Note - this document, comprised of multiple parts, contains the following cases: 10698706, 10708286, 10712257, 12569892, 12639302, 12639316, 12639332, 12639421, 12639556, 12639579, 12639594, 12665817, 12665823, 12665824, 13421666, 13934406, 14037602, 7900650, 8083892, 8121551, 8121559, 8121566, 8124388, 8124494, and 8132531.

FDA Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Disclaimers:

Submission of a safety report does not constitute an admission that medical personnel, user facility, importer, distributor, manufacturer or product caused or contributed to the event. The information in these reports has not been scientifically or otherwise verified as to a cause and effect relationship and cannot be used to estimate the incidence of these events.

Data provided in the Quarterly Data Extract (QDE) or a FAERS FOIA report are a snapshot of FAERS at a given time. There are several reasons that a case captured in this snapshot can be marked as inactive and not show up in subsequent reports. Manufacturers are allowed to electronically delete reports they submitted if they have a valid reason for deletion. FDA may merge cases that are found to describe a single event, marking one of the duplicate reports as inactive. The data marked as inactive are not lost but may not be available under the original case number.

The FOIA case report information may include both Electronic Submissions (Esubs) and Report Images (Non-Esubs). Case ID(s) will be displayed under separate cover pages for the different submission types.

Esub Case ID(s) Printed:

7900650	10698706	10708286	10712257	12569892	12665817	12665823
12665824	13934406					

Run by: **STEPPERH**

Date - Time: **15-DEC-2017 12:05 PM**

Total number of cases (Esub): 9

FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 7900650

Case Information:

Case Type: EXPEDITED (15-DAY) **eSub:** Y **HP:** Y **Country:** USA **Event Date:** **Outcomes:** DE,OT **Application Type:** NDA

FDA Rcvd Date: 15-Apr-2011 **Mfr Rcvd Date:** 08-Apr-2011 **Mfr Control #:** US-ROXANE LABORATORIES, INC.-2011-RO-00495RO **Application #:** 022207

Patient Information:

Age: 20 YR **Sex:** Male **Weight:**

Suspect Products:

#	Product Name	Compounded Drug ?	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date
1	MORPHINE HYDROCHLORIDE							
2	MITRAGYNINE							
3	PARACETAMOL							
4	PROMETHAZINE							
5	PROPYLHEXEDRINE							

#	Product Name	Interval 1st Dose to Event	DeC	ReC	Lot#	Exp Date	NDC #	MFR/Labeler	OTC
1	MORPHINE HYDROCHLORIDE		NA	NA				ROXANE	
2	MITRAGYNINE		NA	NA					
3	PARACETAMOL		NA	NA					
4	PROMETHAZINE		NA	NA					
5	PROPYLHEXEDRINE		NA	NA					

Event Information:

Preferred Term (MedDRA © Version: 20.1)	ReC
Drug screen positive	NA
Toxicity to various agents	NA

Case ID: 7900650

Event/Problem Narrative:

Published Literature Case Report Events: Accidental death by propylhexedrine toxicity, Presence of morphine in urine Case History The decedent, a 20-year-old Caucasian male, was found dead, under his bunk, in his living quarters. His roommate stated that it was not out of the ordinary for the decedent to sleep under his bunk. An investigation of the scene indicated no evidence of foul play. Thirty-nine separate nutritional supplements, herbal supplements, and prescription and nonprescription medications were found at the scene. Analysis of the decedent's computer and internet usage history indicated he had researched herbal supplements, particularly kratom, which he reportedly used to treat insomnia. Further investigation revealed the decedent had researched a procedure to concentrate propylhexedrine from over-the-counter inhalers. Past medical history was non-contributory to the decedent's death. Findings at the time of autopsy included bilateral pulmonary edema and bilateral pleural effusions. Case results No ethanol (cutoff 0.02 g/dL) or other volatile substances (cutoff 0.001 g/dL) were detected in the decedent's blood and vitreous fluid. Urine immunoassay screening produced positive results for the Roche (Indianapolis, IN) Abuscreen Online Amphetamines and Opiates assays. Confirmation testing for amphetamines failed to identify amphetamine, methamphetamine, phenylpropanolamine, pseudoephedrine, ephedrine, methylenedioxyamphetamine, and methylenedioxymethamphetamine at an limit of quantitation (LOQ) of 0.05 mg/L in urine. Opiate confirmation testing showed presence of morphine in the urine, not in the blood and negative for codeine, hydrocodone, hydromorphone, oxycodone, and oxymorphone at an LOQ of 0.05 mg/L for blood and urine. 6-Acetylmorphine was negative by immunoassay at a 10 ng/mL cutoff. A full-scan gas chromatography (GC)-mass spectrometry (MS) base screen detected promethazine, propylhexedrine, and mitragynine in his urine. The fluorescence polarization immunoassay (FPIA) for acetaminophen was positive in the urine and confirmed by color test. No other therapeutic or abused drugs were detected. Authors' Comments The autopsy findings of bilateral pulmonary edema are also consistent with other reports for propylhexedrine toxicity deaths. The combination of mitragynine with propylhexedrine may have added to the toxicity of each drug. The cause of death was ruled propylhexedrine toxicity and the manner of death was ruled accidental. A death involving abuse of propylhexedrine and mitragynine is reported. Propylhexedrine is a potent alpha-adrenergic sympathomimetic amine found in nasal decongestant inhalers. The decedent was found dead in his living quarters with no signs of physical trauma. Analysis of his computer showed information on kratom, a plant that contains mitragynine, which produces opiumlike effects at high doses and stimulant effects at low doses, and a procedure to concentrate propylhexedrine from over-the-counter inhalers. Toxicology results revealed the presence of 1.7 mg/L propylhexedrine and 0.39 mg/L mitragynine in his blood. Both drugs, as well as acetaminophen, morphine, and promethazine, were detected in the urine. Quantitative results were achieved by gas chromatography-mass spectrometry monitoring selected ions for the propylhexedrine heptafluorobutyryl derivative. Liquid chromatography-tandem mass spectrometry in multiple reactions monitoring mode was used to obtain quantitative results for mitragynine. The cause of death was ruled propylhexedrine toxicity, and the manner of death was ruled accidental. Mitragynine may have contributed as well, but as there are no published data for drug concentrations, the medical examiner did not include mitragynine toxicity in the cause of death. This is the first known publication of a case report involving propylhexedrine and mitragynine. Propylhexedrine is abused primarily by the intravenous route, although reports of oral ingestion have been described. Commonly referred to as 'stove top speed', propylhexedrine can cause headache, tremor, chest pain, palpitation, rapid respiration, dilated pupils, tachycardia, myocardial infarction, psychosis, nausea, pulmonary edema, and sudden death. One publication presented 15 cases of intravenous propylhexedrine-related deaths, including 12 that died as a result of propylhexedrine intoxication. Nine of the 12 showed toxic effects with anatomical indications of right ventricular hypertrophy and pulmonary hypertension at autopsy. Mitragynine is the main alkaloid found in the leaves of Mitragyna speciosa, a plant that is known as kratom in Thailand and biak-biak in Malaysia (8,9). Kratom contains many other indole alkaloids that are structurally related to mitragynine, including mitraphylline, speciogynine, speciociliatine, pay nantheine, ajmalicine, and 7-hydroxymitragynine. Mitragynine

Case ID: 7900650

is the major component of Mitragyna speciosa with a reported concentration as high as 6% by weight of the dried plant material and as much as 66% of the crude base. Mitragynine is ingested orally by chewing fresh leaves or by drinking a tea brewed with the substance. Mitragynine is used for its opium-like effects at high doses. At low doses, it has stimulant-like effects similar to the coca plant. Many laborers in Asia use mitragynine to combat fatigue. It can also be used for opiate withdrawal, fever reduction, analgesia, diarrhea, coughing, and hypertension. Mitragynine is reported to act on the mu-opioid receptors to elicit analgesic effects. There are no well-defined studies to show toxicity of mitragynine. It is currently not listed as a scheduled drug in the United States. Mitragynine is not the only active compound present in Mitragyna speciosa; 7-hydroxymitragynine is also active and reported to have more potent analgesic effects than mitragynine. However, it is only 0.04% by weight in the plant material. Other components of the plant and some metabolites are reported to be active as well.

Relevant Medical History:

Disease/Surgical Procedure	Start Date	End Date	Continuing?	
Medical History Product(s)	**Start Date**	**End Date**	**Indications**	**Events**
NR				

Relevant Laboratory Data:

Test Name	Result	Unit	Normal Low Range	Normal High Range	Info Avail

Concomitant Products:

#	Product Name	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date	Interval 1st Dose to Event

Reporter Source:

Study Report?: No **Sender Organization:** ROXANE **503B Compounding Outsourcing Facility?:**

Case ID: 7900650

Literature Text:

FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 10698706

Case Information:

Case Type: EXPEDITED (15-DAY) **eSub:** Y **HP:** **Country:** USA **Event Date:** **Outcomes:** DE,OT, **Application Type:** NDA

FDA Rcvd Date: 09-Jan-2015 **Mfr Rcvd Date:** 08-Jan-2015 **Mfr Control #:** US-BAYER-2014-191469 **Application #:** 999999

Patient Information:

Age: 24 YR **Sex:** Male **Weight:**

Suspect Products:

#	Product Name	Compounded Drug ?	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date
1	DIPHENHYDRAMINE HYDROCHLORIDE							
2	ETHANOL							
3	MIRTAZAPINE		15 MG/		15 mg, UNK	Depression		
4	MITRAGYNINE							
5	VENLAFAXINE		75 MG/		75 mg, UNK	Depression		

#	Product Name	Interval 1st Dose to Event	DeC	ReC	Lot#	Exp Date	NDC #	MFR/Labeler	OTC
1	DIPHENHYDRAMINE HYDROCHLORIDE		NA	NA				BAYER	Y
2	ETHANOL		NA	NA					
3	MIRTAZAPINE		NA	NA					
4	MITRAGYNINE		NA	NA					
5	VENLAFAXINE		NA	NA					

Event Information:

Preferred Term (MedDRA Version: 20.1)	ReC
Feeling cold	NA
Pulmonary congestion	NA

Case ID: 10698706

Pulmonary oedema	NA
Toxicity to various agents	NA
Unresponsive to stimuli	NA
Urinary retention	NA
Vomiting	NA

Event/Problem Narrative:

This case report from UNITED STATES was derived from medical literature on 29-DEC-2014, article entitled "Mitragynine 'Kratom' Related Fatality: A Case Report with Postmortem Concentrations". It refers to a 24-year-old male patient who's peripheral blood screening was positive for MITRAGYNINE, DIPHENHYDRAMINE, VENLAFAXINE, MIRTAZAPINE and ETHANOL. In this patient VOMITUS WAS NOTED ON THE BEDDING AND AROUND THE DECEDENTS HEAD ON THE FLOOR, he was cold and unresponsive. The autopsy finding reveled PULMONARY EDEMA, PULMONARY CONGESTION, and MODERATE URINARY RETENTION. The cause of death was reported as MIXED DRUG INTOXICATION -primarily mitragynine .

Trade name was not reported.

Case report:

The decedent was a 24 year old man whose medical history was significant for alcohol abuse and depression. He had been drinking alcohol since age 15, had several suicide attempts with pills and had been hospitalized for an accidental overdose. His mother spoke with him by phone the night before his death and he sounded fine to her and he had no complaints. Less than 1 h later a friend picked him up from his residence and described him as appearing out of it, tired and depressed. They drove to the friends residence and watched television for about an hour, and during that time the decedent reportedly consumed a glass of wine and a beer. He then took a sleeping pill and they retired to bed at approximately midnight. At 03:00 h, the friend awoke because the decedent was encroaching on his sleeping space, but could not move him and found that he was cold and unresponsive. The friend called rescuers at 03:03 h, moved the decedent to the floor and started chest compressions. Medics arrived at 03:07 h and initiated advanced resuscitative efforts. Resuscitation was unsuccessful and he was declared dead at 03:30 h. Vomitus was noted on the bedding and around the decedents head on the floor. The decedents belongings contained prescription bottles for venlafaxine (75 mg), mirtazapine (15 mg) and omeprazole (20 mg). Pill counts of the remaining medications, from the bottles collected at the scene, suggested that he had taken the amounts prescribed or even less than prescribed. A loose loperamide caplet (2 mg) was also among his possessions.

An autopsy was performed (beginning 29.5 h after death was declared) and documented pulmonary edema and congestion (950 g, right lung; 890 g, left lung), moderate urinary retention (300 mL) and no natural disease or trauma.

Case ID: 10698706

Authors comments:

The authors reported a case of a death attributed to mixed drug toxicity primarily mitragynine.

The initial screening tests confirmed and quantified ethanol (alcohol and volatile screen/quantitation), diphenhydramine and mirtazapine (alkaline drug screen). Venlafaxine and O-desmethylvenlafaxine, initially detected by the alkaline drug screen, were quantified by GC-NPD following a previously described procedure. The ELISA screen was negative.

This current case described a death resulting from the use of mitragynine while associated with the administration of other medications. Both of the antidepressants detected (venlafaxine and mirtazapine) affect the serotonergic and noradrenergic systems, and diphenhydramine (a first-generation antihistamine) is a potent antagonist to acetylcholine in muscarinic receptors. It was previously concluded that the addition of the potent m-opioid receptor agonist O-desmethyltramadol to powdered leaves from Kratom contributed to nine unintentional deaths. In reviewing all these cases, authors concur with, and reiterate, the statement recognized that: Kratom (or mitragynine) is not as harmless as is often described on Internet websites. It may exert potentially serious additive effects to numerous endogenous receptors with central nervous system depressant activity.

After a comprehensive toxicology screening, the only other compounds detected were therapeutic concentrations of venlafaxine, diphenhydramine, mirtazapine and ethanol. Based on the circumstances, autopsy findings, histology and toxicology results,the cause of death was certified due to mixed drug intoxication primarily mitragynine. Despite the detection of the other compounds
at therapeutic concentrations, they were considered to have additive toxic central nervous system effects in the presence of mitragynine and were therefore felt to have contributed toward the death.
The manner of death was certified as accident. Although the decedent had a history of suicide attempts, he also had a history of substance abuse, prior accidental overdose and no evidence of recent suicidality. Furthermore, he had available much more medicine should he have intended to overdose to die; therefore, the manner of death was classified as accident.

The central blood to peripheral blood (C/P) ratio was 0.83, and the liver to peripheral blood (L/P) ratio was 1.9 L/kg. These ratios suggest no potential for mitragynine postmortem redistribution (PMR): established on model criteria that C/P ratios ,1.0 (12), and L/P ratios ,5 L/kg indicate little to no propensity toward PMR. However, as this deduction results from a single observation, it should be viewed with caution.

The present case describes the distribution of postmortem mitragynine concentrations in a case where it was determined to contribute to death together with therapeutic concentrations of venlafaxine, diphenhydramine, mirtazapine and alcohol. First confirmed by a routine alkaline GC-MS screen, concentrations were then quantified by a specific GC-MS SIM analysis. Mitragynine is not expected to be prone to substantial PMR.

Follow-up 08-Jan-2015: The non-company co-suspect product Mitragynine was made available in the WHO drug dictionary, and is now coded as a suspect drug in the product tab of this case report. There is no change to the clinical information.

Case ID: 10698706

Relevant Medical History:

Disease/Surgical Procedure	Start Date	End Date	Continuing?
ALCOHOL ABUSE			YES
DRUG OVERDOSE ACCIDENTAL			NO
Depression			YES
SUBSTANCE ABUSE			NO
Suicide attempt			NO

Medical History Product(s)	Start Date	End Date	Indications	Events

Relevant Laboratory Data:

Test Name	Result	Unit	Normal Low Range	Normal High Range	Info Avail
Antidepressant drug level	Venlafaxine Peripheral Blood level 1.1	mg/L			N
Antidepressant drug level	Venlafaxine gastric contents less than 1 mg				N
Blood ethanol	Peripheral Blood level 0.02	g/dL			N
ELISA	ELISA (negative)				N
Drug level	Tissue distr bution of Mitragynine	mg/L			Y
Antidepressant drug level	O-Desmethylvenlafaxine Peripheral Blood level 1.6	mg/L			N
Antidepressant drug level	Mirtazapine Peripheral Blood level 0.24	mg/L			N
Drug level	Diphenhydramine Peripheral Blood	mg/L			N

Case ID: 10698706

Test Name	Result	Unit	Normal Low Range	Normal High Range	Info Avail
	level 0.45				

Concomitant Products:

#	Product Name	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date	Interval 1st Dose to Event
1	OMEPRAZOLE	20 MG/		20 mg, UNK				

Reporter Source:

Study Report?: No **Sender Organization:** BAYER **503B Compounding Outsourcing Facility?:**

Literature Text: McIntyre IM, Trochta A, Stolberg S, Campman SC. Mitragynine 'Kratom' Related Fatality: A Case Report with Postmortem Concentrations. Journal of Analytical Toxicology. 2014;0:1-4

FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 10708286

Case Information:

Case Type: EXPEDITED (15-DAY) **eSub:** Y **HP:** **Country:** USA **Event Date:** **Outcomes:** DE,OT, **Application Type:** NDA

FDA Rcvd Date: 13-Jan-2015 **Mfr Rcvd Date:** 05-Jan-2015 **Mfr Control #:** US-BAYER-2015-000978 **Application #:** 999999

Patient Information:

Age: 17 YR **Sex:** Male **Weight:**

Suspect Products:

#	Product Name	Compounded Drug ?	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date
1	DIPHENHYDRAMINE HYDROCHLORIDE							
2	MITRAGYNINE					Chronic back pain		
3	MITRAGYNINE					OPIOID ABUSE		

#	Product Name	Interval 1st Dose to Event	DeC	ReC	Lot#	Exp Date	NDC #	MFR/Labeler	OTC
1	DIPHENHYDRAMINE HYDROCHLORIDE		NA	NA				BAYER	Y
2	MITRAGYNINE		NA	NA					
3	MITRAGYNINE		NA	NA					

Event Information:

Preferred Term (MedDRA Â Version: 20.1)	ReC
Bladder dilatation	NA
Drug level increased	NA
Pulmonary congestion	NA
Pulmonary oedema	NA
Toxicity to various agents	NA
Vomiting	NA

Case ID: 10708286

Event/Problem Narrative:

This case report from UNITED STATES was derived from medical literature on 05-JAN-2015, article entitled "A Drug Fatality Involving Kratom". It refers to a 17-year-old male patient whose blood analysis at autopsy showed high concentration of KRATOM (Mitragynine), SLIGHTLY ELEVATED DIPHENHYDRAMINE CONCENTRATION, therapeutic limits of Dextromethorphan, Temazepam and 7-amino-clonazepam. In this patient A SMALL AMOUNT OF BROWN VOMITUS WAS NOTED ON THE DECEDENTS FACE AND ON THE FLOOR NEXT TO HIM. Autopsy revealed PULMONARY CONGESTION, PULMONARY EDEMA, DISTENDED BLADDER, and cause of death was reported as POSSIBLE KRATOM TOXICITY.

Trade name was not reported.

Case report:

A 17 year-old white man was found unresponsive in bed and was pronounced dead by the EMS unit. The decedent was found supine with no obvious signs of trauma. A small amount of brown vomitus was noted on the decedents face and on the floor next to him. The decedent had two backpacks that were on a nearby couch and in one of them was found the decedents medications in a ziplock bag. There was also a box of Bali Kratom. The decedent's girlfriend gave the investigation team an empty bottle of liquid Kratom that the decedent had reportedly taken the night before. These were collected and brought to the Medical Examiner's Office. An empty bottle of promethazine that was prescribed to the decedent's girlfriend was found in the living room where the decedent was found. The decedent had a well-documented history of heroin abuse and chronic back pain, felt to be possibly due to a spinal syrinx. He reportedly self-medicated with Kratom to treat both conditions. There was also a history of depression with a single poorly documented suicide attempt in the past (method and date unknown). The decedent was brought to the Medical Examiner's Office for an autopsy and full toxicology work-up.

Examination of the decedent revealed a slender adolescent male with no remarkable external findings except for some faint transverse linear scars of the ventral left wrist. The autopsy was remarkable only for pulmonary congestion and edema (1100 g combined lung weight) and a distended bladder, both of which are consistent, though not diagnostic, of opiate use. There was no evidence of traumatic injury or anatomic evidence of potentially fatal natural disease, and histologic examination of major organs was either noncontributory or simply confirmed gross autopsy impressions.

Whole blood taken from the femoral vein (peripheral source) and vitreous fluid were analyzed for alcohols, alkaline drugs, acidneutral drugs, opiates, cocaine, benzodiazepines, cannabinoids, oxycodone/oxymorphone, and fentanyl. Given the circumstances surrounding the case, mitragynine analysis was performed using liquid chromatography-tandem mass spectrometry. Briefly, the system used was an Agilent 1100 Series Liquid Chromatography coupled to an Applied Biosystems/MDS Sciex 3200 QTRAP MS/ MS utilizing a C18 analytical column. The analysis was performed in multiple reaction monitoring mode monitoring transitions 399.2/174.2 and 399.2/151.9. No other metabolites of mitragynine were looked for. The blood analysis revealed those analytes and concentrations reported in Table 1. All the levels of therapeutic drugs were within reported therapeutic limits with the exception of a slightly elevated diphenhydramine concentration.

Authors comments:

Case ID: 10708286

The cause and manner of death determination in the current case rested largely on the interpretation of the role mitragynine played in the subject's demise. In this case, no other compelling cause of death was evident on investigation and examination of the decedent. A well-established history of opioid abuse, including Kratom abuse, was present and the active compound of this substance was identified in the decedent's blood.
Other drugs found were not felt to be significantly related to death.
Autopsy findings, while nonspecific, were consistent with deaths seen with opiates or similar compounds (pulmonary congestion and edema, urinary bladder distention). The mitragynine concentration in this case appears high in comparison with other reported fatal cases of Kratom intoxication, although each of the comparison cases did have other drugs present that were felt to have caused or contributed to death. With these considerations, the Medical Examiner certified the cause of death as possible Kratom toxicity with commentary in the autopsy protocol about the rationale for this decision and the somewhat speculative nature of the conclusion, given the paucity of data on the compound. In spite of a history of a previous suicide attempt and wrist scars consistent with possible remote incised wounds, there was no evidence in the current case to suggest that the compound was taken to intentionally cause death. For that reason, the manner of death was classified as accident.

Relevant Medical History:

Disease/Surgical Procedure	Start Date	End Date	Continuing?
Chronic back pain			YES
Depression			NO
OPIOID ABUSE			NO
Spinal disorder			YES
Suicide attempt			NO

Medical History Product(s)	Start Date	End Date	Indications	Events

Relevant Laboratory Data:

Test Name	Result	Unit	Normal Low Range	Normal High Range	Info Avail
Drug level	Mitragynine was 0.60	mg/L			N
Drug level	Diphenhydramine	mg/L			N

Case ID: 10708286

Test Name	Result	Unit	Normal Low Range	Normal High Range	Info Avail
	was 0.33				
Histology	Major organs was either noncontributory or simply				Y
Anticonvulsant drug level	Temazepam was 0.21 and 7-amino-clonazepam 0.21	mg/L			N
Drug level	Dextromethorphan was 0.28	mg/L			N
Drug level	Temazepam 0,21	mg/L			N
Drug level	7-amino-clonazepam 0.21	mg/L			N

Concomitant Products:

#	Product Name	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date	Interval 1st Dose to Event
1	CLONAZEPAM							
2	DEXTROMETHORPHAN							
3	TEMAZEPAM							

Reporter Source:

Study Report?: No

Sender Organization: BAYER

503B Compounding Outsourcing Facility?:

Literature Text: Neerman, M.F., Frost, R.E., Deking, J.. A Drug Fatality Involving Kratom. Journal of forensic sciences. 2013;58 (S1):S278-S279

FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 10712257

Case Information:

Case Type: EXPEDITED (15-DAY) **eSub:** Y **HP:** **Country:** USA **Event Date:** 2013 **Outcomes:** DE,HO,OT, **Application Type:** ANDA

FDA Rcvd Date: 11-Feb-2015 **Mfr Rcvd Date:** 02-Feb-2015 **Mfr Control #:** US-PAR PHARMACEUTICAL, INC-2015SCPR009593 **Application #:** 201791

Patient Information:

Age: 36 YR **Sex:** Male **Weight:**

Suspect Products:

#	Product Name	Compounded Drug ?	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date
1	Lamotrigine			Oral	UNK, Unknown	Product used for unknown indication		
2	MITRAGYNINE			Oral	UNK, Unknown	Product used for unknown indication		
3	PAROXETINE			Oral	UNK, Unknown	Product used for unknown indication		

#	Product Name	Interval 1st Dose to Event	DeC	ReC	Lot#	Exp Date	NDC #	MFR/Labeler	OTC
1	Lamotrigine		NA	NA				PAR	
2	MITRAGYNINE		NA	NA					
3	PAROXETINE		NA	NA					

Event Information:

Preferred Term (MedDRA Version: 20.1)	ReC
Brain injury	NA
Brain stem haemorrhage	NA
Cardio-respiratory arrest	NA
Death	NA
Drug abuse	NA
Generalised tonic-clonic seizure	NA
Hypoxic-ischaemic encephalopathy	NA

Case ID: 10712257

Pulmonary embolism	NA
Pulmonary infarction	NA
Tachycardia	NA

Event/Problem Narrative:

This is case 1 out of 17 cases for lamotrigine found in the 2013 American Association of Poison Control Centers (AAPCC) toxicology report published on 06-Jan-2015.

Reference number 2015SCPR009593 is a domestic literature case report involving a human poison exposure report pertaining to a 36 year old male (Case 400 from the 2013 AAPCC toxicology report Table 21. Listing of fatal non pharmaceutical and pharmaceutical exposures) who ingested lamotrigine (Strength, dose and manufacturer unspecified) in combination with unknown dosage of mitragyna and paroxetine. The reason for exposure was intentional abuse. The chronicity of the exposure was unknown. The patient experienced generalized tonic-clonic seizure, tachycardia, cardio-respiratory arrest, anoxic brain damage, brain stem hemorrhage, pulmonary embolism, pulmonary infarct, hypoxic encephalopathy and subsequently died.

Medical history included depression, polysubstance abuse and suicidal ideation.

The patient had generalized tonic-clonic seizure and was found down at home by his family. Emergency medical service (EMS) found the patient pulseless and apneic, intubated him, and initiated approximately 30 minutes of cardiopulmonary resuscitation (CPR) in the field. The patient received epinephrine and naloxone en route. He was found with empty bottles of lamotrigine, paroxetine, and an empty packet labeled "Da Pimp Bomb" with ingredients described as pure kratom. Physical examination after return of spontaneous circulation: unresponsive on ventilator, blood pressure 106/63, heart rate 118, temperature 34.3 degree Celsius, oxygen saturation 96%. Pupils dilated but sluggishly reactive, heart tachycardic, lungs with coarse breath sounds, abdomen soft and non tender, Glasgow coma scale 3T with 1+ reflexes bilaterally and no clonus.

Laboratory data revealed sodium (Na) 143 (Reference range: 136-146), blood chloride (Cl) 104 (Reference range: 102-109 mEq/L), blood potassium (K) 3.7 (Reference range: 3.5-5 mmol/L), serum carbon dioxide (C0^2) 20 (Reference range: 22-26 mmol/L), blood creatinine (Cr) 1.3 (Reference range: 0.5-0.9 mg/dL), blood glucose (Glu) 258 (Reference range: 75-110 mg/dL), international normalized ration (INR) 1.42 (Reference range: 0.8-1.2), lactate 16 mmol/L. Serum acetaminophen and salicylate not detected. Upon arrival in the emergency department (ED), he was found to be in asystole and received sodium bicarbonate, epinephrine, magnesium, calcium chloride, lipid emulsion, and tissue plasminogen activator (TPA). After 40 minutes of cardiopulmonary resuscitation spontaneous circulation returned. Electrocardiogram (ECG) showed wide complex tachycardia with large terminal R wave in aVR that narrowed after additional sodium bicarbonate. The patient underwent a cooling protocol until day four when he underwent evaluation by neurology and critical care and was declared brain dead. The body was released for organ donation the same day.

Case ID: 10712257

Autopsy and hospitalization records were reviewed. Diagnoses included marked cerebral edema consistent with anoxic brain injury, with multifocal brainstem hemorrhage, multiple small recent pulmonary infarcts and pulmonary emboli, and recent thrombosis in prosthetic venous plexus. The autopsy revealed no other anatomic cause of death. Laboratory testing showed a qualitative positive screen for mitragynine and 7-OH mitragynine only. Cause of death was severe hypoxic encephalopathy complicating apparent mitragynine toxicity. The packet of the suspect drug was analyzed by law enforcement and found to contain only mitragynine. The manner of death is accident by the report.

Author's Comments: Lamotrigine was ranked 3 out of 3 suspect substances and was ranked third as the cause rank by the Case Review Team. In the opinion of the Case Review Team the Clinical Case Evidence suggests that the SUBSTANCES caused the death, but some reasonable doubt remained.

Follow-up call on 02-Feb-2015 to the AAPCC clarified that the date of death for the fatal exposures noted in Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures was in 2013 (exact dates not provided). The indication for all the suspect products was updated from 'recreational substance use' to 'drug use for unknown indication'.

Citation: Mowry J.B., Spyker D.A., Cantilena JR L.R., Mcmillan N., Ford M. 2013 Annual Report of the American Association of Poison Control Centers' National Poison Data System (NPDS): 31st Annual Report. Clinical Toxicology. 2014; 52 (10): 1032-1283.

Relevant Medical History:

Disease/Surgical Procedure	Start Date	End Date	Continuing?
Depression			
SUBSTANCE ABUSE			
Suicidal ideation			

Medical History Product(s)	Start Date	End Date	Indications	Events

Relevant Laboratory Data:

Test Name	Result	Unit	Normal Low Range	Normal High Range	Info Avail
Lactate	16	mmol/L			N
Body temperature	34.3	Degree Celsius			N

Case ID: 10712257

Test Name	Result	Unit	Normal Low Range	Normal High Range	Info Avail
Oxygen saturation	96	%			N

Concomitant Products:

#	Product Name	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date	Interval 1st Dose to Event

Reporter Source:

Study Report?: No **Sender Organization:** PAR **503B Compounding Outsourcing Facility?:**

Literature Text: Mowry J.B., Spyker D.A., Cantilena JR L.R., Mcmillan N., Ford M.. 2013 Annual Report of the American Association of Poison Control Centers' National Poison Data System (NPDS): 31st Annual Report. Clinical Toxicology. 2014;52 (10):1032-1283

FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 12569892

Case Information:

Case Type: EXPEDITED (15-DAY) **eSub:** Y **HP:** **Country:** NOR **Event Date:** **Outcomes:** DE,OT, **Application Type:** NDA

FDA Rcvd Date: 19-Jul-2016 **Mfr Rcvd Date:** 14-Jul-2016 **Mfr Control #:** NO-GLAXOSMITHKLINE-NO2016100965 **Application #:** 020241

Patient Information:

Age: **Sex:** Male **Weight:**

Suspect Products:

#	Product Name	Compounded Drug ?	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date
1	Lamotrigine			Unknown	UNK	Depression central nervous system		
2	CITALOPRAM HYDROBROMIDE			Unknown	UNK	Depression central nervous system		
3	Zopiclone			Unknown	UNK	Depression central nervous system		

#	Product Name	Interval 1st Dose to Event	DeC	ReC	Lot#	Exp Date	NDC #	MFR/Labeler	OTC
1	Lamotrigine		NA	NA				GLAXOSMITHKLINE	
2	CITALOPRAM HYDROBROMIDE		NA	NA					
3	Zopiclone		NA	NA				GLAXOSMITHKLINE	

Event Information:

Preferred Term (MedDRA Version: 20.1)	ReC
Accidental poisoning	NA
Arteriosclerosis coronary artery	NA
Cardiomegaly	NA
Drug therapy enhancement	NA
Pneumonia	NA
Pulmonary congestion	NA
Pulmonary oedema	NA

Scar	NA

Event/Problem Narrative:

This case was reported in a literature article and described the occurrence of accidental poisoning in a adult male patient who received lamotrigine unknown for central nervous system depression nos. (Karinen, R. An accidental poisoning with mitragynine.. Forensic Science International 2014; 245: e29-e32.)

Co-suspect products included zopiclone unknown for central nervous system depression nos and citalopram hydrobromide film-coated tablet for depression central nervous system.

The patient's past medical history included psychiatric disorder nos and substance abuse.

On an unknown date, the patient started lamotrigine (unknown) at an unknown dose and frequency, zopiclone (unknown) at an unknown dose and frequency and citalopram hydrobromide (unknown) at an unknown dose and frequency. On an unknown date, an unknown time after starting lamotrigine and zopiclone, the patient experienced accidental poisoning (serious criteria death and GSK medically significant), drug therapy enhancement (serious criteria death), heart enlarged (serious criteria death), pulmonary edema (serious criteria death and GSK medically significant), bronchopneumonia (serious criteria death and GSK medically significant), coronary atherosclerosis (serious criteria death), lung congestion (serious criteria death and GSK medically significant) and scar (serious criteria death). On an unknown date, the outcome of the accidental poisoning, drug therapy enhancement, heart enlarged, pulmonary edema, bronchopneumonia, coronary atherosclerosis, lung congestion and scar were fatal. The reported cause of death was accidental poisoning and drug therapy enhancement. An autopsy was performed. The autopsy determined cause of death was heart enlarged, pulmonary edema, bronchopneumonia, coronary atherosclerosis, lung congestion and scar.

It was unknown if the reporter considered the accidental poisoning, drug therapy enhancement, heart enlarged, pulmonary edema, bronchopneumonia, coronary atherosclerosis, lung congestion and scar to be related to lamotrigine and zopiclone.

RA Verbatim:
14-JUL-2016
The initial case was missing the following minimum criteria: unspecified drugs. Upon receipt of follow up information on 08Jul2016, this case now contains all required information to be considered valid. This is a literature report from Forensic Science International, 2014, Volume 245, pages e29-32, entitled: An accidental poisoning with mitragynine.

Case report: A middle aged man with a history of substance abuse as well as psychiatric disease was found dead in his bed. Because of his drug habit, he had been subjected to drug testing at work. In order to avoid testing positive, he had bought "Kratom" on the internet. The substance was mixed with water and ingested orally. He had commented that the most recent batch was different from, and possibly more

Case ID: 12569892

potent than, what he had received previously. The afternoon before he died, his family perceived him as unwell and clearly intoxicated and after going to bed they had heard him snoring. The following morning, he was found dead in his bed. A medicolegal autopsy was performed 3 days post mortem. The deceased was overweight (BMI 35). No injection marks were found. There were patchy areas of bronchopneumonia. Furthermore, the lungs were congested and oedematous. His heart was somewhat enlarged and a fibrotic scar was observed in the anterior wall. There was a moderate degree of coronary atherosclerosis and a stent in the left anterior descending artery. There were some superficial ulcerations in the gastric mucosa but no signs of significant blood loss. The results of the toxicological analyses are described below. The cause of death was considered to be intoxication with "Kratom", possibly in combination with the other substances detected. Pneumonia was considered to be precipitated by the intoxication and to have contributed to the fatal outcome.
Materials and methods
Analytical toxicology: Whole blood from the femoral vein and urine were collected at autopsy in 25 mL Steriline1 tubes (Bibby Sterilin, Staffordshire, UK). The sample tube contained 0.3 mL 67% (w/v) potassium fluoride solution as preservative. The post-mortem blood sample was screened for a selection of benzodiazepines, z-hypnotics, opioids, psychostimulants and THC by ultra-performance liquid chromatography tandem mass spectrometry (UPLC-MS/MS), and also for medicinal drugs including antidepressants, antipsychotics, analgesics and antiepileptics using the same technique. Screening analysis for blood ethanol was performed using a head-space gas chromatography equipped with flame ionization detector (HSGC-FID). Information from the case indicated that the deceased had taken mitragynine or other synthetic psychoactive substances. The blood sample was also analyzed by UPLC-MS/MS for a selection of psychoactive compounds, including mitragynine. The urine sample was screened by an immunological method using an AU680 instrument from Beckman Coulter (Beckman Coulter Inc., CA, USA) for a standard selection of drugs of abuse (amphetamines, barbiturates, buprenorphine, benzodiazepines, cannabis, phencyclidine, cocaine, methadone and opiates). The urine was also screened for ethanol by the same instrument using an enzymatic method (alcohol dehydrogenase).
Determination of mitragynine and 7-hydroxymitragynine: Mitragynine, 7-hydroxymitragynine and amphetamine-d11 (internal standard) were supplied by Cerilliant (Austin, TX, USA). Methanol (MeOH, HPLC-grade) and acetonitrile (ACN, far UV HPLC) were purchased from LAB-SCAN (Dublin, Ireland). GPR Grade formic acid (98%, HCOOH) and sodium chloride (NaCl) were supplied by VWR (VWR International AS, Oslo, Norway). Deionized water was obtained from a Milli-Q UF Plus water purification system (Millipore, Bedford, MA, USA). Human whole blood was supplied by the Blood Bank at Oslo University Hospital, Ullevaal, Norway and urine by the staff at the Norwegian Institute of Public Health, Division of Forensic Sciences, Oslo, Norway. Stock solutions of mitragynine and 7-hydroxymitragynine were prepared in methanol. Working standards were prepared in water containing 0.9% NaCl. Five calibration samples were prepared from whole blood spiked with working standard solutions (0.050-1.6 mg/L for mitragynine and 0.052-1.7 mg/L for 7-hydroxymitragynine). Quality control (QC) samples were prepared independently at two concentration levels (0.080 and 0.80 mg/L for mitragynine and 0.083-0.83 mg/L for 7-hydroxymitragynine). To an aliquot of 100 mL whole blood, 50 mL of internal standard solution containing amphetamine-d11 (0.7 mg/L) and 300 mL ACN/MeOH (85/15, v/v) mixture was added. The samples were immediately agitated for 1 min and thereafter put in a deep freezer for a minimum of 10 min. The samples were centrifuged at 4500 rpm (3900 ? g) for 10 min at 4 8C. 50 mL from ACN/MeOH layer was transferred to the autosampler vials and diluted with 100 mL water. The urine sample was analyzed against working standards after dilution with water, without hydrolysis. The samples were analyzed in accordance with a previously published UPLC-MS/MS method on a Waters ACQUITY UPLC system (Waters Corporation, Milford, MA, USA), applying an Acquity HSS T3-column 100 mm ? 2.1 mm I.D. (Waters Corporation, Milford, MA, USA), with an average pore size of 100 A and a particle diameter of 1.8 mm. The mobile phases consisted of A: 10 mM ammonia

Case ID: 12569892

formate buffer, pH 3.1, and B: methanol. A Waters Quattro Premier XE tandem mass spectrometer, equipped with a Z-spray electrospray interface, was used for all analyses. Positive ionization was performed in the multiple reaction monitoring (MRM) mode, with two transitions for mitragynine (399.1 greater than 174.0 and 399.1 greater than 238.0) and 7-hydroxymitragynine (415.1 greater than 190.0 and 415.1 greater than 238.0) and one transition for amphetamine-d11 (147.0 greater than 98.0). Quantification was performed with TargetLynx using MassLynx 4.1 soft-ware. The retention times were 3.34, 3.31 and 2.12 min for mitragynine, 7-hydroxymitragynine and amphetamine-d11, respectively. The calibration curves were linear with correlation coefficients greater than 0.995 for both analytes. The QC-samples (two replicates at each level) had less than 11% deviation from nominal values for both analytes. The lowest calibrator had S/N-ratios greater than 10 for all quantifier ions and S/N-ratios greater than 4 for all qualifier ions.
Toxicological findings: Routine toxicological analyses revealed zopiclone (0.043 mg/L) [Lethal level: 0.6 mg/L], citalopram (0.36 mg/L) [L: 5.0 mg/L] and lamotrigine (5.4 mg/L) [L: 50 mg/L] in post-mortem whole blood. No other compounds, including O-desmethyltramadol, of the standard analytical program were detected. Mitragynine (1.06 mg/L) and 7-hydroxymitragynine (0.15 mg/L) were found in blood after a more comprehensive analysis. In urine the concentrations of mitragynine and 7-hydroxymitragynine were 3.47 and 2.20 mg/L, respectively.
Discussion and conclusion: In this case, a high concentration of mitragynine was detected in whole blood, as well as 7-hydroxymitragynine at a lower concentration level. The concentrations of zopiclone, citalopram and lamotrigine (all CNS depressants) were within therapeutic concentration ranges. Mitragynine intoxication was assumed to be the main cause of death. As 7-hydroxymitragynine is several times more potent than mitragynine, this substance is likely to have played a major part in causing death. The concentration in our case of 1.06 mg mg/L in peripheral blood is thus higher than previously reported concentrations. The concentrations of mitragynine and 7-hydroxymitragynine in urine in our case were 3.47 and 2.20 mg/L, respectively. The post mortem concentration levels of these drugs, together with the information that the deceased used these substances on a regular basis point toward these medicinal drugs being of little significance in causing death in this case. It can however not be excluded that these drugs may have enhanced the effects of mitragynine and 7-hydroxymitragynine. Both Kronstrand et al. and Holler et al. reported findings of pulmonary edema ("heavy lungs") or pulmonary congestion. This was also found in the medicolegal autopsy in our case, and is common in opioid overdoses. The high concentrations of mitragynine and 7-hydroxymitragynine found in blood are likely to have caused death in our case, which was considered to be an accidental poisoning. Both substances should be analyzed in such cases.

Pfizer is the Marketing Authorization Holder of Citalopram Hbr in the reporter's country. This may be a duplicate report if another Marketing Authorization Holder of Citalopram Hbr has submitted the same report to the regulatory authorities.

Relevant Medical History:

Disease/Surgical Procedure	Start Date	End Date	Continuing?
Psychiatric disorder NOS			
SUBSTANCE ABUSE			

FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 12569892

Medical History Product(s)	Start Date	End Date	Indications	Events

Relevant Laboratory Data:

Test Name	Result	Unit	Normal Low Range	Normal High Range	Info Avail
Blood ethanol	unknown	unknown			N
Drug level	0.15 (7-hydroxymitragynine)	mg/L			N
Drug level	0.36 (citalopram)	mg/L			N
Drug level	3.47 (mitragynine)	mg/L			N
Drug level	2.20 (7-hydroxymitragynine)	mg/L			N
Body mass index	35	unknown			N
Drug level	not detected (O-desmethyltramadol)	mg/L			N
Drug level	5.4 (lamotrigine)	mg/L			N
Urinalysis	unknown	unknown			N
Drug level	0.043 (zopiclone)	mg/L			N
Drug screen	unknown	unknown			N
Drug level	1.06 (Mitragynine)	mg/L			N

Concomitant Products:

#	Product Name	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date	Interval 1st Dose to Event

Reporter Source:

Study Report?: No

Sender Organization: GLAXOSMITHKLINE

503B Compounding Outsourcing Facility?:

Literature Text: Karinen, R. An accidental poisoning with mitragynine.. Forensic Science International. 2014;245:e29-e32

FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 12665817

Case Information:

Case Type: EXPEDITED (15-DAY) **eSub:** Y **HP:** **Country:** USA **Event Date:** **Outcomes:** DE **Application Type:** NDA

FDA Rcvd Date: 18-Aug-2016 **Mfr Rcvd Date:** 04-Aug-2016 **Mfr Control #:** US-BION-20160374 **Application #:** 021855

Patient Information:

Age: 24 YR **Sex:** Male **Weight:**

Suspect Products:

#	Product Name	Compounded Drug ?	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date
1	Lopramide HCl Capsules			Oral				

#	Product Name	Interval 1st Dose to Event	DeC	ReC	Lot#	Exp Date	NDC #	MFR/Labeler	OTC
1	Lopramide HCl Capsules		NA	NA				BIONPHARMA	

Event Information:

Preferred Term (MedDRA Â Version: 20.1)	ReC
Cardiomegaly	NA
Drug abuse	NA

Event/Problem Narrative:

Case 12
The case report was retrieved during the weekly literature search. This was a literature case reported in United States, pertaining to a 24 years old white male. No medical/drug history provided. Concomitant medications reported at the time of the event included Tramadol and Mitragynine.

The consumer collapsed while playing basketball and could not be resuscitated. Pathologist identified cardiomegaly at autopsy.
The toxicology report ias as follows:
Tramadol < 0.25 mg/L (C)
Mitragynine < 0.050 mg/L (P)

Abstract from the article:

Case ID: 12665817

Sandra C. BF, Marc S.F, Jennifer B. et el Loperamide-Related Deaths in North Carolina, Journal of Analytical Toxicology, 2016;1-10

Abstract

Loperamide (Imodium®) has been accepted as a safe, effective, over-the-counter anti-diarrheal drug with low potential for abuse. It is a synthetic opioid that lacks central nervous system activity at prescribed doses, rendering it ineffective for abuse. Since 2012, however, the North Carolina Office of the Chief Medical Examiner has seen cases involving loperamide at supratherapeutic levels that indicate abuse. The recommended dose associated with loperamide should not exceed 16 mg per day, although users seeking an opioid-like high reportedly take it in excess of 100 mg per dose. When taken as directed, the laboratory organic base extraction screening method with gas chromatography-mass spectrometry/nitrogen phosphorus detector lacks the sensitivity to detect loperamide. When taken in excess, the screening method identifies loperamide followed by a separate technique to confirm and quantify the drug by liquid chromatography-tandem mass spectrometry. Of the 21 cases involving loperamide, the pathologist implicated the drug as either additive or primary to the cause of death in 19 cases. The mean and median peripheral blood concentrations for the drug overdose cases were 0.27 and 0.23 mg/L, respectively. Furthermore, an extensive review of the pharmacology associated with loperamide and its interaction with P-glycoprotein will be examined as it relates to the mechanism of toxicity.

Relevant Medical History:

Disease/Surgical Procedure	Start Date	End Date	Continuing?	
Medical History Product(s)	**Start Date**	**End Date**	**Indications**	**Events**

Relevant Laboratory Data:

Test Name	Result	Unit	Normal Low Range	Normal High Range	Info Avail
Toxicologic test	Tramadol < 0.25 mg/L	mg/L			N
Toxicologic test	Mitragynine < 0.050 mg/L	mg/L			N

FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 12665817

Concomitant Products:

#	Product Name	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date	Interval 1st Dose to Event
1	Mitragynine							
2	Tramadol							

Reporter Source:

Study Report?: No

Sender Organization: BIONPHARMA

503B Compounding Outsourcing Facility?:

Literature Text: Sandra C. BF, Marc S.F, Jennifer B. et el Loperamide-Related Deaths in North Carolina, Journal of Analytical Toxicology, 2016;1-10

FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 12665823

Case Information:

Case Type: EXPEDITED (15-DAY) **eSub:** Y **HP:** **Country:** USA **Event Date:** **Outcomes:** DE **Application Type:** NDA

FDA Rcvd Date: 18-Aug-2016 **Mfr Rcvd Date:** 04-Aug-2016 **Mfr Control #:** US-BION-20160382 **Application #:** 021855

Patient Information:

Age: 33 YR **Sex:** **Weight:**

Suspect Products:

#	Product Name	Compounded Drug ?	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date
1	Lopramide HCl Capsules			Oral				

#	Product Name	Interval 1st Dose to Event	DeC	ReC	Lot#	Exp Date	NDC #	MFR/Labeler	OTC
1	Lopramide HCl Capsules		NA	NA				BIONPHARMA	

Event Information:

Preferred Term (MedDRA Â Version: 20.1)	ReC
Drug abuse	NA

Event/Problem Narrative:

Case 19
The case report was retrieved during the weekly literature search. This was a literature case reported in United States, pertaining to an unknown 33 years old consumer. No medical/drug history as been provided. The concomitant medication reported was Mitragynine.

The consumer was found in bed with case 20 decedent, decomposed. Evidence found at scene indicates decedent was researching natural ways to get high. The toxicology result is as follows :
Mitragynine 0.60 mg/L, 0.68 mg/kg

Abstract from the article:

Sandra C. BF, Marc S.F, Jennifer B. et el Loperamide-Related Deaths in North Carolina, Journal of Analytical Toxicology, 2016;1-10

Abstract

Case ID: 12665823

Loperamide (Imodium®) has been accepted as a safe, effective, over-the-counter anti-diarrheal drug with low potential for abuse. It is a synthetic opioid that lacks central nervous system activity at prescribed doses, rendering it ineffective for abuse. Since 2012, however, the North Carolina Office of the Chief Medical Examiner has seen cases involving loperamide at supratherapeutic levels that indicate abuse. The recommended dose associated with loperamide should not exceed 16 mg per day, although users seeking an opioid-like high reportedly take it in excess of 100 mg per dose. When taken as directed, the laboratory organic base extraction screening method with gas chromatography-mass spectrometry/nitrogen phosphorus detector lacks the sensitivity to detect loperamide. When taken in excess, the screening method identifies loperamide followed by a separate technique to confirm and quantify the drug by liquid chromatography-tandem mass spectrometry. Of the 21 cases involving loperamide, the pathologist implicated the drug as either additive or primary to the cause of death in 19 cases. The mean and median peripheral blood concentrations for the drug overdose cases were 0.27 and 0.23 mg/L, respectively. Furthermore, an extensive review of the pharmacology associated with loperamide and its interaction with P-glycoprotein will be examined as it relates to the mechanism of toxicity.

Relevant Medical History:

Disease/Surgical Procedure	Start Date	End Date	Continuing?	
Medical History Product(s)	**Start Date**	**End Date**	**Indications**	**Events**

Relevant Laboratory Data:

Test Name	Result	Unit	Normal Low Range	Normal High Range	Info Avail
Toxicology NOS	Loperamide 0.89 mg/kg				N
Toxicology NOS	Loperamide 2.5 mg/kg				N
Toxicologic test	Mitragynine 0.60 mg/L	mg/L			N

Concomitant Products:

#	Product Name	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date	Interval 1st Dose to Event
1	Mitragynine							

Case ID: 12665823

Reporter Source:

Study Report?: No

Sender Organization: BIONPHARMA

503B Compounding Outsourcing Facility?:

Literature Text: Sandra C. BF, Marc S.F, Jennifer B. et el Loperamide-Related Deaths in North Carolina, Journal of Analytical Toxicology, 2016;1-10

Case ID: 12665824

Case Information:

Case Type: EXPEDITED (15-DAY) **eSub:** Y **HP:** **Country:** USA **Event Date:** **Outcomes:** DE **Application Type:** NDA

FDA Rcvd Date: 18-Aug-2016 **Mfr Rcvd Date:** 04-Aug-2016 **Mfr Control #:** US-BION-20160383 **Application #:** 021855

Patient Information:

Age: 37 YR **Sex:** **Weight:**

Suspect Products:

#	Product Name	Compounded Drug ?	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date
1	Lopramide HCl Capsules			Oral				

#	Product Name	Interval 1st Dose to Event	DeC	ReC	Lot#	Exp Date	NDC #	MFR/Labeler	OTC
1	Lopramide HCl Capsules		NA	NA				BIONPHARMA	

Event Information:

Preferred Term (MedDRA Â Version: 20.1)	ReC
Drug abuse	NA

Event/Problem Narrative:

Case 20
The case report was retrieved during the weekly literature search. This was a literature case reported in United States, pertaining to an unkown white consumer. No medical/drug history has been provided. The concomitant medication reported was Mitragynine.

The consumer was found in bed with case 19 decedent, decomposed.Evidence found at scene indicates decedent was researching natural ways to get high. The toxicology report was as follows:
Mitragynine 3.5 mg/kg

Abstract from the article:

Sandra C. BF, Marc S.F, Jennifer B. et el Loperamide-Related Deaths in North Carolina, Journal of Analytical Toxicology, 2016;1-10

Abstract

Case ID: 12665824

Loperamide (Imodium®) has been accepted as a safe, effective, over-the-counter anti-diarrheal drug with low potential for abuse. It is a synthetic opioid that lacks central nervous system activity at prescribed doses, rendering it ineffective for abuse. Since 2012, however, the North Carolina Office of the Chief Medical Examiner has seen cases involving loperamide at supratherapeutic levels that indicate abuse. The recommended dose associated with loperamide should not exceed 16 mg per day, although users seeking an opioid-like high reportedly take it in excess of 100 mg per dose. When taken as directed, the laboratory organic base extraction screening method with gas chromatography-mass spectrometry/nitrogen phosphorus detector lacks the sensitivity to detect loperamide. When taken in excess, the screening method identifies loperamide followed by a separate technique to confirm and quantify the drug by liquid chromatography-tandem mass spectrometry. Of the 21 cases involving loperamide, the pathologist implicated the drug as either additive or primary to the cause of death in 19 cases. The mean and median peripheral blood concentrations for the drug overdose cases were 0.27 and 0.23 mg/L, respectively. Furthermore, an extensive review of the pharmacology associated with loperamide and its interaction with P-glycoprotein will be examined as it relates to the mechanism of toxicity.

Relevant Medical History:

Disease/Surgical Procedure	Start Date	End Date	Continuing?
Medical History Product(s)	**Start Date**	**End Date**	**Indications**	**Events**

Relevant Laboratory Data:

Test Name	Result	Unit	Normal Low Range	Normal High Range	Info Avail
Toxicology NOS	Mitragynine 3.5 mg/kg				N

Concomitant Products:

#	Product Name	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date	Interval 1st Dose to Event
1	Mitragynine							

Reporter Source:

Study Report?: No **Sender Organization:** BIONPHARMA **503B Compounding Outsourcing Facility?:**

Case ID: 12665824

Literature Text: Sandra C. BF, Marc S.F, Jennifer B. et el Loperamide-Related Deaths in North Carolina, Journal of Analytical Toxicology, 2016;1-10

FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 13934406

Case Information:

Case Type: EXPEDITED (15-DAY) **eSub:** Y **HP:** **Country:** USA **Event Date:** **Outcomes:** DE, **Application Type:** NDA

FDA Rcvd Date: 05-Sep-2017 **Mfr Rcvd Date:** 28-Aug-2017 **Mfr Control #:** US-ALVOGEN-2017-ALVOGEN-093372 **Application #:** 022497

Patient Information:

Age: 21 YR **Sex:** Male **Weight:**

Suspect Products:

#	Product Name	Compounded Drug ?	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date
1	BUPROPION					Suicide		
2	3-Methoxyphencyclidine					Suicide		
3	DELORAZEPAM					Suicide		
4	ETHANOL					Suicide		
5	MITRAGYNINE					Suicide		
6	PAROXETINE					Suicide		

#	Product Name	Interval 1st Dose to Event	DeC	ReC	Lot#	Exp Date	NDC #	MFR/Labeler	OTC
1	BUPROPION		NA	NA					
2	3-Methoxyphencyclidine		NA	NA					
3	DELORAZEPAM		NA	NA					
4	ETHANOL		NA	NA					
5	MITRAGYNINE		NA	NA					
6	PAROXETINE		NA	NA					

Case ID: 13934406

Event Information:

Preferred Term (MedDRA Â Version: 20.1)	ReC
Toxicity to various agents	NA

Event/Problem Narrative:

Reference case 2017-ALVOGEN-093372-01 is a literature case report from United States retrieved by Alvogen on 28-Aug-2017, pertaining to a 21-year-old male patient, who died due to drug intoxication and post-mortem (peripheral/central) blood samples resulted positive for bupropion (1.8 mg/L), phencyclidine (3.2 mg/L of 3-MeO-PCP), ethanol (0.047 g/100 mL) delorazepam, paroxetine and mitragynine.

The patient was found unresponsive with fatal multi drug-intoxication (found naked with empty pill bottles which were believed to be antianxiety).

Whole blood samples (peripheral/central) were screened for volatiles utilizing a headspace-gas chromatography technique. An initial drug screen was performed on both whole blood and urine samples utilizing an enzyme multiplied immunoassay technique (EMIT) on an Olympus AU400 which screened for cocainemetabolite (100 ng/mL cutoff), opiate (50 ng/mL), benzodiazepine (100 ng/mL), barbiturates (100 ng/mL), cannabinoid (10 ng per mL), amphetamine (200 ng/mL), PCP (10 ng/mL), methadone (100 ng/mL) and tricyclic antidepressant (100 ng/mL) drug classes.

To confirm the EMIT results, samples were then extracted utilizing an alkaline drug extraction and ran on an Agilent gas chromatograph instrument coupled to a mass spectrometer in full scan mode as a more specific qualitative screen. Certified reference materials for both 3-MeOPCP and 4-MeO-PCP were included in order to verify that the two isomers could be separated based on their retention times. A quantitative GC-MS method was developed and validated for casework, utilizing a dynamic range of 10-1,000 ng/mL and a limit of detection of 1 ng/mL. Postmortem (peripheral/central) blood samples were analysed using this method and the resulting concentrations were 3.2 mg/L of 3-MeO-PCP, ethanol (0.047 g/100 mL) and bupropion (1.8 mg/L); delorazepam, paroxetine and mitragynine were additionally detected in the blood.

Literature reference: Mitchell-Mata C, Thomas B, Peterson B, Couper F. Two Fatal Intoxications Involving 3-Methoxyphencyclidine. J Anal Toxicol. 2017 Jul 1; 41(6):503-507.

Relevant Medical History:

Disease/Surgical Procedure	Start Date	End Date	Continuing?

FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 13934406

Medical History Product(s)	Start Date	End Date	Indications	Events

Relevant Laboratory Data:

Test Name	Result	Unit	Normal Low Range	Normal High Range	Info Avail
Drug level	3.2	mg/L			N
Drug level	1.8	mg/L			N
Ethanol	0.047	g/dL - gram/100 mL			N
Drug level	0.63	mg/L			N

Concomitant Products:

#	Product Name	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date	Interval 1st Dose to Event

Reporter Source:

Study Report?: No

Sender Organization: ALVOGEN

503B Compounding Outsourcing Facility?:

Literature Text: Mitchell-Mata C, Thomas B, Peterson B, Couper F. Two Fatal Intoxications Involving 3-Methoxyphencyclidine. J Anal Toxicol. 2017 Jul 1;41(6):503-507.

Printer: CDPEDQ5
User: STEPPERH
Date - Time: 15-Dec-2017 12:09 PM
Total Number of Cases (Non-Esub): 14
Total Number of Pages: 129
Print Job Number: 15662

Disclaimers:
Submission of a safety report does not constitute an admission that medical personnel, user facility, importer, distributor, manufacturer or product caused or contributed to the event. The information in these reports has not been scientifically or otherwise verified as to a cause and effect relationship and cannot be used to estimate the incidence of these events.

Data provided in the Quarterly Data Extract (QDE) or a FAERS FOIA report are a snapshot of FAERS at a given time. There are several reasons that a case captured in this snapshot can be marked as inactive and not show up in subsequent reports. Manufacturers are allowed to electronically delete reports they submitted if they have a valid reason for deletion. FDA may merge cases that are found to describe a single event, marking one of the duplicate reports as inactive. The data marked as inactive are not lost but may not be available under the original case number.

Processed Case Id's for Images:
8121551 8121559 8121566 8124388 8124494 8132531 12639302 12639316 12639332 12639421 12639556 12639579 12639594 14037602

Failed Case Id's for Images:

Total Failed Cases: 0

CaseID: 8121551

Individual Safety Report

7720128-8-00-01

FDA Facsimile Approval 06/23/98 (Oracle)

Mfr report # 2011MA011583

UF/Importer Report #

"+" indicates item continued

FDA Use Only

FORM FDA 3500A (10/05)

A. PATIENT INFORMATION

1. Patient Identifier	2. Age at Time of Event:	3. Sex	4. Weight
PT 4 OF 7	30 YEARS or Date of Birth:	[X] Female [ ] Male	lbs or kgs
In confidence			

B. ADVERSE EVENT OR PRODUCT PROBLEM

1. [X] Adverse Event and/or [ ] Product Problem (e.g. defects/malfunctions)

2. Outcomes Attributed to Adverse Event (Check all that apply)

- [X] Death (mm/dd/yyyy)
- [ ] Life-threatening
- [ ] Hospitalization - initial or prolonged
- [ ] Disability or Permanent Damage
- [ ] Congenital Anomaly/Birth Defect
- [X] Other Serious (Important Medical Events): Med Significant
- [ ] Required Intervention to Prevent Permanent Impairment/Damage (Devices)

3. Date of Event (mm/dd/yyyy)	4. Date of This Report (mm/dd/yyyy)
	08/23/2011

5. Describe Event or Problem

This report is based on an article by Kronstrand R, Roman M, Thelander G, Eriksson A.Unintentional fatal intoxications with mitragynine and o-desmethyltramadol from the herbal blend krypton. Journal of Analytical Toxicology 35: 242-247, No. 4, May 2011 - Sweden.

This case represents Pt. 4 of 7.

7 CASES
ALPRAZOLAM: PT #1, #7, #9
DIAZEPAM: PT #3, #5
VENLAPAXINE: PT #2, #8
Nine patients, eight of whom had a history of drug abuse, died of accidental drug intoxication. Autopsies revealed various drugs in the patients' blood [see Table 1; indications, routes, dosages and durations of treatment to reaction onsets not stated], and evidence of use of the herbal preparation Krypton.
Patient 8, who had no history of drug abuse, was admitted unconscious with asystole 2 hours after drinking tea made from Krypton [treatments not stated]. All other patients were found dead.

Additional information provided 09-Aug-2011. The patient was a 30-year-old female who was found dead at home. The cause and manner of death was deemed accidental drug intoxication. She had a previous +

6. Relevant Tests/Laboratory Data, Including Dates

Unknown dates: Significant autopsy findings were congestion of lungs and liver steatosis. Her right lung weighed 804 g, her left lung was 590 g. Both O-desmethyltramadol and mitragynine were detected in the autopsy blood sample at 0.5 µg/g and 0.04 µg/g, respectively. Other drugs in the blood at autopsy were (µg/g): fluoxetine 0.6, norfluoxetine 0.5, phenazon 19.8, olanzapine 0.2, diazepam 0.3, nordiazepam 0.3, +

7. Other Relevant History, Including Preexisting Medical Conditions
(e.g. allergies, race, pregnancy, smoking and alcohol use, hepatic/renal dysfunction, etc.)

Previous history of drug abuse.

AUG 24 2011

CDR

C. SUSPECT PRODUCT(S)

1. Name (Give labeled strength & mfr/labeler)

#1 DIAZEPAM TABLETS USP, 10 MG (PUREPAC) (DIAZEPAM)

#2 FLUOXETINE (FLUOXETINE)

2. Dose, Frequency & Route Used	3. Therapy Dates (If unknown, give duration) from/to (or best estimate)
#1 0.3 UG/G ON AUTOPSY; UNK;UNK	#1 -
#2 0.6 UG/G ON AUTOPSY; UNK;UNK	#2 -

4. Diagnosis for Use (Indication)	5. Event Abated After Use Stopped or Dose Reduced?
#1 UNKNOWN	#1 [ ] Yes [ ] No [ ] Doesn't Apply
#2 ACCIDENTAL DRUG INTOXICATION	#2 [ ] Yes [ ] No [ ] Doesn't Apply

6. Lot #	7. Exp. Date	8. Event Reappeared After Reintroduction?
#1	#1	#1 [ ] Yes [ ] No [ ] Doesn't Apply
#2	#2	#2 [ ] Yes [ ] No [ ] Doesn't Apply

9. NDC# or Unique ID

N/A

10. Concomitant Medical Products and Therapy Dates (Exclude treatment of event)

Con Meds =UNKNOWN
Prev Meds =UNKNOWN

G. ALL MANUFACTURERS

1. Contact Office - Name/Address (and Manufacturing Site for Devices)

Actavis Elizabeth LLC
Attn: Medical Affairs
60 Columbia Rd
Bldg B
Morristown, NJ 07960 USA

2. Phone Number: (908) 527-9100

3. Report Source (check all that apply)
- [X] Foreign
- [ ] Study
- [X] Literature
- [ ] Consumer
- [X] Health Professional
- [ ] User Facility
- [ ] Company Representative
- [ ] Distributor
- [ ] Other:

4. Date Received by Manufacturer (mm/dd/yyyy): 08/09/2011

5. (A)NDA # 70-707
IND #
STN #
PMA/510(k) #
Combination Product [ ] yes
Pre-1938 [ ] yes
OTC Product [ ] yes

6. If IND, Give Protocol #: N/A

7. Type of Report (check all that apply)
- [ ] 5-day [ ] 30-day
- [ ] 7-day [ ] Periodic
- [ ] 10-day [X] Initial
- [X] 15-day [ ] Follow-up #

8. Adverse Event Term(s)
Accidental overdose
Death
Pulmonary congestion
Drug toxicity
Drug screen positive
Drug abuse
Drug effect increased +

9. Manufacturer Report Number: 2011MA011583

E. INITIAL REPORTER

1. Name and Address

(b) (6)

Phone #

DSS

AUG 25 2011

2. Health Professional?	3. Occupation	4. Initial Reporter Also Sent Report to FDA
[X] Yes [ ] No	HP	[ ] Yes [ ] No [X] Unk

FDA 3500A Facsimile

Submission of a report does not constitute an admission that medical personnel, user facility, importer, distributor, manufacturer or product caused or contributed to the event.

AUG 24 2011

Individual Safety Report

7720128-8-00-02

FDA Facsimile Approval 06/23/98(Oracle)

Mfr report #	2011MA011583
UF/Importer Report #	
	FDA Use Only

FORM FDA 3500A (10/05) *(continued)*

C. SUSPECT PRODUCT(S)

1. Name *(Give labeled strength & mfr/labeler, if known)*

#3 NORFLUOXETINE (NO PREF. NAME)

#4 PHENAZON (NO PREF. NAME)

2. Dose, Frequency and Route Used	3. Therapy Dates *(If unknown, give duration) from/to (or best estimate)*
#3 0.5 UG/G ON AUTOPSY; UNK;UNK	#3 -
#4 19.8 UG/G ON AUTOPSY; UNK;UNK	#4 -

4. Diagnosis for Use *(Indication)*

#3 ACCIDENTAL DRUG INTOXICATION

#4 ACCIDENTAL DRUG INTOXICATION

6. Lot #	7. Exp. Date
#3	#3
#4	#4

5. Event Abated After Use Stopped or Dose Reduced?

#3 ☐ Yes ☐ No ☐ Doesn't Apply

#4 ☐ Yes ☐ No ☐ Doesn't Apply

8. Event Reappeared After Reintroduction

#3 ☐ Yes ☐ No ☐ Doesn't Apply

#4 ☐ Yes ☐ No ☐ Doesn't Apply

DSS

AUG 25 2011

AUG 2 4 2011

Individual Safety Report

7720128-8-00-03

FDA Facsimile Approval 06/23/98(Oracle)

Mfr report #	2011MA011583
UF/Importer Report #	
	FDA Use Only

C. SUSPECT PRODUCT(S)

1. Name *(Give labeled strength & mfr/labeler, if known)*

#5 OLANZAPINE (OLANZAPINE)

#6 NORDIAZEPAM (NO PREF. NAME)

	2. Dose, Frequency and Route Used	3. Therapy Dates (If unknown, give duration) from/to (or best estimate)
#5	0.2 UG/G ON AUTOPSY; UNK;UNK	#5 -
#6	0.3 UG/G ON AUTOPSY; UNK;UNK	#6 -

	4. Diagnosis for Use (Indication)	5. Event Abated After Use Stopped or Dose Reduced?	6. Lot #	7. Exp. Date	8. Event Reappeared After Reintroduction
#5	ACCIDENTAL DRUG INTOXICATION	#5 ☐ Yes ☐ No ☐ Doesn't Apply	#5	#5	#5 ☐ Yes ☐ No ☐ Doesn't Apply
#6	ACCIDENTAL DRUG INTOXICATION	#6 ☒ Yes ☐ No ☐ Doesn't Apply	#6	#6	#6 ☒ Yes ☐ No ☐ Doesn't Apply

DSS

AUG 25 2011

AUG 2 4 2011

Individual Safety Report

7720128-8-00-04

FDA Facsimile Approval 06/23/98(Oracle)

Mfr report #	2011MA011583
UF/Importer Report #	
	FDA Use Only

C. SUSPECT PRODUCT(S)

1. Name *(Give labeled strength & mfr/labeler, if known)*

#7 PREGABALIN (PREGABALIN)

#8 AMPHETAMINE (NO PREF. NAME)

	2. Dose, Frequency and Route Used	3. Therapy Dates *(If unknown, give duration) from/to (or best estimate)*
#7	5.0 UG/G ON AUTOPSY; UNK;UNK	#7 -
#8	0.04 UG/G ON AUTOPSY; UNK;UNK	#8 -

4. Diagnosis for Use *(Indication)*

#7 ACCIDENTAL DRUG INTOXICATION

#8 ACCIDENTAL DRUG INTOXICATION

5. Event Abated After Use Stopped or Dose Reduced?

#7 ☐ Yes ☐ No ☐ Doesn't Apply

#8 ☐ Yes ☐ No ☐ Doesn't Apply

	6. Lot #	7. Exp. Date
#7		#7
#8		#8

8. Event Reappeared After Reintroduction

#7 ☐ Yes ☐ No ☐ Doesn't Apply

#8 ☐ Yes ☐ No ☐ Doesn't Apply

DSS

AUG 25 2011

AUG 2 4 2011

Individual Safety Report

7720128-8-00-05

FDA Facsimile Approval 06/23/98(Oracle)

Mfr report #	2011MA011583
UF/Importer Report #	
	FDA Use Only

C. SUSPECT PRODUCT(S)

1. Name *(Give labeled strength & mfr/labeler, if known)*

#9 0-DMT (NO PREF. NAME)

#10 MITRAGYNINE (NO PREF. NAME)

2. Dose, Frequency and Route Used	3. Therapy Dates *(If unknown, give duration) from/to (or best estimate)*
#9 0.5 UG/G ON AUTOPSY; UNK;UNK	#9 -
#10 0.04 UG/G ON AUTOPSY; UNK;UNK	#10 -

4. Diagnosis for Use *(Indication)*

#9 ACCIDENTAL DRUG INTOXICATION

#10 ACCIDENTAL DRUG INTOXICATION

5. Event Abated After Use Stopped or Dose Reduced?

#9 ☐ Yes ☐ No ☐ Doesn't Apply

#10 ☐ Yes ☐ No ☐ Doesn't Apply

6. Lot #	7. Exp. Date
#9	#9
#10	#10

8. Event Reappeared After Reintroduction

#9 ☐ Yes ☐ No ☐ Doesn't Apply

#10 ☐ Yes ☐ No ☐ Doesn't Apply

DSS

AUG 25 2011

AUG 2 4 2011

Individual Safety Report

7720128-8-00-06

- Mfr. report # 2011MA011583

B5. Describe Event or Problem - Continued

history of drug abuse. Significant autopsy findings were congestion of lungs and liver steatosis. Her right lung weighed 804 g, her left lung was 590 g. Both O-desmethyltramadol and mitragynine were detected in the autopsy blood sample at 0.5 µg/g and 0.04 µg/g, respectively. Other drugs in the blood at autopsy were (µg/g): fluoxetine 0.6, norfluoxetine 0.5, phenazon 19.8, olanzapine 0.2, diazepam 0.3, nordiazepam 0.3, pregabalin 5.0, and amphetamine 0.04. Considering the higher potency of O-desmethyltramadol, the concentration in the reported cases seems to be in the high range, suggesting overdose. None of the cases presented with tramadol in the blood, indicating that O-desmethyltramadol was not present as a metabolite but was the ingested drug. Several other psychotropic drugs were detected in each victim and could have contributed to the death. This case was one of 9 total cases where poisoning with O-desmethyltramadol emerged. The finding of heavy lungs in all cases but one points towards respiratory depression and opiate overdose or a combination of O-desmethyl-tramadol and other drugs.
Medical history includes a previous history of drug abuse.

B6. Relevant Tests/Laboratory Data - Continued

pregabalin 5.0, and amphetamine 0.04.

G8. Adverse event term(s) - Continued

Hepatic steatosis

Individual Safety Report

7720129-X-00-01

FDA Facsimile Approval 06/23/98 (Oracle)

Mfr report # 2011MA011587

UF/Importer Report #

"+" indicates item continued

FDA Use Only

A. PATIENT INFORMATION

1. Patient Identifier	2. Age at Time of Event:	3. Sex	4. Weight
PT 7 OF 7	25 YEARS	[X] Female	lbs
In confidence	or Date of Birth:	[ ] Male	or kgs

B. ADVERSE EVENT OR PRODUCT PROBLEM

1. [X] Adverse Event and/or [ ] Product Problem (e.g. defects/malfunctions)

2. Outcomes Attributed to Adverse Event (Check all that apply)

- [X] Death (mm/dd/yyyy)
- [X] Life-threatening
- [X] Hospitalization - initial or prolonged
- [ ] Disability or Permanent Damage
- [ ] Congenital Anomaly/Birth Defect
- [ ] Other Serious (Important Medical Events)
- [ ] Required Intervention to Prevent Permanent Impairment/Damage (Devices)

3. Date of Event (mm/dd/yyyy)	4. Date of This Report (mm/dd/yyyy)
	08/22/2011

5. Describe Event or Problem

This report is based on an article by Kronstrand R, Roman M, Thelander G, Eriksson A.Unintentional fatal intoxications with mitragynine and o-desmethyltramadol from the herbal blend krypton. Journal of Analytical Toxicology 35: 242-247, No. 4, May 2011 - Sweden.

This case represents Pt. 7 of 7.

7 CASES
ALPRAZOLAM: PT #1, #7, #9
DIAZEPAM: PT #3, #5
VENLAFAXINE: PT #2, #8
Nine patients, eight of whom had a history of drug abuse, died of accidental drug intoxication. Autopsies revealed various drugs in the patients' blood [see Table 1; indications, routes, dosages and durations of treatment to reaction onsets not stated], and evidence of use of the herbal preparation Krypton. Patient 8, who had no history of drug abuse, was admitted unconscious with asystole 2 hours after drinking tea made from Krypton [treatments not stated]. All other patients were found dead.

Additional information provided 09-Aug-2011. The patient was a 25-year-old female who was admitted to the hospital, unconscious with asystole for 2 hours after drinking tea made from Krypton. Significant +

6. Relevant Tests/Laboratory Data, Including Dates

Unknown dates: Significant autopsy findings were congestion of the lungs; the right lung weighed 620 g, the left was 410 g. Both O-desmethyltramadol and mitragynine were detected in the autopsy blood sample at 0.8 µg/g and 0.02 µg/g, respectively. Other drugs in the blood at autopsy were (µg/g): 1.0 venlafaxine, 1.1 O-DMV, and 0.06 zopiclone.

7. Other Relevant History,Including Preexisting Medical Conditions
(e.g. allergies, race, pregnancy, smoking and alcohol use, hepatic/renal dysfunction, etc.)

UNKNOWN.

C. SUSPECT PRODUCT(S)

1. Name (Give labeled strength & mfr/labeler)

#1 VENLAFAXINE HYDROCHLORIDE TABLETS, 100MG (ATLLC) (VENLAFAXINE)

#2 O-DMV (NO PREF. NAME)

2. Dose, Frequency & Route Used	3. Therapy Dates (if unknown, give duration) from/to (or best estimate)
#1 1.0 UG/G ON AUTOPSY; UNK; UNK	#1 -
#2 1.1 UG/G ON AUTOPSY; UNK; UNK	#2 -

4. Diagnosis for Use (Indication)

#1 UNKNOWN

#2 ACCIDENTAL DRUG INTOXICATION

5. Event Abated After Use Stopped or Dose Reduced?

#1 [ ] Yes [ ] No [ ] Doesn't Apply

#2 [ ] Yes [ ] No [ ] Doesn't Apply

6. Lot #	7. Exp. Date
#1	#1
#2	#2

8. Event Reappeared After Reintroduction?

#1 [ ] Yes [ ] No [ ] Doesn't Apply

#2 [ ] Yes [ ] No [ ] Doesn't Apply

9. NDC# or Unique ID

N/A

10. Concomitant Medical Products and Therapy Dates (Exclude treatment of event)

Con Meds =UNKNOWN
Prev Meds =UNKNOWN

G. ALL MANUFACTURERS

1. Contact Office - Name/Address (and Manufacturing Site for Devices)

Actavis Totowa LLC
Attn: Medical Affairs
60 Columbia Rd
Bldg B
Morristown, NJ 07960 USA

2. Phone Number: (908) 527-9100

3. Report Source (check all that apply)

- [X] Foreign
- [ ] Study
- [X] Literature
- [ ] Consumer
- [X] Health Professional
- [ ] User Facility
- [ ] Company Representative
- [ ] Distributor
- [ ] Other:

4. Date Received by Manufacturer (mm/dd/yyyy): 08/09/2011

5. (A)NDA # 78-554
IND #
STN #
PMA/510(k) #
Combination Product [ ] yes
Pre-1938 [ ] yes
OTC Product [ ] yes

6. If IND, Give Protocol #: N/A

7. Type of Report (check all that apply)

- [ ] 5-day
- [ ] 30-day
- [ ] 7-day
- [ ] Periodic
- [ ] 10-day
- [X] Initial
- [X] 15-day
- [ ] Follow-up #

8. Adverse Event Term(s)

Accidental overdose
Death
Pulmonary congestion
Drug toxicity
Drug screen positive
Drug abuse
Drug effect increased +

9. Manufacturer Report Number: 2011MA011587

E. INITIAL REPORTER

1. Name and Address

(b) (6)

Phone #

SS

AUG 25 2011

2. Health Professional?	3. Occupation	4. Initial Reporter Also Sent Report to FDA
[X] Yes [ ] No	HP	[ ] Yes [ ] No [X] Unk

FDA 3500A Facsimile

Submission of a report does not constitute an admission that medical personnel, user facility, importer, distributor, manufacturer or product caused or contributed to the event.

AUG 24 2011

Individual Safety Report

7720129-X-00-02

FDA Facsimile Approval 06/23/98(Oracle)

Mfr report #	2011MA011587
UF/Importer Report #	
	FDA Use Only

FORM FDA 3500A (10/05) *(continued)*

C. SUSPECT PRODUCT(S)

1. Name *(Give labeled strength & mfr/labeler, if known)*

#3 ZOPICLONE (ZOPICLONE)

#4 O-DESMETHYLTRAMADOL (NO PREF. NAME)

2. Dose, Frequency and Route Used	3. Therapy Dates *(If unknown, give duration) from/to (or best estimate)*
#3 0.06 UG/G ON AUTOPSY; UNK;UNK	#3 -
#4 0.8 UG/G ON AUTOPSY; UNK;UNK	#4 -

4. Diagnosis for Use *(Indication)*

#3 ACCIDENTAL DRUG INTOXICATION

#4 ACCIDENTAL DRUG INTOXICATION

5. Event Abated After Use Stopped or Dose Reduced?

#3 ☐ Yes ☐ No ☐ Doesn't Apply

#4 ☐ Yes ☐ No ☐ Doesn't Apply

6. Lot #	7. Exp. Date
#3	#3
#4	#4

8. Event Reappeared After Reintroduction

#3 ☐ Yes ☐ No ☐ Doesn't Apply

#4 ☐ Yes ☐ No ☐ Doesn't Apply

DSS

AUG 25 2011

AUG 24 2011

Individual Safety Report

7720129-X-00-03

FORM FDA 3500A (10/05) *(continued)*

FDA Facsimile Approval 06/23/98(Oracle)

Mfr report #	2011MA011587
UF/Importer Report #	
	FDA Use Only

C. SUSPECT PRODUCT(S)

1. Name *(Give labeled strength & mfr/labeler, if known)*
#5 MITRAGYNINE (NO PREF. NAME)

2. Dose, Frequency and Route Used
#5 0.02 UG/G ON AUTOPSY; UNK;UNK

3. Therapy Dates *(If unknown, give duration) from/to (or best estimate)*
#5 -

4. Diagnosis for Use *(Indication)*
#5 ACCIDENTAL DRUG INTOXICATION

5. Event Abated After Use Stopped or Dose Reduced?
#5 ☐ Yes ☐ No ☐ Doesn't Apply

☐ Yes ☐ No ☐ Doesn't Apply

6. Lot #
#5

7. Exp. Date
#5

8. Event Reappeared After Reintroduction
#5 ☐ Yes ☐ No ☐ Doesn't Apply

☐ Yes ☐ No ☐ Doesn't Apply

DSS

AUG 25 2011

AUG 2 4 2011

Individual Safety Report

7720129-X-00-04

- Mfr. report # 2011MA011587

B5. Describe Event or Problem - Continued

autopsy findings were congestion of the lungs; the right lung weighed 620 g, the left was 410 g. The cause and manner of death was deemed accidental drug intoxication. Both O-desmethyltramadol and mitragynine were detected in the autopsy blood sample at 0.8 µg/g and 0.02 µg/g, respectively. Other drugs in the blood at autopsy were (µg/g): 1.0 venlafaxine, 1.1 O-DMV, and 0.06 zopiclone. Considering the higher potency of O-desmethyltramadol, the concentration in the reported cases seems to be in the high range, suggesting overdose. None of the cases presented with tramadol in the blood, indicating that O-desmethyltramadol was not present as a metabolite but was the ingested drug. Several other psychotropic drugs were detected in each victim and could have contributed to the death. This case was one of 9 total cases where poisoning with O-desmethyltramadol emerged. The finding of heavy lungs in all cases but one points towards respiratory depression and opiate overdose or a combination of O-desmethyl-tramadol and other drugs.

G8. Adverse event term(s) - Continued

Cardiac arrest

CaseID: 8121566

Individual Safety Report

7720132-X-00-01

FDA Facsimile Approval 06/23/98(Oracle)

Mfr report # 2011MA011586

UF/Importer Report #

"+" indicates item continued

FDA Use Only

A. PATIENT INFORMATION

1. Patient Identifier	2. Age at Time of Event:	3. Sex	4. Weight
PT 6 OF 7	35 YEARS	☐ Female	lbs
In confidence	or Date of Birth:	☒ Male	or kgs

B. ADVERSE EVENT OR PRODUCT PROBLEM

1. ☒ Adverse Event and/or ☐ Product Problem (e.g. defects/malfunctions)

2. Outcomes Attributed to Adverse Event (Check all that apply)

- ☒ Death (mm/dd/yyyy)
- ☐ Life-threatening
- ☐ Hospitalization - initial or prolonged
- ☐ Disability or Permanent Damage
- ☐ Congenital Anomaly/Birth Defect
- ☒ Other Serious (Important Medical Events): Med Significant
- ☐ Required Intervention to Prevent Permanent Impairment/Damage (Devices)

3. Date of Event (mm/dd/yyyy):

4. Date of This Report (mm/dd/yyyy): 08/22/2011

5. Describe Event or Problem

This report is based on an article by Kronstrand R, Roman M, Thelander G, Eriksson A.Unintentional fatal intoxications with mitragynine and o-desmethyltramadol from the herbal blend krypton. Journal of Analytical Toxicology 35: 242-247, No. 4, May 2011 - Sweden.

This case represents Pt. 6 of 7.

7 CASES
ALPRAZOLAM: PT #1, #7, #9
DIAZEPAM: PT #3, #5
VENLAFAXINE: PT #2, #8
Nine patients, eight of whom had a history of drug abuse, died of accidental drug intoxication. Autopsies revealed various drugs in the patients' blood [see Table 1; indications, routes, dosages and durations of treatment to reaction onsets not stated], and evidence of use of the herbal preparation Krypton.
Patient 8, who had no history of drug abuse, was admitted unconscious with asystole 2 hours after drinking tea made from Krypton [treatments not stated]. All other patients were found dead.

Additional information provided 09-Aug-2011. The patient was a 35-year-old male who was found dead in his mother's home. He had a previous history of drug abuse. The cause and manner of death was deemed +

6. Relevant Tests/Laboratory Data, including Dates

Unknown dates: Significant autopsy findings were edema and congestion of the lungs; his right lung weighed 804 g and his left was 722 g. Both O-desmethyltramadol and mitragynine were detected in the autopsy blood sample at 0.7 µg/g and 0.17 µg/g, respectively. The following drugs were also detected in the blood (µg/g): alimemazine 0.3, DMA 0.1, venlafaxine 0.7, and O-DMV 0.1. +

7. Other Relevant History,Including Preexisting Medical Conditions
(e.g. allergies, race, pregnancy, smoking and alcohol use, hepatic/renal dysfunction, etc.)

Previous history of drug abuse.

AUG 24 2011

CDR

C. SUSPECT PRODUCT(S)

1. Name (Give labeled strength & mfr/labeler)
#1 VENLAFAXINE HYDROCHLORIDE TABLETS, 100MG (ATLLC) (VENLAFAXINE)
#2 ALIMEMAZINE (ALIMEMAZINE)

2. Dose, Frequency & Route Used
#1 0.7 UG/G ON AUTOPSY; UNK;UNK
#2 0.3 UG/G ON AUTOPSY; UNK;UNK

3. Therapy Dates (if unknown, give duration) from/to (or best estimate)
#1 –
#2 –

4. Diagnosis for Use (Indication)
#1 UNKNOWN
#2 ACCIDENTAL DRUG INTOXICATION

5. Event Abated After Use Stopped or Dose Reduced?
#1 ☐ Yes ☐ No ☐ Doesn't Apply
#2 ☐ Yes ☐ No ☐ Doesn't Apply

6. Lot #
#1
#2

7. Exp. Date
#1
#2

8. Event Reappeared After Reintroduction?
#1 ☐ Yes ☐ No ☐ Doesn't Apply
#2 ☐ Yes ☐ No ☐ Doesn't Apply

9. NDC# or Unique ID
N/A

10. Concomitant Medical Products and Therapy Dates (Exclude treatment of event)
Con Meds =UNKNOWN
Prev Meds =UNKNOWN

G. ALL MANUFACTURERS

1. Contact Office - Name/Address (and Manufacturing Site for Devices)
Actavis Totowa LLC
Attn: Medical Affairs
60 Columbia Rd
Bldg B
Morristown, NJ 07960 USA

2. Phone Number: (908) 527-9100

3. Report Source (check all that apply)
☒ Foreign
☐ Study
☒ Literature
☐ Consumer
☒ Health Professional
☐ User Facility
☐ Company Representative
☐ Distributor
☐ Other:

4. Date Received by Manufacturer (mm/dd/yyyy): 08/09/2011

5. (A)NDA # 78-554
IND #
STN #
PMA/510(k) #
Combination Product ☐ yes
Pre-1938 ☐ yes
OTC Product ☐ yes

6. If IND, Give Protocol #: N/A

7. Type of Report (check all that apply)
☐ 5-day ☐ 30-day
☐ 7-day ☐ Periodic
☐ 10-day ☒ Initial
☒ 15-day ☐ Follow-up #

8. Adverse Event Term(s)
Accidental overdose
Death
Pulmonary congestion
Drug toxicity
Drug screen positive
Drug abuse
Drug effect increased +

9. Manufacturer Report Number: 2011MA011586

E. INITIAL REPORTER

1. Name and Address (j) (6)

Phone #

AUG 25 2011

2. Health Professional? ☒ Yes ☐ No

3. Occupation: HP

4. Initial Reporter Also Sent Report to FDA ☐ Yes ☐ No ☒ Unk

FDA 3500A Facsimile

Submission of a report does not constitute an admission that medical personnel, user facility, importer, distributor, manufacturer or product caused or contributed to the event.

AUG 24 2011

Individual Safety Report

7720132-X-00-02

FDA Facsimile Approval 06/23/98(Oracle)

Mfr report #	2011MA011586
UF/Importer Report #	
	FDA Use Only

FORM FDA 3500A (10/05) *(continued)*

C. SUSPECT PRODUCT(S)

1. Name *(Give labeled strength & mfr/labeler, if known)*

#3 DMA (NO PREF. NAME)

#4 0-DMV (NO PREF. NAME)

2. Dose, Frequency and Route Used	3. Therapy Dates *(If unknown, give duration) from/to (or best estimate)*
#3 0.1 UG/G;UNK;UNK	#3 -
#4 0.1 UG/G ON AUTOPSY; UNK;UNK	#4 -

4. Diagnosis for Use *(Indication)*

#3 ACCIDENTAL DRUG INTOXICATION

#4 ACCIDENTAL DRUG INTOXICATION

5. Event Abated After Use Stopped or Dose Reduced?

#3 ☐ Yes ☐ No ☐ Doesn't Apply

#4 ☐ Yes ☐ No ☐ Doesn't Apply

6. Lot #	7. Exp. Date
#3	#3
#4	#4

8. Event Reappeared After Reintroduction

#3 ☐ Yes ☐ No ☐ Doesn't Apply

#4 ☐ Yes ☐ No ☐ Doesn't Apply

DSS

AUG 25 2011

AUG 24 2011

Individual Safety Report

7720132-X-00-03

FDA Facsimile Approval 06/23/98(Oracle)

Mfr report #	2011MA011586
UF/Importer Report #	
	FDA Use Only

FORM FDA 3500A (10/05) *(continued)*

C. SUSPECT PRODUCT(S)

1. Name *(Give labeled strength & mfr/labeler, if known)*

#5 O-DMT (NO PREF. NAME)

#6 MITRAGYNINE (NO PREF. NAME)

	2. Dose, Frequency and Route Used	3. Therapy Dates *(If unknown, give duration) from/to (or best estimate)*
#5	0.7 UG/G ON AUTOPSY; UNK;UNK	#5 -
#6	0.16 UG/G ON AUTOPSY; UNK;UNK	#6 -

	4. Diagnosis for Use *(Indication)*	5. Event Abated After Use Stopped or Dose Reduced?
#5	ACCIDENTAL DRUG INTOXICATION	#5 ☐ Yes ☐ No ☐ Doesn't Apply
#6	ACCIDENTAL DRUG INTOXICATION	#6 ☐ Yes ☐ No ☐ Doesn't Apply

	6. Lot #	7. Exp. Date	8. Event Reappeared After Reintroduction
#5		#5	#5 ☐ Yes ☐ No ☐ Doesn't Apply
#6		#6	#6 ☐ Yes ☐ No ☐ Doesn't Apply

DSS

AUG 25 2011

AUG 2 4 2011

Individual Safety Report

7720132-X-00-04

- Mfr. report # 2011MA011586

B5. Describe Event or Problem - Continued

accidental drug intoxication. Significant autopsy findings were edema and congestion of the lungs; his right lung weighed 804 g and his left was 722 g. Both O-desmethyltramadol and mitragynine were detected in the autopsy blood sample at 0.7 µg/g and 0.17 µg/g, respectively. The following drugs were also detected in the blood (µg/g): alimemazine 0.3, DMA 0.1, venlafaxine 0.7, and O-DMV 0.1. Considering the higher potency of O-desmethyltramadol, the concentration in the reported cases seems to be in the high range, suggesting overdose. None of the cases presented with tramadol in the blood, indicating that O-desmethyltramadol was not present as a metabolite but was the ingested drug. Several other psychotropic drugs were detected in each victim and could have contribu-ted to the death. This case was one of 9 total cases where poisoning with O-desmethyltramadol emerged. The finding of heavy lungs in all cases but one points towards respiratory depression and opiate overdose or a combination of O-desmethyl-tramadol and other drugs.
Medical history includes a previous history of drug abuse.

B6. Relevant Tests/Laboratory Data - Continued

G8. Adverse event term(s) - Continued

Pulmonary oedema

Individual Safety Report

7721621-4-00-01

FDA Facsimile Approval 06/23/98 (Oracle)

Mfr report # 2011MA011581

UF/Importer Report #

"+" indicates item continued

FDA Use Only

A. PATIENT INFORMATION

1. Patient Identifier	2. Age at Time of Event:	3. Sex	4. Weight
PT 7 OF 7 In confidence	24 YEARS or Date of Birth:	[ ] Female [X] Male	lbs or kgs

B. ADVERSE EVENT OR PRODUCT PROBLEM

1. [X] Adverse Event and/or [ ] Product Problem (e.g. defects/malfunctions)

2. Outcomes Attributed to Adverse Event (Check all that apply)

- [X] Death (mm/dd/yyyy)
- [ ] Life-threatening
- [ ] Hospitalization - initial or prolonged
- [ ] Disability or Permanent Damage
- [ ] Congenital Anomaly/Birth Defect
- [X] Other Serious (Important Medical Events): Med Significant
- [ ] Required Intervention to Prevent Permanent Impairment/Damage (Devices)

3. Date of Event (mm/dd/yyyy)	4. Date of This Report (mm/dd/yyyy)
	08/23/2011

5. Describe Event or Problem

This report is based on an article by Kronstrand R, Roman M, Thelander G, Eriksson A.Unintentional fatal intoxications with mitragynine and o-desmethyltramadol from the herbal blend krypton. Journal of Analytical Toxicology 35: 242-247, No. 4, May 2011 -Sweden.

This case represents Pt 7 of 7.

7 CASES
ALPRAZOLAM: PT #1, #7, #9
DIAZEPAM: PT #3, #5
VENLAFAXINE: PT #2, #8
Nine patients, eight of whom had a history of drug abuse, died of accidental drug intoxication. Autopsies revealed various drugs in the patients' blood [see Table 1; indications, routes, dosages and durations of treatment to reaction onsets not stated], and evidence of use of the herbal preparation Krypton.
Patient 8, who had no history of drug abuse, was admitted unconscious with asystole 2 hours after drinking tea made from Krypton [treatments not stated]. All other patients were found dead.

Additional information provided 09-Aug-2011. The patient was a 24-year-old male who was found dead in a friend's home. He had a previous history of drug abuse. The cause and manner of death was deemed accidental

+

6. Relevant Tests/Laboratory Data, Including Dates

Unknown dates: Significant autopsy findings were brain edema and congestion of the lungs. His right and left lungs together weighed 1456 g. Both O-desmethyltramadol and mitragynine were detected in the autopsy blood sample at 1.1 µg/g and 0.03 µg/g, respectively. Other drugs in the blood at autopsy were (µg/g): alprazolam 0.14, amphetamine 0.20, and THC 0.0006.

+

7. Other Relevant History, Including Preexisting Medical Conditions
(e.g. allergies, race, pregnancy, smoking and alcohol use, hepatic/renal dysfunction, etc.)

Previous history of drug abuse.

C. SUSPECT PRODUCT(S)

	1. Name (Give labeled strength & mfr/labeler)	2. Dose, Frequency & Route Used	3. Therapy Dates (if unknown, give duration) from/to (or best estimate)
#1	ALPRAZOLAM EXTENTED-RELEASE TABLETS, 3 MG (AELLC) (ALPRAZOLAM)	0.14 UG/G AT AUTOPSY; UNK;UNK	-
#2	O-DESMETHYLTRAMADOL (NO PREF. NAME)	1.1 UG/G;UNK;UNK	-

	4. Diagnosis for Use (Indication)	5. Event Abated After Use Stopped or Dose Reduced?	6. Lot #	7. Exp. Date	8. Event Reappeared After Reintroduction?
#1	UNKNOWN	Doesn't Apply			Doesn't Apply
#2	ACCIDENTAL DRUG OVERDOSE	Doesn't Apply			Doesn't Apply

9. NDC# or Unique ID: N/A

10. Concomitant Medical Products and Therapy Dates (Exclude treatment of event)
Con Meds =UNKNOWN
Prev Meds =UNKNOWN

G. ALL MANUFACTURERS

1. Contact Office - Name/Address (and Manufacturing Site for Devices)
Actavis Elizabeth LLC
Attn: Medical Affairs
60 Columbia Rd
Bldg B
Morristown, NJ 07960 USA

2. Phone Number: (908) 527-9100

3. Report Source (check all that apply)
- [X] Foreign
- [ ] Study
- [X] Literature
- [ ] Consumer
- [X] Health Professional
- [ ] User Facility
- [ ] Company Representative
- [ ] Distributor
- [ ] Other:

4. Date Received by Manufacturer (mm/dd/yyyy): 08/09/2011

5. (A)NDA # 78-056
IND #
STN #
PMA/510(k) #
Combination Product [ ] yes
Pre-1938 [ ] yes
OTC Product [ ] yes

6. If IND, Give Protocol #: N/A

7. Type of Report (check all that apply)
- [ ] 5-day
- [ ] 30-day
- [ ] 7-day
- [ ] Periodic
- [ ] 10-day
- [X] Initial
- [X] 15-day
- [ ] Follow-up #

8. Adverse Event Term(s)
Accidental overdose
Death
Pulmonary congestion
Drug toxicity
Drug screen positive
Drug abuse
Drug effect increased
+

9. Manufacturer Report Number: 2011MA011581

E. INITIAL REPORTER

1. Name and Address: (b) (6)

Phone #

2. Health Professional? [X] Yes [ ] No

3. Occupation: HP

4. Initial Reporter Also Sent Report to FDA? [ ] Yes [ ] No [X] Unk

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AUG 25 2011

FDA
3500A Facsimile

Submission of a report does not constitute an admission that medical personnel, user facility, importer, distributor, manufacturer or product caused or contributed to the event.

Individual Safety Report

7721621-4-00-02

FDA Facsimile Approval 06/23/98(Oracle)

Mfr report #	2011MA011581
UF/Importer Report #	
	FDA Use Only

FORM FDA 3500A (10/05) *(continued)*

C. SUSPECT PRODUCT(S)

1. Name *(Give labeled strength & mfr/labeler, if known)*

#3 MITRAGYNINE (NO PREF. NAME)

#4 AMPHETAMINE (NO PREF. NAME)

2. Dose, Frequency and Route Used	3. Therapy Dates (If unknown, give duration) from/to (or best estimate)
#3 0.03 UG/G;UNK;UNK	#3 -
#4 0.20 UG/G;UNK;UNK	#4 -

4. Diagnosis for Use (Indication)	5. Event Abated After Use Stopped or Dose Reduced?
#3 ACCIDENTAL DRUG OVERDOSE	#3 ☐ Yes ☐ No ☐ Doesn't Apply
#4 ACCIDENTAL DRUG OVERDOSE	#4 ☐ Yes ☐ No ☐ Doesn't Apply

6. Lot #	7. Exp. Date	8. Event Reappeared After Reintroduction
#3	#3	#3 ☐ Yes ☐ No ☐ Doesn't Apply
#4	#4	#4 ☐ Yes ☐ No ☐ Doesn't Apply

DSS

AUG 26 2011

AUG 25 2011

Individual Safety Report

7721621-4-00-03

FDA Facsimile Approval 06/23/98(Oracle)

Mfr report #	2011MA011581
UF/Importer Report #	
	FDA Use Only

MEDWATCH

FORM FDA 3500A (10/05) *(continued)*

C. SUSPECT PRODUCT(S)

1. Name *(Give labeled strength & mfr/labeler, if known)*
THC (NO PREF. NAME)
#5

2. Dose, Frequency and Route Used
0.0006 UG/G;UNK;UNK
#5

3. Therapy Dates *(If unknown, give duration) from/to (or best estimate)*
#5 -

4. Diagnosis for Use *(Indication)*
ACCIDENTAL DRUG OVERDOSE
#5

5. Event Abated After Use Stopped or Dose Reduced?
#5 ☐ Yes ☐ No ☐ Doesn't Apply

☐ Yes ☐ No ☐ Doesn't Apply

6. Lot #
#5

7. Exp. Date
#5

8. Event Reappeared After Reintroduction
#5 ☐ Yes ☐ No ☐ Doesn't Apply

☐ Yes ☐ No ☐ Doesn't Apply

DSS

AUG 26 2011

AUG 25 2011

Individual Safety Report

7721621-4-00-04

- Mfr. report # 2011MA011581

B5. Describe Event or Problem - Continued

drug intoxication. Significant autopsy findings were brain edema and congestion of the lungs. His right and left lungs together weighed 1456 g. Both O-desmethyltramadol and mitragynine were detected in the autopsy blood sample at 1.1 µg/g and 0.03 µg/g, respectively. Other drugs in the blood at autopsy were (µg/g): alprazolam 0.14, amphetamine 0.20, and THC 0.0006. Considering the higher potency of O-desmethyltramadol, the concentration in the reported cases seems to be in the high range, suggesting overdose. None of the cases presented with tramadol in the blood, indicating that O-desmethyltramadol was not present as a metabolite but was the ingested drug. Several other psychotropic drugs were detected in each victim and could have contributed to the death. This case was one of 9 total cases where poisoning with O-desmethyltramadol emerged. The finding of heavy lungs in all cases but one points towards respiratory depression and opiate overdose or a combination of O-desmethyl-tramadol and other drugs.
Medical history includes a previous history of drug abuse.

B6. Relevant Tests/Laboratory Data - Continued

G8. Adverse event term(s) - Continued

Brain oedema

DSS

AUG 26 2011

AUG 25 2011

CaseID: 8124494

Individual Safety Report

7721705-0-00-01

FDA Facsimile Approval 06/23/98(Oracle)

Mfr report # 2011MA011579

UF/Importer Report #

"+" indicates item continued

FDA Use Only

FORM FDA 3500A (10/05)

A. PATIENT INFORMATION

1. Patient Identifier	2. Age at Time of Event:	3. Sex	4. Weight
PT 1 OF 7	22 YEARS	☐ Female	lbs
In confidence	or Date of Birth:	☒ Male	or kgs

B. ADVERSE EVENT OR PRODUCT PROBLEM

1. ☒ Adverse Event and/or ☐ Product Problem (e.g. defects/malfunctions)

2. Outcomes Attributed to Adverse Event (Check all that apply)

- ☒ Death (mm/dd/yyyy)
- ☐ Life-threatening
- ☐ Hospitalization - initial or prolonged
- ☐ Disability or Permanent Damage
- ☐ Congenital Anomaly/Birth Defect
- ☒ Other Serious (Important Medical Events): Med Significant
- ☐ Required Intervention to Prevent Permanent Impairment/Damage (Devices)

3. Date of Event (mm/dd/yyyy):

4. Date of This Report (mm/dd/yyyy): 08/23/2011

5. Describe Event or Problem

This report is based on an article by Kronstrand R, Roman M, Thelander G, Eriksson A.Unintentional fatal intoxications with mitragynine and o-desmethyltramadol from the herbal blend krypton. Journal of Analytical Toxicology 35: 242-247, No. 4, May 2011 - Sweden.

This case represents Pt. 1 of 7.

7 CASES
ALPRAZOLAM: PT #1, #7, #9
DIAZEPAM: PT #3, #5
VENLAFAXINE: PT #2, #8
Nine patients, eight of whom had a history of drug abuse, died of accidental drug intoxication. Autopsies revealed various drugs in the patients' blood [see Table 1; indications, routes, dosages and durations of treatment to reaction onsets not stated], and evidence of use of the herbal preparation Krypton.
Patient 8, who had no history of drug abuse, was admitted unconscious with asystole 2 hours after drinking tea made from Krypton [treatments not stated]. All other patients were found dead.

Additional information provided 09-Aug-2011. The patient was a 22-year-old male who was found dead at home. The cause and manner of death was deemed accidental drug intoxication. He had a previous history +

6. Relevant Tests/Laboratory Data, Including Dates

Unknown dates: Significant autopsy findings were congestion of the lungs; the right lung weighed 828 g, and the left lung weighed 732 g. Both O-desmethyltramadol and mitragynine were detected in the autopsy blood sample at 0.4 µg/g and 0.07 µg/g, respectively. Alprazolam 0.14 µg/g was also detected in the blood.

7. Other Relevant History,Including Preexisting Medical Conditions
(e.g. allergies, race, pregnancy, smoking and alcohol use, hepatic/renal dysfunction, etc.)

A previous history of drug abuse.

AUG 25 2011

C. SUSPECT PRODUCT(S)

	1. Name (Give labeled strength & mfr/labeler)	2. Dose, Frequency & Route Used	3. Therapy Dates (if unknown, give duration) from/to (or best estimate)
#1	ALPRAZOLAM EXTENTED-RELEASE TABLETS, 3 MG (AELLC) (ALPRAZOLAM)	0.14 UG/G AT AUTOPSY; UNK;UNK	–
#2	ETHANOL (ETHANOL)	0.09 UG/G;UNK;UNK	–

	4. Diagnosis for Use (Indication)	5. Event Abated After Use Stopped or Dose Reduced?	6. Lot #	7. Exp. Date	8. Event Reappeared After Reintroduction?	9. NDC# or Unique ID
#1	UNKNOWN	Yes / No / Doesn't Apply			Yes / No / Doesn't Apply	N/A
#2	ACCIDENTAL DRUG INTOXICATION	Yes / No / Doesn't Apply			Yes / No / Doesn't Apply	

10. Concomitant Medical Products and Therapy Dates (Exclude treatment of event)

Con Meds =UNKNOWN
Prev Meds =UNKNOWN

G. ALL MANUFACTURERS

1. Contact Office - Name/Address (and Manufacturing Site for Devices)

Actavis Elizabeth LLC
Attn: Medical Affairs
60 Columbia Rd
Bldg B
Morristown, NJ 07960 USA

2. Phone Number: (908) 527-9100

3. Report Source (check all that apply)
- ☒ Foreign
- ☐ Study
- ☒ Literature
- ☐ Consumer
- ☒ Health Professional
- ☐ User Facility
- ☐ Company Representative
- ☐ Distributor
- ☐ Other:

4. Date Received by Manufacturer (mm/dd/yyyy): 08/09/2011

5. (A)NDA # 78-056
IND #
STN #
PMA/510(k) #
Combination Product ☐ yes
Pre-1938 ☐ yes
OTC Product ☐ yes

6. If IND, Give Protocol #: N/A

7. Type of Report (check all that apply)
- ☐ 5-day ☐ 30-day
- ☐ 7-day ☐ Periodic
- ☐ 10-day ☒ Initial
- ☒ 15-day ☐ Follow-up #

8. Adverse Event Term(s)
Accidental overdose
Death
Pulmonary congestion
Drug toxicity
Drug screen positive
Drug abuse
Drug effect increased

9. Manufacturer Report Number: 2011MA011579

E. INITIAL REPORTER

1. Name and Address | Phone #

(b) (6)

AUG 26 2011

2. Health Professional?	3. Occupation	4. Initial Reporter Also Sent Report to FDA
☒ Yes ☐ No	HP	☐ Yes ☐ No ☒ Unk

FDA
3500A Facsimile

Submission of a report does not constitute an admission that medical personnel, user facility, importer, distributor, manufacturer or product caused or contributed to the event.

AUG 25 2011

Individual Safety Report

7721705-0-00-02

FDA Facsimile Approval 06/23/98(Oracle)

Mfr report #	2011MA011579
UF/Importer Report #	
	FDA Use Only

MEDWATCH

FORM FDA 3500A (10/05) *(continued)*

C. SUSPECT PRODUCT(S)

1. Name *(Give labeled strength & mfr/labeler, if known)*

#3 O-DESMETHYLTRAMADOL (NO PREF. NAME)

#4 MITRAGYNINE (NO PREF. NAME)

2. Dose, Frequency and Route Used	3. Therapy Dates *(If unknown, give duration) from/to (or best estimate)*
#3 0.4 UG/G;UNK;UNK	#3 -
#4 0.07 UG/G;UNK;UNK	#4 -

4. Diagnosis for Use *(Indication)*	5. Event Abated After Use Stopped or Dose Reduced?
#3 ACCIDENTAL DRUG INTOXICATION	#3 ☐ Yes ☐ No ☐ Doesn't Apply
#4 ACCIDENTAL DRUG INTOXICATION	#4 ☐ Yes ☐ No ☐ Doesn't Apply

6. Lot #	7. Exp. Date	8. Event Reappeared After Reintroduction
#3	#3	#3 ☐ Yes ☐ No ☐ Doesn't Apply
#4	#4	#4 ☐ Yes ☐ No ☐ Doesn't Apply

DSS

AUG 26 2011

AUG 25 2011

Individual Safety Report

7721705-0-00-03

- Mfr. report # 2011MA011579

B5. Describe Event or Problem - Continued

of drug abuse. He ordered Krypton via the Internet, probably for the first time. Significant autopsy findings were congestion of the lungs; the right lung weighed 828 g, and the left lung weighed 732 g. Both O-desmethyltramadol and mitragynine were detected in the autopsy blood sample at 0.4 µg/g and 0.07 µg/g, respectively. Alprazolam 0.14 µg/g was also detected in the blood. Considering the higher potency of O-desmethyltramadol, the concentration in the reported cases seems to be in the high range, suggesting overdose. None of the cases presented with tramadol in the blood, indicating that O-desmethyltramadol was not present as a metabolite but was the ingested drug. Several other psychotropic drugs were detected in each victim and could have contributed to the death. This case was one of 9 total cases where poisoning with O-desmethyltramadol emerged. The finding of heavy lungs in all cases but one points towards respiratory depression and opiate overdose or a combination of O-desmethyl-tramadol and other drugs.
Medical history includes a previous history of drug abuse.

Individual Safety Report

7721610-X-00-01

FDA Facsimile Approval 06/23/98(Oracle)

Mfr report # 2011MA011582

UF/Importer Report #

"+" indicates item continued

FDA Use Only

A. PATIENT INFORMATION

1. Patient Identifier	2. Age at Time of Event:	3. Sex	4. Weight
PT 3 OF 7	32 YEARS	[ ] Female	lbs
In confidence	or Date of Birth:	[X] Male	or kgs

B. ADVERSE EVENT OR PRODUCT PROBLEM

1. [X] Adverse Event and/or [ ] Product Problem *(e.g. defects/malfunctions)*

2. Outcomes Attributed to Adverse Event *(Check all that apply)*

- [X] Death *(mm/dd/yyyy)*
- [ ] Life-threatening
- [X] Hospitalization - initial or prolonged
- [ ] Disability or Permanent Damage
- [ ] Congenital Anomaly/Birth Defect
- [ ] Other Serious (Important Medical Events)
- [ ] Required Intervention to Prevent Permanent Impairment/Damage (Devices)

3. Date of Event *(mm/dd/yyyy)*

4. Date of This Report *(mm/dd/yyyy)*: 08/23/2011

5. Describe Event or Problem

This report is based on an article by Kronstrand R, Roman M, Thelander G, Eriksson A.Unintentional fatal intoxications with mitragynine and o-desmethyltramadol from the herbal blend krypton. Journal of Analytical Toxicology 35: 242-247, No. 4, May 2011 -Sweden.

This case represents Pt. 3 of 7.

7 CASES
ALPRAZOLAM: PT #1, #7, #9
DIAZEPAM: PT #3, #5
VENLAFAXINE: PT #2, #8
Nine patients, eight of whom had a history of drug abuse, died of accidental drug intoxication. Autopsies revealed various drugs in the patients' blood [see Table 1; indications, routes, dosages and durations of treatment to reaction onsets not stated], and evidence of use of the herbal preparation Krypton.
Patient 8, who had no history of drug abuse, was admitted unconscious with asystole 2 hours after drinking tea made from Krypton [treatments not stated]. All other patients were found dead.

Additional information provided 09-Aug-2011. The patient was a 32-year-old male who was found dead at home. He had a previous history of drug and alcohol abuse. His significant autopsy findings were brain and +

6. Relevant Tests/Laboratory Data, Including Dates

Unknown dates: His significant autopsy findings were brain and lung edema. His right lung weighed 848 g, and his left was 770 g. Both O-desmethyltramadol and mitragynine were detected in the autopsy blood sample at 1.1 µg/g and 0.05 µg/g, respectively. Other drugs in the blood at autopsy were (µg/g): citalopram 0.8, alprazolam 0.07, THC 0.007.

7. Other Relevant History,Including Preexisting Medical Conditions *(e.g. allergies, race, pregnancy, smoking and alcohol use, hepatic/renal dysfunction, etc.)*

Previous history of drug and alcohol abuse.

C. SUSPECT PRODUCT(S)

	1. Name *(Give labeled strength & mfr/labeler)*	2. Dose, Frequency & Route Used	3. Therapy Dates *(if unknown, give duration) from/to (or best estimate)*
#1	ALPRAZOLAM EXTENTED-RELEASE TABLETS, 3 MG (AELLC) (ALPRAZOLAM)	0.07 UG/G AT AUTOPSY; UNK;UNK	-
#2	O-DESMETHYLTRAMADOL (NO PREF. NAME)	1.1 UG/G AT AUTOPSY; UNK;UNK	-

	4. Diagnosis for Use *(Indication)*	5. Event Abated After Use Stopped or Dose Reduced?	6. Lot #	7. Exp. Date	8. Event Reappeared After Reintroduction?
#1	UNKNOWN	Yes / No / Doesn't Apply			Yes / No / Doesn't Apply
#2	ACCIDENTAL DRUG INTOXICATION	Yes / No / Doesn't Apply			Yes / No / Doesn't Apply

9. NDC# or Unique ID: N/A

10. Concomitant Medical Products and Therapy Dates *(Exclude treatment of event)*

Con Meds =UNKNOWN
Prev Meds =UNKNOWN

G. ALL MANUFACTURERS

1. Contact Office - Name/Address *(and Manufacturing Site for Devices)*

Actavis Elizabeth LLC
Attn: Medical Affairs
60 Columbia Rd
Bldg B
Morristown, NJ 07960 USA

2. Phone Number: (908) 527-9100

3. Report Source *(check all that apply)*

- [X] Foreign
- [ ] Study
- [X] Literature
- [ ] Consumer
- [X] Health Professional
- [ ] User Facility
- [ ] Company Representative
- [ ] Distributor
- [ ] Other:

4. Date Received by Manufacturer *(mm/dd/yyyy)*: 08/09/2011

5. (A)NDA # 78-056
IND #
STN #
PMA/510(k) #
Combination Product [ ] yes
Pre-1938 [ ] yes
OTC Product [ ] yes

6. If IND, Give Protocol #: N/A

7. Type of Report *(check all that apply)*

- [ ] 5-day
- [ ] 30-day
- [ ] 7-day
- [ ] Periodic
- [ ] 10-day
- [X] Initial
- [X] 15-day
- [ ] Follow-up #

8. Adverse Event Term(s)

Accidental overdose
Death
Pulmonary congestion
Drug toxicity
Drug screen positive
Drug abuse
Drug effect increased +

9. Manufacturer Report Number: 2011MA011582

E. INITIAL REPORTER

1. Name and Address | Phone #

(b) (6)

2. Health Professional? [X] Yes [ ] No

3. Occupation: HP

4. Initial Reporter Also Sent Report to FDA: [ ] Yes [ ] No [X] Unk

DSS
AUG 26 2011

AUG 25 2011

FDA
3500A Facsimile

Submission of a report does not constitute an admission that medical personnel, user facility, importer, distributor, manufacturer or product caused or contributed to the event.

Individual Safety Report

7721610-X-00-02

FDA Facsimile Approval 06/23/98(Oracle)

Mfr report #	2011MA011582
UF/Importer Report #	
	FDA Use Only

MEDWATCH

FORM FDA 3500A (10/05) *(continued)*

C. SUSPECT PRODUCT(S)

1. Name *(Give labeled strength & mfr/labeler, if known)*

#3 MITRAGYNINE (NO PREF. NAME)

#4 CITALOPRAM (CITALOPRAM)

2. Dose, Frequency and Route Used	3. Therapy Dates *(If unknown, give duration) from/to (or best estimate)*
#3 0.05 UG/G ON AUTOPSY; UNK;UNK	#3 -
#4 0.8 UG/G ON AUTOPSY; UNK;UNK	#4 -

4. Diagnosis for Use *(Indication)*	5. Event Abated After Use Stopped or Dose Reduced?
#3 ACCIDENTAL DRUG INTOXICATION	#3 ☐ Yes ☐ No ☐ Doesn't Apply
#4 ACCIDENTAL DRUG INTOXICATION	#4 ☐ Yes ☐ No ☐ Doesn't Apply

6. Lot #	7. Exp. Date	8. Event Reappeared After Reintroduction
#3	#3	#3 ☐ Yes ☐ No ☐ Doesn't Apply
#4	#4	#4 ☐ Yes ☐ No ☐ Doesn't Apply

DSS

AUG 26 2011

AUG 25 2011

Individual Safety Report

7721610-X-00-03

FDA Facsimile Approval 06/23/98(Oracle)

Mfr report #	2011MA011582
UF/Importer Report #	
	FDA Use Only

MEDWATCH

FORM FDA 3500A (10/05) *(continued)*

C. SUSPECT PRODUCT(S)

1. Name *(Give labeled strength & mfr/labeler, if known)*

#5 THC (NO PREF. NAME)

2. Dose, Frequency and Route Used

#5 0.007 UG/G ON AUTOPSY; UNK;UNK

3. Therapy Dates *(If unknown, give duration) from/to (or best estimate)*

#5 -

4. Diagnosis for Use *(Indication)*

#5 ACCIDENTAL DRUG INTOXICATION

5. Event Abated After Use Stopped or Dose Reduced?

#5 ☐ Yes ☐ No ☐ Doesn't Apply

☐ Yes ☐ No ☐ Doesn't Apply

6. Lot #

#5

7. Exp. Date

#5

8. Event Reappeared After Reintroduction

#5 ☐ Yes ☐ No ☐ Doesn't Apply

☐ Yes ☐ No ☐ Doesn't Apply

DSS

AUG 26 2011

AUG 25 2011

- Mfr. report # 2011MA011582

B5. Describe Event or Problem - Continued

lung edema. His right lung weighed 848 g, and his left was 770 g. The cause and manner of death was deemed accidental drug intoxication. Both O-desmethyltramadol and mitragynine were detected in the autopsy blood sample at 1.1 µg/g and 0.05 µg/g, respectively. Other drugs in the blood at autopsy were (µg/g): citalopram 0.8, alprazolam 0.07, THC 0.007. Considering the higher potency of O-desmethyltramadol, the concentration in the reported cases seems to be in the high range, suggesting overdose. None of the cases presented with tramadol in the blood, indicating that O-desmethyltramadol was not present as a metabolite but was the ingested drug. Several other psychotropic drugs were detected in each victim and could have contributed to the death. This case was one of 9 total cases where poisoning with O-desmethyltramadol emerged. The finding of heavy lungs in all cases but one points towards respiratory depression and opiate overdose or a combination of O-desmethyl-tramadol and other drugs.
Medical history includes a previous history of drug and alcohol abuse.

G8. Adverse event term(s) - Continued

Brain oedema

12639302-01-00-01

(b) (6)

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1/2 COER

CFSAN

(b) (6)

CHIEF MEDICAL EXAMINER

(b) (6)

INVESTIGATIVE REPORT

(b) (6)

CALL INFO

NAME OF DECEASED (LAST, FIRST MIDDLE)	AKA	HIO	CASE NUMBER
(b) (6)		☐	(b) (6)

INVESTIGATOR	REPORTED BY	REPORTING AGENCY	PREVIOUS WAIVE #
(b) (6)	Officer (b) (6)	(b) (6) Police	

CALL DATE AND TIME	ARRIVAL DATE AND TIME	RETURN DATE AND TIME
(b) (6)	(b) (6)	(b) (6)

DECEDENT

DATE AND TIME OF DEATH	DATE OF BIRTH	AGE	GENDER	RACE
(b) (6)	(b) (6)	45 Years	Male	White

RESIDENCE (STREET, CITY, STATE, ZIP)	COUNTY	LAST SEEN ALIVE
(b) (6)	(b) (6)	(b) (6)

COUNTRY OF RESIDENCE	OCCUPATION	PAID AUTOPSY
USA	(b) (6)	☐

DEATH

LOCATION OF DEATH	TYPE OF PLACE
Found, condominium	Decedent's Home

ADDRESS (STREET, CITY, STATE, ZIP): (b) (6)

SUMMARY

The decedent was a married, but separated, 45 year old male who resided alone in a condominium in (b) (6). On (b) (6), he failed to show up at his (b) (6) and his girlfriend and coworkers went to his home. Officers responded as well and entered the secured home with a key provided by his housekeeper whom they contacted. Officers entered the unit and found the decedent deceased on the bathroom floor with obvious signs of decomposition.

Medical Examiner's jurisdiction invoked according to the (b) (6).

CTU

AUG - 9 2016

INCIDENT

LOCATION OF INCIDENT	INCIDENT PLACE TYPE	AT WORK	AT RESIDENCE
Codominium		☐	✔

ADDRESS (STREET, CITY, STATE, ZIP)	COUNTY
(b) (6)	(b) (6)

DATE AND TIME OF INCIDENT	INVESTIGATING AGENCY	OFFICER	BADGE #	REPORT #
(b) (6) Unk	(b) (6) Police	Officer (b) (6)	(b) (6)	(b) (6)

DECEDENT WAS	BELTED	HELMETED	POSITION	ON PRIVATE PROPERTY
		☐ Yes ☐ No		☐ Yes ☐ No

VEHICLE	LICENSE NUMBER	STATE

NOTIFICATION

IDENTIFIED BY	METHOD	DATE AND TIME
Officer (b) (6)	Personal Effects	(b) (6)

FUNERAL HOME	PROPERTY	PUBLIC ADMINISTRATOR	TYPE OF EXAM
(b) (6)	✔ Yes ☐ No	☐ Yes ✔ No	Autopsy

NAME OF NOK OR OTHER	RELATIONSHIP		DATE NOTIFIED	NOTIFIED BY
(b) (6)	Wife		(b) (6)	Other

DSS

AUG - 9 2016

12639302-01-00-02

473092

(b) (6)

Case Number	(b) (6)
Investigator	
Date of Death	
Date Today	

INVESTIGATIVE NARRATIVE

Decedent: (b) (6)

Antemortem Events:

On (b) (6), the following information was learned in a personal interview with the decedent's girlfriend (b) (6) (b) (6). The decedent was a (b) (6) and (b) (6). She knew the decedent for 3 months and had dated for the past month. On the evening of (b) (6) around (b) (6) hours, she and the decedent were texting. At one point, he stopped texting before the conversation was completed. On the morning of (b) (6), he failed to call her for their breakfast date. She went to his home and did not receive an answer. She called the local police and Officers responded. They knocked and did not receive an answer. They did not feel they had probable cause to force entry and so they left. On the weekend, the decedent was supposed to meet (b) (6) family who was in town, but she was unsuccessful in making contact with him and he failed to contact her. On the morning of (b) (6), she still had not heard from the decedent and called his (b) (6). Office staff reported that he failed to show up to the office. Police were contacted and (b) (6) along with office staff responded to the decedent's home.

On (b) (6), the following information was learned in a personal interview with Officer (b) (6) ID (b) (6) with (b) (6) (b) (6) Police Department. On (b) (6), the (b) (6) Police Department received a call to assist in checking the welfare of the decedent. Officers met (b) (6) and coworkers at the decedent's home. Officers obtained a key from (b) (6), the sister of his (b) (6), as she was the housekeeper for the (b) (6) and his home. Officers entered and noted a foul odor. They discovered the decedent with obvious signs of decomposition on the bathroom floor and confirmed his death.

Past Medical, Surgical, and Social History:

In the above referenced interview, (b) (6) reported the following information. The decedent began to experience seizures about 9-12 months ago. The etiology was unknown and the seizures had been increasing for the past 1-2 months with a recent hospitalization at (b) (6). He was under the care of Dr (b) (6). He smoked tobacco products, but did not consume alcoholic beverages, did not use illegal substances, and did not above prescription medications. She reported that he possibly had "untreated depression," but there were no known suicide ideations or attempts.

On (b) (6) the following information was learned in a telephonic interview with the decedent's wife (b) (6) (b) (6). The decedent and (b) (6) were legally married, but separated for the past 3 years. Just before separating, they were on vacation in Mexico when the decedent experienced a seizure. She was in another room and found him seizing on the floor with whole body convulsions. He was transported to a hospital and found to have high blood pressure. A seizure etiology was unknown. About 1 month later, he experienced another seizure. She reported that when they were together, he did not consume alcoholic beverages, did not use illegal substances, or abuse medications.

On (b) (6) the following information was obtained by reviewing the decedent's medical records from the Office of Dr (b) (6) The decedent was seen on 3/12/2015 as referred by Dr (b) (6) He had a prior history of substance abuse, including from Norco, when he was taking up to 40 tablets per day with alcohol. He had been for the past 2 years. Additional history included a febrile seizure and a seizure on tramadol in 2011. Records continued to state that he had another seizure in 2012 and has had 6-7 seizures in the last year. The seizures apparently began when he was about 6 months clean and sober. There was no history of head trauma or family history of epilepsy. Seizures were convulsive.

Medications impounded from his home were: amoxicillin (prescribed to other), atenolol, clonidine, cyclobenzaprine, lamotrigine, lisinopril, Lunesta, metronidazole (prescribed to other), unidentified dark capsules, unidentified light green capsules, unidentified red tablet, and an unidentified yellow tablet.

Scene Description:
On (b) (6), the scene was viewed in presence of Officers and consisted of a second story condominium located within a large complex along (b) (6) in (b) (6). Upon entry, the home appeared to be appropriately furnished and clean. The spare bedroom and attached bathroom contained nail polish and some medications prescribed to his wife (antibiotics). The kitchen was remarkable. On the dining room table, there was some cash and two metal spoons that appeared clean. There was entertainment and gaming equipment in the living room. On the desk, there were pamphlets on Alcoholics Anonymous and "Problems Other than Alcohol", along with a few medication bottles. In the decedent's closet were a couple of apparent (b) (6) needles and miscellaneous personal belongings. In a backpack on the floor were miscellaneous papers, lighters, medications, capsules filled with a green substance, and a plastic bag with a green colored, powdery substance. A brief examination of his computer was unremarkable. In the attached bathroom where he was found, the majority of his medications were located in a drawer. The shower was dry and various items of personal hygiene were on the vanity counter. Apparent urine was in the commode. There were no obvious signs of foul play, suicide notes, or illegal substances.

Body Description:
On (b) (6), the decedent's body was viewed in presence of Officers lying on his right side on the bathroom floor, between the wall and the commode. His head was inside a small plastic trashcan lined with a plastic bag. His body was in a moderate stage of decomposition noted by a foul odor, bloating, skin slippage, skin blebs, and venous marbling. Palpation to his head was negative for obvious crepitation, but was edematous. His hands appeared atraumatic. He was clad in jeans, socks, and a black sweater. Items removed from his sweater pocket were one orange medication bottle containing the same type capsules found in his backpack and cigarettes. Items were palpated in his pant pocket, possibly a wallet, but I was unable to remove them due to his bloating/tightening of his clothing. There were no obvious signs of trauma or deformity noted to his body.

(b) (6) representatives (b) (6) and (b) (6) placed the decedent's body into a new, white body pouch. Blue tamper evident seal (b) (6) was attached for transport to this office.

Special Requests:
None.

Identification:
Identification was made by Officer (b) (6) via personal effects located in the home. He was known to be the only resident of the unit and his home was secured upon law enforcement entry.

Antemortem Specimens:
Not applicable.

Public Administrator:
A referral was not necessary.

Other Important Factors:
None.

(b) (6)

Signed: (b) (6) **Medical Examiner Investigator**

Approved by (b) (6)

12639302-01-00-04

(b) (6)

(b) (6)

(b) (6)
CHIEF MEDICAL EXAMINER

(b) (6)
CHIEF DEPUTY MEDICAL EXAMINER

AUTOPSY REPORT

Name: (b) (6)

ME#: (b) (6)

Place of death: (b) (6)

Age: 45 Years

Sex: Male

Date of death: Found, (b) (6)

Date of autopsy: (b) (6); 1200 Hours

CAUSE OF DEATH: ACUTE MITRAGYNINE (KRATOM) INTOXICATION

MANNER OF DEATH: ACCIDENT

AUTOPSY SUMMARY:

I. Moderately decomposed remains.

II. Moderate pulmonary congestion and edema.

III. No evidence of significant acute trauma identified.

IV. No evidence of significant natural disease identified.

V. Toxicological testing detected mitragynine (Kratom) in the liver (86 mg/Kg).

OPINION: According to the investigative information, the decedent was a 45-year-old male who resided alone in his rented condominium in (b) (6). His last known contact was the evening of (b) (6) when he suddenly stopped responding to his girlfriend via text. She went to his home on (b) (6) and there was no answer at the door. She called police and they responded but declined to force entry at that time. On (b) (6), he failed to show up at his (b) (6) and his girlfriend and coworkers went to his home. Officers responded as well and entered the secured home with a key provided by the housekeeper who cleans (b) (6) and home. Officers entered and found the decedent deceased on the bathroom floor with obvious signs of decomposition. The decedent had a history of seizures for the past 9 – 12 months, etiology unknown. The seizures had been increasing for the past 1 – 2 months with a recent hospitalization at (b) (6). He smoked tobacco products but did not drink alcohol or use illicit drugs. There was no history of medication abuse. Medications found at the scene included amoxicillin, atenolol, clonidine, cyclobenzaprine, lamotrigine, lisinopril, Lunesta, metronidazole, and unidentified pills and capsules. At the time of his death he was taking carbamazepine to control his seizures. By medical record review, carbamazepine seemed to have stopped the seizures but it was reported that he did not tolerate the carbamazepine very well. He was possibly going to be changed over to Lamictal. It was reported that the decedent may have been abusing a substance called Kratom and has a history of substance abuse.

The autopsy documented a well-developed, well-nourished male in a moderate state of decomposition. There was moderate pulmonary congestion and edema. There was no evidence of significant natural disease or significant acute trauma identified. Due to the moderate state of decomposition, the brain was near-liquid and examination of the hippocampi and other structures were not possible. Toxicological testing detected an elevated concentration of mitragynine (Kratom) in the liver (86 mg/Kg).

Mitragynine is an alkaloid found in the *Mitragyna speciosa* plant. It primarily acts on opioid receptors and has both stimulant effects (at low doses) and sedation and euphoria effects (at higher doses). In a published article by McIntyre, et al, death was attributed to mixed drugs toxicity where mitragynine was considered the primary cause. The liver concentration was 0.43 mg/Kg. The liver concentration in this case was 200 times that of the death reported in the article. No other drugs were found with the exception of ethanol (0.08% in the spleen), but the body was decomposed (decomposition produces ethanol as a result of fermentation). No significant natural disease or trauma was identified. Therefore, in the absence of natural disease and trauma, the most likely cause of death was the high level of mitragynine found in the body tissues.

Based on the autopsy findings and the circumstances surrounding the death, as currently understood, the cause of death is **acute mitragynine (Kratom) intoxication**, and the manner of death is **accident**.

(b) (6)
Deputy Medical Examiner

Date signed:

The autopsy was performed at the (b) (6) on (b) (6) beginning at 1200 hours.

IDENTIFICATION: The body is identified by two Medical Examiner's identification bands on the right ankle bearing the decedent's name and case number.

WITNESSES: Assisting with the autopsy is Forensic Autopsy Specialist (b) (6). There are no outside observers.

CLOTHING AND PERSONAL EFFECTS: A separate bag of clothing accompanies the body at autopsy. The body is unclad at autopsy.

EVIDENCE OF MEDICAL INTERVENTION: There is no evidence of medical intervention identified at autopsy.

EXTERNAL EXAMINATION

Injuries are fully described in the "Evidence of Injury" section below. The body is that of a well-developed, well-nourished male. The body weighs 151 pounds and is approximately 69 inches long. The body is exhibits moderate decomposition, is cold, and has not been embalmed.

The head is atraumatic. The scalp hair is brown and approximately 3 inches long with male pattern baldness. Facial hair consists of a gray-brown goatee. The irides are dark. The corneas are opaque. The conjunctivae and sclerae are unremarkable. No petechial hemorrhages are seen within the limits of examination. The external auditory canals, external nares and oral cavity are free of foreign material and abnormal secretions. The ears and earlobes are unremarkable. The nasal skeleton and maxilla are palpably intact. The lips and oral mucous membranes are without evident injury. The teeth are natural. Examination of the neck reveals no gross evidence of injury.

The chest is symmetrical. The breasts are those of an adult male with no palpable masses. The abdomen is protuberant, due to decomposition gas distention. No obvious surgical scars are seen. The back is symmetrical and unremarkable.

The extremities are symmetric and normally formed without track marks, ventral wrist scars, edema, deformities, or amputations. The fingernails and toenails are intact and clean.

The genitalia are those of an adult male.

SCARS AND OTHER IDENTIFYING MARKS: No significant scars are identified within the limits of examination.

TATTOOS: [redacted] (b) (6) with a design that is not legible due to decomposition.

POSTMORTEM CHANGES: The body is cold. Rigor is absent in all extremities. Lividity is fixed on the posterior surface of the body except in areas exposed to pressure. There is green-brown skin discoloration of the entire body. There are focal areas of skin slippage over the entire body. There is marbling of the torso and all four extremities. There is gaseous distention behind the eyes, in the peritoneal cavity, and in the scrotum. There is relative sparing of the left side of the torso, left upper extremity, and lateral aspect of the left thigh. There is no significant maggot or other insect activity.

EVIDENCE OF INJURY

There is no evidence of significant acute trauma identified.

INTERNAL EXAMINATION

All organs are moderately decomposed and will not be further described.

ABDOMINAL WALL: The subcutaneous fat layer measures up to 3 cm thick.

BODY CAVITIES: With the exception of decomposition fluid, the pleural, pericardial, and peritoneal cavities contain normal amounts of fluid and are without significant adhesions. All body organs are present in their normal anatomical position. The diaphragm is intact.

CARDIOVASCULAR SYSTEM: The 190 gram heart has a normal shape and is contained in an intact pericardial sac. The epicardial surface is smooth with minimal fat investment. The coronary arteries arise normally with widely patent ostia and are present in a normal distribution, with a right-dominant pattern. Cross sections of the coronary arteries demonstrate wide patency. The myocardium is homogenous, red-brown, and firm. The valve leaflets are thin and mobile. The walls of the left ventricle, interventricular septum, and right ventricle are 1.2 cm, 1.2 cm, and 0.2 cm thick, respectively. The endocardium of the heart is smooth and glistening. The aorta gives rise to three intact and patent arch vessels and contains minimal atherosclerosis. The renal and mesenteric vessels are unremarkable. The pulmonary arteries are normally developed, patent and without thrombus or embolus.

RESPIRATORY SYSTEM: The upper airway is clear of debris and foreign material. The mucosal surfaces are smooth, yellow-tan and unremarkable. The pleural surfaces are smooth, glistening and unremarkable bilaterally. The right lung weighs 530 grams. The left lung weighs 350 grams. The pulmonary parenchyma is congested and

edematous, exuding moderate amounts of blood and frothy fluid. A small amount of anthracotic pigment is seen. No focal lesions are noted.

HEPATOBILIARY SYSTEM: The 1090 gram liver has an intact smooth capsule covering a congested, tan-brown parenchyma with no focal lesions noted. The gallbladder contains approximately 5 ml of green-brown, mucoid bile; the mucosa is velvety and unremarkable. The extrahepatic biliary tree is patent without evidence of calculi.

LYMPHORETICULAR SYSTEM: The 30 gram spleen is nearly liquefied but has an intact capsule. The lymphoid follicles are indistinguishable. Lymph nodes in the hilar, periaortic and iliac regions are not enlarged.

GASTROINTESTINAL SYSTEM: The esophagus is lined by gray-white, smooth mucosa. The gastric mucosa is arranged in the usual rugal folds and the lumen contains approximately 10 ml of dark green, opaque fluid. No pills, pill fragments, or capsules are present. The small bowel and colon are unremarkable. The pancreas has a normal pink-tan lobulated appearance. The appendix is grossly unremarkable.

GENITOURINARY SYSTEM: The right kidney weighs 130 grams; the left 100 grams. The renal capsules are smooth and thin, semi-transparent and strip with ease from the underlying smooth, red-brown cortical surfaces. The cortices are sharply delineated from the medullary pyramids, which are red-purple to tan and unremarkable. The calyces, pelves and ureters are unremarkable. White bladder mucosa overlies an intact bladder wall. The bladder contains a scant amount of urine. The prostate gland and seminal vesicles are without note. The testes are palpably unremarkable.

ENDOCRINE SYSTEM: The pituitary gland is grossly unremarkable. The thyroid gland is symmetric and red-brown, without cystic or nodular change. The right and left adrenal glands are intact with bright yellow cortices and red-brown medullae; no masses or areas of hemorrhage are identified.

NECK: The anterior strap muscles of the neck are homogenous and red-brown, without hemorrhage. The thyroid cartilage and hyoid bone are intact. The larynx is lined by intact white mucosa.

MUSCULOSKELETAL SYSTEM: No abnormalities of muscle or bone are identified.

HEAD AND CENTRAL NERVOUS SYSTEM: The scalp is atraumatic. The galeal, subgaleal soft tissues of the scalp, and temporal muscles are free of injury. There are no skull fractures. The dura mater and falx cerebri are intact. There is no epidural, subdural or subarachnoid hemorrhage present. The leptomeninges are thin and delicate. The cerebral hemispheres have an unremarkable pattern of gyri and sulci.

The blood vessels at the base of the brain are without atherosclerosis. The near-liquified, gray brain matter weighs 1300 grams. Coronal sections through the brain matter reveal no lesions within the limits of examination. Transverse sections through the nearly liquefied brainstem, cerebellum, and upper spinal cord reveal no lesions within the limits of examination. The tongue is free of bite marks, hemorrhage, or other injuries.

SPECIMENS RETAINED

TOXICOLOGY: The following specimens are submitted for toxicology: decomposition fluid, liver, and spleen.

HISTOLOGY: Portions of tissues and major organs are retained in formalin. Sections of the heart and lung are submitted for microscopic examination.

PHOTOGRAPHS: Digital identification photographs and overall photographs are taken.

RADIOGRAPHS: None.

MICROSCOPIC EXAMINATION

HEART (slide # 1; 1 section): One section of cardiac tissue showing autolysis and putrefactive changes.

LUNG (slide # 2; 1 section): One section of lung tissue showing edema, vascular congestion, autolysis, and putrefactive changes.

(b) (6)

12639302-01-00-11

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(b) (6)

(b) (6)
CHIEF MEDICAL EXAMINER

(b) (6)

(b) (6)
CHIEF DEPUTY MEDICAL EXAMINER

TOXICOLOGY REPORT

Name:	(b) (6)
Medical Examiner Number:	(b) (6)
Date of Death:	(b) (6)
Time of Death:	(b) (6)
Pathologist:	(b) (6)
Specimens Received:	**Decomp Fluid, Liver, Spleen**
Date Specimens Received:	(b) (6)

Test Name (Method of Analysis)	Specimen Tested	Result
Alcohol Analysis (GC/FID-Headspace)	Spleen	
Alcohol (Ethanol)		**0.08 % (w/w)**
Acetone, Methanol, Isopropanol		Not Detected
Drugs of Abuse Screen (ELISA)	Liver	
Cocaine metabolites		Not Detected
Amphetamines		**Presumptive Positive**
Opiates		Not Detected
Benzodiazepines		Not Detected
Fentanyl		Not Detected
Cannabinoids		Not Detected
Phencyclidine (PCP)		Not Detected
Oxycodone		Not Detected
Methadone		Not Detected
Zolpidem		Not Detected
Carisoprodol		Not Detected
Buprenorphine		Not Detected
Base Screen (GC/MS)	Liver	
Mitragynine		**Detected**
Acid/Neutral Screen (HPLC/DAD)	Liver	Not Detected
Amphetamines (LC/MS)	Liver	
Methamphetamine		Not Detected
Amphetamine		Not Detected
Ephedrine		Not Detected
Pseudoephedrine		Not Detected
MDA		Not Detected
MDMA		Not Detected
Phentermine		Not Detected
Phenylephrine		Not Detected
Mitragynine (HPLC/DAD)	Liver	**86 mg/kg**

Unless otherwise requested, all specimens will be destroyed six (6) months after the closure of the case by the Medical Examiner
End Results

DSS
AUG - 9 2016

Comments:

1. **Specimens received showed signs of decomposition.**
2. **Alcohol can be formed in cases of decomposition by fermentation processes.**
3. **Drugs/compounds other than amphetamine/methamphetamine (e.g. decomposition substances) may produce a false positive result on the Amphetamines (ELISA) screening procedure.**

Approved and Signed: (b) (6) (b) (6)

Forensic Toxicology Laboratory Manager
(All Inquiries/Correspondence)

Reviewed: (b) (6)

Forensic Toxicology Laboratory Supervisor

DSS

(b) (6)

AUG 9 2016

(b) (6)

(b) (6)

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12639332-01-00-01

(b) (6)

673099

1/9 3365

(b) (6)

(b) (6)
CHIEF MEDICAL EXAMINER

(b) (6)

INVESTIGATIVE REPORT

(b) (6)

CALL INFO

NAME OF DECEASED (LAST, FIRST MIDDLE)	AKA	HIO	CASE NUMBER
(b) (6)		☐	(b) (6)

INVESTIGATOR	REPORTED BY	REPORTING AGENCY	PREVIOUS WAIVE #
(b) (6)	Officer (b) (6)	(b) (6) Police	

CALL DATE AND TIME	ARRIVAL DATE AND TIME	RETURN DATE AND TIME
(b) (6)	(b) (6)	(b) (6)

DECEDENT

DATE AND TIME OF DEATH	DATE OF BIRTH	AGE	GENDER	RACE
(b) (6)	(b) (6)	23 Years	Male	White

RESIDENCE (STREET, CITY, STATE, ZIP)	COUNTY	LAST SEEN ALIVE
(b) (6)	(b) (6)	(b) (6)

	COUNTRY OF RESIDENCE	OCCUPATION	PAID AUTOPSY
	USA	(b) (6)	☐

DEATH

LOCATION OF DEATH	TYPE OF PLACE
Found, apartment (other's)	Other

ADDRESS (STREET, CITY, STATE, ZIP)

(b) (6)

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SUMMARY

The decedent was a 23 year old single White male who resided with his family in a home in (b) (6) On the evening of (b) (6), the decedent met up with a friend and they drank alcohol, smoked heroin, and the decedent took Xanax and Narco. They returned to his friend's apartment and went to sleep. On (b) (6), the friend found the decedent cold to the touch on the floor. 9-1-1 was called and death was confirmed upon first responder's arrival.

Medical Examiner's jurisdiction invoked according to the (b) (6)
(b) (6)

INCIDENT

LOCATION OF INCIDENT	INCIDENT PLACE TYPE	AT WORK	AT RESIDENCE
Apartment (other's)		☐	☐

ADDRESS (STREET, CITY, STATE, ZIP)	COUNTY
(b) (6)	(b) (6)

DATE AND TIME OF INCIDENT	INVESTIGATING AGENCY	OFFICER	BADGE #	REPORT #
(b) (6) Unk	(b) (6) Police	(b) (6)	(b) (6)	(b) (6)

DECEDENT WAS	BELTED	HELMETED	POSITION	ON PRIVATE PROPERTY
		☐ Yes ☐ No		☐ Yes ☐ No

VEHICLE	LICENSE NUMBER	STATE

NOTIFICATION

IDENTIFIED BY	METHOD	DATE AND TIME
(b) (6)	Visual	(b) (6)

FUNERAL HOME	PROPERTY	PUBLIC ADMINISTRATOR	TYPE OF EXAM
(b) (6)	☑ Yes ☐ No	☐ Yes ☑ No	External

NAME OF NOK OR OTHER	RELATIONSHIP		DATE NOTIFIED	NOTIFIED BY
(b) (6)	Parents		(b) (6)	(b) (6)

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673094

(b) (6)

Case Number	:	(b) (6)
Investigator	:	
Date of Death	:	
Date Today	:	

INVESTIGATIVE NARRATIVE

Decedent: (b) (6)

Antemortem Events:

On (b) (6) at approximately (b) (6) hours, the following information was provided by (b) (6) Police Department ((b) (6)) Officer (b) (6) ID (b) (6) at the scene. The decedent, (b) (6) was a 23 year old single White male who resided with his family in (b) (6) On the evening of (b) (6), the decedent and his friend, (b) (6) met up. They drank two beers and smoked .5 grams of heroin together. They went to (b) (6) (b) (6) for an additional beer and then moved to (b) (6) in (b) (6) where they had another four beers. At some point, the decedent had two Xanax and two tablets of Narco. They returned to (b) (6) apartment and the decedent was intoxicated; he was stumbling as he walked. They entered the apartment and around 0330 hours the decedent went to sleep, across the foot of the mattress while (b) (6) slept sideways in the bed. The decedent was snoring heavily which woke (b) (6) up. (b) (6) told him to be quiet and then gave him a kick. The decedent rolled off the mattress and (b) (6) fell back asleep. Around (b) (6) hours, (b) (6) got out of bed to take a shower. He noticed the decedent wasn't breathing and when he tried to roll the decedent over, he realized he was cold to the touch and in rigor mortis. 9-1-1 was called at (b) (6) hours and first responders were dispatched to (b) (6) in (b) (6) (b) (6) Fire Department Engine (b) (6) arrived and confirmed death at (b) (6) hours due to rigor mortis. The Medical Examiner's Office was notified of the death and the scene was secured pending my arrival.

Past Medical, Surgical, and Social History:

On (b) (6), the following information was provided telephonically by the decedent's father, (b) (6). The decedent had no diagnosed physical ailments, but had been diagnosed with depression. He'd reportedly been clean off of heroin for the past 1 ½ years, but was abusing alcohol. He was having "trouble with a girl" and lost his job recently. He had made suicidal statements and one of his friends said a couple of weeks ago he tried to jump out a third story window, breaking the window. Ten days ago he moved in with his parents to try and get sober and turn things around. On 7/15 or 7/16/15 he was seen by Dr. (b) (6) at (b) (6) (b) (6) and prescribed Zoloft, and some kind of medication to help him get off alcohol. While living at his parents' house, the decedent was only drinking one or two beers per day. He seemed happier, but still anxious because there was a girl in (b) (6) who said she was going to accuse him of rape. He had a job lined up to start on Monday, and his family thought he was getting back on track.

On (b) (6), the following information was obtained from (b) (6) medical record for a visit date of 07/15/15. The decedent was noted to have a medical history remarkable for opioid type dependence, episodic abuse; generalized anxiety disorder; non-dependence alcohol abuse, episodic pattern of use; alcohol withdrawal; non-dependence tobacco use disorder; major depressive disorder, recurrent episode unspecified; legal circumstances; and unspecified acute reaction to stress.

Scene Description:

On (b) (6) at approximately (b) (6) hours, the decedent and the scene were viewed. The second floor, two bedroom, two bathroom apartment was minimally furnished. Empty beer cans were in the kitchen garbage and additional beer bottles were in the fridge. The decedent's wallet, Driver's License and cell phone were on the kitchen counter; these items were collected and later given to his family at the scene. There was nothing remarkable about (b) (6) roommate's room or bathroom. (b) (6) bathroom was unremarkable and an empty cigarette box was in a garbage bag. (b) (6) mattress was on the floor of the bedroom. Multiple

clothing items were on the floor. The decedent was at the foot of the bed. Purge was noted to the floor beneath him and on his face. No obvious suicide type notes or illicit drugs were found at the scene.

Body Description:
The decedent was viewed supine on the floor. He was clad in a black shirt, black pants, belt, socks, underwear, and a white metal chain with charm. He was cold to the touch and rigor mortis could not be overcome with significant force. Non-blanching livor mortis was noted to the front of his torso and face. Congestion was noted to eyes, face, and neck. Tardieu spots were noted to the face and neck. No trauma was noted to the gingival, frenulum, nasal bones, or face. No ligature marks were on the neck; no injuries were found to the hands, arms or legs; no crepitus was found to the skull or chest. No obvious trauma was noted.

(b) (6) personnel (b) (6) and (b) (6) placed a yellow identification band on the decedent's right ankle, placed the body into a new white vinyl pouch and secured it with blue tamper-evident seal (b) (6) at approximately (b) (6) hours. The body was then transported to the Medical Examiner's Office for examination.

Special Requests:
The decedent's father said he really doesn't want an autopsy done because "he doesn't want anyone cutting on my boy." They are not affiliated with a religion that prohibits autopsy. I explained that without a full autopsy there is a good chance that the death could be ruled undetermined. He said that he "knows what killed him" and doesn't feel an autopsy is necessary. I told him that his concerns would be relayed to the pathologist.

Identification:
The decedent was visually identified by his brother, (b) (6) at the scene.

Antemortem Specimens:
Not applicable.

Public Administrator:
No referral made.

Other Important Factors:
None.

Signed: (b) (6)
(b) (6)
Medical Examiner Investigator

Approved by: (b) (6)

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(b) (6)

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(b) (6)

(b) (6)
CHIEF MEDICAL EXAMINER

(b) (6)
CHIEF DEPUTY MEDICAL EXAMINER

EXTERNAL EXAMINATION REPORT

Name: (b) (6)

ME#: (b) (6)

Place of death: (b) (6)

Age: 23 Years

Sex: Male

Date of death: Found, (b) (6)

Date of examination: (b) (6); 1410 Hours

CAUSE OF DEATH: HEROIN, ALCOHOL, MITRAGYNINE, AND BENZODIAZEPINES INTOXICATION

MANNER OF DEATH: ACCIDENT

B-5

OPINION: According to the Investigator's Report, on the evening of (b) (6), this 23-year-old white male met up with a friend, drank alcohol, smoke heroin, and the decedent took Xanax and Norco. The decedent returned to his friend's apartment and went to sleep. On (b) (6) the friend found the decedent cold on the floor and 911 was called. Death was pronounced without medical intervention at (b) (6) on (b) (6). It was reported that on the evening of (b) (6) that the decedent drank two beers and smoked 0.5 grams of heroin together. The decedent had two pills of Xanax and two Norco. The decedent's past medical history is significant for depression and heroin abuse, but was also abusing alcohol. Recently he had trouble with a girl and lost his job. The decedent's family requested no autopsy. The Medical Examiner's Office performed external examination only with toxicology testing.

The external examination revealed a well-developed and well-nourished young man consistent with the listed age of 23 years old. There was no evidence of external trauma. No needle tracks were noted. What appeared to be two fresh needle punctures were noted along a vein on the left antecubital fossa with no significant surrounding hemorrhage. Toxicologic testing is positive for heroin, alcohol, Mitragynine, and assortment of benzodiazepines; see "Toxicology" below.

Based on the external examination findings and the circumstances surrounding the death, as currently understood, the cause of death is heroin, alcohol, and benzodiazepines intoxication, and the manner of death is accident.

(b) (6)
Deputy Medical Examiner

Date signed:

IDENTIFICATION: The body is identified by two Medical Examiner's identification bands on the right ankle bearing the decedent's name and case number.

WITNESSES: Assisting is Forensic Autopsy Specialist [redacted]. There are no outside observers.

CLOTHING: The body is unclad when initially viewed. A separate bag of clothing accompanies the body and contains brown pants with black belt, black T-shirt, blue boxer underwear, and black socks.

EVIDENCE OF MEDICAL THERAPY: None.

EXTERNAL EXAMINATION

The body is that of a normally developed and well-nourished Caucasian male appearing consistent with the listed age of 23 years. The length is 73 inches, and the weight is 167 pounds as received. The body is well preserved, cold, and has not been embalmed. Rigidity is absent in the jaw and extremities. Lividity is nonblanching on the back.

The head is normocephalic and the scalp is covered with brown hair measuring up to 2 inches on the top of the head. The facial hair consists of stubble. The ears are normally formed and without drainage. The earlobes are pierced and not creased. The irides are brown, the corneas opaque, and the bulbar and palpebral conjunctivae free of petechiae. The sclerae are white. The nose is intact, and the nares are clean and unobstructed. The lips are normally formed. A small contusion is noted on the mucosal surface of the lower lip with no associated injury to the teeth or the oral cavity. The teeth are natural and in good condition. The neck is without injuries or deformities.

The chest is normally formed, symmetrical, and without palpable masses or deformity. The abdomen is flat and soft. No masses are palpable. The external genitalia are those of a circumcised adult male with both testes palpable in the scrotum. The back is straight and symmetrical with no trauma, defects, or deformity. The anus is atraumatic. Two superficial contusions are noted on the mid back, just left of the posterior midline.

The upper extremities are normally formed. Two needle punctures were noted on the left antecubital fossa. No track marks or ventral wrist scars are noted. The fingernails are unremarkable. The lower extremities are normally formed and have no edema, amputations, or deformity. The toenails are unremarkable.

BODY MARKINGS (SCARS AND TATTOOS): A tattoo is noted on the mid chest ("[redacted]"), and on the left side of the chest and abdomen ("[redacted]").

EVIDENCE OF INJURY

No significant external injuries are seen. Two small superficial contusions are noted on the back.

SPECIMENS RETAINED

TOXICOLOGY: Central and peripheral blood, urine, and vitreous are retained for toxicology. Preliminary toxicology screen is positive for alcohol, opiates and cannabinoids. Toxicology testing revealed the following:

1. Heroin: Morphine (free) 0.04 mg/L; 6-Monoacetylmorphine detected.
2. Alcohol (ethanol): 0.07% (w/v)
3. Mitragynine 0.50 mg/L
4. Benzodiazepines:
   - Chlordiazepoxide 0.25 mg/L; Norchlordiazepoxide detected
   - Citalopram detected
   - Demoxepam detected
   - Nordiazepam trace detected.
   - Alprazolam trace detected

HISTOLOGY: No sections of major organs are submitted for histology.

PHOTOGRAPHS: Digital identification photographs are obtained. Selected photographs are obtained during external examination for documentation.

RADIOGRAPHS: None obtained.

[redacted] (b) (6)

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(b) (6)

(b) (6)
CHIEF MEDICAL EXAMINER

(b) (6)

(b) (6)
CHIEF DEPUTY MEDICAL EXAMINER

TOXICOLOGY REPORT

Name:	(b) (6)
Medical Examiner Number:	(b) (6)
Date of Death:	(b) (6)
Time of Death:	(b) (6)
Pathologist:	(b) (6)
Specimens Received:	**Central Blood, Peripheral Blood 1, Peripheral Blood 2, Urine, Vitreous**
Date Specimens Received:	(b) (6)

Test Name (Method of Analysis)	Specimen Tested	Result
Alcohol Analysis (GC/FID-Headspace)	Peripheral Blood 2	
Alcohol (Ethanol)		**0.07 % (w/v)**
Acetone, Methanol, Isopropanol		Not Detected
Drugs of Abuse Screen (ELISA)	Central Blood	
Cocaine metabolites		Not Detected
Amphetamines		Not Detected
Opiates		**Presumptive Positive**
Benzodiazepines		**Presumptive Positive**
Fentanyl		Not Detected
Cannabinoids		**Presumptive Positive**
Phencyclidine (PCP)		Not Detected
Oxycodone		Not Detected
Methadone		Not Detected
Zolpidem		Not Detected
Carisoprodol		Not Detected
Buprenorphine		Not Detected
Base Screen (GC/MS)	Peripheral Blood 1	
Citalopram		**Trace Detected (<0.10 mg/L)**
Mitragynine		**Detected**
Chlordiazepoxide		**Detected**
Norchlordiazepoxide		**Detected**
Nordiazepam		**Detected**
Acid/Neutral Screen (HPLC/DAD)	Peripheral Blood 1	Not Detected
Opiates (GC/MS)	Peripheral Blood 1	
Morphine (free)		**0.04 mg/L**
Codeine (free)		Not Detected
6-Monoacetylmorphine		Not Detected
Hydrocodone		Not Detected
Oxycodone		Not Detected
Hydromorphone		Not Detected
Oxymorphone		Not Detected
Dihydrocodeine		Not Detected
Urine Screen (GC/MS)	Urine	
6-Monoacetylmorphine		**Detected**

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Benzodiazepines (HPLC/DAD)	Peripheral Blood 1	
Chlordiazepoxide		**0.25 mg/L**
Norchlordiazepoxide		**Detected**
Demoxepam		**Detected**
Nordiazepam		**Trace Detected (<0.05 mg/L)**
Alprazolam		**Trace Detected (<0.05 mg/L)**
Mitragynine (HPLC/DAD)	Peripheral Blood 1	**0.50 mg/L**

Unless otherwise requested, all specimens will be destroyed six (6) months after the closure of the case by the Medical Examiner
End Results

Comment:

A confirmation test for the presumptive positive Cannabinoids result (ELISA) was not performed.

Approved and Signed: (b) (6)

(b) (6)
Forensic Toxicology Laboratory Manager
(All Inquiries/Correspondence)

(b) (6)

Reviewed: (b) (6)
Toxicologist II

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CaseID: 12639421

12639421-01-00-01

(b) (6)

(b) (6)
CHIEF MEDICAL EXAMINER

(b) (6)

1/13 CDER 673096 CFSAN

INVESTIGATIVE REPORT

7/1/2015

CALL INFO

NAME OF DECEASED (LAST, FIRST MIDDLE)	AKA	HIO	CASE NUMBER
(b) (6)		☐	(b) (6)

INVESTIGATOR	REPORTED BY	REPORTING AGENCY	PREVIOUS WAIVE #
(b) (6)	Officer (b) (6) ID (b) (6)	(b) (6) Police	

CALL DATE AND TIME	ARRIVAL DATE AND TIME	RETURN DATE AND TIME
(b) (6)	(b) (6)	(b) (6)

DECEDENT

DATE AND TIME OF DEATH	DATE OF BIRTH	AGE	GENDER	RACE
(b) (6)	(b) (6)	31 Years	Male	White

RESIDENCE (STREET, CITY, STATE, ZIP)	COUNTY	LAST SEEN ALIVE
(b) (6)	(b) (6)	

	COUNTRY OF RESIDENCE	OCCUPATION	PAID AUTOPSY
	USA	(b) (6)	☐

DEATH

LOCATION OF DEATH	TYPE OF PLACE
Apartment	Decedent's Home

CTU

ADDRESS (STREET, CITY, STATE, ZIP)
(b) (6)

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SUMMARY

The decedent was a 31-year-old single Caucasian male who resided in an apartment with his girlfriend and (b) (6) minor children in the city of (b) (6). On the morning of (b) (6), the decedents girlfriend went to awaken him and found him not breathing on the couch. 911 was eventually called and police responded to the location along with fire personnel. Upon arrival, paramedics found the decedent pulseless and apneic. Advanced cardiac life support was initiated but to no avail and death was pronounced via radio by physician and local hospital. The decedent had a history of alcohol, illicit drugs, and prescription medication abuse.

Medical Examiner's jurisdiction invoked according to the (b) (6).

INCIDENT

LOCATION OF INCIDENT	INCIDENT PLACE TYPE	AT WORK	AT RESIDENCE
Apartment		☐	☐

ADDRESS (STREET, CITY, STATE, ZIP)	COUNTY
(b) (6)	(b) (6)

DATE AND TIME OF INCIDENT	INVESTIGATING AGENCY	OFFICER	BADGE #	REPORT #
(b) (6) Unk	(b) (6) Police	Officer (b) (6)	(b) (6)	(b) (6)

DECEDENT WAS	BELTED	HELMETED	POSITION	ON PRIVATE PROPERTY
		☐ Yes ☐ No		☐ Yes ☐ No

VEHICLE	LICENSE NUMBER	STATE

NOTIFICATION

IDENTIFIED BY	METHOD	DATE AND TIME
(b) (6)	Visual	(b) (6)

FUNERAL HOME	PROPERTY	PUBLIC ADMINISTRATOR	TYPE OF EXAM
(b) (6)	☐ Yes ☑ No	☐ Yes ☑ No	Autopsy

NAME OF NOK OR OTHER	RELATIONSHIP		DATE NOTIFIED	NOTIFIED BY
(b) (6)	Mother		(b) (6)	Other
(b) (6)	Father		(b) (6)	Other

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(b) (6)	Case Number	: (b) (6)
	Investigator	:
	Date of Death	:
	Date Today	:

INVESTIGATIVE NARRATIVE

Decedent: (b) (6)

Antemortem Events:

On (b) (6), the decedent's girlfriend, (b) (6) provided the following information during a personal interview at the scene. (b) (6) and the decedent had been together for (b) (6) years and had (b) (6) daughters together, (b) (6) and (b) (6) age (b) (6) He worked as a (b) (6) full-time but did not have any health insurance. Approximately a month ago, he began having swelling to his ankles and his feet. His mother, (b) (6) gave him what he called "water pills" to help him with the swelling. Approximately five weeks ago, he was prescribed Xanax and was only supposed to take one pill a day. She was aware that he was taking more than he was prescribed and consumed alcohol at the same time. Over the last few days, she was concerned that he was overmedicating his Xanax because he was constantly sleepy. On (b) (6), he consumed 3-4 24 ounce cans of beer and apparently took his Xanax. He was very lethargic and had slurred speech. He was nodding off on the couch while watching television, and then fell asleep at approximately 2100 hours. (b) (6) retired to bed at approximately 2200 hours with their (b) (6) daughters.

On (b) (6), (b) (6) awakened at (b) (6) hours and noticed that the decedent was still asleep on the couch. She went ahead and made coffee and did a few chores. A short time later, she went to awaken him and found him not breathing. She called her father in a panic and asked him what should she do, and he told her to call 911 for assistance. (b) (6) called 911 and was instructed by the dispatcher to move him off the couch onto the floor and initiate CPR until the arrival of paramedics.

On (b) (6), Officer (b) (6) ID (b) (6) from the (b) (6) Police Department provided the following information during a personal interview at the scene. On (b) (6), the (b) (6) Police Dispatch Center received the call at (b) (6) hours and Officer (b) (6) was dispatch to (b) (6) along with the (b) (6) Fire Department Engine (b) (6) Officer (b) (6) arrived at (b) (6) hours and found (b) (6) performing CPR. He took over CPR until arrival of fire personnel. Upon arrival of paramedics, the decedent was found pulseless and apneic. Advanced cardiac life support was initiated and contact was made with (b) (6) via radio. After vigorous attempts to revive the decedent failed, death was pronounced by Dr. (b) (6) at (b) (6) hours. Officer (b) (6) began his death investigation and the Medical Examiner's Office was contacted at (b) (6) hours.

On (b) (6), the decedents mother, (b) (6) provided the following information during a personal interview at the scene. She confirmed that she had given her son 12 of her furosemide pills to help him with the edema in his ankles and feet. He stopped by her residence on (b) (6), to visit. While there, he asked her if she still had any of her Fentanyl patches left. She told him that she still had some left because she didn't like taking them. He stayed for a short time, then left. Later that evening, she checked her fentanyl patches and noticed that one was missing. She didn't know what to do but didn't want to say anything to him.

Past Medical, Surgical, and Social History:

According to the decedent's girlfriend, (b) (6), the decedent had an unremarkable medical history. He did abuse alcohol, illicit drugs, and prescription medications. He never expressed suicidal ideations or had any previous attempts. I collected and impounded a prescription of ibuprofen prescribed to a (b) (6).

In a follow up interview with the decedent's mother, (b) (6), she confirmed the above history and added that there was a family history of heart disease. Her son was known to hide his Xanax to keep it away from (b) (6) who also has a problem with alcohol, illicit drugs and prescription medication abuse.

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Scene Description:
On (b) (6) at (b) (6) hours, I viewed the scene which was a two-bedroom, one bathroom apartment located on the second floor at (b) (6) in (b) (6) The apartment was appropriately furnished and somewhat kempt. The decedent was located lying on the living room floor next to the couch. I located a prescription of ibuprofen on the kitchen counter next to the stove along with his (b) (6) identification card. I checked the residence and there was no open alcohol, illicit drugs, other prescribed medications, or suicide type notes found.

Body Description:
Upon further review, the body of a Caucasian male was viewed lying supine on the living room floor, covered with a yellow disposable blanket. He was clad in a cut t-shirt and pajama bottoms. He was warm to the touch and flaccid with blanching lividity in the posterior portions of the body. Medical paraphernalia on the body consisted of a plastic airway device, EKG and defibrillator pads on the chest and abdomen, and intravenous line established in the left antecubital fossa. There was no crepitus to the skull or chest. There was drying to the sclera but no petechial hemorrhaging noted. There were no fluids exuding his nose or mouth. His chest was symmetric and his abdomen was soft. There were no recent punctate marks noted in the right arm. His back was unremarkable. There was pitting edema to both ankles and feet. There was no obvious trauma noted to the body.

(b) (6) personnel, (b) (6) and (b) (6) arrived and assisted me with the body. A yellow identification band was placed on his right ankle. The body was laced into a new white vinyl pouch and prepared for viewing by the family. Upon completion, blue tamperproof seal (b) (6) was affixed at (b) (6) hours. The body was transported to the Medical Examiner's Office for examination.

Special Requests:
None.

Identification:
The decedent was visually identified by his mother, (b) (6) at the residence. I confirmed his identification using a photograph comparison from his (b) (6) driver's license.

Antemortem Specimens:
Not applicable.

Public Administrator:
No referral needed.

Other Important Factors:
I provided family with the (b) (6) handbook and Medical Examiner pamphlets while on scene.

Signed: (b) (6) (b) (6)
(b) (6) **Medical Examiner Investigator**
(b) (6)

Approved by _____

12639421-01-00-04

(b) (6)

(b) (6)
CHIEF MEDICAL EXAMINER

(b) (6)
CHIEF DEPUTY MEDICAL EXAMINER

AUTOPSY REPORT

Name: (b) (6)

Place of death: (b) (6)

Date of death: (b) (6)

Date of autopsy: (b) (6) 1000 Hours

ME#: (b) (6)

Age: 31 Years

Sex: Male

CAUSE OF DEATH: ACUTE MITRAGYNINE, FENTANYL, ALPRAZOLAM, AND CLONAZEPAM INTOXICATION

MANNER OF DEATH: ACCIDENT

AUTOPSY SUMMARY:

I. Acute mitragynine, fentanyl, alprazolam, and clonazepam intoxication.
   - A. See Toxicology Report.
   - B. Pulmonary congestion
   - C. Urinary retention
   - D. History of illicit drug, prescription medication, and alcohol abuse.

II. Lower extremity edema.

III. Fracture of left third rib, consistent with resuscitation efforts.

OPINION: According to the Investigator's Report, this 31-year-old Caucasian male was found by his girlfriend on the couch, initially felt to be sleeping, but later noticed not to be breathing. She called 911, and paramedics responded and initiated resuscitative measures. Despite these efforts, he was declared dead at the scene. He had a history of alcohol, prescription medication, and illicit drug abuse and also ankle swelling. His mother gave him twelve furosemide pills for this. He had recently received a prescription for alprazolam, and a fentanyl patch (unknown strength) was missing from his mother's prescription. He had no history of suicidal ideations or attempts.

The autopsy demonstrated bilateral pulmonary congestion, lower leg edema, a full urinary bladder, and left ventricular hypertrophy. Toxicological testing detected a toxic concentration of mitragynine (Kratom), a high concentration of fentanyl, and therapeutic concentrations of alprazolam and an active clonazepam metabolite. A screen for cannabinoids was positive; no other illicit drugs were detected. No alcohol was detected. The vitreous glucose was unremarkable.

Based on the autopsy findings and the circumstances surrounding the death, as currently understood, the cause of death is **acute mitragynine, fentanyl, alprazolam, and clonazepam intoxication**, and the manner of death is **accident**.

(b) (6)
Resident Pathologist

SUPERVISING PATHOLOGIST:

(b) (6)
Chief Deputy Medical Examiner

Date signed:

IDENTIFICATION: The body is identified by two Medical Examiner's identification bands on the right ankle bearing the decedent's name and case number.

WITNESSES: Assisting is Forensic Autopsy Specialist (b) (6) There are no outside observers.

CLOTHING: The body is unclad when initially viewed. A separate bag of clothing accompanies the body and contains:

1. Blue pants.
2. Gray underwear.
3. A yellow T-shirt.

EVIDENCE OF MEDICAL THERAPY:

1. Defibrillator pads on the chest and abdomen.
2. Electrocardiogram pads on the chest and abdomen.
3. Intravenous catheter in the left antecubital fossa attached to a 1 L bag of fluid, approximately half full.
4. An intraoral airway in the mouth.

EXTERNAL EXAMINATION

Injuries are described in a separate section below.

GENERAL: The body is that of a normally developed and well-nourished Caucasian male appearing consistent with the listed age of 31 years. The length is 75 inches, and the weight is 198 pounds as received. The body is well preserved, cold, and has not been embalmed. Rigidity is fully developed in the jaw and extremities. Lividity is pink-purple, nonblanching, and in a posterior distribution.

HEAD: The scalp is covered with dark brown hair measuring up to 5-1/2 inches on the top of the head. The facial hair is dark brown and measures up to 1-1/2 inches on the chin. The ears are normally formed and without drainage. The earlobes are not pierced. The irides are brown, the corneas dull, and the bulbar and palpebral conjunctivae free of petechiae. The sclerae are white and injected. The nose is intact and the nares are clean and unobstructed. The lips are normally formed. The teeth are natural and in good condition.

NECK: The neck is symmetrical and without injury.

CHEST AND ABDOMEN: The chest is normally formed, symmetrical, and without palpable masses.

The abdomen is flat and soft. No masses are palpable.

EXTERNAL GENITALIA: The external genitalia are those of a circumcised adult male with both testes palpable in the scrotum.

BACK: The back is straight and symmetrical. The anus is atraumatic.

ARMS: The arms are normally formed. No needle punctures, track marks, or ventral wrist scars are noted. The fingernails are dirty, cut short, and do not extend beyond the fingertips.

LEGS: There is pitting edema of the superior feet bilaterally. The legs are otherwise normally formed and have no amputations or deformity. The toenails are dirty and extend up to 1/8 inch beyond the tips of the toes.

BODY MARKINGS (SCARS AND TATTOOS):

Scars:

1. (b) (6)
2.
3.
4.
5.
6.
7.
8.

Tattoos: none.

EXTERNAL INJURIES

1/4 inch healing abrasion on the right anterior ankle.

INTERNAL EXAMINATION

BODY CAVITIES: The abdominal fat layer measures up to 0.8 cm in thickness. The body cavities have no hemorrhage or abnormal fluid. The serosal surfaces are smooth, glistening, and without adhesions. The organs are normally located. The diaphragm is intact. The body cavities have no internal injuries.

CARDIOVASCULAR SYSTEM: The heart weighs 370 grams and is not enlarged. It has a normal shape with a smooth, glistening epicardium. The coronary arteries have a normal origin and distribution with right dominance. They have no atherosclerotic stenosis and are widely patent.

The myocardium is red-brown, firm, and uniform without focal fibrosis, softening, or hyperemia. The left ventricle is hypertrophied. The right ventricle, left ventricle, and interventricular septum measure 0.4 cm, 1.7 cm, and 1.7 cm, respectively.

The endocardium is intact, smooth, and glistening. The cardiac valve leaflets are of normal number, pliable, intact, and free of vegetations. The atrial and ventricular septa are free of defects.

The aorta follows its usual course and has minimal atherosclerotic changes. There are no vascular anomalies or aneurysms. The vena cavae and pulmonary arteries are without thrombus or embolus.

RESPIRATORY SYSTEM: The right and left lungs weigh 890 and 850 grams, respectively, and have the usual lobation. The pleura are smooth and glistening; the lungs have moderate anthracotic pigment. The lungs are congested and mildly crepitant. The parenchyma is dark red and exudes moderate amounts of fluid. The lungs have no consolidation, hemorrhage, infarct, tumor, gross fibrosis, or enlargement of airspaces. The bronchi contain no foreign material and have tan-white mucosa.

HEPATOBILIARY SYSTEM: The liver weighs 1800 grams. The intact capsule is smooth and glistening. The parenchyma is red-brown and uniform without mass, hemorrhage, yellow discoloration, or palpable fibrosis.

The gallbladder contains an estimated 20 ml of bile and no stones. Its mucosa is uniform and the wall is not thickened.

The pancreas has a normal size, shape, and lobulated structure. The parenchyma is pink-tan, firm, and uniform.

HEMOLYMPHATIC SYSTEM: The spleen weighs 250 grams. The capsule is smooth and intact. The parenchyma is maroon, firm, and uniform.

There is no enlargement of the lymph nodes in the neck, chest, or abdomen.

ENDOCRINE SYSTEM: The thyroid gland is not enlarged, and the lobes are symmetrical. The parenchyma is uniform, firm, and red-brown.

The adrenal glands have the usual size and shape. The cortices are thin, uniform, and yellow and there is no hemorrhage or tumor. The pituitary gland is not enlarged.

GASTROINTESTINAL SYSTEM: The esophagus and gastroesophageal junction are unremarkable. The stomach contains approximately 350 ml of thick, tan, chunky fluid without visible pills or pill residue. The gastric and duodenal mucosae are intact and

unremarkable. The small and large intestines and appendix are unremarkable to inspection and palpation.

GENITOURINARY SYSTEM: The right and left kidneys weigh 155 and 160 grams, respectively, and have a normal shape and position. The cortical surfaces are smooth. The kidneys have the usual corticomedullary structure without tumors or cysts. The pelves and ureters are not dilated or thickened. The bladder contains approximately 250 ml of clear yellow urine. The mucosa is intact, and the bladder wall is not hypertrophied.

The prostate gland is of average size and grossly unremarkable.

NECK: The tongue, strap muscles, and other anterior neck soft tissues have no hemorrhage. The hyoid bone and the cartilaginous structures of the larynx and trachea are normally formed and without fracture. The airway is unobstructed, lined by smooth, pink-tan mucosa, and contains no foreign material. The cervical vertebrae have no displacement, hypermobility, or crepitus.

MUSCULOSKELETAL SYSTEM: The musculoskeletal system is well developed. There is a fracture of the left 3rd rib anteriorly. There are no other rib fractures. There are no fractures of the clavicles, sternum, vertebrae, or pelvis. The ribs are not brittle. The skeletal muscle is dark red and firm.

HEAD: The scalp is free of hemorrhage. The calvarium and base of the skull are normally configured and have no fractures. The dura is intact, and there is no epidural or subdural hemorrhage.

CENTRAL NERVOUS SYSTEM: The unfixed brain weighs 1350 grams. The leptomeninges are glistening and transparent without underlying hemorrhage, exudate, or cortical contusions. The hemispheres are symmetrical and have a normal gyral pattern. There is no flattening of the gyri, narrowing of the sulci, midline shift, or evidence of herniation. The arteries at the base of brain have minimal atherosclerotic changes or aneurysms.

Sections through the cerebral hemispheres have a uniform, intact cortical ribbon and uniform white matter. The basal ganglia, thalami, hippocampi and other internal structures are symmetrical and without focal change. The ventricles are not enlarged, and the linings are smooth and glistening. Sections of the brainstem and cerebellum show an intact structure without focal lesions.

SPECIMENS RETAINED

TOXICOLOGY: Samples of central and peripheral blood, vitreous humor, urine, gastric contents, and liver are retained for toxicology.

HISTOLOGY: Representative sections of organs and tissues are retained. Sections of the heart (5), lungs (2), liver (1), and kidneys (2) are submitted for histology.

Cassette summary:
Cassette 1: Left ventricle and interventricular septum.
Cassette 2: Right kidney and right lung upper lobe.
Cassette 3: Left kidney, left lung lower lobe, and liver.
Cassette 4: Left ventricular free wall, interventricular septum, and right ventricular free wall.

PHOTOGRAPHS: Digital identification photographs, overalls, and photographs of the external skull are taken.

RADIOGRAPHS: None.

MICROSCOPIC EXAMINATION

HEART: Five sections of heart (left ventricle, interventricular septum, right ventricular free wall) demonstrate hypertrophic cardiomyocytes with preservation of usual cross-striation and no significant inflammatory infiltrate. No necrosis or fibrosis is present. There is minimal perivascular fibrosis. Vessels are unremarkable.

LUNG: Sections of lung demonstrate alveolar airspaces free of inflammation, foreign material, and infiltrating processes. Alveolar septa are congested but free of inflammation or fibrosis. Larger airways have minimal adjacent anthracotic pigment, and no foreign material, inflammation, basement membrane thickening, muscular hypertrophy, or glandular hyperplasia. Vessels have no thickening, fibrosis, or inflammation. Examination under polarized light reveals no birefringent crystals.

LIVER: A section of liver demonstrates hepatic parenchyma with mildly congested sinusoids in a centrilobular (zone 3) pattern. The hepatocytes are unremarkable and maintain the usual "1-cell" plate thickness. No apoptosis or necrosis, no balloon degeneration, and no neoplastic changes are present. No fibrosis is observed, and there is no abnormal inflammatory cell infiltrate.

KIDNEY: Sections of kidney demonstrate normocellular glomeruli with minimal interstitial inflammation. There is no mesangial nodularity, crescent formation, or capillary basement membrane thickening. The tubules are mildly autolyzed and otherwise unremarkable, with no significant inflammation or cast formation. No interstitial fibrosis is present. The arterioles exhibit mild onion-skinning.

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CHIEF MEDICAL EXAMINER

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CHIEF DEPUTY MEDICAL EXAMINER

TOXICOLOGY REPORT

(b) (6)

Name:
Medical Examiner Number:
Date of Death:
Time of Death:
Pathologist:
Specimens Received: **Central Blood, Gastric, Gastric #2, Liver, Peripheral Blood 1, Peripheral Blood 2, Urine, Vitreous**
Date Specimens Received: (b) (6)

Test Name (Method of Analysis)	Specimen Tested	Result
Alcohol Analysis (GC/FID-Headspace)	Peripheral Blood 2	
Alcohol (Ethanol)		Not Detected
Acetone, Methanol, Isopropanol		Not Detected
Drugs of Abuse Screen (ELISA)	Central Blood	
Cocaine metabolites		Not Detected
Amphetamines		Not Detected
Opiates		Not Detected
Benzodiazepines		**Presumptive Positive**
Fentanyl		**Presumptive Positive**
Cannabinoids		**Presumptive Positive**
Phencyclidine (PCP)		Not Detected
Oxycodone		Not Detected
Methadone		Not Detected
Zolpidem		Not Detected
Carisoprodol		Not Detected
Buprenorphine		Not Detected
Base Screen (GC/MS)	Peripheral Blood 1	
Mitragynine		**Detected**
Alprazolam		**Detected**
Benzodiazepines (HPLC/DAD)	Peripheral Blood 1	
Alprazolam		**0.10 mg/L**
7-Aminoclonazepam		**0.06 mg/L**
Fentanyl (GC/MS)	Peripheral Blood 1	**4.0 ng/mL**
Mitragynine (GC/NPD)	Peripheral Blood 1	**1.7 mg/L**
Vitreous Chem Panel (Cobas c111)	Vitreous	
Glucose		**51 mg/dL**
Chloride		**129 mmol/L**
Creatinine		**0.5 mg/dL**
Potassium		**9.3 mmol/L**
Sodium		**147 mmol/L**
VUN		**31 mg/dL**

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Unless otherwise requested, all specimens will be destroyed six (6) months after the closure of the case by the Medical Examiner
End Results

Comment:

A confirmation test for the presumptive positive Cannabinoids result (ELISA) was not performed.

Approved and Signed: (b) (6)

(b) (6)

Forensic Toxicology Laboratory Manager
(All Inquiries/Correspondence)

Reviewed: (b) (6)

Toxicologist II

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CHIEF MEDICAL EXAMINER

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INVESTIGATIVE REPORT

3/1/2016

CALL INFO

NAME OF DECEASED (LAST, FIRST MIDDLE)	AKA	HIO	CASE NUMBER
(b) (6)		☐	(b) (6)

INVESTIGATOR	REPORTED BY	REPORTING AGENCY	PREVIOUS WAIVE #
(b) (6)	Deputy (b) (6)	(b) (6) Sheriff	

CALL DATE AND TIME	ARRIVAL DATE AND TIME	RETURN DATE AND TIME
(b) (6)	(b) (6)	(b) (6)

DECEDENT

DATE AND TIME OF DEATH	DATE OF BIRTH	AGE	GENDER	RACE
(b) (6)	(b) (6)	19 Years	Male	White

RESIDENCE (STREET, CITY, STATE, ZIP)	COUNTY	LAST SEEN ALIVE
(b) (6)	(b) (6)	(b) (6)

	COUNTRY OF RESIDENCE	OCCUPATION	PAID AUTOPSY
	USA	(b) (6)	☐

DEATH

LOCATION OF DEATH	TYPE OF PLACE
Found, trail	Other

ADDRESS (STREET, CITY, STATE, ZIP)
(b) (6)

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SUMMARY

The decedent was a 19-year-old single White male who resided in a home in (b) (6) with his family. On the night of (b) (6) he was found hanged by the neck with a nylon rope tied to a tree by deputies during a search for the decedent. Emergency personnel were contacted and responded to the scene. Upon arrival death was confirmed without medical interventions due to obvious signs of rigor mortis and lividity.

Medical Examiner's jurisdiction invoked according to the (b) (6)
(b) (6)

INCIDENT

LOCATION OF INCIDENT	INCIDENT PLACE TYPE	AT WORK	AT RESIDENCE
Trail		☐	☐

ADDRESS (STREET, CITY, STATE, ZIP)	COUNTY
(b) (6)	(b) (6)

DATE AND TIME OF INCIDENT	INVESTIGATING AGENCY	OFFICER	BADGE #	REPORT #
(b) (6) Unk	(b) (6) Sheriff	(b) (6)	(b) (6)	(b) (6)

DECEDENT WAS	BELTED	HELMETED	POSITION	ON PRIVATE PROPERTY
		☐ Yes ☐ No		☐ Yes ☐ No

VEHICLE	LICENSE NUMBER	STATE

NOTIFICATION

IDENTIFIED BY	METHOD	DATE AND TIME
(b) (6)	Photograph	(b) (6)

FUNERAL HOME	PROPERTY	PUBLIC ADMINISTRATOR	TYPE OF EXAM
(b) (6)	☐ Yes ☑ No	☐ Yes ☑ No	Autopsy

NAME OF NOK OR OTHER	RELATIONSHIP		DATE NOTIFIED	NOTIFIED BY
(b) (6)	Parents		(b) (6)	Law Informant

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(b) (6)

	Case Number	: (b) (6)
(b) (6)	**Investigator**	:
	Date of Death	:
	Date Today	:

INVESTIGATIVE NARRATIVE

Decedent: (b) (6)

Antemortem Events:
The following information was provided on (b) (6), during a personal interview with (b) (6) Sheriff's Office Deputy (b) (6) ID (b) (6) while at the scene. The decedent was a 19-year-old Caucasian male. On the night of (b) (6) at approximately (b) (6) hours, the decedent sent a friend a text message that was suicidal in nature. The decedent's friend became concerned and went to look for the decedent. He went to various locations where the decedent frequented and found the decedent's car parked along the side of the road at the intersection of (b) (6) and (b) (6), in (b) (6). The decedent's friend looked for him in the area and when he couldn't find him he contacted the decedent's father. His father received the phone call at approximately (b) (6) hours. He then drove to the location and they looked for the decedent. When they could not find him they contacted (b) (6) Sheriff's Office. (b) (6) Sheriff's Office dispatch received the call on (b) (6), at (b) (6) hours. Deputies responded to the location of the vehicle arriving shortly thereafter. They began searching the area with helicopters and on foot to no avail. The decedent's father then went home and using the Find My iPhone app he located the decedent's cell phone. He then contacted (b) (6) Sheriff's Office and provided them with a second location which was the (b) (6) block of (b) (6), in (b) (6). Deputies responded to that location arriving at (b) (6) hours. There is a trail off the roadway and deputies started searching the area. At (b) (6) hours, they found the decedent hanged by the neck with a nylon rope attached to a tree. They contacted (b) (6) Fire Department and Paramedic Unit (b) (6) responded to the scene. Upon arrival death was confirmed without medical interventions due to the obvious signs of rigor mortis and lividity. The Medical Examiner's Office was notified of the death at (b) (6) hours, and the scene was secured pending my arrival.

Past Medical, Surgical, and Social History:
The following information was provided on (b) (6), during a personal interview with the decedent's father (b) (6) and multiple family members. The decedent was single and lived with his parents. He had a medical history significant for Bipolar disorder, depression, anxiety, insomnia, and past knee surgery. In (b) (6), the decedent started cutting himself and told family that he needed help. Since that time he had had multiple hospitalizations. His most recent hospitalization was at (b) (6). He had been admitted there due to suicidal ideations. The decedent was discharged approximately one week prior to death. The decedent had a history of suicidal ideations but had not spoken of suicide since his discharge from (b) (6). There are no known suicide attempts. The decedent drank alcohol socially and smoked marijuana. There is no other known illicit drug use. There is no history of tobacco use. He had a past history of prescription drug abuse. The decedent's father last spoke with him on (b) (6), at approximately (b) (6) hours. At that time the decedent did not appear well and did not seem right. He asked the decedent how he was and he stated "ok". He then told his father he was going to meet a friend and left the residence.

Scene Description:
On (b) (6), at (b) (6) hours, I arrived at the scene which was a wooded area located off of a trail at the (b) (6) block of (b) (6), in (b) (6). The decedent was observed hanged by the neck with a nylon rope tied around a tree branch. The ligature measured 32 inches from the knot on the tree branch to the neck and 39 inches from the branch to the neck. It was 78 inches from the decedent's neck to the ground. An oversized weathered brown leather chair and ottoman were noted next to the tree. The chair was on its side and underneath the decedent. The decedent's legs straddled the chair with his left leg resting against it. When the

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chair was moved, the decedent's feet were suspended off the ground. The ottoman was to the left of the chair. Several personal items belonging to the decedent were on top of the ottoman and had been placed there by deputies. The items included a notebook with writing, a prescription bottle for divalproex, and a knife with blood on it. The items had been in the decedent's backpack which was located on the ground behind the chair. The decedent's cell phone was also located at the scene. A text message that was suicidal in nature had been sent to a friend. An empty bottle of alcohol was noted on the ground a few feet from the chair. There were no signs of struggle or foul play.

Body Description:
During the above mentioned scene investigation I viewed the decedent hanged by the neck with a nylon rope. His head was tilted to the right and his arms were extended straight down from the body. His legs straddled the chair underneath him with his left leg bent at the knee resting on the arm of the chair and his right leg suspended straight down from the body. The decedent was clad in a gray t-shirt, tan pants, gray underwear, white socks, and brown shoes. A grey headlamp was around his head. The decedent was cool to the touch. Firm rigor mortis was noted in his extremities and could be overcome with moderate force. Fixed lividity was observed to his lower abdomen and lower back. The decedent was cut down by (b) (6) personnel to continue the examination. Upon palpation there was no crepitus felt to the decedent's head, neck, shoulders, or chest. His eyes were clear and no petechial hemorrhages were observed. His tongue was purple and observed protruding between his teeth. A ligature mark furrow was noted around the decedent's neck. Linear incisions were also noted to the decedent's neck. The ligature was left in place. The decedent's abdomen and back were unremarkable. Linear incisions varying in depth and blood were noted on both of the decedent's lower arms. There was no other obvious trauma observed.

On (b) (6), at (b) (6) hours, a yellow identification band was placed on the decedent's right ankle. (b) (6) (b) (6) personnel (b) (6) and (b) (6) placed the decedent in a new white pouch and blue tamper evident seal (b) (6) was affixed at (b) (6) hours, for transport to the Medical Examiner's Office.

Special Requests:
There are no special requests.

Identification:
The decedent was visually identified through photographic comparison with his (b) (6) Driver's License (b) (6)

Antemortem Specimens:
Not applicable.

Public Administrator:
No referral necessary.

Other Important Factors:
I provided the decedent's family with a Medical Examiner's pamphlet and [redacted] brochure.

Signed: [redacted]

Medical Examiner Investigator

Approved by: [redacted]

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(b) (6)

(b) (6)
CHIEF MEDICAL EXAMINER

(b) (6)

(b) (6)
CHIEF DEPUTY MEDICAL EXAMINER

AUTOPSY REPORT

Name: (b) (6)

ME#: (b) (6)

Place of death: Trail, (b) (6)

Age: 19 Years

Sex: Male

Date of death: Found, (b) (6)

Date of autopsy: (b) (6) 0945 Hours

CAUSE OF DEATH: LIGATURE HANGING

MANNER OF DEATH: SUICIDE

AUTOPSY SUMMARY:

I. Ligature hanging, with:
   - A. Ligature and ligature furrow around neck.
   - B. Prominent facial plethora.
   - C. Fracture of left wing of hyoid bone.
   - D. Ligature recovered.

II. Numerous superficial incised wounds on the left anterolateral neck and both forearms; no major blood vessels involved.

III. No significant recent natural disease.

IV. See below for toxicologic testing results.

OPINION: According to the Investigator's Report, the decedent was a 19-year-old man who lived in [redacted] with his family. On [redacted] the decedent sent a friend a suicide-type text message at approximately [redacted] hours. The friend became concerned and went to look for the decedent at locations the decedent frequented. He found the decedent's car, but when he could not find the decedent, he contacted the decedent's father. The decedent's father then drove to the location and helped look for the decedent. When the pair still could not find him, they contacted [redacted] Sheriff's Office, who responded to the location of the car shortly thereafter. They searched the area on foot and with helicopters to no avail. The decedent's father then used the "Find my iPhone" app to locate the decedent's cellphone, and he provided this location to the Sheriff's Office. Deputies responded to that location at approximately [redacted] hours on [redacted]. This was a trail off a roadway and deputies searched the area and found the decedent hanging by the neck with a nylon rope attached to a tree. Underneath the decedent was an overturned chair. His left leg was resting against the side of the chair and his right leg was fully suspended. Death was confirmed at the scene without medical intervention due to obvious postmortem changes. The decedent had a reported past medical history of bipolar affective disorder, depression, anxiety, insomnia, and multiple psychiatric hospitalizations since [redacted] at which time he started cutting himself and informed his family he needed help. He was most recently discharged from an inpatient psychiatric hospitalization due to suicidal ideations, approximately one week prior to his death. He had no known prior suicide attempts. He drank alcohol socially, smoked marijuana, and abused prescription medications, but reportedly did not abuse alcohol or illicit drugs.

Autopsy examination showed a normally developed adult man with a ligature around the neck (white synthetic rope) and prominent plethora of the head and neck above the ligature. No skin or conjunctival petechiae were visible. There were numerous collinear superficial incised wounds on the left anterolateral neck, and the left and right forearms. These only very focally penetrated the most superficial subcutaneous fatty soft tissues, and did not involve any major blood vessels. Internal examination of the neck showed fracture of the left wing of the hyoid bone, with focal mild associated hemorrhage. No additional significant internal injuries were noted. No significant natural disease was found. Toxicological testing of peripheral blood detected alcohol (0.13%); a potentially toxic concentration of mitragynine ingredient of Kratom) (approximately 0.74 mg/L); and slightly supratherapeutic-range concentrations of quetiapine (0.81 mg/L) and zolpidem (0.46 mg/L). Also detected are benzodiazepine metabolites nordiazepam (trace) and 7-aminoclonazepam (0.10 mg/L).

Based on the information available at the time of this report, including the autopsy findings and results of ancillary testing, the death is attributed to ligature hanging, and the manner of death is classified as suicide.

(b) (6)
Deputy Medical Examiner

Date signed:

IDENTIFICATION: The body is identified by two Medical Examiner's identification bands on the right ankle, bearing the decedent's name and case number.

WITNESSES: Assisting is Forensic Autopsy Specialist (b) (6). There are no outside observers.

CLOTHING: When initially viewed, the decedent is clad in a gray T-shirt, with patchy areas of mild blood staining at the anterior aspect (b) (6)", size LG). On the decedent's head is a headlamp with gray/orange synthetic strap (no brand).

Separately received is a brown paper bag containing the following items:

- Two white socks with gray toes and heels.
- Two brown lace-up shoes ("Vans", size 10.0).
- Gray boxer brief-type underwear ("Champion", size M).
- Tan pants ("Active", size 30), with dried blood droplets on the anterior right leg and more prominent dried blood droplets and smears on the anterior left leg.

EVIDENCE OF MEDICAL THERAPY: None.

POSTMORTEM CHANGES: The body is well preserved and has not been embalmed. There is moderate-to-marked rigor mortis of upper and lower extremities, neck, and jaw. Lividity is present over posterior surfaces of the body where it is dark pink, and blanches easily with pressure. There is no significant stocking glove-type lividity. The body is cool.

EXTERNAL EXAMINATION

The body is that of a well-developed, well-nourished, average-framed, 67 inch, 152 pound man whose appearance is consistent with the given age of 19 years.

The scalp hair is straight, blonde, and measures up to approximately 7 inches in length at the top of the head. The mustache and beard hair is shaven (short stubble). The nose and facial bones are intact on palpation. The ears are normally formed and without drainage. No piercing sites are visible. The eyes have green/hazel irides and the conjunctivae are congested, but there are no visible petechiae, hemorrhages, or jaundice. The nose is normally formed, and the nares are clean and unobstructed. The oral cavity has natural teeth in good repair and an atraumatic mucosa. The tongue is protruding between the teeth.

There are no visible scars on the skin of the neck; see "Injuries" below for additional description.

The chest is normally formed, symmetrical, and without palpable masses. The abdomen is flat and soft; no masses are palpable. The surface of the back is free of lesions.

The upper extremities are normally formed. There are no specific notable scars including track marks or ventral wrist scars. The fingernails are short and unremarkable. There is black fingerprint ink on the pads of the fingers. No recent needle puncture sites are present.

The lower extremities are normally formed and have no edema, amputations, or deformity. There no specific notable scars. The toenails are short and unremarkable.

The external genitalia are those of a normal adult man, with both testes palpable in the scrotum.

TATTOOS: None seen.

INJURIES, EXTERNAL AND INTERNAL

HANGING:
A ligature furrow surrounds the neck. At the front of the neck it is approximately 1/2 inch in diameter, dried and leathery appearing, with rope weave pattern visible, and angles upward toward the left side of the neck. At the left side of the neck there is a 1/2 inch wide dried furrow with rope weave impression visible, angling upward toward the back of the head. At the right side of the neck is a 1/2 inch dried furrow with rope weave pattern visible, angling upward towards the back of the neck. At the posterior aspect of the neck and head it is a pale impression which appears come to an apex at the central posterior neck, just in the hairline. It is 1/2 inch in diameter at all locations, with minimal drying and foci of erythema. There is a 1 inch vaguely demarcated, irregular focus of pallor at the apex, where the knot was apparently located.

Around the neck is a moderately tight, single loop of white synthetic 1/2 inch diameter rope ligature, with an overhand knot positioned at the posterior aspect of the decedent's head. The noose portion of the ligature is 16-1/2 inches in circumference, 5 inches in diameter, and has a 17-1/2 inch end extending (which is markedly frayed); and a separate 28 inch segment extending with a knot at the distal portion with three additional loose frayed ends extending (6 inches, 7 inches, and 10-1/2 inches each).

Internally, there is a fracture of the left wing of the hyoid bone (with 1/8 inch focus of mild associated overlying hemorrhage). There are no fractures of the thyroid or cricoid cartilages, or the vertebrae, and there is no additional significant hemorrhage in the soft tissues of the neck.

The face and head are mild-to-moderately plethoric. There are no petechiae visible on the skin of the face, the conjunctivae or the oral mucosa.

INCISED WOUNDS OF THE NECK AND EXTREMITIES:
There is a group of approximately seven collinear very superficial incised wounds at the left anterolateral aspect of the neck. The maximum depth pf these is less than 1/16 inch. There is no injury of major blood vessels.

The right upper extremity has five collinear and superficial incised wounds (up to 2 inches in greatest length) on the dorsal forearm and an approximately 8 x 2 inch area of numerous (approximately 50) collinear superficial incised wounds on the ventral forearm. There is a 1/4 inch abrasion on the base of the right thumb and a 1/4 inch irregular focus of skin avulsion adjacent to the nailbed of the right thumb.

The left upper extremity has three superficial linear incised wounds on the dorsal forearm (up to 8 inches in greatest dimension), and an approximately 10 x 4 inch area of numerous (at least 75) collinear incised wounds on the ventral forearm. All of the previously described incised wounds are superficial (up to a maximum depth of 1/16 inch). These involve skin and only very focally penetrated subcutaneous fatty soft tissues. The major blood vessels of both upper extremities are not involved.

Separately received is a black synthetic handled "Kodi-Caper" knife, which has an approximately 3-1/4 inch length, singled-edged, non-serrated blade. There is smeared dried blood on the blade. This is photographed.

These injuries above, having been described, will not be repeated.

INTERNAL EXAMINATION

BODY CAVITIES: The organs are in their normal situs. The pleural and peritoneal cavities contain physiologic amounts of tan serous fluid. There are no hemorrhages or significant adhesions within body cavities.

CARDIOVASCULAR SYSTEM: The heart weighs 310 grams, appears normally shaped, and has a normal distribution of right dominant coronary arteries without atherosclerotic stenosis or recent thrombus. The myocardium is red-brown, firm, and uniform without focal fibrosis, softening, or hyperemia. The ventricles are not dilated or hypertrophied. The right ventricle, left ventricle, and interventricular septum measure 0.6 cm, 1.6 cm, and 1.6 cm, respectively. The endocardium is intact, smooth, and glistening. The cardiac valve leaflets are of normal number, pliable, intact, and free of vegetations. The atrial and ventricular septa are free of defects. The aorta follows its usual course and has minimal atherosclerotic streaking. There are no vascular anomalies or aneurysms. The vena cavae and pulmonary arteries are without thrombus or embolus.

RESPIRATORY SYSTEM: The right and left lungs weigh 530 and 480 grams, respectively, and have the usual lobation. The pleura are smooth and glistening; the lungs

have minimal anthracotic pigment. The lungs are well expanded and crepitant. The parenchyma is dark red and exudes moderate amounts of fluid. The lungs have no consolidation, hemorrhage, infarct, tumor, gross fibrosis, or enlargement of airspaces. The bronchi are unremarkable.

HEPATOBILIARY SYSTEM: The liver weighs 2040 grams. The intact capsule is smooth and glistening. The parenchyma is red-brown and uniform without mass, hemorrhage, yellow discoloration, or palpable fibrosis. The gallbladder contains an estimated 10 ml of bile and no stones. Its mucosa is uniform and the wall is not thickened.

The pancreas has a normal size, shape, and lobulated structure. The parenchyma is red-pink, soft, autolyzed and uniform without mass or hemorrhage.

HEMOLYMPHATIC SYSTEM: The spleen weighs 250 grams. The capsule is smooth and intact. The parenchyma is maroon, firm, and uniform. There is no enlargement of the lymph nodes in the neck, chest, or abdomen.

ENDOCRINE SYSTEM: The thyroid gland is not enlarged, and the lobes are symmetrical. The parenchyma is uniform, firm, and red-brown. The adrenal glands have the usual golden cortical ribbon and unremarkable medullae. The pituitary gland is unremarkable.

GASTROINTESTINAL SYSTEM: The esophagus and gastroesophageal junction are unremarkable. The stomach contains approximately 100 ml of brown liquid material with multiple ovoid fragments of soft, tan, apparent food material; no definite pill remnants are identified. The gastric and duodenal mucosae are intact and unremarkable. The small and large intestines are unremarkable to inspection and palpation. The appendix is present and unremarkable.

GENITOURINARY SYSTEM: The right and left kidneys weigh 120 and 150 grams, respectively, and have a normal shape and position. The cortical surfaces are smooth. The kidneys have the usual corticomedullary structure without tumors or cysts. The pelves and ureters are not dilated or thickened. The bladder contains approximately 30 ml of clear yellow urine. The mucosa is intact, and the bladder wall is not hypertrophied. The prostate gland is of average size and grossly unremarkable. The testes are not examined.

NECK: See "Injuries" above. The cervical vertebrae and tracheal and laryngeal cartilages are without trauma. The upper airway is patent. The tongue is unremarkable.

MUSCULOSKELETAL SYSTEM: The musculoskeletal system is well developed and free of deformity. There are no fractures of the clavicles, sternum, ribs, vertebrae, or pelvis. The ribs are not brittle. The skeletal muscle is dark red and firm.

HEAD: The scalp is free of hemorrhage. The calvarium and base of the skull are normally configured and have no fractures. The dura is intact, and there is no epidural or subdural hemorrhage.

CENTRAL NERVOUS SYSTEM: The unfixed brain weighs 1450 grams. The leptomeninges are glistening and transparent without underlying hemorrhage, exudate, or cortical contusions. The hemispheres are symmetrical and have a normal gyral pattern. There is no flattening of the gyri, narrowing of the sulci, midline shift, or evidence of herniation. The arteries at the base of brain have no significant atherosclerotic changes or aneurysms.

Sections through the cerebral hemispheres have a uniform, intact cortical ribbon and uniform white matter. The basal ganglia, thalami, hippocampi and other internal structures are symmetrical and without focal change. The ventricles are not enlarged, and the linings are smooth and glistening. Sections of the brainstem and cerebellum show an intact structure without focal lesions.

SPECIMENS RETAINED

TOXICOLOGY: Samples of central and peripheral blood, vitreous humor, gastric contents, urine, and liver are retained for toxicology.

HISTOLOGY: Representative sections of organs and tissues are retained. No sections are submitted for histology.

PHOTOGRAPHS: Digital identification photographs, overall photographs, and selected photographs of internal findings are taken.

RADIOGRAPHS: None.

(b) (6)

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(b) (6)

(b) (6)

(b) (6)
CHIEF MEDICAL EXAMINER

(b) (6)
CHIEF DEPUTY MEDICAL EXAMINER

TOXICOLOGY REPORT

Name: (b) (6)
Medical Examiner Number:
Date of Death:
Time of Death:
Pathologist:
Specimens Received: **Central Blood, Gastric, Liver, Peripheral Blood 1, Peripheral Blood 2, Urine, Vitreous**
Date Specimens Received: (b) (6)

Test Name (Method of Analysis)	Specimen Tested	Result
Alcohol Analysis (GC/FID-Headspace)	Peripheral Blood 2	
Alcohol (Ethanol)		**0.13 %(w/v)**
Acetone, Methanol, Isopropanol		Not Detected
Drugs of Abuse Screen (ELISA)	Central Blood	
Cocaine metabolites		Not Detected
Amphetamines		Not Detected
Opiates		Not Detected
Benzodiazepines		**Presumptive Positive**
Fentanyl		Not Detected
Cannabinoids		Not Detected
Phencyclidine (PCP)		Not Detected
Oxycodone		Not Detected
Methadone		Not Detected
Zolpidem		**Presumptive Positive**
Carisoprodol		Not Detected
Buprenorphine		Not Detected
Benzodiazepines (HPLC/DAD)	Peripheral Blood 1	
7-Aminoclonazepam		**0.10 mg/L**
Nordiazepam		**Trace Detected (<0.05 mg/L)**
Zolpidem (HPLC/DAD)	Peripheral Blood 1	**0.46 mg/L**
Mitragynine (HPLC/DAD)	Peripheral Blood 1	**Approximately 0.74 mg/L**
Quetiapine (HPLC/DAD)	Peripheral Blood 1	**0.81 mg/L**

Unless otherwise requested, all specimens will be destroyed six (6) months after the closure of the case by the Medical Examiner
End Results

Approved and Signed: (b) (6) (b) (6)
Forensic Toxicology Laboratory Supervisor

Reviewed: (b) (6)
Toxicologist II

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(b) (6)

(b) (6)

(b) (6)
CHIEF MEDICAL EXAMINER

INVESTIGATIVE REPORT

5/20/2015

CALL INFO

NAME OF DECEASED (LAST, FIRST MIDDLE)	AKA	HIO	CASE NUMBER
(b) (6)		☐	(b) (6)

INVESTIGATOR	REPORTED BY	REPORTING AGENCY	PREVIOUS WAIVE #
(b) (6)	Officer (b) (6)	(b) (6) Police	

CALL DATE AND TIME	ARRIVAL DATE AND TIME	RETURN DATE AND TIME
(b) (6)	(b) (6)	(b) (6)

DECEDENT

DATE AND TIME OF DEATH	DATE OF BIRTH	AGE	GENDER	RACE
(b) (6)	(b) (6)	22 Years	Male	White

RESIDENCE (STREET, CITY, STATE, ZIP)	COUNTY	LAST SEEN ALIVE
(b) (6)	(b) (6)	(b) (6)

COUNTRY OF RESIDENCE	OCCUPATION	PAID AUTOPSY
USA	(b) (6)	☐

DEATH

LOCATION OF DEATH	TYPE OF PLACE
Home, bedroom	Decedent's Home

ADDRESS (STREET, CITY, STATE, ZIP): (b) (6)

SUMMARY

The decedent was a single 22-year-old White male who lived with his family at their home in (b) (6) On the morning of (b) (6), his girlfriend awoke and found the decedent next to her in bed unresponsive and not breathing. She called 9-1-1 and responding paramedics arrived and began cardiopulmonary resuscitation efforts. Despite efforts, the decedent failed to respond and his death was pronounced via radio by a local hospital. The decedent had a history of steroid use.

Medical Examiner's jurisdiction invoked according to the (b) (6)

INCIDENT

LOCATION OF INCIDENT	INCIDENT PLACE TYPE	AT WORK	AT RESIDENCE
Home		☐	☐

ADDRESS (STREET, CITY, STATE, ZIP)	COUNTY
(b) (6)	(b) (6)

DATE AND TIME OF INCIDENT	INVESTIGATING AGENCY	OFFICER	BADGE #	REPORT #
(b) (6) Unk	(b) (6) Police	Officer (b) (6)	(b) (6)	(b) (6)

DECEDENT WAS	BELTED	HELMETED	POSITION	ON PRIVATE PROPERTY
		☐ Yes ☐ No		☐ Yes ☐ No

VEHICLE	LICENSE NUMBER	STATE

NOTIFICATION

IDENTIFIED BY	METHOD	DATE AND TIME
(b) (6)	Visual	(b) (6)

FUNERAL HOME	PROPERTY	PUBLIC ADMINISTRATOR	TYPE OF EXAM
(b) (6)	☐ Yes ☑ No	☐ Yes ☑ No	Autopsy

NAME OF NOK OR OTHER	RELATIONSHIP		DATE NOTIFIED	NOTIFIED BY
(b) (6)	Mother		(b) (6)	Law Informant
(b) (6)	Father		(b) (6)	Other

12639579-01-00-02

(b) (6)	**Case Number**
	Investigator (b) (6)
	Date of Death
	Date Today

INVESTIGATIVE NARRATIVE

Decedent: (b) (6)

Antemortem Events:
The following information was obtained during a personal interview conducted on (b) (6) at (b) (6) hours, with Officer (b) (6), ID number (b) (6) of the (b) (6) Police Department. The decedent was a 22-year-old White male who lived with his mother and two of his three brothers at their home in (b) (6) He worked as a (b) (6) at an (b) (6). Two weeks before to his death, he met and began to date (b) (6) (b) (6) In that two-week period, they went out on only two dates. On the evening of (b) (6), the decedent and (b) (6) went out for dinner. They intended to go see a movie after, but the movie they wanted to see was not showing, so they went to the decedent's home where they arrived at approximately (b) (6) hours. The decedent and (b) (6) went to his bedroom, and they stayed up talking until approximately (b) (6) hours, on (b) (6), when they eventually fell asleep.

Officer (b) (6) further stated that on (b) (6) at (b) (6) hours, (b) (6) awoke and found the decedent lying next to her on his left and side his right arm over her body. When she moved his arm to get up, she noticed that he did not respond. She looked closer at him, saw a brown fluid coming out of his mouth, and he was not breathing. She got up from the bed and used her cellular telephone to call 9-1-1. The dispatcher asked for the address of the decedent, but since she did not know it. She ran downstairs and outside to look at the house number and ran down the street to get the name of the street. While returning to the house, she gave the information to the dispatcher. (b) (6) went back into the house and to the decedent's bedroom. She pulled the decedent off the bed and onto the floor, and began chest compressions. The decedent's mother, (b) (6) (b) (6) heard the commotion, and got up from bed. She went to the decedent's bedroom and saw (b) (6), who she never met, doing chest compressions on the decedent.

Responding (b) (6) Fire Department Engine Company (b) (6) and Paramedic Unit (b) (6) arrived at the home. Paramedics went to the decedent's bedroom and began cardiopulmonary resuscitation efforts as well as making radio contact with the (b) (6) emergency room. Despite their efforts, the decedent failed to respond. Dr. (b) (6) of the emergency room staff pronounced the decedent's death via radio at (b) (6) hours

Past Medical, Surgical, and Social History:
The following information was obtained during a personal interview conducted on (b) (6) at (b) (6) hours, with the decedent's mother, (b) (6). (b) (6) stated that her son did not have a medical history and did not take prescription medications. He had not recently been sick, never traveled to West African nations, he had no known contact with suspected Ebola patients, and no known contact with rodents, bats or primates. She did state that her son used marijuana but no other drugs. He went to the gym on a regular basis and used steroids. Her son stopped using steroids approximately three months prior to his death after he told her that he did not feel well after each injection. She further stated that the decedent smoked cigarettes and drank socially.

Scene Description:
On (b) (6) at (b) (6) hours, Officer (b) (6) and I viewed the scene address, which was a two-story home located at (b) (6) in (b) (6) The home was in average condition both inside and outside. It was well furnished and with good housekeeping. My primary focus was the decedent's bedroom located on the second floor of the home.

Furnishings in his bedroom consisted of a queen-size bed, a nightstand and a dresser. His clothes lay on the floor throughout his bedroom on the floor. On top of the bed was a plastic AM/PM bag filled with packaged syringes, a clear plastic bag and There was an empty plastic container marked Royal Kratom and an empty plastic container for Maeng Da. Officer (b) (6) stated that these capsules are popular with the younger generation in Florida and are able to be purchased at smoke shops. Next to the packets were five empty vials of Prop 100, Tren 100, and one vial of testosterone propionate injectable solutions. There was also marijuana wrapped in the cellophane of a cigarette pack and one-half of a Xanax tablet wrapped in a piece of paper. All of the aforementioned items were initially located in the decedent's backpack that had been located on the floor next to the decedent's bed. Two white T-shirts were on the floor in front of the nightstand and stained with moist brown fluid that (b) (6) used them to wipe the brown fluid off the decedent's face. The carpeting next to the t-shirts had a large moist stain from the brown fluid, and there were patches of stained carpet from the brown fluid that trailed up to where the decedent lay.

Officer (b) (6) directed me to the decedent's vehicle, which was parked in front of the home along the curb. In the cup holder of the car's center console was a small translucent bottle with the label removed. It contained a small amount of an unknown pink liquid. I did not find any evidence of forced entry into the home, or car, and there was no evidence of foul play or suicide. I did not find any other illicit drugs in the home or the decedent's car, and there were no alcoholic beverage containers.

Body Description:
On (b) (6) at (b) (6) hours, Officer (b) (6) and I viewed the decedent in his bedroom. He lay supine on his carpeted bedroom floor and covered with a white blanket. Removal of the blanket revealed that he was clad in a pair of black undershorts that were down and around his ankles. He was cool to my touch. Rigor mortis was absent and partly blanching lividity was to the posterior aspect of his body. Medical intervention paraphernalia included an endotracheal tube, a cervical collar, monitor and defibrillation pads and an intravenous line. There were spots of dried brown fluid on his face and forehead. There was no crepitus to his head or chest, the sclera was clear and with no petechial hemorrhages. I did not note any scars or trauma to his body. There were no ligature or track marks seen.

(b) (6) and (b) (6) of the (b) (6) were present at the scene. A yellow identification band was placed on the right ankle of the decedent. The decedent was placed inside a new white vinyl body pouch that was sealed at (b) (6) hours with blue seal number (b) (6)

Special Requests:
None.

Identification:
(b) (6) visually identified the decedent as her son, (b) (6).

Public Administrator:
No referral needed.

Other Important Factors:
None.

Signed: (b) (6) (b) (6) (b) (6)

Medical Examiner Investigator

Approved by: (b) (6)

673098

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(b) (6)

(b) (6)

(b) (6)
CHIEF MEDICAL EXAMINER

(b) (6)
CHIEF DEPUTY MEDICAL EXAMINER

AUTOPSY REPORT

Name: (b) (6)

ME#: (b) (6)

Place of death: Bedroom, (b) (6)

Age: 22 Years

Sex: Male

Date of death: (b) (6)

Date of autopsy: (b) (6); 0945 Hours

CAUSE OF DEATH: MIXED MITRAGYNINE, METHADONE, AND ALPRAZOLAM INTOXICATION

MANNER OF DEATH: ACCIDENT

AUTOPSY SUMMARY:

I. Mitragynine, methadone, and alprazolam intoxication.
   - A. Kratom capsules, alprazolam and unmarked container with pink liquid.
   - B. Toxic level of mitragynine.
   - C. Toxic/therapeutic level of methadone.
   - D. Trace level of alprazolam.

II. History of steroid use.

III. No evidence of natural disease or significant trauma.

B-5

OPINION: According to the Investigator's Report, this 22-year-old male lived with his family. On the morning of (b) (6) a woman who had spent the night with him awoke and found him unresponsive and not breathing. 911 was called, paramedics arrived, and cardiopulmonary resuscitative efforts were taken over but he was pronounced dead. He had an unremarkable medical history. He had not been recently ill and had no ill contacts. He used marijuana, smoked cigarettes, and drank socially. He had been using steroids but stopped approximately three months prior after not feeling well when he injected. Scene investigation found a plastic bag with packaged syringes and a used syringe was inside a clear plastic bag on the bed. There were empty packets next to the plastic bags, six for "Royal Kratom" capsules and one for "Maeng Da" capsules, and half of a Xanax tablet was wrapped in a piece of paper. A small unlabeled bottle with unknown pink liquid was found in his car.

The autopsy demonstrated a young muscular male with no anatomic explanation for the death. The left arm had a possible scar, possibly representing a repeated puncture site. Toxicological testing detected a toxic level of mitragynine (Kratom), a methadone level that overlaps with toxic and maintenance ranges, and trace level of alprazolam. Given that the decedent was not prescribed methadone and was likely ingesting it recreationally, the level detected is considered to have been within the toxic range.

Based on the autopsy findings and the circumstances surrounding the death, as currently understood, the cause of death is mixed mitragynine, methadone, and alprazolam intoxication, and the manner of death is accident.

(b) (6)
Deputy Medical Examiner

Date signed:

AUG - 9 2016

WITNESSES: I am assisted by Forensic Autopsy Specialist [redacted] (b) (6)

IDENTIFICATION: The body is identified by a blue and a yellow Medical Examiner's tag around the right ankle, each bearing the decedent's name and case number.

CLOTHING: The body is unclad when initially viewed. A separate bag of clothing accompanies the body and is not examined.

EVIDENCE OF MEDICAL INTERVENTION:

1. Endotracheal tube inserted into the mouth up to 25 cm at the front upper teeth and secured with a tamer, partially covered by a purple glove.
2. Cervical spine brace around the neck.
3. Electrocardiogram pads on the anterior right shoulder, left upper chest, and both sides of the abdomen.
4. Defibrillator pads on the right upper chest and lateral left thorax.
5. Vascular catheter inserted into the left antecubital fossa.

POSTMORTEM CHANGES: There is marked, symmetric rigor mortis of the upper and lower extremities, neck, and jaw. Livor mortis is posterior, red, and fixed. The body is cool (refrigerated).

SCARS: The left antecubital fossa has an elliptical hyper- and hypopigmented scar measuring 5/8 x 1/4 inch. The ventral left forearm has a C-shaped, curvilinear, 1/2 inch, hypopigmented scar. The right biceps has a 5/8 inch, circular, hyper- and hypopigmented scar. Lateral to the left antecubital fossa is a 1-1/2 inch, linear, hypopigmented scar. The dorsal left 2nd metacarpophalangeal joint has a 3/4 inch, linear, hypopigmented scar.

TATTOOS: The lateral left wrist has a non-professional tattoo reading [redacted] (b) (6) Behind this tattoo and medial to it [redacted] (b) (6) [redacted] (b) (6).

EXTERNAL EXAMINATION

The body is that of a well-developed, well-nourished, young, muscular male who measures 70 inches, weighs 194 pounds, and appears compatible with the given age of 22 years.

The scalp hair is shortly trimmed, brown, and measures up to 1/4 inch. The decedent is clean shaven. The nose and facial bones are palpably intact. The ears are normally formed. The eyes have light brown irides, round equal pupils, and translucent corneae. The sclerae and conjunctivae are without hemorrhage, petechiae, or jaundice. The nose is normally formed. The nares are unobstructed. The lips are normally formed. The teeth are natural and in good condition. The mouth contains a mild amount of dark brown gastric content. The neck is symmetrical and unremarkable.

The thorax is well developed and symmetrical. The abdomen is flat and soft. The surface of the back is free of lesions. The external genitalia are those of a normal adult male. The testes are palpable within the scrotum. The anus is unremarkable. The upper and lower extremities have no edema, deformities, or amputations. The fingernails and toenails are clean and shortly trimmed. The curvilinear scar of the ventral left forearm has a possible faint puncture. There is a mild amount of facial and back acne.

EVIDENCE OF INJURY

The left 3rd metacarpophalangeal joint has a 1-1/2 inch red-pink contusion. The right knee has a 1 inch red-pink contusion. The right shin has five red-pink contusions, ranging in greatest dimension from 1/2 – 1 inch. The proximal left shin has a 1-1/8 inch, irregular, red-pink contusion.

INTERNAL EXAMINATION

BODY CAVITIES: The subcutaneous abdominal fat layer measures up to 1.3 cm in thickness. There is generalized visceral congestion. No adhesions or abnormal fluid collections are in the body cavities. The serosal surfaces are smooth and glistening. The diaphragm is intact. The organs are normally located.

CARDIOVASCULAR SYSTEM: The heart weighs 415 grams and has a normal overall shape and smooth, glistening epicardial surface. The coronary arteries arise normally, follow a right dominant course, and have no significant atherosclerotic stenosis. The myocardium is uniformly dark red and firm without pallor, hemorrhage, softening, or fibrosis. The ventricles are not dilatated. The right ventricle, left ventricle and interventricular septum measure 0.3 cm, 1.5 cm and 1.4 cm in thickness, respectively. The endocardial surfaces and four cardiac valves are unremarkable and without vegetations. The coronary ostia are normally placed and widely patent. There is a small, probe-patent foramen ovale. There are otherwise no interatrial or interventricular septal defects.

The aorta and its major branches follow the usual course, with no significant atherosclerotic changes. There are no vascular anomalies or aneurysms. The vena cava and pulmonary arteries are without thrombus or embolus.

RESPIRATORY SYSTEM: The right and left lungs weigh 810 and 880 grams, respectively. They have the usual lobation. The pleural surfaces are smooth and glistening and with minimal anthracosis. The airways contain a mild amount of content of gastric origin. The pulmonary parenchyma is dark red-purple and exudes a moderate-to-marked amount of blood and mild amount of frothy fluid. There is no consolidation or enlargement of the airspaces.

HEPATOBILIARY SYSTEM: The liver weighs 1970 grams. The intact capsule is smooth and glistening. Cut surfaces are red-brown and uniform without palpable fibrosis, hemorrhage, yellow discoloration, or masses. The gallbladder contains an estimated 15 ml of bile and no stones. Its mucosa is unremarkable.

HEMOLYMPHATIC SYSTEM: The spleen is mildly enlarged, weighs 355 grams and has a smooth intact capsule. Cut surfaces are maroon, firm and uniform. There is mild lymphadenopathy of the cervical, periportal, and para-aortic lymph nodes. There is a residual, 35 gram, brown-tan, unremarkable thymus.

GASTROINTESTINAL SYSTEM: The esophagus and gastroesophageal junction are unremarkable. The stomach contains 70 ml of dark brown, thick fluid with partially digested, indiscernible, brown food fragments. No pills or capsules are noted. The gastric and duodenal mucosae are unremarkable. The small and large intestines are unremarkable to inspection and palpation. The appendix is present and unremarkable.

The pancreas has unremarkable, lobulated, tan-brown parenchyma without fibrosis, hemorrhage, masses, or calcification.

GENITOURINARY SYSTEM: The right and left kidneys weigh 150 and 160 grams, respectively. The capsules strip with ease from the underlying smooth, red-brown, firm cortical surfaces. The corticomedullary architecture is unremarkable. The pelves are not dilated. The ureters maintain uniform caliber into an unremarkable bladder without thickening. The bladder contains 110 ml of yellow urine. The prostate gland is not enlarged.

ENDOCRINE SYSTEM: The thyroid gland is not enlarged, and the lobes are symmetrical. Cut surfaces show a uniform, firm, red-brown parenchyma. The adrenal glands have the usual golden cortical ribbon and unremarkable medullae. The pituitary gland is unremarkable.

MUSCULOSKELETAL SYSTEM: The bony framework and supporting musculature are not unusual. The ribs are not brittle. The cervical spinal column is stable on internal palpation.

HEAD: The scalp is atraumatic. The skull has no fracture. There is no epidural or subdural hemorrhage. Removal of the dura from the base of the skull reveals no fractures.

CENTRAL NERVOUS SYSTEM: The unfixed brain weighs 1655 grams. The dura mater and falx cerebri are intact, and not adherent to the brain. The leptomeninges are thin and transparent. There is no subarachnoid hemorrhage. There are no cortical contusions. The cerebral vessels are without aneurysms or atherosclerosis.

The cerebral hemispheres are symmetrical with unremarkable sulci and gyri. The white and gray matter, deep nuclei, and ventricles are symmetrical and unremarkable. The brainstem and cerebellum have the usual patterns. The substantia nigra is normally pigmented. There are no focal hemorrhages, masses, infarcts, or other lesions.

NECK: The trachea and larynx are patent and lined by glistening, pink-tan mucosa and contain a mild amount of content of gastric origin. The cervical vertebrae, hyoid bone, and tracheal and laryngeal cartilages are without fracture. The unremarkable tongue, anterior strap muscles and paratracheal soft tissues are without hemorrhage.

SPECIMENS

TOXICOLOGY: The following specimens are submitted for toxicology: central and peripheral blood, vitreous humor, urine, gastric contents, and liver.

HISTOLOGY: Representative portions of major organs and tissues are retained in formalin. Sections of heart (2), lungs (4), liver (1), and kidneys (2) are submitted for microscopic examination.

PHOTOGRAPHS: Facial identification and left arm digital photographs are taken.

X-RAYS: None.

MICROSCOPIC EXAMINATION

HEART: The cardiomyocytes demonstrate slight hypertrophic changes. There is otherwise no significant histopathology.

LUNGS: There is marked congestion and moderate edema, without other significant histopathology.

LIVER: There is moderate chronic inflammation of the portal areas with associated mild fibrosis.

KIDNEYS: There is no significant histopathology.

(b) (6)

12639579-01-00-12

CaseID: 12639579

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(b) (6)

(b) (6)

(b) (6)
CHIEF MEDICAL EXAMINER

(b) (6)
CHIEF DEPUTY MEDICAL EXAMINER

TOXICOLOGY REPORT

Name: (b) (6)
Medical Examiner Number:
Date of Death:
Time of Death:
Pathologist:
Specimens Received: **Central Blood, Gastric, Liver, Peripheral Blood 1, Peripheral Blood 2, Urine, Vitreous**
Date Specimens Received: (b) (6)

Test Name (Method of Analysis)	Specimen Tested	Result
Alcohol Analysis (GC/FID-Headspace)	Peripheral Blood 2	
Alcohol (Ethanol)		Not Detected
Acetone, Methanol, Isopropanol		Not Detected
Drugs of Abuse Screen (ELISA)	Central Blood	
Cocaine metabolites		Not Detected
Amphetamines		Not Detected
Opiates		Not Detected
Benzodiazepines		**Presumptive Positive**
Fentanyl		Not Detected
Cannabinoids		**Presumptive Positive**
Phencyclidine (PCP)		Not Detected
Oxycodone		Not Detected
Methadone		**Presumptive Positive**
Zolpidem		Not Detected
Carisoprodol		Not Detected
Buprenorphine		Not Detected
Base Screen (GC/MS)	Peripheral Blood 1	
Methadone		**Detected**
Mitragynine		**Detected**
Acid/Neutral Screen (HPLC/DAD)	Peripheral Blood 1	
Methadone		**Detected**
Benzodiazepines (HPLC/DAD)	Peripheral Blood 1	
Alprazolam		**Trace Detected (<0.05 mg/L)**
Methadone (GC/NPD)	Peripheral Blood 1	**0.61 mg/L**
	Gastric	**2 mg**
Mitragynine (GC/MS)	Peripheral Blood 1	**Approximately 0.68 mg/L**
	Gastric	Not Detected

Vitreous Chem Panel (Cobas c111)	Vitreous
Glucose	**7 mg/dL**
Chloride	**126 mmol/L**
Creatinine	**0.4 mg/dL**
Potassium	**11.3 mmol/L**
Sodium	**137 mmol/L**
VUN	**15 mg/dL**

Unless otherwise requested, all specimens will be destroyed six (6) months after the closure of the case by the Medical Examiner
End Results

Comment:

A confirmation test for the presumptive positive Cannabinoids result (ELISA) was not performed.

Approved and Signed: _____
(b) (6)
(b) (6)
Forensic Toxicology Laboratory Manager
(All Inquiries/Correspondence)

Reviewed: _____
(b) (6)
Forensic Toxicology Laboratory Supervisor

(b) (6)

DSS
AUG - 9 2016

INVESTIGATIVE REPORT

8/28/2015

CALL INFO

NAME OF DECEASED (LAST, FIRST MIDDLE)	AKA	HIO	CASE NUMBER
(b) (6)		☐	(b) (6)

INVESTIGATOR	REPORTED BY	REPORTING AGENCY	PREVIOUS WAIVE #
(b) (6)	Officer (b) (6)	(b) (6) Police	

CALL DATE AND TIME	ARRIVAL DATE AND TIME	RETURN DATE AND TIME
(b) (6)	(b) (6)	(b) (6)

DECEDENT

DATE AND TIME OF DEATH	DATE OF BIRTH	AGE	GENDER	RACE
(b) (6)	(b) (6)	43 Years	Male	White

RESIDENCE (STREET, CITY, STATE, ZIP)	COUNTY	LAST SEEN ALIVE
(b) (6)	(b) (6)	(b) (6) Unk

COUNTRY OF RESIDENCE	OCCUPATION	PAID AUTOPSY
USA	(b) (6)	☐

DEATH

LOCATION OF DEATH	TYPE OF PLACE
Found, home	Decedent's Home

ADDRESS (STREET, CITY, STATE, ZIP): (b) (6)

SUMMARY

The decedent was a single, 43-year-old, Caucasian male who resided in a converted garage below his mother's home in the city of (b) (6). On (b) (6), his mother heard him coughing throughout the day and night. On (b) (6), she went to check on him and found him unresponsive, in a prone position on his bedroom floor. She called 911 and when paramedics arrived, his death was confirmed without medical intervention due to rigor mortis in the extremities.

Medical Examiner's jurisdiction invoked according to the (b) (6)

INCIDENT

LOCATION OF INCIDENT	INCIDENT PLACE TYPE	AT WORK	AT RESIDENCE
Home		☐	☐

ADDRESS (STREET, CITY, STATE, ZIP)	COUNTY
(b) (6)	(b) (6)

DATE AND TIME OF INCIDENT	INVESTIGATING AGENCY	OFFICER	BADGE #	REPORT #
(b) (6) Unk	(b) (6) Police	(b) (6)	(b) (6)	(b) (6)

DECEDENT WAS	BELTED	HELMETED	POSITION	ON PRIVATE PROPERTY
		☐ Yes ☐ No		☐ Yes ☐ No

VEHICLE	LICENSE NUMBER	STATE

NOTIFICATION

IDENTIFIED BY	METHOD	DATE AND TIME
(b) (6)	Visual	(b) (6)

FUNERAL HOME	PROPERTY	PUBLIC ADMINISTRATOR	TYPE OF EXAM
(b) (6)	☑ Yes ☐ No	☐ Yes ☑ No	Autopsy

NAME OF NOK OR OTHER	RELATIONSHIP		DATE NOTIFIED	NOTIFIED BY
(b) (6)	Mother		(b) (6)	Other
NAME OF NOK OR OTHER	RELATIONSHIP		DATE NOTIFIED	NOTIFIED BY
(b) (6)	Father		(b) (6)	Other

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(b) (6)	Case Number	:	(b) (6)
	Investigator	:	
	Date of Death	:	
	Date Today	:	

INVESTIGATIVE NARRATIVE

Decedent: (b) (6)

Antemortem Events:

On (b) (6), the following information was provided by the decedent's mother, (b) (6), during a personal interview at the scene. The decedent was a single, 43-year-old, Caucasian male who resided in a converted garage below (b) (6) residence in the city of (b) (6). On (b) (6) (b) (6) heard him coughing violently throughout the day and night. She was uncertain of the last time she heard him, but she recalled going downstairs sometime before (b) (6) and thought she heard him snoring and making a gurgling noise at that time. Then on (b) (6) around (b) (6) hours she recalled hearing a loud thump. On the afternoon of (b) (6), she went into his residence to check on him and found him unresponsive, in a prone position on his bedroom floor. She then called 911 for assistance.

On (b) (6), the following information was provided by Officer (b) (6) ID (b) (6) from the (b) (6) Police Department (b) (6)) during a personal interview at the scene. On (b) (6) at (b) (6) hours, (b) (6) dispatch received the 911 call and patrol units were dispatched to (b) (6). When officers arrived at (b) (6) hours, (b) (6) Fire Department (b) (6) Engine (b) (6) was already on scene. Paramedics confirmed the decedent's death at (b) (6) hours without medical intervention due to rigor mortis in the extremities. The Medical examiner's Office was notified of the death at (b) (6) hours and the scene was secured pending my arrival.

Past Medical, Surgical, and Social History:

On (b) (6), the following information was provided by the decedent's mother, (b) (6), during a personal interview at the scene. The decedent's medical history was significant for Tourette's syndrome, high blood pressure, rheumatoid arthritis, chronic back and shoulder pain, incontinence, past prescription medication abuse, and past alcohol abuse. A former pain specialist had prescribed the decedent a large quantity of pain medication, possibly OxyContin, and the decedent became addicted to it. (b) (6) took him to a psychiatrist and a new primary doctor to get him off the pain pills. As far as she knew, he was no longer drinking and no longer abusing his medication. However, he did use medical marijuana for pain relief. He had an unsteady gait and a history of falls.

On (b) (6), the following information was obtained from medical records from the office of Dr. (b) (6) (b) (6) The decedent's medical history was significant for Tourette's, insomnia, obesity, back pain, anxiety, depression, gastroesophageal reflux disease, and elevated blood pressure.

On (b) (6), the following information was obtained from (b) (6) medical records. On (b) (6) the decedent was admitted to (b) (6) in (b) (6) for increasing back pain, despite recently being initiated on Suboxone. He stated the Suboxone has no effect on his discomfort. He was noted to have a chronic narcotic dependence. He was administered intravenous Dilaudid during the hospitalization and transitioned to oral narcotics. On (b) (6), his pain level had improved and he was discharged home. His discharge medications included trazodone, Prozac, Xanax, clonidine, and Percocet.

Scene Description:
On (b) (6) at (b) (6) hours, I arrived at the scene, which was located at (b) (6) in the city of (b) (6). The decedent resided in the first story garage, which had been converted into a living space with a bedroom, bathroom, and kitchen area. The decedent's mother resided on the second story. The decedent's residence was cluttered and messy. The decedent was located on the bedroom floor. The room was furnished with a twin-sized bed, a small end table, a wardrobe, a small wooden table, and a desk chair. The bed was covered with sheets and blankets, which were soiled and disheveled. A large area of light brown emesis was noted on the bed near the corner of the wall. Three bottles of medication were located on the wooden table. Two of the bottles were lansoprazole and were prescribed to (b) (6). The third bottle was noted to be oxycodone and was prescribed to the decedent. This bottle was empty, but was originally filled with 40 pills on (b) (6). A bottle of carisoprodol, which was prescribed to the decedent, was located on a shelf in the wardrobe. A small blue cooler was noted on the floor between the decedent's upper body and a small table. The cooler contained multiple medications prescribed to the decedent, including alprazolam, tramadol, Tamiflu, azithromycin, and fluoxetine. Additional medications prescribed to the decedent, including trazodone and clonidine, were also found in the kitchen area. Multiple medications prescribed to (b) (6) (b) (6), including lansoprazole, gabapentin, and fluoxetine, were located throughout the residence. Only the medications prescribed to the decedent were collected from the scene. Five empty small metallic pouches, some of which were labeled with "(b) (6) Medicine, Candied Walnuts, THC: 65.27mg", were found throughout the residence. No alcoholic beverages, weapons, suicide notes, or signs of a struggle were observed at the scene.

Body Description:
On (b) (6), in the presence of Officer (b) (6) and (b) (6) Personnel, I viewed the body of an obese, adult, Caucasian male as he lay in a prone position on the floor. His torso was resting on top of a guitar. He was clad in khaki shorts, a green t-shirt, a brown sweater, and one shoe on the left foot. Fixed partial lividity was noted on the back and buttocks and was inconsistent with the position I found him in. No obvious injuries were noted on the back. Upon rolling the decedent, I noted a large amount of dark brown emesis on his face and the floor, which was emanating from his nose and mouth. His eyes were congested, but no petechial hemorrhages were noted in the lower eyelids. The teeth were clenched on the protruding tongue and were difficult to view, but appeared intact. Upon palpation, no crepitation was noted to the head, neck, face, or thorax. The abdomen was soft and cool to the touch. Rigor mortis in the extremities was overcome with moderate force. Anterior lividity, which blanched under intense pressure, was noted to be consistent with the position I found him in. No obvious trauma was noted to the body.

(b) (6) employees (b) (6) and (b) (6) responded to the scene to assist with the decedent's body. A yellow identification band was placed on the decedent's right ankle. The decedent was placed inside a new, white, plastic bag, which was sealed with blue tamper-evident seal number (b) (6) at (b) (6) hours. The decedent was then transported to the Medical Examiner's Office for examination.

Special Requests:
As of (b) (6), there were no special requests.

Identification:
On (b) (6), the decedent was visually identified to (b) (6) officers by his mother, (b) (6), at the scene.

Tissue Donation:
The decedent's mother requested that his brain be donated to the Tourette Syndrome Association (TSA) for research. On the evening of (b) (6), I called the TSA brain donation hotline and learned that they must receive the brain within 24-hours from death. Since the decedent's last known alive time was uncertain, but was most likely between (b) (6) and (b) (6) hours on (b) (6), it was not possible to complete the donation process in time and therefore he was not a candidate for TSA research.

Antemortem Specimens:
Not applicable to this case.

Public Administrator:
No referral necessary.

Other Important Factors:
On (b) (6) I provided the decedent's mother with a (b) (6) brochure, a grief and bereavement services insert, and a Medical Examiner Pamphlet.

Signed: (b) (6) (b) (6) (b) (6)

Medical Examiner Investigator

Approved by: (b) (6)

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(b) (6)

(b) (6)

(b) (6)
CHIEF MEDICAL EXAMINER

(b) (6)
CHIEF DEPUTY MEDICAL EXAMINER

AUTOPSY REPORT

Name: (b) (6)

ME#: (b) (6)

Place of death: (b) (6)

Age: 43 Years

Sex: Male

Date of death: Found (b) (6)

Date of autopsy: (b) (6) 0935 Hours

CAUSE OF DEATH: PULMONARY THROMBOEMBOLI

Due To: DEEP VEIN THROMBOSIS

Contributing: OBESITY; DILATED CARDIOMYOPATHY; CHRONIC POLYSUBSTANCE ABUSE

MANNER OF DEATH: NATURAL

AUTOPSY SUMMARY:

I. Deep vein thrombosis with pulmonary thromboemboli.

II. Obesity (Body Mass Index = 44.0).

III. Arteriosclerotic cardiovascular disease, with:
- A. Clinical history of hypertension.
- B. Dilated cardiomyopathy (600 gram, 1.0 cm left ventricular free wall thickness, marked four-chamber cardiac dilatation).
- C. Slight-to-moderate coronary artery atherosclerosis.
- D. Arteriolonephrosclerosis, mild.

IV. Acute and chronic polysubstance abuse, with:
- A. Clinical history of chronic polysubstance (alcohol and prescription medication) abuse.
- B. Mild fatty change of the liver.
- C. Multiple prescription and illicit drugs detected on toxicologic testing; see below.

V. Clinical history of rheumatoid arthritis.

VI. No significant recent traumatic injury identified.

OPINION: According to the Investigator's Report, the decedent was a single, 43-year-old man who lived in a converted garage at his mother's home. On (b) (6), his mother heard him coughing throughout the day and night. On (b) (6), she checked on him and found him unresponsive, in a prone position on his bedroom floor. She called 911 and death was confirmed on arrival of paramedics without medical intervention, due to obvious postmortem changes. The decedent had a reported past medical history of Tourette's syndrome, high blood pressure, rheumatoid arthritis, chronic back and shoulder pain, prescription medication abuse and alcohol abuse. The decedent's mother believed that he was no longer drinking or abusing his prescription medications, however, he did use medical marijuana for pain relief. He had an unsteady gait and history of falls. At the scene, multiple prescription medications, which were prescribed either to the decedent or to a specific other person ("(b) (6)"), were located at the scene. Those medications prescribed to the decedent included alprazolam, carisoprodol, clonidine, fluoxetine, oxycodone, tramadol and trazodone. Many of these prescriptions were old and none of them appeared obviously abused/overused, based on the prescription dates and dosage instructions.

Autopsy examination showed a normally developed obese adult man with bilateral venous thromboses in the lower extremities, scant thromboembolus material in the left main pulmonary artery, and focal obstructing thromboembolus in the right pulmonary artery. Cut sections of the right lung showed few, small, scattered shower thromboemboli present within all three lobes but most notable in the lower lobe. There was a microscopic pulmonary infarct seen on histologic tissue sections. Additional natural disease included acute bronchopneumonia throughout all lobes of the lungs, dilated cardiomyopathy (600 gram, 1.0 cm left ventricular free wall thickness, marked four-chamber cardiac dilatation), mild-to-moderate coronary artery atherosclerosis (left anterior descending and right coronary arteries), mild arteriolonephrosclerosis, and mild fatty change of the liver. No additional significant natural disease was noted. Toxicological testing of peripheral blood detected a potentially toxic concentration of morphine (0.28 mg/L), slightly supratherapeutic fluoxetine (0.76 mg/L), and therapeutic range concentrations of benzodiazepines, trazodone, and gabapentin. A presumptive positive result for cannabinoids was not confirmed. Also detected was mitragynine (0.46 mg/L)(an ingredient in the drug of abuse, Kratom). Although the decedent had multiple prescription medications and drugs of abuse present, the presence of pulmonary thromboemboli and deep vein thrombosis are felt to be directly causative of the death. It is possible that the decedent's drug use contributed toward formation of deep vein thromboses if chronic intoxication resulted in a relative decrease in his baseline mobility. The decedent's obesity would contribute to formation of deep vein thrombosis by producing a hypercoagulable

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state. No other risk factors were identified. An inherited clotting disorder, however, cannot be excluded.

Based on the information available at the time of this report, including the autopsy findings and results of ancillary testing, the death is attributed to pulmonary thromboemboli, due to deep vein thrombosis. Obesity, dilated cardiomyopathy and chronic polysubstance abuse are listed as contributing conditions. The manner of death is classified as natural.

(b) (6)
Deputy Medical Examiner

Date signed:

IDENTIFICATION: The body is identified by two Medical Examiner's identification bands on the right ankle, bearing the decedent's name and case number.

WITNESSES: Assisting is Forensic Autopsy Specialist (b) (6). There are no outside observers.

CLOTHING: The body is unclad when initially viewed. A separate bag of clothing accompanies the body and is not further examined.

EVIDENCE OF MEDICAL THERAPY: None.

POSTMORTEM CHANGES: The body is well preserved and has not been embalmed. There is minimal appreciable rigor mortis of upper and lower extremities, neck and jaw. Lividity is present over the anterior aspects of the arms, chest and upper abdomen and face, where it is pink and does not blanch significantly with pressure. In addition, there is faint, blanching, pink lividity present over posterior surfaces of the body. The body is cool.

EXTERNAL EXAMINATION

The body is that of a normally developed, average-framed, obese, 69 inch, 298 pound man whose appearance is consistent with the given age of 43 years.

The scalp hair is fine, sparse, straight, brown, and up to 3/4 inch in length at the sides of the head. There is prominent frontal and coronal balding. The mustache and beard hair is brown with gray, and up to approximately 1 inch in greatest length. The nose and facial bones are intact on palpation. The ears are normally formed and without drainage. There are multiple apparent piercing sites at the left earlobe. The eyes have hazel/green irides and the conjunctivae are without hemorrhage or jaundice; there are scattered, very fine, bilateral palpebral conjunctival petechiae (comment: consistent with postmortem changes related to prone position in which the decedent was found). The nose is normally formed and has drying purge material emanating. The oral cavity has natural teeth in fair repair and an atraumatic mucosa. There is abundant dark purge material.

The neck is symmetrical and without external evidence of significant recent injury.

The chest is normally formed, symmetrical, and without palpable masses. The abdomen is soft and obese; no masses are palpable. The surface of the back is free of lesions.

The upper extremities are normally formed. There is a 1-1/4 inch, irregular/linear, well-healed scar extending from the dorsum of the left hand onto the dorsum of the left ring finger. There are no track marks or ventral wrist scars. The fingernails are short and unremarkable. There is black fingerprint ink on the pads of the fingers.

The lower extremities are normally formed and have no edema, amputations, or deformity. There is a 2 inch, well-healed, linear scar on the anterior right shin and a 1 inch, thin, superficial, linear crust on the anteromedial left ankle. The toenails are short and show focal mild thickening and opacification.

The external genitalia are those of a normal adult man, with both testes palpable in the scrotum.

TATTOOS: None seen.

INJURIES, EXTERNAL AND INTERNAL

There are minor blunt force injuries on the skin of the face as follows:

- 1/2 inch focus of pink erythema at the left-central frontal scalp.
- 4 x 3 inch area of patchy blue ecchymoses (to 1 inch) and pink ecchymoses (to 1/2 inch) over the central forehead region extending to the left side of the forehead.
- 1 inch blue ecchymosis at the lateral left upper eyelid region.
- Faint, vague area of pink erythema over the nose and cheeks.

INTERNAL EXAMINATION

BODY CAVITIES: The organs are in their normal situs. The pleural and peritoneal cavities contain physiologic amounts of tan serous fluid. There are no hemorrhages or significant adhesions within body cavities.

CARDIOVASCULAR SYSTEM: The heart weighs 600 grams, appears globose and dilated, and has a normal distribution of right dominant coronary arteries with focal 20% atherosclerotic stenosis in the proximal left anterior descending artery and 50% in the mid right coronary artery. There is no recent thrombus. The myocardium is red-brown, firm, and uniform without focal fibrosis, softening, or hyperemia. There is marked four-chamber cardiac dilatation. The right ventricle, left ventricle, and interventricular septum measure 0.5 cm, 1.0 cm, and 1.0 cm, respectively. The endocardium is intact, smooth, and glistening. The cardiac valve leaflets are of normal number, pliable, intact, and free of vegetations. The atrial and ventricular septa are free of defects. The aorta follows its usual course and has minimal atherosclerotic streaking. There are no vascular anomalies or aneurysms. The vena cavae are without thrombus or embolus. The left main pulmonary artery has a small, nonadherent, non-branching fragment of thromboembolus material measuring 2.5 cm in length by 0.6 cm in greatest diameter. This appears to be non-obstructing. The right main pulmonary artery has a branching, nonadherent thromboembolus, extending from the main pulmonary artery into the right middle lobe, where the thromboembolus appears to be completely obstructing. Cut sections of the right lung showed few, small, scattered shower thromboemboli present within all three lobes but most notable in the lower lobe. There is no pulmonary infarct. Examination of the lower

extremities shows multiple thromboses in the superficial veins and popliteal veins bilaterally.

RESPIRATORY SYSTEM: The right and left lungs weigh 880 and 560 grams, respectively, and have the usual lobation. The pleura are smooth and glistening; the lungs have minimal anthracotic pigment. The lungs are well expanded and crepitant. The parenchyma is pink-red and exudes abundant foamy fluid from dependent regions. The lungs have no discrete foci of consolidation, hemorrhage, infarct, tumor, gross fibrosis, or enlargement of airspaces. The bronchi contain abundant foam.

HEPATOBILIARY SYSTEM: The liver weighs 2040 grams. The intact capsule is smooth and glistening. The parenchyma is red-brown and uniform without mass, hemorrhage, yellow discoloration, or palpable fibrosis. The gallbladder contains an estimated 10 ml of bile and no stones. Its mucosa is uniform and the wall is not thickened.

The pancreas has a normal size, shape, and lobulated structure. The parenchyma is pink-tan, firm, and uniform.

HEMOLYMPHATIC SYSTEM: The spleen weighs 340 grams. The capsule is smooth and intact. The parenchyma is maroon, firm, and uniform. There is no enlargement of the lymph nodes in the neck, chest, or abdomen.

ENDOCRINE SYSTEM: The thyroid gland is not enlarged, and the lobes are symmetrical. The parenchyma is uniform, firm, and red-brown. The adrenal glands have the usual golden cortical ribbon and unremarkable medullae. The pituitary gland is unremarkable.

GASTROINTESTINAL SYSTEM: The esophagus and gastroesophageal junction are unremarkable. The stomach contains approximately 100 ml of nondescript, dark brown-dark green, semisolid material without visible pills or pill residue. The gastric and duodenal mucosae are intact and unremarkable. The small and large intestines are unremarkable to inspection and palpation. The appendix is present and unremarkable.

GENITOURINARY SYSTEM: The right and left kidneys weigh 250 and 230 grams, respectively, and have a normal shape and position. The cortical surfaces appear relatively smooth and there is a 0.5 cm simple cortical cyst on the right. The kidneys otherwise have the usual corticomedullary structure, without tumors. The pelves and ureters are not dilated or thickened. The bladder contains approximately 500 ml of yellow urine. The mucosa is intact, and the bladder wall is not hypertrophied. The prostate gland is of average size and grossly unremarkable. The testes are not examined.

NECK: The cervical vertebrae, hyoid bone, tracheal and laryngeal cartilages, and paratracheal soft tissues are without trauma. The upper airway is patent. The tongue is unremarkable.

MUSCULOSKELETAL SYSTEM: The musculoskeletal system is well developed and free of deformity. There are no fractures of the clavicles, sternum, ribs, vertebrae, or pelvis. The ribs are not brittle. The skeletal muscle is dark red and firm.

HEAD: The scalp is free of hemorrhage. The calvarium and base of the skull are normally configured and have no fractures. The dura is intact, and there is no epidural or subdural hemorrhage.

CENTRAL NERVOUS SYSTEM: The unfixed brain weighs 1580 grams. The leptomeninges are glistening and transparent without underlying hemorrhage, exudate, or cortical contusions. The hemispheres are symmetrical and have a normal gyral pattern. There is no flattening of gyri, narrowing of sulci or midline shift. There is bilateral uncal notching (0.5 cm each), but no evidence of herniation. The arteries at the base of brain have no significant atherosclerotic changes or aneurysms.

Sections through the cerebral hemispheres show a uniform, intact cortical ribbon and uniform white matter. The basal ganglia, thalami, hippocampi and other internal structures are symmetrical and without focal change. The ventricles are not enlarged, and the linings are smooth and glistening. Sections of the brainstem and cerebellum show an intact structure without focal lesions.

SPECIMENS RETAINED

TOXICOLOGY: Samples of central and peripheral blood, vitreous humor, urine, liver, and gastric contents are retained for toxicology.

HISTOLOGY: Representative sections of organs and tissues are retained. Sections of the heart (1), lungs (7), liver (1), kidney (1), and lower extremity vessels with thrombi (2) are submitted for histology.

Cassette summary:
Cassette 1: Right lung (x3) plus right thromboembolus.
Cassette 2: Left lung (x2) plus left thromboembolus.
Cassette 3: Liver (x1), kidney (x1) plus right lower extremity venous thrombi.
Cassette 4: Myocardium (x1) plus left lower extremity venous thrombi.

PHOTOGRAPHS: Digital identification photographs and selected photographs of internal findings are taken.

RADIOGRAPHS: None.

MICROSCOPIC EXAMINATION

HEART: Section from heart shows orderly cardiomyocytes and no significant inflammation, hemorrhage, fibrosis or necrosis.

LUNGS: Sections from lungs show moderate vascular congestion and edema fluid, mild perivascular and interstitial chronic inflammation, and patchy foci of acute bronchopneumonia (present in all lobes of the lungs). There is a single microscopic focus of parenchymal necrosis. Thromboemboli show red blood cells with alternating layers of fibrin, platelets, and inflammatory cells; there is no organization.

LIVER: Section from liver shows extensive autolysis and mild micro- and macrovesicular fatty change. There is no significant inflammation or fibrosis.

KIDNEY: Section from kidney shows autolysis of tubules and mild arteriolonephrosclerosis. There is no significant inflammation or interstitial fibrosis.

LOWER EXTREMITY VESSELS AND THROMBI: Sections from lower extremities show dilated veins containing thrombus material with red blood cells and alternating layers of fibrin, platelets and inflammatory cells. There is no obvious organization or adherence to vessel walls.

(b) (6)

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(b) (6)

(b) (6)

(b) (6)
CHIEF MEDICAL EXAMINER

(b) (6)
CHIEF DEPUTY MEDICAL EXAMINER

TOXICOLOGY REPORT

Name: (b) (6)
Medical Examiner Number: (b) (6)
Date of Death:
Time of Death:
Pathologist:
Specimens Received: **Central Blood, Gastric, Liver, Peripheral Blood 1, Peripheral Blood 2, Urine, Vitreous**
Date Specimens Received: (b) (6)

Test Name (Method of Analysis)	Specimen Tested	Result
Alcohol Analysis (GC/FID-Headspace)	Peripheral Blood 2	
Alcohol (Ethanol)		Not Detected
Acetone, Methanol, Isopropanol		Not Detected
Drugs of Abuse Screen (ELISA)	Central Blood	
Cocaine metabolites		Not Detected
Amphetamines		Not Detected
Opiates		**Presumptive Positive**
Benzodiazepines		**Presumptive Positive**
Fentanyl		Not Detected
Cannabinoids		**Presumptive Positive**
Phencyclidine (PCP)		Not Detected
Oxycodone		**Presumptive Positive**
Methadone		Not Detected
Zolpidem		Not Detected
Carisoprodol		Not Detected
Buprenorphine		Not Detected
Base Screen (GC/MS)	Peripheral Blood 1	
Fluoxetine		**0.76 mg/L**
Norfluoxetine		**Detected**
Mitragynine		**Detected**
Trazodone		**Detected**
Alprazolam		**Detected**
Nordiazepam		**Detected**
Gabapentin		**Detected**
Opiates (GC/MS)	Peripheral Blood 1	
Morphine (free)		**0.28 mg/L**
Codeine (free)		Not Detected
6-Monoacetylmorphine		Not Detected
Hydrocodone		Not Detected
Oxycodone		Not Detected
Hydromorphone		Not Detected
Oxymorphone		Not Detected
Dihydrocodeine		Not Detected

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Opiates (GC/MS)	Gastric	
Morphine (free)		**2 mg**
Codeine (free)		Not Detected
6-Monoacetylmorphine		Not Detected
Hydrocodone		Not Detected
Oxycodone		Not Detected
Hydromorphone		Not Detected
Oxymorphone		Not Detected
Dihydrocodeine		Not Detected
Benzodiazepines (HPLC/DAD)	Peripheral Blood 1	
Alprazolam		**0.09 mg/L**
Nordiazepam		**0.07 mg/L**
Mitragynine (HPLC/DAD)	Peripheral Blood 1	**0.46 mg/L**
Trazodone (HPLC/DAD)	Peripheral Blood 1	**0.88 mg/L**
Gabapentin (LC/MS)	Peripheral Blood 1	**7.4 mg/L**

Unless otherwise requested, all specimens will be destroyed six (6) months after the closure of the case by the Medical Examiner
End Results

Comment:

A confirmation test for the presumptive positive Cannabinoids result (ELISA) was not performed.

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Approved and Signed:
(b) (6)
(b) (6)
Forensic Toxicology Laboratory Manager
(All Inquiries/Correspondence)

Reviewed:
(b) (6)
Toxicologist II

(b) (6)

All dates displayed in the report are in EST(GMT-05:00) time zone

Basic Details

Company Unit	CDER-CTU	Originating Account	FAERS
Source Medium	MWO (Drug)	Source Form Type	E2B XML 3500B
Priority	High		
FDA Received Date	03-Oct-2017	CTU Received Date	03-Oct-2017
CTU Triage Date			
Report Type	Spontaneous	Report Classification	Drug
Assign To	User		
User/Group			
Forward to Department	☑ CDER (CDER-OSE-RSS-CTU@fda.hhs.gov) (E2B)		

Contact

Case Reporter	First Name	Last Name	Email Address	Phone
☑	(b) (6)	(b) (6)	(b) (6)	

Section A - About the Problem

What kind of problem was it? (Check all that apply)	☐ Were hurt or had a bad side effect (including new or worsening symptoms) ☑ Used a product incorrectly which could have or led to a problem ☐ Noticed a problem with the quality of the product ☐ Had problems after switching from one product maker to another maker
Did any of the following happen? (Check all that apply)	☐ Hospitalization - admitted or stayed longer ☐ Required help to prevent permanent harm (for medical devices only) ☐ Disability or health problem ☐ Birth defect ☐ Life-threatening ☑ Death ☐ Other serious/important medical incident
Date of Death	(b) (6)
Date the problem occurred	

Tell us what happened and how it happened (Include as many details as possible)

Sudden death attributed to toxicity of mitragynine.

List any relevant tests or laboratory data if you know them (Include dates)

Serum toxicology by (b) (6) Mitragynine serum level 4200 ng /mL

Section B - About the Products 1 of 1

Name of the product as it appears on the box, bottle, or package (Include as many names as you see)	Kratom

	Name of the company that makes (or compounds) the product				
	Is the Product Compounded? (Your health professional may be able to help you identify whether the drug was compounded.)				
	Is the Product Over-the-Counter?	Yes			
	Expiration date				
	Lot number				
	NDC number				
	Strength		If Other		
	Quantity		If Other		
	Frequency		If Other		
	How was it taken or used	Oral	If Other		
	Date the person first started taking or using the product				
	Date the person stopped taking or using the product				
	Did the problem stop after the person reduced the dose or stopped taking or using the product?				
	Did the problem return if the person started taking or using the product again?				
	Do you still have the product in case we need to evaluate it?	No			

Why was the person using the product? (such as what condition was it supposed to treat)

Section C - About the Medical Device

	Name of medical device	
	Name of the company that makes the medical device	

Other identifying information (The model, catalog, lot, serial, or UDI number, and the expiration date, if you can locate them)

	Model #	
	Catalog #	
	Serial #	
	Lot #	
	Unique Identifier (UDI) #	
	Expiry Date	

Was someone operating the medical device when the problem occurred?	

For implanted medical devices ONLY (such as pacemakers, breast implants, etc.)

Date the implant was put in		Date the implant was taken out (If relevant)	

Section D - About the Person Who Had the Problem

Person's Initials	(b) (6)
Sex	Male
Age (specify unit of time for age)	39 Year(s)
Date of Birth	
Weight	77.85 kg(s)
Ethnicity (Choose only one)	Not Hispanic/Latino
Race (Check all that apply)	☐ American Indian or Alaskan Native ☐ Native Hawaiian or Other Pacific Islander ☐ Asian ☑ White ☐ Black or African American

List known medical conditions (Such as diabetes, high blood pressure, cancer, heart disease, or others)

None

Please list all allergies (such as to drugs, foods, pollen or others)

List any other important information about the person (such as smoking, pregnancy, alcohol use, etc.)

No other pharmaceutical in serum at significant concentration

List all current prescription medications and medical devices being used.

None

List all over-the-counter medications and any vitamins, minerals, supplements, and herbal remedies being used.

None

F. OTHER (CONCOMITANT) MEDICAL PRODUCTS 1 of 1

	Product Name			
	Strength		If Other	
	Therapy Start Date			
	Therapy End Date			

Section E - About the Person Filling Out This Form

	Last name	(b) (6)
	First name	
	Number/Street	
	City	
	State/Province	
	Country	USA
	ZIP or Postal code	(b) (6)
	Telephone number	
	Email address	(b) (6)
	Today's date	03-Oct-2017
	Did you report this problem to the company that makes the product (the manufacturer/compounder)?	No
	If you do NOT want your identity disclosed to the manufacturer, place an X in this box :	☑

FDA Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Disclaimers:

Submission of a safety report does not constitute an admission that medical personnel, user facility, importer, distributor, manufacturer or product caused or contributed to the event. The information in these reports has not been scientifically or otherwise verified as to a cause and effect relationship and cannot be used to estimate the incidence of these events.

Data provided in the Quarterly Data Extract (QDE) or a FAERS FOIA report are a snapshot of FAERS at a given time. There are several reasons that a case captured in this snapshot can be marked as inactive and not show up in subsequent reports. Manufacturers are allowed to electronically delete reports they submitted if they have a valid reason for deletion. FDA may merge cases that are found to describe a single event, marking one of the duplicate reports as inactive. The data marked as inactive are not lost but may not be available under the original case number.

The FOIA case report information may include both Electronic Submissions (Esubs) and Report Images (Non-Esubs). Case ID(s) will be displayed under separate cover pages for the different submission types.

Cover page Case ID(s) with an asterisk ('*') indicate an invalid status and are not captured in the body of the report.

Esub Case ID(s) Submitted:

13421666

Run by: STEPPERH

Date - Time: 12-JAN-2018 12:52 PM

Total number of cases (Esub): 1

Total number of inactive cases: 0

FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 13421666

Case Information:

Case Type: EXPEDITED (15-DAY) **eSub:** Y **HP:** **Country:** DEU **Event Date:** **Outcomes:** DE, **Application Type:** ANDA

FDA Rcvd Date: 10-Apr-2017 **Mfr Rcvd Date:** 28-Mar-2017 **Mfr Control #:** PHHY2017DE051635 **Application #:** 075049

Patient Information:

Age: 22 YR **Sex:** Male **Weight:**

Suspect Products:

#	Product Name	Compounded Drug ?	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date
1	FLUOXETINE			Unknown		Product used for unknown indication		
2	ETIZOLAM			Unknown		Product used for unknown indication		
3	LORAZEPAM			Unknown		Product used for unknown indication		
4	MITRAGYNINE			Unknown		Substance use		
5	OLANZAPINE			Unknown		Product used for unknown indication		
6	PIPAMPERONE			Unknown		Product used for unknown indication		
7	PREGABALINE			Unknown		Product used for unknown indication		
8	QUETIAPINE			Unknown		Product used for unknown indication		
9	TRIAZOLAM			Unknown		Product used for unknown indication		

#	Product Name	Interval 1st Dose to Event	DeC	ReC	Lot#	Exp Date	NDC #	MFR/Labeler	OTC
1	FLUOXETINE		NA	NA				NOVARTIS	
2	ETIZOLAM		NA	NA					
3	LORAZEPAM		NA	NA					
4	MITRAGYNINE		NA	NA					

Case ID: 13421666

	Product Name	Compounded Drug ?	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date
	Product Name	Interval 1st Dose to Event	DeC	ReC	Lot#	Exp Date	NDC #	MFR/Labeler	OTC
5	OLANZAPINE		NA	NA					
6	PIPAMPERONE		NA	NA					
7	PREGABALINE		NA	NA					
8	QUETIAPINE		NA	NA					
9	TRIAZOLAM		NA	NA					

Event Information:

Preferred Term (MedDRA Â© Version: 20.1)	ReC
Aspiration	NA
Loss of consciousness	NA

Event/Problem Narrative:

Case number PHHY2017DE051635, is an initial literature case report received on 28 Mar 2017. The author discussed about mitragynine concentrations in two fatalities. This report refers to a 22-year-old male patient (Case1). Historical condition was not reported. Current condition included drug addiction, psychosis, anxiety, intense pain and fall. Concomitant medications were not reported. On an unknown date, the patient received pipamperone, fluoxetine, queiapine, olanzapine (manufacturer, formulation, dose, frequency, route unknown for all) along with co-suspects, Red Vein (mitragynine) for recreational use, etiozolam, pregabalin, lorazepam and triazolam, all for unknown indication. On an unknown date, the patient was found dead in his bed on the morning following the consumption of an herbal mixture. According to the patientÂs father, patient was on mixed amount of the herbal substance (which patient supposedly ordered from the internet) with water and then drank it together with an unknown tablet, which was followed followed by an incident, during which the patient fell from a window of the first floor before going to bed. The patient refused to medical treatment, despite presumably intense pain as a result of the fall. Upon discovery of the corpse the following morning, a red-brown colored secretion was noted on the patient's cheek. About half of an original 100g package of Red Vein, a plastic sachet with etizolam was found. In postmortem examination, a haematoma and humerus fracture of the left arm was confirmed. Intracranial pressure and a mild case of pulmonary edema were detected. The cause of death was determined to be the aspiration of chyme by the subject, possibly due to a loss of consciousness. A completely filled bladder with approximately 500 mL urine was found. A preliminary test on the urine of the subject tested positive for benzodiazepines. Standard procedures were followed for collection of urine from the bladder shortly before dissection and extraction of whole blood from the femoral vein during the autopsy. Relevant substances detected in the femoral blood were mitragynine 790 ug/l, mitragynine diastereomers (not quantified), etizolam 280 ug/l, pregabaline 3 ug/l, pipamperon 7.4 ug/l, lorazepam 6.9 ug/l, triazolam 1.1 ug/l, fluoxetine 89 ug/l, quetiapine 18 ug/l, olanzapine 5.8 ug/l and (likely) 2-MMC). The urine analysis

Case ID: 13421666

revealed mitragynine > 400 ug/L, mitragynine diastereomers, etizolam, pregabaline, pipamperon, lorazepam and a degradation product, a triazolam metabolite, fluoxetine, quetiapine and a metabolite, olanzapine and (likely) 2-MMC). Despite an extremely high concentration of mitragynine detected in the femoral blood, a cause of death other than an acute mitragynine overdose could be derived. Urinary retention pointed towards a loss of consciousness, which could be explained by the results obtained during the toxicological analyses. The benzodiazepine analogue, etizolam, in femoral blood was in a concentration range that was likely to result in toxic effects. Action taken with the suspect drugs was not applicable. The outcome of the events was fatal. The seriousness of the event was assessed as serious (fatal) based on the available information in the source document. The author assessed the causality as suspected.

Relevant Medical History:

Disease/Surgical Procedure	Start Date	End Date	Continuing?
Anxiety			YES
DRUG DEPENDENCE			YES
Fall			YES
Pain			YES
Psychotic disorder			YES

Medical History Product(s)	Start Date	End Date	Indications	Events

Relevant Laboratory Data:

Test Name	Result	Unit	Normal Low Range	Normal High Range	Info Avail
Autopsy					Y
Drug screen					Y
Urine analysis					Y

FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 13421666

Concomitant Products:

#	Product Name	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date	Interval 1st Dose to Event

Reporter Source:

Study Report?: No

Sender Organization: SANDOZ

503B Compounding Outsourcing Facility?:

Literature Text: Domingo O, Roider G, Stover A, Graw M, Musshoff F, Sachs H, et al.. Mitragynine concentrations in two fatalities. FORENSIC SCIENCE INTERNATIONAL. 2017;271:e1-e7

Printer: CDPEDQ5
User: STEPPERH
Date - Time: 12-Jan-2018 12:54 PM
Total Number of Cases (Non-Esub): 1
Total Number of Pages: 5
Print Job Number: 15855

Disclaimers:
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Processed Case Id's for Images:
8083892

Failed Case Id's for Images:

Total Failed Cases: 0

Individual Safety Report

7659947-5-00-01

FDA Facsimile Approval 06/23/98(Oracle)

Mfr report # 2011SP035503

UF/Importer Report #

"+" indicates item continued

FDA Use Only

A. PATIENT INFORMATION

1. Patient Identifier	2. Age at Time of Event:	3. Sex	4. Weight
In confidence	27 YEARS or Date of Birth:	[ ] Female [X] Male	lbs or kgs

B. ADVERSE EVENT OR PRODUCT PROBLEM

1. [X] Adverse Event and/or [ ] Product Problem *(e.g. defects/malfunctions)*

2. Outcomes Attributed to Adverse Event *(Check all that apply)*

- [X] Death *(mm/dd/yyyy)*
- [ ] Life-threatening
- [ ] Hospitalization - initial or prolonged
- [ ] Required Intervention to Prevent Permanent Impairment/Damage (Devices)
- [ ] Disability or Permanent Damage
- [ ] Congenital Anomaly/Birth Defect
- [ ] Other Serious (Important Medical Events)

3. Date of Event *(mm/dd/yyyy)*

4. Date of This Report *(mm/dd/yyyy)*: 08/01/2011

5. Describe Event or Problem

LITERATURE REPORT: KRONSTRAND R, ET AL. UNINTENTIONAL FATAL INTOXICATIONS WITH MITRAGYNINE AND O-DESMETHYLTRAMADOL FROM THE HERBAL BLEND KRYPTON. J ANAL TOXICOL 2011 MAY;35(4):242-247. A CASE REPORT FROM SWEDEN REGARDING A 27-YEAR OLD MALE PATIENT.

THE PATIENT'S MEDICAL HISTORY INCLUDED A PREVIOUS HISTORY OF DRUG ABUSE. INFORMATION REGARDING CONCOMITANT MEDICATION WAS NOT PROVIDED.

ON AN UNKNOWN DATE THE PATIENT WAS FOUND DEAD AT HOME. AUTOPSY WAS PERFORMED. POST-MORTEM BLOOD TEST (FEMORAL BLOOD) SHOWED: O-DESMETHYLTRAMADOL: 4.3 UG/G, MITRAGYNINE: 0.18 UG/G, ALIMEMAZINE: 0.2 UG/G, MIRTAZAPINE: 0.1 UG/G, VENLAFAXINE: 0.1 UG/G, DIAZEPAM: 0.09 UG/G, NORDIAZEPAM: 0.2 UG/G, BUPRENORPHINE: 0.0004 UG/G. TRAMADOL WAS NOT FOUND IN THE BLOOD. FURTHER FINDINGS INCLUDED BRAIN EDEMA, LUNG EDEMA, LUNG WEIGHT: RIGHT: 695 G, LEFT: 640 G. INFORMATION REGARDING TRADE NAMES OR REGIMEN FOR MEDICATION TAKEN BY THE PATIENT WAS NOT REPORTED.

THE AUTHORS STATED THAT "CONSIDERING THE HIGHER POTENCY OF O-DESMETHYLTRAMADOL, THE CONCENTRATION IN THE REPORTED CASE SEEMS TO BE IN THE HIGH RANGE, SUGGESTING OVERDOSE". FURTHERMORE IT WAS STATED THAT THEY BELIEVED THAT THE ADDITION OF THE POTENT MU-

6. Relevant Tests/Laboratory Data, Including Dates

AUTOPSY FINDINGS:
BRAIN EDEMA, LUNG EDEMA
LUNG WEIGHT: RIGHT: 695 G, LEFT: 640 G

BLOOD TEST (FEMORAL BLOOD):
O-DESMETHYLTRAMADOL: 4.3 UG/G
MITRAGYNINE: 0.18 UG/G
ALIMEMAZINE: 0.2 UG/G

7. Other Relevant History,Including Preexisting Medical Conditions *(e.g. allergies, race, pregnancy, smoking and alcohol use, hepatic/renal dysfunction, etc.)*

DRUG ABUSE

C. SUSPECT PRODUCT(S)

1. Name *(Give labeled strength & mfr/labeler)*

#1 MIRTAZAPINE (MIRTAZAPINE /01293201/)

#2 BUPRENORPHINE (BUPRENORPHINE /00444001/)

2. Dose, Frequency & Route Used	3. Therapy Dates *(if unknown, give duration) from/to (or best estimate)*
#1	#1
#2	#2

4. Diagnosis for Use *(Indication)*	5. Event Abated After Use Stopped or Dose Reduced?
#1 UNKNOWN INDICATION	#1 [ ] Yes [ ] No [X] Doesn't Apply
#2 UNKNOWN INDICATION	#2 [ ] Yes [ ] No [X] Doesn't Apply

6. Lot #	7. Exp. Date	8. Event Reappeared After Reintroduction?
#1	#1	#1 [ ] Yes [ ] No [X] Doesn't Apply
#2	#2	#2 [ ] Yes [ ] No [X] Doesn't Apply

9. NDC# or Unique ID: N/A

10. Concomitant Medical Products and Therapy Dates *(Exclude treatment of event)*

G. ALL MANUFACTURERS

1. Contact Office - Name/Address *(and Manufacturing Site for Devices)*

SCHERING-PLOUGH CORPORATION
50 LAWRENCE ROAD
SPRINGFIELD, NJ 07081 USA

2. Phone Number: (973) 921-7435

3. Report Source *(check all that apply)*

- [X] Foreign
- [ ] Study
- [X] Literature
- [ ] Consumer
- [X] Health Professional
- [ ] User Facility
- [ ] Company Representative
- [ ] Distributor
- [ ] Other:

4. Date Received by Manufacturer *(mm/dd/yyyy)*: 07/27/2011

5. (A)NDA # 20415
IND #
STN #
PMA/510(k) #
Combination Product [ ] yes
Pre-1938 [ ] yes
OTC Product [ ] yes

6. If IND, Give Protocol #: N/A

7. Type of Report *(check all that apply)*

- [ ] 5-day
- [ ] 30-day
- [ ] 7-day
- [ ] Periodic
- [ ] 10-day
- [X] Initial
- [X] 15-day
- [ ] Follow-up #

8. Adverse Event Term(s)

TOXICITY TO VARIOUS AGENTS (DRUG INTOXICATION)

DSS

AUG 04 2011

9. Manufacturer Report Number: 2011SP035503

E. INITIAL REPORTER

1. Name and Address

(b) (6)

SWEDEN

Phone #

AUG 02 2011

2. Health Professional?	3. Occupation	4. Initial Reporter Also Sent Report to FDA
[X] Yes [ ] No	HEALTH	[ ] Yes [ ] No [X] Unk

FDA
3500A Facsimile

Submission of a report does not constitute an admission that medical personnel, user facility, importer, distributor, manufacturer or product caused or contributed to the event.

Individual Safety Report

7659947-5-00-02

FDA Facsimile Approval 06/23/98(Oracle)

Mfr report #	2011SP035503
UF/Importer Report #	
	FDA Use Only

MEDWATCH

FORM FDA 3500A (10/05) (continued)

C. SUSPECT PRODUCT(S)

1. Name *(Give labeled strength & mfr/labeler, if known)*

#3 O-DESMETHYLTRAMADOL (OTHER OPIOIDS)

#4 MITRAGYNINE (ALKALOIDS, EXCL RAUWOLFIA)

2. Dose, Frequency and Route Used	3. Therapy Dates *(if unknown, give duration) from/to (or best estimate)*
#3	#3
#4	#4

4. Diagnosis for Use *(Indication)*

#3 UNKNOWN INDICATION

#4 UNKNOWN INDICATION

6. Lot #	7. Exp. Date
#3	#3
#4	#4

5. Event Abated After Use Stopped or Dose Reduced?

#3 ☐ Yes ☐ No ☒ Doesn't Apply

#4 ☐ Yes ☐ No ☒ Doesn't Apply

8. Event Reappeared After Reintroduction

#3 ☐ Yes ☐ No ☒ Doesn't Apply

#4 ☐ Yes ☐ No ☒ Doesn't Apply

DSS

AUG 04 2011

AUG 0 2 2011

Individual Safety Report

MEDWATCH 7659947-5-00-03

FDA Facsimile Approval 06/23/98(Oracle)

Mfr report #	2011SP035503
UF/Importer Report #	
	FDA Use Only

FORM FDA 3500A

C. SUSPECT PRODUCT(S)

1. Name *(Give labeled strength & mfr/labeler, if known)*

#5 ALIMEMAZINE (ALIMEMAZINE)

#6 VENLAFAXINE (VENLAFAXINE)

2. Dose, Frequency and Route Used	3. Therapy Dates *(If unknown, give duration) from/to (or best estimate)*
#5	#5
#6	#6

4. Diagnosis for Use *(Indication)*

#5 UNKNOWN INDICATION

#6 UNKNOWN INDICATION

6. Lot #	7. Exp. Date
#5	#5
#6	#6

5. Event Abated After Use Stopped or Dose Reduced?

#5 ☐ Yes ☐ No ☒ Doesn't Apply

#6 ☐ Yes ☐ No ☒ Doesn't Apply

8. Event Reappeared After Reintroduction

#5 ☐ Yes ☐ No ☒ Doesn't Apply

#6 ☐ Yes ☐ No ☒ Doesn't Apply

DSS

AUG 04 2011

AUG 0 2 2011

Individual Safety Report

7659947-5-00-04

MEDWATCH

FORM FDA 3500A (1/95) (Oracle)

FDA Facsimile Approval 06/23/98(Oracle)

Mfr report #	2011SP035503
UF/Importer Report #	
	FDA Use Only

C. SUSPECT PRODUCT(S)

1. Name *(Give labeled strength & mfr/labeler, if known)*
DIAZEPAM (DIAZEPAM)
#7

2. Dose, Frequency and Route Used
#7

3. Therapy Dates *(if unknown, give duration) from/to (or best estimate)*
#7

4. Diagnosis for Use *(Indication)*
UNKNOWN INDICATION
#7

5. Event Abated After Use Stopped or Dose Reduced?
#7 ☐ Yes ☐ No ☒ Doesn't Apply

☐ Yes ☐ No ☐ Doesn't Apply

6. Lot #
#7

7. Exp. Date
#7

8. Event Reappeared After Reintroduction
#7 ☐ Yes ☐ No ☒ Doesn't Apply

☐ Yes ☐ No ☐ Doesn't Apply

DSS
AUG 04 2011

AUG 0 2 2011

- Mfr. report # 2011SP035503

B5. Describe Event or Problem - Continued

RECEPTOR AGONIST O-DESMETHYLTRAMADOL TO POWDERED LEAVES FROM KRATOM (CONTAINING MU-RECEPTOR AGONIST MITRAGYNINE) CONTRIBUTED TO THE UNINTENTIONAL DEATH. FURTHERMORE THEY INDICATED THAT "SEVERAL OTHER PSYCHOTROPIC DRUGS WERE DETECTED" AND "COULD HAVE CONTRIBUTED TO DEATH".

B6. Relevant Tests/Laboratory Data - Continued

MIRTAZAPINE: 0.1 UG/G
VENLAFAXINE: 0.1 UG/G
DIAZEPAM: 0.09 UG/G
NORDIAZEPAM: 0.2 UG/G
BUPRENORPHINE: 0.0004 UG/G
NO TRAMADOL IN BLOOD.

TEST NAME	DATE	RESULT	UNIT	LOW VALUE	HIGH VALUE
AUTOPSY		SEE CONFIRMATORY TESTS SECTION			