ANALYTICAL REPORT

Metamfepramone (C11H15NO)
2-dimethylamino-1-phenylpropan-1-one

Remark – other NPS detected:

<table>
<thead>
<tr>
<th>Sample ID:</th>
<th>1854-17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample description:</td>
<td>powder - white off</td>
</tr>
<tr>
<td>Sample type:</td>
<td>collected /FSI Zurich, Switzerland</td>
</tr>
<tr>
<td>Date of receipt (M/D/Y):</td>
<td>10/11/2017</td>
</tr>
<tr>
<td>Date of entry (M/D/Y) into NFL database:</td>
<td>10/23/2017</td>
</tr>
<tr>
<td>Report updates (if any) will be published here:</td>
<td><a href="http://www.policija.si/apps/nfl_response_web/seznam.php">http://www.policija.si/apps/nfl_response_web/seznam.php</a></td>
</tr>
</tbody>
</table>

Substance identified - structure 2 (base form)

![Structure](image)

Systematic name 2-dimethylamino-1-phenylpropan-1-one

Other names 2-[(dimethylamino)propiophenone; N,N-Dimethylcathinone; Dimethylpropione; Dimepropione

Formula (per base form) C11H15NO

M<sub>n</sub> (g/mol) 177.25

Salt form/anions detected HCl

StdInChIKey (for base form) KBHMHROOFHLBA-UHFFFAOYSA-N

Other NPS detected

Add.info (purity..) impurity was detected by GC-MS and TOF

1 Acknowledgement: Sample was kindly provided by FSI Zurich, Switzerland. Measurements shown in this report were done in Slovenian NFL.

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

**Instrumental methods (if applied) in NFL**

1. **GC-MS (Agilent):** GC-method is RT locked to tetracosane (9.258 min). Injection volume 1 ml and split mode (1:50). Injector temperature: 280 °C. Chromatographic separation: on column HP1-MS (100% dimethylpolysiloxane), length 30 m, internal diameter 0.25 mm, film thickness 0.25 µm. Carrier gas He: flow-rate 1.2 ml/min. GC oven program: 170 °C for 1 min, followed by heating up to 190 °C at rate 8 °C/min, then heating up to 293 °C at a rate of 18 °C/min, hold for 7.1 min, then heating at 50 °C/min up to 325 °C and finally 6.1 min isothermal. MSD source El = 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 until 6 min) amu.

2. **HPLC-TOF (Agilent):** 6230B TOF with Agilent 1260 Infinity HPLC with binary pump, column: Zorbax Eclipse XDB-C18, 50 x 4.6 mm, 1.8 micron. Mobile phases (A) 0.1% formic acid and 1mM ammonium formate in water; (B) 0.1% formic acid in methanol (B). Gradient: starting at 5% B, changing to 40% B over 4 min, then to 70% over 2 min and in 5 min to 100%, hold 1 min and back to 5%, equilibration for 1.7 min. The flow rate: 1.0 ml/min; Injection volume 1 µl. MS parameters: 2GHz, Extended Dynamic range mode to a maximum of 1700 amu, acquisition rate 1.30 spectra/sec. Sample ionisation: by Agilent Jet Stream technology (Dual AJS ESI). Ion source: positive ion scan mode with mass scanning from 82 to 1000 amu. Other TOF parameters: drying gas (N2) and sheath temperature 325 °C; drying gas flow rate 6 l/min; sheath gas flow rate 8 l/min; nebulizer 25 psig; Vcap. 4000 V; nozzle 2000 V; skimmer 65 V; fragmentor 175 V and Octopole RF 750 V.

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

4. **GC- (MS)-IR** condensed phase (GC-MS (Agilent) & IR (Spectra analyses-Danny)
MSD source El = 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 (solid) phase): IR scan range 4000 to 650, resolution 4 cm⁻¹.

5. **IC (anions) (Thermo Scientific, Dionex ICS 2100),** Column: IonPac AS19, 2 x 250mm; Eluent: 10mM from 0 to 10 min, 10-58 mM from 10 to 40min; Flow rate: 0.25 ml/min; Temperature: 30°C; Suppressor: AERS 500 2mm, suppressor current 13mA; Inj. Volume: 25 µl
## Supporting information

### Solubility in result/remark

<table>
<thead>
<tr>
<th>Solubility in</th>
<th>result/remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>CH$_2$Cl$_2$</td>
<td>partially</td>
</tr>
<tr>
<td>MeOH</td>
<td>soluble</td>
</tr>
<tr>
<td>H$_2$O</td>
<td>soluble</td>
</tr>
</tbody>
</table>

### Analytical technique: applied remarks

<table>
<thead>
<tr>
<th>Analytical technique:</th>
<th>applied</th>
<th>remarks</th>
</tr>
</thead>
</table>
| GC-MS (EI ionization) | +       | NFL GC-RT (min): 3,13  
|                       |         | BP(1): 72; BP(2): 77, BP(3): 42, |
| HPLC-TOF             | +       | Exact mass (theoretical): 177,1154;  
|                       |         | measured value Δppm: -0,33;  
|                       |         | formula: C$_{11}$H$_{15}$NO |
| FTIR-ATR             | +       | direct measurement (sample as received) |
| FTIR (condensed phase) always as base form | +       | |
| IC (anions)          | +       | |
| NMR (in FKKT)        | -       | validation |
| other                |         | other     |
FTIR-ATR - direct measurement (sample as received)

IR (condensed phase – after chromatographic separation)

NOTE: This is condensed phase IR (per base form of substance)
## TOF REPORT

**Data File**: Metamfepramone_1854-17.d  
**Sample Name**: 1854-17  
**Sample Type**: Sample  
**Position**: P1-A4  
**Instrument Name**: 6230B TOF LC-MS  
**Acq Method**: general-19_07_2017-XDB-C18-ESI-final.m  
**Acquired Time**: 10/17/2017 1:46:10 PM  
**IRM Calibration Status**: Success  
**DA Method**: Drugs_NFL.m  

### Compound Table

<table>
<thead>
<tr>
<th>Label</th>
<th>Compound Name</th>
<th>MFG Formula</th>
<th>Obs. RT</th>
<th>Obs. Mass</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cpd 1:</td>
<td>Metamfepramone</td>
<td>C11 H15 N O</td>
<td>3.25</td>
<td>177.1154</td>
</tr>
</tbody>
</table>

### Compound Chromatograms

**Compound Chromatograms**

**Obs. m/z** 178.1228  
**Obs. RT** 3.25  
**Obs. Mass** 177.1154  
**DB RT** 3.25  
**DB Formula** C11 H15 N O  
**DB Mass** 177.1154  
**DB Mass Error (ppm)** -0.33

### MFE MS Zoomed Spectrum

--- End Of Report ---
# Peak Integration Report

**Sample Name:** 1854-17  
**Inj. Vol.:** 25.00  
**Injection Type:** Unknown  
**Dilution Factor:** 1.0000  
**Program:** ANIONI  
**Operator:** kemija  
**Inj. Date / Time:** 17-okt-2017 / 14:41  
**Run Time:** 42.00

<table>
<thead>
<tr>
<th>No.</th>
<th>Time min</th>
<th>Peak Name</th>
<th>Peak Type</th>
<th>Area µS*min</th>
<th>Height µS</th>
<th>Amount mg/L</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>9.47</td>
<td>Chloride</td>
<td>BMB</td>
<td>127.88</td>
<td>444.30</td>
<td>n.a.</td>
</tr>
<tr>
<td><strong>TOTAL:</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>127.88</strong></td>
<td><strong>444.30</strong></td>
<td><strong>0.00</strong></td>
</tr>
</tbody>
</table>

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**Diagram:**

The diagram shows a peak for Chloride at 9.47 minutes with an area of 127.88 µS*min and a height of 444.30 µS.

**Note:**

No other peaks were detected in this sample.

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**Report Details:**

- **Sample:** 1854-17
- **Injection Volume:** 25.00 µL
- **Injection Type:** Unknown
- **Dilution Factor:** 1.0000
- **Program:** ANIONI
- **Operator:** kemija
- **Injection Date:** 17-okt-2017, 14:41
- **Run Time:** 42.00 minutes
- **Single Peak:** Chloride at 9.47 minutes with an area of 127.88 µS*min and a height of 444.30 µS.