LABQUALITY

External Quality Assessment Scheme

Therapeutic drugs, Round 1, 2023

Specimens
Please find enclosed two liquid human serum samples S001 and S002, each 5mL. The drug levels in the samples have been adjusted.

Caution
Quality control specimens derived from human blood must be handled with the same care as patient samples, i.e. as potential transmitters of serious diseases. The specimens are found to be HBsAg, HCVAb and HIVAgAb negative when tested with licensed reagents, but no known test method can offer complete assurance that the specimens will not transmit these or other infectious diseases.

Examinations
Please see page 2.

Storage and use
Samples S001 and S002 are ready to use. Unopened bottle is stored in the refrigerator (+2…+8 °C) in which is stable until the closing date of the round. Mix the sample to ensure its homogeneity by rotating the flask and check the solubility. Do not return the sample material back to the original bottle.

Cyclosporin may adsorb to hydrophobic surfaces. Use glassware to transfer samples.

Result reporting
Please enter the results and methods via LabScala (www.labscala.com). If you cannot find your instrument or reagent from the registry, please contact the EQA Coordinator.

S001

S002

2023-03-14

INSTRUCTIONS

Product no. 2410
LQ751023011-012/DE

If the kit is incomplete or contains damaged specimens, please report immediately to info@labquality.fi

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The results should be reported no later than **April 11, 2023**.

Inquiries
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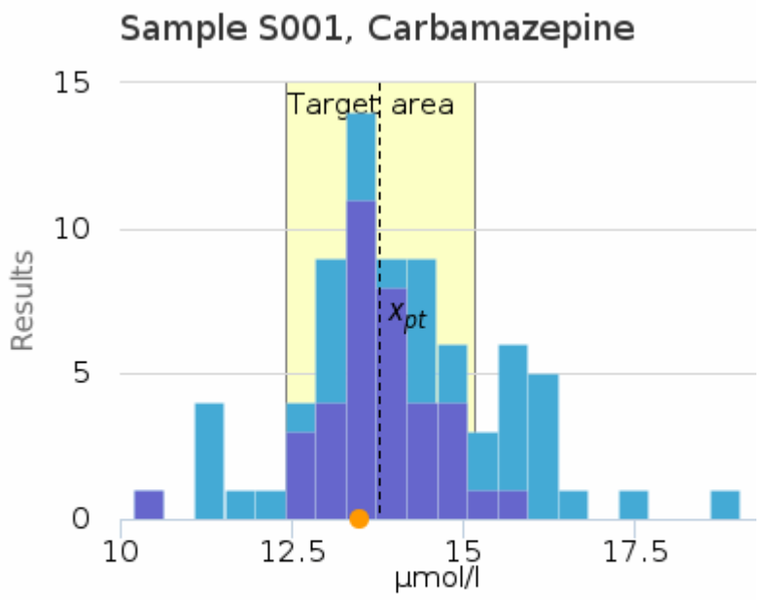
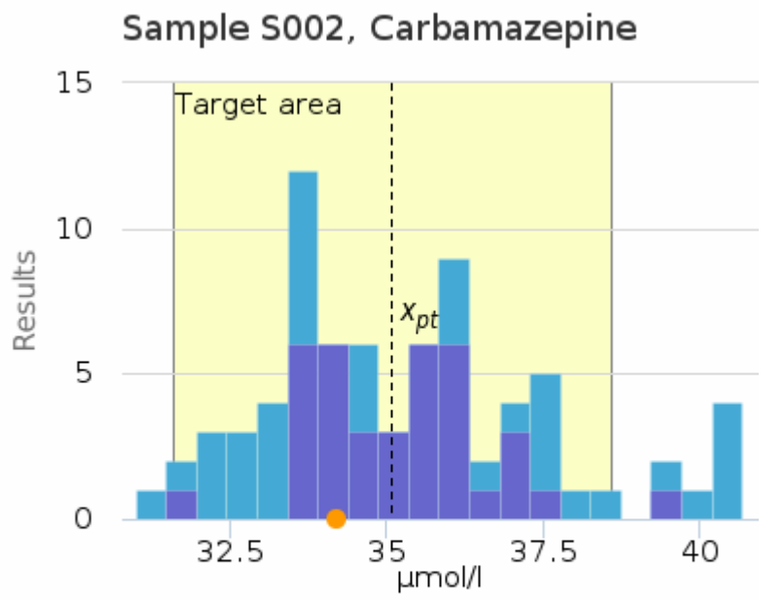
FINAS
Finnish Accreditation Service
PT02 (EN ISO/IEC 17043)

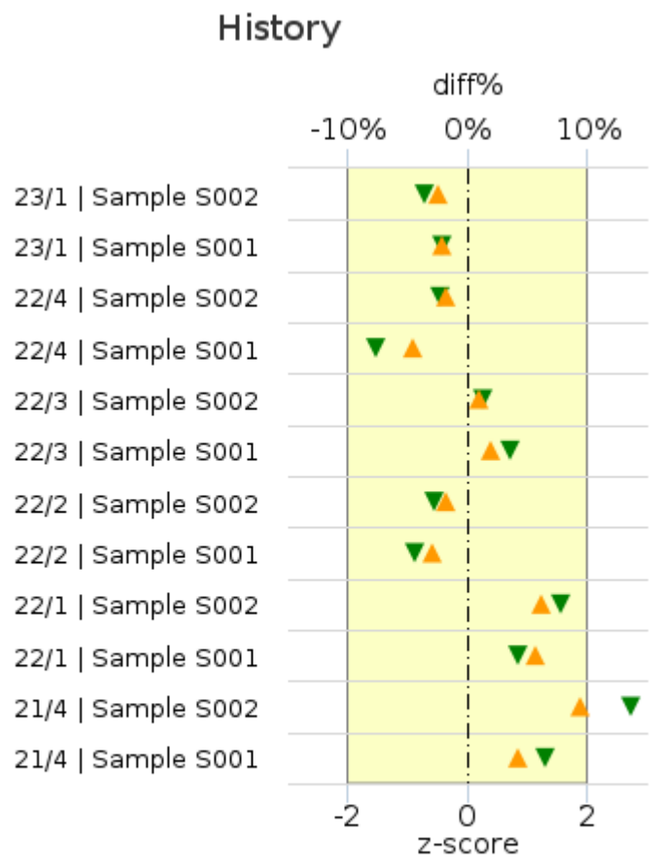
Quality Management
ISO 9001:2015

Examinations
N-Acetylprocainamide
Amikacin
Amitriptyline
Carbamazepine
Carbamazepine, free
Cyclosporine
Digoxin
Disopyramide
Ethosuximide
Flecainide
Gentamicin
Lidocaine
Lithium
Methotrexate
Netilmicin
Nortriptylin
Paracetamol
Phenobarbital
Phenytoin
Phenytoin, free
Primidone
Procainamide
Quinidine
Salicylate
Theophylline
Tobramycin
Tricyclics
Valproic acid
Valproic acid, free
Vancomycin

Carbamazepine |001





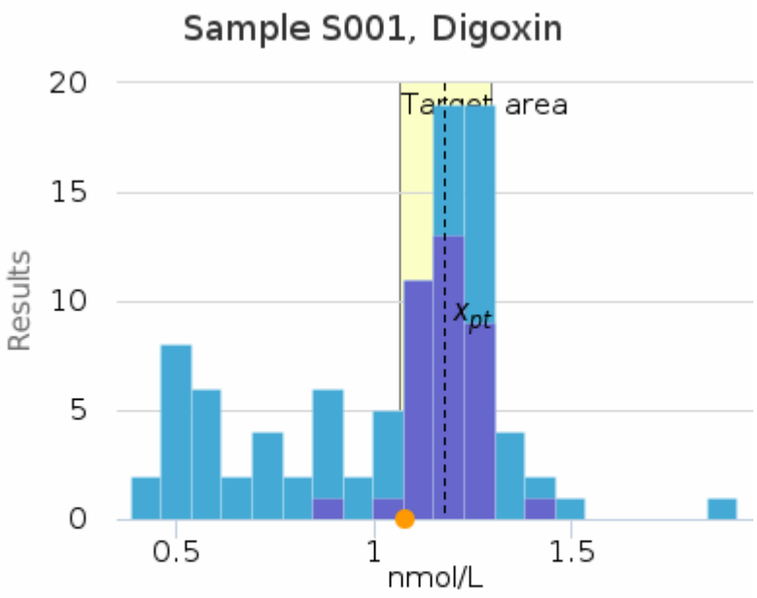


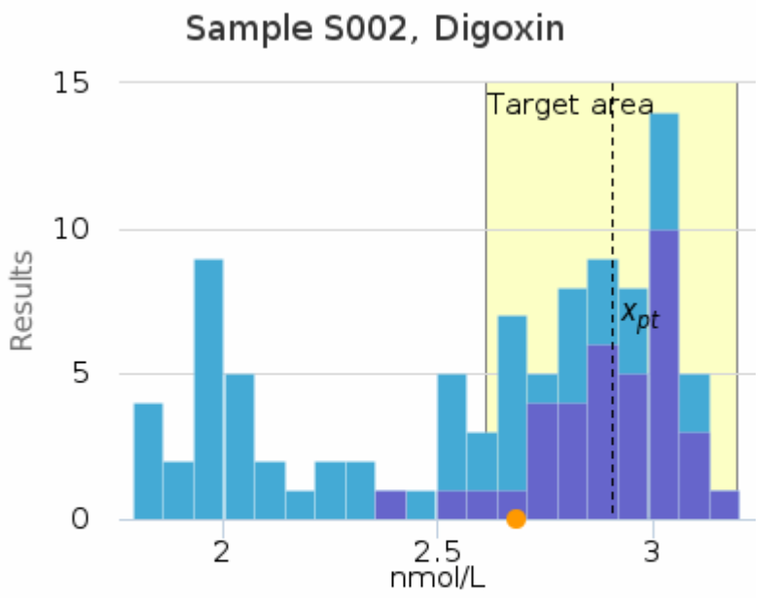
	x_{pt}	sd	SEM	CV%	n
Roche cobas c	13.8 µmol/l	0.7	0.1	5.3	37
All methods	14.0 µmol/l	1.4	0.2	9.8	75

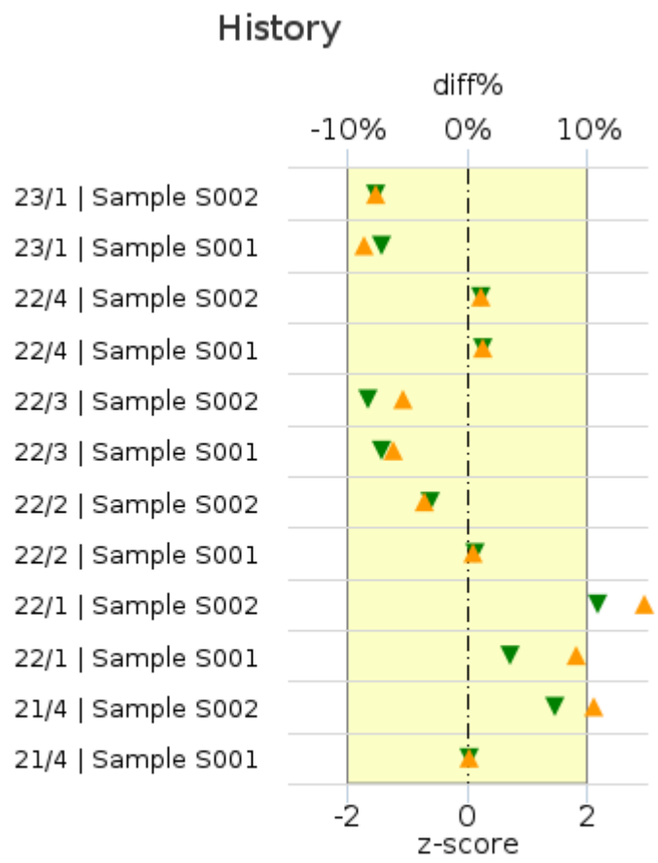
	x_{pt}	sd	SEM	CV%	n
Roche cobas c	35.1 µmol/l	1.2	0.2	3.5	37
All methods	35.3 µmol/l	2.3	0.3	6.4	75

Round	Sample	x_{pt}	Result	diff%	z-score
23/1	Sample S002	35.1	34.2	-2.5%	-0.72
23/1	Sample S001	13.8	13.5	-2.1%	-0.41
22/4	Sample S002	41.1	40.4	-1.8%	-0.47
22/4	Sample S001	69.2	66.0	-4.6%	-1.54
22/3	Sample S002	41.5	41.9	1.0%	0.27
22/3	Sample S001	13.4	13.6	1.9%	0.70
22/2	Sample S002	68.6	67.4	-1.8%	-0.56
22/2	Sample S001	36.1	35.0	-2.9%	-0.89
22/1	Sample S002	40.9	43.4	6.2%	1.56
22/1	Sample S001	14.3	15.1	5.7%	0.85
21/4	Sample S002	41.1	44.9	9.4%	2.72
21/4	Sample S001	70.1	73.0	4.2%	1.30

Digoxin |001







All method groups Roche Elecsys/cobas e
Own result: 1.08 (04.04.2023)
Diff%: -8.62 | x_{pt}: 1.18
Target area: 1.06-1.30 | Target: ±10%

	x_{pt}	sd	SEM	CV%	n
Roche Elecsys/cobas e	1.18 nmol/L	0.07	0.01	6.1	36
All methods	1.03 nmol/L	0.30	0.03	29.2	94

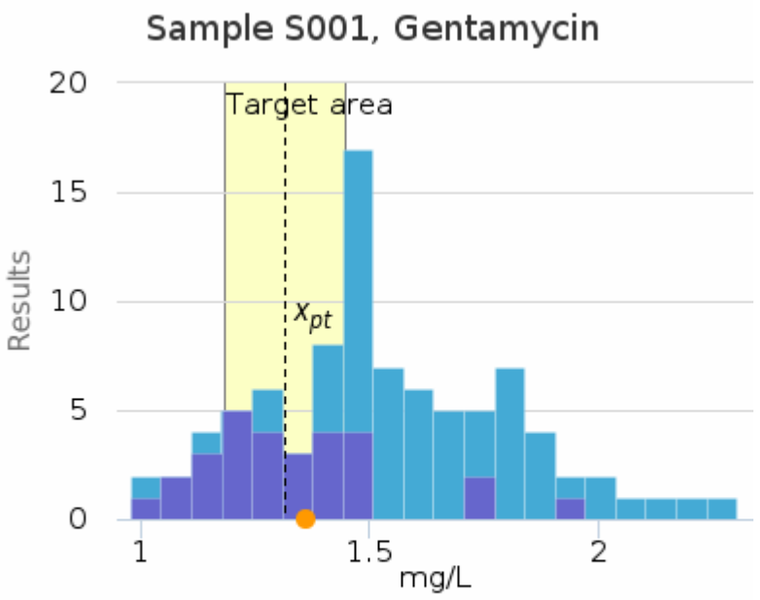
All method groups Roche Elecsys/cobas e
Own result: 2.68 (04.04.2023)
Diff%: -7.71 | x_{pt}: 2.90
Target area: 2.61-3.19 | Target: ±10%

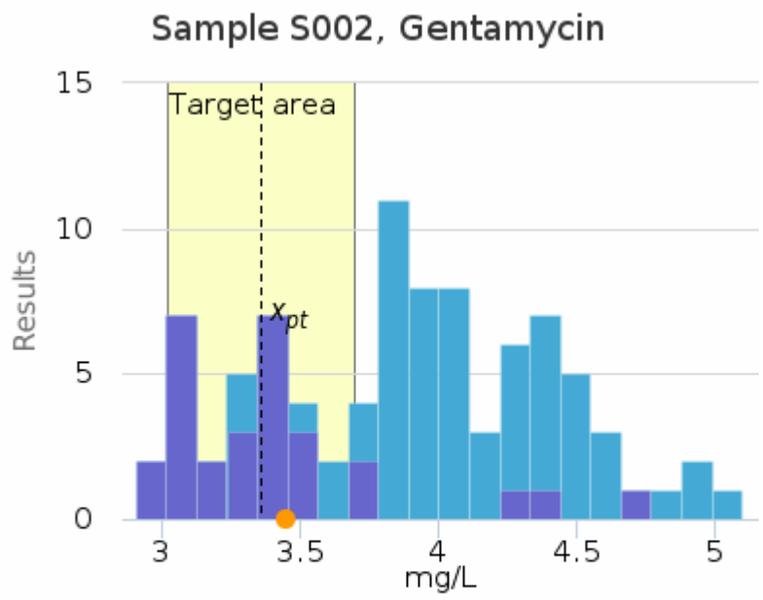
	x_{pt}	sd	SEM	CV%	n
Roche Elecsys/cobas e	2.90 nmol/L	0.15	0.02	5.0	37
All methods	2.60 nmol/L	0.41	0.04	15.8	94

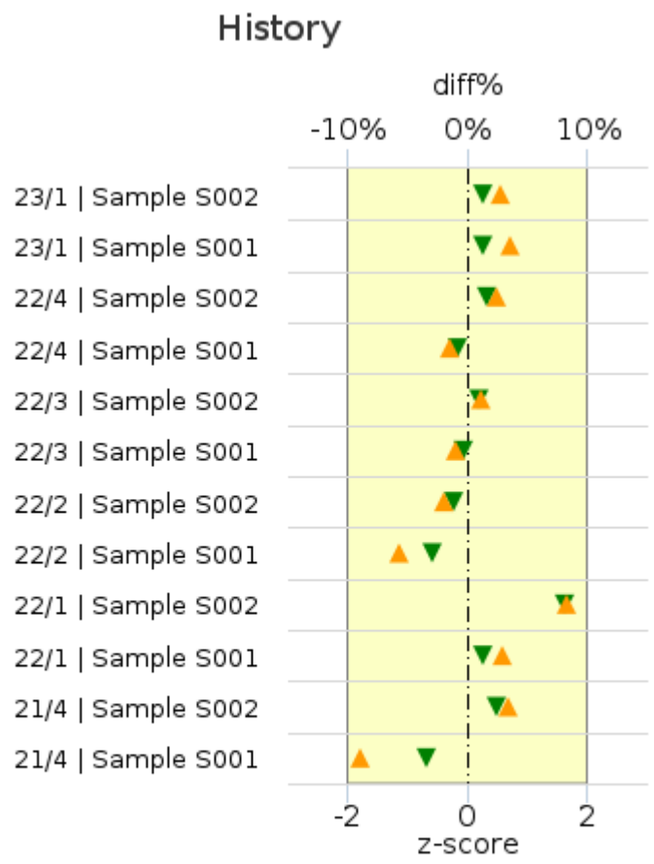
diff%
z-score

Round	Sample	x_{pt}	Result	diff%	z-score
23/1	Sample S002	2.90	2.68	-7.71%	-1.53
23/1	Sample S001	1.18	1.08	-8.62%	-1.42
22/4	Sample S002	1.79	1.81	1.22%	0.24
22/4	Sample S001	5.81	5.89	1.30%	0.25
22/3	Sample S002	1.79	1.70	-5.29%	-1.65
22/3	Sample S001	1.20	1.13	-6.12%	-1.42
22/2	Sample S002	5.19	5.00	-3.57%	-0.62
22/2	Sample S001	2.97	2.99	0.50%	0.12
22/1	Sample S002	1.79	2.05	14.66%	2.17
22/1	Sample S001	0.68	0.74	9.09%	0.70
21/4	Sample S002	1.76	1.94	10.49%	1.47
21/4	Sample S001	5.71	5.72	0.14%	0.02

Gentamycin |001





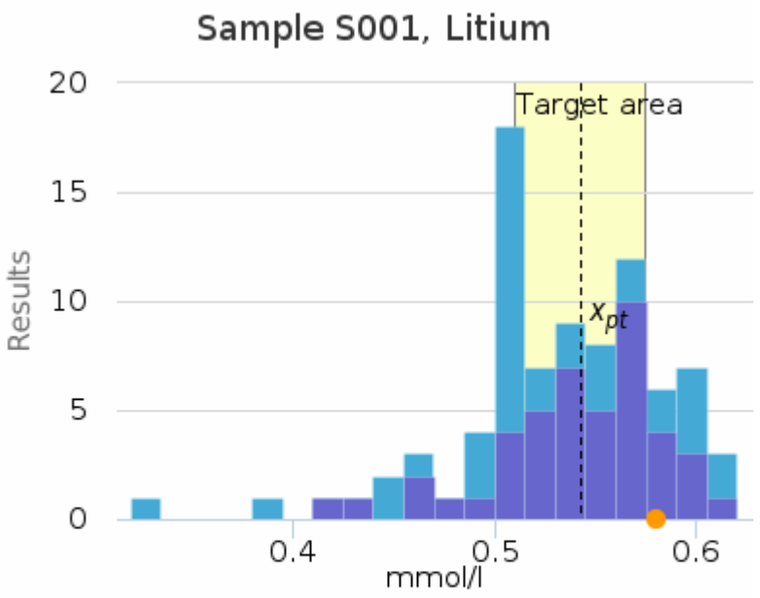


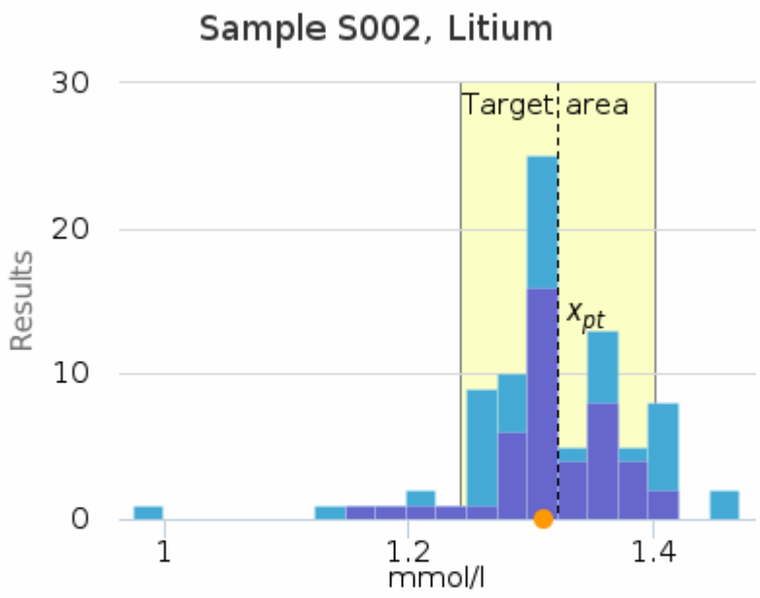
	x_{pt}	sd	SEM	CV%	n
Roche cobas c	1.31 mg/L	0.18	0.03	13.6	29
All methods	1.54 mg/L	0.27	0.03	17.7	89

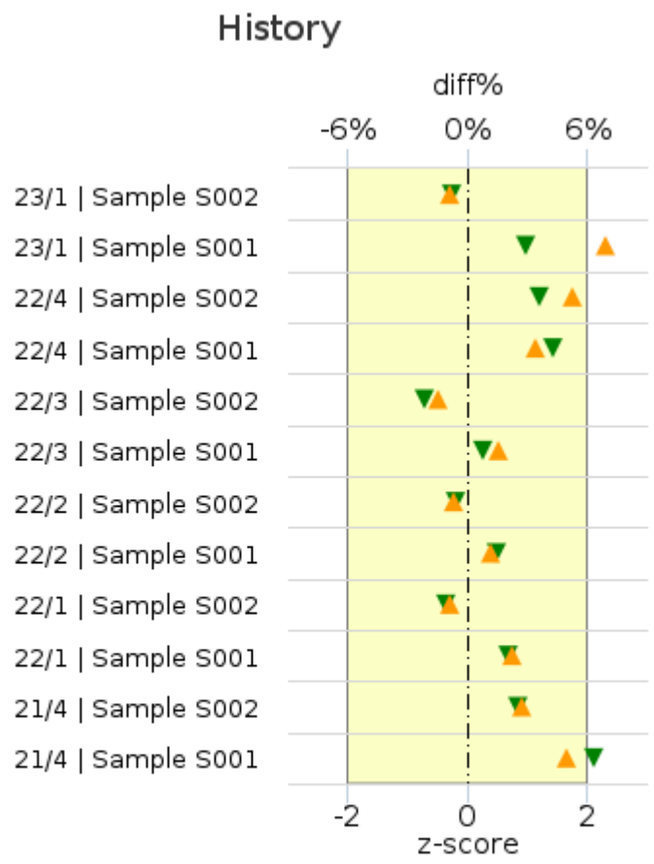
	x_{pt}	sd	SEM	CV%	n
Roche cobas c	3.36 mg/L	0.34	0.06	10.2	29
All methods	3.89 mg/L	0.52	0.05	13.3	89

Round	Sample	x_{pt}	Result	diff%	z-score
23/1	Sample S002	3.36	3.45	2.69%	0.26
23/1	Sample S001	1.31	1.36	3.48%	0.26
22/4	Sample S002	4.40	4.51	2.44%	0.31
22/4	Sample S001	6.30	6.21	-1.48%	-0.16
22/3	Sample S002	4.40	4.45	1.11%	0.21
22/3	Sample S001	1.29	1.28	-0.98%	-0.06
22/2	Sample S002	7.70	7.56	-1.86%	-0.24
22/2	Sample S001	3.23	3.04	-5.74%	-0.60
22/1	Sample S002	4.51	4.88	8.31%	1.63
22/1	Sample S001	2.22	2.28	2.86%	0.26
21/4	Sample S002	4.55	4.70	3.36%	0.49
21/4	Sample S001	6.47	5.89	-9.03%	-0.68

Litium |001







All method groups Roche cobas c
Own result: 0.58 (04.04.2023)
Diff%: 6.93 | x_{pt}: 0.54
Target area: 0.51-0.57 | Target: ±6%

All method groups Roche cobas c
Own result: 1.31 (04.04.2023)
Diff%: -0.88 | x_{pt}: 1.32
Target area: 1.24-1.40 | Target: ±6%

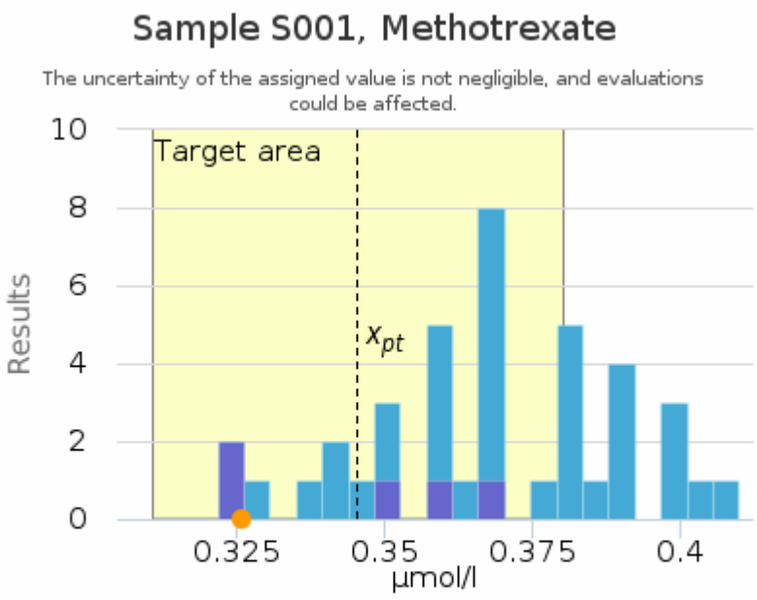
diff%
z-score

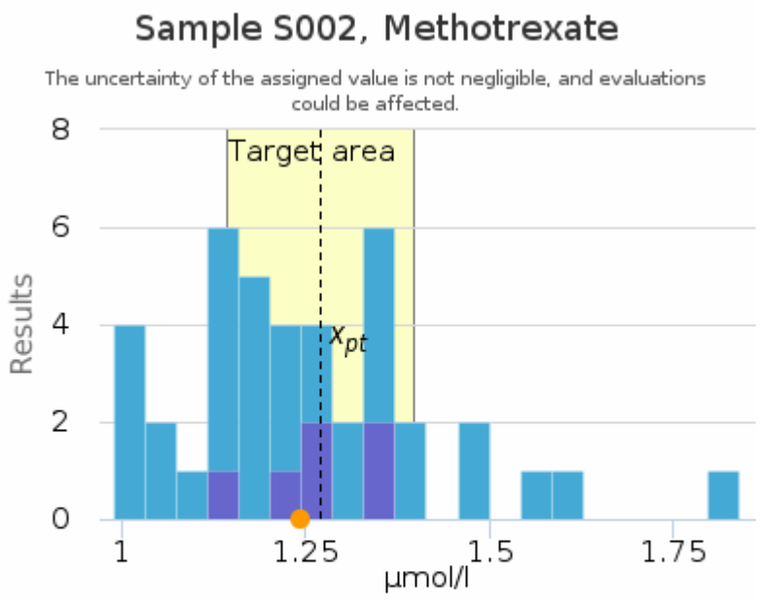
	x_{pt}	sd	SEM	CV%	n
Roche cobas c	0.54 mmol/l	0.04	<0.01	7.1	45
All methods	0.53 mmol/l	0.05	<0.01	8.7	84

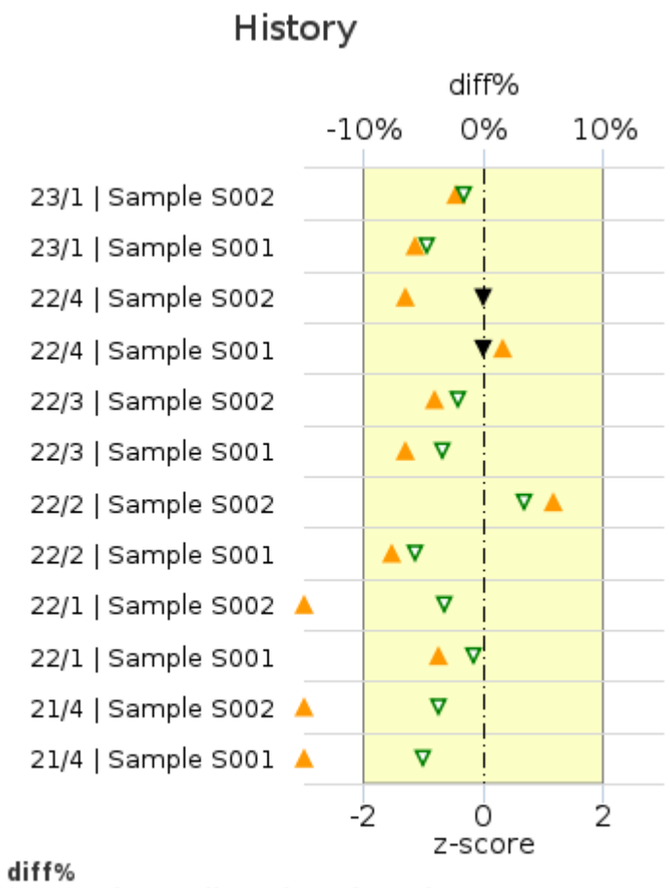
	x_{pt}	sd	SEM	CV%	n
Roche cobas c	1.32 mmol/l	0.05	<0.01	3.5	45
All methods	1.32 mmol/l	0.06	<0.01	4.6	84

Round	Sample	x_{pt}	Result	diff%	z-score
23/1	Sample S002	1.32	1.31	-0.88%	-0.25
23/1	Sample S001	0.54	0.58	6.93%	0.98
22/4	Sample S002	1.83	1.93	5.27%	1.20
22/4	Sample S001	2.55	2.64	3.37%	1.44
22/3	Sample S002	1.86	1.83	-1.51%	-0.70
22/3	Sample S001	0.55	0.56	1.56%	0.26
22/2	Sample S002	2.96	2.94	-0.70%	-0.18
22/2	Sample S001	1.33	1.35	1.25%	0.50
22/1	Sample S002	1.85	1.83	-0.88%	-0.35
22/1	Sample S001	0.94	0.96	2.16%	0.69
21/4	Sample S002	1.84	1.89	2.72%	0.83
21/4	Sample S001	2.57	2.70	5.03%	2.11

Methotrexate |001







All method groups Siemens SYVA EMIT
Own result: 0.33 (04.04.2023)
Diff%: -5.67 | x_{pt}: 0.35
Target area: 0.31-0.38 | Target: ±10%

All method groups Siemens SYVA EMIT
Own result: 1.24 (04.04.2023)
Diff%: -2.33 | x_{pt}: 1.27
Target area: 1.14-1.40 | Target: ±10%

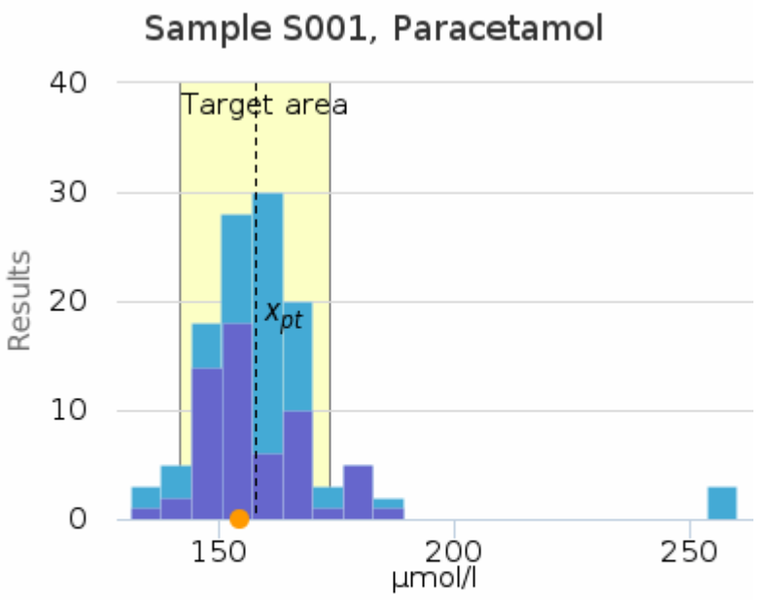
▲ diff%
▼ Due to the small number of results, the z score is not calculated
▽ Z-score is uncertain due to the small number of observations

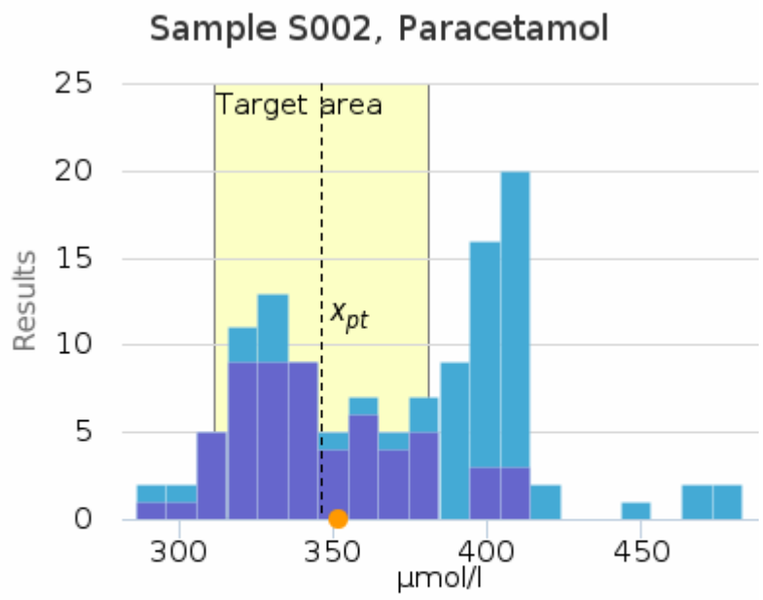
	x_{pt}	sd	SEM	CV%	n
Siemens SYVA EMIT	0.35 µmol/l	0.02	<0.01	6.1	5
All methods	0.37 µmol/l	0.02	<0.01	5.9	40

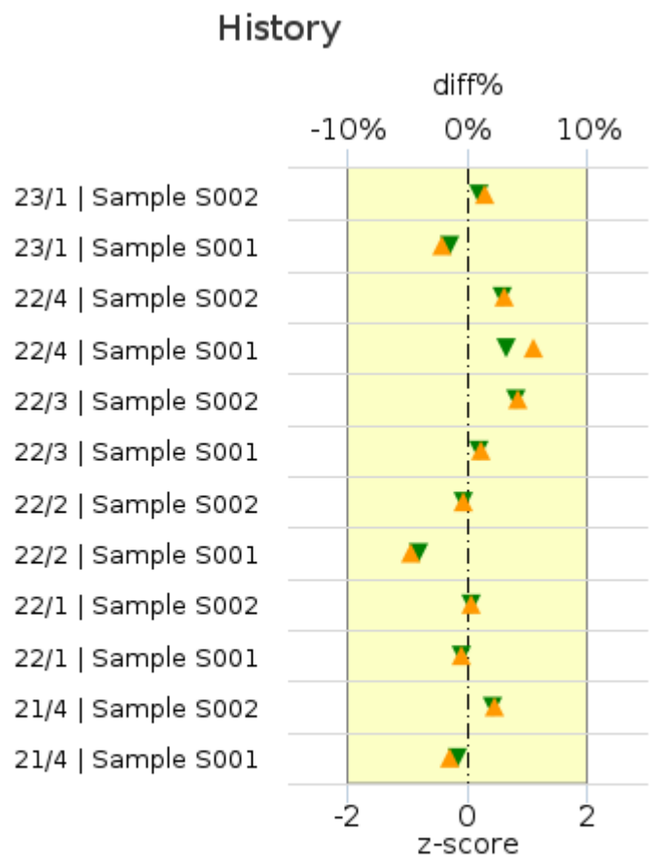
	x_{pt}	sd	SEM	CV%	n
Siemens SYVA EMIT	1.27 µmol/l	0.09	0.04	6.9	6
All methods	1.24 µmol/l	0.15	0.02	12.4	41

Round	Sample	x_{pt}	Result	diff%	z-score
23/1	Sample S002	1.27	1.24	-2.33%	-0.34
23/1	Sample S001	0.35	0.33	-5.67%	-0.93
22/4	Sample S002	1.19	1.11	-6.52%	-
22/4	Sample S001	7.90	8.02	1.56%	-
22/3	Sample S002	1.35	1.30	-4.05%	-0.41
22/3	Sample S001	0.36	0.34	-6.52%	-0.69
22/2	Sample S002	8.92	9.44	5.85%	0.68
22/2	Sample S001	1.18	1.09	-7.72%	-1.15
22/1	Sample S002	1.31	1.08	-16.95%	-0.66
22/1	Sample S001	0.34	0.33	-3.71%	-0.15
21/4	Sample S002	1.29	1.01	-21.59%	-0.74
21/4	Sample S001	7.86	6.66	-15.27%	-0.99

Paracetamol |001





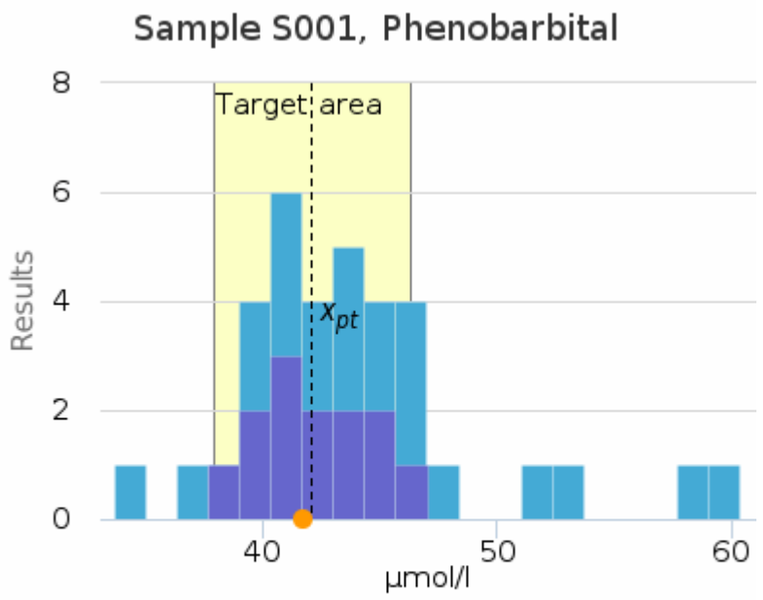


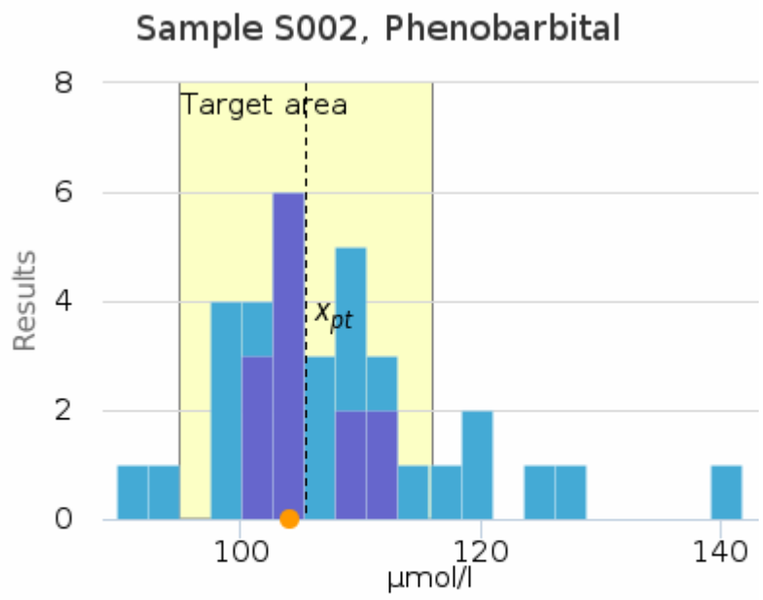
	x_{pt}	sd	SEM	CV%	n
Roche cobas c	157.8 µmol/l	11.4	1.5	7.2	58
All methods	158.0 µmol/l	10.2	1.0	6.5	117

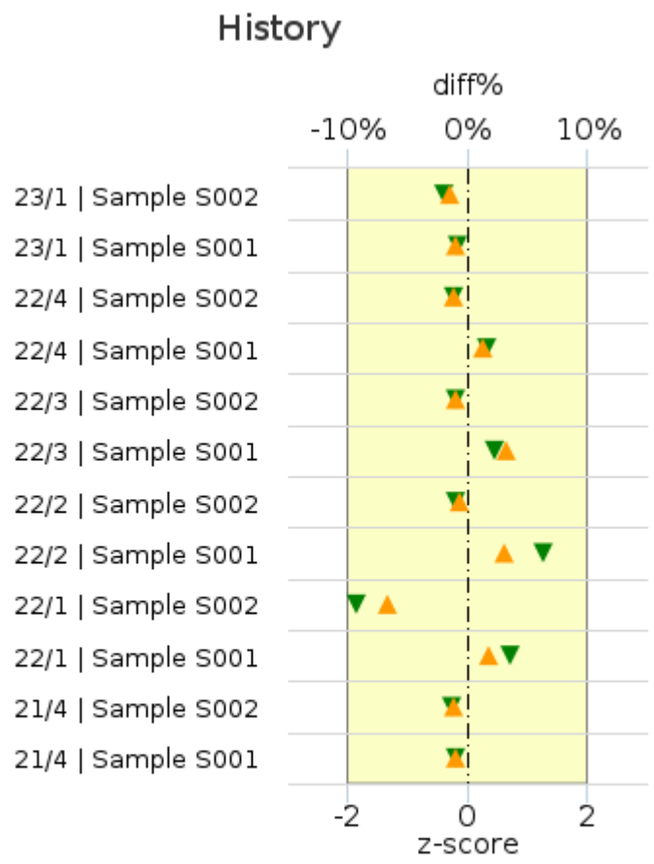
	x_{pt}	sd	SEM	CV%	n
Roche cobas c	346.3 µmol/l	28.9	3.8	8.3	59
All methods	370.0 µmol/l	41.3	3.8	11.2	118

Round	Sample	x_{pt}	Result	diff%	z-score
23/1	Sample S002	346.3	351.5	1.5%	0.18
23/1	Sample S001	157.8	154.5	-2.1%	-0.29
22/4	Sample S002	383.9	395.6	3.1%	0.58
22/4	Sample S001	652.7	688.8	5.5%	0.64
22/3	Sample S002	383.5	399.7	4.2%	0.81
22/3	Sample S001	162.5	164.5	1.2%	0.21
22/2	Sample S002	941.5	937.5	-0.4%	-0.08
22/2	Sample S001	365.2	348.0	-4.7%	-0.81
22/1	Sample S002	386.6	388.1	0.4%	0.08
22/1	Sample S001	167.7	166.8	-0.5%	-0.09
21/4	Sample S002	379.7	388.4	2.3%	0.43
21/4	Sample S001	658.7	649.5	-1.4%	-0.16

Phenobarbital |001





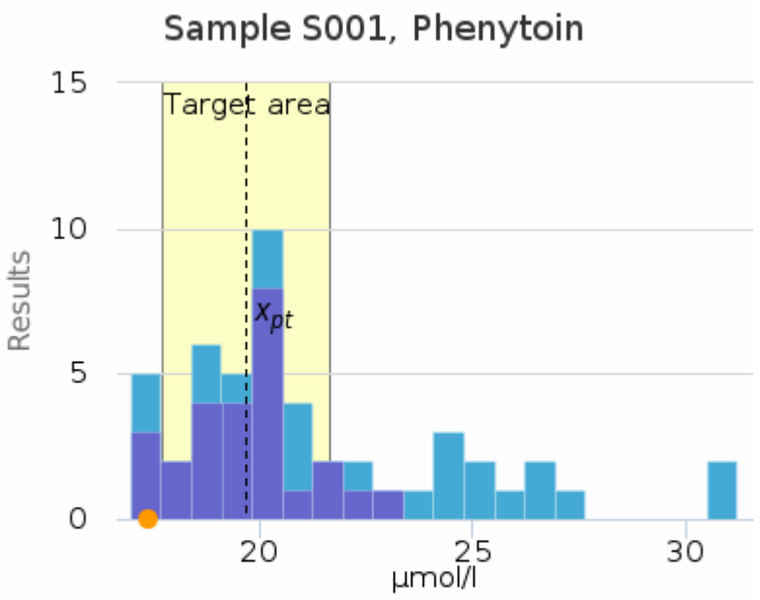


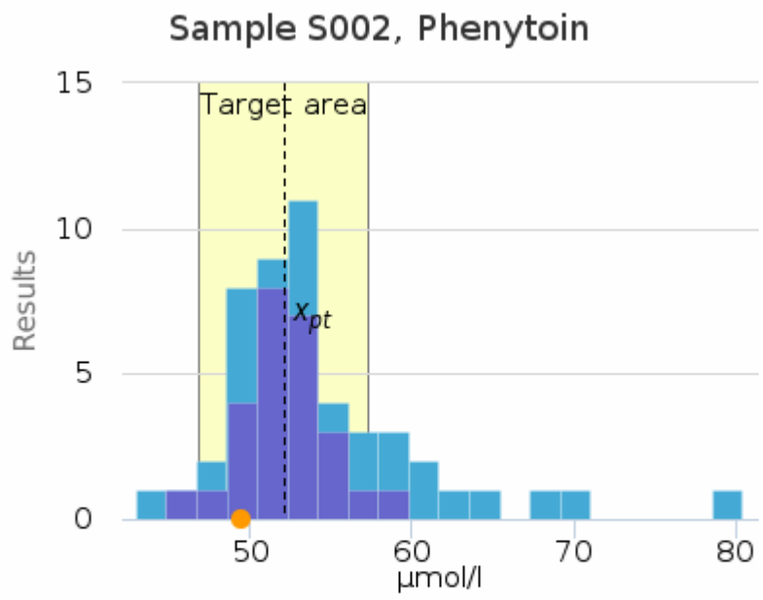
	x_{pt}	sd	SEM	CV%	n
Roche cobas c	42.1 µmol/l	2.5	0.7	6.0	13
All methods	43.4 µmol/l	4.7	0.8	10.7	35

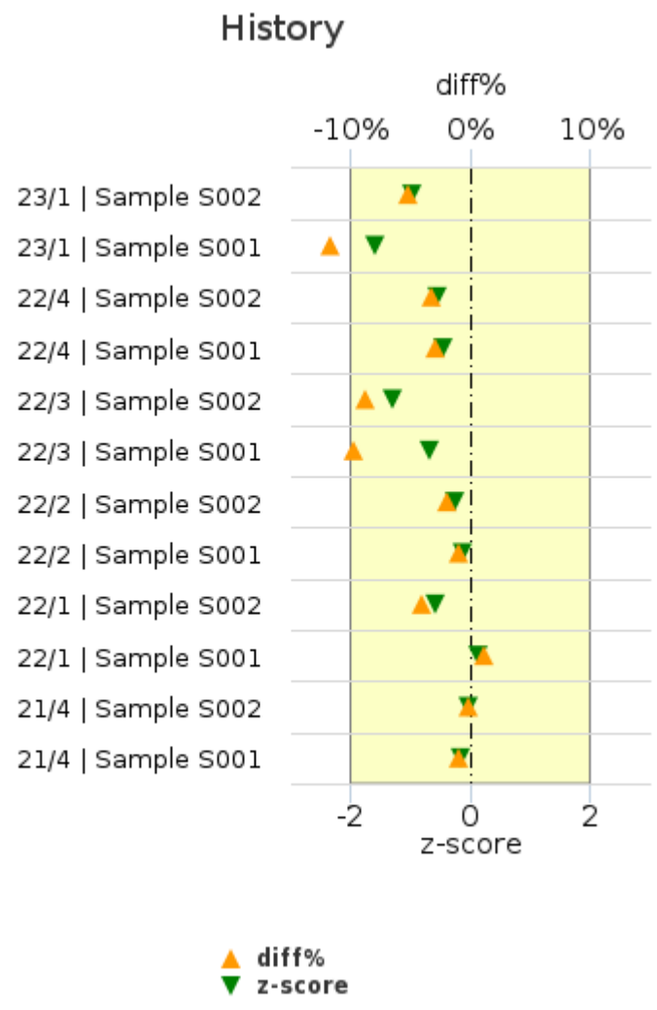
	x_{pt}	sd	SEM	CV%	n
Roche cobas c	105.4 µmol/l	3.7	1.0	3.5	13
All methods	107.0 µmol/l	8.2	1.4	7.6	34

Round	Sample	x_{pt}	Result	diff%	z-score
23/1	Sample S002	105.4	104.0	-1.4%	-0.39
23/1	Sample S001	42.1	41.7	-1.0%	-0.16
22/4	Sample S002	139.5	137.9	-1.1%	-0.24
22/4	Sample S001	204.1	206.8	1.3%	0.31
22/3	Sample S002	139.0	137.7	-0.9%	-0.19
22/3	Sample S001	40.8	42.1	3.3%	0.46
22/2	Sample S002	244.5	243.1	-0.6%	-0.18
22/2	Sample S001	103.1	106.3	3.1%	1.25
22/1	Sample S002	141.9	132.3	-6.7%	-1.84
22/1	Sample S001	48.9	49.8	1.8%	0.72
21/4	Sample S002	142.3	140.5	-1.2%	-0.26
21/4	Sample S001	208.8	206.9	-0.9%	-0.20

Phenytoin |001





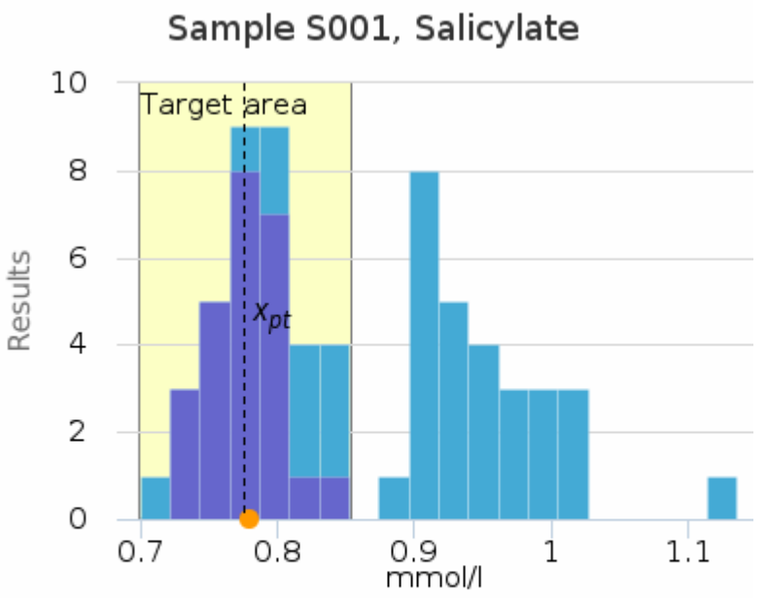


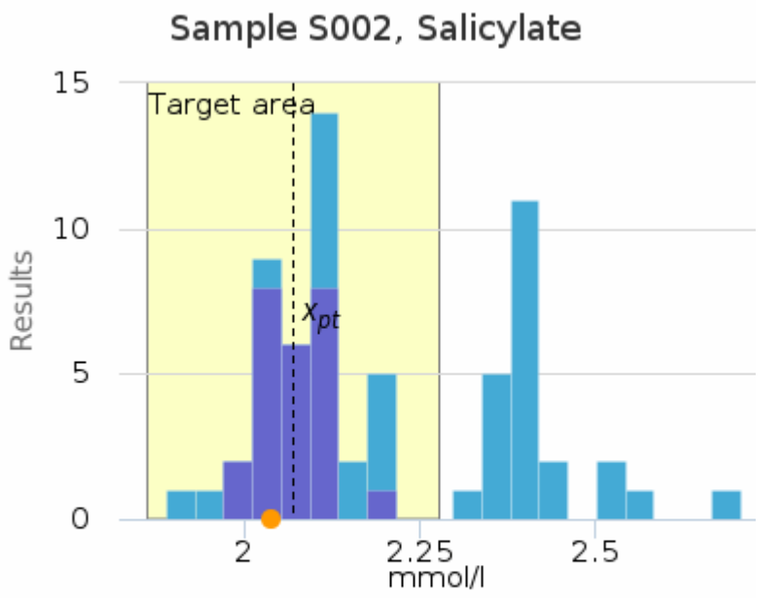
	x_{pt}	sd	SEM	CV%	n
Roche cobas c	19.7 µmol/l	1.4	0.3	7.4	26
All methods	20.9 µmol/l	2.8	0.4	13.2	49

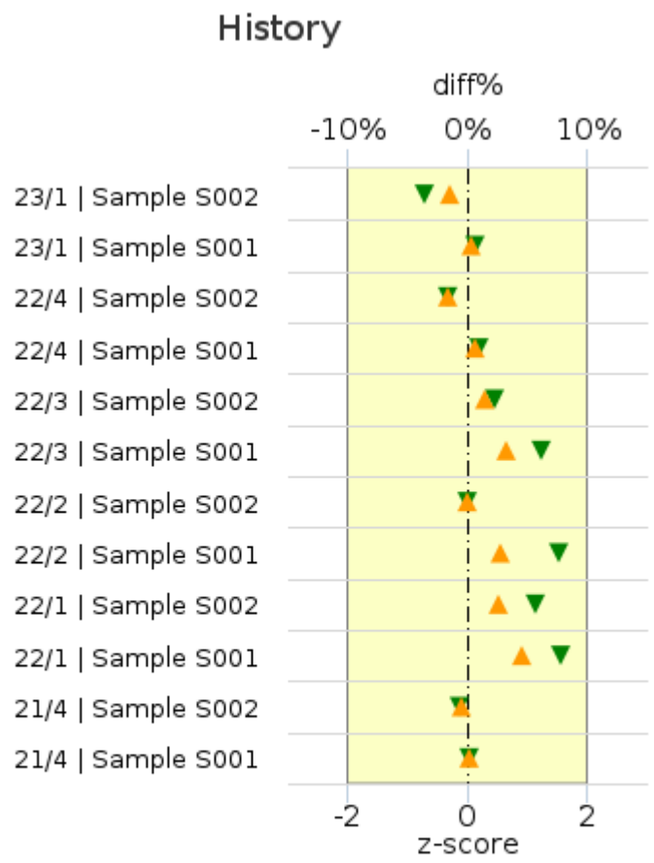
	x_{pt}	sd	SEM	CV%	n
Roche cobas c	52.1 µmol/l	2.8	0.6	5.4	26
All methods	53.9 µmol/l	5.3	0.8	9.9	49

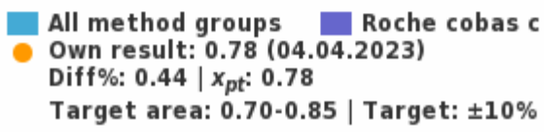
Round	Sample	x_{pt}	Result	diff%	z-score
23/1	Sample S002	52.1	49.4	-5.2%	-0.96
23/1	Sample S001	19.7	17.4	-11.7%	-1.59
22/4	Sample S002	64.4	62.3	-3.3%	-0.56
22/4	Sample S001	106.4	103.4	-2.9%	-0.44
22/3	Sample S002	63.9	58.3	-8.7%	-1.30
22/3	Sample S001	20.4	18.4	-9.8%	-0.69
22/2	Sample S002	133.9	131.4	-1.9%	-0.26
22/2	Sample S001	52.7	52.1	-1.0%	-0.14
22/1	Sample S002	64.0	61.4	-4.1%	-0.59
22/1	Sample S001	18.3	18.5	1.2%	0.12
21/4	Sample S002	63.3	63.2	-0.1%	-0.02
21/4	Sample S001	108.6	107.5	-1.0%	-0.16

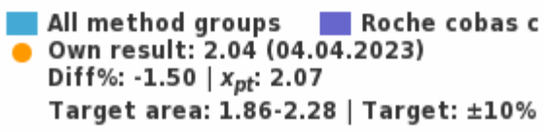
Salicylate |001





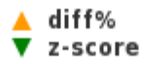






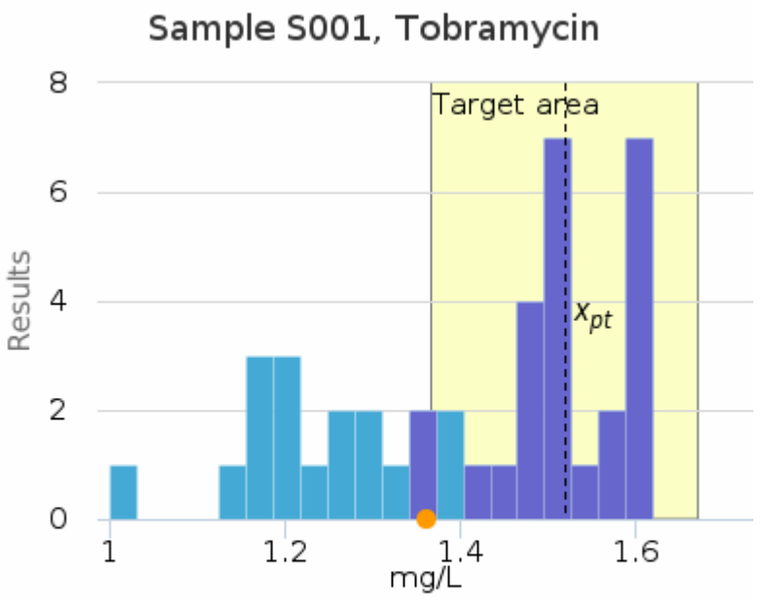
	x_{pt}	sd	SEM	CV%	n
Roche cobas c	0.78 mmol/l	0.02	<0.01	3.2	25
All methods	0.85 mmol/l	0.09	0.01	10.3	63

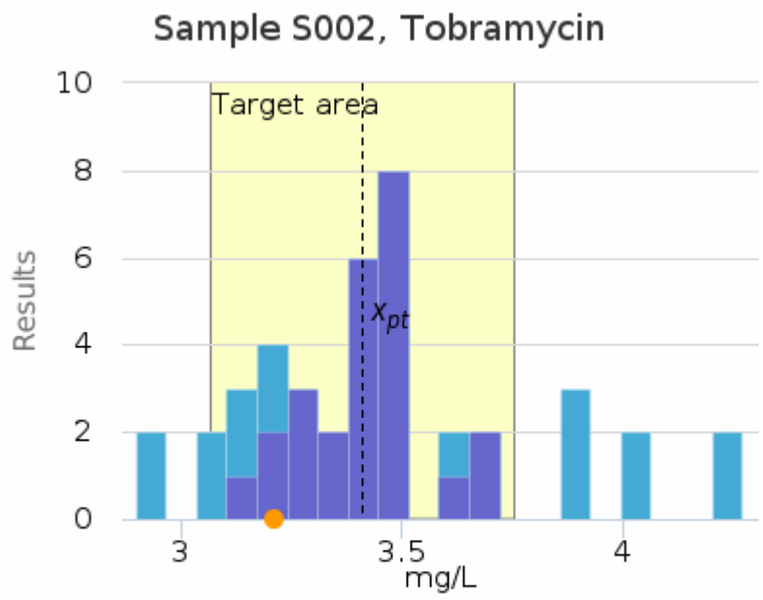
	x_{pt}	sd	SEM	CV%	n
Roche cobas c	2.07 mmol/l	0.04	<0.01	2.1	25
All methods	2.20 mmol/l	0.17	0.02	7.7	63

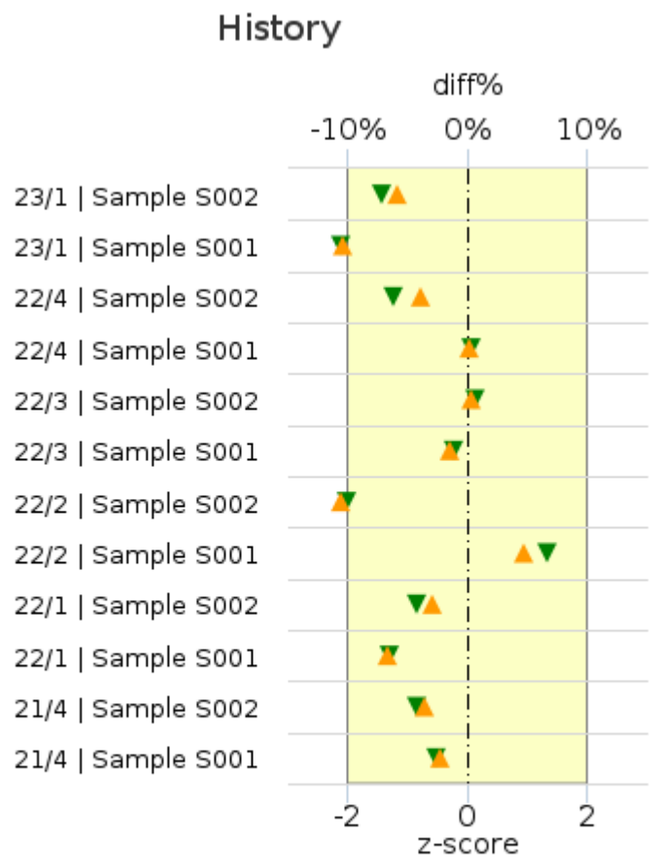


Round	Sample	x_{pt}	Result	diff%	z-score
23/1	Sample S002	2.07	2.04	-1.50%	-0.71
23/1	Sample S001	0.78	0.78	0.44%	0.14
22/4	Sample S002	1.83	1.80	-1.70%	-0.34
22/4	Sample S001	4.28	4.31	0.74%	0.20
22/3	Sample S002	1.82	1.85	1.54%	0.47
22/3	Sample S001	0.78	0.80	3.18%	1.24
22/2	Sample S002	3.93	3.93	0.02%	0.00
22/2	Sample S001	2.04	2.10	2.78%	1.51
22/1	Sample S002	1.82	1.87	2.55%	1.15
22/1	Sample S001	0.51	0.53	4.63%	1.56
21/4	Sample S002	1.82	1.81	-0.47%	-0.14
21/4	Sample S001	4.27	4.27	0.08%	0.02

Tobramycin |001





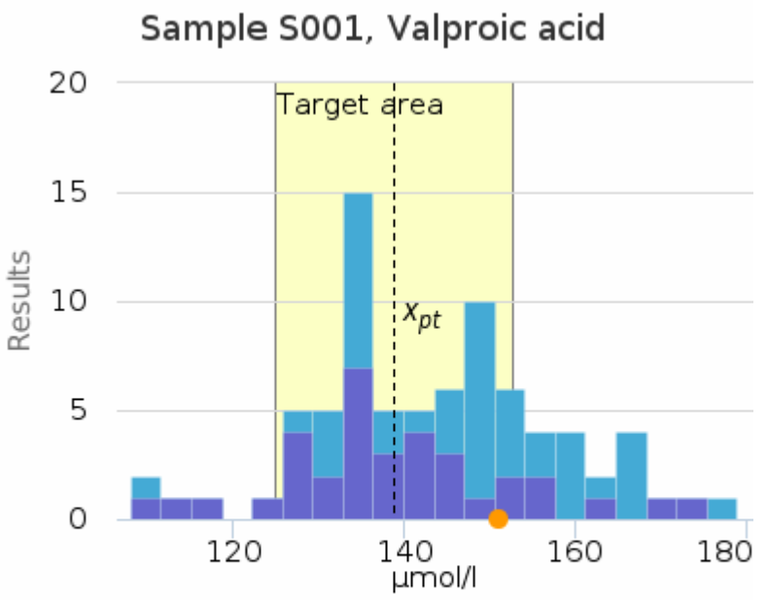


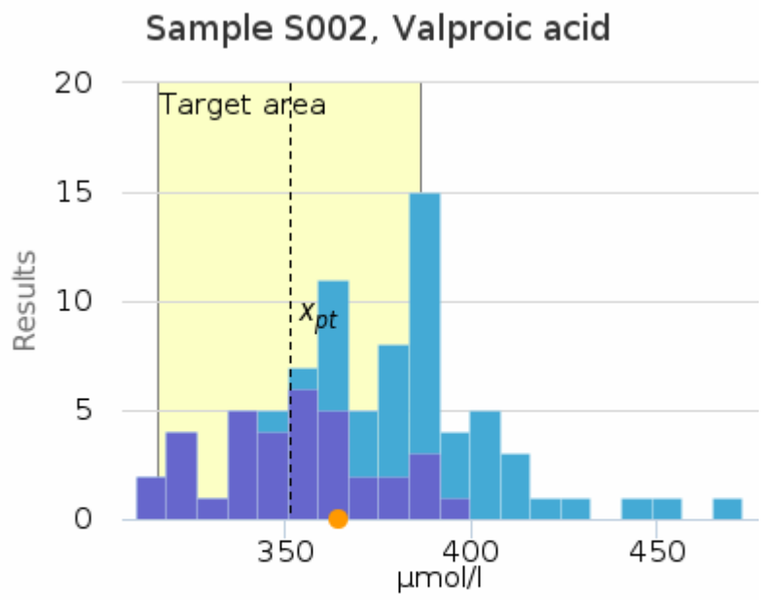
	x_{pt}	sd	SEM	CV%	n
Roche cobas c	1.5 mg/L	<0.1	<0.1	4.9	25
All methods	1.4 mg/L	0.2	<0.1	11.8	41

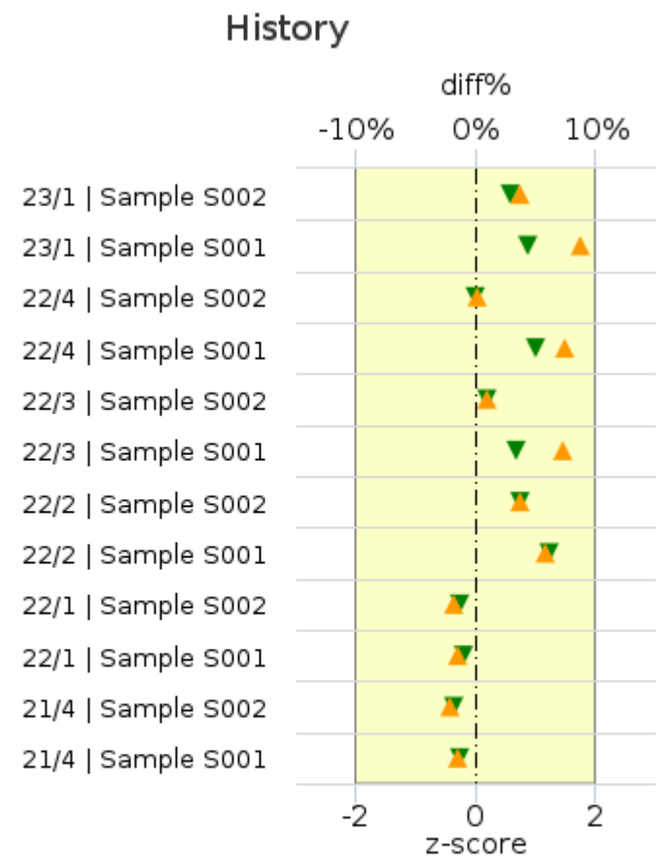
	x_{pt}	sd	SEM	CV%	n
Roche cobas c	3.4 mg/L	0.1	<0.1	4.2	25
All methods	3.5 mg/L	0.3	<0.1	9.5	41

Round	Sample	x_{pt}	Result	diff%	z-score
23/1	Sample S002	3.4	3.2	-5.9%	-1.42
23/1	Sample S001	1.5	1.4	-10.4%	-2.11
22/4	Sample S002	7.0	6.7	-3.9%	-1.22
22/4	Sample S001	6.6	6.6	0.2%	0.08
22/3	Sample S002	7.1	7.1	0.4%	0.12
22/3	Sample S001	1.4	1.4	-1.4%	-0.22
22/2	Sample S002	14.9	13.3	-10.6%	-2.00
22/2	Sample S001	3.4	3.5	4.7%	1.32
22/1	Sample S002	7.1	6.9	-2.9%	-0.85
22/1	Sample S001	2.3	2.2	-6.6%	-1.30
21/4	Sample S002	7.0	6.8	-3.6%	-0.83
21/4	Sample S001	6.9	6.7	-2.2%	-0.51

Valproic acid |001





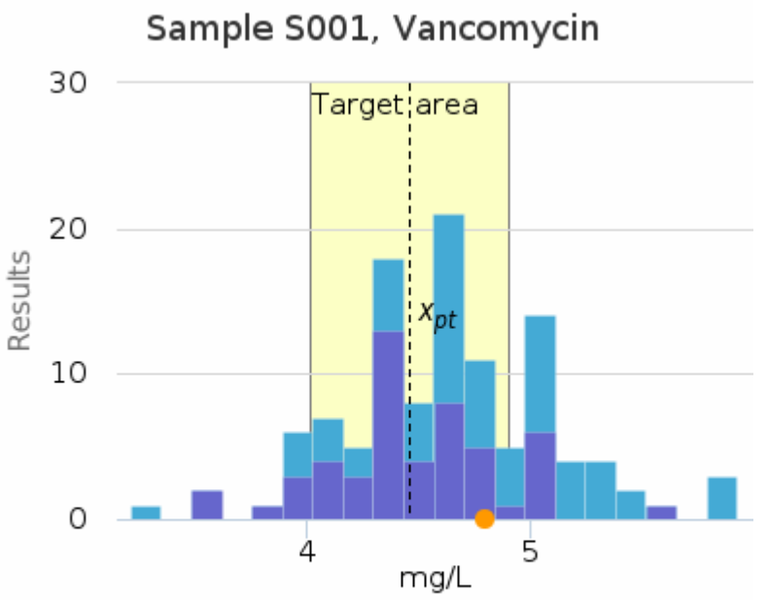


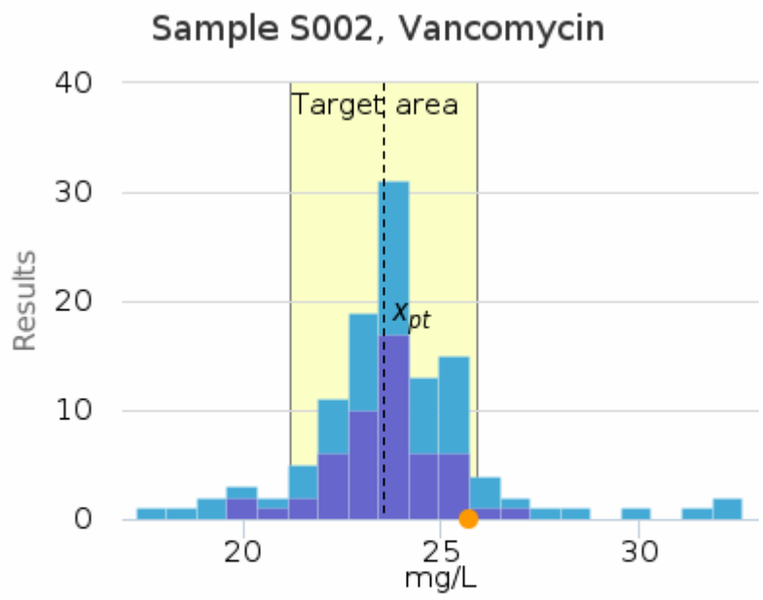
	x_{pt}	sd	SEM	CV%	n
Roche cobas c	139 µmol/l	14	2	10.2	35
All methods	143 µmol/l	14	2	10.0	79

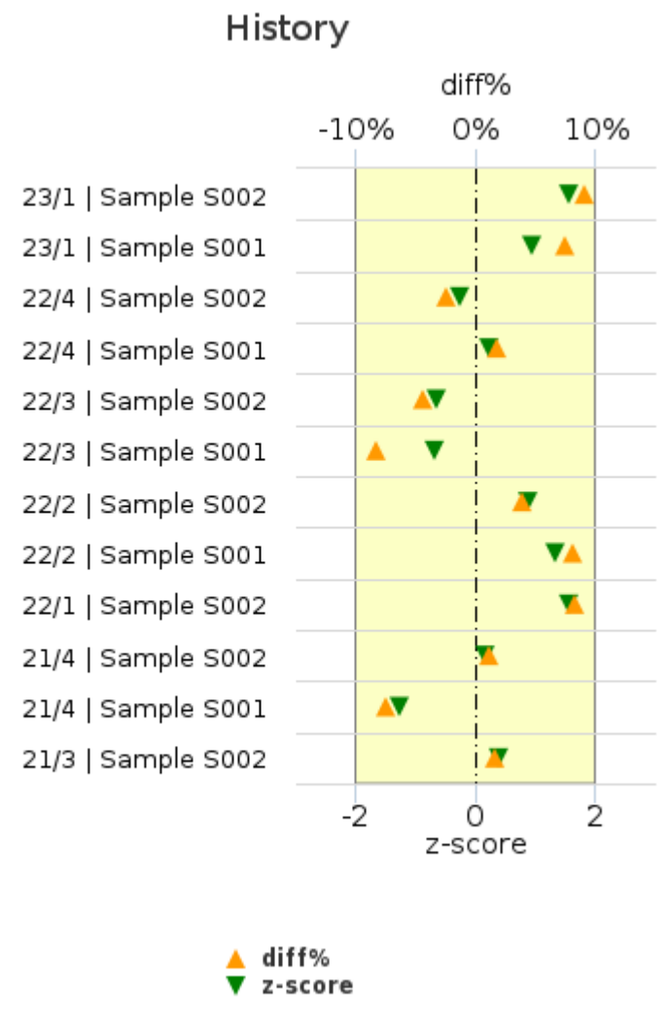
	x_{pt}	sd	SEM	CV%	n
Roche cobas c	351 µmol/l	22	4	6.3	35
All methods	372 µmol/l	29	3	7.7	80

Round	Sample	x_{pt}	Result	diff%	z-score
23/1	Sample S002	351	364	4%	0.58
23/1	Sample S001	139	151	9%	0.86
22/4	Sample S002	547	548	0%	0.01
22/4	Sample S001	697	750	7%	1.01
22/3	Sample S002	549	555	1%	0.18
22/3	Sample S001	136	146	7%	0.68
22/2	Sample S002	976	1011	4%	0.75
22/2	Sample S001	365	386	6%	1.22
22/1	Sample S002	552	542	-2%	-0.27
22/1	Sample S001	185	183	-1%	-0.21
21/4	Sample S002	555	543	-2%	-0.35
21/4	Sample S001	712	703	-1%	-0.25

Vancomycin |001





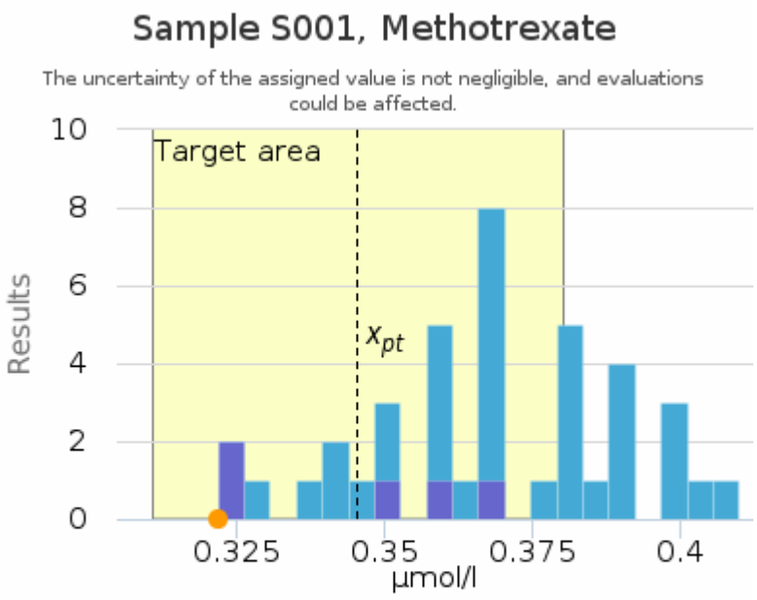


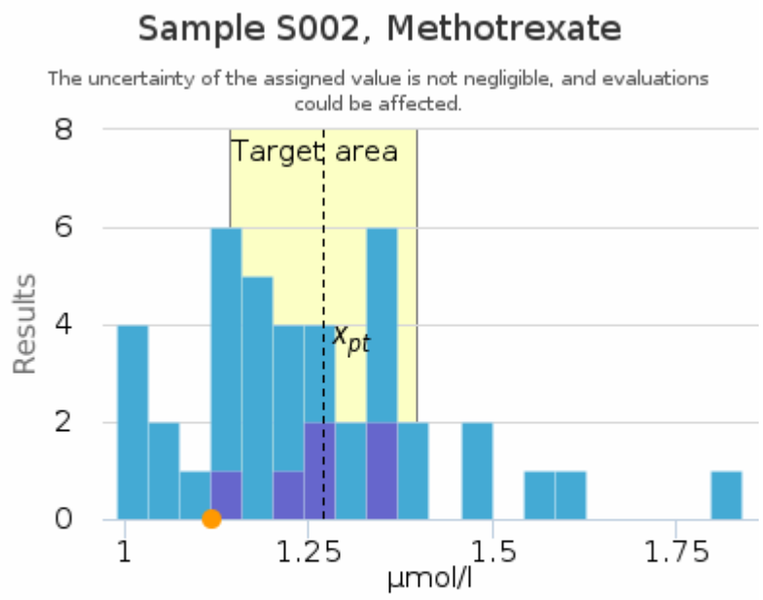
	x_{pt}	sd	SEM	CV%	n
Roche cobas c	4.5 mg/L	0.4	<0.1	8.0	51
All methods	4.6 mg/L	0.5	<0.1	10.0	113

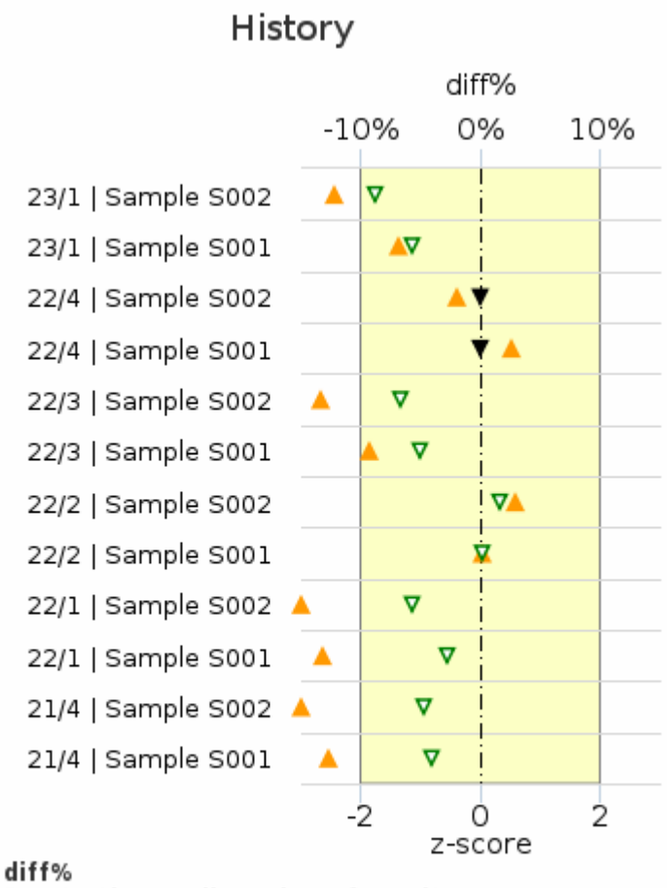
	x_{pt}	sd	SEM	CV%	n
Roche cobas c	23.6 mg/L	1.4	0.2	5.8	52
All methods	23.7 mg/L	1.9	0.2	7.9	115

Round	Sample	x_{pt}	Result	diff%	z-score
23/1	Sample S002	23.6	25.7	9.0%	1.55
23/1	Sample S001	4.5	4.8	7.5%	0.95
22/4	Sample S002	11.8	11.5	-2.4%	-0.26
22/4	Sample S001	56.6	57.6	1.8%	0.23
22/3	Sample S002	11.7	11.2	-4.4%	-0.64
22/3	Sample S001	5.2	4.8	-8.2%	-0.67
22/2	Sample S002	22.2	23.1	3.9%	0.87
22/2	Sample S001	26.9	29.1	8.1%	1.33
22/1	Sample S002	11.4	12.3	8.2%	1.57
21/4	Sample S002	11.6	11.7	1.1%	0.17
21/4	Sample S001	62.0	57.4	-7.4%	-1.25
21/3	Sample S002	22.0	22.4	1.6%	0.38

Methotrexate |002





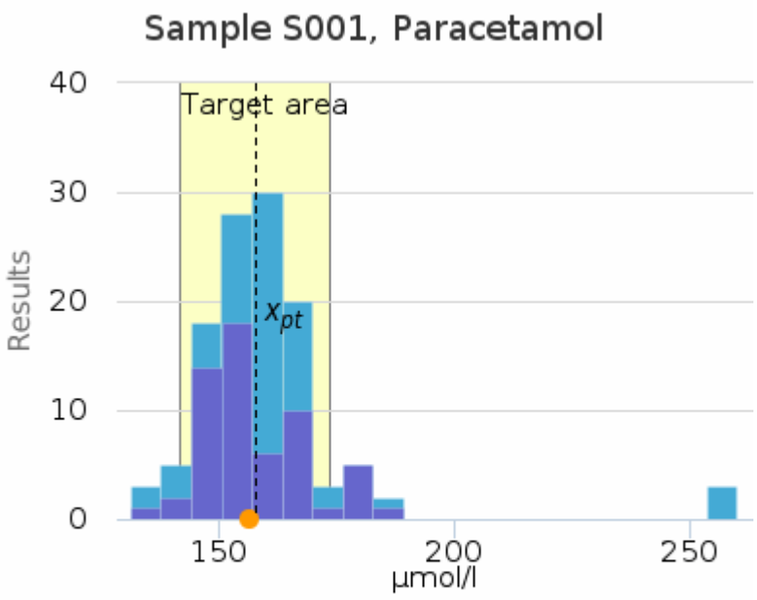


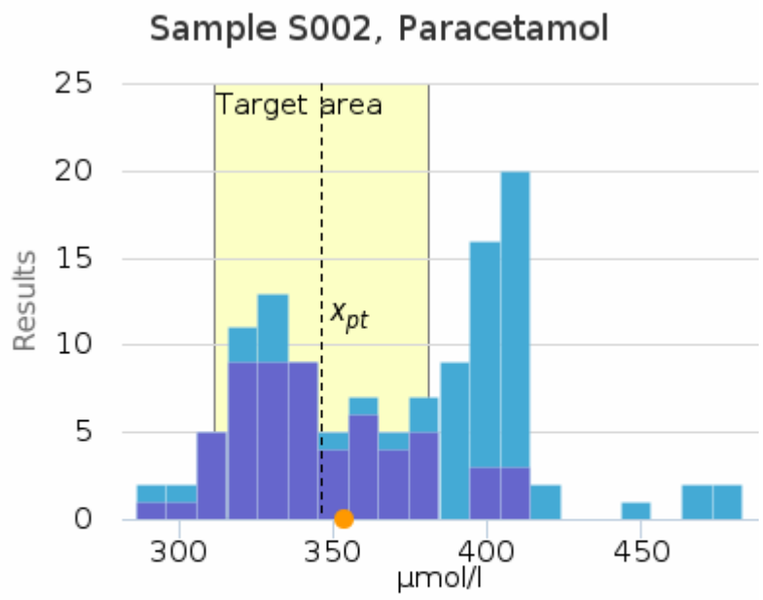
	x_{pt}	sd	SEM	CV%	n
Siemens SYVA EMIT	0.35 µmol/l	0.02	<0.01	6.1	5
All methods	0.37 µmol/l	0.02	<0.01	5.9	40

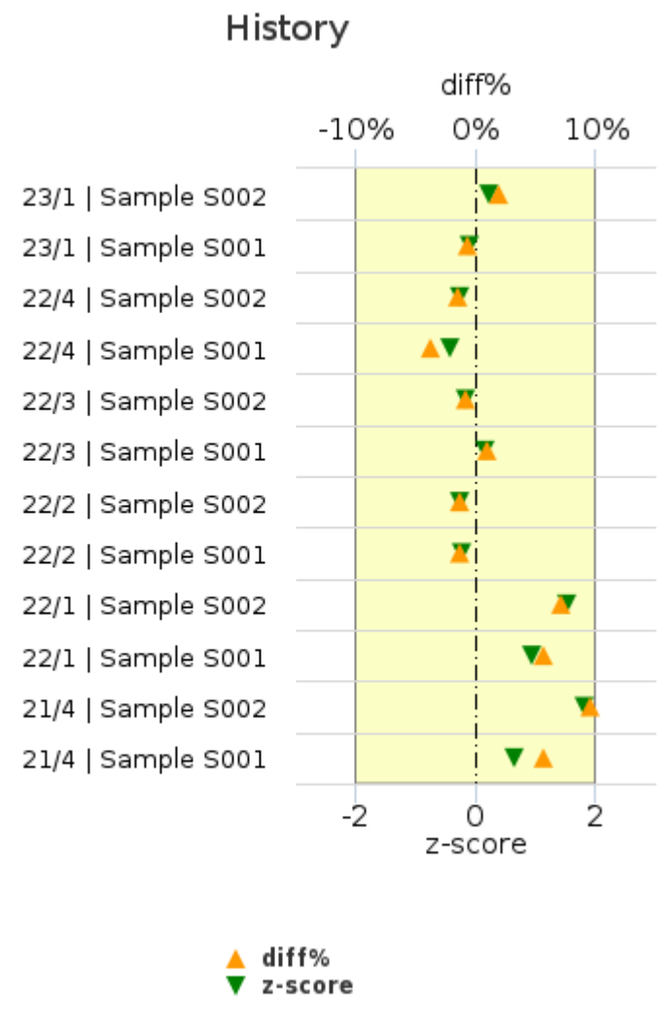
	x_{pt}	sd	SEM	CV%	n
Siemens SYVA EMIT	1.27 µmol/l	0.09	0.04	6.9	6
All methods	1.24 µmol/l	0.15	0.02	12.4	41

Round	Sample	x_{pt}	Result	diff%	z-score
23/1	Sample S002	1.27	1.12	-12.08%	-1.75
23/1	Sample S001	0.35	0.32	-6.83%	-1.12
22/4	Sample S002	1.19	1.16	-1.88%	-
22/4	Sample S001	7.90	8.10	2.58%	-
22/3	Sample S002	1.35	1.17	-13.28%	-1.34
22/3	Sample S001	0.36	0.33	-9.28%	-0.99
22/2	Sample S002	8.92	9.17	2.89%	0.34
22/2	Sample S001	1.18	1.18	0.17%	0.03
22/1	Sample S002	1.31	0.92	-29.29%	-1.14
22/1	Sample S001	0.34	0.29	-13.16%	-0.55
21/4	Sample S002	1.29	0.93	-27.66%	-0.95
21/4	Sample S001	7.86	6.87	-12.60%	-0.81

Paracetamol |002





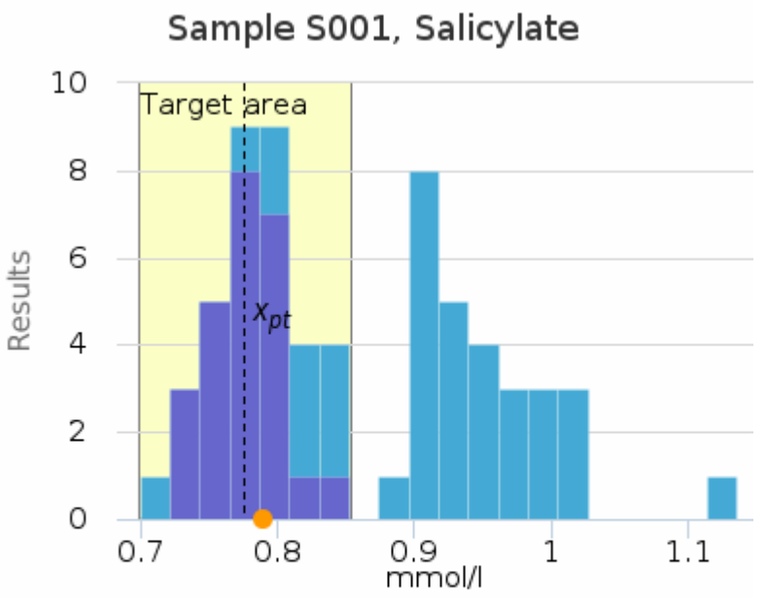


	x_{pt}	sd	SEM	CV%	n
Roche cobas c	157.8 µmol/l	11.4	1.5	7.2	58
All methods	158.0 µmol/l	10.2	1.0	6.5	117

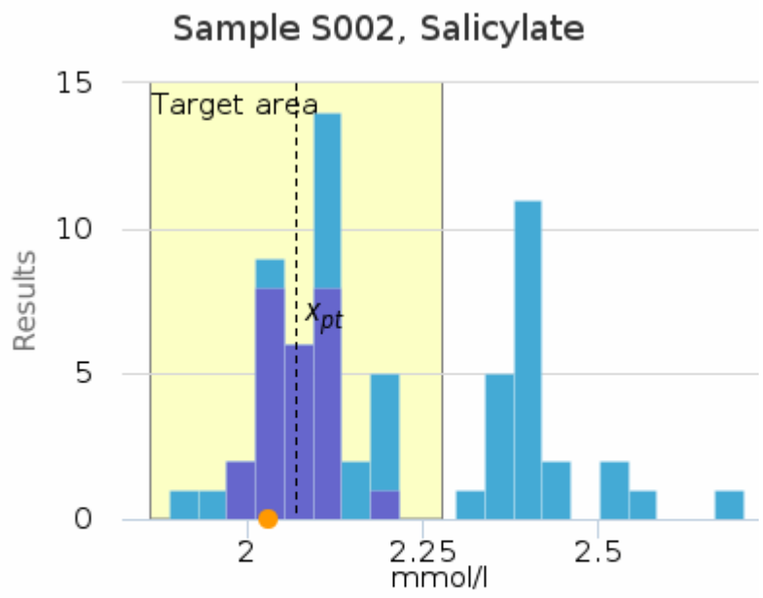
	x_{pt}	sd	SEM	CV%	n
Roche cobas c	346.3 µmol/l	28.9	3.8	8.3	59
All methods	370.0 µmol/l	41.3	3.8	11.2	118

Round	Sample	x_{pt}	Result	diff%	z-score
23/1	Sample S002	346.3	353.4	2.0%	0.24
23/1	Sample S001	157.8	156.6	-0.7%	-0.10
22/4	Sample S002	383.9	378.3	-1.5%	-0.27
22/4	Sample S001	652.7	628.1	-3.8%	-0.43
22/3	Sample S002	383.5	380.5	-0.8%	-0.15
22/3	Sample S001	162.5	163.9	0.9%	0.15
22/2	Sample S002	941.5	929.0	-1.3%	-0.26
22/2	Sample S001	365.2	360.3	-1.3%	-0.23
22/1	Sample S002	386.6	414.4	7.2%	1.52
22/1	Sample S001	167.7	177.2	5.7%	0.95
21/4	Sample S002	379.7	416.3	9.6%	1.80
21/4	Sample S001	658.7	696.0	5.7%	0.65

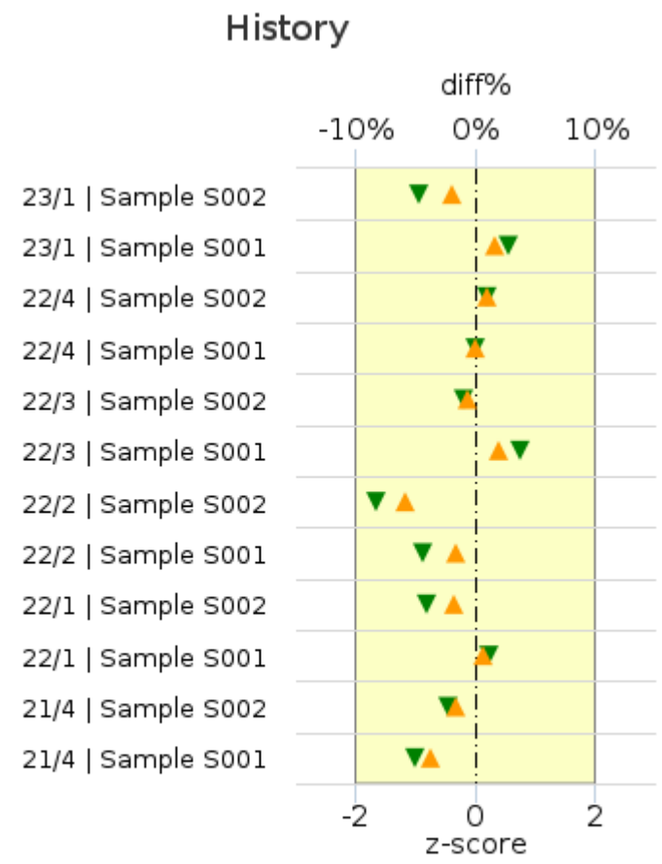
Salicylate |002



All method groups Roche cobas c
Own result: 0.79 (04.04.2023)
Diff%: 1.73 | x_{pt}: 0.78
Target area: 0.70-0.85 | Target: ±10%



All method groups Roche cobas c
Own result: 2.03 (04.04.2023)
Diff%: -1.98 | x_{pt}: 2.07
Target area: 1.86-2.28 | Target: ±10%



▲ diff%
▼ z-score

	x_{pt}	sd	SEM	CV%	n
Roche cobas c	0.78 mmol/l	0.02	<0.01	3.2	25
All methods	0.85 mmol/l	0.09	0.01	10.3	63

	x_{pt}	sd	SEM	CV%	n
Roche cobas c	2.07 mmol/l	0.04	<0.01	2.1	25
All methods	2.20 mmol/l	0.17	0.02	7.7	63

Round	Sample	x_{pt}	Result	diff%	z-score
23/1	Sample S002	2.07	2.03	-1.98%	-0.94
23/1	Sample S001	0.78	0.79	1.73%	0.55
22/4	Sample S002	1.83	1.85	1.03%	0.21
22/4	Sample S001	4.28	4.28	0.04%	0.01
22/3	Sample S002	1.82	1.81	-0.66%	-0.20
22/3	Sample S001	0.78	0.79	1.89%	0.74
22/2	Sample S002	3.93	3.70	-5.84%	-1.65
22/2	Sample S001	2.04	2.01	-1.63%	-0.88
22/1	Sample S002	1.82	1.79	-1.83%	-0.82
22/1	Sample S001	0.51	0.51	0.68%	0.23
21/4	Sample S002	1.82	1.79	-1.57%	-0.45
21/4	Sample S001	4.27	4.11	-3.67%	-1.02

Report info

Participants

148 participants from 23 countries.

Report info

Your own result should be compared to others using the same method.
Assigned values (x_{pt}, target values) are means of the results where results deviating more than +/- 3*standard deviation from the median are removed. The standard uncertainty (u) of the assigned value is reported as standard error of the mean (SEM). Additionally, if the measurement uncertainty of the target value is large an automatic text is printed on the report: “The uncertainty of the assigned value is not negligible, and evaluations could be affected.”
In case the client’s result is the only one in the method group, no assigned value will be calculated, no target area shown, and no statistics calculated. In case there are only a few results in the client’s own method group, the result can be compared to all method mean or to a group that is similar to the own method.
Results reported with < or > -signs cannot be included in the statistics.

For information on report interpretation and performance evaluation, please see the " EQAS Interpretation guidelines" LabScala User instructions (top right corner ?Help link).

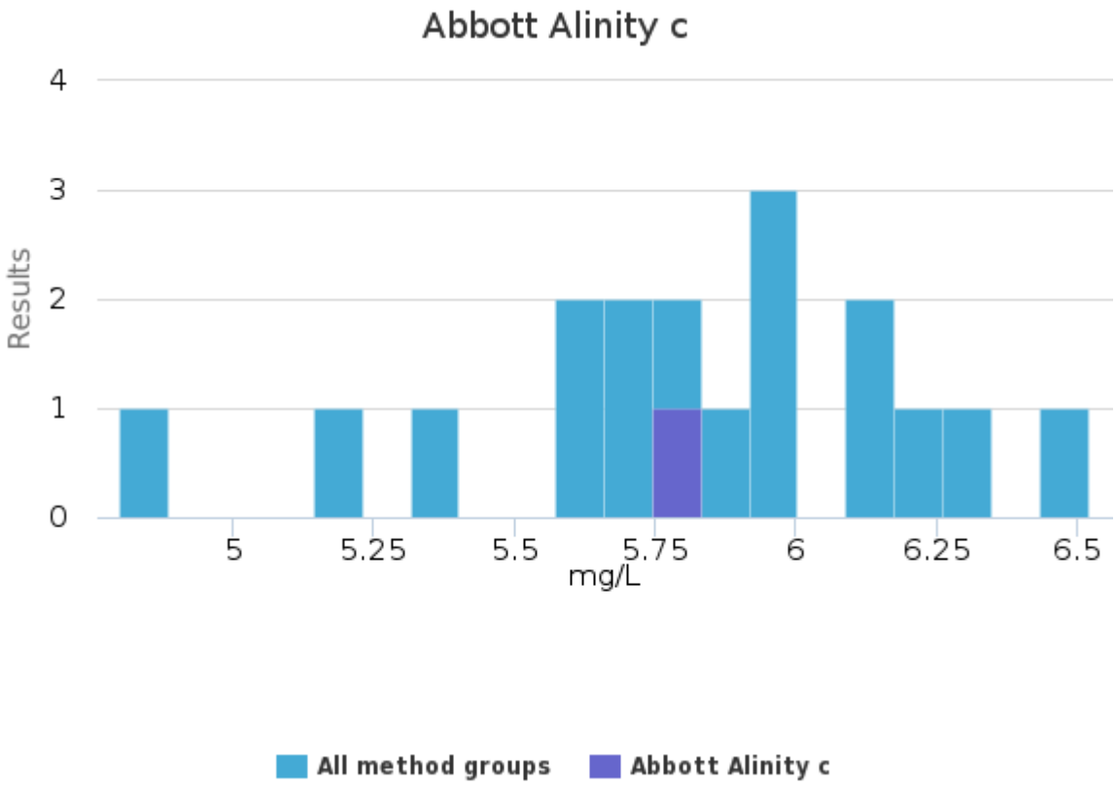
Therapeutic drugs, March, 1-2023

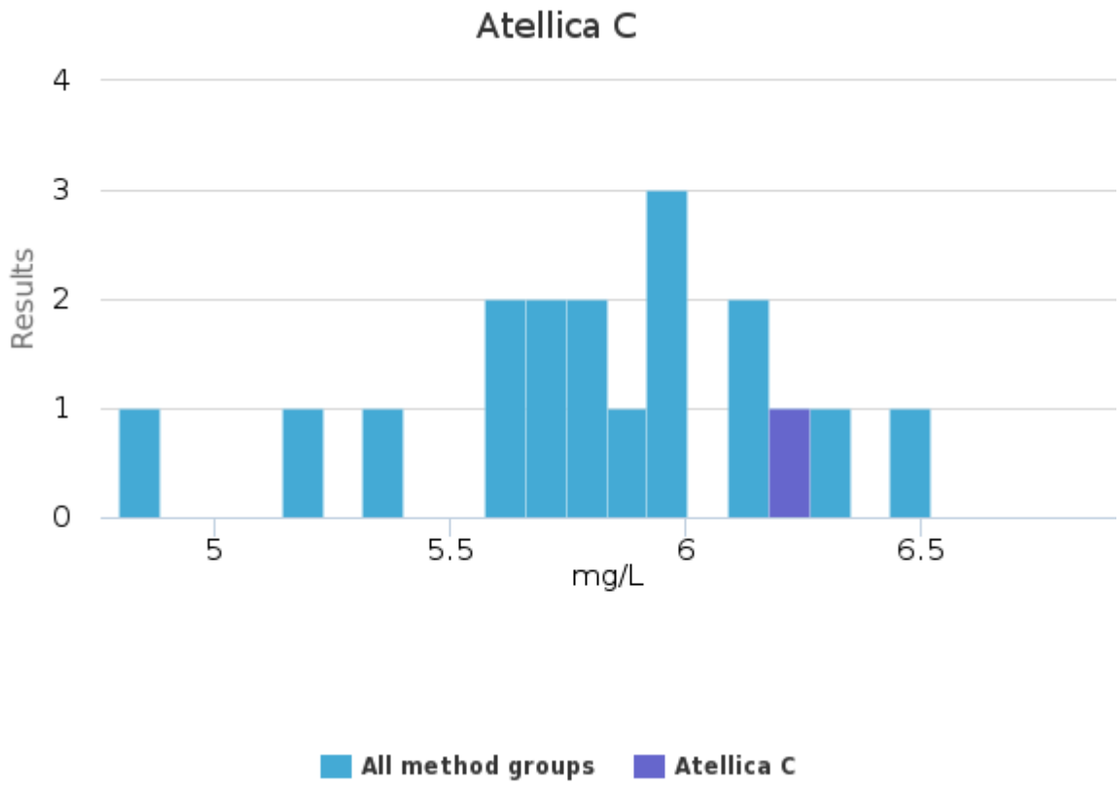
Quantitative report

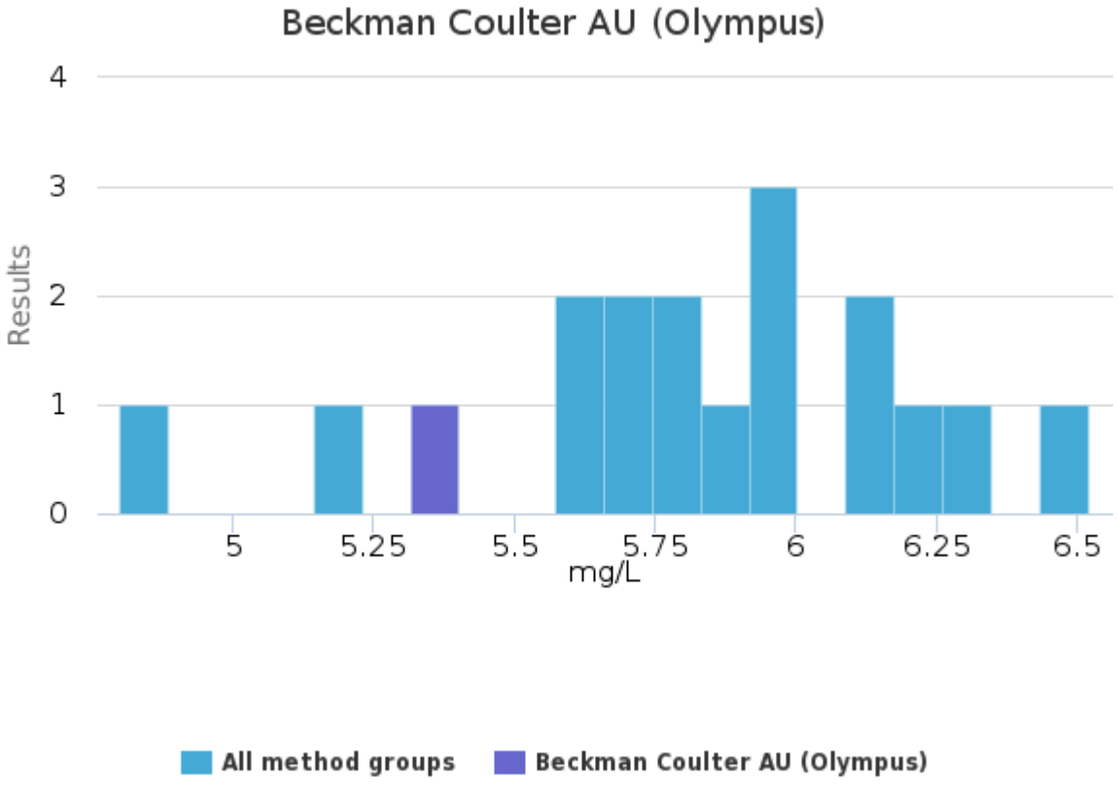
Sample S001 | Amikasin, mg/L

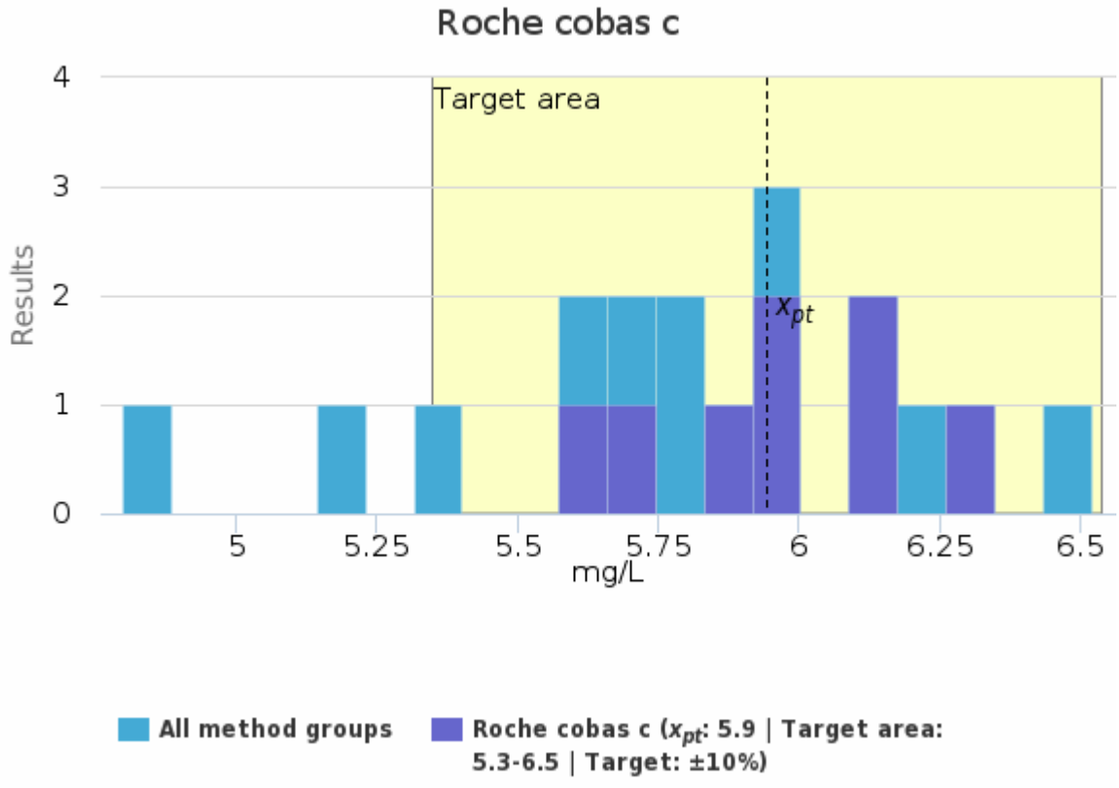
Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Abbott Alinity c	-	-	-	-	-	5.8	5.8	-	1
Atellica C	-	-	-	-	-	6.2	6.2	-	1
Beckman Coulter AU (Olympus)	-	-	-	-	-	5.4	5.4	-	1
Roche cobas c	5.9	6.0	0.2	3.8	<0.1	5.6	6.3	-	8
Roche Integra	-	-	-	-	-	6.5	6.5	-	1
Siemens SYVA EMIT	5.6	5.7	0.3	5.9	0.2	5.2	6.0	-	4
Thermo Fisher	5.3	5.3	0.6	12.1	0.5	4.8	5.7	-	2
All	**5.8**	**5.8**	**0.4**	**7.0**	**<0.1**	**4.8**	**6.5**	**-**	**18**

Sample S001 | Amikasin, mg/L| histogram summaries in LabScala





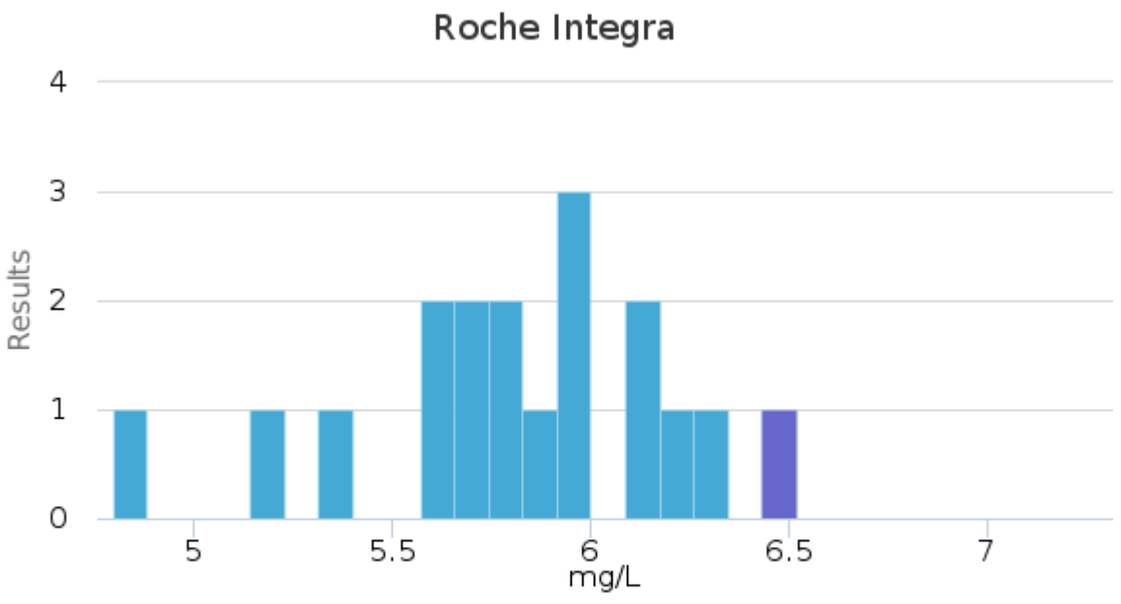


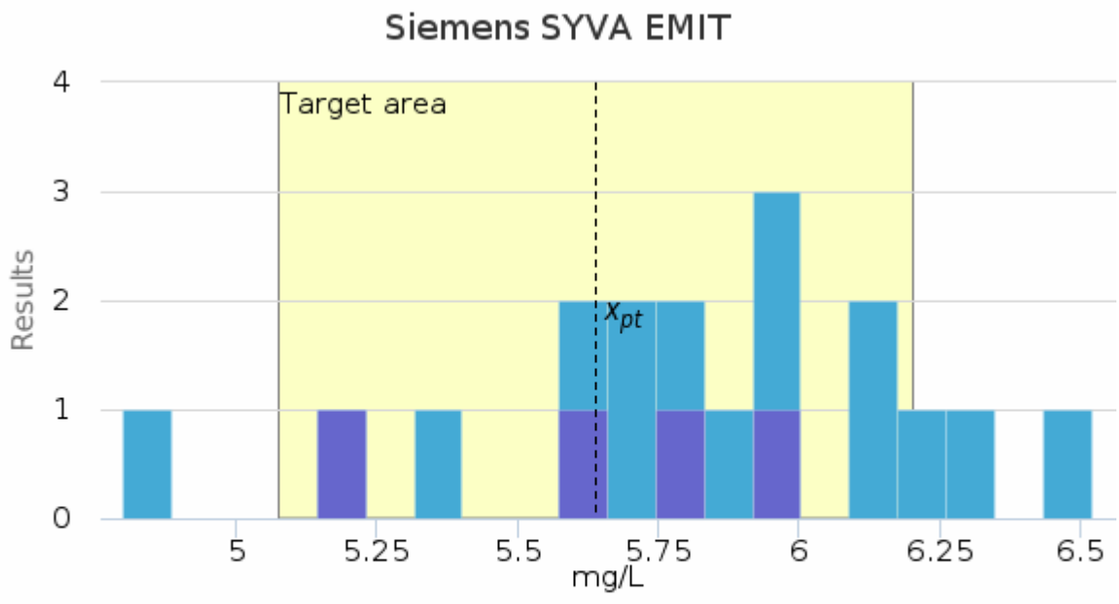


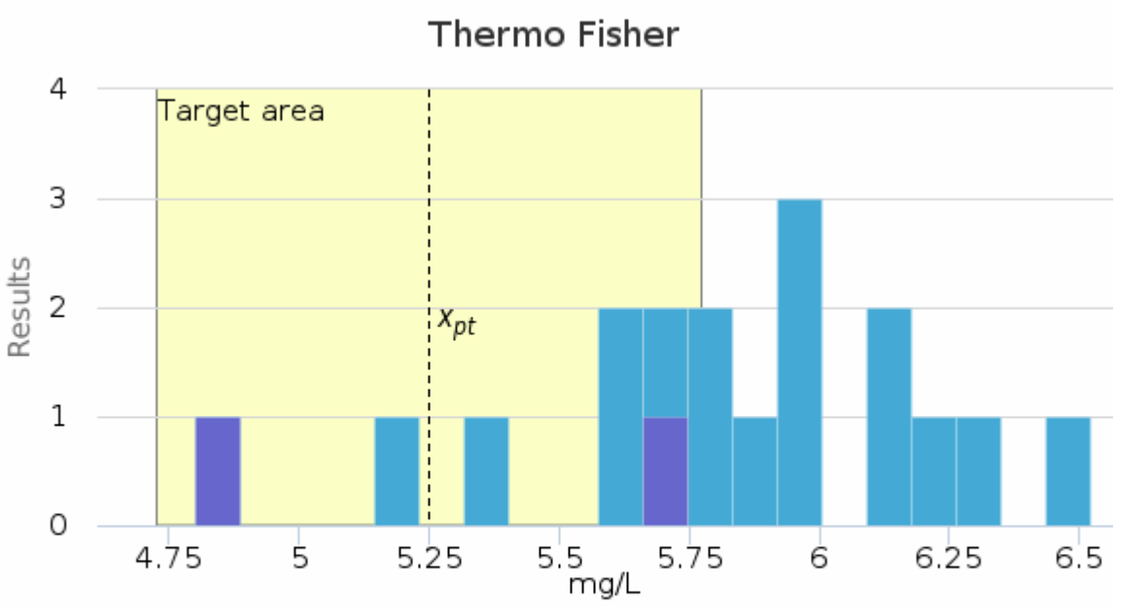
LABQUALITY

Therapeutic drugs, March, 1-2023

Quantitative report



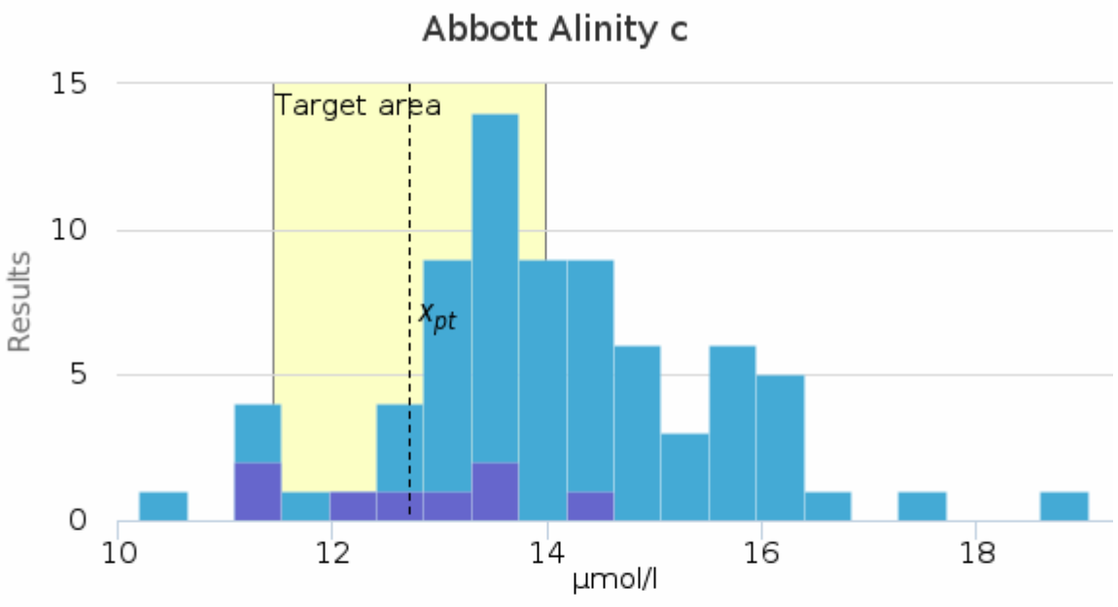


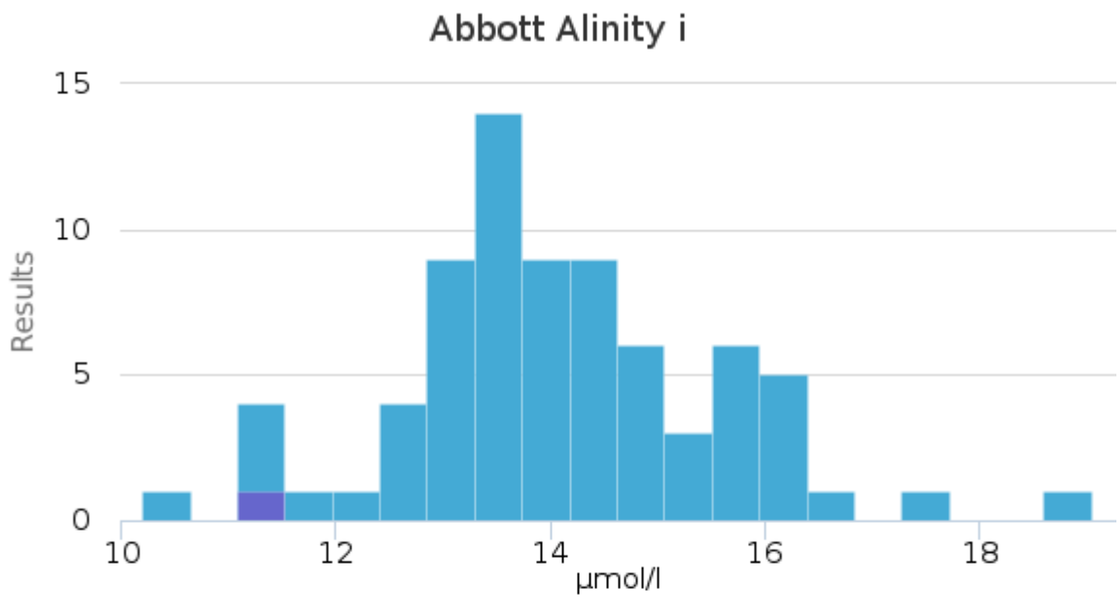


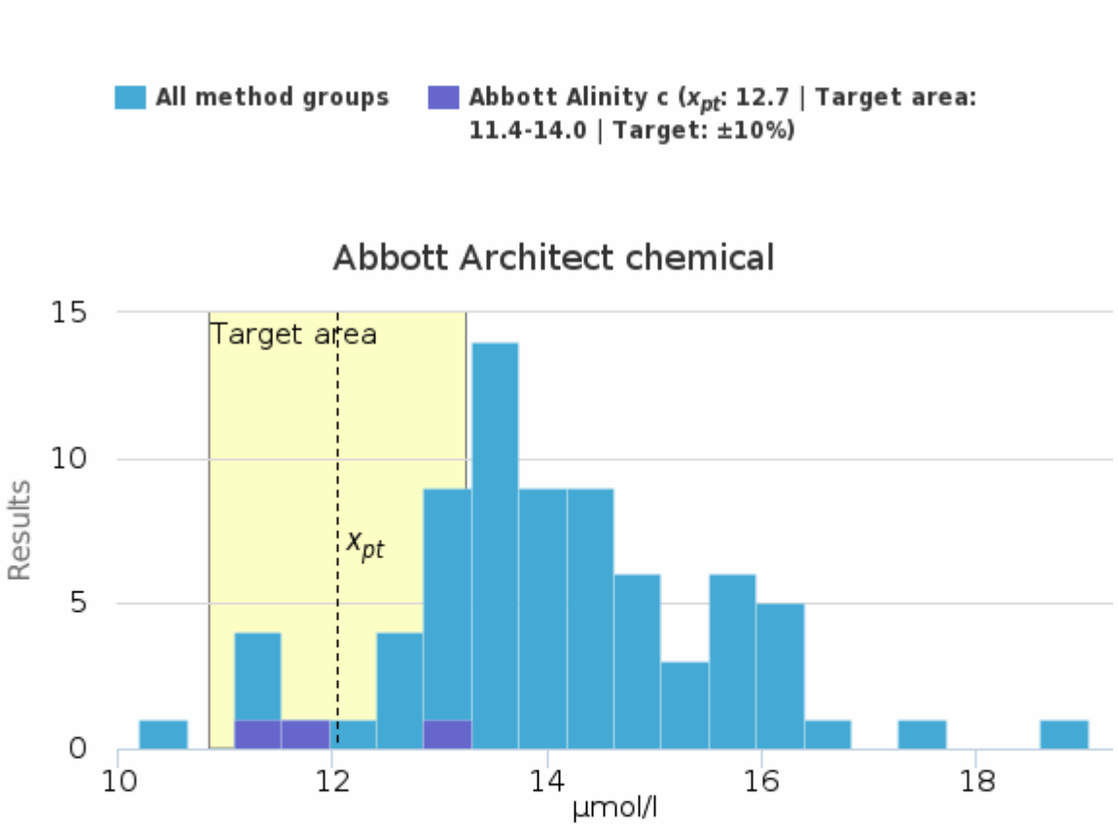
Sample S001 | Carbamazepine, µmol/l

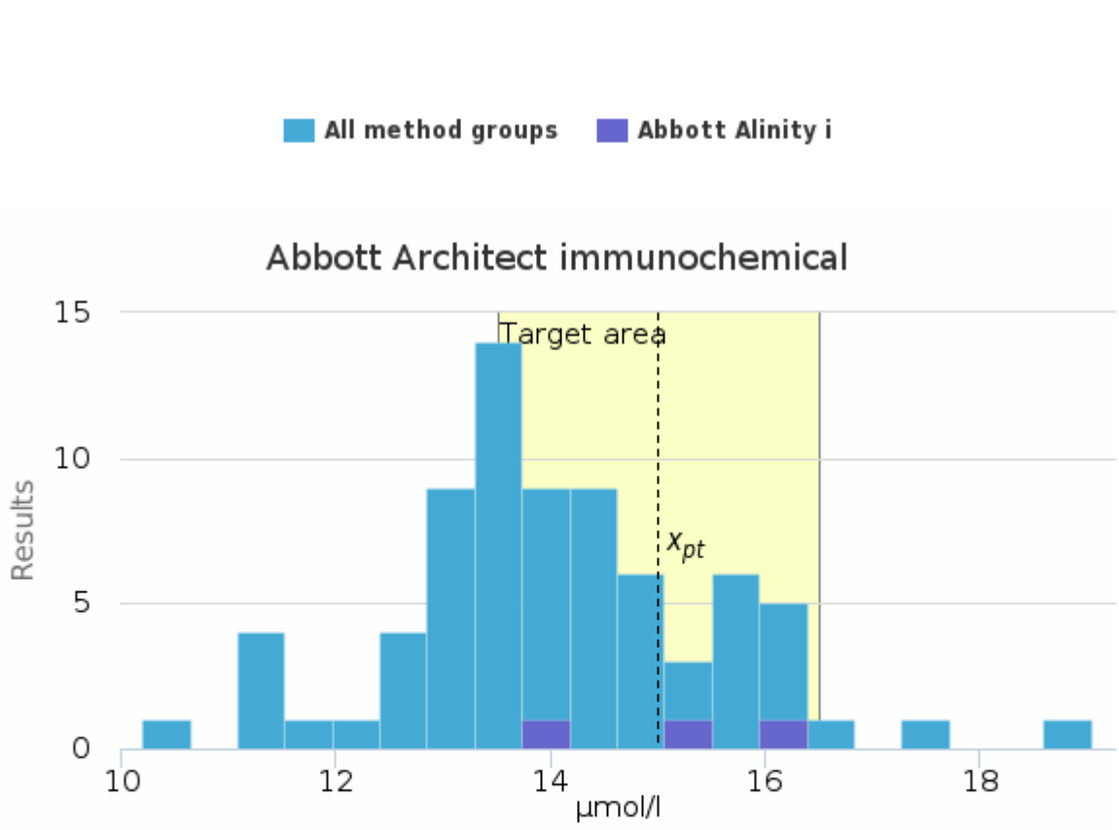
Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Abbott Alinity c	12.7	12.9	1.1	9.0	0.4	11.1	14.4	-	8
Abbott Alinity i	-	-	-	-	-	11.4	11.4	-	1
Abbott Architect chemical	12.0	11.9	0.9	7.5	0.5	11.2	13.0	-	3
Abbott Architect immunochemical	15.0	15.1	1.0	6.8	0.6	14.0	16.0	-	3
Atellica C	15.1	15.7	1.2	8.1	0.4	13.0	16.2	-	8
Beckman Coulter AU (Olympus)	15.1	15.1	0.9	6.3	0.7	14.4	15.7	-	2
HPLC-group	-	-	-	-	-	13.1	13.1	-	1
Roche cobas c	13.8	13.8	0.7	5.3	0.1	12.5	15.6	1	37
Roche Integra	15.5	15.5	0.2	1.5	0.2	15.3	15.7	-	2
Siemens Advia	14.6	14.6	2.0	14.0	1.4	13.1	16.0	-	2
Siemens Dimension	-	-	-	-	-	15.0	15.0	-	1
Siemens SYVA EMIT	15.2	14.8	0.9	5.6	0.4	14.5	16.5	-	5
Thermo Fisher	18.2	18.2	1.2	6.8	0.9	17.3	19.0	-	2
All	**14.0**	**13.8**	**1.4**	**9.8**	**0.2**	**10.2**	**17.3**	**1**	**75**

Sample S001 | Carbamazepine, µmol/l| histogram summaries in LabScala









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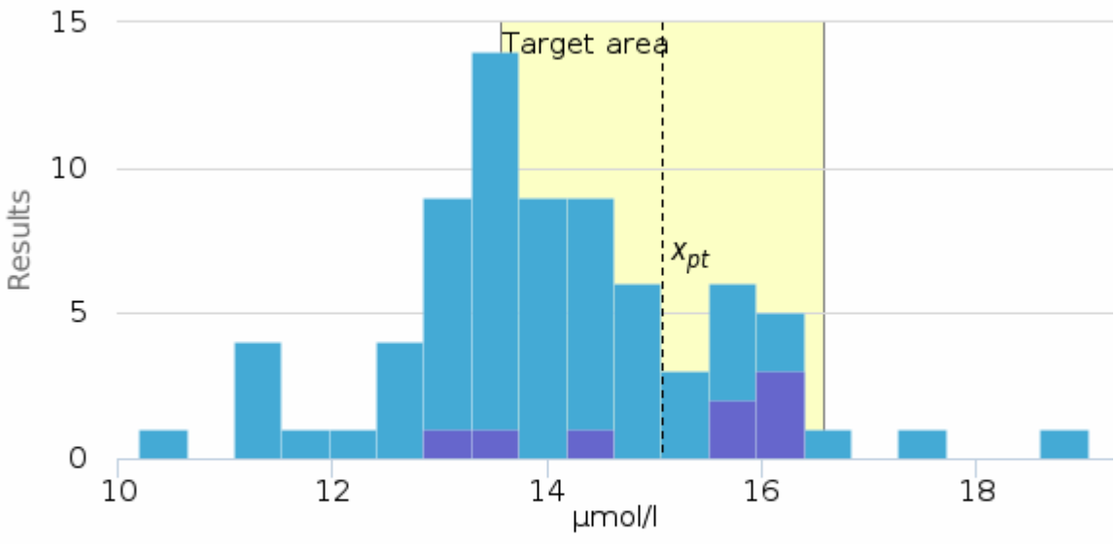
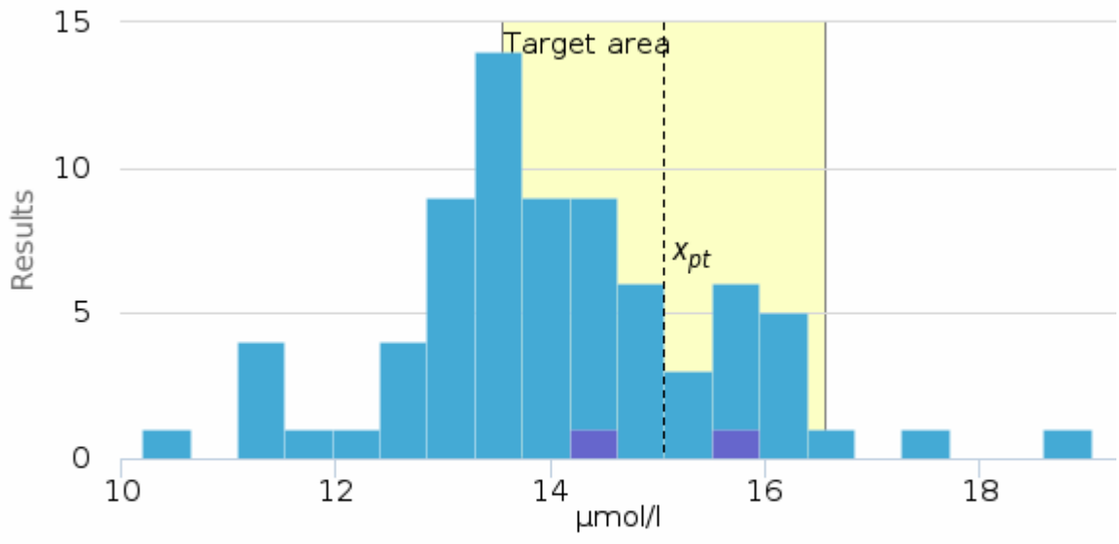
Quantitative report

Atellica C



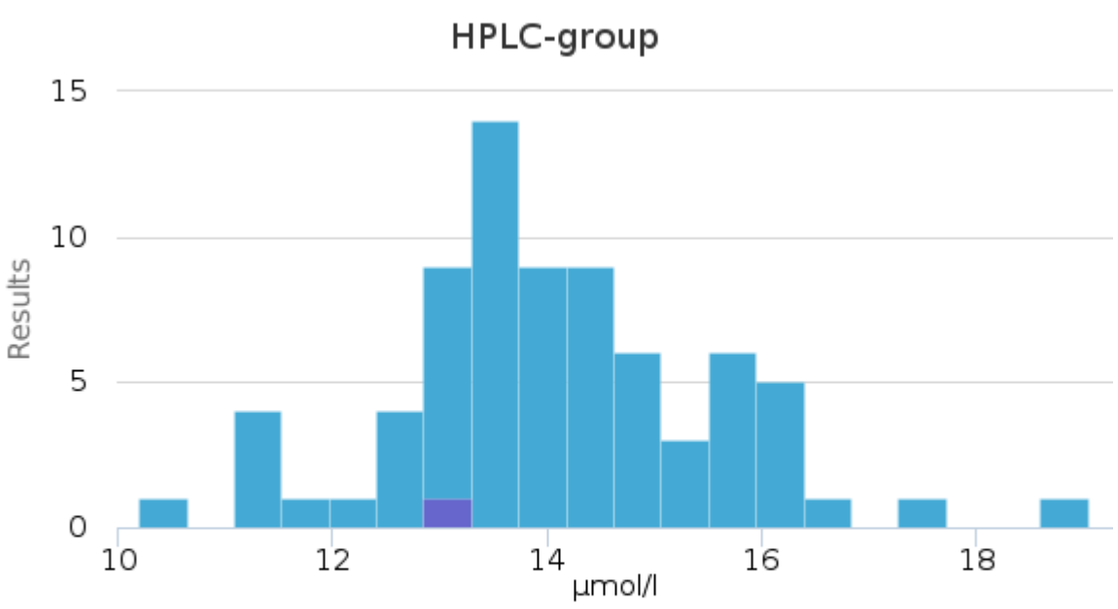
All method groups | Atellica C (x_{pt}: 15.1 | Target area: 13.6-16.6 | Target: ±10%)

Beckman Coulter AU (Olympus)



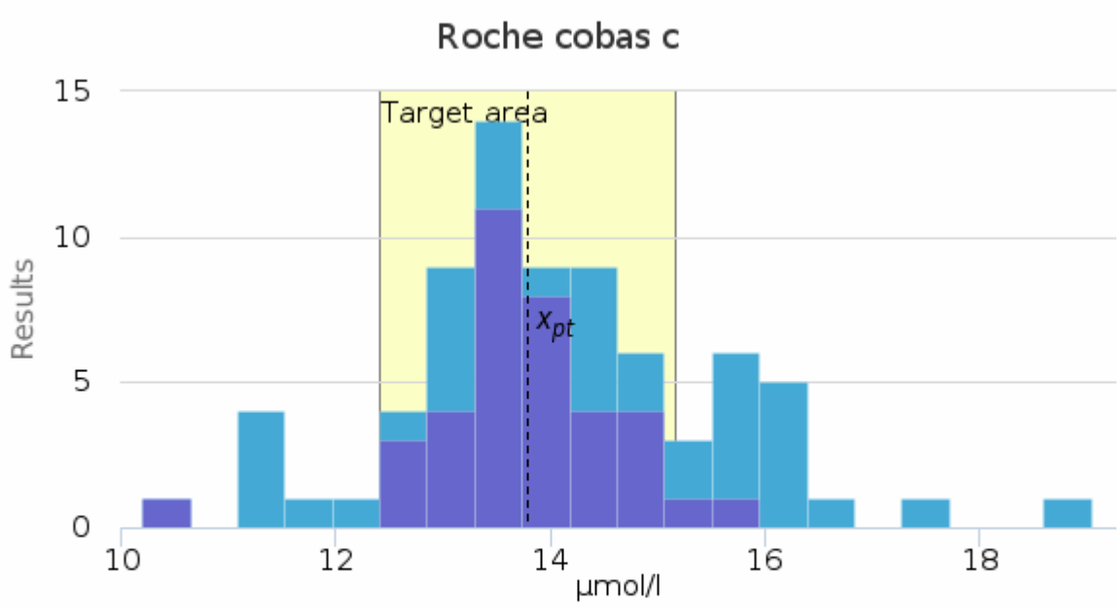
All method groups | Beckman Coulter AU (Olympus) (x_{pt}: 15.1 | Target area: 13.6-16.6 | Target: ±10%)

HPLC-group



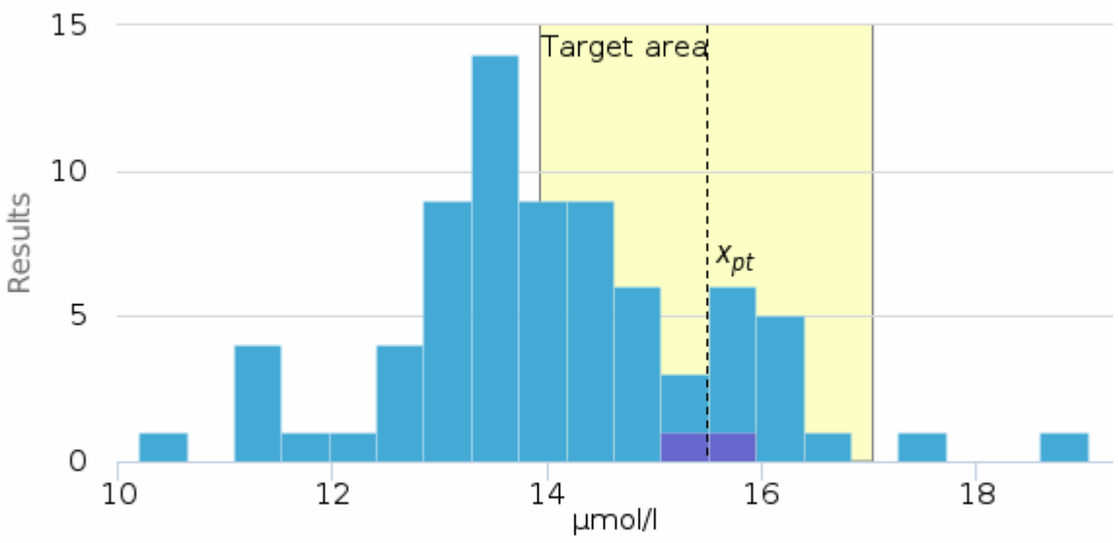
All method groups | HPLC-group

Roche cobas c



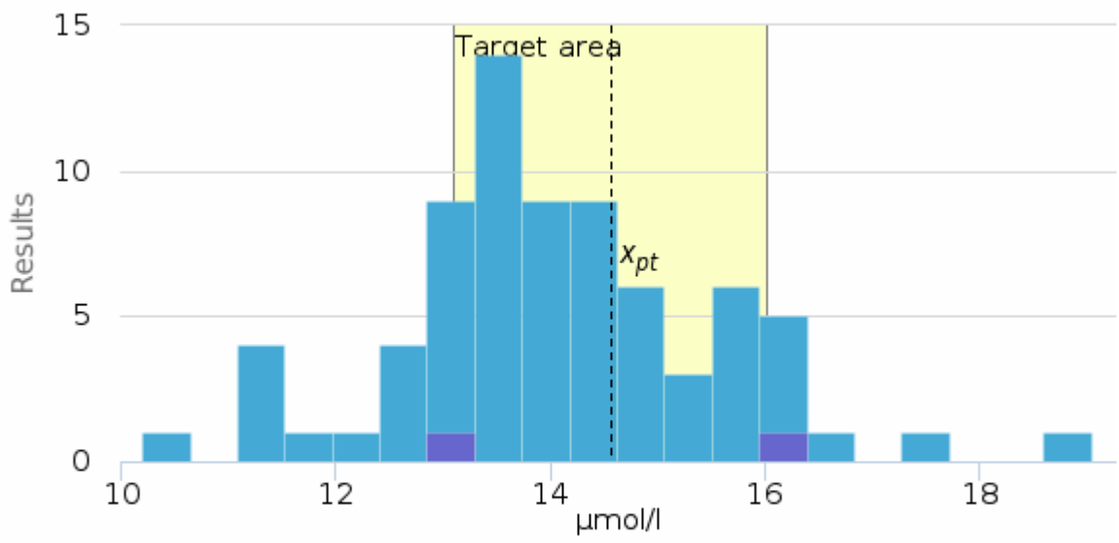
All method groups | Roche cobas c (x_{pt}: 13.8 | Target area: 12.4-15.2 | Target: ±10%)

Roche Integra



All method groups | Roche Integra (x_{pt}: 15.5 | Target area: 13.9-17.0 | Target: ±10%)

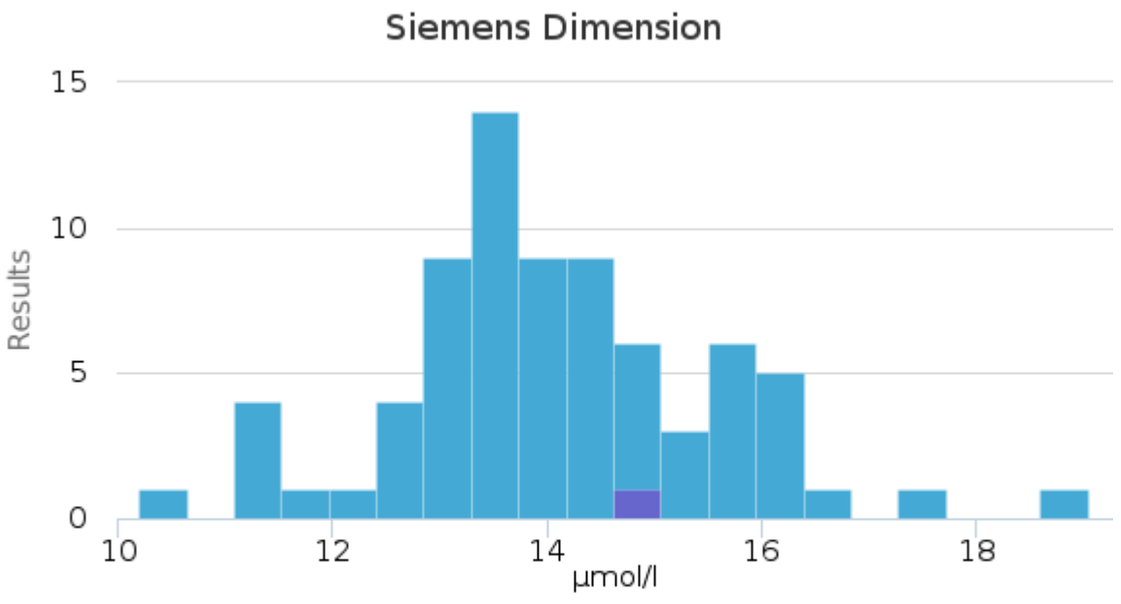
Siemens Advia

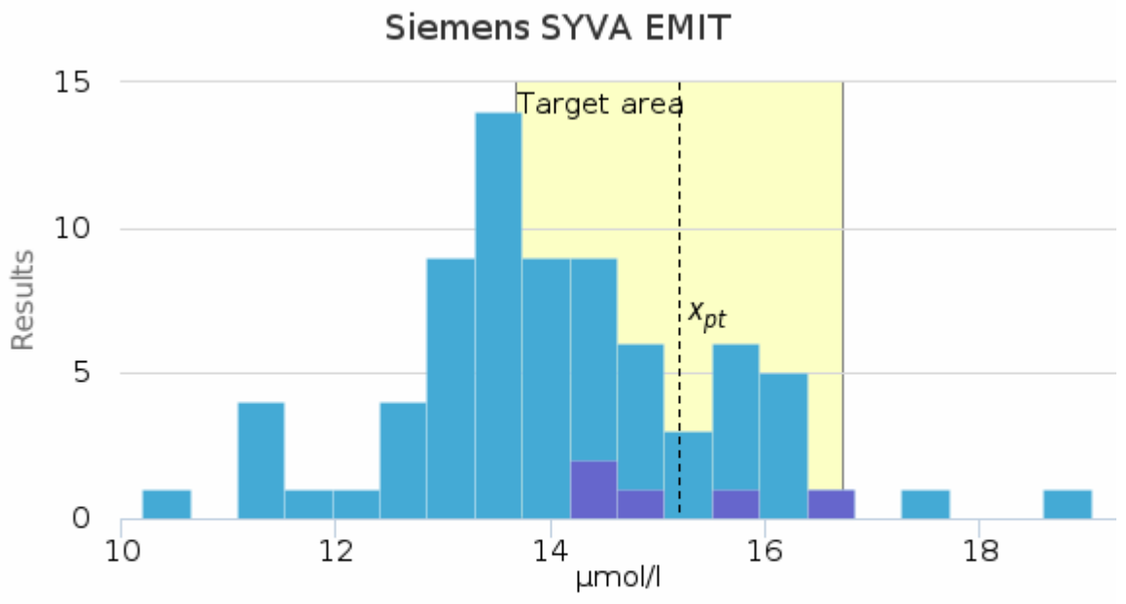


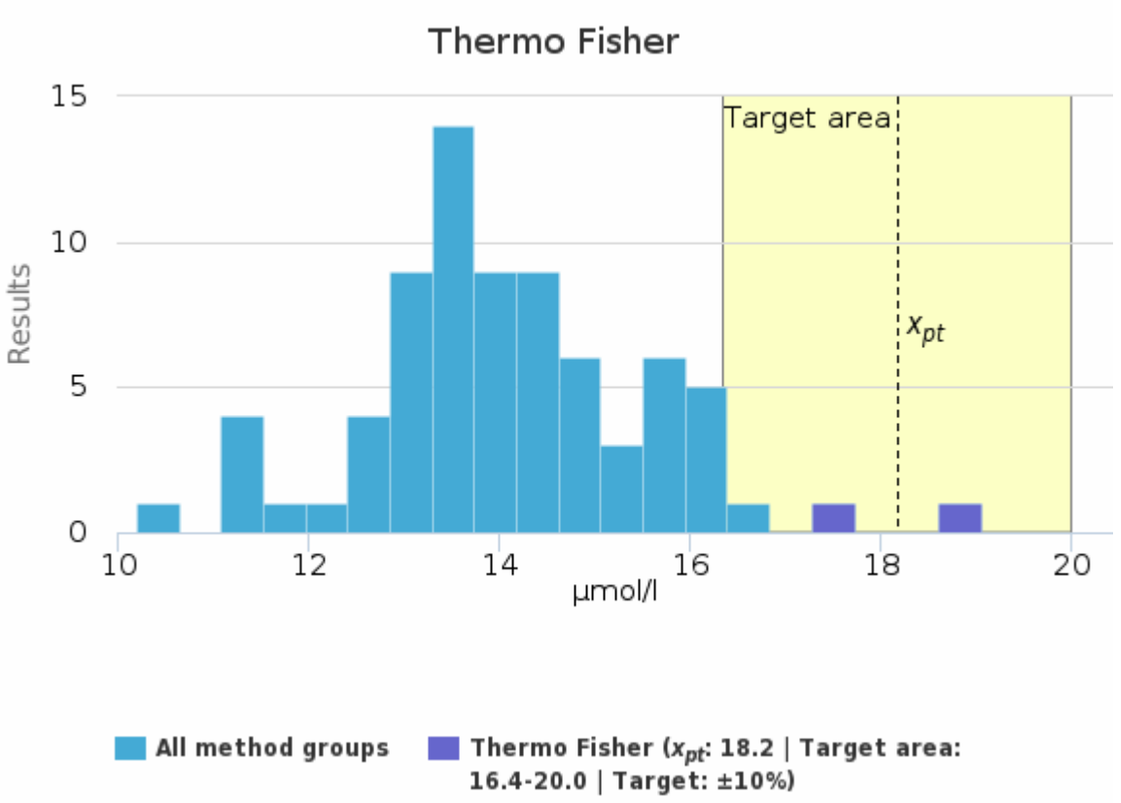
All method groups | Siemens Advia (x_{pt}: 14.6 | Target area: 13.1-16.0 | Target: ±10%)

Therapeutic drugs, March, 1-2023

Quantitative report



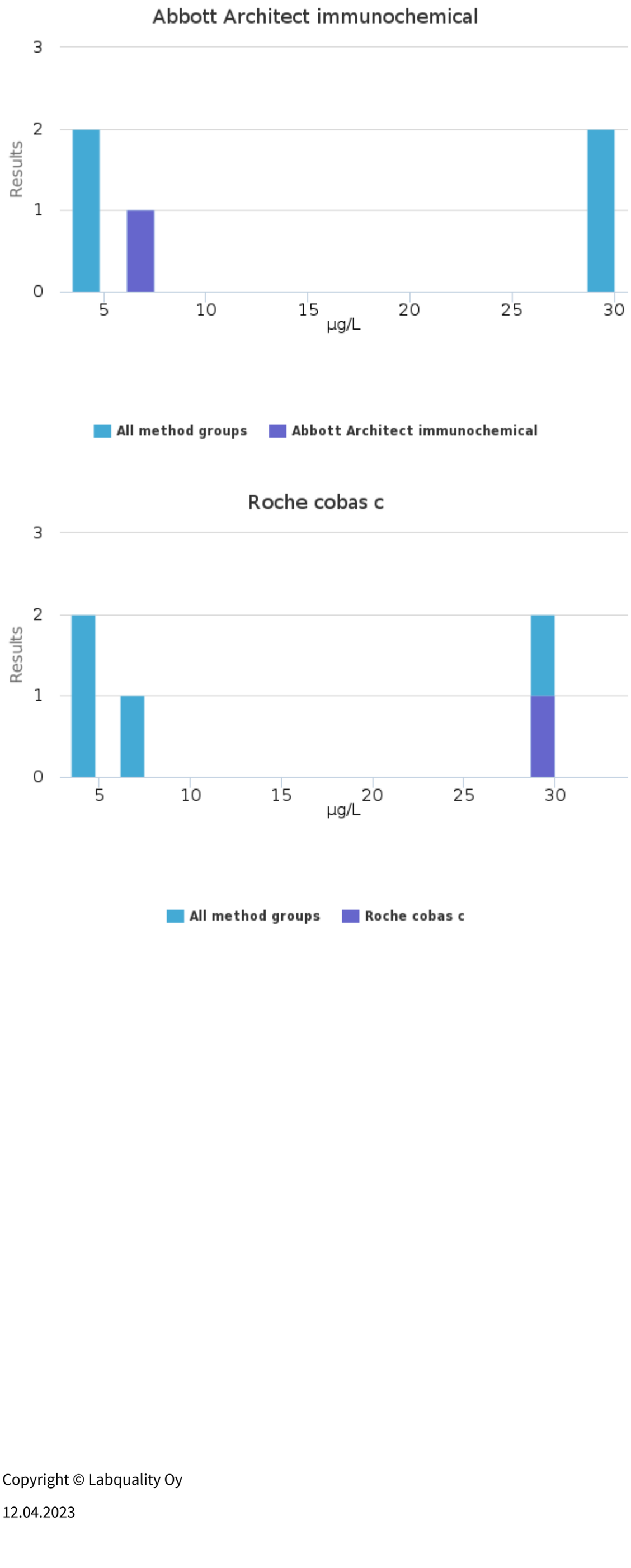


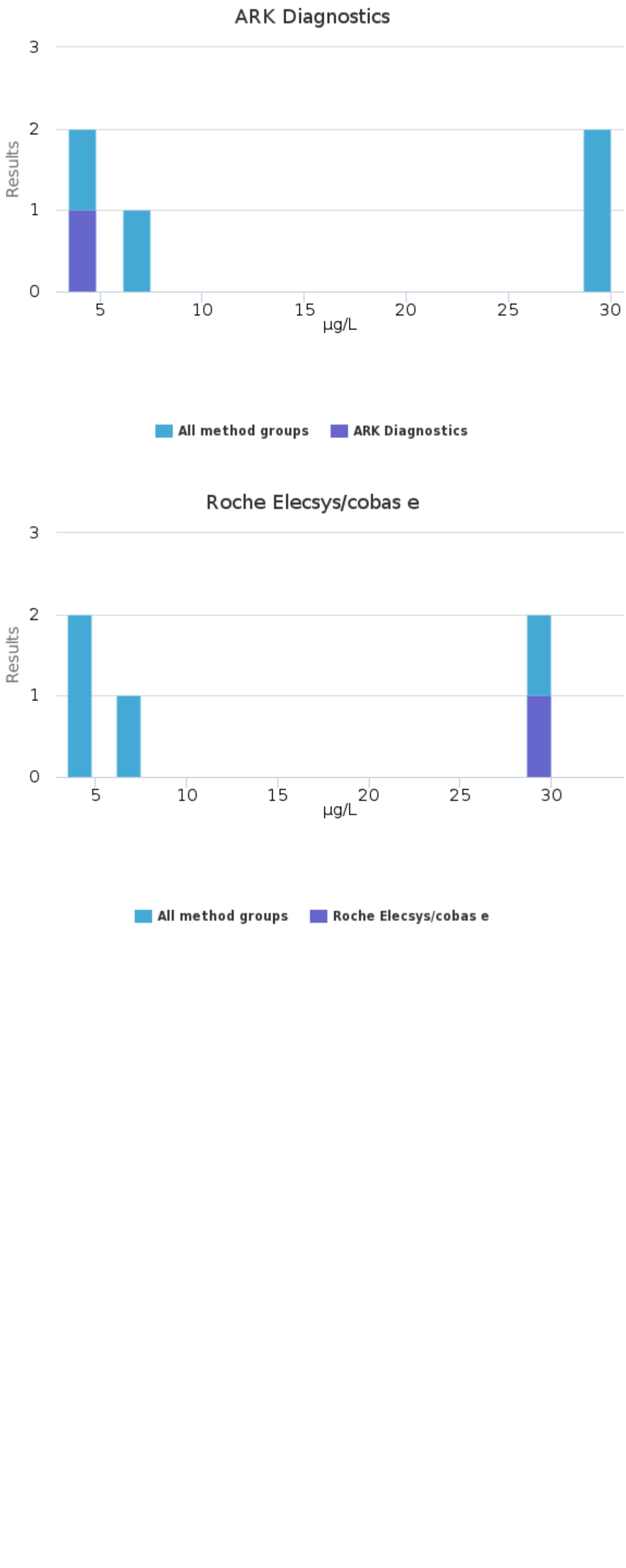


Sample S001 | Cyclosporine, µg/L

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Abbott Architect immunochemical	-	-	-	-	-	6.7	6.7	-	1
ARK Diagnostics	-	-	-	-	-	4.4	4.4	-	1
Roche cobas c	-	-	-	-	-	30.0	30.0	-	1
Roche Elecsys/cobas e	-	-	-	-	-	30.0	30.0	-	1
Siemens Dimension	-	-	-	-	-	3.5	3.5	-	1
All	**14.9**	**6.7**	**13.8**	**92.6**	**6.2**	**3.5**	**30.0**	**-**	**5**

Sample S001 | Cyclosporine, µg/L| histogram summaries in LabScala





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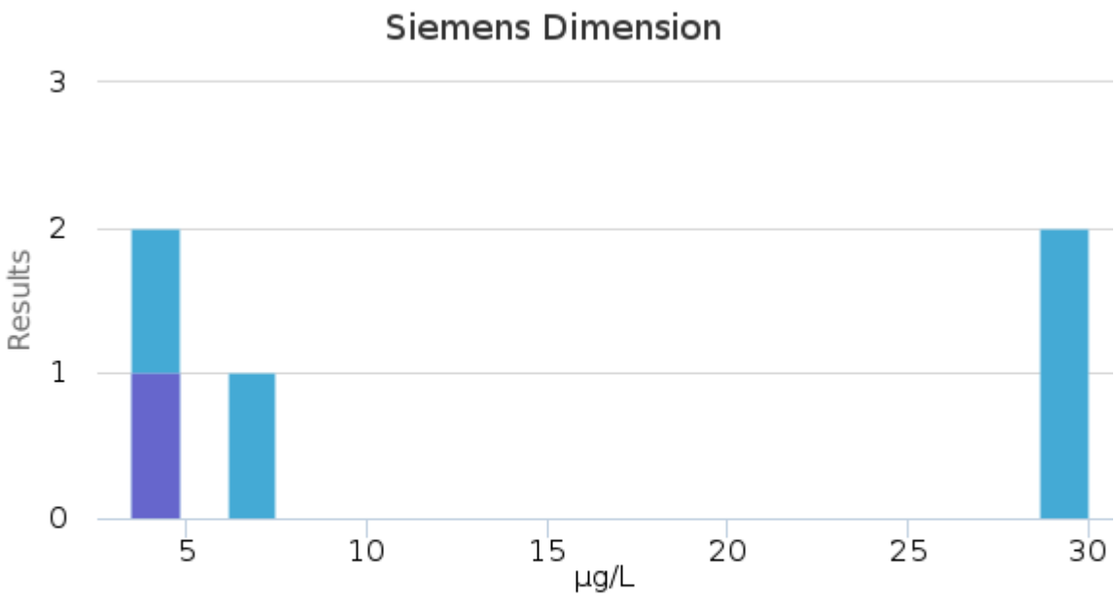
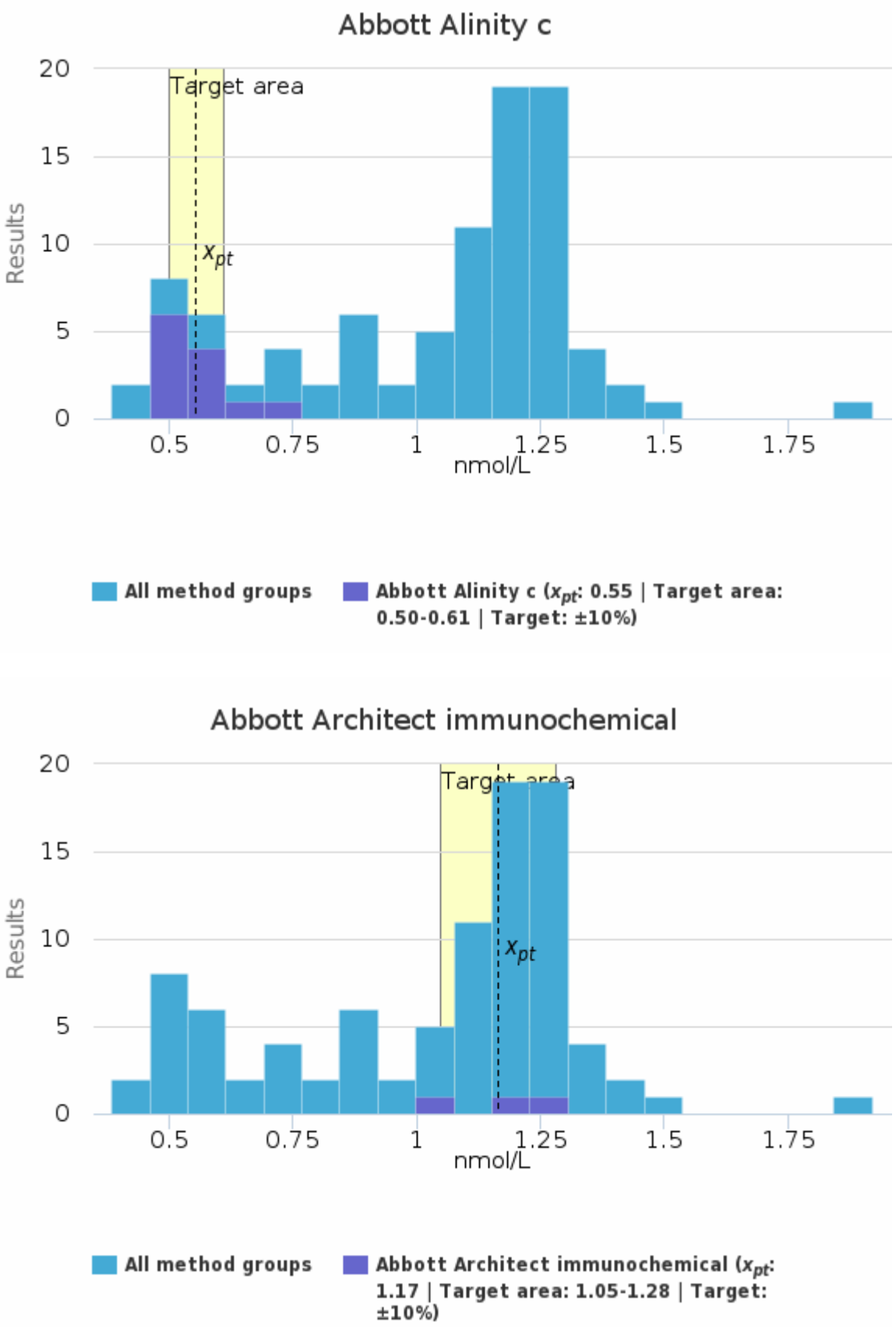
Quantitative report

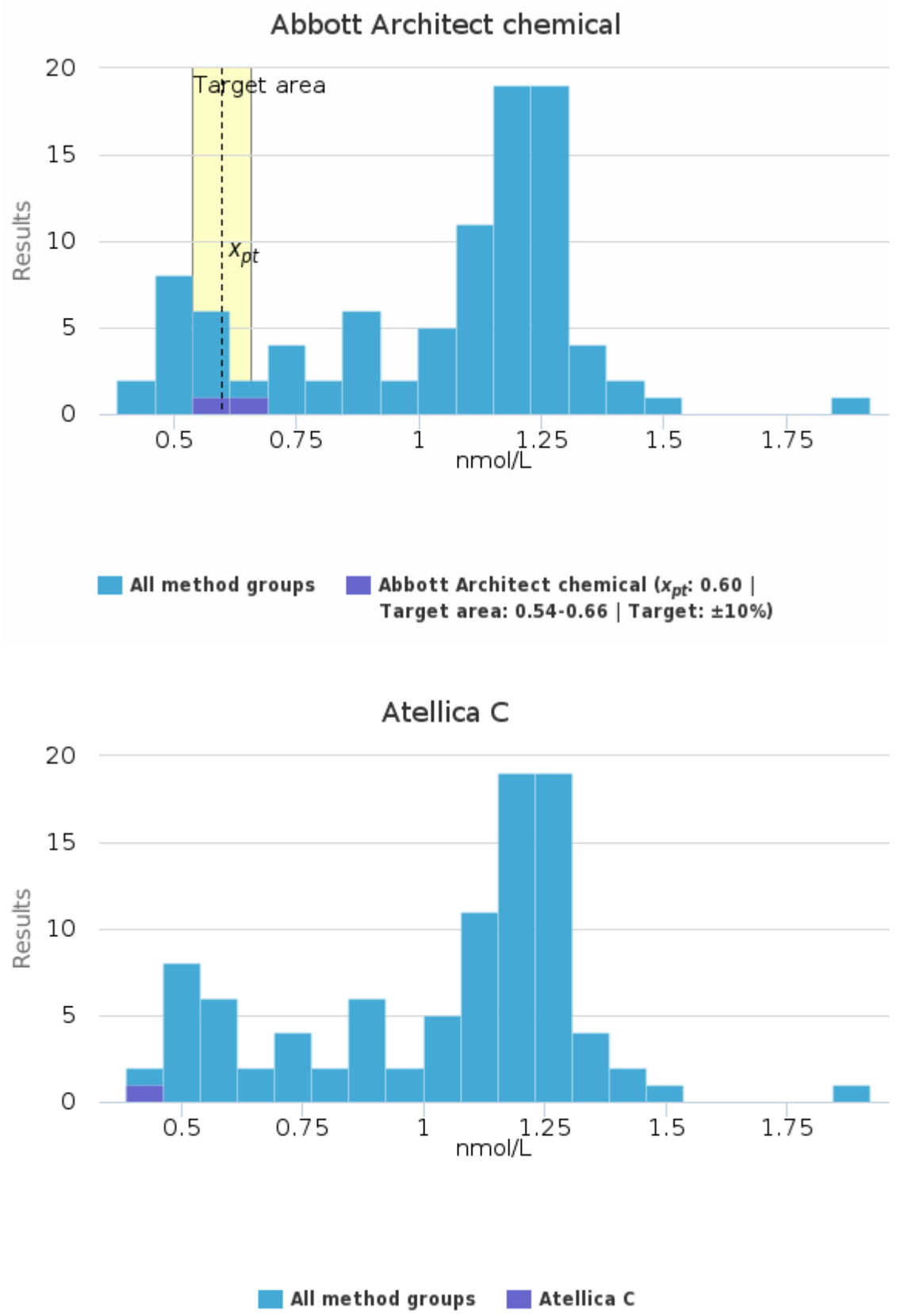


Sample S001 | Digoxin, nmol/L

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Abbott Alinity c	0.55	0.53	0.07	11.8	0.02	0.50	0.70	-	12
Abbott Architect chemical	0.60	0.60	0.08	12.7	0.05	0.54	0.65	-	2
Abbott Architect immunochemical	1.17	1.18	0.08	7.2	0.05	1.08	1.24	-	3
Atellica C	-	-	-	-	-	0.41	0.41	-	1
Atellica I	1.28	1.30	0.07	5.7	0.02	1.17	1.40	-	12
Beckman Coulter AU (Olympus)	-	-	-	-	-	0.61	0.61	-	1
Beckmann Coulter Syncron	1.25	1.26	0.03	2.6	0.02	1.22	1.28	-	3
Ortho Vitros 5.1 & 5600	-	-	-	-	-	1.92	1.92	-	1
Roche cobas c	0.73	0.71	0.22	29.5	0.07	0.38	1.16	-	11
Roche Elecsys/cobas e	1.18	1.19	0.07	6.1	0.01	1.02	1.40	1	36
Roche Integra	-	-	-	-	-	0.90	0.90	-	1
Siemens Advia Centaur	-	-	-	-	-	1.23	1.23	-	1
Siemens Dimension	0.96	1.00	0.05	5.7	0.02	0.90	1.00	-	5
Siemens SYVA EMIT	1.16	1.11	0.24	20.6	0.12	0.95	1.46	-	4
Thermo Fisher	-	-	-	-	-	1.28	1.28	-	1
All	**1.03**	**1.15**	**0.30**	**29.2**	**0.03**	**0.38**	**1.92**	**-**	**94**

Sample S001 | Digoxin, nmol/L| histogram summaries in LabScala





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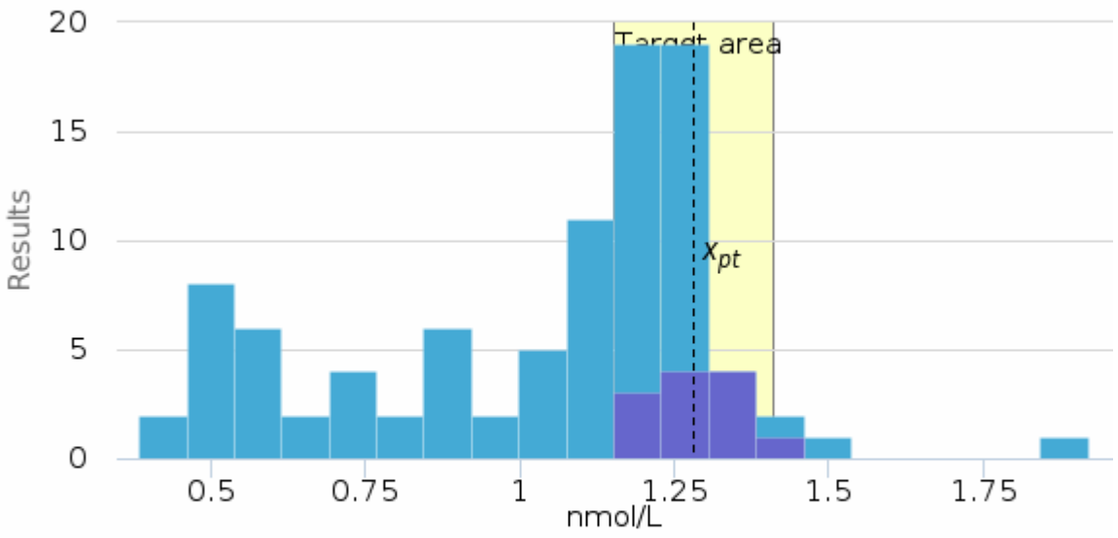
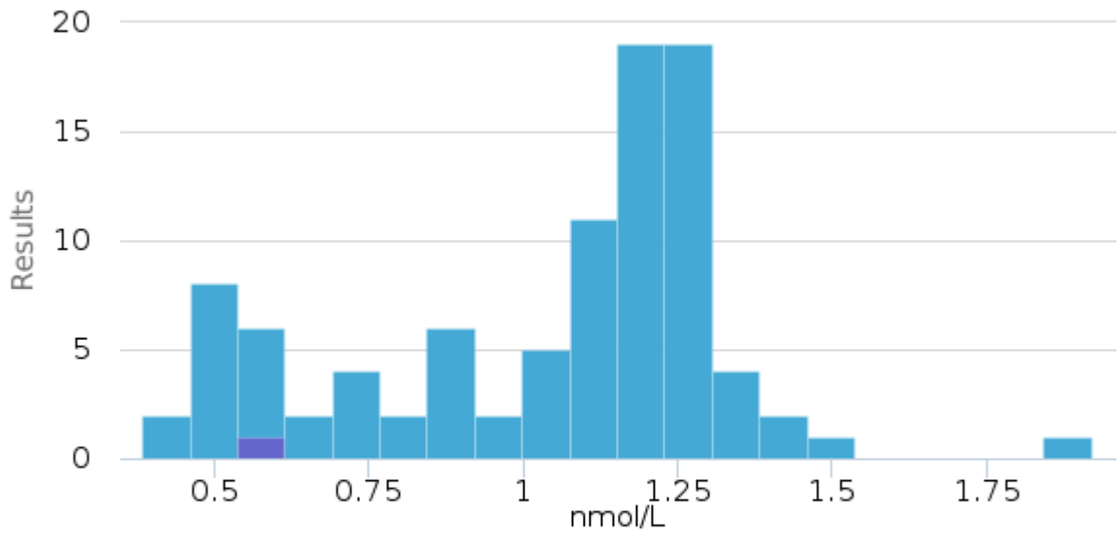
Quantitative report

Atellica I



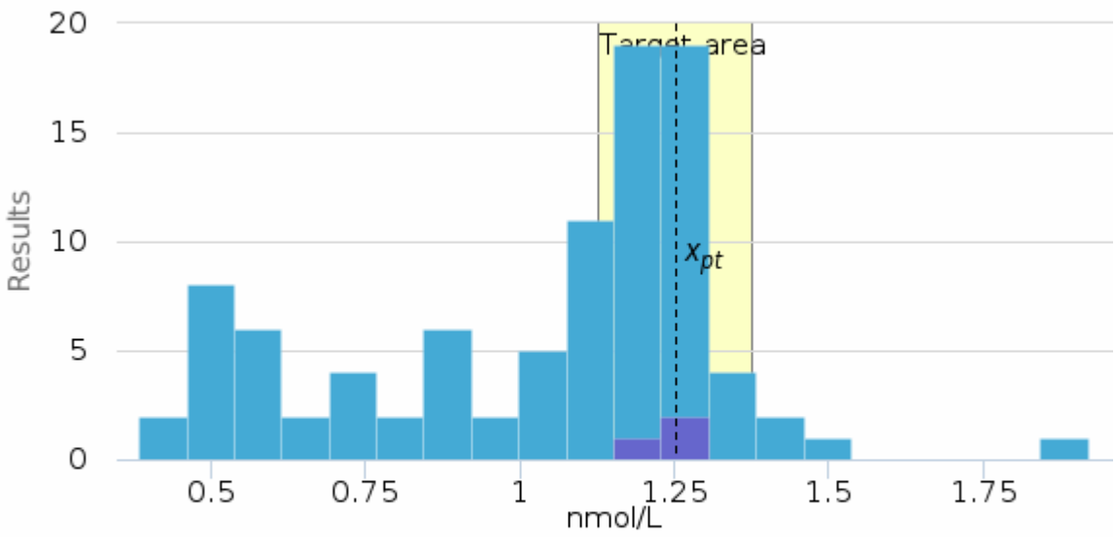
All method groups — Atellica I (x_{pt}: 1.28 | Target area: 1.15-1.41 | Target: ±10%)

Beckman Coulter AU (Olympus)



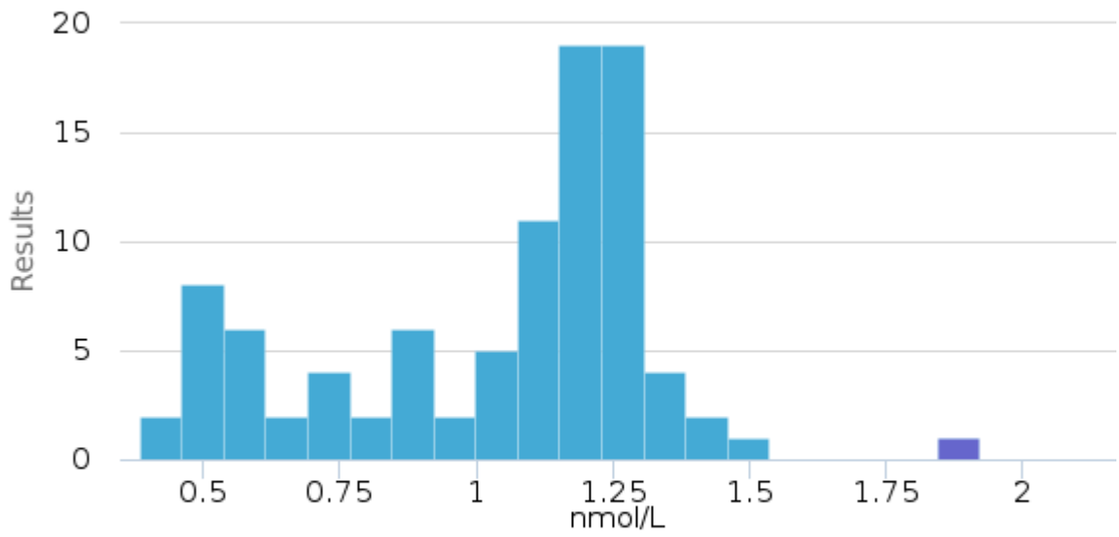
All method groups — Beckman Coulter AU (Olympus)

Beckmann Coulter Syncron



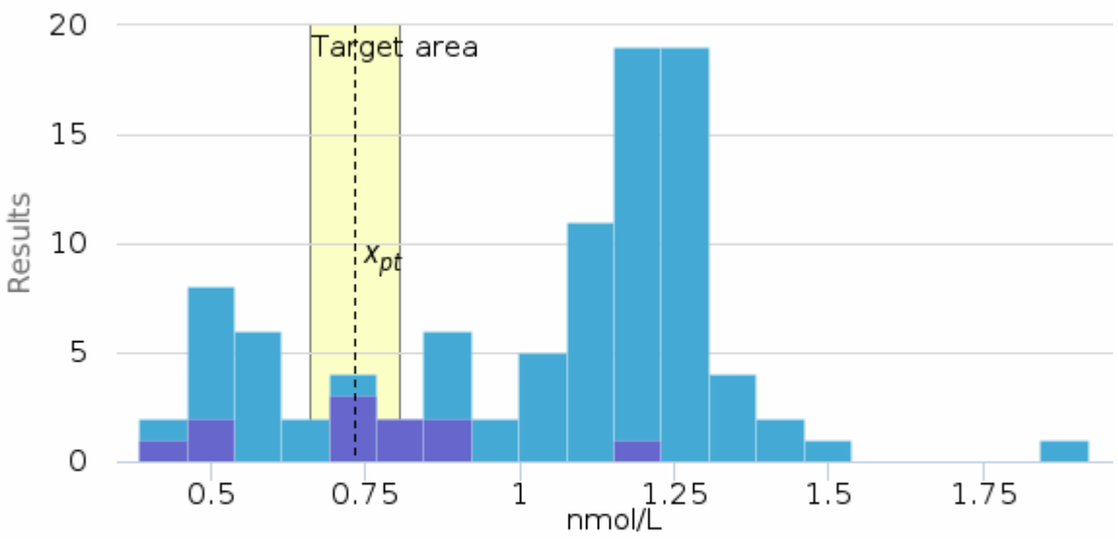
All method groups — Beckmann Coulter Syncron (x_{pt}: 1.25 | Target area: 1.13-1.38 | Target: ±10%)

Ortho Vitros 5.1 & 5600



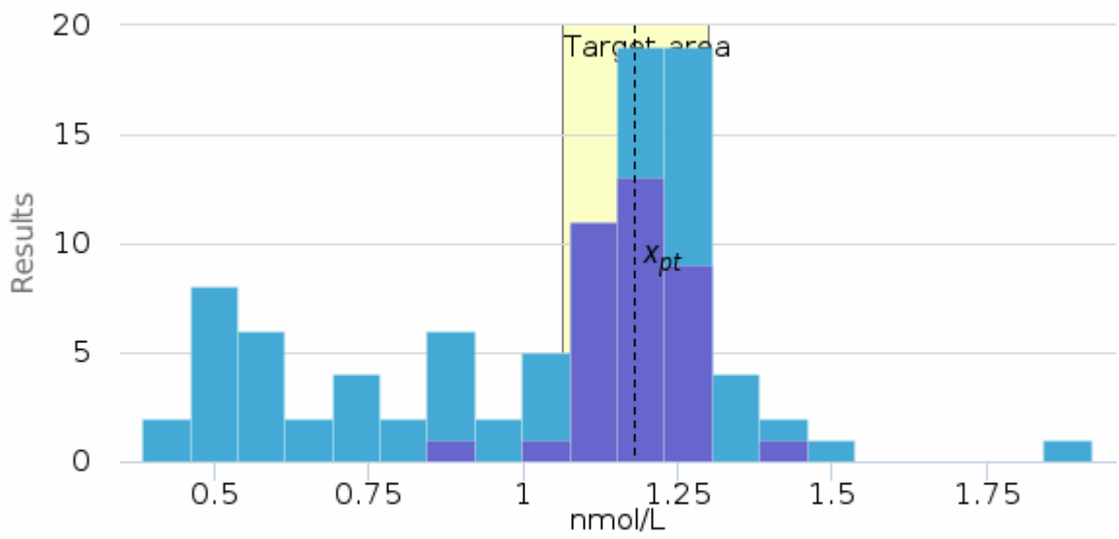
All method groups — Ortho Vitros 5.1 & 5600

Roche cobas c



All method groups — Roche cobas c (x_{pt}: 0.73 | Target area: 0.66-0.81 | Target: ±10%)

Roche Elecsys/cobas e



All method groups — Roche Elecsys/cobas e (x_{pt}: 1.18 | Target area: 1.06-1.30 | Target: ±10%)

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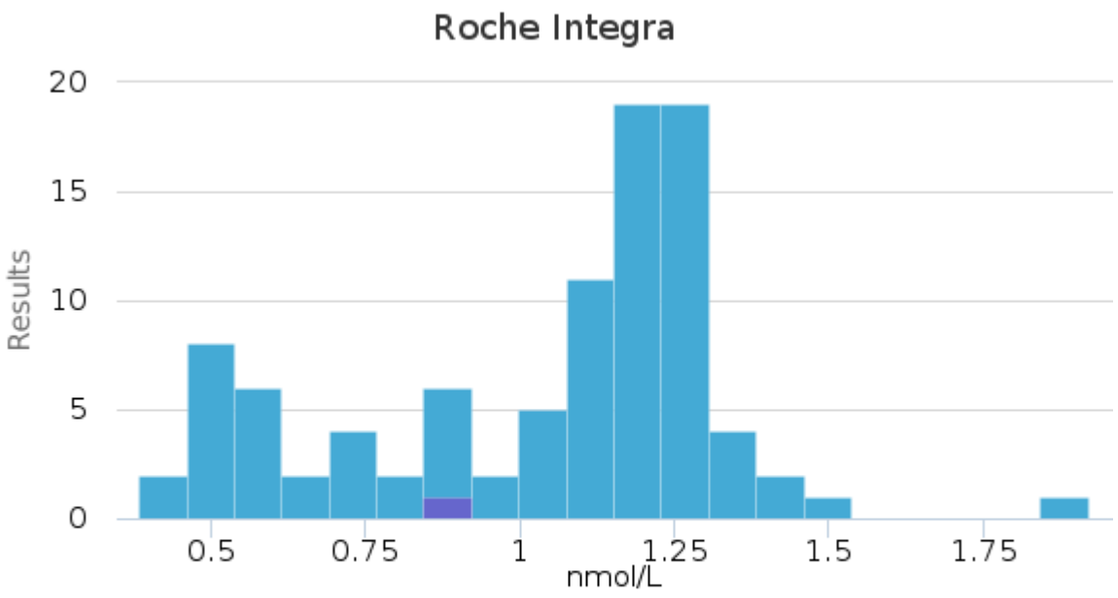
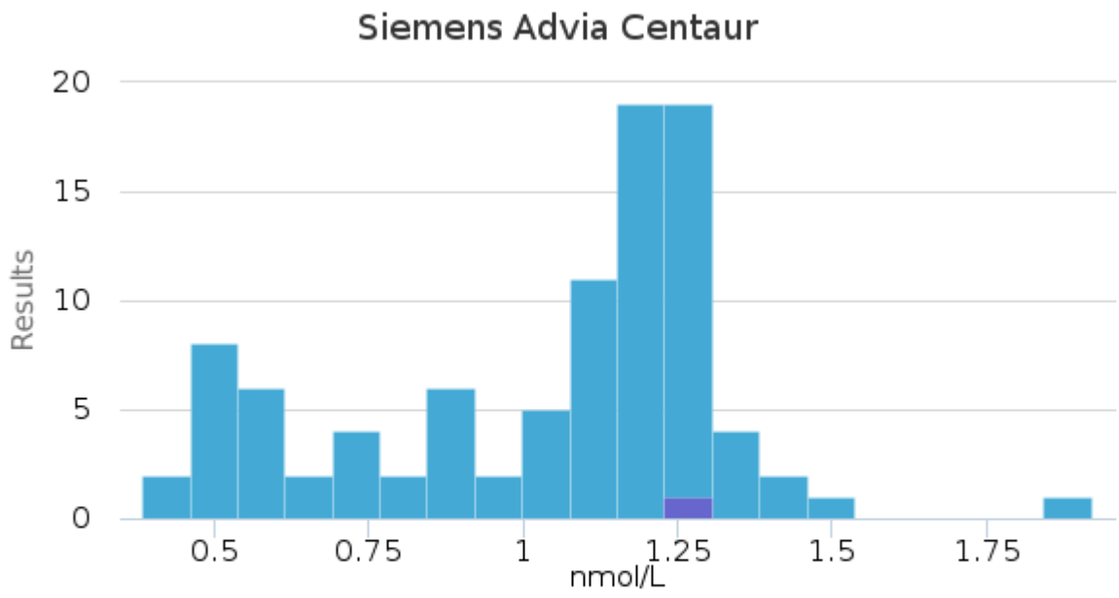
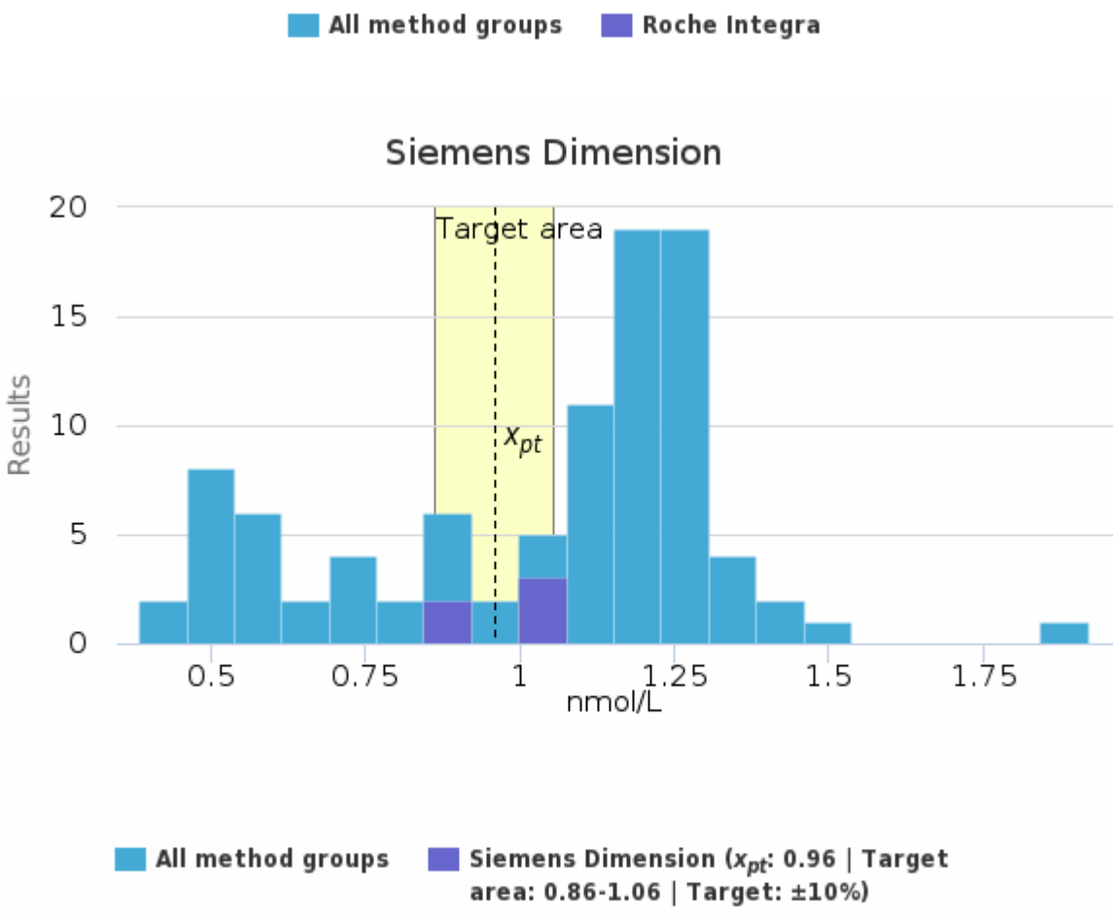
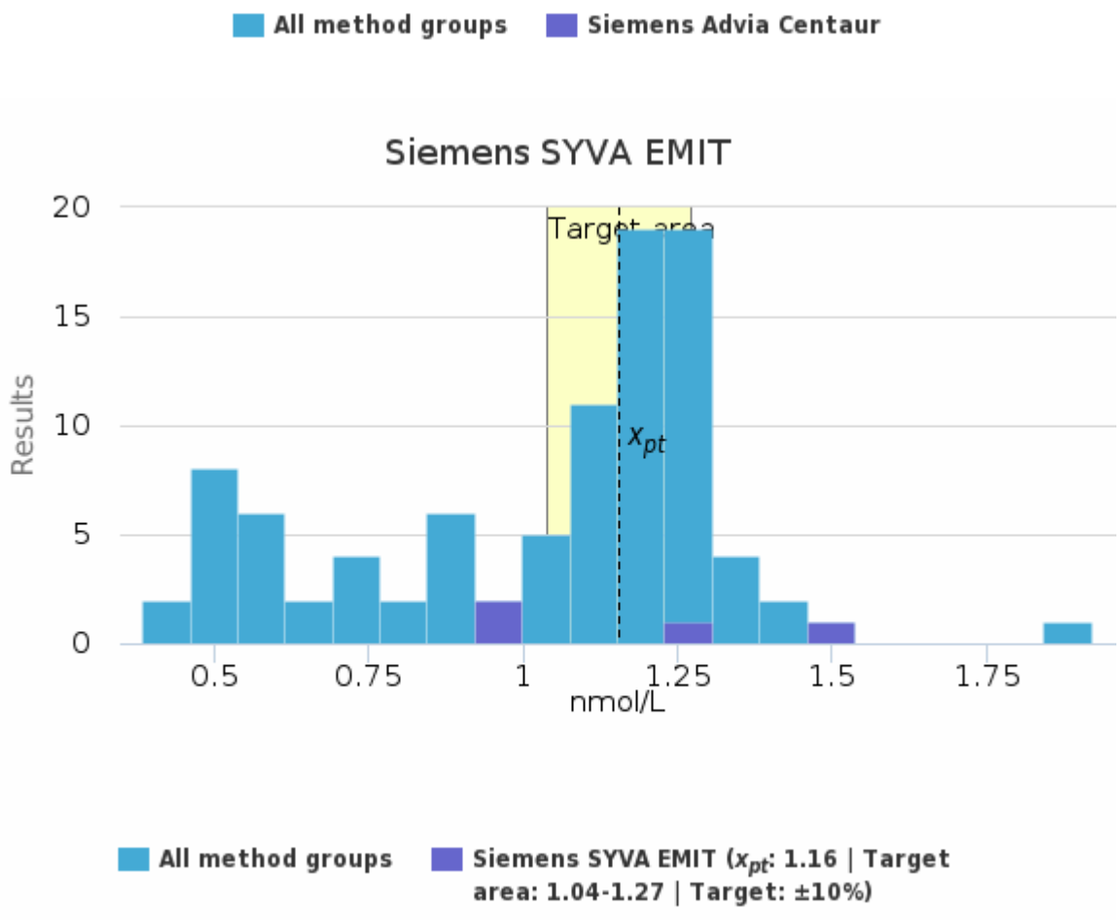
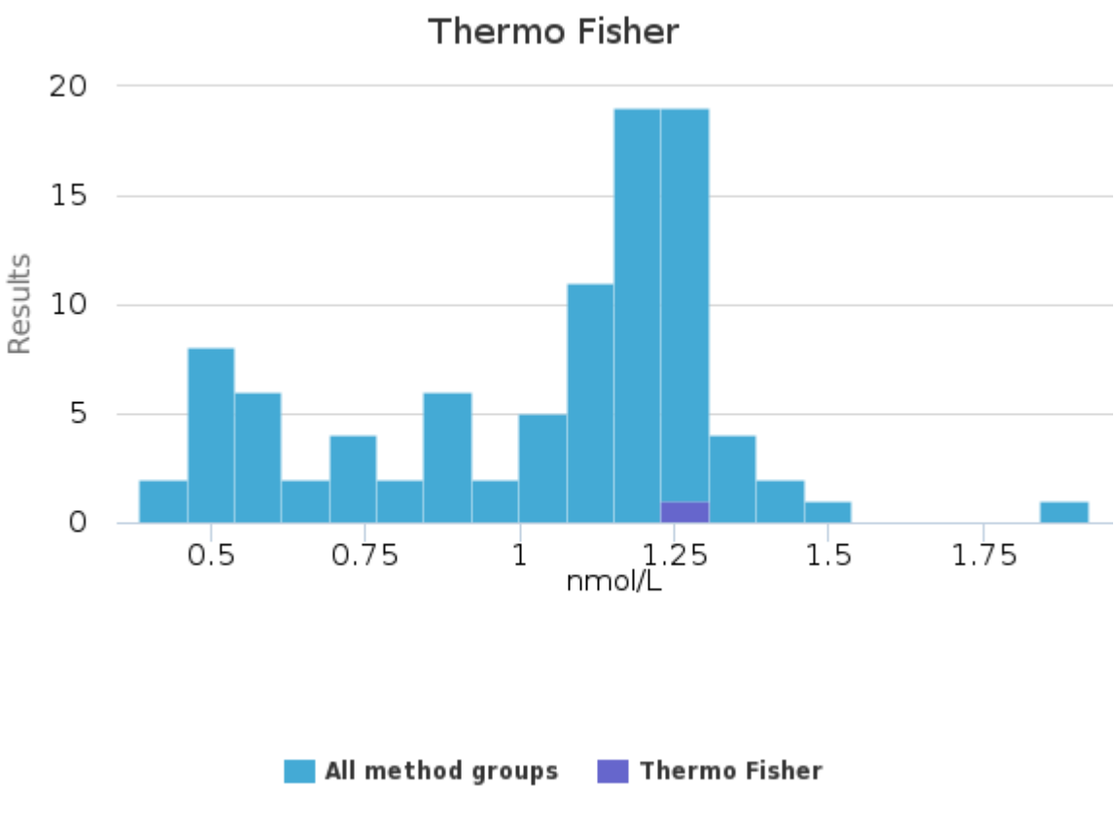






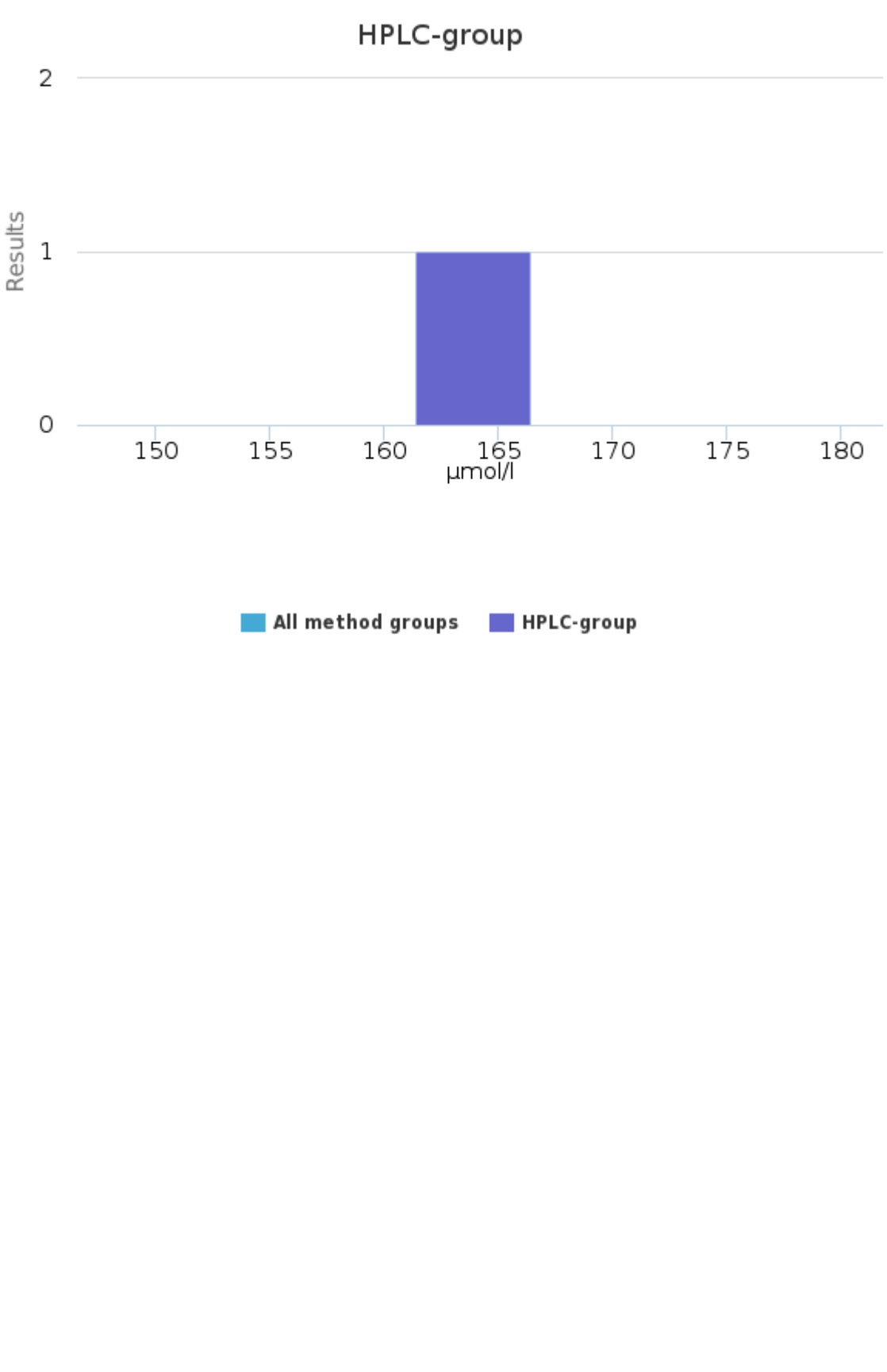




Sample S001 | Etosuximide, µmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
HPLC-group	-	-	-	-	-	164	164	-	1
All	**-**	**-**	**-**	**-**	**-**	**164**	**164**	**-**	**1**

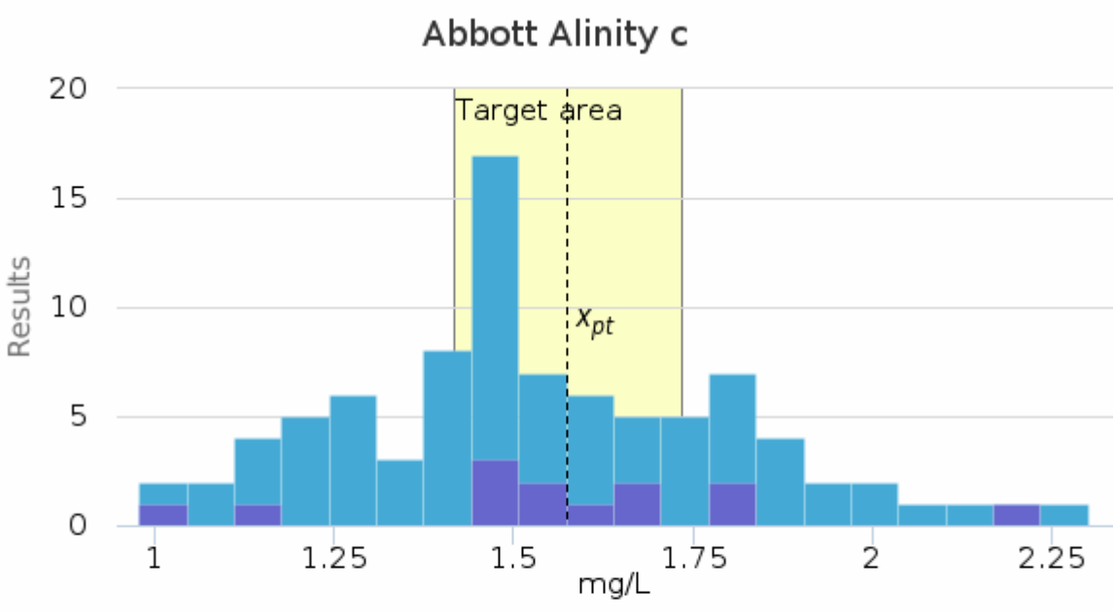
Sample S001 | Etosuximide, µmol/l| histogram summaries in LabScala

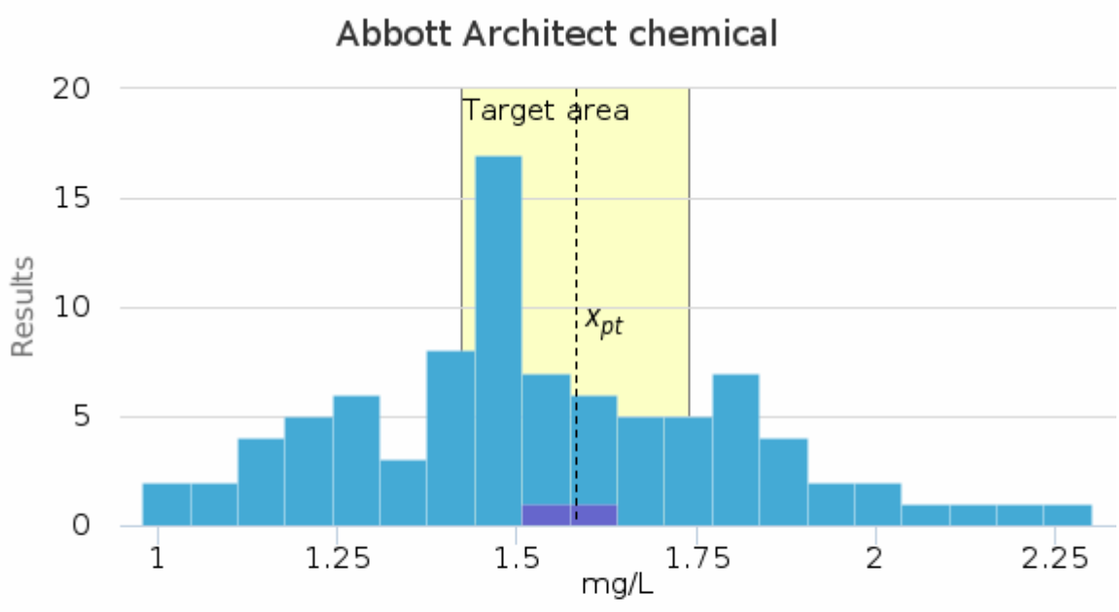


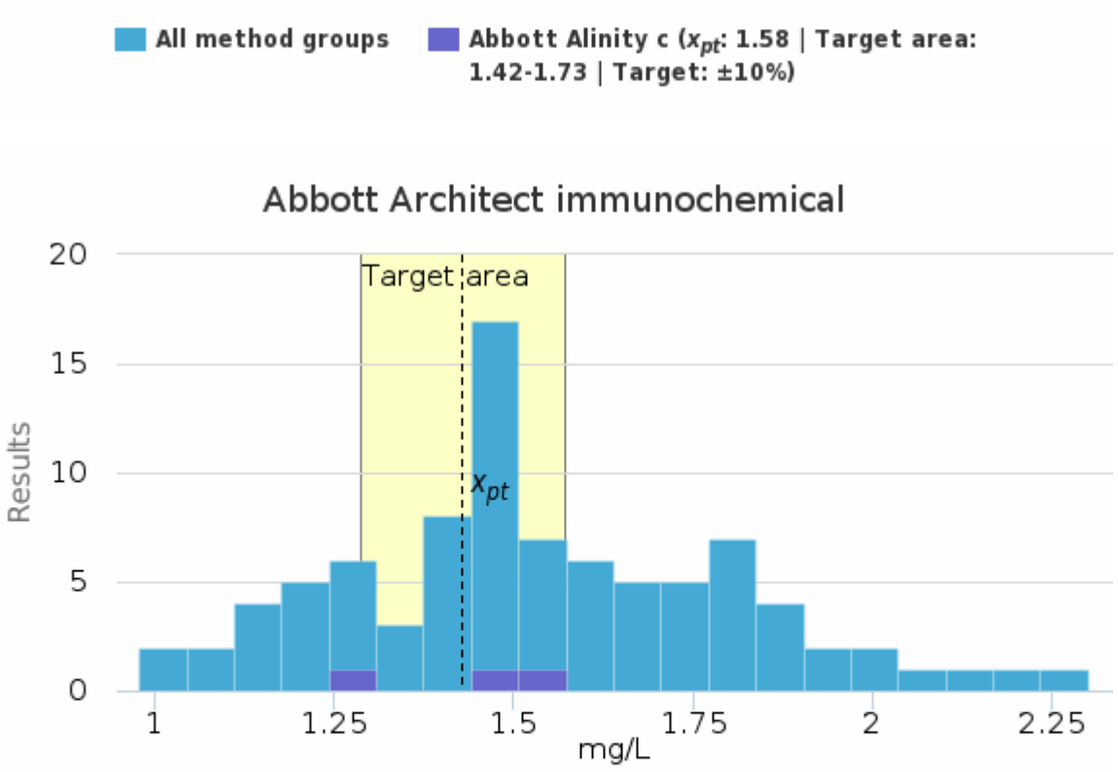
Sample S001 | Gentamycin, mg/L

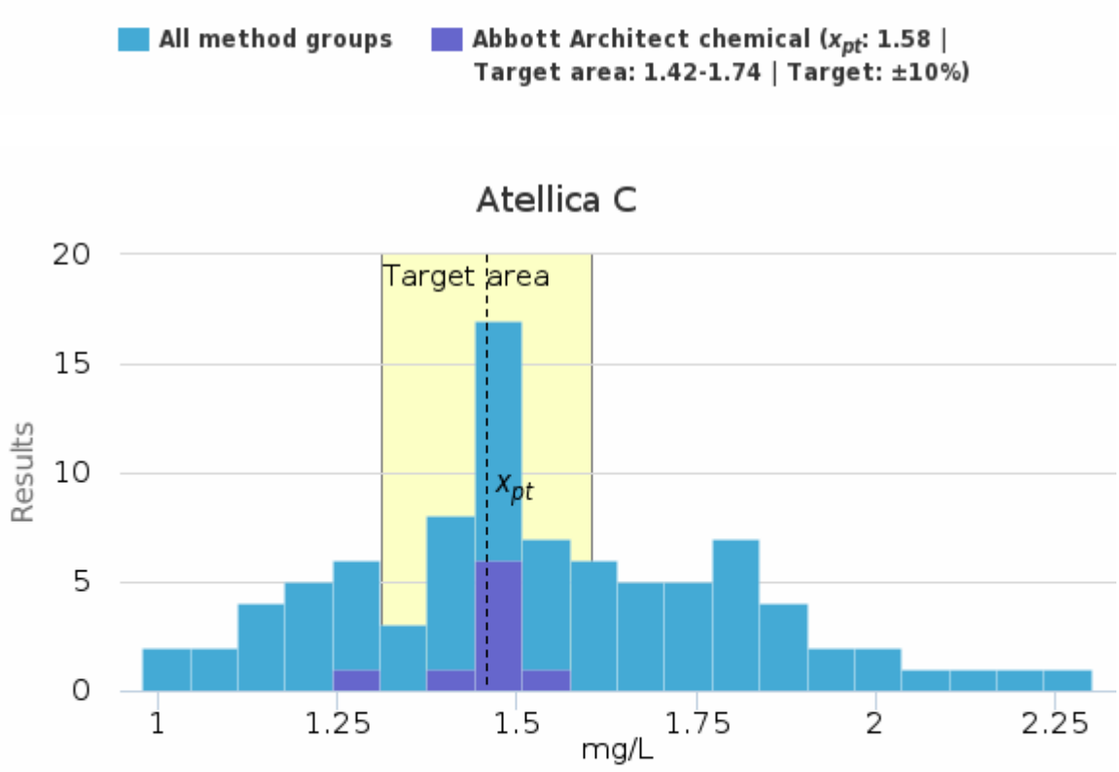
Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Abbott Alinity c	1.58	1.57	0.29	18.6	0.08	0.99	2.19	-	13
Abbott Architect chemical	1.58	1.58	0.07	4.6	0.05	1.53	1.63	-	2
Abbott Architect immunochemical	1.43	1.50	0.15	10.3	0.09	1.26	1.53	-	3
Atellica C	1.46	1.48	0.07	4.6	0.02	1.30	1.51	-	9
Beckman Coulter AU (Olympus)	1.85	1.85	0.04	2.2	0.02	1.80	1.90	-	4
Microgenics CEDIA	1.76	1.71	0.18	10.1	0.05	1.57	2.15	-	14
Roche cobas c	1.31	1.30	0.18	13.6	0.03	0.98	1.75	1	29
Roche Elecsys/cobas e	-	-	-	-	-	1.43	1.43	-	1
Roche Integra	1.49	1.49	0.07	4.7	0.05	1.44	1.54	-	2
Siemens Advia Centaur	-	-	-	-	-	1.48	1.48	-	1
Siemens Dimension	1.60	1.55	0.14	8.8	0.07	1.50	1.80	-	4
Siemens SYVA EMIT	1.97	2.00	0.15	7.8	0.09	1.80	2.10	-	3
Thermo Fisher	1.82	1.79	0.37	20.3	0.18	1.40	2.30	-	4
All	**1.54**	**1.50**	**0.27**	**17.7**	**0.03**	**0.98**	**2.30**	**-**	**89**

Sample S001 | Gentamycin, mg/L| histogram summaries in LabScala









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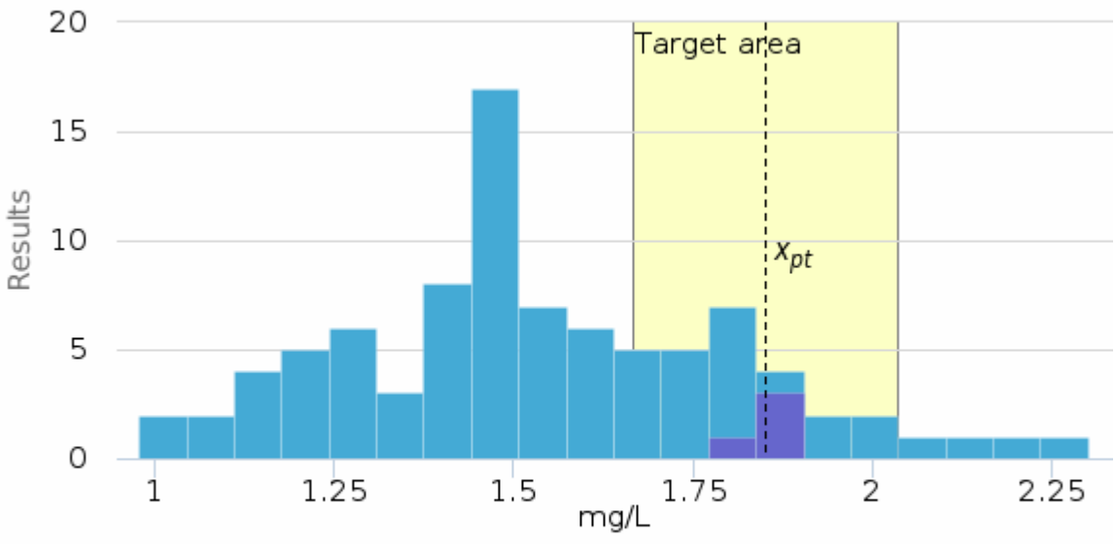
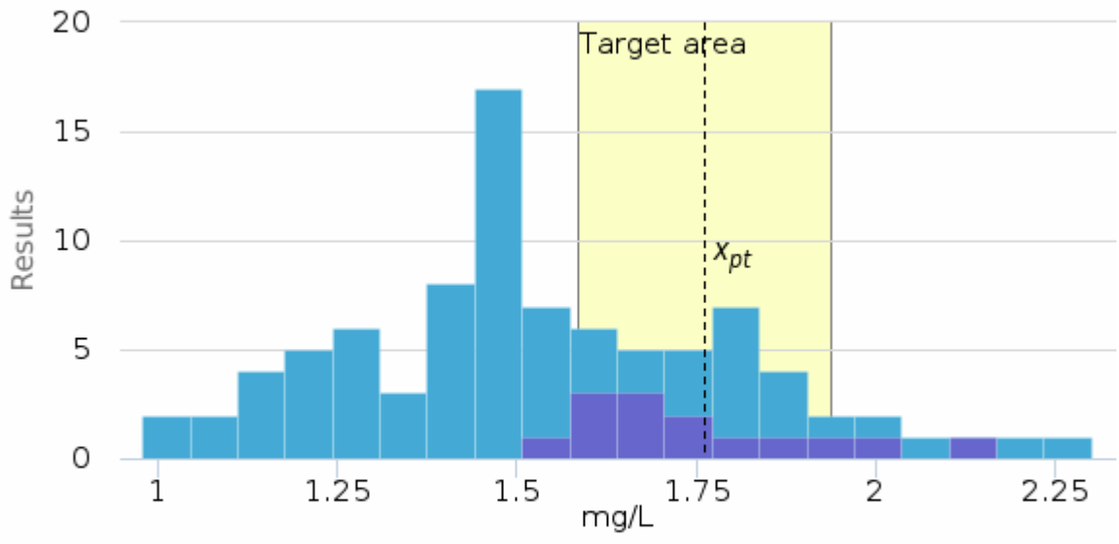
Beckman Coulter AU (Olympus)



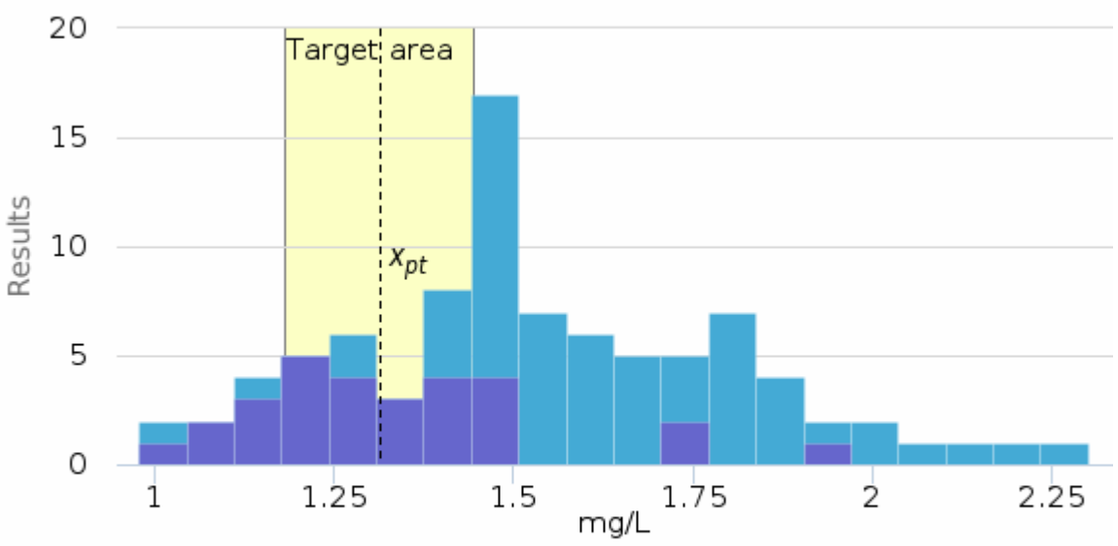
All method groups — Beckman Coulter AU (Olympus) (x_{pt}: 1.85 | Target area: 1.67-2.04 | Target: ±10%)

Microgenics CEDIA



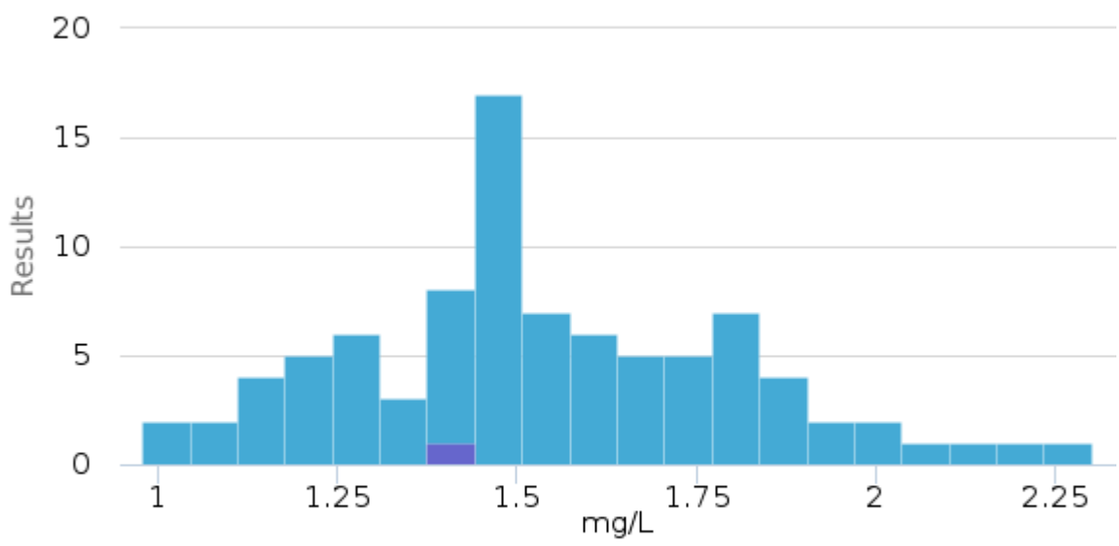
All method groups — Microgenics CEDIA (x_{pt}: 1.76 | Target area: 1.58-1.94 | Target: ±10%)

Roche cobas c



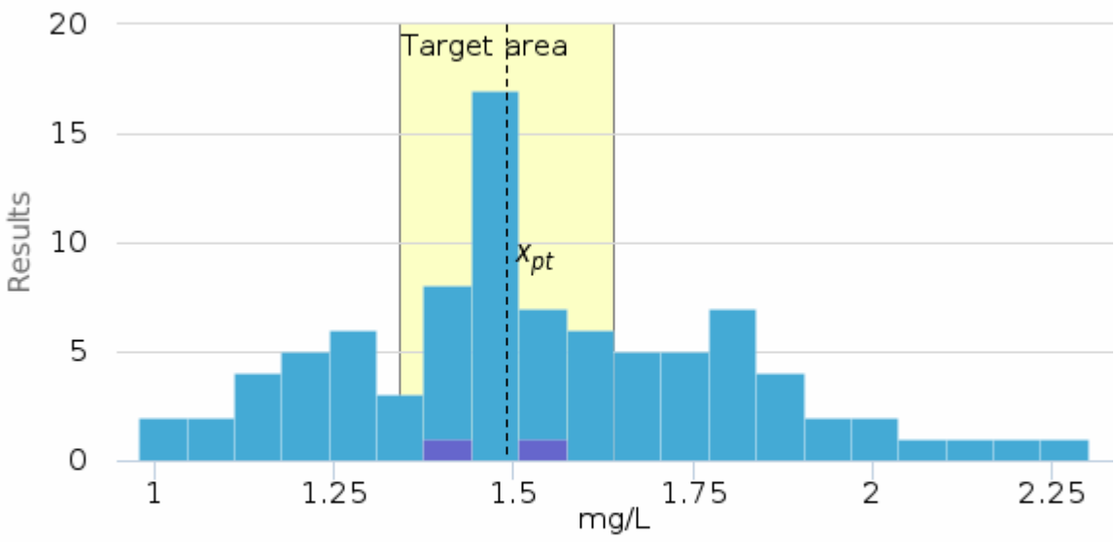
All method groups — Roche cobas c (x_{pt}: 1.31 | Target area: 1.18-1.45 | Target: ±10%)

Roche Elecsys/cobas e



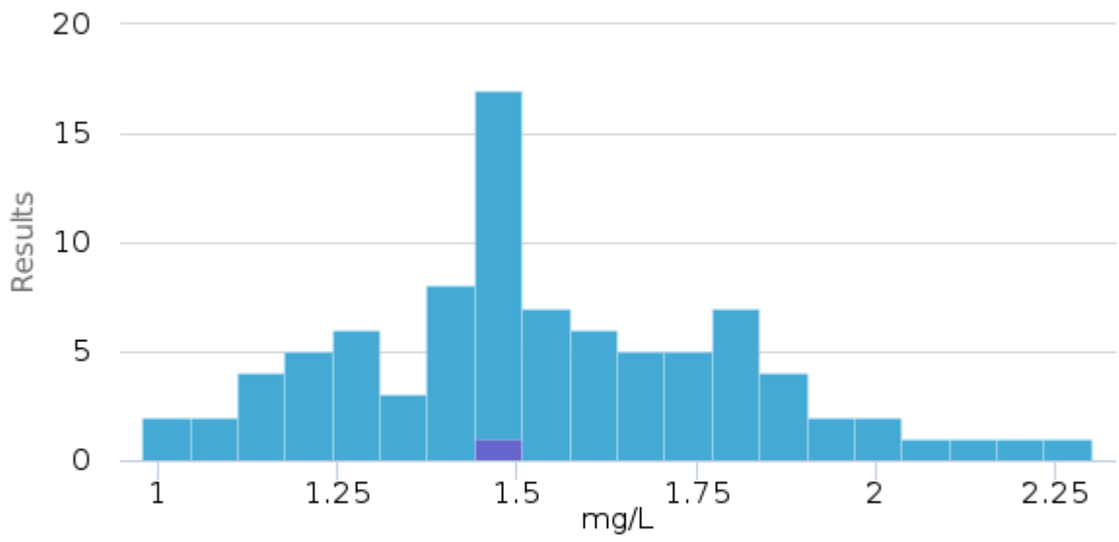
All method groups — Roche Elecsys/cobas e

Roche Integra



All method groups — Roche Integra (x_{pt}: 1.49 | Target area: 1.34-1.64 | Target: ±10%)

Siemens Advia Centaur



All method groups — Siemens Advia Centaur

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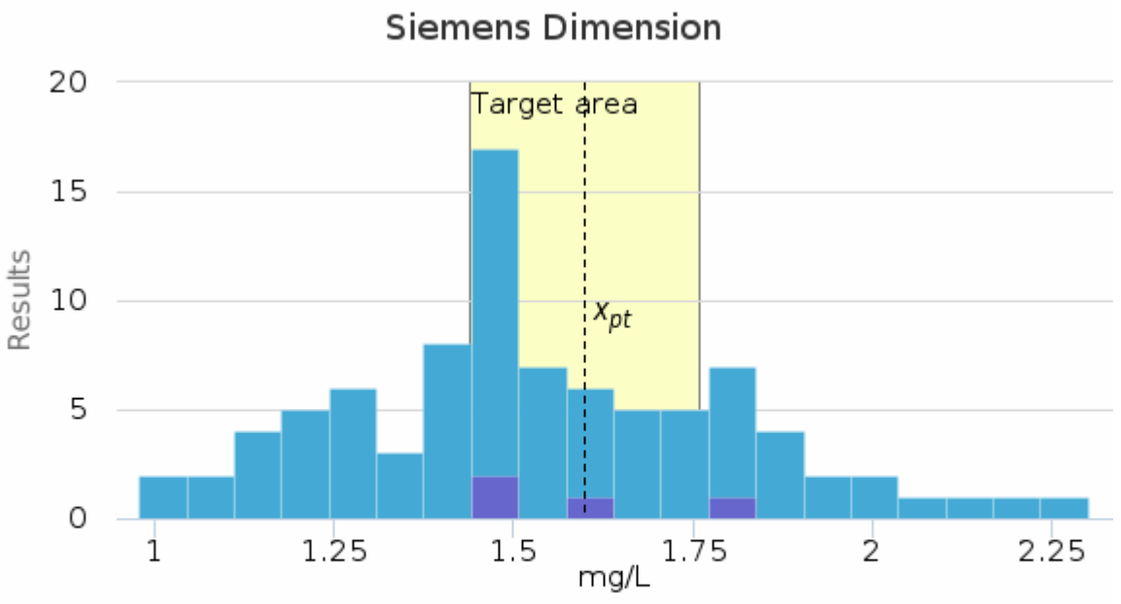
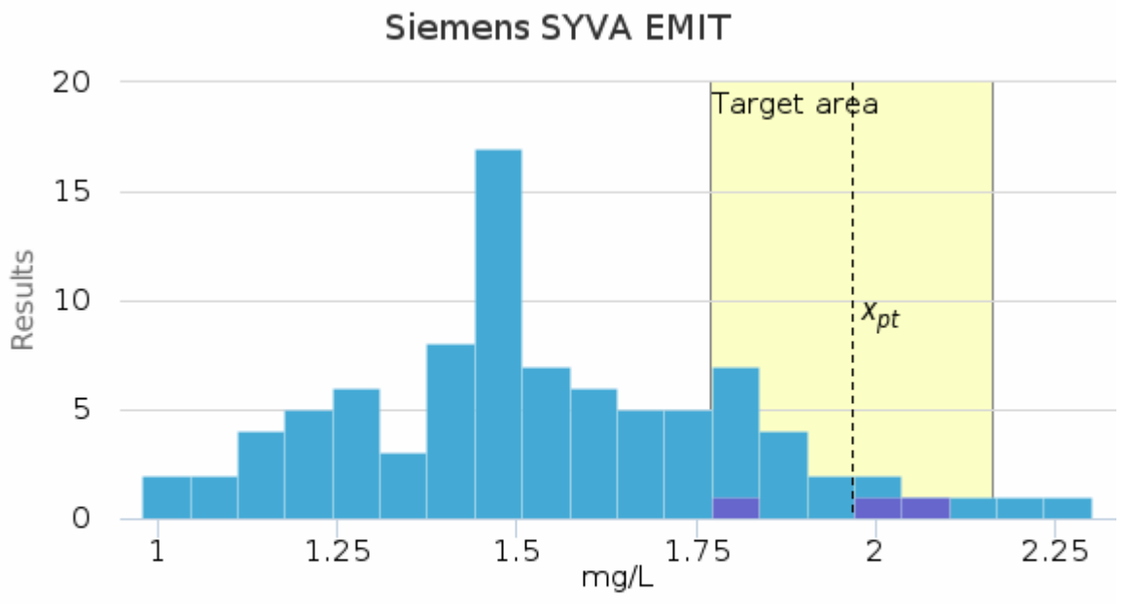
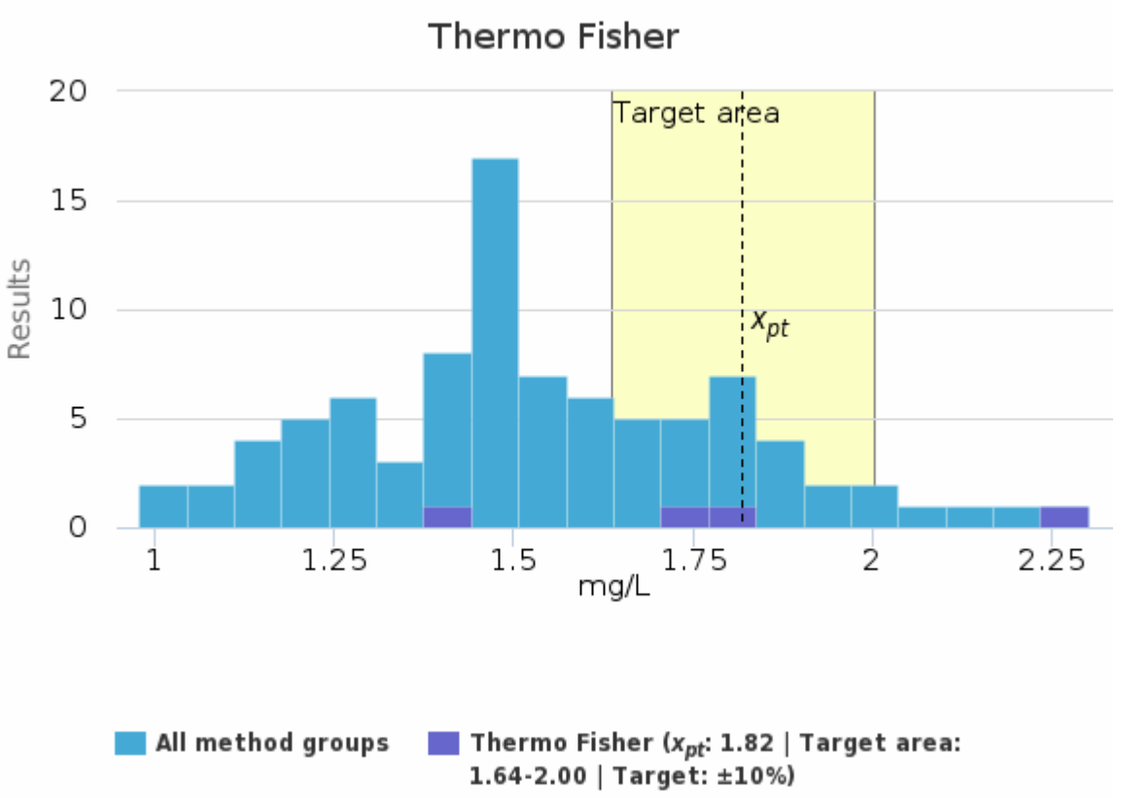


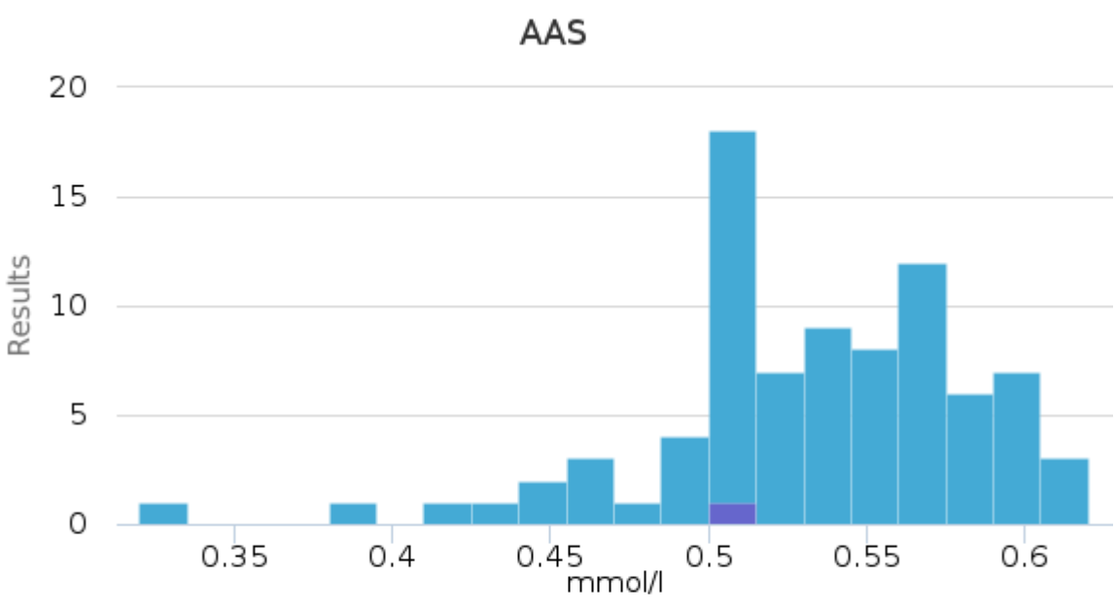


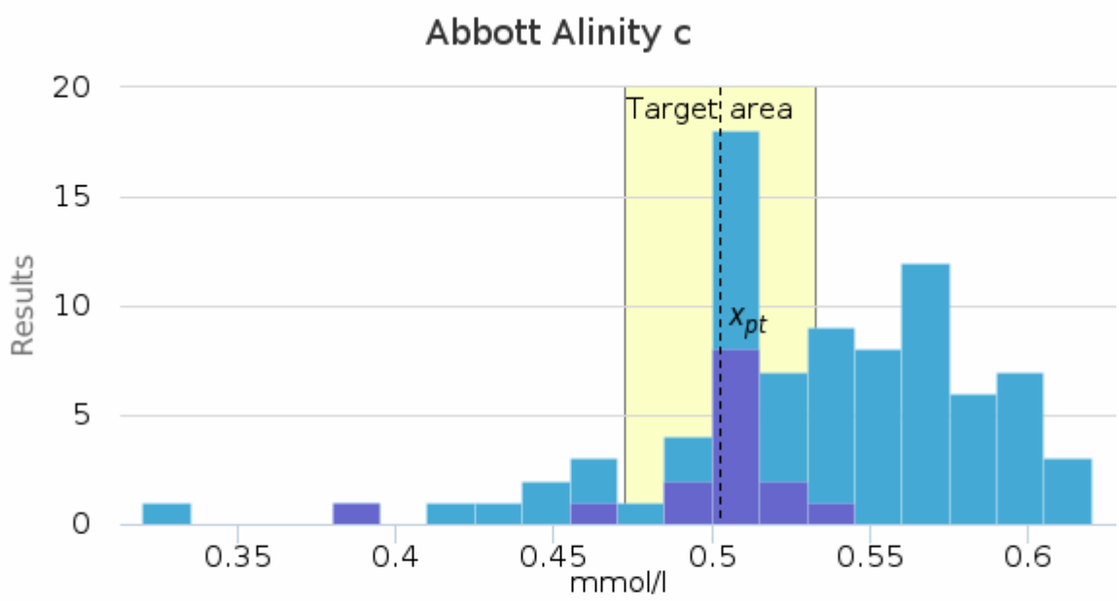


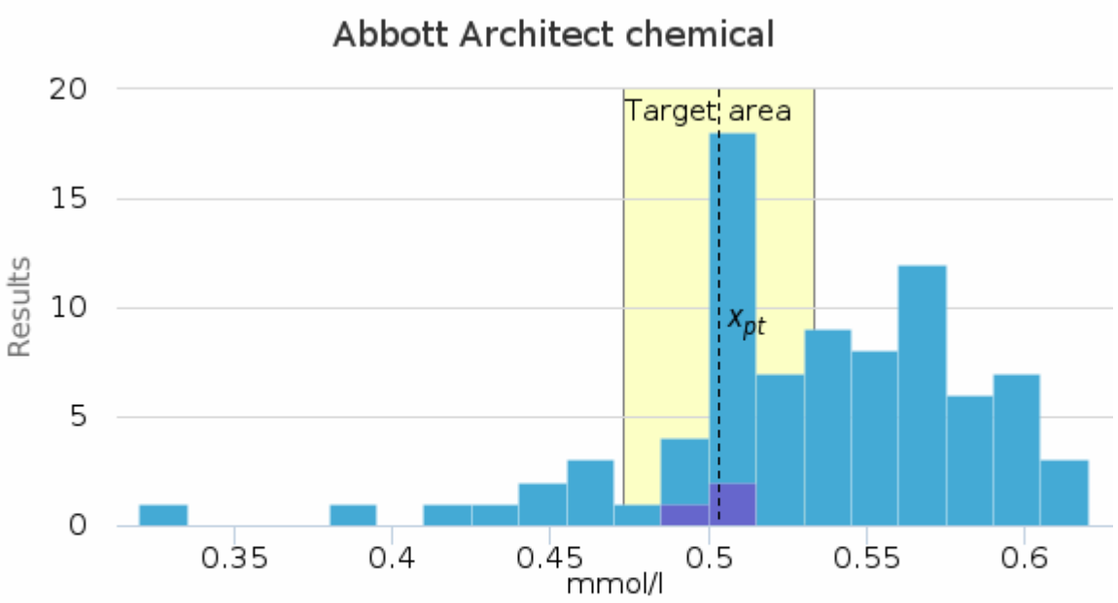
Sample S001 | Litium, mmol/l

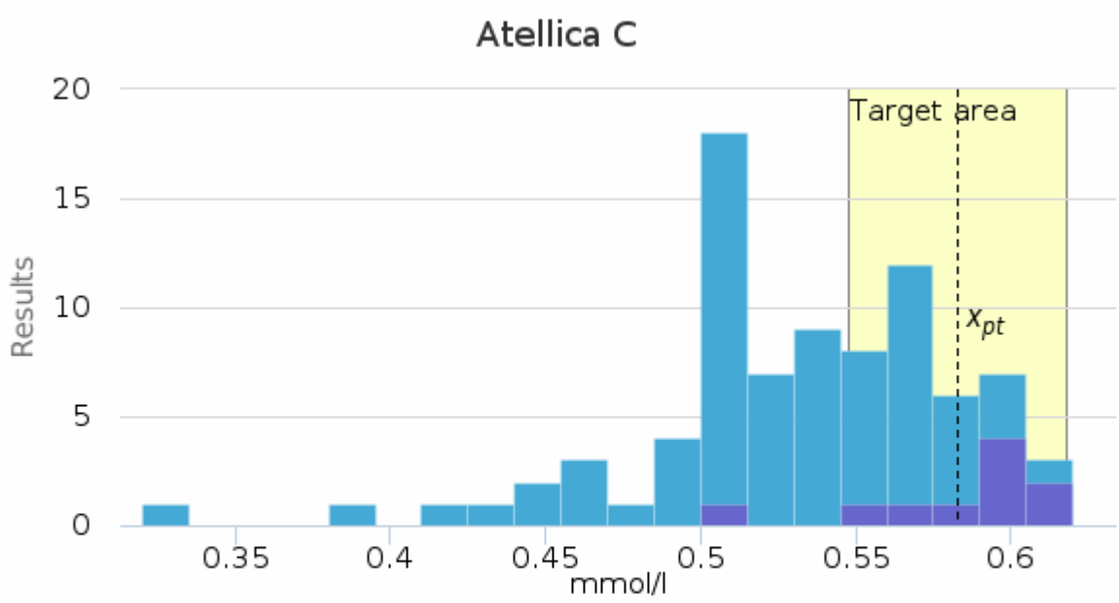
Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
AAS	-	-	-	-	-	0.51	0.51	-	1
Abbott Alinity c	0.50	0.50	0.02	3.5	<0.01	0.46	0.53	1	15
Abbott Architect chemical	0.50	0.51	0.01	2.3	<0.01	0.49	0.51	-	3
Atellica C	0.58	0.60	0.04	6.2	0.01	0.50	0.62	-	10
Beckman Coulter AU (Olympus)	0.54	0.54	0.04	7.4	0.02	0.50	0.58	-	3
Diestro	-	-	-	-	-	0.32	0.32	-	1
Roche cobas c	0.54	0.55	0.04	7.1	<0.01	0.43	0.61	1	45
Roche Integra	-	-	-	-	-	0.45	0.45	-	1
Siemens Advia	-	-	-	-	-	0.56	0.56	-	1
Siemens Dimension	0.50	0.50	0.05	10.0	0.03	0.45	0.55	-	3
Thermo Fisher	-	-	-	-	-	0.55	0.55	-	1
All	**0.53**	**0.53**	**0.05**	**8.7**	**<0.01**	**0.39**	**0.62**	**1**	**84**

Sample S001 | Litium, mmol/l| histogram summaries in LabScala









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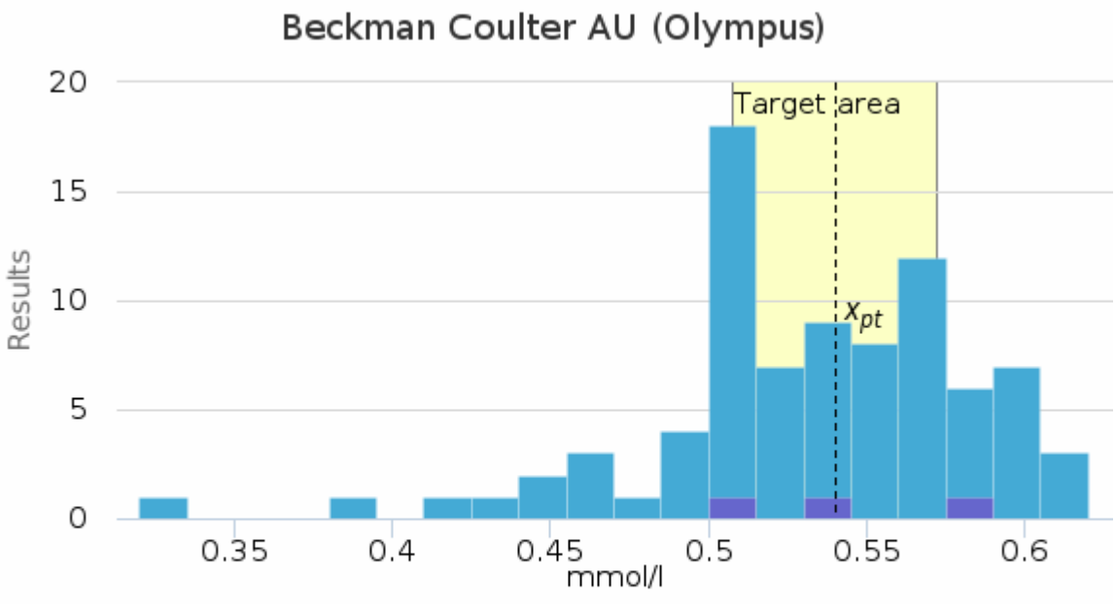

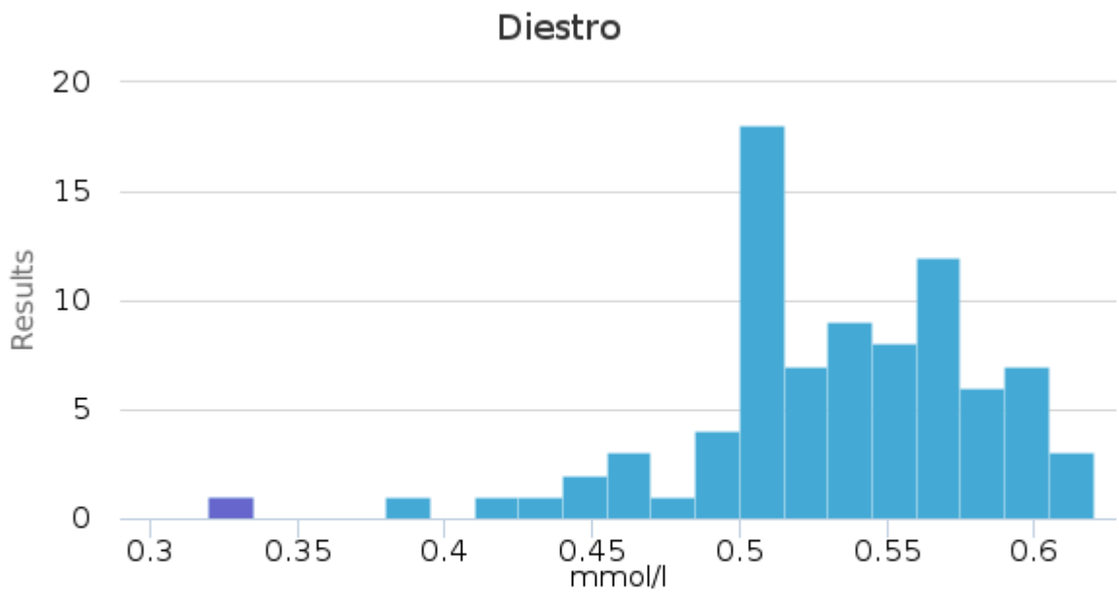

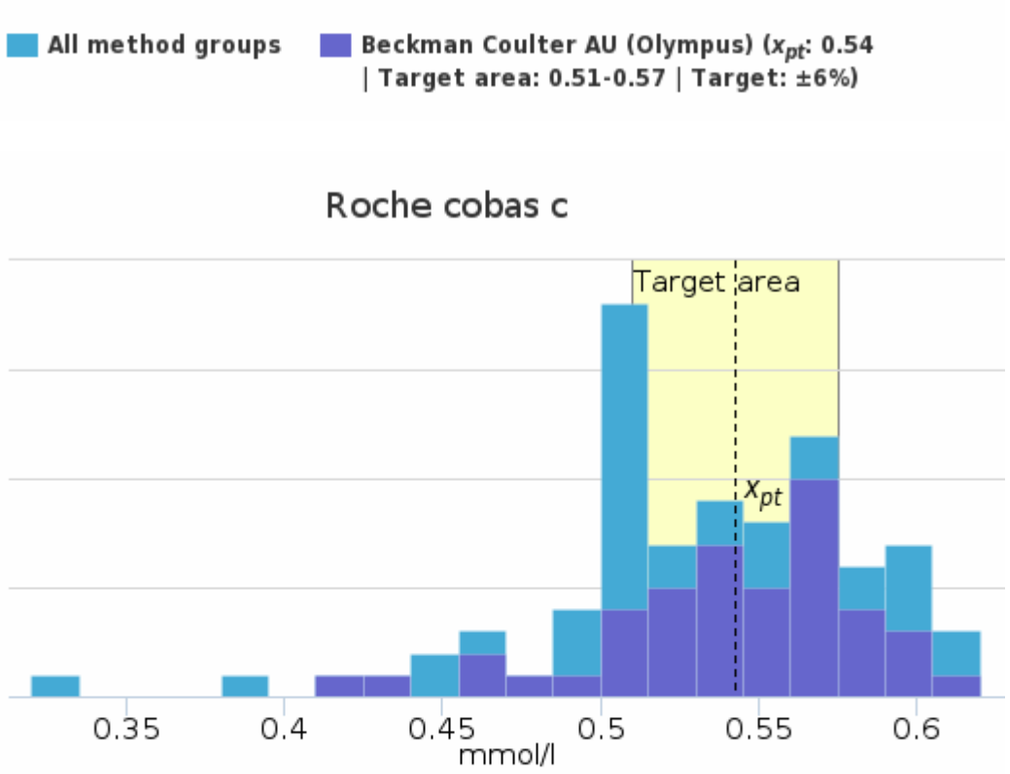

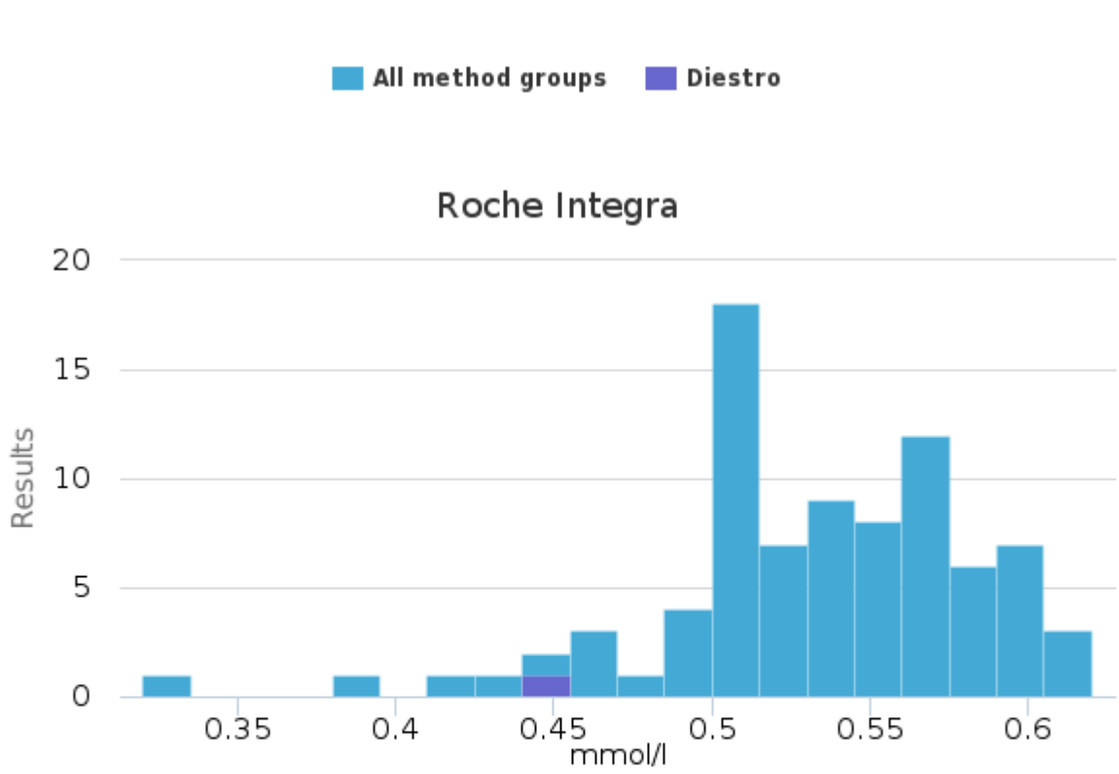

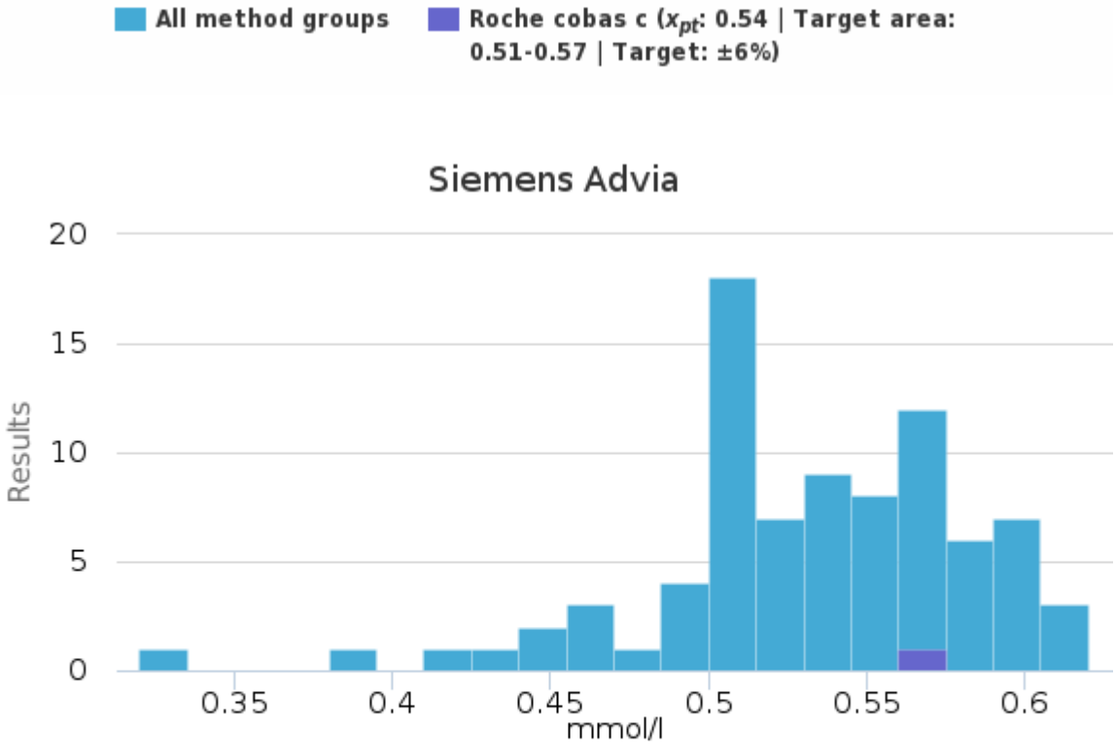

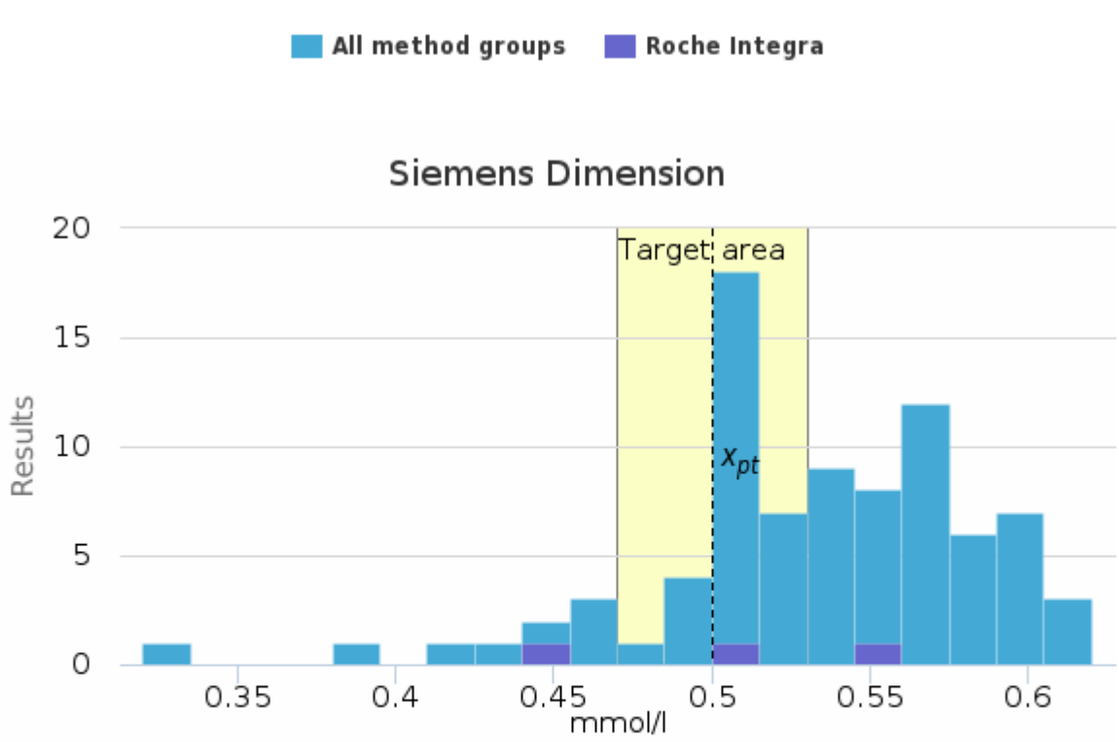

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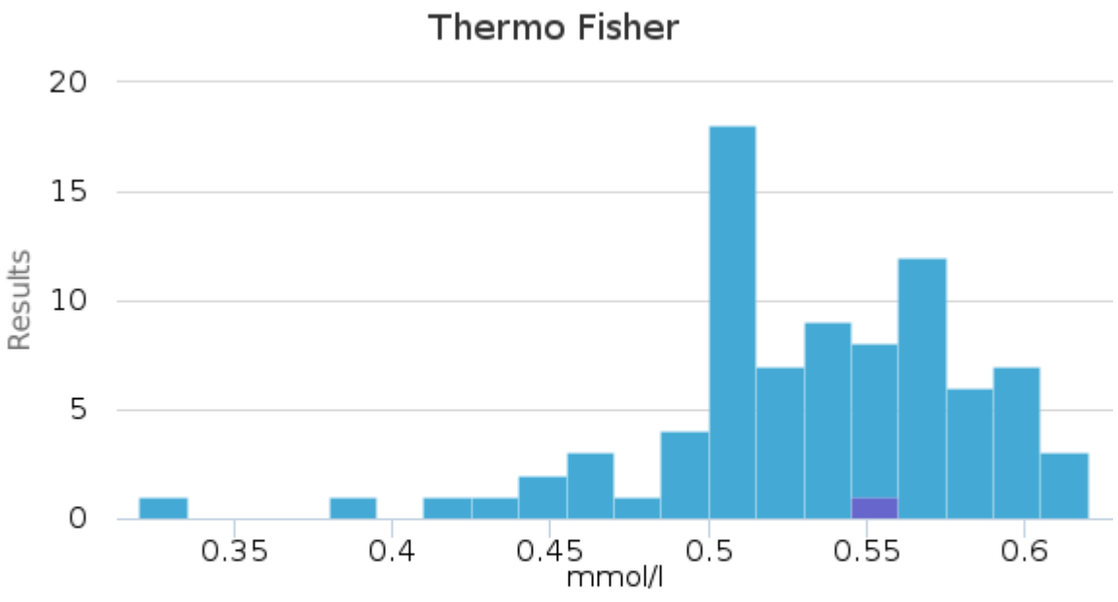
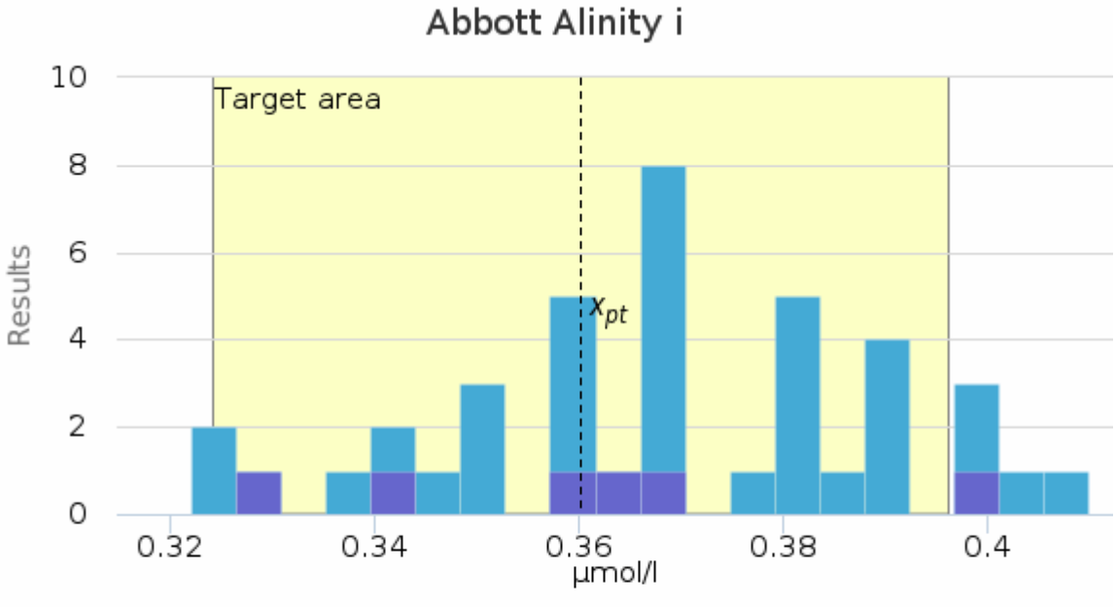
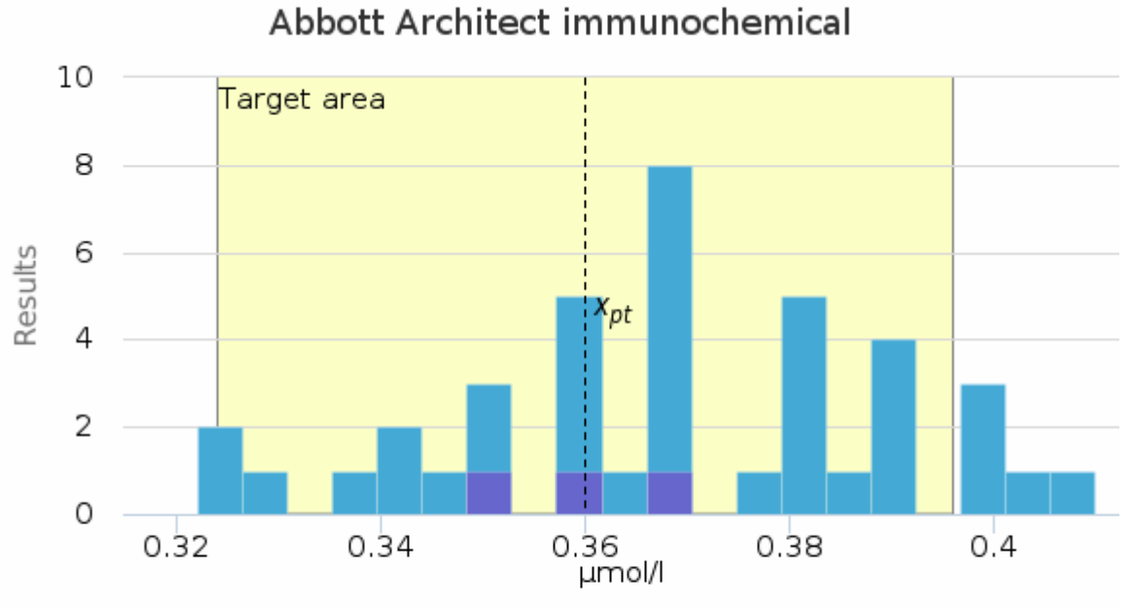


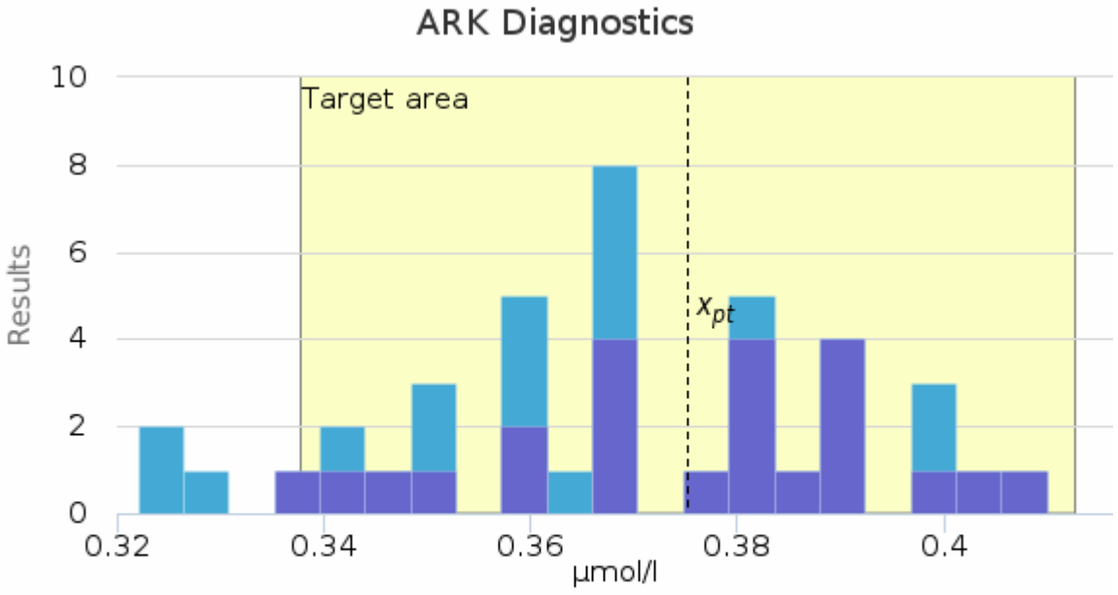
Sample S001 | Methotrexate, µmol/l

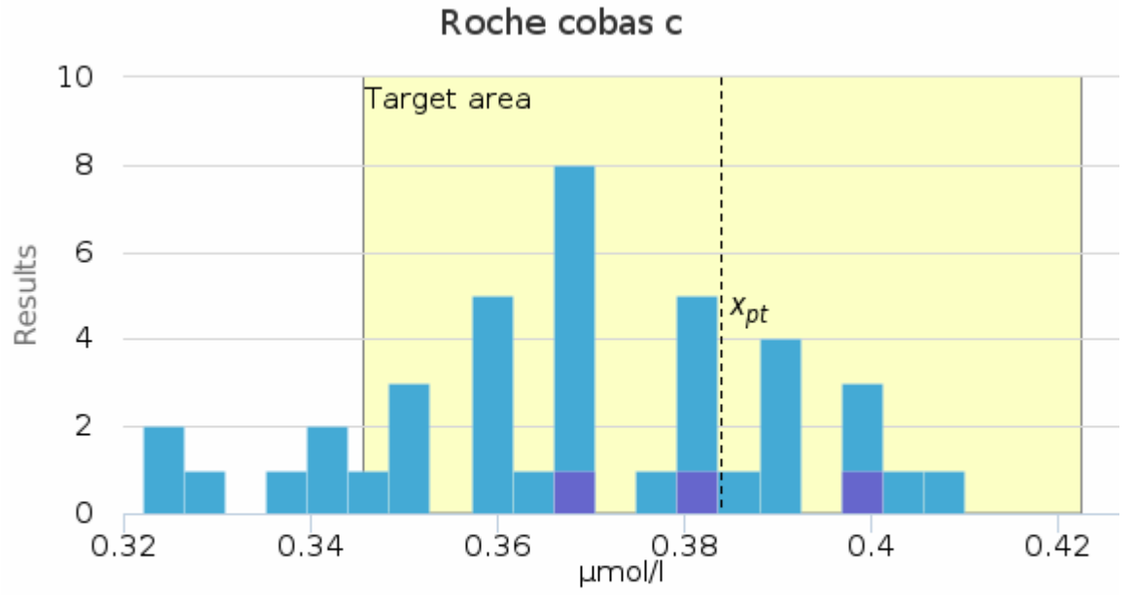
Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Abbott Alinity i	0.36	0.36	0.02	6.7	<0.01	0.33	0.40	-	6
Abbott Architect immunochemical	0.36	0.36	0.01	2.8	<0.01	0.35	0.37	-	3
ARK Diagnostics	0.38	0.38	0.02	5.2	<0.01	0.34	0.41	-	23
Roche cobas c	0.38	0.38	0.02	3.9	<0.01	0.37	0.40	-	3
Siemens SYVA EMIT	0.35	0.35	0.02	6.1	<0.01	0.32	0.37	-	5
All	**0.37**	**0.37**	**0.02**	**5.9**	**<0.01**	**0.32**	**0.41**	**-**	**40**

Sample S001 | Methotrexate, µmol/l| histogram summaries in LabScala









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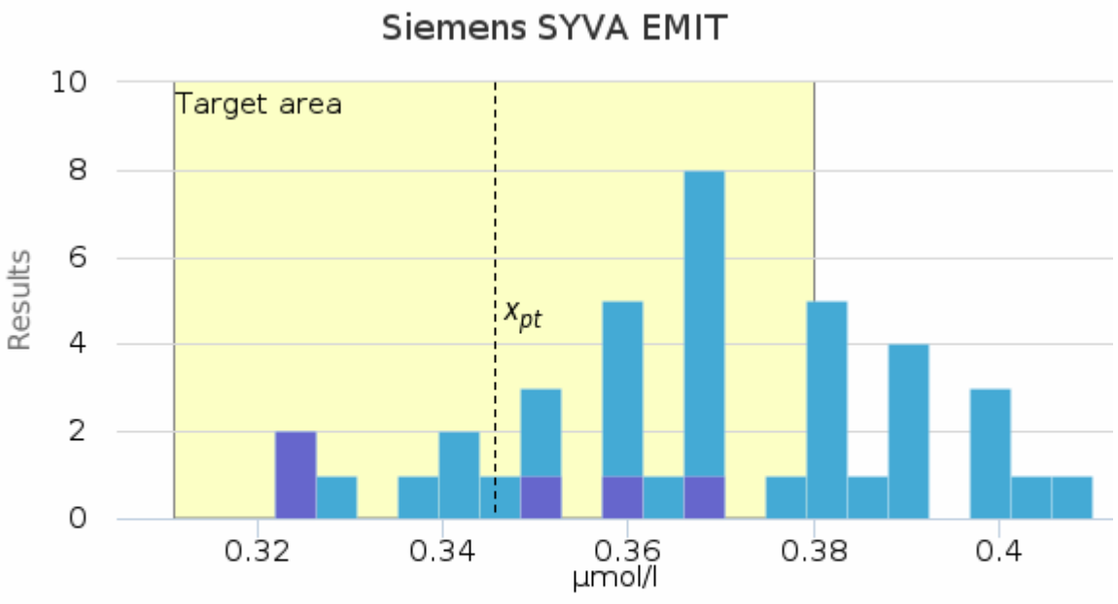
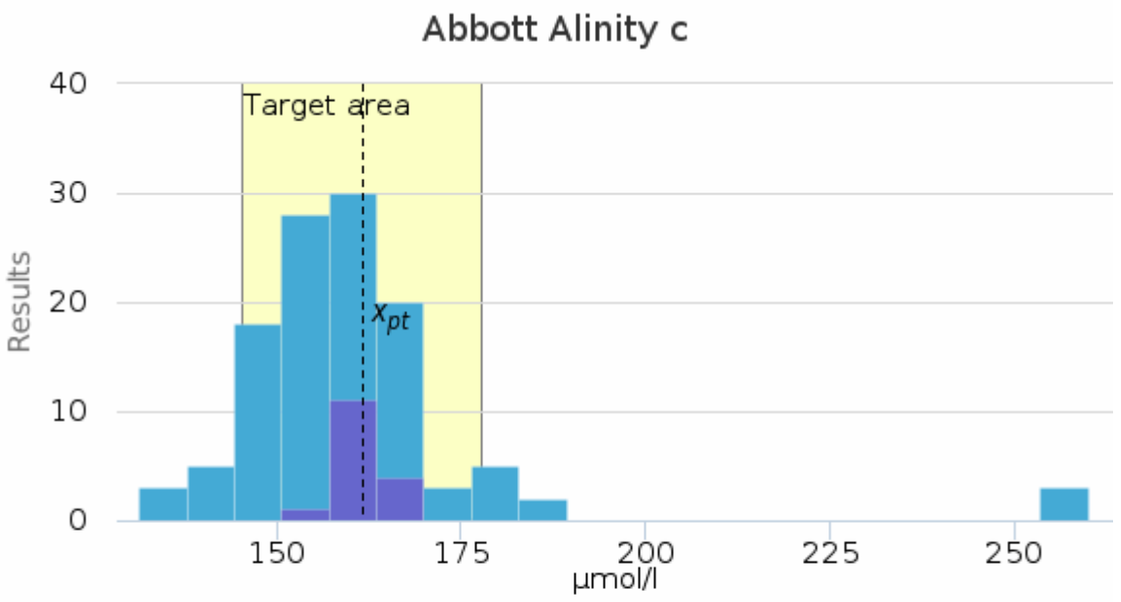
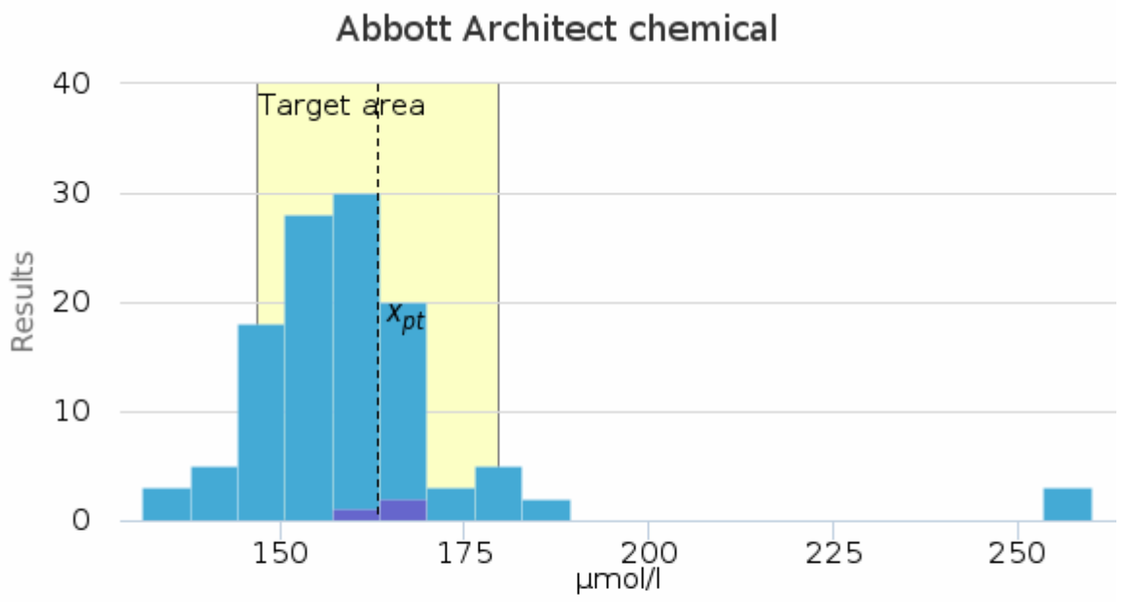


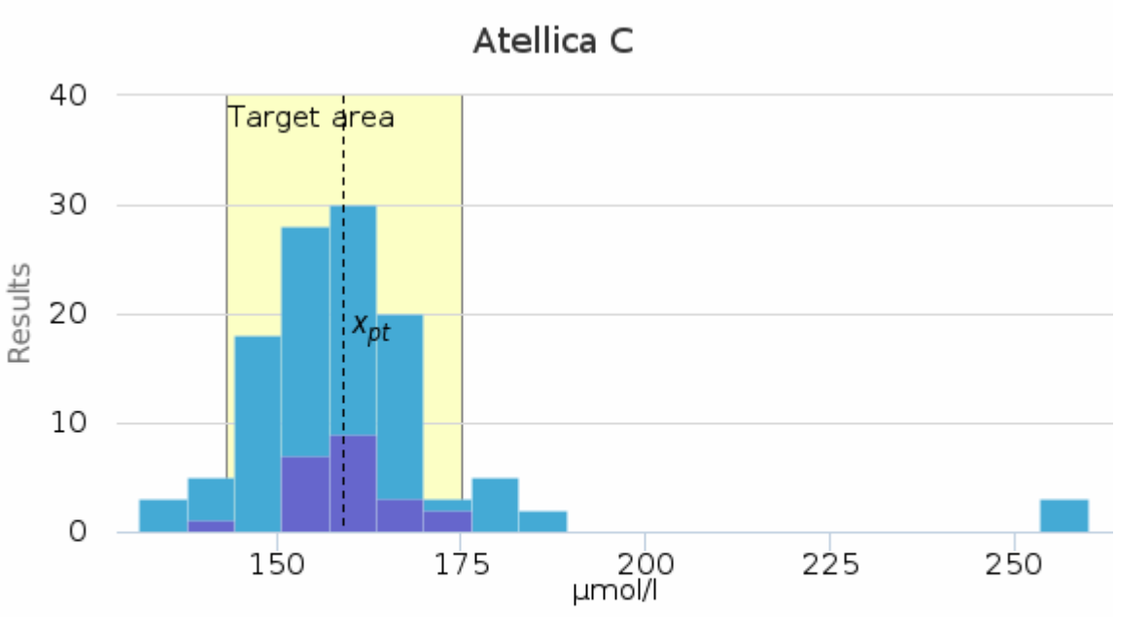
Sample S001 | Paracetamol, µmol/l

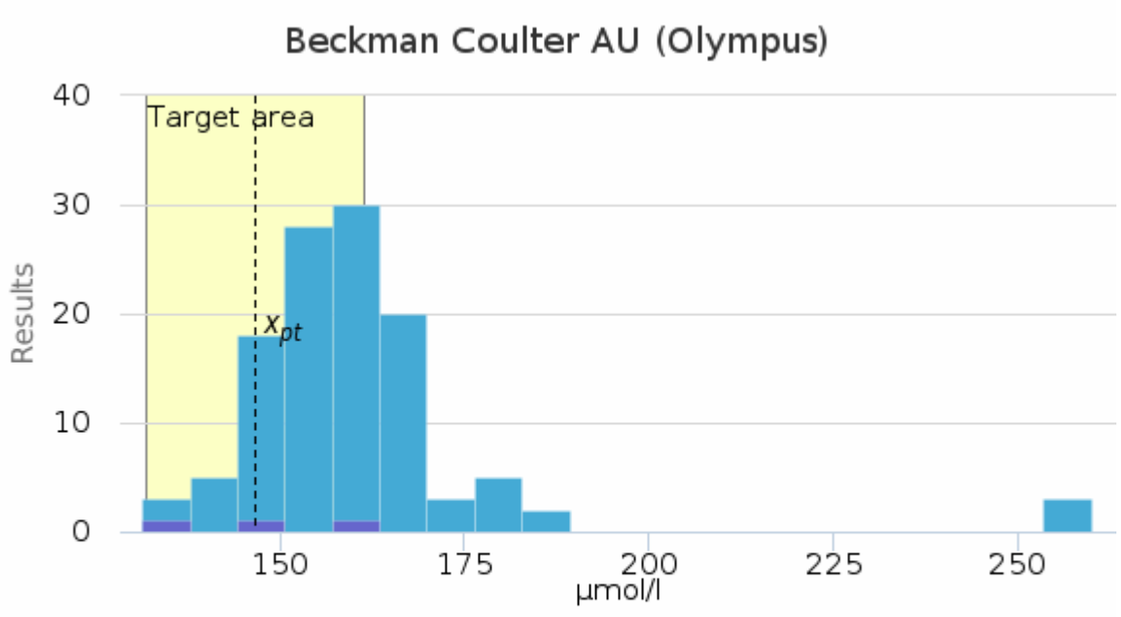
Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Abbott Alinity c	161.6	161.0	2.5	1.6	0.6	156.0	165.9	-	16
Abbott Architect chemical	163.4	164.0	1.2	0.8	0.7	162.0	164.3	-	3
Atellica C	159.1	159.0	6.3	4.0	1.4	143.6	172.0	-	22
Beckman Coulter AU (Olympus)	146.7	147.0	12.5	8.5	7.2	134.0	159.0	-	3
Roche cobas c	157.8	155.7	11.4	7.2	1.5	136.5	184.0	-	58
Roche Integra	137.1	137.1	8.0	5.9	5.7	131.5	142.8	-	2
Siemens Advia	158.0	158.0	2.8	1.8	2.0	156.0	160.0	-	2
Siemens Dimension	259.7	260.0	0.6	0.2	0.3	259.0	260.0	-	3
Siemens SYVA EMIT	152.4	151.1	10.4	6.8	4.3	138.3	168.6	-	6
Thermo Fisher	167.8	167.8	24.7	14.7	17.5	150.3	185.2	-	2
All	**158.0**	**158.1**	**10.2**	**6.5**	**1.0**	**131.5**	**185.2**	**3**	**117**

Sample S001 | Paracetamol, µmol/l| histogram summaries in LabScala









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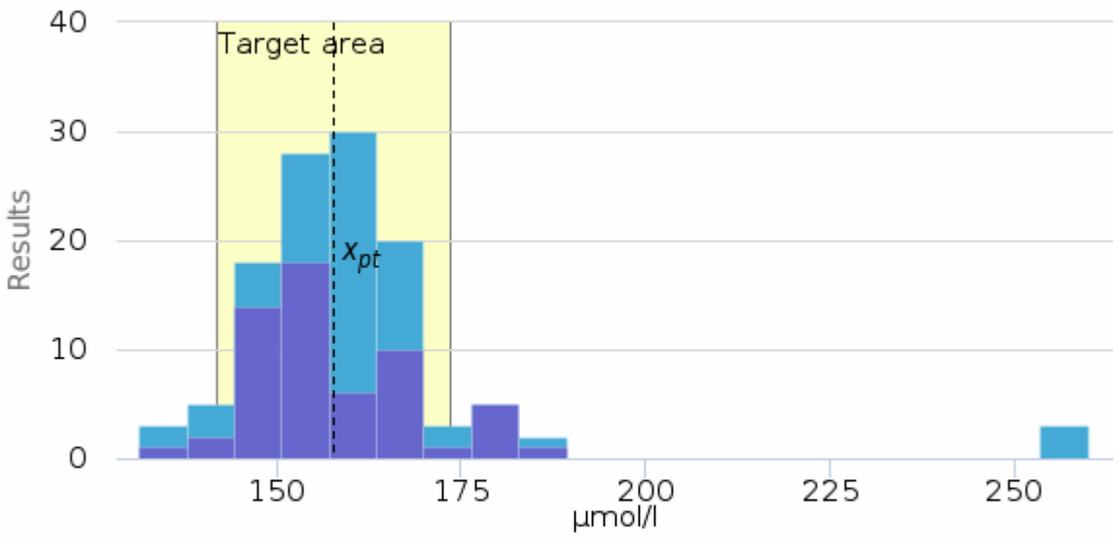
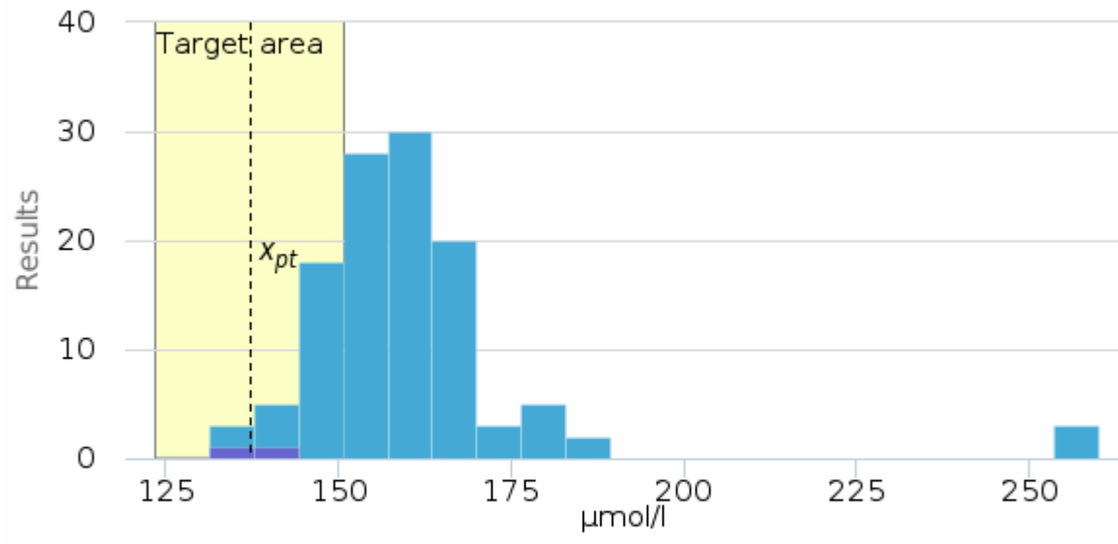
Roche cobas c



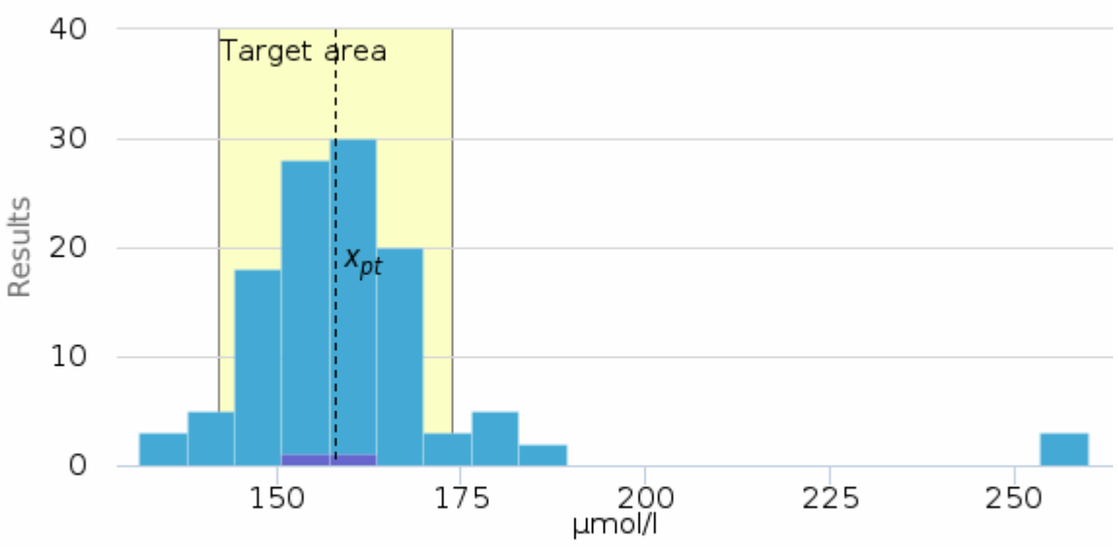
All method groups | Roche cobas c (x_{pt}: 157.8 | Target area: 142.0-173.5 | Target: ±10%)

Roche Integra



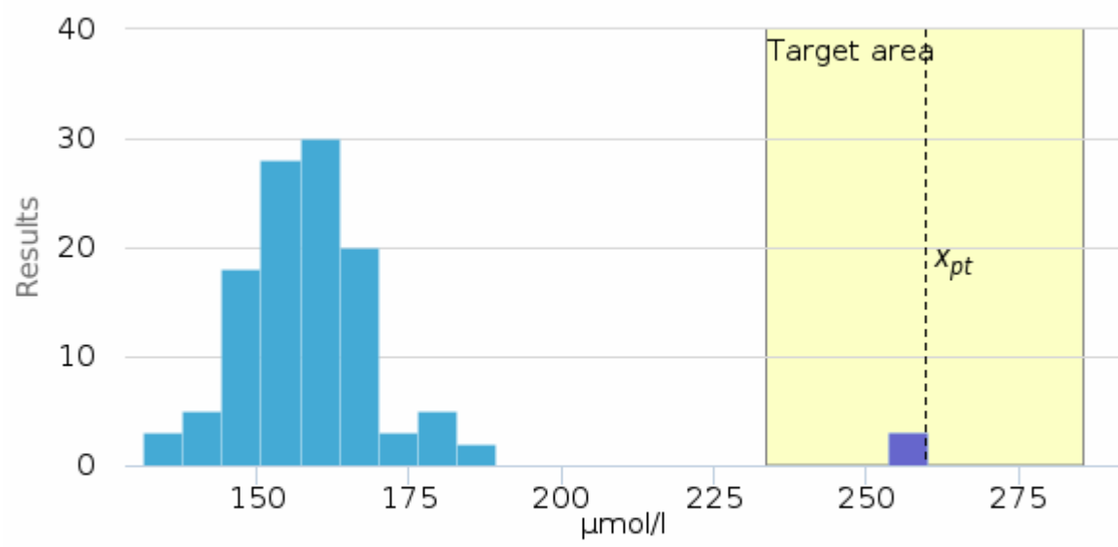
All method groups | Roche Integra (x_{pt}: 137.1 | Target area: 123.4-150.9 | Target: ±10%)

Siemens Advia



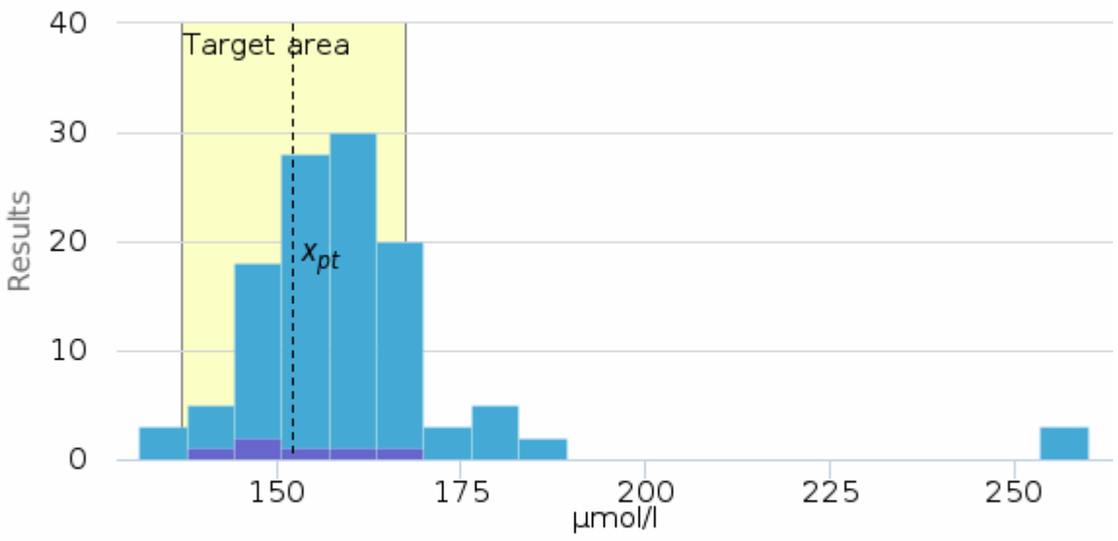
All method groups | Siemens Advia (x_{pt}: 158.0 | Target area: 142.2-173.8 | Target: ±10%)

Siemens Dimension



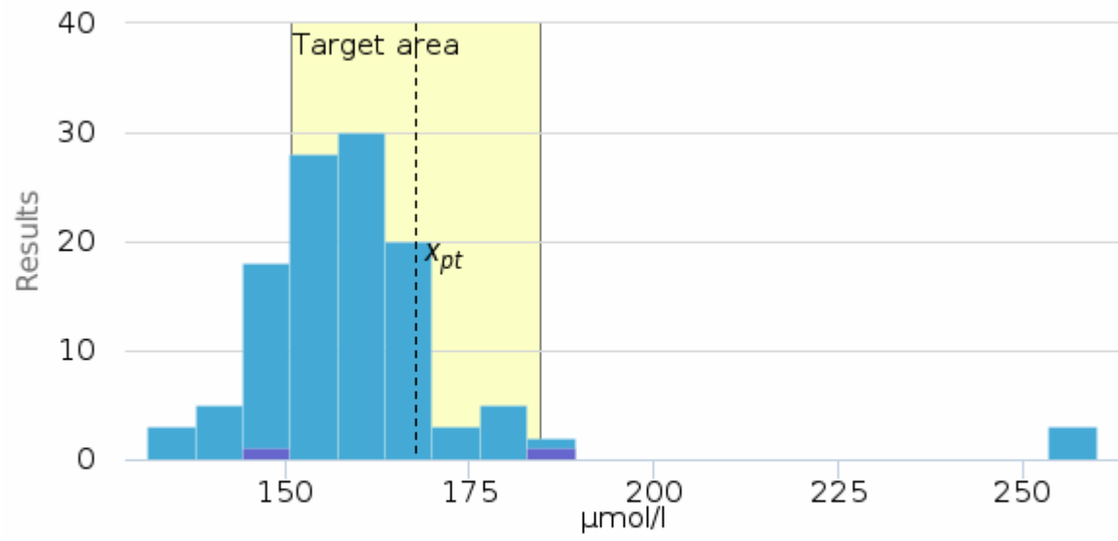
All method groups | Siemens Dimension (x_{pt}: 259.7 | Target area: 233.7-285.6 | Target: ±10%)

Siemens SYVA EMIT



All method groups | Siemens SYVA EMIT (x_{pt}: 152.4 | Target area: 137.1-167.6 | Target: ±10%)

Thermo Fisher

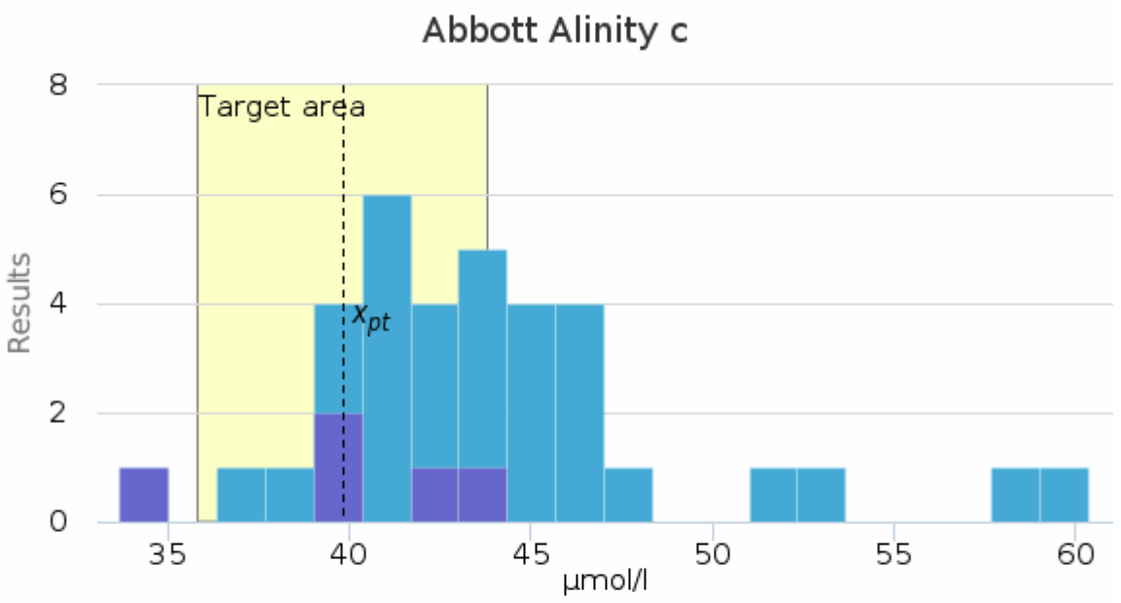


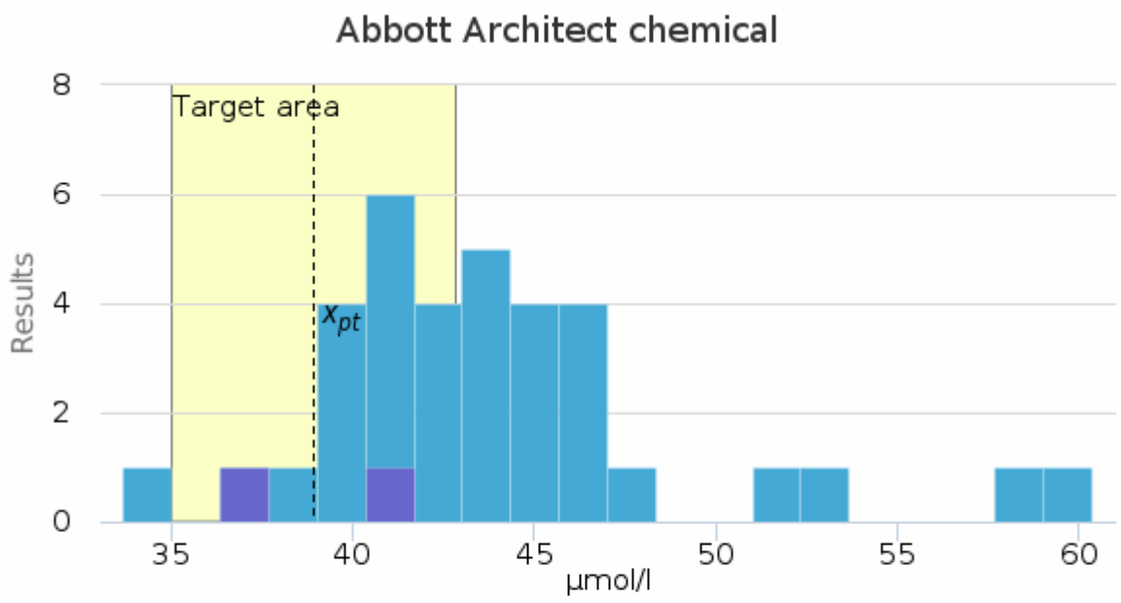
All method groups | Thermo Fisher (x_{pt}: 167.8 | Target area: 151.0-184.5 | Target: ±10%)

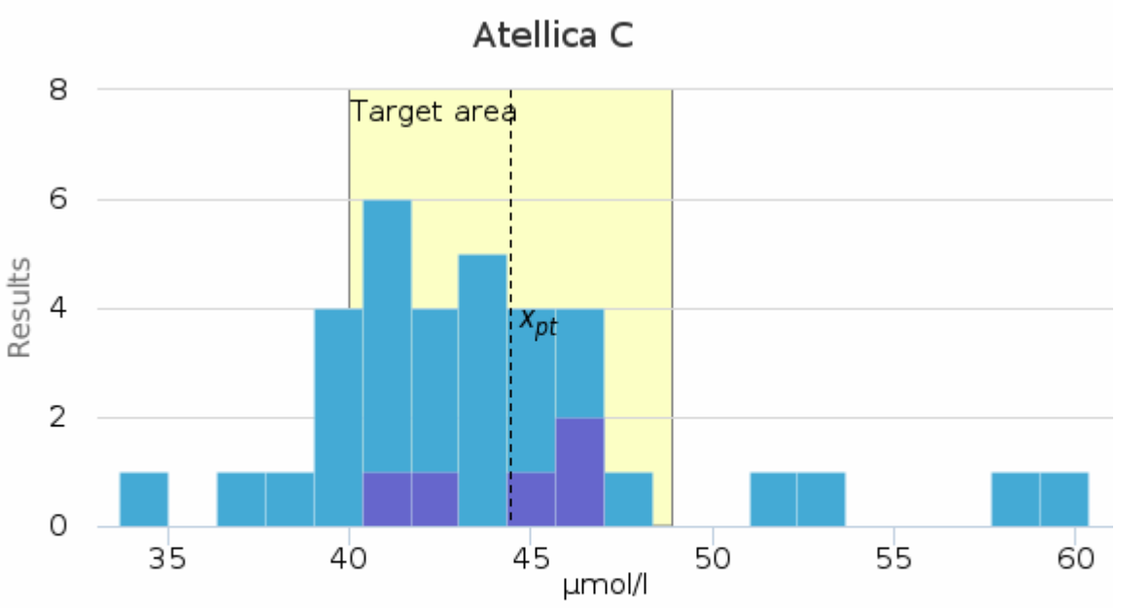
Sample S001 | Phenobarbital, µmol/l

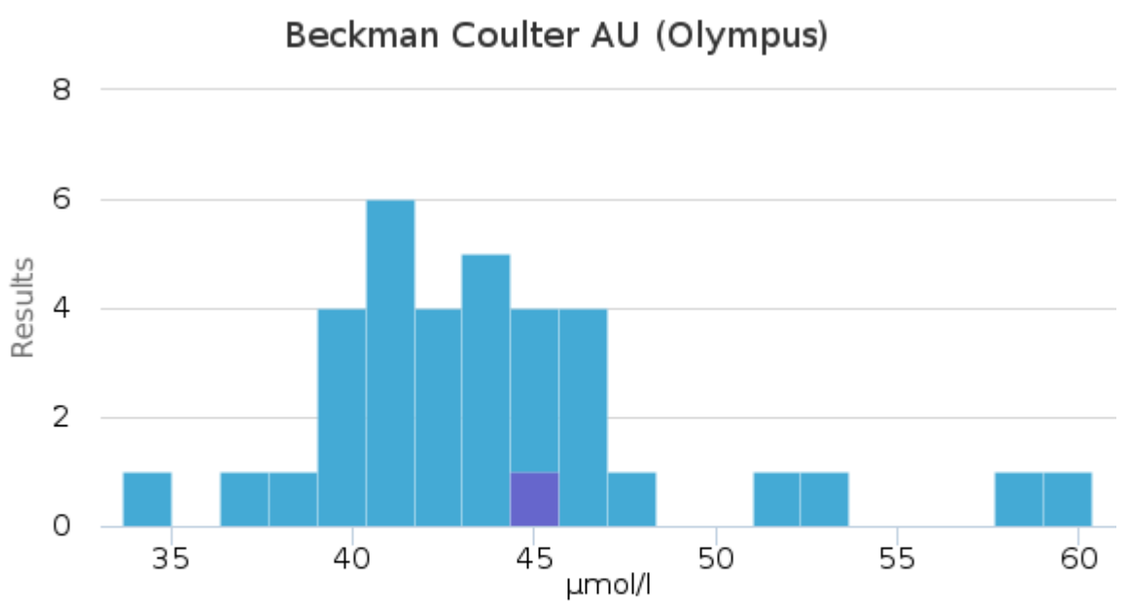
Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Abbott Alinity c	39.8	39.9	3.9	9.7	1.7	33.7	44.0	-	5
Abbott Architect chemical	38.9	38.9	2.3	5.9	1.6	37.3	40.6	-	2
Atellica C	44.5	44.8	2.5	5.6	1.1	41.0	47.0	-	5
Beckman Coulter AU (Olympus)	-	-	-	-	-	44.6	44.6	-	1
HPLC-group	-	-	-	-	-	52.5	52.5	-	1
Roche cobas c	42.1	41.7	2.5	6.0	0.7	38.0	47.0	-	13
Siemens Dimension	-	-	-	-	-	52.0	52.0	-	1
Siemens SYVA EMIT	46.7	43.9	6.9	14.8	3.1	41.1	58.4	-	5
Thermo Fisher	53.9	53.9	9.2	17.0	6.5	47.4	60.3	-	2
All	**43.4**	**43.0**	**4.7**	**10.7**	**0.8**	**33.7**	**58.4**	**1**	**35**

Sample S001 | Phenobarbital, µmol/l| histogram summaries in LabScala









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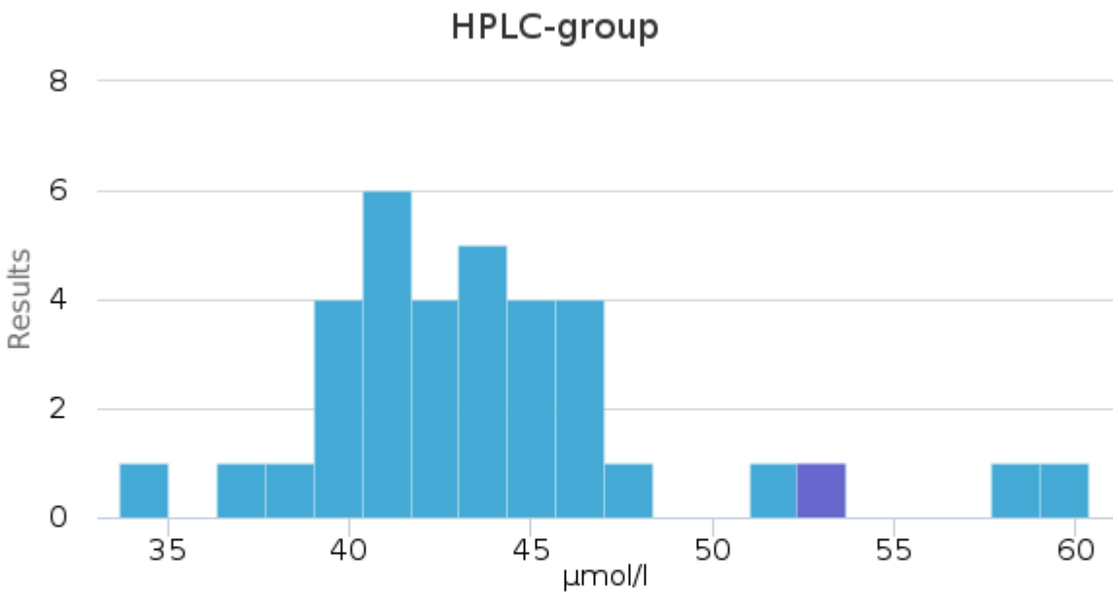
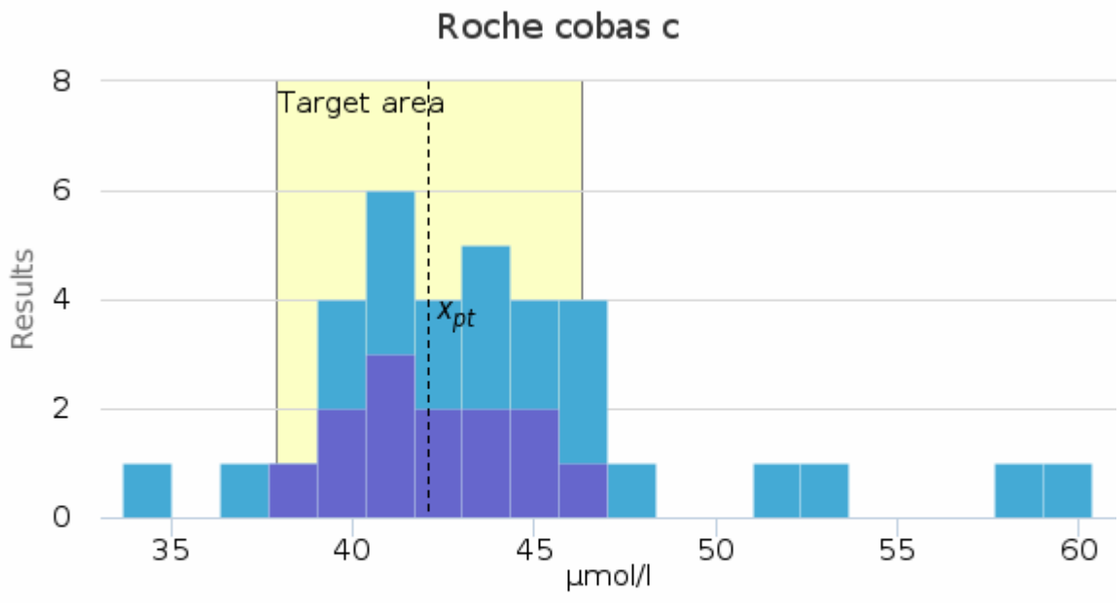
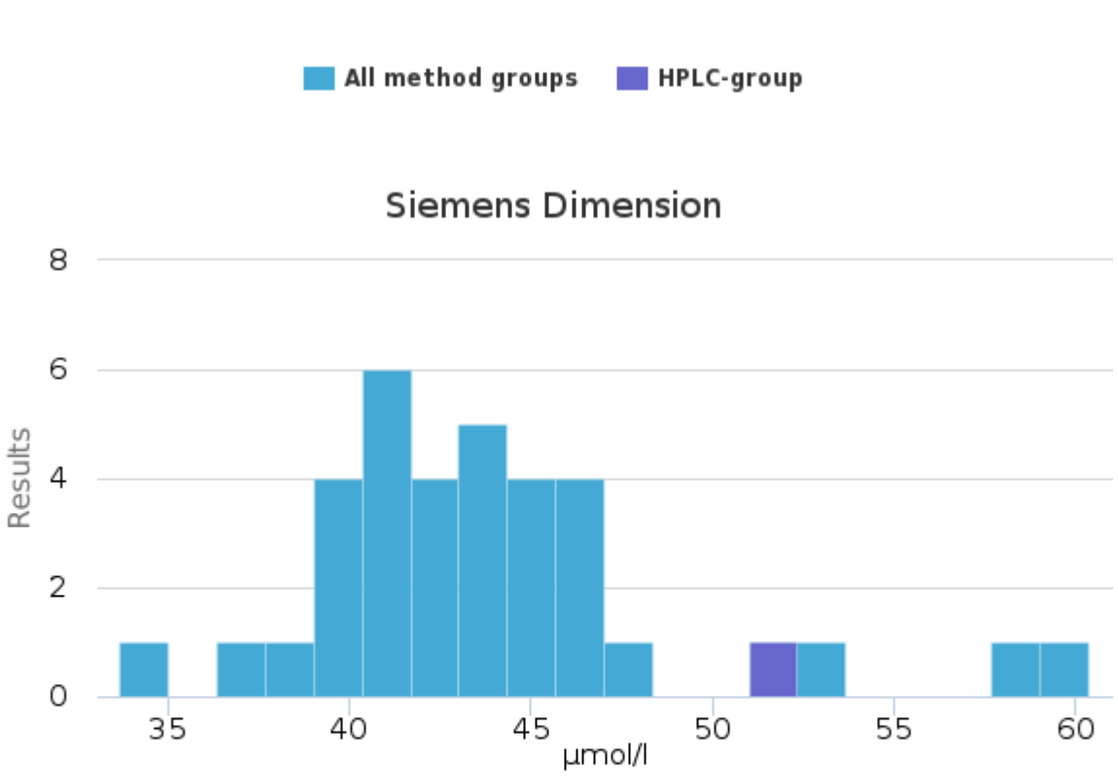
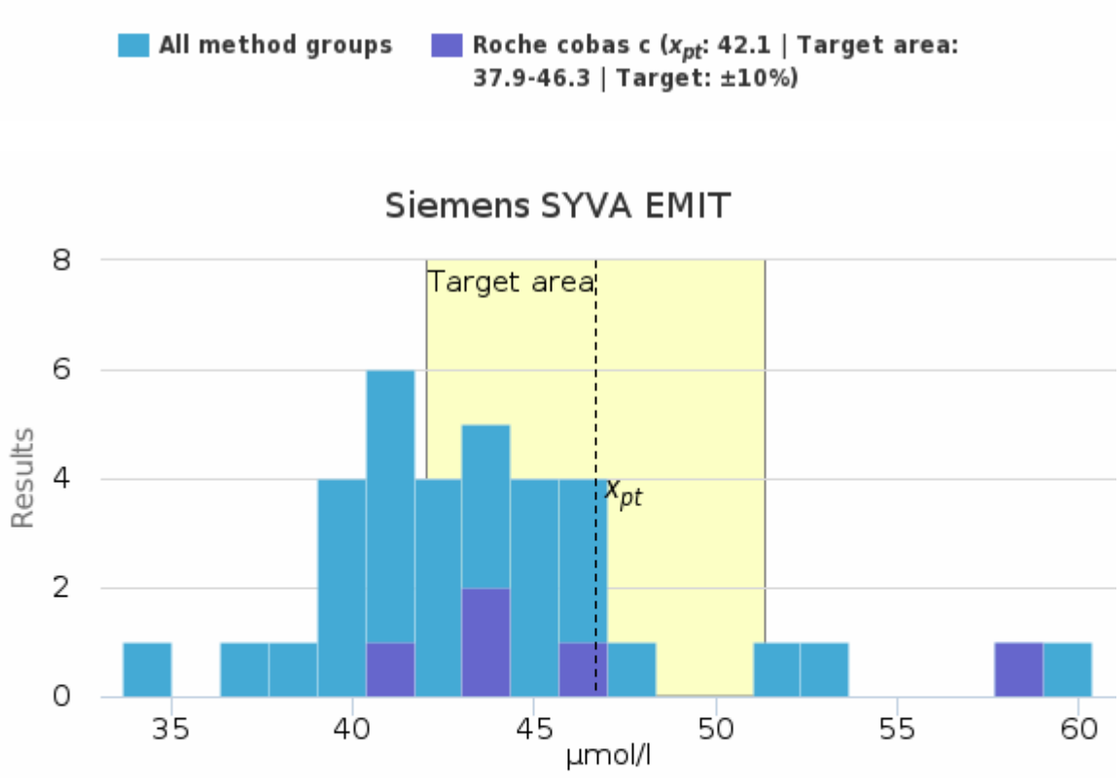
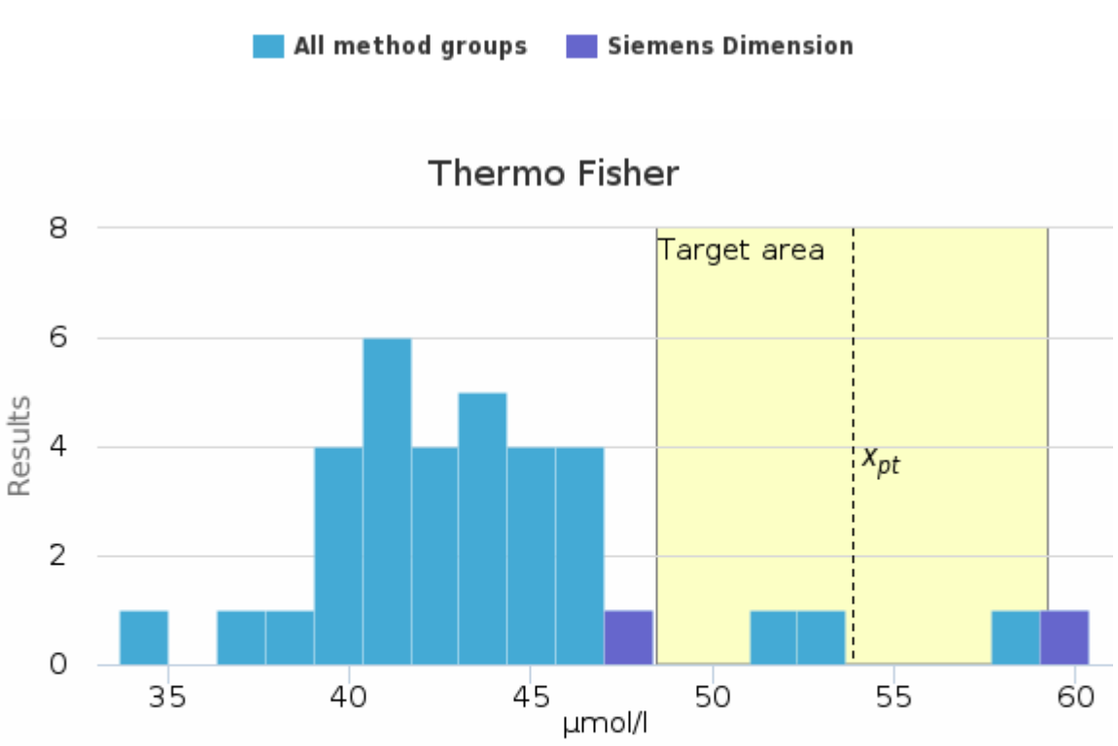








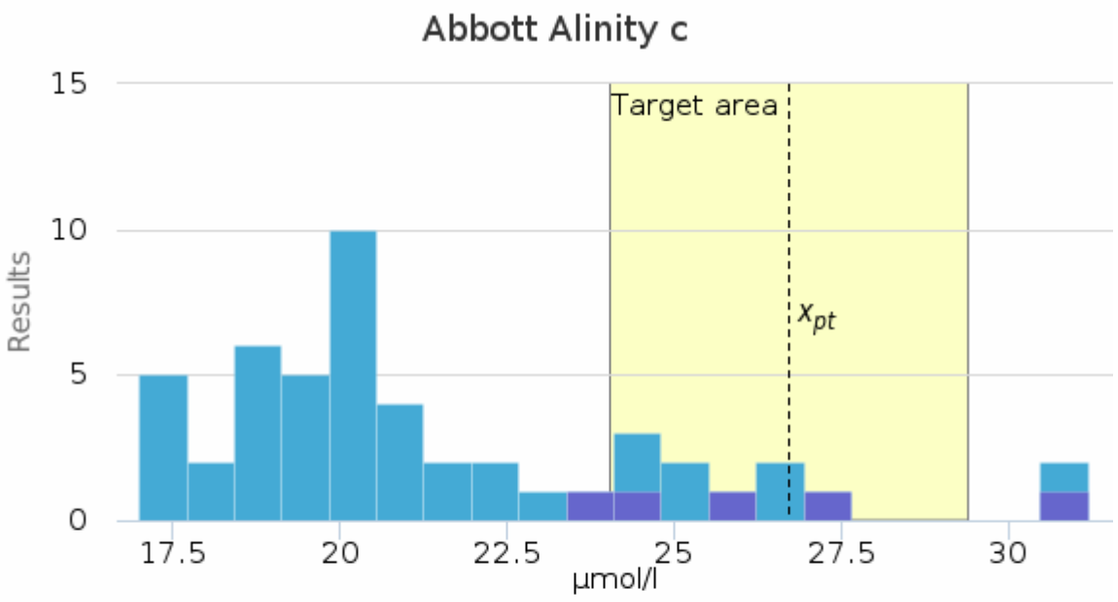


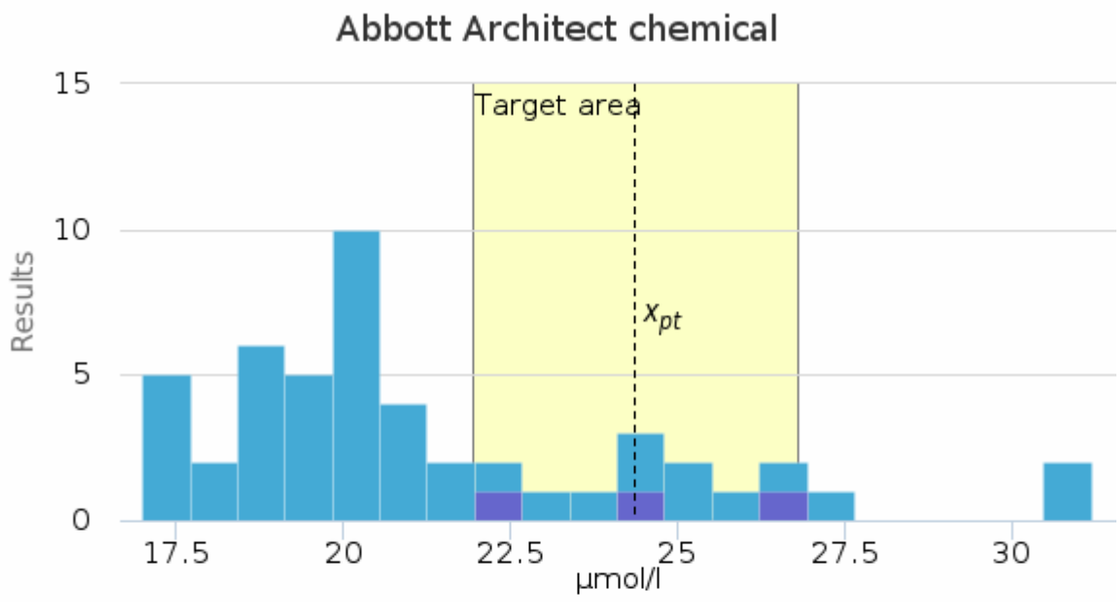
All method groups — Thermo Fisher (x_{pt}: 53.9 | Target area: 48.5-59.2 | Target: ±10%)

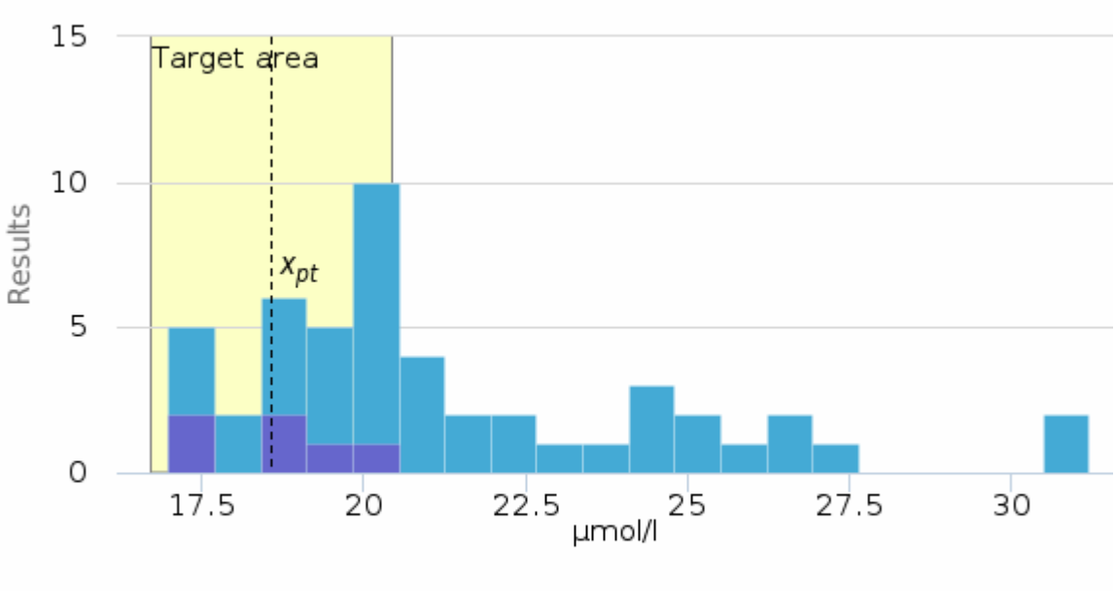
Sample S001 | Phenytoin, µmol/l

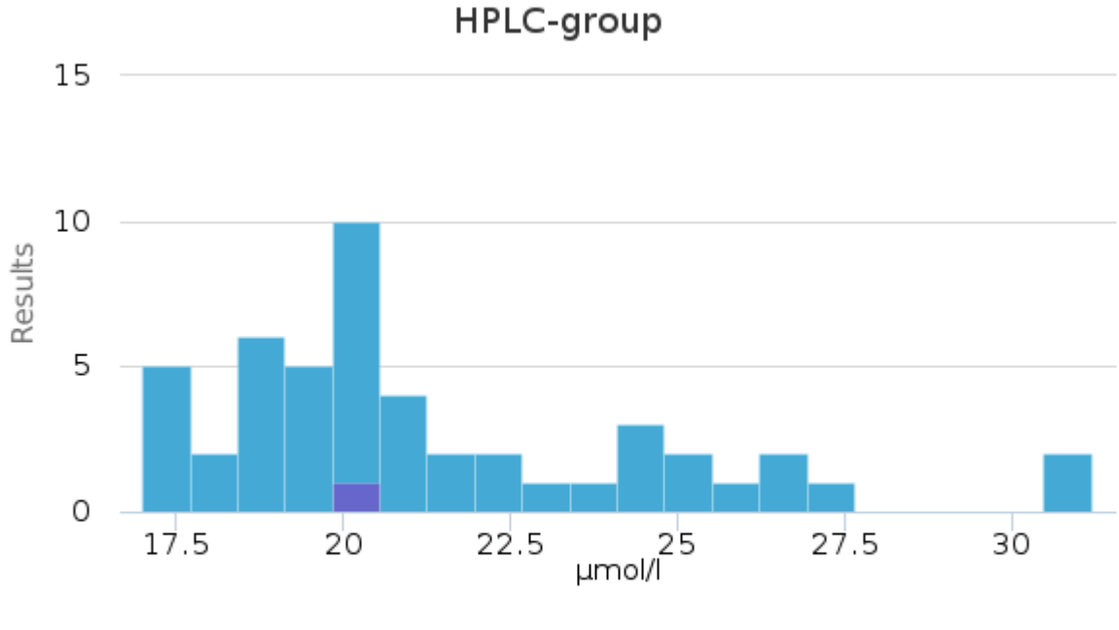
Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Abbott Alinity c	26.7	26.0	2.8	10.7	1.3	24.0	31.2	-	5
Abbott Architect chemical	24.4	24.2	2.1	8.5	1.2	22.4	26.5	-	3
Atellica C	18.6	18.9	1.3	6.9	0.5	17.0	20.1	-	6
HPLC-group	-	-	-	-	-	20.1	20.1	-	1
Roche cobas c	19.7	19.8	1.4	7.4	0.3	17.0	22.8	-	26
Roche Integra	-	-	-	-	-	30.5	30.5	-	1
Siemens Advia	-	-	-	-	-	26.6	26.6	-	1
Siemens Dimension	-	-	-	-	-	21.0	21.0	-	1
Siemens SYVA EMIT	21.8	20.6	2.0	9.2	1.2	20.6	24.1	-	3
Thermo Fisher	25.2	25.2	0.3	1.3	0.2	25.0	25.4	-	2
All	**20.9**	**20.3**	**2.8**	**13.2**	**0.4**	**17.0**	**27.6**	**2**	**49**

Sample S001 | Phenytoin, µmol/l| histogram summaries in LabScala









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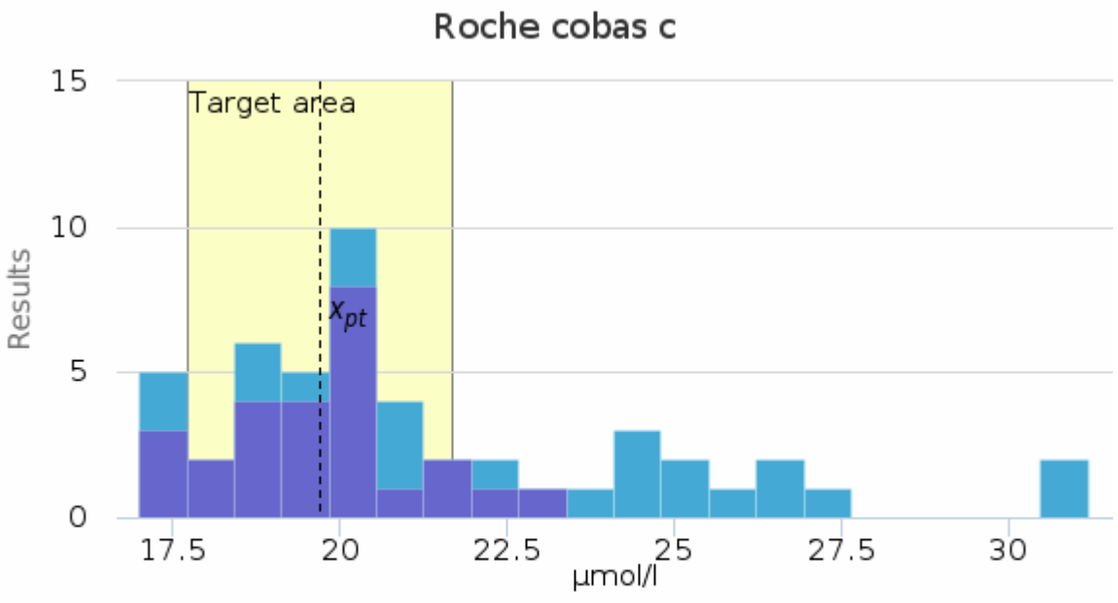
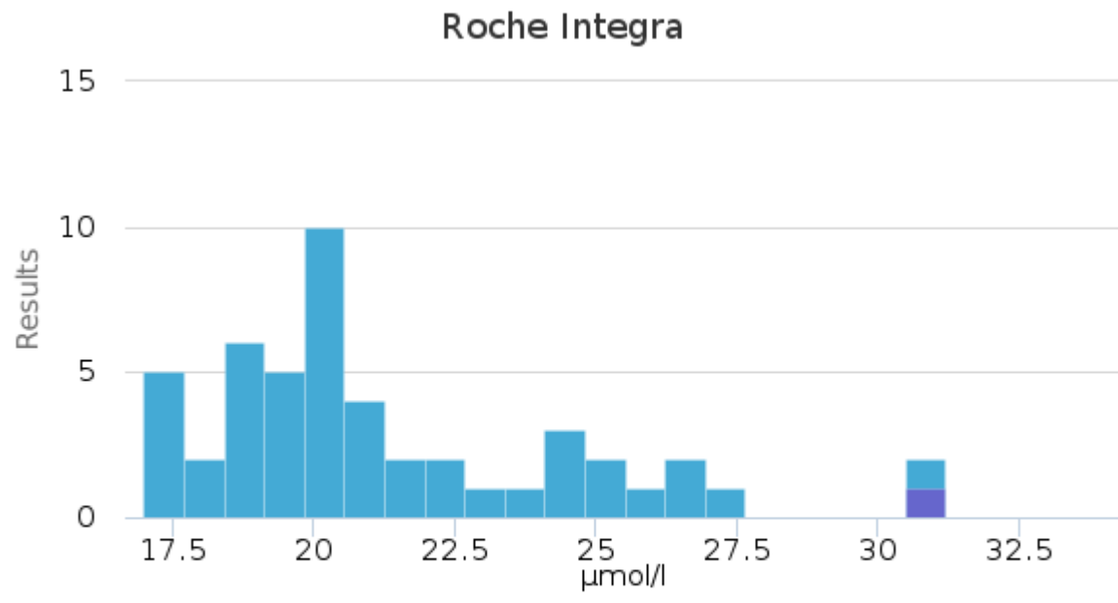
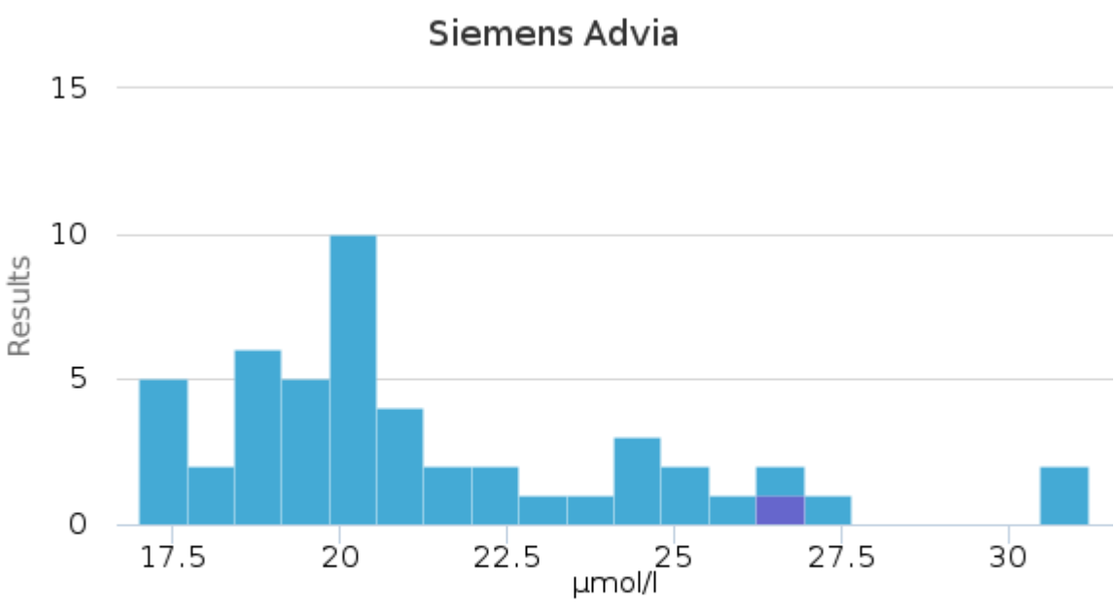
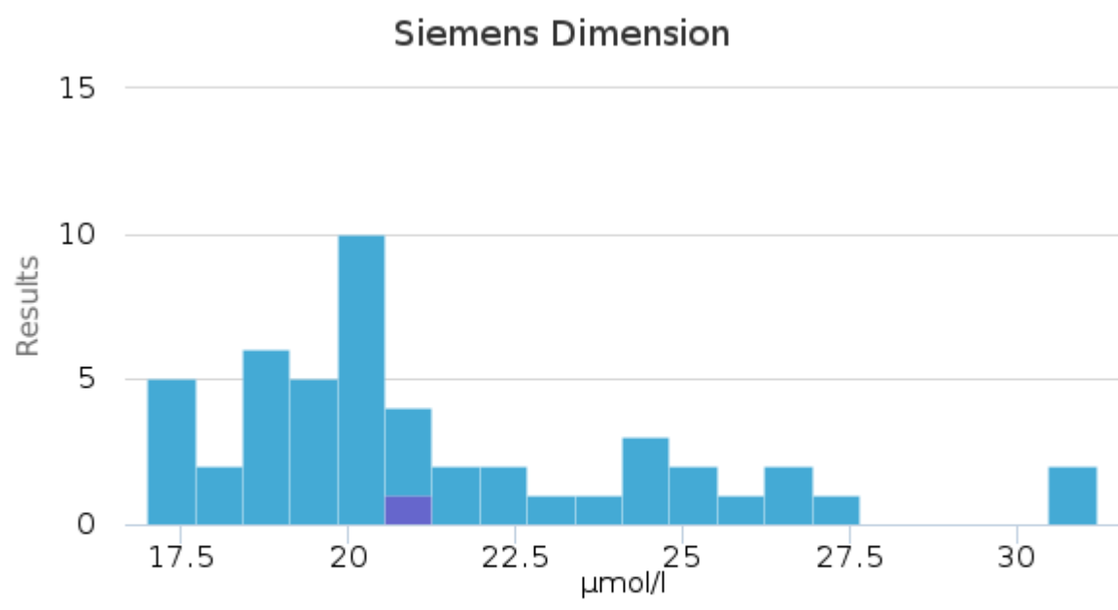
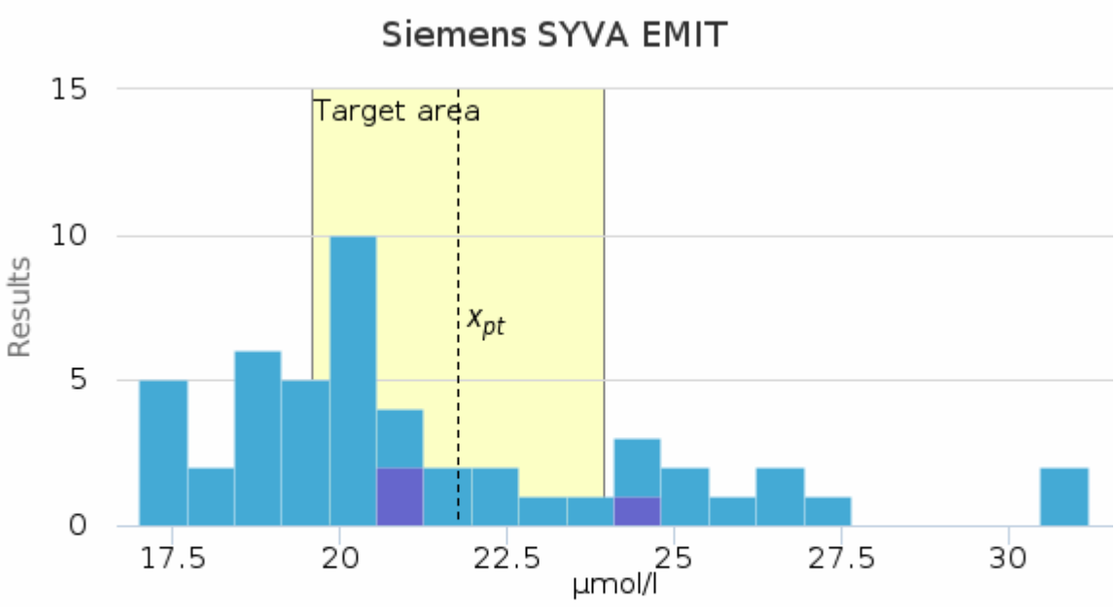
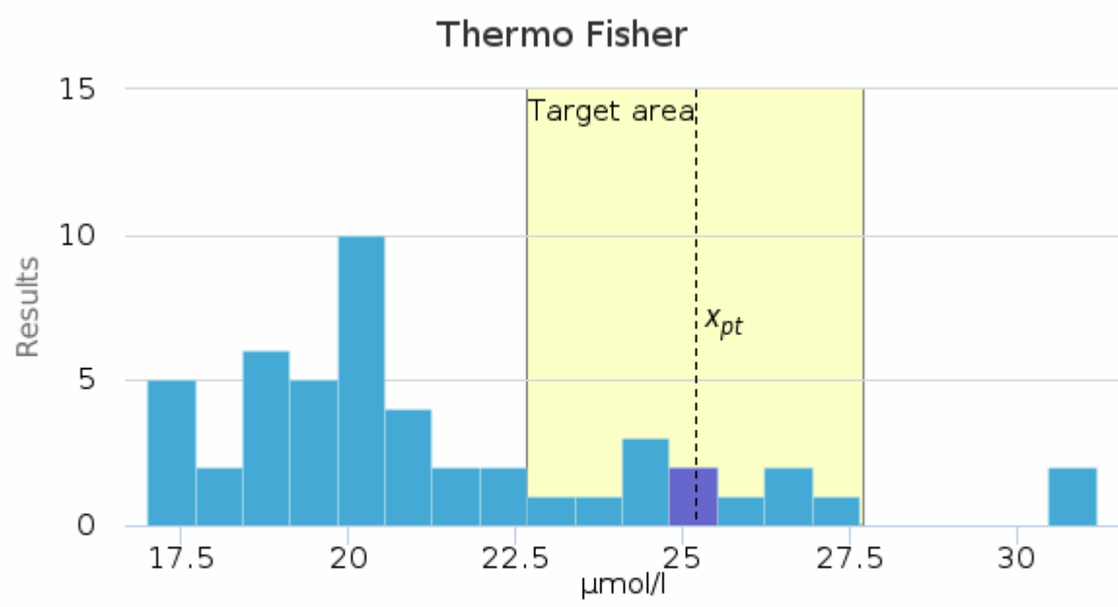








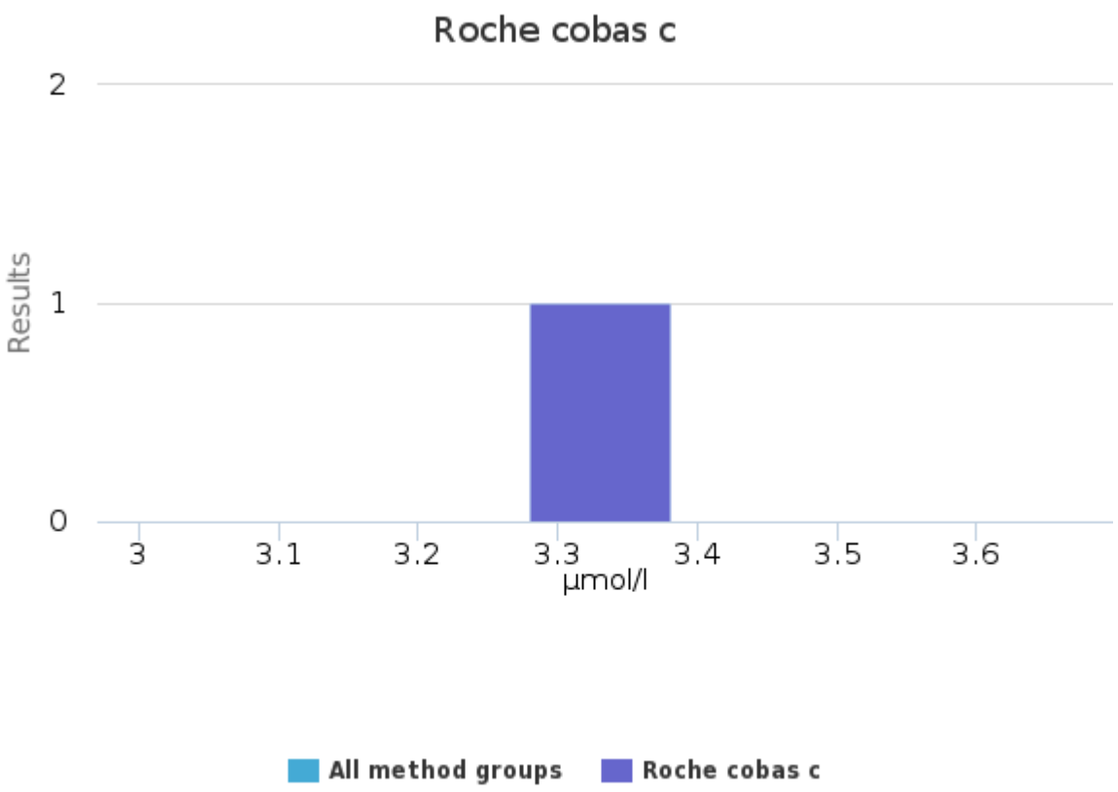




Sample S001 | Quinidine, µmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Roche cobas c	-	-	-	-	-	3.33	3.33	-	1
All	**-**	**-**	**-**	**-**	**-**	**3.33**	**3.33**	**-**	**1**

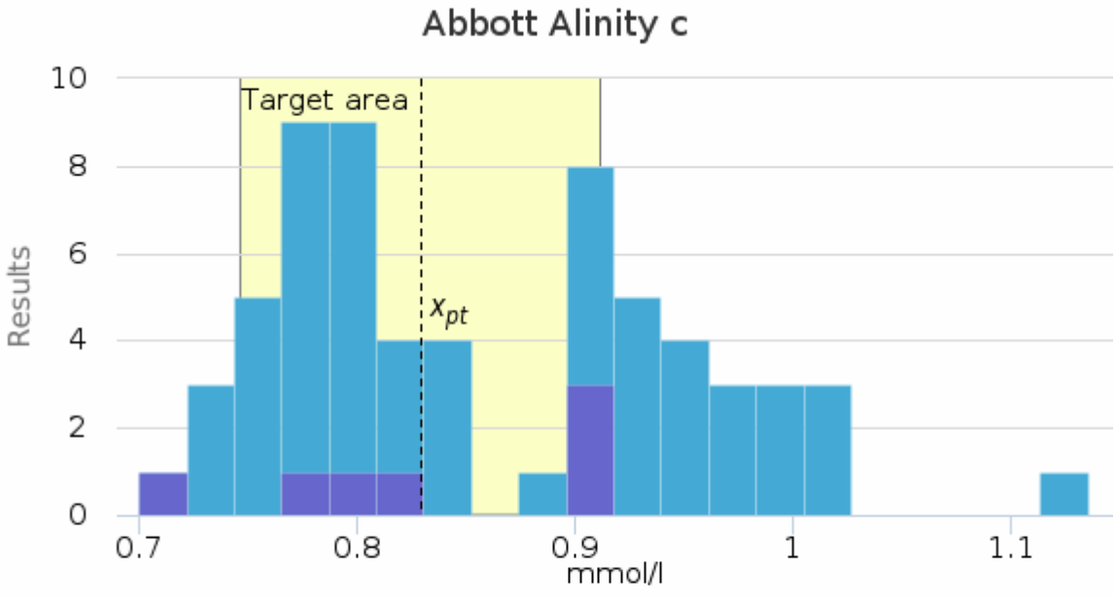
Sample S001 | Quinidine, µmol/l| histogram summaries in LabScala

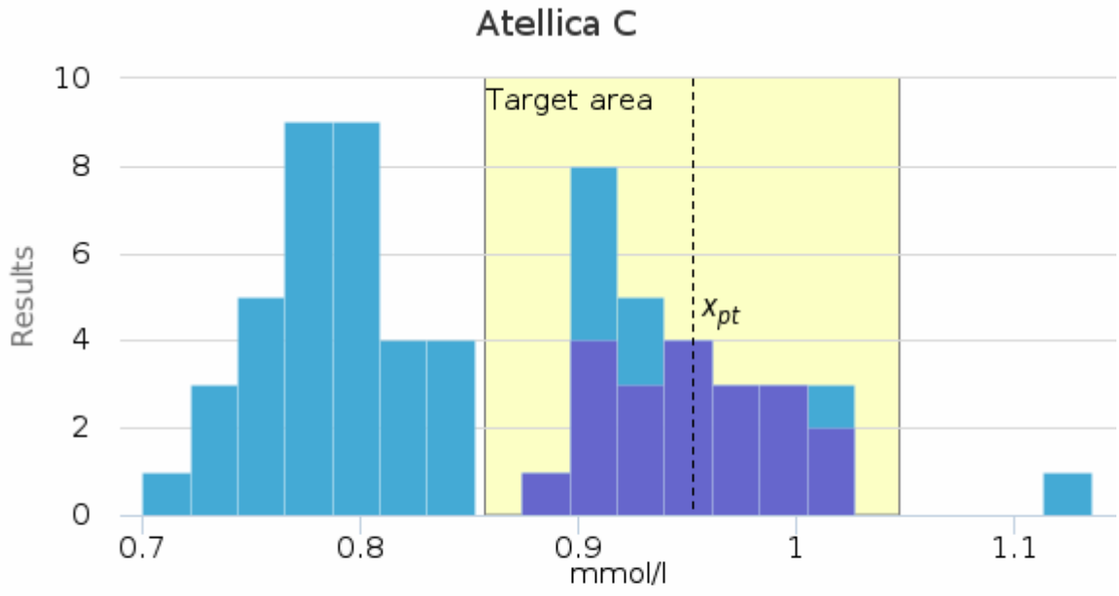


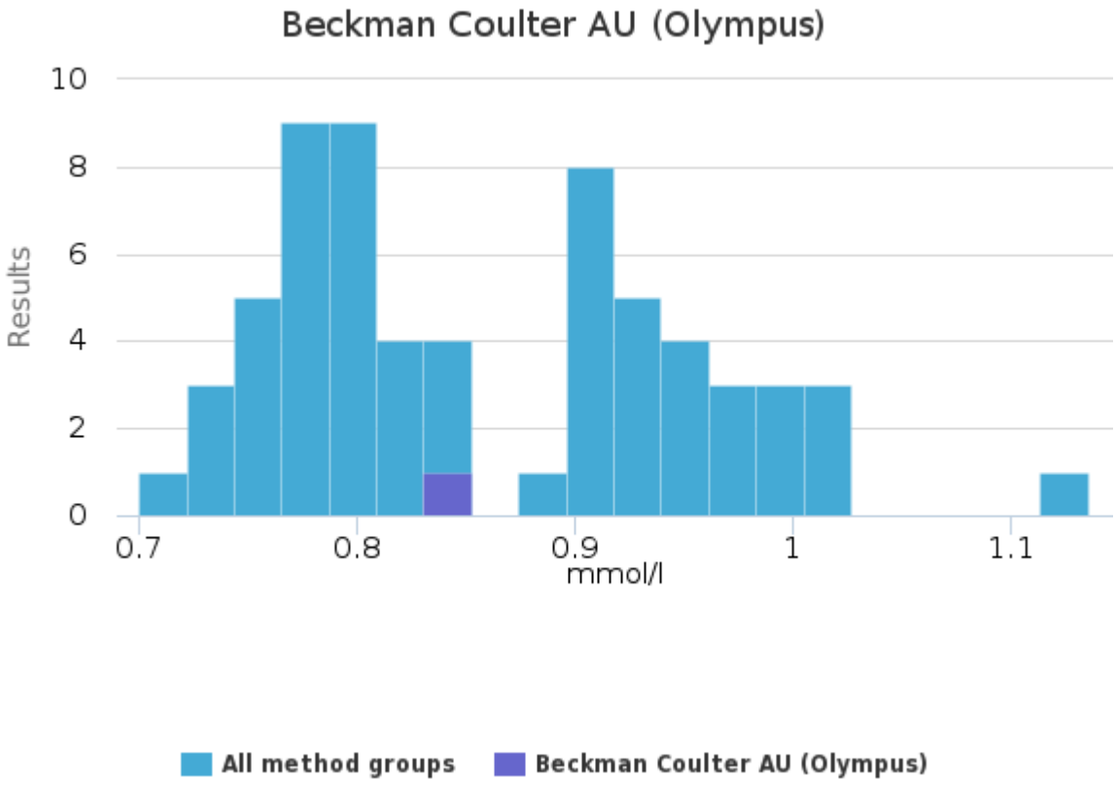
Sample S001 | Salicylate, mmol/l

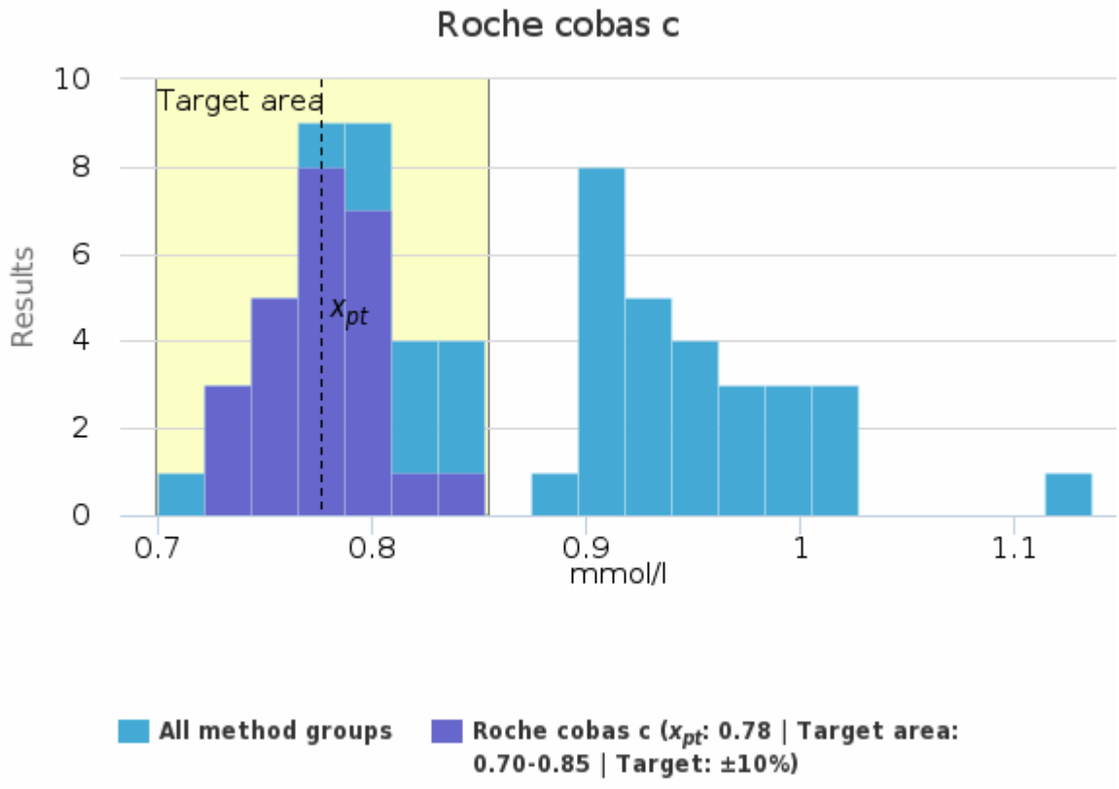
Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Abbott Alinity c	0.83	0.83	0.08	9.2	0.03	0.70	0.90	-	7
Atellica C	0.95	0.95	0.04	4.4	<0.01	0.88	1.02	-	20
Beckman Coulter AU (Olympus)	-	-	-	-	-	0.85	0.85	-	1
Roche cobas c	0.78	0.77	0.02	3.2	<0.01	0.73	0.83	-	25
Siemens Advia	0.97	0.97	0.06	6.6	0.05	0.92	1.01	-	2
Siemens Dimension	0.84	0.84	0.04	4.3	0.02	0.80	0.90	-	5
Siemens SYVA EMIT	1.04	1.04	0.14	13.7	0.10	0.93	1.14	-	2
Trinder reagent	-	-	-	-	-	0.81	0.81	-	1
All	**0.85**	**0.83**	**0.09**	**10.3**	**0.01**	**0.70**	**1.02**	**1**	**63**

Sample S001 | Salicylate, mmol/l| histogram summaries in LabScala









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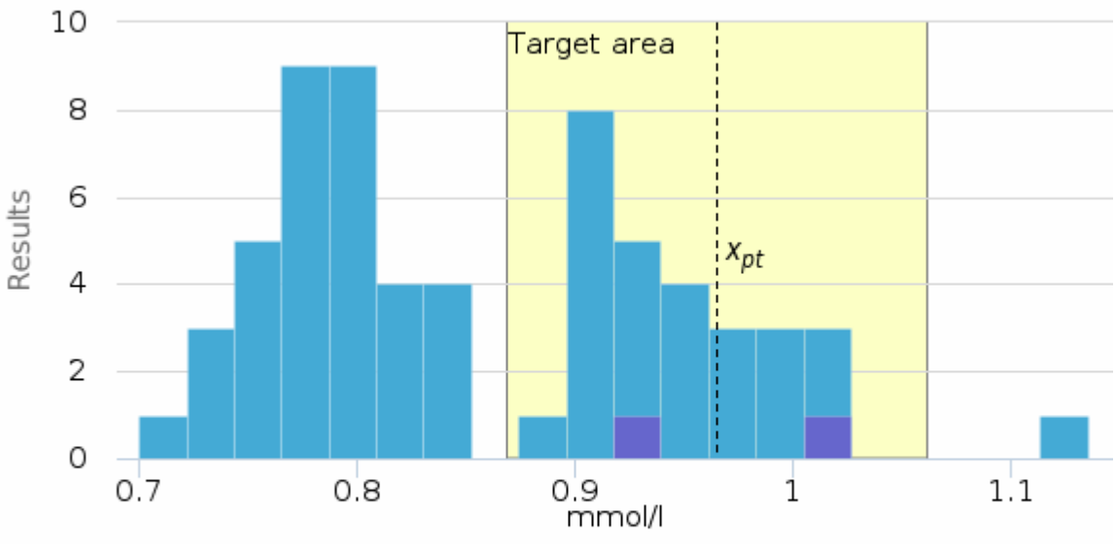
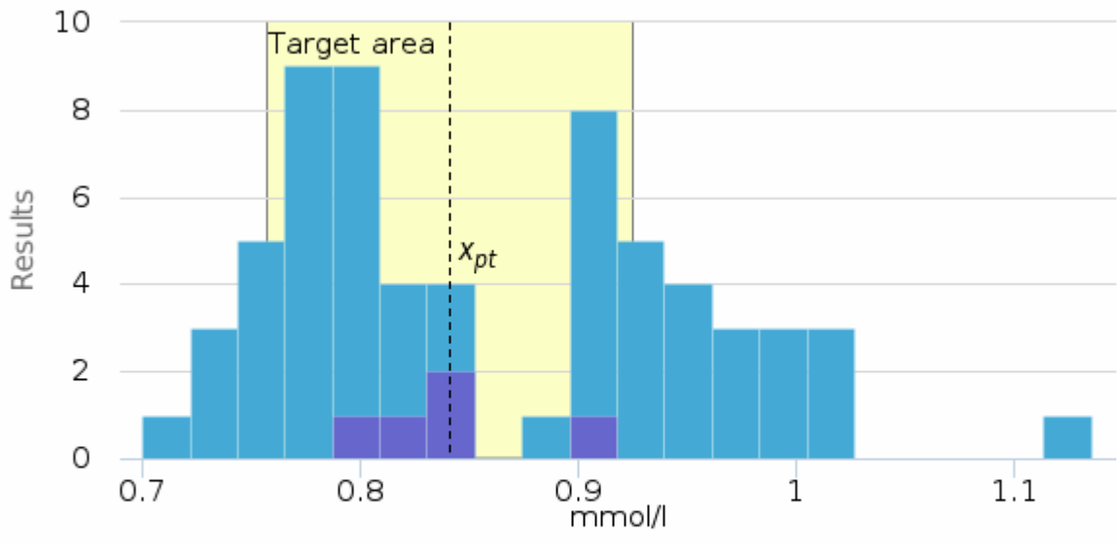
Siemens Advia



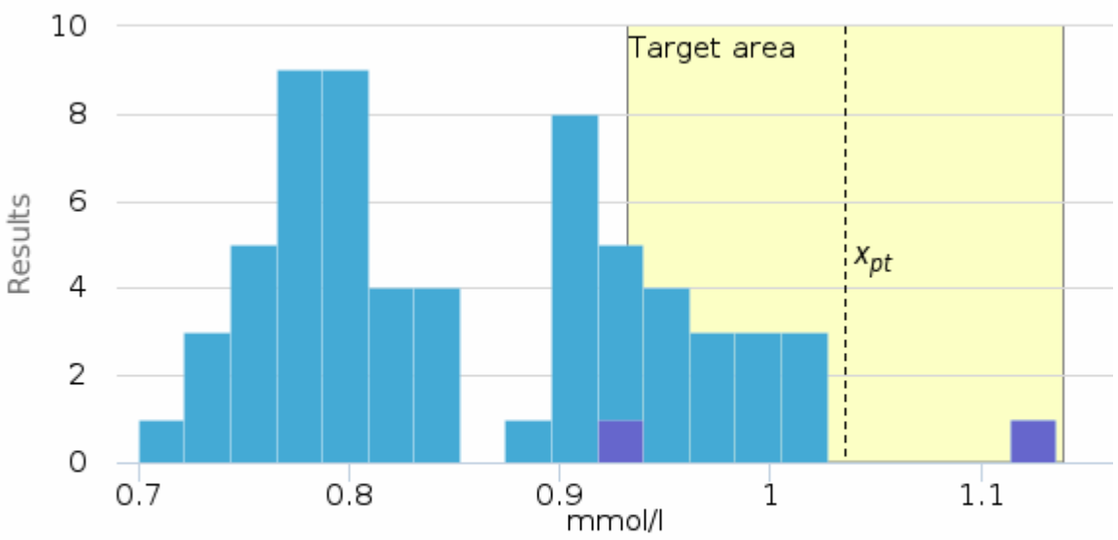
All method groups | Siemens Advia (x_{pt}: 0.97 | Target area: 0.87-1.06 | Target: ±10%)

Siemens Dimension



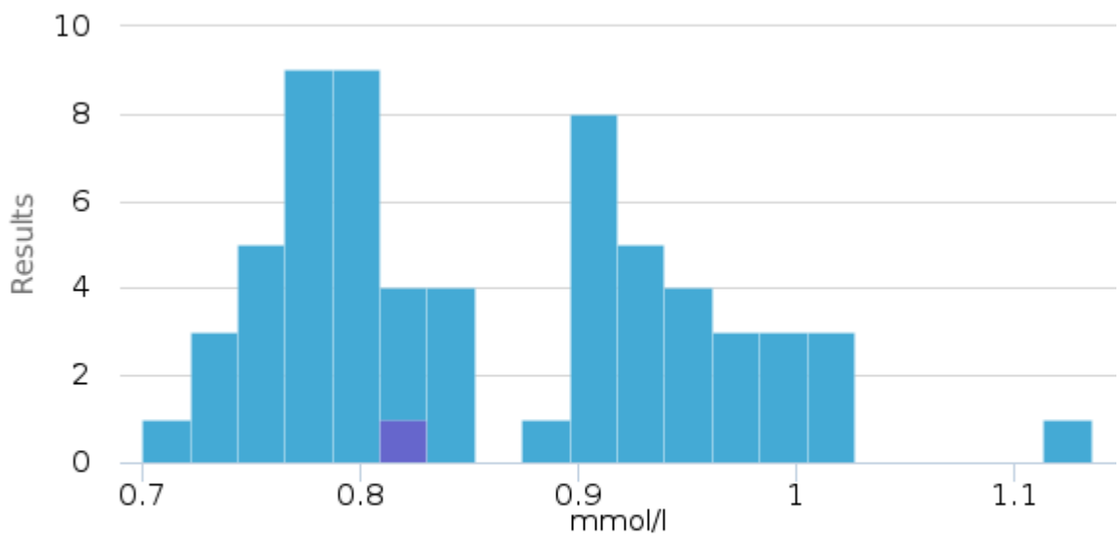
All method groups | Siemens Dimension (x_{pt}: 0.84 | Target area: 0.76-0.93 | Target: ±10%)

Siemens SYVA EMIT



All method groups | Siemens SYVA EMIT (x_{pt}: 1.04 | Target area: 0.93-1.14 | Target: ±10%)

Trinder reagent

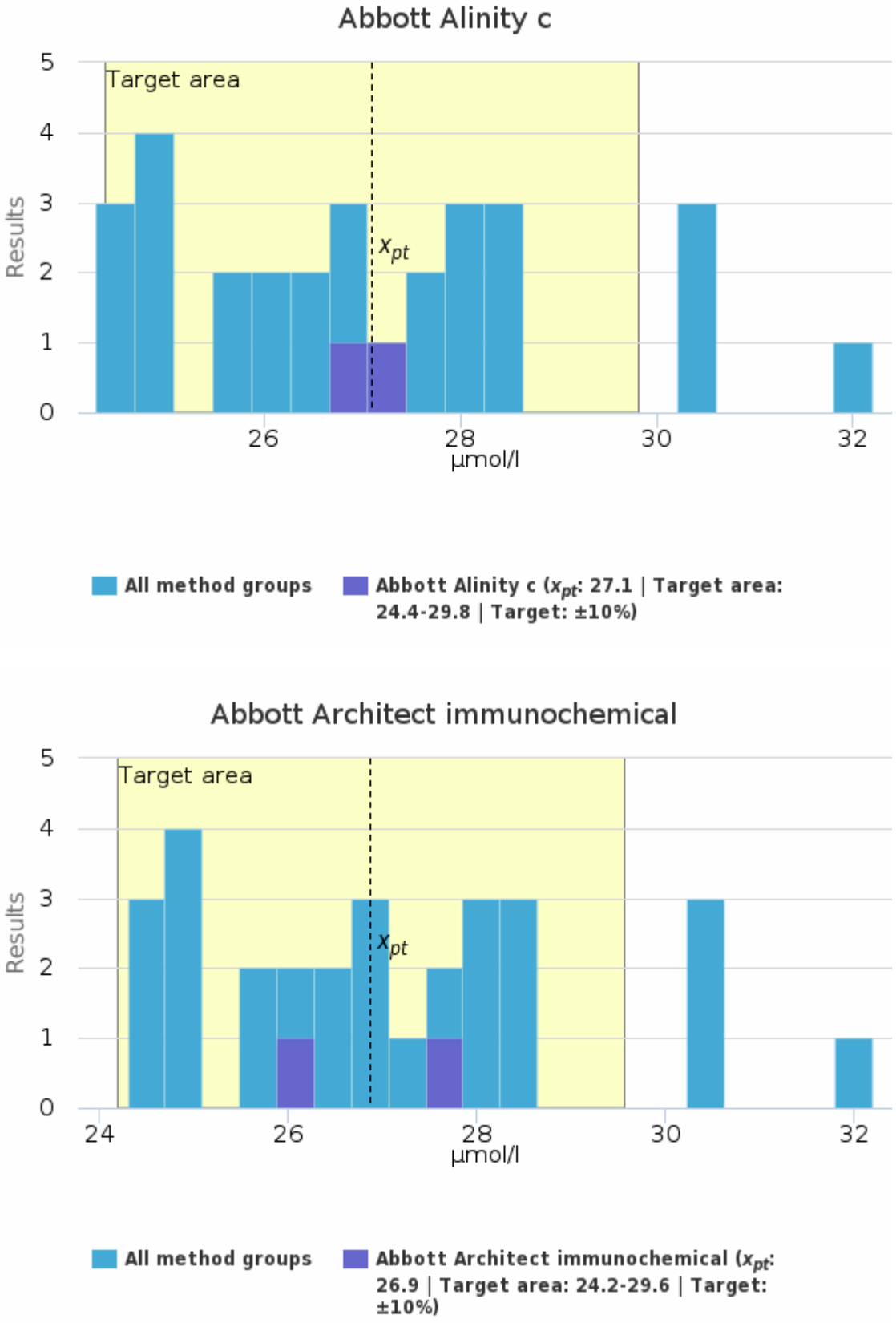


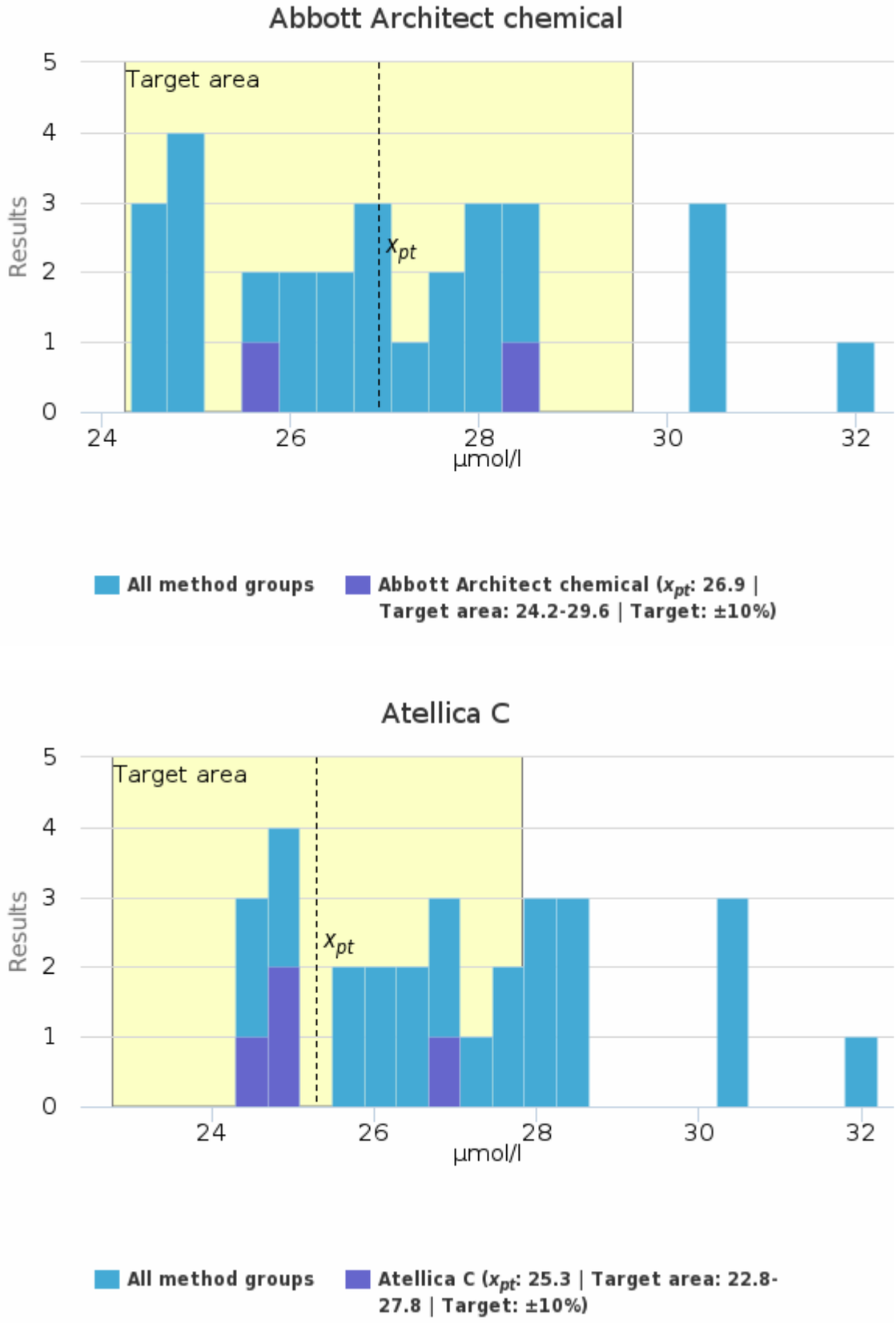
All method groups | Trinder reagent

Sample S001 | Theophylline, µmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Abbott Alinity c	27.1	27.1	0.1	0.5	0.1	27.0	27.2	-	2
Abbott Architect chemical	26.9	26.9	2.0	7.5	1.4	25.5	28.4	-	2
Abbott Architect immunochemical	26.9	26.9	1.2	4.6	0.9	26.0	27.8	-	2
Atellica C	25.3	25.0	1.0	4.1	0.5	24.4	26.8	-	4
Roche cobas c	27.2	27.6	1.7	6.2	0.5	24.3	30.5	-	13
Siemens SYVA EMIT	28.1	27.8	3.9	13.8	1.9	24.6	32.2	-	4
Thermo Fisher	28.5	28.5	2.9	10.2	2.1	26.4	30.5	-	2
All	**27.1**	**26.8**	**2.0**	**7.5**	**0.4**	**24.3**	**32.2**	**-**	**29**

Sample S001 | Theophylline, µmol/l| histogram summaries in LabScala





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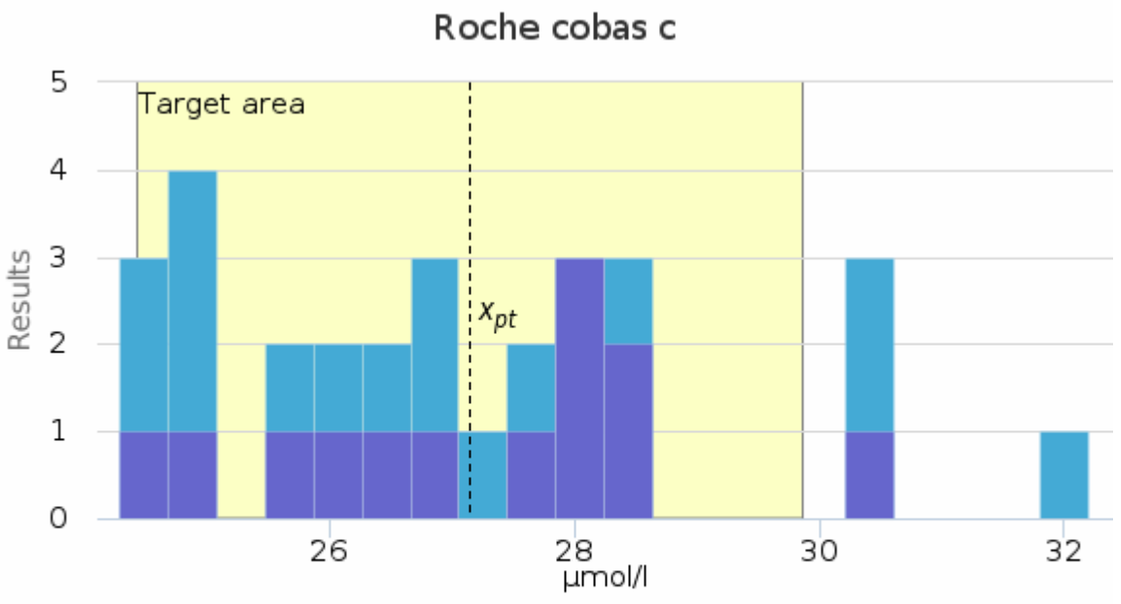
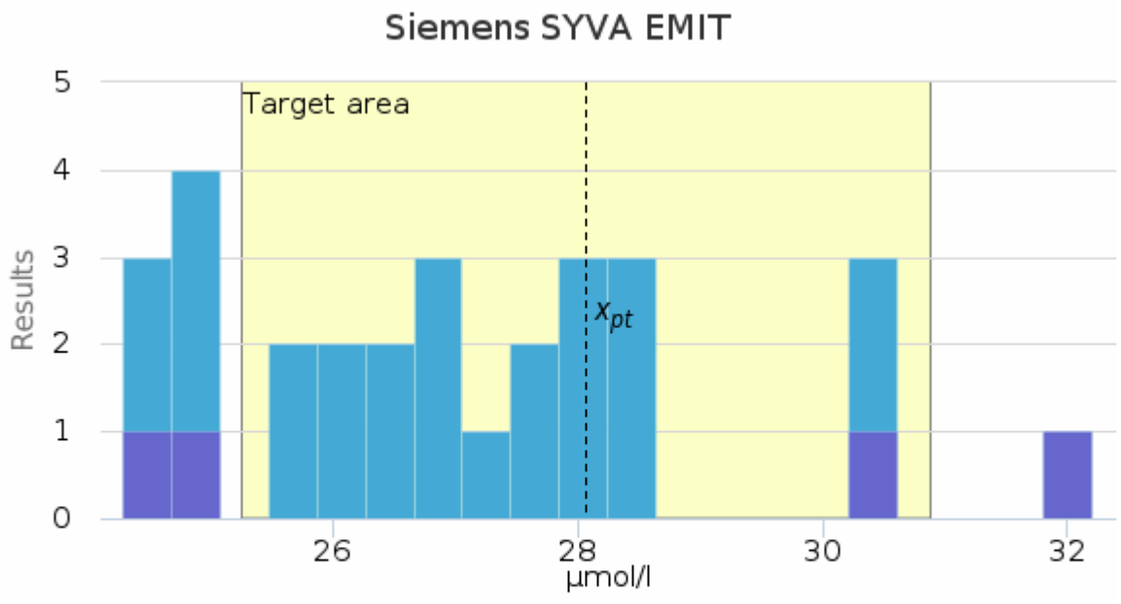
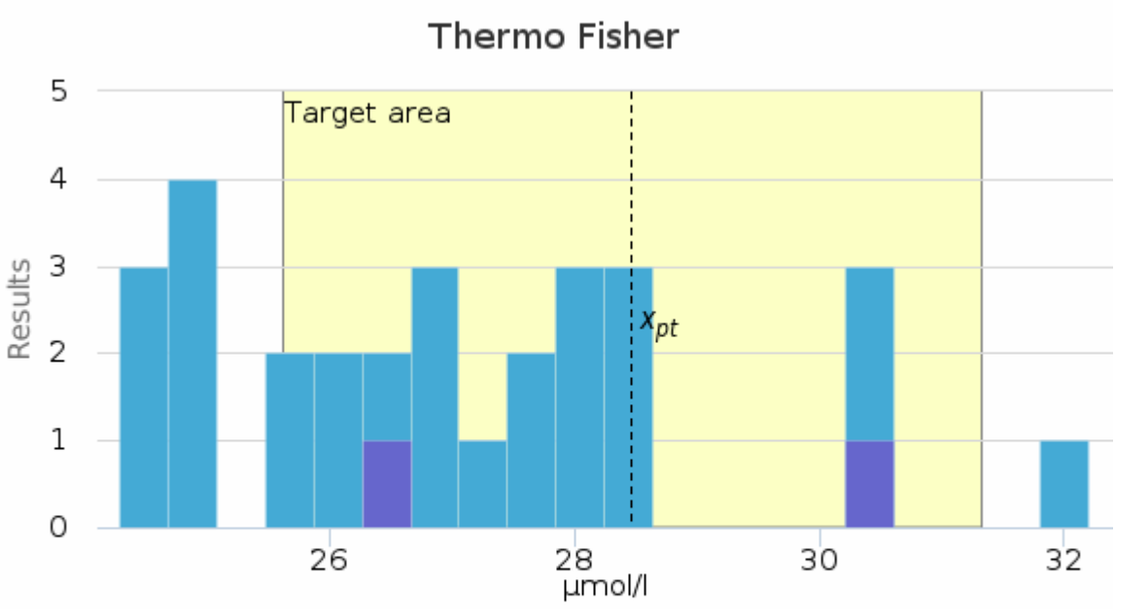


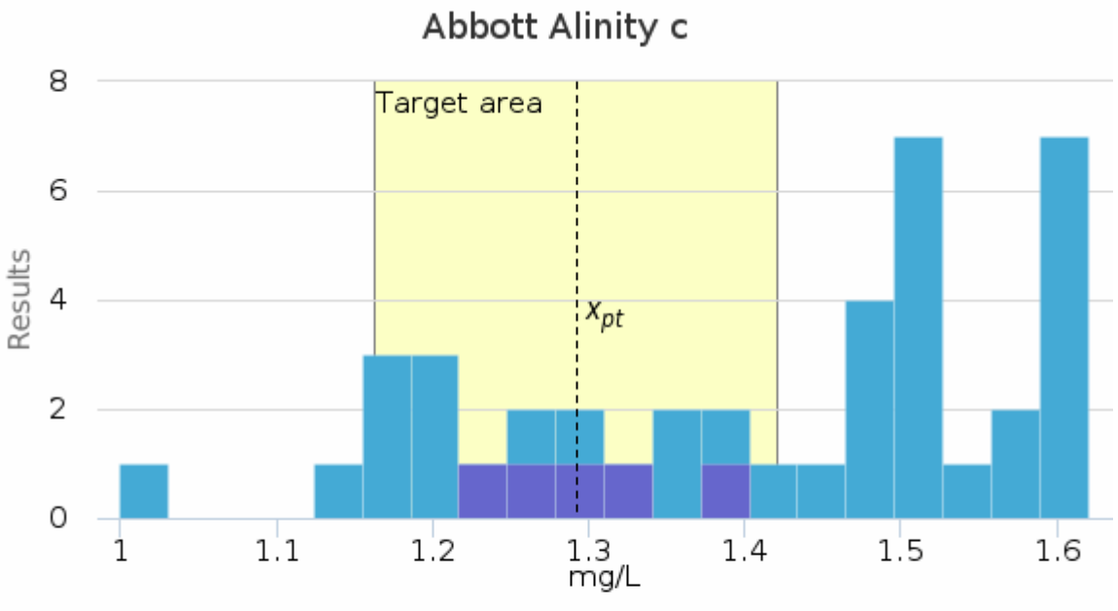


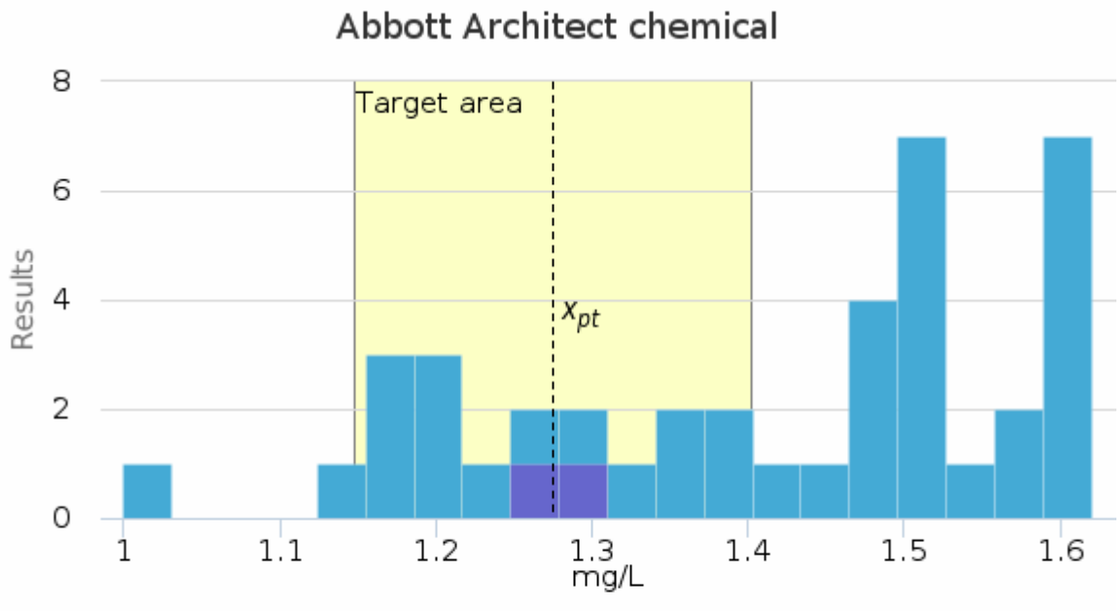


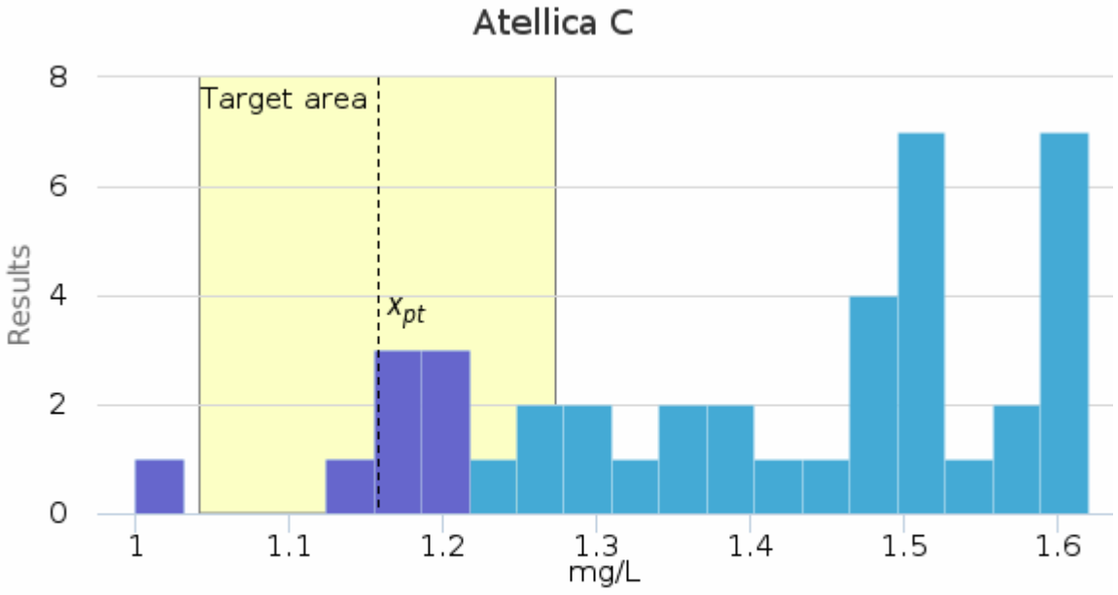
Sample S001 | Tobramycin, mg/L

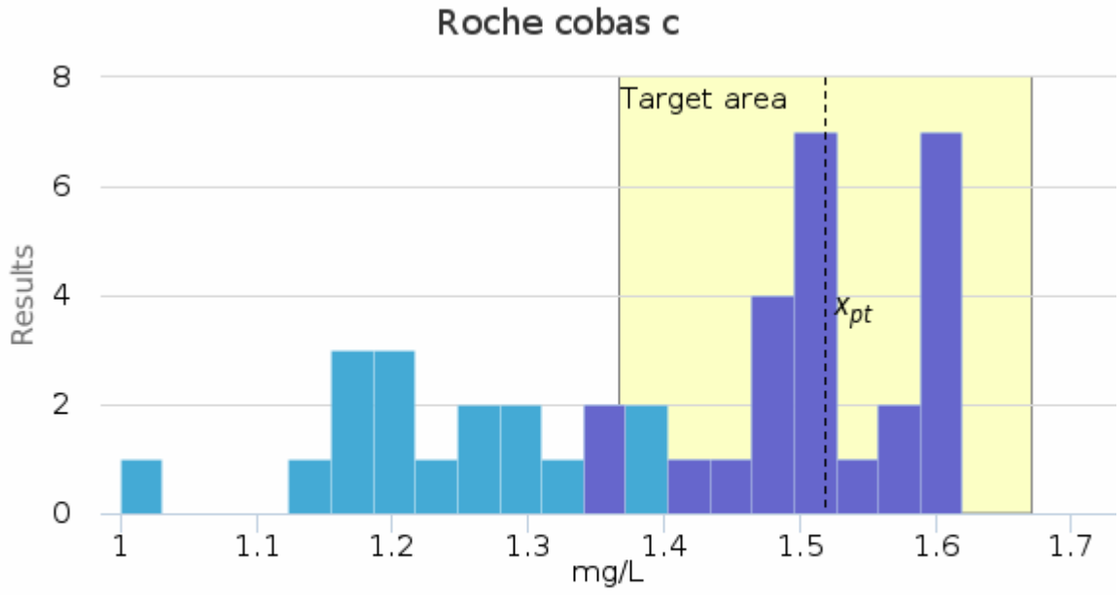
Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Abbott Alinity c	1.3	1.3	<0.1	4.6	<0.1	1.2	1.4	-	5
Abbott Architect chemical	1.3	1.3	<0.1	0.6	<0.1	1.3	1.3	-	2
Atellica C	1.2	1.2	<0.1	5.9	<0.1	1.0	1.2	-	8
Roche cobas c	1.5	1.5	<0.1	4.9	<0.1	1.4	1.6	-	25
Thermo Fisher	-	-	-	-	-	1.4	1.4	-	1
All	**1.4**	**1.5**	**0.2**	**11.8**	**<0.1**	**1.0**	**1.6**	**-**	**41**

Sample S001 | Tobramycin, mg/L| histogram summaries in LabScala









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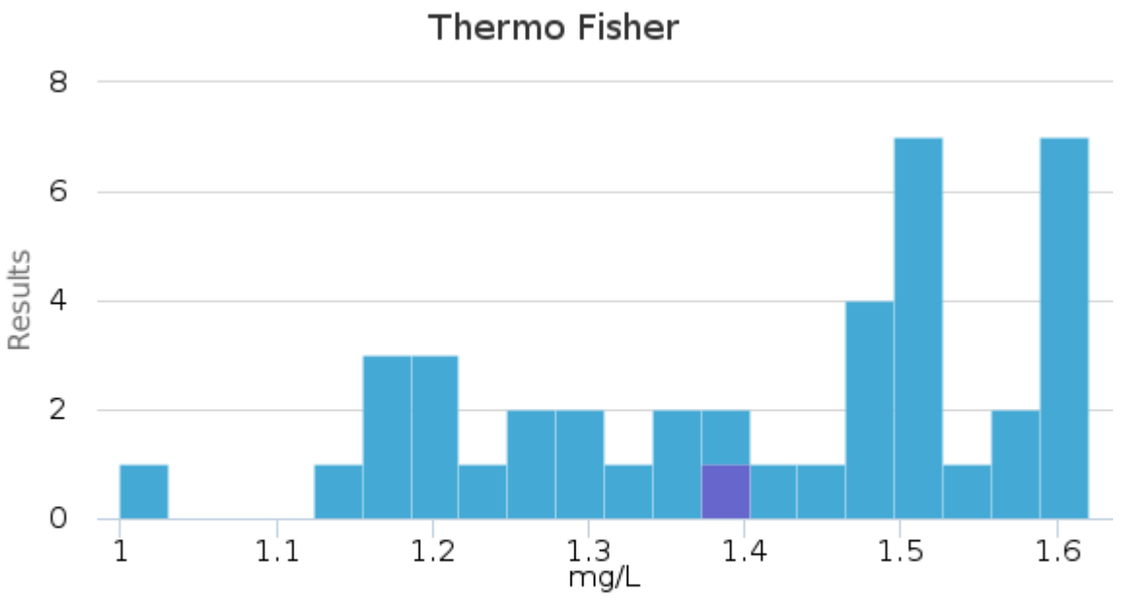
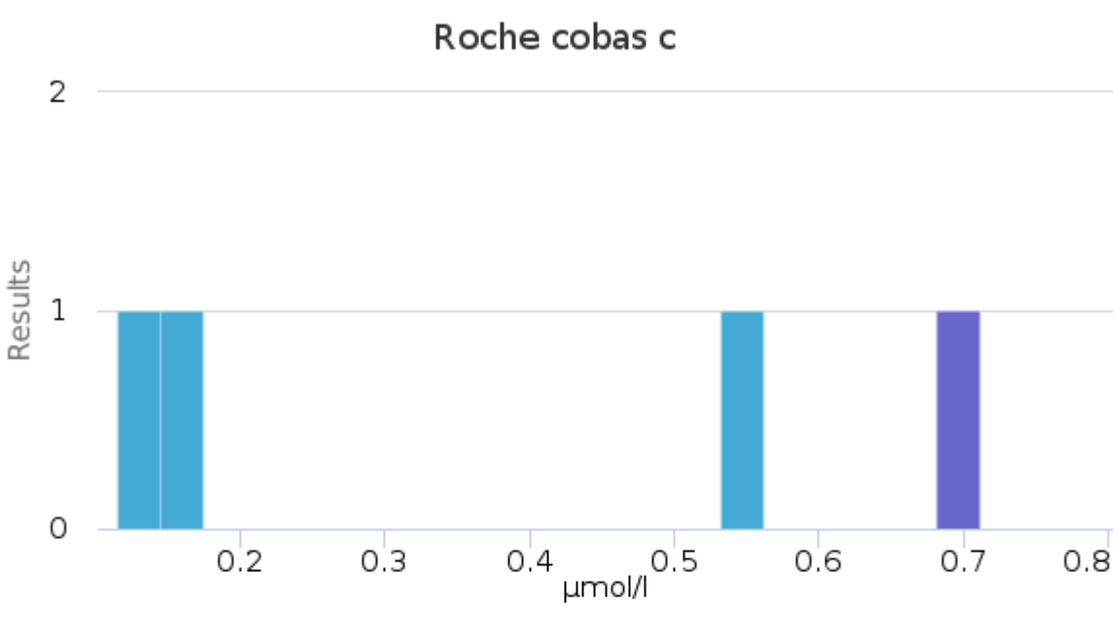
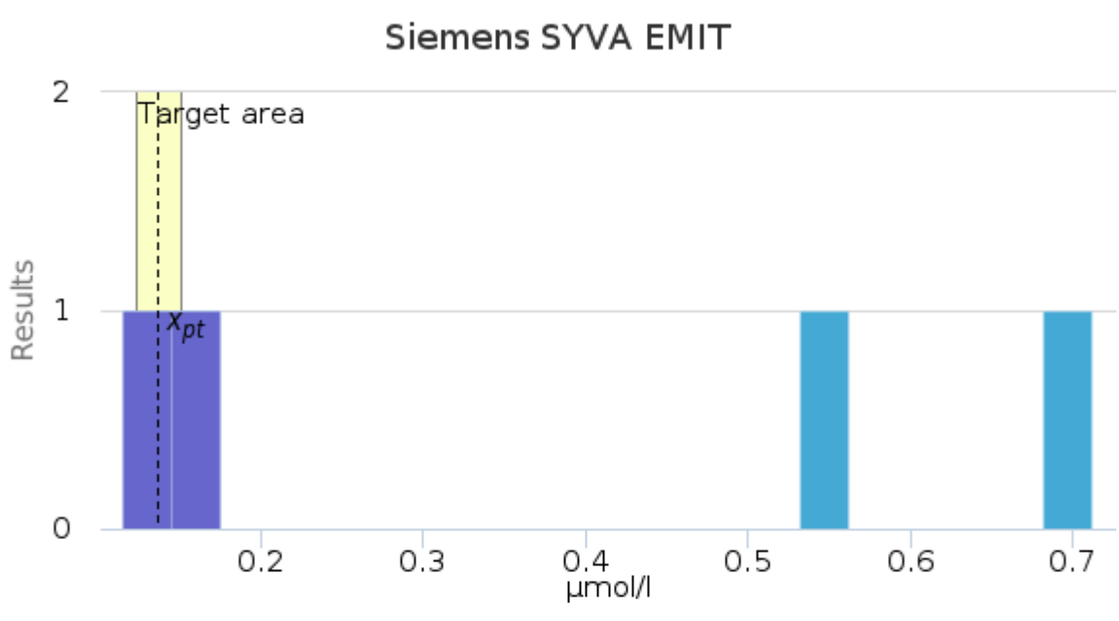


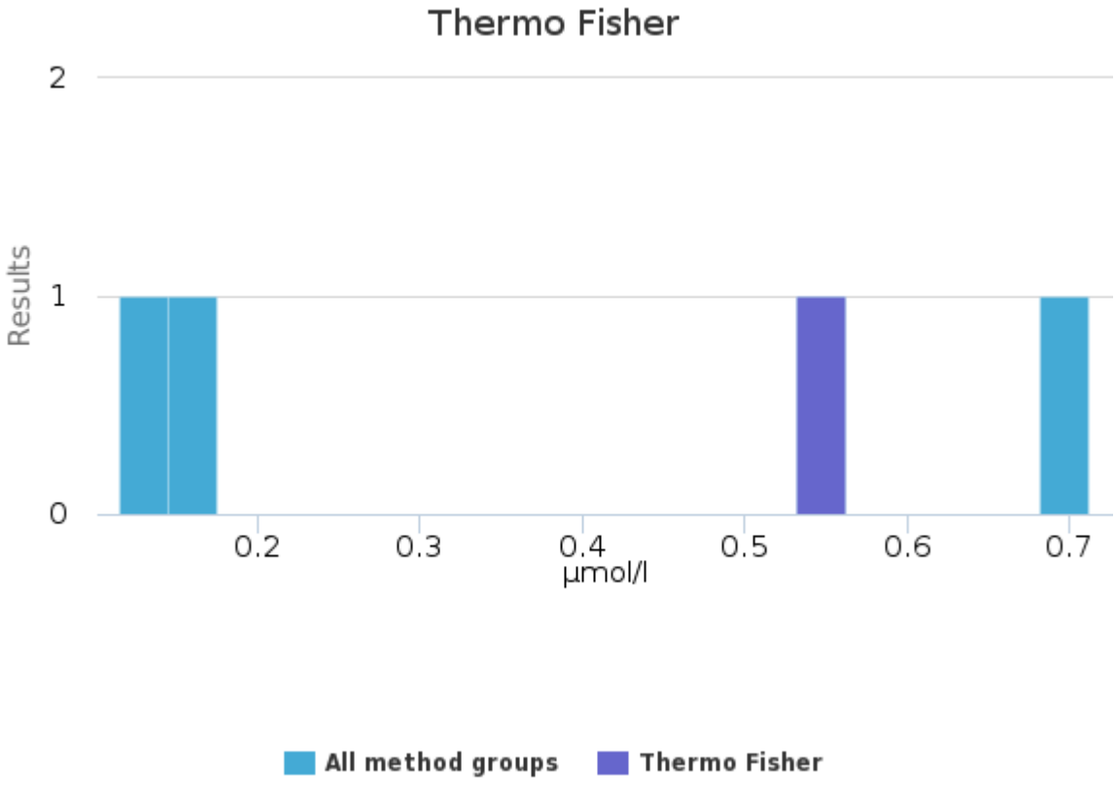
Sample S001 | Tricyclics, µmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Roche cobas c	-	-	-	-	-	0.71	0.71	-	1
Siemens SYVA EMIT	0.14	0.14	0.03	22.3	0.02	0.12	0.16	-	2
Thermo Fisher	-	-	-	-	-	0.55	0.55	-	1
All	**0.38**	**0.35**	**0.29**	**76.3**	**0.15**	**0.12**	**0.71**	**-**	**4**

Sample S001 | Tricyclics, µmol/l| histogram summaries in LabScala



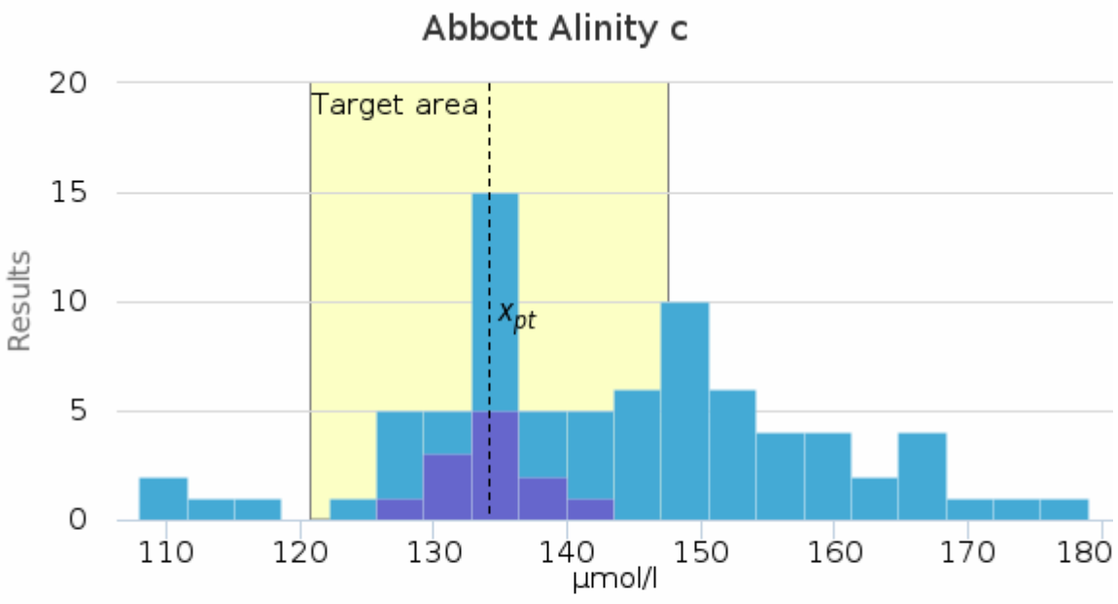


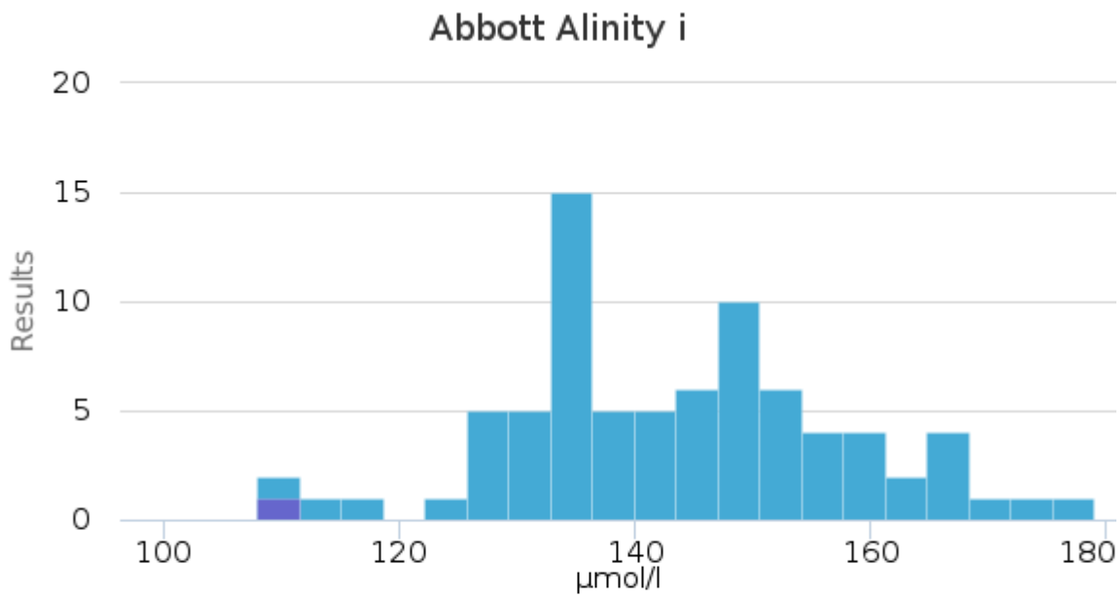


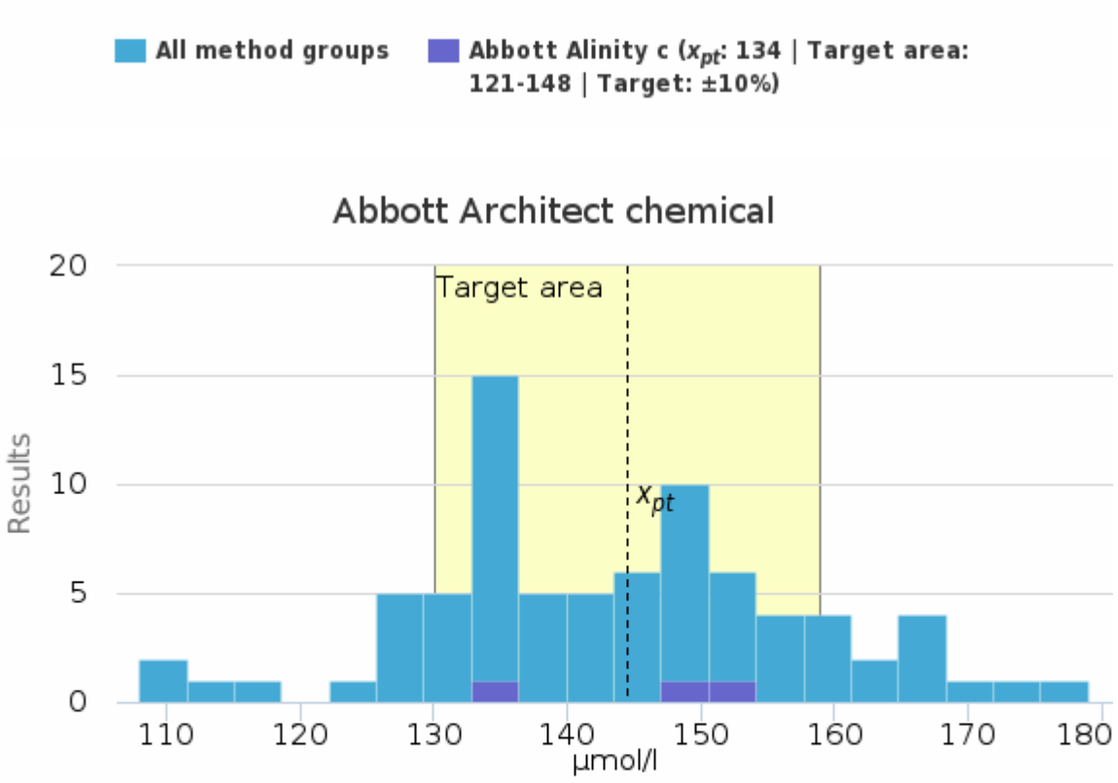
Sample S001 | Valproic acid, µmol/l

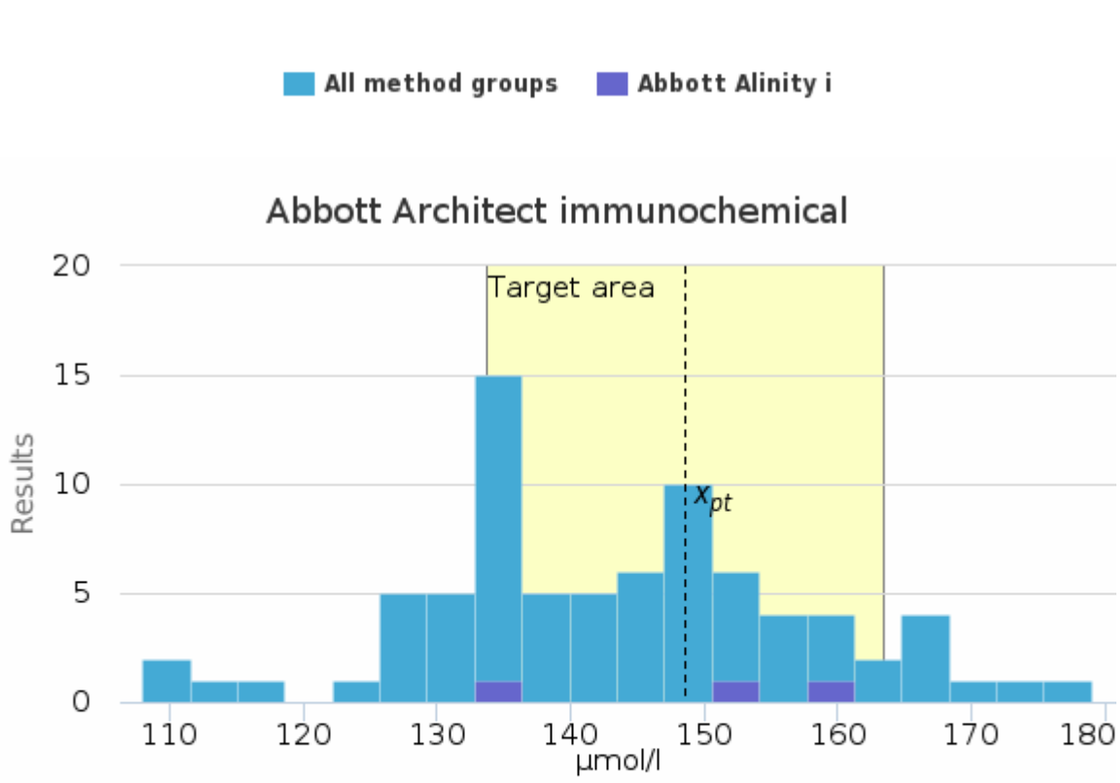
Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Abbott Alinity c	134	133	4	3.0	1	129	141	-	12
Abbott Alinity i	-	-	-	-	-	110	110	-	1
Abbott Architect chemical	144	148	9	6.1	5	134	151	-	3
Abbott Architect immunochemical	149	154	13	8.7	7	134	158	-	3
Atellica C	154	152	6	3.9	2	148	165	-	9
Beckman Coulter AU (Olympus)	148	145	16	10.7	9	134	165	-	3
Roche cobas c	139	137	14	10.2	2	108	172	-	35
Roche Integra	147	147	1	0.8	<1	146	148	-	2
Siemens Advia	-	-	-	-	-	179	179	-	1
Siemens Dimension	155	156	6	4.0	4	148	160	-	3
Siemens SYVA EMIT	159	164	10	6.2	4	146	166	-	5
Thermo Fisher	155	155	8	5.4	6	149	161	-	2
All	**143**	**143**	**14**	**10.0**	**2**	**108**	**179**	**-**	**79**

Sample S001 | Valproic acid, µmol/l| histogram summaries in LabScala









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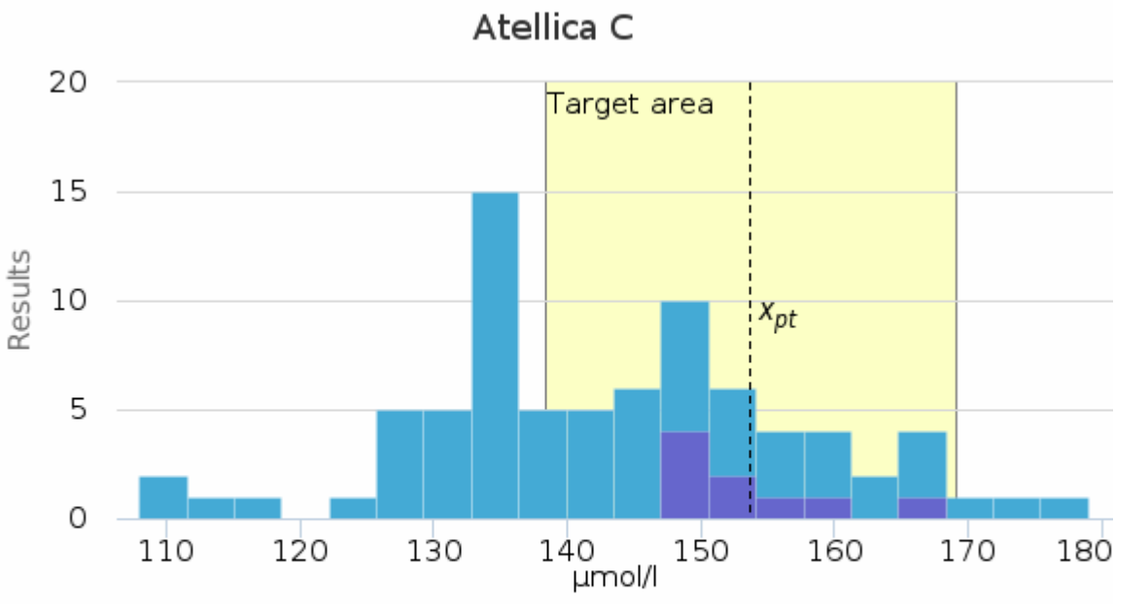

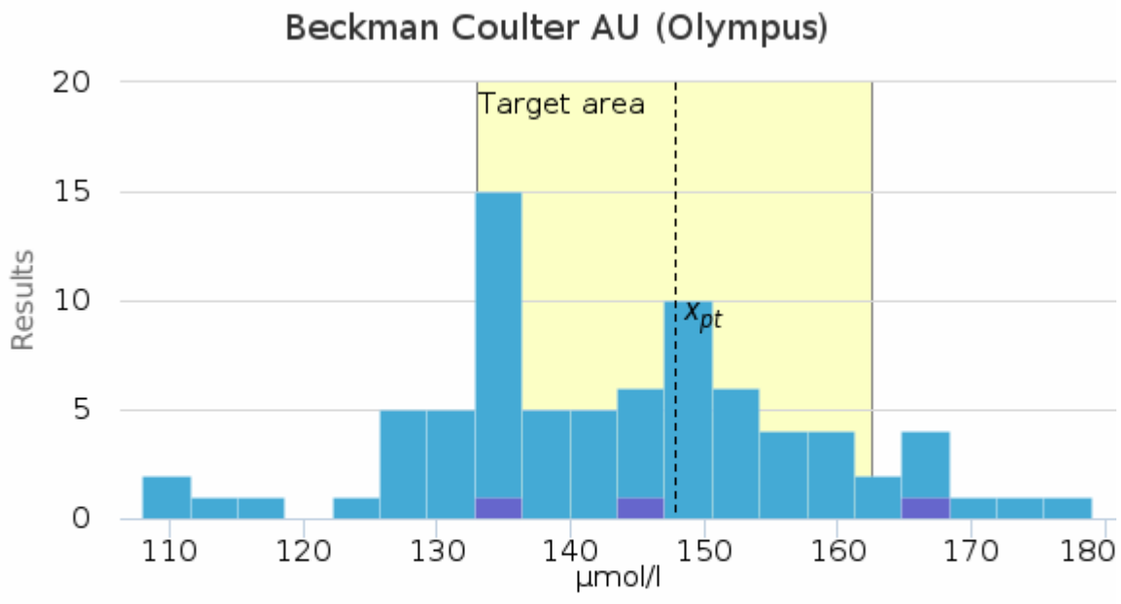

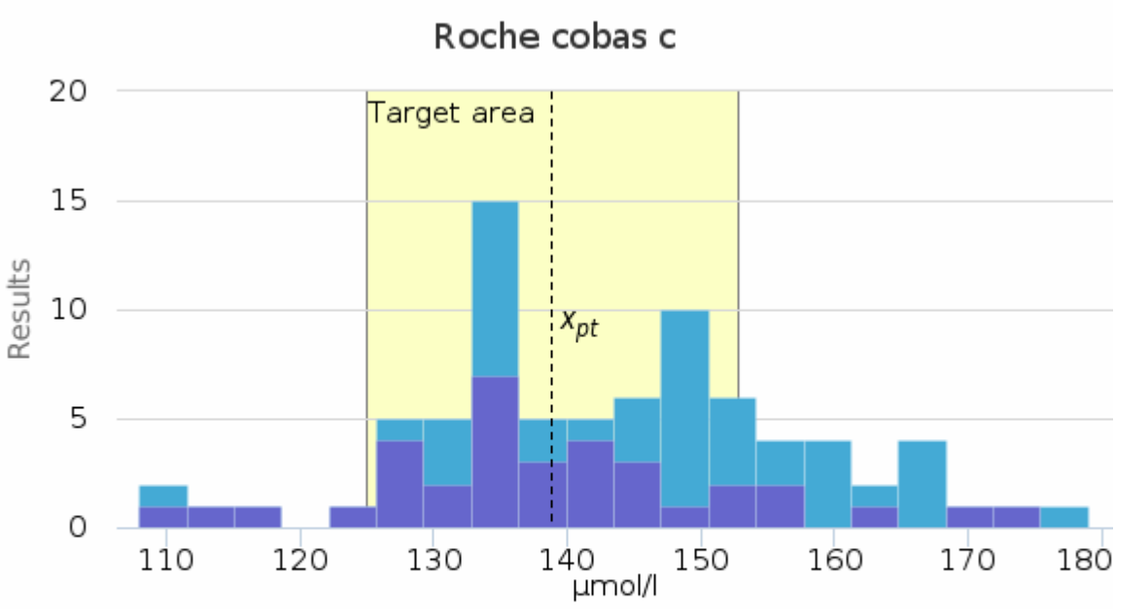

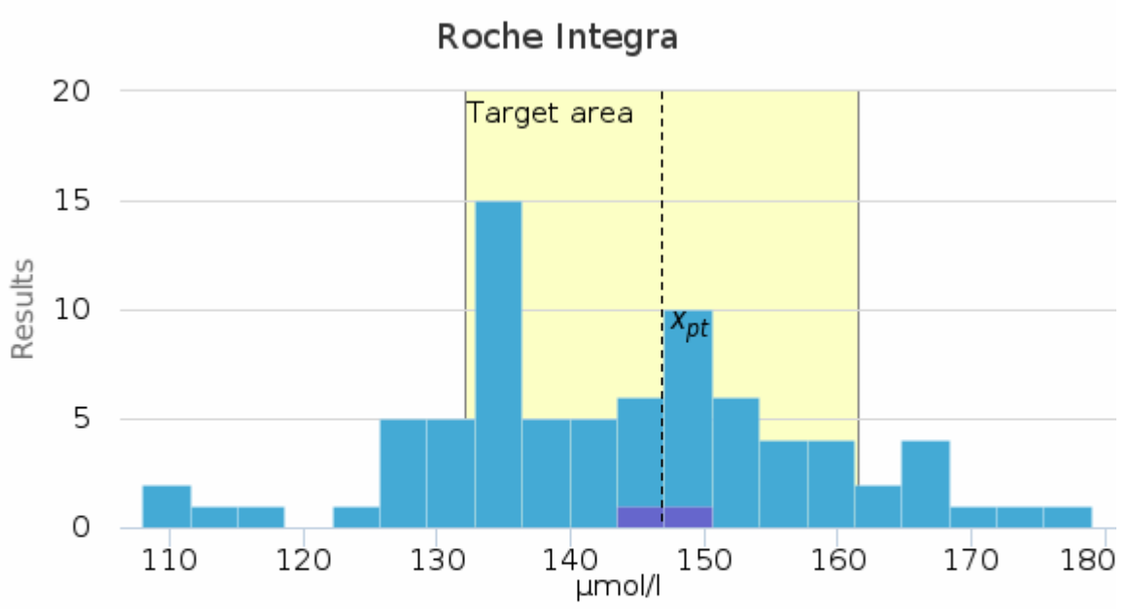

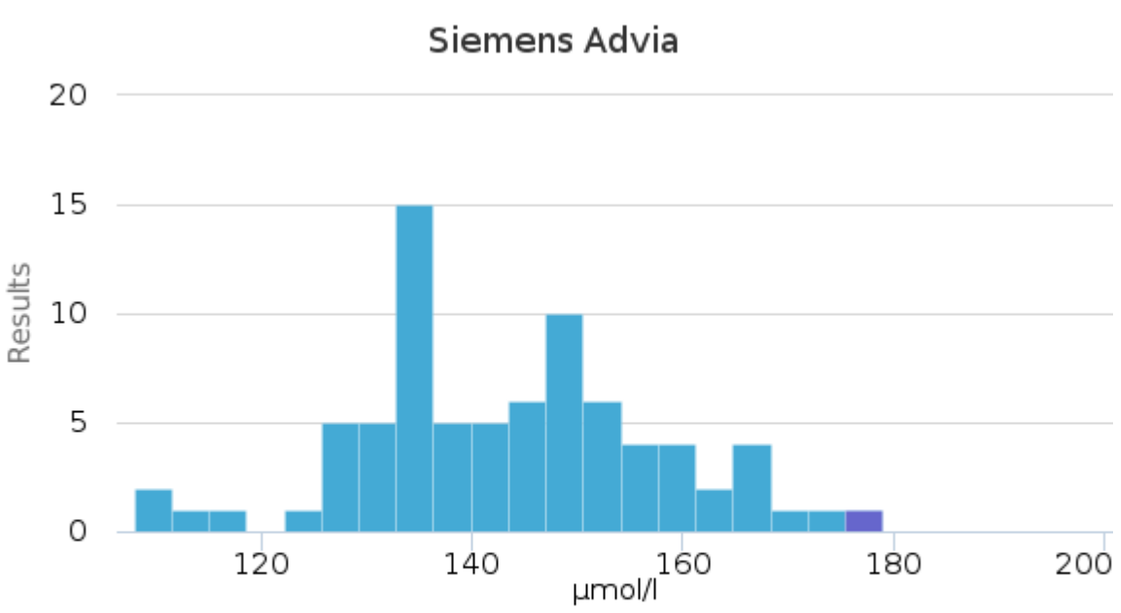

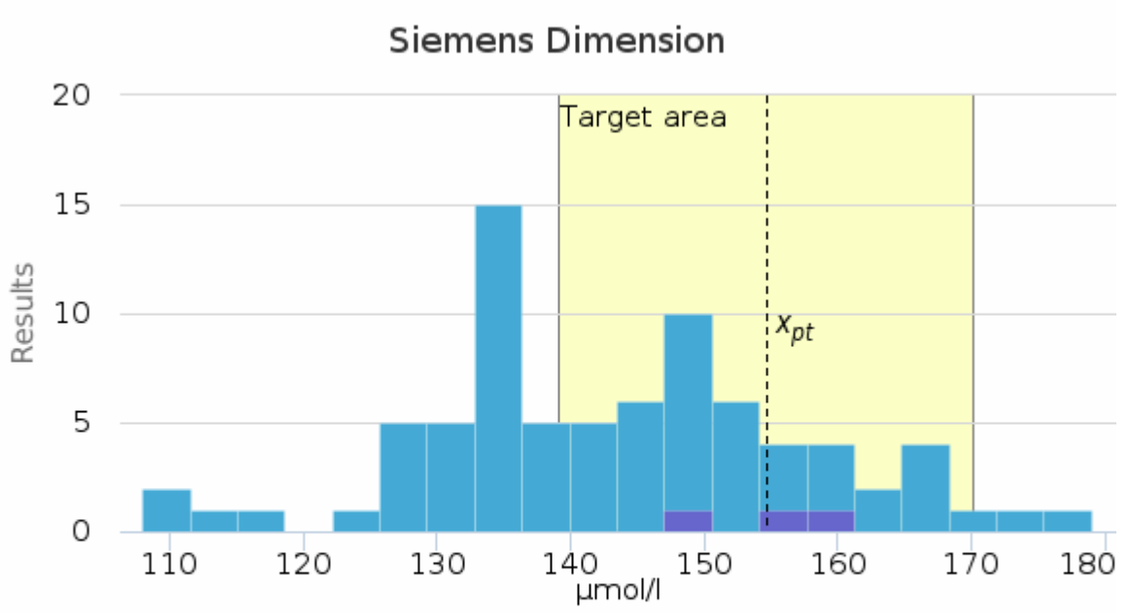

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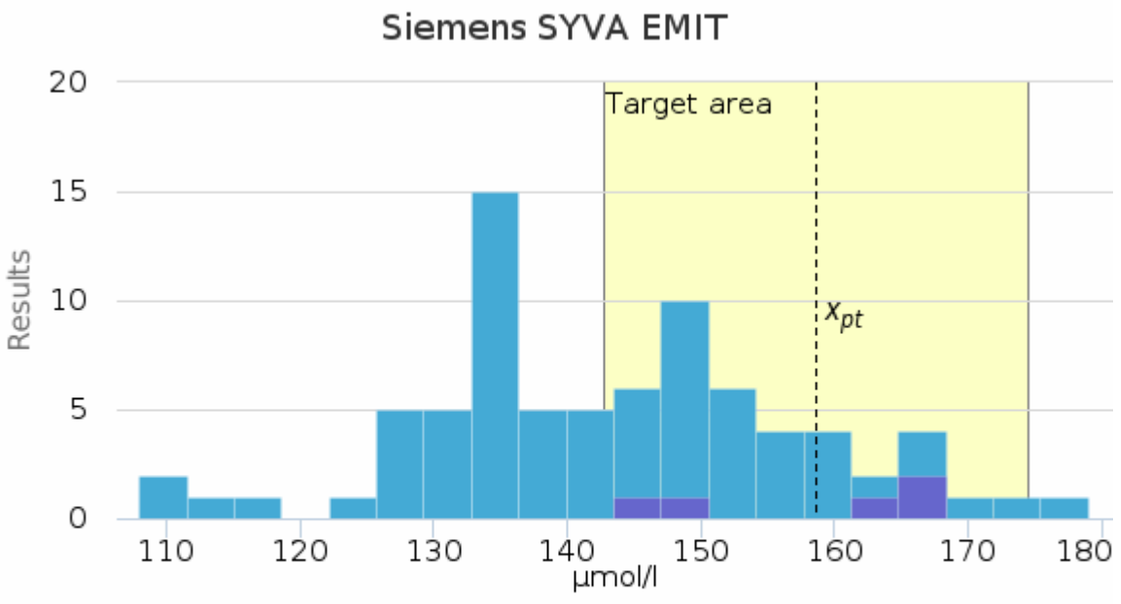
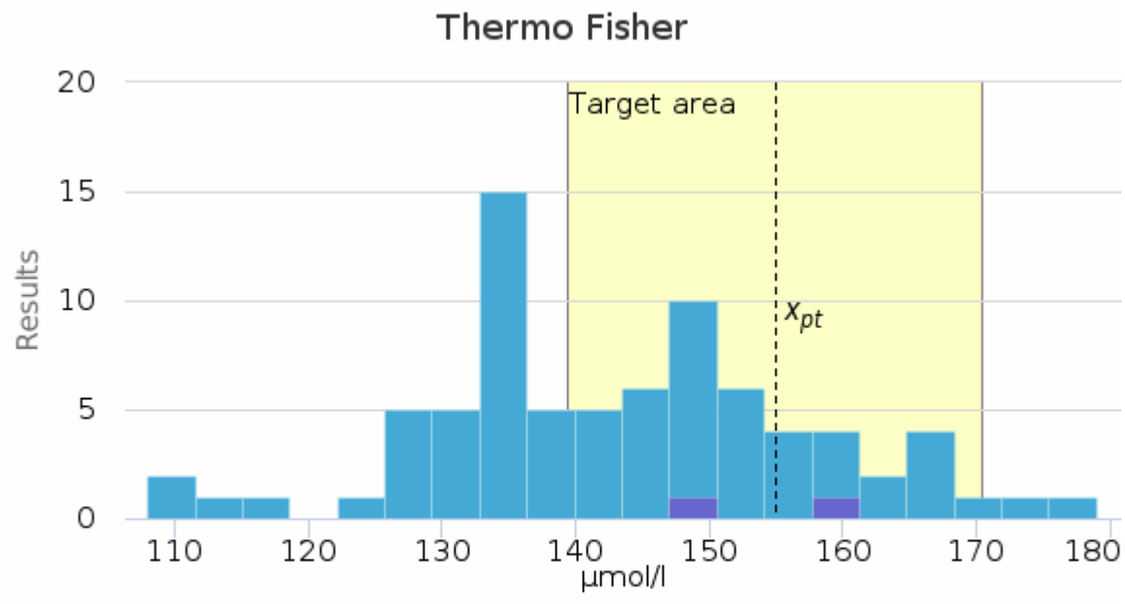
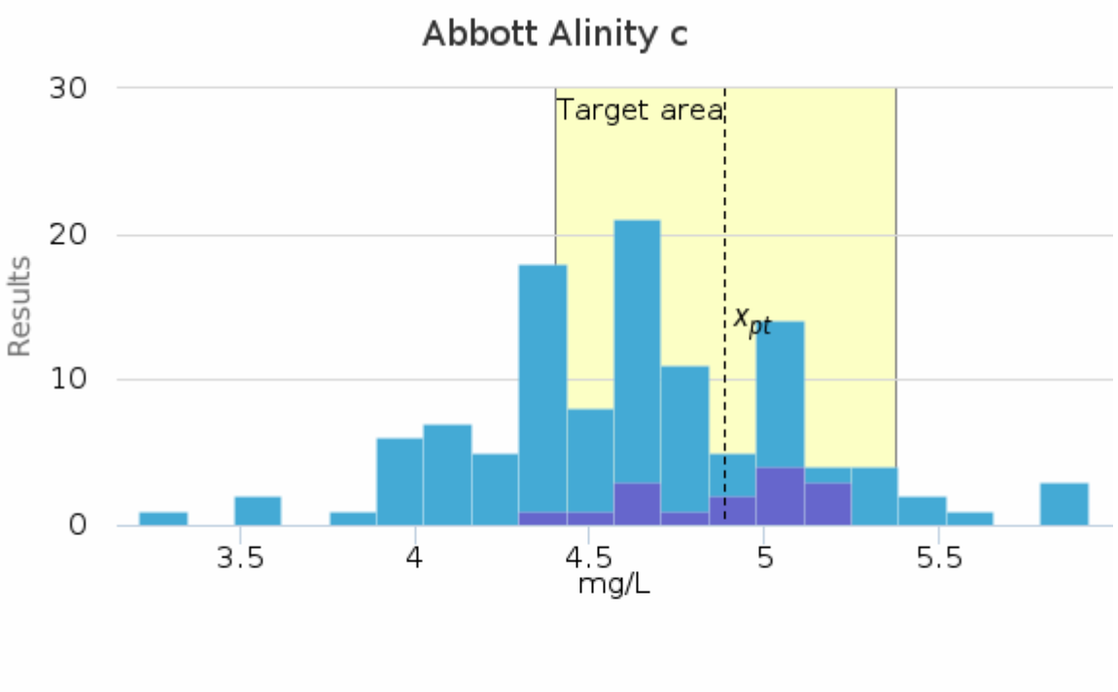


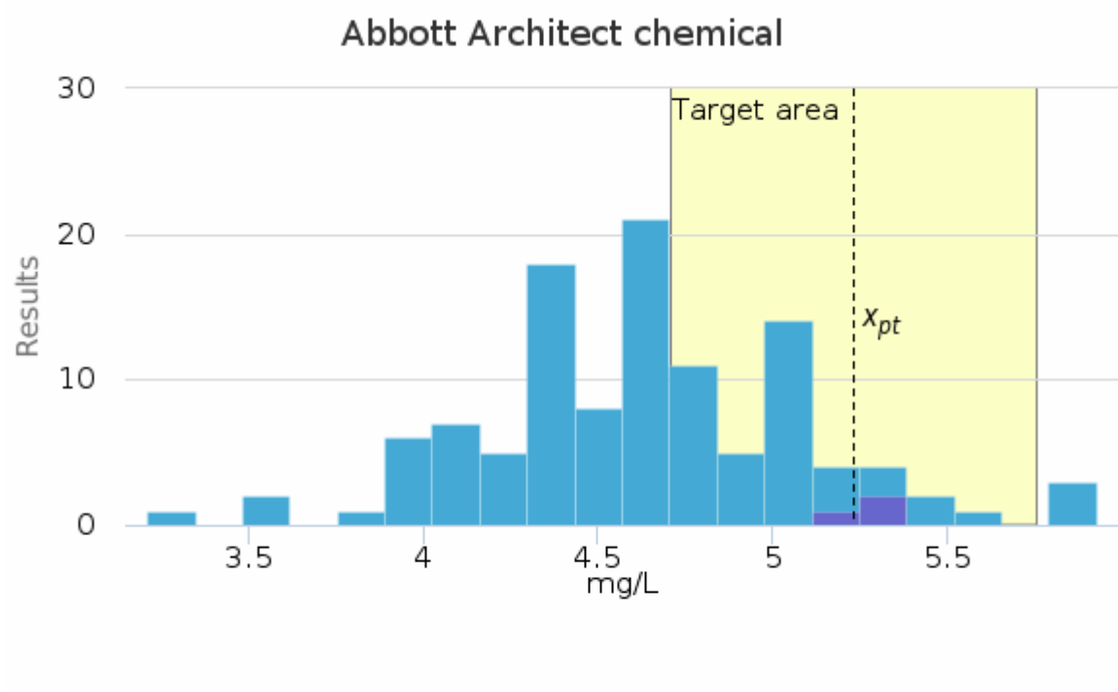


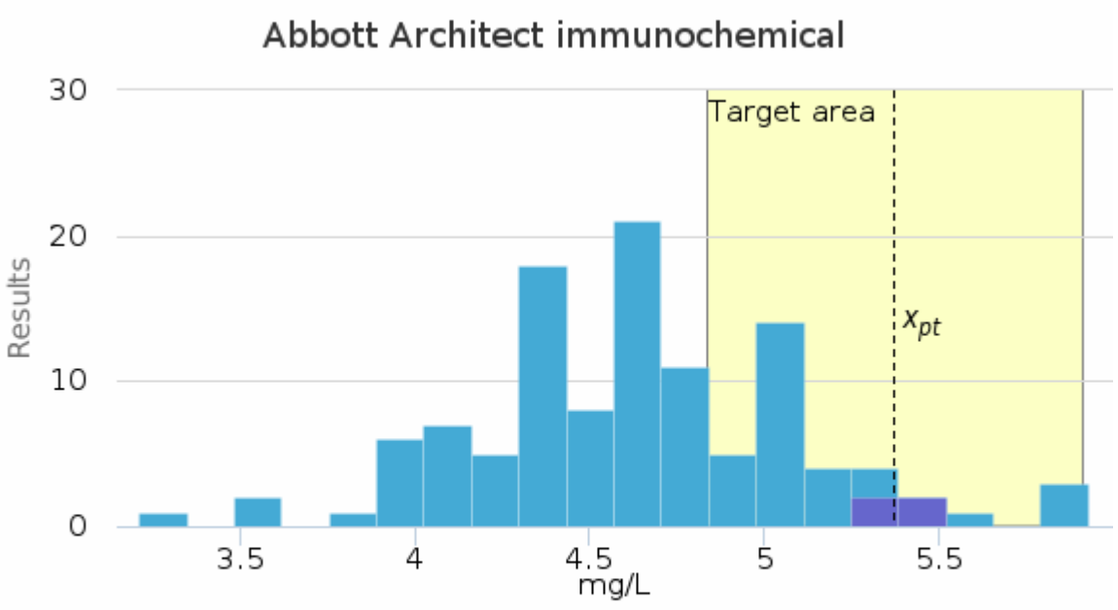
Sample S001 | Vancomycin, mg/L

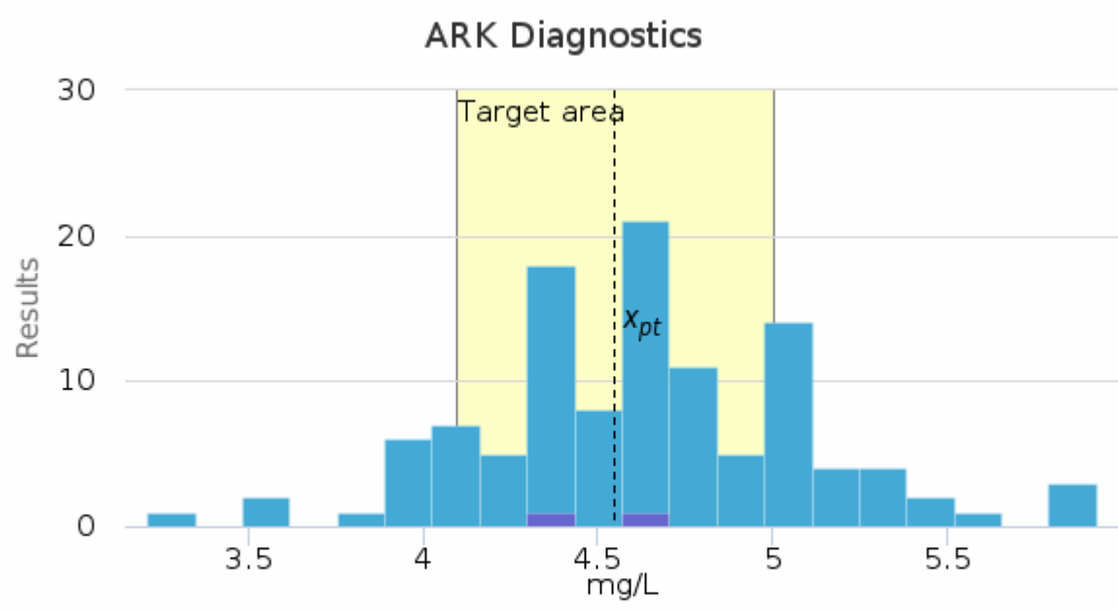
Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Abbott Alinity c	4.9	4.9	0.3	5.5	<0.1	4.4	5.2	-	15
Abbott Architect chemical	5.2	5.3	<0.1	1.6	<0.1	5.1	5.3	-	3
Abbott Architect immunochemical	5.4	5.4	<0.1	1.3	<0.1	5.3	5.5	-	4
ARK Diagnostics	4.6	4.6	0.2	4.7	0.2	4.4	4.7	-	2
Atellica C	4.6	4.7	0.3	6.6	<0.1	4.0	5.0	-	15
Atellica I	-	-	-	-	-	4.2	4.2	-	1
Beckman Coulter AU (Olympus)	4.7	4.2	1.0	21.7	0.6	4.1	5.9	-	3
Roche cobas c	4.5	4.4	0.4	8.0	<0.1	3.6	5.1	1	51
Roche Integra	4.7	4.6	0.7	14.8	0.3	4.1	5.8	-	5
Siemens Advia	-	-	-	-	-	4.3	4.3	-	1
Siemens Advia Centaur	3.8	3.8	0.9	22.6	0.6	3.2	4.4	-	2
Siemens Dimension	4.8	4.8	0.2	3.8	<0.1	4.6	5.0	-	4
Siemens SYVA EMIT	4.5	4.6	0.4	8.5	0.2	3.9	4.9	-	5
Thermo Fisher	5.1	5.1	1.1	22.2	0.8	4.3	5.9	-	2
All	**4.6**	**4.6**	**0.5**	**10.0**	**<0.1**	**3.2**	**5.9**	**-**	**113**

Sample S001 | Vancomycin, mg/L| histogram summaries in LabScala









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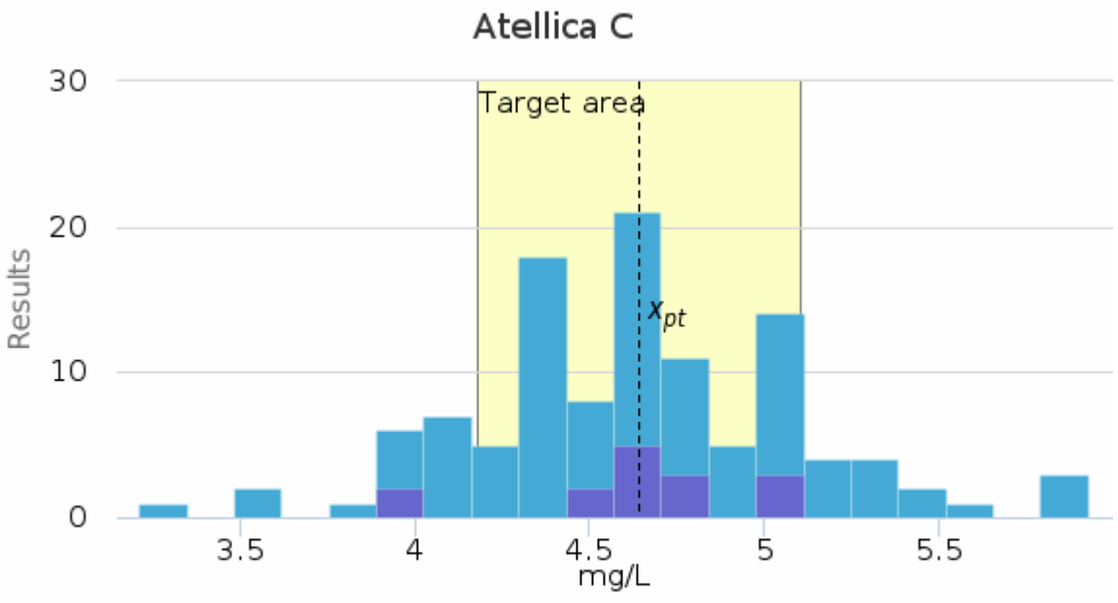
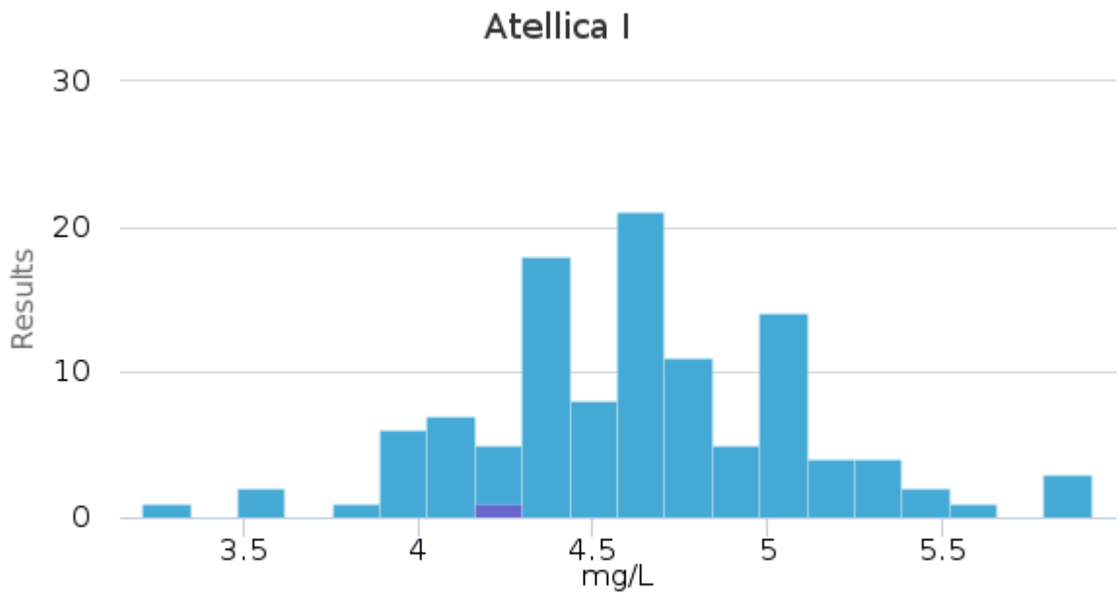
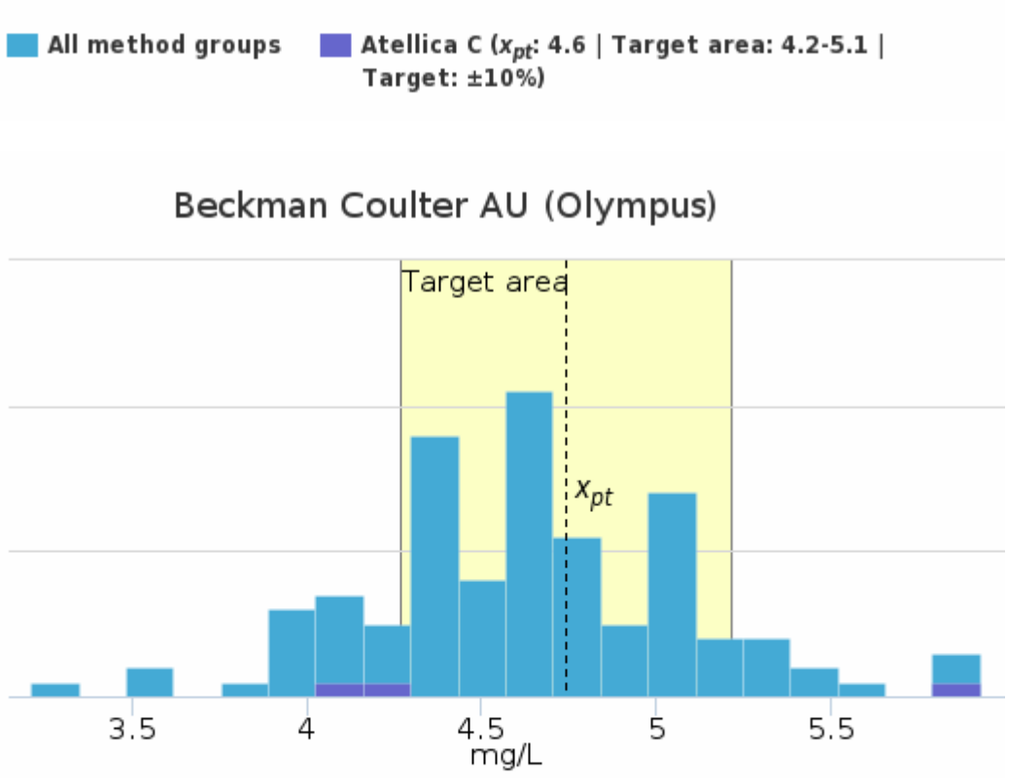
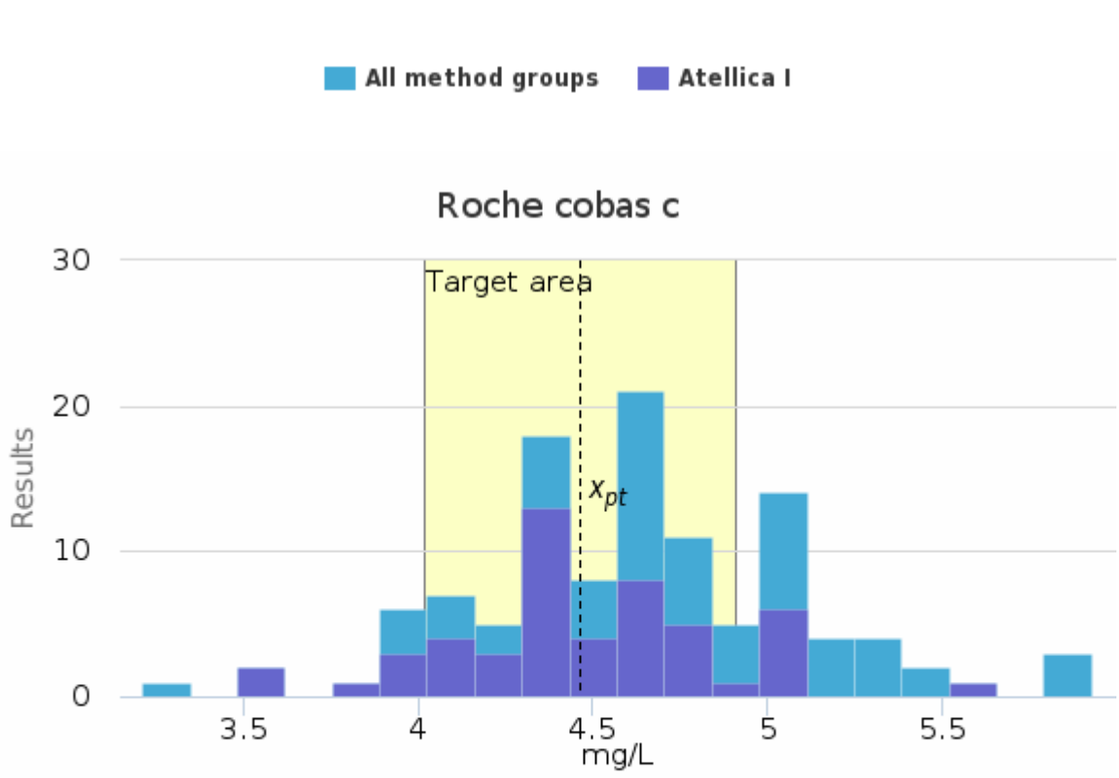
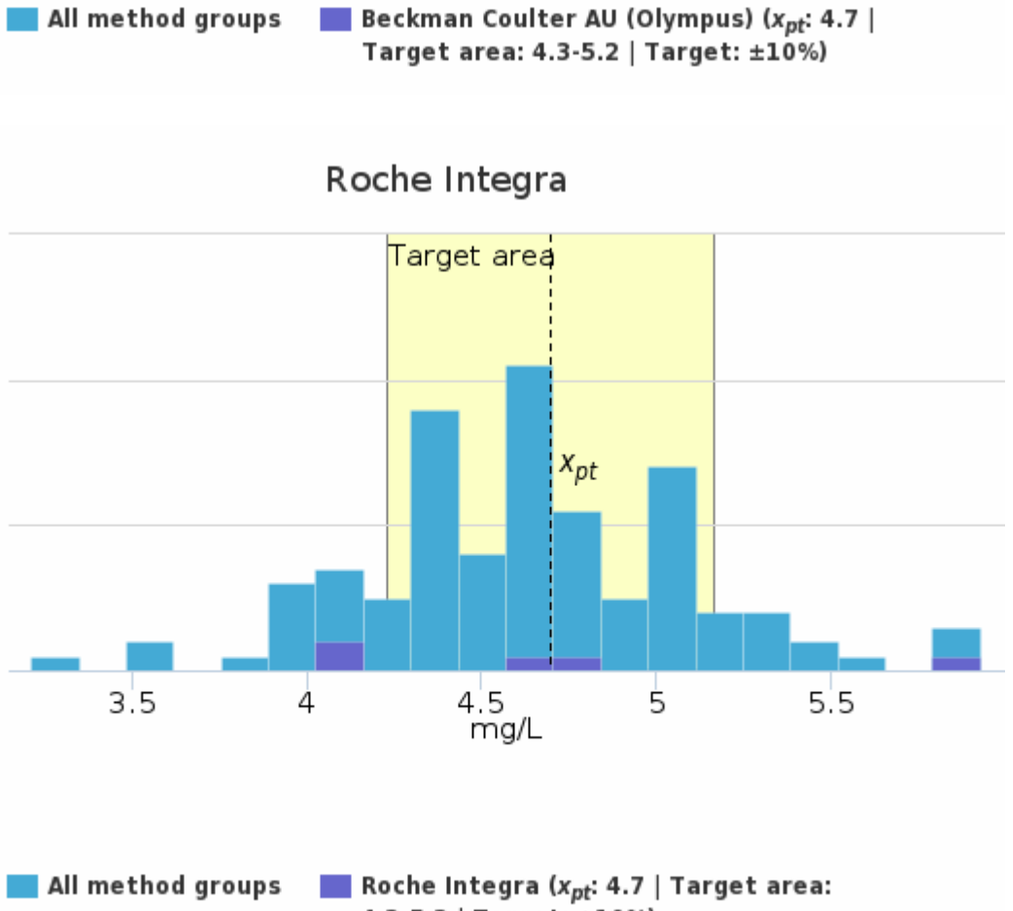
Quantitative report

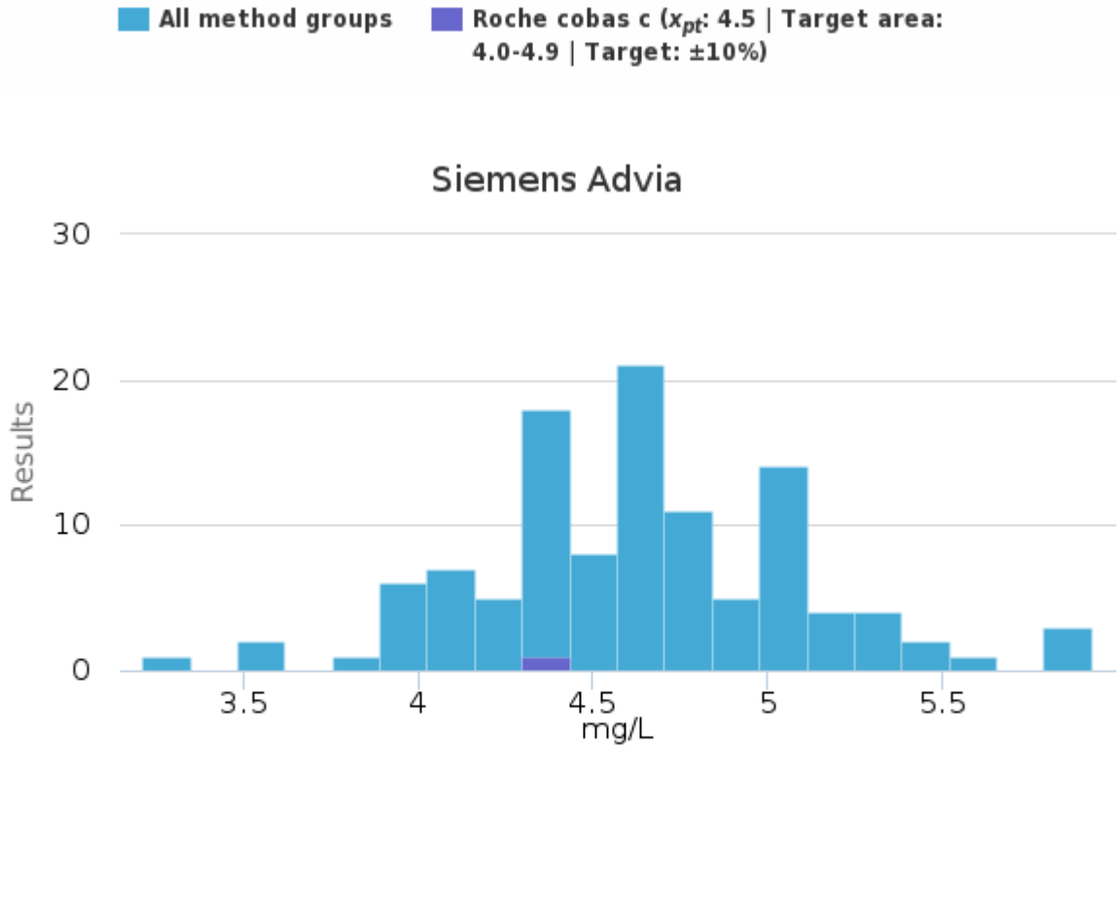












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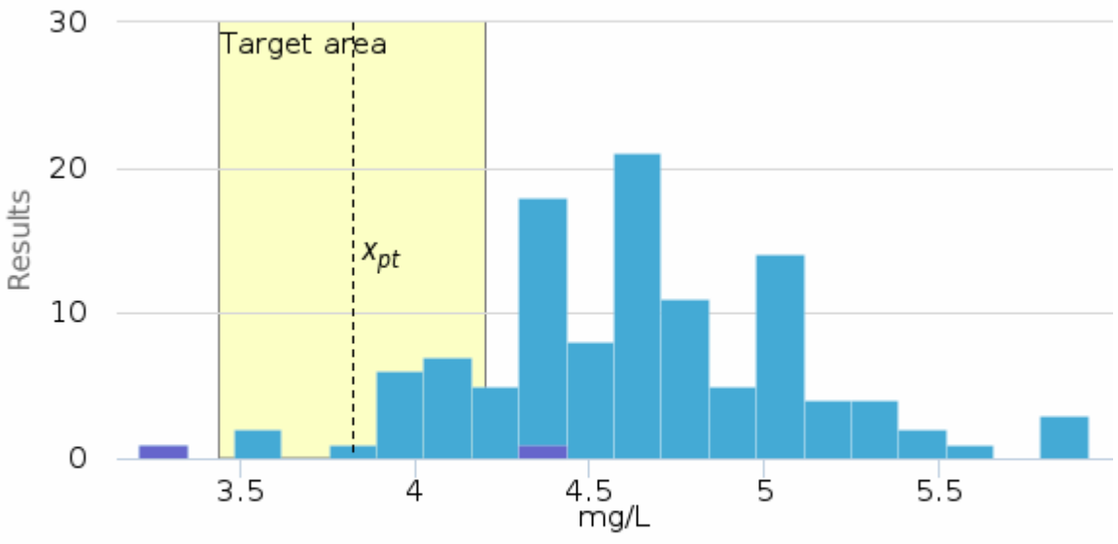
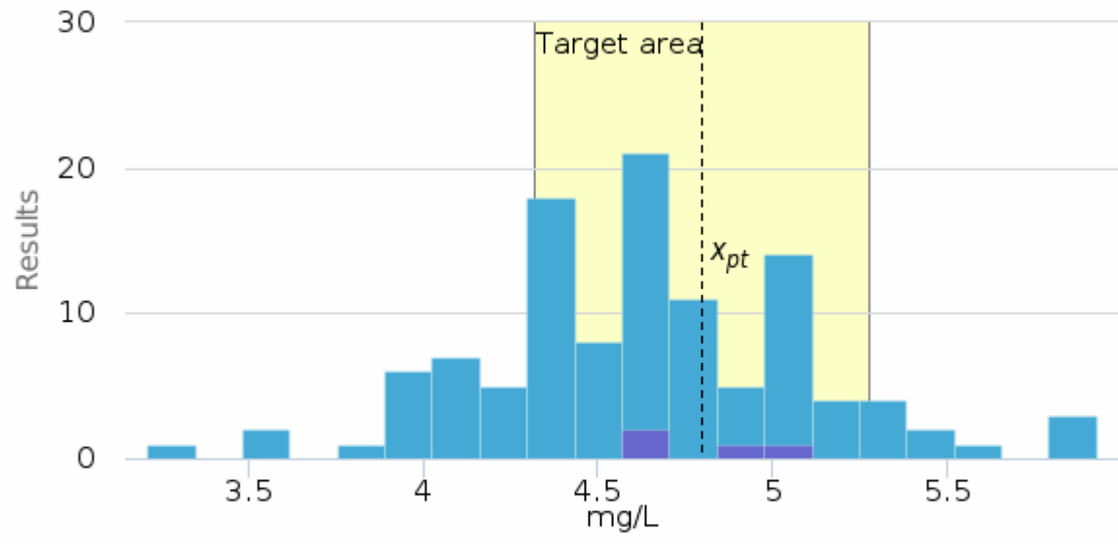
Siemens Advia Centaur



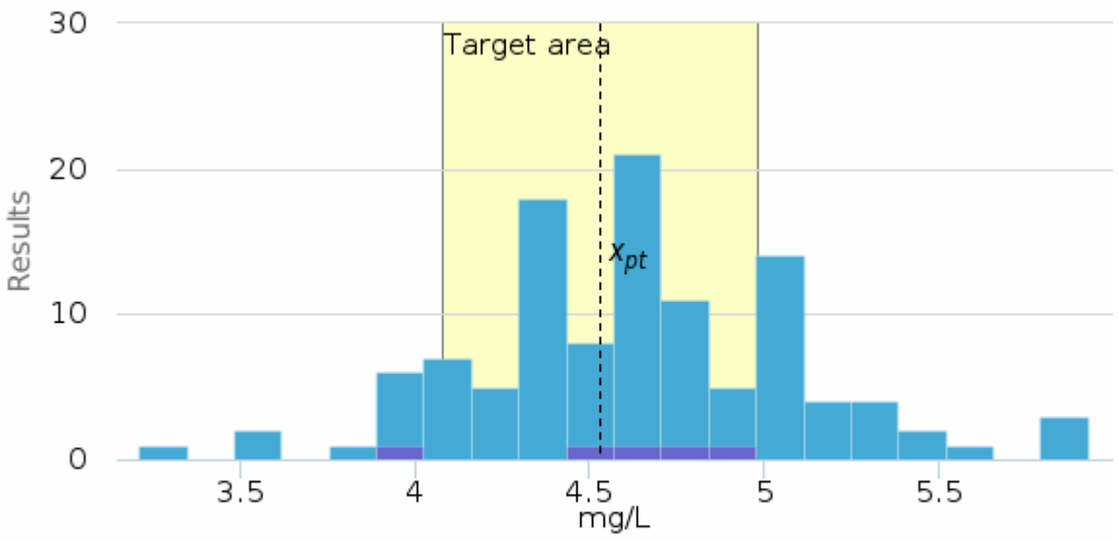
All method groups | Siemens Advia Centaur (x_{pt}: 3.8 | Target area: 3.4-4.2 | Target: ±10%)

Siemens Dimension



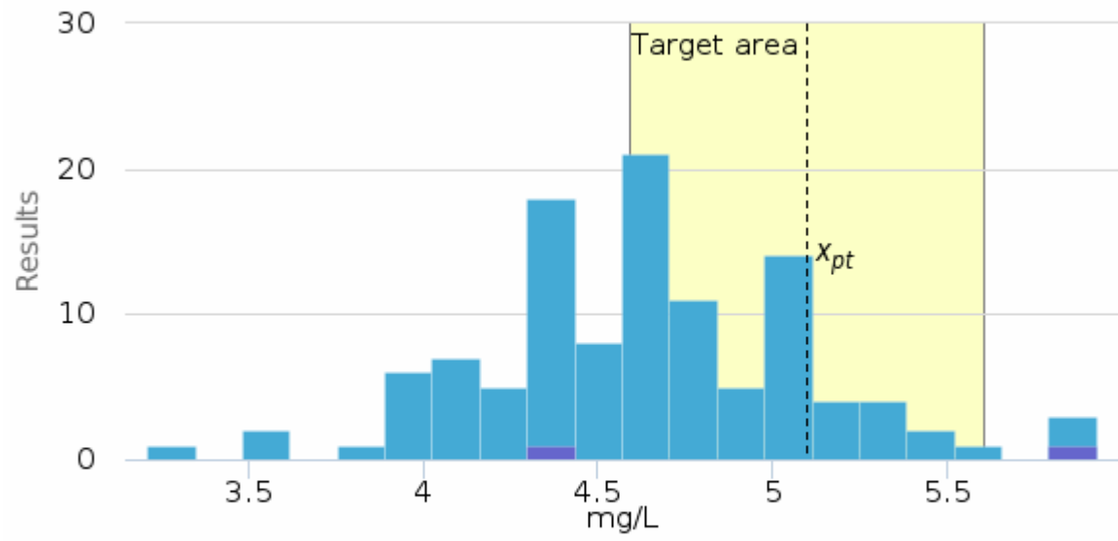
All method groups | Siemens Dimension (x_{pt}: 4.8 | Target area: 4.3-5.3 | Target: ±10%)

Siemens SYVA EMIT



All method groups | Siemens SYVA EMIT (x_{pt}: 4.5 | Target area: 4.1-5.0 | Target: ±10%)

Thermo Fisher

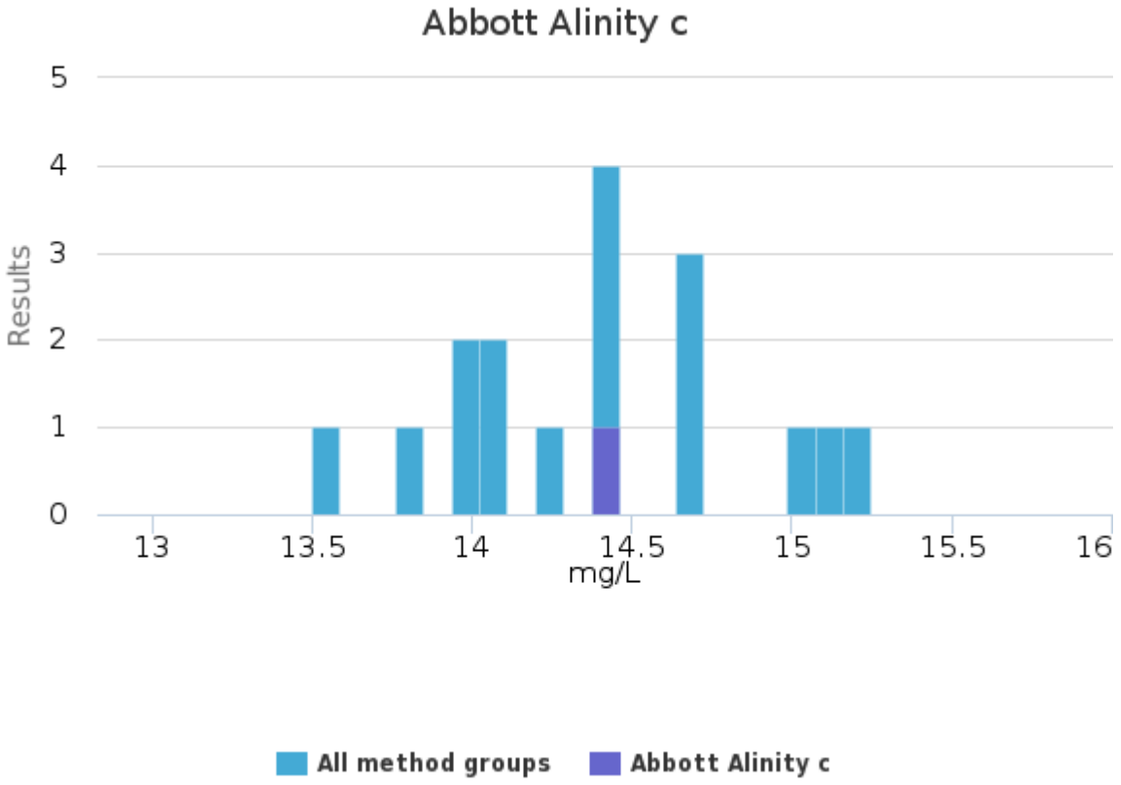


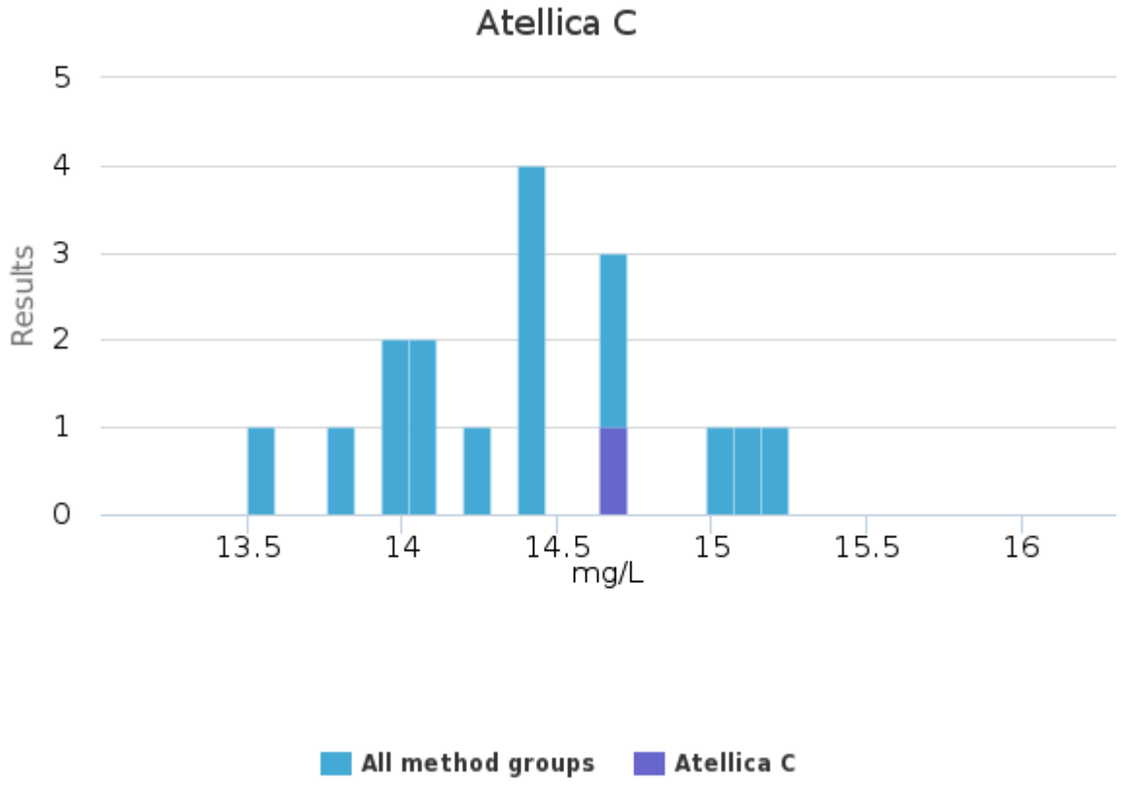
All method groups | Thermo Fisher (x_{pt}: 5.1 | Target area: 4.6-5.6 | Target: ±10%)

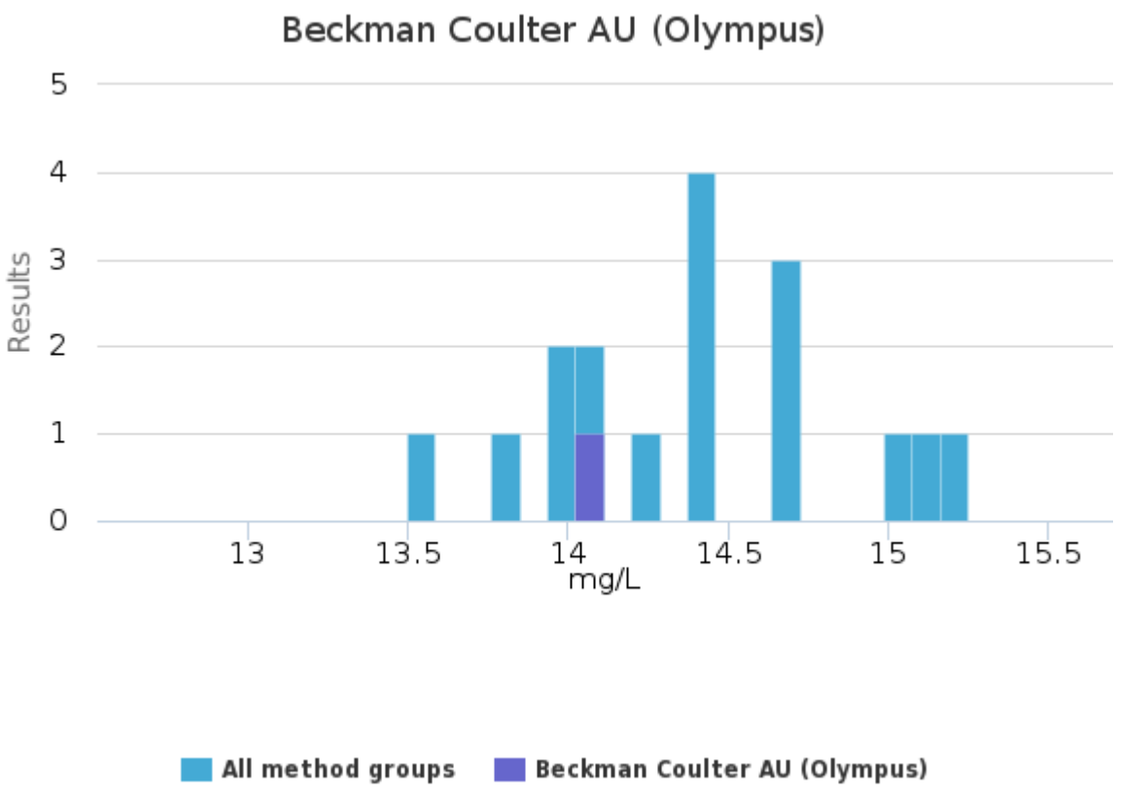
Sample S002 | Amikasin, mg/L

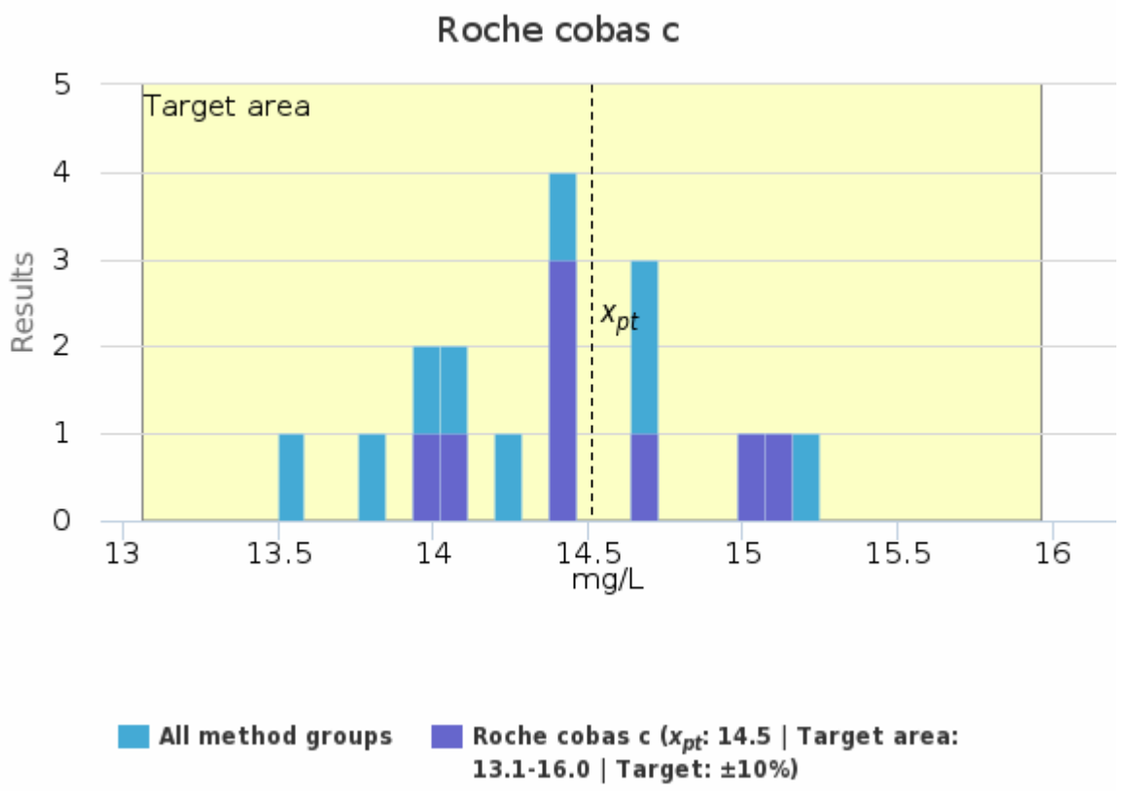
Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Abbott Alinity c	-	-	-	-	-	14.4	14.4	-	1
Atellica C	-	-	-	-	-	14.7	14.7	-	1
Beckman Coulter AU (Olympus)	-	-	-	-	-	14.1	14.1	-	1
Roche cobas c	14.5	14.4	0.4	2.7	0.1	14.0	15.1	-	8
Roche Integra	-	-	-	-	-	14.3	14.3	-	1
Siemens SYVA EMIT	14.1	13.9	0.8	5.4	0.4	13.5	15.3	-	4
Thermo Fisher	-	-	-	-	-	14.7	14.7	-	1
All	**14.4**	**14.4**	**0.5**	**3.2**	**0.1**	**13.5**	**15.3**	**-**	**17**

Sample S002 | Amikasin, mg/L| histogram summaries in LabScala









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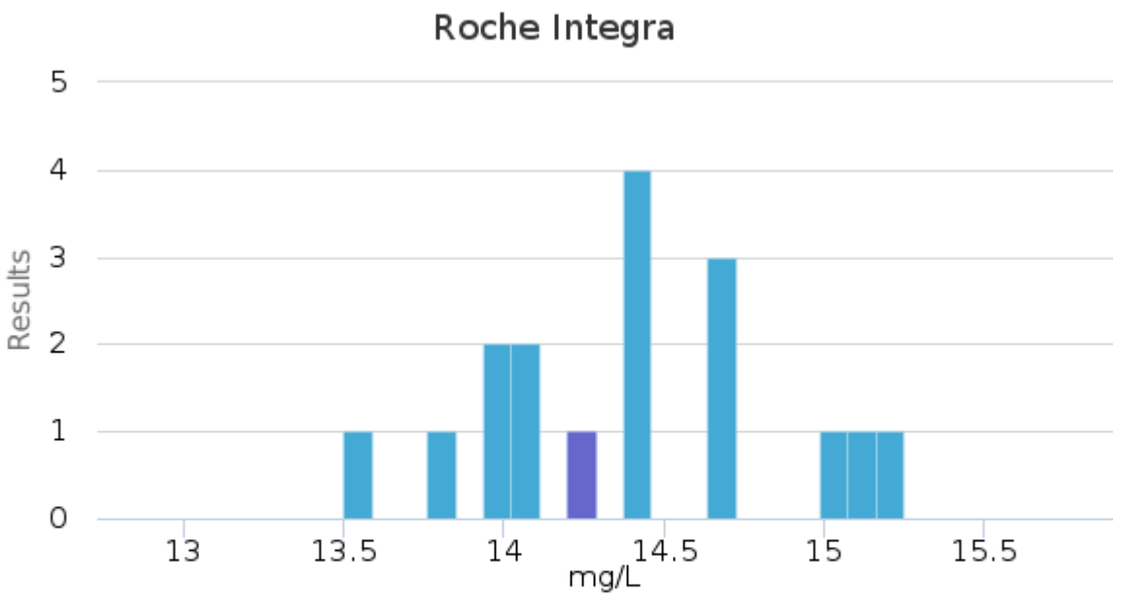
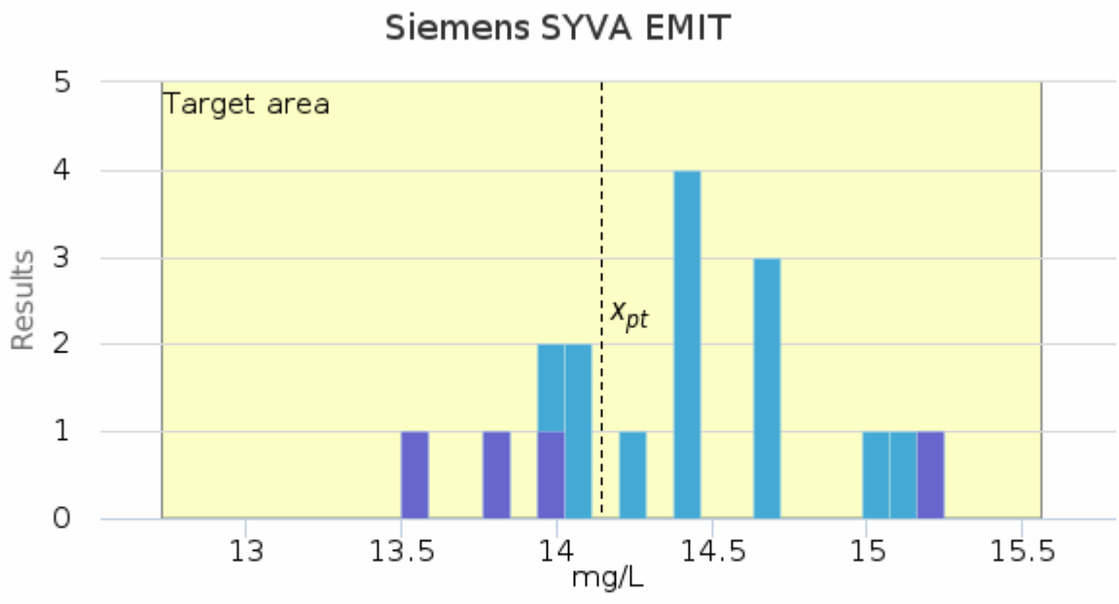
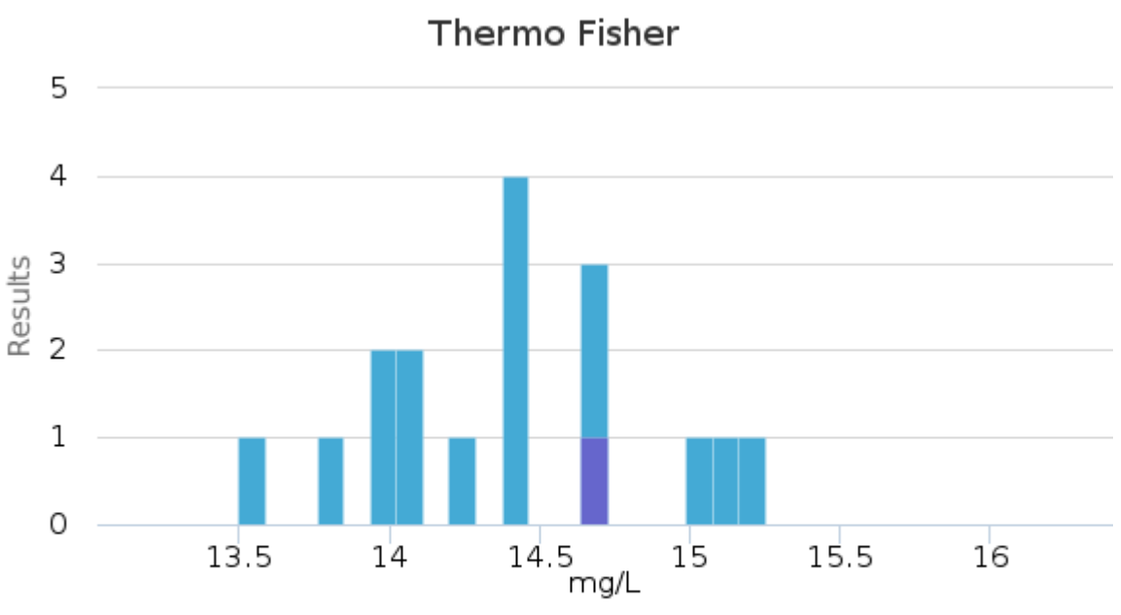


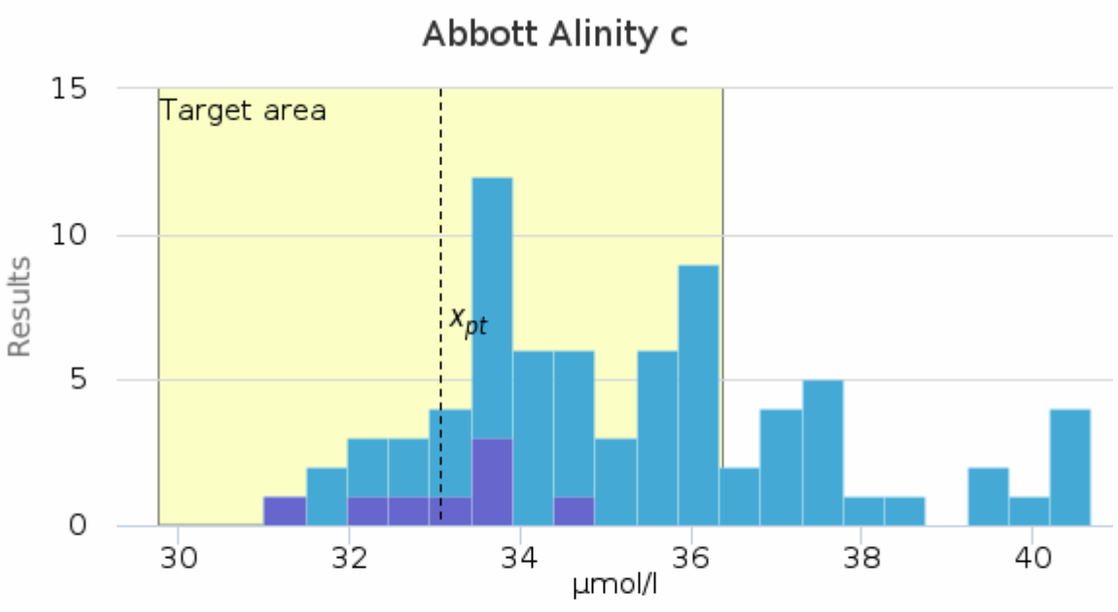


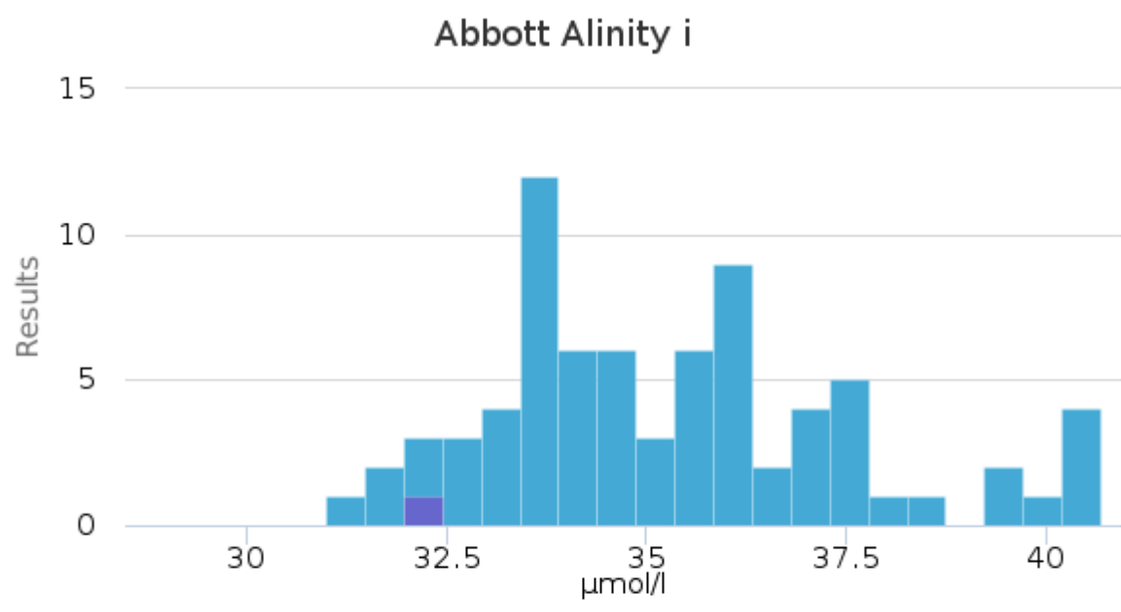


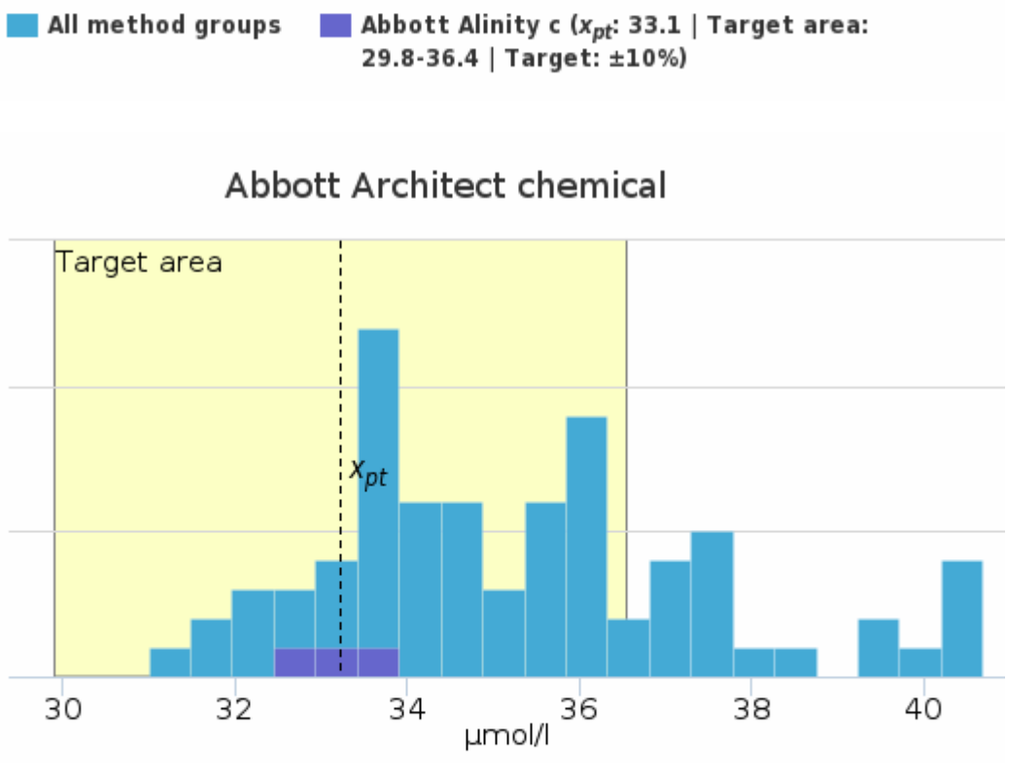
Sample S002 | Carbamazepine, µmol/l

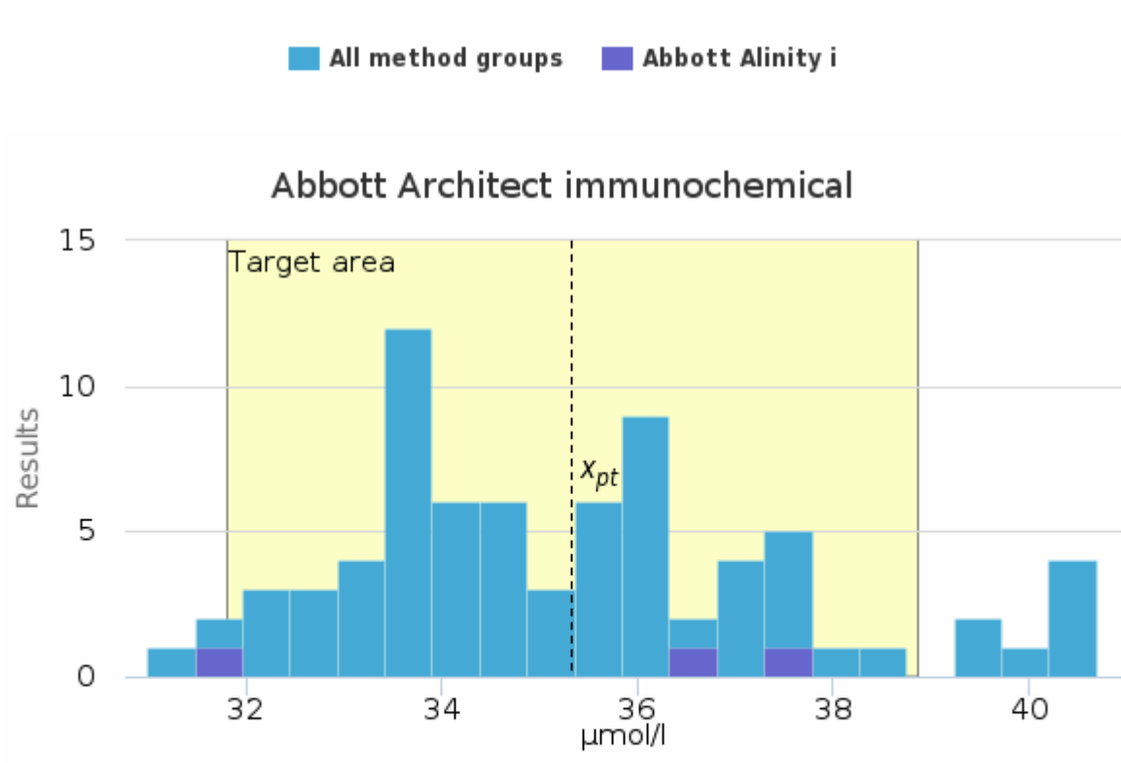
Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Abbott Alinity c	33.1	33.2	1.1	3.4	0.4	31.0	34.7	-	8
Abbott Alinity i	-	-	-	-	-	32.2	32.2	-	1
Abbott Architect chemical	33.2	33.3	0.3	0.9	0.2	32.9	33.5	-	3
Abbott Architect immunochemical	35.3	36.6	3.2	9.0	1.8	31.7	37.7	-	3
Atellica C	34.8	34.1	2.0	5.8	0.7	32.0	38.0	-	8
Beckman Coulter AU (Olympus)	38.8	38.8	1.6	4.2	1.2	37.7	40.0	-	2
HPLC-group	-	-	-	-	-	32.8	32.8	-	1
Roche cobas c	35.1	35.2	1.2	3.5	0.2	31.9	37.3	1	37
Roche Integra	38.9	38.9	1.8	4.7	1.3	37.6	40.2	-	2
Siemens Advia	35.8	35.8	3.9	11.0	2.8	33.0	38.6	-	2
Siemens Dimension	-	-	-	-	-	36.0	36.0	-	1
Siemens SYVA EMIT	37.6	37.7	2.5	6.6	1.1	34.5	40.6	-	5
Thermo Fisher	40.4	40.4	0.3	0.8	0.2	40.2	40.7	-	2
All	**35.3**	**35.1**	**2.3**	**6.4**	**0.3**	**31.0**	**40.7**	**-**	**75**

Sample S002 | Carbamazepine, µmol/l| histogram summaries in LabScala









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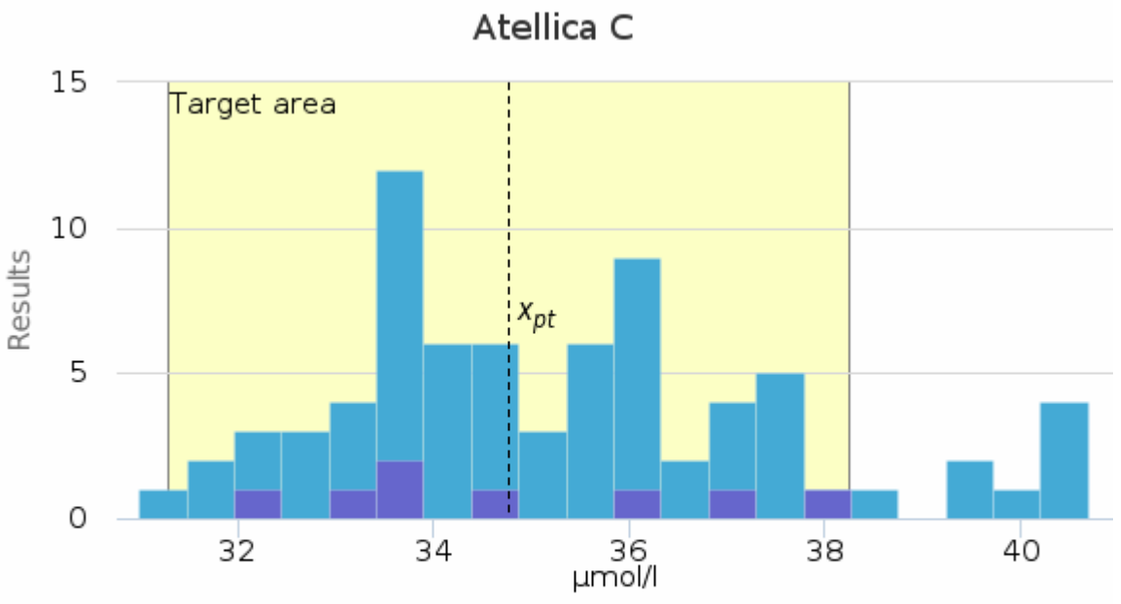

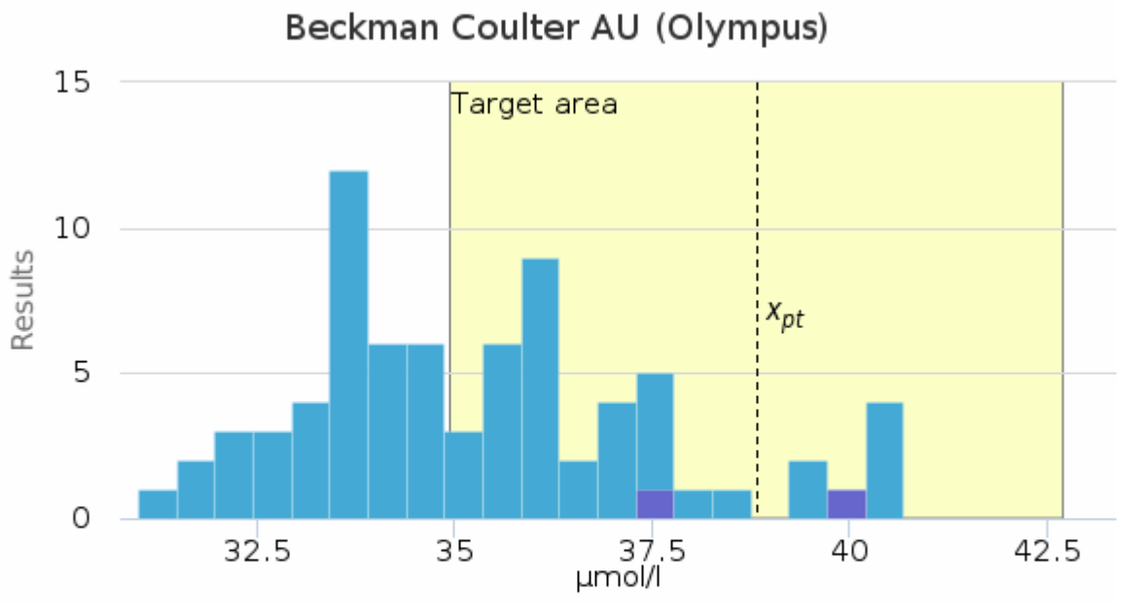

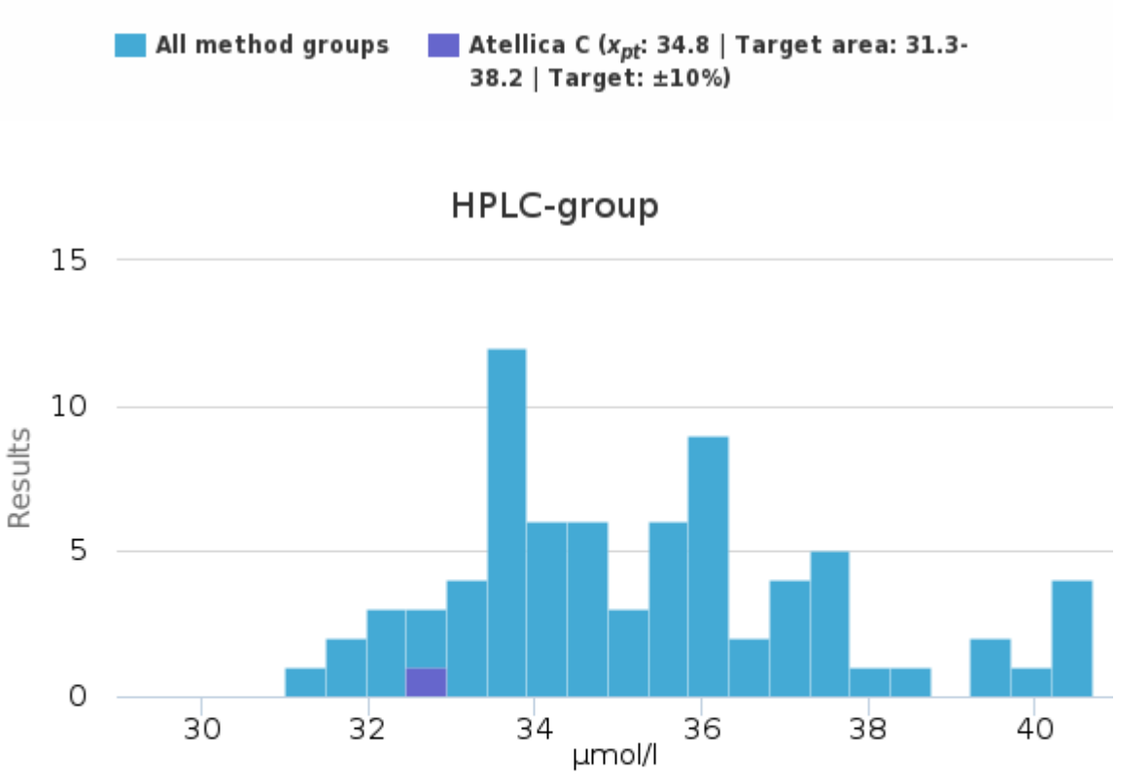

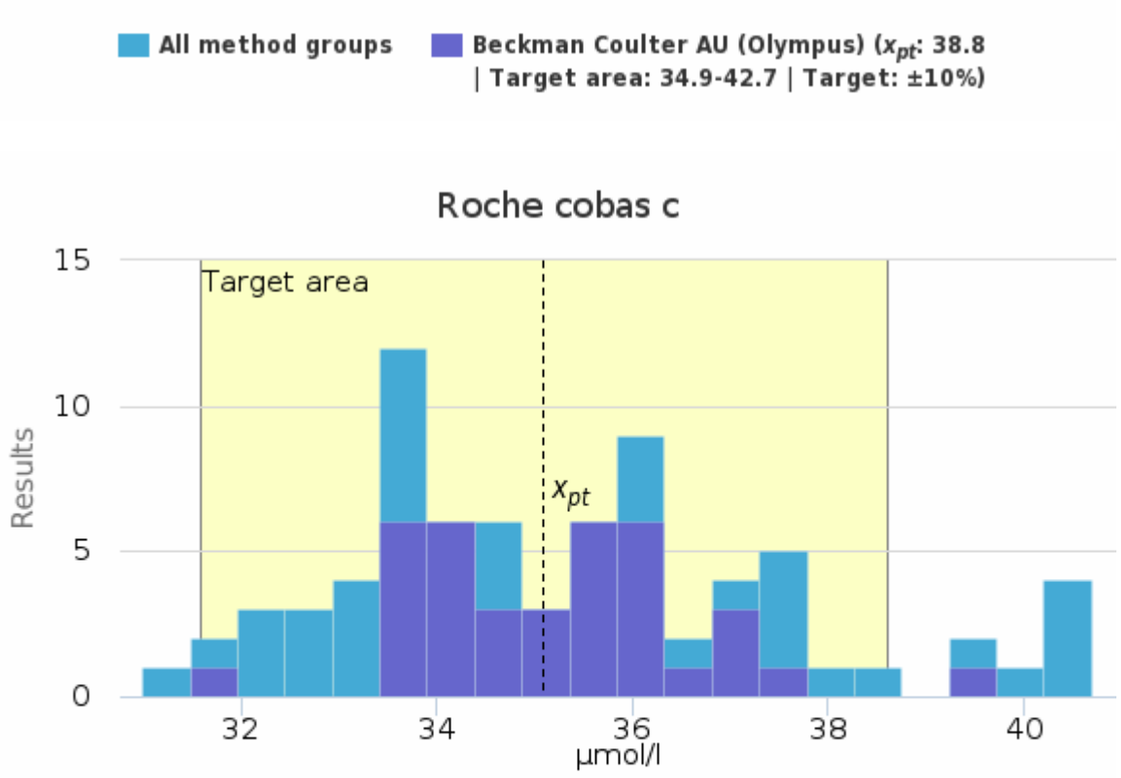

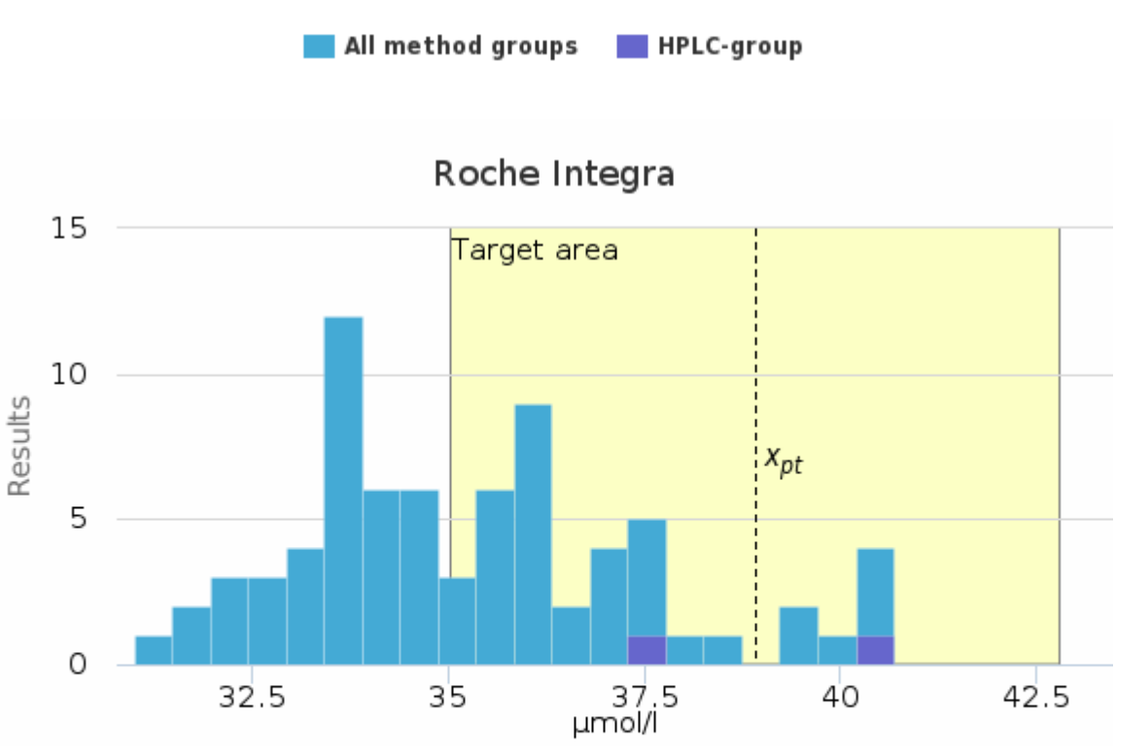

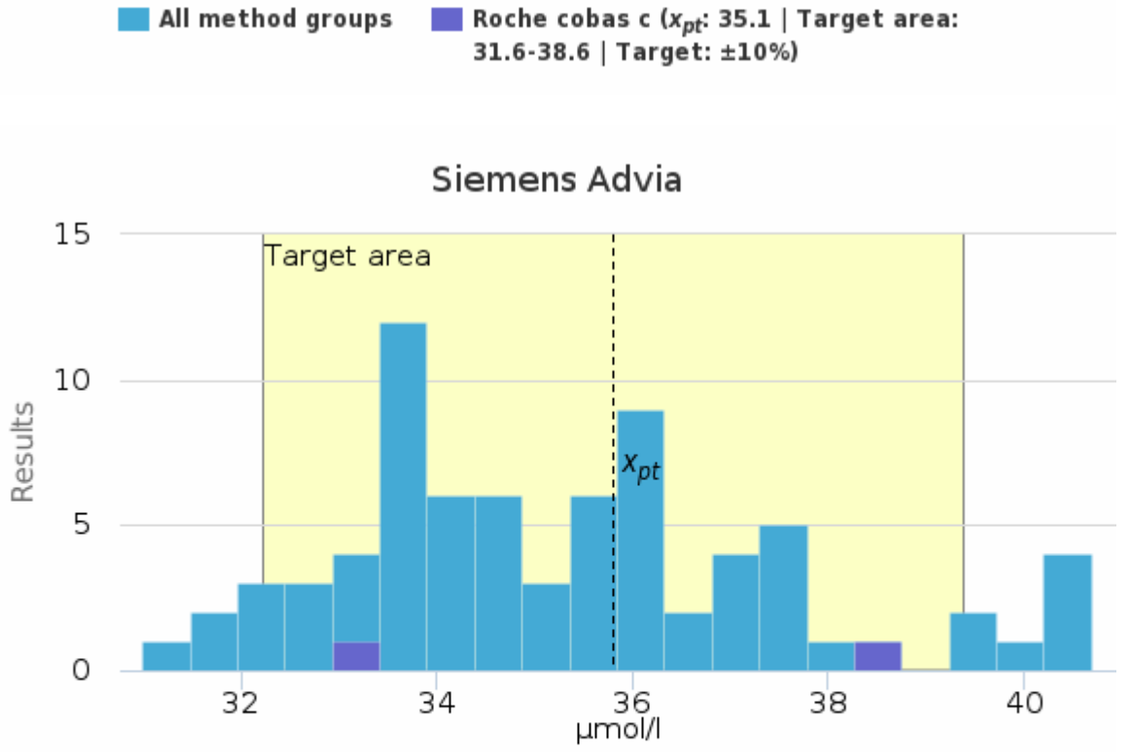

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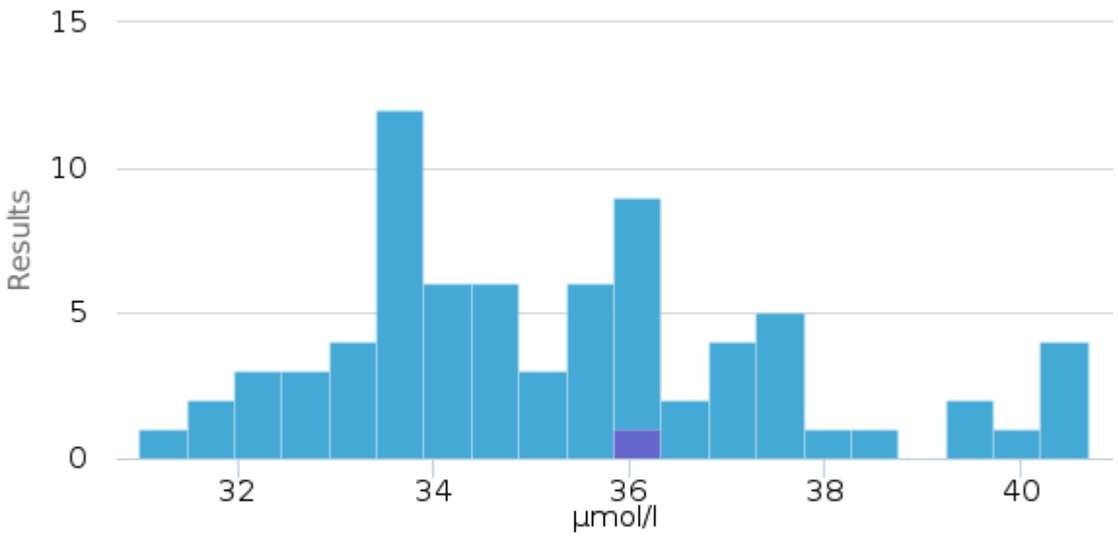
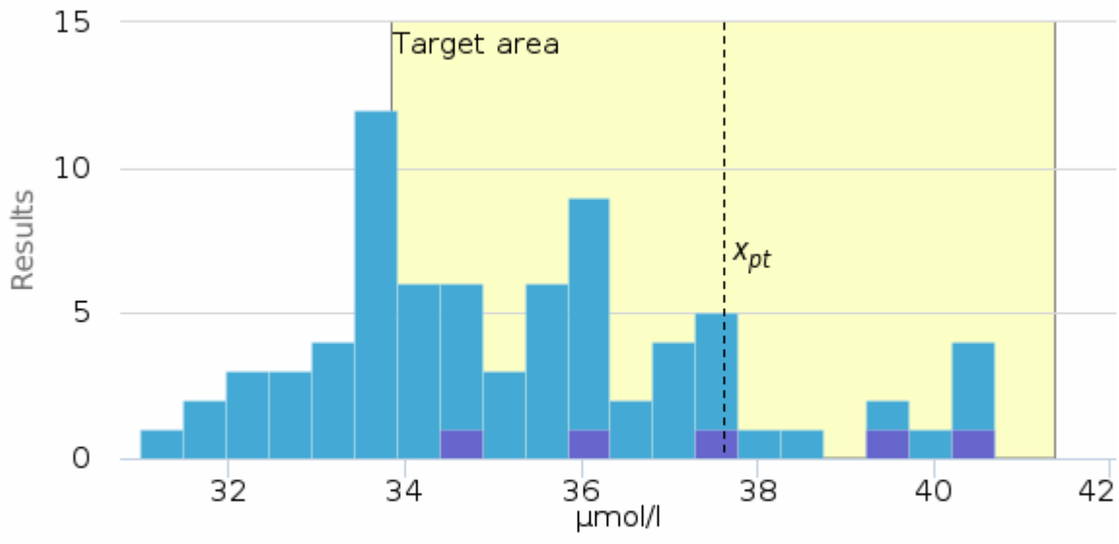
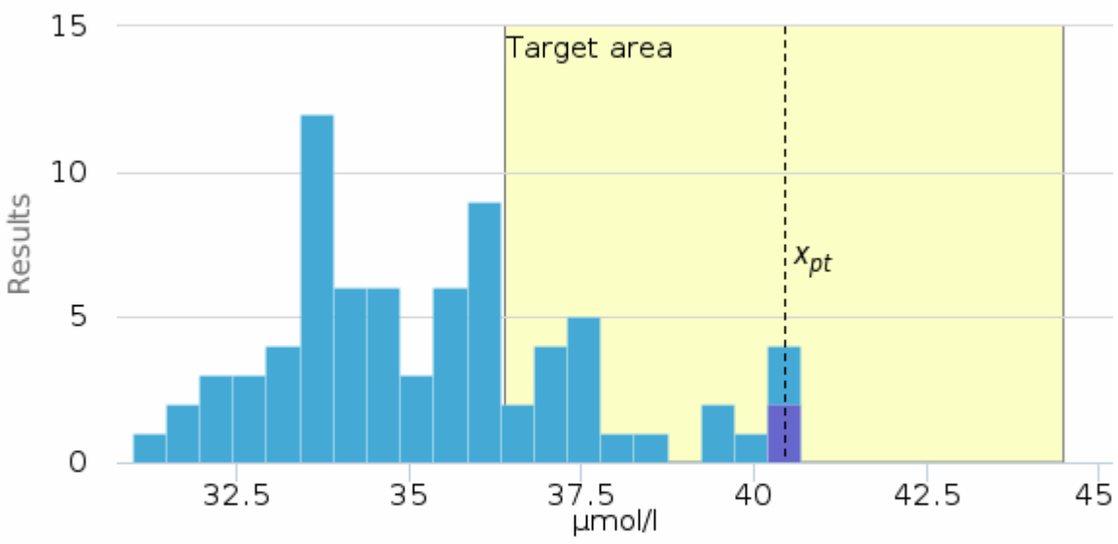
Siemens Dimension

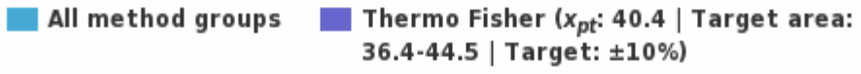


Siemens SYVA EMIT



Thermo Fisher

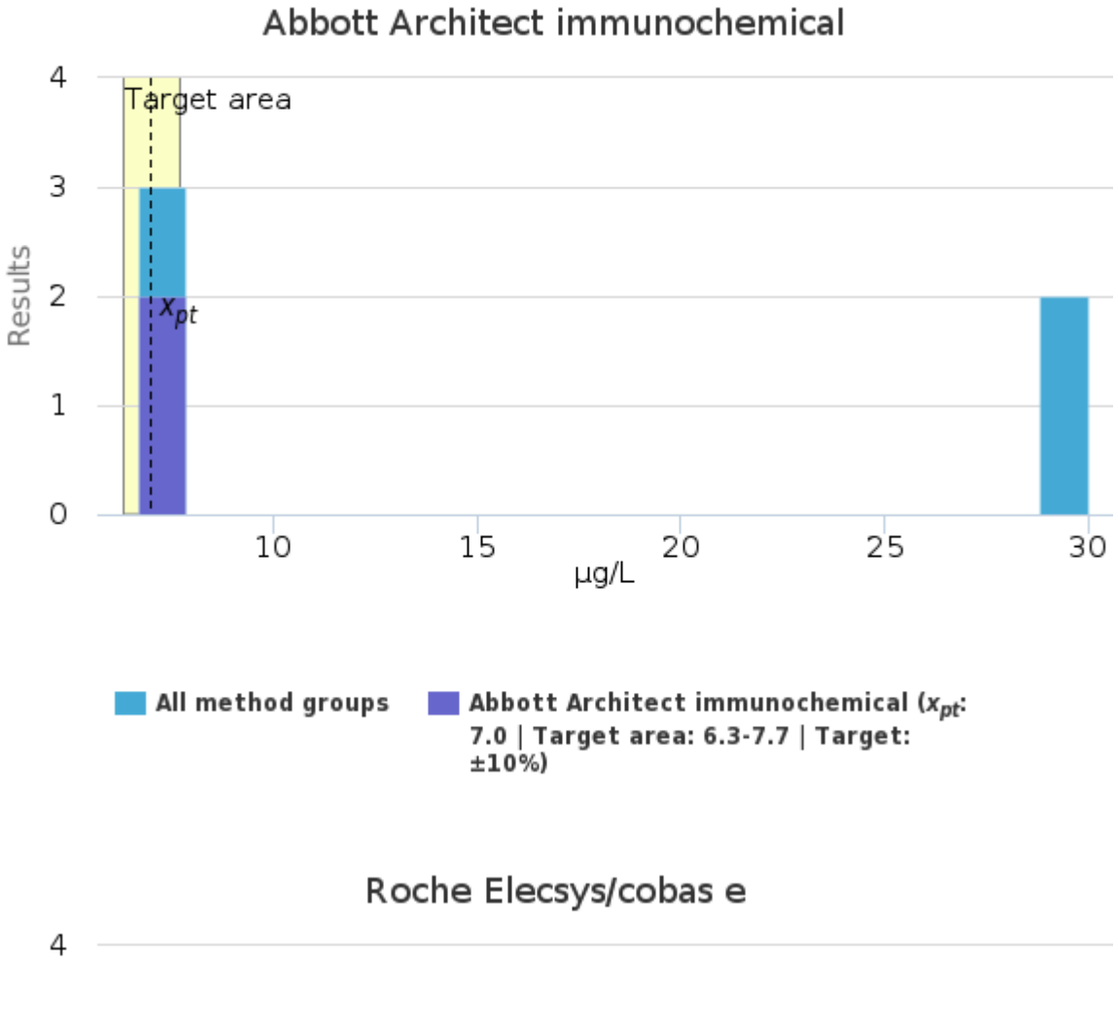


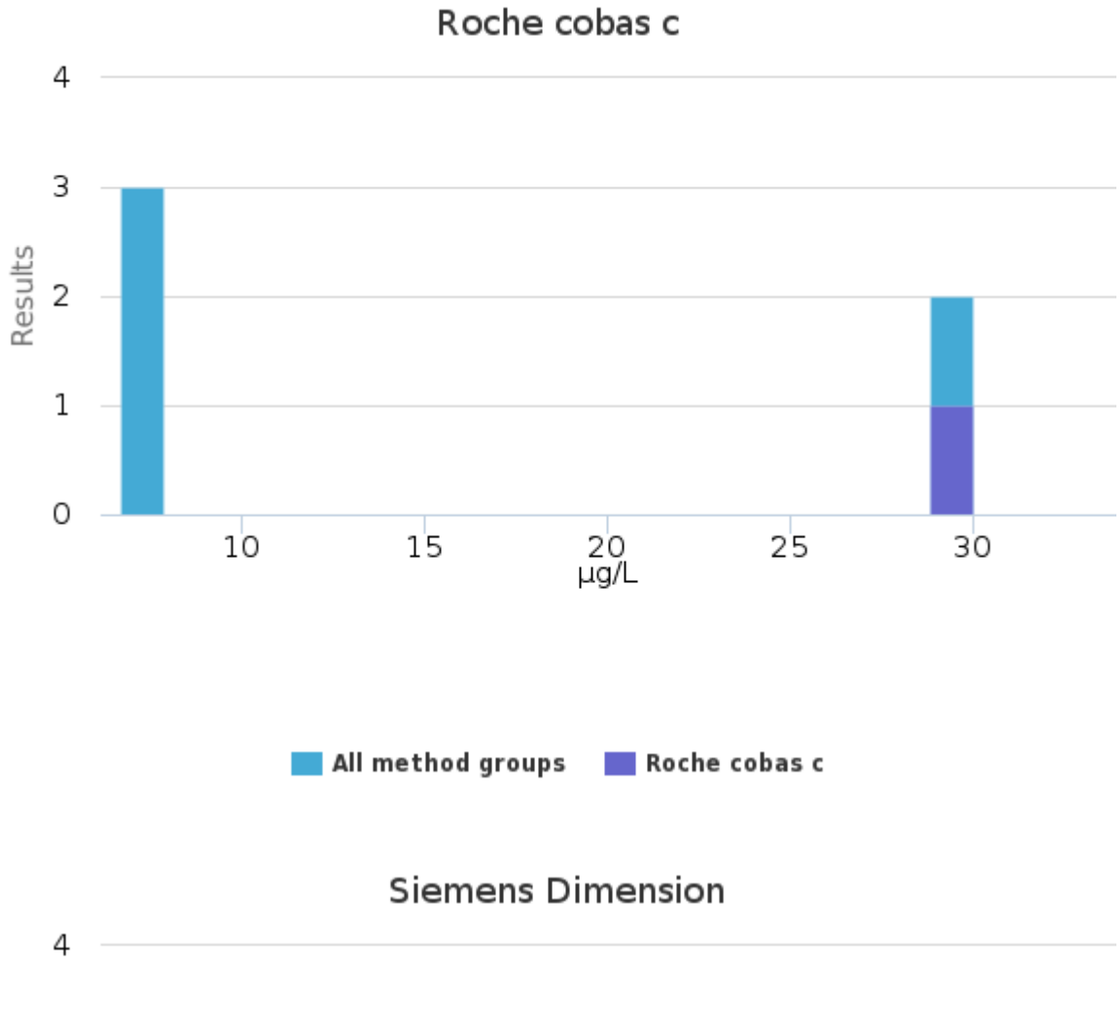


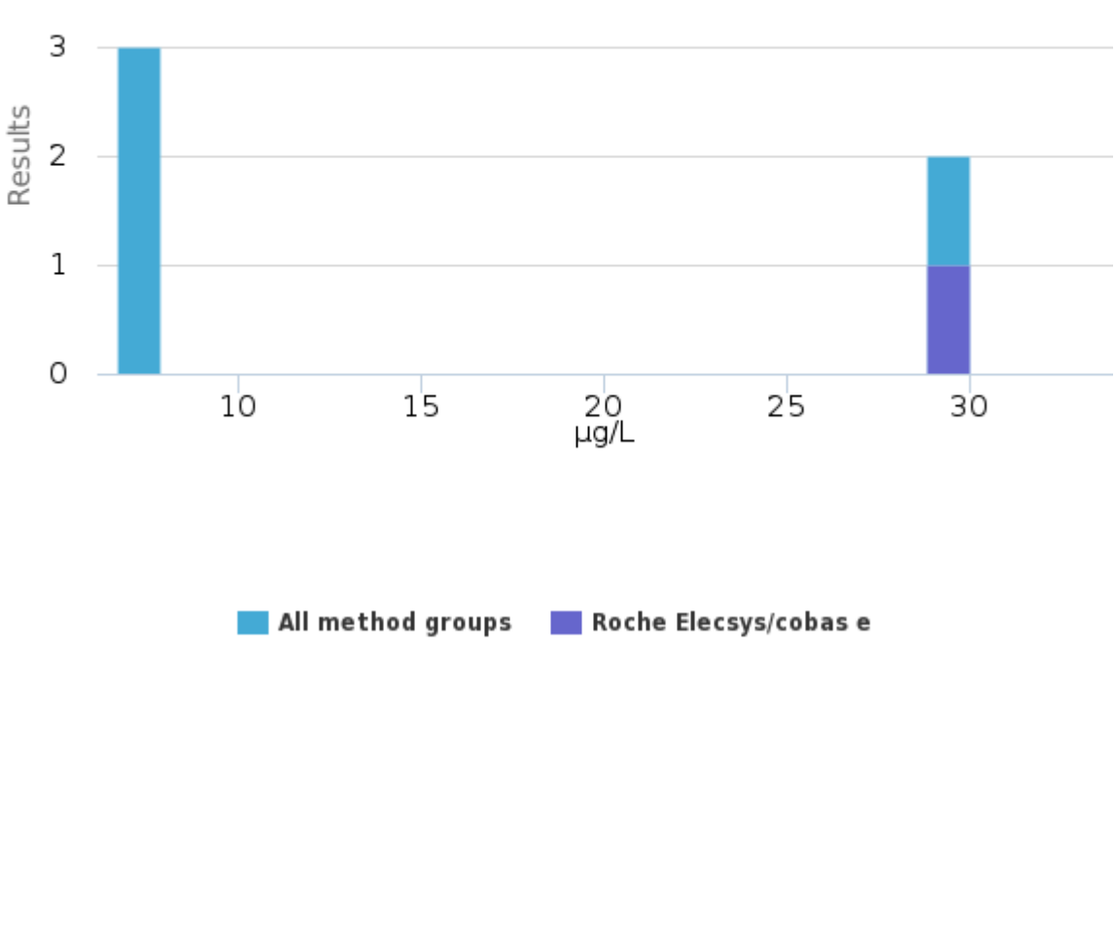
Sample S002 | Cyclosporine, µg/L

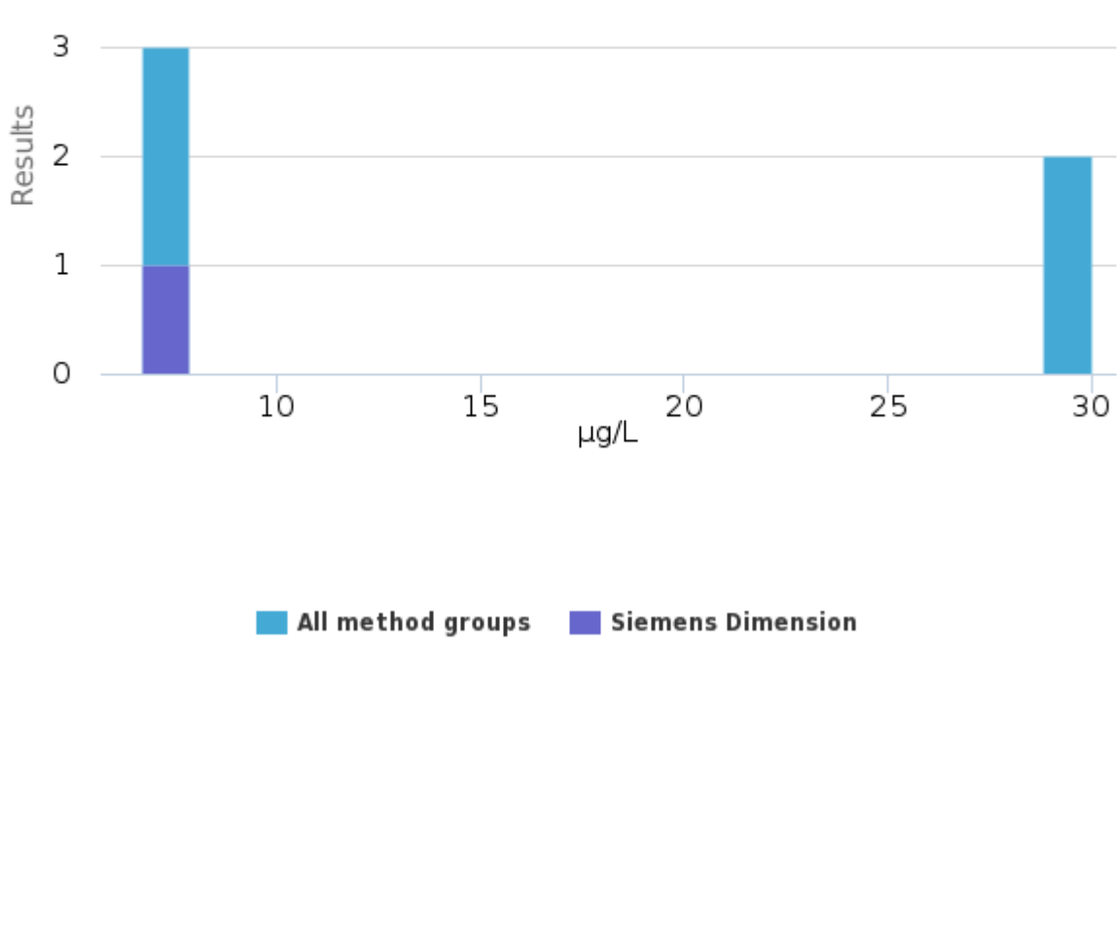
Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Abbott Architect immunochemical	7.0	7.0	0.4	6.1	0.3	6.7	7.3	-	2
Roche cobas c	-	-	-	-	-	30.0	30.0	-	1
Roche Elecsys/cobas e	-	-	-	-	-	30.0	30.0	-	1
Siemens Dimension	-	-	-	-	-	7.0	7.0	-	1
All	**16.2**	**7.3**	**12.6**	**77.8**	**5.6**	**6.7**	**30.0**	**-**	**5**

Sample S002 | Cyclosporine, µg/L| histogram summaries in LabScala





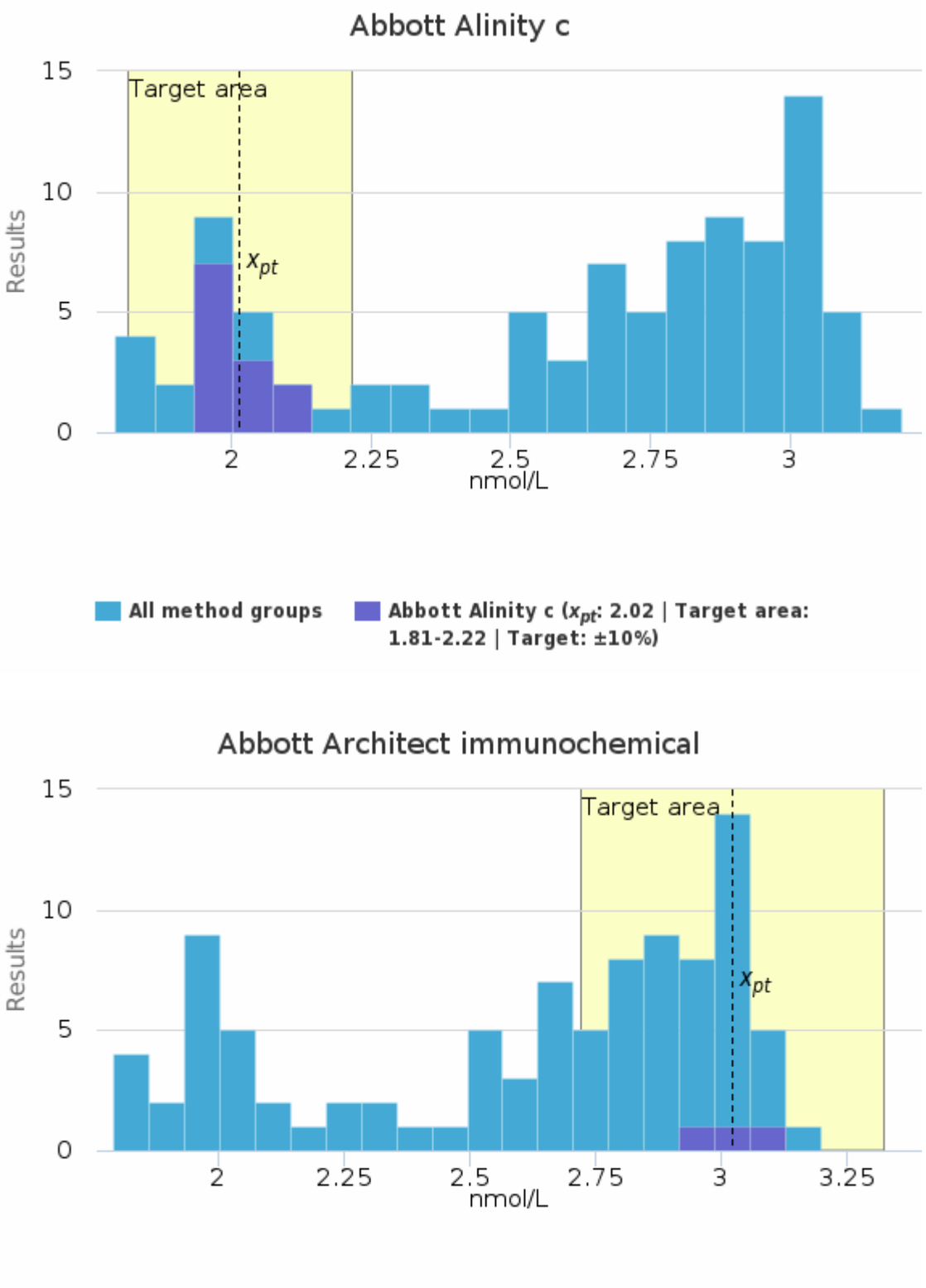


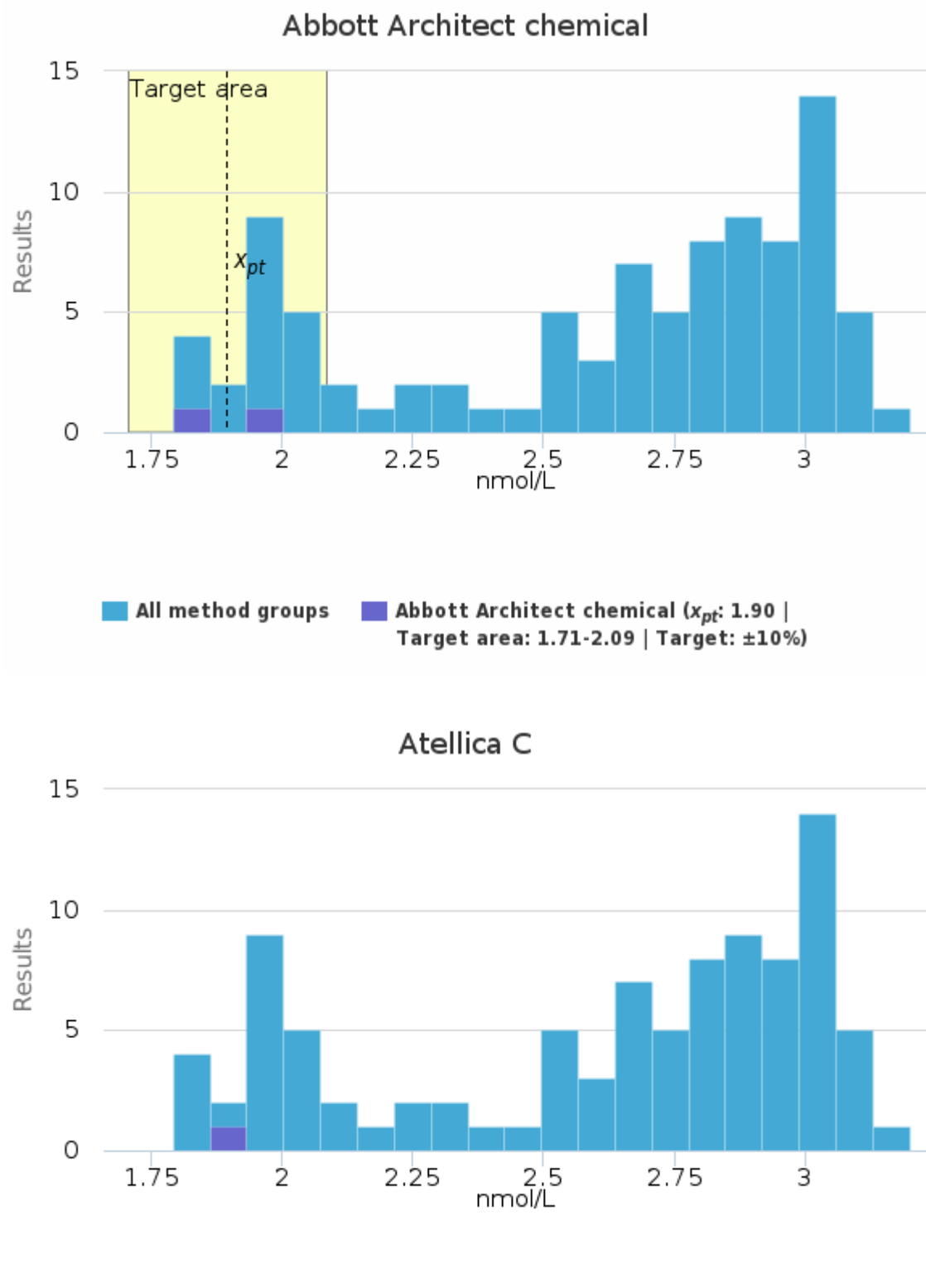


Sample S002 | Digoxin, nmol/L

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Abbott Alinity c	2.02	2.00	0.05	2.2	0.01	1.94	2.10	-	12
Abbott Architect chemical	1.90	1.90	0.09	4.8	0.06	1.83	1.96	-	2
Abbott Architect immunochemical	3.02	3.03	0.04	1.3	0.02	2.98	3.06	-	3
Atellica C	-	-	-	-	-	1.90	1.90	-	1
Atellica I	2.81	2.80	0.12	4.1	0.03	2.59	3.00	-	12
Beckman Coulter AU (Olympus)	-	-	-	-	-	2.02	2.02	-	1
Beckmann Coulter Syncron	2.89	3.00	0.20	6.9	0.12	2.66	3.02	-	3
Ortho Vitros 5.1 & 5600	-	-	-	-	-	3.07	3.07	-	1
Roche cobas c	2.04	2.01	0.21	10.2	0.07	1.79	2.30	-	10
Roche Elecsys/cobas e	2.90	2.92	0.15	5.0	0.02	2.50	3.20	1	37
Roche Integra	-	-	-	-	-	2.27	2.27	-	1
Siemens Advia Centaur	-	-	-	-	-	2.66	2.66	-	1
Siemens Dimension	2.56	2.50	0.09	3.5	0.04	2.50	2.70	-	5
Siemens SYVA EMIT	2.72	2.77	0.18	6.6	0.09	2.47	2.86	-	4
Thermo Fisher	-	-	-	-	-	2.56	2.56	-	1
All	**2.60**	**2.75**	**0.41**	**15.8**	**0.04**	**1.79**	**3.20**	**-**	**94**

Sample S002 | Digoxin, nmol/L| histogram summaries in LabScala





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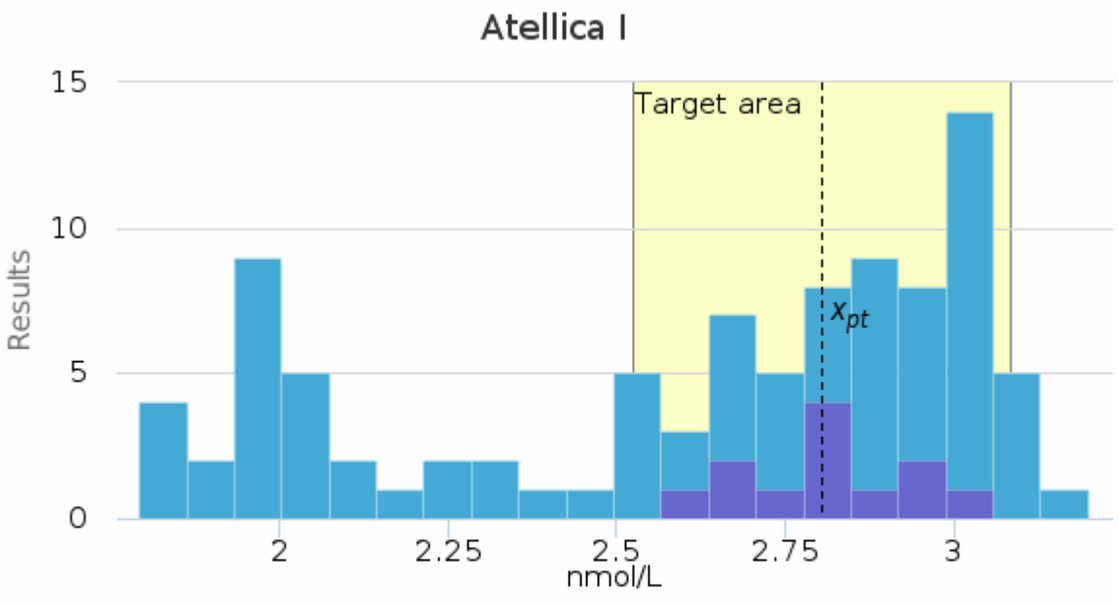
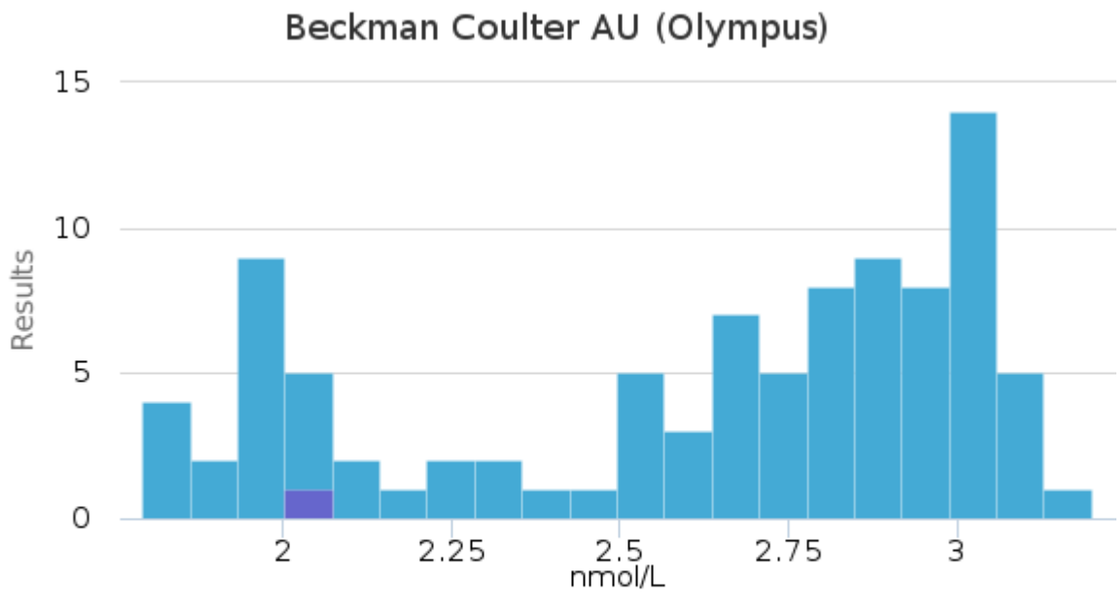
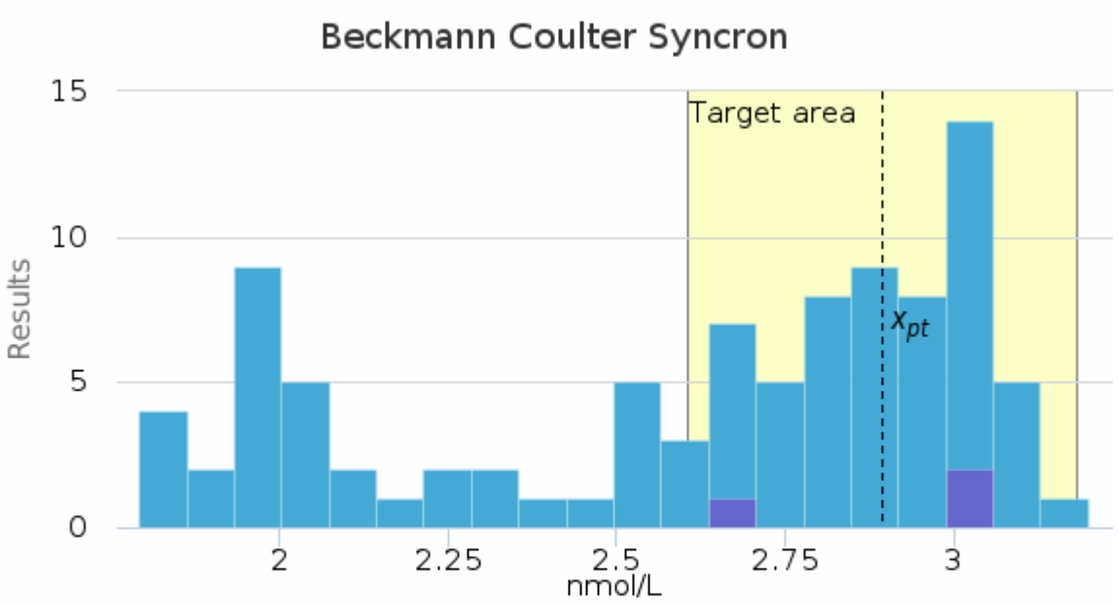
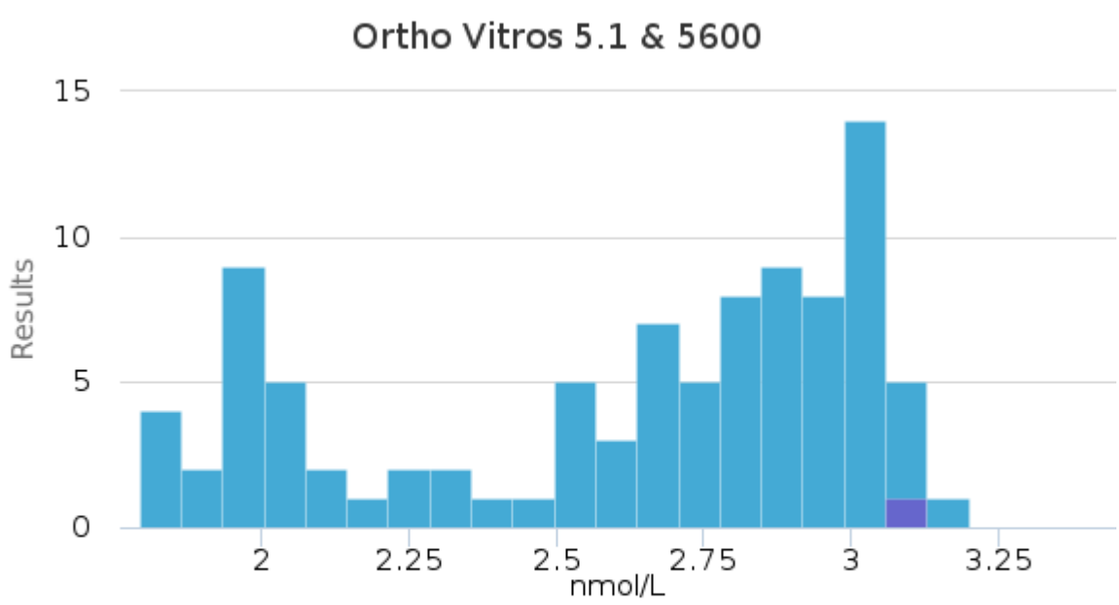
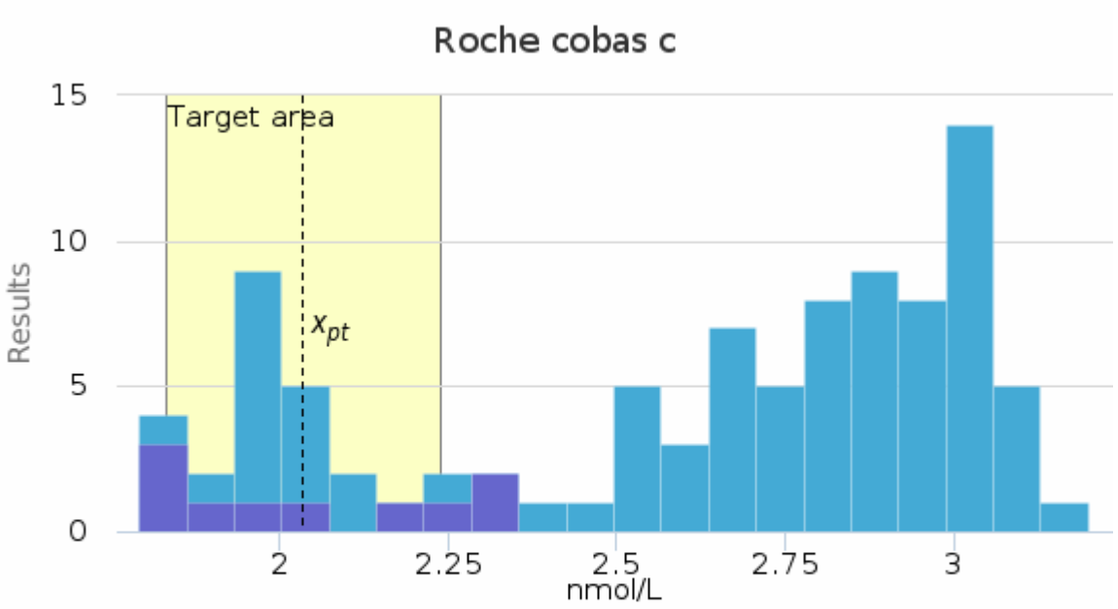
Quantitative report

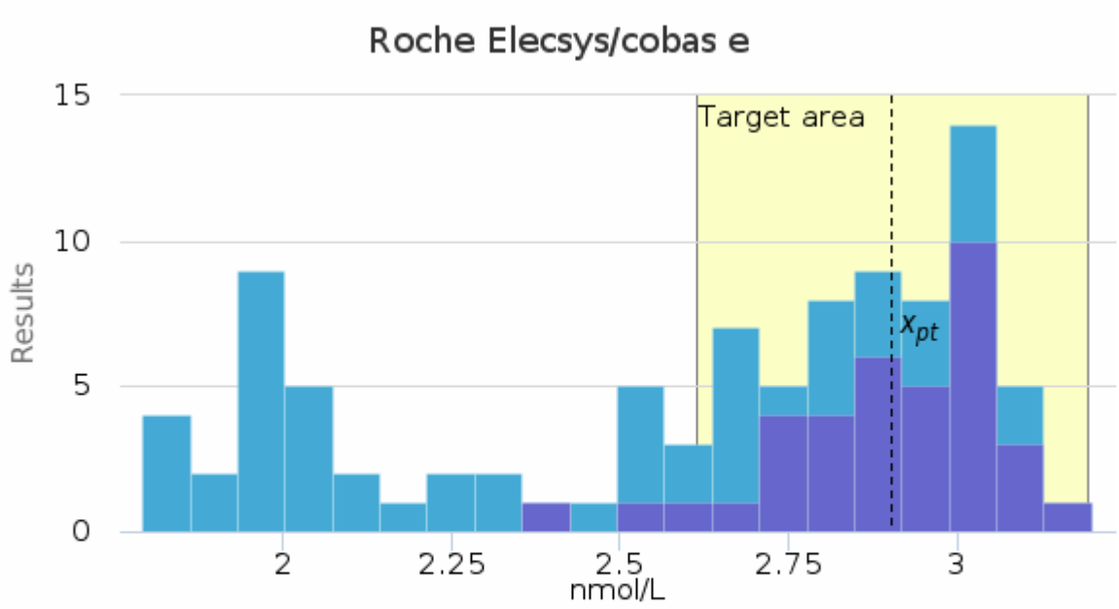






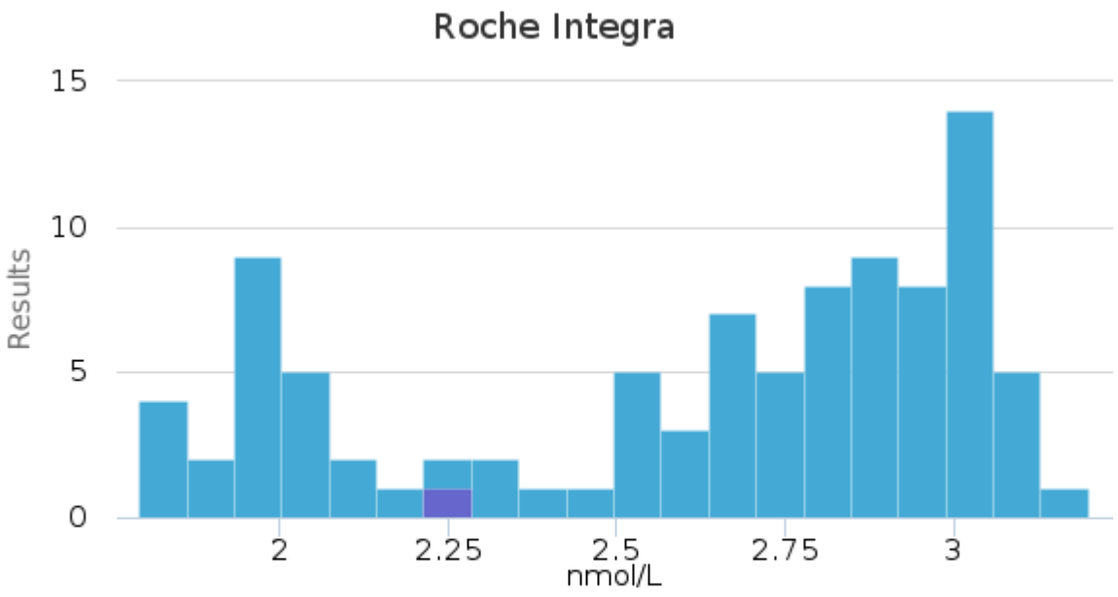


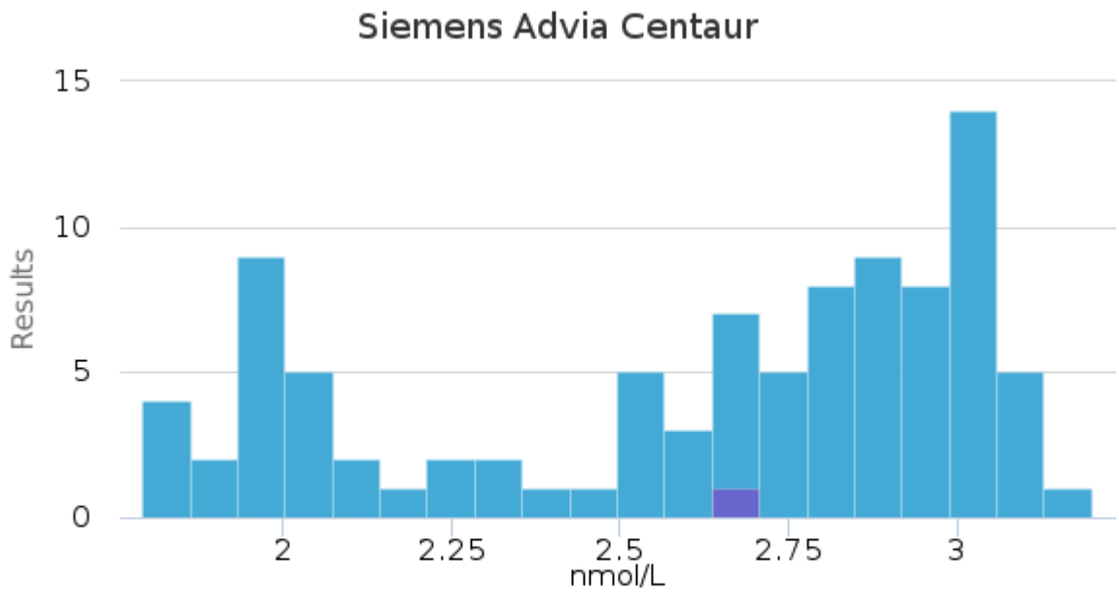


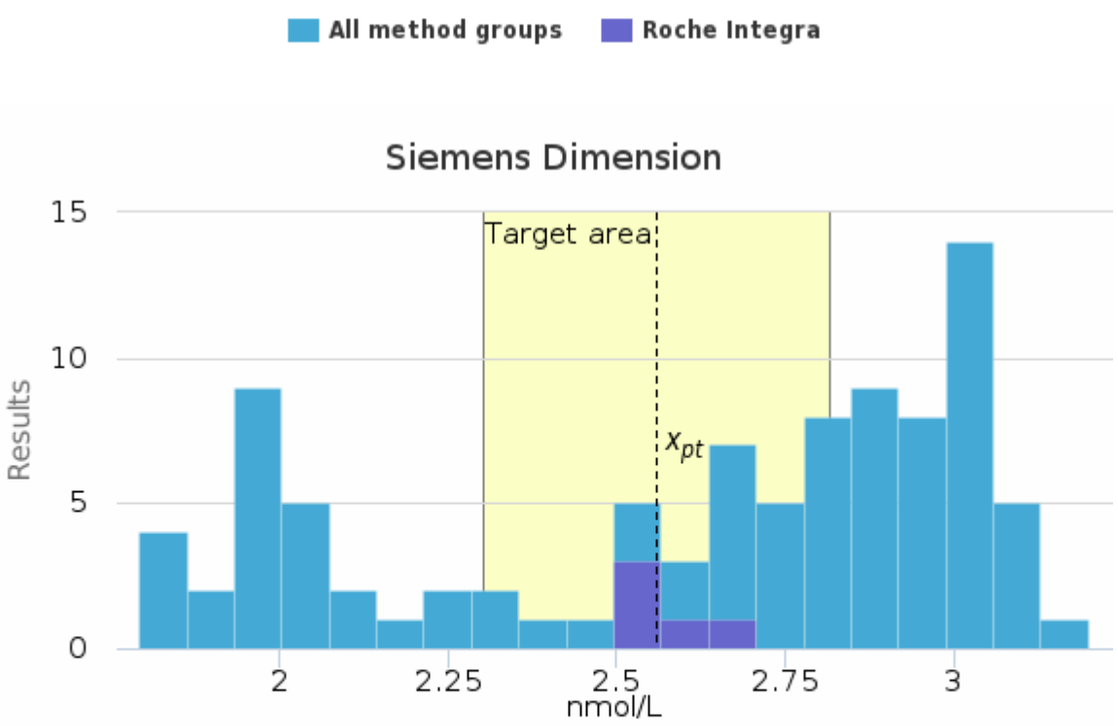


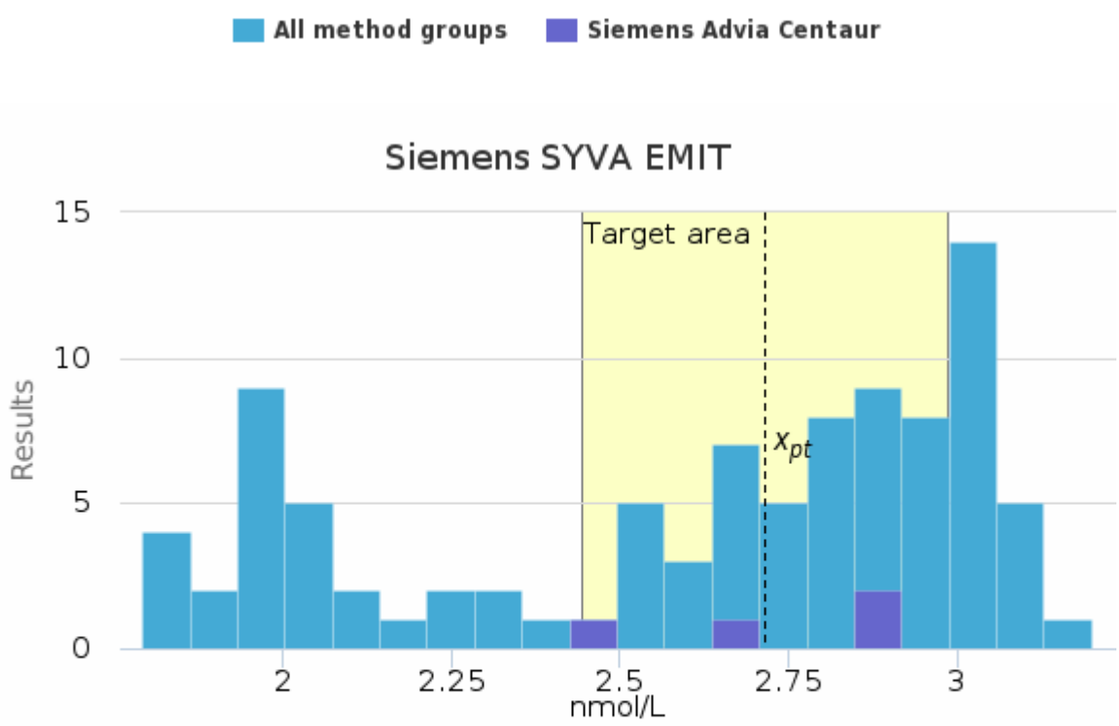
Therapeutic drugs, March, 1-2023

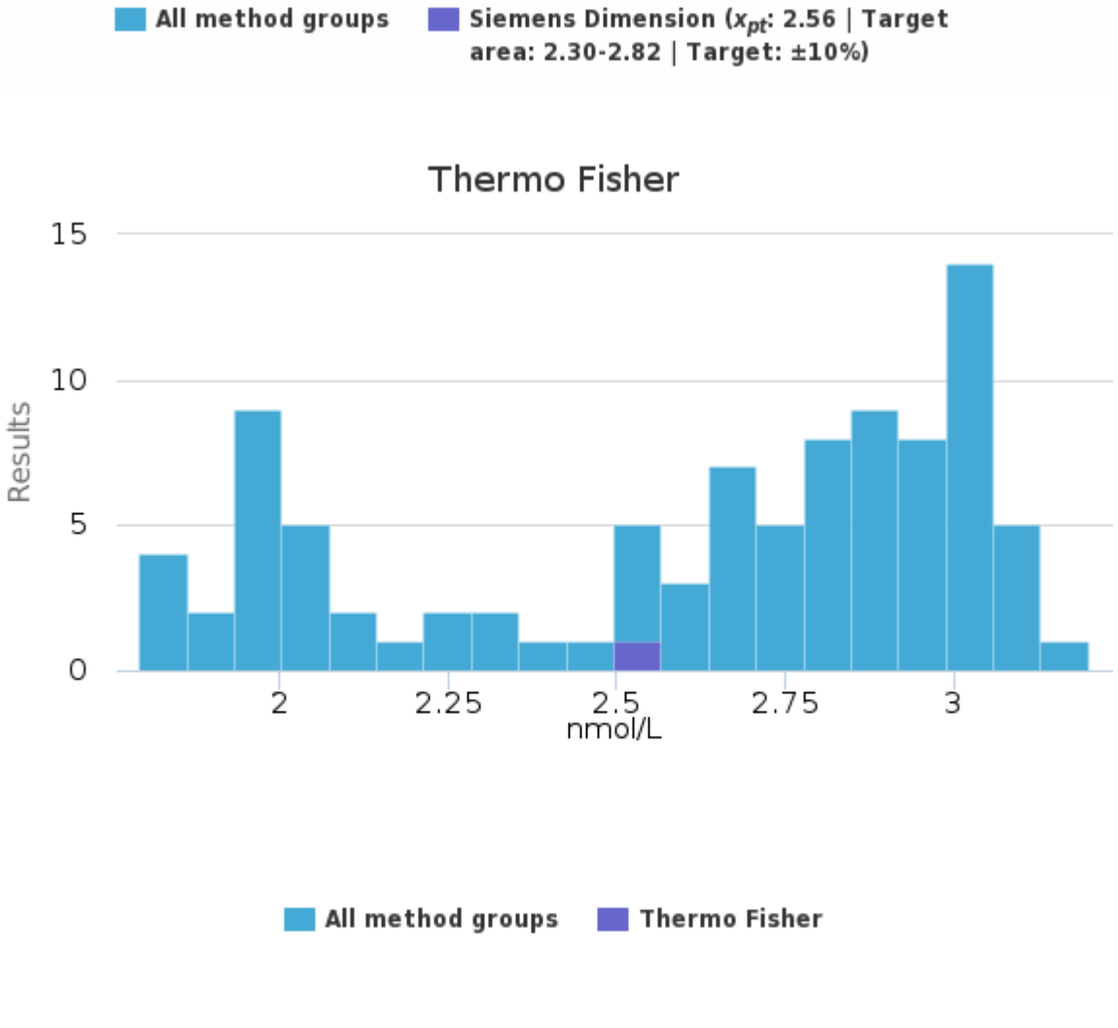
Quantitative report

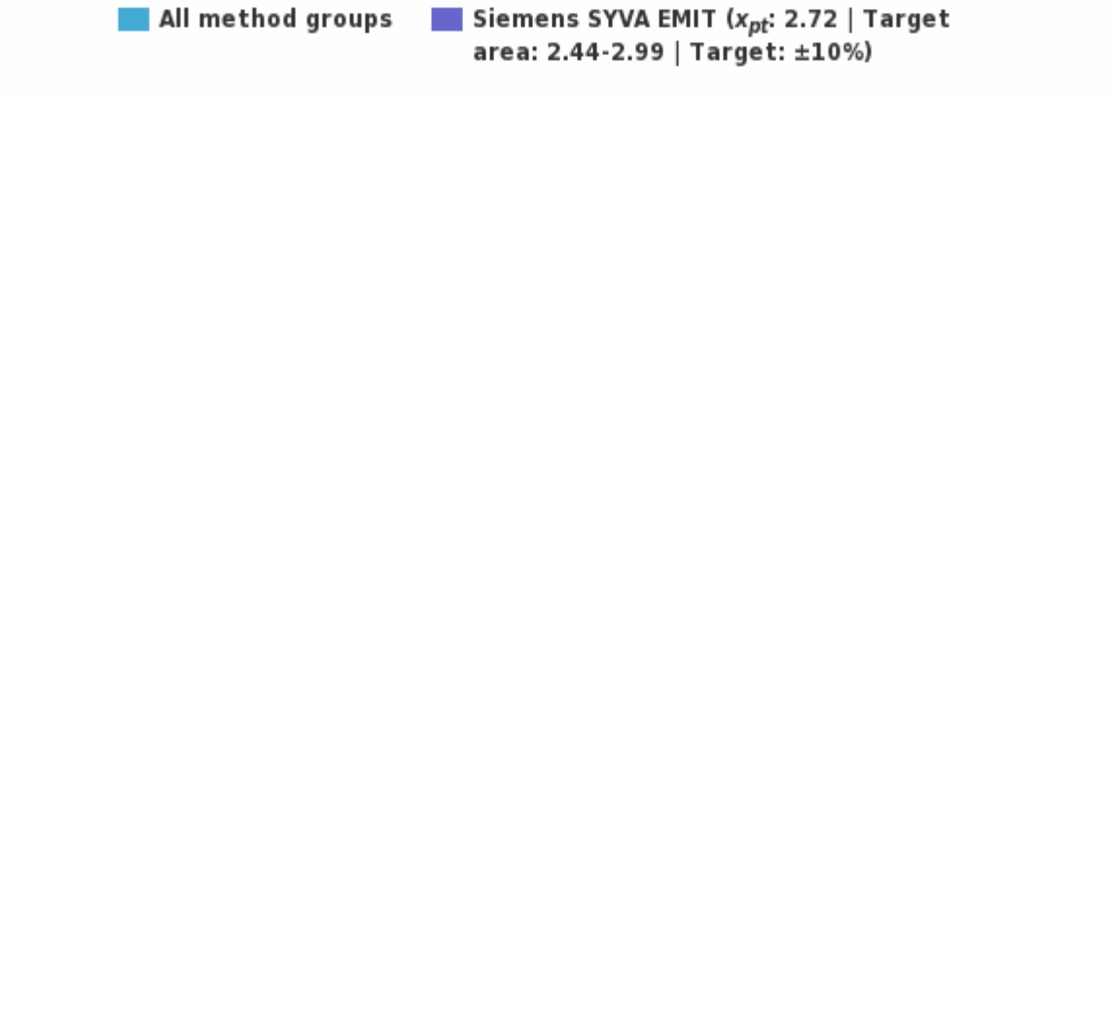








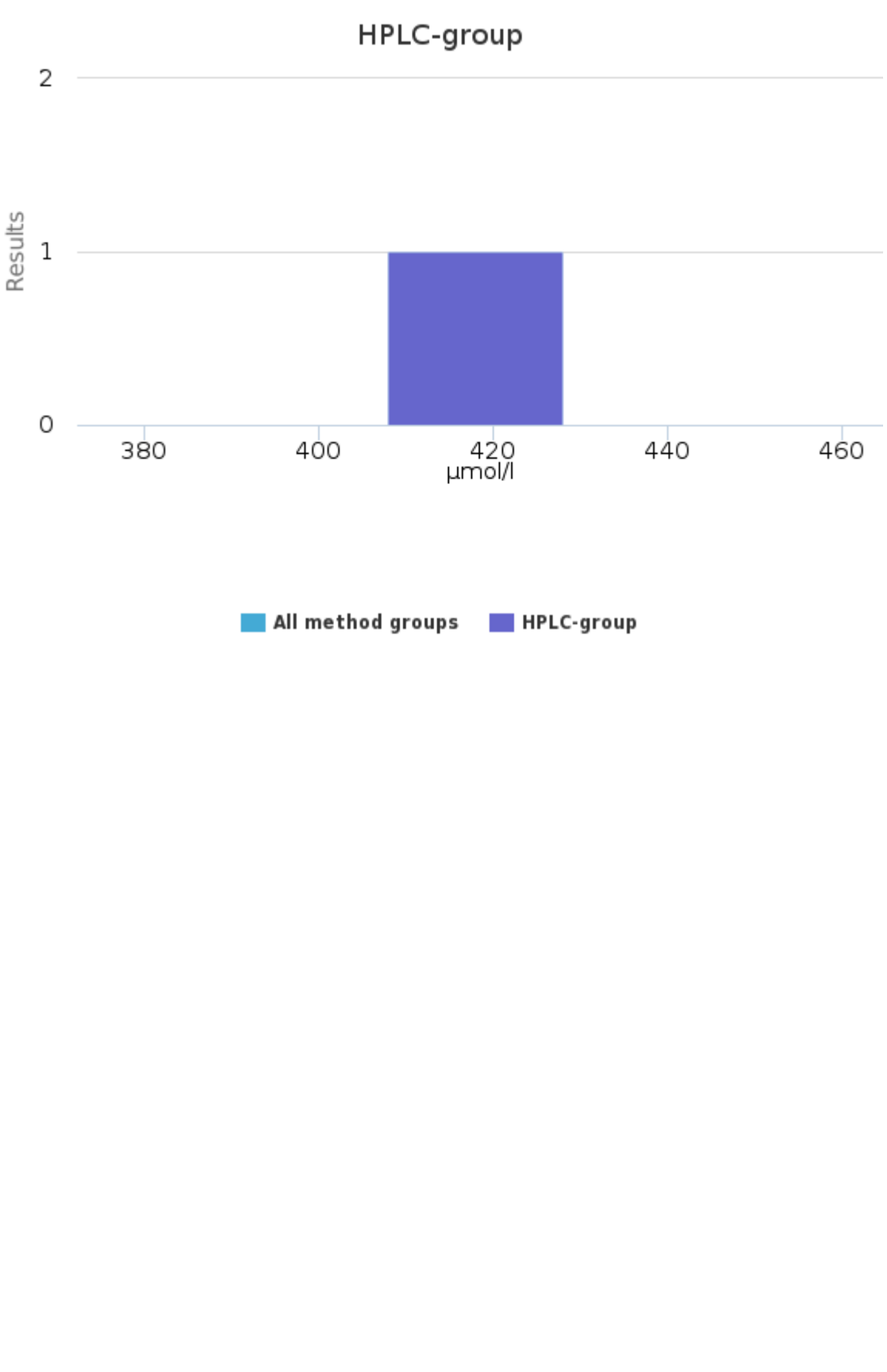




Sample S002 | Etosuximide, µmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
HPLC-group	-	-	-	-	-	418	418	-	1
All	**-**	**-**	**-**	**-**	**-**	**418**	**418**	**-**	**1**

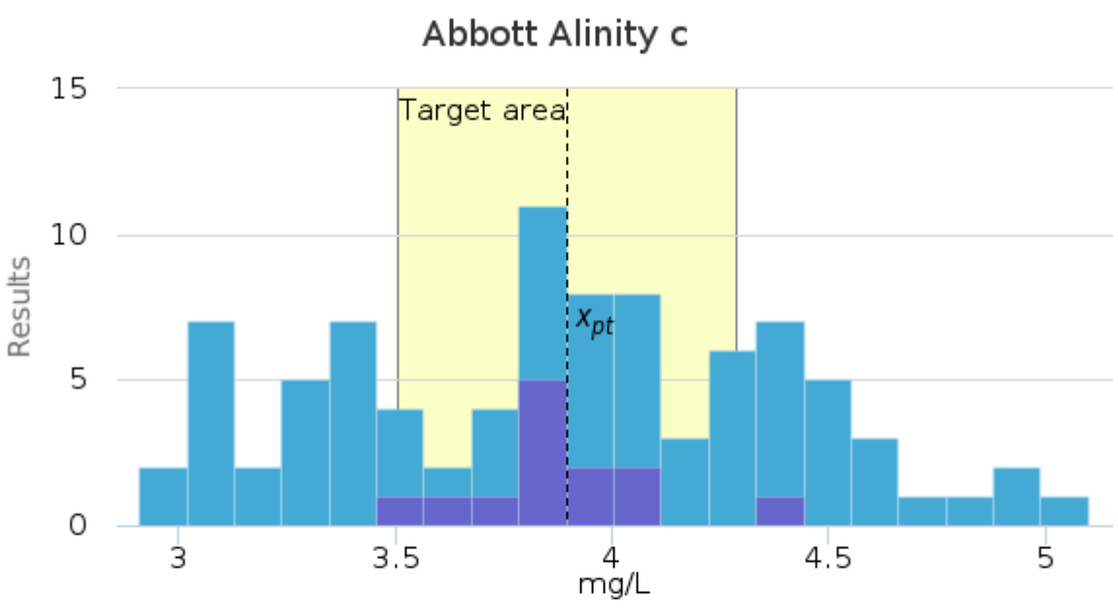
Sample S002 | Etosuximide, µmol/l| histogram summaries in LabScala

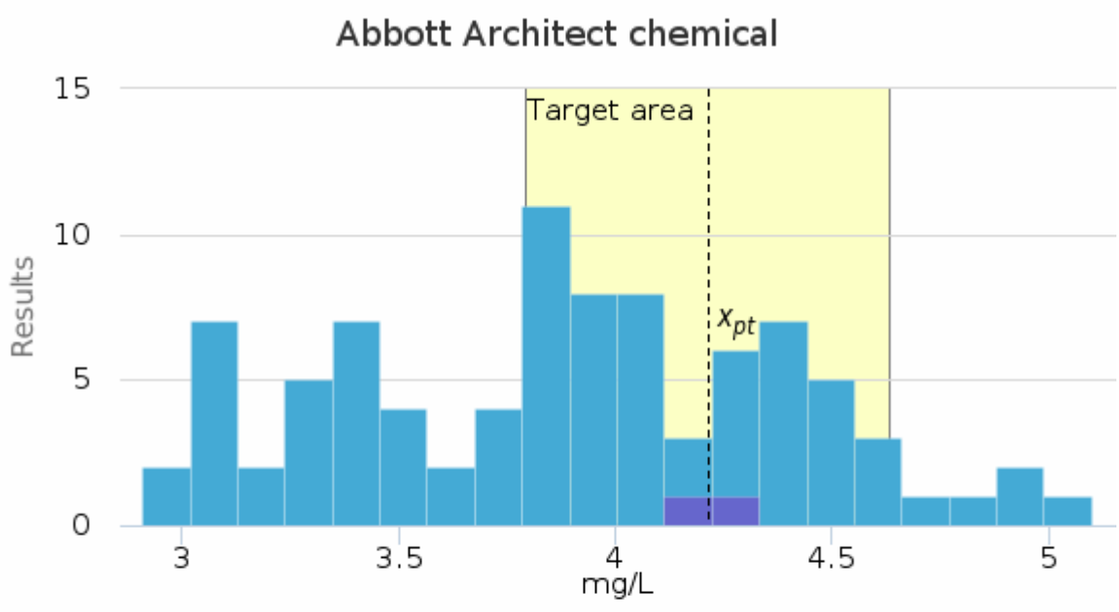


Sample S002 | Gentamycin, mg/L

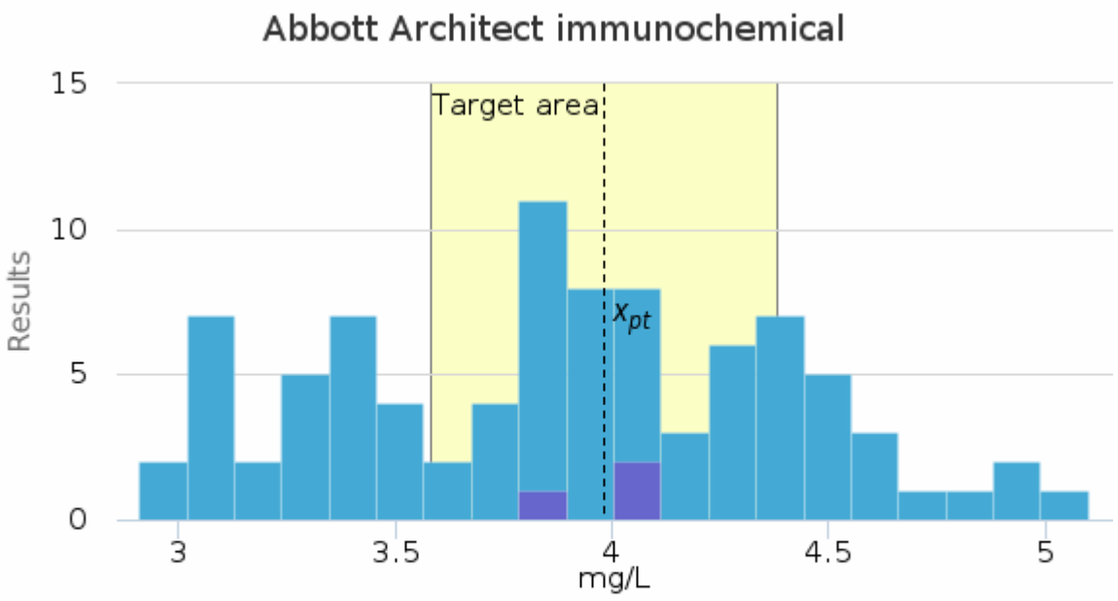
Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Abbott Alinity c	3.90	3.84	0.22	5.7	0.06	3.54	4.40	-	13
Abbott Architect chemical	4.21	4.21	0.05	1.1	0.03	4.18	4.25	-	2
Abbott Architect immunochemical	3.98	4.03	0.15	3.7	0.08	3.82	4.10	-	3
Atellica C	3.87	3.86	0.11	2.8	0.04	3.70	4.00	-	9
Beckman Coulter AU (Olympus)	4.58	4.51	0.22	4.8	0.11	4.40	4.90	-	4
Microgenics CEDIA	4.41	4.41	0.29	6.6	0.08	4.03	4.99	-	14
Roche cobas c	3.36	3.33	0.34	10.2	0.06	2.91	4.42	1	29
Roche Elecsys/cobas e	-	-	-	-	-	3.29	3.29	-	1
Roche Integra	3.76	3.76	0.22	5.8	0.16	3.60	3.91	-	2
Siemens Advia Centaur	-	-	-	-	-	4.40	4.40	-	1
Siemens Dimension	4.23	4.20	0.22	5.2	0.11	4.00	4.50	-	4
Siemens SYVA EMIT	4.61	4.52	0.46	9.9	0.26	4.20	5.10	-	3
Thermo Fisher	3.94	4.06	0.49	12.5	0.25	3.30	4.34	-	4
All	**3.89**	**3.91**	**0.52**	**13.3**	**0.05**	**2.91**	**5.10**	**-**	**89**

Sample S002 | Gentamycin, mg/L| histogram summaries in LabScala

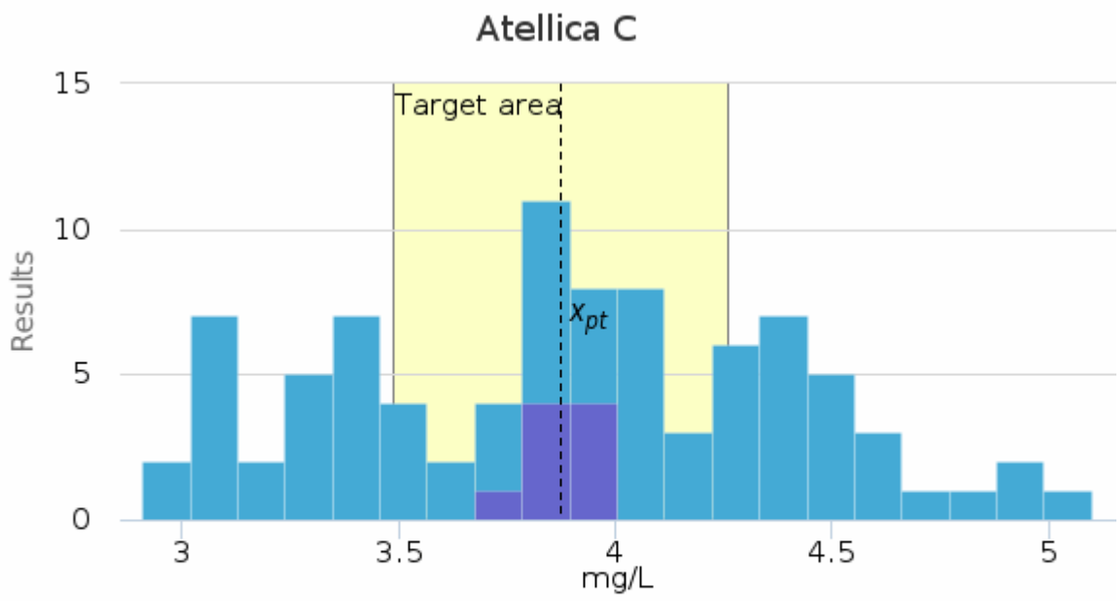




All method groups
Abbott Alinity c (x_{pt}: 3.90 | Target area: 3.51-4.29 | Target: ±10%)



All method groups
Abbott Architect chemical (x_{pt}: 4.21 | Target area: 3.79-4.64 | Target: ±10%)



All method groups
Abbott Architect immunochemical (x_{pt}: 3.98 | Target area: 3.59-4.38 | Target: ±10%)

All method groups
Atellica C (x_{pt}: 3.87 | Target area: 3.49-4.26 | Target: ±10%)

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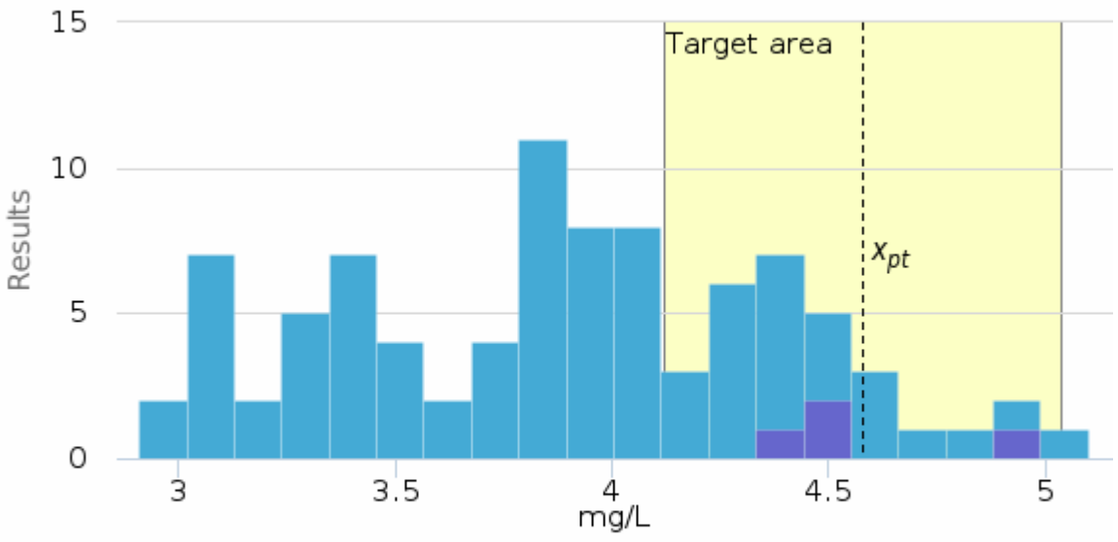
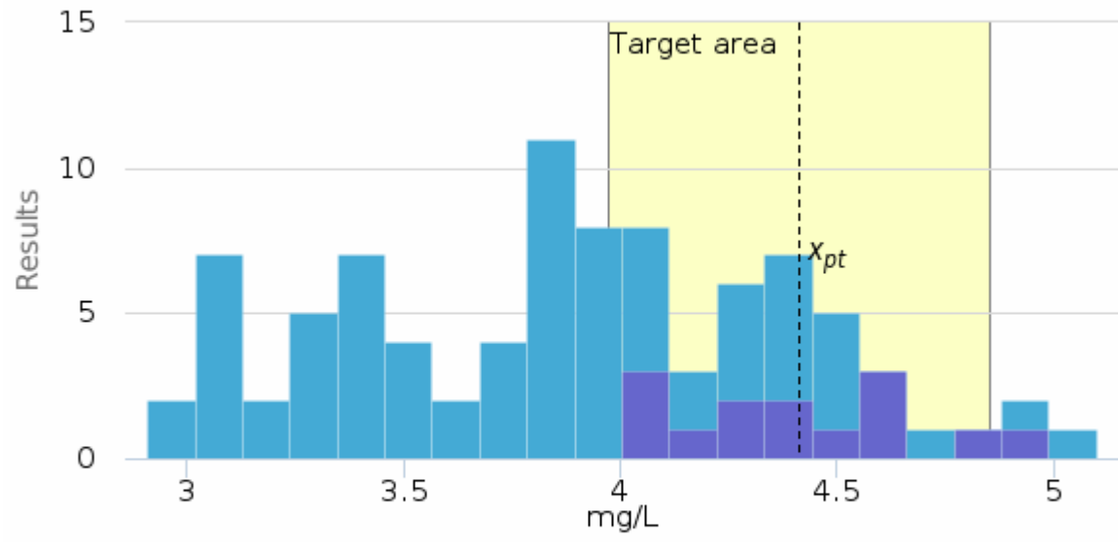
Quantitative report

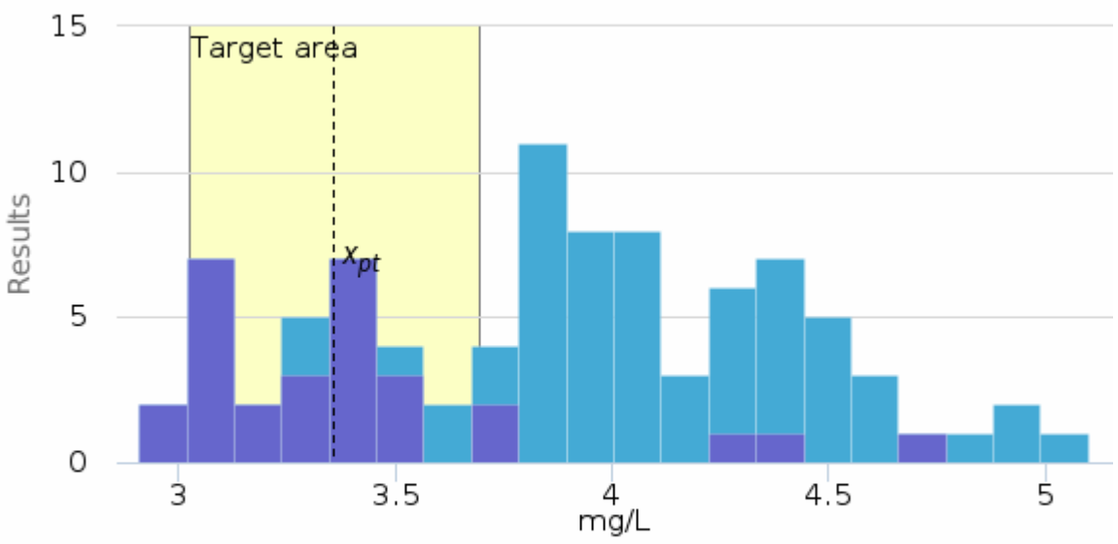
Beckman Coulter AU (Olympus)



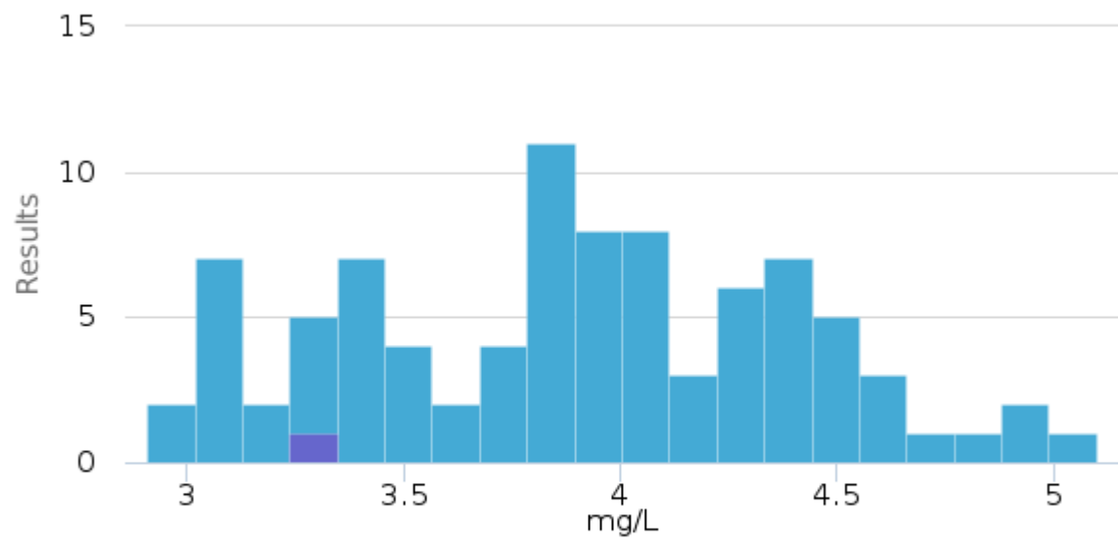
Microgenics CEDIA



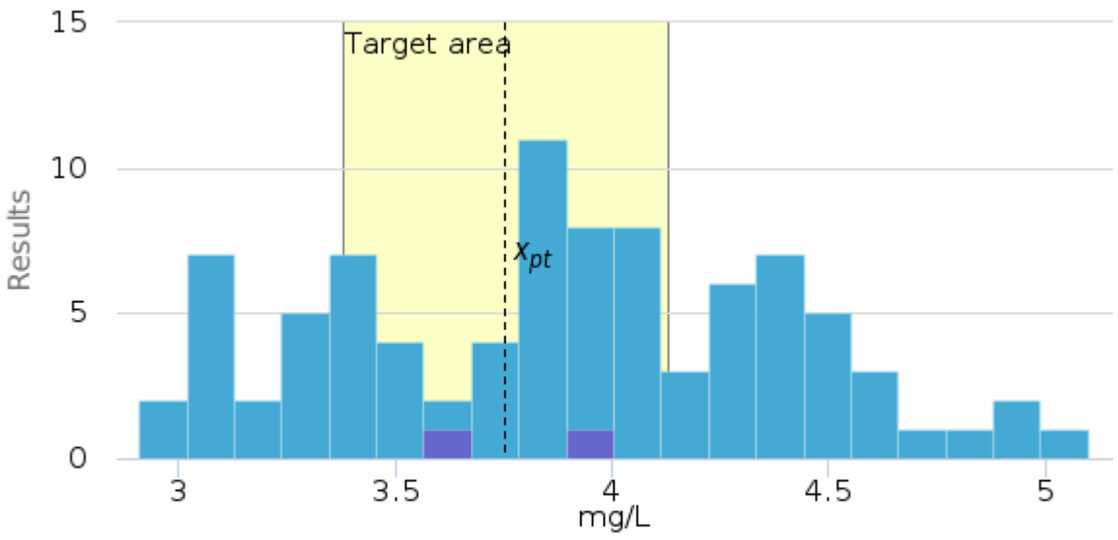
Roche cobas c



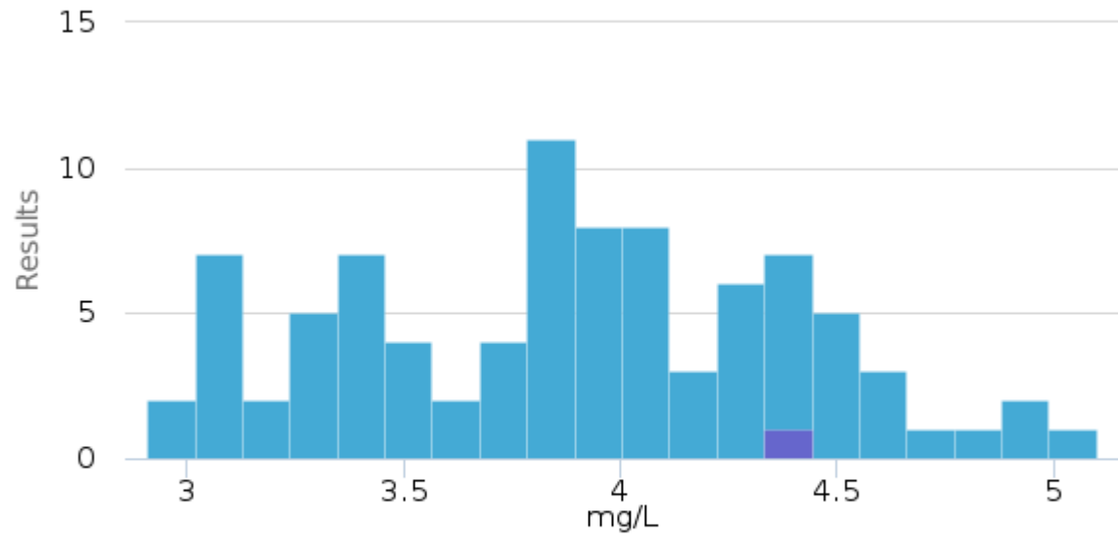
Roche Elecsys/cobas e



Roche Integra



Siemens Advia Centaur



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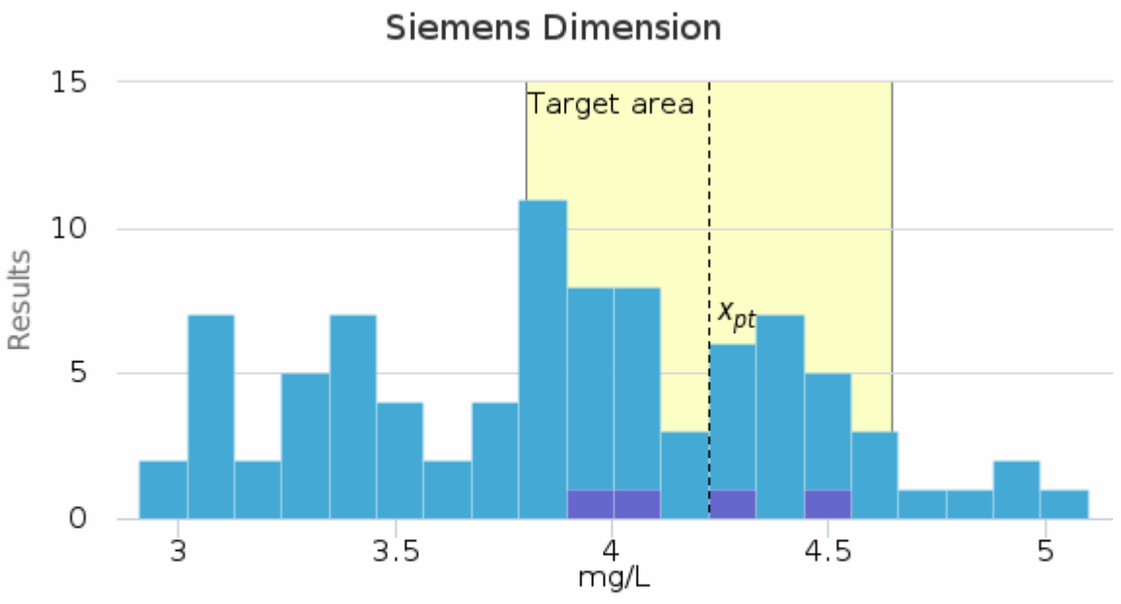
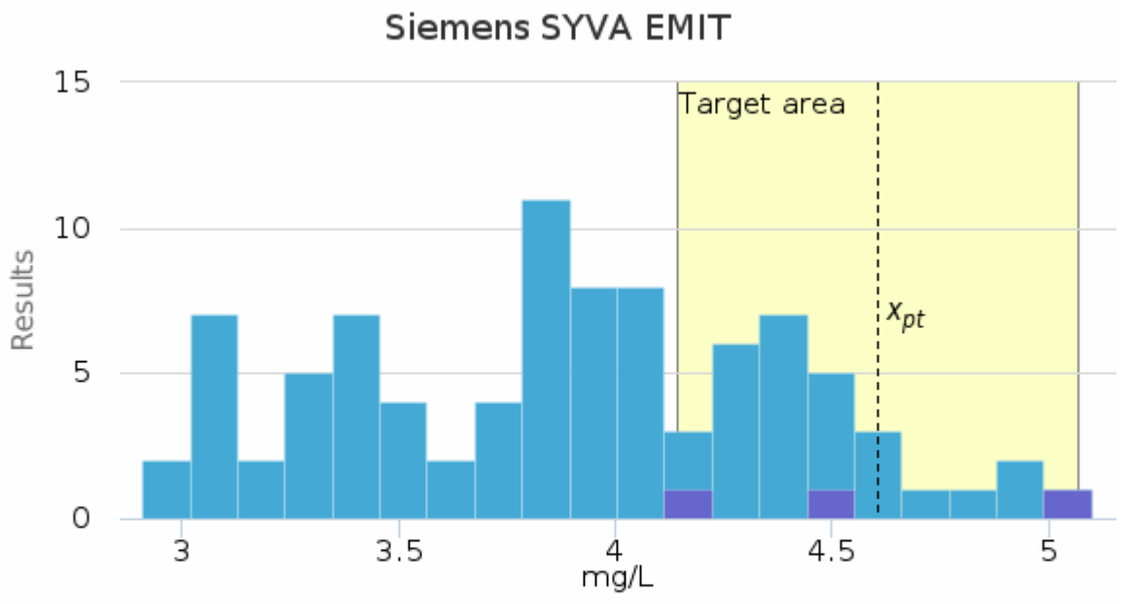
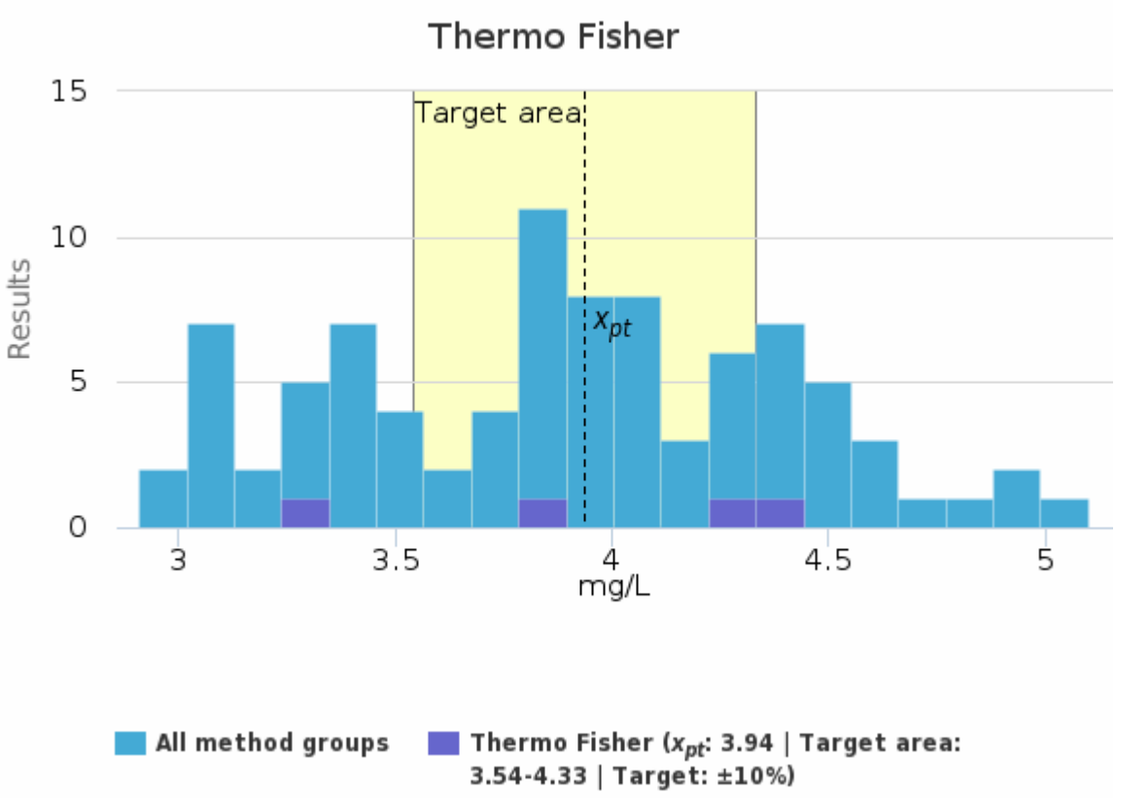
Quantitative report



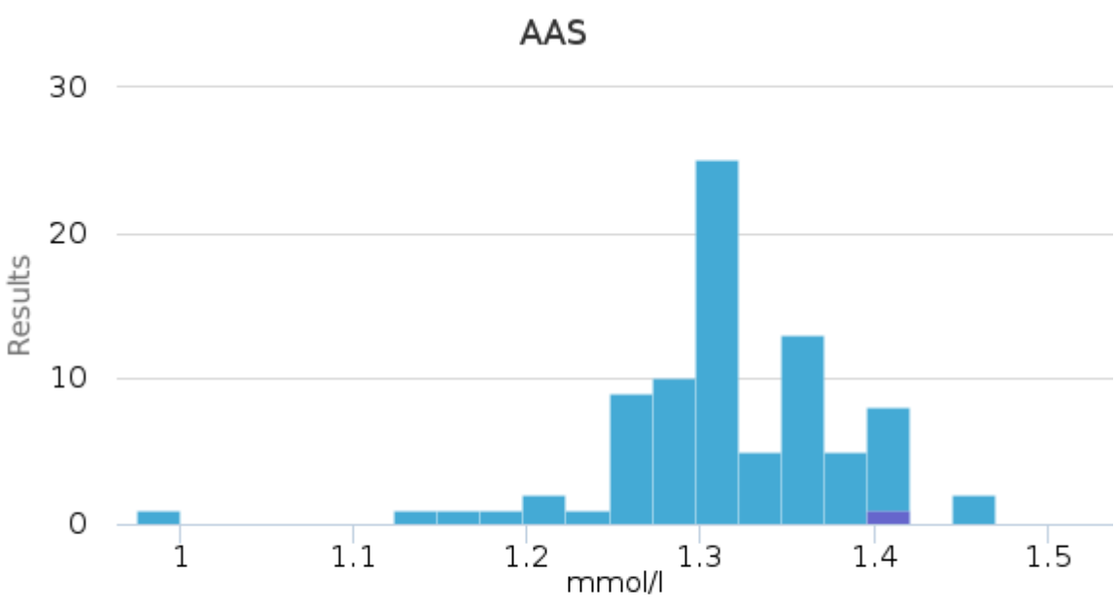


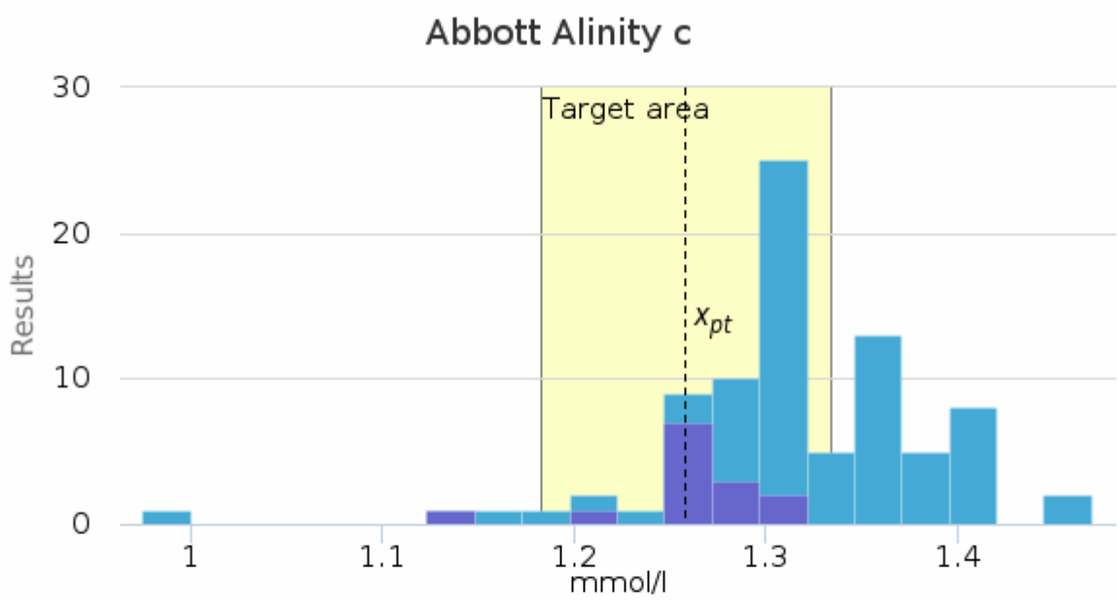


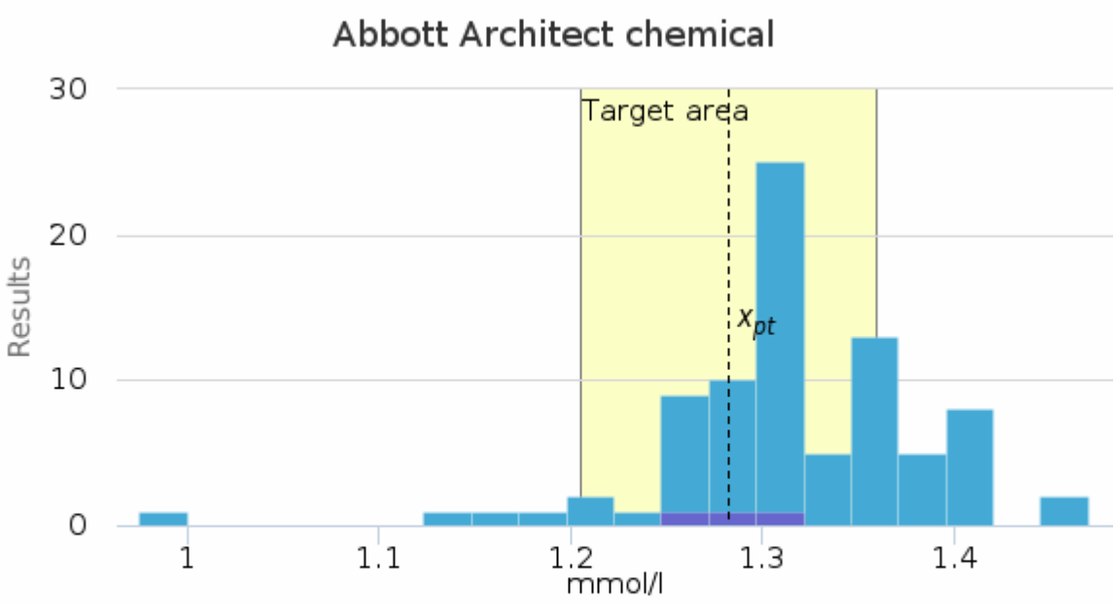
Sample S002 | Litium, mmol/l

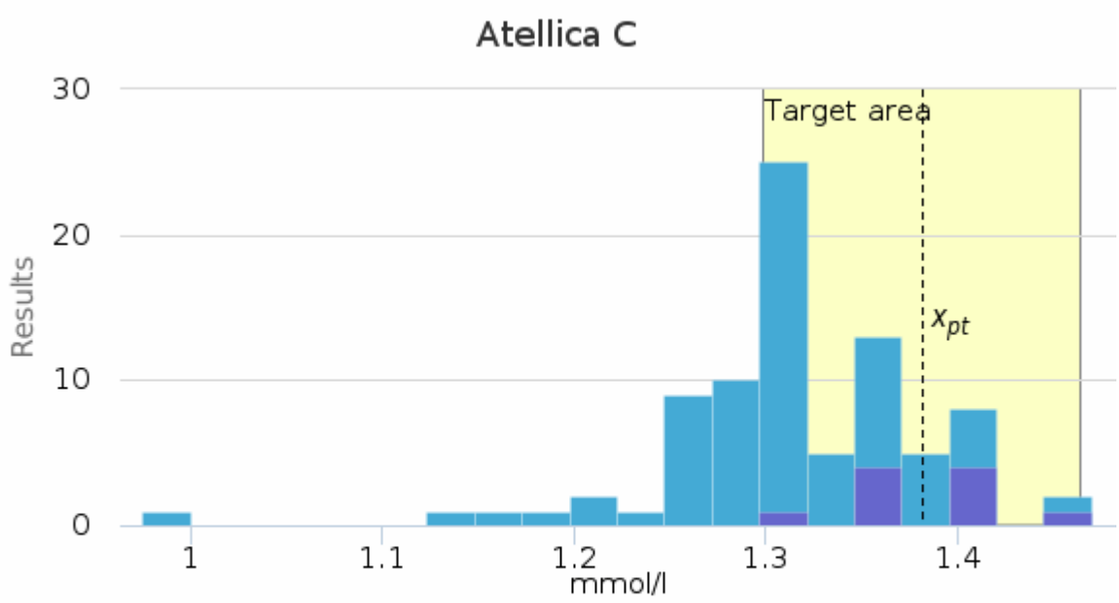
Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
AAS	-	-	-	-	-	1.42	1.42	-	1
Abbott Alinity c	1.26	1.27	0.05	3.7	0.01	1.13	1.32	-	14
Abbott Architect chemical	1.28	1.29	0.02	1.5	0.01	1.26	1.30	-	3
Atellica C	1.38	1.39	0.05	3.3	0.01	1.30	1.47	-	10
Beckman Coulter AU (Olympus)	1.33	1.34	0.03	2.0	0.02	1.30	1.35	-	3
Diestro	-	-	-	-	-	0.98	0.98	-	1
Roche cobas c	1.32	1.32	0.05	3.5	<0.01	1.18	1.41	1	45
Roche Integra	-	-	-	-	-	1.45	1.45	-	1
Siemens Advia	1.41	1.41	0.02	1.5	0.02	1.39	1.42	-	2
Siemens Dimension	1.30	1.30	<0.01	<0.1	<0.01	1.30	1.30	-	3
Thermo Fisher	-	-	-	-	-	1.30	1.30	-	1
All	**1.32**	**1.31**	**0.06**	**4.6**	**<0.01**	**1.13**	**1.47**	**1**	**84**

Sample S002 | Litium, mmol/l| histogram summaries in LabScala









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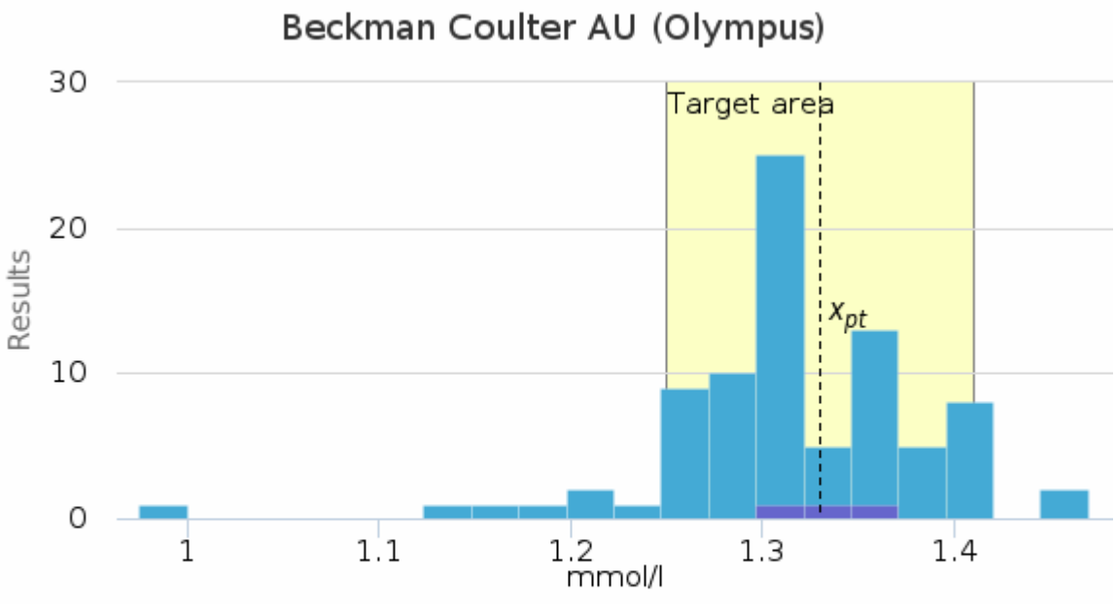
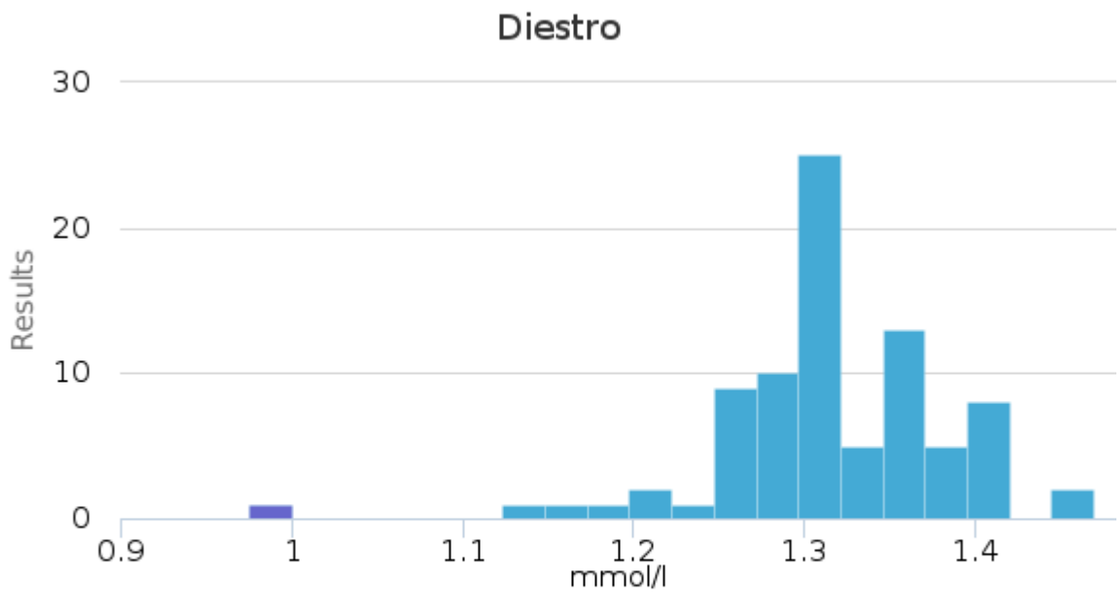
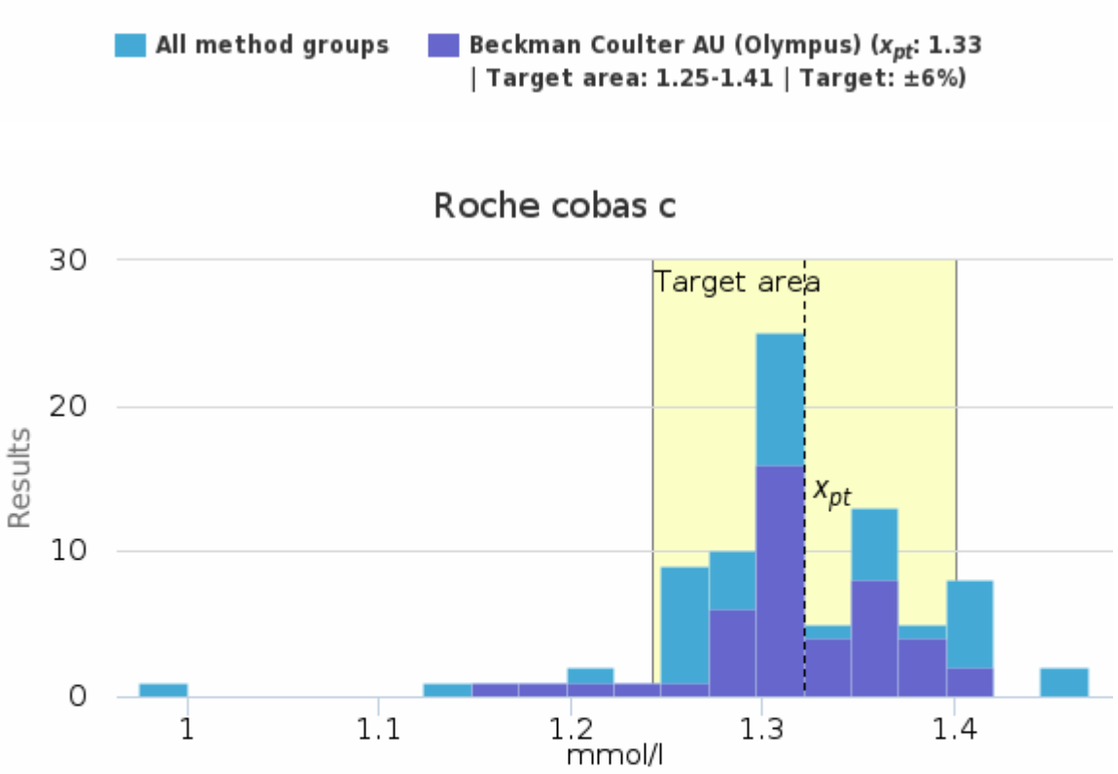
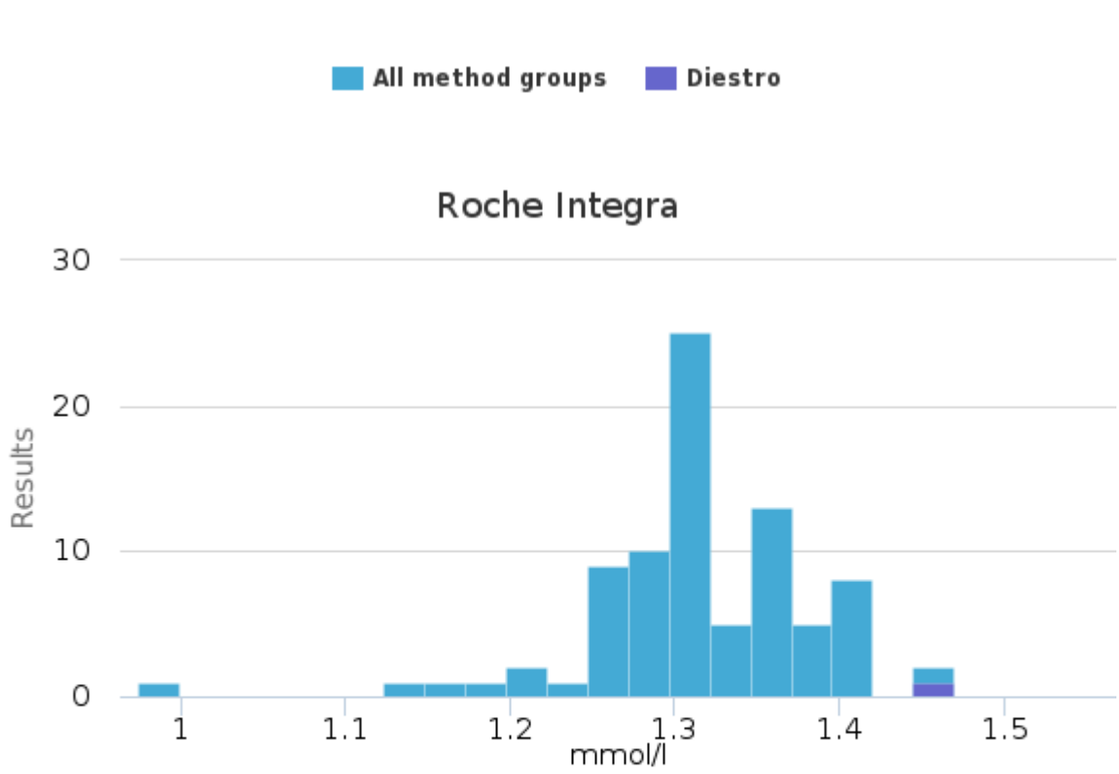
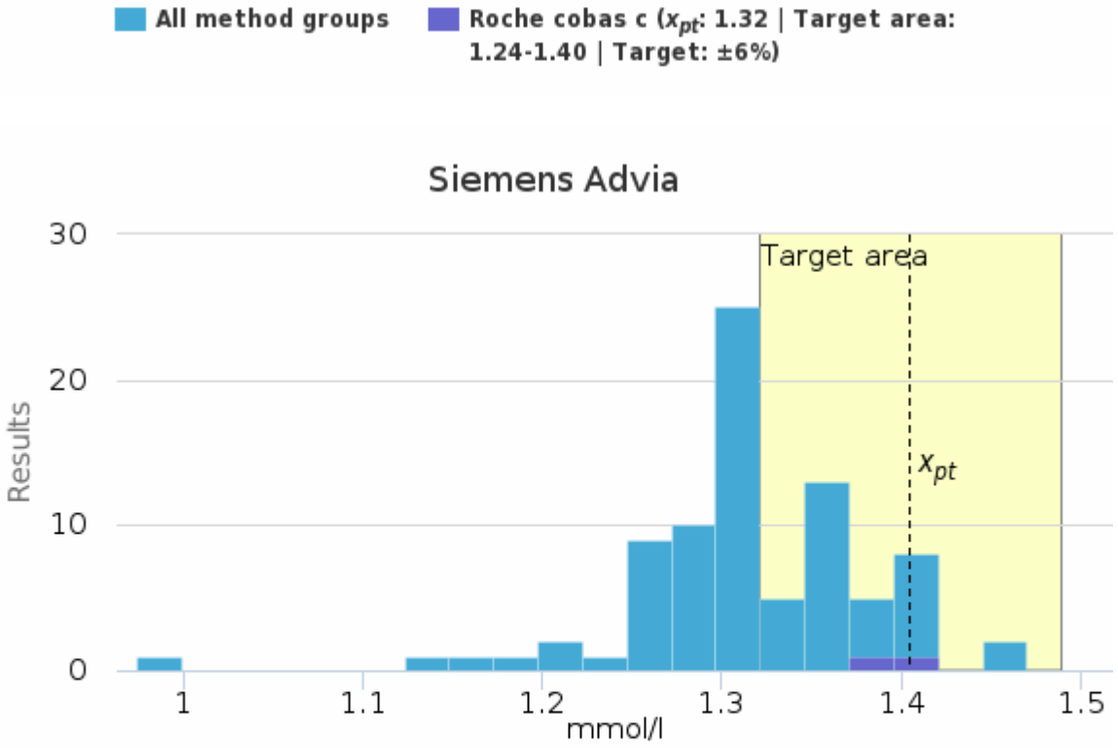
Quantitative report

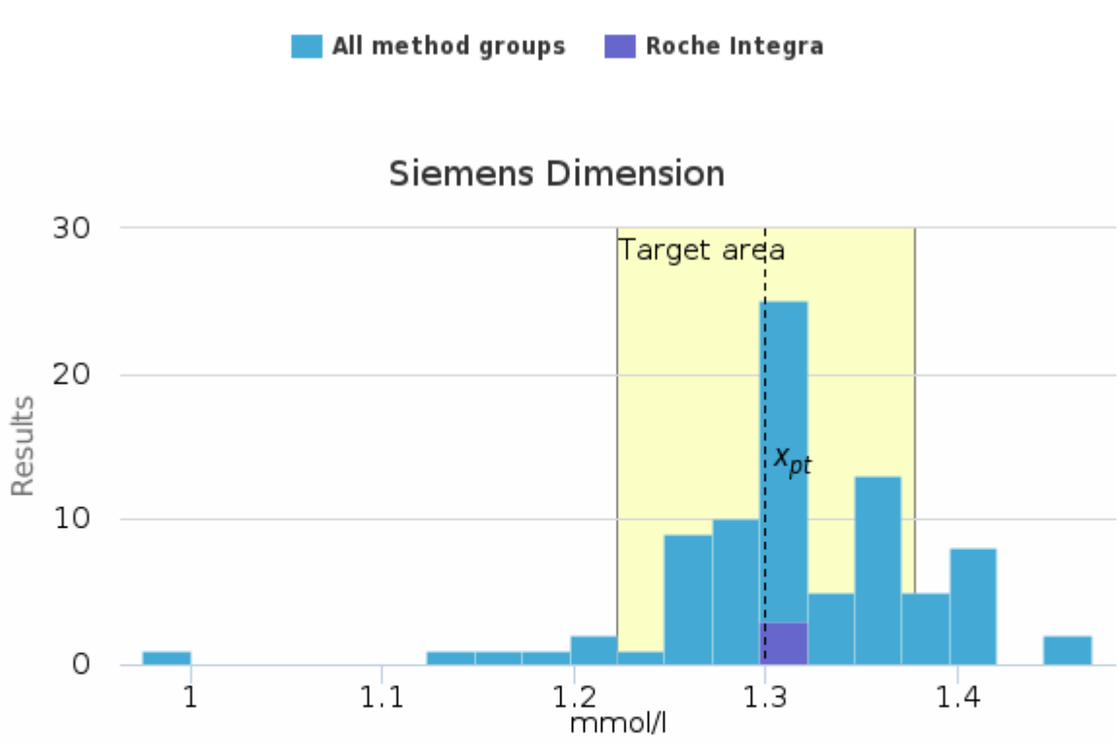












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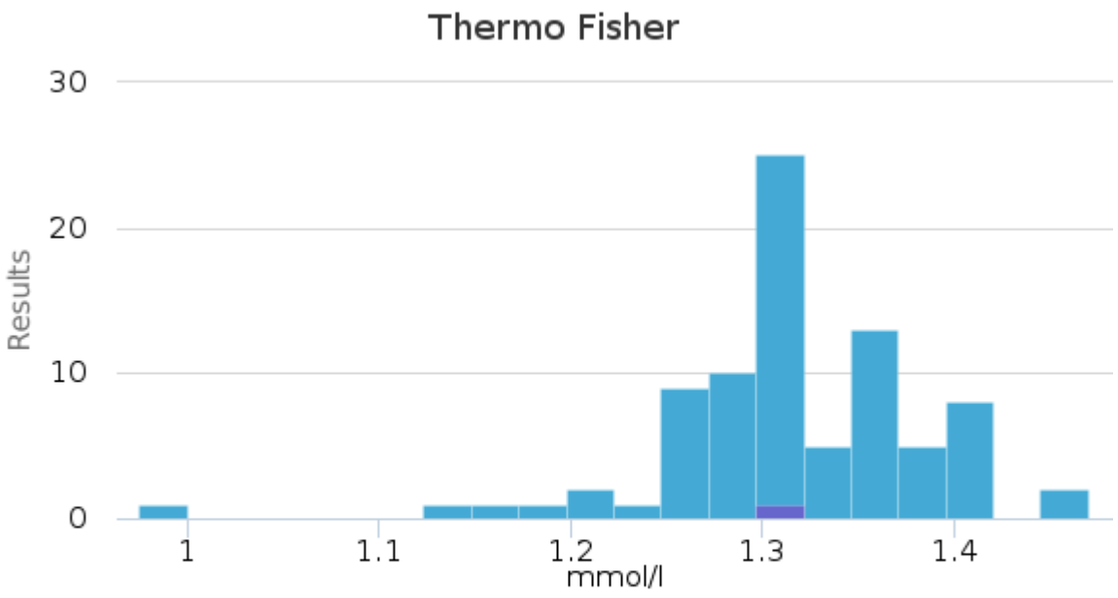
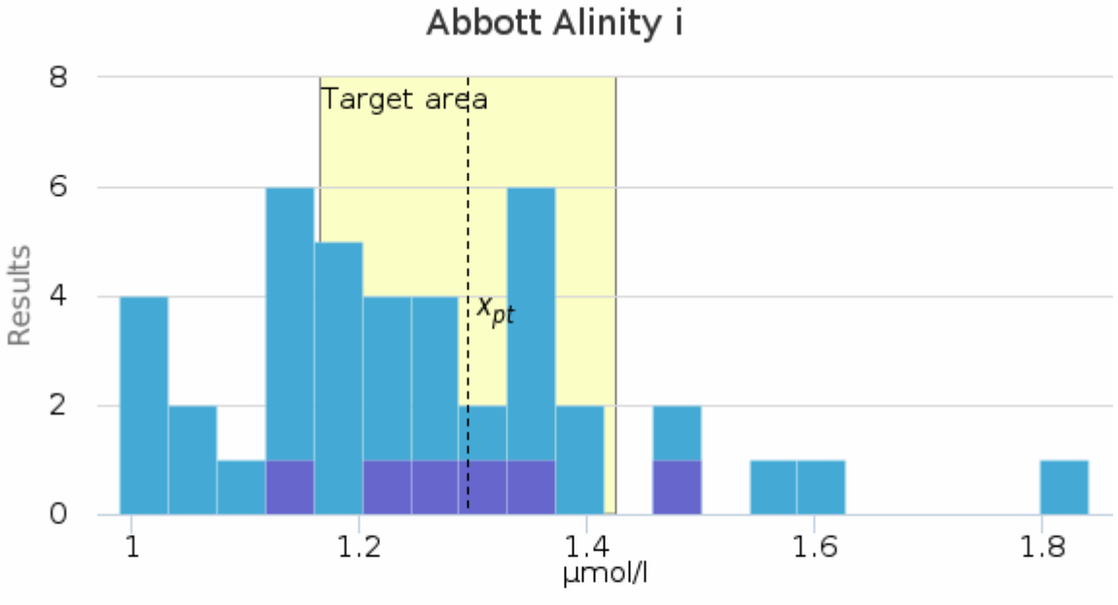
Quantitative report

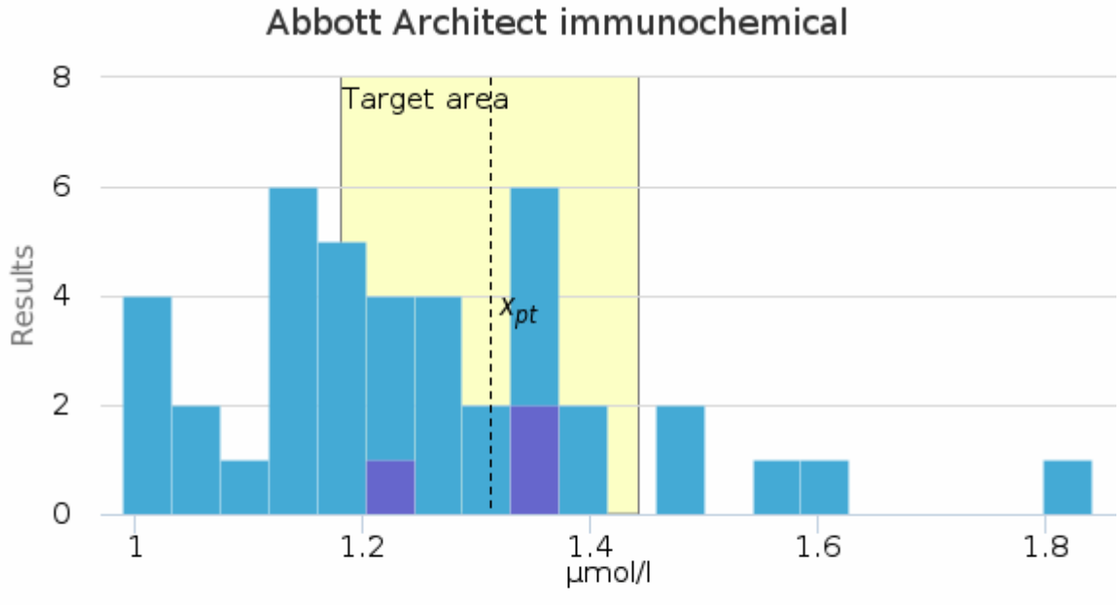


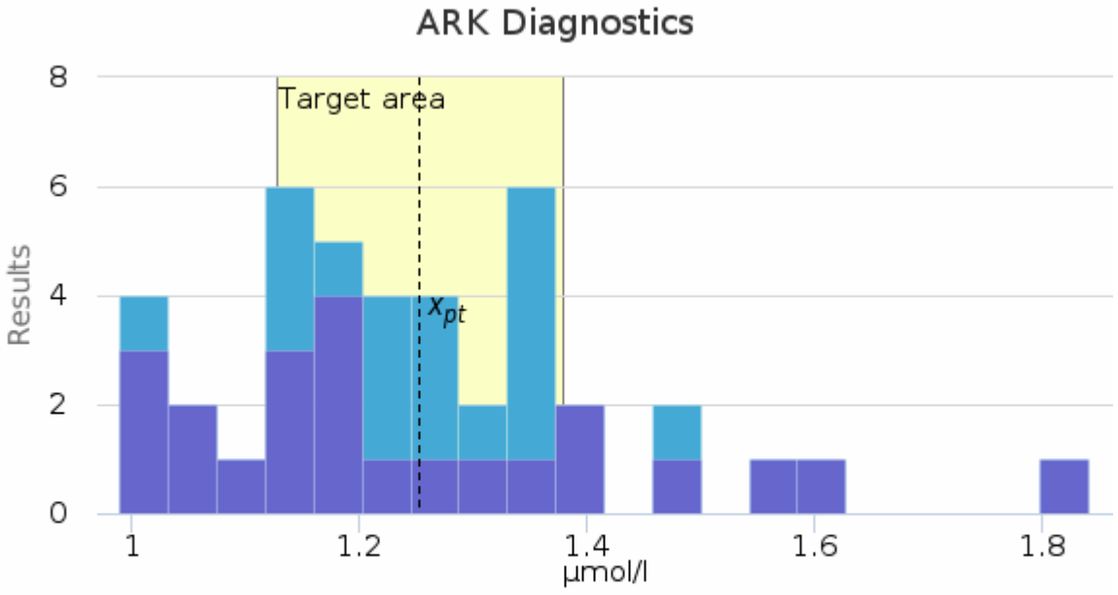
Sample S002 | Methotrexate, µmol/l

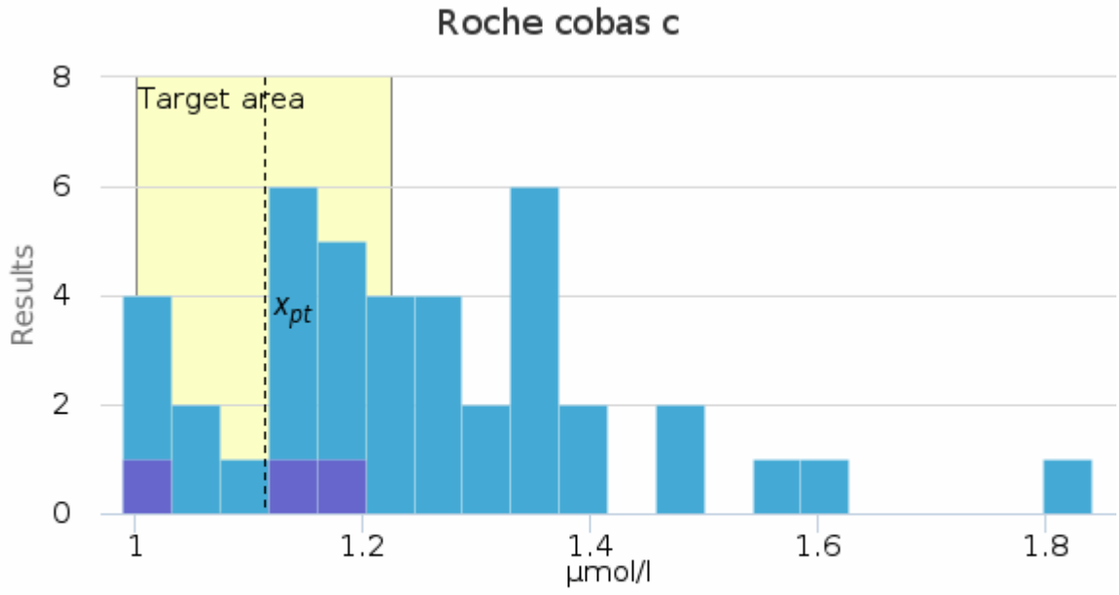
Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Abbott Alinity i	1.30	1.28	0.12	9.5	0.05	1.14	1.50	-	6
Abbott Architect immunochemical	1.31	1.35	0.06	4.7	0.04	1.24	1.35	-	3
ARK Diagnostics	1.25	1.19	0.22	17.5	0.05	0.99	1.84	-	23
Roche cobas c	1.11	1.13	0.10	8.6	0.06	1.01	1.20	-	3
Siemens SYVA EMIT	1.27	1.28	0.09	6.9	0.04	1.12	1.36	-	6
All	**1.24**	**1.23**	**0.15**	**12.4**	**0.02**	**0.99**	**1.62**	**1**	**41**

Sample S002 | Methotrexate, µmol/l| histogram summaries in LabScala









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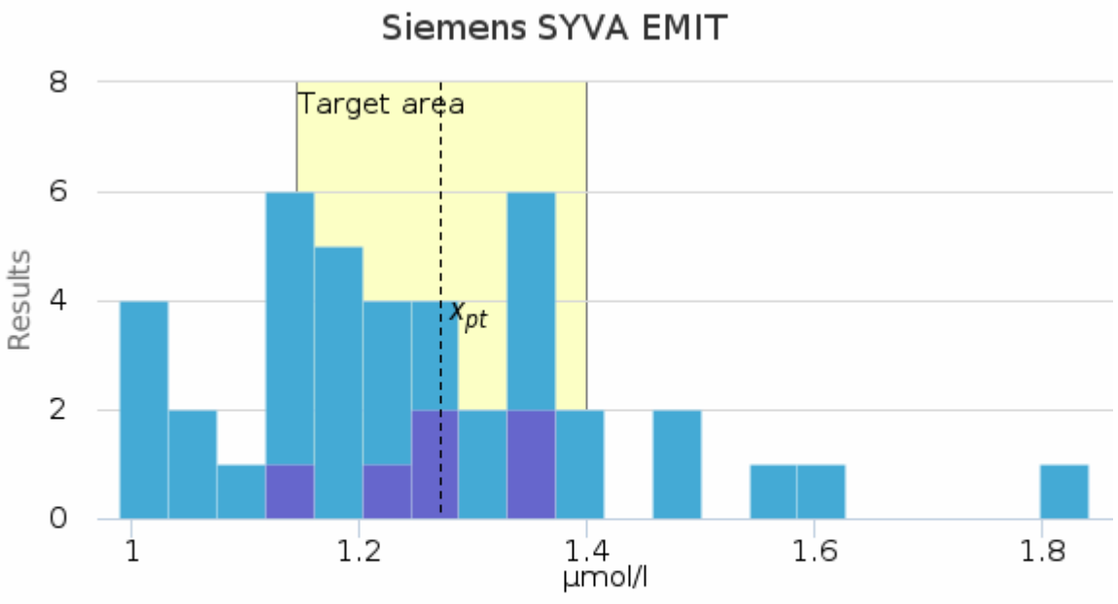
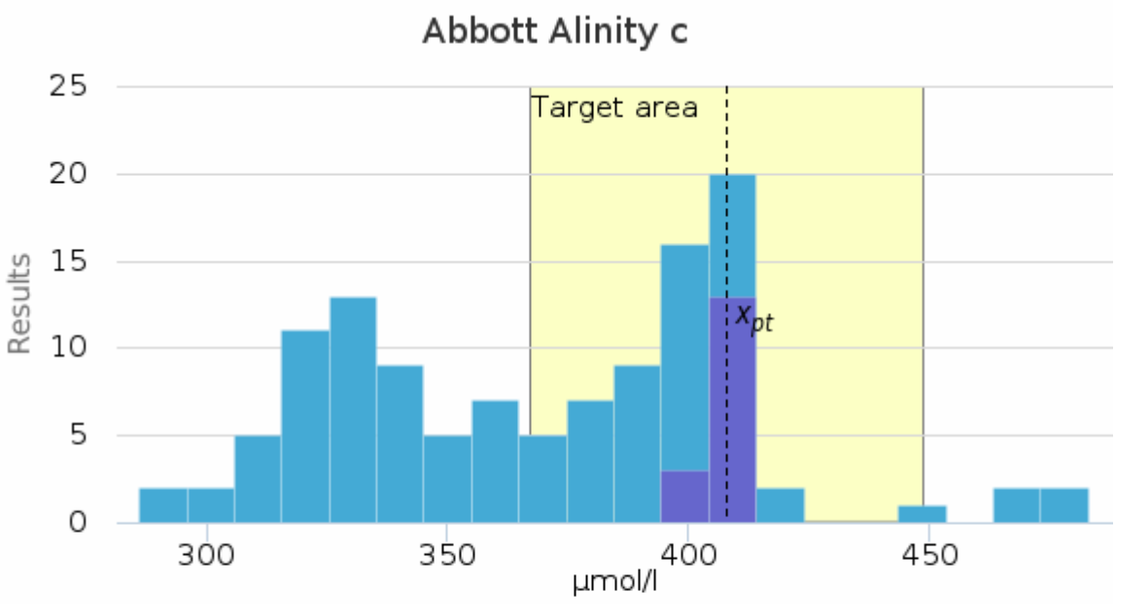
Quantitative report

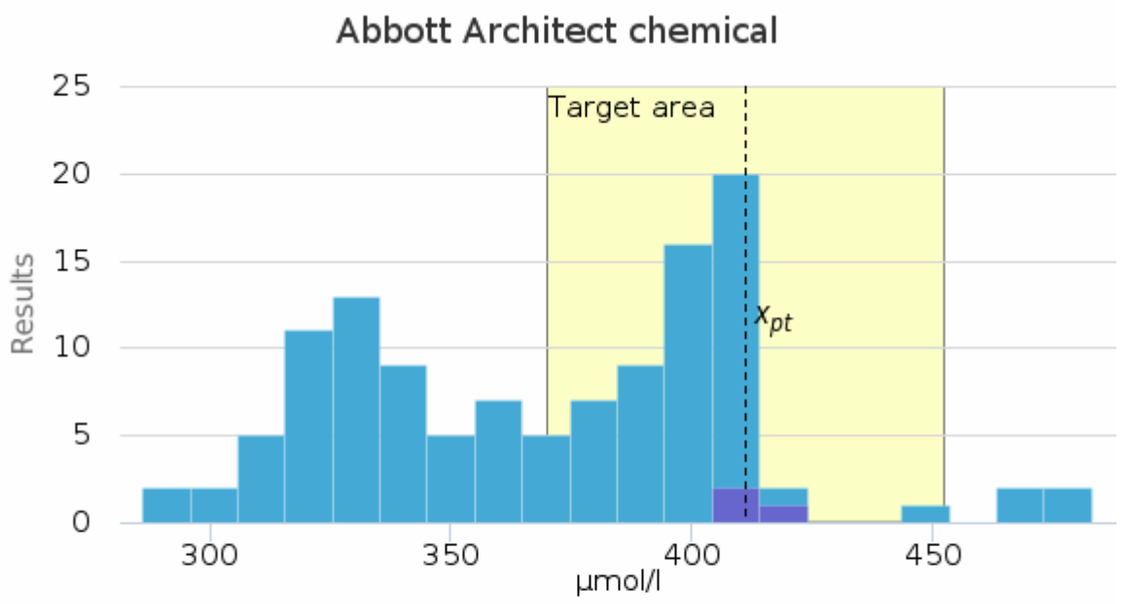


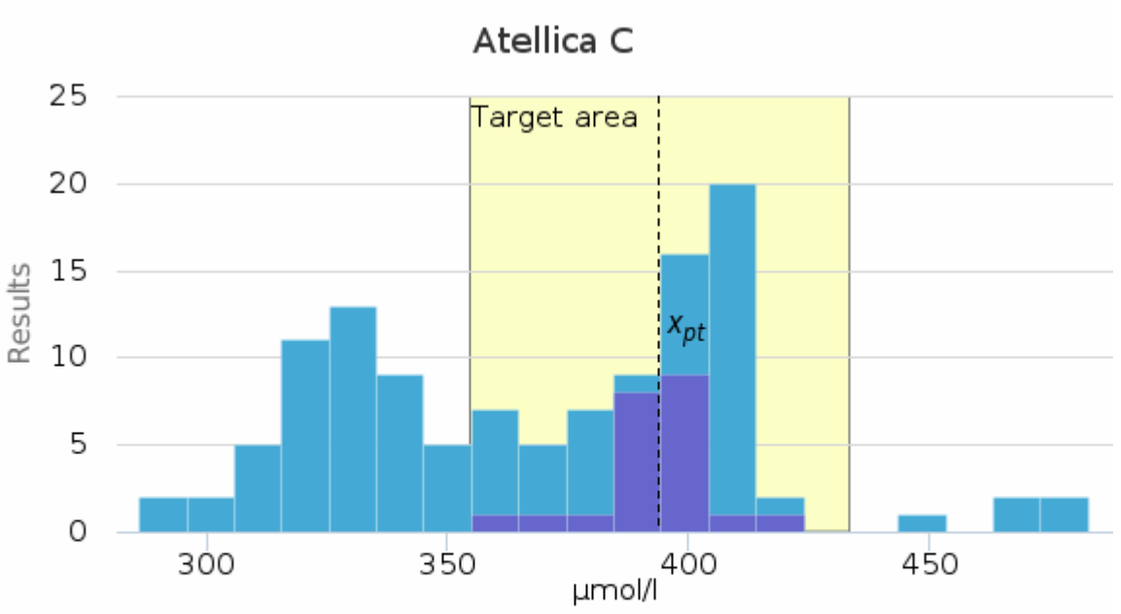
Sample S002 | Paracetamol, µmol/l

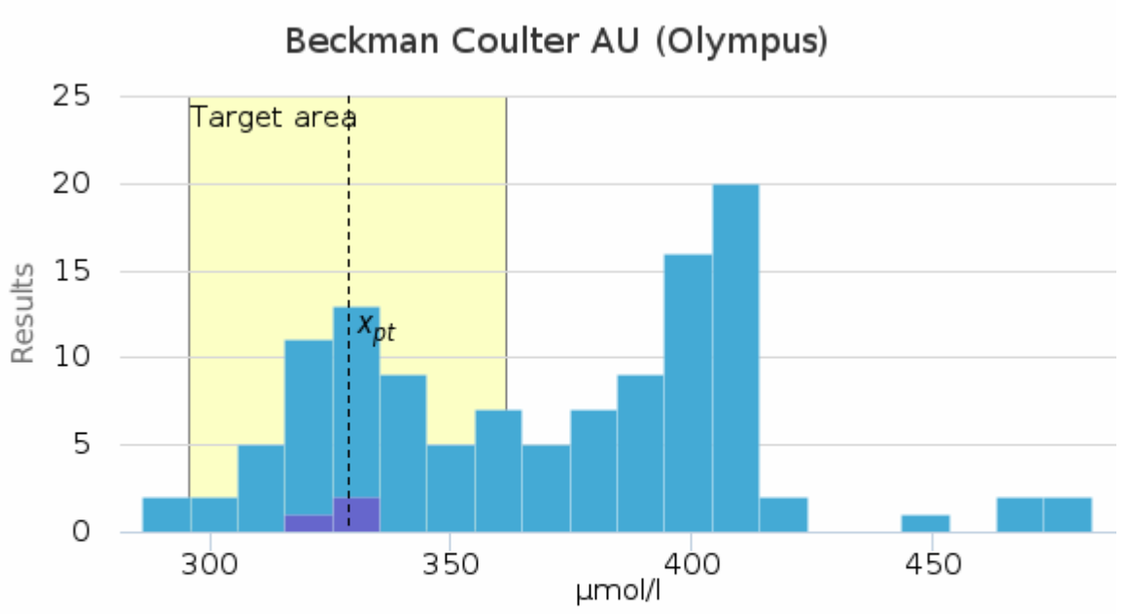
Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Abbott Alinity c	407.8	410.0	5.1	1.2	1.3	395.0	413.2	-	16
Abbott Architect chemical	411.1	410.8	3.3	0.8	1.9	408.0	414.6	-	3
Atellica C	393.9	394.7	9.2	2.3	2.0	374.0	416.8	1	22
Beckman Coulter AU (Olympus)	328.7	329.0	4.5	1.4	2.6	324.0	333.0	-	3
Roche cobas c	346.3	340.7	28.9	8.3	3.8	286.1	410.5	-	59
Roche Integra	309.0	309.0	12.3	4.0	8.7	300.3	317.7	-	2
Siemens Advia	393.5	393.5	9.2	2.3	6.5	387.0	400.0	-	2
Siemens Dimension	473.7	471.0	5.5	1.2	3.2	470.0	480.0	-	3
Siemens SYVA EMIT	350.0	343.5	41.5	11.8	16.9	289.8	410.2	-	6
Thermo Fisher	464.6	464.6	26.0	5.6	18.4	446.2	482.9	-	2
All	**370.0**	**374.8**	**41.3**	**11.2**	**3.8**	**286.1**	**482.9**	**-**	**118**

Sample S002 | Paracetamol, µmol/l| histogram summaries in LabScala









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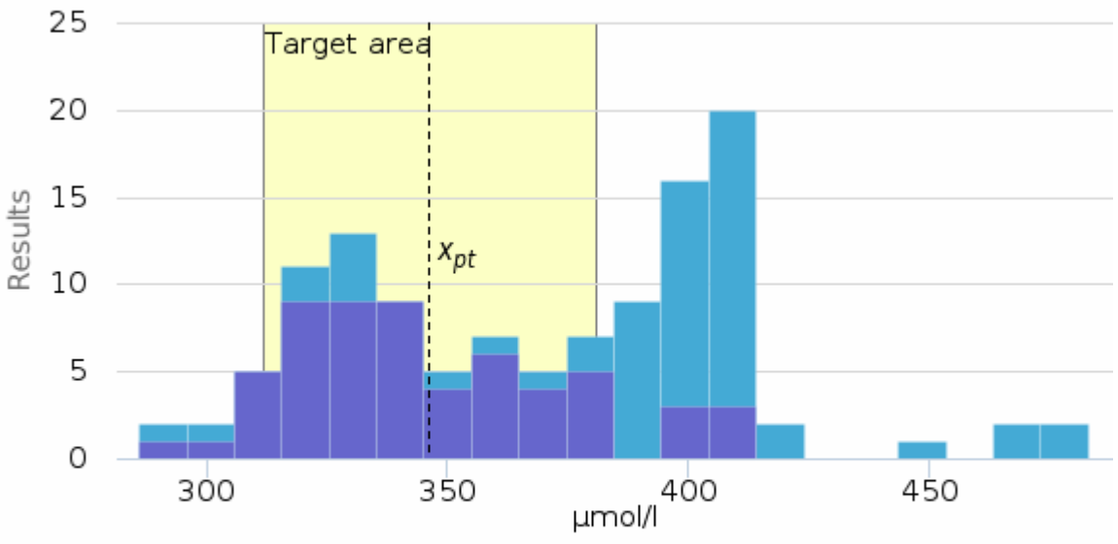
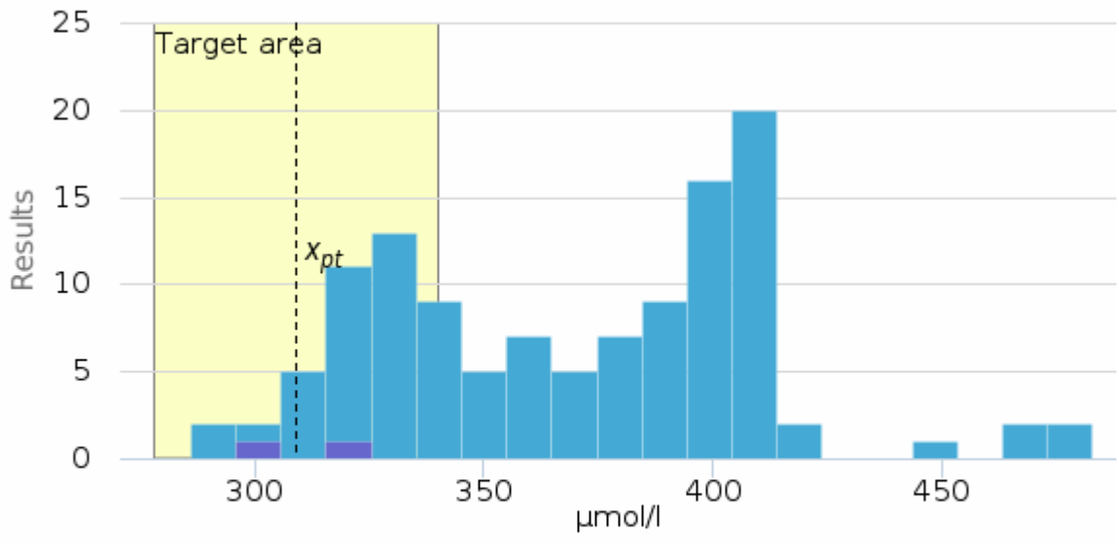
Roche cobas c



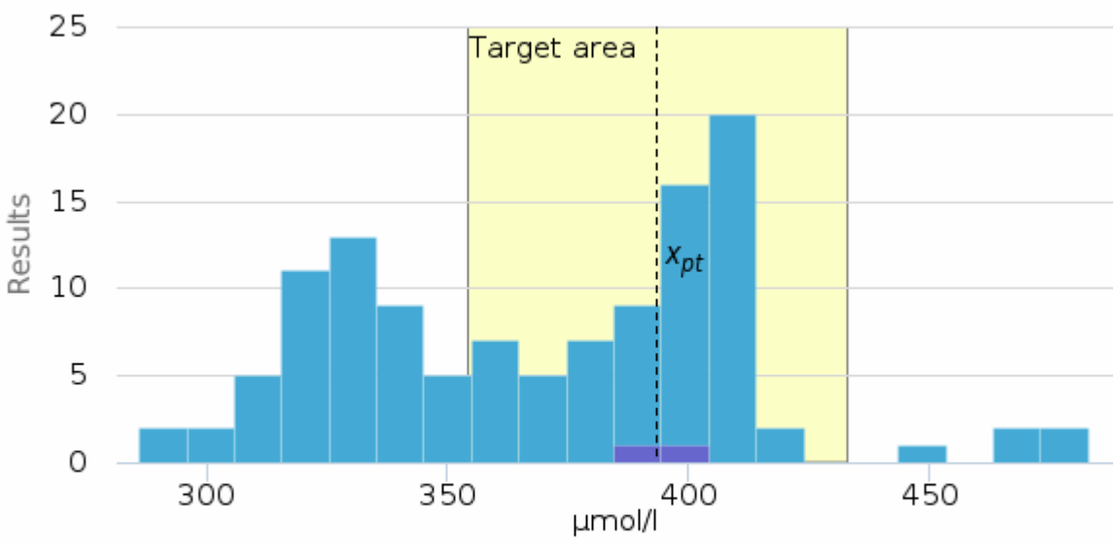
All method groups — Roche cobas c (x_{pt}: 346.3 | Target area: 311.7-381.0 | Target: ±10%)

Roche Integra



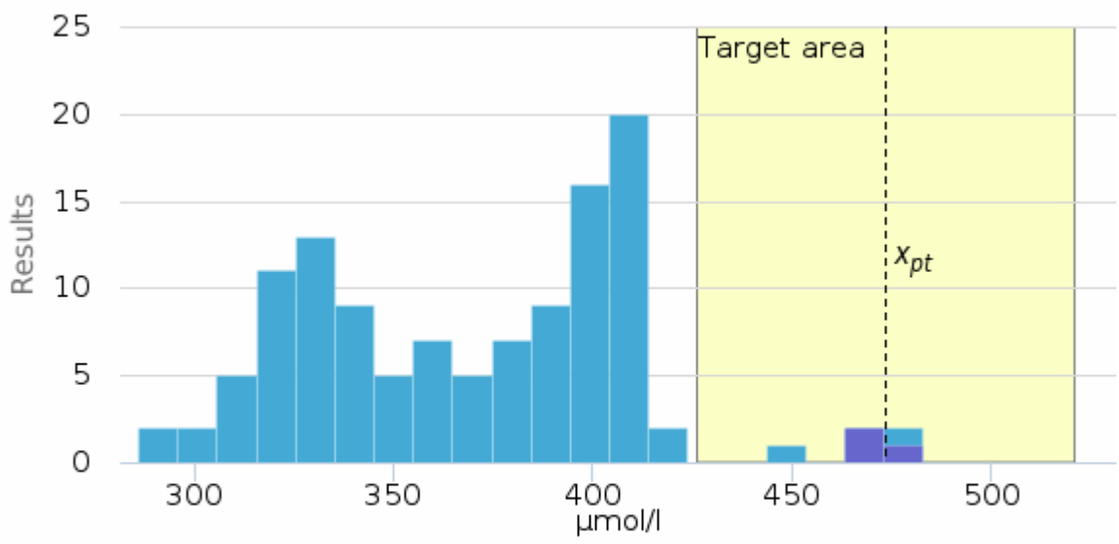
All method groups — Roche Integra (x_{pt}: 309.0 | Target area: 278.1-339.9 | Target: ±10%)

Siemens Advia



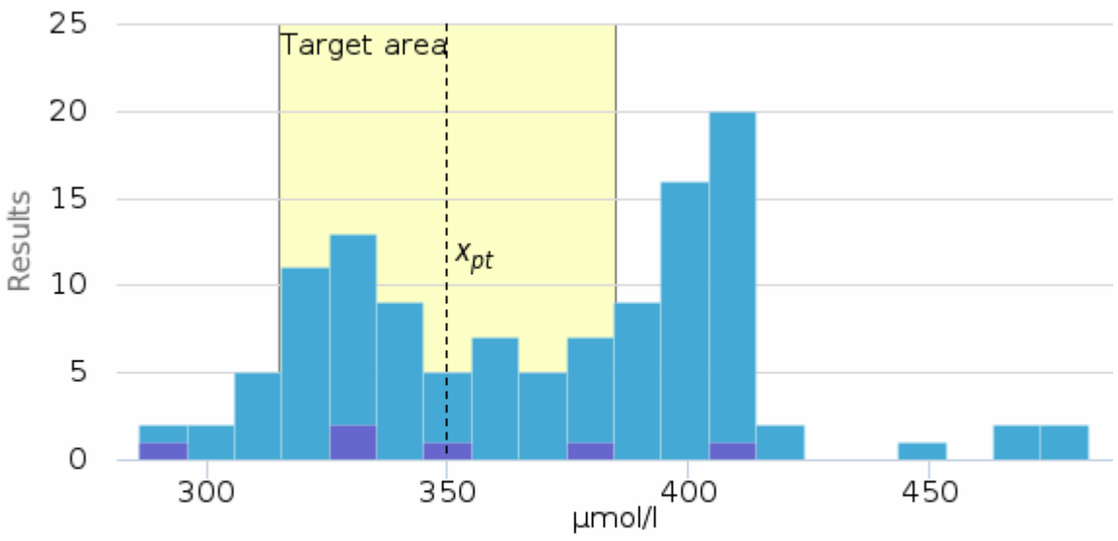
All method groups — Siemens Advia (x_{pt}: 393.5 | Target area: 354.2-432.9 | Target: ±10%)

Siemens Dimension



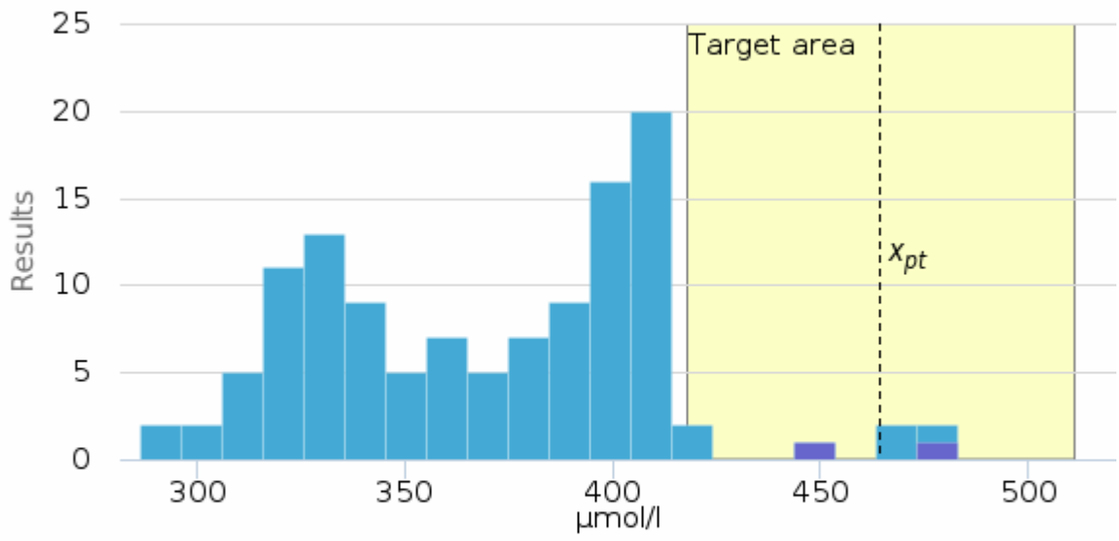
All method groups — Siemens Dimension (x_{pt}: 473.7 | Target area: 426.3-521.0 | Target: ±10%)

Siemens SYVA EMIT



All method groups — Siemens SYVA EMIT (x_{pt}: 350.0 | Target area: 315.0-385.0 | Target: ±10%)

Thermo Fisher

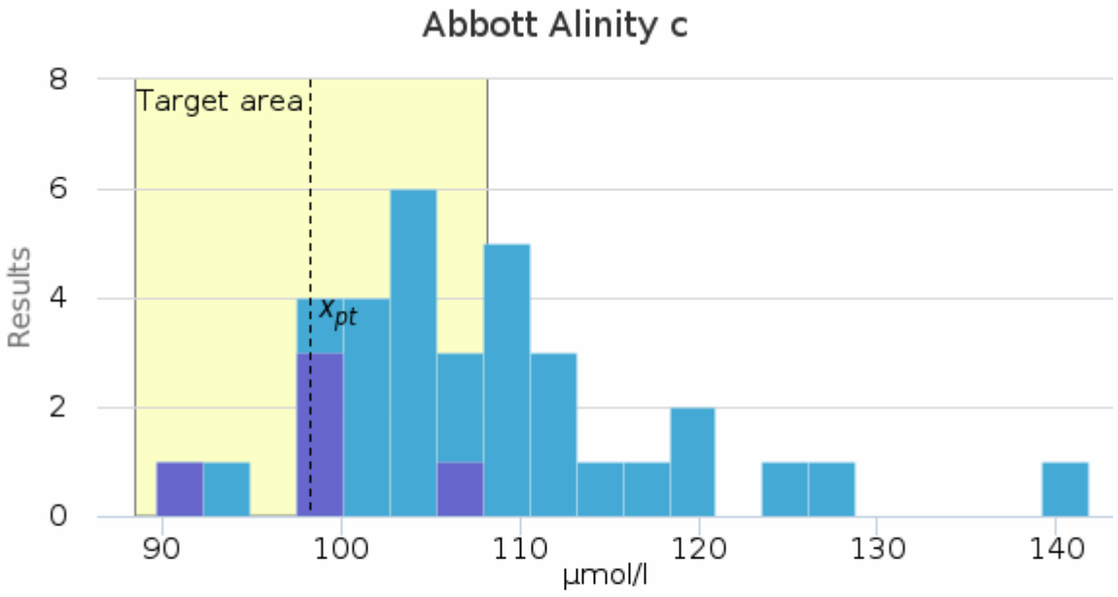


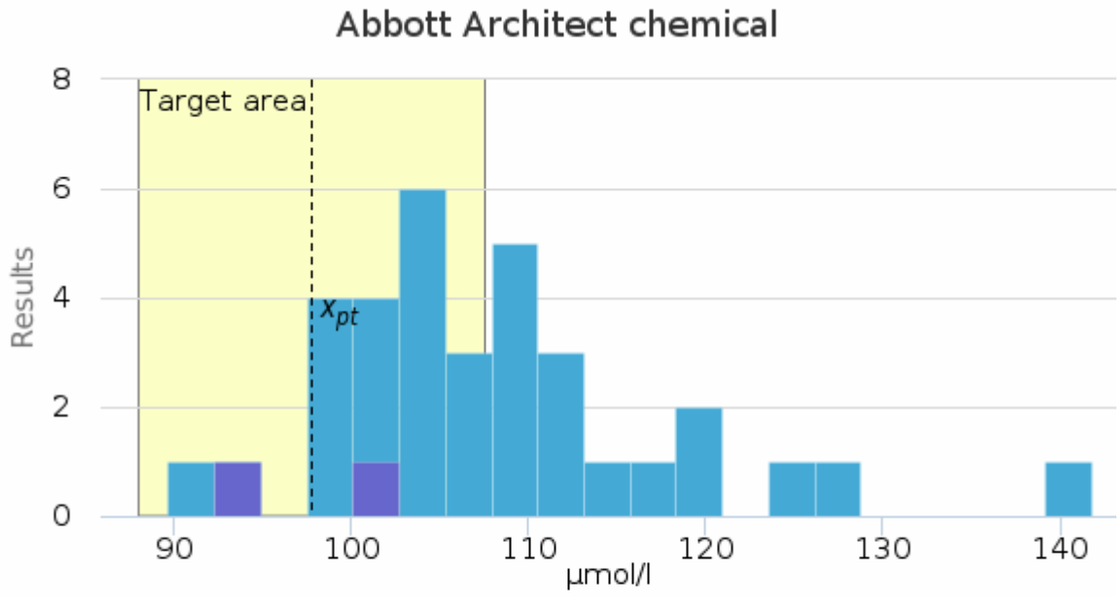
All method groups — Thermo Fisher (x_{pt}: 464.6 | Target area: 418.1-511.0 | Target: ±10%)

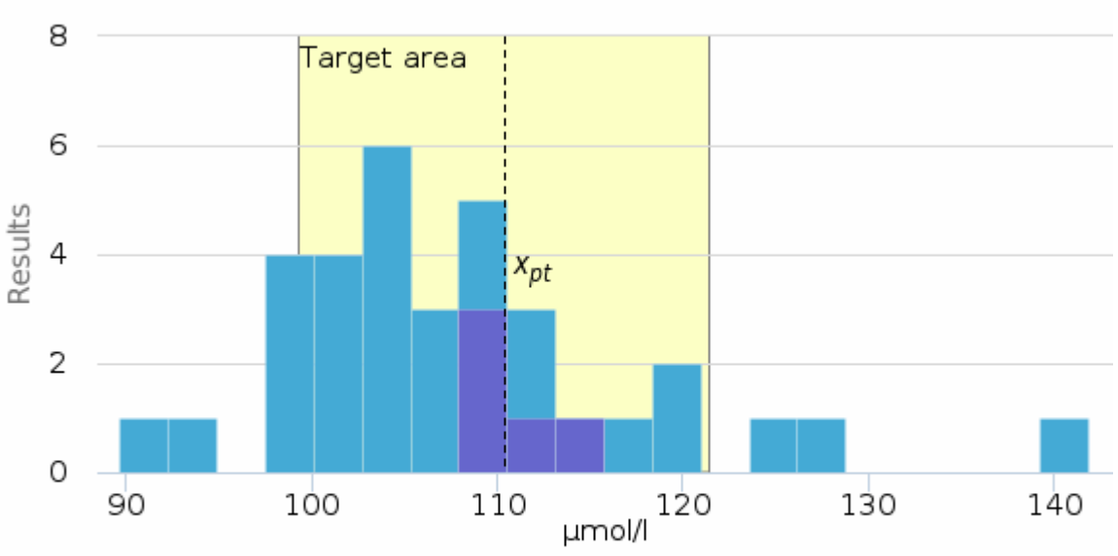
Sample S002 | Phenobarbital, µmol/l

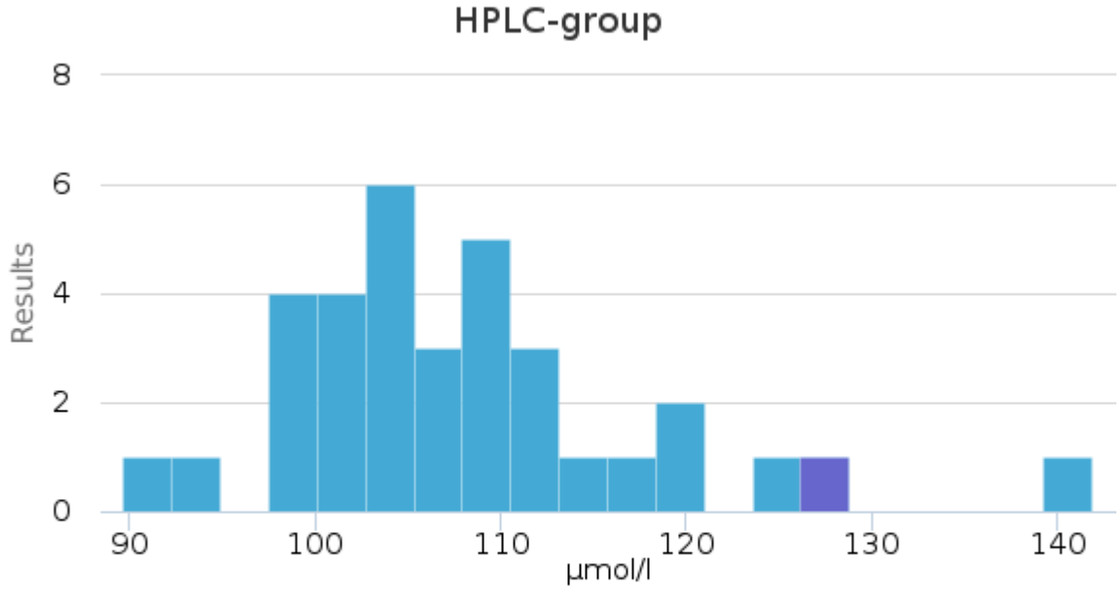
Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Abbott Alinity c	98.3	98.9	5.8	5.9	2.6	89.7	106.0	-	5
Abbott Architect chemical	97.8	97.8	5.5	5.6	3.9	93.9	101.6	-	2
Atellica C	110.4	109.0	2.9	2.6	1.3	108.2	115.2	-	5
HPLC-group	-	-	-	-	-	127.1	127.1	-	1
Roche cobas c	105.4	104.7	3.7	3.5	1.0	100.8	113.1	-	13
Siemens Dimension	-	-	-	-	-	100.0	100.0	-	1
Siemens SYVA EMIT	114.9	117.6	7.5	6.6	3.4	106.4	123.8	-	5
Thermo Fisher	130.3	130.3	16.2	12.5	11.5	118.8	141.8	-	2
All	**107.0**	**106.0**	**8.2**	**7.6**	**1.4**	**89.7**	**127.1**	**1**	**34**

Sample S002 | Phenobarbital, µmol/l| histogram summaries in LabScala









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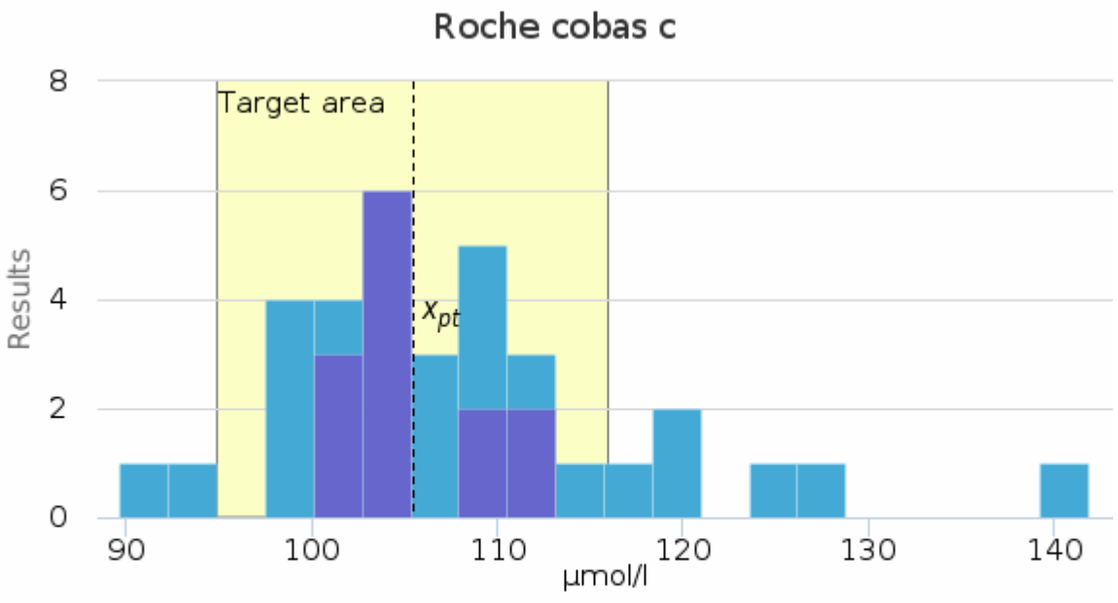
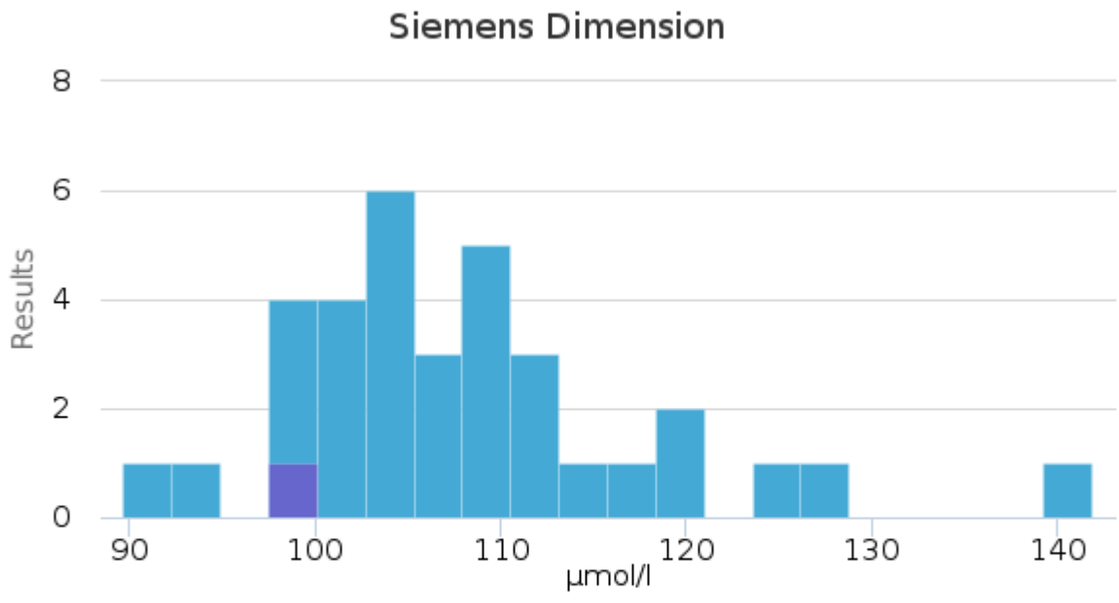
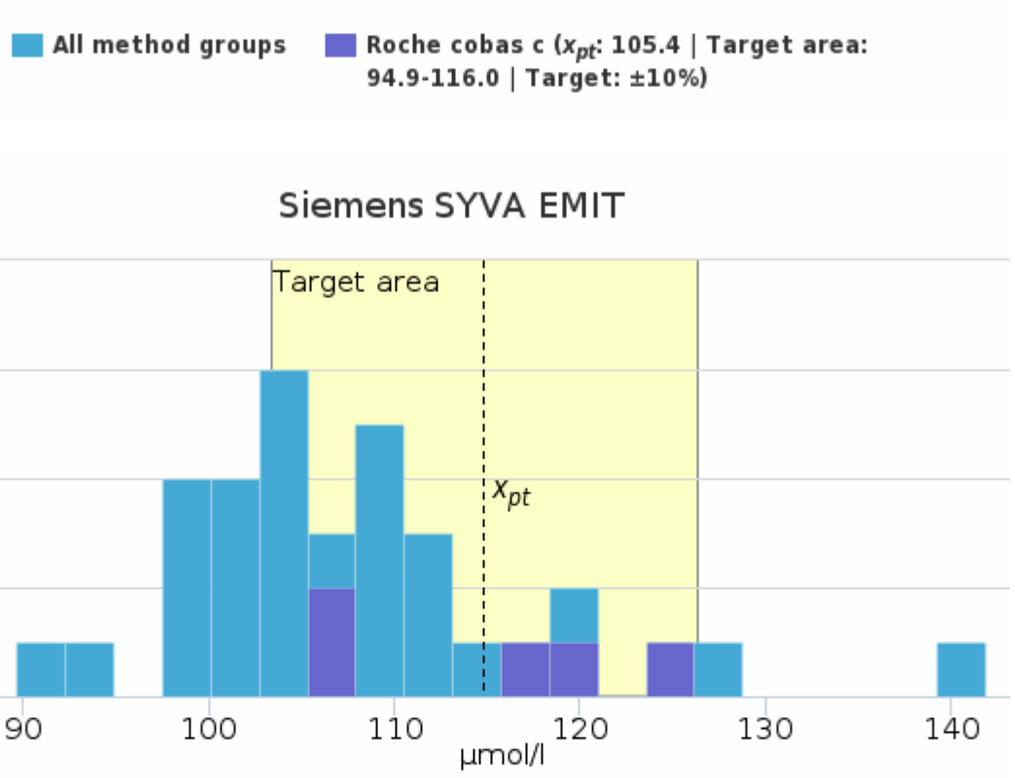
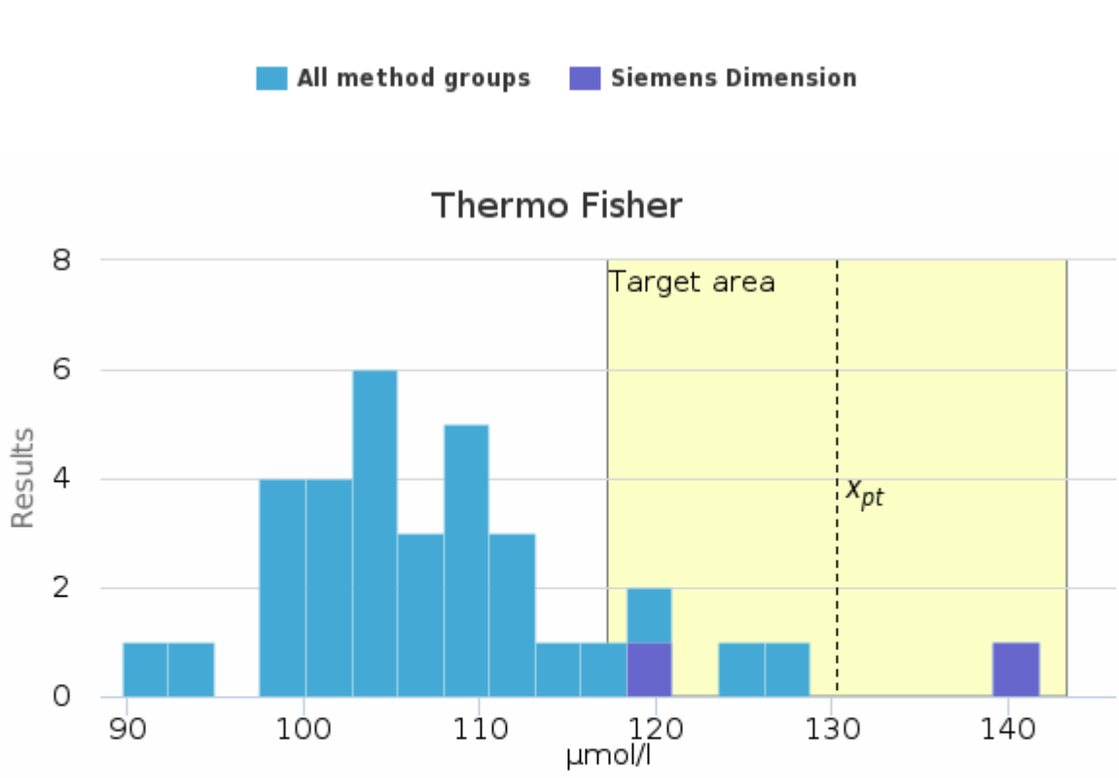
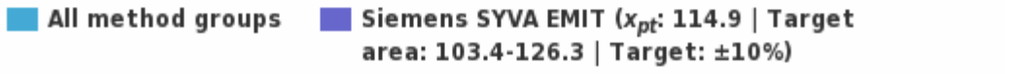






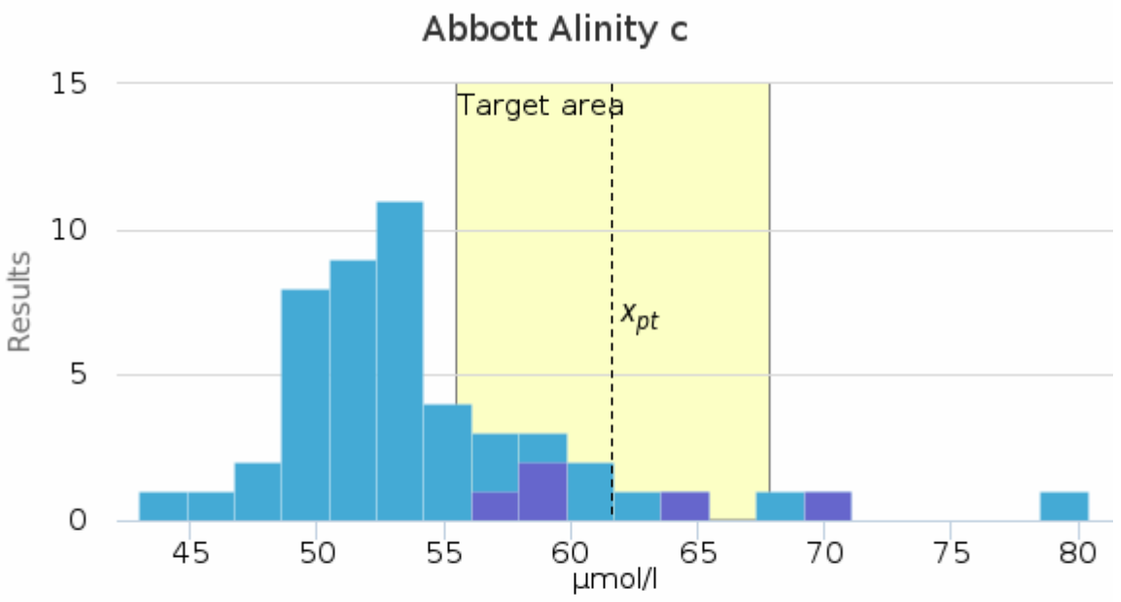


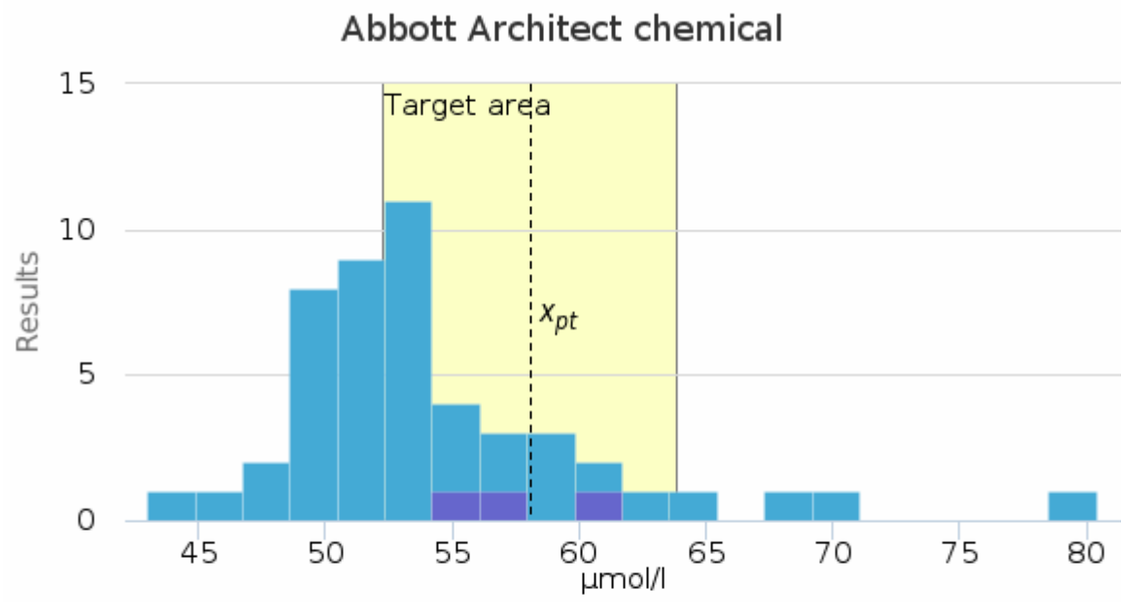


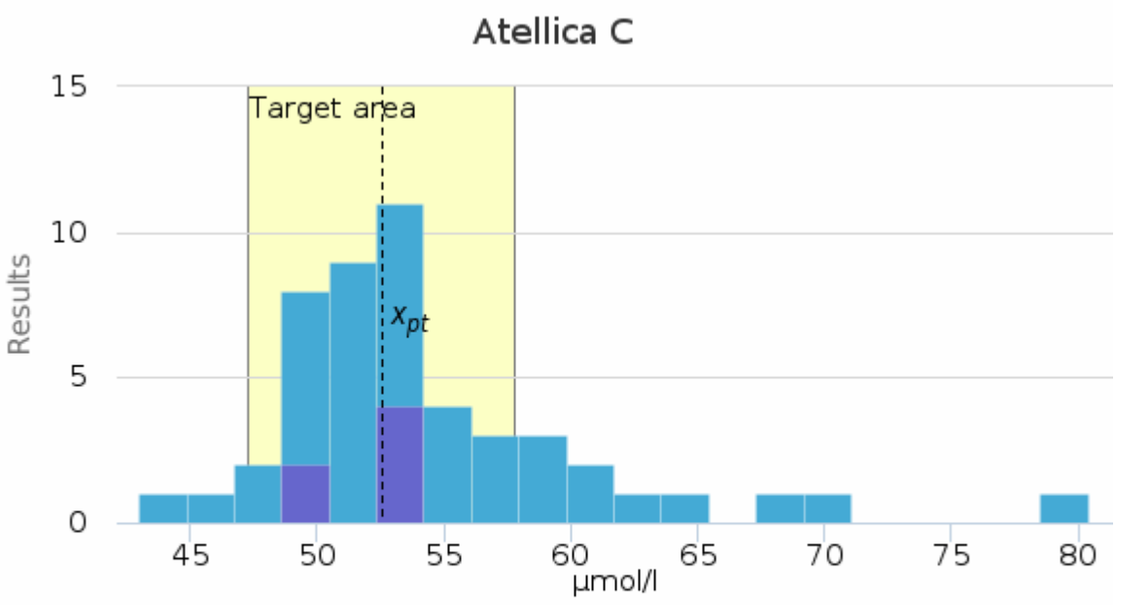
Sample S002 | Phenytoin, µmol/l

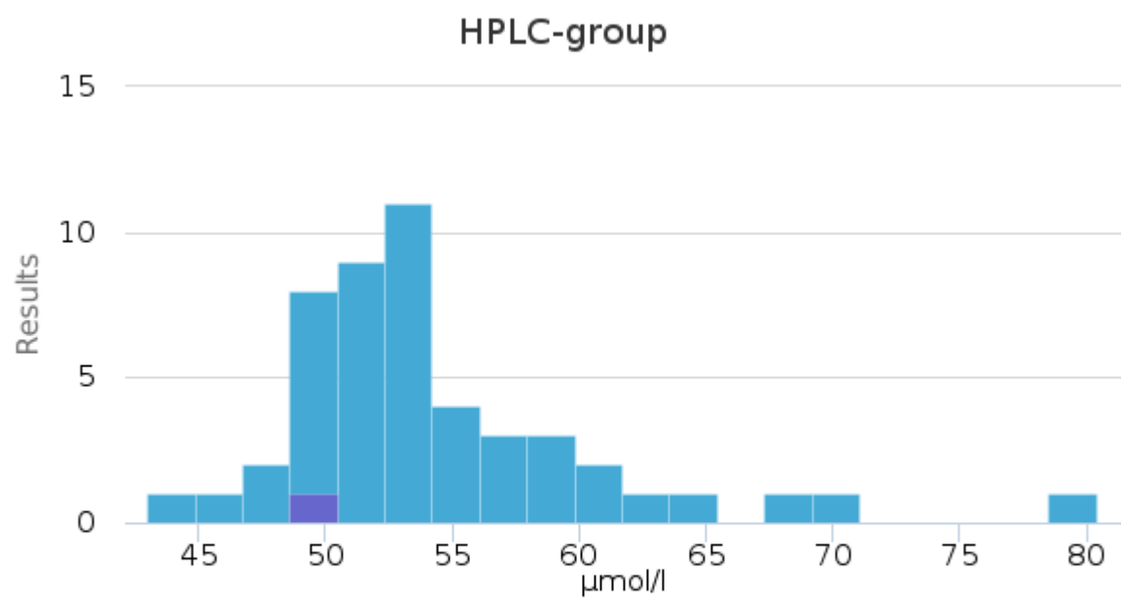
Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Abbott Alinity c	61.7	58.0	5.5	8.9	2.5	57.4	69.5	-	5
Abbott Architect chemical	58.1	57.3	3.2	5.6	1.9	55.3	61.6	-	3
Atellica C	52.6	53.5	1.9	3.6	0.8	50.0	54.1	-	6
HPLC-group	-	-	-	-	-	50.4	50.4	-	1
Roche cobas c	52.1	51.6	2.8	5.4	0.6	45.4	58.3	-	26
Roche Integra	-	-	-	-	-	48.4	48.4	-	1
Siemens Advia	-	-	-	-	-	80.4	80.4	-	1
Siemens Dimension	-	-	-	-	-	43.0	43.0	-	1
Siemens SYVA EMIT	56.7	52.3	10.3	18.2	5.9	49.3	68.5	-	3
Thermo Fisher	61.9	61.9	1.1	1.8	0.8	61.1	62.6	-	2
All	**53.9**	**53.4**	**5.3**	**9.9**	**0.8**	**43.0**	**69.5**	**1**	**49**

Sample S002 | Phenytoin, µmol/l| histogram summaries in LabScala









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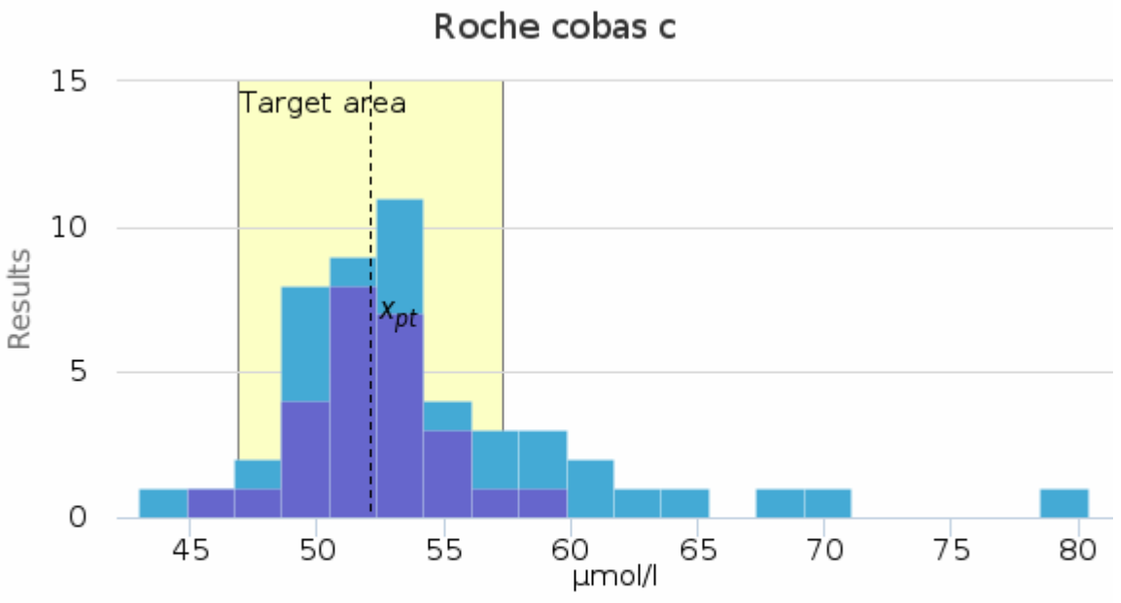
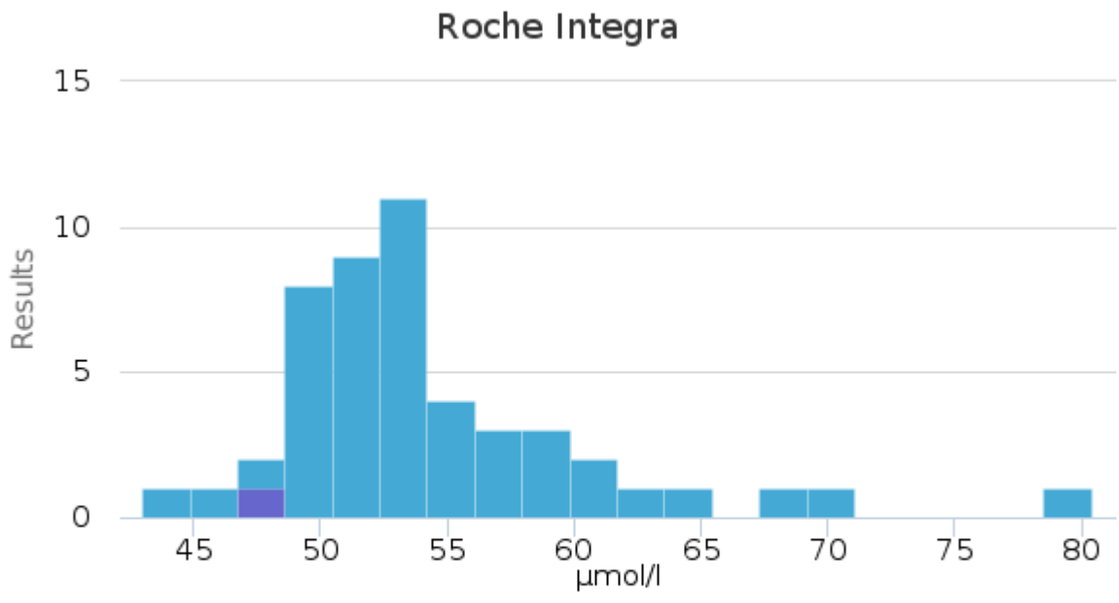
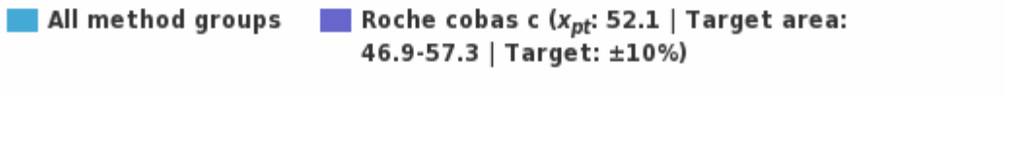
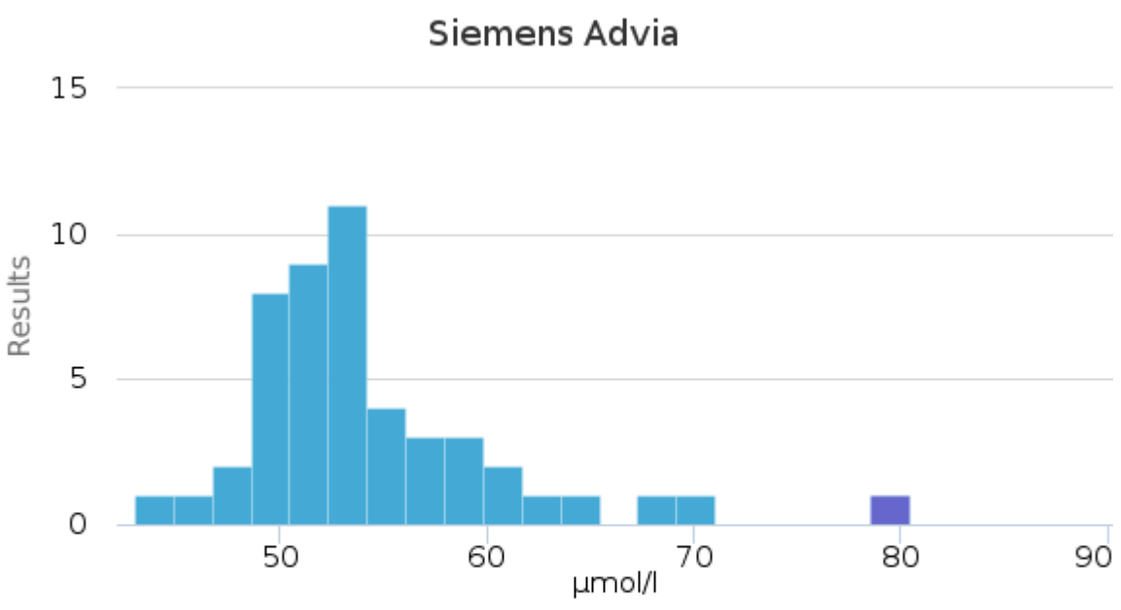
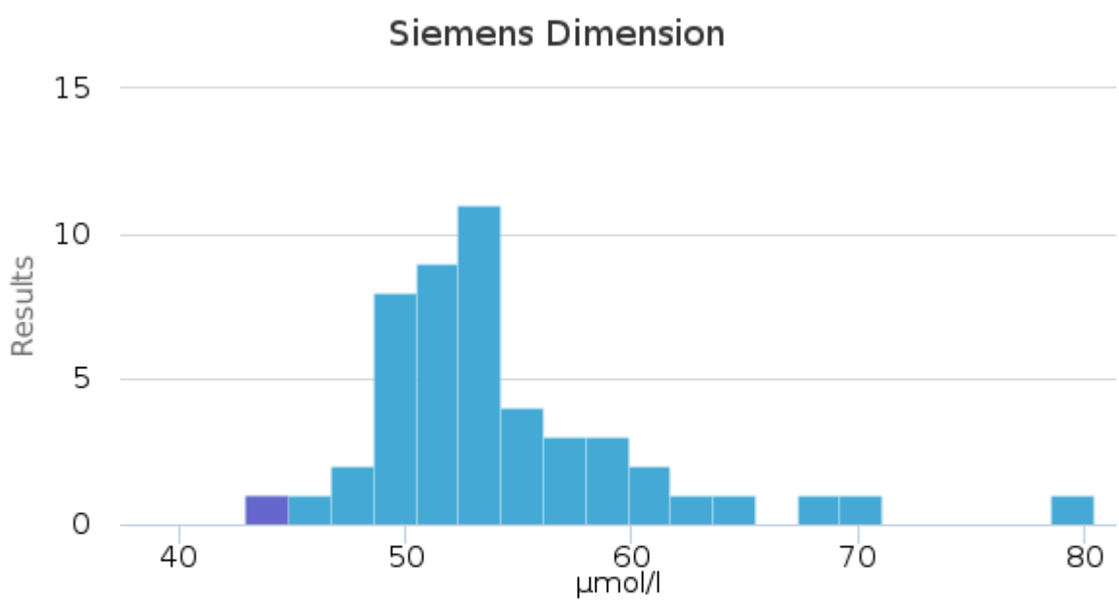
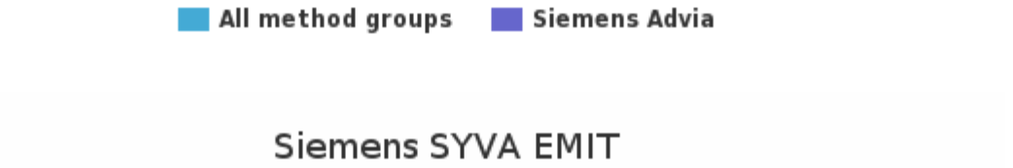


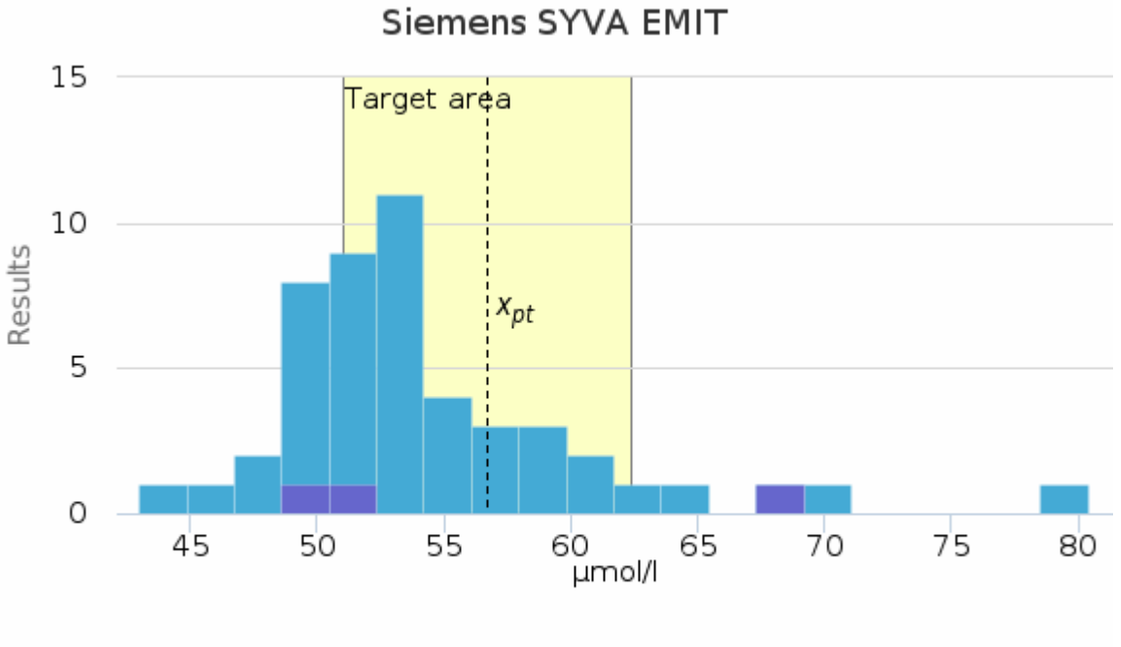


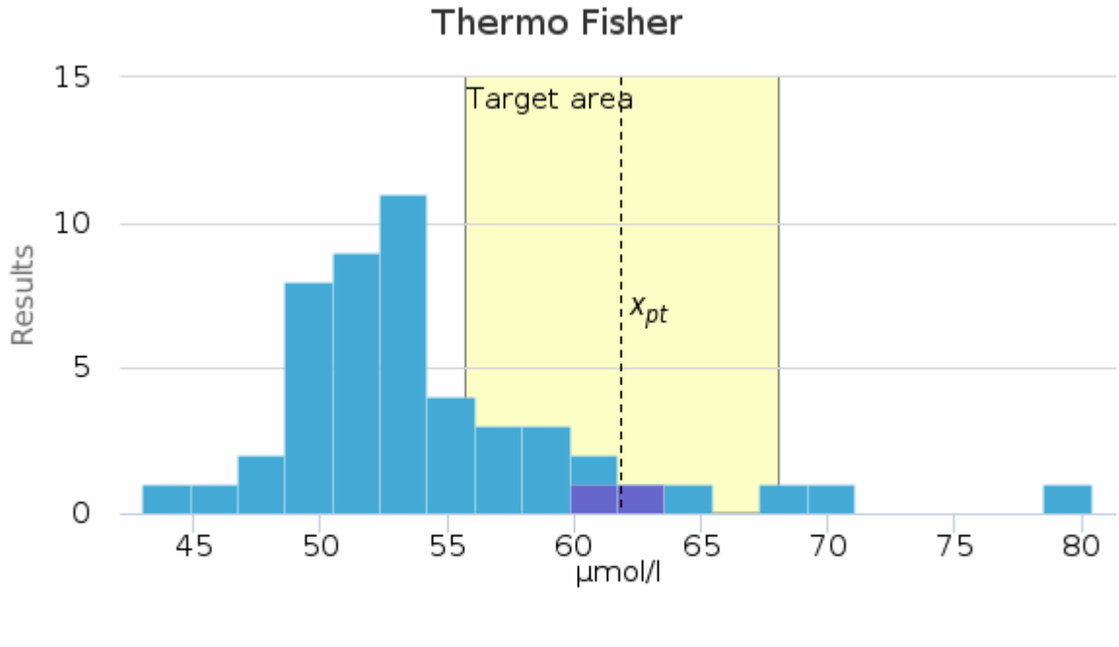


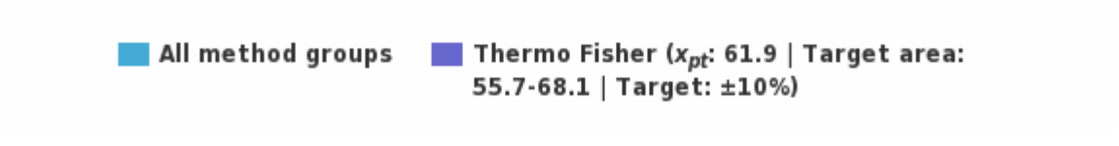








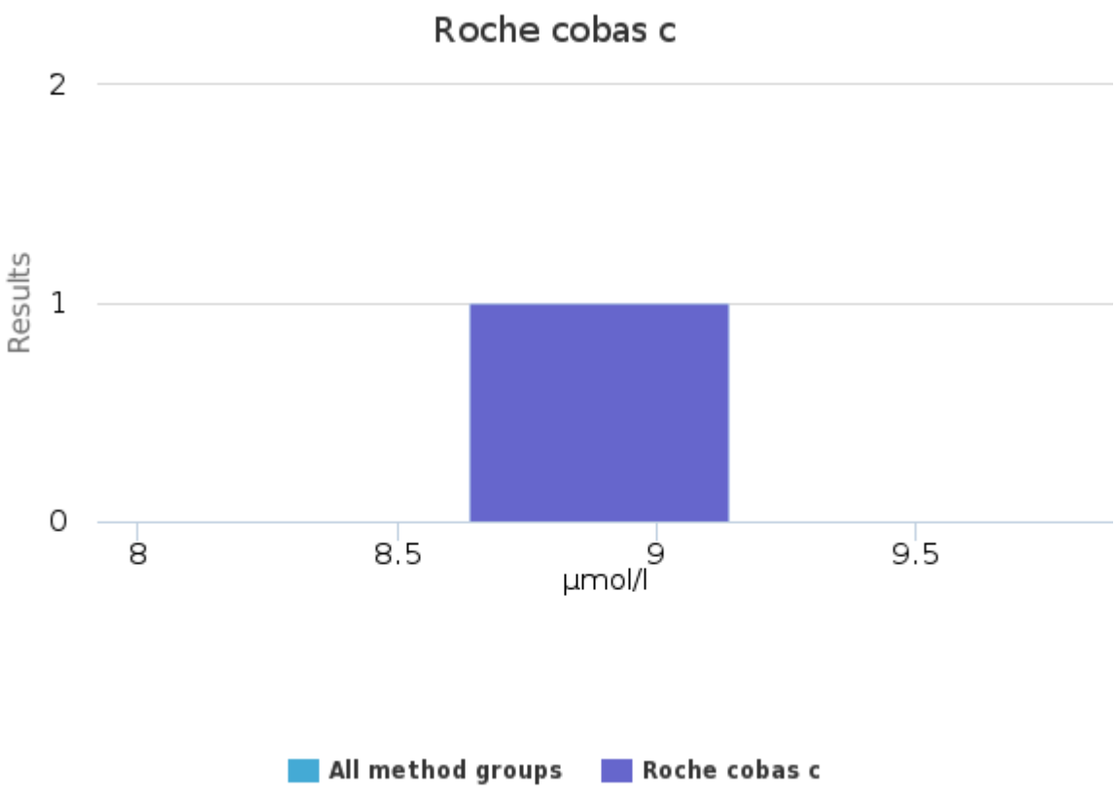




Sample S002 | Quinidine, µmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Roche cobas c	-	-	-	-	-	8.89	8.89	-	1
All	**-**	**-**	**-**	**-**	**-**	**8.89**	**8.89**	**-**	**1**

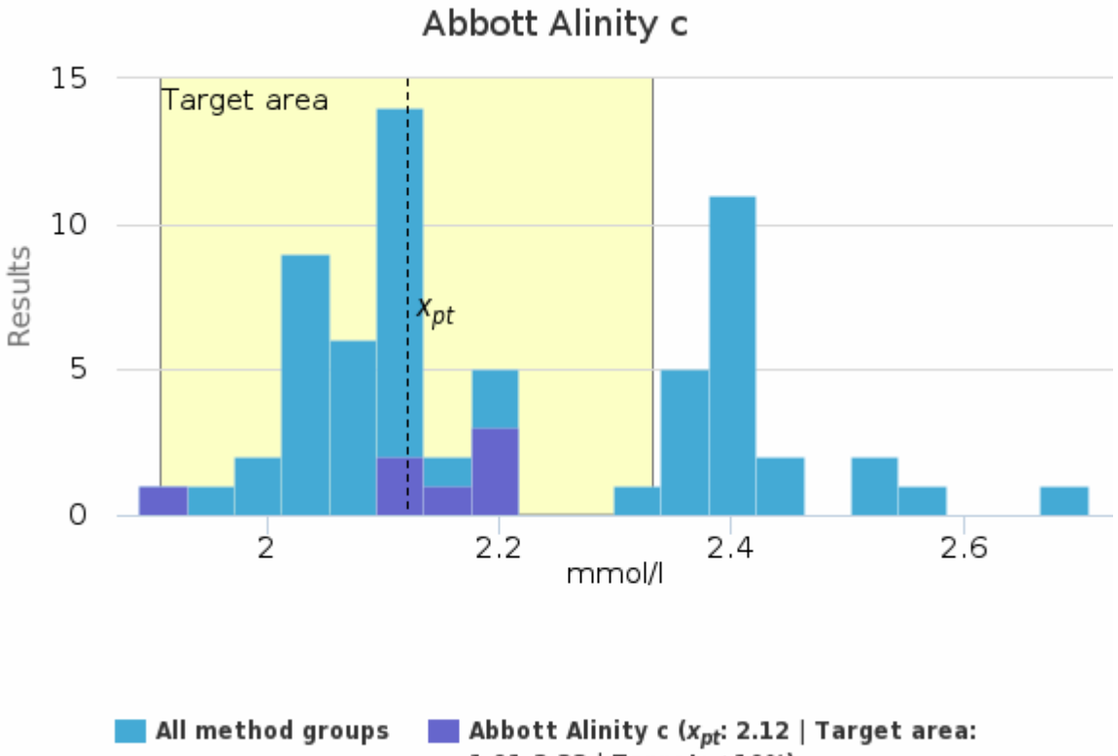
Sample S002 | Quinidine, µmol/l| histogram summaries in LabScala

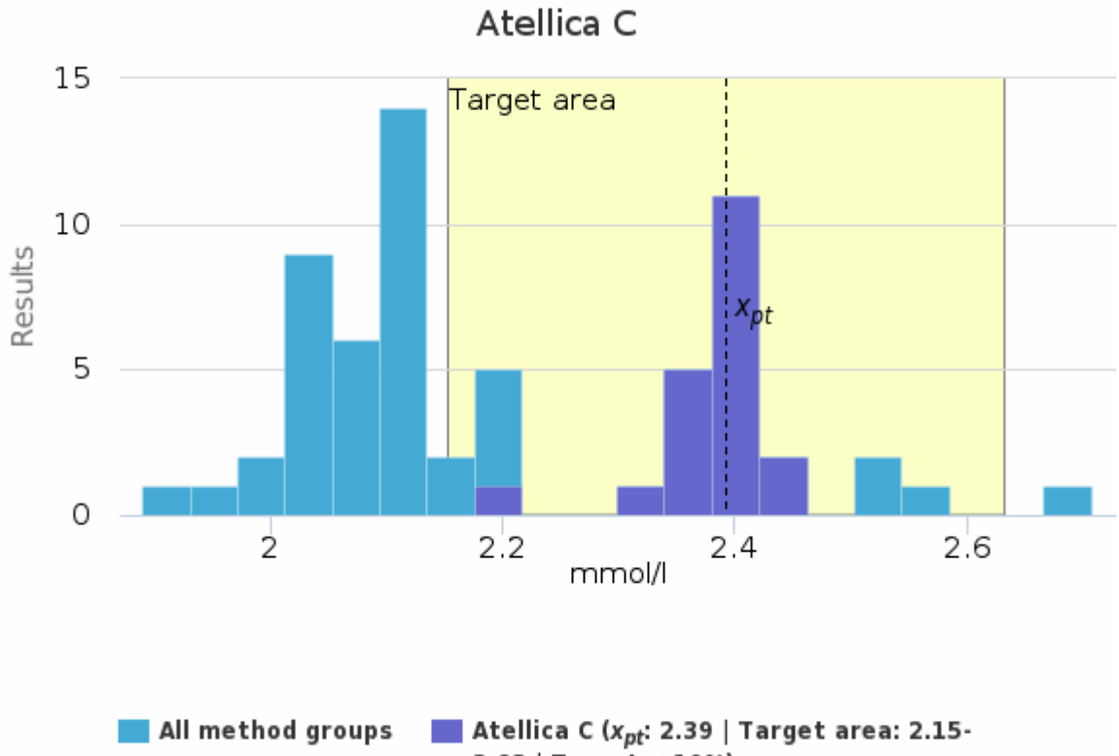


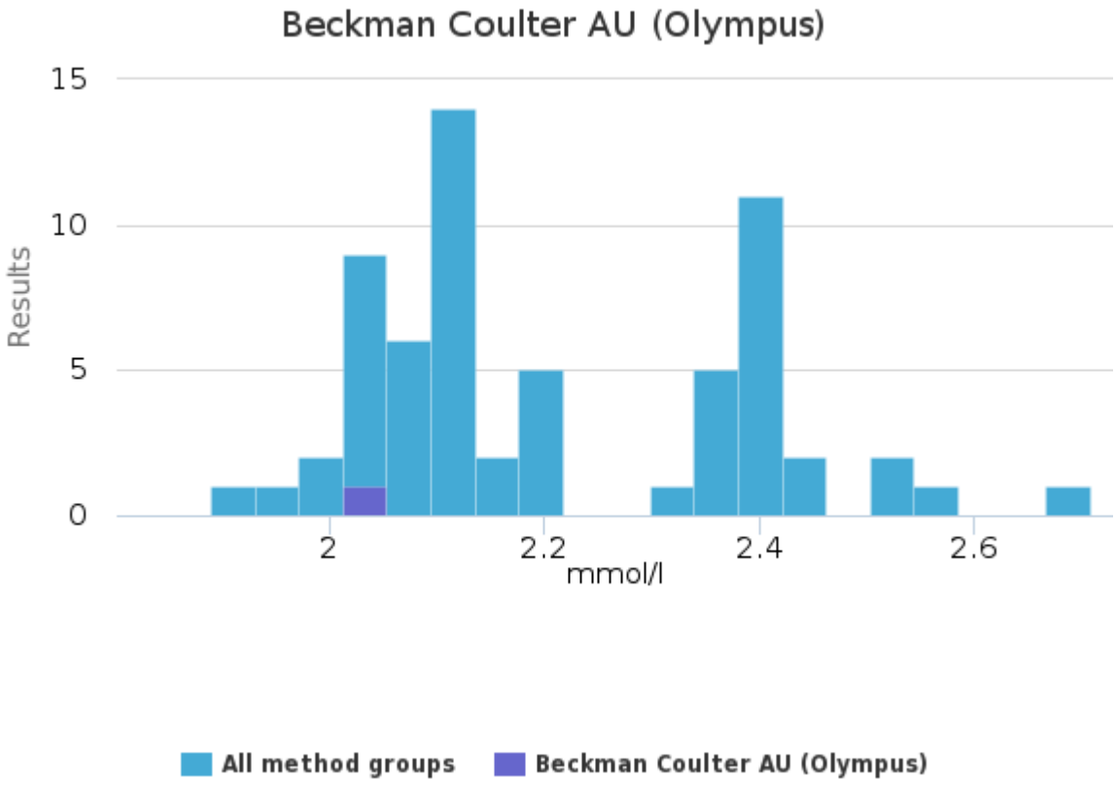
Sample S002 | Salicylate, mmol/l

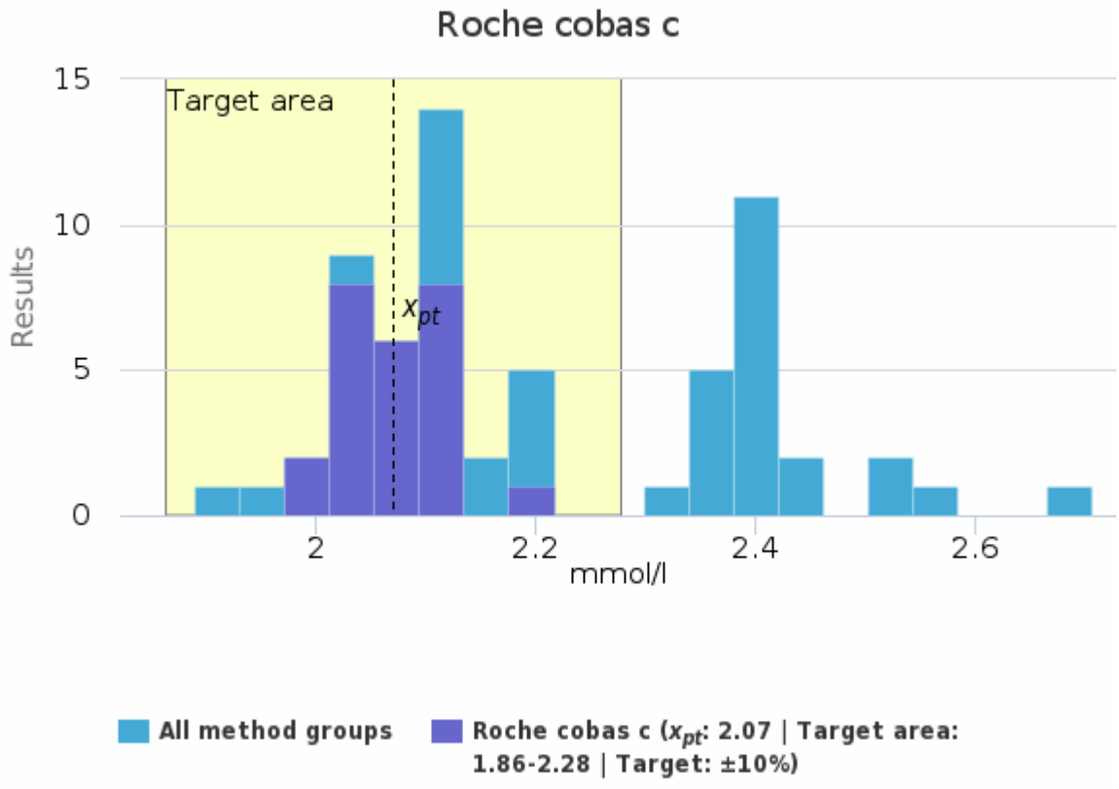
Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Abbott Alinity c	2.12	2.15	0.11	5.2	0.04	1.89	2.20	-	7
Atellica C	2.39	2.40	0.03	1.2	<0.01	2.34	2.46	1	20
Beckman Coulter AU (Olympus)	-	-	-	-	-	2.05	2.05	-	1
Roche cobas c	2.07	2.07	0.04	2.1	<0.01	2.00	2.19	-	25
Siemens Advia	2.55	2.55	0.04	1.4	0.03	2.52	2.57	-	2
Siemens Dimension	2.11	2.10	0.02	1.0	<0.01	2.10	2.14	-	5
Siemens SYVA EMIT	2.61	2.61	0.13	5.1	0.09	2.52	2.71	-	2
Trinder reagent	-	-	-	-	-	1.96	1.96	-	1
All	**2.20**	**2.12**	**0.17**	**7.7**	**0.02**	**1.89**	**2.57**	**1**	**63**

Sample S002 | Salicylate, mmol/l| histogram summaries in LabScala









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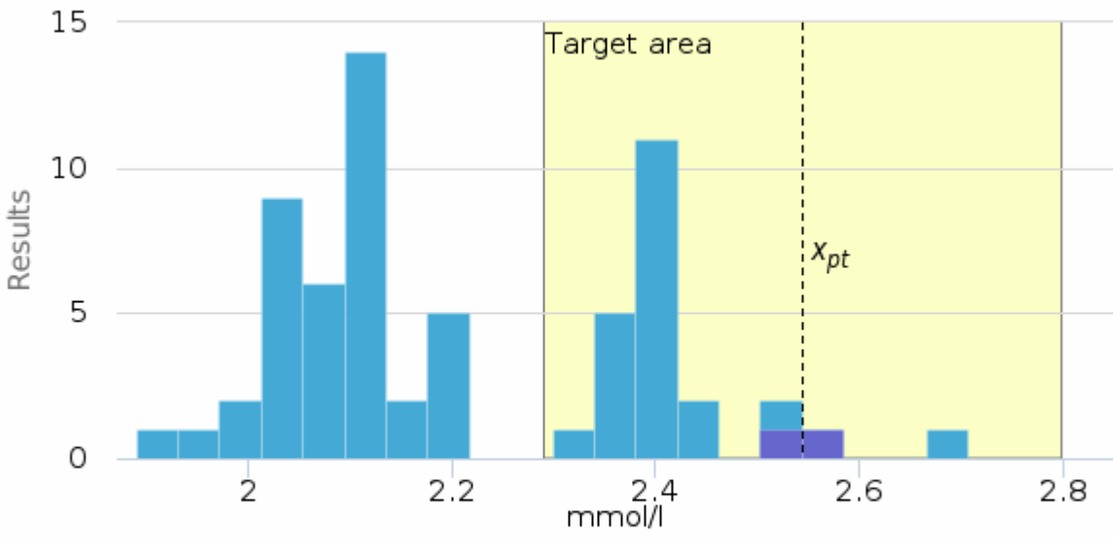
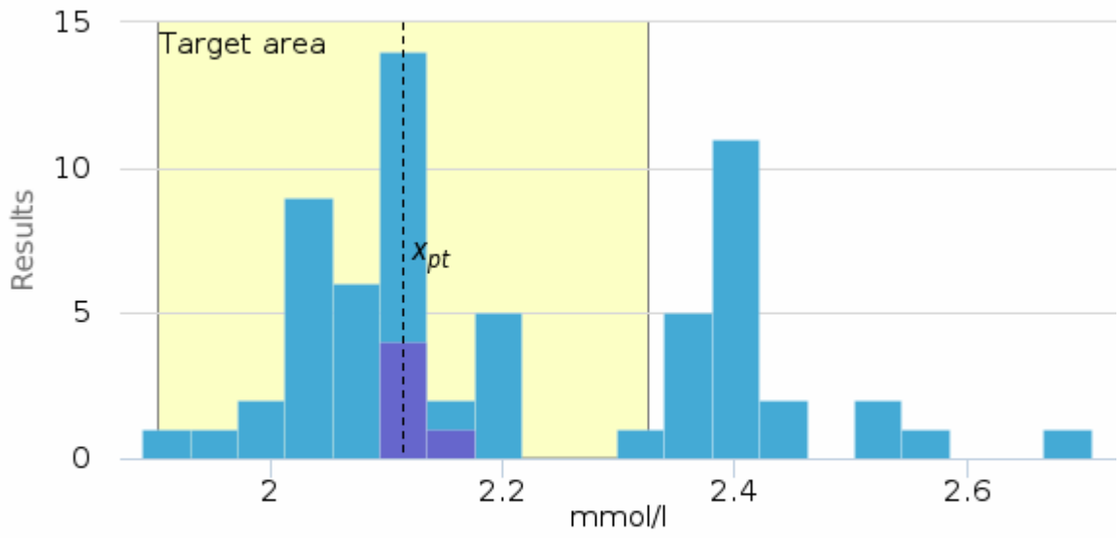
Siemens Advia



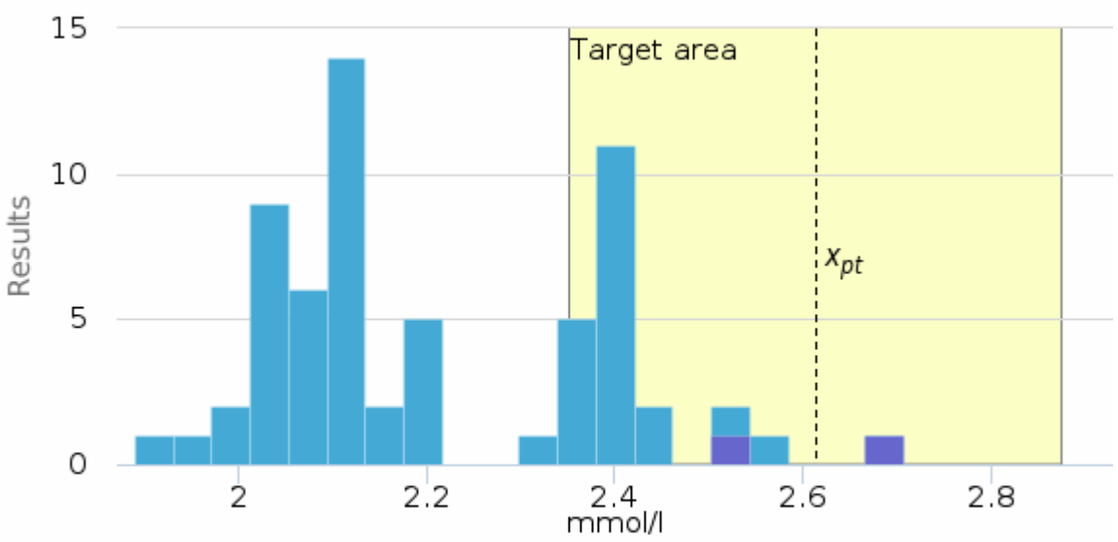
All method groups | Siemens Advia (x_{pt}: 2.55 | Target area: 2.29-2.80 | Target: ±10%)

Siemens Dimension



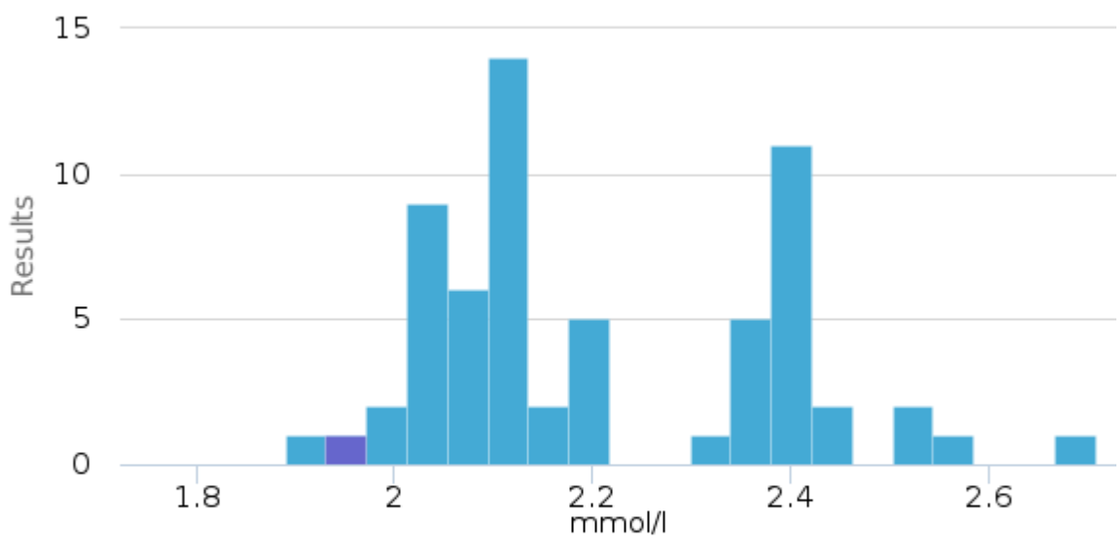
All method groups | Siemens Dimension (x_{pt}: 2.11 | Target area: 1.90-2.33 | Target: ±10%)

Siemens SYVA EMIT



All method groups | Siemens SYVA EMIT (x_{pt}: 2.61 | Target area: 2.35-2.88 | Target: ±10%)

Trinder reagent

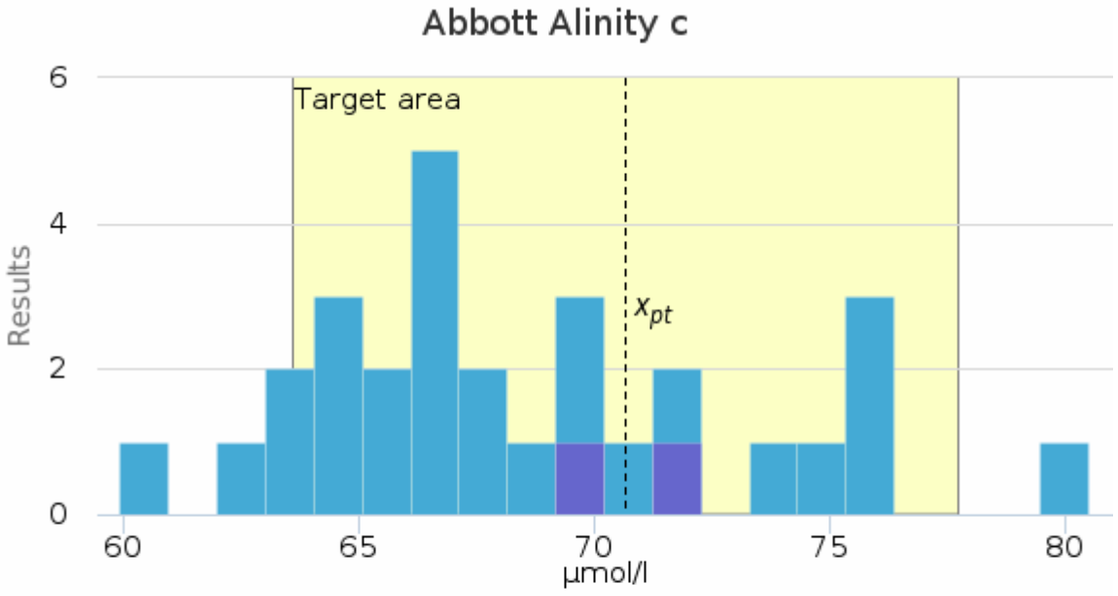


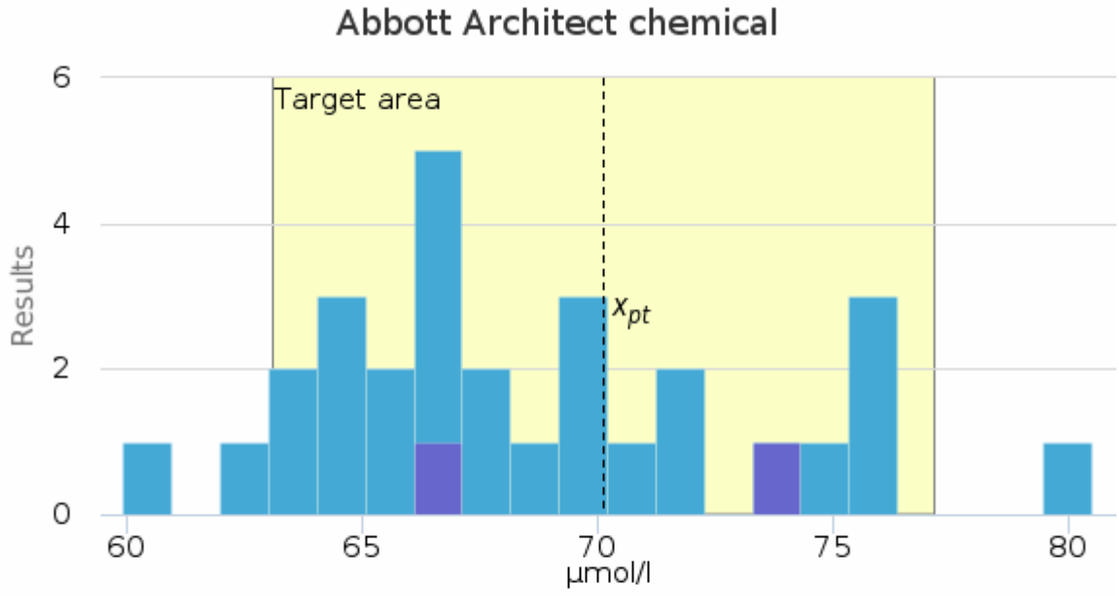
All method groups | Trinder reagent

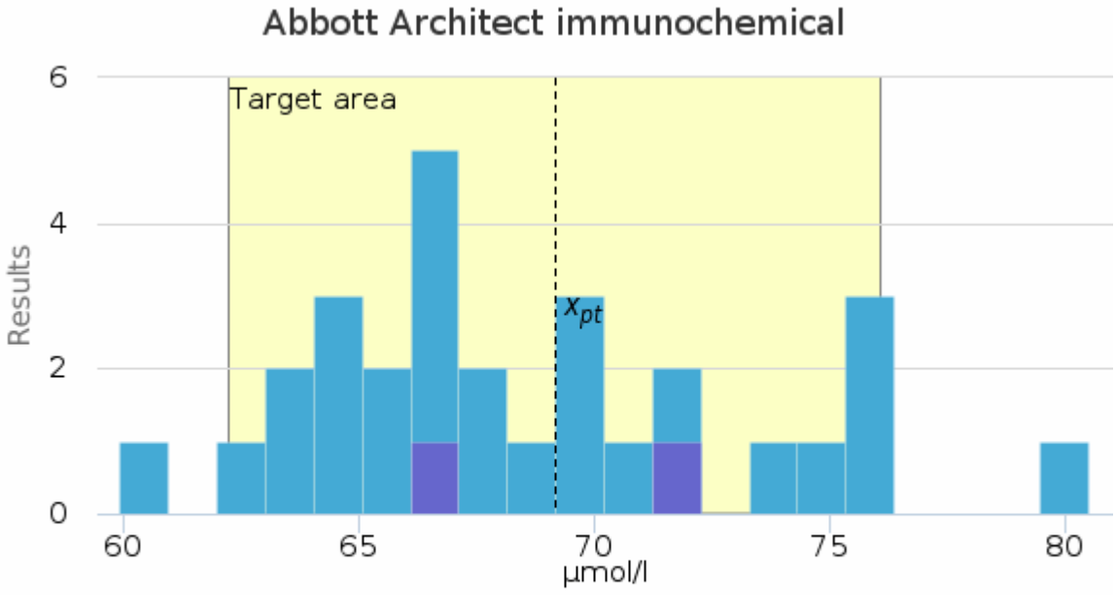
Sample S002 | Theophylline, µmol/l

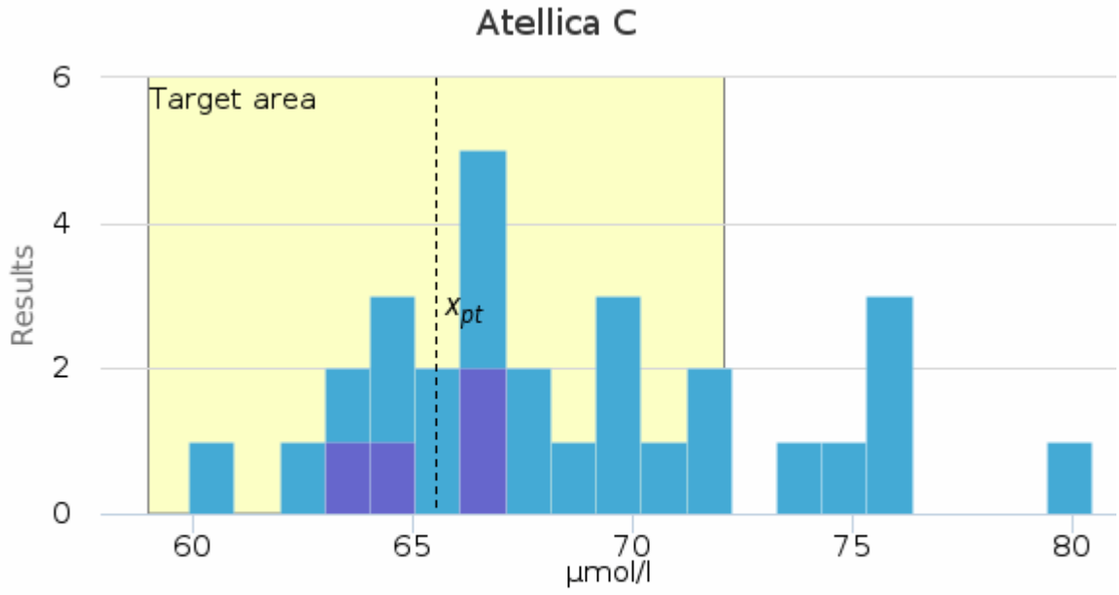
Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Abbott Alinity c	70.7	70.7	1.9	2.7	1.4	69.3	72.0	-	2
Abbott Architect chemical	70.1	70.1	4.8	6.9	3.4	66.7	73.6	-	2
Abbott Architect immunochemical	69.2	69.2	4.2	6.1	3.0	66.2	72.2	-	2
Atellica C	65.5	65.7	1.5	2.2	0.7	63.8	67.0	-	4
Roche cobas c	68.1	67.5	3.9	5.8	1.1	62.4	76.0	-	13
Siemens SYVA EMIT	69.9	69.7	9.6	13.8	4.8	59.9	80.5	-	4
Thermo Fisher	72.6	72.6	4.9	6.8	3.5	69.1	76.0	-	2
All	**68.7**	**67.5**	**4.8**	**6.9**	**0.9**	**59.9**	**80.5**	**-**	**29**

Sample S002 | Theophylline, µmol/l| histogram summaries in LabScala



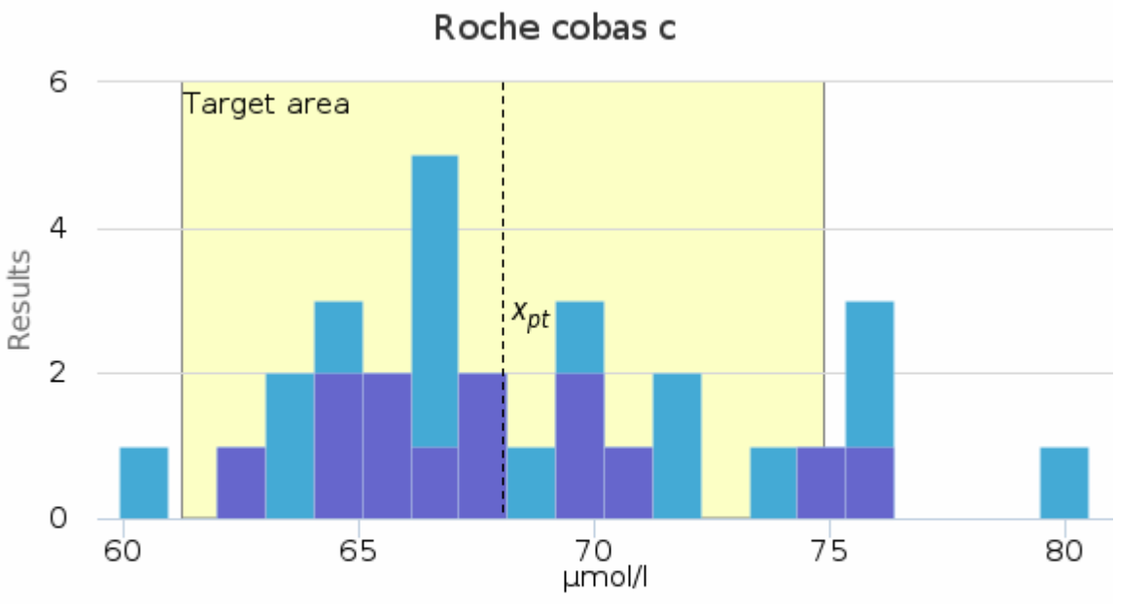


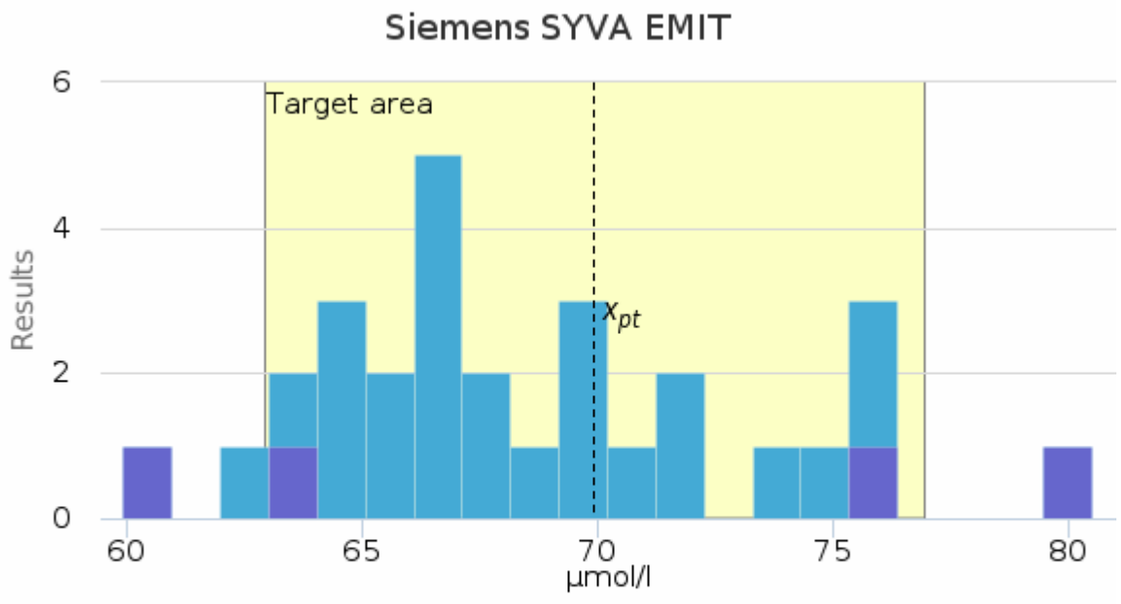


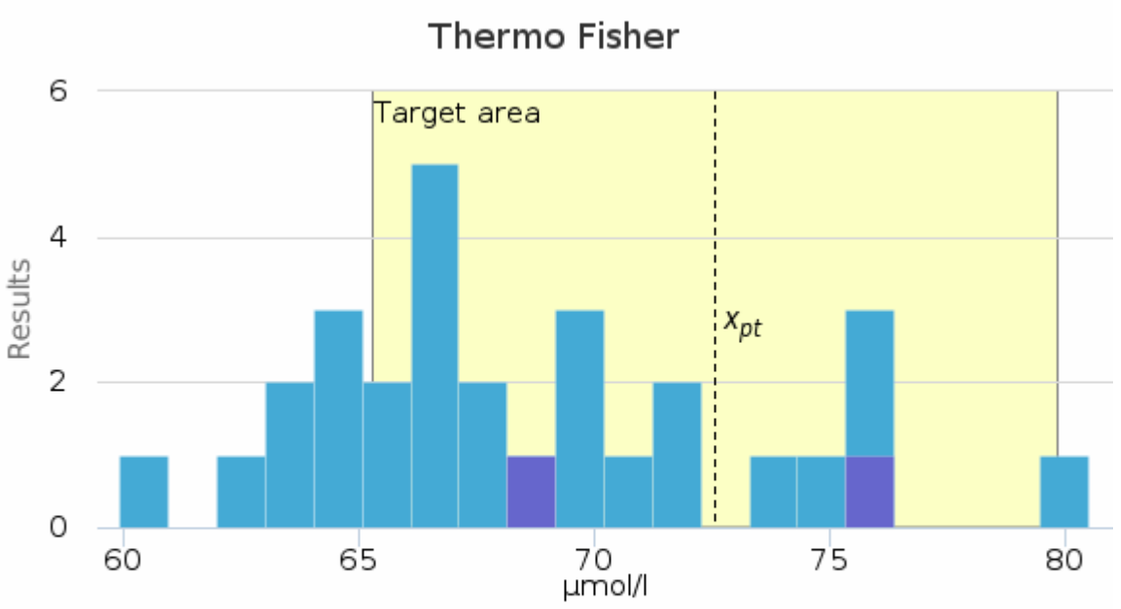


Therapeutic drugs, March, 1-2023

Quantitative report



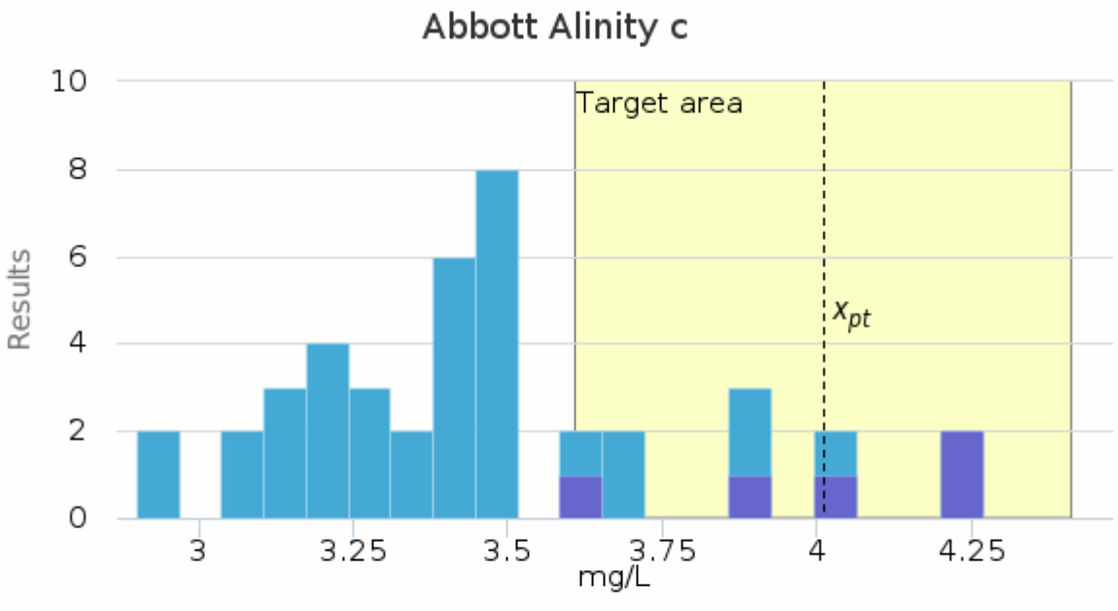


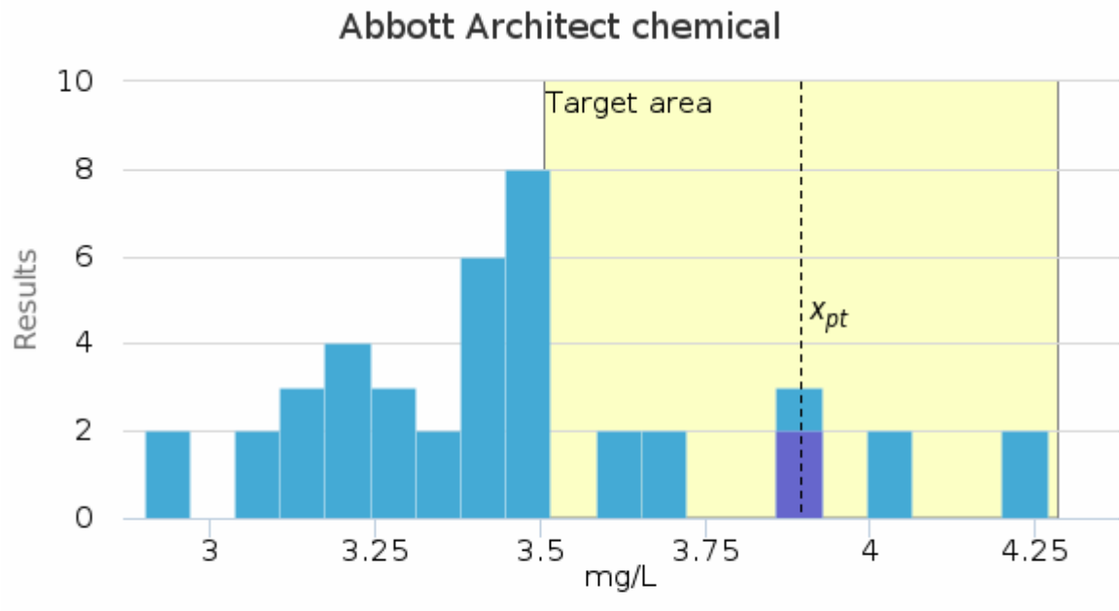


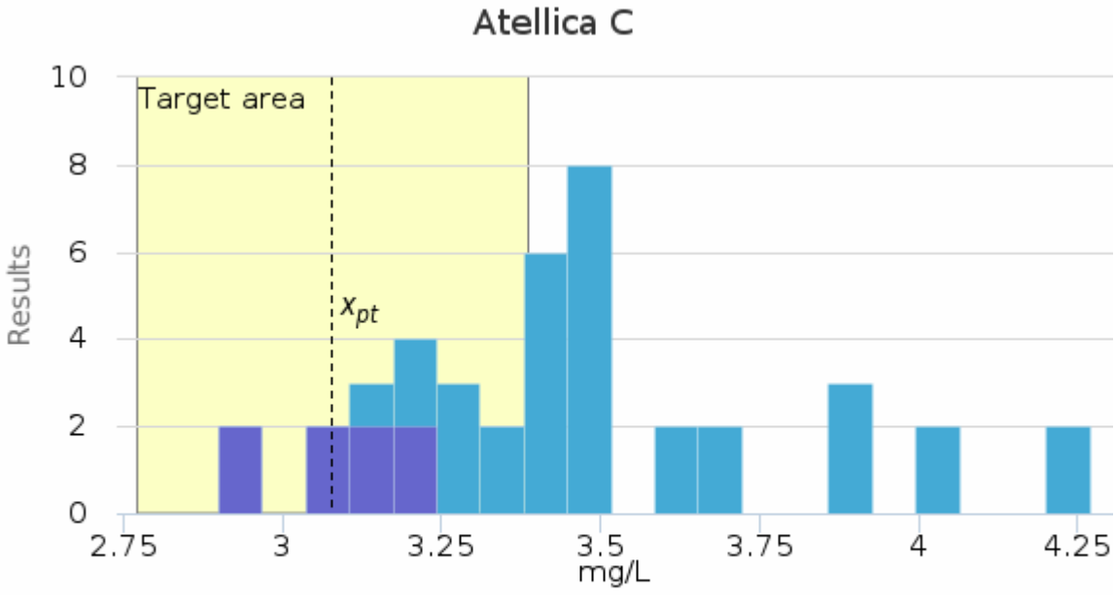
Sample S002 | Tobramycin, mg/L

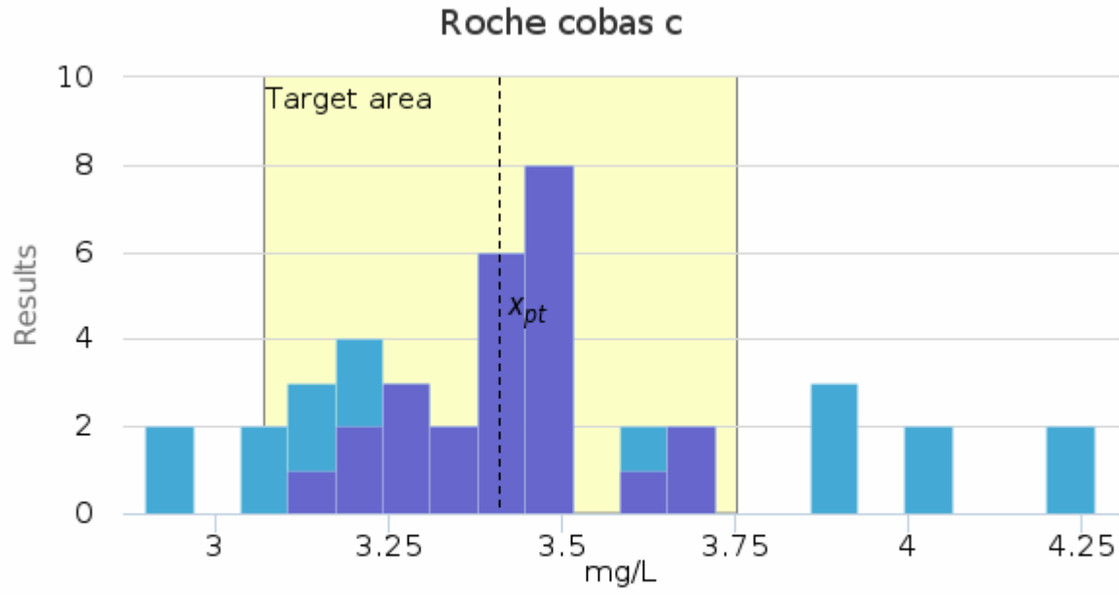
Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Abbott Alinity c	4.0	4.0	0.3	6.5	0.1	3.6	4.3	-	5
Abbott Architect chemical	3.9	3.9	<0.1	0.2	<0.1	3.9	3.9	-	2
Atellica C	3.1	3.1	0.1	4.0	<0.1	2.9	3.2	-	8
Roche cobas c	3.4	3.4	0.1	4.2	<0.1	3.1	3.7	-	25
Thermo Fisher	-	-	-	-	-	4.0	4.0	-	1
All	**3.5**	**3.4**	**0.3**	**9.5**	**<0.1**	**2.9**	**4.3**	**-**	**41**

Sample S002 | Tobramycin, mg/L| histogram summaries in LabScala



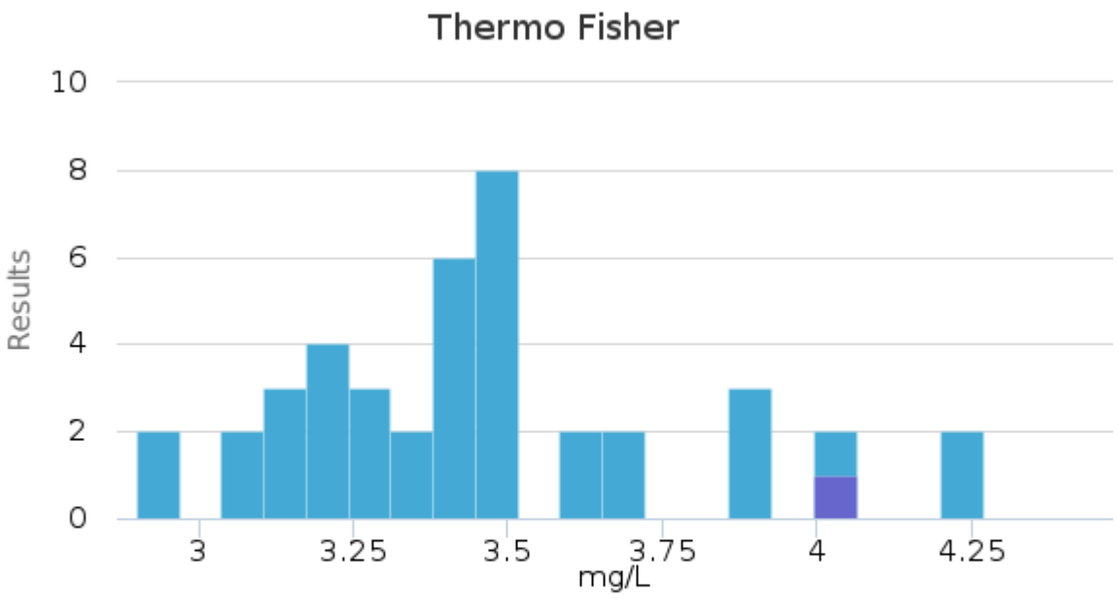






Therapeutic drugs, March, 1-2023

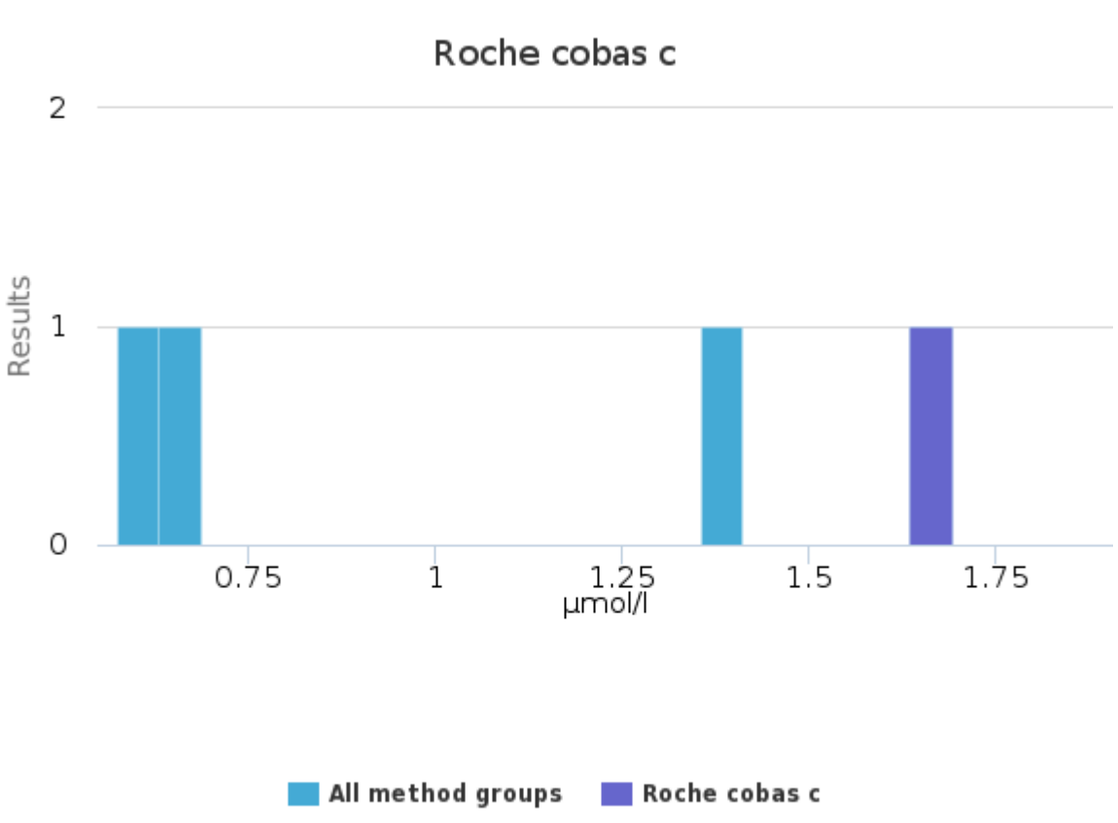
Quantitative report

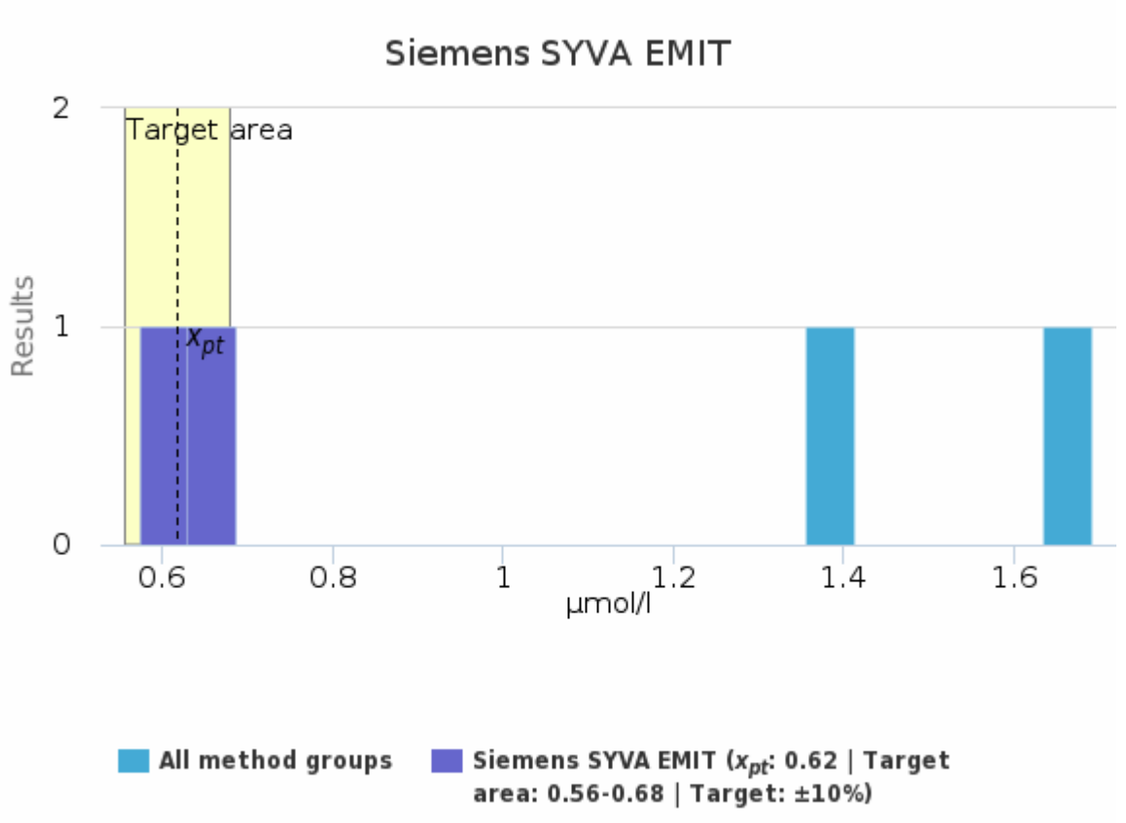


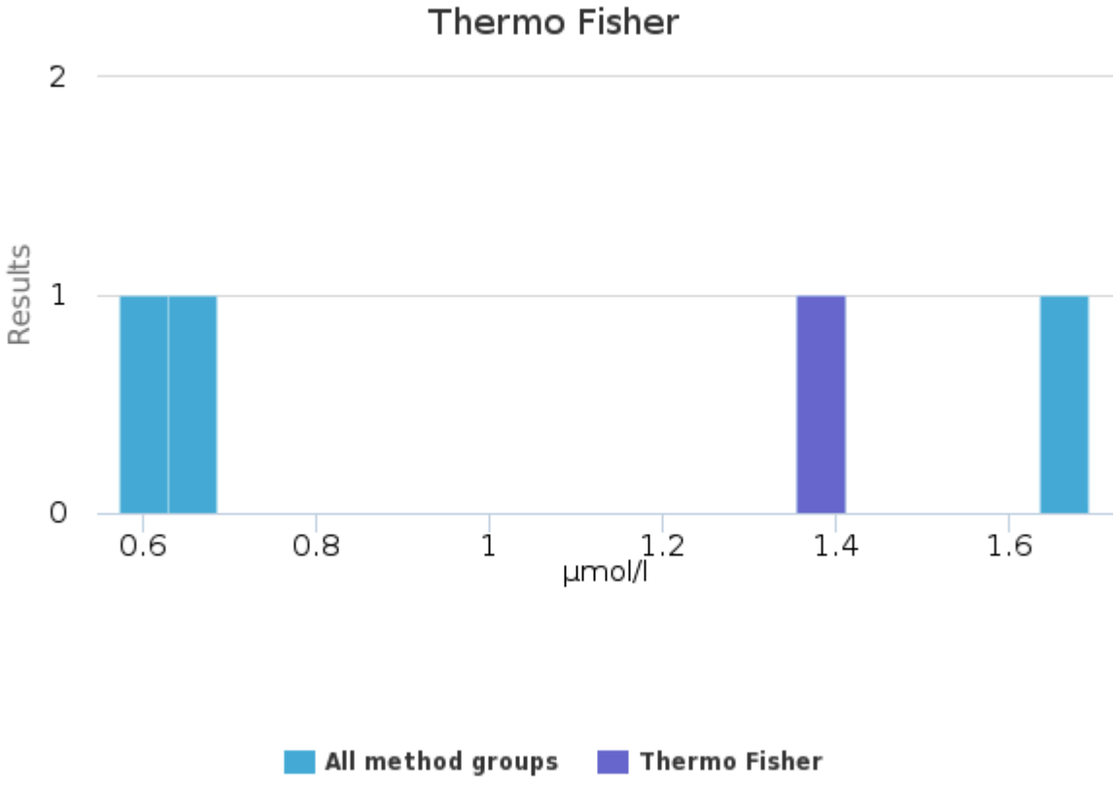
Sample S002 | Tricyclics, µmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Roche cobas c	-	-	-	-	-	1.69	1.69	-	1
Siemens SYVA EMIT	0.62	0.62	0.06	9.9	0.04	0.57	0.66	-	2
Thermo Fisher	-	-	-	-	-	1.41	1.41	-	1
All	**1.08**	**1.04**	**0.55**	**50.9**	**0.28**	**0.57**	**1.69**	**-**	**4**

Sample S002 | Tricyclics, µmol/l| histogram summaries in LabScala



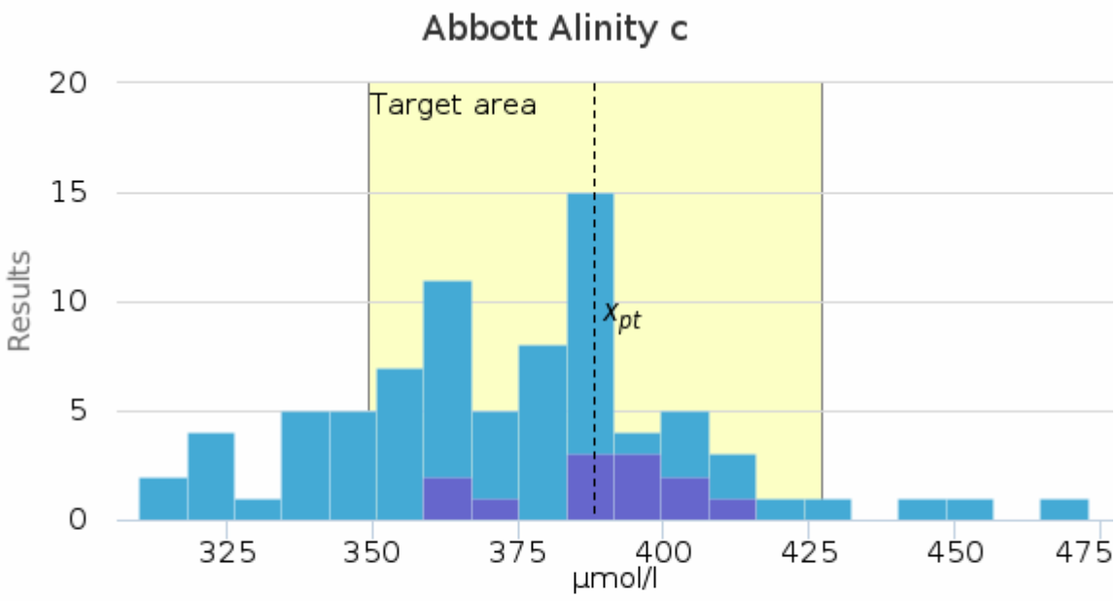


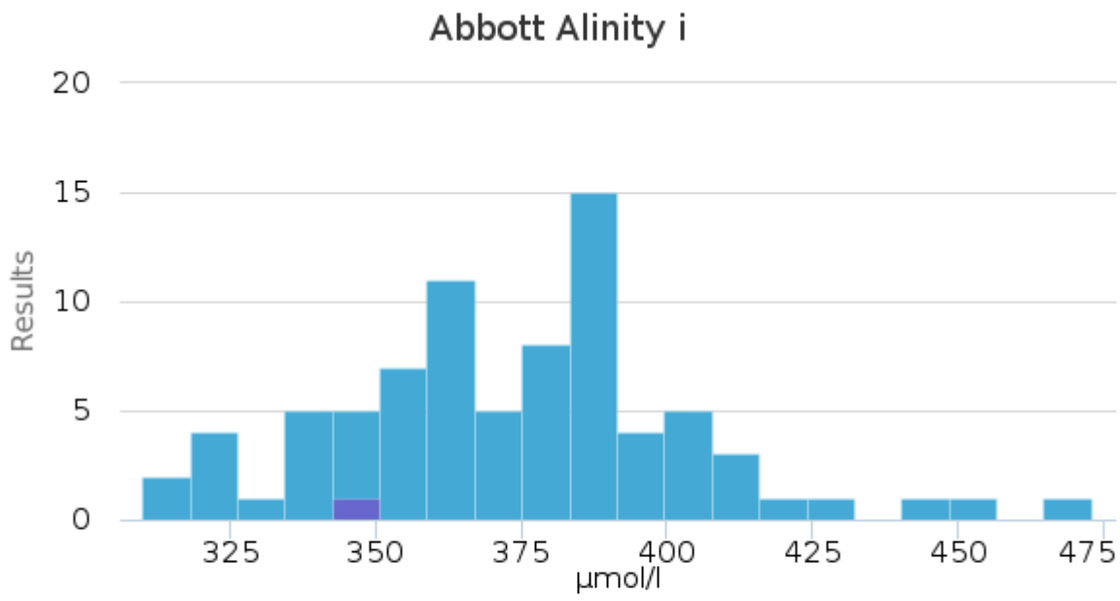


Sample S002 | Valproic acid, µmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Abbott Alinity c	388	392	14	3.7	4	364	409	-	12
Abbott Alinity i	-	-	-	-	-	347	347	-	1
Abbott Architect chemical	379	385	12	3.1	7	365	386	-	3
Abbott Architect immunochemical	396	386	24	6.1	14	379	424	-	3
Atellica C	385	387	10	2.5	3	366	401	-	10
Beckman Coulter AU (Olympus)	367	370	13	3.6	8	352	378	-	3
Roche cobas c	351	352	22	6.3	4	310	394	-	35
Roche Integra	366	366	5	1.4	4	363	370	-	2
Siemens Advia	-	-	-	-	-	473	473	-	1
Siemens Dimension	413	410	10	2.4	6	405	424	-	3
Siemens SYVA EMIT	395	381	33	8.3	15	363	446	-	5
Thermo Fisher	430	430	37	8.6	26	404	456	-	2
All	**372**	**370**	**29**	**7.7**	**3**	**310**	**456**	**1**	**80**

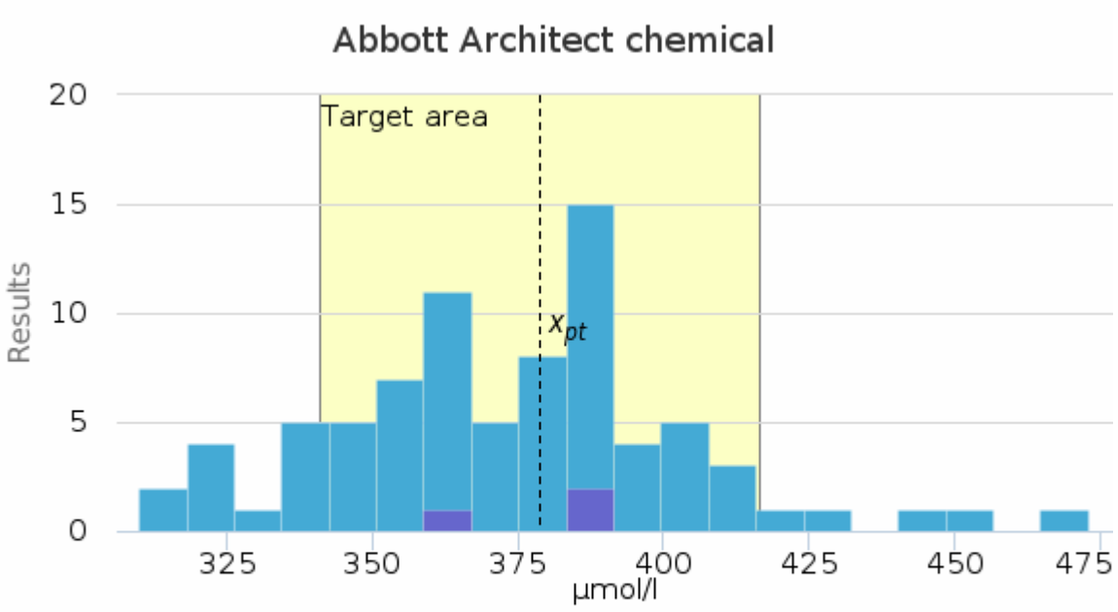
Sample S002 | Valproic acid, µmol/l| histogram summaries in LabScala

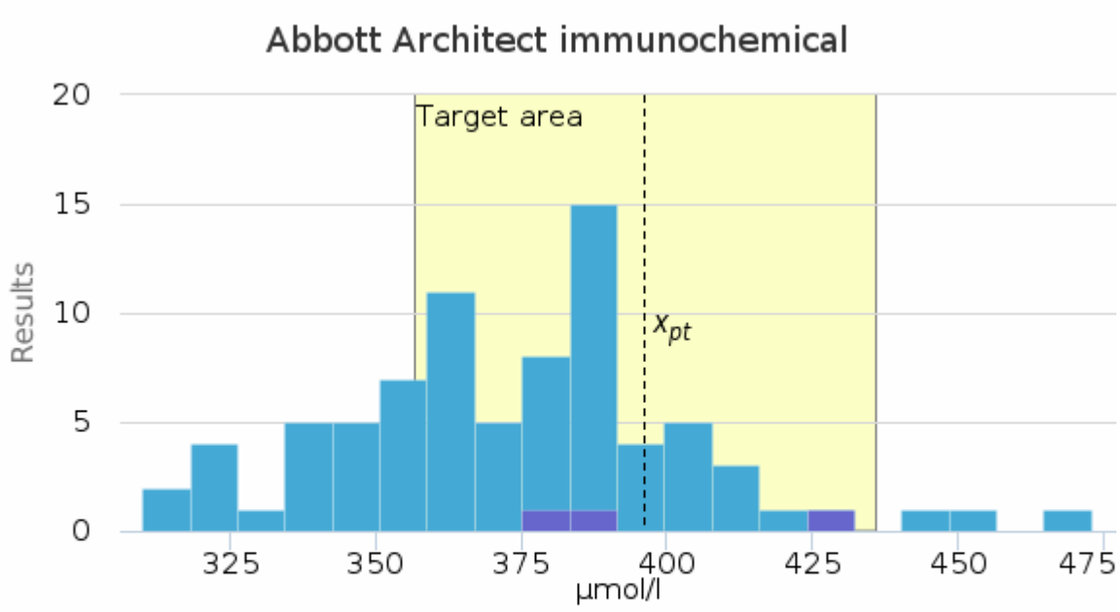




All method groups Abbott Alinity c (x_{pt}: 388 | Target area: 349-427 | Target: ±10%)

All method groups Abbott Alinity i



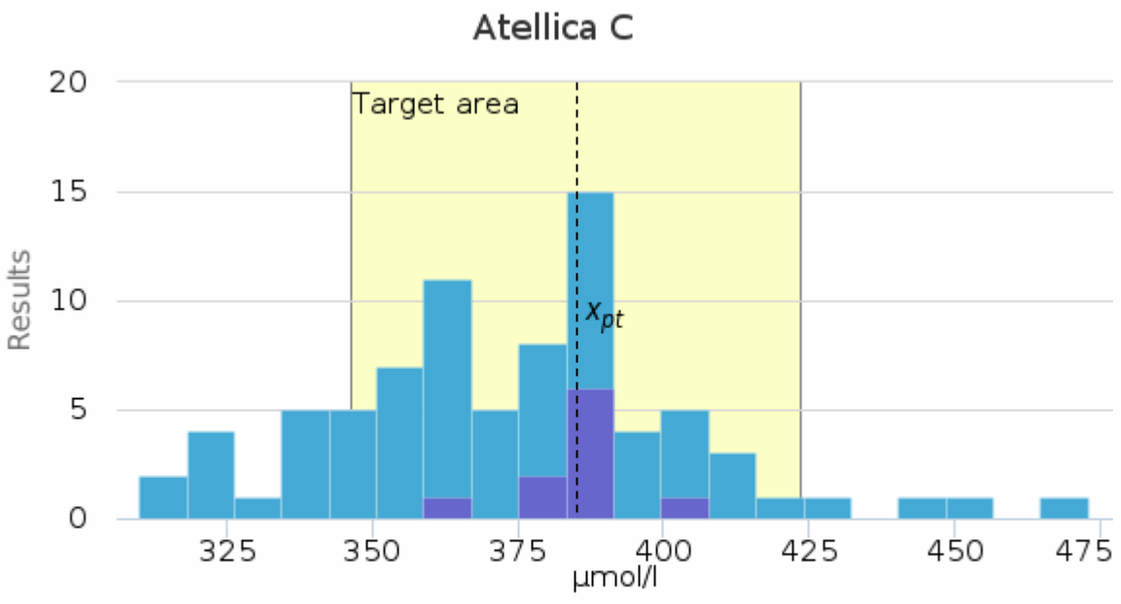


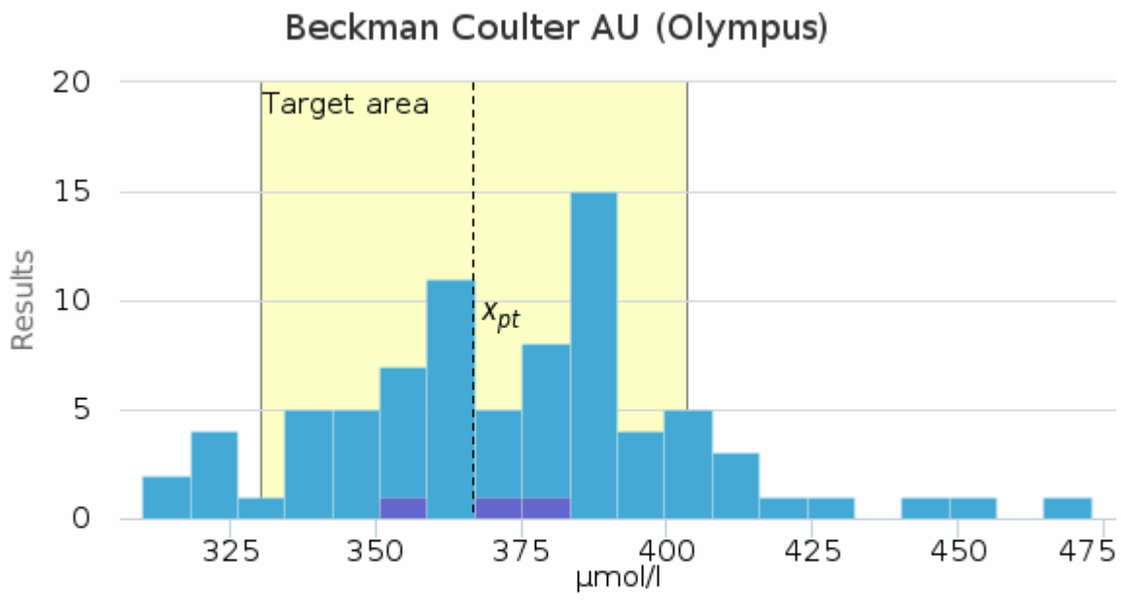
All method groups Abbott Architect chemical (x_{pt}: 379 | Target area: 341-417 | Target: ±10%)

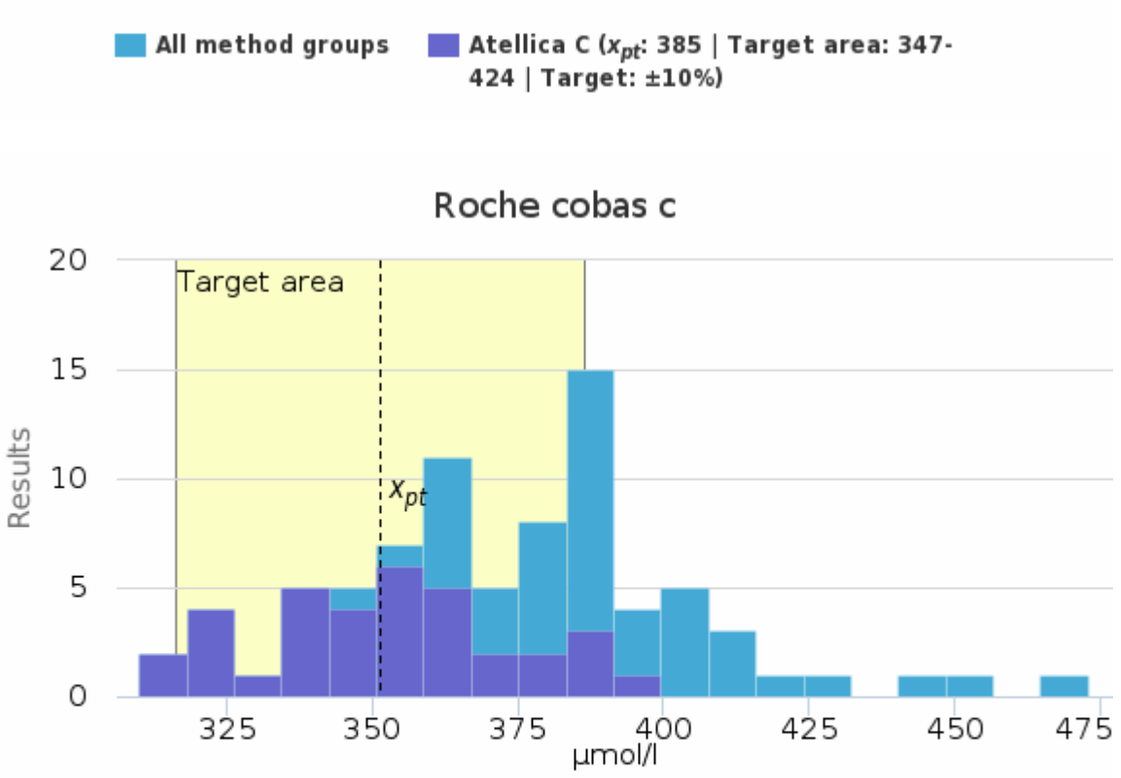
All method groups Abbott Architect immunochemical (x_{pt}: 396 | Target area: 357-436 | Target: ±10%)

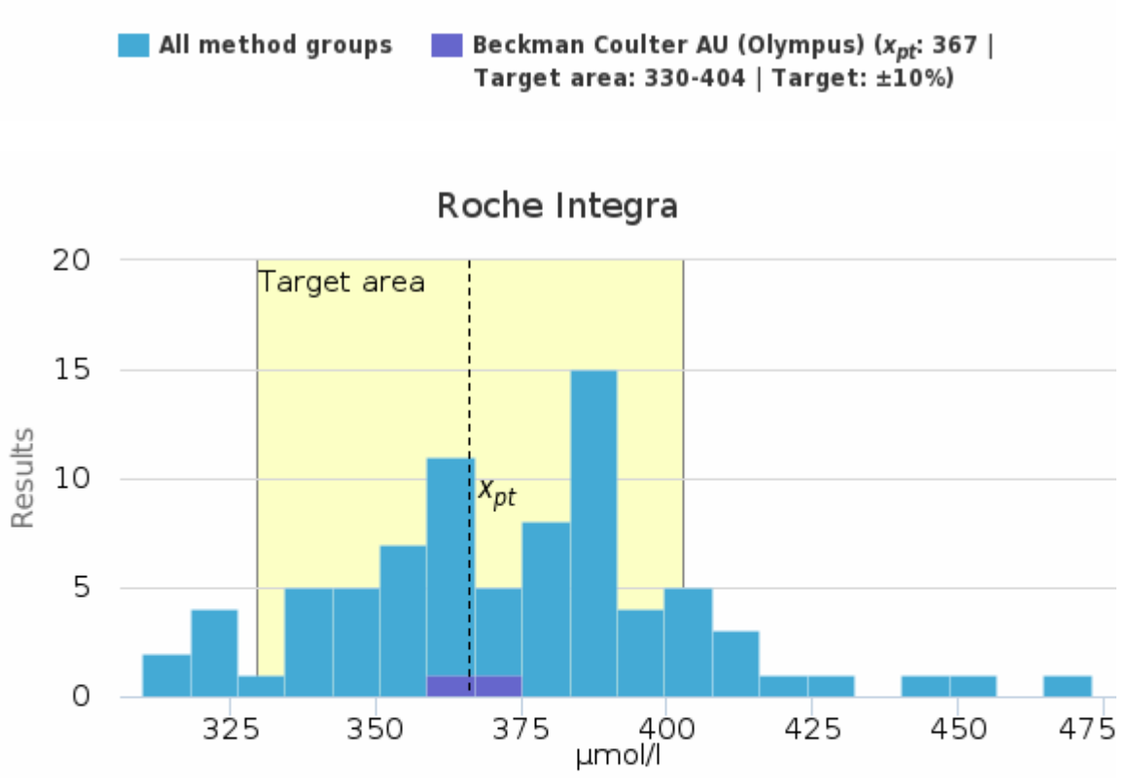
Therapeutic drugs, March, 1-2023

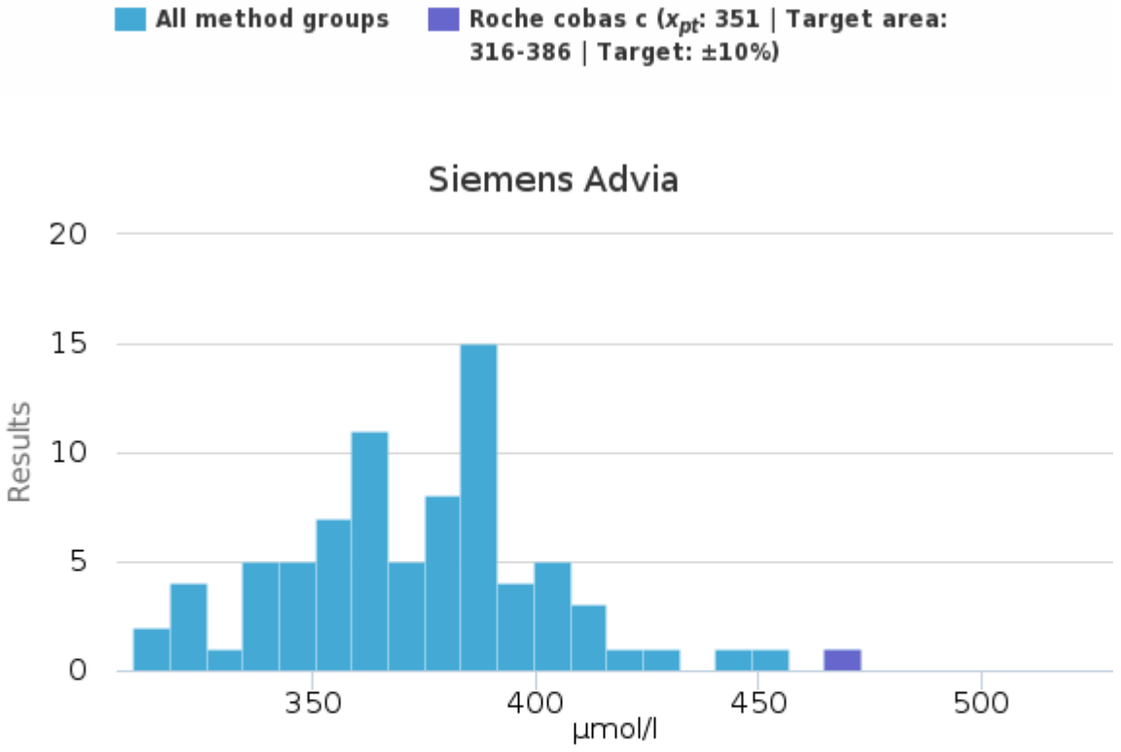
Quantitative report

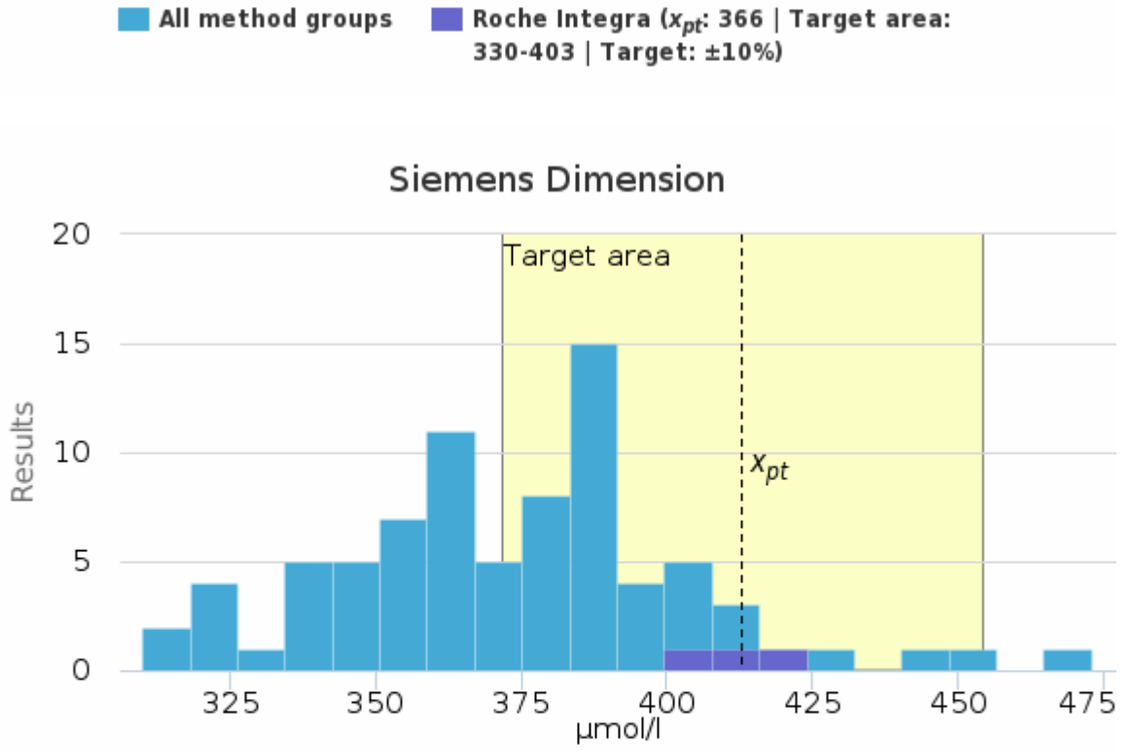








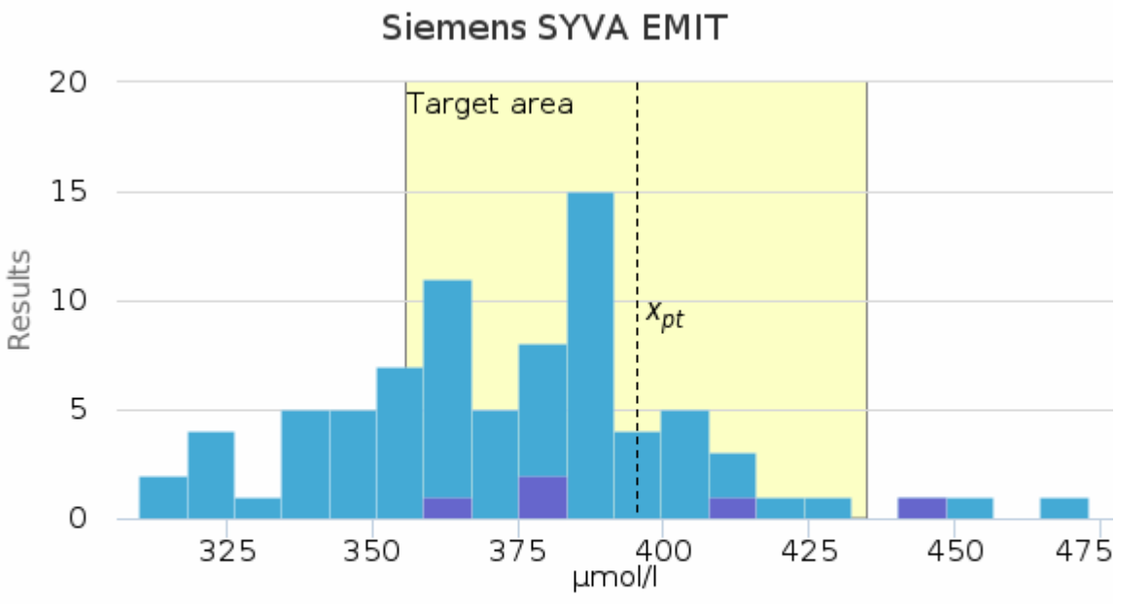


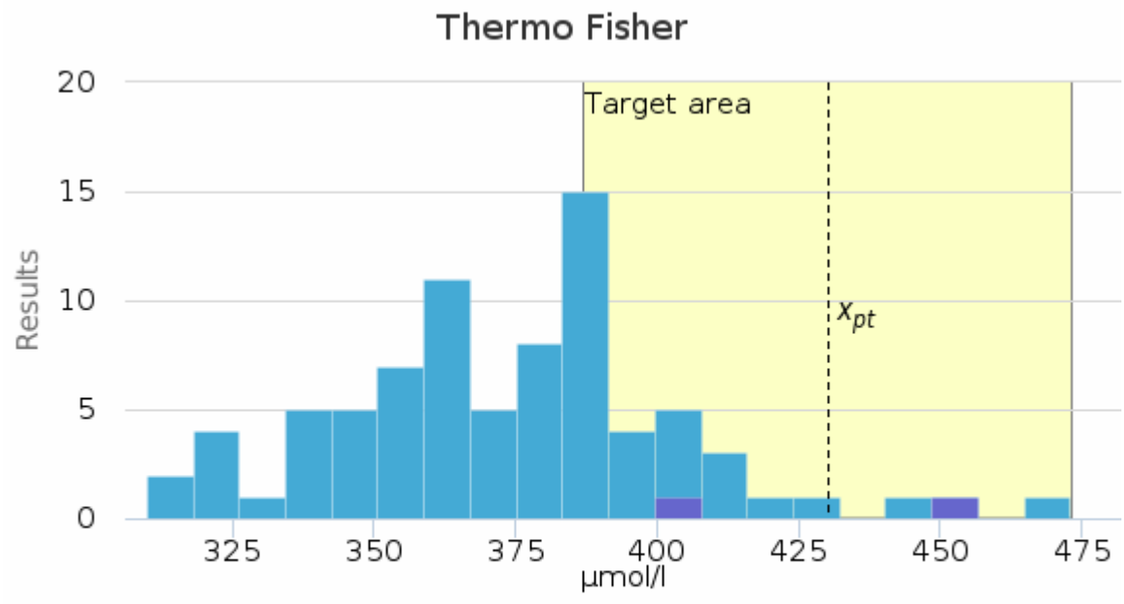


LABQUALITY

Therapeutic drugs, March, 1-2023

Quantitative report

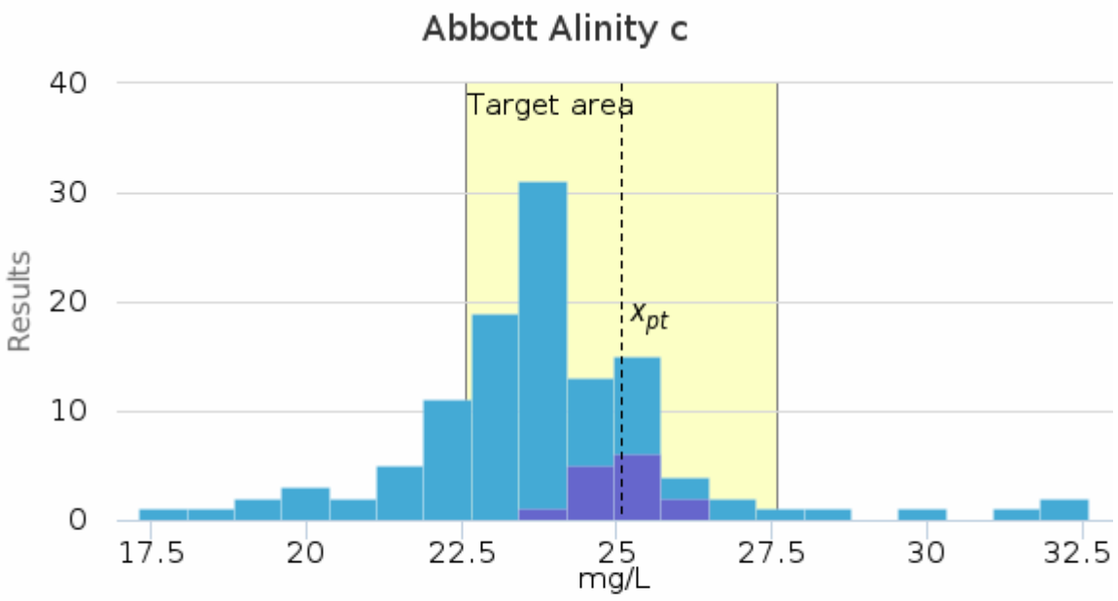


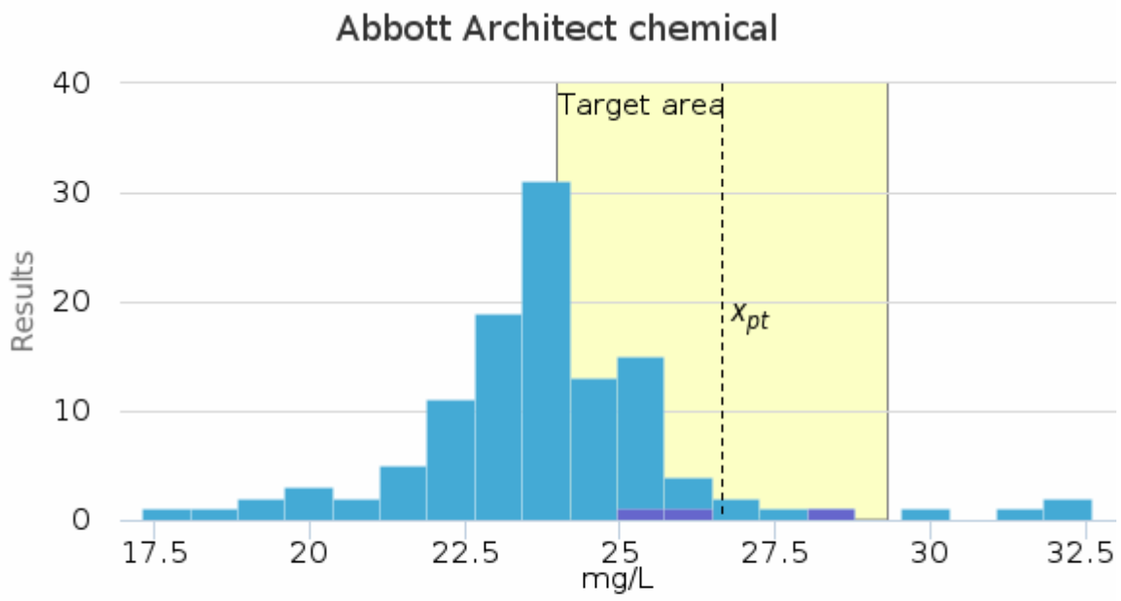


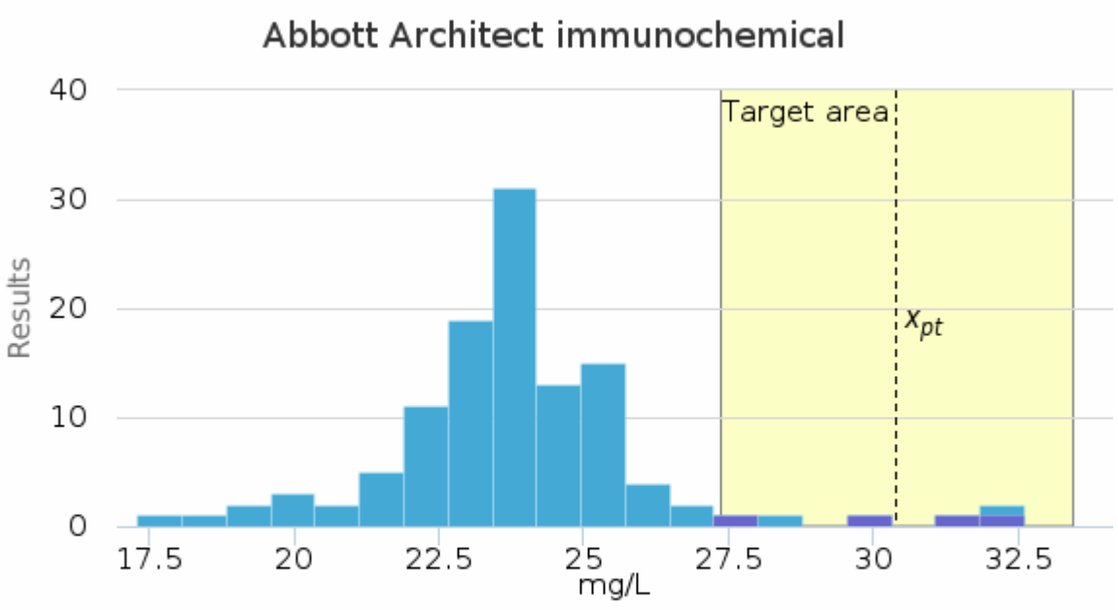
Sample S002 | Vancomycin, mg/L

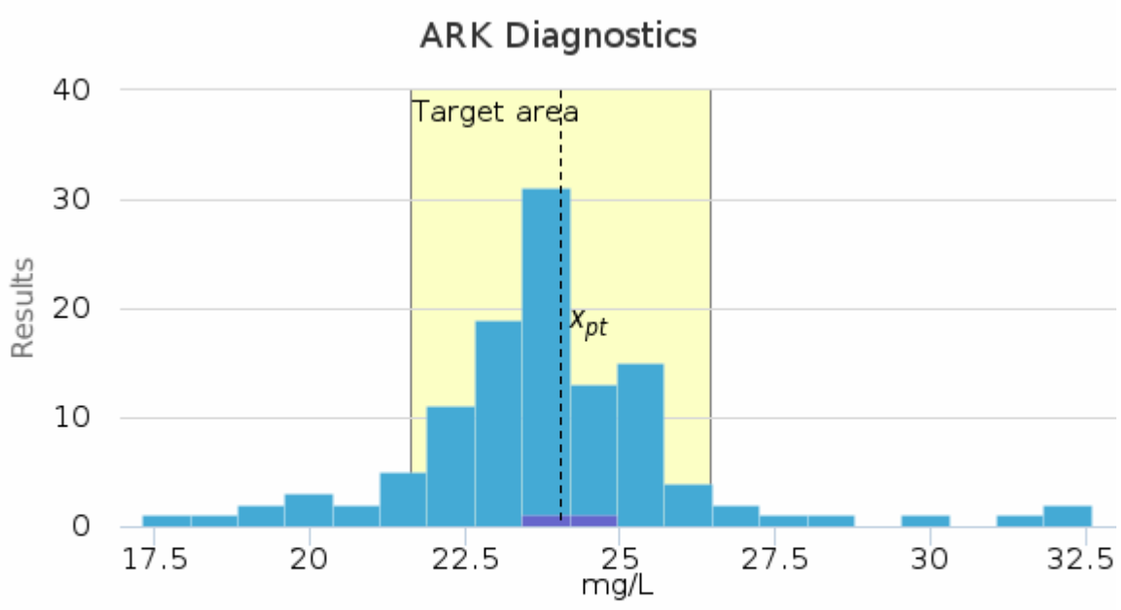
Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Abbott Alinity c	25.1	25.1	0.7	2.8	0.2	24.0	26.4	-	14
Abbott Architect chemical	26.7	26.4	1.7	6.5	1.0	25.1	28.5	-	3
Abbott Architect immunochemical	30.4	30.6	2.1	7.0	1.1	27.7	32.6	-	4
ARK Diagnostics	24.1	24.1	0.5	2.1	0.4	23.7	24.4	-	2
Atellica C	23.6	23.7	0.7	2.9	0.2	22.2	25.0	-	16
Beckman Coulter AU (Olympus)	20.3	21.1	1.5	7.3	0.9	18.6	21.2	-	3
Ortho Vitros 5.1 & 5600	-	-	-	-	-	21.2	21.2	-	1
Roche cobas c	23.6	23.7	1.4	5.8	0.2	20.0	26.5	-	52
Roche Integra	22.8	22.8	1.1	5.0	0.5	21.3	24.4	-	5
Siemens Advia	-	-	-	-	-	22.9	22.9	-	1
Siemens Advia Centaur	18.6	18.6	1.8	9.5	1.2	17.3	19.8	-	2
Siemens Dimension	24.8	24.0	1.2	4.9	0.5	24.0	26.8	-	5
Siemens SYVA EMIT	22.0	22.3	1.6	7.2	0.7	19.4	23.7	-	5
Thermo Fisher	25.5	25.5	9.3	36.4	6.6	18.9	32.0	-	2
All	**23.7**	**23.9**	**1.9**	**7.9**	**0.2**	**17.3**	**29.8**	**3**	**115**

Sample S002 | Vancomycin, mg/L| histogram summaries in LabScala





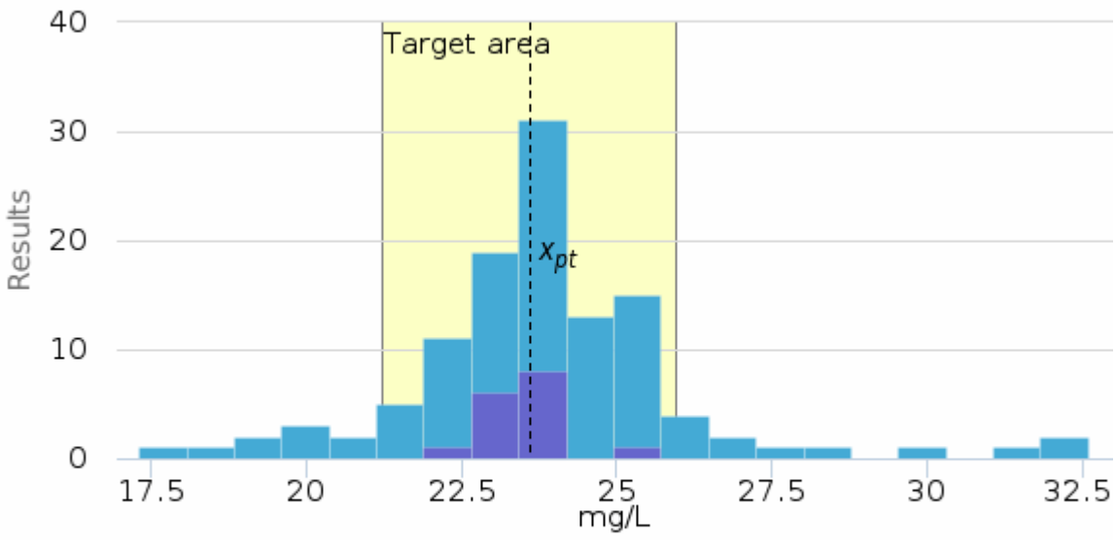




Therapeutic drugs, March, 1-2023

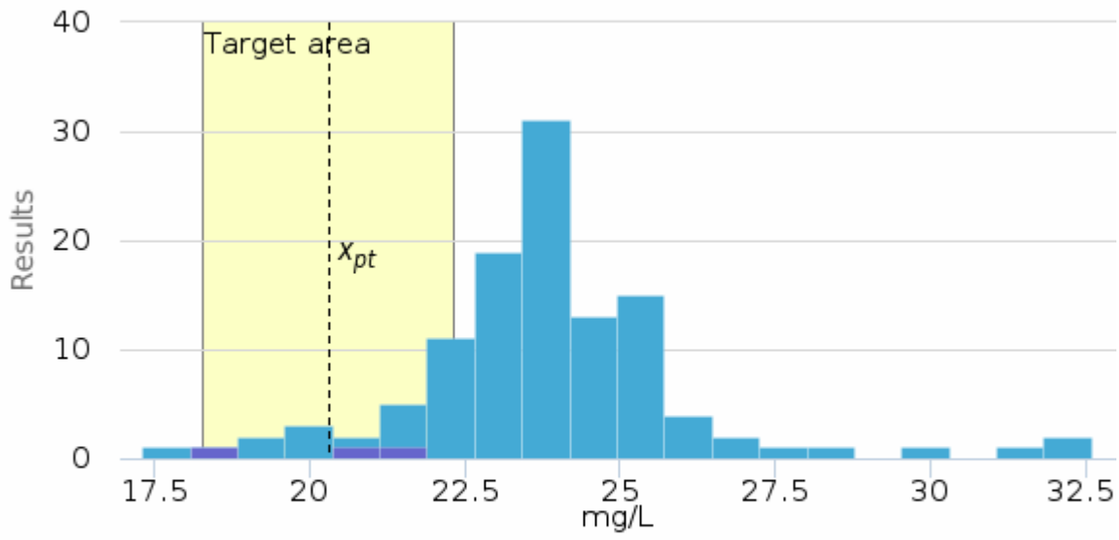
Quantitative report

Atellica C



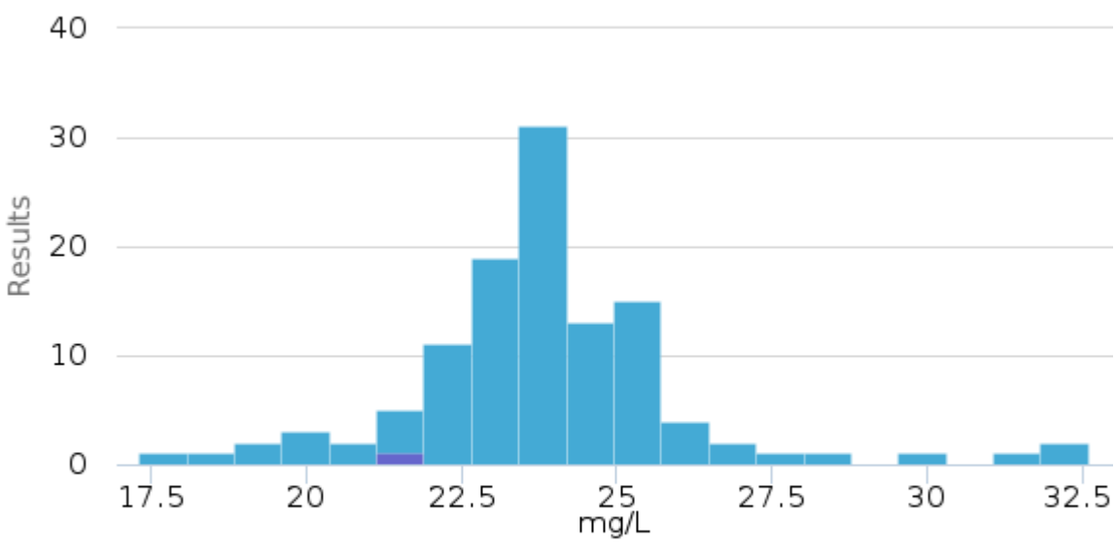
All method groups — Atellica C (x_{pt}: 23.6 | Target area: 21.2-26.0 | Target: ±10%)

Beckman Coulter AU (Olympus)



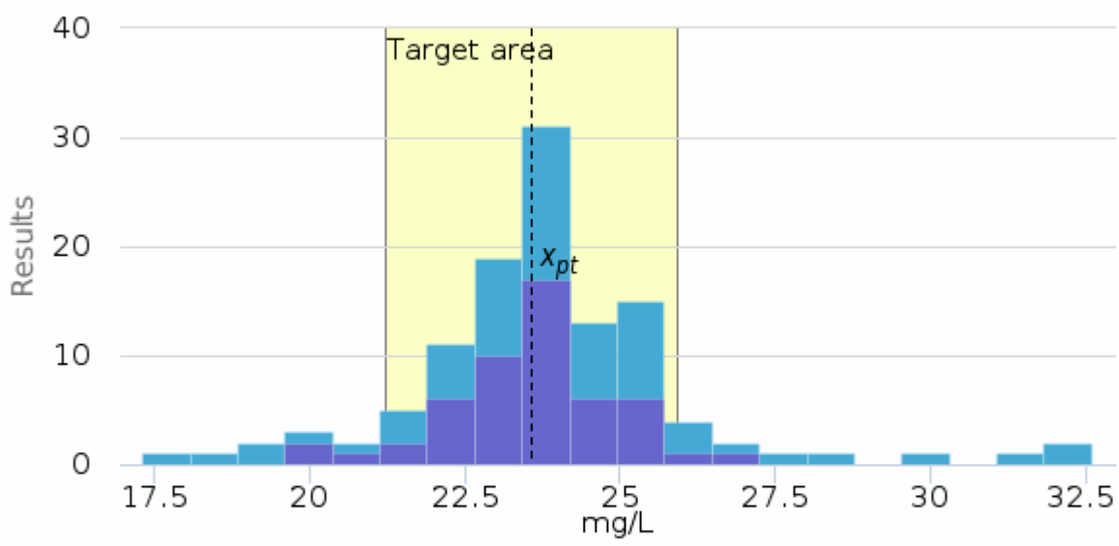
All method groups — Beckman Coulter AU (Olympus) (x_{pt}: 20.3 | Target area: 18.3-22.3 | Target: ±10%)

Ortho Vitros 5.1 & 5600



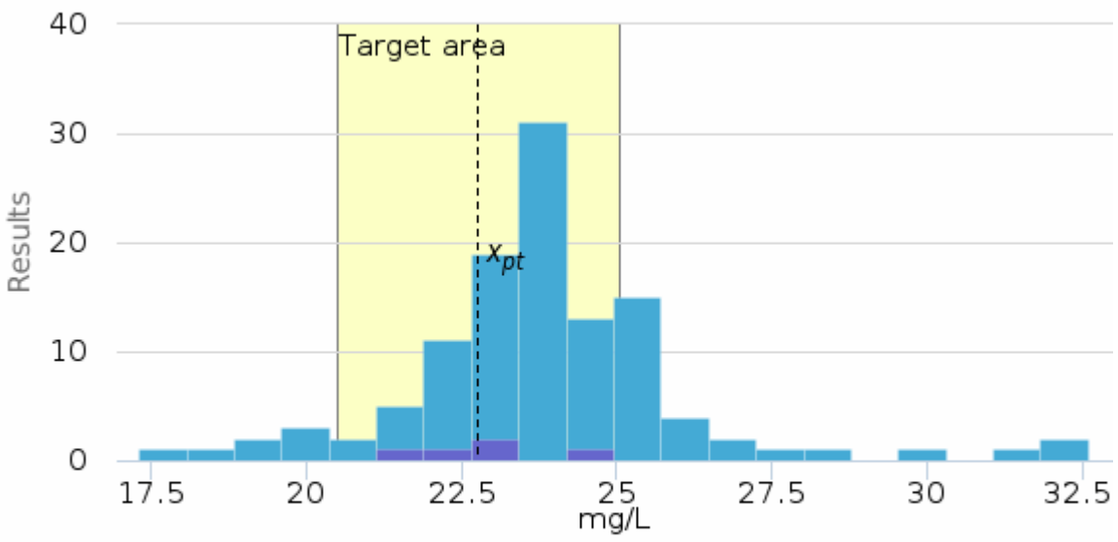
All method groups — Ortho Vitros 5.1 & 5600

Roche cobas c



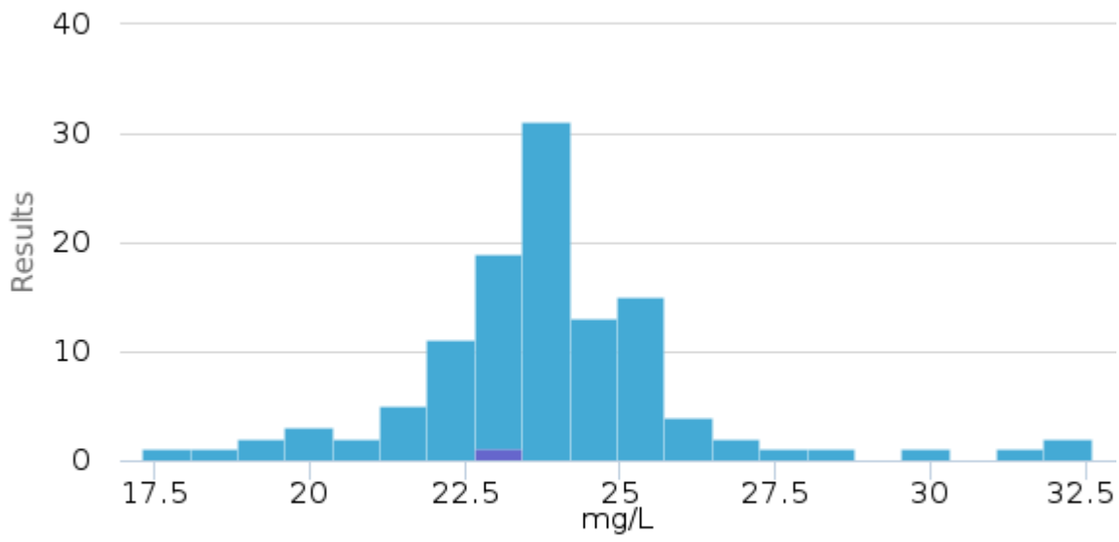
All method groups — Roche cobas c (x_{pt}: 23.6 | Target area: 21.2-25.9 | Target: ±10%)

Roche Integra



All method groups — Roche Integra (x_{pt}: 22.8 | Target area: 20.5-25.1 | Target: ±10%)

Siemens Advia

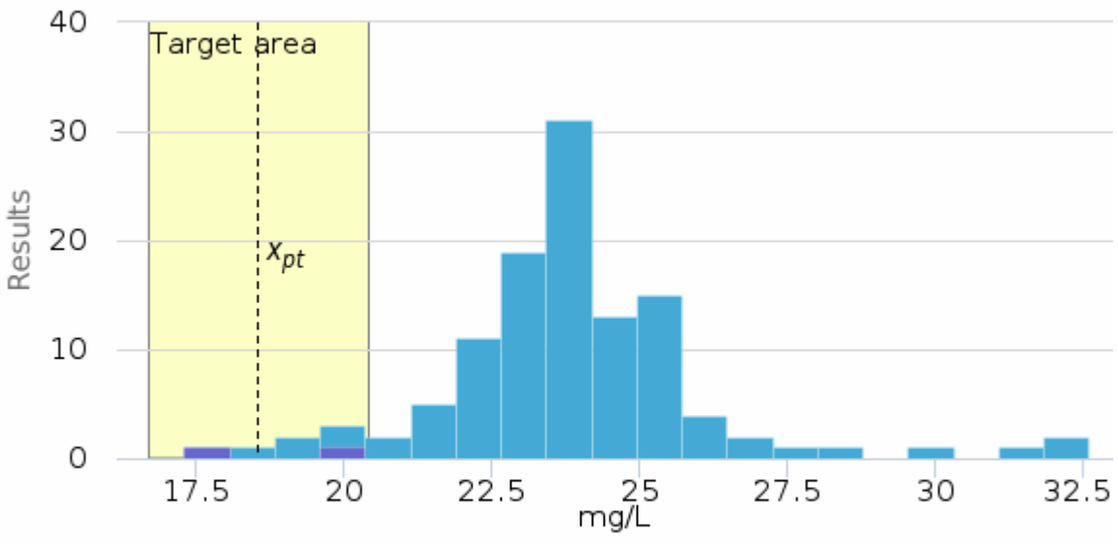


All method groups — Siemens Advia

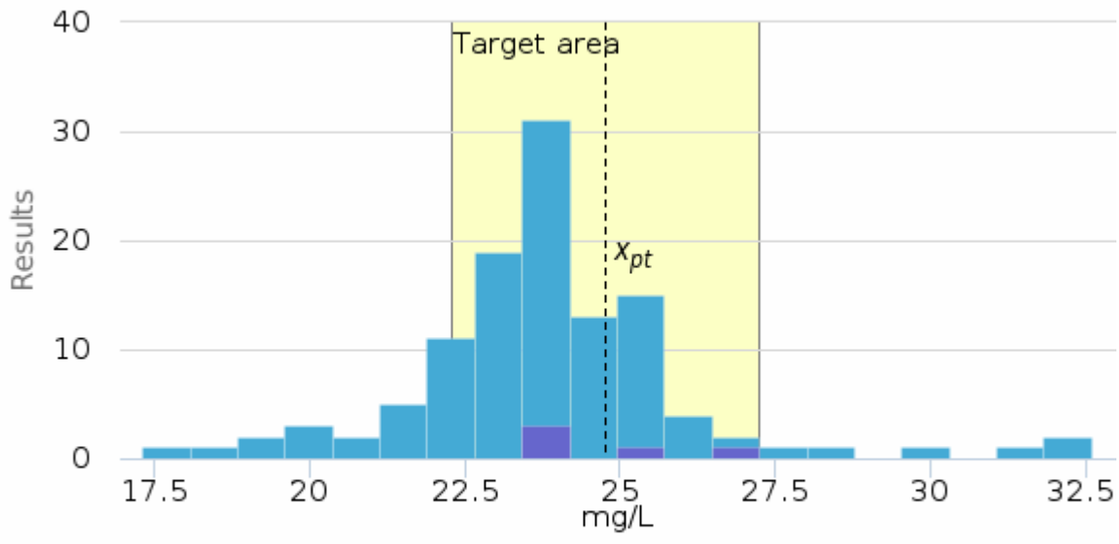
Therapeutic drugs, March, 1-2023

Quantitative report

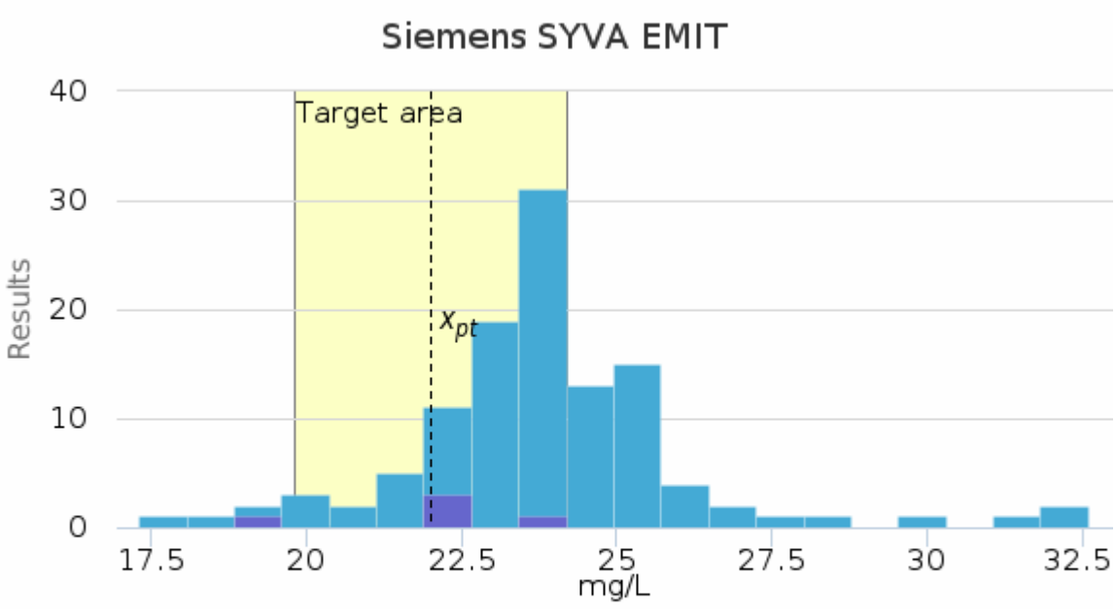
Siemens Advia Centaur



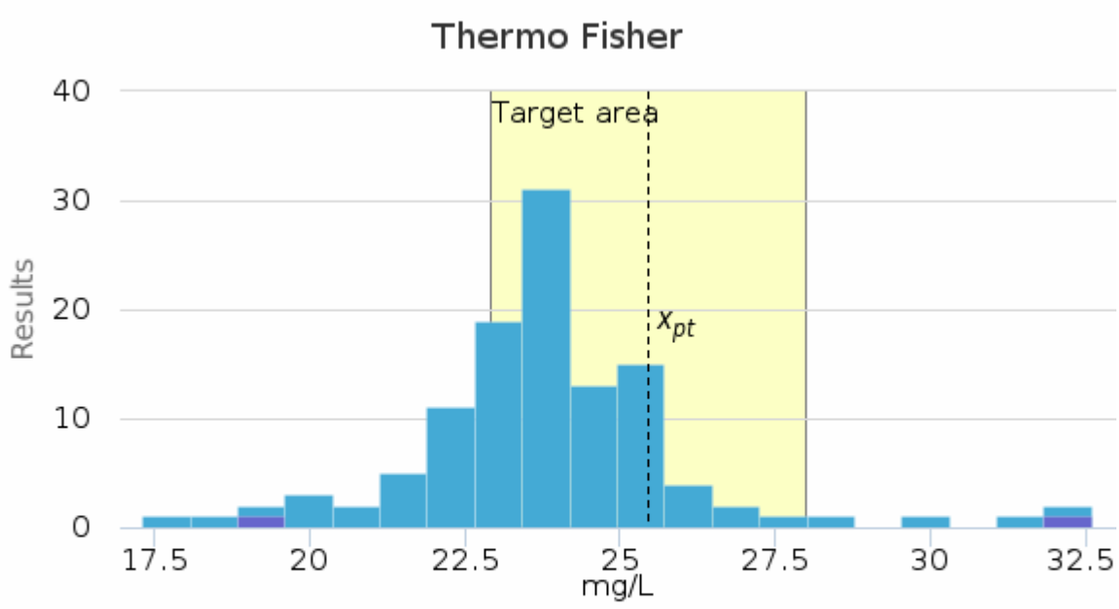
Siemens Dimension



Siemens SYVA EMIT



Thermo Fisher



Report info

Participants

148 participants from 23 countries.

Report info

Your own result should be compared to others using the same method.
Assigned values (x_{pt}, target values) are means of the results where results deviating more than +/- 3*standard deviation from the median are removed. The standard uncertainty (u) of the assigned value is reported as standard error of the mean (SEM). Additionally, if the measurement uncertainty of the target value is large an automatic text is printed on the report: “The uncertainty of the assigned value is not negligible, and evaluations could be affected.”
In case the client’s result is the only one in the method group, no assigned value will be calculated, no target area shown, and no statistics calculated. In case there are only a few results in the client’s own method group, the result can be compared to all method mean or to a group that is similar to the own method.
Results reported with < or > -signs cannot be included in the statistics.

For information on report interpretation and performance evaluation, please see the " EQAS Interpretation guidelines" LabScala User instructions (top right corner ?Help link).

LABQUALITY

External Quality Assessment Scheme

Therapeutic drugs, Round 1, 2023

Specimens
Sample S001 (LQ751023011) and sample S002 (LQ751023012) were liquid serum samples. Drugs levels in the samples were adjusted.

Based on the previous tests and the results of this round, the samples are homogeneous, stable and suitable for the external quality assessment scheme.

The materials were sent without temperature control packaging.

Report info
Please see the description of the data analysis on the last page of the laboratory-specific histogram and Global report. It is important to read the Final report first, because it contains important information of the samples and results in each round.

As the samples contain additives and preservatives, the samples do not act like ordinary patient samples. Different method groups (different meters) are grouped together. Laboratories should compare their results primarily to the calculated assigned value of their method group i.e to the corrected method mean (marked as X_{pt} in the reports).

Comments – EQA coordinator
A total of 14 results were manually excluded from result handling. The reason for exclusion is reported below the histogram in the client specific report.

Cyclosporine
Six cyclosporine results were obtained from sample S001 using four different methods. The results differed from each other with the lowest result being 3.5 µg/L and the highest being 30 µg/L. In sample S002, the lowest quantitative result was 6.7 µg/L and the highest quantitative result was 30 µg/L. One result < 6.7 µg/L was reported for both samples.

Gentamycin
In gentamycin, the lowest level of sample S001 of 1.31 mg/L was reported in the Roche Cobas c group and the highest level of 1.97 in the Siemens Syva Emit group. In sample S002, the lowest level of 3.36 mg/L was also reported by Roche Cobas c and the highest level of 4.61 mg/L by Siemens Syva Emit. The variation of the results in sample S001 with Abbott Alinity, Roche Cobas c and Thermo Fisher and of sample S002 with Roche Cobas c are higher than in other groups. For sample S002 the Roche cobas c has higher variation than the other groups. However, within the method groups, the result levels were quite uniform.

Paracetamol
The result level of sample S001 in Siemens Dimension method group was clearly higher than the result levels of other method groups. The same can also be seen in sample S002. Thermo Fisher and Siemens Dimension method groups are on a higher level that other methods.

2023-04-25

FINAL REPORT

Product no. 2410

Samples sent	2023-03-14
Round closed	2023-04-11
Final report	2023-04-25

Request for correction
Typing errors in laboratory's result forms are on laboratory's responsibility. Labquality accepts responsibility only for result processing. Requests must be notified by writing within three weeks from the date of this letter.

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FINAS
Finnish Accreditation Service
PT02 (EN ISO/IEC 17043)

Only the analysis phase is accredited.

Quality Management
ISO 9001:2015

Comments – Expert

Digoxin

Differences of digoxin results from S001 between method groups may have clinical significance when concentration measurements are used for adjustment of dosage.

End of report