



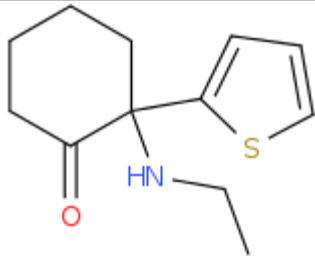
ANALYTICAL REPORT

Tiletamine (C₁₂H₁₇NOS)

2-(ethylamino)-2-(thiophen-2-yl)cyclohexan-1-one

Remark – other active cpd. detected: **none**

Sample ID:	1645-16
Sample description:	crystallinic - white
Sample type:	RM-reference material
Comments ¹ :	USP Lot# F0C019; I-SEE project RM and report
Date of entry:	9/8/2016

Substance identified- structure ² (base form)	
Systematic name:	2-(ethylamino)-2-(thiophen-2-yl)cyclohexan-1-one
Other names:	
Formula (per base form)	C ₁₂ H ₁₇ NOS
M _w (g/mol)	223.33
Salt form:	HCl
StdInChIKey	QAXBVGVDCAVLV-UHFFFAOYSA-N
Compound Class	Arylcyclohexylamines
Other active cpd. detected	none
Add.info (purity..)	100,0 %

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/6426). 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

date	comments (explanation)
11 April 2018	empirical formula and compound class corrected

Supporting information

Analytical technique:	applied	remarks
GC-MS (EI ionization)	+	NFL GC-RT (min): 5.1 BP(1): 166; BP(2): 110, BP(3) :195,
FTIR-ATR	+	
GC-IR (condensed phase)		

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 6.1 min, then heating at 50 °C/min up to 325 °C and finally 6.1 min isothermal. MSD source EI = 70 eV. GC-MS transfer line T= 235 °C, source and quadrupole 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. FTIR-ATR (Perkin Elmer): scan range 4000-400 cm⁻¹; resolution 4cm⁻¹

3. GC- (MS)-IR condensed phase (GC-MS (Agilent) & IR (Spectra analyses-Danny)

GC-method: Injection volume 1 ml and split mode (1:5). Injector temperature 280 °C. Chromatographic separation as above **(1)**. Split MS : IR = 1 : 9.

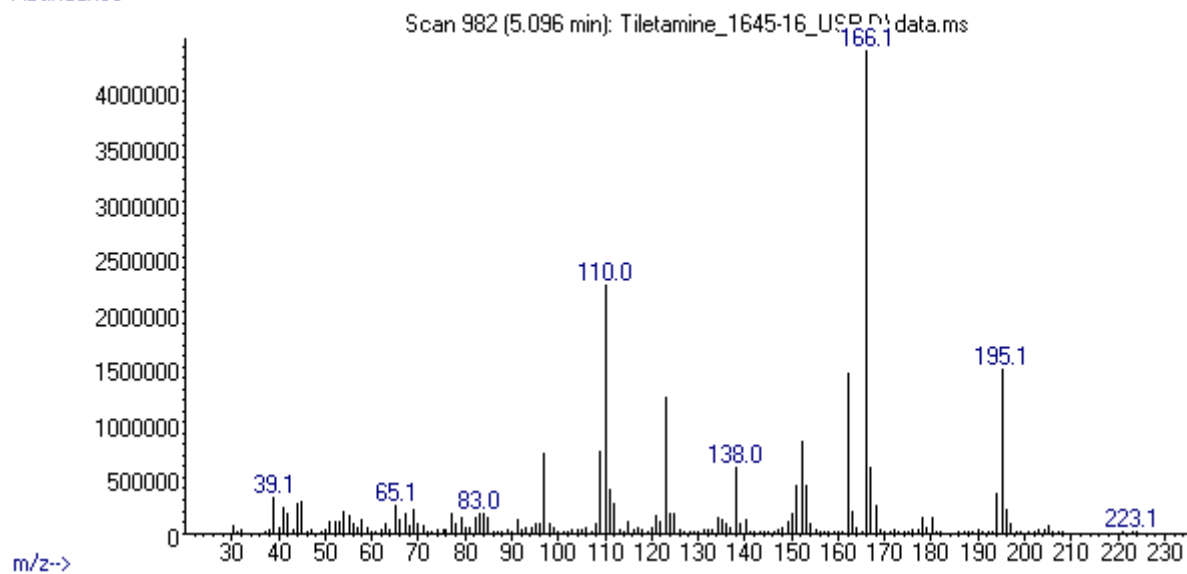
MSD source EI = 70 eV. GC-MS transfer line T= 235 °C, source and quadrupole temperatures 280 °C and 180 °C, respectively. Scan range m/z scan range: from 50 (30 until 6 min.) to 550 (300) amu.

IR (condensed (solid) phase): IR scan range 4000 to 650, resolution 4 cm⁻¹.

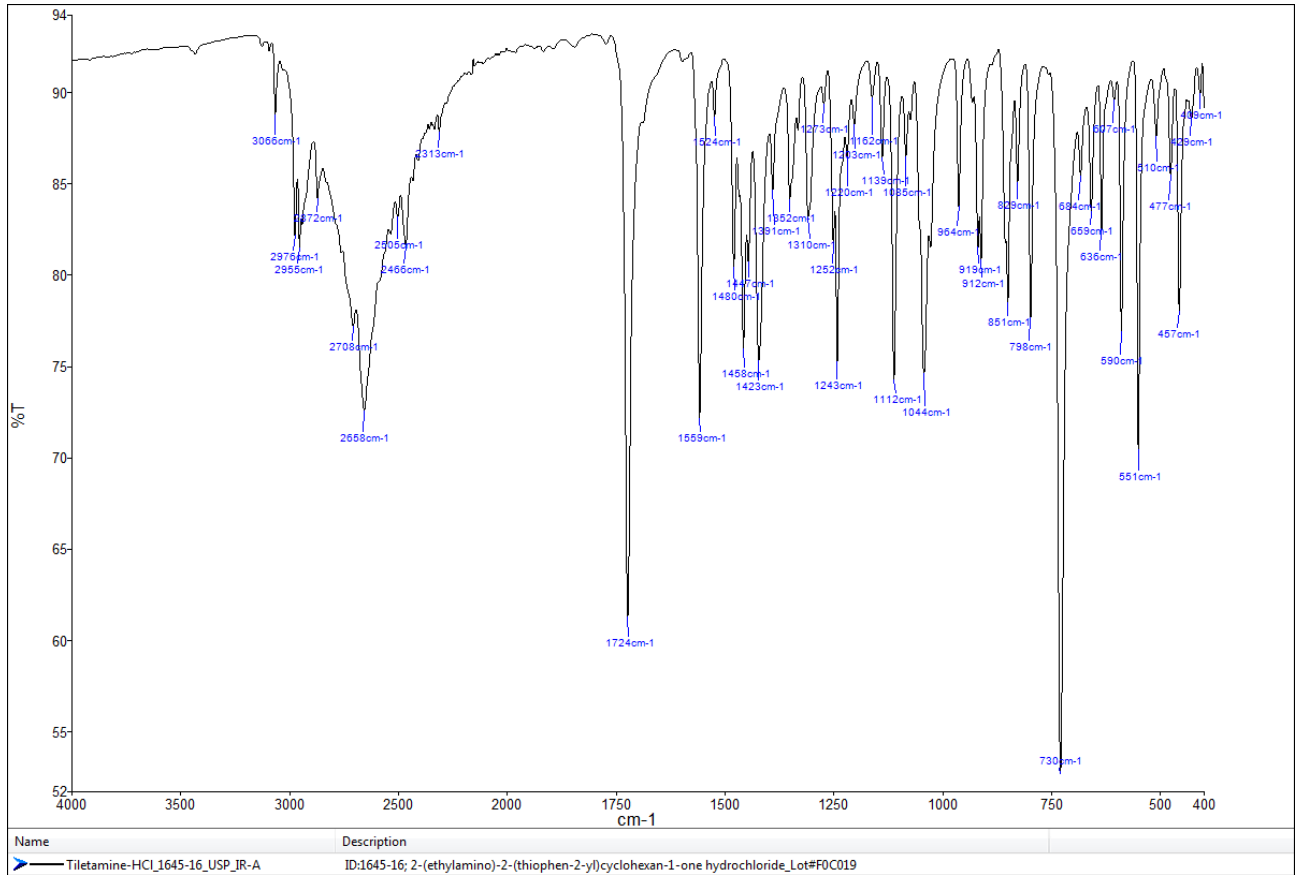
FIGURES OF SPECTRA

MS (EI)

Abundance



FTIR-ATR



IR-Condensed phase