspected cocaine (See Photos 1 - 3). The exhibits were seized at Naples International Airport by the Guardia di Finanza. The rollers were part of a machine used to make alimentary pasta. Analysis of the powder (total net mass 3,000 grams) by Scott's test, GC/MS, and GC/FID confirmed 36% cocaine (salt form undetermined), caffeine, lidocaine, and levamisole. This was the first seizure of cocaine smuggled in this way and submitted to the Polizia Scientifica Laboratory System in Italy.

Photo 1

Photo 2

Photo 3

TEDDY BEAR STUFFED WITH MUSHROOMS IN FLORIDA

Photo 4

The Palm Beach County Sheriff's Office (PBSO) Crime Laboratory received a box containing a white teddy bear stuffed with suspected *Psilocybe* mushrooms. Upon inspection, it was discovered that a seam on the teddy bear had been altered (See Photo 4). The seam was cut open, and inside the white teddy bear were 11 ziplock plastic bags containing dried brown mushrooms (See Photos 5 - 6) (total gross mass 159.57 grams). Analysis of one of the 11 bags (net mass 28.20 grams) by GC/FID and GC/MS confirmed the presence of psilocin in the mushrooms (not quantitated, but a high concentration based on the TIC). This is the first instance of a controlled substance concealed in a teddy bear submitted to the PBSO Crime Laboratory.

Photo 5

Photo 6

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COCAINE IN ORANGE ORBS AT JOHN F. KENNEDY INTERNATIONAL AIRPORT

The DEA Northeast Laboratory recently sampled a shipment of 96 orange orbs (See Photo 7) at John F. Kennedy International Airport. Twenty-five of the orbs were submitted to the Northeast Laboratory and were suspected to contain cocaine. Each orb contained a plastic bag of white substance. Analysis of the substance found within the orbs by FTIR, GC/MS, and GC/FID indicated 72.5% cocaine hydrochloride and phenyltetrahydroimidazothiazole

hydrochloride. The laboratory routinely receives cocaine hydrochloride samples in various containers, but this is the first time that cocaine has been received in sealed plastic orbs.

Photo 7

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HASHISH CONCEALED INSIDE WICKER BASKETS AND PLACEMATS

The Charlotte Mecklenburg Police Department (CMPD) Crime Laboratory received three wicker baskets and four wicker placemats. The baskets and placemats contained a total of 25 rope-like strands of black electrical tape, broken out into two-foot sections, each containing a brown, sticky substance encased in plastic wrap (See Photos 8 - 10). Each strand contained an average of 51.96 grams (total net mass 1229.04 grams of material). Analysis of the material by dual column GC/FID/MS confirmed that the substance contained Δ^9-tetrahydrocannabinol (THC) (not quantitated, but high loading based on the TIC). This was the first submission of hashish smuggled in wicker objects to the CMPD Crime Laboratory.

Photo 8

Photo 9

Photo 10

"SWEET" MARIJUANA

The DEA Southwest Laboratory received a submission of suspected marijuana. The exhibit was a representative sample from a larger seizure (total net mass 44.05 kilograms) of suspected marijuana. The exhibit was contained within a plastic sugar bag wrapped in an outer layer of cellophane (See Photo 11).

Photo 11

Photo 12

Upon analysis of the exhibit, it was found to be primarily composed of "wet" sugar crystals (identified as sucrose via FTIR) with small quantities of green plant material (See Photo 12). Analysis by microscopic examination, GC/MS, and Duquenios-Levine color test confirmed that the plant material was marijuana. The laboratory has received two other similar submissions [Microgram Bulletin 2009;42(8):69].

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ECSTASY MIMIC TABLETS (ACTUALLY CONTAINING TRIFLUOROMETHYLPHENYLPIPERAZINE AND DAPOXETINE) IN ALABAMA

The Alabama Department of Forensic Sciences Auburn Laboratory (Auburn, Alabama) analyzed several submissions consisting of blue and orange tablets, both with a star imprint (See Photo 13). Analysis of the tablets by GC/MS and GC/FID identified trifluoromethylphenylpiperazine (TFMPP) and an unknown, later identified as dapoxetine (See Figure 2 for mass spectrum). Dapoxetine is found in Priligy tablets. Priligy is approved for use in some European countries, but has not been approved for use in the United States. TFMPP tablets with dapoxetine have been seen by several different laboratories in Alabama.

Photo 13

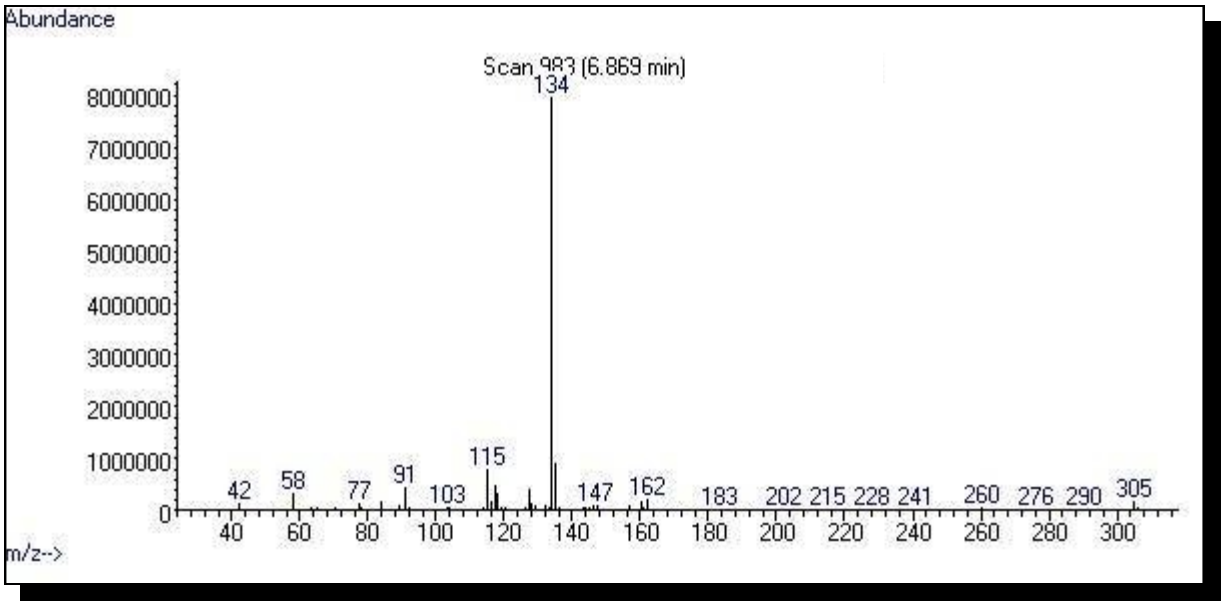

Figure 2

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BLOTTER ACID MIMIC (ACTUALLY CONTAINING PHENAZEPAM) IN NORTH CAROLINA

The North Carolina State Bureau of Investigation Crime Laboratory recently received a submission of suspected LSD. The submission consisted of one sheet of paper that was perforated into 72 squares (total net mass 0.63 grams). Each square was approximately 0.5 centimeters by 0.5 centimeters, and had a print of an angel on each square (See Photo 14). There were two different poses of the angel that alternated from one square to the next. Most of the squares were a purple color, while a few were white. Analysis of two squares by *p*-dimethylaminobenzaldehyde (PDMAB) (negative), and GC/MS indicated phenazepam (a benzodiazepine). This is the first submission to the Raleigh crime laboratory of phenazepam on LSD mimic blotter paper.

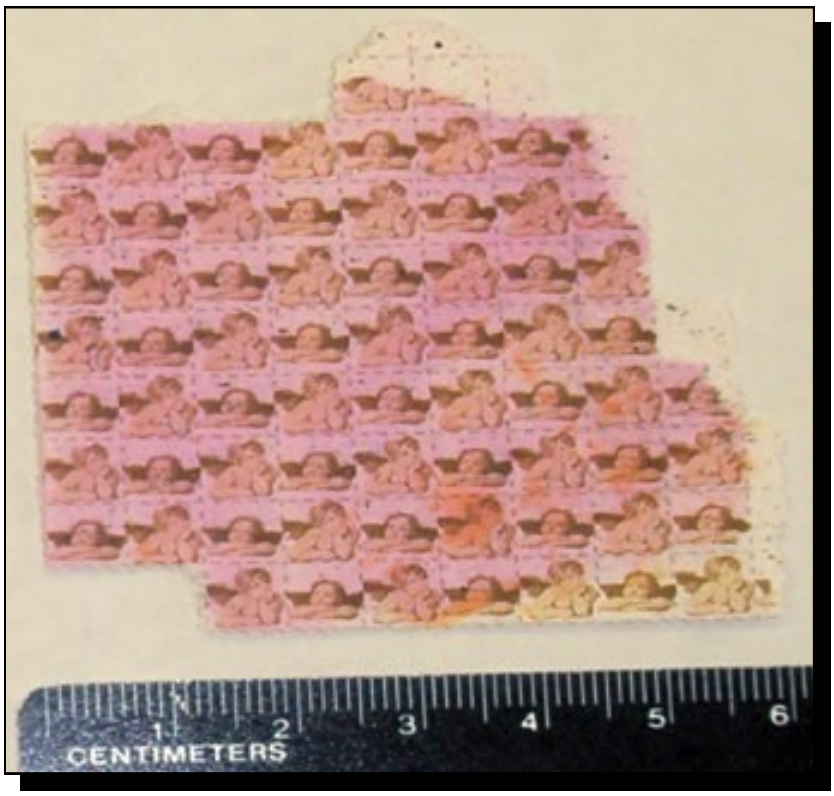

Photo 14

SELECTED REFERENCES

[The Selected References section is a compilation of recent publications of presumed interest to forensic chemists. Unless otherwise stated, all listed citations are published in English. Abbreviated mailing address information duplicates that provided by the abstracting service. Patents and Proceedings are reported only by their *Chemical Abstracts* citation number.]

1. Blachut D, Wojtasiewicz K, Czarnocki Z, Szukalski B. **The analytical profile of some 4-methylthioamphetamine (4-MTA) homologues.** Forensic Science International 2009;192(1-3):98-114. [Editor's Notes: Several homologues of 4-methylthioamphetamine (4-MTA), a sulfur containing amphetamine type stimulant, were synthesized and characterized by GC/MS, IR, and NMR. GC/MS analysis of their trifluoroacyl (TFA), pentafluoropropionyl (PFP) and heptafluorobutyryl (HFB) derivatives were also performed. Contact: Internal Security Agency, Forensic Laboratory, 1 Sierpnia 30A, Warsaw 02-134, Poland.]

2. Maher M, Awad T, DeRuiter J, Clark CR. **GC/MS and GC/IRD studies on dimethoxyamphetamines (DMA): Regioisomers related to 2,5-DMA.** Forensic Science International 2009;192(1-3):115-125. [Editor's Notes: Presents title study. Contact: Department of Pharmaceutical Analytical Chemistry, Alexandria University, Alexandria 21521, Egypt.]

3. Martin AN, Farquar GR, Steele PT, Jones AD, Frank M. **Use of single particle aerosol mass spectrometry for the automated nondestructive identification of drugs in multicomponent samples.** Analytical Chemistry 2009;81(22):9336-9642. [Editor's Notes: Single particle aerosol mass spectrometry (SPAMS) was used to identify the active drug ingredients in samples of multicomponent over-the-counter (OTC) drug tablets with minimal damage to the tablets. This work demonstrates the ability of the SPAMS technique to detect target drug compounds both in complex multi-drug tablets, and multi-tablet sampling sources. The technique is practically nondestructive, leaving the characteristic shape, color, and imprint of a tablet intact for further analysis. Applications of this technique may include forensic and pharmaceutical analysis. Contact: Lawrence Livermore National Laboratory, Livermore, CA 94550, USA.]

4. Sakamoto T, Fujimaki Y, Kawanishi T, Hiyama Y. **An approach for qualitative analysis of pharmaceuticals using diffusion reflectance NIR spectroscopy.** Iyakuhin Kenkyu 2009;40 (7):387-401. [Editor's Notes: Qualitative evaluation of pharmaceuticals on the market by means of diffuse reflectance NIR spectroscopy was examined. Contact: Division of Drugs, National Institute of Health Sciences 1-18-1, Kamiyoga, Setagaya-ku, Tokyo 158-8501, Japan.]

Additional References of Possible Interest:

1. Acikkol M, Mercan S, Karadayi S. **Simultaneous determination of benzodiazepines and ketamine from alcoholic and nonalcoholic beverages by GC/MS in drug facilitated crimes.** Chromatographia 2009;70(7-8):1295-1298. [Editor's Notes: A GC/MS method was developed for the simultaneous determination of underivatized flunitrazepam, clonazepam, alprazolam, diazepam, and ketamine from drinks by extraction with chloroform:isopropanol 1:1 (v/v). The reported method was sensitive, rapid, and suitable for the analysis of the spiked drinks. Contact: Institute of Forensic Sciences, Istanbul University, Istanbul 34303, Turkey.]

2. Gates K, Chang N, Dilek I, Jian H, Pogue S, Sreenivasan U. **The uncertainty of reference standards - A guide to understanding factors impacting uncertainty, uncertainty calculations, and vendor certifications.** Journal of Analytical Toxicology 2009;33(8):532-539. [Editor's Notes: Discusses various uncertainty issues in the context of ISO/IEC 17205

requirements. Contact: Cerilliant Corporation, 811 Paloma Dr., Ste. A, Round Rock, TX 78665, USA.]

3. Smith JP, Martin A, Sammons DL, Striley C, Biagini R, Quinn J, Cope R, Snawder JE. **Measurement of methamphetamine on surfaces using surface plasmon resonance.** Toxicology Mechanisms and Methods 2009;19(6-7):416-421. [Editor's Notes: This study performed a feasibility study on the use of a surface plasmon resonance (SPR) based instrument in the evaluation of surface contamination by methamphetamine. The instrument is sensitive enough for use for measurement of methamphetamine on surfaces, so it is a candidate for a field method for methamphetamine surface contamination. Contact: Biomonitoring Research Team, Biomonitoring and Health Assessment Branch, National Institute for Occupational Safety and Health, Cincinnati, OH USA.]

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Microgram email Address Change

Effective January 1st, 2010 the email address for the *Microgram* Editor will be:

DEA-Microgram-2010 -at- mailsnare.net (Replace " -at- " with "@")

The current email address (DEA-Microgram-2009 -at- mailsnare.net) will be monitored until January 31st, 2010. An automated response will direct senders to the new address until April 1st, 2010, at which point the account will lapse.

Important Notes to All Subscribers: All subscribers with filters on their accounts should immediately "whitelist" the DEA-Microgram-2010 -at- mailsnare.net email address. In addition, it is recommended that the current and previous email addresses used for *Microgram* (DEA-Microgram-2009 -at- mailsnare.net) be automatically filtered (blocked) after January 1st, 2010. This address will no longer be used by *Microgram* after this date; therefore, any subsequent emails from any previous *Microgram* email address will be spam.

All subscribers should notify their IT security personnel of all the above changes.

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Blotter Acid Mimic (Containing Phenazepam)	42	12	94
Captagon Mimic Tablets (Containing d,l-Amphetamine)	42	3	28-29
Cocaine, in Metallic Rollers	42	12	90
Cocaine, Smuggled in "Churros"	42	2	18
Cocaine, Smuggled in "Una de Gato" ("Cat Claw," Uncaria tomentosa)	42	6	57
Cocaine, Smuggled in an Angel Statue	42	1	6
Cocaine, Smuggled in Automotive Drive Shaft	42	10	78
Cocaine, Smuggled in False Bottom Boxes	42	4	34
Cocaine, Smuggled in Leather Covered Bottles	42	11	86
Cocaine, Smuggled in Orange Orbs	42	12	91-92
Cocaine, Smuggled in Plastic Covers	42	2	18
Cocaine, Smuggled in Religious Plaques	42	5	50
Cocaine, Trace Cocaine on Laminated Recipe Sheet	42	7	63
Cocaine, Wrapped in Lead	42	2	19
CP-47,497 C8 Homologue	42	12	89
Dapoxetine, in Ecstasy Mimic Tablets	42	12	93-94
Dextromethorphan, in Ecstasy Mimic Tablets	42	5	47-48
Dextromethorphan/Levomethorphan, in Oxycontin Mimic Tablets	42	5	49
Dextropropoxyphene, in Cognac	42	6	58
Diazepam, in Alprazolam Mimic Tablets	42	8	69
Diazepam, in Hydrocodone Mimic Tablet	83	11	83
Diazepam, in Hydrocodone Mimic Tablets	42	8	68
Diazepam, in Oxycontin Mimic Tablets	42	2	15-16
Diazepam, in Oxycontin Mimic Tablets	73	9	73
Diazepam, in Quaalude Mimic Tablets	42	3	25
Diazepam, in Oxycontin Mimic Tablets	42	5	49
Dimethyltryptamine (DMT)	42	10	77
Diphenhydramine, in Ecstasy Mimic Tablets	42	3	26
Diphenhydramine, in Ecstasy Mimic Tablets	42	3	26
Ecstasy Capsules	42	9	74
Ecstasy Combination Tablets (Containing MDMA, BZP, Caffeine, Procaine, and 1-(3,4-methylenedioxy-phenyl)-2-propanol)	42	4	37
Ecstasy Combination Tablets (Containing MDMA, BZP, TFMPP, Procaine, and Caffeine)	42	8	70
Ecstasy Combination Tablets (Containing MDMA, Caffeine, and Procaine)	42	7	64
Ecstasy Combination Tablets (Containing MDMA, Ketamine, and Caffeine)	42	4	39
Ecstasy Combination Tablets (Containing MDMA, Methamphetamine, and Caffeine)	42	4	35
Ecstasy Combination Tablets (Containing MDMA, Methamphetamine, and Caffeine)	42	6	54-55
Ecstasy Combination Tablets (Containing MDMA, Methamphetamine, and Caffeine)	42	3	27-28
Ecstasy Combination Tablets (Containing MDMA, Methamphetamine, and Caffeine)	42	7	64

Ecstasy Combination Tablets (Containing MDMA, Methamphetamine, and Cocaine)	42	4	35-36
Ecstasy Mimic Tablets (Containing 5-Methoxy-methylisopropyltryptamine (5-MeO-MiPT))	42	10	77
Ecstasy Mimic Tablets (Containing BZP and Caffeine)	42	5	45-46
Ecstasy Mimic Tablets (Containing BZP and TFMPP)	42	7	64
Ecstasy Mimic Tablets (Containing BZP, TFMPP, and Caffeine)	42	6	55
Ecstasy Mimic Tablets (Containing BZP, TFMPP, and Caffeine)	42	6	54-55
Ecstasy Mimic Tablets (Containing BZP, TFMPP, and Dextromethorphan)	42	5	46-47
Ecstasy Mimic Tablets (Containing BZP, TFMPP, 1,4-Dibenzylpiperazine, and Caffeine)	42	2	16-17
Ecstasy Mimic Tablets (Containing BZP, TFMPP, and Caffeine)	42	1	3
Ecstasy Mimic Tablets (Containing BZP, TFMPP, and Caffeine)	42	6	58
Ecstasy Mimic Tablets (Containing BZP, TFMPP, and Caffeine)	42	6	53-54
Ecstasy Mimic Tablets (Containing BZP, TFMPP, and Caffeine)	42	8	70
Ecstasy Mimic Tablets (Containing BZP, TFMPP, Caffeine, and 1,4-Dibenzylpiperazine)	42	5	46
Ecstasy Mimic Tablets (Containing BZP, TFMPP, Dextromethorphan, and Caffeine)	42	5	47-48
Ecstasy Mimic Tablets (Containing Diphenhydramine)	42	3	26
Ecstasy Mimic Tablets (Containing Diphenhydramine and Caffeine)	42	3	26
Ecstasy Mimic Tablets (Containing Fluorophenylpiperazine)	42	8	68
Ecstasy Mimic Tablets (Containing mCPP and Caffeine)	42	3	26
Ecstasy Mimic Tablets (Containing mCPP)	42	5	49
Ecstasy Mimic Tablets (Containing Methamphetamine, Dimethylsulfone, Procaine, and Caffeine)	42	4	39
Ecstasy Mimic Tablets (Containing No Controlled Substances)	42	9	74
Ecstasy Mimic Tablets (Containing TFMPP and Dapoxetine)	42	12	93-94
Ecstasy Tablets (Containing MDMA)	42	4	35-36
Fenethylline Mimic Tablets (Containing d,l-Amphetamine)	42	3	28-29
Fenfluramine, in Phentermine Mimic Tablets	42	6	56
Fenfluramine, in Phentermine Mimic Tablets	42	10	79
Fentanyl	42	8	69
Fluorophenylpiperazine, in Ecstasy Mimic Tablets	42	8	68
Hashish, Smuggled in Wicker Baskets and Placemats	42	12	92
Heroin, Bricks Included in a Shipment of Cocaine Bricks	42	4	40
Heroin, in Hydrocodone Mimic Tablets	42	8	68
Heroin, in Hydrocodone Mimic Tablets	42	10	78
Heroin, in Oxycontin Mimic Tablets	42	3	27
Heroin, in Oxycontin Mimic Tablets	42	9	75
Heroin, Smuggled in a Chess Board	42	10	80
Heroin, Smuggled in Candy Bars	42	4	38
Heroin, Smuggled in Coat Hangers; and Cocaine, Smuggled in Coat Hangers	42	11	84
Heroin, Smuggled in Shoes	42	4	38

Heroin, Tablets	42	1	5
HU-210	42	3	23-24
Hydrocodone Mimic Tablet (Containing Diazepam and Acetaminophen)	83	11	83
Hydrocodone Mimic Tablets (Containing Heroin)	42	10	78
Hydrocodone Mimic Tablets (Containing Heroin, Diazepam, Acetaminophen, and Caffeine)	42	8	68
JWH-073	42	9	75
Ketamine, in Ecstasy Combination Tablets	42	4	39
Ketamine, in Oxycontin Mimic Tablets	42	5	48
Khat (Freeze-Dried)	42	5	50-51
Khat (Freeze-Dried)	42	7	61
Khat (Fresh)	42	4	36
Marijuana, "Butter"	42	8	67
Marijuana, "Foodstuffs"	42	1	4
Marijuana, in Sugar	42	12	93
Marijuana, Laced with Sugar	42	8	69
Marijuana, Smuggled in a Teddy Bear	42	1	3
Marijuana, with Joker Logo	42	8	70
Marijuana, with Morphine Sulfate	42	2	19
MDMA Chocolates	42	4	33-34
MDMA, on Psilocybe Mushrooms	42	4	33-34
Melatonin, in Alprazolam Mimic Tablets	42	1	2
Melatonin, in Alprazolam Mimic Tablets	42	10	80
Melatonin, in Oxycontin Mimic Tablets	42	7	64
Melatonin, in Oxycontin Mimic Tablets	73	9	73
Methamphetamine, "Flavored"	42	1	1-2
Methamphetamine, in Ecstasy Combination Tablets	42	3	27-28
Methamphetamine, in Ecstasy Combination Tablets	42	4	35
Methamphetamine, in Ecstasy Combination Tablets	42	4	35-36
Methamphetamine, in Ecstasy Combination Tablets	42	6	54-55
Methamphetamine, in Ecstasy Combination Tablets	42	7	64
Methamphetamine, in Ecstasy Mimic Tablets	42	4	39
Methamphetamine, l-Isomer	42	1	7
Methamphetamine, l-Isomer	42	3	28
Methamphetamine, Tablets Smuggled in Toothpaste Tubes	42	5	49-50
Methamphetamine, Racemic	42	1	5-6
Morphine Sulfate, on Marijuana	42	2	19
N-Benzylpiperazine (BZP), in Ecstasy Combination Tablets	42	4	37
N-Benzylpiperazine (BZP), in Ecstasy Combination Tablets	42	8	70

N-Benzylpiperazine (BZP), in Ecstasy Mimic Tablets	42	1	3
N-Benzylpiperazine (BZP), in Ecstasy Mimic Tablets	42	2	16-17
N-Benzylpiperazine (BZP), in Ecstasy Mimic Tablets	42	5	46
N-Benzylpiperazine (BZP), in Ecstasy Mimic Tablets	42	5	45-46
N-Benzylpiperazine (BZP), in Ecstasy Mimic Tablets	42	5	46-47
N-Benzylpiperazine (BZP), in Ecstasy Mimic Tablets	42	5	47-48
N-Benzylpiperazine (BZP), in Ecstasy Mimic Tablets	42	6	55
N-Benzylpiperazine (BZP), in Ecstasy Mimic Tablets	42	6	58
N-Benzylpiperazine (BZP), in Ecstasy Mimic Tablets	42	6	53-54
N-Benzylpiperazine (BZP), in Ecstasy Mimic Tablets	42	6	54-55
N-Benzylpiperazine (BZP), in Ecstasy Mimic Tablets	42	7	64
N-Benzylpiperazine (BZP), in Ecstasy Mimic Tablets	42	8	70
Opium	42	4	35
Opium, Smuggled in Gear-Like Objects	42	11	85
Orphenadrine, in Oxycontin Mimic Tablets	73	9	73
Oxandrolone, on Paper	42	6	57
Oxycontin Mimic Tablets (Containing Dextromethorphan/Levomethorphan and Diazepam)	42	5	49
Oxycontin Mimic Tablets (Containing Diazepam, Orphenadrine, and Acetaminophen)	73	9	73
Oxycontin Mimic Tablets (Containing Diazepam, Tramadol, and Dicyclomine)	42	2	15-16
Oxycontin Mimic Tablets (Containing Heroin, Caffeine and Lactose)	42	3	27
Oxycontin Mimic Tablets (Containing Heroin, Ephedrine, Pseudoephedrine, Phenylpropanolamine, and Tramadol)	42	9	75
Oxycontin Mimic Tablets (Containing Ketamine and Caffeine)	42	5	48
Oxycontin Mimic Tablets (Containing Melatonin and Acetaminophen)	42	7	64
Oxycontin Mimic Tablets (Containing Melatonin and Acetaminophen)	73	9	73
Oxycontin Mimic Tablets (Containing Pholodine and Acetaminophen)	42	5	47
Oxycontin Tablets	42	2	15-16
Peyote	42	7	62
Phenazepam, on Blotter Paper	42	12	94
Phencyclidine	42	2	17
Phencyclidine	42	6	56
Phentermine Mimic Tablets (Containing Fenfluramine)	42	6	56
Phentermine Mimic Tablets (Containing Fenfluramine)	42	10	79
Phentermine Mimic Tablets (Containing Sibutramine)	42	10	79
Pholodine, in Oxycontin Mimic Tablets	42	5	47
Psilocybe Mushrooms with MDMA	42	4	33-34
Psilocybe Mushrooms, Smuggled in a Teddy Bear	42	12	91
Quaalude Mimic Tablets (Containing Diazepam)	42	3	25
Quinine	42	10	79

Sibutramine, in Phentermine Mimic Tablets	42	10	79
Spice	42	3	23-24
Stanozolol, Candy	42	11	86
Uncaria tomentosa, Cocaine Smuggled in	42	6	57
Xylazine, Solution in Liquor Bottles	42	6	56-57

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