

External Quality Assessment Scheme

Lipids and Lipoproteins

Lp(a)

Round 1, 2023

Specimens

Please find enclosed 2 liquid human serum samples S001 and S002, each 0.5 mL. Sample S003 is a lyophilized product obtained from human serum, à 1 mL.

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 3.

Storage and use

Samples S001 and S002 are ready for use and they should be analysed as soon as possible after arrival, within a week. Store the samples in a refrigerator, do not freeze. The specimens should be analysed as usual patient samples.

Note! Sample S003 is only for analyze of Lp(a).

Reconstitution of Sample S003: Open the vial carefully and reconstitute the contents in 1 mL of distilled water by carefully rotating the vial. Allow the reconstituted serum to stand for 30 min at room temperature before use. Stability after reconstitution is 14 days in 2...8 °C.

Result reporting

Please enter the results and methods via LabScala. If you can't find your instrument or reagent from the registry, please contact the EQA Coordinator.

S001:



S002:



S003:



2023-02-21

INSTRUCTIONS

Product no. 2200, 2202
LQ735323011-013/FI, UK

Subcontracting: Sample
preparation, Sample pretesting

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

The results should be
reported no later than
March 16, 2023.

Inquiries

EQA Coordinator
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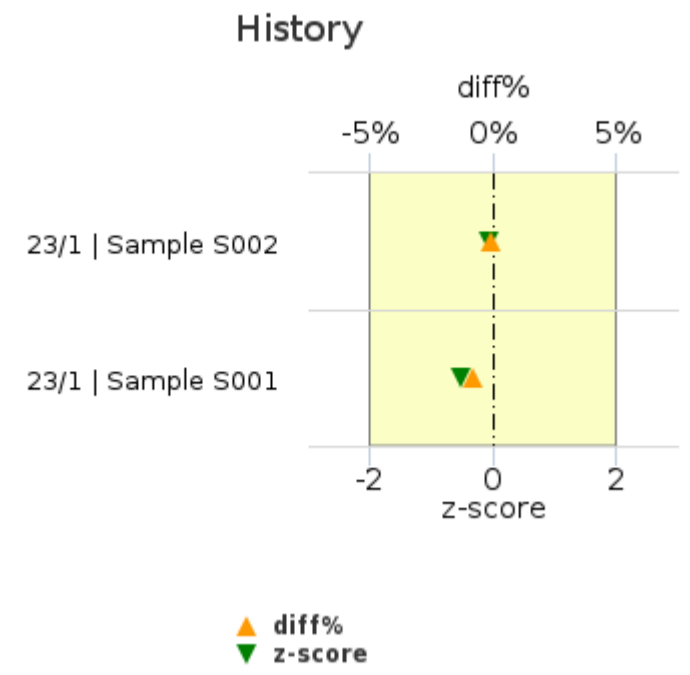
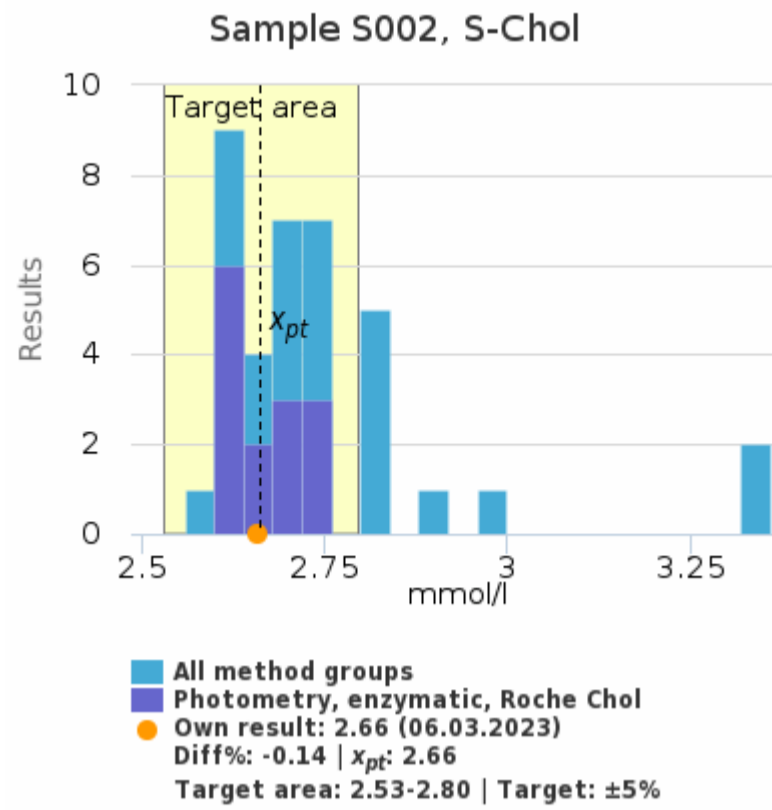
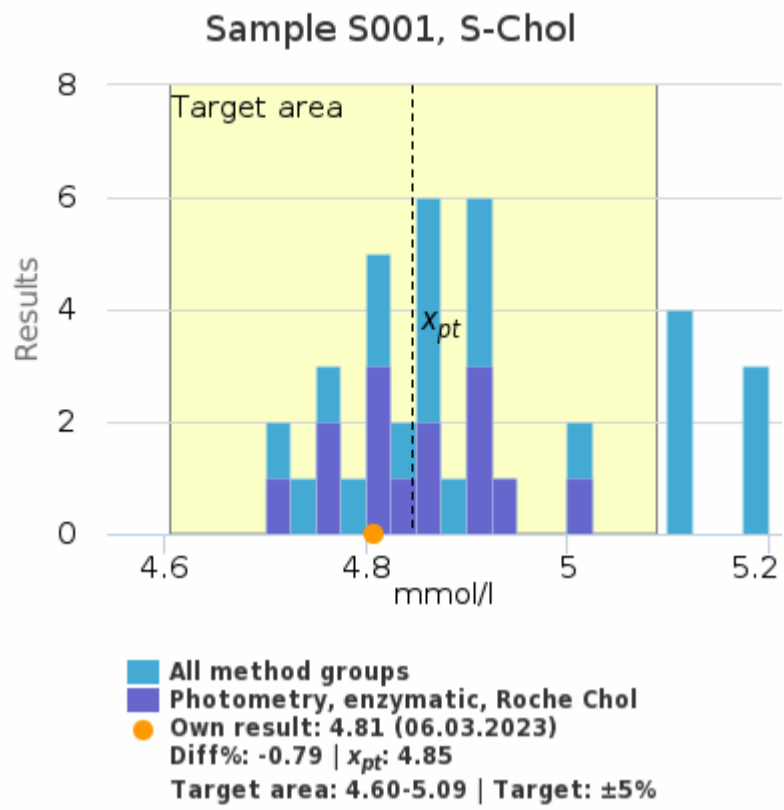
Lipids and lipoproteins
Lp(a)

Examinations

Cholesterol
HDL cholesterol
LDL cholesterol
lipoprotein apo A1
lipoprotein apo A2
lipoprotein apo B
triglycerides

lipoprotein (a)

S-Chol |Integra400+

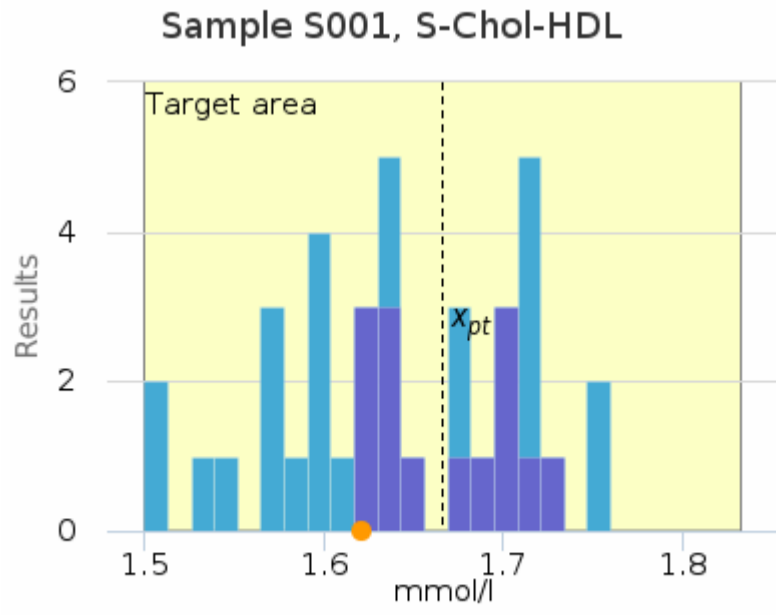


	x_{pt}	sd	SEM	CV%	n
Photometry, enzymatic, Roche Chol	4.85 mmol/l	0.08	0.02	1.6	14
All methods	4.90 mmol/l	0.14	0.02	2.8	37

	x_{pt}	sd	SEM	CV%	n
Photometry, enzymatic, Roche Chol	2.66 mmol/l	0.06	0.01	2.1	14
All methods	2.70 mmol/l	0.09	0.02	3.4	37

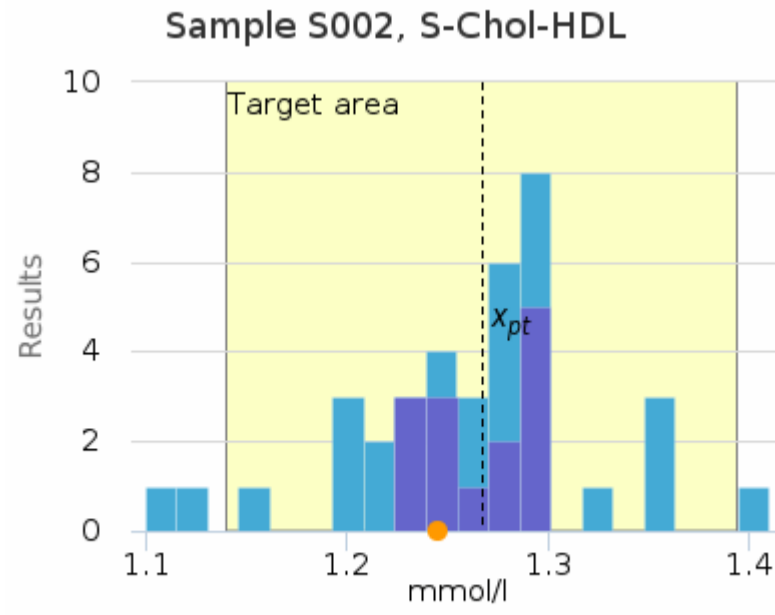
Round	Sample	x_{pt}	Result	diff%	z-score
23/1	Sample S002	2.66	2.66	-0.14%	-0.07
23/1	Sample S001	4.85	4.81	-0.79%	-0.51

S-Chol-HDL | Integra400+



All method groups
 Direct measurement, HDL-chol, Roche-systems
 Own result: 1.62 (06.03.2023)
 Diff%: -2.70 | x_{pt} : 1.67
 Target area: 1.50-1.83 | Target: $\pm 10\%$

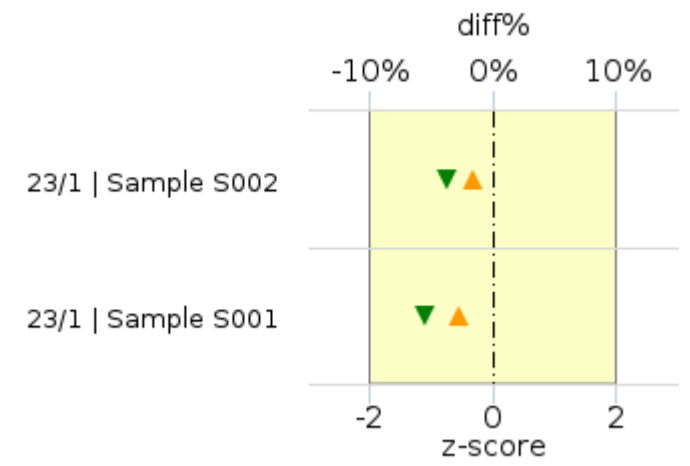
	x_{pt}	sd	SEM	CV%	n
Direct measurement, HDL-chol, Roche-systems	1.67 mmol/l	0.04	0.01	2.4	14
All methods	1.64 mmol/l	0.07	0.01	4.1	37



All method groups
 Direct measurement, HDL-chol, Roche-systems
 Own result: 1.25 (06.03.2023)
 Diff%: -1.70 | x_{pt} : 1.27
 Target area: 1.14-1.39 | Target: $\pm 10\%$

	x_{pt}	sd	SEM	CV%	n
Direct measurement, HDL-chol, Roche-systems	1.27 mmol/l	0.03	<0.01	2.3	14
All methods	1.26 mmol/l	0.06	0.01	5.0	37

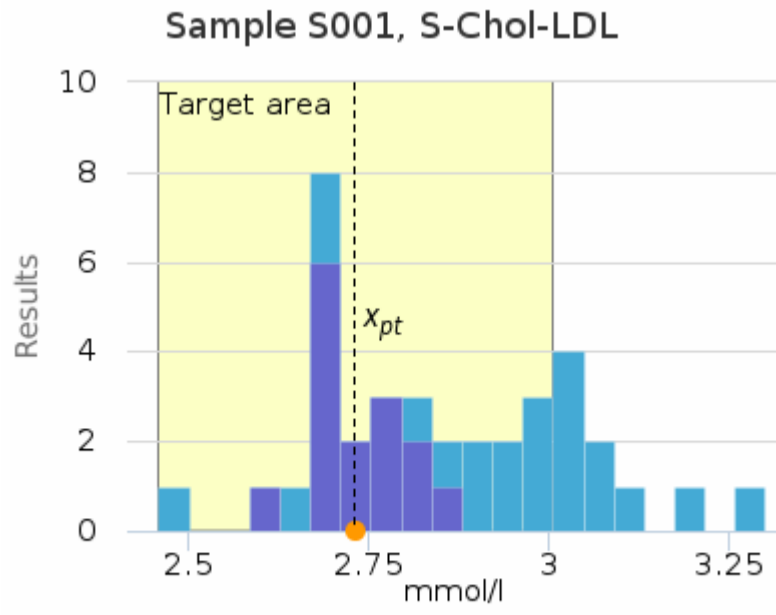
History



▲ diff%
 ▼ z-score

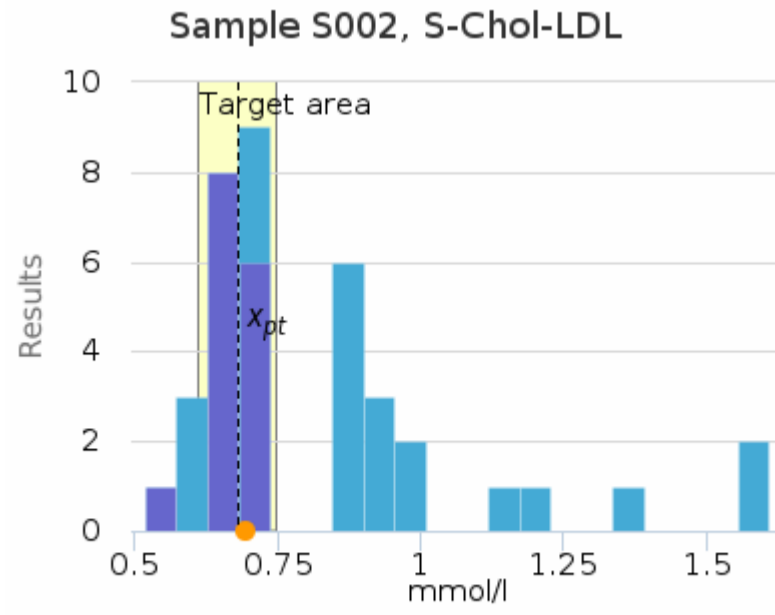
Round	Sample	x_{pt}	Result	diff%	z-score
23/1	Sample S002	1.27	1.25	-1.70%	-0.73
23/1	Sample S001	1.67	1.62	-2.70%	-1.11

S-Chol-LDL |Integra400+



■ All method groups
■ Direct measurement, LDL-chol,Roche-systems
● Own result: 2.73 (06.03.2023)
 Diff%: 0.03 | x_{pt} : 2.73
 Target area: 2.46-3.00 | Target: $\pm 10\%$

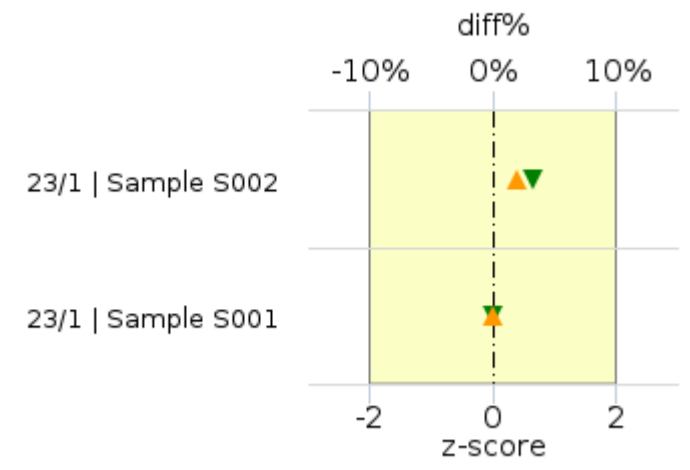
	x_{pt}	sd	SEM	CV%	n
Direct measurement, LDL-chol, Roche-systems	2.73 mmol/l	0.06	0.02	2.4	15
All methods	2.85 mmol/l	0.18	0.03	6.3	37



■ All method groups
■ Direct measurement, LDL-chol,Roche-systems
● Own result: 0.69 (06.03.2023)
 Diff%: 1.86 | x_{pt} : 0.68
 Target area: 0.61-0.75 | Target: $\pm 10\%$

	x_{pt}	sd	SEM	CV%	n
Direct measurement, LDL-chol, Roche-systems	0.68 mmol/l	0.02	<0.01	2.9	15
All methods	0.79 mmol/l	0.19	0.03	23.4	37

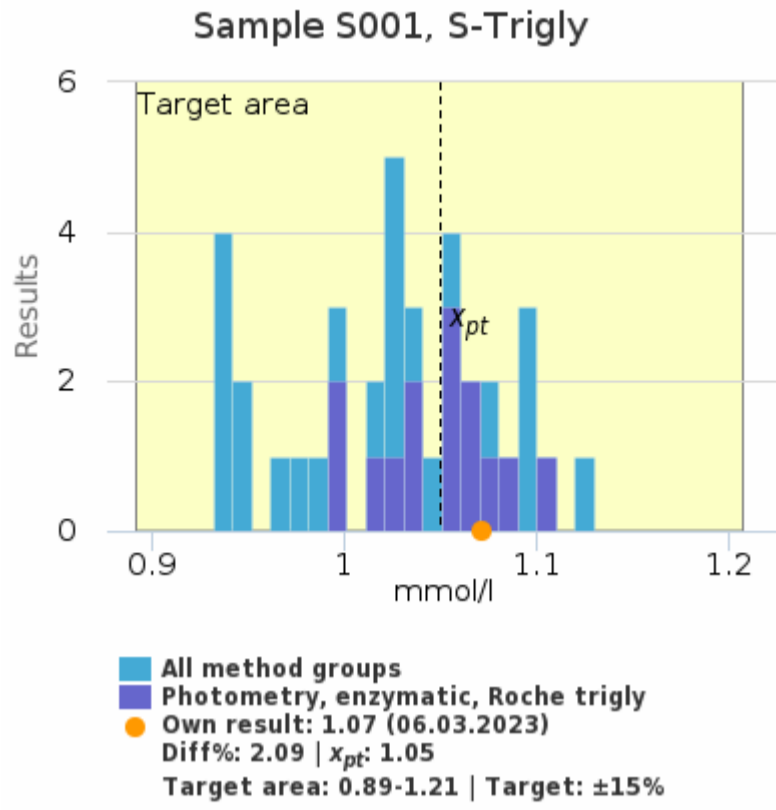
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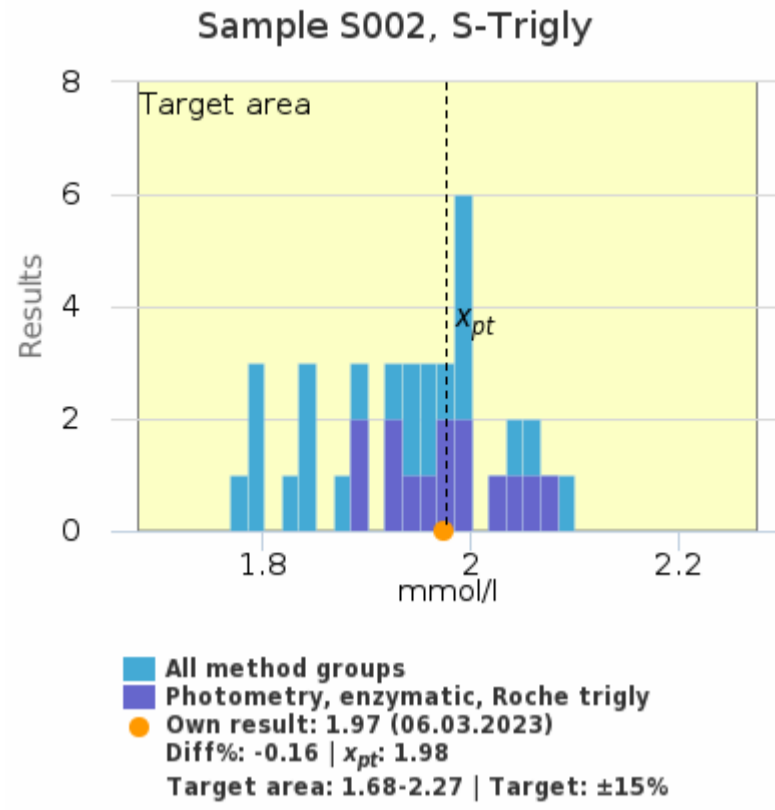
▲ diff%
▼ z-score

Round	Sample	x_{pt}	Result	diff%	z-score
23/1	Sample S002	0.68	0.69	1.86%	0.65
23/1	Sample S001	2.73	2.73	0.03%	0.01

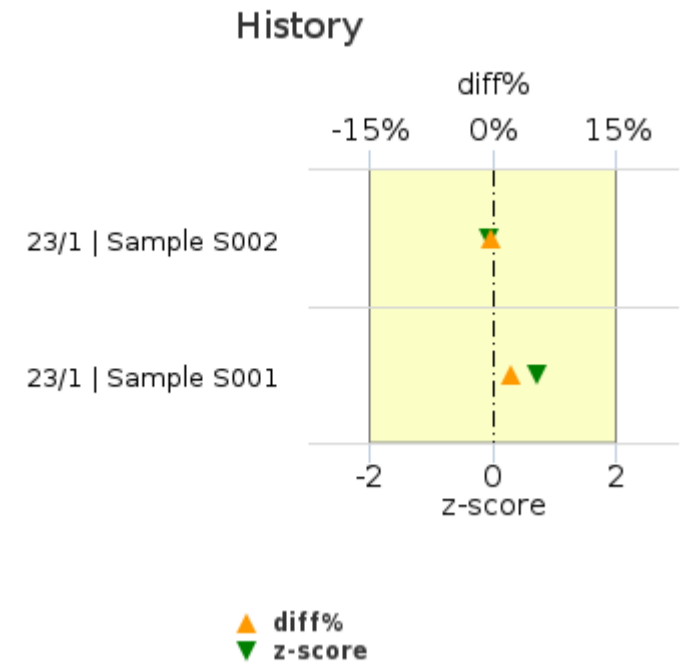
S-Trigly | Integra400+



	x_{pt}	sd	SEM	CV%	n
Photometry, enzymatic, Roche trigly	1.05 mmol/l	0.03	<0.01	3.0	14
All methods	1.03 mmol/l	0.05	<0.01	5.2	37



	x_{pt}	sd	SEM	CV%	n
Photometry, enzymatic, Roche trigly	1.98 mmol/l	0.06	0.02	2.9	14
All methods	1.94 mmol/l	0.09	0.01	4.4	37



Round	Sample	x_{pt}	Result	diff%	z-score
23/1	Sample S002	1.98	1.97	-0.16%	-0.05
23/1	Sample S001	1.05	1.07	2.09%	0.71

Report info**Participants**

51 participants from 15 countries.

Report info

Your own result should be compared to others using the same method.

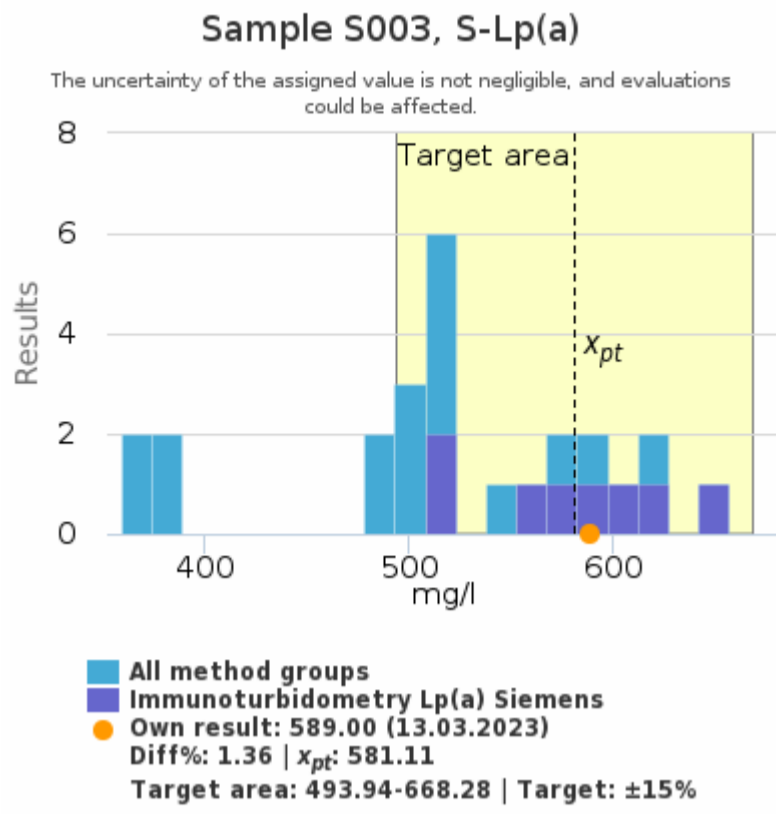
Assigned values (\bar{x}_p , target values) are means of the results where results deviating more than ± 3 standard deviation from the median are removed. The standard uncertainty (u) of

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."

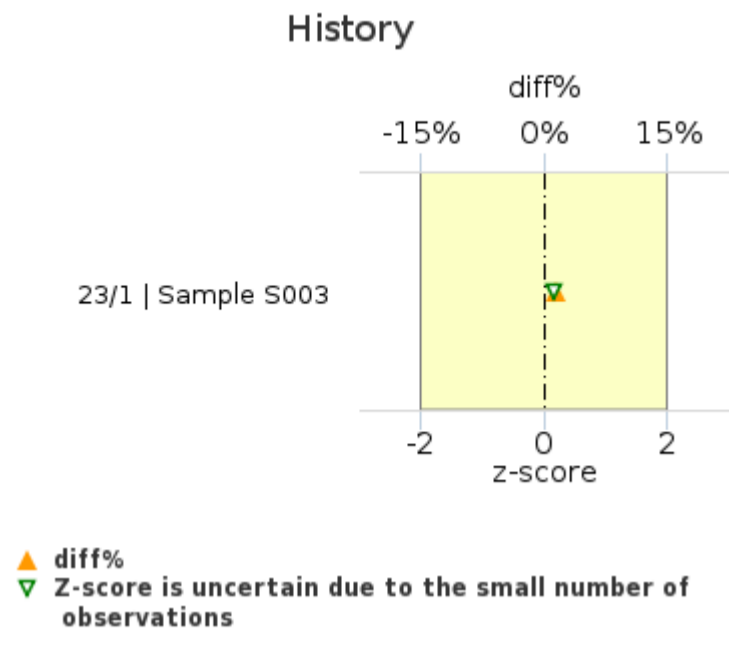
In case the client's result is the only one in the method group, no assigned value will be calculated, no target area shown, and no statistics calculated. In case there are only a few results in the client's own method group, the result can be compared to all method mean or to a group that is similar 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 "EOAS Interpretation guidelines" LabScala User instructions (top right corner ?Help link).

S-Lp(a) | Advia 1 and 2



	x_{pt}	sd	SEM	CV%	n
Immunoturbidometry Lp(a) Siemens	581.11 mg/l	48.05	16.99	8.3	8
All methods	520.79 mg/l	80.88	16.18	15.5	25



Round	Sample	x_{pt}	Result	diff%	z-score
23/1	Sample S003	581.11	589.00	1.36%	0.16

Report info**Participants**

51 participants from 15 countries.

Report info

Your own result should be compared to others using the same method.

Assigned values (\bar{x}_p , 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.

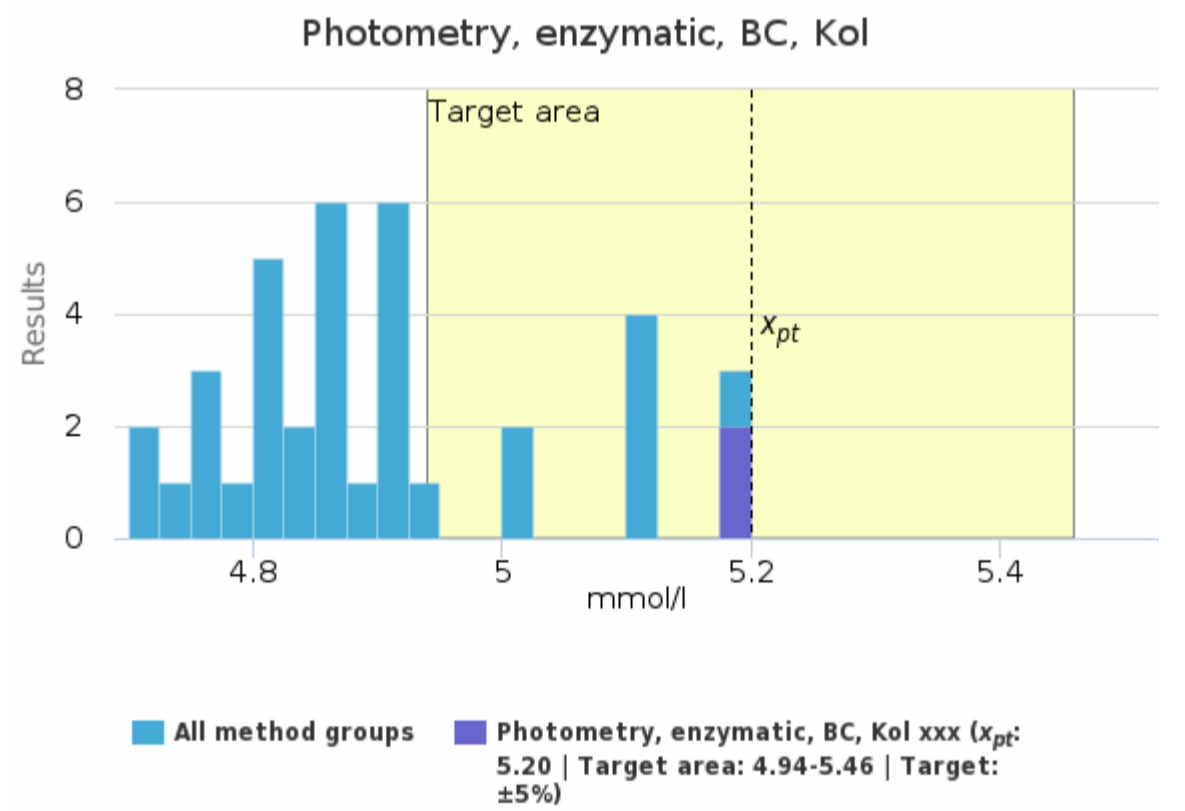
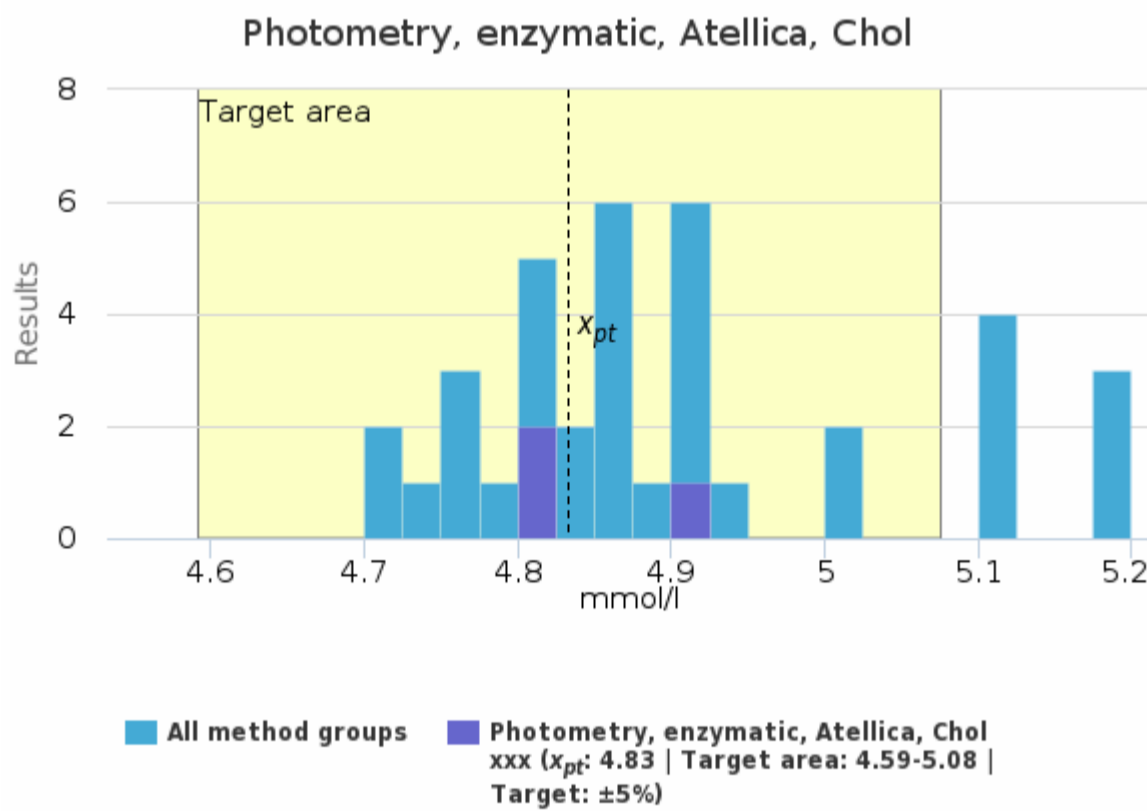
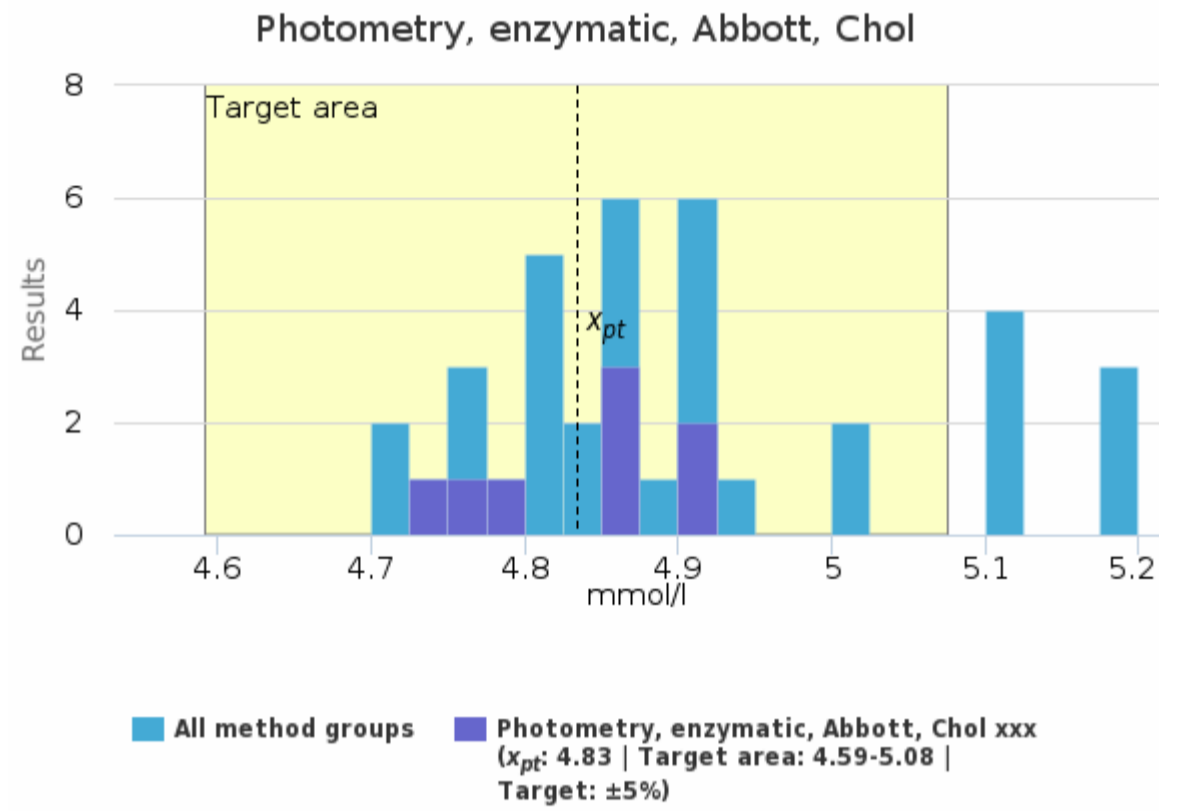
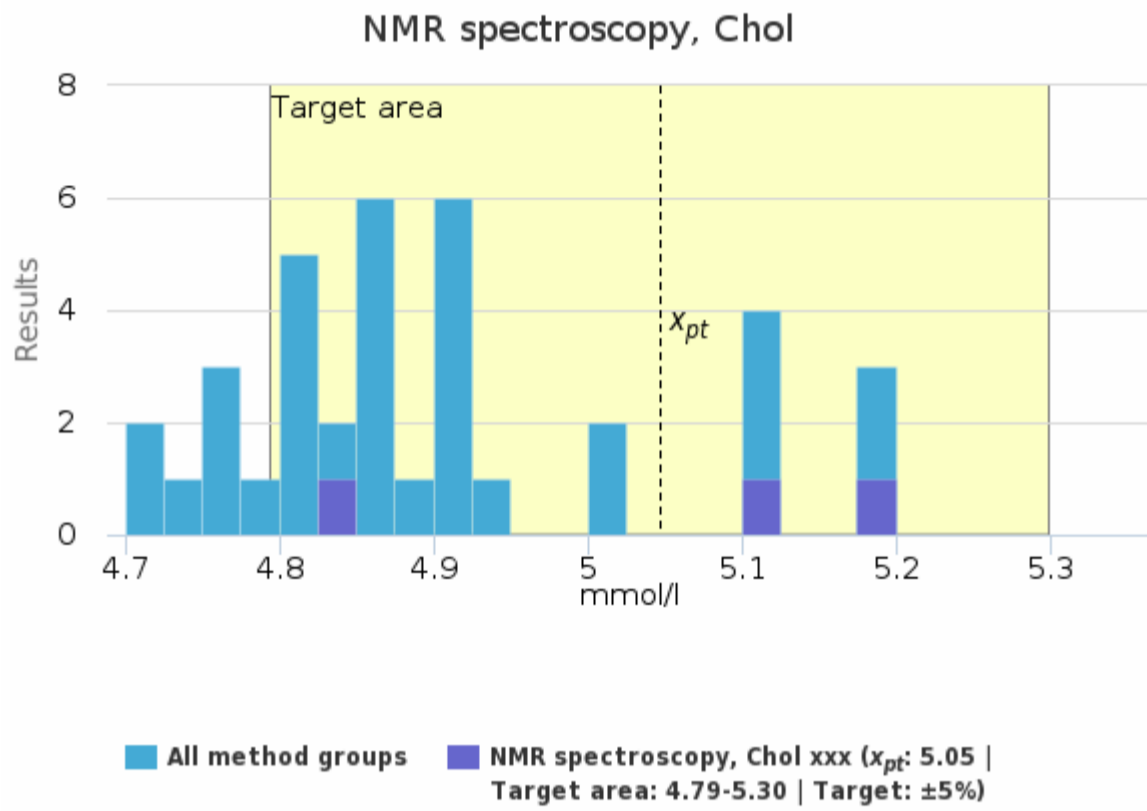
Results reported with $<$ or $>$ -signs cannot be included in the statistics.

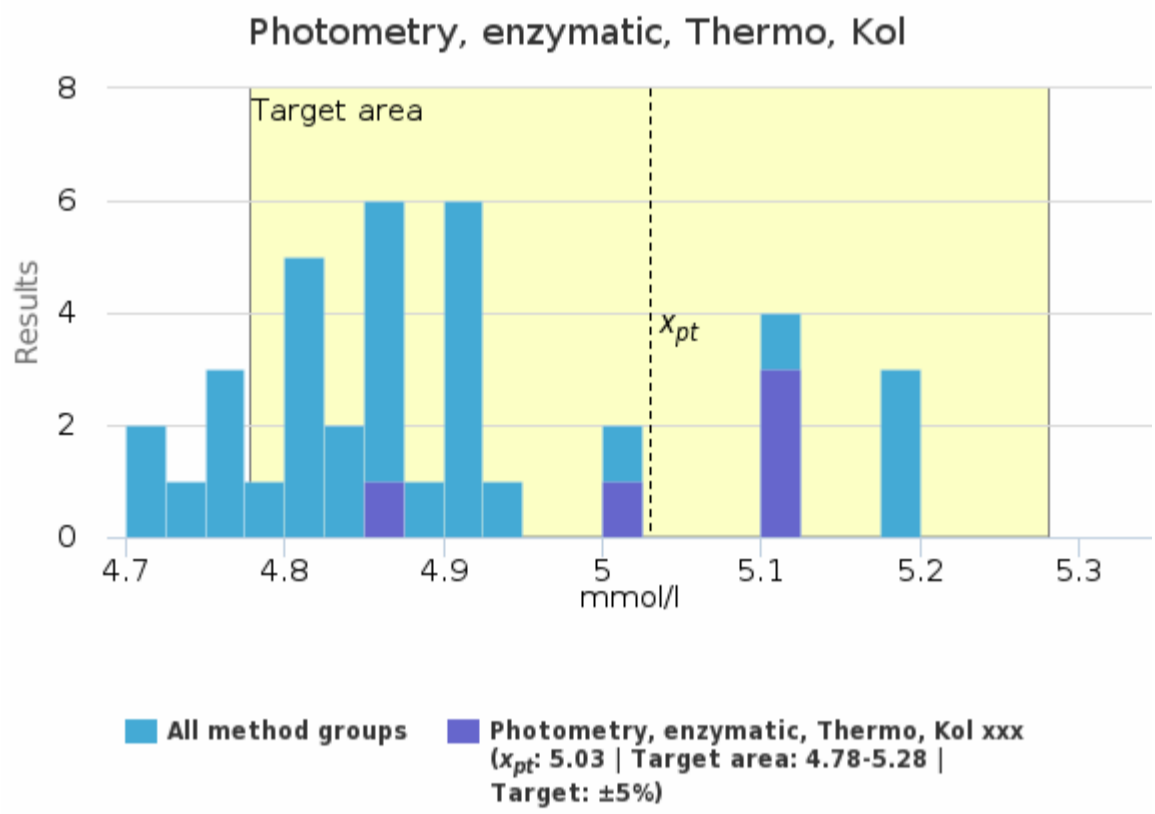
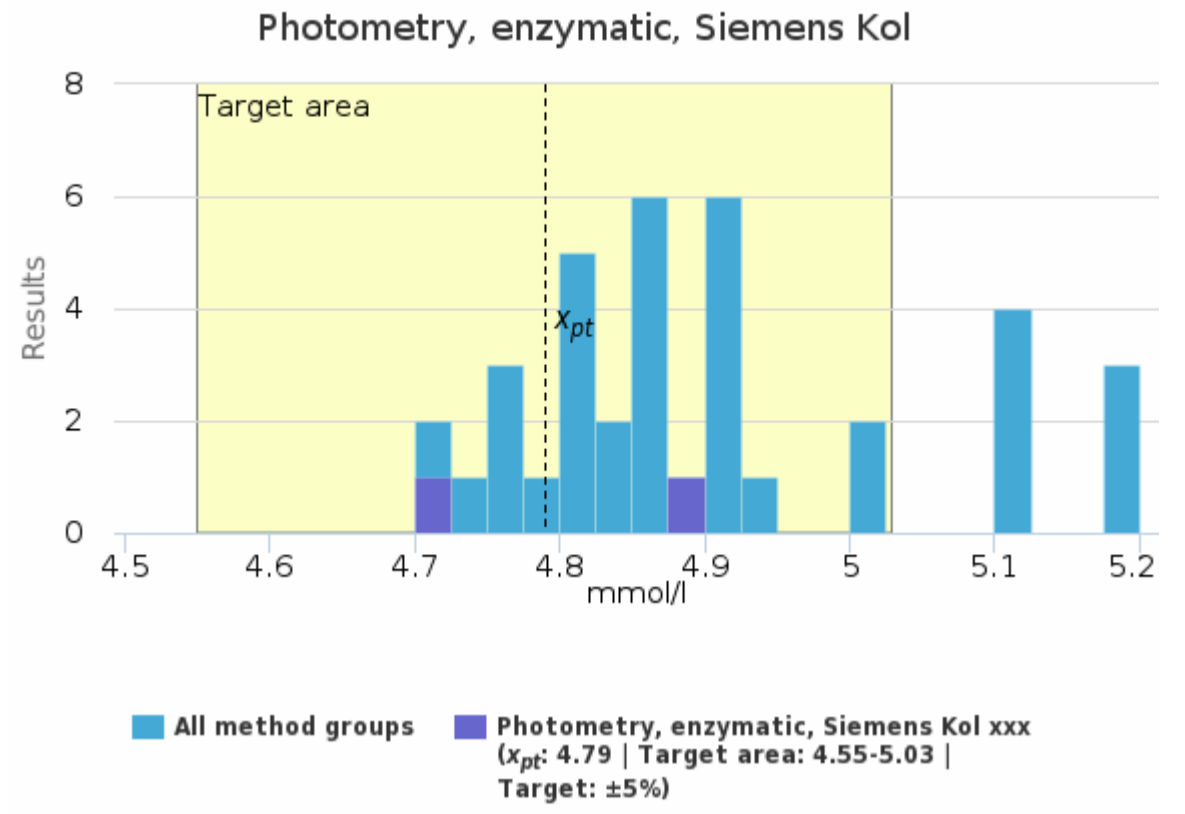
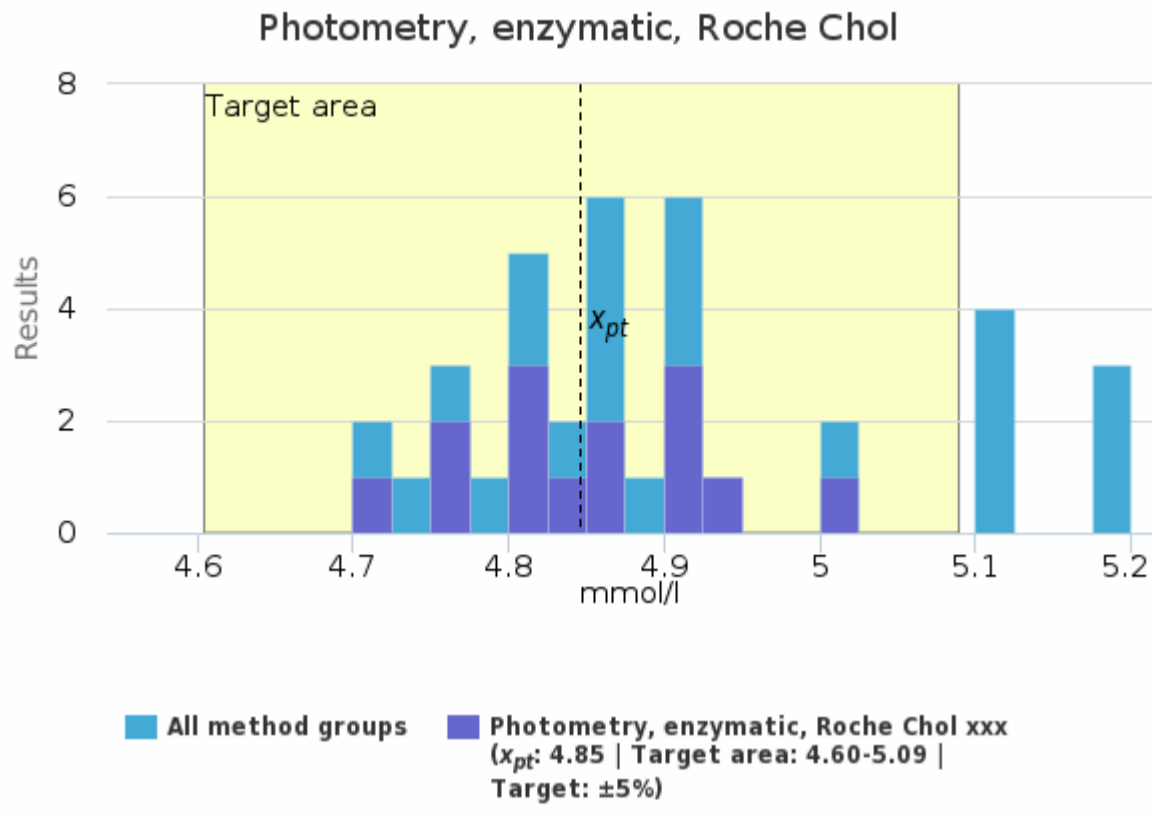
For information on report interpretation and performance evaluation, please see the "EOAS Interpretation guidelines" LabScala User instructions (top right corner ?Help link).

Sample S001 | S-Chol, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
NMR spectroscopy, Chol	5.05	5.10	0.19	3.7	0.11	4.84	5.20	-	3
Photometry, enzymatic, Abbott, Chol	4.83	4.86	0.07	1.4	0.02	4.73	4.91	-	8
Photometry, enzymatic, Atellica, Chol	4.83	4.80	0.06	1.2	0.03	4.80	4.90	-	3
Photometry, enzymatic, BC, Kol	5.20	5.20	<0.01	<0.1	<0.01	5.20	5.20	-	2
Photometry, enzymatic, Roche Chol	4.85	4.85	0.08	1.6	0.02	4.72	5.00	-	14
Photometry, enzymatic, Siemens Kol	4.79	4.79	0.13	2.7	0.09	4.70	4.88	-	2
Photometry, enzymatic, Thermo, Kol	5.03	5.10	0.11	2.2	0.05	4.85	5.10	-	5
All	4.90	4.86	0.14	2.8	0.02	4.70	5.20	-	37

Sample S001 | S-Chol, mmol/l | histogram summaries in LabScala

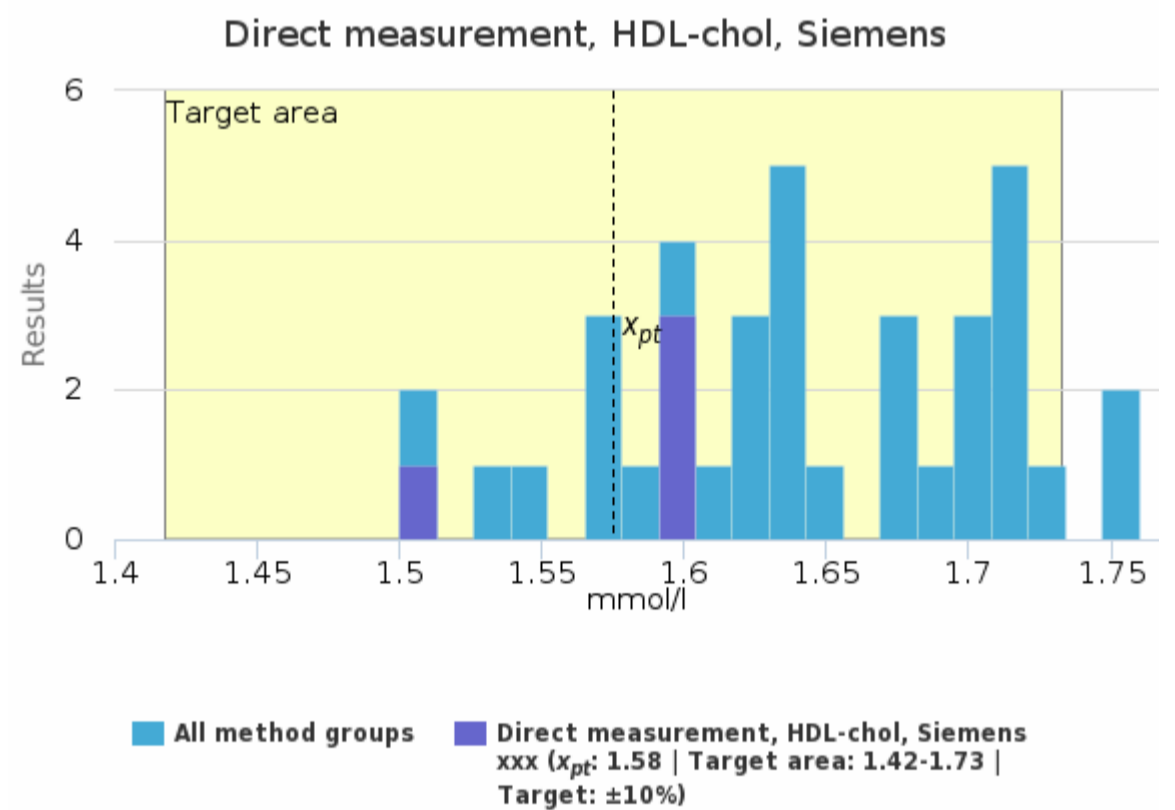
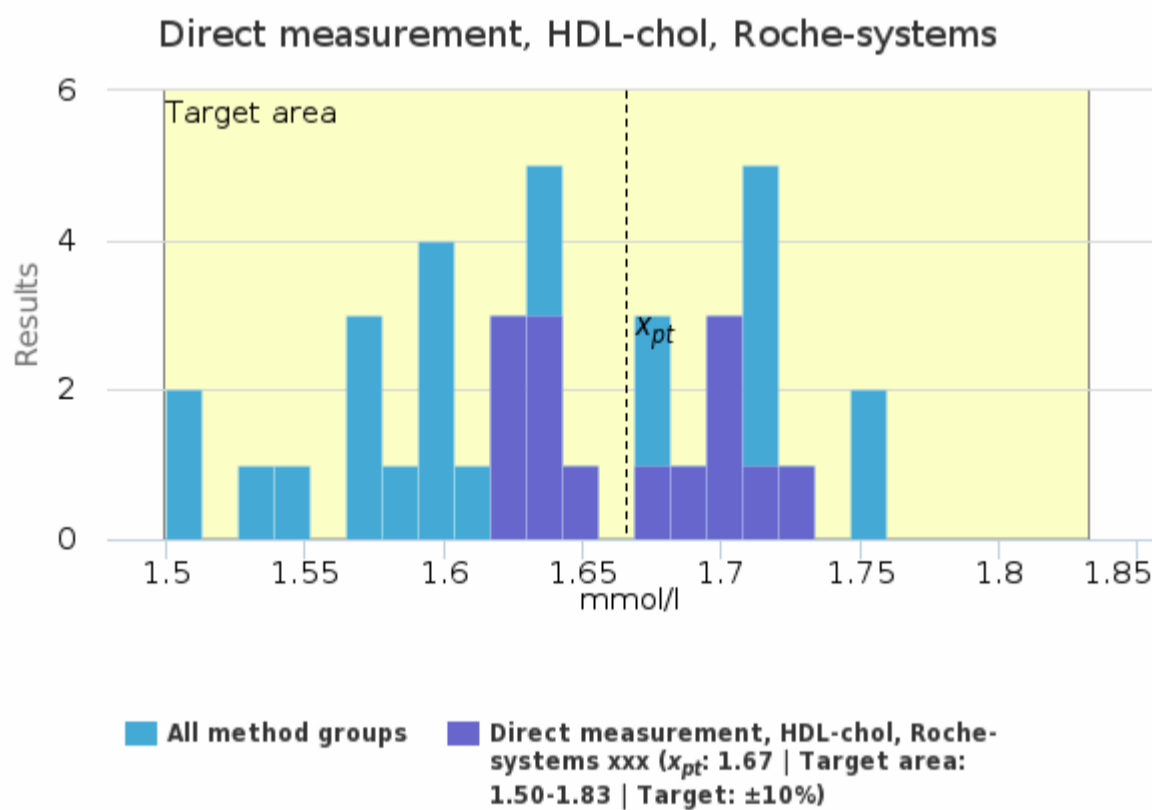
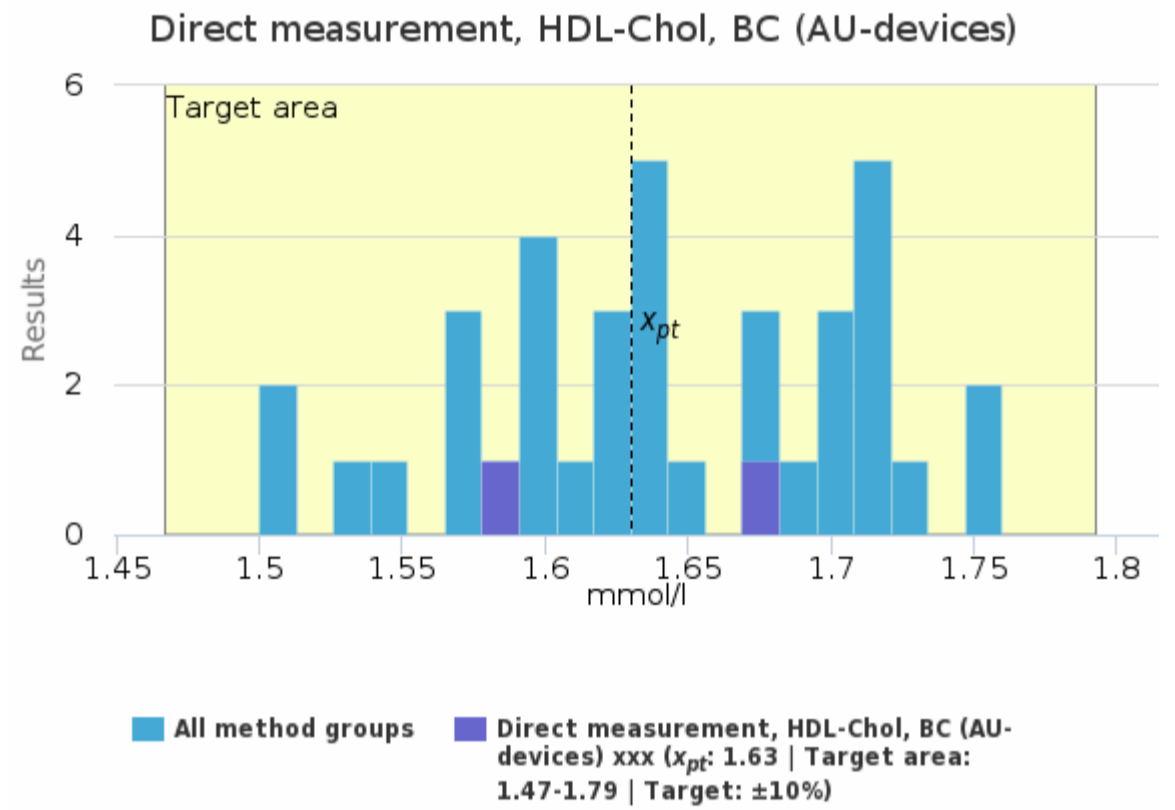
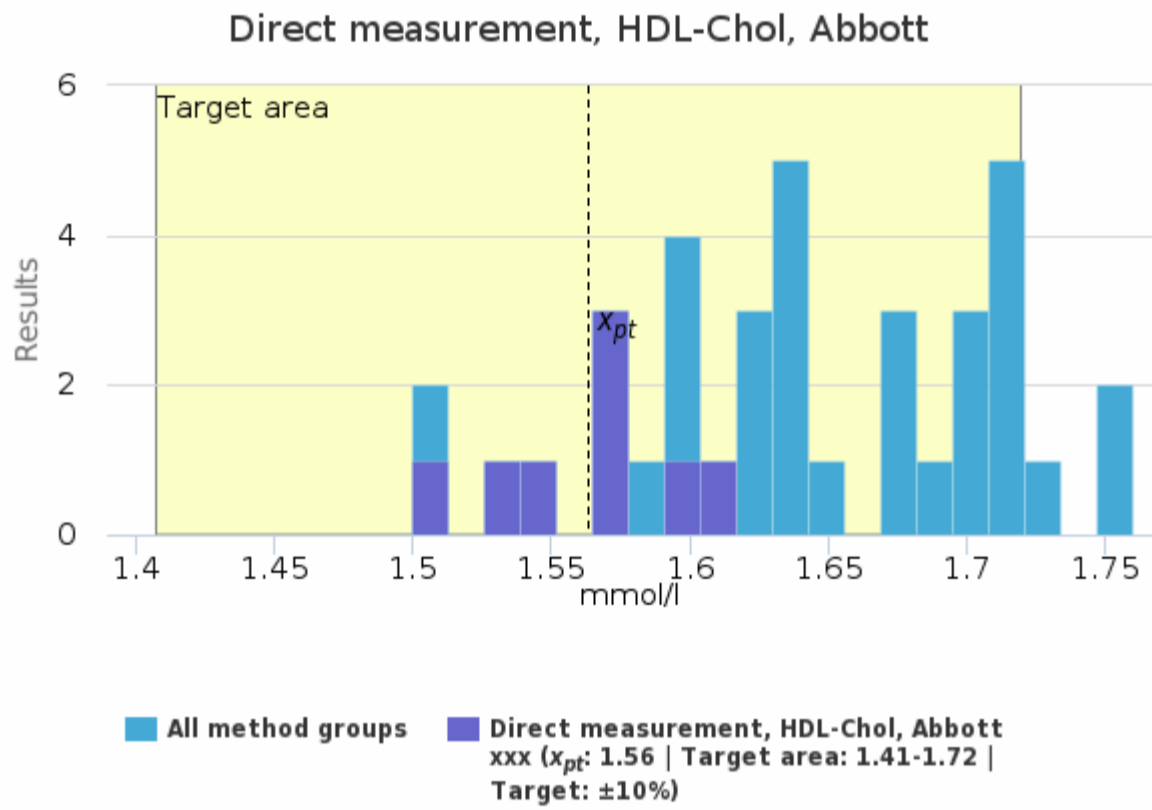


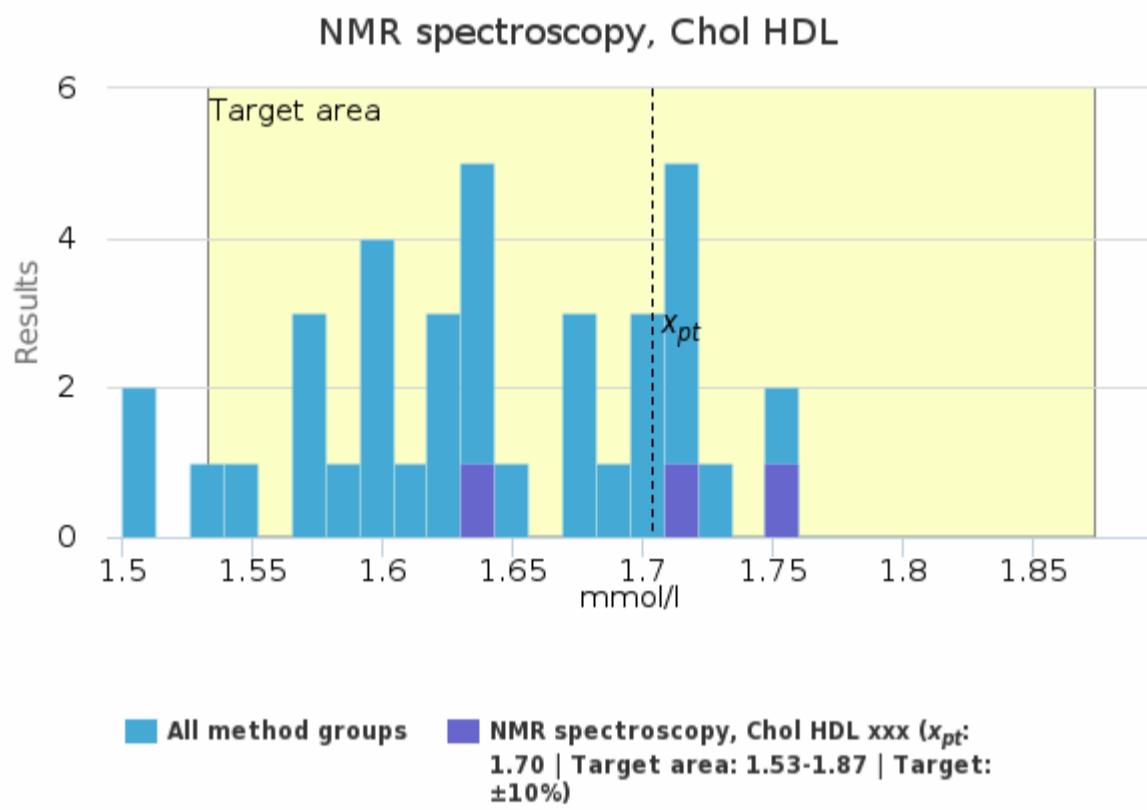
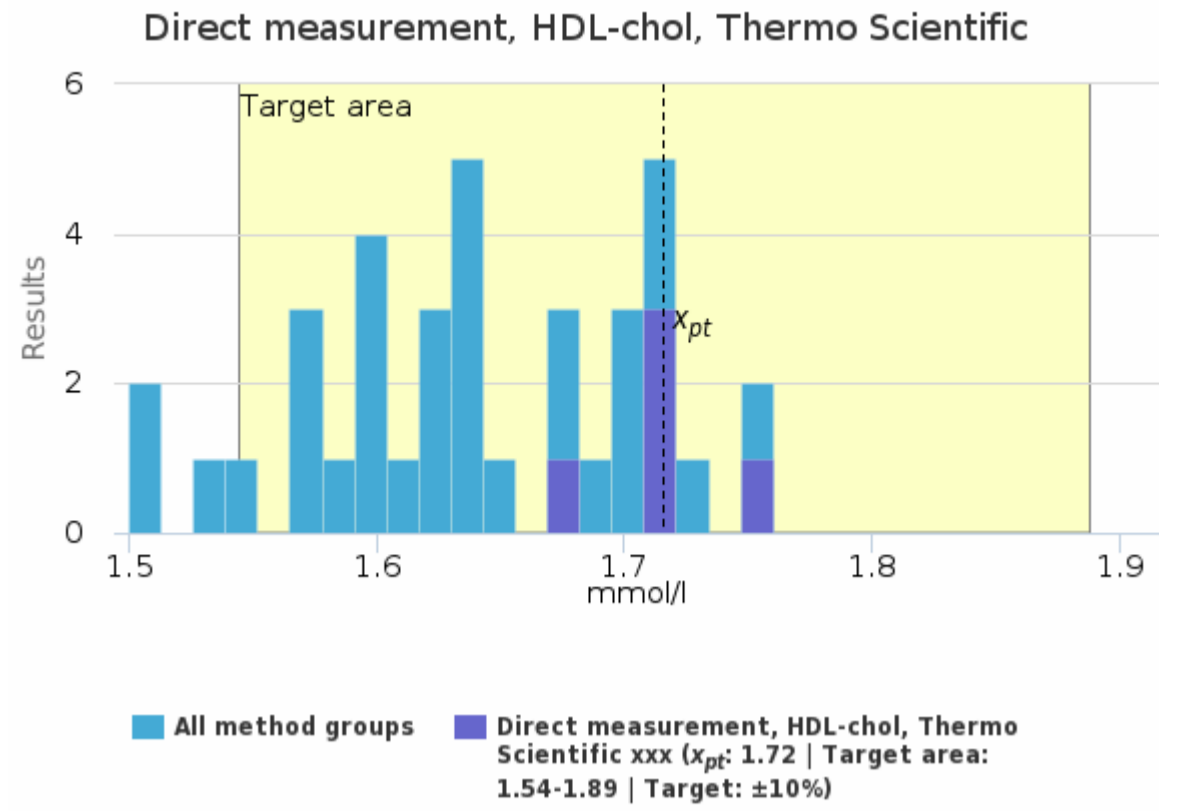
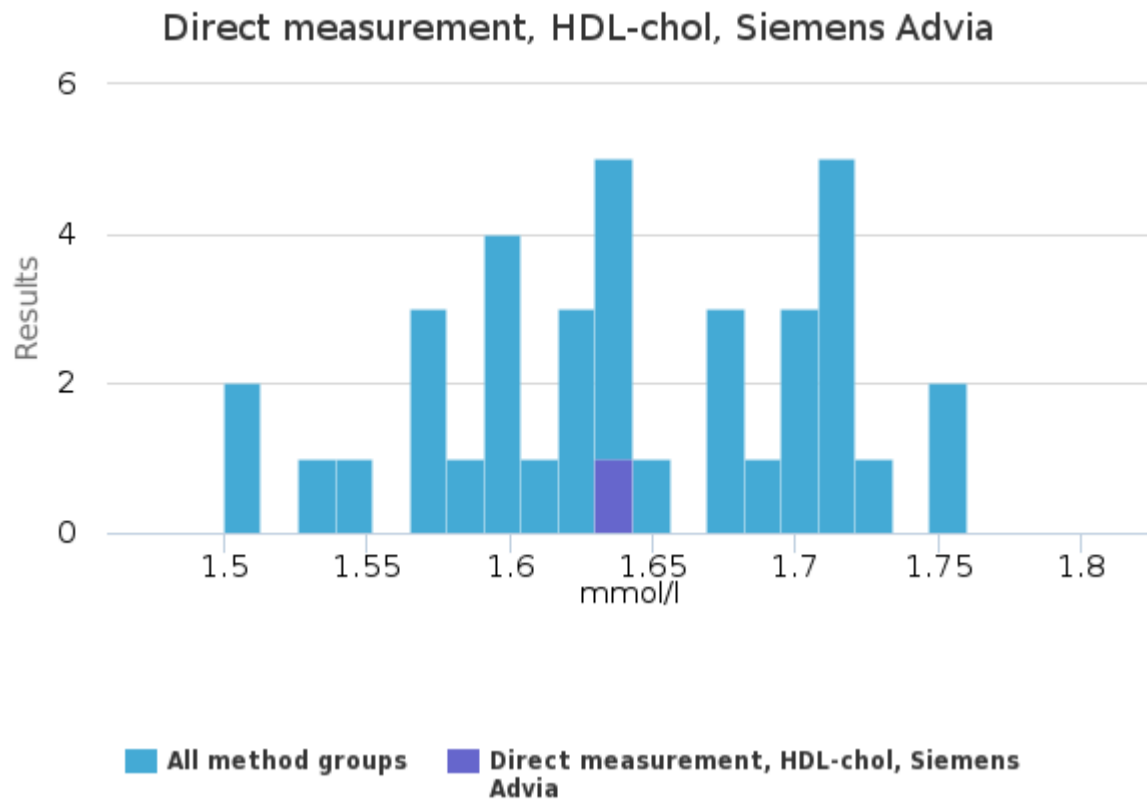


Sample S001 | S-Chol-HDL, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Direct measurement, HDL-Chol, Abbott	1.56	1.57	0.03	2.2	0.01	1.51	1.61	-	8
Direct measurement, HDL-Chol, BC (AU-devices)	1.63	1.63	0.06	3.5	0.04	1.59	1.67	-	2
Direct measurement, HDL-chol, Roche-systems	1.67	1.66	0.04	2.4	0.01	1.62	1.73	-	14
Direct measurement, HDL-chol, Siemens	1.58	1.60	0.05	3.2	0.03	1.50	1.60	-	4
Direct measurement, HDL-chol, Siemens Advia	-	-	-	-	-	1.64	1.64	-	1
Direct measurement, HDL-chol, Thermo Scientific	1.72	1.71	0.03	1.7	0.01	1.68	1.76	-	5
NMR spectroscopy, Chol HDL	1.70	1.72	0.07	3.9	0.04	1.63	1.76	-	3
All	1.64	1.63	0.07	4.1	0.01	1.50	1.76	-	37

Sample S001 | S-Chol-HDL, mmol/l| histogram summaries in LabScala

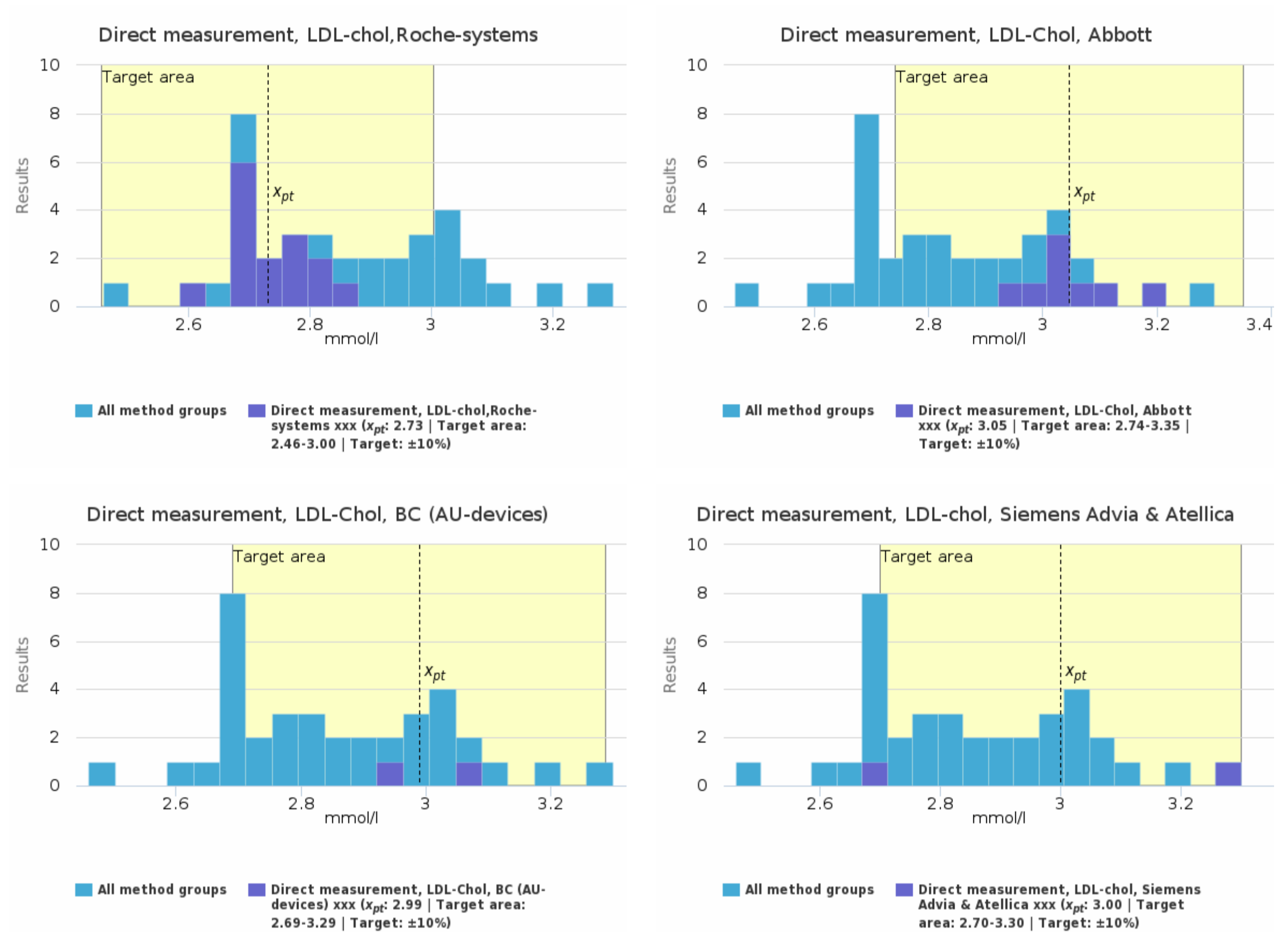


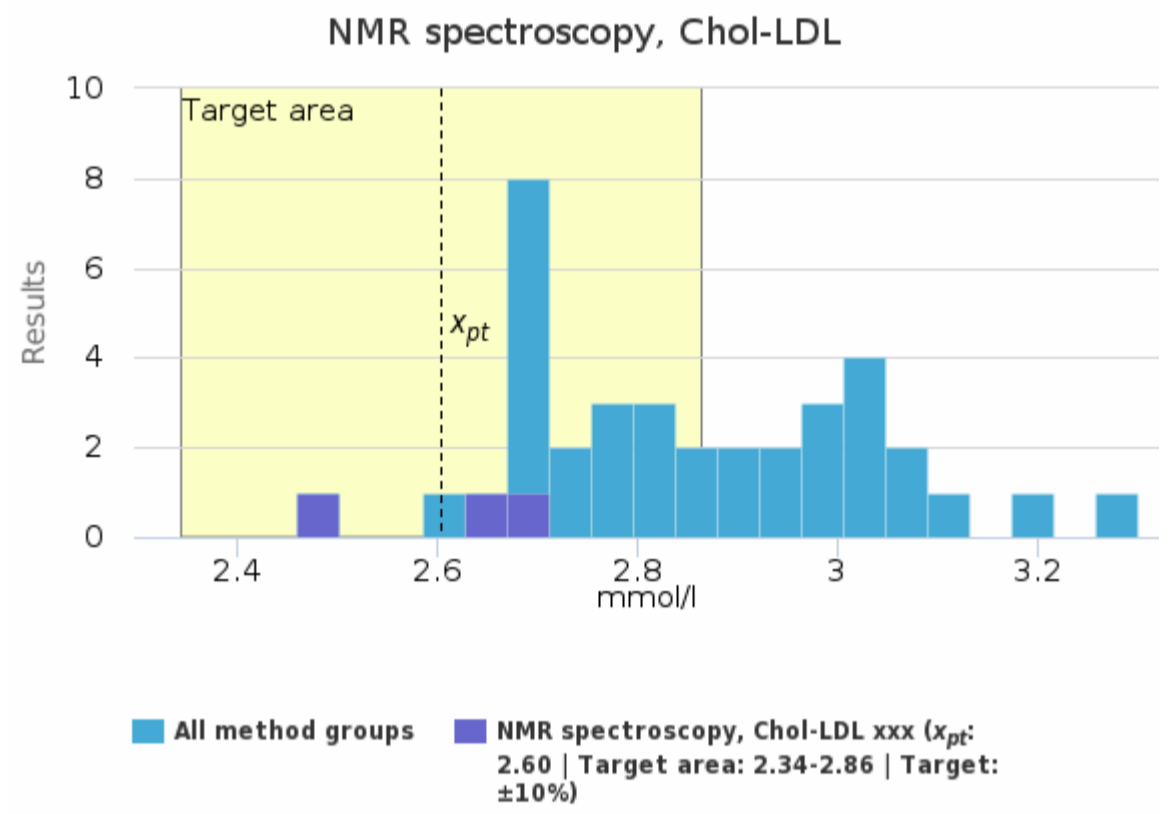
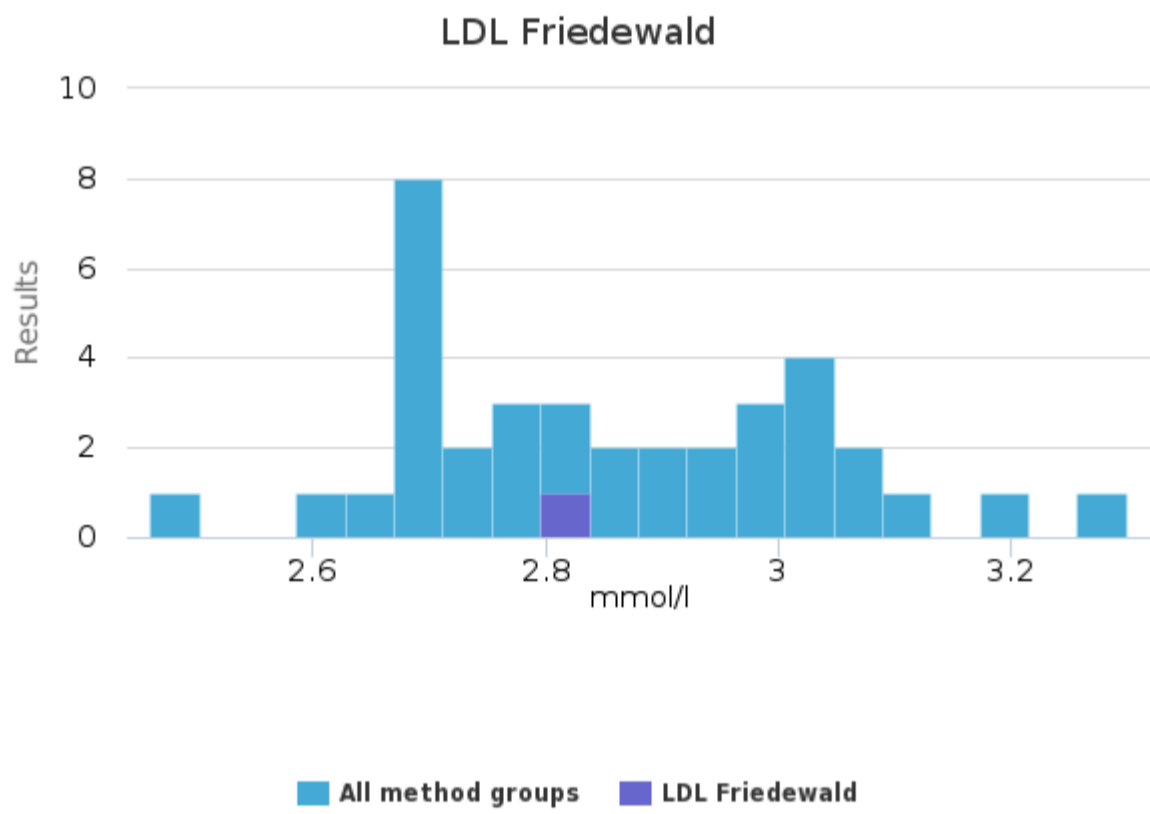
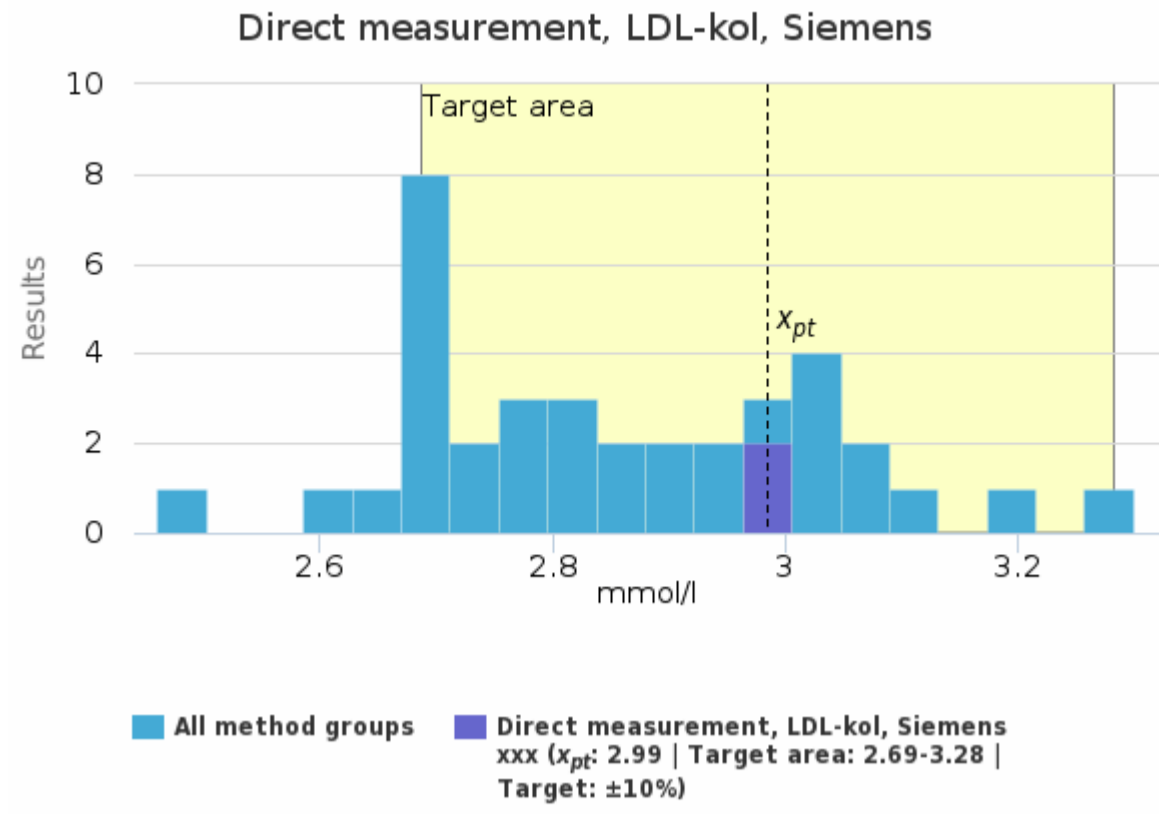
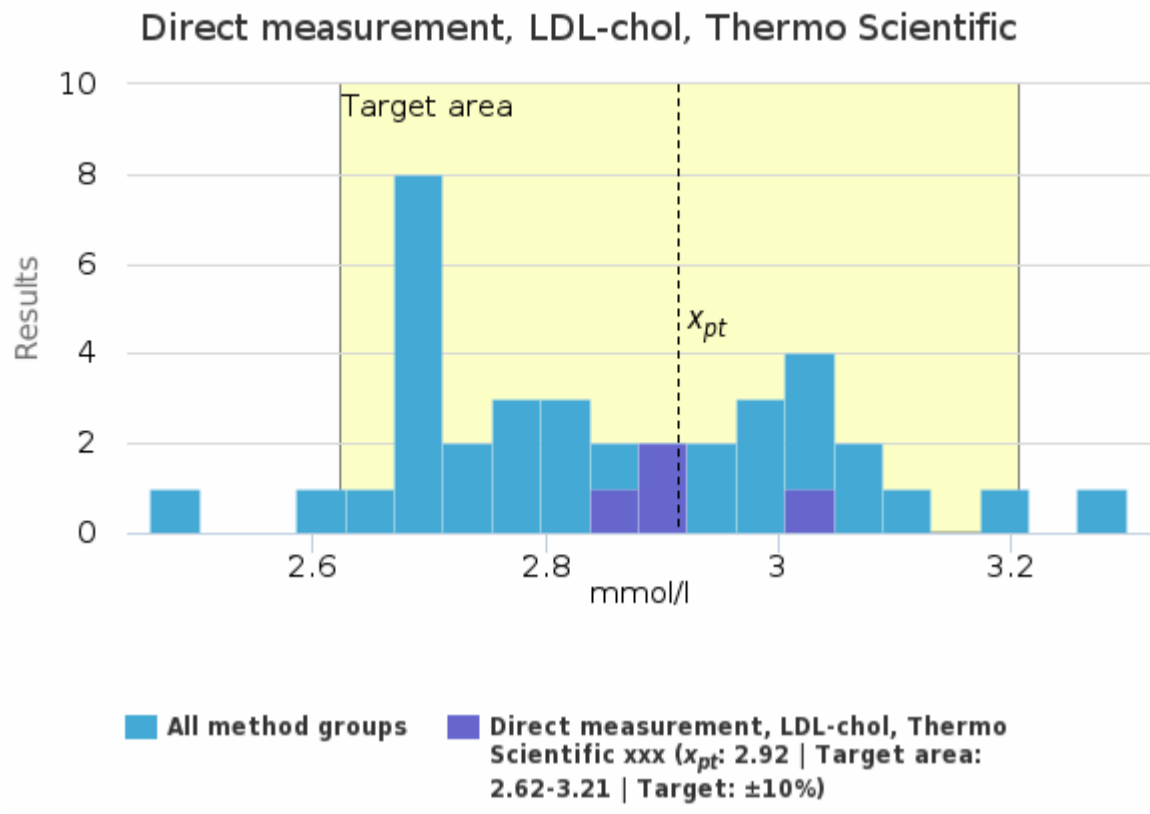


Sample S001 | S-Chol-LDL, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Direct measurement, LDL-chol, Roche-systems	2.73	2.73	0.06	2.4	0.02	2.59	2.84	-	15
Direct measurement, LDL-Chol, Abbott	3.05	3.03	0.07	2.2	0.02	2.96	3.18	-	8
Direct measurement, LDL-Chol, BC (AU-devices)	2.99	2.99	0.08	2.8	0.06	2.93	3.05	-	2
Direct measurement, LDL-chol, Siemens Advia & Atellica	3.00	3.00	0.42	14.1	0.30	2.70	3.30	-	2
Direct measurement, LDL-chol, Thermo Scientific	2.92	2.90	0.08	2.8	0.04	2.84	3.03	-	4
Direct measurement, LDL-kol, Siemens	2.99	2.99	0.02	0.7	0.02	2.97	3.00	-	2
LDL Friedewald	-	-	-	-	-	2.80	2.80	-	1
NMR spectroscopy, Chol-LDL	2.60	2.66	0.13	4.8	0.07	2.46	2.69	-	3
All	2.85	2.80	0.18	6.3	0.03	2.46	3.30	-	37

Sample S001 | S-Chol-LDL, mmol/l | histogram summaries in LabScala

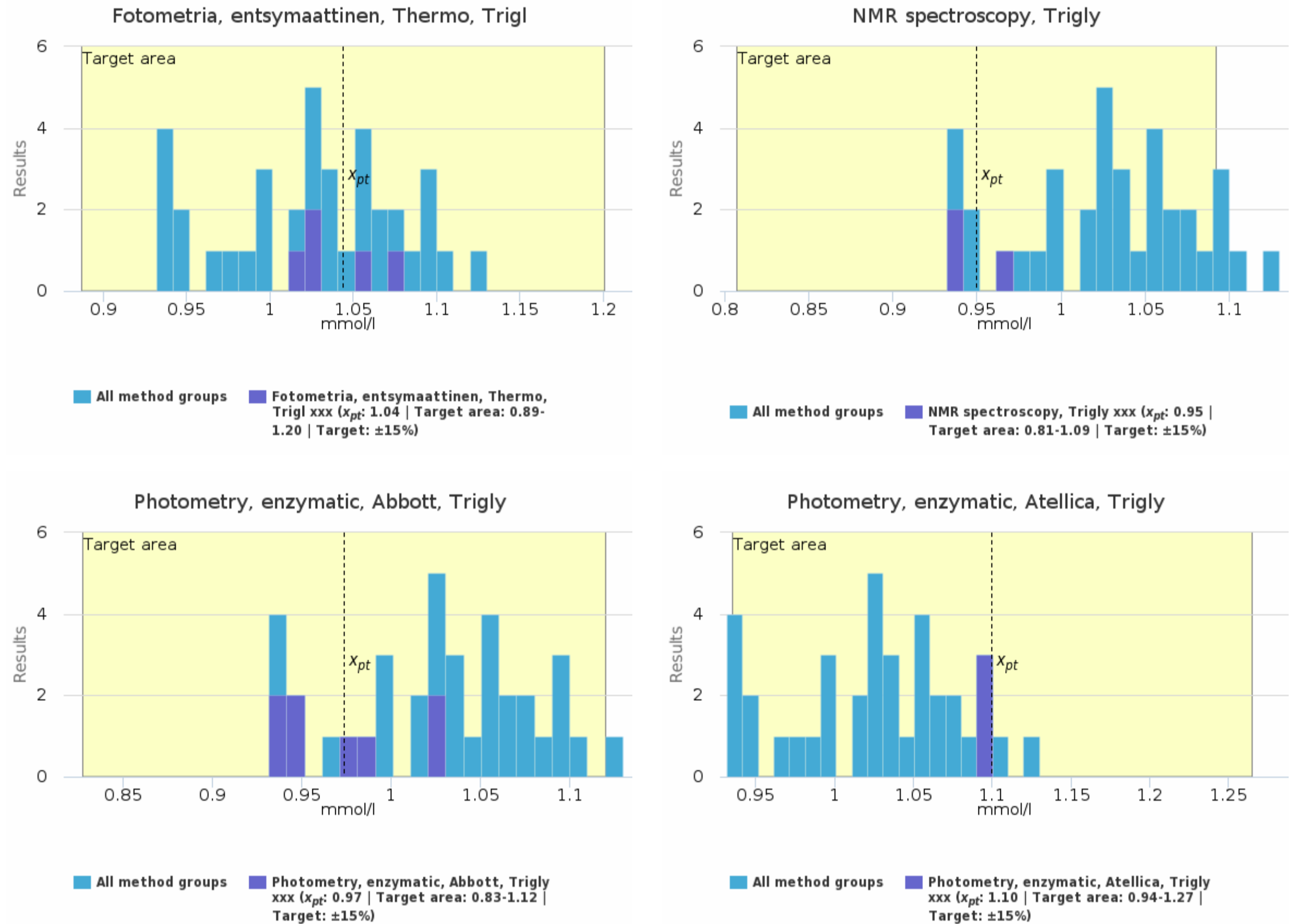


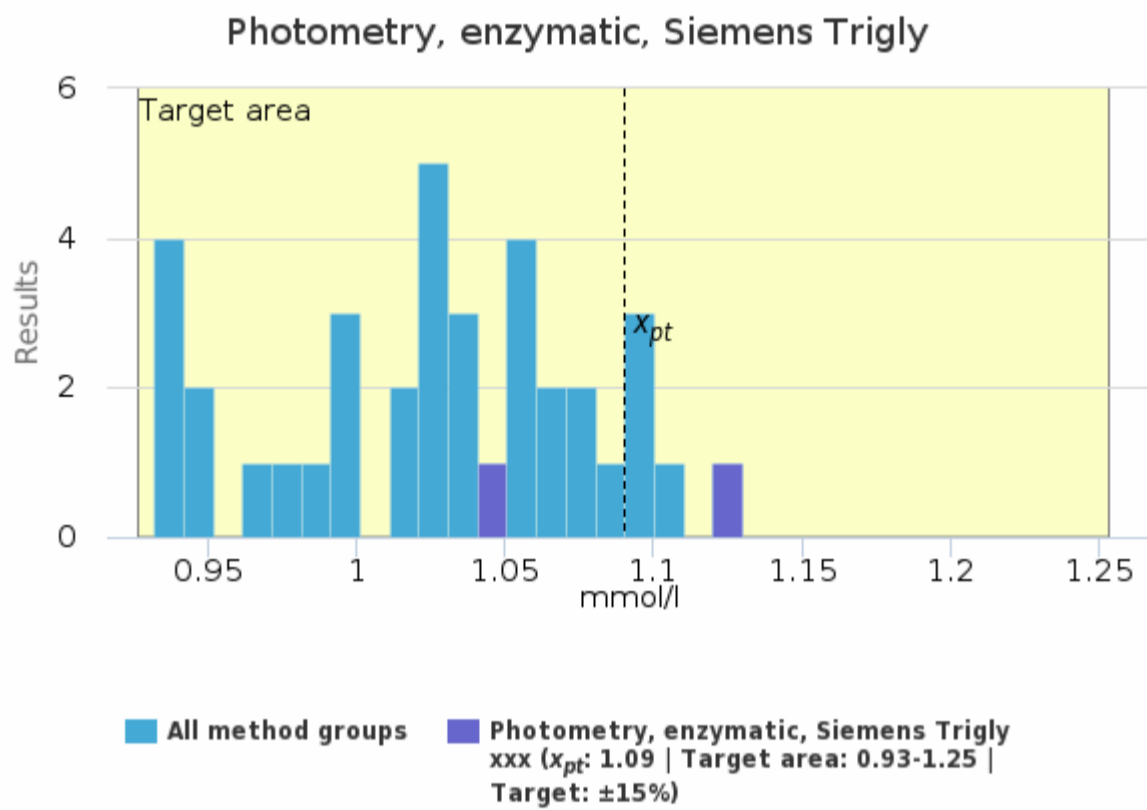
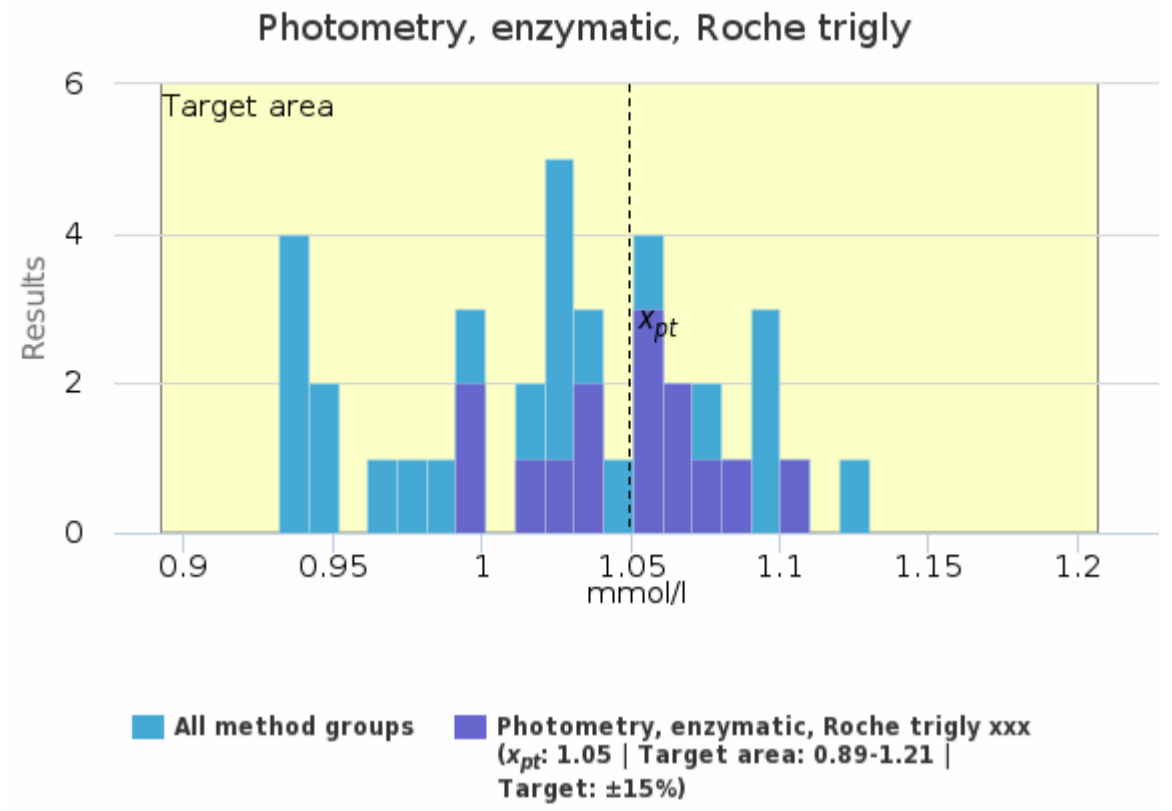
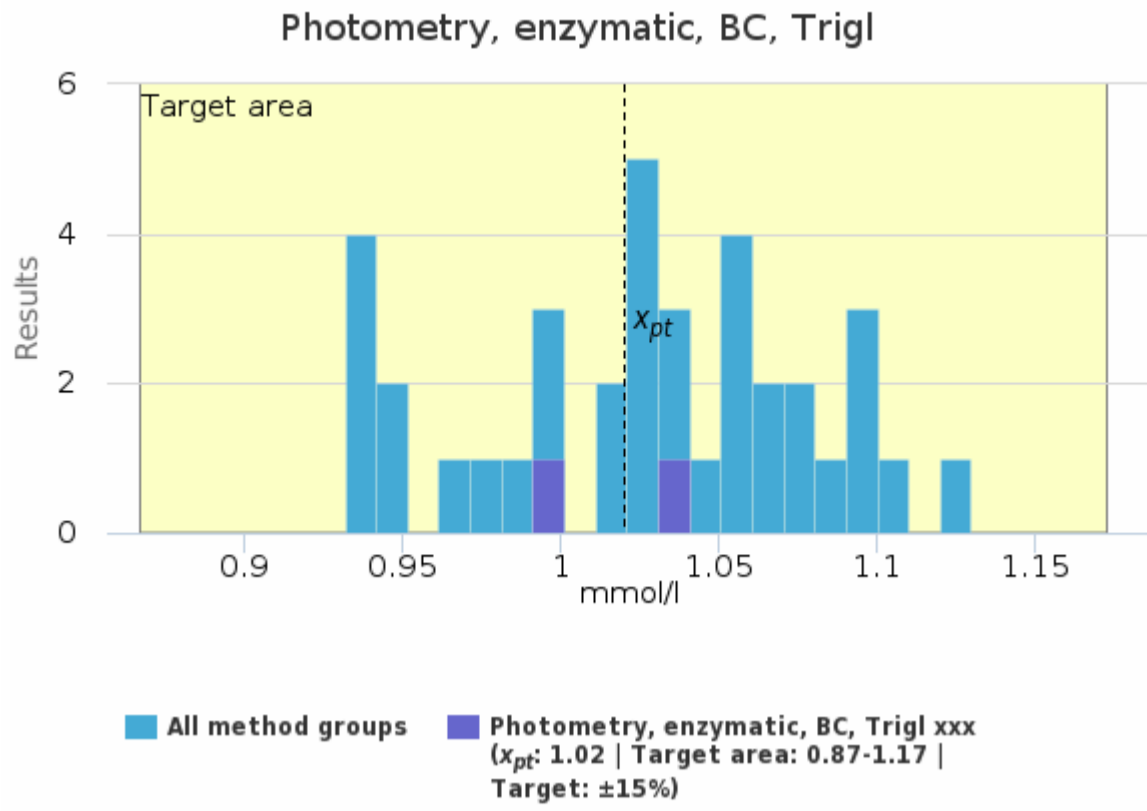


Sample S001 | S-Trigly, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Fotometria, entsyymäntinen, Thermo, Trigly	1.04	1.03	0.03	2.4	0.01	1.02	1.08	-	5
NMR spectroscopy, Trigly	0.95	0.94	0.02	1.8	0.01	0.94	0.97	-	3
Photometry, enzymatic, Abbott, Trigly	0.97	0.97	0.04	4.1	0.01	0.93	1.03	-	8
Photometry, enzymatic, Atellica, Trigly	1.10	1.10	<0.01	<0.1	<0.01	1.10	1.10	-	3
Photometry, enzymatic, BC, Trigly	1.02	1.02	0.03	2.8	0.02	1.00	1.04	-	2
Photometry, enzymatic, Roche trigly	1.05	1.06	0.03	3.0	<0.01	1.00	1.11	-	14
Photometry, enzymatic, Siemens Trigly	1.09	1.09	0.06	5.2	0.04	1.05	1.13	-	2
All	1.03	1.03	0.05	5.2	<0.01	0.93	1.13	-	37

Sample S001 | S-Trigly, mmol/l | histogram summaries in LabScala

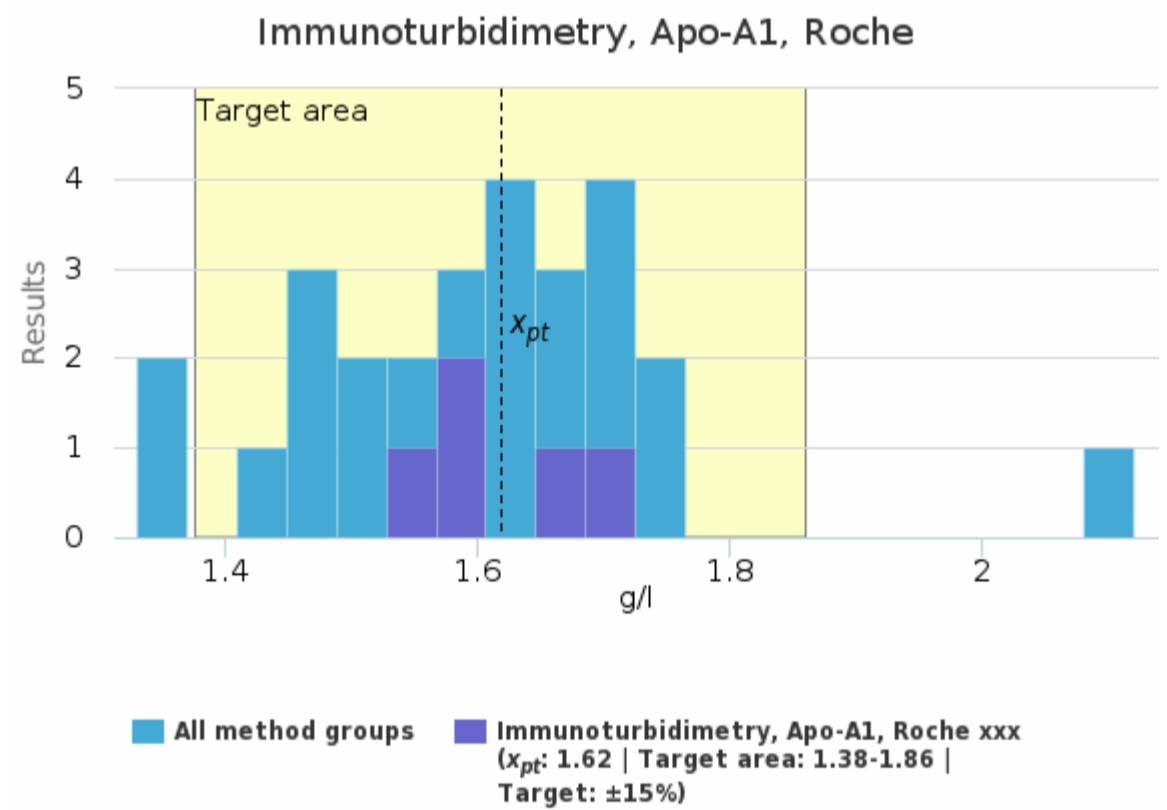
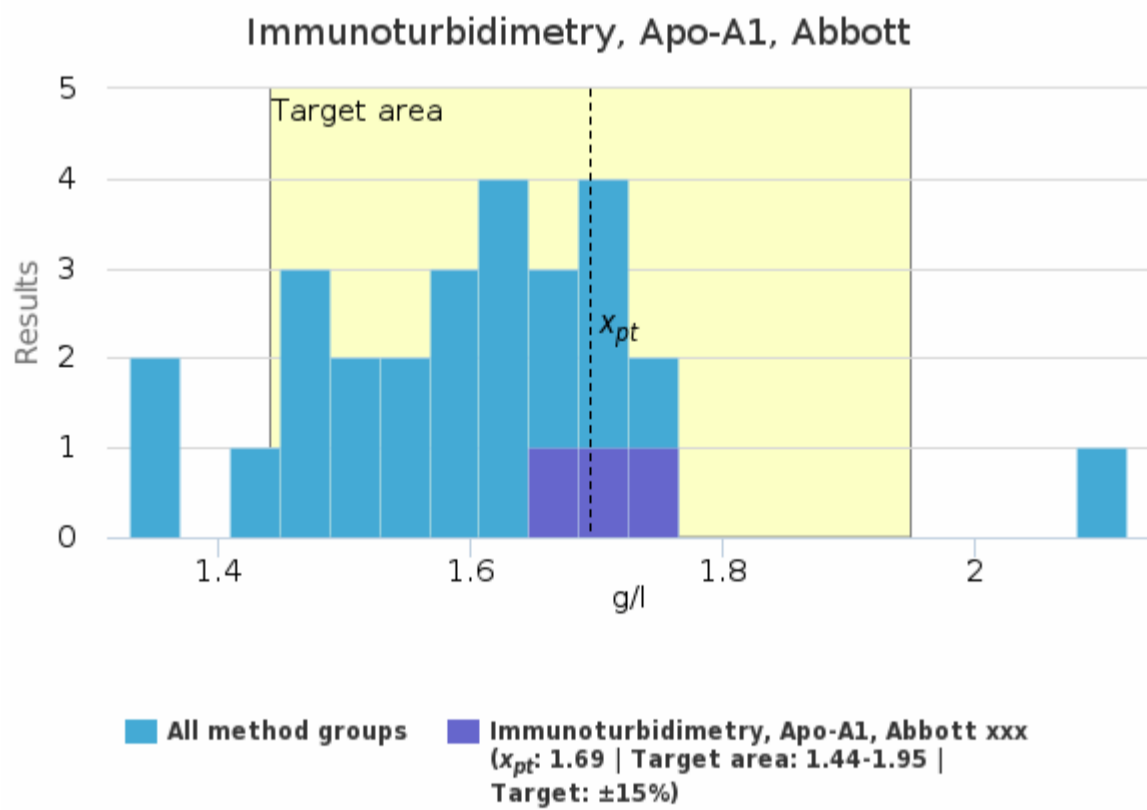
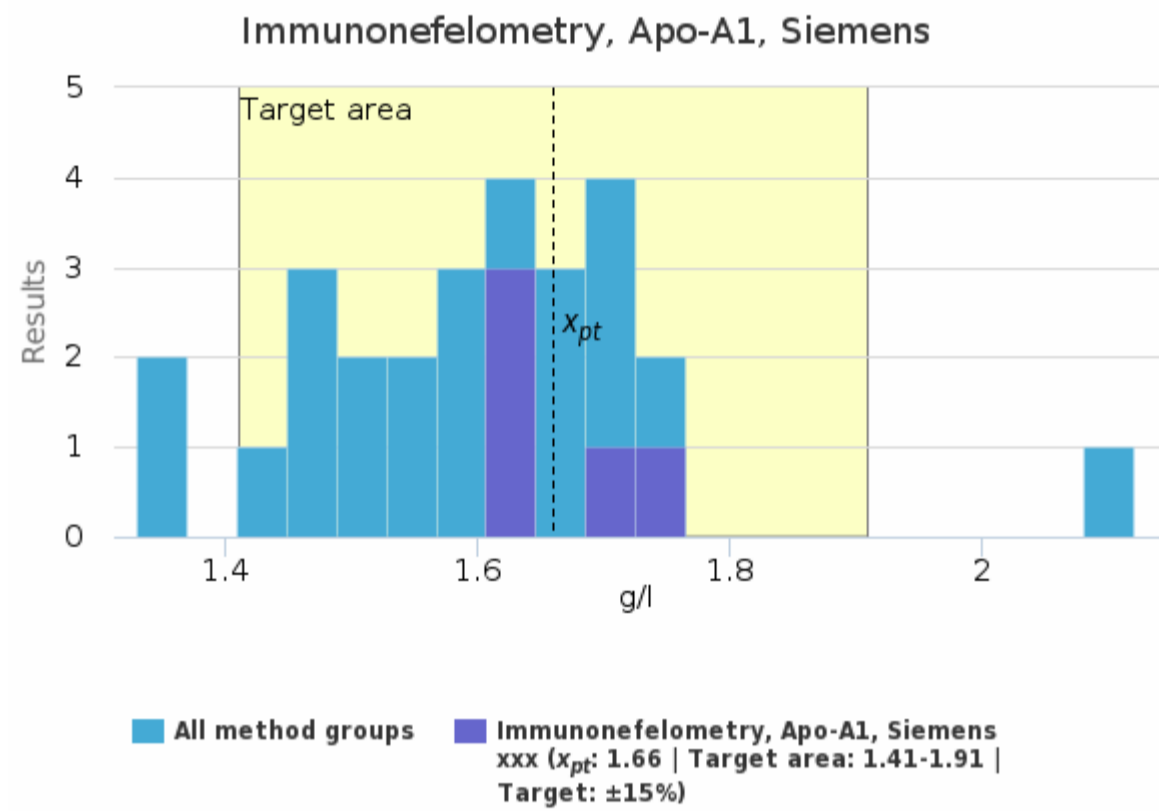
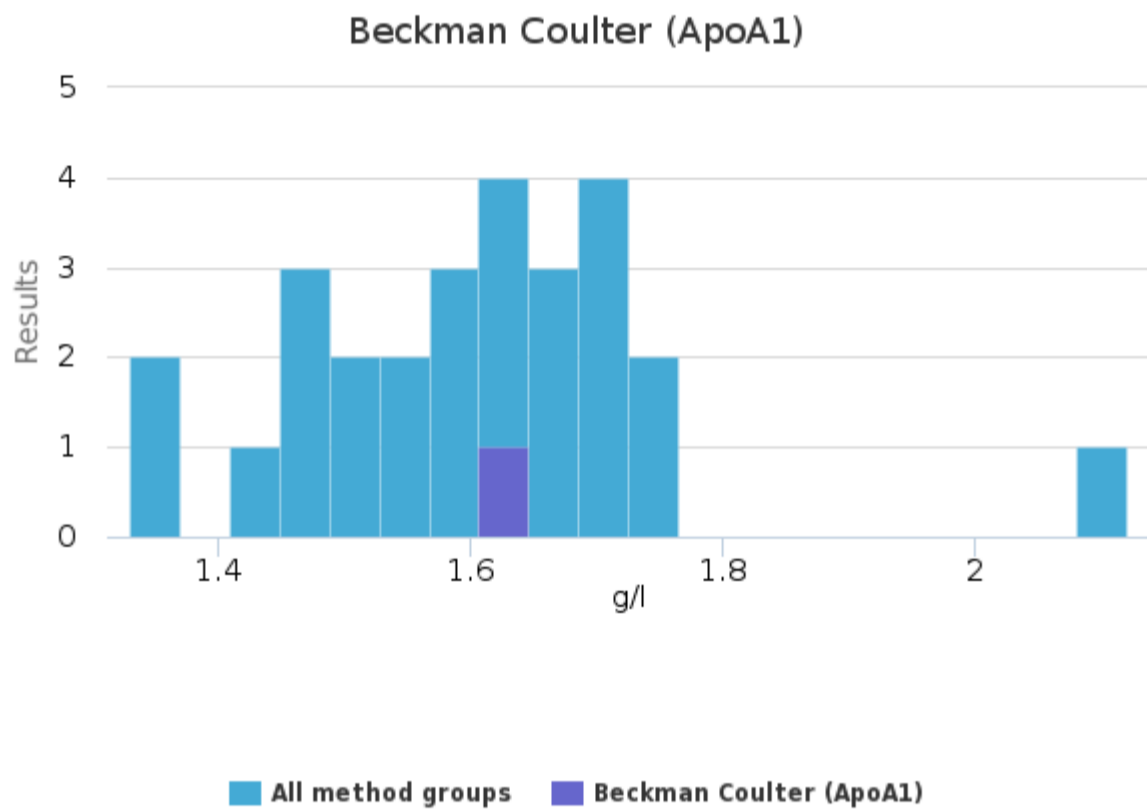


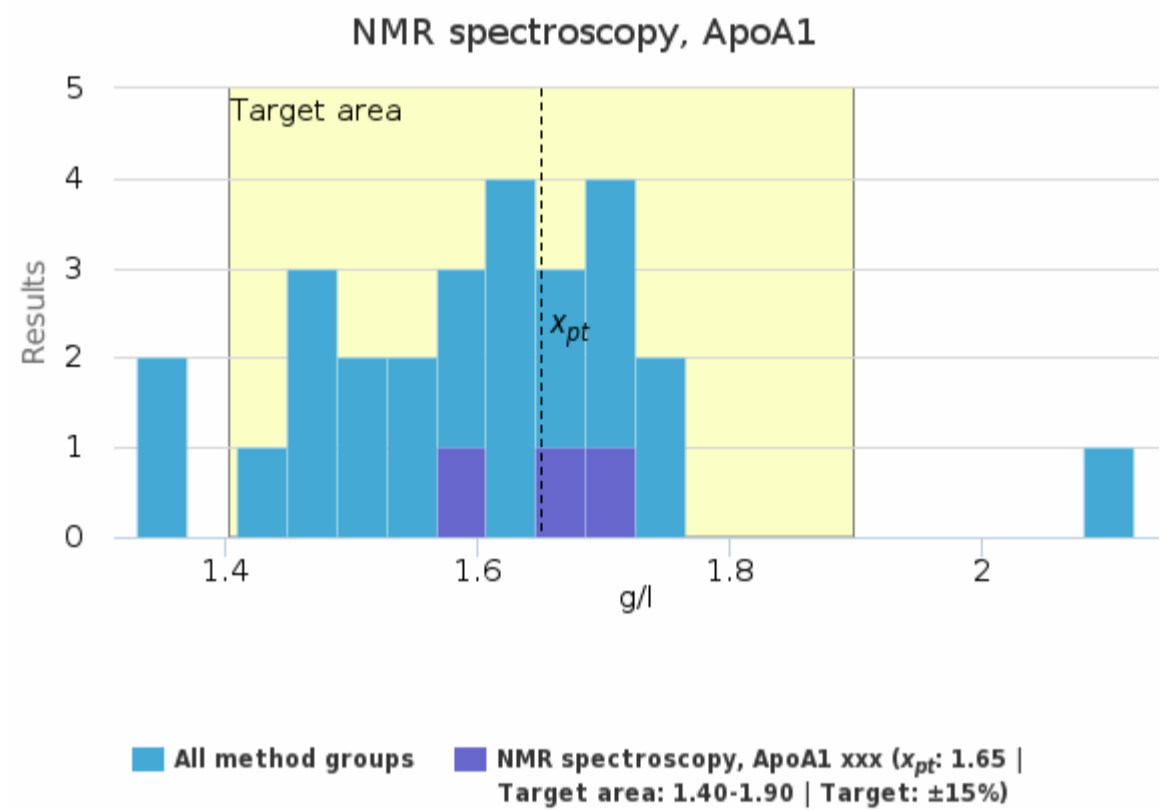
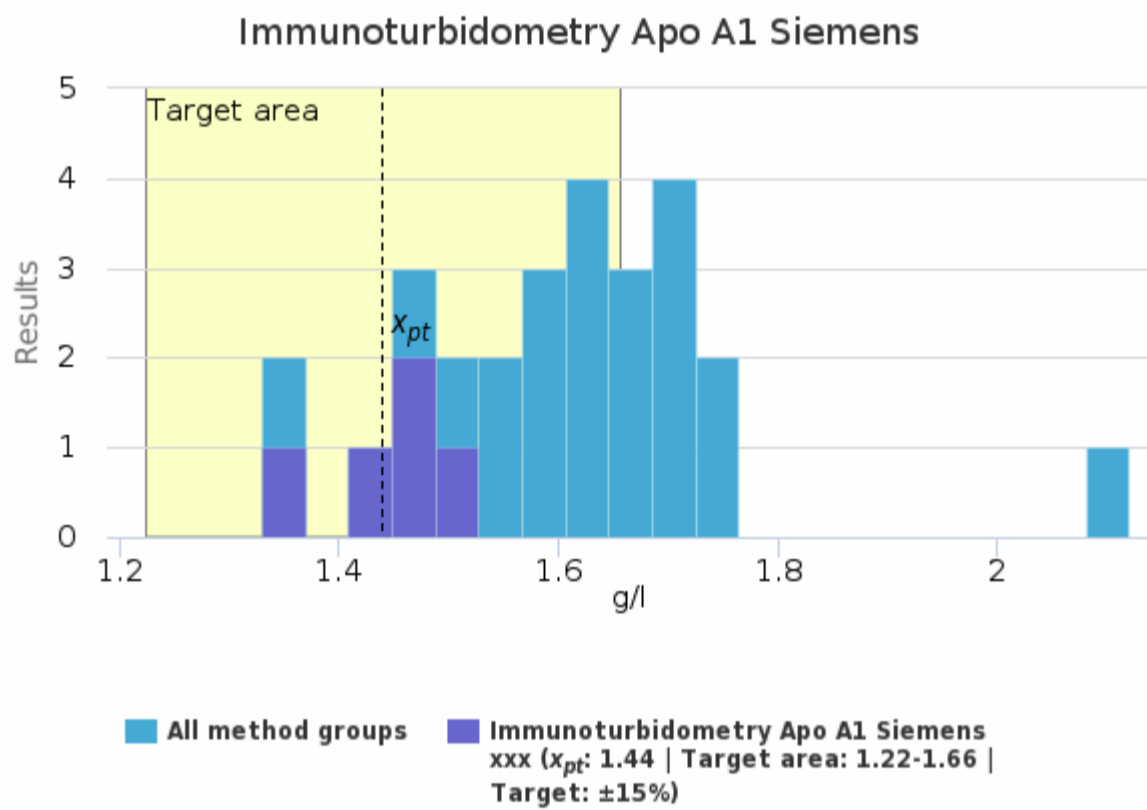
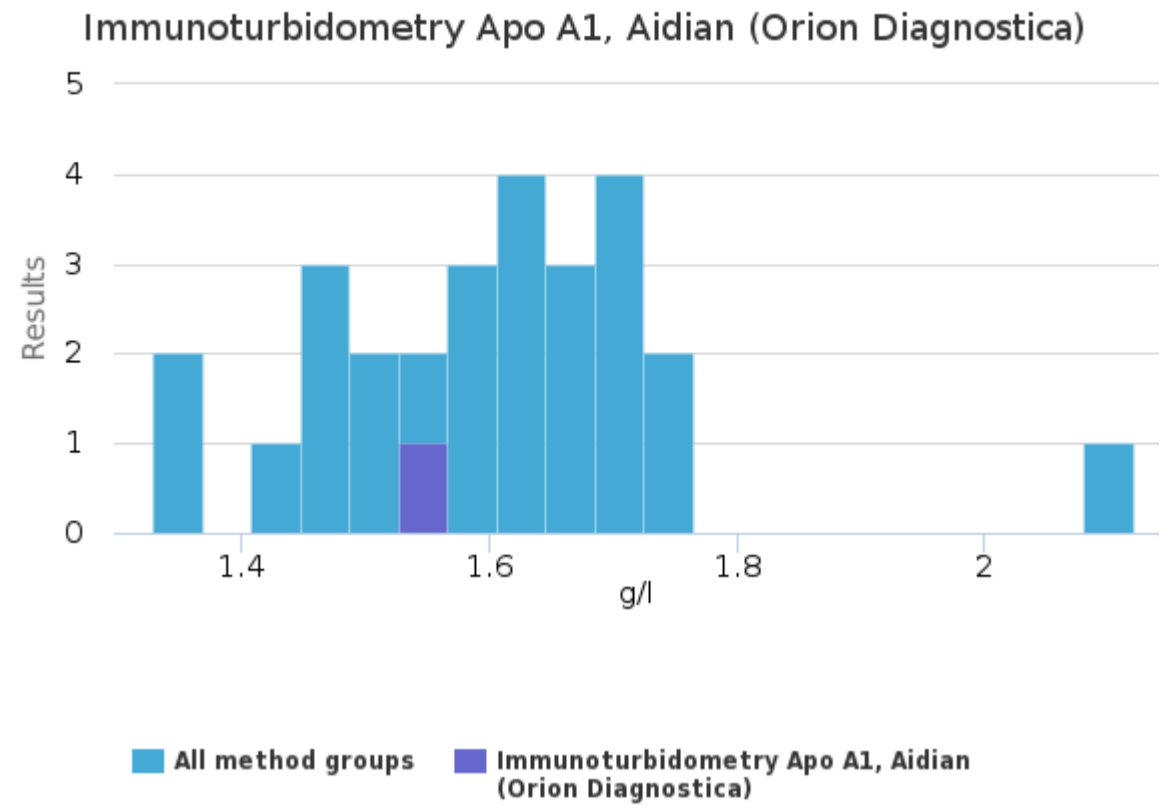
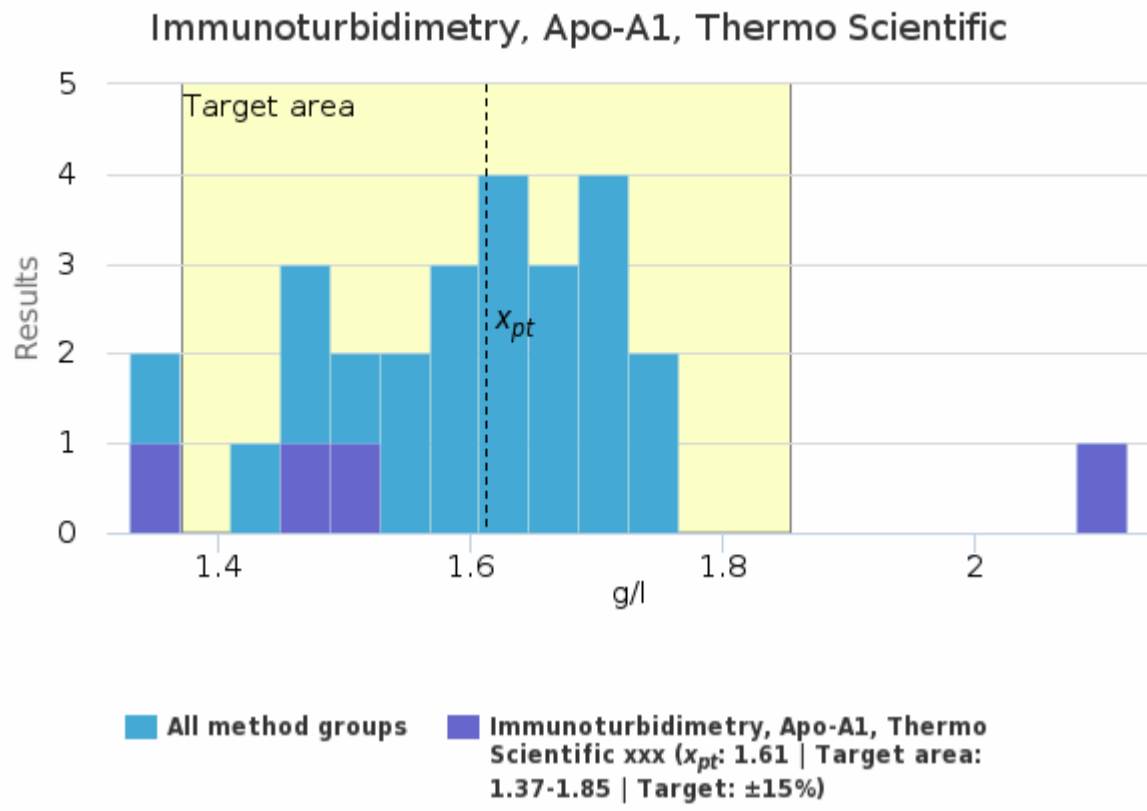


Sample S001 | S-LipoA1, g/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Beckman Coulter (ApoA1)	-	-	-	-	-	1.61	1.61	-	1
Immunonefelometry, Apo-A1, Siemens	1.66	1.63	0.06	3.4	0.03	1.61	1.74	-	5
Immunoturbidimetry, Apo-A1, Abbott	1.69	1.70	0.04	2.5	0.02	1.65	1.73	-	3
Immunoturbidimetry, Apo-A1, Roche	1.62	1.60	0.06	3.6	0.03	1.55	1.70	-	5
Immunoturbidimetry, Apo-A1, Thermo Scientific	1.61	1.49	0.35	21.4	0.17	1.35	2.12	-	4
Immunoturbidimetry Apo A1, Aidian (Orion Diagnostica)	-	-	-	-	-	1.56	1.56	-	1
Immunoturbidimetry Apo A1 Siemens	1.44	1.46	0.07	4.5	0.03	1.33	1.50	-	5
NMR spectroscopy, ApoA1	1.65	1.66	0.06	3.4	0.03	1.59	1.70	-	3
All	1.58	1.61	0.11	7.1	0.02	1.33	1.74	1	27

Sample S001 | S-LipoA1, g/l | histogram summaries in LabScala

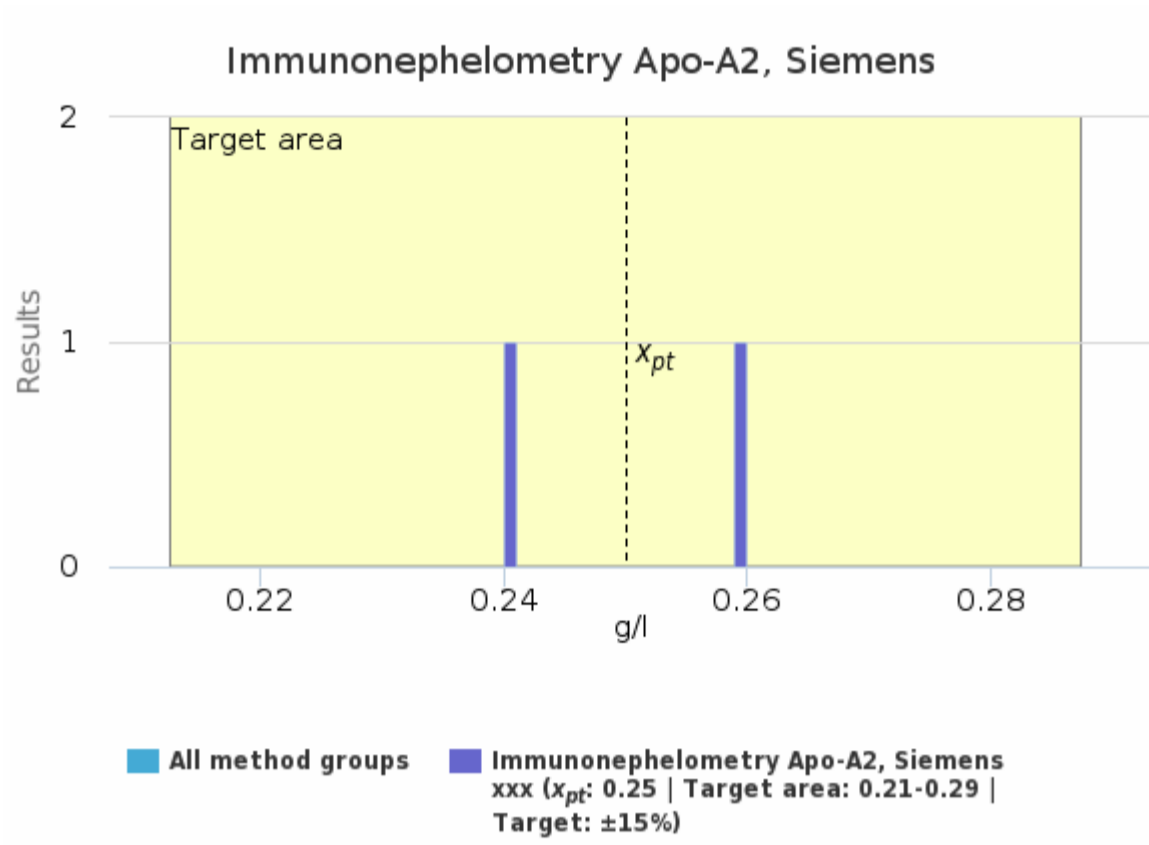




Sample S001 | S-LipoA2, g/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Immunonephelometry Apo-A2, Siemens	0.25	0.25	0.01	5.7	0.01	0.24	0.26	-	2
All	0.25	0.25	0.01	5.7	0.01	0.24	0.26	-	2

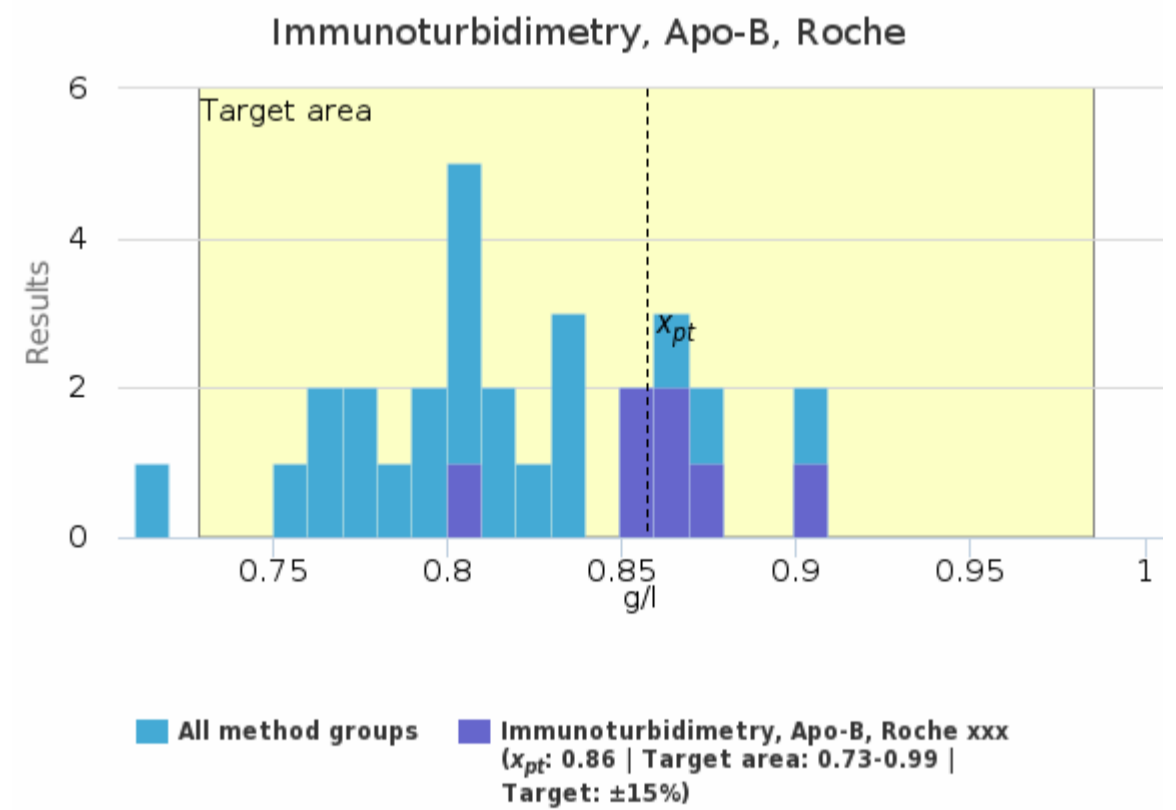
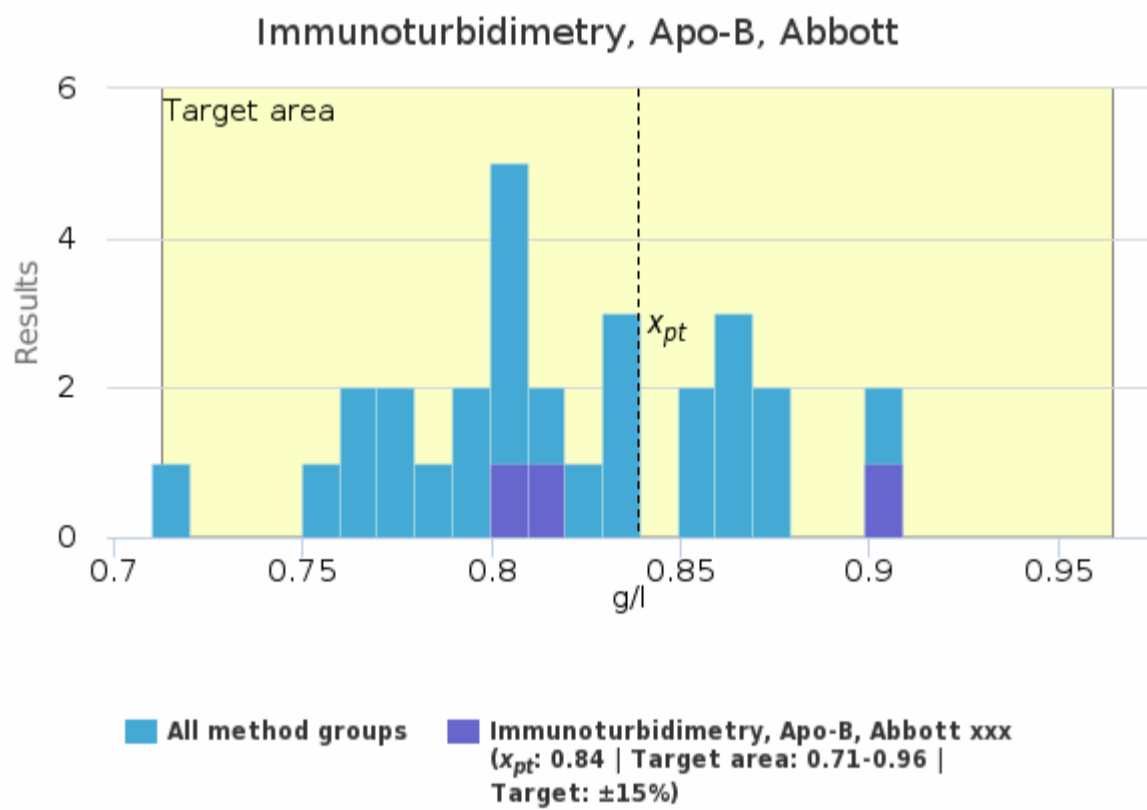
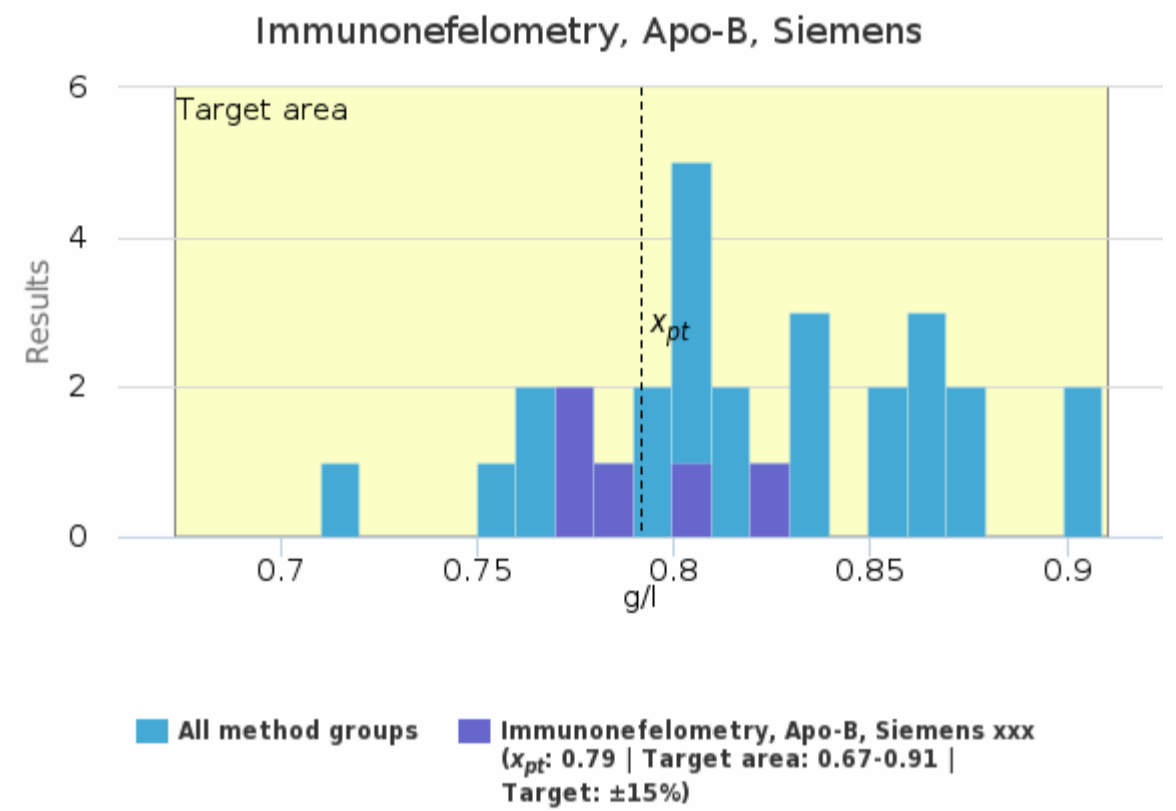
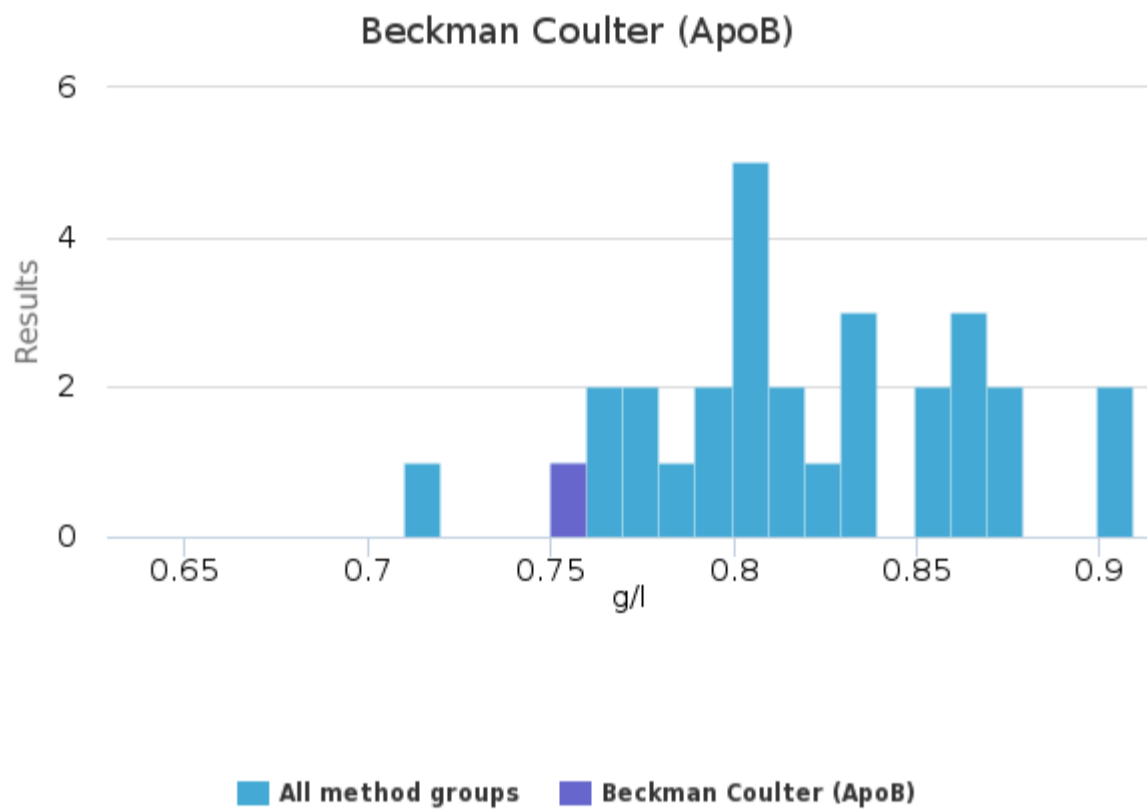
Sample S001 | S-LipoA2, g/l | histogram summaries in LabScala

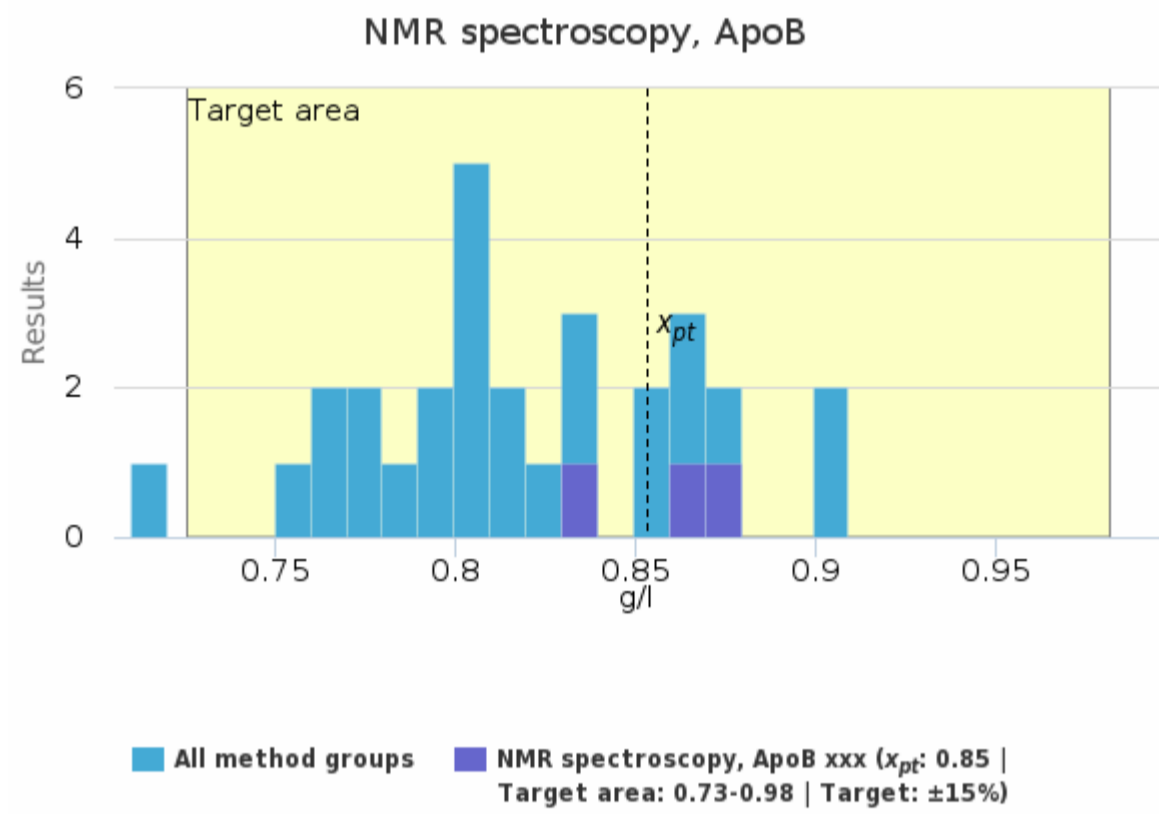
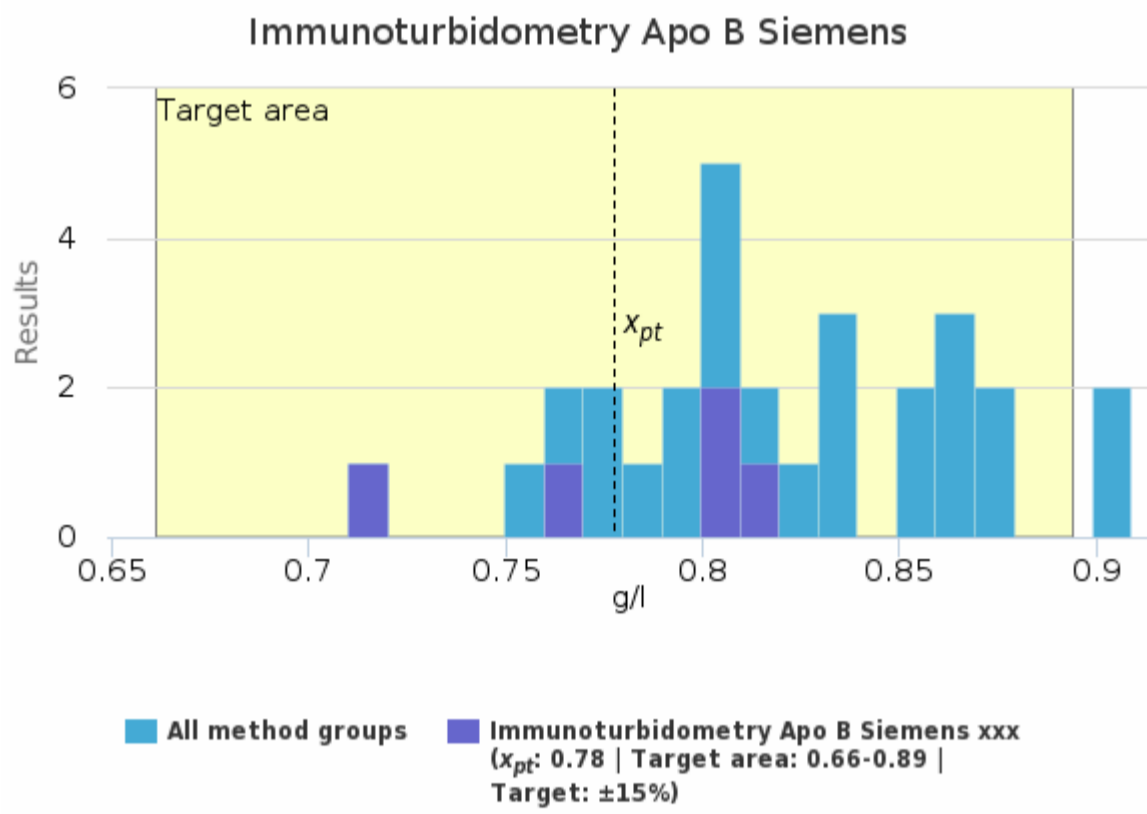
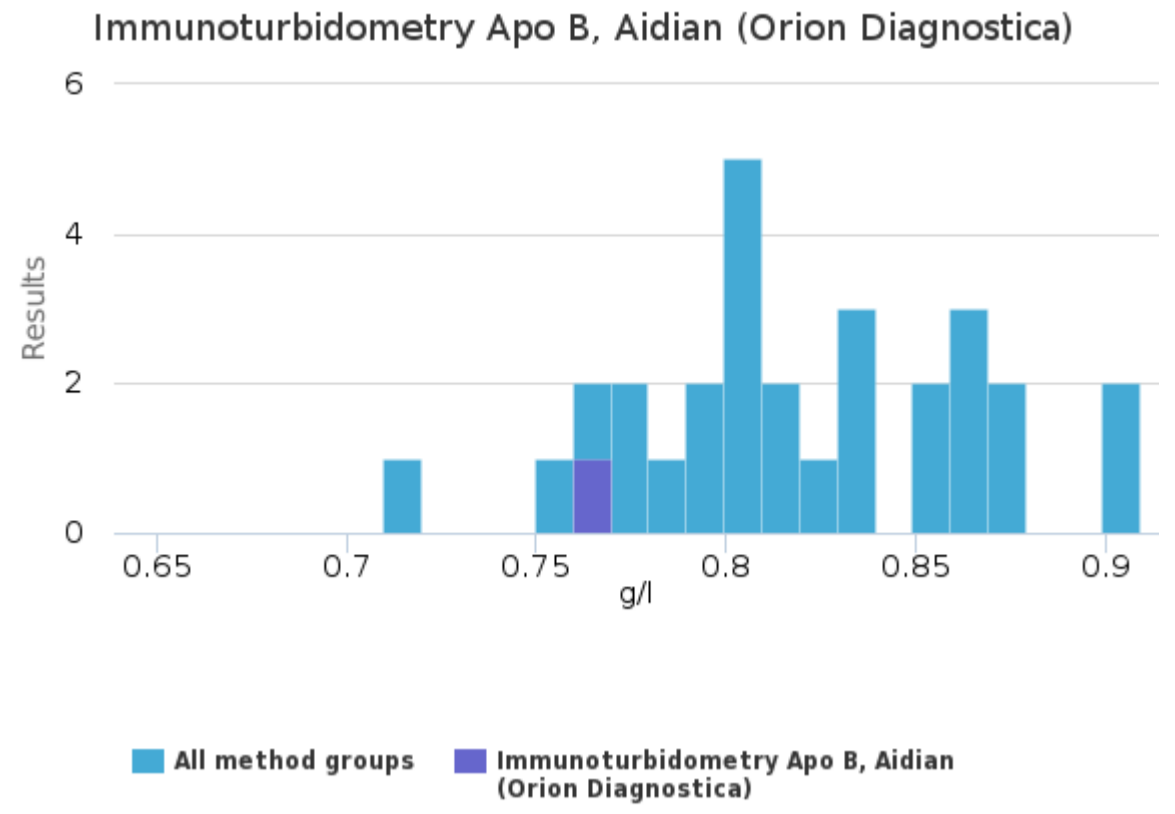
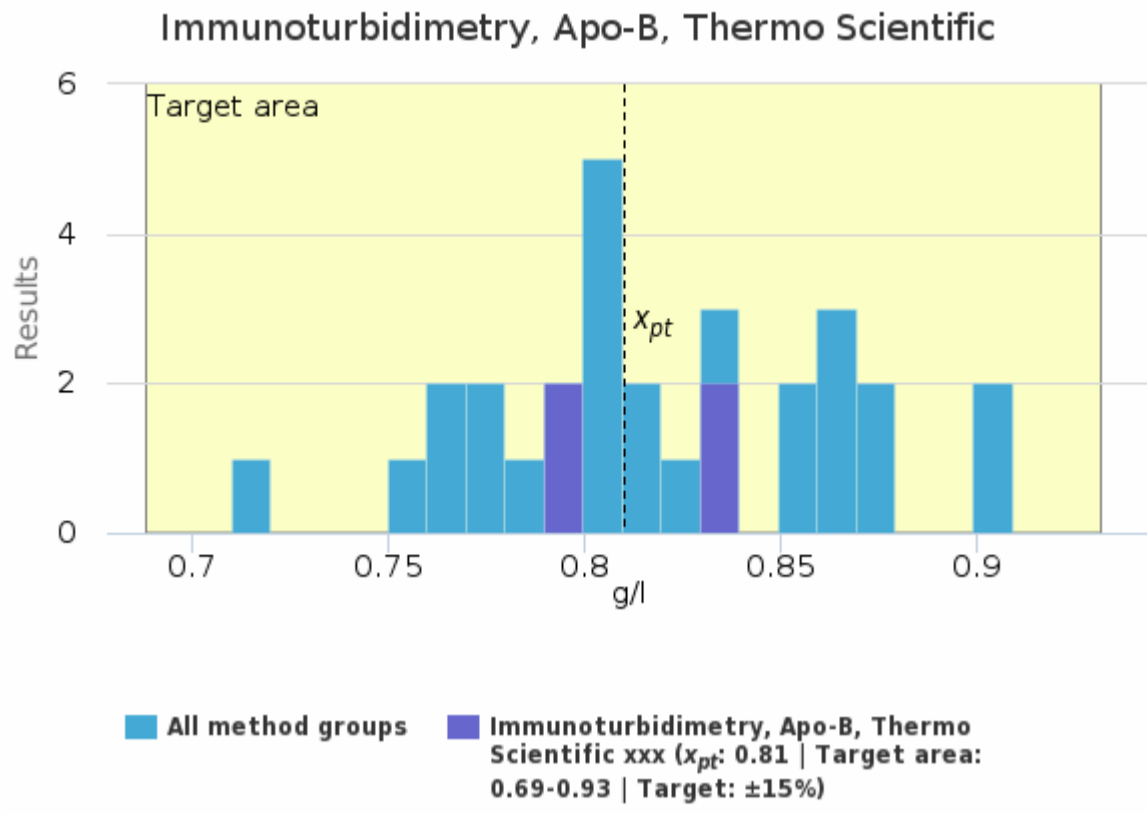


Sample S001 | S-LipoB, g/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Beckman Coulter (ApoB)	-	-	-	-	-	0.75	0.75	-	1
Immunonefelometry, Apo-B, Siemens	0.79	0.78	0.02	2.8	0.01	0.77	0.82	-	5
Immunoturbidimetry, Apo-B, Abbott	0.84	0.81	0.06	7.0	0.03	0.80	0.91	-	3
Immunoturbidimetry, Apo-B, Roche	0.86	0.86	0.03	3.8	0.01	0.80	0.91	-	7
Immunoturbidimetry, Apo-B, Thermo Scientific	0.81	0.81	0.02	2.9	0.01	0.79	0.83	-	4
Immunoturbidimetry Apo B, Aidian (Orion Diagnostica)	-	-	-	-	-	0.76	0.76	-	1
Immunoturbidimetry Apo B Siemens	0.78	0.80	0.04	5.3	0.02	0.71	0.81	-	5
NMR spectroscopy, ApoB	0.85	0.86	0.02	2.4	0.01	0.83	0.87	-	3
All	0.82	0.81	0.05	5.7	<0.01	0.71	0.91	-	29

Sample S001 | S-LipoB, g/l | histogram summaries in LabScala

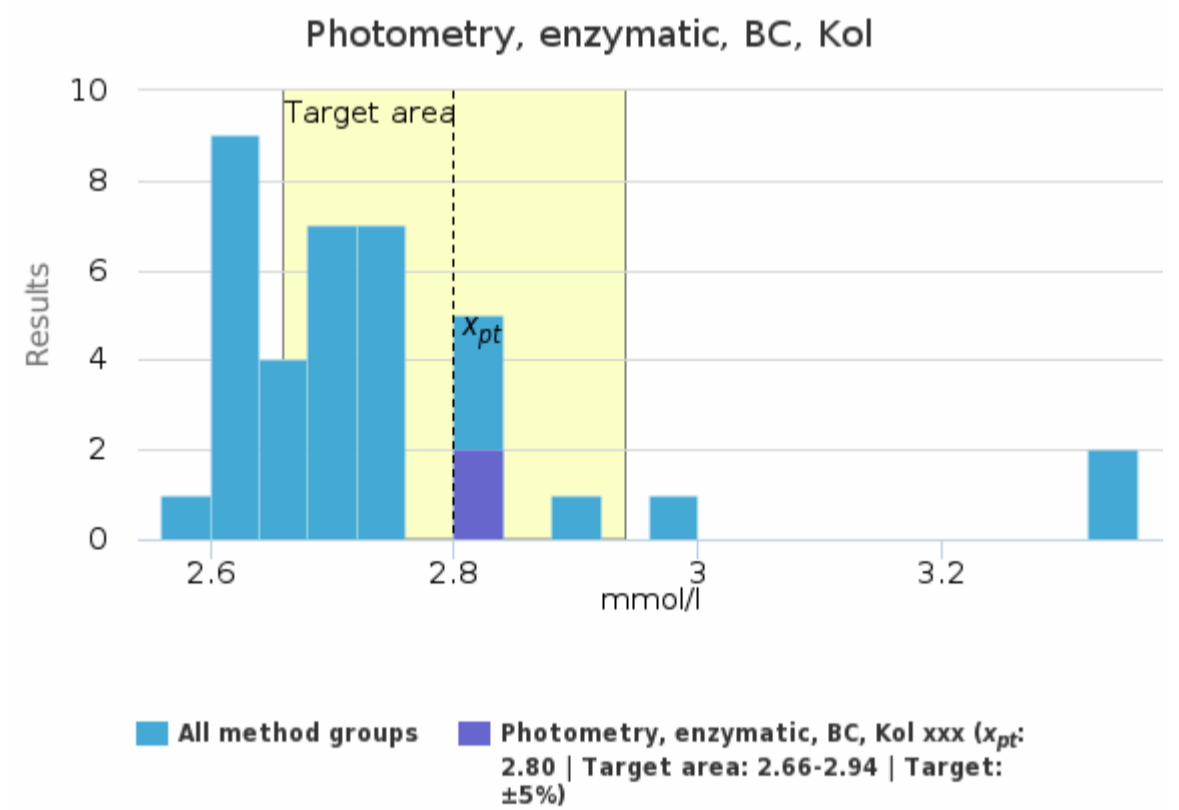
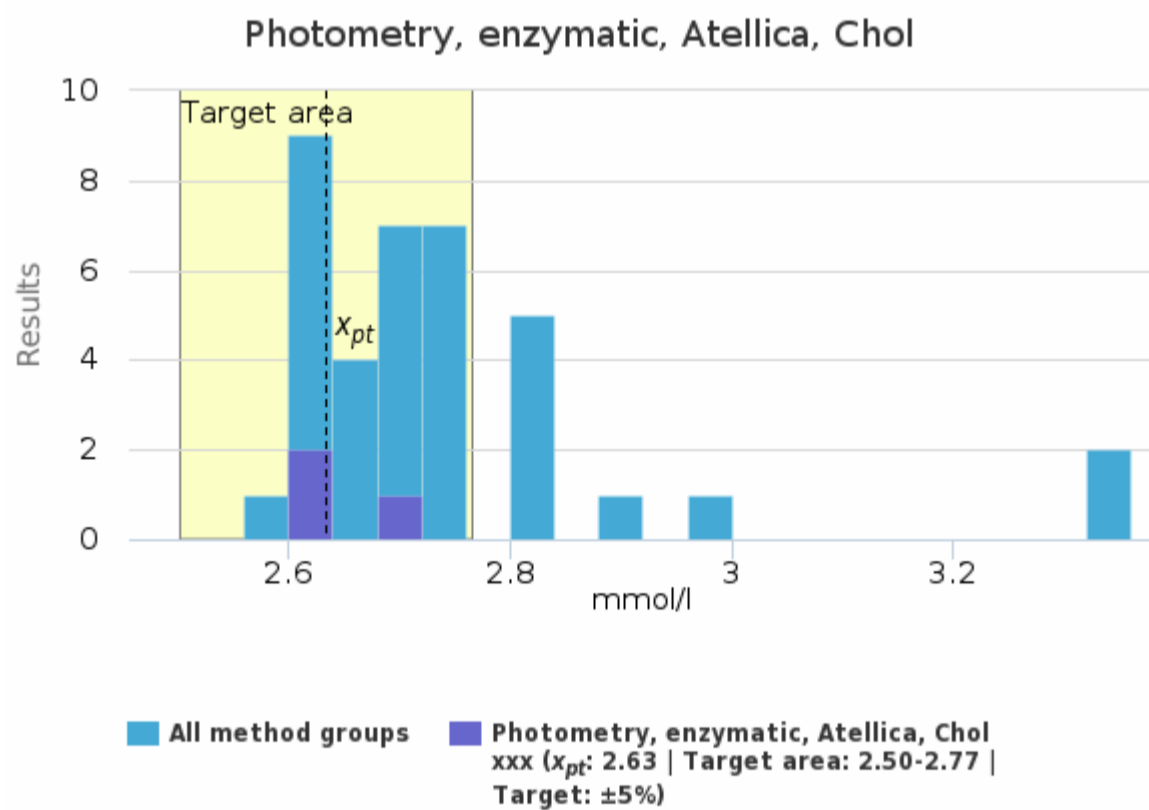
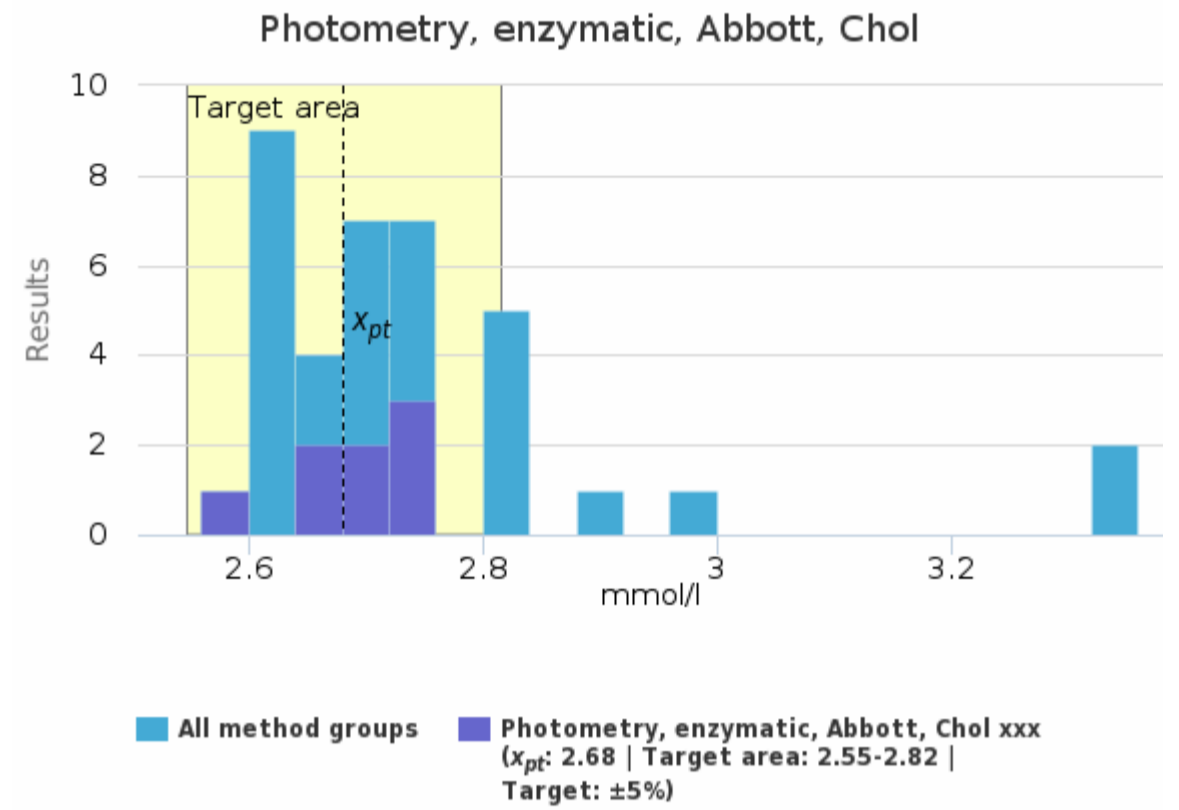
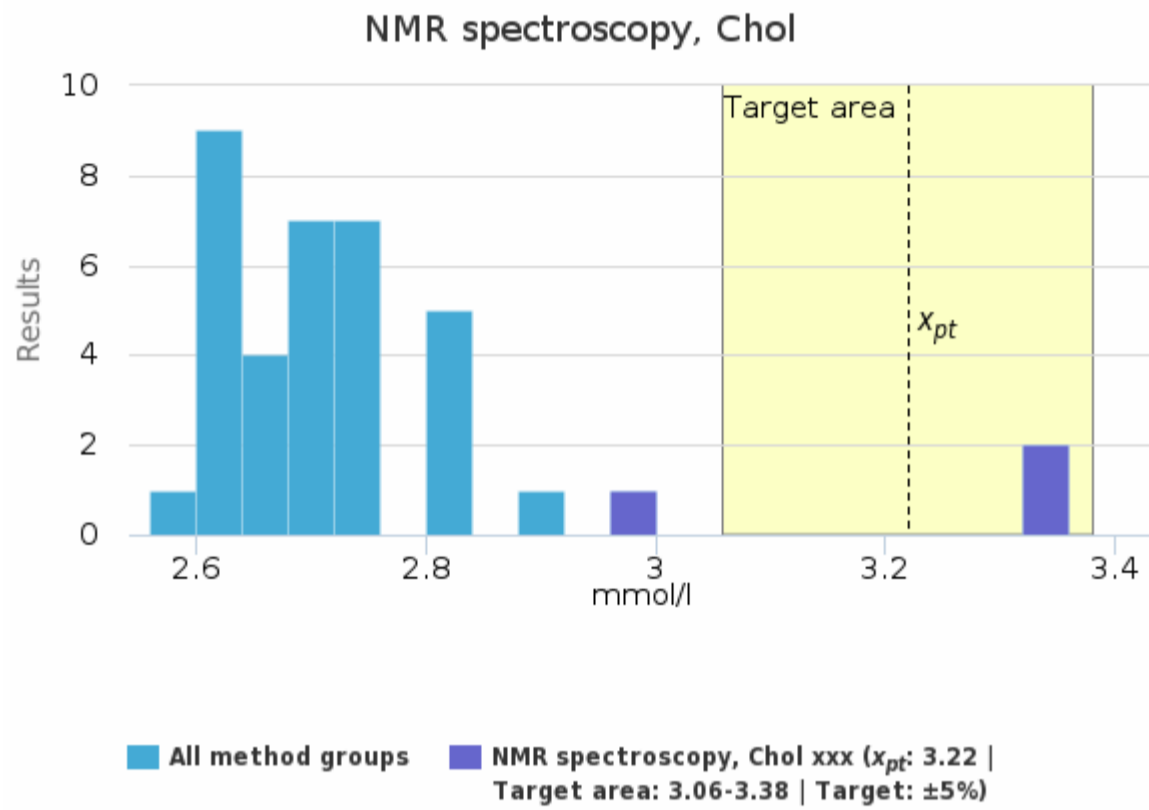


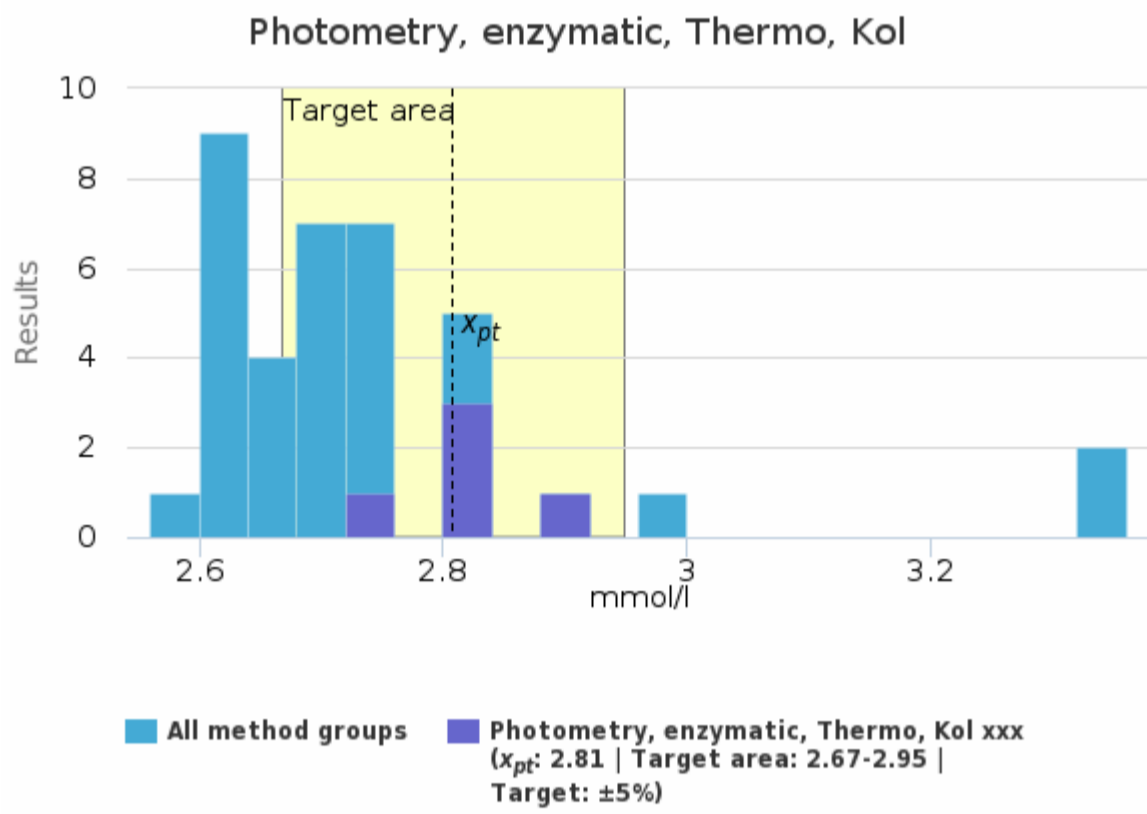
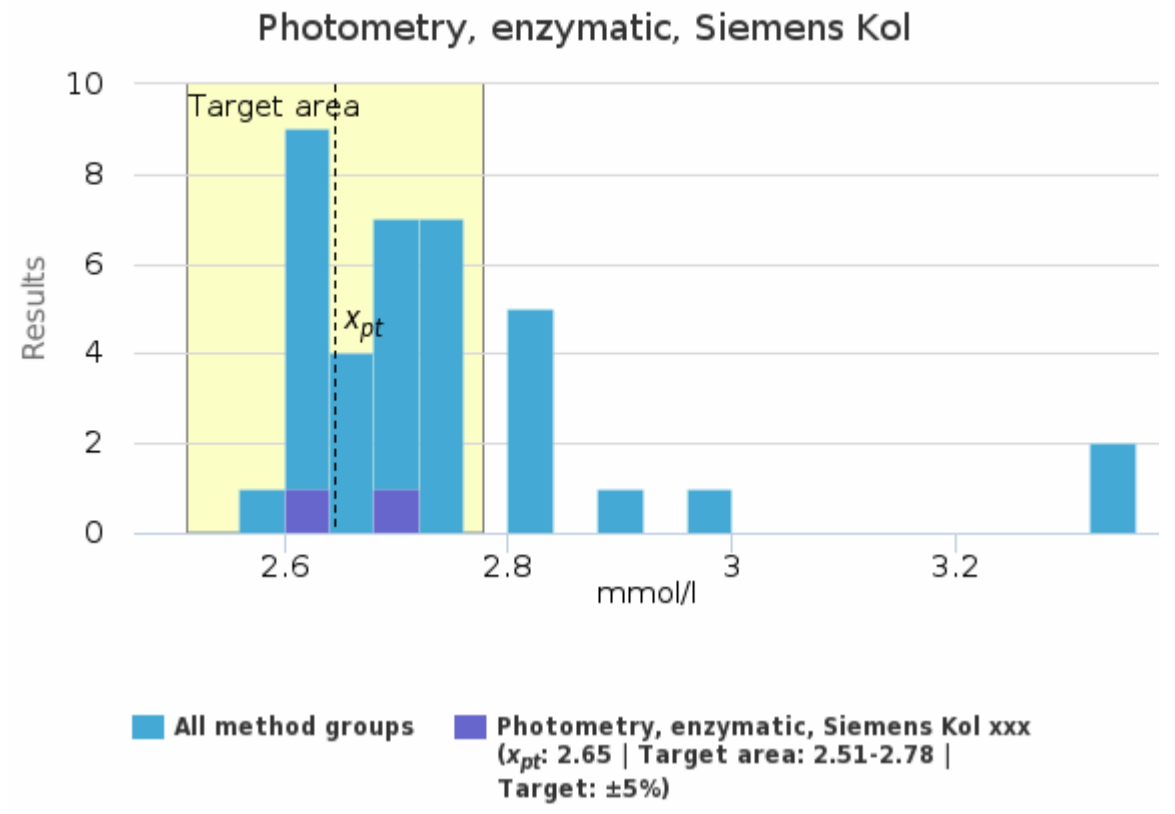
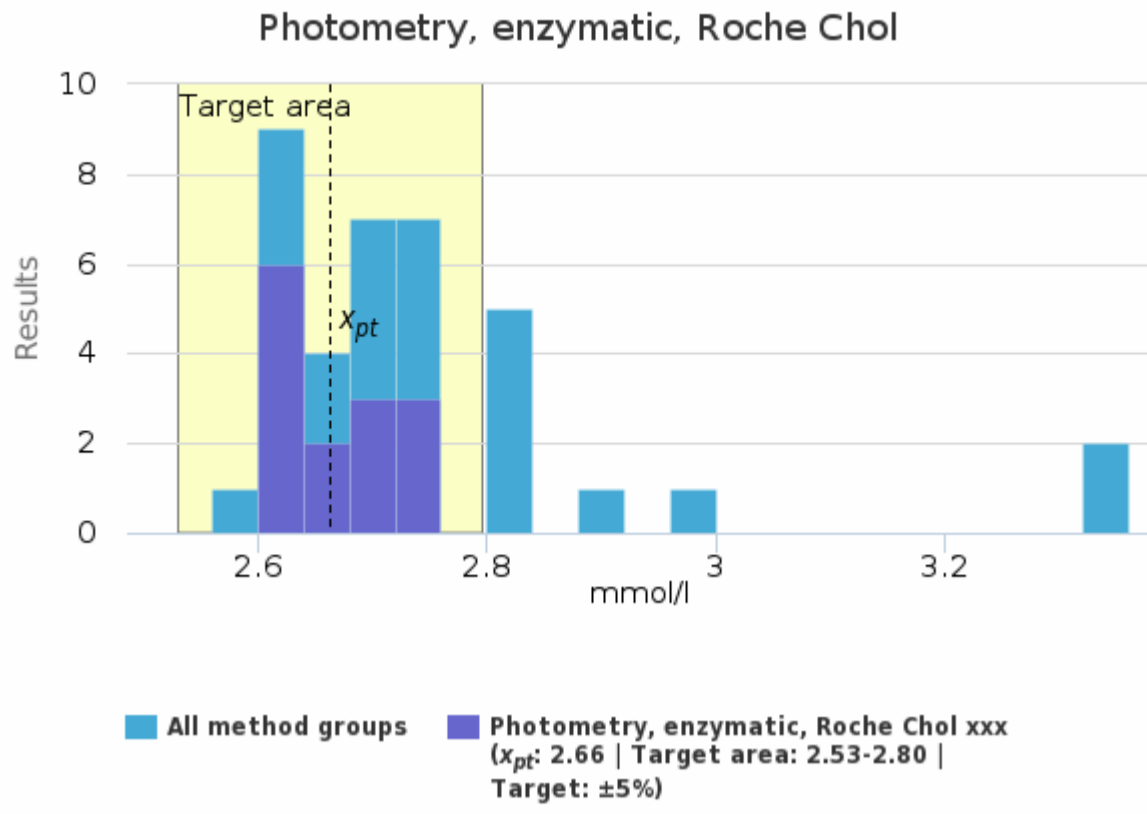


Sample S002 | S-Chol, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
NMR spectroscopy, Chol	3.22	3.32	0.21	6.5	0.12	2.98	3.36	-	3
Photometry, enzymatic, Abbott, Chol	2.68	2.70	0.06	2.2	0.02	2.56	2.74	-	8
Photometry, enzymatic, Atellica, Chol	2.63	2.60	0.06	2.2	0.03	2.60	2.70	-	3
Photometry, enzymatic, BC, Kol	2.80	2.80	<0.01	<0.1	<0.01	2.80	2.80	-	2
Photometry, enzymatic, Roche Chol	2.66	2.65	0.06	2.1	0.01	2.60	2.75	-	14
Photometry, enzymatic, Siemens Kol	2.65	2.65	0.06	2.4	0.05	2.60	2.69	-	2
Photometry, enzymatic, Thermo, Kol	2.81	2.80	0.06	2.1	0.03	2.74	2.90	-	5
All	2.70	2.70	0.09	3.4	0.02	2.56	2.98	2	37

Sample S002 | S-Chol, mmol/l | histogram summaries in LabScala

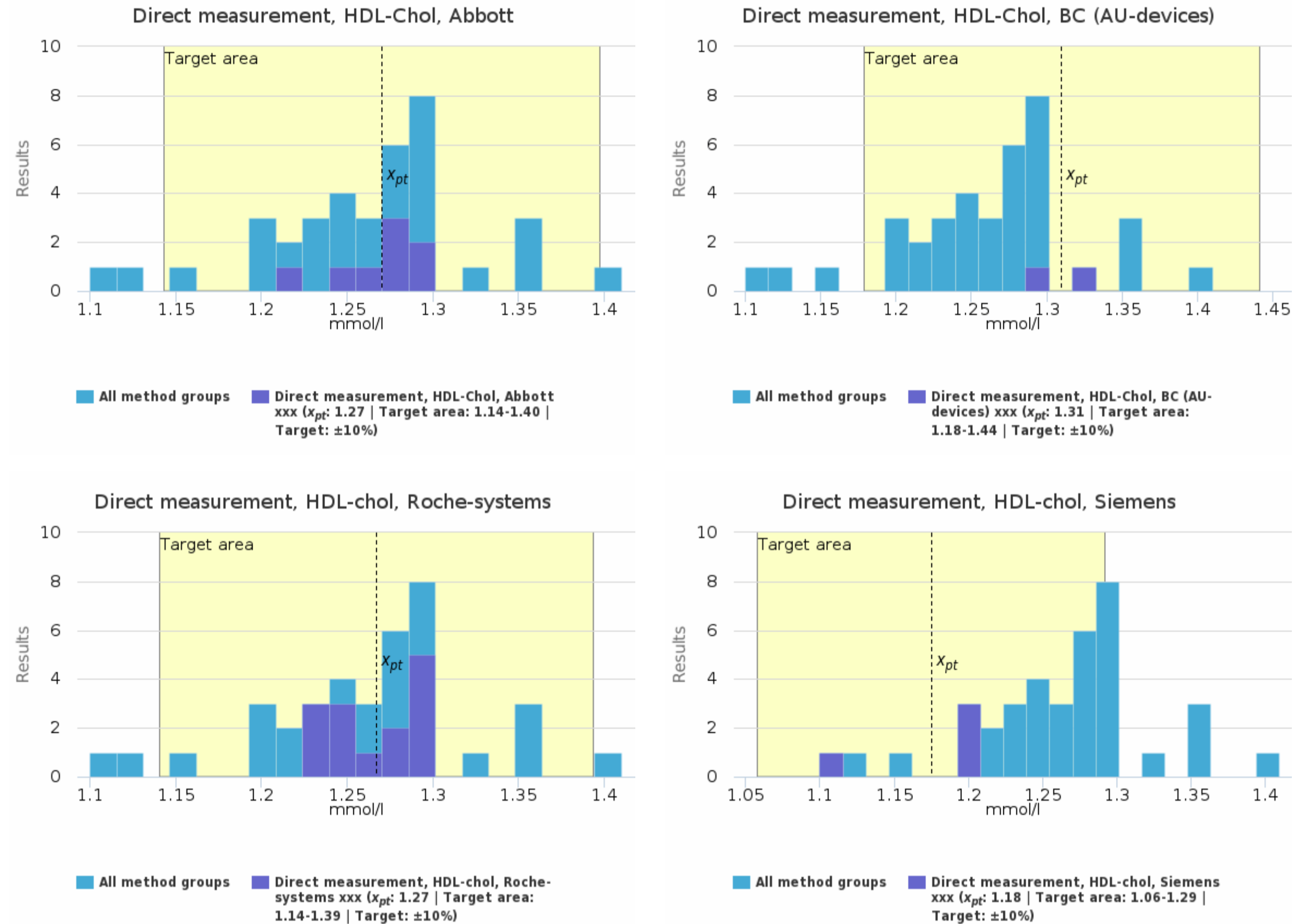


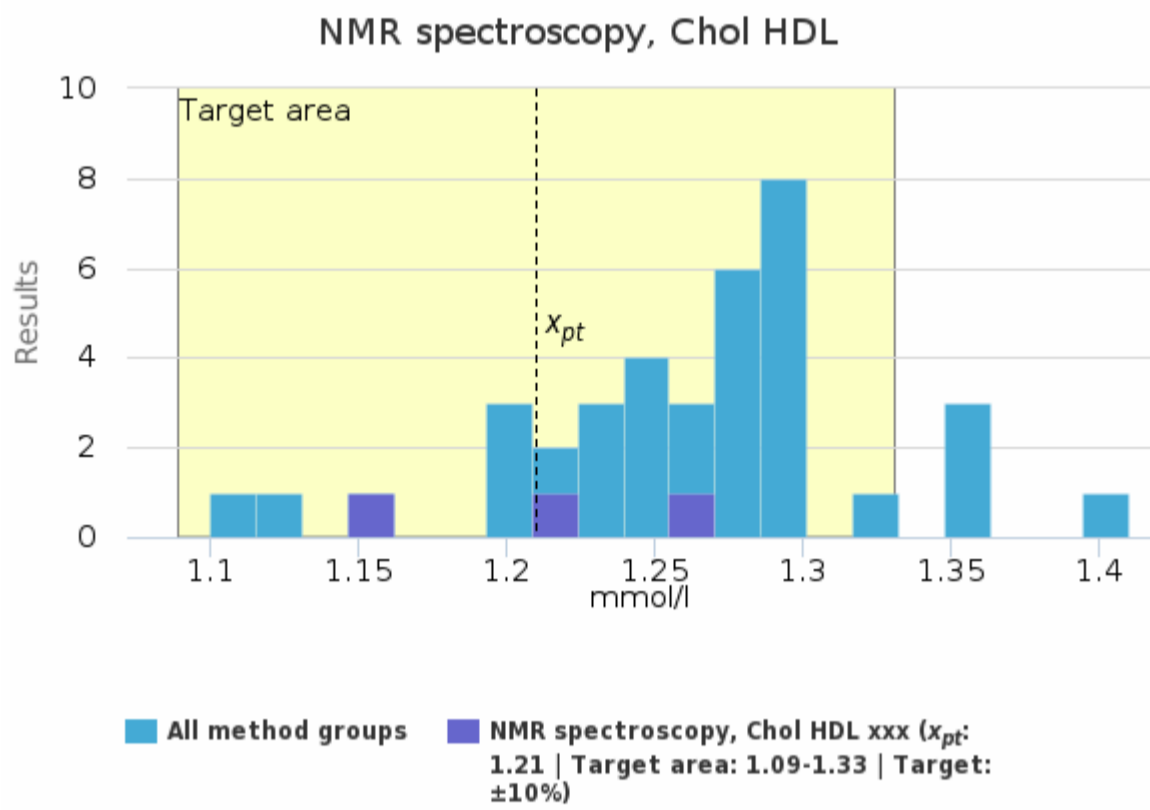
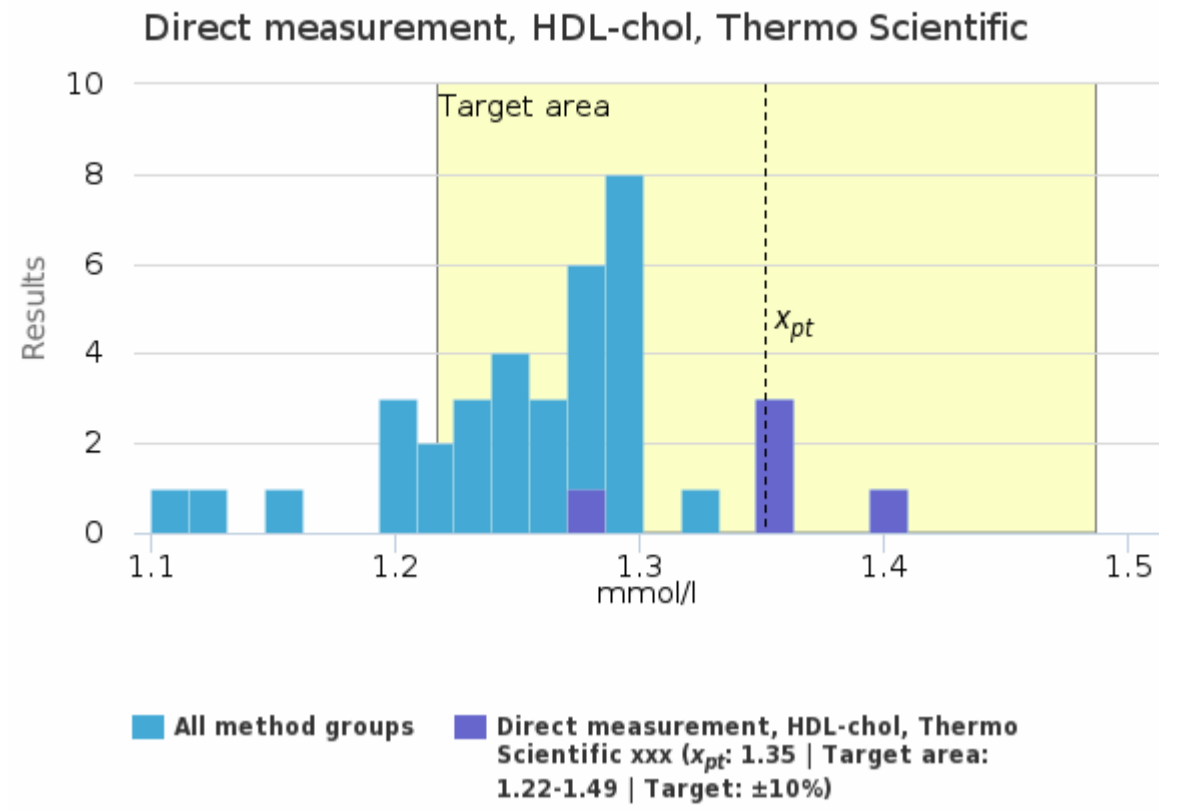
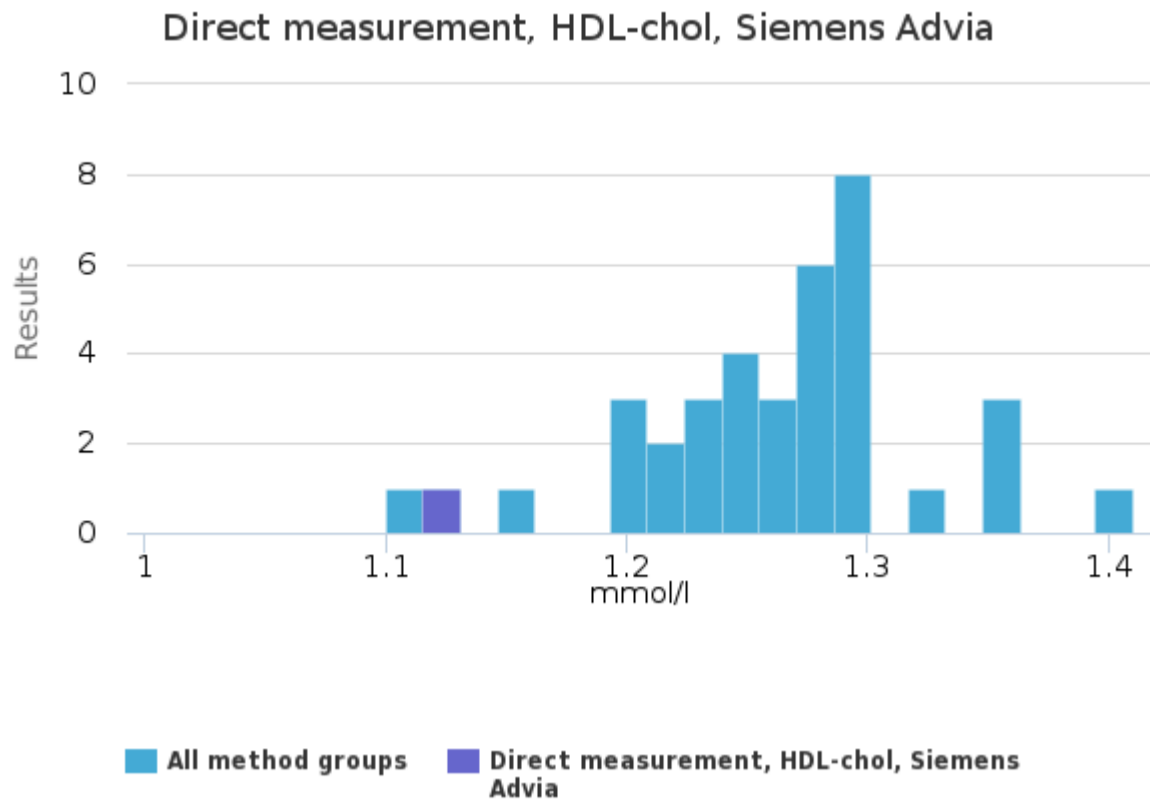


Sample S002 | S-Chol-HDL, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Direct measurement, HDL-Chol, Abbott	1.27	1.28	0.03	2.1	<0.01	1.22	1.30	-	8
Direct measurement, HDL-Chol, BC (AU-devices)	1.31	1.31	0.03	2.2	0.02	1.29	1.33	-	2
Direct measurement, HDL-chol, Roche-systems	1.27	1.28	0.03	2.3	<0.01	1.23	1.30	-	14
Direct measurement, HDL-chol, Siemens	1.18	1.20	0.05	4.3	0.03	1.10	1.20	-	4
Direct measurement, HDL-chol, Siemens Advia	-	-	-	-	-	1.12	1.12	-	1
Direct measurement, HDL-chol, Thermo Scientific	1.35	1.36	0.05	3.4	0.02	1.28	1.41	-	5
NMR spectroscopy, Chol HDL	1.21	1.22	0.06	4.6	0.03	1.15	1.26	-	3
All	1.26	1.28	0.06	5.0	0.01	1.10	1.41	-	37

Sample S002 | S-Chol-HDL, mmol/l| histogram summaries in LabScala

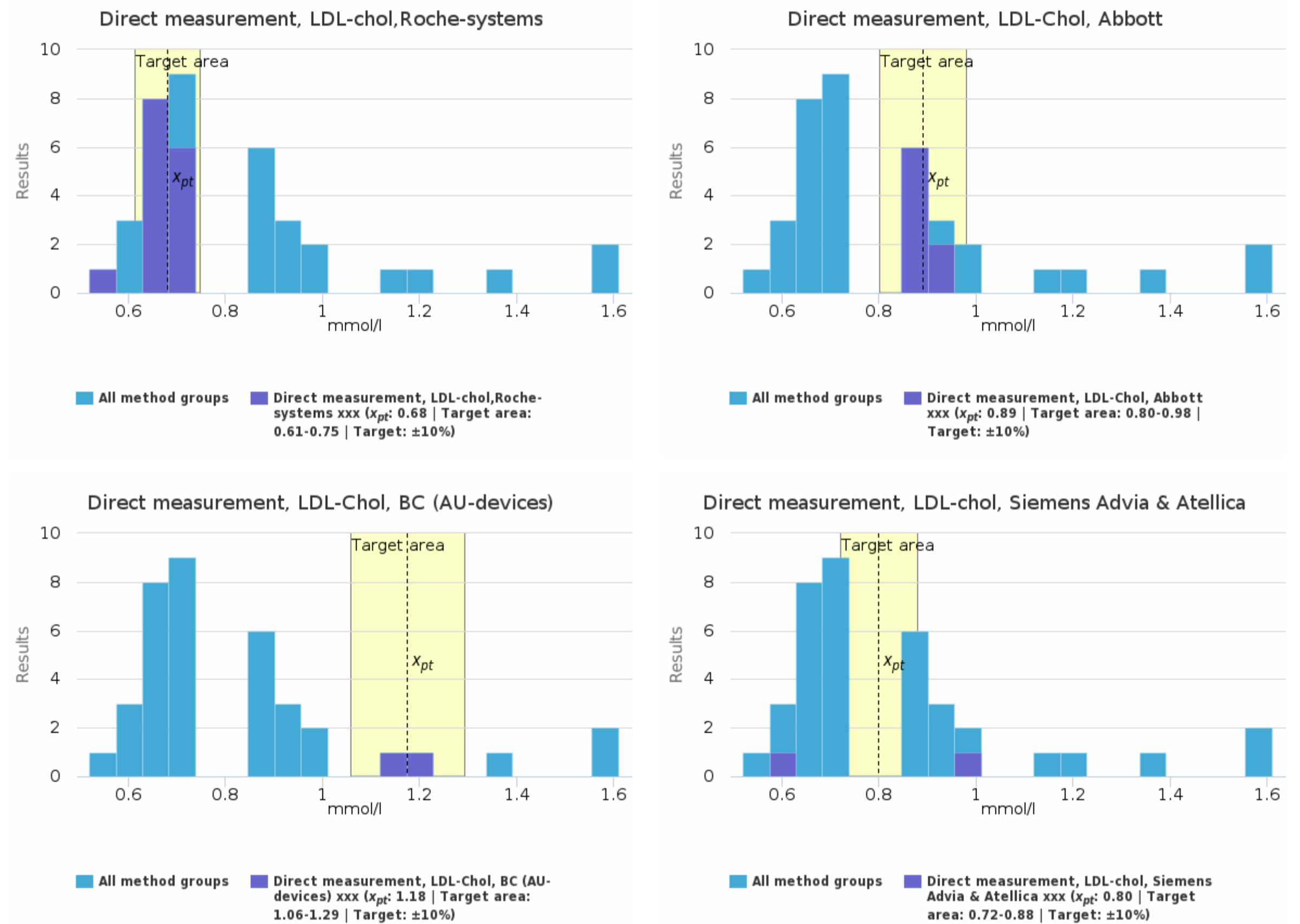


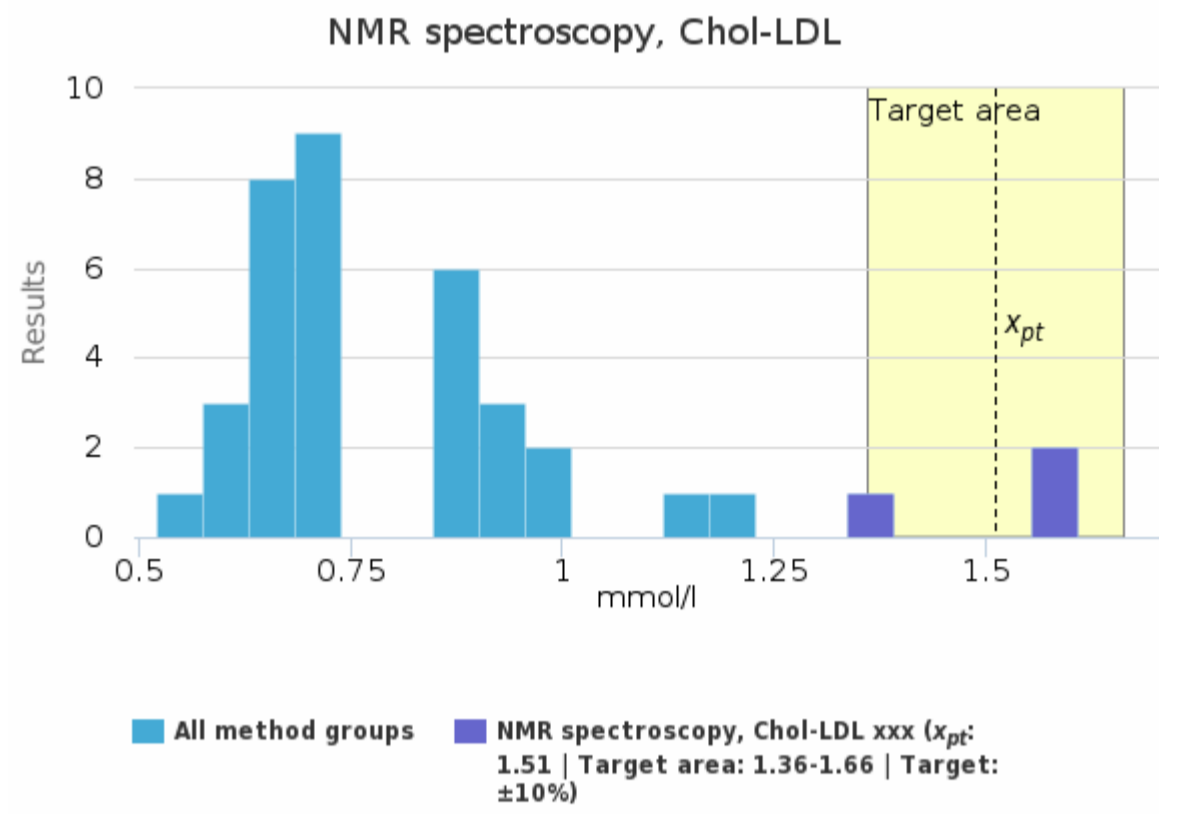
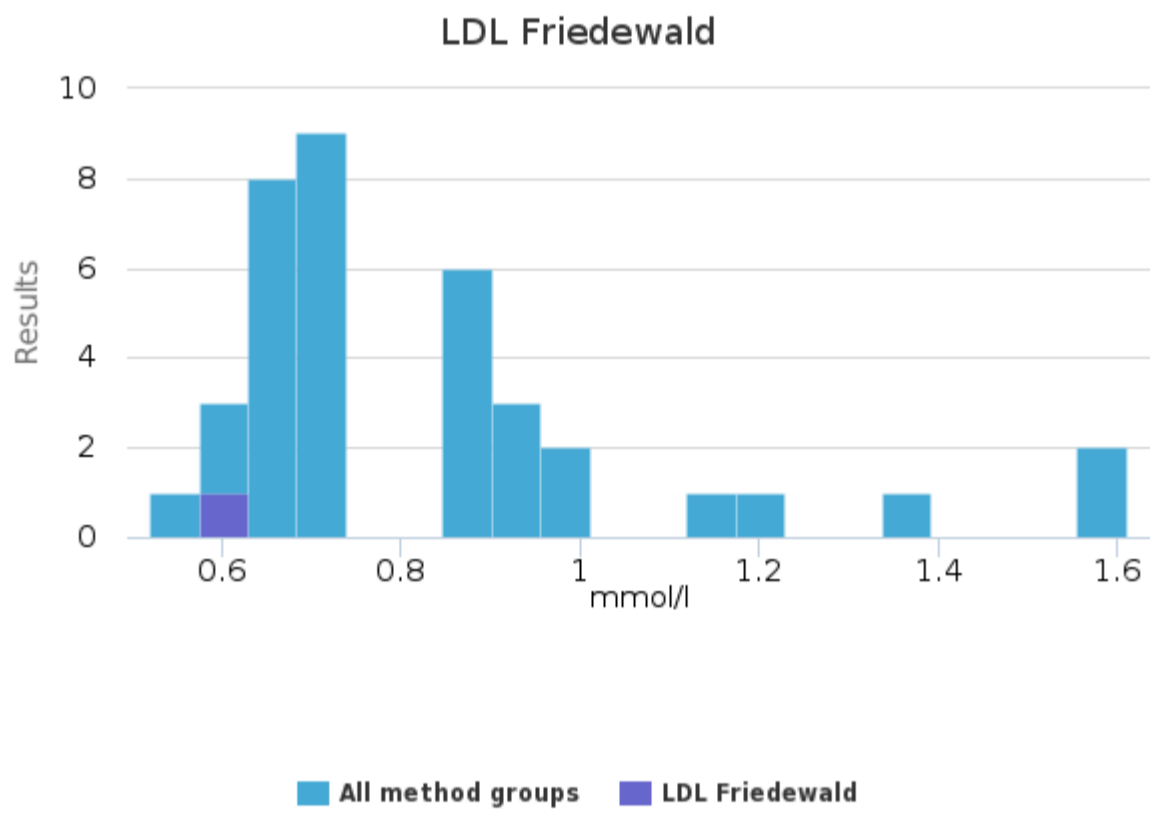
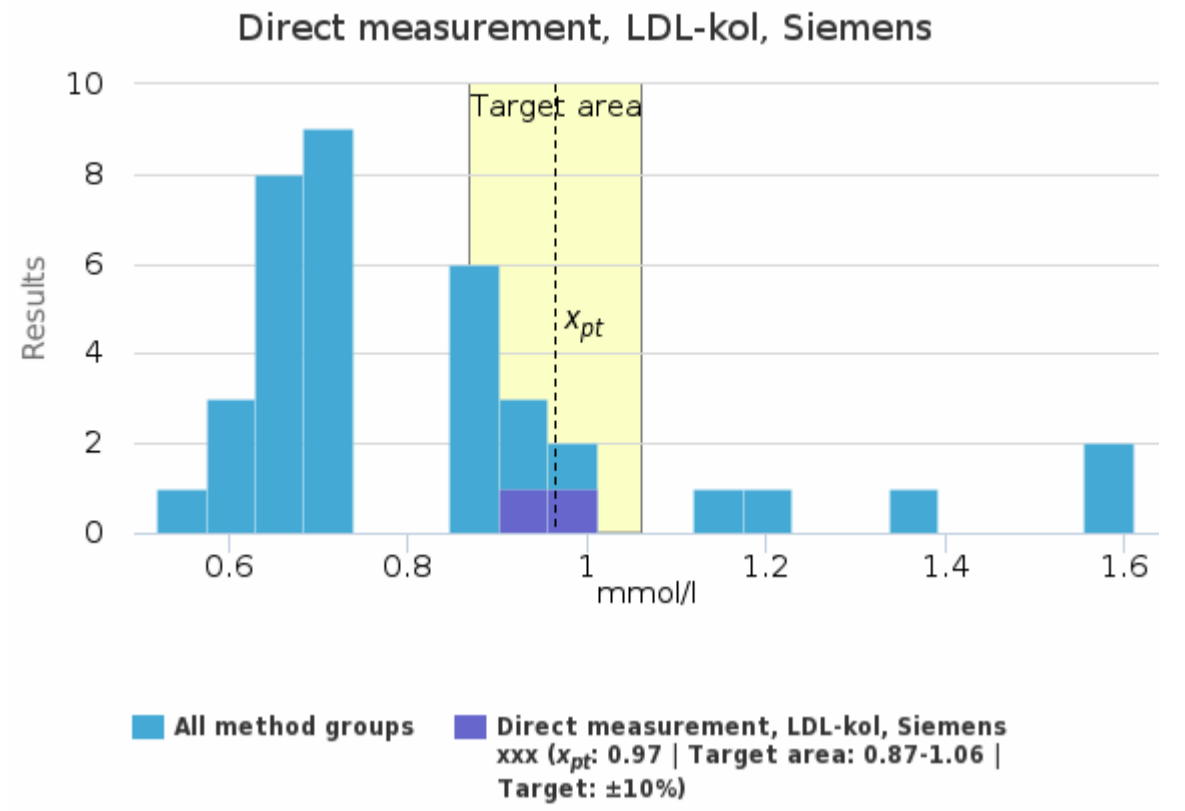
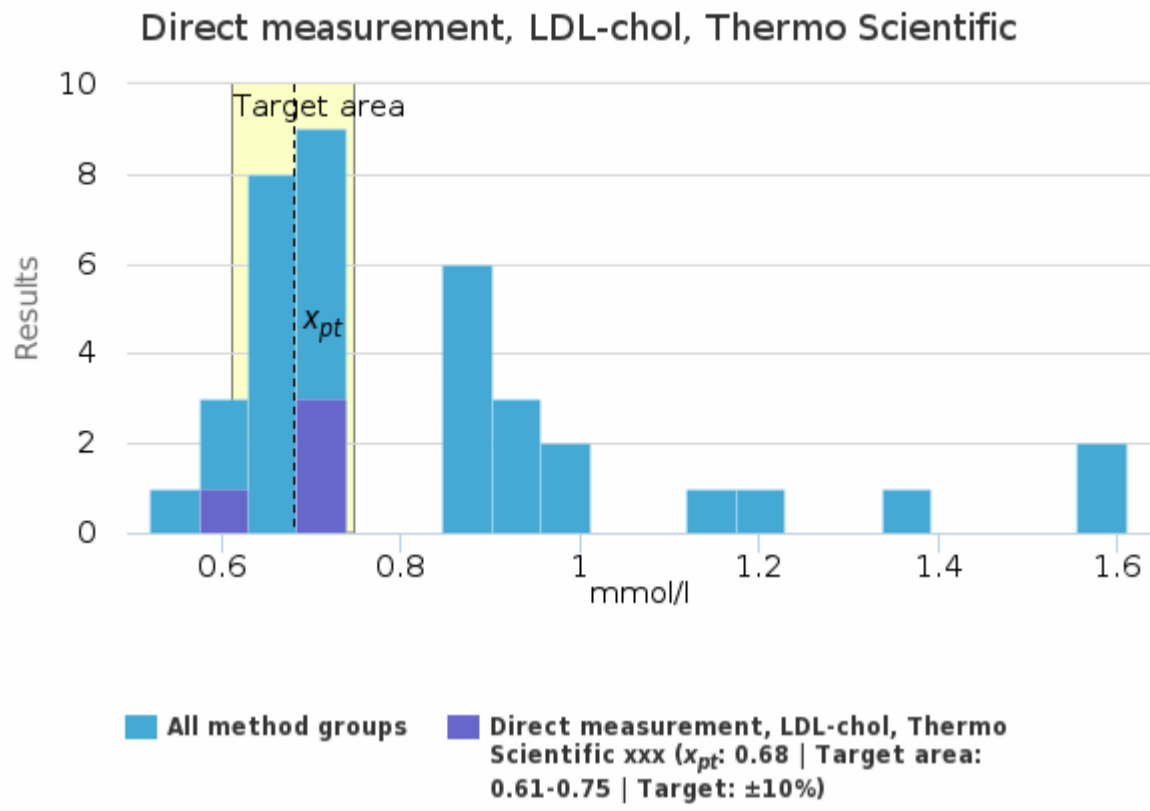


Sample S002 | S-Chol-LDL, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Direct measurement, LDL-chol, Roche-systems	0.68	0.68	0.02	2.9	<0.01	0.64	0.71	1	15
Direct measurement, LDL-Chol, Abbott	0.89	0.89	0.02	2.4	<0.01	0.86	0.93	-	8
Direct measurement, LDL-Chol, BC (AU-devices)	1.18	1.18	0.04	3.0	0.03	1.15	1.20	-	2
Direct measurement, LDL-chol, Siemens Advia & Atellica	0.80	0.80	0.28	35.4	0.20	0.60	1.00	-	2
Direct measurement, LDL-chol, Thermo Scientific	0.68	0.70	0.05	7.1	0.02	0.61	0.72	-	4
Direct measurement, LDL-kol, Siemens	0.97	0.97	0.05	5.1	0.04	0.93	1.00	-	2
LDL Friedewald	-	-	-	-	-	0.60	0.60	-	1
NMR spectroscopy, Chol-LDL	1.51	1.59	0.15	9.9	0.09	1.34	1.61	-	3
All	0.79	0.70	0.19	23.4	0.03	0.52	1.34	2	37

Sample S002 | S-Chol-LDL, mmol/l | histogram summaries in LabScala

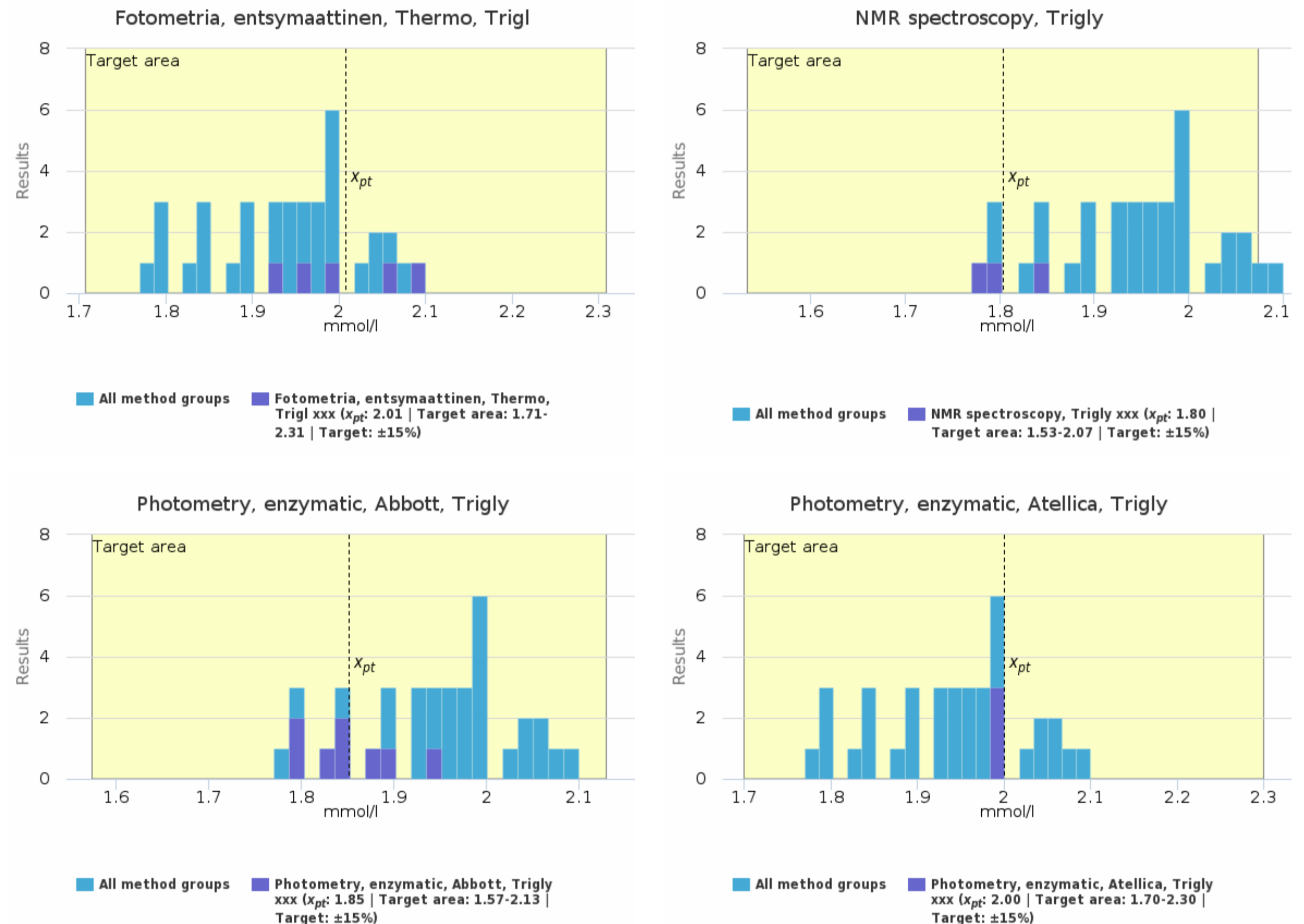


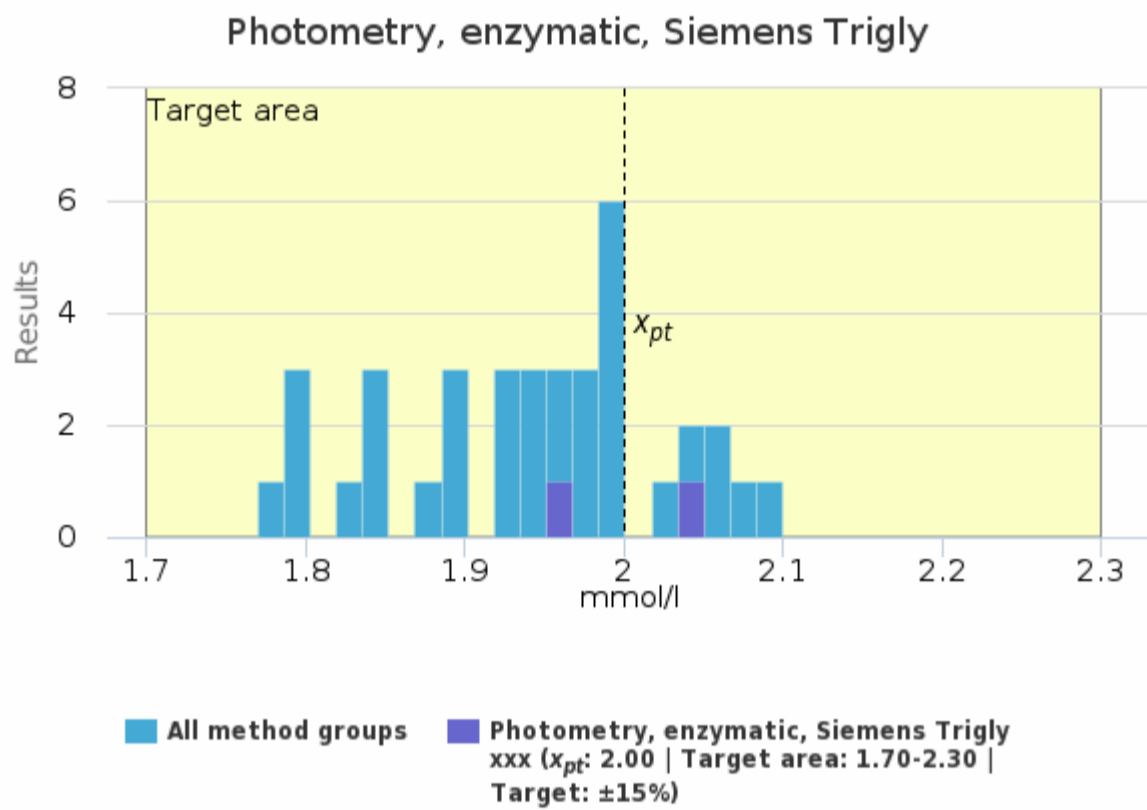
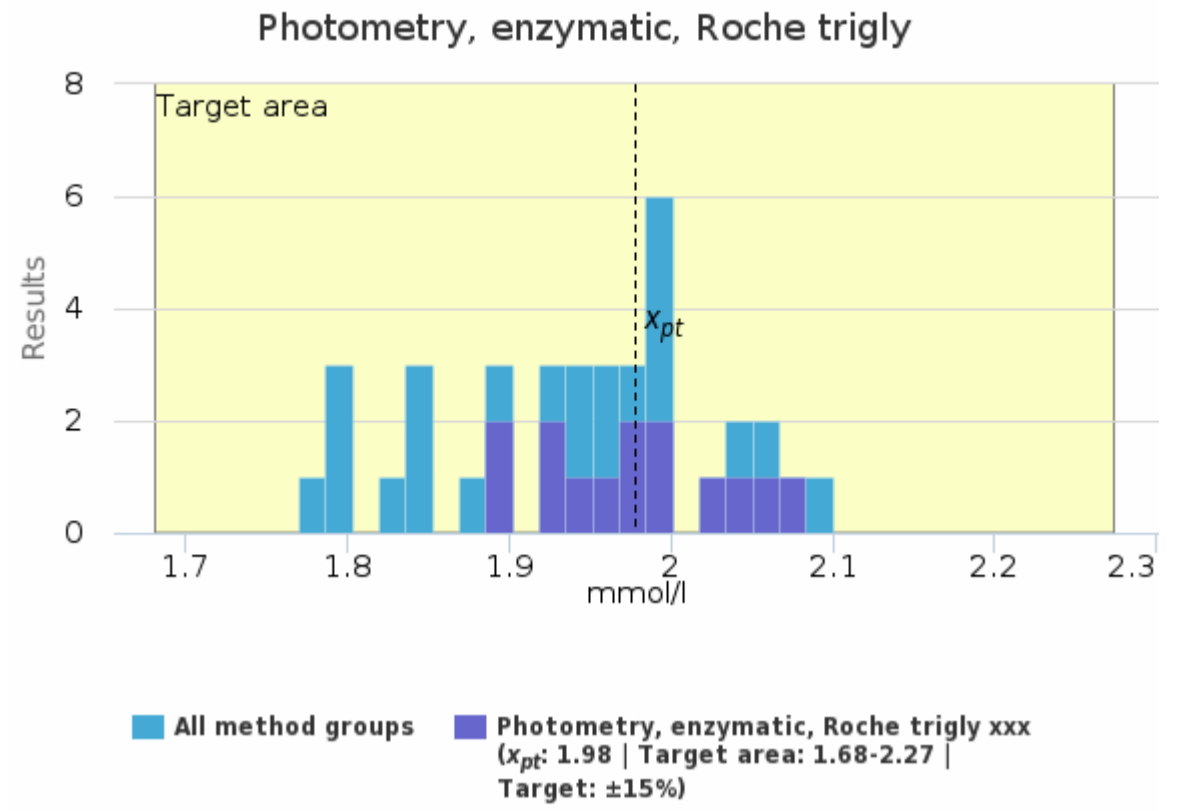
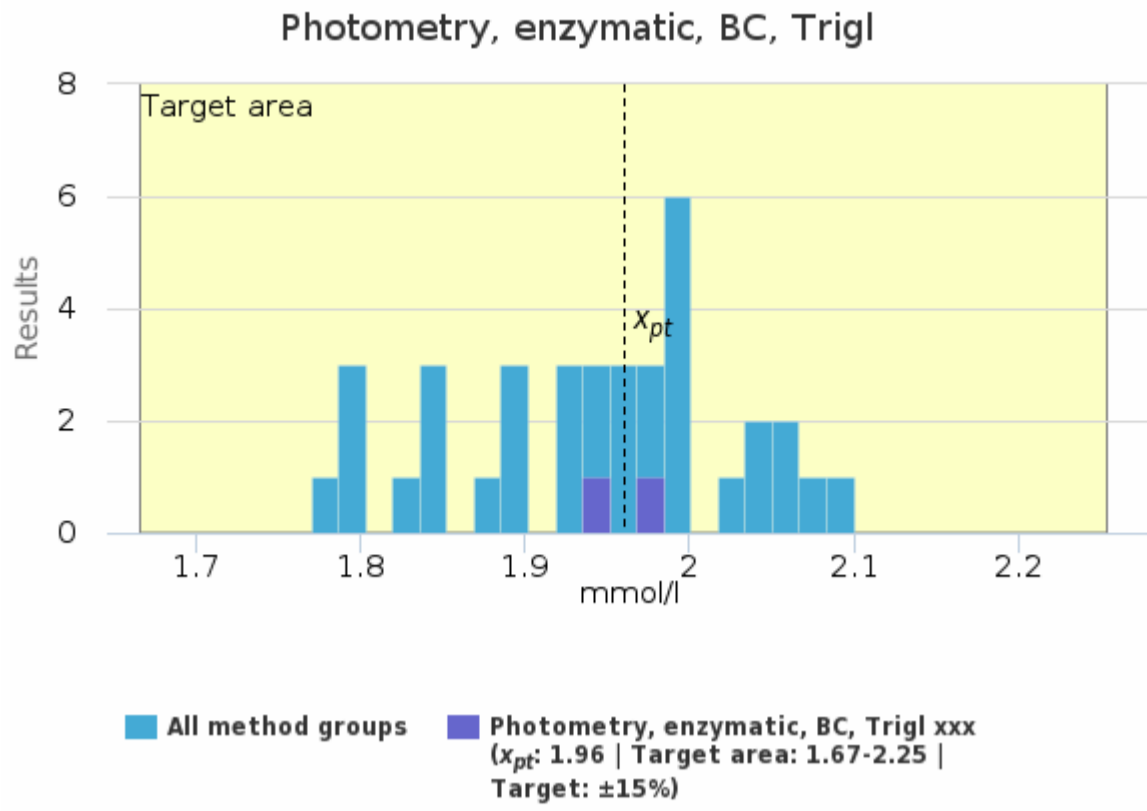


Sample S002 | S-Trigly, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Fotometria, entsyymaattinen, Thermo, Trigly	2.01	1.99	0.07	3.5	0.03	1.93	2.10	-	5
NMR spectroscopy, Trigly	1.80	1.80	0.04	1.9	0.02	1.77	1.84	-	3
Photometry, enzymatic, Abbott, Trigly	1.85	1.85	0.05	2.7	0.02	1.79	1.94	-	8
Photometry, enzymatic, Atellica, Trigly	2.00	2.00	<0.01	<0.1	<0.01	2.00	2.00	-	3
Photometry, enzymatic, BC, Trigly	1.96	1.96	0.03	1.4	0.02	1.94	1.98	-	2
Photometry, enzymatic, Roche trigly	1.98	1.97	0.06	2.9	0.02	1.90	2.07	-	14
Photometry, enzymatic, Siemens Trigly	2.00	2.00	0.06	2.8	0.04	1.96	2.04	-	2
All	1.94	1.95	0.09	4.4	0.01	1.77	2.10	-	37

Sample S002 | S-Trigly, mmol/l | histogram summaries in LabScala

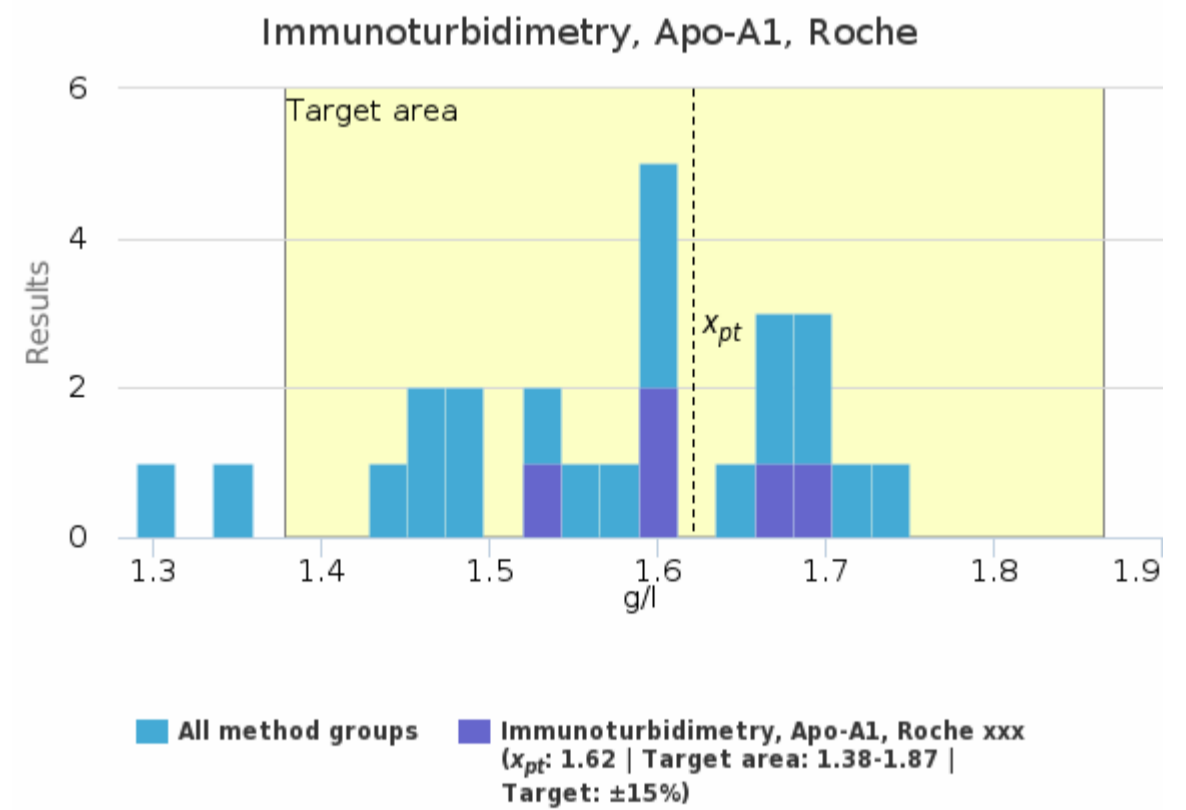
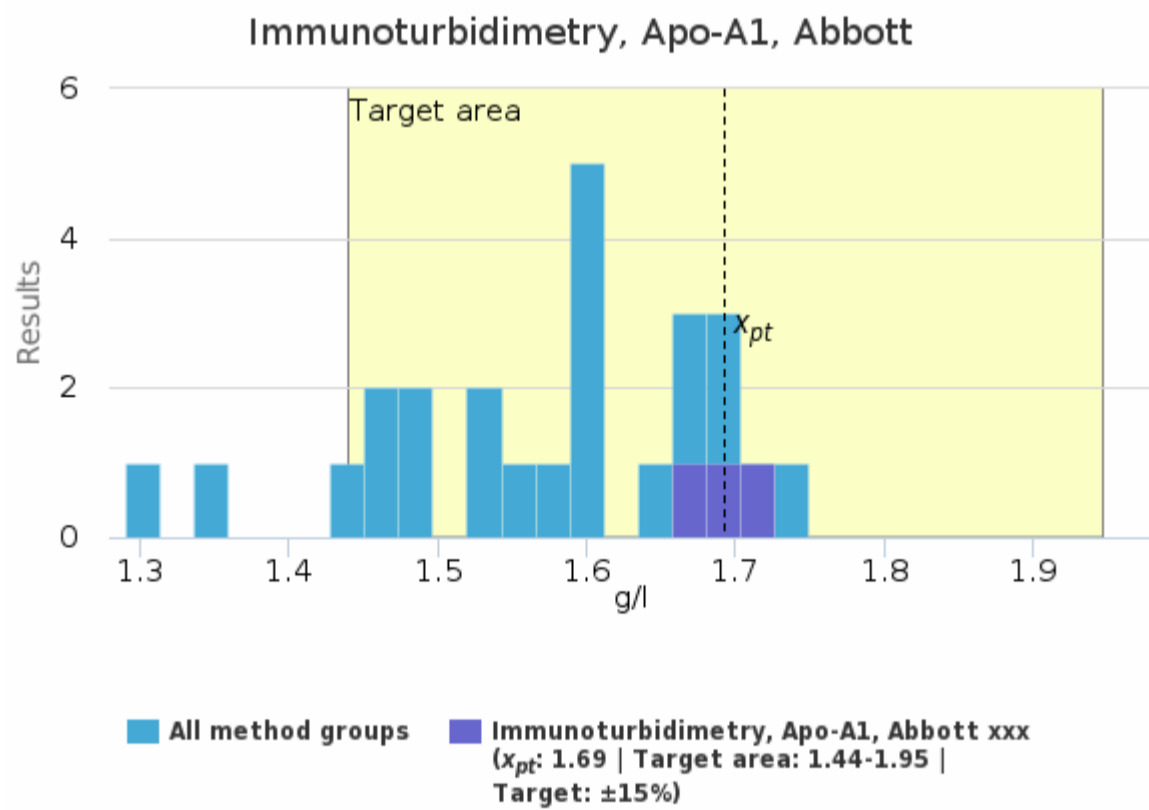
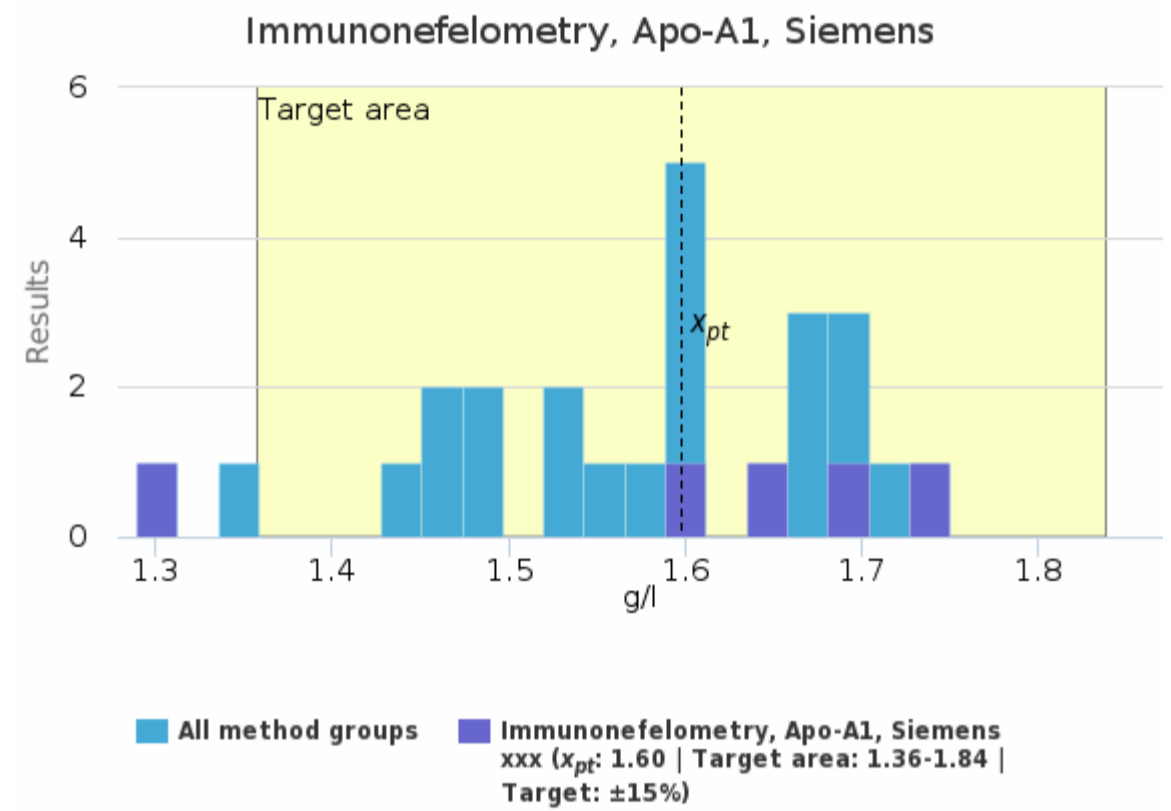
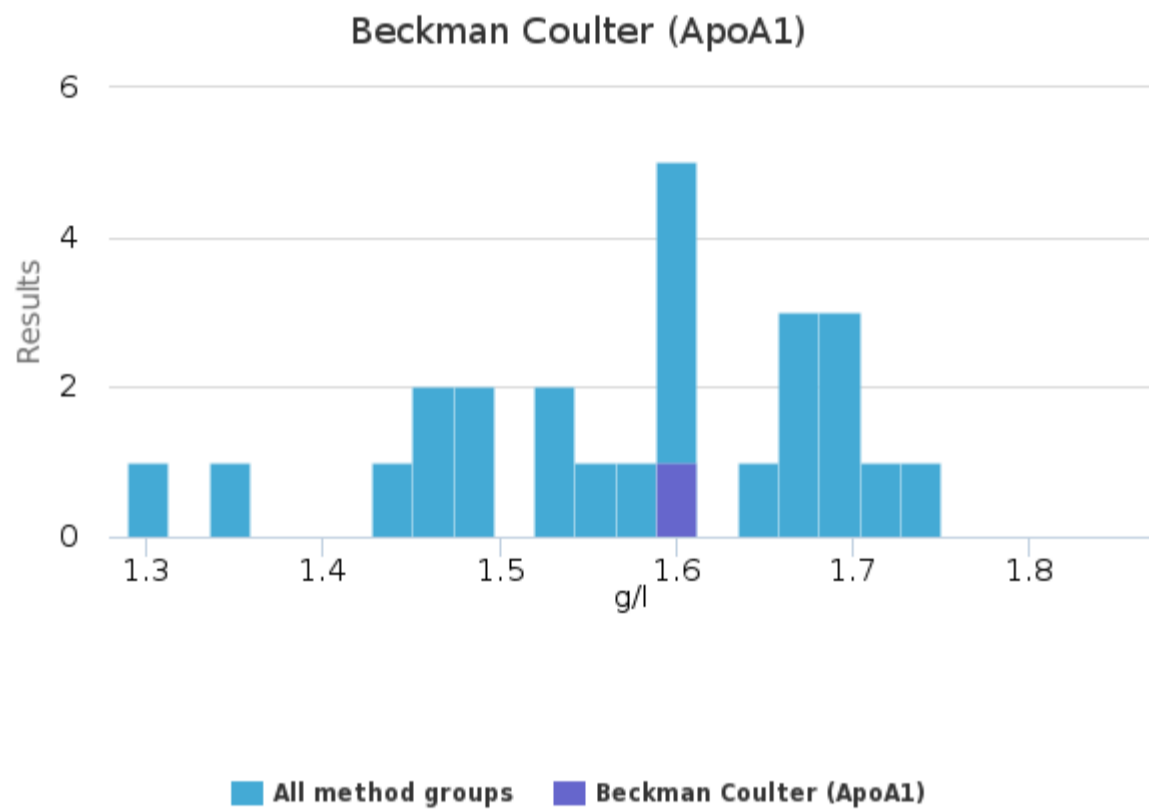


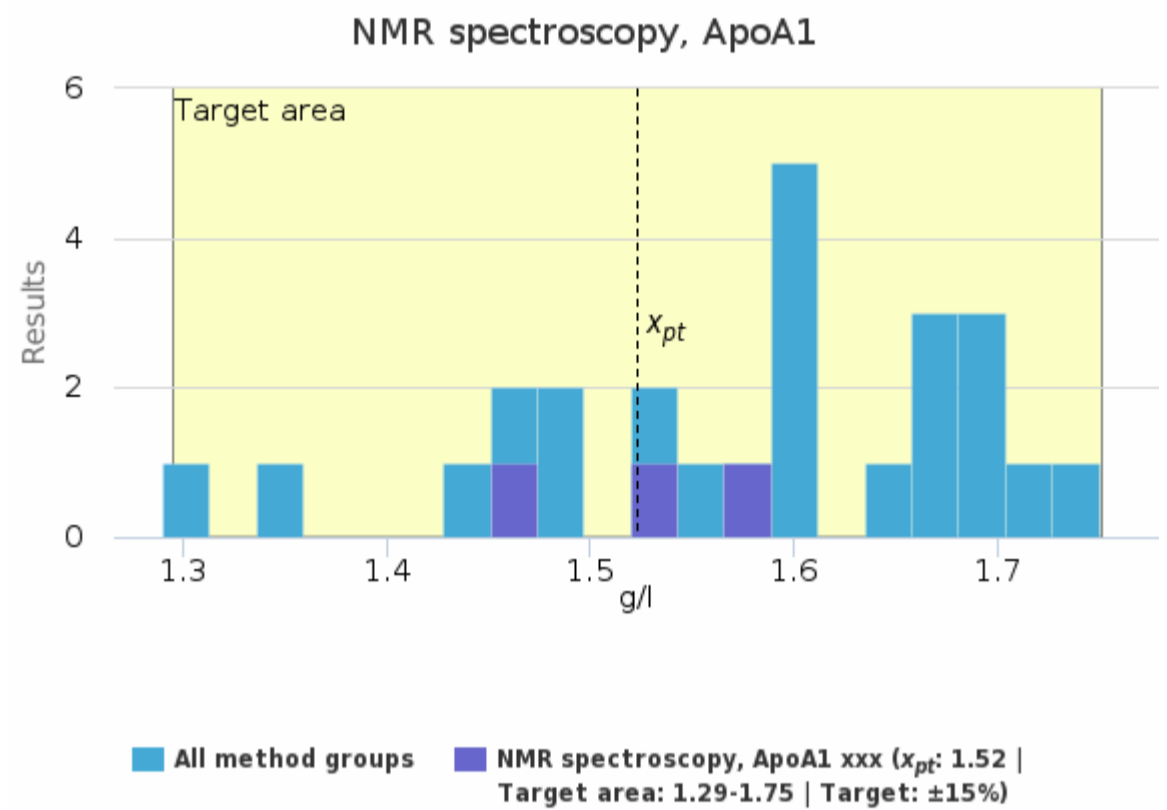
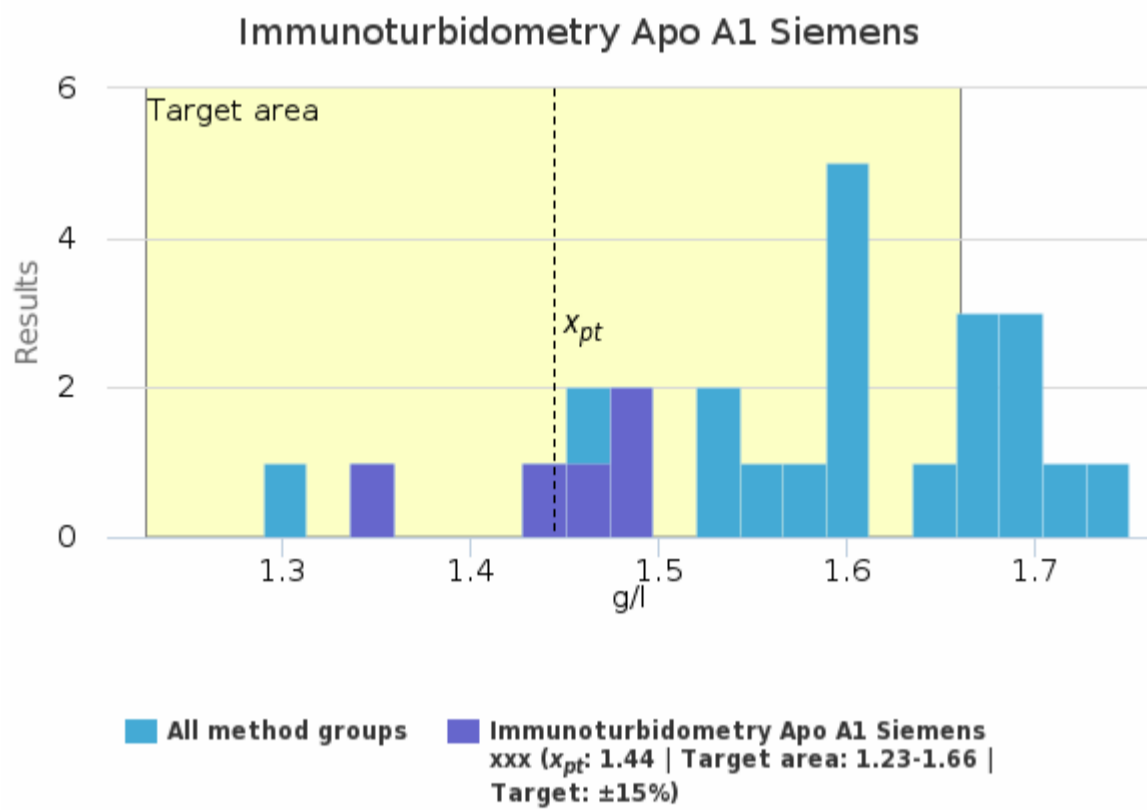
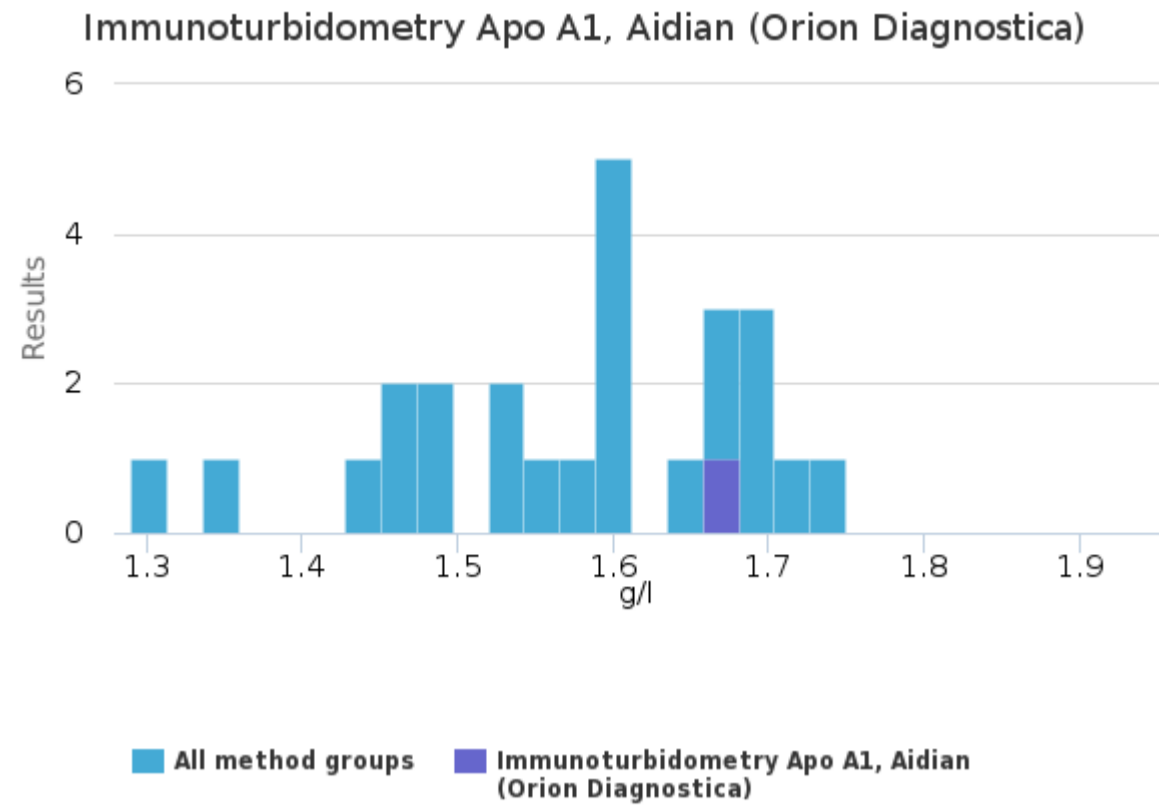
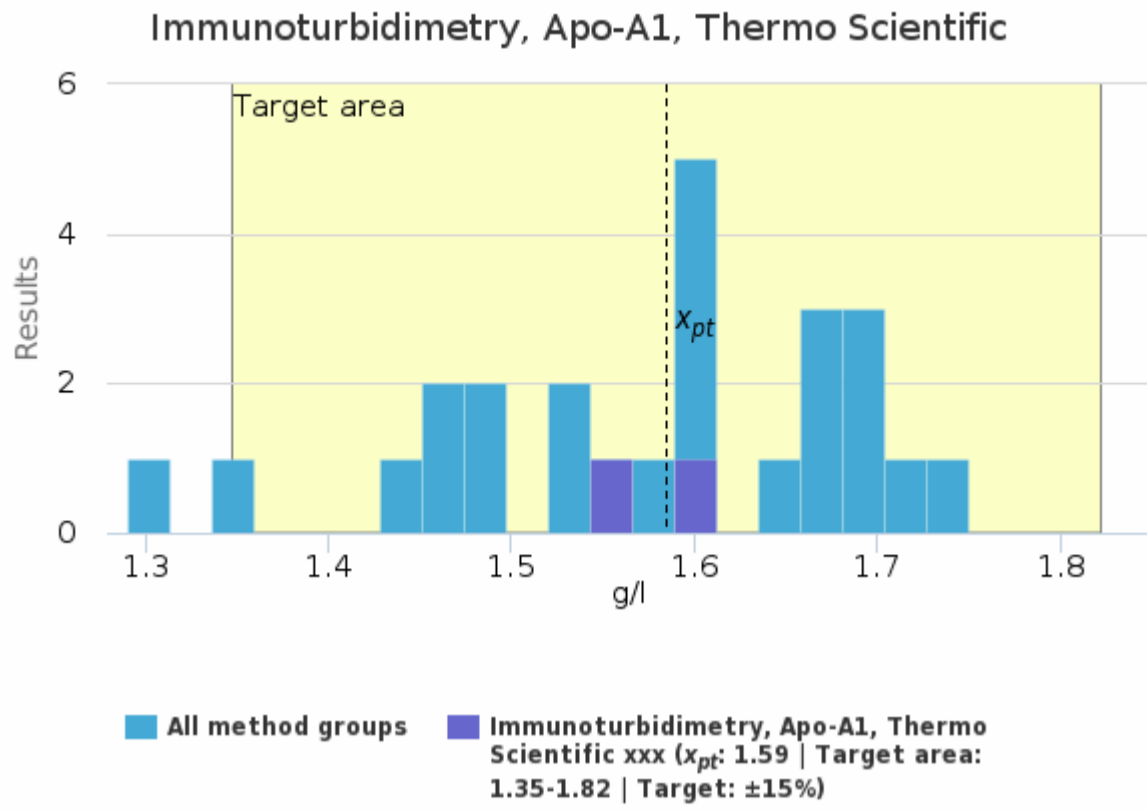


Sample S002 | S-LipoA1, g/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Beckman Coulter (ApoA1)	-	-	-	-	-	1.60	1.60	-	1
Immunonefelometry, Apo-A1, Siemens	1.60	1.65	0.18	11.3	0.08	1.29	1.75	-	5
Immunoturbidimetry, Apo-A1, Abbott	1.69	1.70	0.03	1.8	0.02	1.66	1.72	-	3
Immunoturbidimetry, Apo-A1, Roche	1.62	1.61	0.07	4.1	0.03	1.53	1.70	-	5
Immunoturbidimetry, Apo-A1, Thermo Scientific	1.59	1.59	0.04	2.2	0.03	1.56	1.61	-	2
Immunoturbidimetry Apo A1, Aidian (Orion Diagnostica)	-	-	-	-	-	1.67	1.67	-	1
Immunoturbidimetry Apo A1 Siemens	1.44	1.46	0.06	3.9	0.03	1.35	1.49	-	5
NMR spectroscopy, ApoA1	1.52	1.54	0.06	3.7	0.03	1.46	1.57	-	3
All	1.58	1.60	0.12	7.4	0.02	1.29	1.75	-	25

Sample S002 | S-LipoA1, g/l | histogram summaries in LabScala

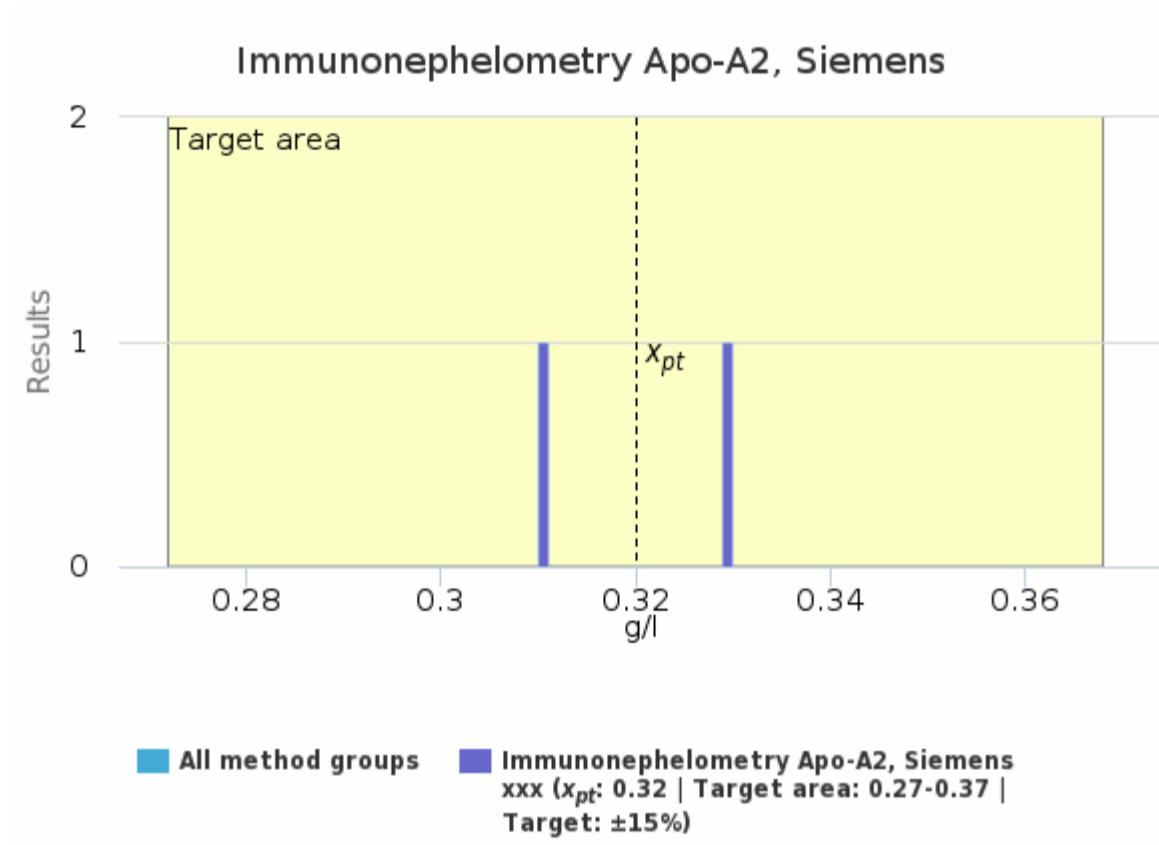




Sample S002 | S-LipoA2, g/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Immunonephelometry Apo-A2, Siemens	0.32	0.32	0.01	4.4	0.01	0.31	0.33	-	2
All	0.32	0.32	0.01	4.4	0.01	0.31	0.33	-	2

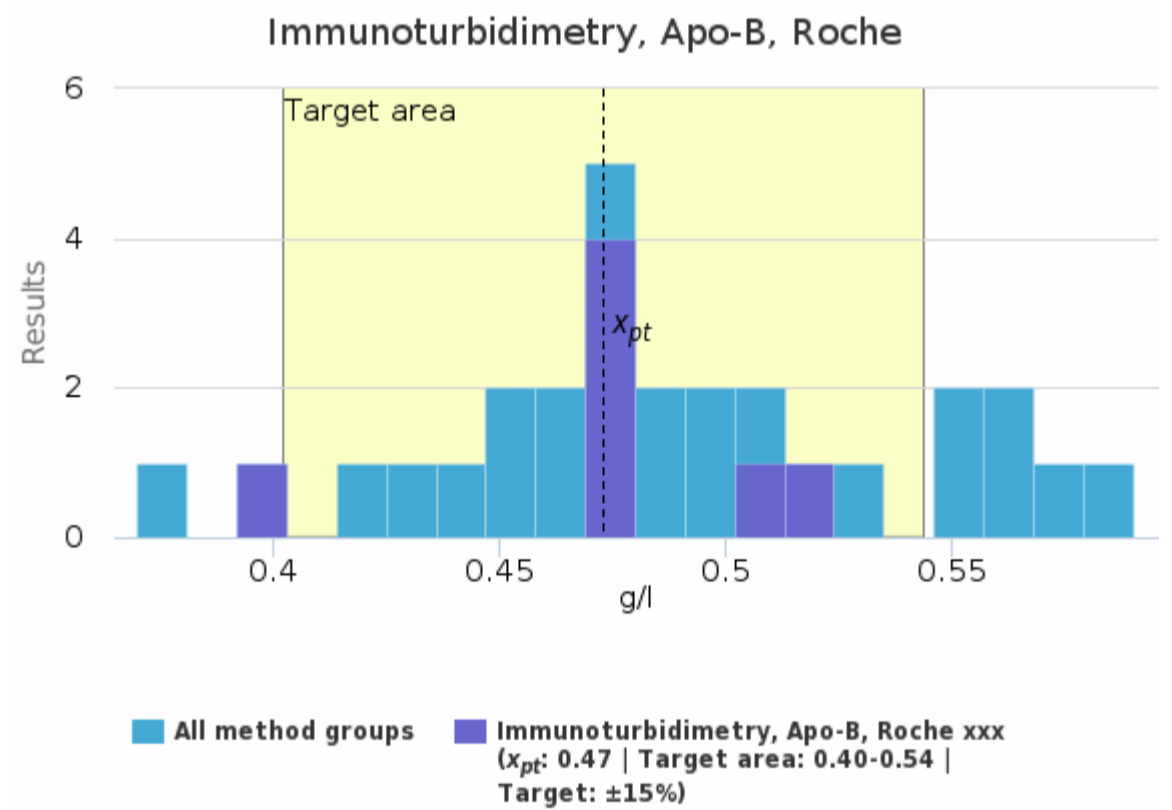
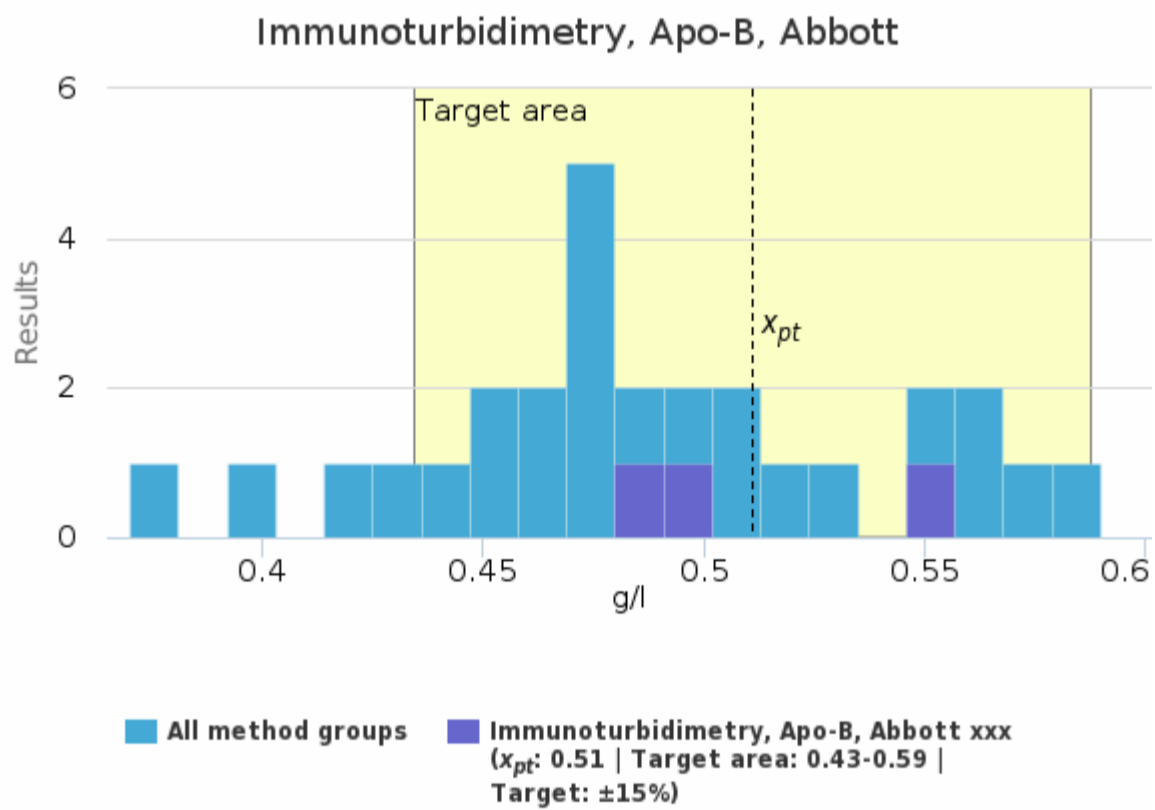
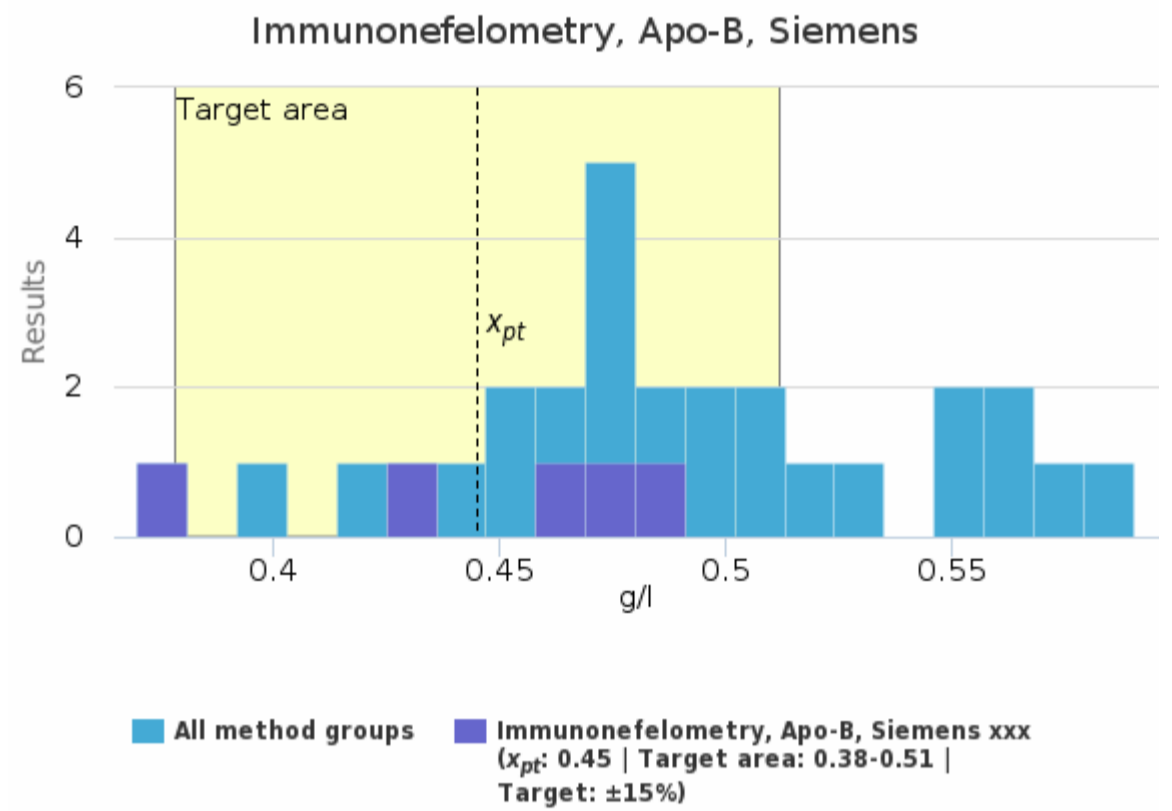
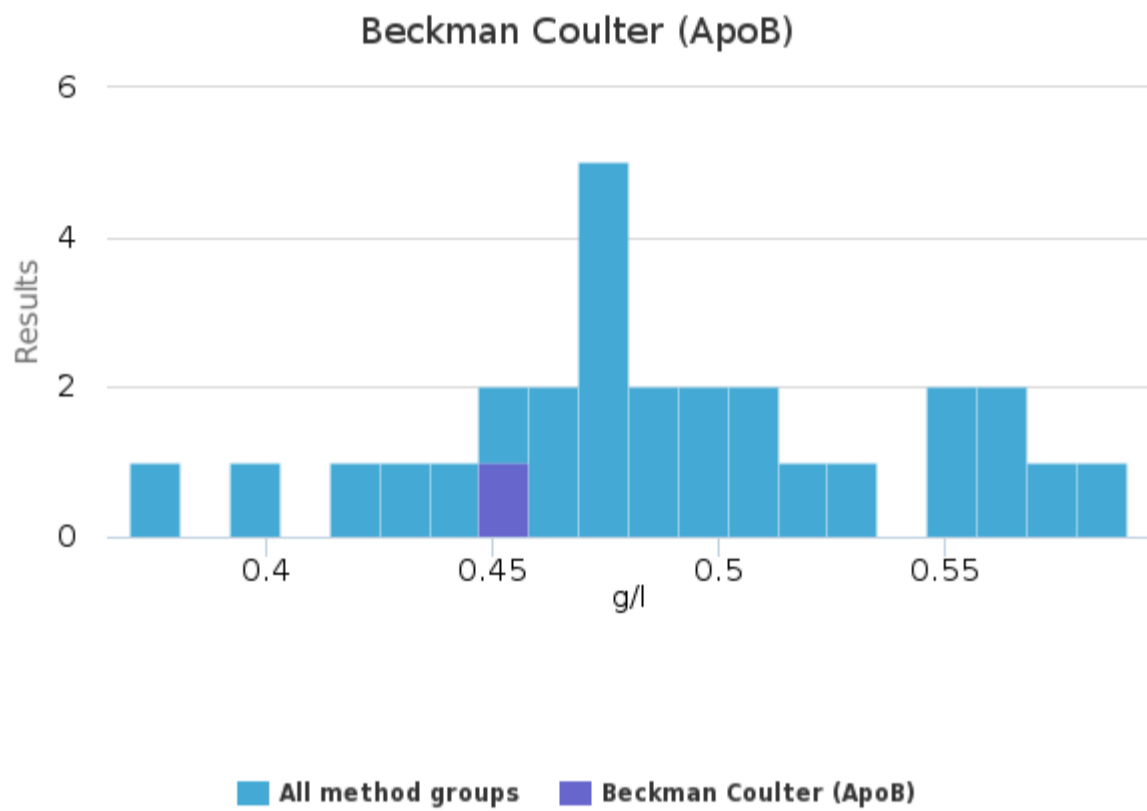
Sample S002 | S-LipoA2, g/l | histogram summaries in LabScala

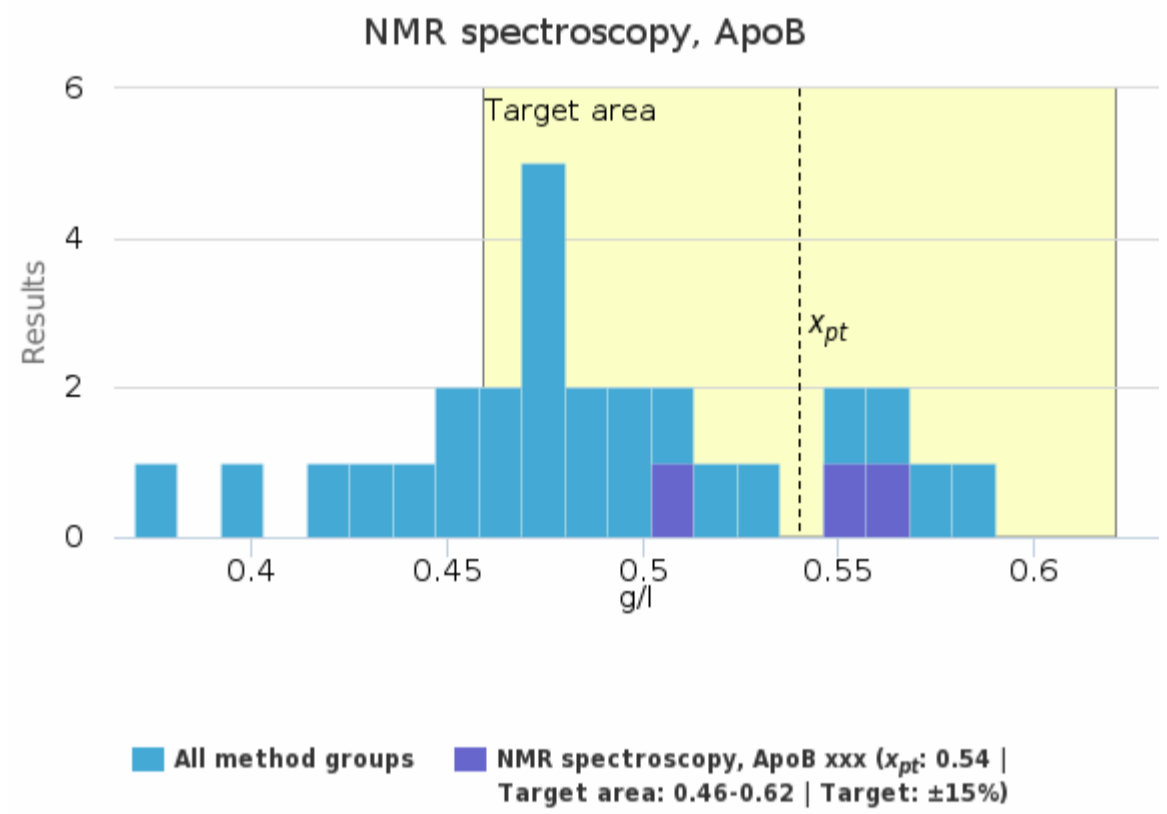
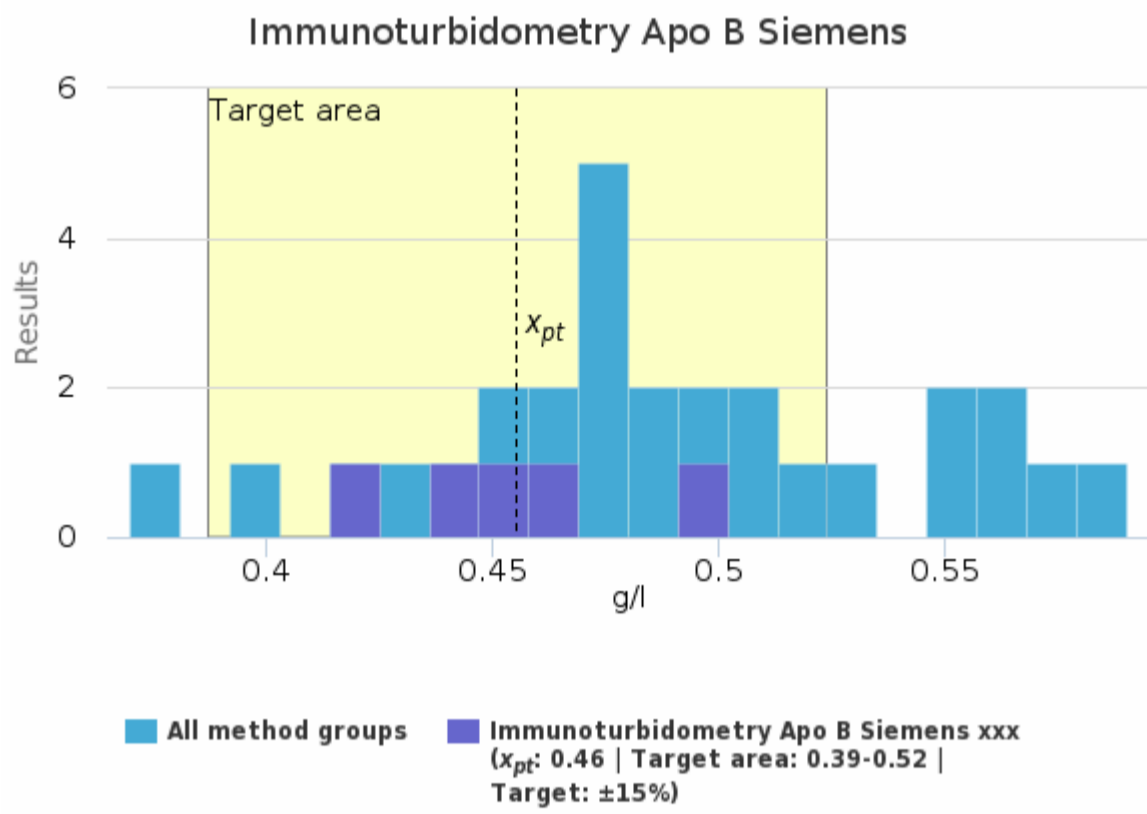
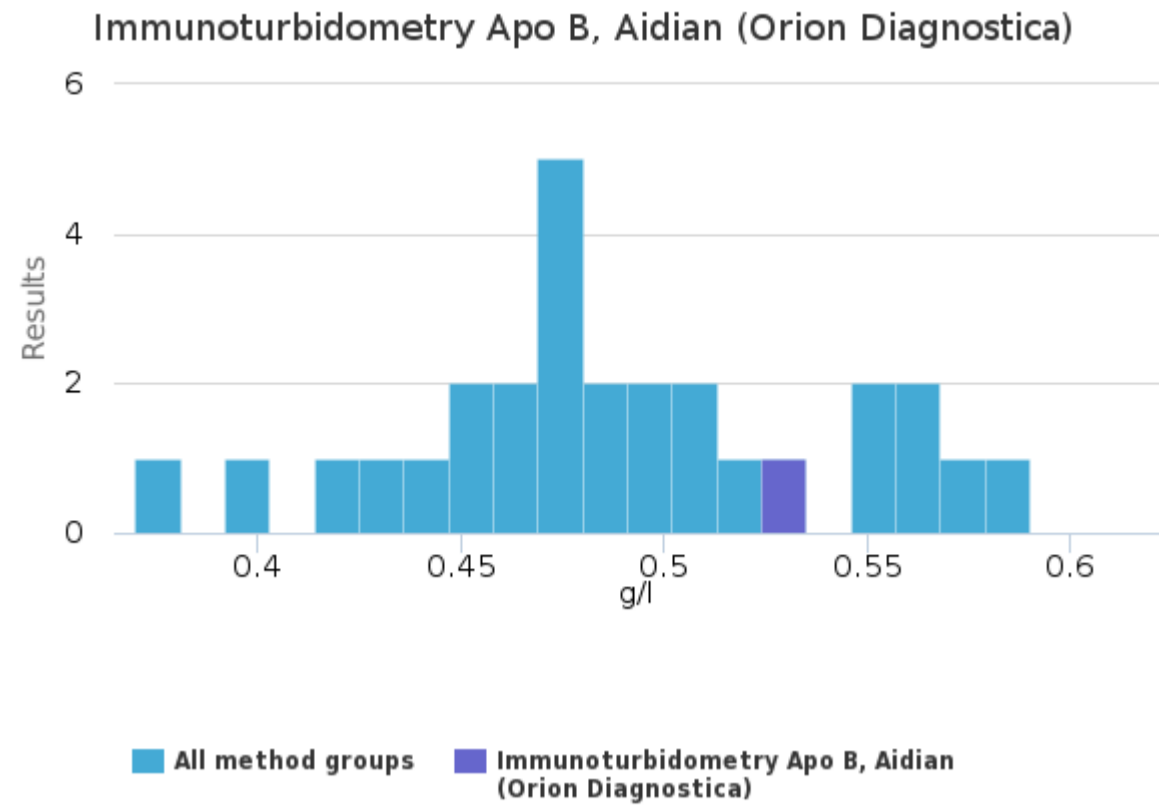
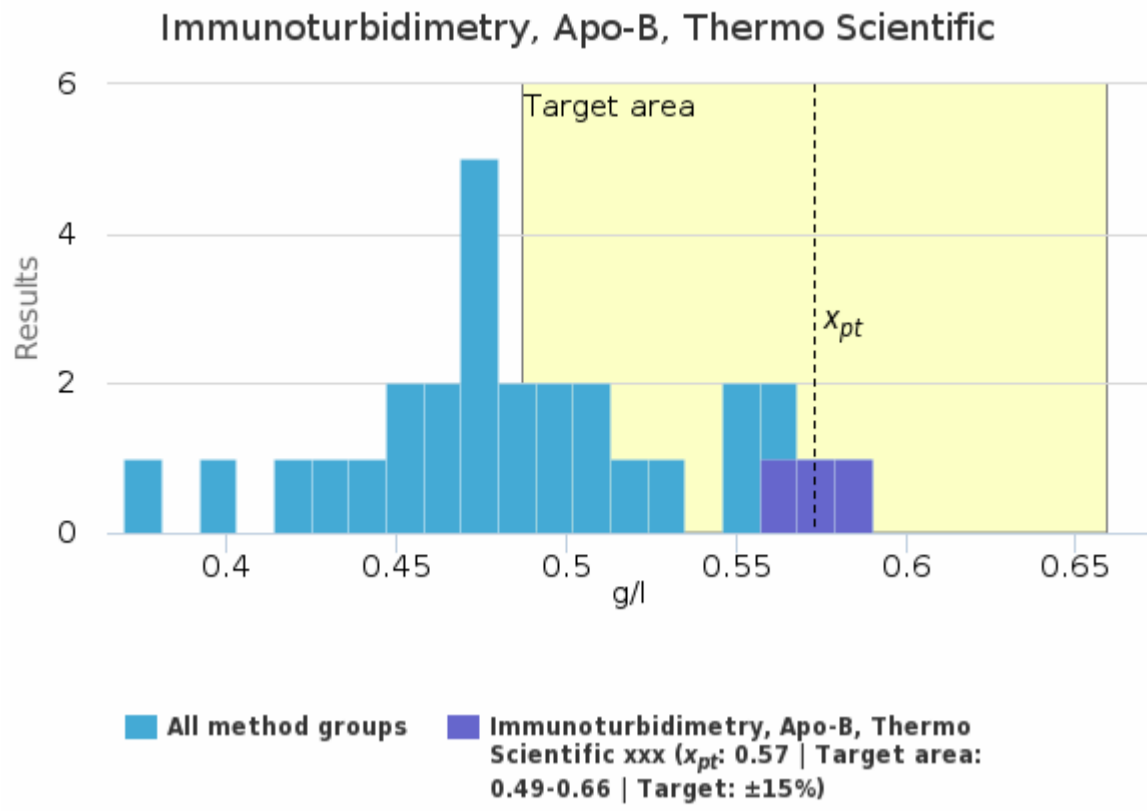


Sample S002 | S-LipoB, g/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Beckman Coulter (ApoB)	-	-	-	-	-	0.45	0.45	-	1
Immunonefelometry, Apo-B, Siemens	0.45	0.46	0.05	10.6	0.02	0.37	0.49	-	5
Immunoturbidimetry, Apo-B, Abbott	0.51	0.50	0.04	7.4	0.02	0.48	0.55	-	3
Immunoturbidimetry, Apo-B, Roche	0.47	0.47	0.04	8.2	0.01	0.40	0.52	-	7
Immunoturbidimetry, Apo-B, Thermo Scientific	0.57	0.57	0.02	2.7	<0.01	0.56	0.59	-	3
Immunoturbidimetry Apo B, Aidian (Orion Diagnostica)	-	-	-	-	-	0.53	0.53	-	1
Immunoturbidimetry Apo B Siemens	0.46	0.45	0.03	6.3	0.01	0.42	0.50	-	5
NMR spectroscopy, ApoB	0.54	0.55	0.03	4.9	0.02	0.51	0.56	-	3
All	0.49	0.48	0.05	10.9	0.01	0.37	0.59	-	28

Sample S002 | S-LipoB, g/l | histogram summaries in LabScala

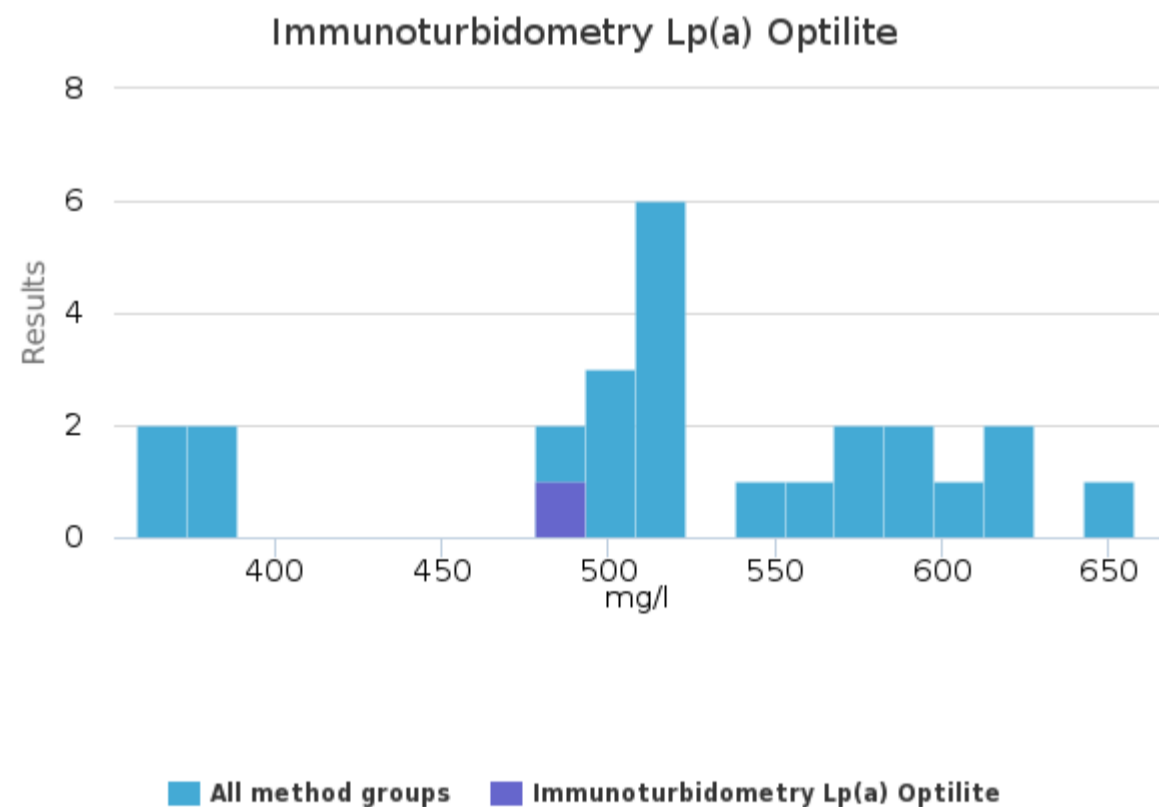
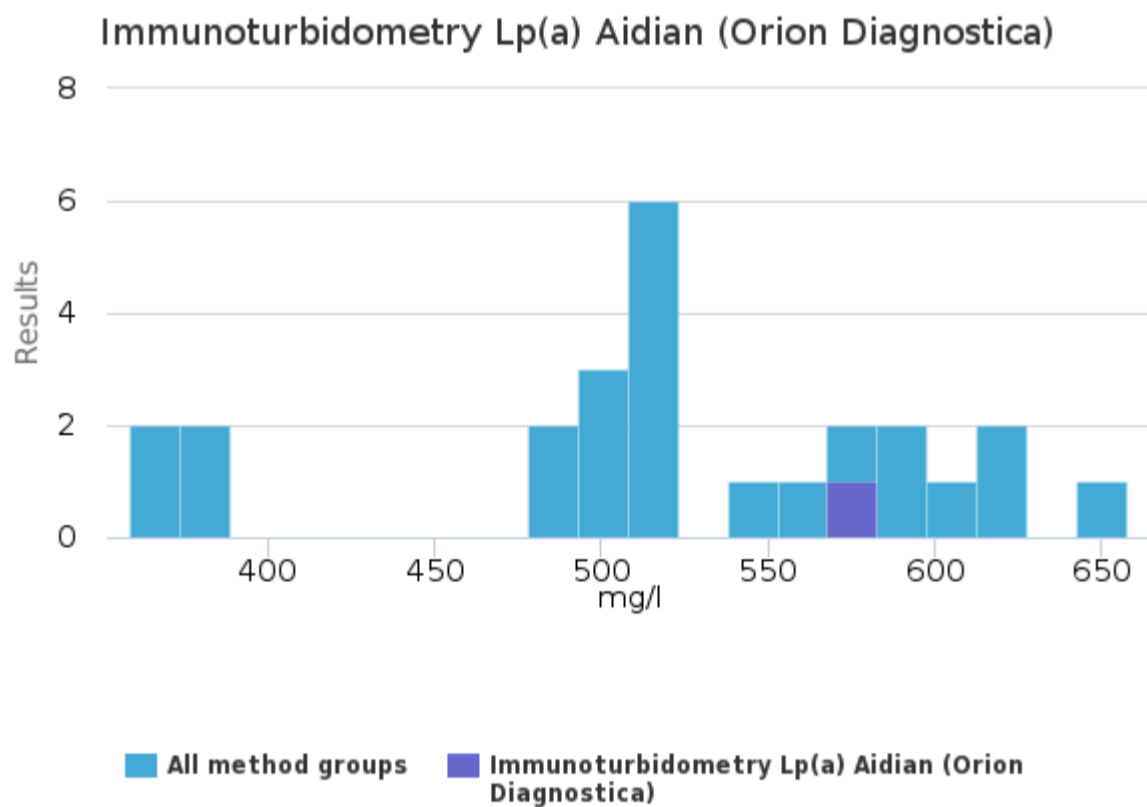
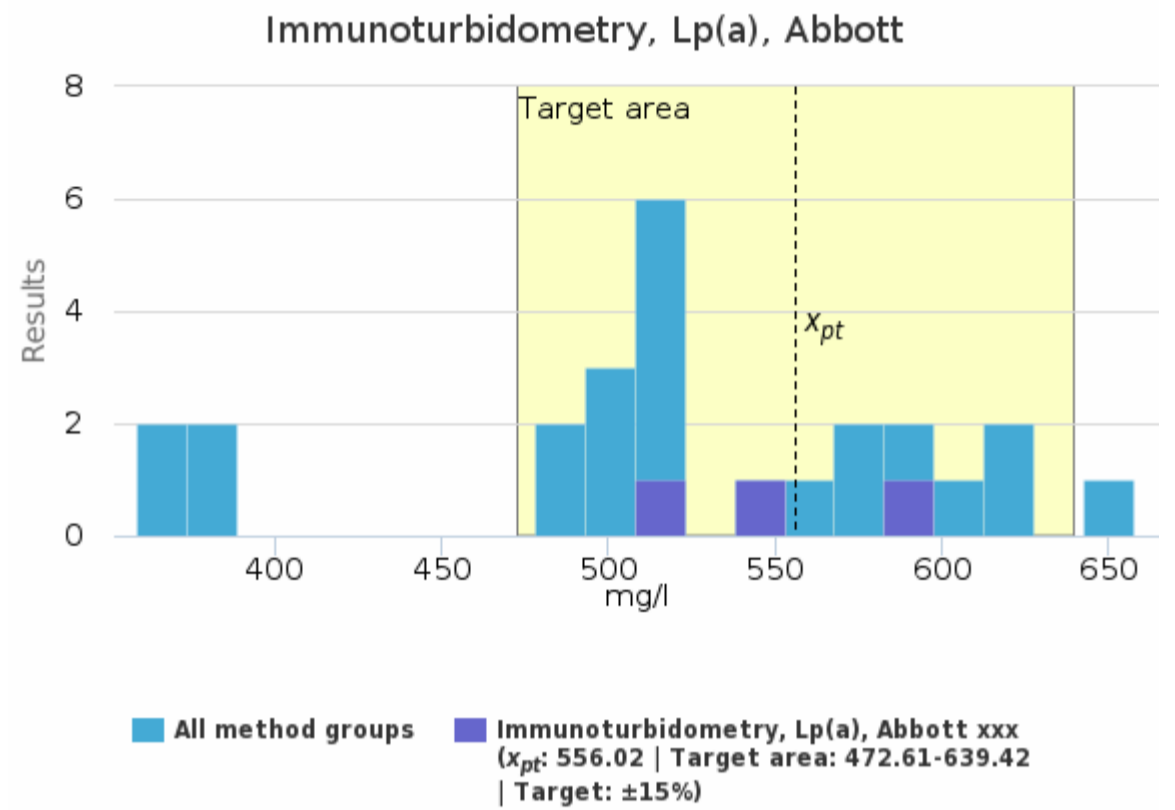
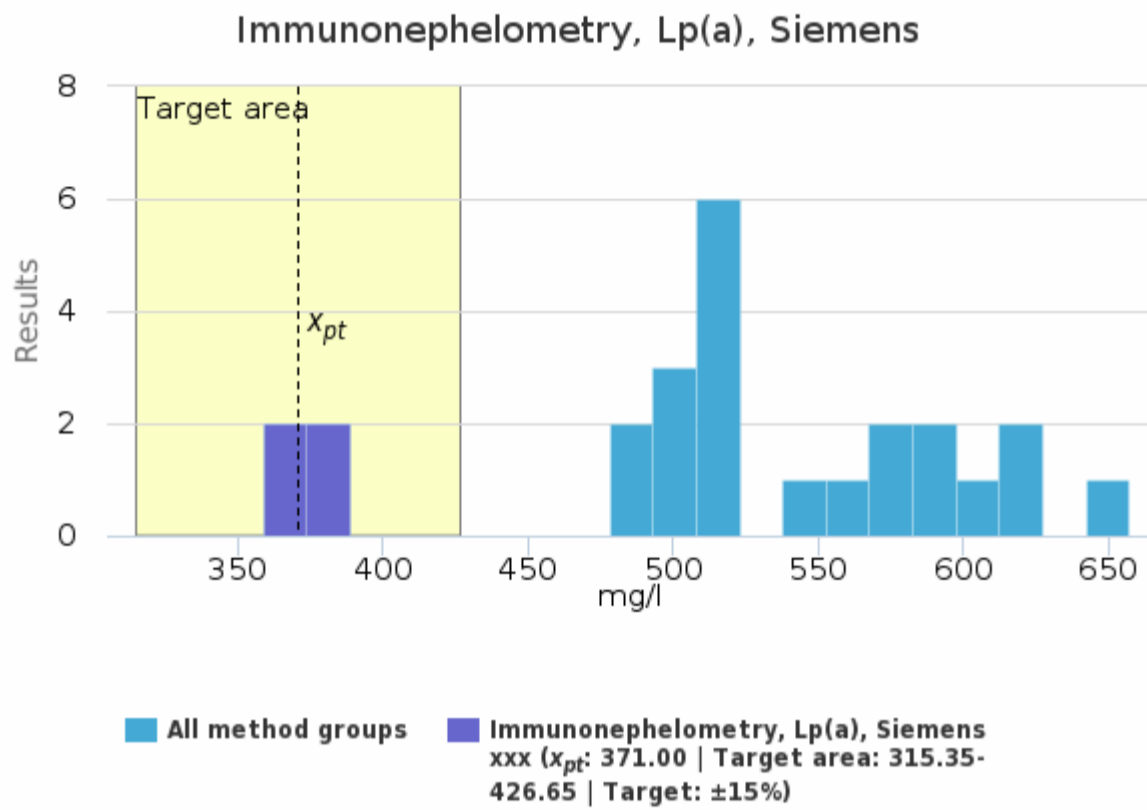


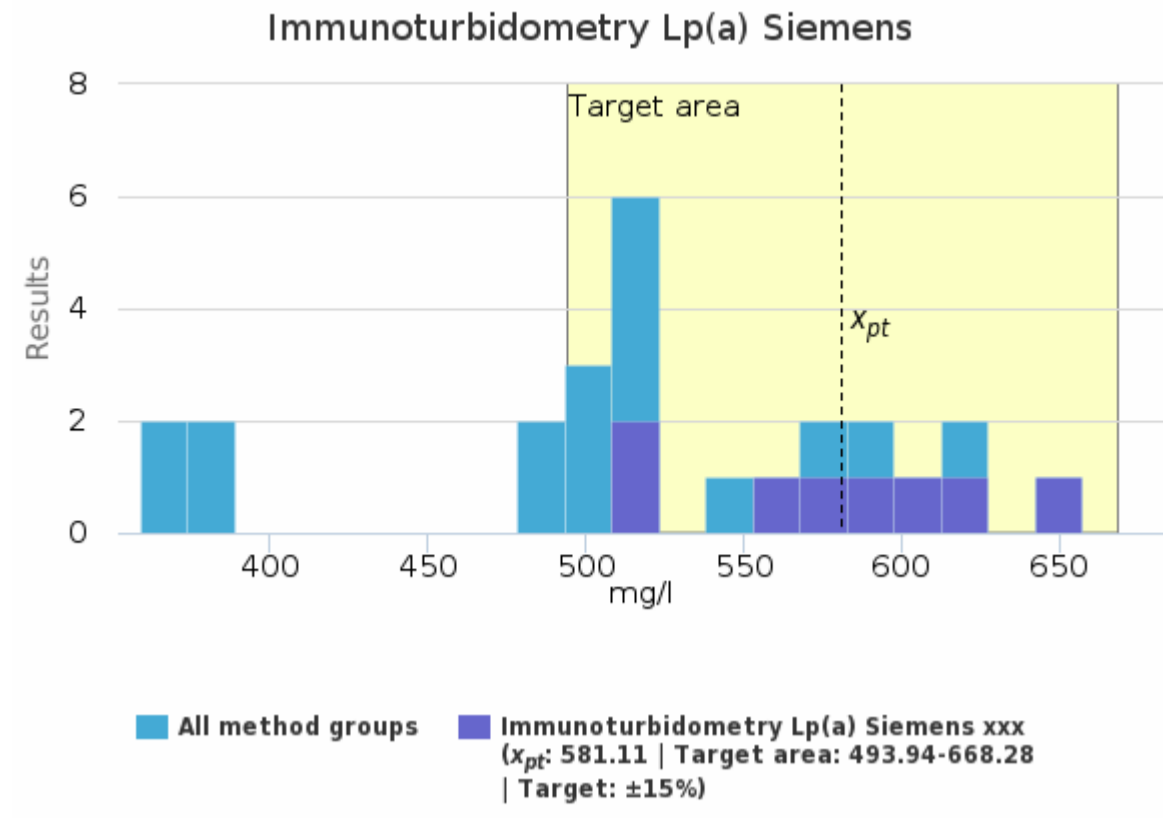
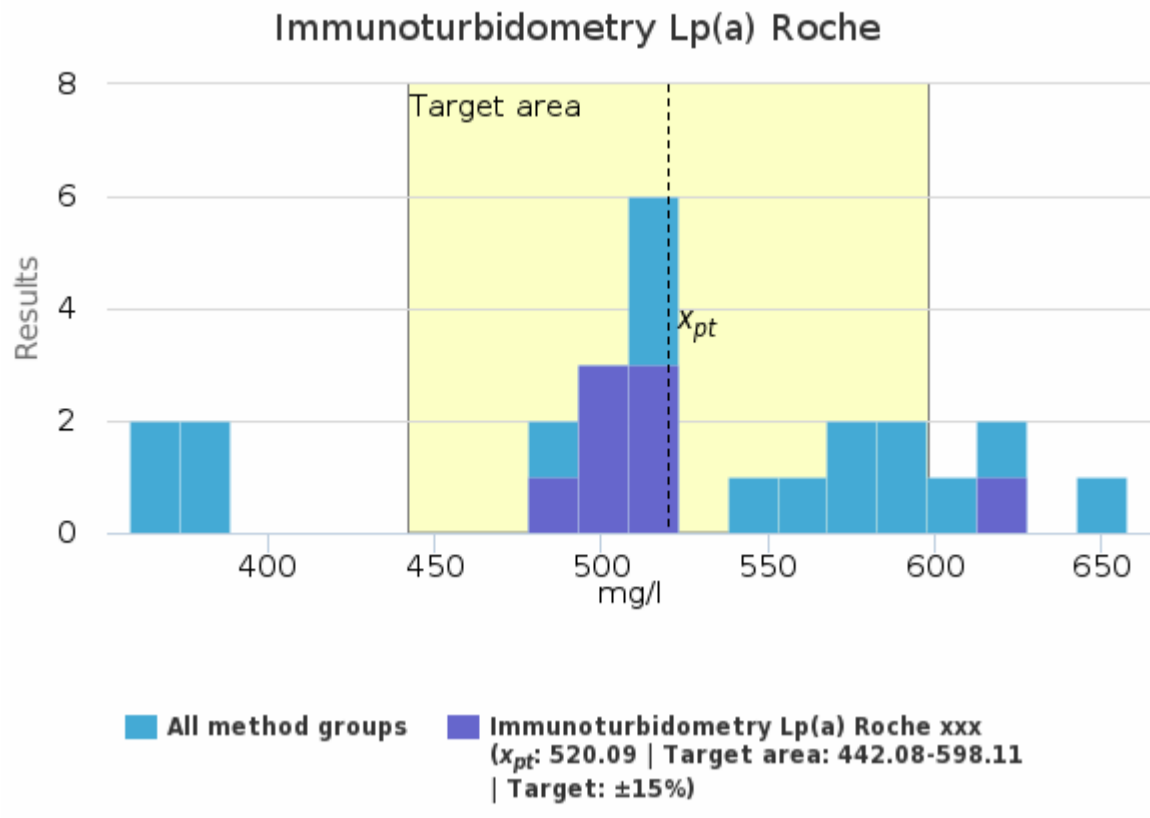


Sample S003 | S-Lp(a), mg/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Immunonephelometry, Lp(a), Siemens	371.00	372.50	10.68	2.9	5.34	359.00	380.00	-	4
Immunoturbidometry, Lp(a), Abbott	556.02	550.05	37.36	6.7	21.57	522.00	596.00	-	3
Immunoturbidometry Lp(a) Aidian (Orion Diagnostica)	-	-	-	-	-	569.80	569.80	-	1
Immunoturbidometry Lp(a) Optilite	-	-	-	-	-	488.37	488.37	-	1
Immunoturbidometry Lp(a) Roche	520.09	508.17	40.79	7.8	14.42	491.71	617.97	-	8
Immunoturbidometry Lp(a) Siemens	581.11	585.25	48.05	8.3	16.99	516.82	657.32	-	8
All	520.79	517.94	80.88	15.5	16.18	359.00	657.32	-	25

Sample S003 | S-Lp(a), mg/l histogram summaries in LabScala





Report info**Participants**

51 participants from 15 countries.

Report info

Your own result should be compared to others using the same method.

Assigned values (\bar{x}_p , 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 "EOAS Interpretation guidelines" LabScala User instructions (top right corner ?Help link).

External Quality Assessment Scheme

Lipids and Lipoproteins

Lp(a)

Round 1, 2023

Specimens

Sample S001 (LQ735323011) and Sample S002 (LQ735323012) were fresh liquid unprocessed human sera (from single donors). Sample S003 (LQ735323013) was a lyophilized product obtained from human serum intended for Lp(a) measurements. Based on the results of this round, S001 and S002 (fresh samples) were homogeneous, stable and suitable for the external quality assessment scheme. Sample S003 based on the previous tests and the results of this round, was homogeneous, stable and suitable for the external quality assessment scheme.

The materials were sent without temperature control packaging.

Report info

It is important to read the Final report first, because it contains important information of the samples and results in each round.

Comments – Expert

The mean concentration for total cholesterol was 4.9 mmol/L in sample S001 and 2.7 mmol/L in sample S002. Repeatability between different method groups was good, coefficient of variation (CV) was 2.8% in sample S001 and 3.4% in sample S002. Repeatability for HDL-C was 4.1% in S001 (mean value 1.64 mmol/L) and 5.0% in S002 (mean value 1.26 mmol/L). The mean concentration for triglycerides was 1.0 mmol/L in S001 and 1.9 mmol/L in S002, and repeatability between different methods was 5.2% and 4.4%, respectively.

The mean concentration for LDL-C was 2.85 mmol/L in S001 and repeatability was 6.3%. The mean value for S002 was 0.79 mmol/L and concentrations varied between different method groups. The lowest concentrations were with Roche and Thermo Scientific methods (0.68 mmol/L) and the highest with NMR spectroscopy (1.51 mmol/L) and BC Au instruments (1.18 mmol/L). The largest variation between results was with Siemens Advia & Atellica group in both S001 and S002, 14.1% and 35.4%, respectively.

The mean concentration for apoA1 was 1.58 g/L in both S001 and S002 with different method groups. CVs were 7.1% and 7.4%, respectively. There were only two results for apoA2 with Siemens method group, the mean concentration was 0.25 g/L in S001 ja 0.32 g/L in S002. For apoB mean concentration was 0.82 g/L in S001 and 0.49 g/L in S002, CVs were 5.7% and 10.9%.

The mean value for Lp(a) in S003 with different method groups was 520.79 mg/L and CV was 15.5%. Because of the complex structure, it has been difficult to standardize Lp(a) assays.

End of report

2023-04-13

FINAL REPORT

Product no. 2200, 2202

Subcontracting: Sample preparation

Samples sent	2023-02-21
Round closed	2023-03-16
Final report	2023-04-13

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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Only the analysis phase is accredited.



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