

HPLC Application 0010

Drugs of Abuse LC-MS/MS Screening (2)

Column comparison: Dr. Maisch HPLC GmbH
Reprospher C8 1.8 μm , 50 mm x 2.0 mm
(PN: rs118.8e.s0502)

vs.

Phenomenex
Kinetex C8- Phenomenex 2.6 μm , 50 mm x 2.1 mm
(PN: 00B-4497-AN)

In this application 2 similar modified Alkyl-phases (C8; neutral end-capping; core-shell PHE / fully-porous silica Dr. Maisch) were compared for the screening of different drugs and drugs of abuse in real urine samples (general unknown screening).

ID No.: 0010

Gradient Method

Time program for gradient (binary high-pressure pumps)

	Mobile Phase B (%)	Flow	Comments
Minute		$\mu\text{L}/\text{min}$	
0.00	2.5	350	Start MS and pumps
1.00	2.5	350	Start gradient
8.00	97.5	350	
12.00	97.5	350	
12.10	2.5	350	
15.00	2.5	350	End of program

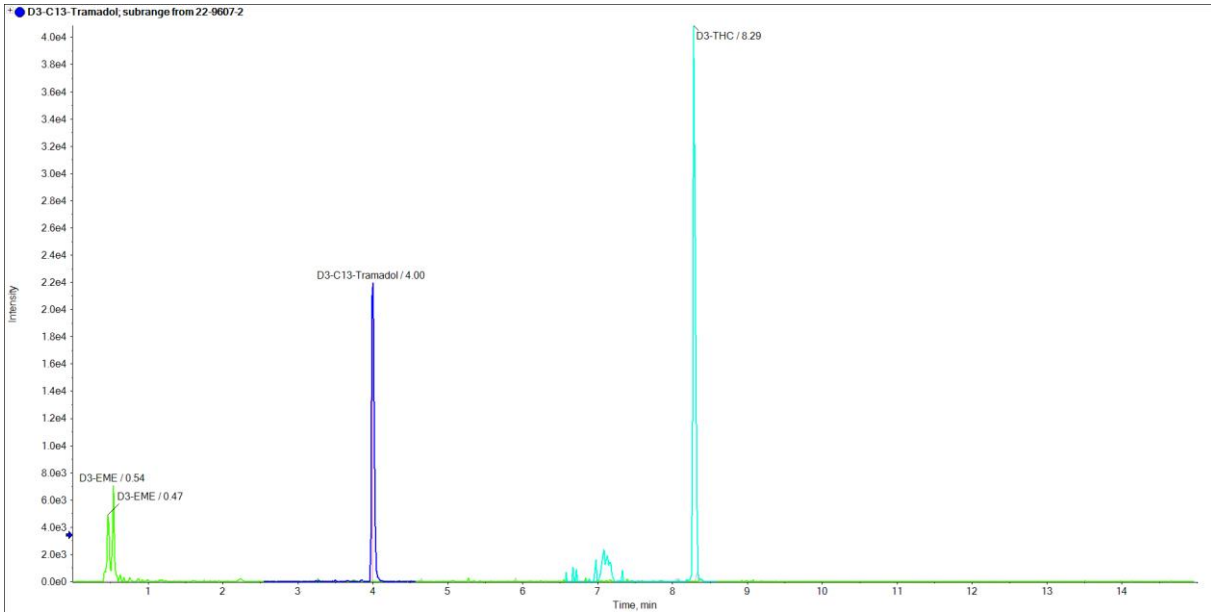
Eluent A:	H ₂ O with 0.1 % formic acid
Eluent B:	MeCN with 0.1 % formic acid
Flow Rate:	350 mL/min
Temperature:	30°C
Injection:	2.5 µL
MS Parameters:	AB SCIEX TripleTOF™ 5600 (Full Scan and MS/MS in Swath Mode) Positive electrospray ionization, Spray voltage: 5000 V and temperature at 650 °C Gas 1: 50, Gas 2: 50, Curtain gas: 50, Collision Gas: 12

Simultaneous determination of drugs and drugs of abuse:

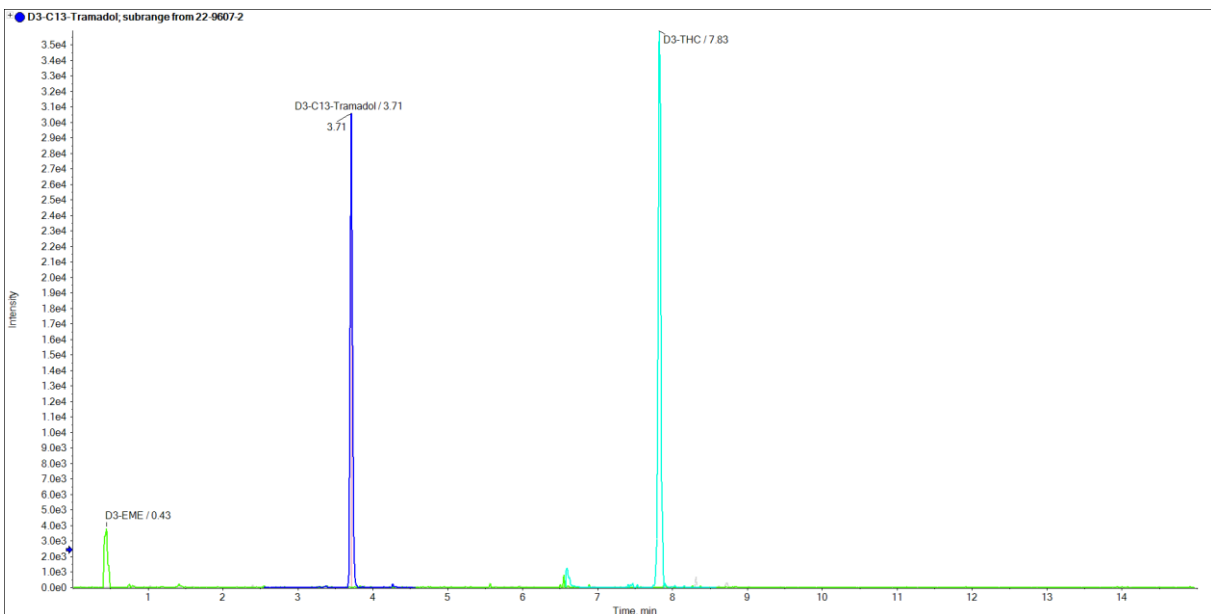
- D3-EME used as internal standard
- D3C13-Tramadol used as internal standard
- D3-THC used as internal standard
- During the screening the following compounds were identified
- Urine sample 1: diazepam and its metabolite nordiazepam, clonazepam and its metabolite 7-Aminoclonazepam and THC-COOH (metabolite of THC)
- Urine sample 2: methadone its metabolite EEDP, trazodone, paroxetine and caffeine

Urine sample 1 (internal standards)

Reprospher C8 - Dr. Maisch HPLC GmbH

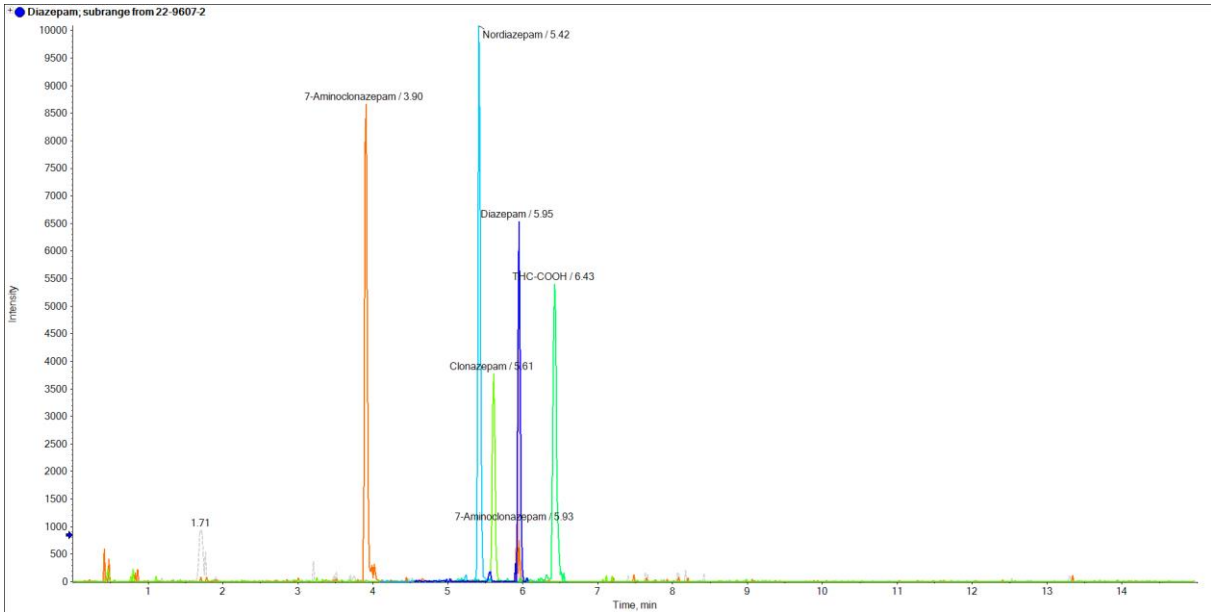


Kinetex C8 - Phenomenex

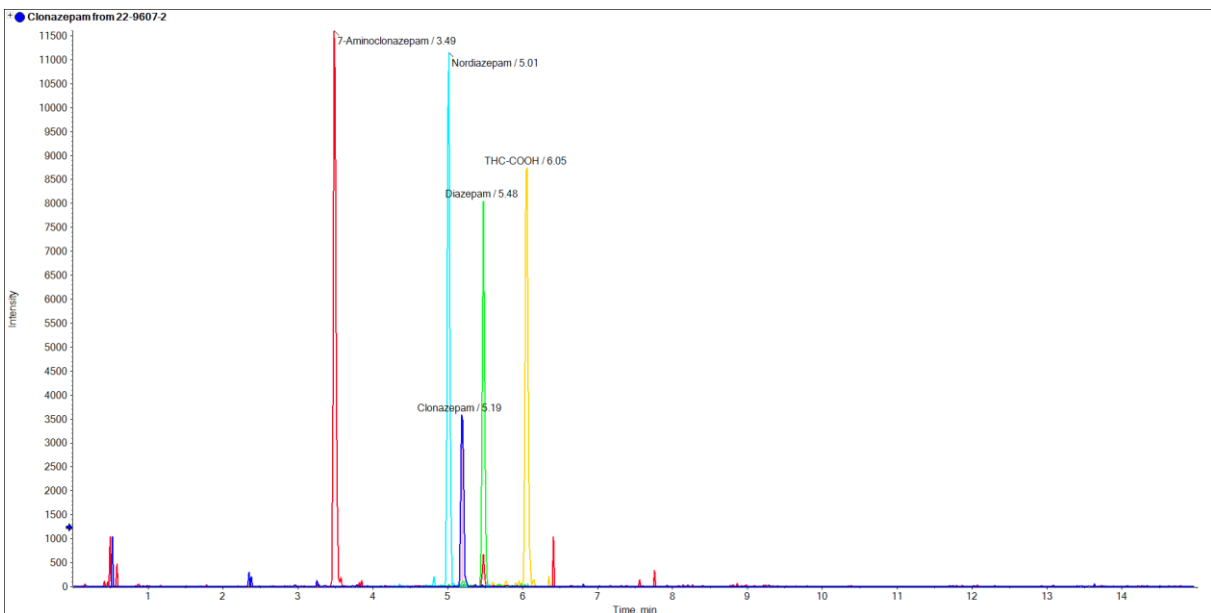


Urine sample 1

Reprospher C8 - Dr. Maisch HPLC GmbH

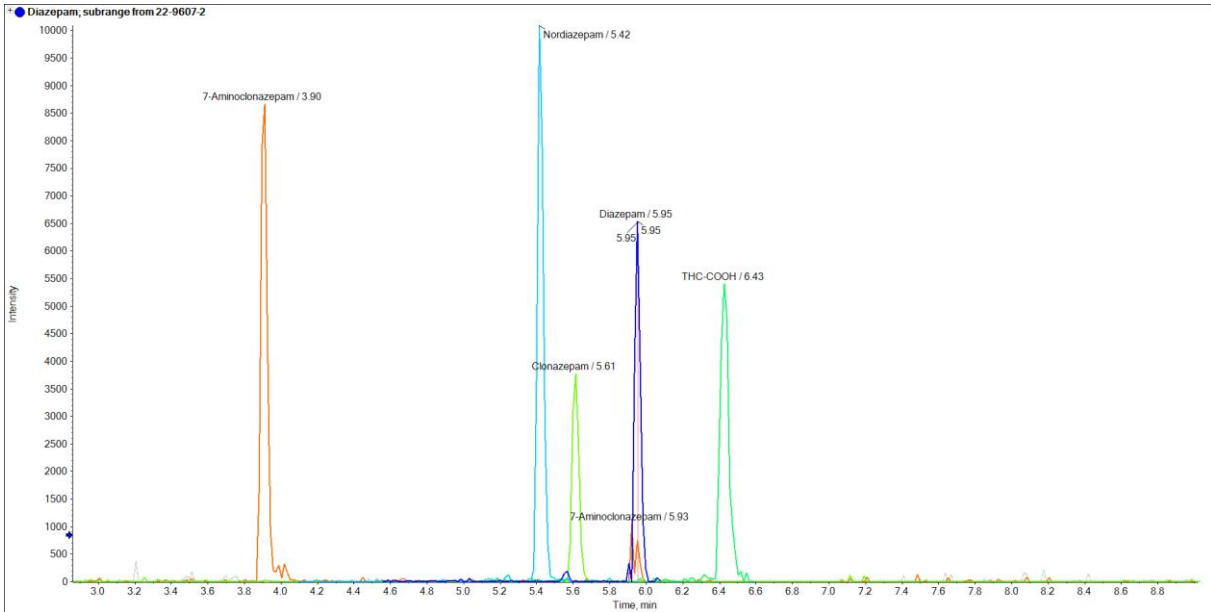


Kinetex C8 - Phenomenex

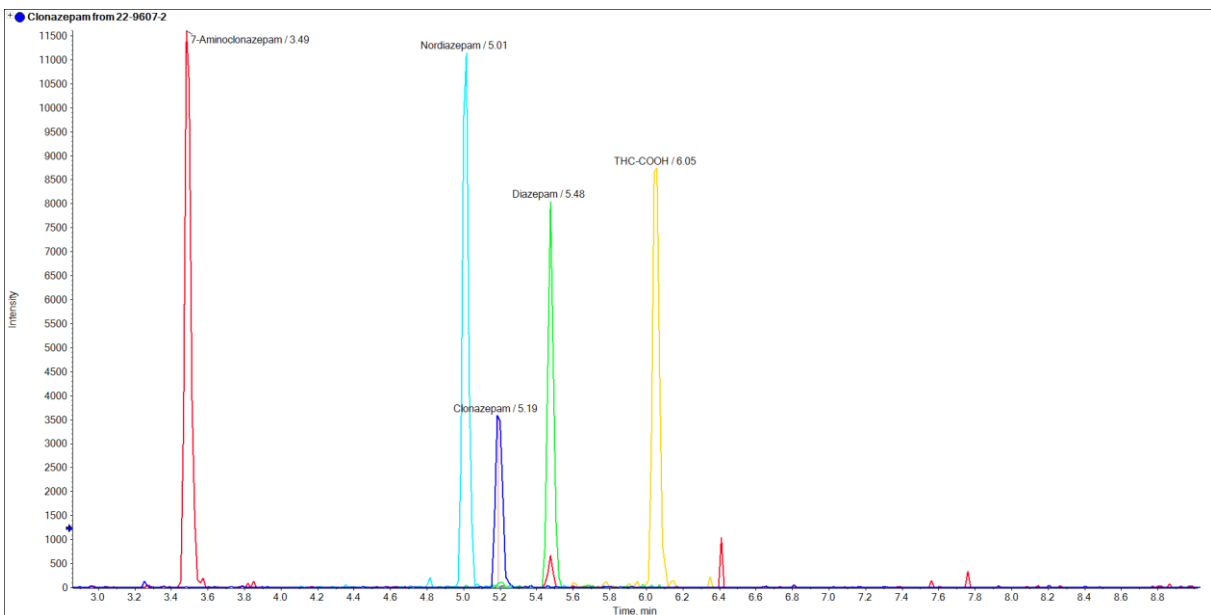


Urine sample 1 (Zoom)

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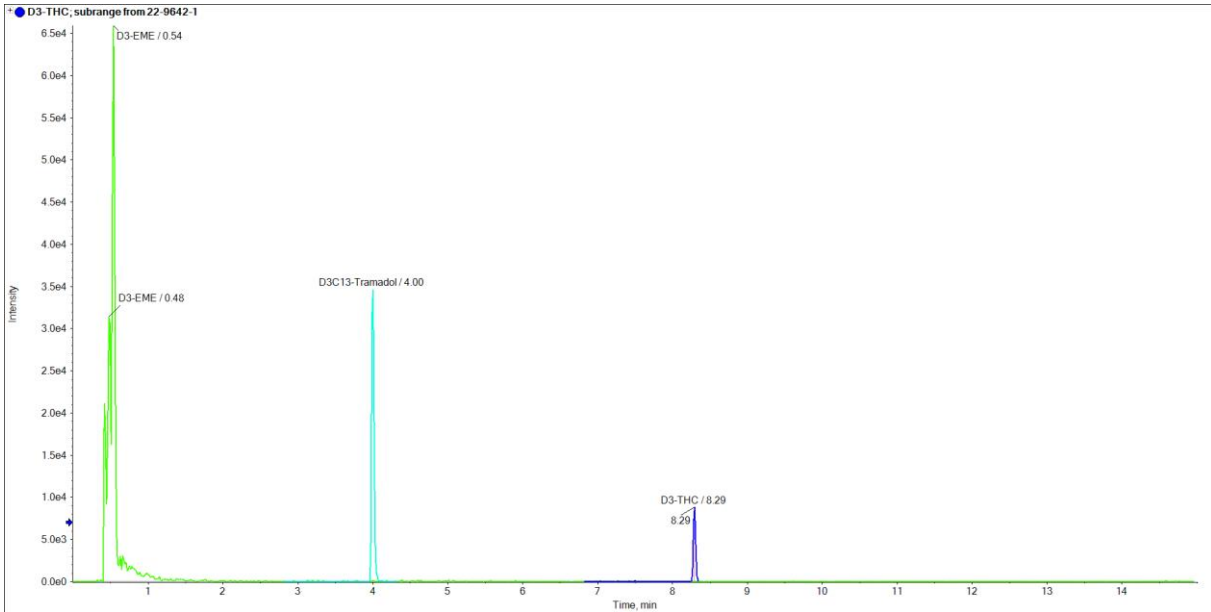


Kinetex C8 - Phenomenex

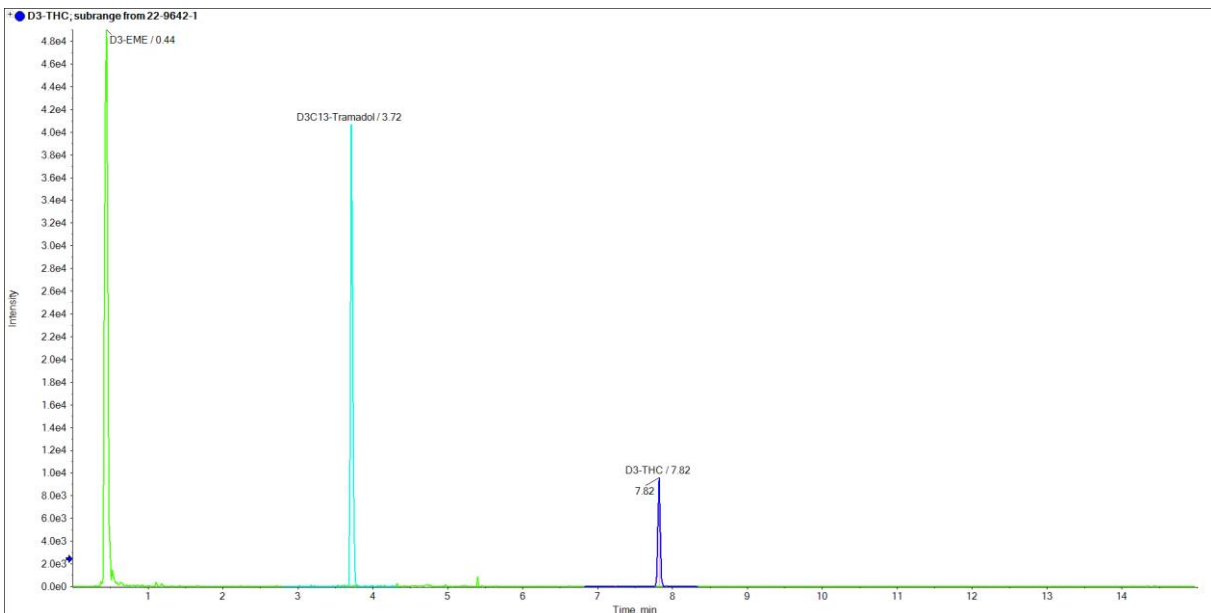


Urine sample 2 (internal standards)

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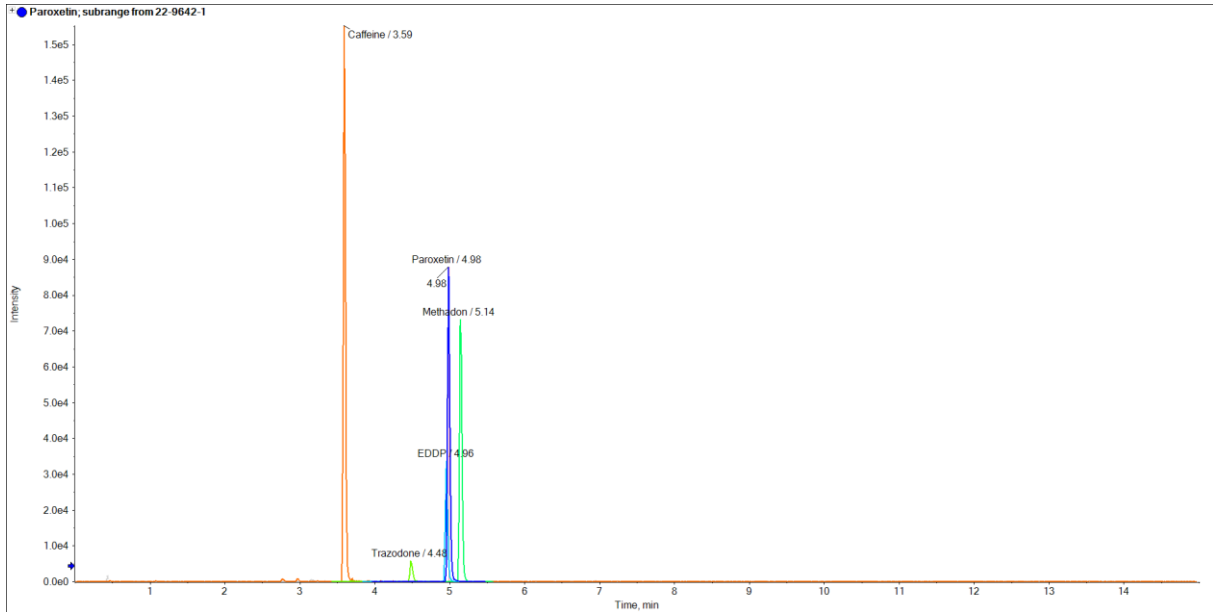


Kinetex C8 - Phenomenex

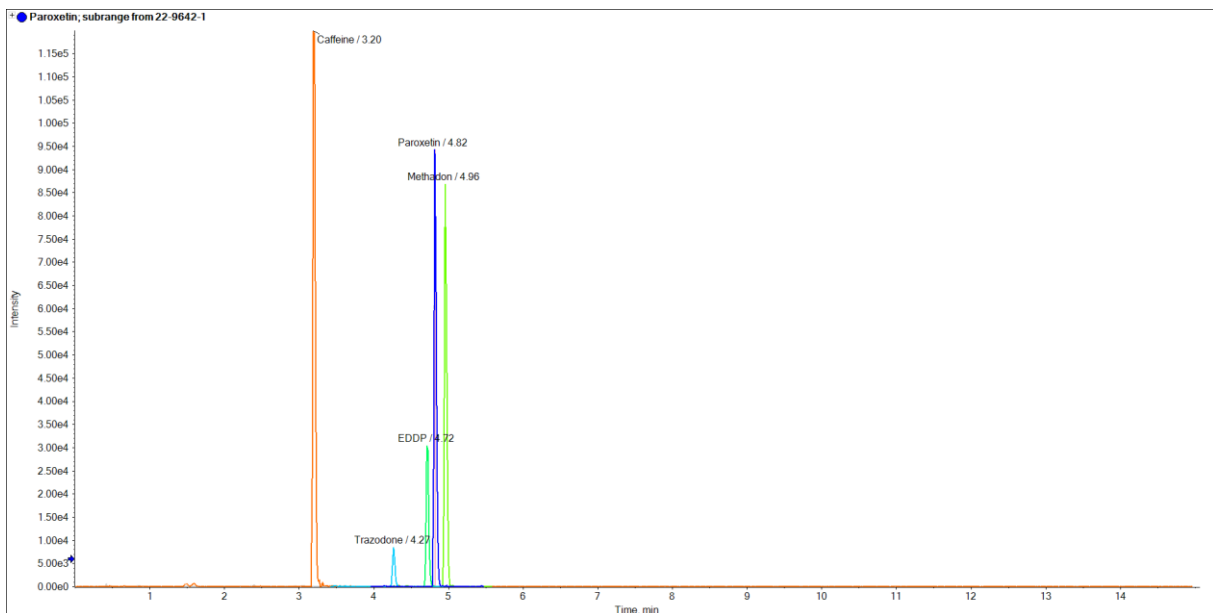


Urine sample 2

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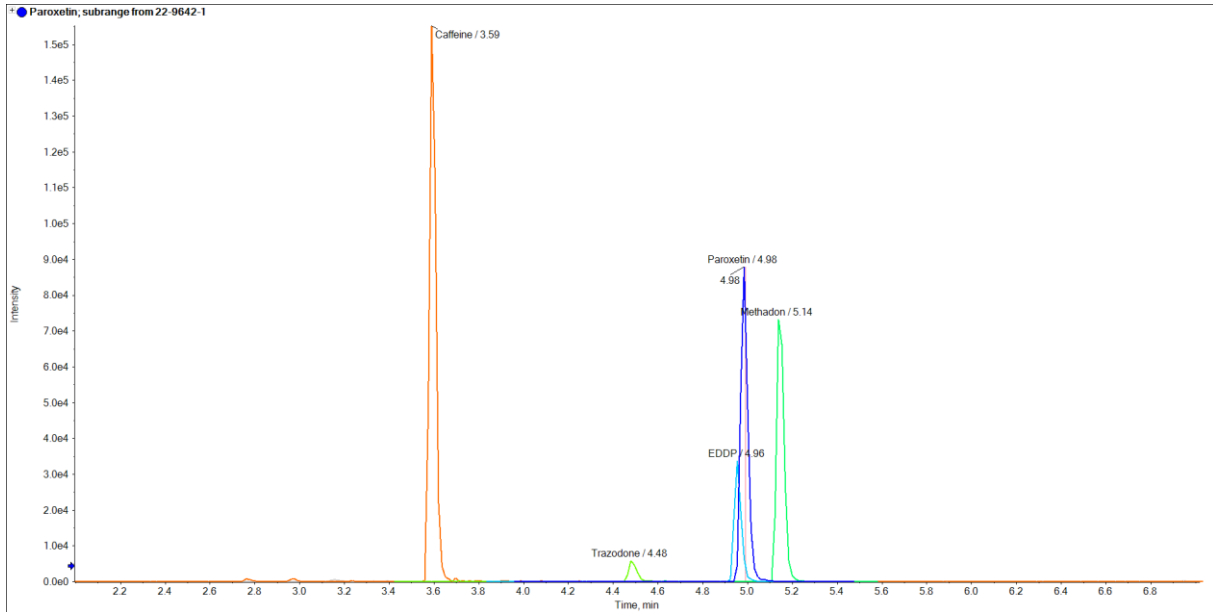


Kinetex C8 - Phenomenex

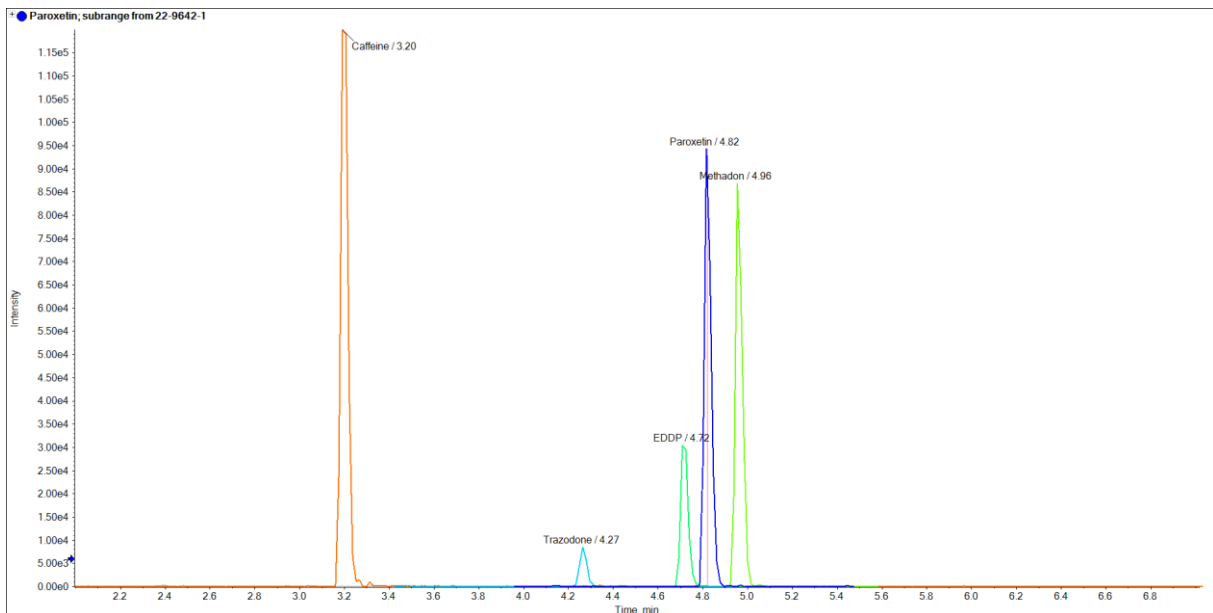


Urine sample 2 (Zoom)

Reprospher C8 - Dr. Maisch HPLC GmbH



Kinetex C8 - Phenomenex



Application courtesy of Dr. Stefan König, Institut für Rechtsmedizin Bern (Switzerland), Forensische Toxikologie und Chemie.

Dr. Maisch products are available globally. For more information contact your Dr. Maisch representative at info@dr-maisch.com.

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