ANALYTICAL REPORT

Naphyrone (C19H23NO)

1-naphthalen-2-yl-2-pyrrolidin-1-ylpentan-1-one

Remark – other active cpd. detected: none

Sample ID: 1585-16
Sample description: crystalinic - white
Sample type: RM-reference material
Comments¹: Chiron AS Lot#15782; RESPONSE -purchasing
Date of entry: 5/19/2016

Substance identified-structure² (base form)

Systematic name: 1-naphthalen-2-yl-2-pyrrolidin-1-ylpentan-1-one
Other names: Naphthylpyrovalerone
Formula (per base form) C19H23NO
Mₘ (g/mol) 281.39
Salt form: hydrochloride
StdInChIKey DTNUPBSOODGRKW-UHFFFAOYSA-N
Compound Class Cathinones
Other active cpd. detected none
Add.info (purity..) 99,5 %

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>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Supporting information

<table>
<thead>
<tr>
<th>Analytical technique</th>
<th>applied</th>
<th>remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>GC-MS (EI ionization)</td>
<td>+</td>
<td>NFL GC-RT (min): 8.88 BP(1): 126; BP(2): 127; BP(3) :155,</td>
</tr>
<tr>
<td>FTIR-ATR</td>
<td>+</td>
<td>direct measurement</td>
</tr>
<tr>
<td>GC-IR (condensed phase)</td>
<td>+</td>
<td>always as base form</td>
</tr>
</tbody>
</table>

**GC-MS (Agilent):**
- GC-method is RT locked to tetracosane (RT=9.53 min).
- 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 thickens 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 (30 until 6 min) to 550 (300) 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 7000, 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 thickens 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 (30 until 6 min) to 550 (300) amu.
- IR (condensed phase): IR scan range 4000 to 7000, resolution 4cm-1
FIGURES OF SPECTRA

MS (EI)

Abundance

Scan 1760 (8.878 min): Naphyrone-HCl_ID-1585-16.D\data.ms

m/z→