

QuEChERS-超高效液相色谱-串联质谱法测定全血中 65 种合成大麻素

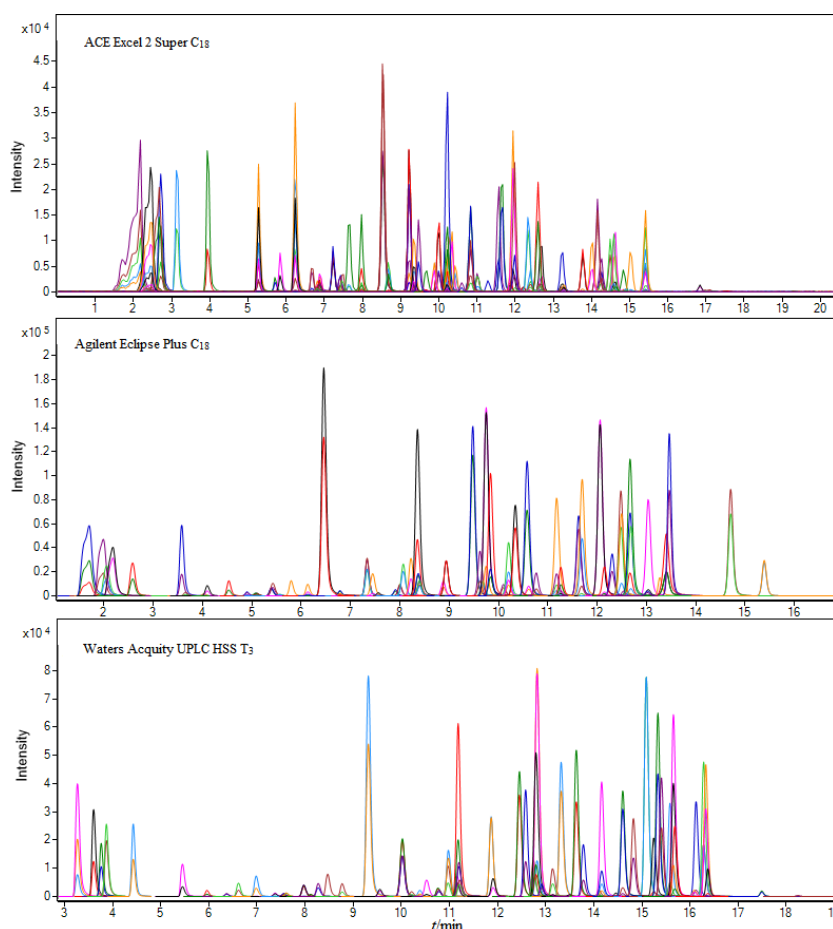
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Determination of 65 synthetic cannabinoids in whole blood by QuEChERS-ultra performance liquid chromatography-mass spectrometry

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附图 1 全血样品中 65 种 SCs 的提取离子色谱图

Fig. S1 Extracted ion chromatograms of 65 synthetic cannabinoids in a blood sample

附表 1 全血质控样的日内精密度和日间精密度 (n=3)

Table S1 Intra day precision and inter day precision of whole blood quality control samples (n=3)

No.	SCs	Inter-day RSD(%)			Intra-day RSD(%)		
		1 ng/mL	5 ng/mL	50 ng/mL	1 ng/mL	5 ng/mL	50 ng/mL
1	AM-2233	3.1	1.4	3.1	4.2	5.3	4.5
2	5F-BEPIRAPIM	1.2	2.3	1.9	4.7	4.2	3.0
3	AM-1220	3.1	2.2	2.9	4.0	7.7	6.7
4	JWH-200	3.8	2.6	3.8	8.2	4.0	6.4
5	A-796260	1.4	1.9	1.7	5.9	7.0	5.9
6	AM-1248	2.4	3.3	1.3	5.4	5.5	5.8
7	5F-ABICA	3.9	5.0	5.6	7.9	5.6	7.5
8	AB-BICA	2.1	2.2	1.7	6.5	7.6	3.0
9	5-fluoropentyl-3-pyridinoylindole (HCl)	2.8	7.4	1.8	5.1	8.5	6.8
10	5F-ADBICA	1.8	4.3	1.4	6.7	7.8	7.2
11	ADB-BICA	5.3	4.2	3.2	6.3	9.5	6.0
12	ADB-FUBICA	4.2	6.9	4.0	8.5	8.3	7.6
13	PX-2	7.6	6.8	5.9	9.3	8.9	7.5
14	5-CI-AB-PINACA	5.4	2.3	5.2	6.2	8.8	8.0
15	ADB-BINACA	2.6	3.1	3.4	6.1	7.6	5.3
16	ADB-FUBINACA	2.5	6.9	4.1	4.8	7.5	5.7
17	ADB-BUTINACA	4.6	5.0	3.2	7.5	7.9	8.6
18	5F-SDB-005	4.8	6.6	5.3	5.7	7.5	6.1
19	ADBICA	4.6	4.1	2.1	7.1	6.1	4.3
20	5F-7-QUPAIC	6.4	4.6	4.4	7.6	5.9	8.5
21	ADB-PINACA	1.0	4.2	3.8	6.5	7.8	6.9
22	MEP-FUBICA	3.8	4.9	1.8	6.9	7.6	4.9
23	MMB-FUBICA	1.6	4.6	1.3	8.1	8.0	5.2
24	5F-MPP-PICA	1.8	6.6	2.0	3.2	6.7	6.5
25	MMB-022	2.2	2.4	2.8	7.6	3.8	5.5
26	SDB-005	3.4	2.8	5.2	5.2	7.1	7.8
27	5F-MDMB-PICA	4.3	3.1	2.2	9.3	5.4	7.7
28	3,5-AB-CHMFUPPYCA	2.3	4.7	3.2	6.3	6.6	6.7
29	MAB-CHMINACA	4.8	4.6	3.6	7.2	5.6	6.5
30	5F-NNEI	2.4	5.2	7.5	6.7	8.1	4.4
31	5F-AMB	3.7	2.5	2.7	4.8	7.6	5.4
32	MDMB-FUBICA	5.6	7.6	6.8	7.8	6.3	6.0
33	5F-CUMYL-PICA	3.6	3.4	4.9	8.4	2.1	5.6
34	MMB-FUBINACA	6.1	3.4	3.9	7.2	5.0	4.6
35	SDB-006	2.8	2.2	2.9	5.6	5.3	4.2
36	5F-MDMB-PINACA	2.6	4.6	4.7	9.1	8.6	9.5
37	5F-7-APAICA	4.3	4.0	7.6	6.2	4.8	6.2
38	FUBIMINA	1.2	6.0	8.8	6.3	7.8	9.4
39	MMB-CHMICA	2.0	4.1	1.6	6.0	6.9	6.8
40	RCS-4	2.8	5.0	8.5	3.3	7.1	7.5

41	JWH-015	2.0	5.6	8.0	3.0	6.6	9.1
42	FUB-JWH-018	4.7	5.4	6.4	9.3	6.2	7.2
43	MDMB-4en-PINACA	2.8	4.7	2.1	6.4	9.4	8.0
44	5F-MN18	2.2	3.4	2.3	6.4	6.0	5.3
45	JWH-250	1.3	5.9	9.0	4.7	6.1	9.9
46	CUMYL-PEGACLONE	1.9	3.4	2.1	4.3	4.1	8.1
47	MDMB-CHMICA	2.0	4.0	2.7	8.3	4.2	9.2
48	NM-2201	2.9	4.3	7.8	7.6	4.6	5.6
49	JWH-203	1.5	3.5	7.9	3.9	4.8	7.8
50	FDU-PB-22	5.4	2.7	6.7	6.2	5.0	5.6
51	JWH-018	3.5	3.2	7.7	4.3	6.3	9.1
52	JWH-018 BENZIMIDAZOLE ANALOG	4.9	3.4	6.6	7.5	5.1	7.9
53	JWH-007	3.9	5.2	3.8	6.0	7.4	8.4
54	5F-APINACA	3.0	6.6	2.0	6.1	6.2	4.2
55	JWH-307	3.3	4.5	1.8	4.2	5.9	5.2
56	MDMB-CHMINACA	3.7	6.7	1.7	8.4	5.9	5.0
57	APICA	4.5	4.8	5.2	6.9	5.3	7.2
58	RCS-8	3.6	4.6	7.8	6.7	5.5	8.1
59	FUB-APINACA	2.3	1.7	7.8	6.0	8.7	9.4
60	5F-APINAC	4.5	5.3	5.1	8.1	6.9	8.4
61	JWH-210	4.7	3.6	6.8	8.2	3.3	6.7
62	JWH-370	3.8	5.0	5.7	9.5	5.5	7.9
63	5CI-APINACA	3.4	3.4	7.6	8.6	5.5	8.6
64	EG-018	4.5	2.6	4.0	8.2	4.0	8.8
65	CB-13	6.1	1.9	4.1	7.1	5.0	8.3

附表 2 全血质控样的稳定性考察结果(n=3)

Table S2 Stability test results of whole blood quality control samples (n=3)

SCs	concentrat ion (ng/mL)	Placed at room temperature for 24h		3 freeze-thaw cycles		Placed at -20 °C for 30d		Placed at -80 °C for 30d	
		Bias (%)	RSD(%)	Bias (%)	RSD(%)	Bias (%)	RSD(%)	Bias (%)	RSD(%)
AM-2233	1	-2.1	5.6	7.7	4.3	-10.8	1.0	-13.1	5.6
	50	-11.2	8.6	8.9	3.6	4.5	5.7	5.7	0.9
5F-BEPIRAPIM	1	-10.4	6.6	-2.1	7.9	-23.6	2.3	-33.2	9.5
	50	3.6	8.9	-1.8	8.7	-17.1	5.8	-18.4	1.6
AM-1220	1	2.7	9.4	-7.9	6.4	-24.7	7.3	-31.3	8.1
	50	9.8	8.4	-14.3	2.7	-16.1	10.0	-18.9	0.5
JWH-200	1	9.0	8.9	-12.1	7.7	-13.9	3.6	-5.4	7.5
	50	-3.1	7.0	-5.0	3.6	8.8	5.7	2.8	1.2
A-796260	1	-12.6	6.0	3.7	8.6	10.5	2.5	-0.5	1.3
	50	-3.3	8.5	6.0	7.5	14.3	0.4	5.6	2.6
AM-1248	1	14.1	5.6	-2.9	3.2	-2.6	2.5	-6.9	9.6
	50	6.8	6.8	-13.4	2.4	3.8	4.0	6.0	2.0
5F-ABICA	1	-12.6	1.0	9.7	8.3	8.2	4.5	13.4	6.2

	50	-8.4	8.9	8.9	6.2	13.4	2.2	14.3	0.7
AB-BICA	1	10.4	5.5	11.8	4.4	2.6	8.4	17.4	8.2
	50	10.1	8.8	14.8	4.5	8.4	6.0	13.0	2.1
5-Fluoropentyl-3-pyridinoylindo	1	2.7	5.4	8.8	7.8	-6.7	8.1	-12.0	9.2
(HCl)	50	-3.8	7.6	9.6	7.2	15.4	9.9	2.2	0.7
5F-ADBICA	1	12.4	1.9	9.3	3.3	7.1	4.3	16.9	7.0
	50	7.5	3.3	-0.5	3.6	14.9	2.4	10.4	3.9
ADB-BICA	1	-11.9	9.7	14.4	8.7	10.5	6.2	14.3	5.0
	50	-3.3	9.0	3.7	7.9	12.3	6.3	16.4	3.5
ADB-FUBICA	1	4.0	2.4	8.8	6.3	-5.9	8.0	-9.1	6.9
	50	-3.3	9.5	-8.9	9.2	15.8	7.9	7.5	7.2
PX-2	1	-14.1	7.1	5.1	2.9	-15.2	5.0	-13.4	7.6
	50	-7.2	8.6	4.9	6.3	-4.1	6.0	3.9	8.2
5-CI-AB-	1	6.4	2.6	12.9	6.2	0.5	7.0	1.0	6.7
PINACA	50	5.0	8.1	12.0	8.8	0.3	5.4	12.8	4.8
ADB-BINACA	1	-1.4	4.1	-1.1	4.5	-20.1	9.9	-4.7	9.6
	50	-13.1	8.2	-6.8	8.5	2.5	9.2	11.5	2.9
ADB-	1	10.3	6.1	-4.1	5.9	7.1	4.6	-10.2	7.8
FUBINACA	50	8.4	5.0	-14.3	5.6	-0.7	9.5	13.1	3.4
ADB-	1	10.7	9.8	-11.7	1.4	-16.6	7.9	-14.8	2.2
BUTINACA	50	2.8	0.7	-11.3	4.5	-13.3	6.2	-10.8	3.0
5F-SDB-005	1	-0.5	3.9	-7.2	6.9	-13.3	3.0	-24.5	2.8
	50	-7.2	7.8	4.3	7.9	0.9	5.0	1.0	2.4
ADBICA	1	2.7	3.9	3.1	6.7	-15.5	4.2	-2.5	3.0
	50	-2.7	3.0	-7.2	6.3	-1.7	9.8	7.8	3.2
5F-7-QUPAIC	1	7.0	4.9	-7.4	9.8	-14.6	0.2	-16.3	2.8
	50	-9.3	8.2	4.8	8.6	1.7	6.2	5.1	1.7
ADB-PINACA	1	11.7	3.3	11.6	8.7	-0.8	6.4	-7.4	6.4
	50	13.2	9.2	5.8	7.0	1.8	4.4	5.1	4.6
MEP-FUBICA	1	12.9	8.0	4.0	6.9	-19.1	7.6	-16.7	2.2
	50	-6.4	7.3	7.1	8.5	-8.9	8.1	-3.1	2.3
MMB-FUBICA	1	5.2	9.7	1.6	3.6	-13.7	4.8	-18.3	1.9
	50	5.9	7.6	9.5	5.4	-8.0	7.7	-5.0	0.9
5F-MPP-PICA	1	5.9	3.8	8.4	8.5	-22.0	8.7	-12.6	2.9
	50	-10.7	8.1	5.8	4.6	-17.6	6.3	-7.2	0.7
MMB-022	1	-1.8	9.1	3.8	9.2	-7.3	0.7	-15.4	6.4
	50	7.8	5.1	4.9	6.1	5.1	5.3	11.0	1.5
SDB-005	1	5.5	5.6	7.4	9.4	-5.3	4.4	-14.6	6.3
	50	-1.0	6.9	9.5	4.8	17.1	4.9	9.8	1.7
5F-MDMB-PICA	1	-2.1	4.0	-7.1	0.2	-11.6	5.3	-6.4	6.6
	50	-12.8	0.7	7.9	8.7	-8.3	9.8	-10.4	1.4
3,5-AB-	1	-3.1	9.5	2.2	4.4	7.6	1.6	-2.7	3.0
CHMFUPPYCA	50	4.9	6.7	5.3	10.0	-2.5	9.1	5.2	6.8
	1	3.2	5.9	6.7	6.2	-8.6	1.7	-16.5	8.7

MAB-CHMINACA	50	6.5	5.2	14.0	8.7	-2.1	4.3	11.5	8.3
5F-NNEI	1	3.1	7.1	-8.0	7.7	-16.1	6.8	-18.4	3.0
	50	6.8	9.1	-5.5	6.4	-19.4	5.6	-17.1	1.5
5F-AMB	1	8.8	6.0	7.0	9.1	-22.3	5.2	-16.7	3.7
	50	9.5	9.1	9.5	9.0	-14.7	4.0	-6.8	3.5
MDMB-FUBICA	1	2.9	5.5	7.0	2.0	-7.1	9.5	-8.8	5.0
	50	-3.6	6.3	12.3	8.8	-4.6	6.5	1.0	2.3
5F-CUMYL-PICA	1	5.9	7.4	8.1	3.5	-4.6	1.6	-6.3	0.6
MMB-FUBINACA	50	-12.6	5.5	5.5	9.5	7.0	7.1	9.8	0.2
SDB-006	1	11.5	7.2	8.6	7.7	-4.6	2.0	-7.6	4.7
	50	-6.9	4.8	14.4	5.3	1.6	7.8	8.7	0.8
5F-MDMB-PINACA	1	-4.2	9.0	8.4	5.0	-3.8	4.5	-3.9	6.0
	50	-7.9	8.9	8.4	6.5	4.5	5.9	10.2	2.9
5F-7-APAICA	1	3.9	7.5	9.9	9.5	-16.6	4.0	-12.5	2.4
	50	-1.9	7.4	9.4	8.7	-4.3	8.4	-0.6	1.3
FUBIMINA	1	-14.2	7.5	5.5	4.8	-13.8	2.6	-5.6	1.6
	50	-6.4	6.2	-7.7	5.4	-12.7	7.6	-5.6	1.1
MMB-CHMICA	1	11.4	6.4	-5.0	6.5	-17.3	0.5	-17.0	1.6
	50	6.0	8.2	-3.0	9.0	4.1	7.6	4.5	0.2
RCS-4	1	-4.9	6.4	9.3	5.4	-21.4	0.8	-9.9	3.3
	50	-2.7	7.7	12.8	3.9	-6.8	8.8	-5.4	0.9
JWH-015	1	4.3	5.6	-3.9	9.9	-11.1	2.6	-2.2	5.2
	50	-6.5	8.9	-1.9	5.3	4.4	8.0	6.7	0.6
FUB-JWH-018	1	5.7	6.7	-4.2	6.0	-13.9	1.0	-15.0	1.8
	50	5.6	8.2	1.9	5.2	6.6	7.5	7.3	0.2
MDMB-4en-PINACA	1	-8.0	8.2	-12.8	3.5	-12.3	0.5	1.4	7.6
	50	-2.7	9.5	-8.2	7.5	-2.5	9.9	0.3	0.8
5F-MN18	1	-5.8	5.1	-6.5	1.5	-10.3	4.1	-5.4	1.8
	50	-0.3	1.5	-0.4	8.7	-8.2	4.1	-5.1	1.5
JWH-250	1	7.2	8.2	-7.7	9.2	-20.1	8.7	-18.7	6.2
	50	-4.9	8.4	-10.3	9.8	-6.9	4.7	-3.1	0.2
PEGACLONE	1	8.8	6.9	-5.6	3.6	-14.1	0.6	-15.5	5.8
	50	-1.6	6.5	-3.3	5.3	2.2	7.1	3.7	1.5
NM-2201	1	-9.8	7.7	5.1	9.9	-0.1	0.8	-11.6	7.3
	50	-5.5	5.7	5.2	6.6	9.3	9.1	15.3	1.3
JWH-203	1	-12.6	6.3	-8.1	2.7	-15.8	5.8	1.5	2.7
	50	-7.2	7.1	-3.1	8.4	-1.2	6.3	7.8	1.5
FDU-PB-22	1	2.7	4.8	-7.9	1.2	-1.4	0.3	-5.4	9.9
	50	-12.6	9.3	-10.0	6.0	10.1	4.7	15.2	1.9
JWH-018	1	7.0	8.5	-12.6	7.4	-12.9	0.2	-16.4	3.9
	50	3.3	5.0	-11.0	9.9	3.5	7.0	3.8	1.3
	1	-6.6	3.2	13.8	7.9	-21.5	9.0	-16.3	9.5
	50	-7.4	7.8	14.7	8.3	-11.8	3.0	-17.0	3.4
	1	10.7	8.7	-13.6	2.1	-14.3	1.7	-16.9	3.7

	50	9.6	6.0	-13.8	6.6	0.2	7.4	-0.8	0.7
JWH-018	1	2.9	2.1	-7.9	6.3	-10.7	2.1	-18.7	6.0
BENZIMIDAZO LE ANALOG	50	9.6	7.0	-7.0	2.2	11.4	5.6	7.4	0.2
	1	-12.0	5.0	-12.1	9.0	-16.6	1.4	-22.9	5.8
JWH-007	50	-2.1	3.2	-12.5	9.7	2.4	6.0	2.0	1.5
	1	7.0	8.9	-5.1	9.3	-8.8	8.7	-9.5	9.1
5F-APINACA	50	-1.6	6.6	-4.2	6.2	-6.0	7.4	-6.1	9.7
	1	11.0	4.5	-7.7	2.3	-21.7	0.9	-18.1	9.6
JWH-307	50	-11.0	4.9	-4.4	6.2	-15.4	7.5	-15.6	1.7
MDMB- CHMINACA	1	6.9	2.7	-13.3	5.0	-5.3	0.2	-13.7	1.7
	50	-7.7	6.4	-8.0	6.5	12.5	6.9	13.3	0.4
APICA	1	14.2	5.8	-10.8	6.3	4.3	2.4	-10.3	5.9
	50	7.4	6.1	-10.9	5.8	17.4	6.6	14.1	2.0
RCS-8	1	11.4	6.1	-11.2	7.4	-2.1	4.2	-16.8	2.3
	50	1.6	5.0	-12.4	7.9	16.2	6.8	11.6	2.1
FUB-APINACA	1	9.4	3.3	-13.6	2.5	-5.5	4.3	-19.2	4.3
	50	-2.9	6.3	-11.7	5.9	4.3	6.3	0.8	2.0
5F-APINAC	1	7.2	4.4	-5.5	6.6	-7.2	8.8	-5.4	5.7
	50	7.7	5.5	-7.4	2.6	-5.1	9.7	-1.2	3.8
JWH-210	1	7.4	7.6	-8.1	3.2	-20.1	2.5	-17.9	9.3
	50	1.1	4.3	-7.5	8.3	-5.7	8.3	-7.4	3.1
JWH-370	1	-11.4	9.2	-12.4	10.0	-21.1	5.4	-15.6	8.6
	50	-10.8	3.3	-9.9	6.2	-10.7	5.9	-9.6	4.0
5CI-APINACA	1	10.8	7.6	-11.2	7.5	-13.0	6.7	-2.6	9.9
	50	-3.7	5.0	-6.8	1.3	4.8	6.3	1.3	4.1
EG-018	1	5.2	6.2	-16.1	1.9	-19.7	3.7	-18.3	9.4
	50	-3.9	8.1	-5.1	1.6	-11.8	4.4	-17.4	3.5
CB-13	1	-12.4	6.2	5.8	6.4	-20.9	2.9	-14.6	5.9
	50	6.5	8.4	-3.8	8.5	-2.3	3.6	-12.5	2.5

附表 3 全血质控样（500 ng/mL）的稀释可靠性验证（n=6）

Table S3 Validation of dilution reliability of whole blood quality control samples (500 ng/mL) (n=6)

SCs	Dilute 5 times		Dilute 10 times		Dilute 20 times	
	Bias (%)	RSD(%)	Bias (%)	RSD(%)	Bias (%)	RSD(%)
AM-2233	2.7	8.8	-10.7	7.8	-5.8	6.8
5F-BEPIRAPIM	-9.6	1.7	9.2	2.6	-10.5	8.0
AM-1220	-14.5	12.6	-14.4	9.6	-17.9	3.4
JWH-200	-11.5	6.0	-9.6	6.6	6.8	2.3
A-796260	-14.6	13.5	-15.1	7.5	-13.9	7.3
AM-1248	-17.1	11.9	-20.3	5.2	-13.2	11.1
5F-ABICA	-10.4	5.4	-10.1	3.7	-12.0	6.1
AB-BICA	7.5	10.1	-6.4	6.7	-6.4	7.7
5-Fluoropentyl-3- pyridinoylindole (HCl)	-6.1	2.7	-10.2	7.1	-13.8	7.2

5F-ADBICA	6.4	11.8	4.7	9.9	-7.7	8.9
ADB-BICA	8.5	3.2	0.4	8.0	-5.3	7.2
ADB-FUBICA	-2.8	6.7	5.4	10.8	-10.9	5.6
PX-2	14.1	13.4	-0.6	8.5	2.9	5.9
5-CI-AB-PINACA	-7.1	6.7	-12.4	2.9	-11.1	3.3
ADB-BINACA	12.7	10.1	7.4	5.8	-10.8	8.2
ADB-FUBINACA	0.2	5.4	-0.7	8.8	1.9	11.8
ADB-BUTINACA	-6.1	5.3	-2.8	6.8	-10.7	12.5
5F-SDB-005	-11.1	6.1	-17.5	6.3	-20.4	6.9
ADBICA	9.6	9.3	5.3	5.5	-7.7	3.3
5F-7-QUPAIC	-13.6	7.2	-10.3	1.9	-9.6	2.3
ADB-PINACA	6.0	5.9	6.2	11.0	-7.3	2.4
MEP-FUBICA	-4.1	3.5	10.4	7.2	-7.0	6.4
MMB-FUBICA	9.6	3.8	7.2	5.9	-7.0	8.6
5F-MPP-PICA	-7.5	1.8	-13.8	6.8	-15.7	9.1
MMB-022	-11.3	7.6	6.9	10.1	-11.3	9.0
SDB-005	-8.1	5.6	-0.2	3.7	-6.6	5.3
5F-MDMB-PICA	-7.8	2.0	-3.6	3.8	-3.9	5.6
3,5-AB-CHMFUPPYCA	-11.3	10.7	-8.1	4.3	-5.8	8.2
MAB-CHMINACA	-4.4	8.9	-11.0	6.9	4.8	11.9
5F-NNEI	-6.6	13.1	-10.1	3.4	-18.6	8.2
5F-AMB	-6.7	10.6	11.2	3.6	-5.7	5.0
MDMB-FUBICA	-1.6	11.8	-7.5	1.5	-6.2	4.8
5F-CUMYL-PICA	-14.3	12.6	-14.7	6.5	-12.2	4.3
MMB-FUBINACA	-11.3	4.5	-11.7	9.0	-7.8	3.3
SDB-006	-7.9	9.4	-11.0	7.3	-13.8	3.4
5F-MDMB-PINACA	-6.2	3.6	2.1	9.4	-7.6	4.2
5F-7-APAICA	-3.5	4.6	4.3	12.8	-5.1	9.0
FUBIMINA	-13.0	11.5	-13.0	9.8	-15.5	5.7
MMB-CHMICA	4.8	5.1	-6.4	2.7	-6.2	6.4
RCS-4	-6.2	3.2	-2.2	8.9	-4.6	5.4
JWH-015	-9.4	2.6	-9.2	9.7	-12.8	4.5
FUB-JWH-018	-11.3	4.7	-12.0	4.7	-8.8	6.0
MDMB-4en-PINACA	-5.7	5.4	-2.4	2.2	-1.5	10.4
5F-MN18	-7.2	5.1	-9.6	9.1	-8.9	6.9
JWH-250	1.2	5.8	-12.7	7.3	-7.6	6.2
CUMYL-PEGACLONE	-9.6	11.1	-8.1	9.9	-13.0	4.8
MDMB-CHMICA	-14.1	8.9	-14.5	13.4	-5.3	3.0
NM-2201	-8.2	5.5	1.0	3.7	-13.3	3.0
JWH-203	-8.8	6.2	-10.9	6.8	-12.5	4.0
FDU-PB-22	-8.5	5.5	-13.8	6.4	-14.1	6.8
JWH-018	-8.7	9.1	-14.5	5.0	-15.6	5.5
JWH-018						
BENZIMIDAZOLE	-4.7	5.4	-2.8	7.8	-0.2	3.1
ANALOG						

JWH-007	-13.6	11.2	-12.8	9.6	-16.6	7.5
5F-APINACA	-8.6	5.0	-2.4	10.7	-3.7	4.5
JWH-307	-11.8	14.0	-12.1	5.8	-15.4	3.0
MDMB-CHMINACA	7.6	5.5	-9.3	4.0	-1.0	7.9
APICA	-14.3	7.8	-13.8	9.6	-1.5	5.9
RCS-8	-3.6	6.3	-12.7	7.2	-1.2	4.1
FUB-APINACA	-12.8	7.7	-19.1	7.2	-19.1	2.4
5F-APINAC	2.6	2.4	-7.8	9.3	-10.3	1.4
JWH-210	-8.3	5.3	-10.7	10.3	-18.9	9.3
JWH-370	-13.2	7.1	-11.1	2.8	-12.7	7.4
5CI-APINACA	-5.4	4.6	-13.5	6.8	-4.1	3.7
EG-018	-19.4	7.3	-20.3	8.5	-21.6	5.0
CB-13	-19.9	4.2	-20.5	7.8	-21.0	5.7
