ANALYTICAL REPORT
A-796260 (C22H30N2O2)

[1-(2-morpholin-4-ylethyl)-1H-indol-3-yl]-(2,2,3,3-tetramethylcyclopropyl)methanone

Remark – other active cpd. detected: none

Sample ID: 1223-15
Sample description: powder - white
Sample type: RM-reference material
Comments: Chiron AS Lot#12510; RESPONSE -purchasing
Date of entry: 8/31/2015

Substance identified-structure (base form)

Systematic name: [1-(2-morpholin-4-ylethyl)-1H-indol-3-yl]-(2,2,3,3-tetramethylcyclopropyl)methanone

Other names:

Formula (per base form) C22H30N2O2
M<sub>w</sub> (g/mol) 354,49
Salt form: base
StdInChIKey ZCFHOMLAFTWDFM-UHFFFAOYSA-N
Compound Class Cannabinoids
Other active cpd. detected none
Add.info (purity..) 99,50%

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1 This report has been produced with the financial support of the Prevention of and Fight against Crime Programme of the European Union (grant agreement number JUST/2013/ISEC/DRUGS/AG/6413). The contents of this report are the sole responsibility of the National Forensic Laboratory and can in no way be taken to reflect the views of the European Commission.

2 Created by OPSIN free tool: http://opsin.ch.cam.ac.uk/ DOI: 10.1021/ci100384d
Report updates

<table>
<thead>
<tr>
<th>date</th>
<th>comments (explanation)</th>
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Supporting information

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<tr>
<th>Analytical technique:</th>
<th>applied</th>
<th>remarks</th>
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</table>
| GC-MS (EI ionization) | +       | NFL GC-RT (min): 12,05  
BP(1): 100; BP(2): 114, BP(3): 101, |
| FTIR-ATR             | +       | direct measurement |
| GC-IR (condensed phase)| +       | spectrum is always for the base form of compound |

**GC-MS (Agilent):**
Injection volume 1 ml and split mode (1:50).
Injector temperature: 280 °C.
Chromatographic separation
Column: HP1-MS (100% dimethylpolysiloxane), length 30 m, internal diameter 0.25 mm, film thickness 0.25 mm.
Carrier gas He: flow-rate 1.2 ml/min. GC oven program: 170 °C for 1 min, followed by heating up to 293 °C at a rate of 18 °C/min, hold for 6.1 min, than heating at 50 °C/min up to 325 °C and finally 2.8 min isothermal.
MSD source EI = 70 eV. GC-MS transfer line T= 235°C, source and quadropole temperatures 280°C and 180°C, respectively. Scan range m/z scan range: from 50 (40) to 550 amu.

**FTIR-ATR (Perkin Elmer):** scan range 4000-400 cm⁻¹; resolution 4cm⁻¹

**GC- (MS)-IR condensed phase (GC-MS (Agilent) & IR (Spectra analyses-Danny))** IR scan range 4000 to 700, resolution 4cm⁻¹

**GC-method:**
Injection volume 1 ml and split mode (1:5) .
Injector temperature: 280 °C.
Chromatographic separation
Column: HP1-MS (100% dimethylpolysiloxane), length 30 m, internal diameter 0.25 mm, film thickness 0.25 mm.
Carrier gas He: flow-rate 1.2 ml/min. GC oven program: 170 °C for 1 min, followed by heating up to 293 °C at a rate of 18 °C/min, hold for 6.1 min, than heating at 50 °C/min up to 325 °C and finally 2.8 min isothermal.
Split MS: IR : (1:9)
MSD source EI = 70 eV. GC-MS transfer line T= 235°C, source and quadropole temperatures 280°C and 180°C, respectively. Scan range m/z scan range: from 50 (40) to 550 amu.
IR (condensed phase): IR scan range 4000 to 700, resolution 4cm⁻¹
FIGURES OF SPECTRA

MS (EI)

Abundance

Scan 992 (12.052 min): A-796260_ID1223-15.D\data.ms

m/z→

56.0 125.0 153.9 173.9 206.9 257.1 291.0 311.0 354.2

0 10 20 30 40 50 60 70 80 90 100 110 120 130
10000
20000
30000
40000
50000
60000
70000
80000
90000
100000
110000
120000
130000
FTIR-ATR

IR-condensed phase

NOTE: This is condensed phase IR (per base form of substance) Instrument DowSort-GC