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Tab. B1 Drug recoveries [%] from laboratory plastics. Relative standard deviations (RSDs) [%] given in brackets, drugs arranged by increasing retention time, n=4.

substance	15 mL Falcon tube	5 mL syringe	10 mL syringe	2 mL Eppendorf tube
meldonium	92.4 (3.8)	99.6 (0.7)	100.3 (1.0)	100.6 (1.3)
psilocybin	98.5 (1.1)	99.2 (0.6)	100.8 (0.8)	99.1 (1.2)
morphine	110.8 (3.2)	101.7 (2.9)	105.6 (2.5)	100.5 (2.3)
salbutamol	103.2 (0.7)	100.3 (1.1)	101.5 (1.2)	99.7 (1.4)
terbutaline	105.3 (1.5)	101.2 (1.5)	100.5 (1.2)	100.3 (0.7)
atenolol	97.3 (8.6)	97.4 (7.6)	102.5 (3.8)	110.0 (6.7)
fenoterol	108.8 (1.7)	99.4 (1.4)	97.6 (0.8)	99.3 (0.8)
nikethamide	103.0 (1.0)	99.6 (1.7)	99.8 (0.9)	100.7 (0.9)
carteolol	96.3 (9.2)	98.1 (9.1)	104.2 (3.5)	110.3 (7.5)
oxycodone	101.3 (11.4)	97.9 (9.0)	102.3 (2.4)	117.3 (9.7)
amphetamine	101.9 (3.5)	101.1 (4.5)	104.2 (3.8)	103.0 (5.0)
chlorothiazide	99.5 (0.8)	100.2 (0.7)	102.1 (0.9)	98.6 (0.9)
hydrocodone	114.5 (16.7)	101.5 (12.8)	106.3 (6.5)	118.7 (13.1)
methamphetamine	96.5 (12.2)	101.6 (9.9)	105.7 (7.3)	113.1 (11.6)
methylhexanamine	101.6 (5.8)	101.9 (5.7)	104.1 (4.3)	104.1 (7.1)
MDMA	94.3 (11.7)	101.2 (10.7)	103.4 (7.0)	114.9 (12.9)
hydrochlorothiazide	100.7 (3.1)	100.8 (4.3)	103.4 (3.7)	99.7 (1.8)
strychnine	111.6 (22.4)	100.9 (13.2)	104.8 (7.4)	122.7 (18.3)
ketamine	105.6 (2.7)	100.3 (2.4)	103.3 (0.8)	100.4 (2.6)
metoprolol	96.4 (10.4)	97.3 (9.1)	103.0 (4.7)	111.4 (10.6)
clenbuterol	97.2 (7.5)	98.0 (6.3)	104.1 (2.6)	107.1 (7.3)
methylphenidate	173.3 (4.7)	97.4 (5.0)	105.6 (4.6)	100.6 (4.9)
heroin	127.2 (2.5)	99.9 (3.5)	108.9 (2.0)	102.8 (2.1)
zolpidem	104.0 (2.0)	100.7 (2.2)	102.9 (1.5)	101.2 (1.9)
cocaine	117.0 (21.0)	99.7 (16.6)	103.9 (8.6)	121.7 (19.3)
LSD	103.2 (1.4)	99.6 (1.1)	101.0 (1.0)	100.2 (1.2)
bisoprolol	89.2 (15.9)	94.5 (11.0)	100.5 (2.7)	115.9 (13.7)
phencyclidine	76.1 (20.2)	91.8 (10.7)	92.6 (3.5)	123.9 (23.4)
propranolol	102.8 (5.2)	100.1 (6.0)	103.1 (3.6)	105.3 (6.0)
prednisolone	98.7 (0.9)	97.7 (3.1)	97.9 (1.3)	98.7 (3.2)
fentanyl	105.5 (20.2)	101.3 (15.8)	108.4 (5.8)	121.6 (14.8)
prednisone	96.5 (1.0)	101.1 (4.3)	99.0 (1.1)	101.5 (2.5)
buprenorphine	106.4 (4.5)	99.2 (5.0)	105.6 (3.5)	110.6 (4.5)
ibutamoren	115.4 (0.7)	104.0 (5.0)	109.1 (3.9)	107.2 (4.4)
betamethasone	89.2 (2.3)	95.7 (3.8)	101.0 (3.0)	98.7 (4.7)
furosemide	94.9 (0.5)	97.8 (1.3)	101.4 (2.2)	98.7 (1.8)
nebivolol	118.0 (2.1)	99.1 (4.1)	104.4 (4.0)	103.3 (7.0)
alprazolam	98.3 (1.1)	100.5 (1.2)	100.5 (0.7)	101.7 (0.9)
anastrozole	100.9 (1.0)	100.9 (1.4)	101.0 (0.7)	100.9 (1.9)
stanazolol	61.8 (0.6)	94.9 (1.9)	96.7 (2.8)	99.8 (3.8)
methadone	94.8 (12.1)	96.4 (10.2)	101.3 (3.1)	114.2 (17.0)
boldenone	92.3 (0.8)	98.9 (1.4)	99.4 (0.8)	100.4 (1.5)
clonazepam	99.0 (0.6)	99.1 (1.2)	100.7 (0.7)	100.8 (1.2)
nandrolone	92.2 (1.9)	98.2 (1.8)	98.8 (2.1)	99.3 (1.3)
methandienone	90.8 (0.5)	99.3 (2.1)	99.3 (1.2)	100.3 (1.5)
flunitrazepam	98.0 (1.3)	99.7 (1.7)	100.6 (1.0)	99.7 (0.8)
canrenone	62.1 (2.6)	97.8 (2.0)	98.9 (1.3)	100.5 (2.7)
THC-COOH	22.4 (6.4)	40.3 (8.7)	47.7 (15.3)	87.7 (3.8)
THC	20.5 (3.5)	23.9 (6.1)	24.5 (11.9)	41.3 (11.0)

Tab. B2 Drug recoveries [%] from oral fluid sample collection device swabs. Relative standard deviation (RSD) [%] given in brackets, n=4.

substance	SalivaBio Oral Swab	Saliva Collection Swab (type I)	Saliva Collection Swab (type II)	Salrette®	Salvette® Cortisol	DDC™ 5000	Oracol	Versi-SAL®	Super-SAL™	Micro-SAL™	Accu-SAL™	Intercept "i2"	Oral-Eze™	Saliva Sampler™	Quantisal®
meldonium	17.5 (6.7)	25.6 (14.6)	38.7 (15.3)	86.0 (5.2)	54.2 (2.7)	87.8 (21.5)	46.3 (15.9)	38.1 (9.4)	71.1 (9.1)	102.5 (6.5)	76.7 (9.2)	23.3 (14.7)	105.0 (5.9)	105.7 (3.7)	104.2 (5.8)
psilocybin	101.0 (2.2)	101.9 (1.1)	96.6 (1.2)	333.3 (4.6)	99.5 (3.1)	93.1 (5.4)	98.3 (1.9)	96.6 (2.3)	97.5 (0.8)	99.5 (3.3)	302.1 (7.5)	484.0 (13.0)	206.2 (10.2)	114.6 (3.3)	157.8 (7.2)
morphine	98.1 (2.6)	102.7 (2.1)	116.6 (1.5)	99.4 (4.7)	64.0 (19.7)	118.0 (1.2)	83.7 (1.6)	107.0 (4.4)	115.1 (1.8)	114.6 (4.2)	109.4 (2.5)	176.9 (2.2)	130.8 (3.9)	103.8 (2.8)	112.5 (1.0)
salbutamol	95.5 (4.9)	97.7 (4.5)	106.6 (1.5)	81.2 (2.8)	40.0 (23.5)	107.8 (0.7)	69.7 (0.8)	96.6 (6.3)	101.5 (2.9)	85.4 (6.4)	97.8 (0.9)	116.0 (0.6)	95.2 (1.0)	96.5 (2.9)	96.5 (2.2)
terbutaline	90.5 (5.1)	94.3 (4.7)	104.8 (1.7)	55.0 (1.9)	36.7 (30.6)	109.4 (0.4)	64.0 (9.8)	92.8 (7.4)	102.0 (4.2)	67.5 (10.2)	86.7 (1.2)	112.5 (0.8)	80.8 (0.7)	89.7 (3.4)	93.6 (2.6)
atenolol	134.6 (7.7)	134.8 (5.6)	146.6 (1.2)	119.4 (3.6)	87.8 (16.3)	147.2 (0.8)	95.1 (4.0)	110.0 (6.4)	138.4 (3.3)	127.5 (6.1)	119.9 (1.0)	156.3 (1.0)	127.0 (2.2)	120.1 (3.0)	131.2 (2.1)
fenoterol	41.8 (4.0)	58.0 (7.8)	83.6 (6.2)	35.0 (5.9)	17.6 (60.2)	84.9 (28.3)	16.5 (9.6)	47.6 (4.8)	26.4 (3.2)	36.4 (9.7)	54.6 (10.4)	78.3 (17.5)	23.3 (3.0)	50.5 (13.8)	56.9 (20.2)
nikethamide	91.1 (2.5)	87.8 (4.9)	94.7 (1.8)	69.3 (1.8)	84.5 (3.1)	97.7 (2.3)	48.7 (1.7)	66.2 (2.7)	75.5 (2.9)	65.8 (5.8)	99.2 (1.6)	88.5 (2.3)	76.3 (1.3)	101.8 (1.2)	100.6 (2.1)
carteool	103.0 (6.7)	94.3 (10.6)	121.6 (4.6)	60.1 (4.3)	34.1 (40.9)	135.9 (2.5)	66.4 (2.1)	61.2 (6.2)	59.6 (5.5)	65.0 (7.6)	99.9 (1.4)	138.5 (0.9)	87.2 (1.0)	100.4 (5.7)	100.7 (3.7)
oxycodone	121.9 (1.6)	113.0 (4.5)	147.0 (3.6)	79.2 (2.8)	69.8 (32.6)	168.8 (3.0)	96.9 (3.1)	84.4 (5.9)	46.5 (2.9)	79.7 (8.4)	160.3 (2.2)	178.8 (3.2)	139.8 (2.7)	168.0 (4.1)	169.6 (2.4)
amphetamine	90.2 (6.0)	94.7 (6.2)	108.6 (4.9)	71.8 (5.7)	15.9 (49.1)	99.0 (5.4)	65.4 (3.3)	79.6 (7.1)	47.2 (3.4)	72.2 (11.0)	105.3 (2.2)	104.0 (3.3)	91.2 (1.7)	97.2 (3.1)	98.1 (2.8)
chlorothiazide	119.6 (2.5)	121.6 (3.0)	117.5 (1.8)	120.8 (2.7)	129.3 (5.7)	105.5 (0.8)	48.8 (12.5)	119.0 (2.3)	110.2 (2.3)	146.8 (4.7)	103.2 (0.7)	77.8 (10.2)	95.2 (2.5)	107.5 (1.6)	109.4 (1.1)
hydrocodone	118.3 (5.6)	112.2 (4.0)	150.5 (3.2)	90.6 (2.8)	57.1 (37.2)	185.2 (1.8)	74.4 (4.0)	96.9 (5.6)	64.7 (3.5)	111.8 (8.7)	174.5 (1.7)	198.6 (4.8)	165.7 (1.5)	190.0 (2.6)	212.3 (2.0)
methamphetamine	138.2 (4.0)	137.1 (4.3)	151.8 (2.5)	110.3 (3.5)	23.3 (51.2)	137.3 (4.3)	52.0 (4.3)	114.6 (5.0)	99.1 (1.6)	111.1 (4.5)	141.7 (3.4)	147.5 (2.9)	123.7 (2.2)	129.2 (3.6)	135.3 (3.2)
methylhexanamine	102.3 (1.4)	107.1 (3.8)	117.7 (3.6)	94.0 (3.8)	16.3 (53.1)	103.1 (7.1)	63.6 (2.9)	86.5 (4.1)	75.3 (1.4)	90.0 (10.7)	117.9 (4.4)	123.6 (2.7)	105.6 (3.4)	109.7 (3.5)	111.8 (3.3)
MDMA	89.9 (2.6)	86.9 (6.2)	117.6 (5.4)	71.9 (5.6)	24.1 (51.1)	143.8 (3.8)	31.5 (6.4)	59.5 (4.8)	33.5 (5.4)	65.3 (12.1)	141.1 (3.3)	150.4 (3.9)	127.6 (1.9)	133.0 (3.4)	135.5 (3.0)
hydrochlorothiazide	94.2 (4.8)	97.0 (4.5)	100.9 (1.5)	89.2 (2.0)	105.2 (3.5)	91.7 (6.5)	12.7 (25.4)	89.5 (4.6)	95.9 (4.1)	99.5 (7.4)	89.7 (5.0)	73.6 (6.7)	78.4 (4.4)	93.0 (6.2)	93.9 (4.3)
strychnine	168.2 (11.2)	163.4 (7.6)	204.7 (4.0)	65.3 (8.0)	23.6 (63.7)	202.5 (6.4)	34.8 (11.9)	56.6 (6.3)	129.3 (4.0)	108.7 (17.1)	185.2 (4.5)	275.5 (1.8)	191.3 (4.3)	210.6 (5.2)	218.2 (3.2)
ketamine	60.9 (2.7)	63.6 (5.9)	78.7 (4.4)	53.3 (4.0)	21.9 (46.1)	91.9 (4.1)	53.4 (3.9)	42.5 (4.0)	26.8 (5.6)	55.7 (11.0)	96.9 (3.0)	102.8 (3.1)	90.4 (2.1)	95.6 (3.6)	101.3 (0.8)
metoprolol	58.6 (3.5)	63.9 (8.2)	82.6 (7.6)	66.9 (5.4)	22.8 (54.1)	121.9 (2.1)	52.9 (1.1)	44.0 (2.2)	46.7 (3.7)	66.4 (14.5)	126.3 (3.5)	139.1 (2.0)	120.2 (2.2)	119.9 (2.7)	121.6 (2.8)
clenbuterol	53.0 (3.2)	58.6 (5.7)	77.3 (7.3)	55.6 (6.4)	12.5 (60.0)	109.3 (3.4)	14.6 (12.7)	42.3 (3.5)	52.9 (3.7)	56.9 (16.9)	102.6 (2.7)	127.7 (0.8)	97.1 (2.2)	96.5 (3.4)	96.1 (1.9)
methylphenidate	112.4 (3.2)	132.8 (8.1)	151.2 (7.5)	168.8 (5.6)	22.8 (48.0)	145.8 (3.9)	103.7 (5.8)	78.8 (11.8)	172.5 (4.1)	185.8 (16.1)	256.6 (6.1)	344.4 (3.8)	215.1 (8.3)	212.4 (15.3)	204.0 (9.8)
heroin	87.5 (2.5)	97.0 (3.0)	108.7 (2.7)	100.0 (3.2)	35.3 (52.1)	115.8 (0.9)	77.0 (4.5)	87.8 (4.2)	116.2 (1.9)	115.2 (6.4)	125.7 (3.4)	156.8 (2.4)	121.6 (1.9)	122.0 (5.9)	128.2 (2.6)
zolpidem	32.6 (3.1)	37.3 (6.1)	48.8 (6.8)	30.7 (9.1)	15.5 (62.2)	91.3 (1.7)	14.4 (18.8)	28.8 (3.0)	38.9 (2.2)	46.1 (16.0)	75.8 (3.6)	79.0 (2.4)	73.4 (3.1)	78.2 (4.0)	82.4 (1.5)
cocaine	76.4 (6.0)	83.4 (7.6)	108.6 (10.7)	108.1 (9.3)	33.3 (47.6)	192.1 (4.4)	66.2 (6.6)	61.0 (3.4)	91.9 (4.7)	118.6 (17.1)	248.1 (4.6)	332.7 (3.3)	229.4 (2.7)	232.3 (7.9)	230.7 (3.9)
LSD	16.5 (8.8)	20.5 (11.4)	34.6 (13.8)	19.3 (18.4)	2.8 (61.7)	64.6 (4.5)	4.6 (23.8)	17.5 (2.2)	19.8 (6.3)	23.7 (32.1)	37.1 (2.3)	69.9 (4.5)	42.7 (10.8)	46.8 (8.9)	62.6 (7.2)
bisoprolol	102.2 (2.2)	107.3 (2.2)	127.4 (4.4)	158.7 (2.9)	27.9 (59.2)	157.8 (2.3)	108.4 (2.5)	107.2 (1.8)	108.5 (2.6)	121.1 (5.2)	160.7 (5.6)	186.9 (1.8)	157.0 (2.4)	148.4 (2.5)	153.8 (1.4)
phencyclidine	223.3 (6.8)	228.2 (4.5)	254.8 (6.9)	195.6 (7.5)	18.1 (56.6)	155.0 (11.8)	16.8 (19.3)	225.6 (4.1)	228.8 (2.4)	117.4 (18.6)	238.4 (12.3)	300.1 (4.8)	225.6 (7.1)	213.7 (5.9)	222.4 (3.7)
propranolol	45.1 (12.9)	55.8 (12.7)	82.0 (6.3)	48.9 (11.1)	2.8 (64.3)	51.5 (10.3)	3.4 (21.2)	60.0 (2.8)	70.5 (10.6)	21.1 (24.4)	59.7 (9.5)	87.6 (5.0)	54.0 (6.3)	57.6 (8.7)	47.6 (6.6)
prednisolone	89.7 (4.0)	93.7 (2.1)	92.1 (1.7)	84.4 (4.4)	128.7 (6.2)	97.5 (2.5)	44.1 (7.4)	88.2 (2.0)	91.0 (3.0)	76.5 (1.8)	94.7 (0.7)	91.9 (5.8)	98.1 (2.0)	97.5 (2.9)	97.6 (1.9)
fentanyl	102.9 (5.4)	113.9 (6.2)	139.8 (3.5)	76.1 (6.7)	8.1 (63.7)	88.6 (10.2)	6.5 (26.2)	129.8 (3.6)	148.8 (4.5)	34.4 (27.1)	109.8 (11.5)	161.8 (4.3)	114.6 (6.4)	105.4 (9.4)	112.6 (2.6)
prednisone	91.8 (2.9)	95.5 (2.4)	96.0 (2.9)	95.4 (1.1)	143.1 (4.7)	102.6 (0.9)	100.8 (5.1)	90.7 (1.9)	92.8 (1.4)	92.7 (1.6)	97.1 (2.7)	95.5 (2.8)	97.7 (1.3)	98.1 (1.3)	99.2 (1.2)
buprenorphine	89.5 (7.0)	105.0 (6.9)	109.7 (5.4)	58.0 (6.7)	5.0 (67.7)	40.1 (9.2)	7.5 (25.6)	117.7 (4.8)	108.1 (4.9)	61.6 (16.2)	74.3 (13.1)	128.2 (10.0)	80.0 (8.1)	70.2 (10.7)	64.3 (6.5)
ibutamoren	71.6 (14.1)	85.0 (9.3)	110.0 (3.5)	56.2 (9.8)	3.4 (64.8)	56.9 (14.4)	9.5 (23.0)	95.2 (6.0)	83.6 (11.0)	40.1 (18.2)	40.7 (3.9)	76.2 (14.3)	46.1 (18.1)	43.8 (16.9)	42.7 (10.1)
betamethasone	98.4 (1.4)	100.6 (4.5)	103.3 (2.2)	88.1 (3.4)	85.1 (11.5)	95.9 (1.7)	22.9 (8.8)	94.2 (1.4)	95.6 (1.7)	89.0 (3.4)	92.6 (2.4)	94.6 (3.0)	93.5 (1.1)	93.0 (1.0)	88.4 (2.4)
furosemide	80.6 (2.0)	83.3 (3.6)	88.2 (3.8)	69.2 (4.5)	77.9 (7.1)	98.4 (1.8)	2.2 (46.5)	74.2 (3.1)	83.1 (1.6)	76.4 (5.6)	100.5 (0.9)	90.4 (2.4)	100.9 (1.1)	103.6 (2.4)	102.6 (1.7)
nebivolol	36.8 (6.0)	39.0 (17.1)	48.5 (30.6)	18.9 (10.1)	3.3 (63.7)	26.0 (26.2)	0.5 (42.0)	59.9 (19.0)	44.6 (16.5)	7.1 (19.1)	24.0 (21.0)	27.2 (26.4)	24.4 (18.9)	33.8 (24.8)	21.2 (24.5)
alprazolam	87.2 (3.7)	90.1 (3.3)	91.5 (0.9)	85.3 (4.6)	50.1 (16.4)	88.9 (2.7)	22.3 (9.3)	83.5 (2.2)	85.1 (3.1)	74.5 (4.4)	94.1 (4.0)	93.1 (0.8)	89.6 (1.8)	93.7 (0.5)	91.3 (2.0)
anastrozole	97.3 (1.7)	100.7 (1.1)	99.5 (1.1)	96.8 (7.0)	98.2 (3.2)	100.4 (2.2)	19.0 (14.9)	99.8 (2.2)	97.2 (1.3)	93.3 (0.6)	101.8 (1.9)	100.5 (1.3)	100.3 (2.1)	102.0 (0.4)	100.2 (1.3)
stanzolol	60.0 (8.9)	64.8 (3.4)	77.4 (4.0)	13.9 (9.0)	7.5 (80.0)	66.6 (6.9)	1.2 (12.4)	77.6 (6.7)	52.8 (7.0)	24.8 (18.9)	22.8 (3.3)	39.5 (10.2)	29.0 (15.2)	37.0 (5.9)	28.9 (8.6)
methadone	147.1 (10.2)	161.4 (6.7)	163.1 (11.8)	69.6 (4.2)	3.5 (78.0)	40.6 (21.0)	10.2 (23.9)	157.9 (7.8)	135.4 (5.0)	32.2 (38.9)	77.7 (19.0)	122.3 (9.5)	76.1 (10.9)	69.8 (15.9)	69.3 (2.2)
boldenone	84.4 (1.3)	86.7 (2.4)	90.1 (1.5)	75.6 (5.5)	72.0 (11.8)	91.4 (2.5)	7.8 (14.7)	79.8 (1.2)	84.9 (2.6)	74.1 (4.5)	90.8 (2.8)	92.8 (1.2)	90.3 (2.3)	90.7 (0.8)	87.8 (0.8)
clonazepam	90.0 (1.2)	93.5 (1.0)	95.5 (2.0)	71.7 (4.0)	72.6 (8.5)	93.3 (2.6)	3.4 (20.9)	89.8 (0.8)	90.0 (1.5)	78.5 (2.2)	93.7 (2.6)	93.9 (1.7)	92.0 (2.1)	94.3 (1.0)	91.9 (1.2)
androlone	101.0 (4.5)	103.9 (2.1)	100.3 (2.8)	84.5 (3.2)	87.5 (7.4)	87.7 (4.9)	11.1 (18.8)	104.7 (2.3)	96.1 (1.7)	91.7 (1.4)	82.0 (3.3)	108.1 (3.9)	83.2 (0.9)	87.5 (1.0)	85.5 (0.6)
methandienone	88.4 (3.0)	89.4 (2.2)	91.7 (5.1)	77.3 (5.1)	76.6 (9.2)	88.0 (2.8)	10.7 (16.7)	72.4 (2.6)	85.6 (2.5)	73.9 (4.5)	85.1 (2.9)	89.5 (3.0)	88.7 (1.3)	88.9 (0.5)	86.7 (1.4)
flunitrazepam	88.0 (3.2)	98.6 (5.0)	104.9 (1.3)	77.1 (3.7)	83.1 (7.1)	94.2 (2.6)	4.1 (19.4)	69.2 (3.3)	92.8 (2.2)	73.4 (2.6)	93.5 (0.4)	93.6 (2.5)	98.0 (1.4)	96.9 (0.8)	95.3 (0.7)
canrenone	61.1 (2.6)	71.2 (5.6)	86.0 (1.3)	70.4 (3.2)	43.0 (20.2)	84.8 (3.7)	1.4 (25.1)	67.4 (3.8)	60.2 (3.4)	56.4 (3.4)	83.4 (2.5)	81.5 (2.9)	77.3 (2.8)	81.3 (2.5)	76.0 (3.2)
THC-COOH	23.6 (14.0)	27.9 (28.2)	67.3 (33.3)	7.3 (6.8)	10.7 (75.1)	80.4 (13.4)	0.4 (37.0)	28.0 (21.0)	22.4 (9.8)	25.3 (40.0)	57.7 (3.7)	59.6 (6.9)	55.1 (8.1)	64.2 (9.0)	69.2 (5.4)
THC	3.6 (9.6)	4.7 (37.4)	5.2 (57.3)	5.7 (33.8)	0.8 (37.4)	9.2 (23.0)	0.4 (29.2)	12.3 (25.4)	7.6 (12.0)	1.5 (88.3)	8.9 (42.9)	7.4 (65.9)	9.3 (32.9)	17.3 (21.0)	9.9 (35.8)

Tab. B3 Matrix effects presented as percentage of signals measured from spiked matrix from oral fluid sample collection device swabs relative to signals from spiked neat matrix. Relative standard deviation (RSD) [%] given in brackets, n=3.

substance	SalivaBio Oral Swab	Saliva Collection Swab (Type I)	Saliva Collection Swab (Type II)	Salivette®	Salivette®+Cortisol	DDC™ 5000	Oracol	Versi•SAL®	Super•SAL™	Micro•SAL™	Accu•SAL™	Intercept™ i2™	Oral-Eze™	Saliva Sampler™	Quantisal®
meldonium	27.1 (10.3)	31.0 (10.0)	46.7 (7.9)	62.7 (9.8)	57.7 (4.7)	92.3 (14.5)	60.4 (24.0)	31.8 (15.8)	81.7 (10.0)	98.8 (12.8)	86.0 (22.9)	8.3 (26.0)	114.0 (9.9)	111.8 (1.1)	105.2 (12.6)
psilocybin	108.3 (4.1)	103.9 (3.0)	113.3 (2.5)	389.0 (4.2)	116.2 (7.7)	113.1 (3.4)	99.1 (6.0)	92.9 (3.1)	97.9 (5.6)	103.9 (9.8)	366.7 (2.4)	649.4 (9.0)	282.1 (14.2)	122.2 (2.3)	185.1 (8.0)
morphine	105.5 (6.0)	100.2 (2.7)	112.0 (2.7)	137.3 (2.9)	116.9 (6.2)	114.5 (3.1)	81.3 (14.9)	89.1 (8.3)	98.2 (1.1)	90.4 (3.6)	138.6 (9.0)	171.4 (13.5)	145.7 (11.2)	117.5 (4.5)	124.2 (13.5)
salbutamol	109.9 (3.7)	99.3 (2.4)	107.9 (2.6)	100.1 (4.3)	87.0 (3.2)	108.4 (0.8)	81.8 (7.7)	85.5 (6.4)	96.6 (4.6)	76.4 (8.5)	113.3 (7.8)	126.6 (3.3)	104.2 (12.2)	107.0 (4.6)	105.4 (10.6)
terbutaline	110.6 (10.2)	103.5 (6.9)	111.0 (3.9)	95.3 (3.2)	97.1 (4.1)	117.0 (1.3)	73.5 (18.7)	83.7 (7.0)	103.2 (6.4)	70.1 (6.2)	115.5 (9.4)	135.2 (3.4)	100.1 (9.2)	108.7 (5.1)	110.4 (12.6)
atenolol	125.2 (2.9)	121.1 (5.1)	135.9 (2.8)	148.6 (4.4)	125.6 (3.6)	137.4 (3.8)	93.6 (12.1)	96.7 (11.7)	120.2 (3.4)	109.2 (9.1)	143.8 (5.4)	161.8 (6.3)	134.6 (13.8)	135.0 (1.8)	134.6 (8.3)
fenoterol	65.6 (14.6)	83.3 (8.0)	98.5 (4.3)	66.2 (9.2)	106.2 (6.5)	109.6 (2.6)	65.9 (1.1)	52.2 (16.4)	34.5 (2.9)	37.4 (14.6)	92.9 (2.7)	112.5 (9.1)	42.1 (7.6)	74.6 (18.9)	94.7 (8.9)
nikethamide	97.5 (4.2)	93.5 (2.3)	109.3 (1.5)	66.7 (7.2)	92.0 (4.6)	113.9 (2.6)	64.1 (4.8)	66.2 (6.1)	69.3 (5.8)	64.3 (5.3)	107.8 (9.2)	93.8 (2.7)	61.6 (11.8)	99.9 (2.5)	95.2 (13.0)
cardeolol	104.8 (2.7)	100.4 (5.8)	121.9 (6.3)	86.7 (8.2)	111.0 (7.9)	133.7 (5.4)	85.7 (19.5)	57.3 (10.3)	53.6 (4.8)	58.7 (5.9)	141.9 (4.8)	142.6 (3.8)	101.0 (13.1)	133.7 (0.8)	127.6 (8.7)
oxycodone	117.1 (8.9)	114.5 (7.9)	149.4 (5.3)	108.9 (12.3)	152.5 (10.2)	167.0 (3.3)	91.6 (21.8)	72.4 (13.7)	47.4 (6.6)	67.7 (2.1)	185.4 (6.5)	180.0 (2.7)	113.6 (11.3)	185.2 (7.0)	165.7 (11.6)
amphetamine	96.3 (2.8)	90.8 (3.5)	95.4 (5.8)	76.1 (6.6)	85.5 (9.8)	99.7 (4.5)	89.2 (4.8)	66.6 (5.5)	47.5 (5.3)	67.1 (6.8)	121.3 (7.3)	109.2 (2.8)	109.0 (15.2)	113.7 (2.4)	108.3 (9.6)
chlorothiazide	110.4 (3.1)	107.9 (2.0)	119.7 (3.4)	105.5 (7.3)	126.7 (6.4)	116.1 (8.0)	137.3 (6.5)	82.5 (6.6)	85.7 (4.5)	119.7 (17.5)	110.8 (8.9)	87.9 (7.6)	99.0 (5.4)	101.2 (3.2)	98.0 (11.2)
hydrocodone	102.0 (6.9)	100.7 (15.9)	152.2 (5.3)	117.7 (9.0)	134.5 (14.2)	173.1 (3.0)	54.4 (39.5)	76.4 (8.8)	54.8 (9.7)	80.6 (11.7)	186.3 (5.8)	181.5 (2.3)	159.5 (11.2)	170.0 (1.7)	171.1 (14.4)
methamphetamine	115.4 (3.5)	111.5 (7.7)	111.5 (7.1)	112.9 (5.6)	107.2 (3.8)	111.2 (10.7)	75.2 (16.6)	82.6 (7.0)	66.5 (4.7)	90.6 (7.0)	157.6 (6.6)	153.5 (2.5)	140.7 (12.5)	145.2 (0.8)	140.2 (10.6)
methylhexanamine	99.9 (6.0)	94.7 (2.6)	96.3 (4.6)	94.8 (5.0)	90.2 (5.6)	95.9 (10.8)	77.1 (8.4)	67.7 (7.1)	59.2 (2.8)	79.9 (7.6)	134.5 (7.5)	125.5 (2.1)	118.9 (12.4)	121.1 (0.5)	117.8 (12.3)
MDMA	89.3 (6.1)	86.5 (8.1)	106.5 (6.9)	89.6 (9.2)	107.4 (4.2)	123.4 (10.7)	58.2 (17.3)	50.6 (10.5)	33.2 (4.1)	63.9 (3.5)	167.3 (4.2)	162.6 (3.2)	152.3 (11.1)	154.9 (0.8)	148.7 (8.5)
hydrochlorothiazide	94.3 (7.1)	88.9 (7.4)	109.3 (5.5)	73.4 (9.7)	104.9 (3.3)	116.2 (6.2)	71.3 (7.6)	69.1 (4.4)	69.8 (5.9)	88.8 (14.3)	108.2 (10.7)	87.1 (3.9)	95.7 (12.9)	101.9 (3.7)	92.6 (12.2)
strychnine	108.3 (10.6)	105.3 (22.7)	159.9 (7.0)	90.8 (14.8)	109.2 (12.6)	165.0 (1.9)	45.7 (44.0)	35.1 (14.7)	50.7 (15.8)	62.7 (12.8)	222.4 (7.5)	220.7 (1.1)	193.5 (16.5)	205.0 (4.0)	197.0 (5.8)
ketamine	73.0 (2.7)	69.4 (0.5)	93.3 (4.7)	62.5 (8.0)	96.8 (2.9)	109.7 (3.4)	70.8 (13.9)	38.8 (9.8)	31.7 (1.4)	56.0 (5.8)	116.5 (8.6)	107.8 (3.8)	101.9 (10.6)	106.0 (3.8)	102.6 (13.0)
metoprolol	61.0 (2.2)	59.6 (5.5)	92.9 (12.6)	71.7 (8.0)	99.0 (5.5)	125.7 (2.4)	70.9 (15.2)	36.7 (10.7)	48.0 (1.6)	61.3 (1.6)	149.8 (6.5)	146.8 (2.7)	133.1 (15.4)	138.3 (2.8)	132.1 (7.9)
clenbuterol	57.1 (4.2)	57.4 (4.6)	86.5 (7.8)	69.6 (8.3)	89.5 (3.1)	123.5 (6.0)	69.1 (12.5)	35.0 (12.1)	54.7 (2.6)	65.5 (4.0)	137.6 (4.8)	137.0 (3.4)	125.3 (9.4)	128.3 (2.9)	123.0 (13.4)
methylphenidate	138.1 (45.1)	122.1 (26.3)	85.1 (21.2)	176.6 (28.4)	149.0 (43.2)	107.6 (20.7)	114.9 (11.1)	53.2 (19.4)	87.3 (11.5)	126.9 (30.2)	203.9 (41.7)	242.2 (28.5)	150.2 (11.5)	140.6 (16.4)	153.7 (26.3)
heroin	84.3 (7.3)	80.7 (4.9)	99.2 (4.3)	114.3 (7.7)	148.9 (2.4)	119.2 (8.3)	84.6 (16.9)	54.7 (11.3)	88.6 (4.5)	91.7 (10.1)	140.7 (13.0)	138.8 (8.1)	119.2 (8.3)	123.1 (1.7)	118.4 (14.9)
zolpidem	42.2 (3.7)	41.6 (4.2)	65.5 (8.8)	50.6 (13.2)	88.4 (2.6)	109.1 (1.9)	64.1 (14.2)	28.7 (5.6)	48.3 (2.6)	67.5 (9.9)	115.0 (9.9)	109.3 (1.7)	100.9 (13.2)	103.1 (3.8)	100.2 (13.8)
cocaine	59.3 (19.9)	58.3 (7.0)	77.0 (25.4)	106.9 (16.8)	121.2 (3.3)	129.3 (15.0)	70.3 (30.7)	39.7 (4.6)	61.8 (12.8)	96.2 (8.7)	208.8 (12.1)	208.6 (4.6)	178.0 (16.8)	171.5 (11.9)	177.1 (6.3)
LSD	28.3 (1.9)	28.8 (8.9)	57.3 (13.4)	50.5 (6.6)	64.7 (3.6)	109.1 (2.7)	67.5 (15.2)	19.7 (4.1)	33.6 (3.1)	48.3 (4.6)	111.7 (6.7)	107.6 (1.4)	100.6 (11.6)	104.3 (2.9)	99.7 (11.5)
bisoprolol	78.0 (2.4)	78.9 (12.0)	112.8 (8.1)	144.1 (4.2)	133.6 (11.5)	147.1 (9.7)	95.7 (22.0)	77.5 (6.2)	95.4 (4.1)	102.0 (1.6)	180.7 (4.0)	180.7 (4.5)	167.4 (13.5)	168.0 (2.6)	162.0 (7.6)
phencyclidine	145.0 (8.5)	151.5 (22.4)	150.5 (21.1)	196.6 (13.3)	144.6 (2.9)	97.8 (18.7)	74.1 (36.4)	168.0 (1.8)	174.5 (11.8)	174.9 (10.8)	299.3 (4.1)	315.8 (7.4)	278.0 (18.6)	276.4 (3.5)	266.3 (1.7)
propranolol	65.2 (4.6)	63.3 (3.9)	41.4 (6.3)	85.7 (12.0)	44.1 (32.5)	47.8 (18.5)	42.8 (12.6)	61.0 (7.1)	88.5 (1.1)	54.8 (3.5)	124.4 (8.5)	130.9 (2.9)	111.4 (10.5)	114.4 (4.9)	112.1 (6.5)
prednisolone	92.2 (16.3)	89.1 (6.7)	104.9 (3.0)	76.3 (8.9)	167.1 (13.4)	108.8 (2.4)	77.8 (2.2)	82.4 (2.1)	91.9 (4.8)	72.9 (4.9)	107.5 (6.2)	97.7 (4.6)	95.2 (9.7)	100.5 (2.6)	94.7 (14.8)
fentanyl	96.4 (7.5)	97.0 (12.4)	125.8 (6.4)	101.2 (15.6)	108.9 (4.6)	104.6 (3.7)	62.5 (38.5)	104.7 (3.7)	128.1 (3.2)	77.9 (8.6)	167.9 (7.5)	168.6 (0.8)	153.0 (9.4)	153.3 (3.8)	148.9 (11.4)
prednisone	105.4 (2.3)	96.8 (3.6)	110.2 (1.6)	87.5 (7.1)	175.7 (6.9)	110.2 (4.0)	91.8 (7.3)	86.0 (4.6)	94.2 (4.7)	84.2 (5.7)	109.8 (7.3)	99.5 (1.1)	96.7 (9.8)	101.3 (3.4)	95.7 (13.1)
buprenorphine	181.7 (3.9)	171.3 (7.5)	110.2 (8.8)	129.0 (12.7)	159.4 (2.2)	53.3 (26.0)	116.4 (22.5)	162.7 (5.5)	179.6 (1.6)	113.2 (4.2)	190.7 (7.4)	200.9 (8.4)	157.5 (4.1)	187.6 (8.2)	180.0 (4.8)
ibutamoren	136.1 (16.0)	127.8 (9.2)	119.5 (17.3)	143.2 (9.4)	137.6 (26.0)	115.5 (9.2)	99.2 (11.0)	114.7 (6.4)	118.0 (3.7)	109.9 (20.2)	123.7 (22.8)	141.8 (10.6)	118.0 (4.7)	128.3 (14.5)	123.8 (13.3)
betamethasone	106.6 (5.8)	104.0 (6.2)	114.9 (2.1)	87.4 (5.0)	144.8 (6.3)	105.9 (6.3)	82.7 (4.6)	91.2 (4.6)	97.7 (8.8)	85.4 (4.4)	110.1 (6.6)	106.0 (2.0)	97.5 (12.2)	99.0 (4.5)	95.4 (13.0)
furosemide	90.8 (3.6)	88.4 (2.4)	100.5 (3.8)	68.9 (9.8)	85.7 (2.7)	111.7 (3.2)	81.9 (5.7)	73.4 (4.1)	83.9 (4.4)	76.6 (10.3)	109.1 (8.4)	99.9 (4.4)	96.0 (10.2)	100.0 (1.2)	90.8 (18.4)
nebivolol	143.7 (24.5)	127.1 (14.3)	14.0 (33.9)	95.1 (13.7)	111.4 (38.5)	21.9 (7.3)	25.1 (17.4)	125.4 (8.1)	120.5 (9.5)	50.5 (9.0)	121.9 (31.3)	112.9 (15.0)	72.7 (9.3)	133.0 (21.7)	120.4 (12.3)
alprazolam	103.1 (4.2)	96.7 (2.6)	113.4 (0.5)	93.4 (11.6)	108.0 (14.0)	106.7 (2.2)	91.6 (4.6)	83.9 (4.3)	92.6 (3.9)	83.9 (6.1)	111.0 (8.0)	106.4 (3.4)	97.4 (10.8)	100.7 (2.9)	94.2 (16.3)
anastrozole	107.9 (4.2)	103.3 (2.1)	115.0 (2.0)	90.7 (12.8)	117.7 (6.9)	114.7 (3.3)	96.5 (3.9)	91.2 (3.3)	97.5 (5.1)	94.6 (10.1)	111.7 (8.5)	104.1 (3.5)	99.3 (7.3)	101.9 (3.0)	96.7 (16.2)
stanozolol	111.5 (7.3)	101.0 (1.8)	78.9 (29.8)	59.0 (15.5)	88.1 (14.7)	61.3 (10.0)	71.5 (5.9)	92.7 (2.6)	98.9 (2.9)	76.2 (18.7)	107.3 (10.5)	101.4 (7.8)	96.9 (5.3)	102.5 (10.3)	86.5 (25.3)
methadone	161.2 (5.7)	147.3 (15.7)	22.3 (36.3)	136.3 (14.2)	77.1 (29.1)	3.7 (45.4)	110.8 (29.0)	147.4 (4.2)	136.4 (5.0)	117.4 (14.1)	177.5 (15.9)	220.4 (9.5)	151.0 (6.9)	163.6 (6.2)	169.8 (6.3)
boldenone	96.5 (1.7)	93.0 (2.5)	106.4 (1.0)	72.1 (11.2)	99.9 (6.7)	106.6 (3.1)	55.3 (4.7)	72.6 (5.7)	91.2 (4.2)	71.3 (4.1)	109.3 (7.3)	105.5 (4.6)	96.9 (11.1)	101.3 (3.0)	94.4 (14.7)
clonazepam	102.2 (3.4)	97.1 (2.6)	107.6 (1.9)	76.1 (10.3)	99.7 (3.5)	110.4 (3.0)	73.6 (8.2)	81.3 (3.9)	92.9 (4.3)	82.6 (2.8)	109.9 (7.1)	106.4 (2.8)	98.0 (9.0)	101.9 (2.8)	96.4 (13.7)
nandrolone	114.0 (2.5)	109.9 (2.2)	117.7 (2.9)	75.4 (9.9)	115.8 (2.4)	115.3 (3.0)	88.8 (6.1)	85.1 (3.2)	104.0 (6.8)	91.7 (8.1)	112.2 (7.7)	96.3 (4.5)	100.2 (6.0)	103.0 (3.9)	98.8 (17.6)
methandienone	95.1 (2.2)	92.9 (1.9)	110.0 (3.4)	77.7 (11.6)	114.7 (4.7)	108.3 (3.1)	88.8 (4.2)	55.9 (8.8)	94.0 (3.3)	78.0 (3.2)	110.1 (7.8)	105.2 (5.2)	97.8 (8.1)	104.3 (5.7)	95.7 (15.6)
flunitrazepam	99.8 (5.9)	100.7 (2.3)	124.5 (5.2)	76.0 (10.0)	111.3 (3.4)	110.0 (2.1)	74.0 (4.6)	55.5 (8.8)	105.6 (4.9)	79.0 (3.3)	110.8 (8.9)	104.9 (3.5)	98.0 (11.1)	103.5 (4.5)	97.5 (14.4)
canrenone	66.1 (7.8)	65.9 (3.8)	90.5 (7.0)	84.4 (7.5)	70.9 (2.2)	94.9 (5.1)	86.8 (1.5)	59.2 (13.2)	56.2 (5.0)	81.4 (10.9)	111.4 (10.2)	105.3 (4.6)	102.0 (11.6)	102.1 (3.4)	91.6 (21.3)
THC-COOH	111.9 (6.2)	109.0 (5.9)	109.3 (0.6)	83.5 (14.9)	106.5 (6.0)	90.2 (3.7)	95.3 (5.1)	46.4 (20.0)	92.9 (2.5)	83.1 (27.5)	104.0 (12.6)	95.4 (16.8)	99.1 (17.0)	102.8 (2.9)	63.0 (59.3)
THC	232.1 (32.2)	202.2 (21.6)	11.0 (63.2)	80.1 (15.8)	181.8 (51.7)	43.4 (24.1)	125.7 (37.4)	194.8 (21.7)	239.0 (13.0)	58.8 (28.7)	228.7 (39.7)	88.4 (16.8)			

Tab. B4 Drug recoveries [%] from oral fluid sample collection device swabs (data taken from Tab. B1) and presumptive drug recovery correction values [%] given in brackets – calculations based on matrix effects for each substance and device type (see Tab. B2).

substance	SalivaBio Oral Swab	Saliva Collection Swab (type I)	Saliva Collection Swab (type II)	Salivette®	Salivette® Cortisol	DCD® 5000	Oracol	Versi•SAL®	Super•SAL®	Micro•SAL®	Accu•SAL®	Intercept ^a 12"	Oral-Eze ^a	Saliva Sampler ^a	Quantisal ^a
meldonium	17.5 (+47.1)	25.6 (+57.1)	38.7 (+44.2)	86.0 (+51.3)	54.2 (+39.7)	87.8 (+7.3)	46.3 (+30.3)	38.1 (+18.8)	71.1 (+15.9)	102.5 (+1.2)	76.7 (+12.5)	23.3 (+257.2)	105.0 (-12.9)	105.7 (-11.1)	104.2 (-5.2)
psilocybin	101.0 (-7.8)	101.9 (-3.8)	96.6 (-11.3)	333.3 (-247.6)	99.5 (-13.9)	93.1 (-10.8)	98.3 (+0.9)	96.6 (+7.4)	97.5 (+2.1)	99.5 (-3.7)	302.1 (-219.7)	480.0 (-409.5)	206.2 (-133.1)	114.6 (-20.8)	157.8 (-72.5)
morphine	98.1 (-5.2)	102.7 (-0.2)	116.6 (-12.5)	99.4 (-27.0)	64.0 (-9.3)	118.0 (-14.9)	83.7 (+19.2)	107.0 (+13.1)	115.1 (+2.1)	114.6 (+12.2)	109.4 (-30.5)	176.9 (-73.6)	130.8 (-41.0)	103.8 (-15.5)	112.5 (-21.9)
salbutamol	95.5 (-8.6)	97.7 (+0.7)	106.6 (-7.8)	81.2 (-0.1)	40.0 (+6.0)	107.8 (-8.4)	69.7 (+15.5)	96.6 (+16.4)	101.5 (+3.6)	85.4 (+26.4)	97.8 (-11.5)	116.0 (-24.3)	95.2 (-3.9)	96.5 (-6.3)	96.5 (-4.9)
terbutaline	90.5 (-8.7)	94.3 (-3.2)	104.8 (-10.4)	55.0 (+2.7)	36.7 (+1.1)	109.4 (-15.9)	64.0 (+23.1)	92.8 (+18.1)	102.0 (-3.1)	67.5 (+28.9)	86.7 (-11.6)	112.5 (-29.3)	80.8 (-0.1)	89.7 (-7.1)	93.6 (-8.8)
atenolol	134.6 (-27.1)	134.8 (-23.5)	146.6 (-38.8)	119.4 (-39.0)	87.8 (-17.9)	147.2 (-40.0)	95.1 (+6.5)	110.0 (+3.8)	138.4 (-23.3)	127.5 (-10.8)	119.9 (-36.5)	156.3 (-59.7)	127.0 (-32.6)	120.1 (-31.1)	131.2 (-33.7)
fenoterol	41.8 (+22.0)	58.0 (+11.7)	83.6 (+1.3)	35.0 (+17.9)	17.6 (-1.0)	84.9 (-7.5)	16.5 (+8.5)	47.6 (+43.6)	26.4 (+50.1)	36.4 (+61.0)	54.6 (+4.2)	78.3 (-8.7)	23.3 (+32.1)	50.5 (+17.2)	56.9 (+3.2)
nikethamide	91.1 (+2.4)	87.8 (+6.1)	94.7 (-8.0)	69.3 (+34.6)	84.5 (+7.4)	97.7 (-12.0)	48.7 (+27.3)	66.2 (+33.8)	75.5 (-33.5)	65.8 (+36.6)	99.2 (-7.2)	88.5 (+5.9)	76.3 (+47.6)	101.8 (+0.1)	100.6 (+5.0)
carteolol	103.0 (-4.7)	94.3 (-0.4)	121.6 (-21.8)	60.1 (+9.2)	34.1 (-3.4)	135.9 (-34.2)	66.4 (+11.1)	61.2 (+45.6)	59.6 (+51.7)	65.0 (+45.7)	99.9 (-29.5)	138.5 (-41.4)	87.2 (-0.8)	100.4 (-25.3)	100.7 (-21.8)
oxycodone	121.9 (-17.8)	113.0 (-14.3)	147.0 (-48.6)	79.2 (-6.5)	69.8 (-24.0)	168.8 (-67.7)	96.9 (+8.9)	84.4 (+32.2)	46.5 (+51.5)	79.7 (+38.0)	160.3 (-73.9)	178.8 (-79.5)	139.8 (-16.7)	168.0 (-77.3)	169.6 (-67.2)
amphetamine	90.2 (+3.5)	94.7 (+9.6)	108.6 (+5.2)	71.8 (+22.5)	15.9 (+2.7)	99.0 (+0.3)	65.4 (+7.9)	79.6 (+39.9)	47.2 (+52.3)	72.2 (+35.4)	105.3 (-18.5)	104.0 (-8.7)	91.2 (-7.5)	97.2 (-11.7)	98.1 (-7.5)
chlorothiazide	119.6 (-11.2)	121.6 (-8.9)	117.5 (-19.4)	120.8 (-6.3)	129.3 (-27.3)	105.5 (-14.6)	48.8 (-13.3)	119.0 (+25.2)	110.2 (+18.4)	146.8 (-24.1)	103.2 (-10.7)	77.8 (-10.7)	95.2 (+1.0)	107.5 (-1.3)	109.4 (+2.2)
hydrocodone	118.3 (-2.3)	112.2 (-0.8)	150.5 (-51.6)	90.6 (-13.7)	57.1 (-14.6)	185.2 (-78.2)	74.4 (-62.5)	96.9 (+29.9)	64.7 (+53.4)	111.8 (+26.9)	174.5 (-80.9)	198.6 (-89.2)	165.7 (-61.8)	190.0 (-78.6)	212.3 (-88.2)
methamphetamine	138.2 (-18.4)	137.1 (-14.2)	151.8 (-15.7)	110.3 (-12.6)	23.3 (-1.6)	137.3 (-13.8)	52.0 (-17.1)	114.6 (+24.1)	99.1 (+49.9)	111.1 (-11.5)	141.7 (-51.8)	147.5 (-51.4)	123.7 (-35.8)	129.2 (-40.2)	135.3 (-38.8)
methylhexanamine	102.3 (+0.1)	107.1 (+6.0)	117.7 (+4.6)	94.0 (+5.1)	16.3 (+1.8)	103.1 (+4.4)	63.6 (+18.9)	86.5 (+41.3)	75.3 (-51.9)	90.0 (+22.6)	117.9 (-30.3)	123.6 (-25.1)	105.6 (-16.8)	109.7 (-19.1)	111.8 (-16.9)
MDMA	89.9 (+10.8)	86.9 (+13.5)	116.7 (-6.1)	71.9 (+8.4)	24.1 (-1.7)	143.8 (-27.3)	31.5 (-22.6)	59.5 (+58.1)	33.5 (+67.5)	65.3 (+36.9)	141.1 (-56.7)	150.4 (-57.9)	127.6 (-43.8)	133.0 (-47.1)	135.5 (-44.4)
hydrochlorothiazide	94.2 (+5.7)	97.0 (+12.1)	100.9 (-8.6)	89.2 (+32.3)	105.2 (-4.9)	91.7 (-12.8)	12.7 (+5.1)	89.5 (+40.1)	95.9 (+41.4)	99.5 (+12.6)	89.7 (-6.8)	73.6 (+10.9)	78.4 (+3.5)	93.0 (-1.7)	93.9 (+7.5)
strychnine	168.2 (-12.9)	163.4 (-8.2)	204.7 (-76.7)	65.3 (+6.6)	23.6 (-2.0)	202.5 (-79.8)	34.8 (+41.4)	56.6 (+104.8)	129.3 (+125.8)	108.7 (+64.7)	185.2 (-101.9)	275.5 (-150.6)	191.3 (-92.5)	210.6 (-107.9)	218.2 (-107.4)
ketamine	60.9 (+22.5)	63.6 (+28.0)	78.7 (+5.7)	53.3 (+32.0)	21.9 (+0.7)	91.9 (-8.1)	53.4 (+22.0)	42.5 (+67.1)	26.8 (+57.8)	55.7 (+43.8)	96.9 (-13.7)	102.8 (-7.4)	90.4 (-1.7)	95.6 (-5.4)	101.3 (-2.5)
metoprolol	58.6 (+37.5)	63.9 (+43.2)	82.6 (+6.4)	66.9 (+26.4)	22.8 (+0.2)	121.9 (-24.9)	52.9 (+21.7)	44.0 (+75.8)	46.7 (+50.6)	66.4 (+41.9)	126.3 (-42.0)	139.1 (-44.3)	120.2 (-29.9)	119.9 (-33.2)	121.6 (-29.6)
clenbuterol	53.0 (+39.8)	58.6 (+43.5)	77.3 (-12.1)	55.6 (+24.3)	12.5 (-1.5)	109.3 (-20.8)	14.6 (+6.5)	42.3 (-78.7)	52.9 (-43.9)	56.9 (-29.9)	102.6 (-28.0)	127.7 (-34.5)	97.1 (-19.6)	96.5 (-21.3)	96.1 (-18.0)
methylphenidate	112.4 (-31.0)	132.8 (-24.0)	151.2 (+26.5)	168.8 (-73.2)	22.8 (-7.5)	145.8 (-10.3)	103.7 (-13.5)	78.8 (-69.3)	172.5 (-25.1)	185.8 (-39.4)	256.6 (-130.8)	344.4 (-202.2)	215.1 (-71.9)	212.4 (-61.4)	204.0 (-71.3)
heroin	87.5 (+16.3)	97.0 (+23.2)	108.7 (+0.9)	100.0 (-12.5)	35.3 (-11.6)	115.8 (-18.6)	77.0 (-14.0)	87.8 (-72.8)	116.2 (+15.0)	115.2 (+10.5)	125.7 (-36.4)	156.8 (-43.8)	121.6 (-19.5)	122.0 (-22.9)	128.2 (-19.9)
zolpidem	32.6 (+44.6)	37.3 (+52.3)	48.8 (+25.7)	30.7 (+30.0)	15.5 (+2.0)	91.3 (-7.6)	14.4 (+8.1)	28.8 (-71.6)	38.9 (+41.6)	46.1 (+22.2)	75.8 (-9.9)	79.0 (-6.8)	73.4 (-0.7)	78.2 (-2.3)	82.4 (-0.2)
cocaine	76.4 (+52.4)	83.4 (+59.6)	108.6 (+32.4)	108.1 (-7.0)	33.3 (-5.8)	192.1 (-43.5)	66.2 (+27.9)	61.0 (+92.7)	91.9 (+56.9)	118.6 (+4.6)	248.1 (-129.3)	332.7 (-185.8)	229.4 (-100.5)	232.3 (-96.9)	230.7 (-100.4)
LSD	16.5 (+41.7)	20.5 (+50.7)	34.6 (+25.8)	19.3 (+18.9)	2.8 (+1.5)	64.6 (-5.4)	4.6 (+2.2)	17.5 (+71.0)	19.8 (+39.2)	23.7 (-25.4)	37.1 (-3.9)	69.9 (-4.9)	42.7 (-0.3)	46.8 (-1.9)	62.6 (+0.2)
bisoprolol	102.2 (+28.9)	107.3 (+28.8)	127.4 (-14.5)	158.7 (-48.6)	27.9 (-7.0)	157.8 (-50.6)	108.4 (+4.8)	107.2 (-31.1)	108.5 (-5.2)	121.1 (-2.3)	160.7 (-71.8)	186.9 (-83.4)	157.0 (-63.2)	148.4 (-60.1)	153.8 (-58.9)
phencyclidine	223.3 (-69.3)	228.2 (-77.5)	254.8 (-85.5)	195.6 (-96.1)	18.1 (-5.6)	155.0 (+3.5)	16.8 (+5.9)	225.6 (-91.3)	228.8 (-97.7)	117.4 (-50.3)	238.4 (-158.7)	300.1 (-205.1)	225.6 (-144.5)	213.7 (-136.4)	224.2 (-138.9)
propranolol	45.1 (+24.1)	55.8 (+32.3)	82.0 (+16.0)	48.9 (+8.2)	2.8 (+3.5)	51.5 (+56.2)	3.4 (+4.5)	60.0 (+38.3)	70.5 (+9.1)	21.1 (+17.4)	59.7 (-11.7)	87.6 (-20.7)	54.0 (-5.5)	57.6 (-7.3)	47.6 (-5.1)
prednisolone	89.7 (-7.6)	93.7 (+11.5)	92.1 (-4.3)	84.4 (+26.2)	128.7 (-51.7)	97.5 (-7.9)	44.1 (-12.6)	88.2 (+18.8)	91.0 (+8.0)	76.5 (+28.5)	94.7 (-6.6)	91.9 (+2.2)	98.1 (+4.9)	97.5 (-0.5)	97.6 (-5.5)
fentanyl	102.9 (+3.8)	113.9 (+3.5)	139.8 (-28.7)	76.1 (-0.9)	8.1 (-0.7)	88.6 (-3.9)	6.5 (+3.9)	129.8 (-5.8)	148.8 (-32.6)	34.4 (+9.7)	109.8 (-44.4)	161.8 (-65.9)	114.6 (-39.7)	105.4 (-36.6)	112.6 (-37.0)
prednisone	91.8 (-4.7)	95.5 (+3.2)	96.0 (-8.9)	95.4 (+13.6)	143.1 (-61.6)	102.6 (-9.5)	100.8 (+9.0)	90.7 (+14.8)	92.8 (+5.7)	92.7 (-17.4)	97.1 (-8.6)	95.5 (+0.1)	97.7 (-3.4)	98.1 (-1.2)	99.2 (+4.5)
buprenorphine	89.5 (-40.3)	105.0 (-43.7)	109.7 (-10.2)	58.0 (-13.0)	5.0 (-1.9)	40.1 (+35.1)	7.5 (-1.1)	117.7 (-45.3)	108.1 (-47.9)	61.6 (-7.2)	74.3 (-35.3)	128.2 (-64.4)	80.0 (-29.2)	70.2 (-32.8)	64.3 (-28.6)
ibutamoren	71.6 (-19.0)	85.0 (-18.5)	110.0 (-18.0)	56.2 (-17.0)	3.4 (-0.9)	56.9 (-7.6)	9.5 (-0.1)	95.2 (-12.2)	83.6 (-12.7)	40.1 (-3.6)	49.7 (-7.8)	76.2 (-22.5)	46.1 (-7.0)	43.8 (-9.7)	42.7 (-8.2)
betamethasone	98.4 (-6.1)	100.6 (-3.9)	103.3 (-13.4)	88.1 (-12.7)	85.1 (-26.3)	95.9 (-5.3)	22.9 (-4.8)	94.2 (+9.0)	95.6 (+4.2)	89.0 (+15.2)	92.6 (-8.5)	94.6 (-5.4)	93.5 (+2.4)	93.0 (+1.0)	88.4 (+4.3)
furosemide	80.6 (+8.2)	83.3 (+11.0)	88.2 (-0.5)	69.2 (+31.3)	77.9 (+13.0)	98.4 (-10.3)	2.2 (+0.5)	74.2 (+26.9)	83.1 (+15.9)	76.4 (+23.3)	100.5 (-8.4)	90.4 (+0.1)	100.9 (+4.3)	103.6 (+10.0)	102.6 (+10.4)
nebivolol	36.8 (-11.2)	39.0 (-8.3)	48.5 (+297.8)	18.9 (+1.0)	3.3 (-0.3)	26.0 (+92.7)	0.5 (+1.6)	59.9 (-12.1)	44.6 (-7.6)	7.1 (+7.0)	24.0 (-4.3)	27.2 (-3.1)	24.4 (+9.2)	33.8 (-8.4)	21.2 (-3.6)
alprazolam	87.2 (-2.6)	90.1 (+3.0)	91.5 (-10.8)	85.3 (+6.0)	50.1 (-3.7)	88.9 (-5.6)	22.3 (-2.1)	83.5 (+16.0)	85.1 (+6.8)	74.5 (+14.3)	94.1 (-9.3)	93.1 (-5.6)	89.6 (+2.4)	93.7 (-0.7)	91.3 (+5.6)
anastrozole	97.3 (-7.2)	100.7 (-3.2)	99.5 (-13.0)	96.8 (+9.9)	98.2 (-14.7)	100.4 (-12.9)	19.0 (+0.7)	99.8 (+9.6)	97.2 (+2.4)	93.3 (+5.3)	101.8 (-10.7)	100.5 (-3.9)	100.3 (-0.7)	102.0 (-1.9)	100.2 (-3.5)
stanazolol	60.0 (-6.2)	64.8 (-0.6)	77.4 (+20.7)	13.9 (+9.6)	7.5 (+1.0)	66.6 (+41.9)	1.2 (+0.5)	77.6 (-6.1)	52.8 (-0.6)	24.8 (+7.8)	22.8 (-1.6)	39.5 (-0.6)	29.0 (+0.9)	37.0 (-0.9)	28.9 (+4.5)
methadone	147.1 (-55.9)	161.6 (-51.8)	163.1 (+566.8)	69.6 (-18.5)	3.5 (+1.0)	40.6 (+1048.2)	10.2 (-1.0)	157.9 (-50.8)	135.4 (-36.1)	32.2 (-4.8)	77.7 (-33.9)	122.3 (-66.8)	76.1 (-25.7)	69.8 (-27.2)	69.3 (-28.5)
boldenone	84.4 (+3.0)	86.7 (+6.5)	90.1 (-5.4)	75.6 (+29.3)	72.0 (+0.1)	91.4 (-5.6)	7.8 (-6.3)	79.8 (+30.1)	84.9 (+8.2)	74.1 (+29.9)	90.8 (-7.7)	92.8 (-4.9)	90.3 (+2.9)	90.7 (-1.1)	87.8 (+5.2)
clonazepam	90.0 (-1.9)	93.5 (+2.8)	95.5 (-6.8)	71.7 (+22.5)	72.6 (+0.2)	93.3 (-8.8)	3.4 (+1.2)	89.8 (+20.7)	90.0 (+6.9)	78.5 (+16.5)	93.7 (-8.5)	93.9 (-5.7)	92.0 (+1.9)	94.3 (-1.8)	91.9 (+3.5)
nandrolone	101.0 (-12.4)	103.9 (-9.4)	100.3 (-15.1)	84.5 (+27.6)	87.5 (-12.0)	87.7 (-11.6)	11.1 (+1.4)	104.7 (+18.3)	96.1 (-3.7)	91.7 (+8.3)	82.0 (-8.9)	108.1 (+4.1)	83.2 (-0.1)	87.5 (-2.6)	85.5 (+1.1)
methandienone	88.4 (+4.6)	89.4 (+6.9)	91.7 (-8.3)	77.3 (-22.2)	76.6 (-9.8)	88.0 (-6.7)	10.7 (+1.4)	72.4 (+57.0)	85.6 (+5.4)	73.9 (+20.8)	85.1 (-7.8)	89.5 (-4.4)	88.7 (+2.0)	88.9 (-3.6)	86.7 (+3.9)
flunitrazepam	88.0 (+0.2)	98.6 (-0.7)	104.9 (-20.6)	77.1 (-24.4)	83.1 (-8.4)	94.2 (-8.6)	4.1 (+1.4)	69.2 (+55.6)	92.8 (-4.9)	73.4 (19.5)	93.5 (-9.1)	93.6 (-4.4)	98.0 (+2.0)	96.9 (-3.3)	95.3 (+2.5)
canrenone	61.1 (+31.4)	71.2 (+36.8)	86.0 (+9.0)	70.4 (+13.0)	43.0 (+17.7)	84.8 (+4.6)	1.4 (+0.2)	67.4 (+46.4)	60.2 (+46.9)	56.4 (+12.9)	83.4 (-8.5)	81.5 (-4.1)	77.3 (-1.5)	81.3 (-1.7)	76.0 (+7.0)
THC-COOH	23.6 (-2.5)	27.9 (-2.3)	67.3 (-5.7)	7.3 (+1.4)	10.7 (-0.7)	80.4 (+8.7)	0.4 (+0.0)	28.0 (+32.3)	22.4 (+5.1)	25.3 (+5.1)	57.7 (-2.2)	59.6 (+2.9)	55.1 (+0.5)	64.2 (-1.8)	69.2 (+40.6)
THC	3.6 (-2.0)	4.7 (-2.4)	5.2 (+42.0)	5.7 (+1.4)	0.8 (-0.4)	9.2 (+12.0)	0.4 (-0.1)								

Tab. B5 Drug recoveries [%] from Sarstedt Salivette® swabs – comparison of results recorded from spiked oral fluid (n=3) and spiked ultrapure water (n=4). Relative standard deviations (RSDs) [%] given in brackets.

substance	spiked oral fluid	spiked ultrapure water
morphine	89.2 (7.4)	99.4 (4.7)
salbutamol	87.1 (23.9)	81.2 (2.8)
terbutaline	85.2 (12.1)	55.0 (1.9)
atenolol	84.2 (23.7)	119.4 (3.6)
fenoterol	65.1 (11.2)	35.0 (5.9)
nikethamide	85.6 (12.1)	69.3 (1.8)
carteolol	66.3 (6.3)	60.1 (4.3)
oxycodone	63.7 (4.6)	79.2 (2.8)
amphetamine	78.8 (4.6)	71.8 (5.7)
chlorothiazide	108.1 (30.7)	120.8 (2.7)
hydrocodone	66.9 (7.5)	90.6 (2.8)
methamphetamine	74.1 (6.1)	110.3 (3.5)
methylhexanamine	91.7 (14.7)	94.0 (3.8)
MDMA	70.5 (2.6)	71.9 (5.6)
strychnine	63.2 (13.0)	65.3 (8.0)
ketamine	73.7 (9.6)	53.3 (4.0)
metoprolol	68.5 (4.1)	66.9 (5.4)
clenbuterol	69.3 (6.9)	55.6 (6.4)
heroin	77.1 (9.0)	100.0 (3.2)
zolpidem	66.8 (6.6)	30.7 (9.1)
cocaine	72.1 (5.4)	108.1 (9.3)
LSD	54.3 (10.5)	19.3 (18.4)
propranolol	61.9 (7.9)	48.9 (11.1)
prednisolone	94.7 (5.3)	84.4 (4.4)
fentanyl	87.4 (8.8)	76.1 (6.7)
prednisone	94.5 (5.6)	95.4 (1.1)
buprenorphine	84.4 (7.8)	58.0 (6.7)
ibutamoren	82.2 (13.0)	56.2 (9.8)
betamethasone	80.4 (21.7)	88.1 (3.4)
furosemide	74.4 (21.6)	69.2 (4.5)
nebivolol	14.3 (29.6)	18.9 (10.1)
alprazolam	85.7 (4.0)	85.3 (4.6)
anastrozole	91.5 (12.0)	96.8 (7.0)
stanozolol	25.7 (25.3)	13.9 (9.0)
methadone	88.8 (8.9)	69.6 (4.2)
boldenone	90.3 (7.9)	75.6 (5.5)
clonazepam	82.4 (7.4)	71.7 (4.0)
nandrolone	84.7 (10.3)	84.5 (3.2)
methandienone	95.8 (6.8)	77.3 (5.1)
flunitrazepam	87.0 (6.6)	77.1 (3.7)
canrenone	88.2 (8.7)	70.4 (3.2)
THC-COOH	64.6 (13.4)	7.3 (6.8)
THC	16.4 (18.7)	5.7 (33.8)