

Client: Example Client ABC123  
123 Test Drive  
Salt Lake City, UT 84108  
UNITED STATES

Physician: Doctor, Example

**Patient: Patient, Example**

**DOB:** 5/20/1990  
**Gender:** Male  
**Patient Identifiers:** 01234567890ABCD, 012345  
**Visit Number (FIN):** 01234567890ABCD  
**Collection Date:** 01/01/2017 12:34

**Bath Salts Panel, Serum or Plasma**

ARUP test code 2011411

Bath Salts Panel, Serum or Plasma

See Note

Analysis and Comments	Result	Units
Methylone Serum Reporting Limit: 5.0 ng/mL Synonym(s): 3,4-methylenedioxy-N-methylcathinone; bk-MDMA Methylone is a methylenedioxy beta keto amphetamine, or cathinone stimulant drug. It is the beta-keto analog of MDMA. Its use has been linked to the popular 'Designer Drug' movement, and may be present in products sold as 'Legal High' or 'Bath Salts' for recreational purposes. Methylone acts as an inhibitor of dopamine, norepinephrine, and serotonin reuptake and may have stimulating effects on the central nervous system. The drug is usually taken orally, but can also be insufflated or vaporized. Euphoria, agitation, sweating, nausea, vomiting, dilated pupils, seizures, hyponatremia and confusion were reported in two cases after the use of bath salt products found to contain methylone. Other substances may have been present. Four fatalities attributed to this drug had methylone heart blood concentrations of 60 - 1100 ng/mL; concentrations in femoral blood in three fatalities were 560, 840, and 3300 ng/mL. Methylone is known to have limited stability in serum and plasma which may be dependent upon pH, collection tube, and storage temperature; results should be interpreted with caution. The ratio of whole blood concentration to serum or plasma concentration is unknown for this analyte. Analysis by High Performance Liquid Chromatography/Tandem Mass Spectrometry (LC-MS/MS)	None Det	ng/mL
Mephedrone Serum Reporting Limit: 10 ng/mL Synonym(s): Methylhexaneamine; 1,3-dimethylamylamine Mephedrone is a psychoactive phenethylamine derivative that is structurally related to methcathinone and amphetamine. It is abused for its perceived 'ecstasy like' effects of euphoria, excitement, and alertness. Reported adverse effects include peripheral vasoconstriction resulting in a bruised appearance on the arms and legs, loss of appetite, poor concentration, increased heart rate, sweating with an odor, and dilation of the pupils. In two fatalities where mephedrone intoxication was	None Det	ng/mL

**H=High, L=Low, \*=Abnormal, C=Critical**

Unless otherwise indicated, testing performed at:

**ARUP LABORATORIES | 800-522-2787 | aruplab.com**  
500 Chipeta Way, Salt Lake City, UT 84108-1221  
Tracy I. George, MD, Laboratory Director

Patient: Patient, Example  
ARUP Accession: 18-365-400177  
Patient Identifiers: 01234567890ABCD, 012345  
Visit Number (FIN): 01234567890ABCD  
Page 1 of 3 | Printed: 12/9/2020 7:28:18 AM  
4848

determined to be the cause of death blood concentrations were 22000 ng/mL and 3300 ng/mL. The ratio of whole blood concentration to serum or plasma concentration is unknown for this analyte. Analysis by High Performance Liquid Chromatography/Tandem Mass Spectrometry (LC-MS/MS)  
alpha-PVP None Det ng/mL

Serum  
Reporting Limit: 2.0 ng/mL  
Synonym(s): (RS)-1-phenyl-2-(1-pyrrolidinyl)-1-pentanone; alpha-Pyrrolidinovalerophenone  
Alpha-Pyrrolidinovalerophenone (alpha-PVP) is a psychoactive stimulant that is structurally related to pyrovalerone and MDPV. The compound has been sold on the internet as a designer drug for the intention of recreational drug use in the form of tablets or powders to be taken orally or insufflated, respectively. It is abused for its perceived 'ecstasy like' effects of euphoria, excitement and alertness. It is claimed that alpha-PVP improves productivity, wakefulness, motivation, locomotion and endurance. In general, psychoactive stimulants have temporary effects on the psychoneurotic system. In addition, they seem to have a much higher tendency to cause side effects such as paranoia, hallucinations, and schizophrenic or psychosis like symptoms.

Alpha-PVP is known to have limited stability in serum and plasma which may be dependent upon pH, collection tube, and storage temperature. Results should be interpreted with caution.

No reference serum or plasma concentration data for this compound have been reported.

Analysis by High Performance Liquid Chromatography/Tandem Mass Spectrometry (LC-MS/MS)  
Pentadrone None Det ng/mL

Serum  
Reporting Limit: 2.0 ng/mL  
Synonym(s): (RS)-1-phenyl-2-(methylamino)pentan-1-one  
Pentadrone is a beta keto amphetamine or cathinone that is chemically related to mephedrone. It is a stimulant drug that was first reported in 2010. Its use has been linked to the popular 'Designer Drug' movement and may be present in products sold as 'Legal Highs' or 'Bath Salts' for recreational purposes. The drug is usually taken orally, but can also be insufflated or vaporized.

No reference serum or plasma concentration data for this compound have been reported.

Pentadrone is known to have limited stability in serum and plasma which may be dependent upon pH, collection tube, and storage temperature. Results should be interpreted with caution.

Analysis by High Performance Liquid Chromatography/Tandem Mass Spectrometry (LC-MS/MS)  
MDPV None Det ng/mL

Serum  
Reporting Limit: 10 ng/mL  
Synonym(s): 1-(1,3-benzodioxol-5-yl)-2-pyrrolidin-1-ylpentan-1-one; MDPK; Methylenedioxypropylvalerone  
MDPV is a synthetic stimulant drug reported to have effects similar to methylphenidate at low doses and cocaine at high doses. Desired outcomes following use include increased energy and sociability, increased concentration, psychedelic effects and sexual stimulation.

Reported adverse effects include insomnia, severe agitation/anxiety, panic attacks, kidney pain, stomach cramps, tachycardia, hypertension, dilated pupils,

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Page 2 of 3 | Printed: 12/9/2020 7:28:18 AM  
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