

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

Physician: Doctor, Example

**Patient: Patient, Example**

**DOB:** 5/11/1989  
**Gender:** Female  
**Patient Identifiers:** 01234567890ABCD, 012345  
**Visit Number (FIN):** 01234567890ABCD  
**Collection Date:** 00/00/0000 00:00

**Synthetic Cannabinoid Metabolites, Qualitative, Urine**

ARUP test code 3000508

Synthetic Cannabinoid Metabolites, Urine

See Note

Analysis and Comments	Result	Units
4-carboxy-AMB-PINACA Urine Reporting Limit: 5.0 ng/mL Synonym(s): AB-PINACA N-pentanoic acid 4-carboxy-AMB-PINACA (AB-PINACA N-pentanoic acid) is a known or presumed metabolite of the following synthetic cannabinoid(s): AMB-PINACA(AB-PINACA). It may also be a metabolite of other synthetic cannabinoids with similar structures. Compounds known to interfere with this substance: 5-fluoro-PIC-ACID (5-Fluoro-PB-22 3-Carboxyindole). Analysis by High Performance Liquid Chromatography/ Tandem Mass Spectrometry (LC-MS/MS)	Positive	ng/mL
5-fluoro-PICA 3,3-dimethylbutanoic acid Urine Reporting Limit: 0.20 ng/mL Synonym(s): 5F-MDMB-PICA metabolite 7 5-fluoro-PICA 3,3-dimethylbutanoic acid is a known or presumed metabolite of the following synthetic cannabinoid(s): 5-fluoro-MDMB-PICA. It may also be a metabolite of other synthetic cannabinoids with similar structures. Analysis by High Performance Liquid Chromatography/ Tandem Mass Spectrometry (LC-MS/MS)	Positive	ng/mL
FUBICA 3,3-dimethylbutanoic acid Urine Reporting Limit: 0.50 ng/mL Synonym(s): MDMB-FUBICA Metabolite 3 FUBICA 3,3-dimethylbutanoic acid is a known or presumed metabolite of the following synthetic cannabinoid(s): ADB-FUBICA (ADB-FUBICA); MDMB-FUBICA (5-fluoro AMB). It may also be a metabolite of other synthetic cannabinoids with similar structures. Analysis by High Performance Liquid Chromatography/ Tandem Mass Spectrometry (LC-MS/MS)	Positive	ng/mL
5-fluoro-PINAC-ACID Urine Reporting Limit: 5.0 ng/mL Synonym(s): 5F-NPB-22-Carboxyindazole 5-fluoro-PINAC-ACID (5F-NPB-22-Carboxyindazole) is a known or presumed metabolite of the following synthetic cannabinoid(s): 5-fluoro-EDMB-PINACA; 5-fluoro-MDMB-PINACA (5F-ADB); 5-fluoro-EMB-PINACA (5F-AEB); 5-fluoro-MMB-PINACA (5-fluoro AMB); 5-fluoro-QU-PINAC (5F-NPB-22). It may also be a metabolite of other synthetic cannabinoids with similar structures.	Positive	ng/mL

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

Analysis by High Performance Liquid Chromatography/  
Tandem Mass Spectrometry (LC-MS/MS)  
4-carboxy-CUMYL-BINACA Positive ng/mL  
Urine

Reporting Limit: 0.20 ng/mL  
Synonym(s): CUMYL-BUTINACA N-Butanoic Acid  
4-carboxy-CUMYL-BINACA (CUMYL-BUTINACA N-Butanoic Acid)  
is a known or presumed metabolite of the following  
synthetic cannabinoid(s): 4-cyano-CUMYL-BINACA.  
It may also be a metabolite of other synthetic  
cannabinoids with similar structures.

Analysis by High Performance Liquid Chromatography/  
Tandem Mass Spectrometry (LC-MS/MS)  
5-Fluoro-PIC-ACID Positive ng/mL  
Urine

Reporting Limit: 5.0 ng/mL  
Synonym(s): 5-Fluoro-PB-22 3-Carboxyindole  
5-Fluoro-PIC-ACID (5-Fluoro-PB-22 3-Carboxyindole) is  
a known or presumed metabolite of the following  
synthetic cannabinoid(s): 5-fluoro-MDMB-PICA;  
5-Fluoro-NA-PIC (NM-221).  
It may also be a metabolite of other synthetic  
cannabinoids with similar structures. Compounds known  
to interfere with this substance:

5-fluoro-PICA 3,3-dimethylbutanoic acid.  
Analysis by High Performance Liquid Chromatography/  
Tandem Mass Spectrometry (LC-MS/MS)  
FUBIC-ACID Positive ng/mL  
Urine

Reporting Limit: 40 ng/mL  
Synonym(s): FUB-PB-22-Carboxyindole  
FUBIC-ACID (FUB-PB-22-Carboxyindole) is a known or  
presumed metabolite of the following synthetic  
cannabinoid(s): ADB-FUBICA (ADB-FUBICA);  
NA-FUBIM (FUB-JWH-18); NA-FUBIC (FDU-PB-22);  
MDMB-FUBICA; MMB-FUBICA.

It may also be a metabolite of other synthetic  
cannabinoids with similar structures.  
Analysis by High Performance Liquid Chromatography/  
Tandem Mass Spectrometry (LC-MS/MS)  
5-Fluoro-PINACA 3-methylbutanoic acid Positive ng/mL  
Urine

Reporting Limit: 0.20 ng/mL  
Synonym(s): 5F-AMB 3-methyl-butanoic acid; 5F-AMB M7  
5-Fluoro-PINACA 3-methylbutanoic acid  
(5F-AMB 3-methyl-butanoic acid) is a known or presumed  
metabolite of the following synthetic cannabinoid(s):  
5-Fluoro-MMB-PINACA (5-fluoro AMB);  
5-Fluoro-EMB-PINACA (5F-AEB).  
It may also be a metabolite of other synthetic  
cannabinoids with similar structures.

Analysis by High Performance Liquid Chromatography/  
Tandem Mass Spectrometry (LC-MS/MS)  
FUBINACA 3-methylbutanoic acid Positive ng/mL  
Urine

Reporting Limit: 0.50 ng/mL  
Synonym(s): FUB-AMB 3-methyl-butanoic acid  
FUBINACA 3-methylbutanoic acid  
(FUB-AMB 3-methyl-butanoic acid) is a known or presumed  
metabolite of the following synthetic cannabinoid(s):  
AMB-FUBINACA (AB-FUBINACA); MMB-FUBINACA (FUB-AMB);  
EMB-FUBINACA.

It may also be a metabolite of other synthetic  
cannabinoids with similar structures.  
Analysis by High Performance Liquid Chromatography/  
Tandem Mass Spectrometry (LC-MS/MS)  
5-Fluoro-PINACA 3,3-dimethylbutanoic acid Positive ng/mL  
Urine

Reporting Limit: 0.20 ng/mL  
Synonym(s): 5F-ADB 3,3-dimethyl-butanoic acid  
5-Fluoro-PINACA 3,3-dimethylbutanoic acid  
(5F-ADB 3,3-dimethyl-butanoic acid) is a known or

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presumed metabolite of the following synthetic cannabinoid(s): 5-fluoro-MDMB-PINACA (5F-ADB); 5-Fluoro-EDMB-PINACA.  
It may also be a metabolite of other synthetic cannabinoids with similar structures.  
Analysis by High Performance Liquid Chromatography/Tandem Mass Spectrometry (LC-MS/MS)  
FUBINACA 3,3-dimethylbutanoic acid Positive ng/mL  
Urine  
Reporting Limit: 0.50 ng/mL  
Synonym(s): MDMB-FUBINACA 3,3-dimethyl-butanoic acid; MDMB-FUBINACA M1  
FUBINACA 3,3-dimethylbutanoic acid (MDMB-FUBINACA 3,3-dimethyl-butanoic acid; MDMB-FUBINACA M1) is a known or presumed metabolite of the following synthetic cannabinoid(s): MDMB-FUBINACA; ADB-FUBINACA (ADB-FUBINACA).  
It may also be a metabolite of other synthetic cannabinoids with similar structures. Compounds known to interfere with this substance: Quetiapine.  
Analysis by High Performance Liquid Chromatography/Tandem Mass Spectrometry (LC-MS/MS)  
CHMINACA-3-methylbutanoic acid Positive ng/mL  
Urine  
Reporting Limit: 2.5 ng/mL  
Synonym(s): AB-CHMINACA 3-methyl-butanoic acid  
CHMINACA-3-methylbutanoic acid (AB-CHMINACA 3-methyl-butanoic acid) is a known or presumed metabolite of the following synthetic cannabinoid(s): AMB-CHMINACA (AB-CHMINACA); MMB-CHMINACA (MA-CHMINACA).  
It may also be a metabolite of other synthetic cannabinoids with similar structures.  
Analysis by High Performance Liquid Chromatography/Tandem Mass Spectrometry (LC-MS/MS)  
4-carboxy-NA-PIM Positive ng/mL  
Urine  
Reporting Limit: 0.20 ng/mL  
Synonym(s): JWH-018 N-pentanoic acid  
4-carboxy-NA-PIM (JWH-018 N-pentanoic acid) is a known or presumed metabolite of the following synthetic cannabinoid(s): NA-PIM (JWH-18).  
It may also be a metabolite of other synthetic cannabinoids with similar structures.  
Analysis by High Performance Liquid Chromatography/Tandem Mass Spectrometry (LC-MS/MS)  
CHMINACA 3,3-dimethylbutanoic acid Positive ng/mL  
Urine  
Reporting Limit: 0.20 ng/mL  
Synonym(s): ADB-CHMINACA 3,3-dimethyl-butanoic acid; ADB-CHMINACA M2, MAB-CHMINACA M2  
CHMINACA 3,3-dimethylbutanoic acid (ADB-CHMINACA 3,3-dimethyl-butanoic acid, MAB-CHMINACA Metabolite) is a known or presumed metabolite of the following synthetic cannabinoid(s): ADB-CHMINACA (ADB-CHMINACA; MAB-CHMINACA); MDMB-CHMINACA.  
It may also be a metabolite of other synthetic cannabinoids with similar structures.  
Analysis by High Performance Liquid Chromatography/Tandem Mass Spectrometry (LC-MS/MS)  
CHMIC-ACID Positive ng/mL  
Urine  
Reporting Limit: 5.0 ng/mL  
Synonym(s): BB-22 3-Carboxyindole  
CHMIC-ACID (BB-22 3-Carboxyindole) is a known or presumed metabolite of the following synthetic cannabinoid(s): MMB-CHMICA; MDMB-CHMICA.  
It may also be a metabolite of other synthetic cannabinoids with similar structures.  
Analysis by High Performance Liquid Chromatography/Tandem Mass Spectrometry (LC-MS/MS)

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Testing performed at NMS Labs, Inc.  
3701 Welsh Road  
Willow Grove, PA 19090-2910  
CLIA 39D0197898

VERIFIED/REPORTED DATES

Procedure	Accession	Collected	Received	Verified/Reported
Synthetic Cannabinoid Metabolites, Urine	19-056-109126	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00

END OF CHART

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: 19-056-109126  
Patient Identifiers: 01234567890ABCD, 012345  
Visit Number (FIN): 01234567890ABCD  
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