

**Drug & Chemical Evaluation
Section (ODE)
DEA Office of Diversion Control**

1

**TERRENCE BOOS
CHEMIST/ACTING SECTION
CHIEF**

Overview

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- **Scheduling Actions**
 - Recent
 - In process
- **Designer Drug Issues**
 - Synthetic Cannabinoids – “Spice”, “K2”
 - Synthetic Cathinones – “Bath Salts”

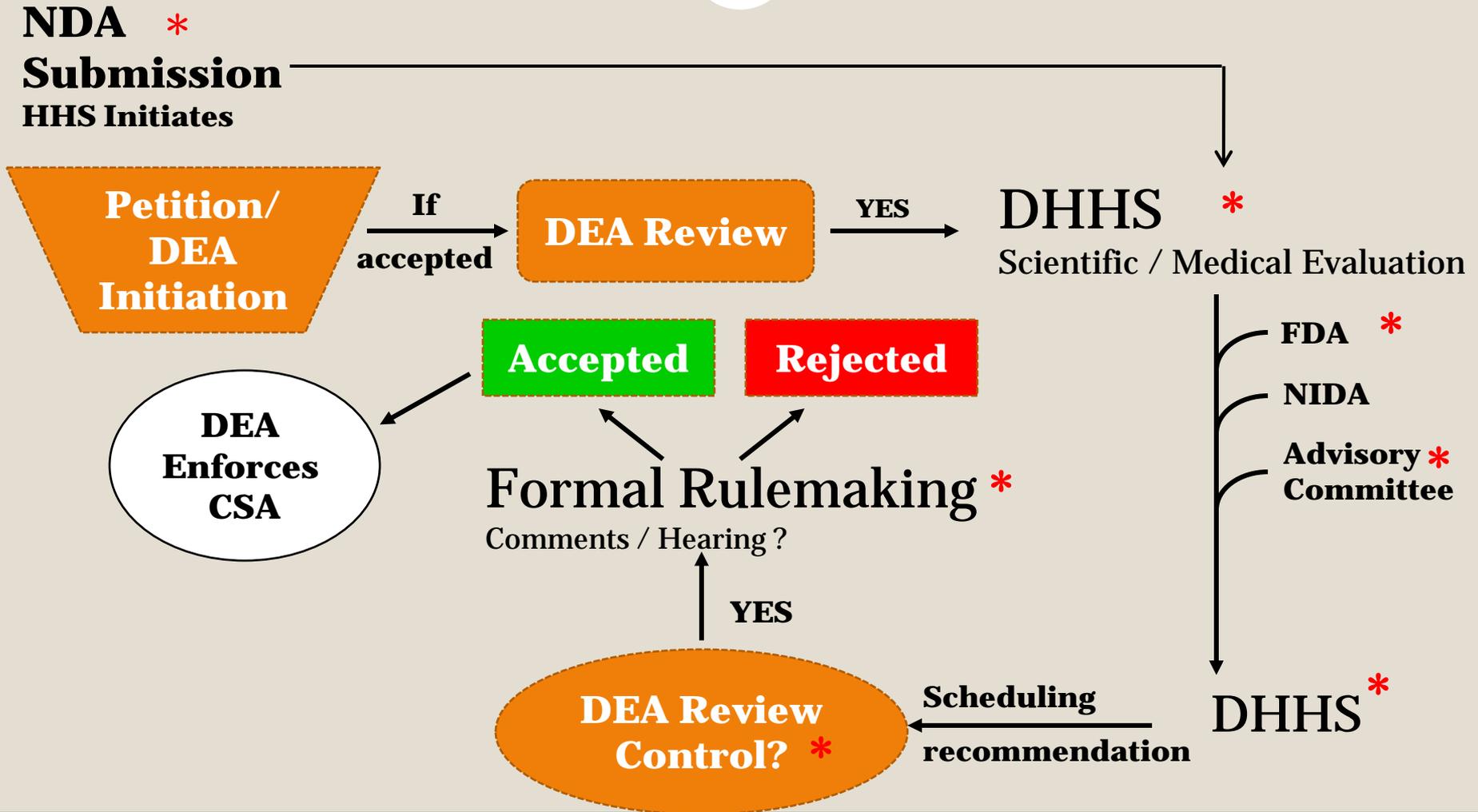
Types of Scheduling Actions

3

- **Formal**
 - HHS recommendation
- **Administrative**
 - Anabolic Steroids
- **Temporary (Emergency)**
- **Immediate precursor**
- **Congressional action (legislative)**
 - Anabolic Steroid Control Acts of 1990 and 2004
 - Combat Methamphetamine Epidemic Act 2005 (CMEA)
- **Compliance with international treaties**

General Scheduling Flowchart

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Scheduling Actions

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- **ANPP**
 - Fentanyl precursor
 - Jun 29, 2010 - placed in Schedule II
- **5-MeO-DMT**
 - Hallucinogenic tryptamine
 - Dec 20, 2010 - placed in Schedule I
- **5 Synthetic Cannabinoids**
 - Temporary Scheduling Action (Emergency scheduling)
 - Mar 1, 2011 -placed in Schedule I

Chemical Controls

6

- **Ergocristine**
 - Precursor used in the illicit manufacture of Lysergic Acid Diethylamide, as a List I Chemical
 - May 2, 2011 – List I Chemical
 - ✦ all transactions regardless of size, shall be regulated

- **Phosphorous Chemical Mixtures**
 - Chemicals used in the illicit manufacture of methamphetamine
 - July 5, 2011- Final Rule, Effective
 - Concentration limits on chemical mixtures containing red phosphorus and/or hypophosphorous acid and its salts.
 - ✦ Chemical mixtures containing <80% or less red phosphorus and mixtures containing hypophosphorous acid and its salts (hypophosphite salts) in a concentration of 30 percent and less, are exempt
 - ✦ Provides legitimate industry with an exemption application

Scheduling Actions in Process

7

- **Carisoprodol (Soma)**
 - Centrally acting skeletal muscle relaxant
 - March 1996 - DEA submitted review doc to DHHS
 - February 1997 - DHHS convened an Advisory Committee
 - ✦ pharmacokinetic and abuse liability data were insufficient to control
 - NIDA provides abuse liability data
 - October 2009 - DHHS provides a scheduling recommendation
 - November 2009 –DEA published a Notice of Proposed Rule Making
 - **May 2010 – Announcement of hearing**
 - **August 2010 – Hearing concludes**
- **Tramadol**
 - Opioid analgesic approved for the treatment of moderate to moderately severe pain
 - 2005 - three Petitions to schedule
 - April 2007- DEA submitted review doc to DHHS
 - **September 2010 – DHHS provides a scheduling recommendation**

Petitions under Evaluation

8

- **Propofol**
 - FDA approved short-acting sedative
 - Mar 2008 – petition to control
 - DHHS recommends placement in Schedule IV
 - Nov 1, 2010 – NPRM published
- **Sibutramine**
 - Schedule IV substance; petition to decontrol
 - Under DHHS review
- **6 β -Naltrexol**
 - Schedule II; naltrexone metabolite, petition to decontrol
 - Under DHHS review
- **Generics of Marinol**
 - Marinol, Schedule III
 - Nov 1, 2010 – NPRM published

Phenethylamines and Tryptamines

9

Pending HHS Recommendation:

- **5-MeO-AMT**
- **5-MeO-DET**
- **5-MeO-MIPT**
- **4-OH-DIPT**
- **DIPT**

Under DEA Review:

- **2C-I**
- **2C-T-2**
- **DOI**
- **2C-E**
- **2C-C**
- **2C-D**
- **DOC**

Recently Scheduled:

- **5-MeO-DMT (Dec. 2010)**

- ❑ Substances popularized by A.Shulgin's: *Pikal* and *Tikal*
- ❑ Recent death and 10 others hospitalized in MN, 2C-E

Designer Drugs

10

HERBAL INCENSE PRODUCTS

BATH SALTS

ANABOLIC STEROIDS

PCP ANALOGUES

TRYPTAMINES

PHENETHYLAMINES

Designer Drugs

Red = Controlled substance
Yellow = Positional isomer, controlled by definition
Green = Determined to be controlled substance analogue

Phenylalkylamines

Piperazines

Tryptamines

Ecgonine Derivatives

Pyrrolidinophenone derivatives

PPP
MPPP
MOPPP
MDPPP
MPHP
MPBP
PVP

Benzyl-piperazines:
BZP
MDBP
4-Bromo-2,5-diMeO-BZP
MBZP
MDBZP
2C-B-BZP

Phenyl-piperazines:
mCPP
TFMPP
MeOPP
pFPP

Phenylcyclohexamines

PCPR
PCMPA
PCMEA
PCEEA
PCEPA
5-MeO-PCP

Synthetic Cannabinoids

4-Fluorotropacocaine
β-CFT
p-FBT

Anabolic agents

Steroids:
THG
Many examples

SARMs:
Andarine
LGD-2226
Mk-2866

Dimethoxy derivatives:

Monomethoxy derivatives
PMA
PMMA
N-ethyl-PMA

Dimethoxyphenylpropanamines:
2,5-DMA
3,4-DMA
DOB
DOC
DOET
DOF
DOI
DOM
DON
DOPR
MDOB

2C Series - Dimethoxyethanamine:
2C-B
2C-C
2C-D
2C-E
2C-H
2C-I
2C-N
2C-P
2C-T-2
2C-T-4
2C-T-7
2C-T-21

AMT
DMT
DET
DPT
DBT
DiPT
MiPT
4-OH-DiPT
4-OH-MiPT
4-OH-MET
5-MeO-AMT
5-MeO-DMT
5-MeO-DiPT
5-MeO-MiPT
5-MeO-EiPT
5-AcO-DiPT
5-MeO-DPT
5-MeO-DALT

THC analogs:
HU-210
O-806
JWH-122

Cyclohexylphenols:
CP-47,497
CP-47,497-C8
CP-55,950

Indoles/Pyrroles:
JWH-018
JWH-200
JWH-081
JWH-250
AM694
SR-18

Eicosanoids:
Anandamide
Oleamide

Others:
WIN
55,212-2
WIN-49,098

Trimethoxy derivatives:
3,4,5-TMA
TMA-2
TMA-3
TMA-4
TMA-5
TMA-6

4-MTA homologs
4-MTA
4-MTMA
4-MTEA
4-MTPA
4-MTBA
4-MTDMA

β-Keto compounds:
Mephedrone
MDPV
Methylone
Ethylone
Butylone
Flephedrone
Methcathinone
Ethcathinone
bk-MDDMA
Naphyrone
4-MEC
4-EMC

Difurnanyl compounds:
Bromo-dragonfly
2C-B-fly

Fluoro-containing compounds:
4-FA
3-FA
2-FA
N-Methyl-4-FA
N-Ethyl-4-FA
3-F-4-MeO-A
4-FMC
3-FMC

Others:
MDDMA
Ethylamphetamine
N-OH-MDMA
MDDM
N,N-Dimethyl-1-phenyl-2-ethanamine
1-phenyl-2-butylamine
MDA

Designer Drug Products

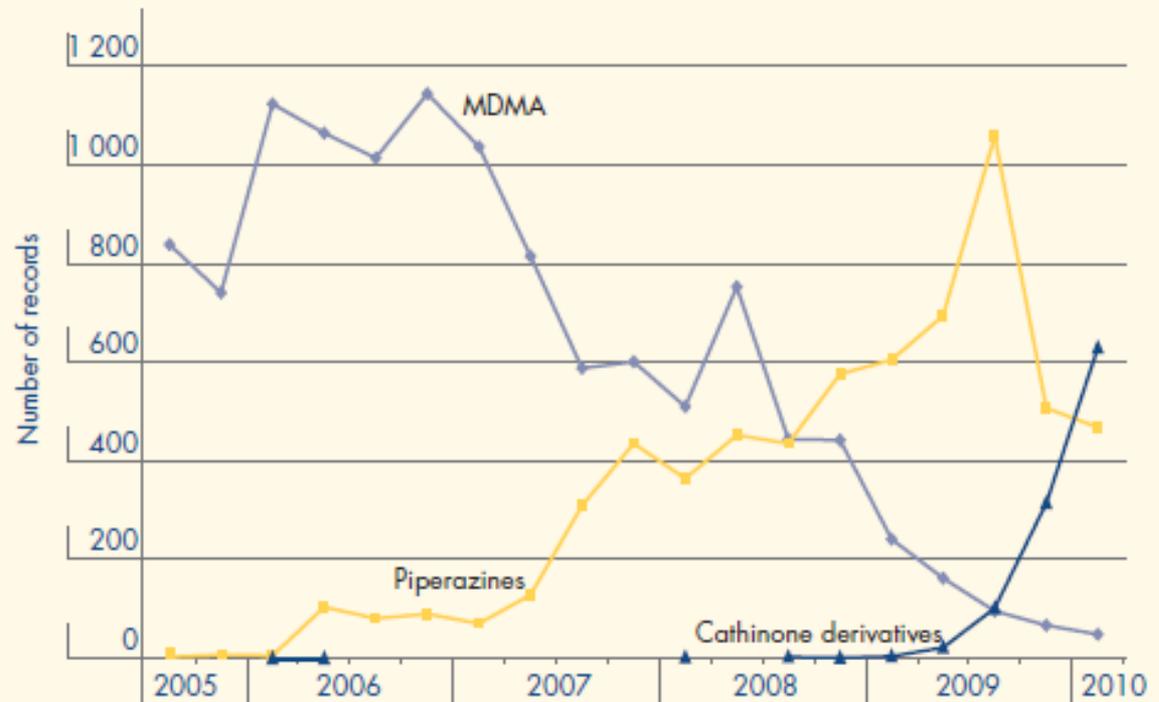
12

- **What is in these products?**
 - Abusers do not know.....
 - Distributors and sellers do not know.....
 - Manufacturers are uncertainty based on lab encounters and source of substance
- **Abusers present at Emergency Departments in response to an unknown drug**

EU Early Warning System

41 New Substances reported in 2010

- ❑ 15 Cathinones
- ❑ 11 Cannabinoids
- ❑ Derivatives of ketamine and PCP



Source: Forensic Science Service (FSS), UK, 2010.

Original Paper

Instability of the ecstasy market and a new kid on the block: mephedrone



Journal of Psychopharmacology



EMCDDA
RISK ASSESSMENTS

Report on the risk assessment of mephedrone in the framework of the Council Decision on new psychoactive substances

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Concerns

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- **“Legal highs” are reportedly more addictive, dangerous, and may cause more powerful highs compared to their illicit counterpart**
 - EU: broad number of substances “from herbal mixtures to synthetic or ‘designer’ drugs and ‘party pills’, which are used in different ways (smoked, snorted, ingested)”
- **Harmful effects:**
 - Body
 - Psyche
 - Behavior
- **Encountering individuals with criminal backgrounds**

Availability

15

- Clandestine synthesis labs are not being encountered
- CBP verifies foreign sources
- Unclear who has initiated selection of specific substances and what prompts chemical suppliers to include in product lines
- US is experiencing a delayed response relative to European drug markets

Synthetic Cannabinoids (Spice, K2, etc.)

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The advertisement features a circular logo on the left with a blue grid background. Inside the logo, the text 'K2™' is prominently displayed in a large, black, serif font. Below it, '3 GRAMS' is written in a smaller, white, sans-serif font. At the bottom of the logo, the word 'Natural' is written in a white, cursive script. The background of the advertisement is a scenic landscape of a green field under a sunset sky with orange and yellow clouds. To the right of the logo, the text 'K2 Natural' is written in a large, bold, black font with a white outline. Below this, the text 'No Illegal Chemicals' and '100% Legal Everywhere' is written in a white, sans-serif font. At the bottom right, the text 'Awesome Potency' and 'Try it today!' is written in a white, sans-serif font.

K2™
3 GRAMS
Natural

K2 Natural
No Illegal Chemicals
100% Legal Everywhere
Awesome Potency
Try it today!

DUID *Sidney, Nebraska*

17



Specifics of DUI

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- 17-year old male
- Smoked with three other juveniles
- No memory of incident
- Drove by an elementary school at high rate of speed
- Hospital drug screen no other drugs found
 - Pipe and Wicked X product found JWH-018
 - JWH-018 metabolites found in urine



Synthetic Cannabinoid Concerns

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- **Questions resulting in concern**
 - Effect and safety in humans?
 - Which products are laced?
 - What is laced on the product?
 - Amount laced?

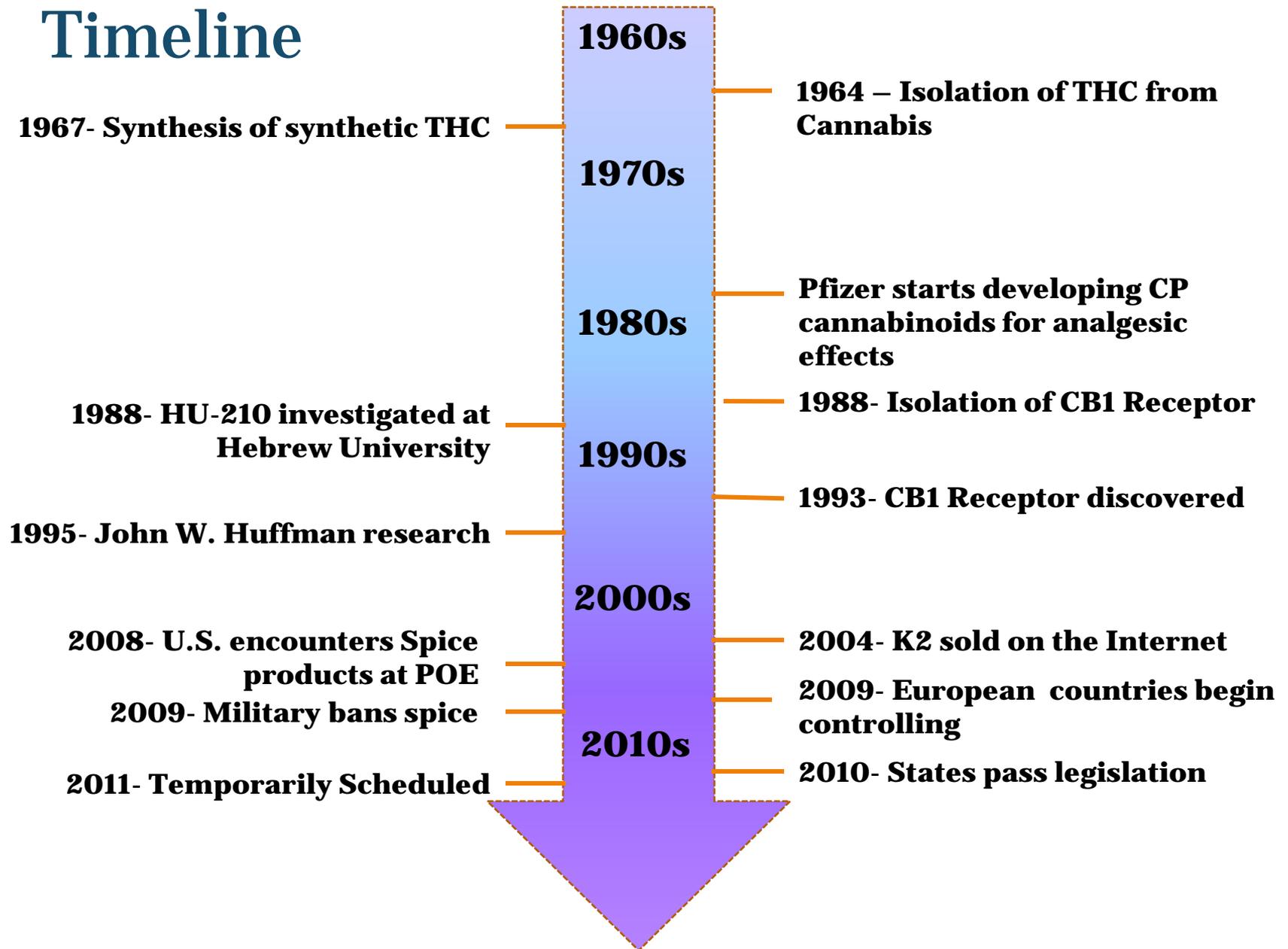
- **What we do know.....**
 - SCs are psychoactive substances
 - SCs benefit to herbal products
 - Irresponsible manufactures and distributors continue to market these poisons to the public

Temporary Scheduling Action

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- **Imminent harm to public safety**
- **Placed 5 synthetic cannabinoids in schedule I**
 - Notice of Intent - Nov. 23, 2010
 - Final Order – Mar. 1, 2011
- **Provided for civil and criminal prosecution**
- **1 year to formally place in CSA**
 - Requires scheduling recommendation from HHS
 - Contracting scientific studies
- **Provided for prosecution as CS analogues**

Timeline



Health Effects

22

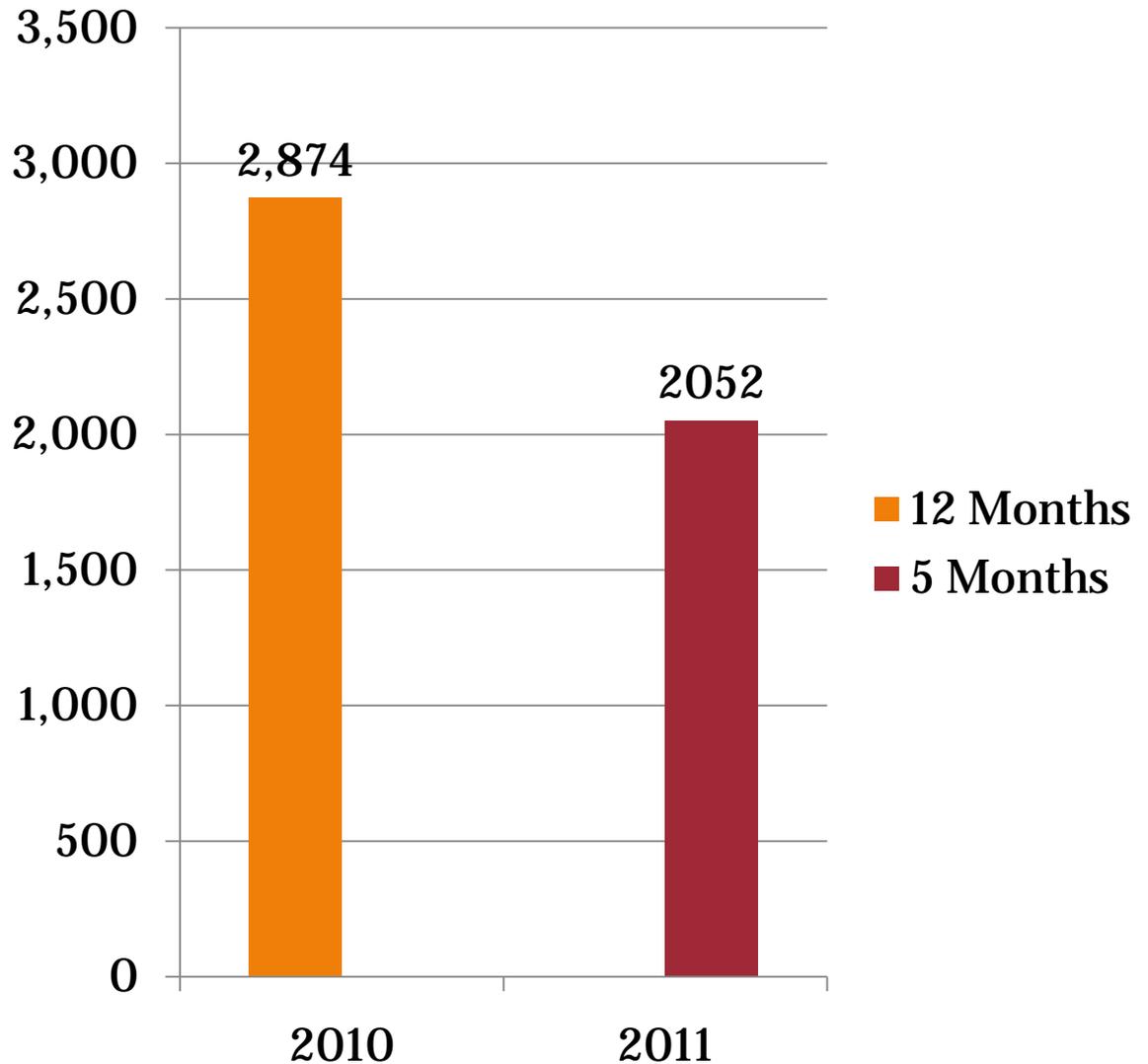
- Psychoactive substances
- State Health and Poison Control Warnings
- Abuse results in dependence, withdrawal, and psychosis
- Adverse health effects:
 - Vomiting
 - Intense hallucinations
 - Tachycardia
 - Increased blood pressure
 - Seizures



- Loss of consciousness
- Paranoid behavior
- Agitation
- Anxiety

AAPCC Press Releases

Calls to poison centers en route or from emergency depts in response to herbal incense product abuse



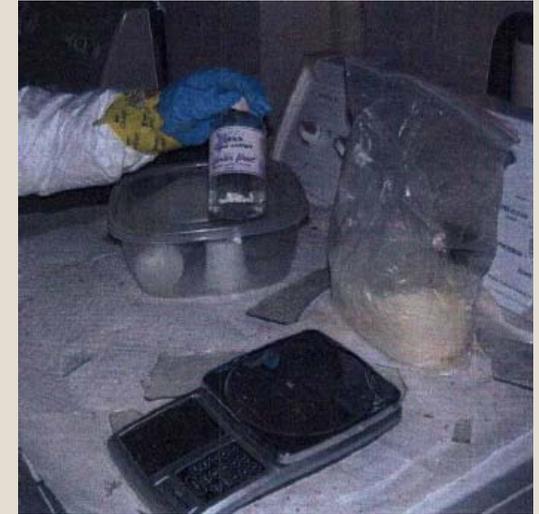
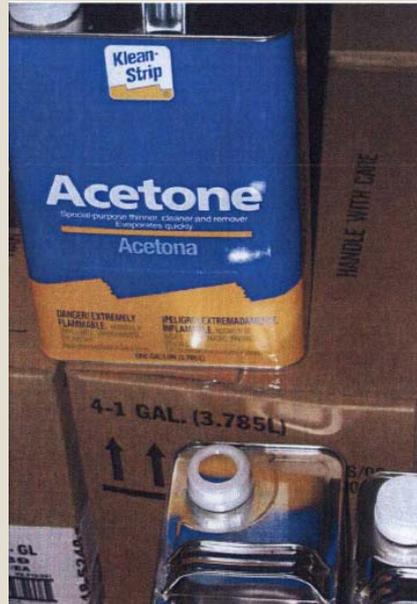
Method of Manufacture

24

- **Substances synthesized internationally**
- **Shift in product manufacturing**
 - Less products being encountered by CBP more bulk substance encounters
 - LE is increasingly encountering manufacturing labs
- **Psychoactive substance laced on plant material**
 - plant material not critical
 - Substance “hot spots”
- **Creatively packaged**

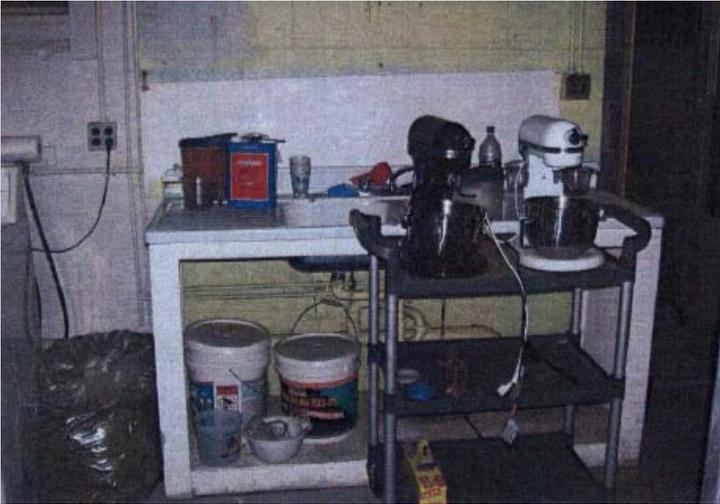
Manufacturing Labs

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Product Manufacture

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Hundred's of Herbal Incense Products

27



Product Information

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- \$30-40 per 3g packet
- Collected over 400 analyses
- All are laced with a synthetic cannabinoid
 - JWH compound
 - AM compound
 - RCS compound
 - WIN compound
- High variability between products, even the same label:
 - Constituents and components change within product label and batch to batch

LE encounters



Traffic stop in Tennessee



Mississippi Marsh 3000 packets

Marketing Strategies

30

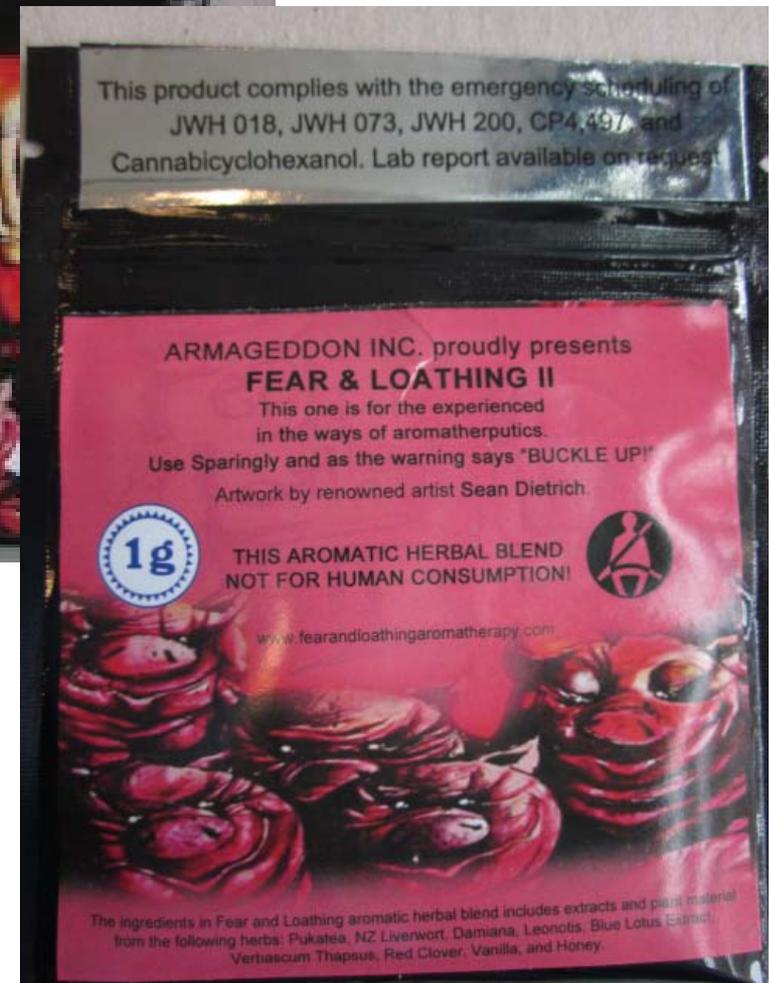
- Internet is critical to exchange of information
- Name recognition
- Suggestive packaging
- Characterizing
 - Legal alternative to marijuana



Product Analysis

Found: **JWH-018**, **JWH-250**, **RCS-4**, **AM-2201**, and **Pravadoline** (WIN 48,098)

Analysis conducted post temporary scheduling



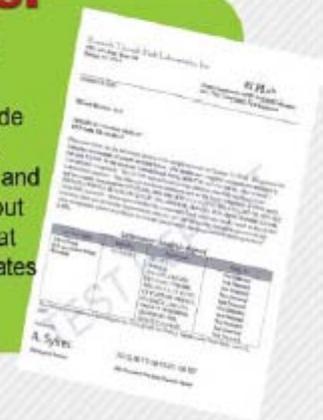
Marketing Strategy

Highlight profitability and legality

LEGAL POTPOURRI

Attention Retailers!
Make over 356% Profit

Take advantage and add these COMPLETELY LEGAL potpourri products to your shelf today! Legal Potpourri has the highest grade herbal potpourri products available on the market, and is always staying on top of industry trends. All are products are 100% DEA and State Compliant, and we have the lab reports to prove it! Don't put your business at the risk...beware of counterfeiters, and fakes that can put you into legal trouble. Take Advantage of Our Special Rates & Start Making Extreme Profits Today!



EXTREME Ultra Kush
 THE MOST POTENT HERBAL POTPOURRI ON THE MARKET!

Voodoo Magic
 Experience A "Magic" Euphoric Atmosphere That's Not For The Faint Of Heart.

G-14 Select
 G-14 Select Delivers An Extreme Aromatic Potency That Lingers For Hours

Mango Kush
 Go On A "Vacation" With This Relaxing & Surprisingly Potent Tropical Aroma.

Certificate of Analysis ?

Demonstration of knowingly attempting to circumvent controls stating what is not in the product

Information can be provided as to what is not in the product..... no information as to what is in the product

Research Triangle Park Laboratories, Inc.
7201 ACC Blvd., Suite 104
Raleigh, NC 27617



DEA Registered Analytical Laboratory
Dietary Supplements cGMP & ISO 17025 Compliant
Analytical Testing Since 1970

December 22, 2010

Sun, LLC
Boise, ID 83714

PROJECT: "Product Analysis"
RTP Labs ID: 10-496-1

Presented below are the laboratory results of the sample received on December 17, 2010. We received the container and amount of sample as listed below. The sample was weighed, extracted and analyzed by full scan GC/MS for the synthetic Cannabinoids and Delta-THC (natural) listed. The GC/MS was calibrated using validated reference standards of synthetic Cannabinoids and Delta-THC at >95% purity and at known concentrations. The test results are based on the GC/MS retention times and molecular fragmentation patterns obtained from the reference standards. The method reporting limits are 0.05%. RTP Labs has tested the product according to the customer's request and does not make any legal interpretation of the product. The customer is responsible for determining if the report meets their requirements. RTP Labs cannot be held responsible for misuse of this test report.

Laboratory Analysis Report

Product Name	Batch/Lot	Test Results	Purity, %
Dreanz (14.1 gm) Dried Plant Material	Batch 2334	JWH-015	Not Detected
		JWH-018	Not Detected
		JWH-019	Not Detected
		JWH-073	Not Detected
		JWH-081	Not Detected
		JWH-200	Not Detected
		JWH-250	Not Detected
		CP 47,497	Not Detected
		CP 47,497-C8 (Same as Cannabicyclohexanol)	Not Detected
		CP-55,940	Not Detected
		WIN-48098	Not Detected
		WIN-55212-2	Not Detected
		HU-210/211	Not Detected
		HU-308; HU-331;	Not Detected
		AM-694;	Not Detected
Delta-THC (natural)	Not Detected		

The testing was conducted according to the FDA cGMP for Dietary Supplements Final Rule, June 25, 2007.

Sincerely,
2010.12.22
A. Sykes 15:28:40
-05'00'

Principal Chemist *This Document has been digitally signed and contains our Watermark*

Synthetic Cannabinoid Transition

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Temporary Listing

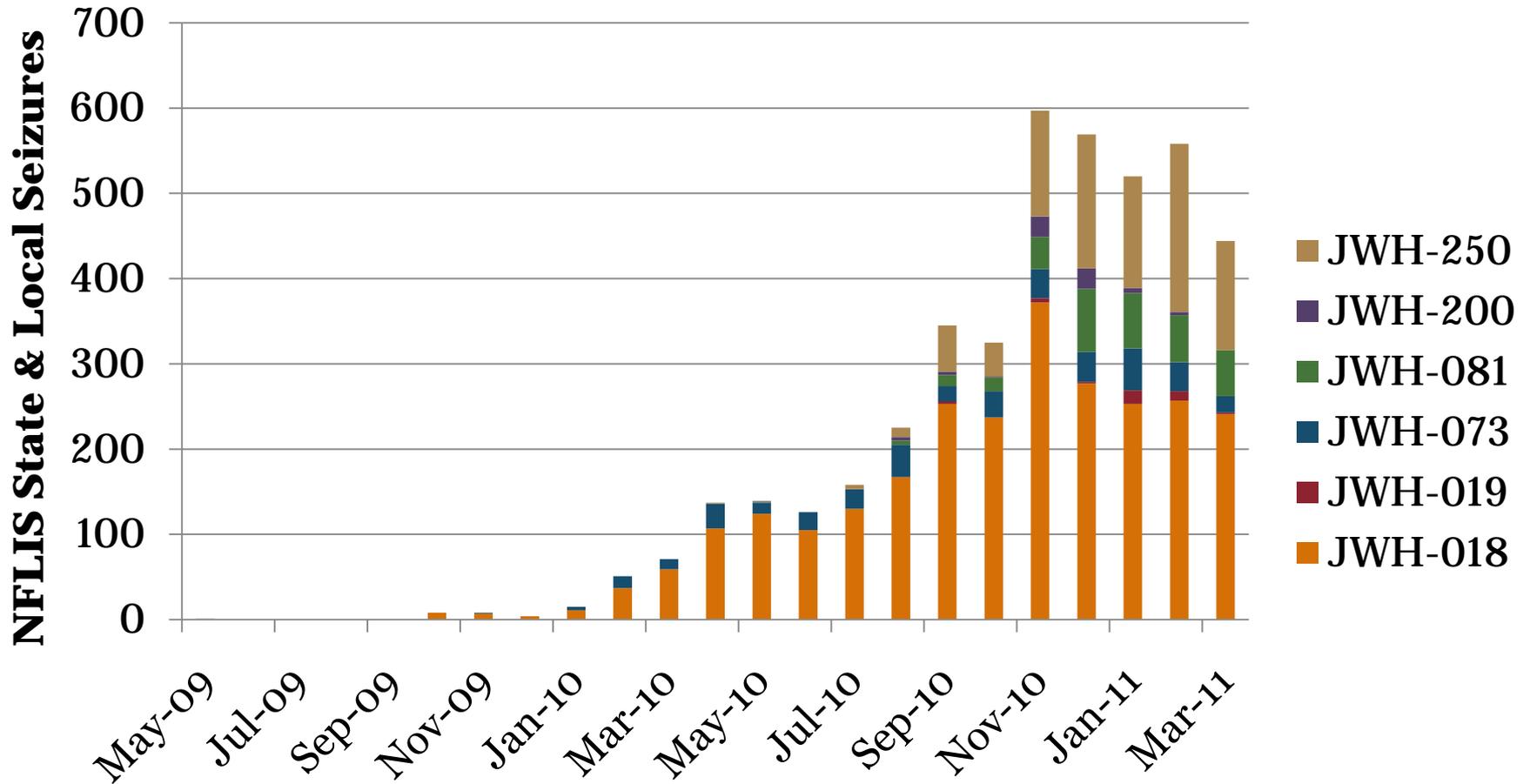
- JWH-018
- JWH-073
- JWH-200
- CP-47,497
- Cannabicyclohexanol (CP-47,497-C8)

Encountered SCs

- JWH-250
- JWH-081
- JWH-019
- JWH-398
- JWH-122
- AM-694
- AM-2201
- AM-1221
- SR-19 (RCS-4)
- SR-18 (RCS-8)
- JWH-203
- JWH-210
- JWH-251
- JWH-015
- WIN - 55212-2
- WIN-48,098

Encounters

35



Public Safety Concerns

36

- DUIDs with fatalities
- Suicides
- Homicide-Suicide
- Overdoses
 - Emergency Department visits
 - First Responders
- Drugs abused to evade drug screens
 - 30-35% of juveniles in drug court tested positive
 - Individuals subjected to routine drug screens
- Transition to new synthetic cannabinoids



DEA On-going Activities

37

- NIDA supported testing
- In absence of toxicological information - product analysis is connecting exposure incidents to specific substances
- Treat the listed substances as Schedule I substances and utilize analogue provision
- Support prosecution of new SCs under analogue provision



“Bath Salts” Synthetic Cathinones

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Customs and Border Protection

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- Encountering large amounts of synthetic cathinones at PoE, bulk powders

Philly CBP Intercepts New Synthetic Amphetamine Stimulants

03/03/2011

Philadelphia – The tablets and powder carried names like Ocean, Fury and Ardor, but to Customs and Border Protection officers and scientists, these recent international arrivals of aromatic incense are really synthetic amphetamine type stimulants (ATS) of substituted cathinones.

CBP Intercepts 13 Pounds of "MPDV" Purported by Users to be "Legal Coke or Speed"

(Tuesday, December 28, 2010)

[contacts for this news release](#)



Philadelphia Customs and Border Protection officers recently seized more than 4,700 doses of synthetic amphetamine stimulants, with an approximate domestic value of \$28,000, for violating the federal Food, Drug and Cosmetic Act.

Synthetic Cathinones

40

- Mephedrone (4-MMC)
- Methyldrone (MDMC)
- 3,4-Methylenedioxypropylamphetamine (MDPV)
- 4-Methylethcathinone (4-MEC)
- 4-Fluoromethcathinone (3-FMC)
- 3-Fluoromethcathinone (4-FMC)
- Ethcathinone
- Butylone (bk-MBDB)
- Methedrone
- Naphyrone



Administration and Effects of Cathinones

41

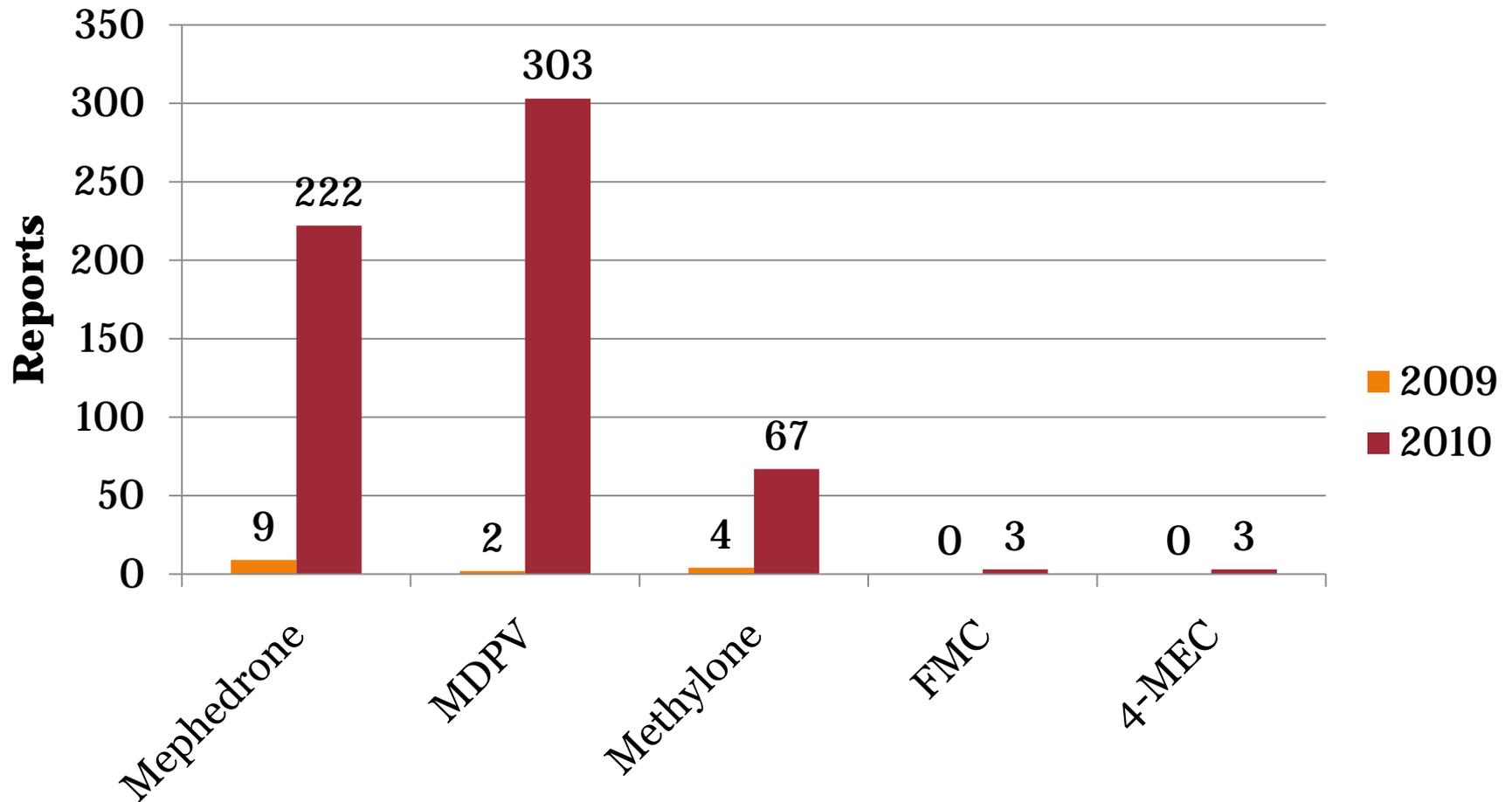
- Self administration by:
 - oral
 - snorting
 - injection
- Stimulant effects
 - Euphoria, openness, and increased energy
 - maximum effects, 5-45 min dependent on route of administration
- Binge and other drugs
- Marketed as similar to cocaine, methamphetamine, MDMA, etc.



Law Enforcement Data

NFLIS State, Local, & Federal Laboratories

42



Source: NFLIS, data queried on 6/14/2011

Mephedrone, Methyldone, and MDPV Effects

43

- **Mephedrone and Methyldone**
 - Oral (swallowing powder, capsules or tablets) and intranasal routes are predominant
 - Effects 15–45 min after oral ingestion and last approximately 2–5 h
 - Effects 30 min after intranasal administration and last approximately 2–3 h.
 - High lasts approximately 10–15 min after intravenous injection, with an overall duration of 30 min
- **MDPV**
 - Oral or intranasal (the most common route of admin)
 - Effects 15–30 min after oral ingestion and can last approximately 2–7 hours
 - Intranasal use, effects usually occur 5–20 min after administration and can last approximately 2–3.5 h

Media Reports

44

- IA-Man eats dirt
- MS- Self mutilation
- LA- Suicide
- NJ- Priest stabbed
- PA-Friends stabbing
- PA-Man arrested 3 straight days
- Numerous hospitalizations

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[Share](#)

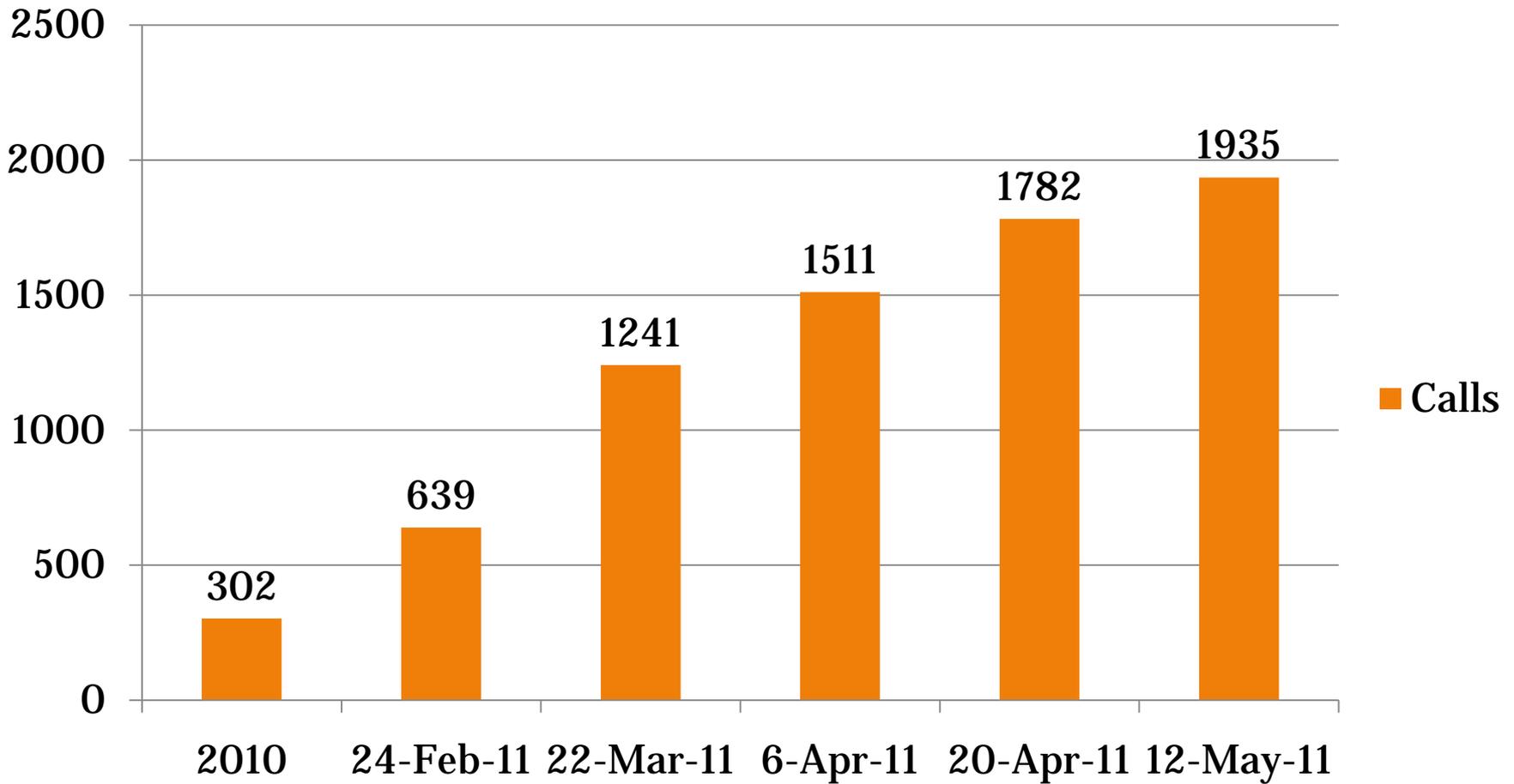


Mars Hill, NC — Wesley Shelton, 26, was taken into custody earlier this week after police say he rammed a stolen car through the front door of a convenience store and made off with a bunch of bath salts.

Armed with what police believe was a 12-gauge shotgun, Wesley stole a car from a residence near the M&J Food Store Wednesday afternoon, made a beeline for the store and rammed his way in. Once inside, he apparently grabbed an [undisclosed amount of instant crazy](#) and fled the store, driving the stolen vehicle back to the home from which it was stolen. Police say Wesley then broke into the home and locked himself in a closet.

Poison Center Calls “Bath Salts”

45



Adverse Health Effects

46

- Nose bleeds
- Elevated blood pressure
- Extreme paranoia and delusions
- Increased heart rate
- Hallucinations
- Disorientation
- Agitation
- Spasms
- Delusions
- Liver failure



- Violent episodes
- Toxicity resulting in deaths
 - Mephedrone
 - Methyldone
 - MDPV
 - other drugs on-board

Case Reports: Mephedrone-Related Deaths

47

- 19-year old male ingested mephedrone and alcohol, seized and died en route to hospital.
- 49-year old female prior to snorting mephedrone consumed alcohol and cannabis, vomited and collapsed.
- 55-year old female consumed mephedrone and benzos and methadone. Died in sleep.
- 17-year old consumed mephedrone died in head-on vehicle collision.

CDC: Morbidity and Mortality Weekly Report

Emergency
Department visits
in Michigan in
response to
ingestion of bath
salts

Nov. 13, 2011- Mar.
31, 2011

Centers for Disease Control and Prevention

MMWR

Early Release / Vol. 60

Morbidity and Mortality Weekly Report

May 18, 2011

- Among the 35 patients, the most common signs and symptoms of toxicity were agitation (23 patients [66%]), tachycardia (22 [63%]), and delusions/hallucinations (14 [40%]).
- Seventeen patients were hospitalized, and one was dead upon arrival at the ED.
- Men = Women
- 20-29 years (64%)

Mephedrone Linked to Deaths

49

- In May 2011, the EMCDDA reported that mephedrone appeared to be the cause of two deaths in the European Union.
- Furthermore, mephedrone was detected in another 37 post-mortem samples.

Risk Assessment of Mephedrone in the Framework of the Council Decision on New Psychoactive Substances; European Monitoring Centre for Drugs and Drug Addiction (EMCDDA); May 2011

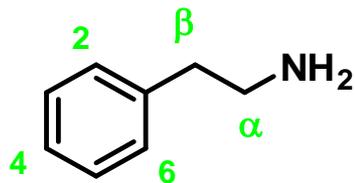
“Bath Salt” products

50

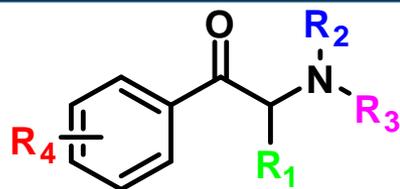
- Products marketed as:
 - Plant food
 - Bath salts
 - Room deodorizers
- Products contain synthetic cathinones
- Pure or with cutting agents
- Abused for stimulant effects
 - Marketed as similar to cocaine, MDMA, methamphetamine
 - Sold in head shops, convenience stores, gas stations and over the Internet



**Analyses of second-generation ‘legal highs’
in the UK: Initial findings**



phenethylamine



general cathinone
core structure

COMMON NAME	R1	R2	R3	R4
CATHINONE	CH3	H	H	H
METHCATHINONE	CH3	CH3	H	H
ETHCATHINONE	CH2CH3	CH3	H	H
MEPHEDRONE (4-MMC)	CH3	CH3	H	4-CH3
4-METHYLETHCATHINONE (4-MEC)	CH3	CH2CH3	H	4-CH3
4-FLEPHEDRONE	CH3	CH3	H	4-F
3-FLOUROMETHCATHINONE	CH3	CH3	H	3-F
4-METHOXYMETHCATHINONE	CH3	CH3	H	4-CH3O
BUPHEDRONE	CH2CH3	CH3	H	H
METHYLONE	CH3	CH3	H	3,4-METHYLENEDIOXY
ETHYLONE	CH3	CH2CH3	H	3,4-METHYLENEDIOXY
BUTYLONE	CH2CH3	CH3	H	3,4-METHYLENEDIOXY
PENTYLONE	CH2CH2CH3	CH3	H	3,4-METHYLENEDIOXY
MPPP	CH3	PYRIDINYL		4-CH3
MDPP	CH2CH3	PYRIDINYL		3,4-METHYLENEDIOXY
MDPV	CH2CH2CH3	PYRIDINYL		3,4-METHYLENEDIOXY
NAPHYRONE	CH2CH2CH3	PYRIDINYL		NAPHTHYL

DEA Activity

52

- Temporary scheduling action under review
- NIDA testing
 - MDPV provided
 - 5 other cathinones being synthesized
- Analyzing products to connect exposure incidents resulting in emergency department visits to specific substances



To Support Scheduling Actions

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- **DEA continues to collect information on all synthetic cannabinoids and cathinones and other designer**
 - **Product analysis**
 - **Adverse health events**
 - **Seizure information**
 - **Preclinical and clinical information**
- **Need to connect exposure incidents with specific substance**
 - **DUID**
 - **Emergency Department admissions**
 - **Criminal offenses**

Request for Information, May 2010

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Synthetic Cathinones - DEA Request for Information

The sudden appearance of synthetic cathinones (see list below) on the designer drug market in the United States is of great concern.

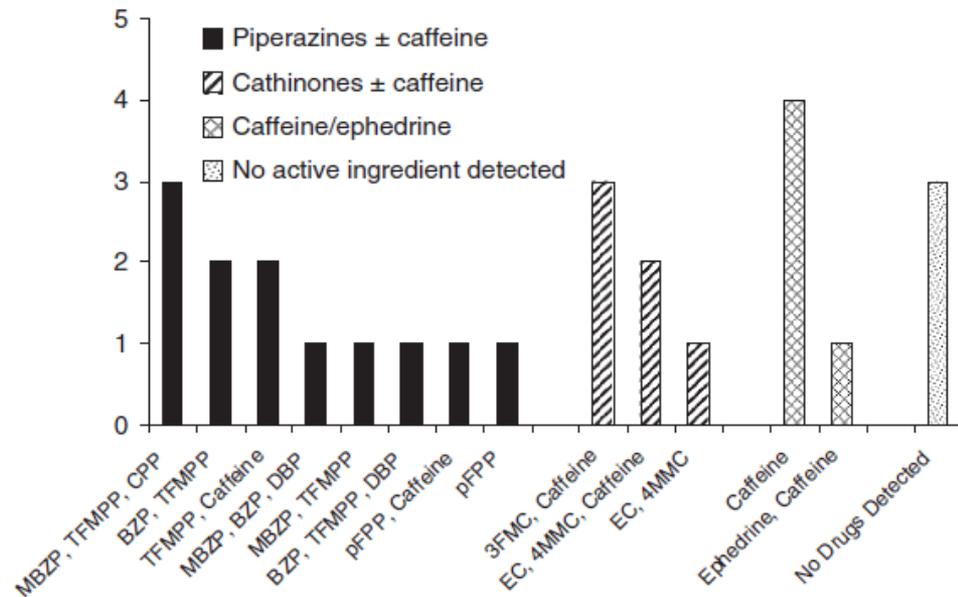
- **MDPV** *synonym* 3,4-methylenedioxypropylvalerone
- **Mephedrone** *synonyms* 4-methylmethcathinone, 4-MMC
- **Methylone** *synonyms* 3,4-methylenedioxypropylmethcathinone, MDMC
- **Naphyrone** *synonyms* naphthylpropylvalerone, NRG-1
- **4-Fluoromethcathinone** *synonyms* 4-FMC, flephedrone
- **3-Fluoromethcathinone** *synonym* 3-FMC
- **Methedrone** *synonyms* 4-methoxypropylmethcathinone, bk-PMMA, PMMC
- **Butylone** *synonyms* bk-MBDB, beta-keto-N-methylbenzodioxolylpropylamine

Other Designer Drugs

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- Kratom alkaloids
- Ketamine analogues
- PCP analogues
- Piperazines
- Anabolic Steroids

26 “Herbal highs” from the Internet



Contact Information

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