

**Table S2.** Data in the NaPDI Center repository on Cannabis sativa as of

<b>Study unique identifier</b>	<b>Unique identifier</b>	<b>Natural product binomial</b>
<a href="#">NPDI-0mD33A</a>	<a href="#">NPDI-Hko3aA</a>	Cannabis sativa
<a href="#">NPDI-1wiJBw</a>	<a href="#">NPDI-29ER6A</a>	Cannabis sativa
<a href="#">NPDI-1wiJBw</a>	<a href="#">NPDI-2LIXDQ</a>	Cannabis sativa
<a href="#">NPDI-1wiJBw</a>	<a href="#">NPDI-Aasqdw</a>	Cannabis sativa
<a href="#">NPDI-1wiJBw</a>	<a href="#">NPDI-cqaAMA</a>	Cannabis sativa
<a href="#">NPDI-1wiJBw</a>	<a href="#">NPDI-DZj9Zg</a>	Cannabis sativa
<a href="#">NPDI-1wiJBw</a>	<a href="#">NPDI-E7xthw</a>	Cannabis sativa
<a href="#">NPDI-1wiJBw</a>	<a href="#">NPDI-loxesQ</a>	Cannabis sativa
<a href="#">NPDI-1wiJBw</a>	<a href="#">NPDI-lx-KKg</a>	Cannabis sativa
<a href="#">NPDI-1wiJBw</a>	<a href="#">NPDI-jHdxpA</a>	Cannabis sativa
<a href="#">NPDI-1wiJBw</a>	<a href="#">NPDI-mbNW9A</a>	Cannabis sativa
<a href="#">NPDI-1wiJBw</a>	<a href="#">NPDI-mLsAbQ</a>	Cannabis sativa
<a href="#">NPDI-1wiJBw</a>	<a href="#">NPDI-olqNRw</a>	Cannabis sativa
<a href="#">NPDI-1wiJBw</a>	<a href="#">NPDI-oZGcUg</a>	Cannabis sativa
<a href="#">NPDI-1wiJBw</a>	<a href="#">NPDI-PaO28A</a>	Cannabis sativa
<a href="#">NPDI-1wiJBw</a>	<a href="#">NPDI-spUvqw</a>	Cannabis sativa
<a href="#">NPDI-2P3dUg</a>	<a href="#">NPDI-tRoTQw</a>	Cannabis sativa
<a href="#">NPDI-8lgFiA</a>	<a href="#">NPDI-a65Zxg</a>	Cannabis sativa
<a href="#">NPDI-8lgFiA</a>	<a href="#">NPDI-PwGUoQ</a>	Cannabis sativa
<a href="#">NPDI-8lgFiA</a>	<a href="#">NPDI-yo3GA</a>	Cannabis sativa
<a href="#">NPDI-9V SXw</a>	<a href="#">NPDI-9kN5_g</a>	Cannabis sativa
<a href="#">NPDI-9V SXw</a>	<a href="#">NPDI-fw WMw</a>	Cannabis sativa
<a href="#">NPDI-9V SXw</a>	<a href="#">NPDI-GEE68Q</a>	Cannabis sativa
<a href="#">NPDI-9V SXw</a>	<a href="#">NPDI-Z m2jA</a>	Cannabis sativa
<a href="#">NPDI-ahQtSQ</a>	<a href="#">NPDI-7RWWrg</a>	Cannabis sativa
<a href="#">NPDI-ahQtSQ</a>	<a href="#">NPDI-JnMHww</a>	Cannabis sativa
<a href="#">NPDI-ahQtSQ</a>	<a href="#">NPDI-INsNoQ</a>	Cannabis sativa
<a href="#">NPDI-ahQtSQ</a>	<a href="#">NPDI-PWUeog</a>	Cannabis sativa
<a href="#">NPDI-ahQtSQ</a>	<a href="#">NPDI-qeGJYg</a>	Cannabis sativa
<a href="#">NPDI-ahQtSQ</a>	<a href="#">NPDI-uUyadQ</a>	Cannabis sativa
<a href="#">NPDI-Asg wa</a>	<a href="#">NPDI-xU8LWA</a>	Cannabis sativa
<a href="#">NPDI-BvR0Pw</a>	<a href="#">NPDI-6v65qQ</a>	Cannabis sativa
<a href="#">NPDI-BvR0Pw</a>	<a href="#">NPDI-R1QKZg</a>	Cannabis sativa
<a href="#">NPDI-CAApFQ</a>	<a href="#">NPDI- k7VAQ</a>	Cannabis sativa
<a href="#">NPDI-CAApFQ</a>	<a href="#">NPDI-3Crf-w</a>	Cannabis sativa
<a href="#">NPDI-CAApFQ</a>	<a href="#">NPDI-3EHgSg</a>	Cannabis sativa
<a href="#">NPDI-CAApFQ</a>	<a href="#">NPDI-8HM-ew</a>	Cannabis sativa
<a href="#">NPDI-CAApFQ</a>	<a href="#">NPDI-A4 kwg</a>	Cannabis sativa
<a href="#">NPDI-CAApFQ</a>	<a href="#">NPDI-E2Dy1A</a>	Cannabis sativa
<a href="#">NPDI-CAApFQ</a>	<a href="#">NPDI-egkFFQ</a>	Cannabis sativa
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<a href="#">NPDI-CAApFQ</a>	<a href="#">NPDI-ILAq5w</a>	Cannabis sativa
<a href="#">NPDI-CAApFQ</a>	<a href="#">NPDI-k7I3rg</a>	Cannabis sativa
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<a href="#">NPDI-CAApFQ</a>	<a href="#">NPDI-QtzrqQ</a>	Cannabis sativa
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<a href="#">NPDI-muoDdQ</a>	<a href="#">NPDI-uz4EAA</a>	Cannabis sativa
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<a href="#">NPDI-SiYA A</a>	<a href="#">NPDI-d2rDLg</a>	Cannabis sativa
<a href="#">NPDI-SiYA A</a>	<a href="#">NPDI-kJ7mIQ</a>	Cannabis sativa
<a href="#">NPDI-SiYA A</a>	<a href="#">NPDI-wM7 CQ</a>	Cannabis sativa
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<a href="#">NPDI-vhBMSw</a>	<a href="#">NPDI-JvqWDQ</a>	Cannabis sativa
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<a href="#">NPDI-vniY7Q</a>	<a href="#">NPDI-Fqa3JA</a>	Cannabis sativa
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<a href="#">NPDI-vniY7Q</a>	<a href="#">NPDI-P2rdYg</a>	Cannabis sativa
<a href="#">NPDI-vniY7Q</a>	<a href="#">NPDI-V1SemA</a>	Cannabis sativa
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<a href="#">NPDI-VYyv-A</a>	<a href="#">NPDI-XKoD2A</a>	Cannabis sativa
<a href="#">NPDI-xYeUJQ</a>	<a href="#">NPDI-noOe3w</a>	Cannabis sativa
<a href="#">NPDI-xYeUJQ</a>	<a href="#">NPDI-SCT2WA</a>	Cannabis sativa
<a href="#">NPDI-xYeUJQ</a>	<a href="#">NPDI-tUG7XA</a>	Cannabis sativa
<a href="#">NPDI-Z6vbAA</a>	<a href="#">NPDI-b6F8pQ</a>	Cannabis sativa
<a href="#">NPDI-Z6vbAA</a>	<a href="#">NPDI-DqfMEw</a>	Cannabis sativa
<a href="#">NPDI-Z6vbAA</a>	<a href="#">NPDI-pQrX0g</a>	Cannabis sativa
<a href="#">NPDI-Z6vbAA</a>	<a href="#">NPDI-wnmeug</a>	Cannabis sativa
<a href="#">NPDI-zIH6uA</a>	<a href="#">NPDI-jJ11lg</a>	Cannabis sativa
<a href="#">NPDI-zIH6uA</a>	<a href="#">NPDI-otngFw</a>	Cannabis sativa
<a href="#">NPDI-zIH6uA</a>	<a href="#">NPDI-RPqAvQ</a>	Cannabis sativa
<a href="#">NPDI-zIH6uA</a>	<a href="#">NPDI-tjxX2A</a>	Cannabis sativa
<a href="#">NPDI-ZqVOgw</a>	<a href="#">NPDI-Rsay5Q</a>	Cannabis sativa

April 2020

**Experiment title**

Kinetic constants for 11-hydroxy-delta-9-THC formation  
Down regulation of P-gp transporter (protein) by Cannabidiol  
Down regulation of P-gp transporter (protein) by Cannabidiol  
Induction of BCRP transporter (protein) by Cannabidiol  
Inhibition of P-gp by Cannabidiol 10  $\mu\text{M}$   
Down regulation of P-gp transporter (protein) by Cannabidiol  
Down regulation of P-gp (mRNA) by Cannabidiol  
Inhibition of P-gp by Cannabidiol 10  $\mu\text{M}$   
Induction of BCRP transporter (protein) by Cannabidiol  
Induction (mRNA) of BCRP transporter with Cannabidiol  
Induction of P-gp transporter (protein) by Cannabidiol  
Inhibition of P-gp by Cannabidiol 25  $\mu\text{M}$   
Induction of BCRP transporter (protein) by Cannabidiol  
Inhibition of P-gp by Cannabidiol 25  $\mu\text{M}$   
Non-induction of BCRP transporter (protein) by Cannabidiol  
Induction of BCRP transporter (mRNA) by Cannabidiol  
Characterization of Cannabis extract (THC)  
Mean THC Plasma Concentration with High Ethanol  
Mean THC Concentration with Placebo  
Mean THC Plasma Concentration with High Ethanol  
Inhibition of CYP2C19 by Cannabidiol  
Inhibition of CYP2C19 by Cannabidiol  
Inhibition of CYP2C19 by Cannabidiol  
Inhibition of CYP2C19 enzyme with Cannabidiol  
Inhibition of ABCC1 by Cannabinol  
Negligible inhibition of ABCC1 by Cannabinol  
Negligible inhibition of ABCC1 by THC  
Inhibition of ABCC1 by Cannabidiol  
Negligible inhibition of ABCC1 by Cannabidiol  
Negligible inhibition of ABCC1 by THC  
THC PK  
CBD  
THC  
THC-OMF  
2H-CBD-omeprazole  
CBDV-omeprazole  
CBDD-(S)-mephenytoin  
CBDD-OMF  
2H-CBD-OMF  
2H-CBD-(S)-Mephenytoin  
CBD-(S)-Mephenytoin

THC-omeprazole  
CBD-OMF  
THC-(S)-Mephenytoin  
CBD-omeprazole  
CBDV-(S)-Mephenytoin  
CBDD-omeprazole  
CBDM-OMF  
CBDM-omeprazole  
CBDM-(S)-Mephenytoin  
CBDV-OMF  
CCRF-CEM: THC  
CCRF-CEM: CBN  
CEM/VLB100: CBN  
CCRF-CEM: CBD  
CEM/VLB100: THC  
CEM/VLB100: CBD  
Evaluation of Time-Dependent CES1 Inhibition by CBN (30 min)  
Evaluation of Time-Dependent CES1 Inhibition by CBN (0 min)  
Evaluation of Time-Dependent CES1 Inhibition by THC (30 min)  
Inhibition of CES1 by CBD  
Inhibition of CES1 by THC  
Evaluation of Time-Dependent CES1 Inhibition by CBD (0 min)  
Inhibition of CES1 by CBN  
Evaluation of Time-Dependent CES1 Inhibition by CBD (30 min)  
Evaluation of Time-Dependent CES1 Inhibition by THC (0 min)  
Inhibited Hexobarbital metabolism with Cannabidiol (IV intake)  
Inhibited Hexobarbital metabolism with Cannabidiol (oral intake)  
THC Effect on Diclofenac Concentrations CYP2C9  
THC Effect on Omeprazole Concentrations on CYP3A4  
CBD Effect on Omeprazole Concentrations CYP2C19  
THC Effect on Omeprazole Concentrations on CYP2D6  
THC Effect on Omeprazole Concentrations CYP2C19  
CBD Effect on Diclofenac Concentrations CYP2C9  
CBD Effect on Dextromethorphan Concentrations CYP2D6  
CBD Effect on Testosterone Concentrations CYP3A4  
Irinotecan PK  $\hat{\pm}$  medicinal cannabis  
Docetaxel PK  $\hat{\pm}$  medicinal cannabis  
Jar: CBD-Mitoxantrone  
BeWo: CBD-mitoxantrone  
MCF7/P-gp: CBD-mitoxantrone  
Calcein-AM-THC  
Rh-123-THC  
Plasma CBD Concentrations  
Cannabis bulk plant Characterization of Material  
Recombinant: CBN-dextromethorphan  
Recombinant: CBD-AMMC  
Recombinant: CBN-AMMC

pHLM: CBD-dextromethorphan

Recombinant: CBDD-AMMC

Recombinant: THC-dextramethorphan

Recombinant: CBDV-AMMC

HLMs: THC-dextromethorphan

pHLM: CBN-dextromethorphan

Recombinant: CBD-dextromethorphan

Recombinant: THC-AMMC

Recombinant: CBDM-AMMC

CYP3A4-THC

CYP3A4-CBN

CYP3A4-CBD

HLM-THC

HLM-CBN

HLM-CBD

CBD

THC

Induction of CYP1A1 mRNA expression by 50  $\mu$ M cannabidiol

Non-induction of CYP1A1 mRNA expression by 50  $\mu$ M cannabinol

Induction of CYP1A1 mRNA expression by 50  $\mu$ M delta-9-THC

Mitoxantrone-THC

Mitoxantrone-CBN

Mitoxantrone-CBD

Cannabis extract (Cannabidiol) Characterization of Material

NFV+THC PK at Baseline and Day 14

IDV+THC PK at Baseline and Day 14

Inhibition of 11-hydroxylation of delta-8-THC by sulfaphenazole

Weak Inhibition of 7-alpha-hydroxylation of delta-8-THC by sulfaphenazole

Inhibition of 11-hydroxylation of cannabinol by sulfaphenazole

Weak Inhibition of 11-hydroxylation of delta-9-THC by ketoconazole

No inhibition of 7-alpha-hydroxylation of delta-8-THC by 7,8-benzoflavone

Inhibition of 8-hydroxylation of cannabinol by ketoconazole

Weak Inhibition of 11-hydroxylation of delta-9-THC by 7,8-benzoflavone

Inhibition of 7-alpha-hydroxylation of delta-8-THC by ketoconazole

Weak Inhibition of 11-hydroxylation of delta-8-THC by ketoconazole

Inhibition of 11-hydroxylation of delta-9-THC by sulfaphenazole

Inhibition of 8-beta-hydroxylation of delta-9-THC by ketoconazole

Weak Inhibition of 11-hydroxylation of delta-8-THC by 7,8-benzoflavone

No inhibition of 8-beta-hydroxylation of delta-9-THC by 7,8-benzoflavone

Weak Inhibition of 8-hydroxylation of cannabinol by sulfaphenazole

No Inhibition of 8-hydroxylation of cannabinol by 7,8-benzoflavone

Weak Inhibition of 11-hydroxylation of cannabinol by ketoconazole

Weak Inhibition of 11-hydroxylation of cannabinol by 7,8-benzoflavone

Weak Inhibition of 8-beta-hydroxylation of delta-9-THC by sulfaphenazole

CBD Effect on N-desmethyloclobazam Concentrations

Stiripentol Effect on CBD, 6-OH-CBD, and 7-COOH-CBD

Clobazam Effect on CBD



CBD Effect on Stiripentol Concentrations  
Clobazam Effect on 7-OH-CBD  
Stiripentol Effect on 7-OH-CBD  
Valproic Acid Effect on Cannabidiol Metabolites  
Valproic Acid Effect on CBD  
CBD Effect on Midazolam  
CBD effect on CLB and N-desmethyloclobazam  
CBD Effect on Valproic Acid Concentrations  
CBD Effect on clobazam and N-desmethyloclobazam  
Clobazam Effect on 6-OH-CBD  
Clobazam Effect on 7-COOH-CBD  
CBN-UGT1A9  
THC-OH-UGT1A10  
THC-COOH-UGT1A3  
THC-COOH-UGT1A1  
CBN-UGT1A10  
THC-OH-UGT1A9  
CBN-UGT1A7  
CBN-UGT1A8  
Increased Clobazam with Cannabidiol (8 weeks)  
Increased Clobazam with Cannabidiol (4 weeks)  
CBD-Rh123 (Flow-Cytometry Assay)  
Cannabidiol-2',6'-dimethyl ether  
Cannabidiol  
Cannabidiol-2'-monomethyl ether  
THC  
Cannabidvarin  
Decreased systemic exposure of Theophylline with Smoked Tobacco (no Marijuana smoker)  
Decreased systemic exposure of Theophylline with Smoked Marijuana (non Tobacco smoker)  
Decreased systemic exposure of Theophylline with Smoked Marijuana (Tobacco smoker)  
Plasma Concentration of 11-OH-THC when Fed  
Plasma Concentration of 11-OH-THC when Fasting  
Plasma Concentration of CBD when Fasting  
Plasma Concentration of THC when Fasting  
Plasma Concentration of THC when Fed  
Plasma Concentration of CBD when Fed  
CBN on ethanol glucuronidation  
CBD-UGT1A9 Inhibition  
CBD-UGT2B7 Inhibition  
CBD on ethanol glucuronidation  
CBN-UGT2B7 Induction  
CBN-UGT1A9 Inhibition  
rCYP2C9: THC-warfarin  
rCYP2C9: THC-diclofenac  
iHLMs: CBD-warfarin  
iHLM: CBD-diclofenac  
iHLM: THC-diclofenac

pHLM: THC-warfarin  
rCYP2C9: CBN-diclofenac  
rCYP2C9: CBD-diclofenac  
pHLM: CBN-warfarin  
rCYP2C9: CBD-warfarin  
iHLM: CBN-diclofenac  
iHLM: THC-warfarin  
rCYP2C9: CBN-warfarin  
pHLM: CBD-warfarin  
iHLM: CBN-warfarin  
1A1: THC  
HLMs: CBD  
HLMs: THC  
1A2: THC  
1A2: CBD  
1A1: CBD  
1A2: CBN  
1A1: CBN  
HLMs: CBN

Secobarbital Plasma Concentrations Following Sodium Secobarbital Ingestion and 150  $\mu\text{g}/\text{kg}$  CBD Pretreatment

Secobarbital Plasma Concentrations Following Sodium Secobarbital Ingestion and 500  $\mu\text{g}/\text{kg}$  CBD Pretreatment

Plasma Concentrations of Secobarbital After Placebo Pretreatment and Oral Administration of Secobarbital

Cannabidiol

Cannabidiol-2'-monomethyl ether

CBD-dimethyl ether

Cannabidivarin

6-alpha-OH-CBD-omeprazole

6-alpha-OH-CBD-ketoconazole

6-alpha-OH-CBD-quinidine

6-alpha-OH-CBD-sulfaphenazole

Effect of naltrexone on THC concentration











**Object compound name**

delta-9-tetrahydrocannabinol

3,3'-diethyloxycarbocyanine iodide

calcein-am

rhodamine 123

calcein-am

delta-9-tetrahydrocannabinol

delta-9-tetrahydrocannabinol

delta-9-tetrahydrocannabinol

mephenytoin, (s)-

omeprazole

mephenytoin, (s)-

mephenytoin, (s)-

vincristine

fluo3

fluo3

vincristine

fluo3

vincristine

cannabidiol

delta-9-tetrahydrocannabinol

3-o-methylfluorescein

omeprazole

omeprazole

mephenytoin, (s)-

3-o-methylfluorescein

3-o-methylfluorescein

mephenytoin, (s)-

mephenytoin, (s)-



omeprazole  
3-o-methylfluorescein  
mephenytoin, (s)-  
omeprazole  
mephenytoin, (s)-  
omeprazole  
3-o-methylfluorescein  
omeprazole  
mephenytoin, (s)-  
3-o-methylfluorescein  
rhodamine 123  
rhodamine 123  
rhodamine 123  
rhodamine 123  
rhodamine 123  
rhodamine 123  
oseltamivir phosphate  
oseltamivir phosphate  
oseltamivir phosphate  
oseltamivir phosphate  
oseltamivir phosphate  
oseltamivir phosphate  
oseltamivir phosphate  
oseltamivir phosphate  
oseltamivir phosphate  
hexobarbital  
hexobarbital  
diclofenac  
testosterone  
omeprazole  
dextromethorphan  
omeprazole  
diclofenac  
dextromethorphan  
testosterone  
irinotecan  
docetaxel  
mitoxantrone  
mitoxantrone  
mitoxantrone  
calcein-am  
rhodamine 123  
fentanyl

dextromethorphan  
3-[2-(n,n-diethyl-n-methylammonium)ethyl]-7-methoxy-4-methylcoumarin  
3-[2-(n,n-diethyl-n-methylammonium)ethyl]-7-methoxy-4-methylcoumarin

dextromethorphan  
3-[2-(n,n-diethyl-n-methylammonium)ethyl]-7-methoxy-4-methylcoumarin  
dextromethorphan  
3-[2-(n,n-diethyl-n-methylammonium)ethyl]-7-methoxy-4-methylcoumarin  
dextromethorphan  
dextromethorphan  
dextromethorphan  
3-[2-(n,n-diethyl-n-methylammonium)ethyl]-7-methoxy-4-methylcoumarin  
3-[2-(n,n-diethyl-n-methylammonium)ethyl]-7-methoxy-4-methylcoumarin  
diltiazem  
diltiazem  
diltiazem  
diltiazem  
diltiazem  
diltiazem

mitoxantrone  
mitoxantrone  
mitoxantrone

nelfinavir  
indinavir  
delta-8-tetrahydrocannabinol  
delta-8-tetrahydrocannabinol  
cannabinol  
delta-9-tetrahydrocannabinol  
delta-8-tetrahydrocannabinol  
cannabinol  
delta-9-tetrahydrocannabinol  
delta-8-tetrahydrocannabinol  
delta-8-tetrahydrocannabinol  
delta-9-tetrahydrocannabinol  
delta-9-tetrahydrocannabinol  
delta-8-tetrahydrocannabinol  
delta-9-tetrahydrocannabinol  
cannabinol  
cannabinol  
cannabinol  
delta-9-tetrahydrocannabinol  
n-desmethylclobazam  
cannabidiol  
cannabidiol

stiripentol  
7-hydroxycannabidiol  
7-hydroxycannabidiol  
cannabidiol  
cannabidiol  
midazolam  
clobazam  
valproic acid  
clobazam  
6±-oh-cannabidiol  
7-cooh-cbd  
cannabinol  
11-hydroxy-delta-9-tetrahydrocannabinol  
11-nor-9-carboxy-delta9-tetrahydrocannabinol  
11-nor-9-carboxy-delta9-tetrahydrocannabinol  
cannabinol  
11-hydroxy-delta-9-tetrahydrocannabinol  
cannabinol  
cannabinol  
clobazam  
clobazam  
rhodamine 123  
7-ethoxyresorufin  
7-ethoxyresorufin  
7-ethoxyresorufin  
7-ethoxyresorufin  
7-ethoxyresorufin  
theophylline  
theophylline  
theophylline

ethanol  
ethanol  
ethanol

ethanol  
(s)-warfarin  
diclofenac  
(s)-warfarin  
diclofenac  
diclofenac

(s)-warfarin  
diclofenac  
diclofenac  
(s)-warfarin  
(s)-warfarin  
diclofenac  
(s)-warfarin  
(s)-warfarin  
(s)-warfarin  
(s)-warfarin  
(s)-warfarin  
7-ethoxyresorufin  
7-ethoxyresorufin  
7-ethoxyresorufin  
7-ethoxyresorufin  
7-ethoxyresorufin  
7-ethoxyresorufin  
7-ethoxyresorufin  
7-ethoxyresorufin  
7-ethoxyresorufin  
7-ethoxyresorufin  
secobarbital  
secobarbital  
secobarbital  
7-ethoxyresorufin  
7-ethoxyresorufin  
7-ethoxyresorufin  
7-ethoxyresorufin  
cannabidiol  
cannabidiol  
cannabidiol  
cannabidiol  
delta-9-tetrahydrocannabinol

**Object metabolite compound name**

11-hydroxy-delta-9-tetrahydrocannabinol

4-hydroxymephenytoin, (s)-

5-hydroxomeprazole

4-hydroxymephenytoin, (s)-

4-hydroxymephenytoin, (s)-

fluorescein

5-hydroxomeprazole

5-hydroxomeprazole

4-hydroxymephenytoin, (s)-

fluorescein

fluorescein

4-hydroxymephenytoin, (s)-

4-hydroxymephenytoin, (s)-

5-hydroxyomeprazole  
fluorescein  
4-hydroxymephenytoin, (s)-  
5-hydroxyomeprazole  
4-hydroxymephenytoin, (s)-  
5-hydroxyomeprazole  
fluorescein  
5-hydroxyomeprazole  
4-hydroxymephenytoin, (s)-  
fluorescein

oseltamivir acid  
oseltamivir acid  
oseltamivir acid  
oseltamivir acid  
oseltamivir acid  
oseltamivir acid  
oseltamivir acid  
oseltamivir acid  
oseltamivir acid

4'-hydroxydiclofenac  
6beta-hydroxytestosterone  
5-hydroxyomeprazole  
dextrorphan  
5-hydroxyomeprazole  
4'-hydroxydiclofenac  
dextrorphan  
6beta-hydroxytestosterone

dextrorphan  
3-[2-(n,n-diethyl-n-methylammonium)ethyl]-7-hydroxy-4-methylcoumarin  
3-[2-(n,n-diethyl-n-methylammonium)ethyl]-7-hydroxy-4-methylcoumarin

dextrorphan  
3-[2-(n,n-diethyl-n-methylammonium)ethyl]-7-hydroxy-4-methylcoumarin  
dextrorphan  
3-[2-(n,n-diethyl-n-methylammonium)ethyl]-7-hydroxy-4-methylcoumarin  
dextrorphan  
dextrorphan  
dextrorphan  
3-[2-(n,n-diethyl-n-methylammonium)ethyl]-7-hydroxy-4-methylcoumarin  
3-[2-(n,n-diethyl-n-methylammonium)ethyl]-7-hydroxy-4-methylcoumarin  
n-demethyldiltiazem  
n-demethyldiltiazem  
n-demethyldiltiazem  
n-demethyldiltiazem  
n-demethyldiltiazem  
n-demethyldiltiazem  
n-demethyldiltiazem

11-hydroxy-delta-8-tetrahydrocannabinol  
7-alpha-hydroxy-delta-8-tetrahydrocannabinol  
11-hydroxycannabinol  
11-hydroxy-delta-9-tetrahydrocannabinol  
7-alpha-hydroxy-delta-8-tetrahydrocannabinol  
8-hydroxycannabinol  
11-hydroxy-delta-9-tetrahydrocannabinol  
7-alpha-hydroxy-delta-8-tetrahydrocannabinol  
11-hydroxy-delta-8-tetrahydrocannabinol  
11-hydroxy-delta-9-tetrahydrocannabinol  
8-beta-hydroxy-delta-9-tetrahydrocannabinol  
11-hydroxy-delta-8-tetrahydrocannabinol  
8-beta-hydroxy-delta-9-tetrahydrocannabinol  
8-hydroxycannabinol  
8-hydroxycannabinol  
11-hydroxycannabinol  
11-hydroxycannabinol  
8-beta-hydroxy-delta-9-tetrahydrocannabinol

11-hydroxycannabinol  
11-nor-9-carboxy-delta9-tetrahydrocannabinol  
glucuronide  
glucuronide  
11-hydroxycannabinol  
11-nor-9-carboxy-delta9-tetrahydrocannabinol  
11-hydroxycannabinol  
11-hydroxycannabinol

resorufin  
resorufin  
resorufin  
resorufin  
resorufin

ethyl glucuronide  
ethyl glucuronide  
ethyl glucuronide

ethyl glucuronide  
7-hydroxywarfarin  
4'-hydroxydiclofenac  
7-hydroxywarfarin  
4'-hydroxydiclofenac  
4'-hydroxydiclofenac



7-hydroxywarfarin  
4'-hydroxydiclofenac  
4'-hydroxydiclofenac  
7-hydroxywarfarin  
7-hydroxywarfarin  
4'-hydroxydiclofenac  
7-hydroxywarfarin  
7-hydroxywarfarin  
7-hydroxywarfarin  
7-hydroxywarfarin  
resorufin  
resorufin  
resorufin  
resorufin  
resorufin  
resorufin  
resorufin  
resorufin  
resorufin

resorufin  
resorufin  
resorufin  
resorufin  
6<sup>±</sup>-oh-cannabidiol  
6<sup>±</sup>-oh-cannabidiol  
6<sup>±</sup>-oh-cannabidiol  
6<sup>±</sup>-oh-cannabidiol

Precipitant compound name	Enzyme name	Transporter name	Control data
	CYP2C9		FALSE
cannabidiol		P-gp (ABCB1)	FALSE
cannabidiol		P-gp (ABCB1)	FALSE
cannabidiol		BCRP (ABCG2)	FALSE
cannabidiol		P-gp (ABCB1)	FALSE
cannabidiol		P-gp (ABCB1)	FALSE
cannabidiol		P-gp (ABCB1)	FALSE
cannabidiol		P-gp (ABCB1)	FALSE
cannabidiol		BCRP (ABCG2)	FALSE
cannabidiol		BCRP (ABCG2)	FALSE
cannabidiol		P-gp (ABCB1)	FALSE
cannabidiol		P-gp (ABCB1)	FALSE
cannabidiol		BCRP (ABCG2)	FALSE
cannabidiol		P-gp (ABCB1)	FALSE
cannabidiol		BCRP (ABCG2)	FALSE
cannabidiol		BCRP (ABCG2)	FALSE
ethanol			FALSE
placebo			FALSE
ethanol			FALSE
cannabidiol	CYP2C19		FALSE
cannabidiol	CYP2C19		FALSE
cannabidiol	CYP2C19		FALSE
cannabidiol	CYP2C19		FALSE
cannabinol		ABCC1	FALSE
cannabinol		ABCC1	FALSE
delta-9-tetrahydrocannabinol		ABCC1	FALSE
cannabidiol		ABCC1	FALSE
cannabidiol		ABCC1	FALSE
delta-9-tetrahydrocannabinol		ABCC1	FALSE
			FALSE
		P-gp (ABCB1)	FALSE
		P-gp (ABCB1)	FALSE
delta-9-tetrahydrocannabinol	CYP2C19		FALSE
8,9-dihydrocannabidiol	CYP2C19		FALSE
cannabidivarin	CYP2C19		FALSE
cannabidiol-dimethyl ether	CYP2C19		FALSE
cannabidiol-dimethyl ether	CYP2C19		FALSE
8,9-dihydrocannabidiol	CYP2C19		FALSE
8,9-dihydrocannabidiol	CYP2C19		FALSE
cannabidiol	CYP2C19		FALSE

delta-9-tetrahydrocannabinol	CYP2C19		FALSE
cannabidiol	CYP2C19		FALSE
delta-9-tetrahydrocannabinol	CYP2C19		FALSE
cannabidiol	CYP2C19		FALSE
cannabidivarin	CYP2C19		FALSE
cannabidiol-dimethyl ether	CYP2C19		FALSE
cannabidiol-2'-monomethyl ether	CYP2C19		FALSE
cannabidiol-2'-monomethyl ether	CYP2C19		FALSE
cannabidiol-2'-monomethyl ether	CYP2C19		FALSE
cannabidivarin	CYP2C19		FALSE
delta-9-tetrahydrocannabinol		P-gp (ABCB1)	FALSE
cannabinol		P-gp (ABCB1)	FALSE
cannabinol		P-gp (ABCB1)	FALSE
cannabidiol		P-gp (ABCB1)	FALSE
delta-9-tetrahydrocannabinol		P-gp (ABCB1)	FALSE
cannabidiol		P-gp (ABCB1)	FALSE
cannabinol	CES1		FALSE
cannabinol	CES1		FALSE
delta-9-tetrahydrocannabinol	CES1		FALSE
cannabidiol	CES1		FALSE
delta-9-tetrahydrocannabinol	CES1		FALSE
cannabidiol	CES1		FALSE
cannabinol	CES1		FALSE
cannabidiol	CES1		FALSE
delta-9-tetrahydrocannabinol	CES1		FALSE
cannabidiol			FALSE
cannabidiol			FALSE
delta-9-tetrahydrocannabinol	CYP2C9		FALSE
delta-9-tetrahydrocannabinol	CYP3A4		FALSE
cannabidiol	CYP2C19		FALSE
delta-9-tetrahydrocannabinol	CYP2D6		FALSE
delta-9-tetrahydrocannabinol	CYP2C19		FALSE
cannabidiol	CYP2C9		FALSE
cannabidiol	CYP2D6		FALSE
cannabidiol	CYP3A4		FALSE
medicinal cannabis	CYP3A		FALSE
medicinal cannabis	CYP3A		FALSE
cannabidiol		BCRP (ABCG2)	FALSE
cannabidiol		BCRP (ABCG2)	FALSE
cannabidiol		P-gp (ABCB1)	FALSE
delta-9-tetrahydrocannabinol		P-gp (ABCB1)	FALSE
delta-9-tetrahydrocannabinol		P-gp (ABCB1)	FALSE
cannabidiol			FALSE
			FALSE
cannabinol	CYP2D6		FALSE
cannabidiol	CYP2D6		FALSE
cannabinol	CYP2D6		FALSE

cannabidiol	CYP2D6		FALSE
cannabidiol-dimethyl ether	CYP2D6		FALSE
delta-9-tetrahydrocannabinol	CYP2D6		FALSE
cannabidivarin	CYP2D6		FALSE
delta-9-tetrahydrocannabinol	CYP2D6		FALSE
cannabinol	CYP2D6		FALSE
cannabidiol	CYP2D6		FALSE
delta-9-tetrahydrocannabinol	CYP2D6		FALSE
cannabidiol-dimethyl ether	CYP2D6		FALSE
delta-9-tetrahydrocannabinol	CYP3A4		FALSE
cannabinol	CYP3A4		FALSE
cannabidiol	CYP3A4		FALSE
delta-9-tetrahydrocannabinol	CYP3A		FALSE
cannabinol	CYP3A		FALSE
cannabidiol	CYP3A		FALSE
cannabidiol		P-gp (ABCB1)	FALSE
delta-9-tetrahydrocannabinol		P-gp (ABCB1)	FALSE
cannabidiol	CYP1A1		FALSE
cannabinol	CYP1A1		FALSE
delta-9-tetrahydrocannabinol	CYP1A1		FALSE
delta-9-tetrahydrocannabinol		BCRP (ABCG2)	FALSE
cannabinol		BCRP (ABCG2)	FALSE
cannabidiol		BCRP (ABCG2)	FALSE
			FALSE
delta-9-tetrahydrocannabinol			FALSE
delta-9-tetrahydrocannabinol			FALSE
sulfaphenazole	CYP2C		FALSE
sulfaphenazole	CYP2C		FALSE
sulfaphenazole	CYP2C		FALSE
ketoconazole	CYP3A		FALSE
alpha-naphthoflavone	CYP1A		FALSE
ketoconazole	CYP3A		FALSE
alpha-naphthoflavone	CYP1A		FALSE
ketoconazole	CYP3A		FALSE
ketoconazole	CYP3A		FALSE
sulfaphenazole	CYP2C		FALSE
ketoconazole	CYP3A		FALSE
alpha-naphthoflavone	CYP1A		FALSE
alpha-naphthoflavone	CYP1A		FALSE
sulfaphenazole	CYP2C		FALSE
alpha-naphthoflavone	CYP1A		FALSE
ketoconazole	CYP3A		FALSE
alpha-naphthoflavone	CYP1A		FALSE
sulfaphenazole	CYP2C		FALSE
cannabidiol			FALSE
stiripentol			FALSE
clobazam			FALSE



delta-9-tetrahydrocannabinol	CYP2C9	FALSE
cannabinol	CYP2C9	FALSE
cannabidiol	CYP2C9	FALSE
cannabinol	CYP2C9	FALSE
cannabidiol	CYP2C9	FALSE
cannabinol	CYP2C9	FALSE
delta-9-tetrahydrocannabinol	CYP2C9	FALSE
cannabinol	CYP2C9	FALSE
cannabidiol	CYP2C9	FALSE
cannabinol	CYP2C9	FALSE
delta-9-tetrahydrocannabinol	CYP1A1	FALSE
cannabidiol	CYP1A1	FALSE
delta-9-tetrahydrocannabinol	CYP1A1	FALSE
delta-9-tetrahydrocannabinol	CYP1A2	FALSE
cannabidiol	CYP1A2	FALSE
cannabidiol	CYP1A1	FALSE
cannabinol	CYP1A2	FALSE
cannabinol	CYP1A1	FALSE
cannabinol	CYP1A1	FALSE
delta-9-tetrahydrocannabinol	CYP1A1	FALSE
delta-9-tetrahydrocannabinol		FALSE
placebo		FALSE
cannabidiol	CYP1A1	FALSE
cannabidiol-2'-monomethyl ether	CYP1A1	FALSE
cannabidiol-dimethyl ether	CYP1A1	FALSE
cannabidivarin	CYP1A1	FALSE
omeprazole	CYP2C19	FALSE
ketoconazole	CYP3A4	FALSE
quinidine	CYP2D6	FALSE
sulfaphenazole	CYP2C9	FALSE
naltrexone		FALSE



Baculovirus-insect cells	FALSE
Baculovirus-insect cells	FALSE
Baculovirus-insect cells	FALSE
Baculovirus-insect cells	FALSE
Baculovirus-insect cells	FALSE
Baculovirus-insect cells	FALSE
Baculovirus-insect cells	FALSE
Baculovirus-insect cells	FALSE
Baculovirus-insect cells	FALSE
Baculovirus-insect cells	FALSE
Other cells	FALSE
Other cells	FALSE
Other cells	FALSE
Other cells	FALSE
Other cells	FALSE
Other cells	FALSE
Human kidney S9 fraction	FALSE
Human kidney S9 fraction	FALSE
Human kidney S9 fraction	FALSE
Human kidney S9 fraction	FALSE
Human kidney S9 fraction	FALSE
Human kidney S9 fraction	FALSE
Human kidney S9 fraction	FALSE
Human kidney S9 fraction	FALSE
Human kidney S9 fraction	FALSE
Human kidney S9 fraction	FALSE
	FALSE
	FALSE
Pooled human liver microsomes	FALSE
Pooled human liver microsomes	FALSE
Pooled human liver microsomes	FALSE
Pooled human liver microsomes	FALSE
Pooled human liver microsomes	FALSE
Pooled human liver microsomes	FALSE
Pooled human liver microsomes	FALSE
Pooled human liver microsomes	FALSE
	FALSE
	FALSE
Jar	FALSE
BeWo	FALSE
MCF7/P-gp	FALSE
HEK293 transfected cells	FALSE
HEK293 transfected cells	FALSE
	FALSE
	FALSE
Baculovirus-insect cells	FALSE
Baculovirus-insect cells	FALSE
Pooled human liver microsomes	FALSE



Pooled human liver microsomes	FALSE
Baculovirus-insect cells	FALSE
Baculovirus-insect cells	FALSE
Baculovirus-insect cells	FALSE
Pooled human liver microsomes	FALSE
Pooled human liver microsomes	FALSE
Baculovirus-insect cells	FALSE
Baculovirus-insect cells	FALSE
Baculovirus-insect cells	FALSE
Baculovirus-insect cells	FALSE
Baculovirus-insect cells	FALSE
Baculovirus-insect cells	FALSE
Individual human liver microsomes	FALSE
Individual human liver microsomes	FALSE
Individual human liver microsomes	FALSE
Other cells	FALSE
Other cells	FALSE
HepG2 cell line	FALSE
HepG2 cell line	FALSE
HepG2 cell line	FALSE
Other cells	FALSE
Other cells	FALSE
Other cells	FALSE
	FALSE
	FALSE
	FALSE
	FALSE
Pooled human liver microsomes	FALSE
Pooled human liver microsomes	FALSE
Pooled human liver microsomes	FALSE
Pooled human liver microsomes	FALSE
Pooled human liver microsomes	FALSE
Pooled human liver microsomes	FALSE
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	FALSE







Not specified  
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Not specified  
Not specified  
Not specified  
Not specified  
Not specified  
Not provided  
Not provided  
Not provided  
90% inhibition  
90% inhibition  
Not provided  
90% inhibition  
Not provided  
Not provided

Not specified  
Not specified  
Not specified  
Not specified  
N/A  
Not specified  
Not specified  
Not specified

Not specified  
Not specified  
Not specified

"The mean accumulation index had to be significantly  $> 1$  ( $p < 0.05$ ) to assess transporter inhibition potency by flow  
"The mean accumulation index had to be significantly  $> 1$  ( $p < 0.05$ ) to assess transporter inhibition potency by flow

Not specified  
Not specified  
Not specified



Inhibition of Rh123 efflux caused by the treatment of 5  $\mu$ M PSC833 was defined as 100% inhibition

Not specified

Not specified

Not specified

not specified

Not specified

Not specified

Not specified

Not specified

Not specified

Not specified

Not specified

Not specified

Not specified

Not specified

Not specified

Not specified





**Research organization's experiment ID**

cyotmetry (n = 3 minimum)"  
w cytometry (n = 3 minimum)."

analysis of variance followed by Bonferroni or  
analysis of variance followed by Bonferroni or  
analysis of variance followed by Bonferroni or

1102

GWEP1543

GWEP1543

GWEP1543

GWEP17028

GWEP1543

GWEP1543

GWEP1428



## Additional information

Table 1

Figure 2

Figure 2 Placebo is orange juice sprayed with 100-proof vodka

Figure 2

As per Table 3. Two-compartment linear model with zero-order absorption. Diphenhydramine was used a positive c

Acute T lymphoblastoid leukaemia cell line  
Acute T lymphoblastoid leukaemia cell line (CCRF-CEM)  
CEM/VLB100 cell line (multidrug resistant sub line)  
Acute T lymphoblastoid leukaemia cell line  
CEM/VLB100 cell line (multidrug resistant sub line)  
CEM/VLB100 cell line (multidrug resistant sub line)

Table 2

Table 3

(Figure 2)

CEM/VLB100 cell line  
CEM/VLB100 cell-line used  
Dunnett's post-hoc test."  
Dunnett's post-hoc test."  
Dunnett's post-hoc test."

NFV = nelfinavirTHC = delta-9-THC  
IDV = indiavirTHC = delta-9-THCBaseline = controlDay 14 = test

From page 109 of "Clinical Pharmacology Biopharmaceutics Review"  
Study GWEP1543  
Study GWEP1543



Study GWEP1543

Study GWEP1543

Study GWEP1543

Study GWEP1543

Study GWEP1543

Systemic exposure to midazolam was relatively unaffected by concomitant administration of CBD indicating lack of

Study GWEP1543

Study GWEP1543

Study GWEP1428 (p 106)

Study GWEP1543

Study GWEP1543

Table 2

Table 2

Table 2

Table 2

Table 2

Table 2

Table 1 This studies the active metabolite of THC

Table 1 This studies the active metabolite of THC

Table 1

Table 1

Table 1

(Table 1)

Figure 1  
Figure 1  
Table 1.

Cytochrome b5 purchased but no mention of how used in the study  
(Table 2)

## Experimental conditions comment

Blood samples drawn at described times after the beginning of ethanol administration

incubation time with two phases, cells and natural products for 30 min and then with Vincristine for another 90 mi  
â€œincubation time with two phases, cells and natural products for 30 min and then with Fluo3 for another 60 mi  
â€œincubation time with two phases, cells and natural products for 30 min and then with Fluo3 for another 60 mi  
incubation time with two phases, cells and natural products for 30 min and then with Vincristine for another 90 mi  
incubation time with two phases, cells and natural products for 30 min and then with Fluo3 for another 60 min.  
incubation time with two phases, cells and natural products for 30 min and then with Vincristine for another 90 mi  
ontrol.

CYP cocktail: Diclofenac (CYP2C9, 5  $\mu\text{M}$ ), dextromethorphan (CYP2D6, 5  $\mu\text{M}$ ), omeprazole (CYP2C19, 10  $\mu\text{M}$ ) a

CYP cocktail: Diclofenac (CYP2C9, 5  $\mu\text{M}$ ), dextromethorphan (CYP2D6, 5  $\mu\text{M}$ ), omeprazole (CYP2C19, 10  $\mu\text{M}$ ) a

CYP cocktail: Diclofenac (CYP2C9, 5  $\mu\text{M}$ ), dextromethorphan (CYP2D6, 5  $\mu\text{M}$ ), omeprazole (CYP2C19, 10  $\mu\text{M}$ ) a

CYP cocktail: Diclofenac (CYP2C9, 5  $\mu\text{M}$ ), dextromethorphan (CYP2D6, 5  $\mu\text{M}$ ), omeprazole (CYP2C19, 10  $\mu\text{M}$ ) a

Biphasic with at least one week interim.(Figure 1)

Moisture content:  $10.5 \pm 0.16\%$  (n = 3) by gravimetric measurement.

Heavy metals analysis have been done by ICP-MS, loss on drying analysis have been done by IR radiation.

Inclusion criteria: at least 18 years old, have documented HIV infection, and be on a stable antiretroviral treatment

f inhibition or induction of CYP3A4. The increased exposure to 1'-hydroxymidazolam may be due to downstream in

Patients began taking CBD at a dose of 5 mg/kg/day and titrated up by 5 mg/kg/day each week to a goal of 25 mg/

(Table 1, Study 2b)

### Experimental results comment

Table 1. Vmax converted from pmol/min/mg to nmol/min/mg [463 (15) pmol/min mg protein]

figure 2

figure 3

FIGURE 2

the accumulation measurement is intracellular accumulation as measured by fluorescence

figure 5

the accumulation measurement is intracellular accumulation as measured by fluorescence

FIGURE 3

figure 5

figure 4

the accumulation measurement is intracellular accumulation as measured by fluorescence

figure 3

the accumulation measurement is intracellular accumulation as measured by fluorescence

figure 4

figure 5

Heavy metals (Pb, Hg, Cd and As) were not detected, as well as Aflatoxins B1, B2, G1 and G2.

Values converted from minutes. Original values: Time to peak (min):  $5.7 \pm 0.7$  AUC0-315 (ng\*min/mL): 3792

Values converted from minutes. Original values: Time to peak (min):  $7.2 \pm 0.7$  AUC0-315 (ng\*min/mL): 3695

Values converted from minutes. Original values: Time to peak (min):  $5.8 \pm 1$  AUC0-315 (ng\*min/mL): 4019

Measurements show 50% reduction in transport using increase in intracellular accumulation based on % of parent

Measurements show 50% reduction in transport using increase in intracellular accumulation based on % of parent

Measurements show 50% reduction in transport using increase in intracellular accumulation based on % of parent

Measurements show 50% reduction in transport using increase in intracellular accumulation based on % of parent

Measurements show 50% reduction in transport using increase in intracellular accumulation based on % of parent

Measurements show 50% reduction in transport using increase in intracellular accumulation based on % of parent

Table 3. Estimated values

Fig 2. Estimated at 240 min.

Figure 2. Estimated at 240 min.

Table 2

Table 2

Table 2

%inhibition at  $50 \mu\text{M}$  (Fig 2C).IC50 (Table 2).Ki (Table 3).

Table 2

Table 2

%inhibition at  $6 \mu\text{M}$  (Fig 2F)IC50 (Table 2)Ki (Table 3)

%inhibition at  $10 \mu\text{M}$  of CBD (Fig. 1)IC50 (Table 1), Ki (Table 3)



Table 2

Table 2

% inhibition at 10  $\hat{\mu}$ M estimated from Fig 2D.IC50 (Table 2).Ki (Table 3)

Table 2

%inhibition at 10  $\hat{\mu}$ M (Fig 2E)IC50 (Table 2)Ki (Table 3)

Table 2

Table 2

Table 2

%inhibition at 10  $\hat{\mu}$ M (Fig.2C)IC50 (Table 2)Ki (Table 3)

Table 2

Table 1.

Table 1

Table 1.Accumulation estimated from Fig 1a at 10  $\hat{\mu}$ M

Table 1.

Table 1.Accumulation estimated from Fig 1c at 10  $\hat{\mu}$ M

Table 1.%inhibition estimated from Fig 1b at 10  $\hat{\mu}$ M

IC50 pre-incubation 0 min (A) = 4.03  $\hat{\mu}$ M IC50 pre-incubation 30 min (B) = 8.51  $\hat{\mu}$ M B/A = 2.11

IC50 pre-incubation 0 min (A) = 4.03  $\hat{\mu}$ M IC50 pre-incubation 30 min (B) = 8.51  $\hat{\mu}$ M B/A = 2.11

IC50 pre-incubation 0 min (A) = 3.91  $\hat{\mu}$ M IC50 pre-incubation 30 min (A) = 11.2  $\hat{\mu}$ M B/A = 2.85

Table 2

Table 2

IC50 pre-incubation 0 min (A) = 7.73  $\hat{\mu}$ M IC50 pre-incubation 30 min (B) = 12.1  $\hat{\mu}$ M B/A = 1.57

Table 2

IC50 pre-incubation 0 min (A) = 7.73  $\hat{\mu}$ M IC50 pre-incubation 30 min (B) = 12.1  $\hat{\mu}$ M B/A = 1.57

IC50 pre-incubation 0 min (A) = 3.91  $\hat{\mu}$ M IC50 pre-incubation 30 min (B) = 11.2  $\hat{\mu}$ M B/A = 2.85

measurement after CBD

Mean  $\hat{\pm}$ SD of IC50 values with duplicate determinations determined using Log avg [THC]

Mean  $\hat{\pm}$ SD of IC50 values with duplicate determinations determined using Log avg [THC]

IC50  $\hat{\mu}$ M log average reported Nominal: 2.8  $\hat{\pm}$  1.4 Published: 1.55  $\hat{\mu}$ M

Mean  $\hat{\pm}$ SD of IC50 values with duplicate determinations determined using Log avg [THC]

Mean  $\hat{\pm}$ SD of IC50 values with duplicate determinations determined using Log avg [THC]

IC50  $\hat{\mu}$ M log average reported Nominal: 2.8  $\hat{\pm}$  0.7 Published: 5.47  $\hat{\mu}$ M

IC50  $\hat{\mu}$ M log average reported Nominal: 6.4  $\hat{\pm}$  3.6 Published: 4.01  $\hat{\mu}$ M

IC50  $\hat{\mu}$ M log average reported Nominal: 3.9  $\hat{\pm}$  1.5 Published: 9.18  $\hat{\mu}$ M

Table 2.

Table 3.

Fig 1b at 25  $\hat{\mu}$ M CBD 10  $\hat{\mu}$ M CBD  $\sim$ 125%  $\hat{\pm}$  10% inhibition Table 1

Figure 1a at 25  $\hat{\mu}$ M CBD 10  $\hat{\mu}$ M CBD  $\sim$ 130%  $\hat{\pm}$  15% inhibition

Fig 1c at 20  $\hat{\mu}$ M CBD 10  $\hat{\mu}$ M CBD  $\sim$ 140%  $\hat{\pm}$  20% inhibition Table 1

Fig 2a.PSC833 5  $\hat{\mu}$ M was used as a positive control

Fig 2b.PSC833 5  $\hat{\mu}$ M was used as a positive control

Value reported estimated at 3 hours with 800 mg CBD (original value reported =  $\sim$ 170  $\hat{\mu}$ g/L) With 400 mg CBD, Cr Cannabinoid Content Using Non-derivatized Extracts

Table 1

Table 1 Figure 3

Table 1

Table 1 Figure 3

Figure 4E

Table 1

Figure 5 Figure 4E Ki at  $\hat{A} \log(-4.4)$  (concentration estimated)

Table 1

Table 1

Table 1 Figure 3

Table 1 (AMMC) Table 3 (20 min)

Figure 4C

Table 2

Table 2

Table 2, Table 3

Table 2

Table 2

Table 2, Table 3

Estimated from Fig 1b and 1d. at 4 hr

Emax: Fig 1a. Reported at 4 h. Change from vehicle control: Estimated from Fig 1c. Reported at 4 h.

Figure 2

Estimated from Figure 2

Figure 2

Table 1 (MEF3.8/Bcrp1 A2)

Table 1 (MEF3.8/Bcrp1 A2)

Table 1 (MEF3.8/Bcrp 1 A2)

Table 3. Cmax % change reported -17.4 (-43-64). AUC0-8 % change reported -10.2 (-46-92).

Table 2. Cmax % Change reported as -14.1 (-58 to 7), p = 0.039; AUC0-8 % change reported as -14 (-66 to 44) Despit

Table 1

Table 1

Table 1

Table 1

Table 1

Table 1

Table 1

Table 1

Table 1

Table 1

Table 1

Table 1

Table 1

Table 1

Table 1

Table 1

Table 1

Table 1

From page 109 Units for these values are NOT means but are instead a ratio of day 33 values:day 1 values

When CBD was combined with stiripentol there was a minor increase in Cmax and AUCtau; 1.28 and 1.55-fold, resp

C estimated from Fig 8; page 111

Clobazam exposure was increased slightly (~20%) by co-administration with CBD while exposure to the n-desmeth

Test ratios indicate the Day33:Day 1 ratio for individuals allocated to active drug. Control ratios indicate the Day 33

Table 2

Table 2

Table 2

Table 2

Table 2

Table 2

Table 2.

Table 2

kg/day. Throughout the study, CLB doses were either kept constant or decreased when side effects were observed.

Accumulation estimated from Fig 3a at 30  $\hat{1}$ /<sub>4</sub>M of CBD.  $p < 0.01$  versus control %inhibition estimated from Fig 5 at %inhibition estimated from Fig 3 at 25  $\hat{1}$ /<sub>4</sub>M. Table 1.

Estimated from Fig 4a. CBD 1  $\hat{1}$ /<sub>4</sub>M. Table 1

%inhibition estimated from Fig 3 Table 1

Fig 5 Table 1

%inhibition estimated from Fig 4a. Table 1

Table 1

Table 1

Table 1

Values from Table 1. The following values are from the fed state (Figure 1a and Table 1): Cmax: 6.2  $\hat{A}$   $\hat{A}$   $\pm$  1.3 ng/mL

Table 1

Results from Table 1

Estimated from Fig 4 at 15 mg/L.

%inhibition estimated from Fig 4 at 15 mg/L. Ki (3.1 mg/L) from Fig 5. IC50 (1.17 mg/L) and Ki converted from mg/L 1

Tables 2, 3, and 4 IC50 preincubation time recorded at 20 min

Tables 2 and 3

Tables 2 and 3

Tables 2 and 3

Tables 2 and 3

Tables 2, 3, and 4. IC50 pre-incubation recorded at 20 min

Tables 2 and 3

Tables 2 and 3

Tables 2, 3, and 4. IC50 pre-incubation recorded at 20 min

Tables 2, 3, and 4. IC50 preincubation time recorded at 20 min

Tables 2 and 3

Tables 2 and 3

Tables 2, 3, and 4. IC50 preincubation time recorded at 20 min

Tables 2, 3, and 4. IC50 pre-incubation recorded at 20 min

Tables 2 and 3

Tables 2, 3, and 4. IC50 at 20 min

Tables 2 and 3. IC50 at 20 min

Tables 2 and 3. IC50 at 20 min

Tables 2 and 3. IC50 at 20 min Fig 4. %inhibition estimated for  $8 \times 10^{-4} M$

Tables 2, 3, and 4. IC50 at 20 min

Tables 2, 3, and 4. IC50 at 20 min. Fig 4. % inhibition estimated with  $0.625 \times 10^{-4} M$  Fig 5. With NADPH at 9 min

Tables 2 and 3. IC50 at 20 min

Tables 2, 3, and 4. IC50 at 20 min

Tables 2 and 3. IC50 at 20 min

Values estimated from Figure 1 and converted from  $\mu g/mL$ . Original estimated value:  $2.5 \mu g/mL$ .

Values estimated from Figure 1. Original value was converted to  $ng/mL$ :  $C_{max} (\mu g/mL)$ : 2.75

Values converted from  $\mu g/mL$ . Original value:  $C_{max} (\mu g/mL)$ :  $2.59 \pm 0.94$  Table 1.

% inhibition estimated from Figure 2 at 20 min. IC50 at 0 min - 0.671 IC50 at 20 min (table 1) Kinact/KI converted fr

%inhibition estimated from Figure 2. IC50 pre-incubation at 0 min (Table 1). IC50 pre-incubation at 20 min - 1.90 Kina

%inhibition pre-incubation at estimated  $50 \times 10^{-4} M$  at 20 min (Figure 2). IC50 pre-incubation at 0 min (Table 1) IC50 pre

%inhibition estimated from Fig 2 at 20 min,  $\sim 0.5 \times 10^{-4} M$  CBDV. IC50 at 0 min (table 1). IC50 at 20 min 0.0677 Kinact/K

Table 4 (100-(residual activity (% of control))

Table 4 (100-(residual activity (% of control))

Table 4 (100-(residual activity (% of control))

Table 4 (100-residual activity (% of control))

Table 2.  $C_{max}$  of control at  $t = 240$  min;  $C_{max}$  of test at  $t = 120$  min. P value significance extrapolated from stateme

**Internal: Additional comments**

± 530 Figure 2.  
: 597 Figure 2.  
585 Figure 2

concentration.  
rent concentration  
rent concentration  
concentration.  
Cell line = human ABCC1 transduced subline (2008/MRP1)  
concentration.

max mean  $\hat{\pm}$  SEM  $\sim 140 \hat{\mu}\text{g/L} \hat{\pm} 20 \hat{\mu}\text{g/L}$  Values above convert

There is a statistically significant decrease in  $C_{max}$  of IDV in the marijuana

pectively.

ylclobazam metabolite was increased by 3.4 fold as a result of con  
:Day ratio for individuals allocated to placebo.CBD did not alter Cn

. CLB doses were recorded and plasma levels of CLB, nCLB, and CBI  
: 100  $\hat{M}$ .IC50 found within text

UC(0-inf): 34.99 (16.41) h\*ng/mL AUC(0-t): 32.7 (16.75) h\*ng/mL CI

to  $\hat{A}$   $\hat{\mu}$ g/mL



om /min/mmol to /min/ $\mu$ M (table 2).All other values from Table 2  
ct/KI converted from /min/mmol to /min/ $\mu$ M (table 2).All other v  
-incubation at 20 min - 7.68Kinact/KI converted from /min/mmol t  
l converted from /min/mmol to /min/ $\mu$ M (table 2).All other value

ent within the text: "Table 2, which portrays plasma levels of D9-TI



Cannabidiol Is a Potent Inhibitor of the Catalytic Activity of Cytochrome P450 2C19  
Cannabidiol Is a Potent Inhibitor of the Catalytic Activity of Cytochrome P450 2C19  
Cannabidiol Is a Potent Inhibitor of the Catalytic Activity of Cytochrome P450 2C19  
Cannabidiol Is a Potent Inhibitor of the Catalytic Activity of Cytochrome P450 2C19  
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Cannabidiol Is a Potent Inhibitor of the Catalytic Activity of Cytochrome P450 2C19  
Cannabidiol Is a Potent Inhibitor of the Catalytic Activity of Cytochrome P450 2C19

The effects of cannabinoids on P-glycoprotein transport and expression in multidrug resistant cells.  
The effects of cannabinoids on P-glycoprotein transport and expression in multidrug resistant cells.  
The effects of cannabinoids on P-glycoprotein transport and expression in multidrug resistant cells.  
The effects of cannabinoids on P-glycoprotein transport and expression in multidrug resistant cells.  
The effects of cannabinoids on P-glycoprotein transport and expression in multidrug resistant cells.  
The effects of cannabinoids on P-glycoprotein transport and expression in multidrug resistant cells.

In Vitro Inhibition of Carboxylesterase 1 by Major Cannabinoids and Selected Metabolites  
In Vitro Inhibition of Carboxylesterase 1 by Major Cannabinoids and Selected Metabolites  
In Vitro Inhibition of Carboxylesterase 1 by Major Cannabinoids and Selected Metabolites  
In Vitro Inhibition of Carboxylesterase 1 by Major Cannabinoids and Selected Metabolites  
In Vitro Inhibition of Carboxylesterase 1 by Major Cannabinoids and Selected Metabolites  
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Metabolic and psychophysiological studies of cannabidiolhexobarbital interaction  
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Cannabinoids as perpetrators of drug interactions - Using in vitro data to inform clinical study design  
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Medicinal Cannabis Does Not Influence the Clinical Pharmacokinetics of Irinotecan and Docetaxel  
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Cannabidiol enhances xenobiotic permeability through the human placental barrier by direct inhibition of breast cancer cells  
Cannabidiol enhances xenobiotic permeability through the human placental barrier by direct inhibition of breast cancer cells  
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Interaction of drugs of abuse and maintenance treatments with human P-glycoprotein (ABCB1) and breast cancer cells  
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Safety and pharmacokinetics of oral cannabidiol when administered concomitantly with intravenous fentanyl in humans  
Cannabis Characterization of Bulk Plant Material

Cannabidiol, a major phytocannabinoid, as a potent atypical inhibitor for CYP2D6.  
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Potent inhibition of human cytochrome P450 3A isoforms by cannabidiol: role of phenolic hydroxyl groups in the r  
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CB2 and TRPV1 receptors mediate cannabinoid actions on MDR1 expression in multidrug resistant cells  
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Cannabidiol induces expression of human cytochrome P450 1A1 that is possibly mediated through aryl hydrocarbc  
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The multidrug transporter ABCG2 (BCRP) is inhibited by plant-derived cannabinoids.

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Cannabis extract (CBD) Characterization of Material

The effects of cannabinoids on the pharmacokinetics of indinavir and nelfinavir

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Cytochrome P450 enzymes involved in the metabolism of tetrahydrocannabinols and cannabiniol by human hepatic

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Drug Approval Package: Epidiolex (Cannabidiol)

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Characterization of Human Hepatic and Extrahepatic UDP-Glucuronosyltransferase Enzymes Involved in the Metabolism of Cannabidiol  
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Drug-drug interaction between clobazam and cannabidiol in children with refractory epilepsy

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Characterization of P-glycoprotein Inhibition by Major Cannabinoids from Marijuana

Structural requirements for potent direct inhibition of human cytochrome P450 1A1 by cannabidiol: role of pentyl side chain

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Structural requirements for potent direct inhibition of human cytochrome P450 1A1 by cannabidiol: role of pentyl side chain

Enhanced biotransformation of theophylline in marijuana and tobacco smokers.

Enhanced biotransformation of theophylline in marijuana and tobacco smokers.

Enhanced biotransformation of theophylline in marijuana and tobacco smokers.

A phase I study to assess the effect of food on the single dose bioavailability of the THC/CBD oromucosal spray

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Involvement of UDP-Glucuronosyltransferases UGT1A9 and UGT2B7 in Ethanol Glucuronidation, and Interactions with Cannabidiol

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Comparison in the in vitro inhibitory effects of major phytocannabinoids and polycyclic aromatic hydrocarbons on cytochrome P450 1A1

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Characterization of major phytocannabinoids, cannabidiol and cannabinol, as isoform-selective and potent inhibits  
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Influence of cannabidiol on secobarbital effects and plasma kinetics  
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Characterization of the structural determinants required for potent mechanism-based inhibition of human cytochr  
Characterization of the structural determinants required for potent mechanism-based inhibition of human cytochr  
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Identification of cytochrome P450 enzymes responsible for metabolism of cannabidiol by human liver microsomes  
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Identification of cytochrome P450 enzymes responsible for metabolism of cannabidiol by human liver microsomes  
Identification of cytochrome P450 enzymes responsible for metabolism of cannabidiol by human liver microsomes  
Interaction between naltrexone and oral THC in heavy marijuana smokers



http://repo.napdi.org/NPDI-CAApFQ		23318708	1
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http://repo.napdi.org/NPDI-i4m0FA			3
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http://repo.napdi.org/NPDI-ieYYdA	PMID: 21821735	21821735	1









Study source name	Natural product ID	Natural product name
Published report	5	Cannabis
Published report	5	Cannabis
Published report	5	Cannabis
Published report	5	Cannabis
Published report	5	Cannabis
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Published report	5	Cannabis
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Published report	5	Cannabis
Unpublished data submitted through a NaPDI form	5	Cannabis
Published report	5	Cannabis
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**Quantified metabolite name**

**Quantified metabolite InChI**

cannabidiol

QHMBSVQNZZTUGM-ZWKOTPCHSA-N

cannabidiol

QHMSVQNZZTUGM-ZWKOTPCHSA-N

cannabidiol

QHMBSVQNZZTUGM-ZWKOTPCHSA-N







<b>Object metabolite compound ID</b>	<b>Object metabolite compound InChI</b>
119	YCBKSSAWEUDACY-IAGOWNOFSA-N

3	OQPLORUDZLXXPD-UHFFFAOYSA-N
148	CMZHQFXXAAIBKE-UHFFFAOYSA-N
3	OQPLORUDZLXXPD-UHFFFAOYSA-N
3	OQPLORUDZLXXPD-UHFFFAOYSA-N

146	GNBHRKFJIUUOQI-UHFFFAOYSA-N
148	CMZHQFXXAAIBKE-UHFFFAOYSA-N
148	CMZHQFXXAAIBKE-UHFFFAOYSA-N
3	OQPLORUDZLXXPD-UHFFFAOYSA-N
146	GNBHRKFJIUUOQI-UHFFFAOYSA-N
146	GNBHRKFJIUUOQI-UHFFFAOYSA-N
3	OQPLORUDZLXXPD-UHFFFAOYSA-N
3	OQPLORUDZLXXPD-UHFFFAOYSA-N

148 CMZHQFXXAAIBKE-UHFFFAOYSA-N  
146 GNBHRKFJIUUOQI-UHFFFAOYSA-N  
3 OQPLORUDZLXXPD-UHFFFAOYSA-N  
148 CMZHQFXXAAIBKE-UHFFFAOYSA-N  
3 OQPLORUDZLXXPD-UHFFFAOYSA-N  
148 CMZHQFXXAAIBKE-UHFFFAOYSA-N  
146 GNBHRKFJIUUOQI-UHFFFAOYSA-N  
148 CMZHQFXXAAIBKE-UHFFFAOYSA-N  
3 OQPLORUDZLXXPD-UHFFFAOYSA-N  
146 GNBHRKFJIUUOQI-UHFFFAOYSA-N

278 NENPYTRHICXVCS-YNEHKIRRSA-N  
278 NENPYTRHICXVCS-YNEHKIRRSA-N  
278 NENPYTRHICXVCS-YNEHKIRRSA-N  
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278 NENPYTRHICXVCS-YNEHKIRRSA-N

2 KGVXVPRLBMWZLG-UHFFFAOYSA-N  
165 XSEGWEUVSZRCBC-ZVBLRVHNSA-N  
148 CMZHQFXXAAIBKE-UHFFFAOYSA-N  
13 JAQUASYNZVUNQP-PVAVHDDUSA-N  
148 CMZHQFXXAAIBKE-UHFFFAOYSA-N  
2 KGVXVPRLBMWZLG-UHFFFAOYSA-N  
13 JAQUASYNZVUNQP-PVAVHDDUSA-N  
165 XSEGWEUVSZRCBC-ZVBLRVHNSA-N

13 JAQUASYNZVUNQP-PVAVHDDUSA-N  
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13 JAQUASYNZVUNQP-PVAVHDDUSA-N  
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13 JAQUASYNZVUNQP-PVAVHDDUSA-N  
13 JAQUASYNZVUNQP-PVAVHDDUSA-N  
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171 YOMLDISQSWWYOT-UXHICEINSA-N  
171 YOMLDISQSWWYOT-UXHICEINSA-N  
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171 YOMLDISQSWWYOT-UXHICEINSA-N  
171 YOMLDISQSWWYOT-UXHICEINSA-N

274  
275  
154 YDKZOUNVEIGJPO-UHFFFAOYSA-N  
119 YCBKSSAWEUDACY-IAGOWNOFSAN  
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277  
119 YCBKSSAWEUDACY-IAGOWNOFSAN  
275  
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119 YCBKSSAWEUDACY-IAGOWNOFSAN  
276  
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154 YDKZOUNVEIGJPO-UHFFFAOYSA-N  
154 YDKZOUNVEIGJPO-UHFFFAOYSA-N  
276

154 YDKZOUNVEIGJPO-UHFFFAOYSA-N  
124 YOVRGSHRZRJTLZ-HZPDHXFCSA-N  
155  
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154 YDKZOUNVEIGJPO-UHFFFAOYSA-N  
124 YOVRGSHRZRJTLZ-HZPDHXFCSA-N  
154 YDKZOUNVEIGJPO-UHFFFAOYSA-N  
154 YDKZOUNVEIGJPO-UHFFFAOYSA-N

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166 IWJBVMJWSPZ NJH-UQGZVRACSA-N  
166 IWJBVMJWSPZ NJH-UQGZVRACSA-N  
166 IWJBVMJWSPZ NJH-UQGZVRACSA-N  
  
166 IWJBVMJWSPZ NJH-UQGZVRACSA-N  
167 SKFYEJMLNMTTJA-UHFFFAOYSA-N  
2 KGVXVPR LBMWZLG-UHFFFAOYSA-N  
167 SKFYEJMLNMTTJA-UHFFFAOYSA-N  
2 KGVXVPR LBMWZLG-UHFFFAOYSA-N  
2 KGVXVPR LBMWZLG-UHFFFAOYSA-N

167 SKFYJMLNMTTJA-UHFFFAOYSA-N  
2 KGVXVPRLBMWZLG-UHFFFAOYSA-N  
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167 SKFYJMLNMTTJA-UHFFFAOYSA-N  
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2 KGVXVPRLBMWZLG-UHFFFAOYSA-N  
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157 YYLPAYRRVSQJRR-KSZLIROESA-N  
157 YYLPAYRRVSQJRR-KSZLIROESA-N  
157 YYLPAYRRVSQJRR-KSZLIROESA-N  
157 YYLPAYRRVSQJRR-KSZLIROESA-N

**Object metabolite compound description**

11-OH-THC

**Object metabolite compound concept ID (omop)**



4349487

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11-OH-THC

11-OH-THC

11-OH-THC

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**Precipitant compound ID      Precipitant compound international chemical identifier**

115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
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115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
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115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
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115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N

125 LQSCWFLJHTTHZ-UHFFFAOYSA-N  
117  
125 LQSCWFLJHTTHZ-UHFFFAOYSA-N  
115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
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115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
153 VBGLYOIFKLUMQG-UHFFFAOYSA-N  
153 VBGLYOIFKLUMQG-UHFFFAOYSA-N  
118 CYQFCXCEBYINGO-UHFFFAOYSA-N  
115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
118 CYQFCXCEBYINGO-UHFFFAOYSA-N

118 CYQFCXCEBYINGO-UHFFFAOYSA-N  
149  
142 REOZWEGFPHTFEI-JKSUJKDBSA-N  
140 UYBGHBAVRNATET-VQTJNVASSA-N  
140 UYBGHBAVRNATET-VQTJNVASSA-N  
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118 CYQFCXCEBYINGO-UHFFFAOYSA-N  
115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
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140 UYBGHBAVRNATET-VQTJNVASSA-N  
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142 REOZWEGFPHTFEI-JKSUJKDBSA-N  
118 CYQFCXCEBYINGO-UHFFFAOYSA-N  
153 VBGLYOIFKLUMQG-UHFFFAOYSA-N  
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115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
118 CYQFCXCEBYINGO-UHFFFAOYSA-N  
115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
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153 VBGLYOIFKLUMQG-UHFFFAOYSA-N  
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118 CYQFCXCEBYINGO-UHFFFAOYSA-N  
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115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
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118 CYQFCXCEBYINGO-UHFFFAOYSA-N  
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118 CYQFCXCEBYINGO-UHFFFAOYSA-N  
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115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
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137  
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115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
118 CYQFCXCEBYINGO-UHFFFAOYSA-N  
118 CYQFCXCEBYINGO-UHFFFAOYSA-N  
115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
  
153 VBGLYOIFKLUMQG-UHFFFAOYSA-N  
115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
153 VBGLYOIFKLUMQG-UHFFFAOYSA-N

115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
140 UYBGHBAVRNATET-VQTJNVASSA-N  
118 CYQFCXCEBYINGO-UHFFFAOYSA-N  
142 REOZWEGFPHTFEI-JKSUJKDBSA-N  
118 CYQFCXCEBYINGO-UHFFFAOYSA-N  
153 VBGLYOIFKLUMQG-UHFFFAOYSA-N  
115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
118 CYQFCXCEBYINGO-UHFFFAOYSA-N  
140 UYBGHBAVRNATET-VQTJNVASSA-N  
118 CYQFCXCEBYINGO-UHFFFAOYSA-N  
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115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
118 CYQFCXCEBYINGO-UHFFFAOYSA-N  
153 VBGLYOIFKLUMQG-UHFFFAOYSA-N  
115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
118 CYQFCXCEBYINGO-UHFFFAOYSA-N  
115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
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118 CYQFCXCEBYINGO-UHFFFAOYSA-N  
118 CYQFCXCEBYINGO-UHFFFAOYSA-N  
153 VBGLYOIFKLUMQG-UHFFFAOYSA-N  
115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N

118 CYQFCXCEBYINGO-UHFFFAOYSA-N  
118 CYQFCXCEBYINGO-UHFFFAOYSA-N  
156 QWCJHSGMANYXCW-UHFFFAOYSA-N  
156 QWCJHSGMANYXCW-UHFFFAOYSA-N  
156 QWCJHSGMANYXCW-UHFFFAOYSA-N  
102 XMAYWYJOQHxEEK-OZXSUGGESA-N  
257 VFMMPHCGEFGIP-UHFFFAOYSA-N  
102 XMAYWYJOQHxEEK-OZXSUGGESA-N  
257 VFMMPHCGEFGIP-UHFFFAOYSA-N  
102 XMAYWYJOQHxEEK-OZXSUGGESA-N  
102 XMAYWYJOQHxEEK-OZXSUGGESA-N  
156 QWCJHSGMANYXCW-UHFFFAOYSA-N  
102 XMAYWYJOQHxEEK-OZXSUGGESA-N  
257 VFMMPHCGEFGIP-UHFFFAOYSA-N  
257 VFMMPHCGEFGIP-UHFFFAOYSA-N  
156 QWCJHSGMANYXCW-UHFFFAOYSA-N  
257 VFMMPHCGEFGIP-UHFFFAOYSA-N  
102 XMAYWYJOQHxEEK-OZXSUGGESA-N  
257 VFMMPHCGEFGIP-UHFFFAOYSA-N  
156 QWCJHSGMANYXCW-UHFFFAOYSA-N  
115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
202 IBLNKMRFPWSOY-FNORWQNLSA-N  
200 CXOXHMZGEKVPMT-UHFFFAOYSA-N

115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
200 CXOXHMZGEKVPMT-UHFFFAOYSA-N  
202 IBLNKMRFPWISOY-FNORWQNLISA-N  
203 NIJJYAXOARWZEE-UHFFFAOYSA-N  
203 NIJJYAXOARWZEE-UHFFFAOYSA-N  
115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
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200 CXOXHMZGEKVPMT-UHFFFAOYSA-N  
200 CXOXHMZGEKVPMT-UHFFFAOYSA-N

115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
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115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
140 UYBGHBAVRNATET-VQTJNVASSA-N  
115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
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118 CYQFCXCEBYINGO-UHFFFAOYSA-N  
142 REOZWEGFPHTFEI-JKSUJKDBSA-N  
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153 VBGLYOIFKLUMQG-UHFFFAOYSA-N  
115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
153 VBGLYOIFKLUMQG-UHFFFAOYSA-N  
153 VBGLYOIFKLUMQG-UHFFFAOYSA-N  
118 CYQFCXCEBYINGO-UHFFFAOYSA-N  
118 CYQFCXCEBYINGO-UHFFFAOYSA-N  
115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
118 CYQFCXCEBYINGO-UHFFFAOYSA-N



118 CYQFCXCEBYINGO-UHFFFAOYSA-N  
153 VBGLYOIFKLUMQG-UHFFFAOYSA-N  
115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
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118 CYQFCXCEBYINGO-UHFFFAOYSA-N  
153 VBGLYOIFKLUMQG-UHFFFAOYSA-N  
115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
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118 CYQFCXCEBYINGO-UHFFFAOYSA-N  
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118 CYQFCXCEBYINGO-UHFFFAOYSA-N  
118 CYQFCXCEBYINGO-UHFFFAOYSA-N  
117  
115 QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
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140 UYBGHBAVRNATET-VQTJNVASSA-N  
142 REOZWEGFPHTFEI-JKSUJKDBSA-N  
100 SUBDBMMJDZJVOS-UHFFFAOYSA-N  
102 XMAYWYJOQHxEEK-OZXSUGGESA-N  
101 LOUPRKONTZGTKE-LHHVKLHASA-N  
156 QWCJHSGMANYXCW-UHFFFAOYSA-N  
123 DQCKKXVULJGBQN-XFWGSAIBSA-N

Precipitant compound description	Object compound ID
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118

213

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95

110

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100

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219

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115

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150

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CBD derivative

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CBD derivative

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CBD derivative

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CBD derivative	108
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CBD derivative	108
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CBD derivative

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CBD derivative

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86  
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118

**Object compound unique ingredient identifier**

**Object compound InChI**

CYQFCXCEBYINGO-UHFFFAOYSA-N

FIZZUEJIOKEFFZ-UHFFFAOYSA-M

XKFSBWQWNMZWFA-UHFFFAOYSA-N

MYFATKRONKHHQL-UHFFFAOYSA-N

XKFSBWQWNMZWFA-UHFFFAOYSA-N

D9818430MW

D9818430MW

D9818430MW

CYQFCXCEBYINGO-UHFFFAOYSA-N  
CYQFCXCEBYINGO-UHFFFAOYSA-N  
CYQFCXCEBYINGO-UHFFFAOYSA-N  
GMHKMTDVRCWUDX-LBPRGKRZSA-N  
SUBDBMMJDZJVOS-UHFFFAOYSA-N  
GMHKMTDVRCWUDX-LBPRGKRZSA-N  
GMHKMTDVRCWUDX-LBPRGKRZSA-N  
OGWKCGZFUXNPDA-XQKSVPLYSA-N  
OZLGRUXZXMRXGP-UHFFFAOYSA-N  
OZLGRUXZXMRXGP-UHFFFAOYSA-N  
OGWKCGZFUXNPDA-XQKSVPLYSA-N  
OZLGRUXZXMRXGP-UHFFFAOYSA-N  
OGWKCGZFUXNPDA-XQKSVPLYSA-N

D9818430MW

D9818430MW

D9818430MW

QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
CYQFCXCEBYINGO-UHFFFAOYSA-N  
KDXNYSZNOWTPLE-UHFFFAOYSA-N  
SUBDBMMJDZJVOS-UHFFFAOYSA-N  
SUBDBMMJDZJVOS-UHFFFAOYSA-N  
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KDXNYSZNOWTPLE-UHFFFAOYSA-N  
KDXNYSZNOWTPLE-UHFFFAOYSA-N  
GMHKMTDVRCWUDX-LBPRGKRZSA-N  
GMHKMTDVRCWUDX-LBPRGKRZSA-N

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D9818430MW	SUBDBMMJDZJVOS-UHFFFAOYSA-N GMHKMTDVRCWUDX-LBPRGKRZSA-N SUBDBMMJDZJVOS-UHFFFAOYSA-N KDXNYSZNOWTPLE-UHFFFAOYSA-N SUBDBMMJDZJVOS-UHFFFAOYSA-N
D9818430MW	GMHKMTDVRCWUDX-LBPRGKRZSA-N KDXNYSZNOWTPLE-UHFFFAOYSA-N MYFATKRONKHHQL-UHFFFAOYSA-N MYFATKRONKHHQL-UHFFFAOYSA-N MYFATKRONKHHQL-UHFFFAOYSA-N MYFATKRONKHHQL-UHFFFAOYSA-N MYFATKRONKHHQL-UHFFFAOYSA-N MYFATKRONKHHQL-UHFFFAOYSA-N PGZUMBJQJWIWGJ-ONAKXNSWSA-N PGZUMBJQJWIWGJ-ONAKXNSWSA-N PGZUMBJQJWIWGJ-ONAKXNSWSA-N PGZUMBJQJWIWGJ-ONAKXNSWSA-N PGZUMBJQJWIWGJ-ONAKXNSWSA-N PGZUMBJQJWIWGJ-ONAKXNSWSA-N PGZUMBJQJWIWGJ-ONAKXNSWSA-N PGZUMBJQJWIWGJ-ONAKXNSWSA-N PGZUMBJQJWIWGJ-ONAKXNSWSA-N PGZUMBJQJWIWGJ-ONAKXNSWSA-N UYXAWHWODHRRMR-UHFFFAOYSA-N UYXAWHWODHRRMR-UHFFFAOYSA-N
14408QL0L1	DCOPUUMXTXDBNB-UHFFFAOYSA-N MUMGGOZAMZWBJJ-DYKIIFRCSA-N
7355X3ROTS	SUBDBMMJDZJVOS-UHFFFAOYSA-N MKXZASYAUGDDCJ-NJAFHUGGSA-N
14408QL0L1	SUBDBMMJDZJVOS-UHFFFAOYSA-N DCOPUUMXTXDBNB-UHFFFAOYSA-N
7355X3ROTS	MKXZASYAUGDDCJ-NJAFHUGGSA-N MUMGGOZAMZWBJJ-DYKIIFRCSA-N UWKQSNNFCGGAFS-XIFFEERXSA-N ZDZOTLJHXYCWBA-VCVYQWHSSA-N KKZJGLLVHKMTCM-UHFFFAOYSA-N KKZJGLLVHKMTCM-UHFFFAOYSA-N KKZJGLLVHKMTCM-UHFFFAOYSA-N XKFSBWQWNMZWFA-UHFFFAOYSA-N MYFATKRONKHHQL-UHFFFAOYSA-N PJMPHNIQZUBGLI-UHFFFAOYSA-N
7355X3ROTS	MKXZASYAUGDDCJ-NJAFHUGGSA-N



7355X3ROTS

MKXZASYAUGDDCJ-NJAFHUGGSA-N

7355X3ROTS

MKXZASYAUGDDCJ-NJAFHUGGSA-N

7355X3ROTS

MKXZASYAUGDDCJ-NJAFHUGGSA-N

7355X3ROTS

MKXZASYAUGDDCJ-NJAFHUGGSA-N

7355X3ROTS

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HSUGRBWQSSZJOP-RTWAWAEBSA-N

HSUGRBWQSSZJOP-RTWAWAEBSA-N

HSUGRBWQSSZJOP-RTWAWAEBSA-N

HSUGRBWQSSZJOP-RTWAWAEBSA-N

KKZJLLVHKMTCM-UHFFFAOYSA-N

KKZJLLVHKMTCM-UHFFFAOYSA-N

KKZJLLVHKMTCM-UHFFFAOYSA-N

QAGYKUNXZHxKMR-HKWSIXNMSA-N

CBVCZFGXHXORBI-PXQQMZJSSA-N

HCAWPGARWVBULJ-UHFFFAOYSA-N

HCAWPGARWVBULJ-UHFFFAOYSA-N

VBGLYOIFKLUMQG-UHFFFAOYSA-N

CYQFCXCEBYINGO-UHFFFAOYSA-N

HCAWPGARWVBULJ-UHFFFAOYSA-N

VBGLYOIFKLUMQG-UHFFFAOYSA-N

CYQFCXCEBYINGO-UHFFFAOYSA-N

HCAWPGARWVBULJ-UHFFFAOYSA-N

HCAWPGARWVBULJ-UHFFFAOYSA-N

CYQFCXCEBYINGO-UHFFFAOYSA-N

CYQFCXCEBYINGO-UHFFFAOYSA-N

HCAWPGARWVBULJ-UHFFFAOYSA-N

CYQFCXCEBYINGO-UHFFFAOYSA-N

VBGLYOIFKLUMQG-UHFFFAOYSA-N

VBGLYOIFKLUMQG-UHFFFAOYSA-N

VBGLYOIFKLUMQG-UHFFFAOYSA-N

VBGLYOIFKLUMQG-UHFFFAOYSA-N

CYQFCXCEBYINGO-UHFFFAOYSA-N

RRTVVRIFVKKTK-UHFFFAOYSA-N

QHMBSVQNZZTUGM-ZWKOTPCHSA-N

QHMBSVQNZZTUGM-ZWKOTPCHSA-N

R60L0SM5BC

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ZELUXPWPVXUEI-ZWKOTPCHSA-N  
QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
QHMBSVQNZZTUGM-ZWKOTPCHSA-N  
DDLIGBOFAVUZHB-UHFFFAOYSA-N  
CXOXHMZGEKVPMT-UHFFFAOYSA-N  
NIJJYAXOARWZEE-UHFFFAOYSA-N  
CXOXHMZGEKVPMT-UHFFFAOYSA-N  
YYLPAYRRVSQJRR-KSZLIROESA-N

C137DTR5RG  
C137DTR5RG  
C137DTR5RG

VBGLYOIFKLUMQG-UHFFFAOYSA-N  
YCBKSSAWEUDACY-IAGOWNOFSA-N  
YOVRGSHRZRJTLZ-HZPDHXFCSA-N  
YOVRGSHRZRJTLZ-HZPDHXFCSA-N  
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VBGLYOIFKLUMQG-UHFFFAOYSA-N  
CXOXHMZGEKVPMT-UHFFFAOYSA-N  
CXOXHMZGEKVPMT-UHFFFAOYSA-N  
MYFATKRONKHHQL-UHFFFAOYSA-N  
CRCWUBLTFGOMDD-UHFFFAOYSA-N  
CRCWUBLTFGOMDD-UHFFFAOYSA-N  
CRCWUBLTFGOMDD-UHFFFAOYSA-N  
CRCWUBLTFGOMDD-UHFFFAOYSA-N  
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14408QL0L1  
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LFQSCWFLJHTTHZ-UHFFFAOYSA-N  
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PJVWKTQMONHTI-HNNXBMFYSA-N  
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PJVWKTQMONHTI-HNNXBMFYSA-N  
DCOPUUMXTXDBNB-UHFFFAOYSA-N  
DCOPUUMXTXDBNB-UHFFFAOYSA-N

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14408QL0L1

14408QL0L1

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CRCWUBLTFGOMDD-UHFFFAOYSA-N  
CRCWUBLTFGOMDD-UHFFFAOYSA-N  
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KQPKPCNLIDLUMF-UHFFFAOYSA-N  
KQPKPCNLIDLUMF-UHFFFAOYSA-N  
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