LABQUALITY

External Quality Assessment Schemes

Acid-Base Status and Electrolytes 2, 2018

Welcome to the round of April.

NOTE, NEW INSTRUCTIONS 2018!

If you get negative result from base excess please mark you result as minus sign (-) and numerical value, eg. -4.5 mmol/L, so that the minus sign and the number are together without space (and not as earlier adviced with "less than" -symbol eg. <-4.5 mmol/L).

Samples
In this round there is also one preanalytical case, to which you can send you results if you like. You can find it under a Case 1:

| Case 1 | Sample S001 | Sample S002 | Sample S003 |

You may report your answers by choosing an option from the drop-down menu and by specifying your possible actions in the comment fields.
You can find the preanalytical errors in LabScala dropdown menu by starting to write in the text field. **It is not mandatory to reply to this pre-analytical part.**

The samples **S001: LQ750818021, S002: LQ750818022 and S003: LQ750818023** are prepared using purified bovine albumin and pure salts in a physiologically buffered matrix. Tonometry with predetermined levels of oxygen, carbon dioxide and nitrogen and different salt concentrations provide three distinct levels for each parameter. Although these quality control specimens are not derived from human blood they must be handled with the same care as patient samples.
You must have an own sample set for each analyser.

Storage and handling
Store the unopened samples at 2 … 8 °C. Do not allow to freeze. The samples must be adapted to room temperature (25 $\pm$ 1 °C), protected from sunlight, before use. Mix the contents by holding the ampoule between the thumb and index finger. Shake vigorously for at least 15 seconds, until a solid layer of bubbles forms on the surface of the liquid. Swirl the ampoule gently to return liquid to the bottom. Allow bubbles to rise (30 - 60 sec) between shaking and opening the ampoule. Carefully snap off the neck of the ampoule but beware of sharp glass **(see pictures 1 and 2 on the reverse side).** The foam at the top is needed as gas buffer between atmosphere and the sample.
Analyse the blood gases within 30 seconds of opening. The components can be determined only once in each sample.
Sample should preferably be aspirated directly or moved with a specific adapter into the instrument. If this is not possible use a 1 - 2 mL gas-tight syringe with a large needle or capillary tube. Aspirate the sample slowly into the syringe to avoid formation of foam and air bubbles. Remove the needle and air bubbles from the syringe and transfer the sample into the instrument without delay. It should be noticed that even with this technique the results of e.g. oxygen will be more uncertain.
The sample is considered as having been drawn from a patient with a body temperature 37 °C. All samples are measured in the same analytical series.

Extra instruction to those laboratories who use **Roche OMNI analyzers:**
1. **All Roche OMNI users must run** the material in **BLOOD mode**
2. The material must be **room temperature** (25 ± 1 °C).

Extra instruction to those laboratories who use **Radiometer ABL analyzers in Creatinine analysing:**
Corrections for creatinine determined with Radiometer ABL analyzers. Because ABL analyzers are designed to analyse whole blood, it is necessary to correct the Acid-base status and electrolytes sample result on creatinine as follows:
CREA(corrected) µmol/L = 0,950*CREA(determined)–0,4
CREA(determined) means that CREA has been determined by ABL as if the EQA-sample had been a whole blood sample.

Analytes
You can report **B-pH, B-pCO$_2$, B-pO$_2$, P-Ca-ion actual, P-Ca-ion adj. pH 7.4, P-K, P-Na, P-Cl, Ionised Mg, P-Glucose, P-Lactate, P-Creatinine, P-Urea, Base excess and HCO3 results.**

Results via LabScala
We don't accept results sent on paper forms.
Send your results only via LabScala. The guidance for reporting the results electronically you will find from LabScala behind **"LabScala User instructions" button.**

NOTE! If you get "negative" result from base excess please mark you result as minus sign (-) and numerical value, eg. -4.5 mmol/L so that the minus sign and the number are together without space (and not as earlier adviced with "less than" –symbol eg. <-4.5 mmol/L).
Please do not report zero results, if some analyte is not in use in your laboratory, just leave that result column empty.
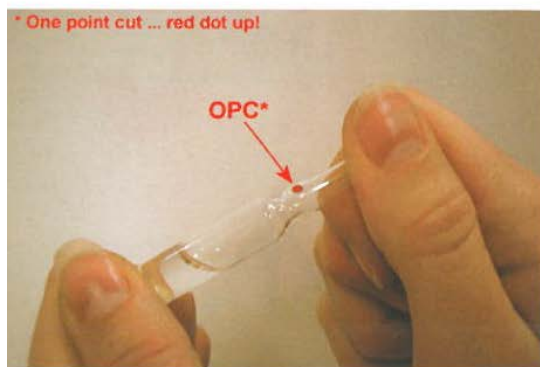
Pictures 1 and 2:
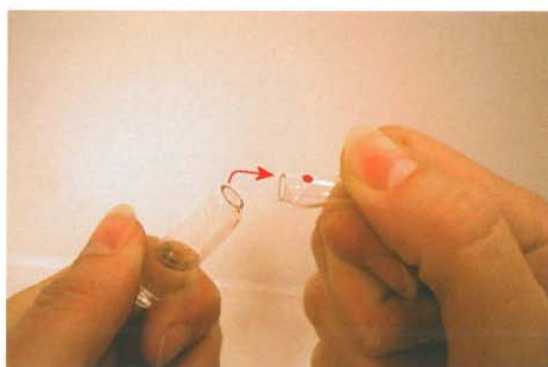
S001: LQ750818021

S002: LQ750818022

S003: LQ750818023

Sample S001 | pH, --

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
ABL 700-735 + FLEX	7.242	7.242	0.007	<0.1	0.003	7.234	7.250	-	4
ABL 80 FLEX	7.260	7.260	0.018	0.2	0.006	7.230	7.290	-	10
ABL 800-837 + FLEX	7.235	7.235	0.008	0.1	<0.001	7.209	7.250	2	154
ABL 9	-	-	-	-	-	7.240	7.240	-	1
ABL 90 FLEX	7.239	7.238	0.008	0.1	<0.001	7.218	7.265	3	70
EasyBloodGas	7.241	7.239	0.006	<0.1	0.003	7.236	7.247	-	3
EasyStat	-	-	-	-	-	7.312	7.312	-	1
epoc Blood Analysis System	7.206	7.204	0.013	0.2	0.004	7.190	7.228	-	10
Gastat-1810	7.259	7.259	0.016	0.2	0.012	7.247	7.270	-	2
Gem Premier 3000-3500	7.261	7.260	0.009	0.1	0.002	7.250	7.280	-	15
Gem Premier 4000	7.259	7.260	0.012	0.2	0.002	7.240	7.290	-	49
IRMA TruPoint	7.293	7.292	0.008	0.1	0.004	7.284	7.302	-	4
i-STAT	7.306	7.305	0.011	0.1	0.003	7.292	7.330	-	11
Konelab	-	-	-	-	-	7.371	7.371	-	1
Nova 8	7.287	7.270	0.038	0.5	0.022	7.260	7.330	-	3
OMNI C / Cobas b 121	-	-	-	-	-	7.275	7.275	-	1
OMNI S / Cobas b 221	7.256	7.255	0.008	0.1	0.001	7.243	7.271	-	34
Opti CCA - TS	-	-	-	-	-	7.291	7.291	-	1
RAPIDLab 1200 series (RL1240-RL1265)	7.257	7.255	0.013	0.2	0.004	7.242	7.284	-	9
RAPIDLab 248	7.260	7.257	0.007	<0.1	0.004	7.256	7.268	-	3
RAPIDLab 348/348EX	7.247	7.246	0.008	0.1	0.002	7.238	7.263	-	14
RAPIDPoint 400/500 series	7.234	7.233	0.006	<0.1	0.001	7.222	7.242	1	25
Stat Profile CCX	-	-	-	-	-	7.276	7.276	-	1
All	**7.244**	**7.240**	**0.017**	**0.2**	**<0.001**	**7.190**	**7.305**	**11**	**426**

Sample S001 | pH, --| histogram summaries in LabScala

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Sample S001 | CO2, kPa

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
ABL 700-735 + FLEX	7.00	7.04	0.10	1.4	0.05	6.85	7.05	-	4
ABL 80 FLEX	7.08	7.13	0.33	4.6	0.11	6.40	7.58	-	9
ABL 800-837 + FLEX	7.02	7.02	0.21	3.0	0.02	6.37	7.65	1	152
ABL 9	-	-	-	-	-	7.52	7.52	-	1
ABL 90 FLEX	6.75	6.77	0.17	2.5	0.02	6.25	7.08	2	69
EasyBloodGas	7.30	7.28	0.13	1.8	0.07	7.18	7.43	-	3
EasyStat	-	-	-	-	-	5.79	5.79	-	1
epoc Blood Analysis System	6.80	6.62	0.40	5.9	0.13	6.42	7.47	-	10
Gastat-1810	6.56	6.56	1.50	22.9	1.06	5.49	7.62	-	2
Gem Premier 3000-3500	7.16	7.07	0.25	3.6	0.07	6.78	7.60	-	15
Gem Premier 4000	7.23	7.20	0.22	3.0	0.03	6.70	7.80	-	49
IRMA TruPoint	7.28	7.26	0.29	3.9	0.14	7.01	7.58	-	4
i-STAT	6.01	6.02	0.22	3.7	0.07	5.59	6.36	-	11
OMNI C / Cobas b 121	-	-	-	-	-	6.96	6.96	-	1
OMNI S / Cobas b 221	7.28	7.30	0.15	2.0	0.03	6.93	7.55	-	33
OPTI	-	-	-	-	-	6.92	6.92	-	1
Opti CCA - TS	-	-	-	-	-	6.74	6.74	-	1
RAPIDLab 1200 series (RL1240-RL1265)	6.90	6.96	0.39	5.6	0.13	6.13	7.34	-	9
RAPIDLab 248	7.05	6.97	0.16	2.3	0.09	6.94	7.23	-	3
RAPIDLab 348/348EX	7.19	7.14	0.17	2.4	0.05	6.97	7.62	-	14
RAPIDPoint 400/500 series	7.05	7.18	0.37	5.2	0.07	6.33	7.72	-	25
Stat Profile CCX	-	-	-	-	-	6.66	6.66	-	1
All	**7.02**	**7.04**	**0.31**	**4.4**	**0.02**	**6.02**	**7.80**	**7**	**418**

Sample S001 | CO2, kPa| histogram summaries in LabScala

Sample S001 | O2, kPa

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
ABL 700-735 + FLEX	11.75	11.62	0.35	2.9	0.17	11.50	12.26	-	4
ABL 80 FLEX	10.83	10.57	0.76	7.0	0.24	10.11	12.50	-	10
ABL 800-837 + FLEX	12.18	12.11	0.39	3.2	0.03	11.31	13.83	5	151
ABL 9	-	-	-	-	-	11.90	11.90	-	1
ABL 90 FLEX	10.04	9.95	0.60	6.0	0.07	8.71	12.60	2	67
EasyBloodGas	11.08	11.04	0.20	1.8	0.12	10.91	11.31	-	3
epoc Blood Analysis System	10.49	10.32	0.63	6.0	0.20	9.97	12.16	-	10
Gastat-1810	-	-	-	-	-	11.53	11.53	-	1
Gem Premier 3000-3500	11.77	11.60	0.35	3.0	0.09	11.33	12.64	-	15
Gem Premier 4000	12.02	12.00	0.43	3.6	0.06	10.91	12.90	-	48
IRMA TruPoint	12.14	12.42	1.16	9.6	0.58	10.65	13.07	-	4
i-STAT	12.93	13.00	0.40	3.1	0.13	12.00	13.30	-	9
OMNI C / Cobas b 121	-	-	-	-	-	11.82	11.82	-	1
OMNI S / Cobas b 221	14.60	14.64	0.43	2.9	0.07	13.51	15.44	-	33
OPTI	-	-	-	-	-	11.57	11.57	-	1
Opti CCA - TS	-	-	-	-	-	12.08	12.08	-	1
RAPIDLab 1200 series (RL1240-RL1265)	11.75	11.84	1.14	9.7	0.38	10.40	13.85	-	9
RAPIDLab 248	10.21	10.26	0.78	7.7	0.45	9.40	10.96	-	3
RAPIDLab 348/348EX	10.30	10.14	0.84	8.1	0.22	9.37	12.06	-	14
RAPIDPoint 400/500 series	12.34	12.33	0.81	6.6	0.17	10.80	14.63	-	24
Stat Profile CCX	-	-	-	-	-	9.85	9.85	-	1
All	**11.88**	**12.00**	**1.34**	**11.3**	**0.07**	**8.71**	**15.44**	**-**	**410**

Sample S001 | O2, kPa| histogram summaries in LabScala

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Sample S001 | Ca-ion actual, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
ABL 700-735 + FLEX	1.37	1.36	0.03	1.9	0.02	1.35	1.40	-	3
ABL 80 FLEX	1.26	1.26	0.03	2.1	0.01	1.22	1.30	-	6
ABL 800-837 + FLEX	1.42	1.42	0.02	1.5	<0.01	1.36	1.49	1	133
ABL 90 FLEX	1.39	1.39	<0.01	0.7	<0.01	1.36	1.41	1	68
EasyStat	-	-	-	-	-	1.31	1.31	-	1
epoc Blood Analysis System	1.33	1.33	<0.01	0.7	<0.01	1.32	1.34	-	7
Gem Premier 3000-3500	1.34	1.34	0.03	2.5	<0.01	1.30	1.39	-	12
Gem Premier 4000	1.40	1.40	0.03	1.9	<0.01	1.34	1.49	1	48
IRMA TruPoint	1.41	1.41	0.03	2.0	0.02	1.39	1.43	-	2
i-STAT	1.37	1.37	<0.01	<0.1	<0.01	1.37	1.37	-	2
Nova 8	1.39	1.40	0.02	1.7	0.01	1.36	1.40	-	3
OMNI C / Cobas b 121	-	-	-	-	-	1.29	1.29	-	1
OMNI S / Cobas b 221	1.33	1.33	0.02	1.3	<0.01	1.29	1.36	1	31
RAPIDLab 1200 series (RL1240-RL1265)	1.35	1.34	0.08	5.6	0.03	1.23	1.46	-	8
RAPIDLab 348/348EX	1.44	1.44	0.02	1.6	0.01	1.42	1.46	-	4
RAPIDPoint 400/500 series	1.33	1.33	0.02	1.8	<0.01	1.26	1.37	1	23
Stat Profile CCX	-	-	-	-	-	1.41	1.41	-	1
All	**1.39**	**1.39**	**0.04**	**3.1**	**<0.01**	**1.26**	**1.50**	**5**	**353**

Sample S001 | Ca-ion actual, mmol/l| histogram summaries in LabScala

Sample S001 | Ca-ion adjusted, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
ABL 700-735 + FLEX	-	-	-	-	-	1.29	1.29	-	1
ABL 80 FLEX	1.15	1.15	0.03	2.9	0.02	1.10	1.18	-	4
ABL 800-837 + FLEX	1.30	1.30	0.02	1.2	<0.01	1.25	1.34	3	106
ABL 90 FLEX	1.27	1.27	0.02	1.3	<0.01	1.25	1.35	3	51
Gem Premier 3000-3500	1.25	1.23	0.04	3.4	0.01	1.20	1.31	-	10
Gem Premier 4000	1.32	1.32	0.03	2.1	<0.01	1.25	1.40	-	45
IRMA TruPoint	-	-	-	-	-	1.30	1.30	-	1
Konelab	1.26	1.26	0.01	0.9	<0.01	1.25	1.27	-	2
Nova 8	1.31	1.31	<0.01	0.4	<0.01	1.30	1.31	-	3
OMNI C / Cobas b 121	-	-	-	-	-	1.21	1.21	-	1
OMNI S / Cobas b 221	1.25	1.23	0.04	3.3	<0.01	1.19	1.35	-	28
RAPIDLab 1200 series (RL1240-RL1265)	1.26	1.26	0.04	3.3	0.02	1.20	1.33	-	6
RAPIDPoint 400/500 series	1.25	1.25	0.02	1.2	<0.01	1.23	1.28	1	18
All	**1.29**	**1.29**	**0.04**	**2.9**	**<0.01**	**1.18**	**1.40**	**6**	**276**

Sample S001 | Ca-ion adjusted, mmol/l| histogram summaries in LabScala

Sample S001 | Potassium, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
ABL 700-735 + FLEX	2.48	2.50	0.07	2.9	0.04	2.40	2.54	-	3
ABL 80 FLEX	2.61	2.59	0.08	3.0	0.03	2.52	2.73	-	6
ABL 800-837 + FLEX	2.53	2.50	0.05	1.9	<0.01	2.40	2.60	-	140
ABL 90 FLEX	2.53	2.50	0.05	1.8	<0.01	2.50	2.60	-	65
EasyStat	-	-	-	-	-	2.36	2.36	-	1
epoc Blood Analysis System	2.40	2.40	<0.01	<0.1	<0.01	2.40	2.40	1	16
Gastat-1810	-	-	-	-	-	2.60	2.60	-	1
Gem Premier 3000-3500	2.37	2.40	0.05	2.1	0.01	2.30	2.40	-	12
Gem Premier 4000	2.39	2.40	0.02	1.0	<0.01	2.30	2.40	2	48
IRMA TruPoint	2.68	2.68	0.04	1.3	0.03	2.65	2.70	-	2
i-STAT	2.40	2.40	<0.01	<0.1	<0.01	2.40	2.40	-	5
Konelab	-	-	-	-	-	2.51	2.51	-	1
OMNI C / Cobas b 121	-	-	-	-	-	2.40	2.40	-	1
OMNI S / Cobas b 221	2.28	2.29	0.03	1.3	<0.01	2.20	2.34	-	31
Opti CCA - TS	-	-	-	-	-	2.44	2.44	-	1
RAPIDLab 1200 series (RL1240-RL1265)	2.45	2.40	0.11	4.6	0.05	2.35	2.60	-	6
RAPIDLab 348/348EX	2.52	2.45	0.16	6.4	0.09	2.40	2.70	-	3
RAPIDPoint 400/500 series	2.50	2.49	0.03	1.4	<0.01	2.44	2.56	-	21
Stat Profile CCX	-	-	-	-	-	2.50	2.50	-	1
All	**2.48**	**2.50**	**0.10**	**3.8**	**<0.01**	**2.23**	**2.73**	**3**	**364**

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

Sample S001 | Sodium, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
ABL 700-735 + FLEX	122.5	121.0	2.7	2.2	1.5	121.0	125.6	-	3
ABL 80 FLEX	125.8	125.5	2.3	1.8	0.9	123.0	129.0	-	6
ABL 800-837 + FLEX	125.7	126.0	0.9	0.7	<0.1	124.0	128.0	3	141
ABL 90 FLEX	126.8	127.0	0.4	0.4	<0.1	125.0	128.0	1	65
EasyStat	-	-	-	-	-	123.8	123.8	-	1
epoc Blood Analysis System	126.1	126.0	0.9	0.7	0.2	125.0	127.0	-	16
Gastat-1810	-	-	-	-	-	122.6	122.6	-	1
Gem Premier 3000-3500	123.8	123.5	1.4	1.1	0.4	122.0	126.0	-	12
Gem Premier 4000	124.9	125.0	0.8	0.6	0.1	123.0	127.0	1	48
IRMA TruPoint	128.0	128.2	2.5	1.9	1.4	125.4	130.3	-	3
i-STAT	125.8	125.5	1.0	0.8	0.5	125.0	127.0	-	4
Konelab	-	-	-	-	-	128.6	128.6	-	1
OMNI C / Cobas b 121	-	-	-	-	-	122.6	122.6	-	1
OMNI S / Cobas b 221	124.8	125.0	0.8	0.6	0.1	123.2	126.0	-	29
Opti CCA - TS	-	-	-	-	-	128.5	128.5	-	1
RAPIDLab 1200 series (RL1240-RL1265)	123.9	123.0	2.0	1.6	0.7	122.3	127.0	-	7
RAPIDLab 348/348EX	128.0	128.0	1.0	0.8	0.6	127.0	129.0	-	3
RAPIDPoint 400/500 series	123.0	123.1	0.8	0.7	0.2	120.9	124.5	1	22
Stat Profile CCX	-	-	-	-	-	125.0	125.0	-	1
All	**125.5**	**126.0**	**1.4**	**1.1**	**<0.1**	**121.9**	**130.3**	**4**	**365**

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

Sample S001 | Chloride, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
ABL 700-735 + FLEX	87.7	87.0	1.2	1.3	0.7	87.0	89.0	-	3
ABL 80 FLEX	88.2	88.0	1.6	1.8	0.7	86.0	91.0	-	6
ABL 800-837 + FLEX	87.8	88.0	1.0	1.1	<0.1	85.0	90.0	1	111
ABL 90 FLEX	86.3	86.0	0.5	0.6	<0.1	85.0	87.0	-	57
epoc Blood Analysis System	90.6	91.0	1.2	1.4	0.4	89.0	93.0	-	9
Gem Premier 4000	90.7	91.0	0.8	0.9	0.1	89.0	92.0	-	41
Konelab	-	-	-	-	-	89.7	89.7	-	1
OMNI C / Cobas b 121	-	-	-	-	-	87.8	87.8	-	1
OMNI S / Cobas b 221	87.9	88.0	1.8	2.0	0.3	83.8	90.7	-	27
Opti CCA - TS	-	-	-	-	-	97.3	97.3	-	1
RAPIDLab 1200 series (RL1240-RL1265)	90.6	90.0	3.5	3.9	1.8	87.0	95.5	-	4
RAPIDLab 348/348EX	-	-	-	-	-	89.0	89.0	-	1
RAPIDPoint 400/500 series	87.8	88.0	1.4	1.5	0.3	85.0	92.0	-	19
Stat Profile CCX	-	-	-	-	-	93.0	93.0	-	1
All	**88.1**	**88.0**	**1.8**	**2.0**	**0.1**	**83.8**	**93.0**	**2**	**282**

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

Sample S001 | Magnesium, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Stat Profile CCX	-	-	-	-	-	0.96	0.96	-	1
All	**-**	**-**	**-**	**-**	**-**	**0.96**	**0.96**	**-**	**1**

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

Sample S001 | Glucose, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
ABL 700-735 + FLEX	14.37	14.40	0.06	0.4	0.03	14.30	14.40	-	3
ABL 80 FLEX	-	-	-	-	-	15.50	15.50	-	1
ABL 800-837 + FLEX	15.03	15.00	0.52	3.5	0.05	13.60	16.40	-	129
ABL 90 FLEX	15.26	15.35	0.43	2.8	0.05	13.90	16.10	2	63
epoc Blood Analysis System	16.42	16.30	0.80	4.9	0.25	15.50	17.80	-	10
Gem Premier 3000-3500	14.32	14.23	0.68	4.8	0.22	12.94	15.17	-	10
Gem Premier 4000	16.08	16.10	0.32	2.0	0.05	15.20	16.78	-	47
i-STAT	15.20	15.20	0.10	0.7	0.06	15.10	15.30	-	3
OMNI S / Cobas b 221	16.35	16.35	0.42	2.6	0.09	15.50	17.00	1	23
RAPIDLab 1200 series (RL1240-RL1265)	14.62	14.90	0.85	5.8	0.49	13.67	15.30	-	3
RAPIDPoint 400/500 series	15.52	15.40	0.41	2.6	0.09	14.90	16.30	-	21
All	**15.36**	**15.40**	**0.68**	**4.4**	**0.04**	**13.40**	**17.00**	**5**	**313**

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

Sample S001 | Lactate, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
ABL 700-735 + FLEX	11.70	11.90	0.44	3.7	0.25	11.20	12.00	-	3
ABL 80 FLEX	10.80	10.40	0.87	8.1	0.50	10.20	11.80	-	3
ABL 800-837 + FLEX	12.28	12.35	0.72	5.8	0.06	10.40	13.90	1	125
ABL 90 FLEX	13.58	13.70	0.45	3.3	0.06	12.20	14.20	1	60
epoc Blood Analysis System	12.00	12.11	0.87	7.2	0.27	10.53	13.12	-	10
Gem Premier 3000-3500	12.21	12.30	1.41	11.6	0.47	10.40	13.70	-	9
Gem Premier 4000	13.14	13.20	0.36	2.8	0.05	12.30	14.00	-	47
i-STAT	13.32	13.32	0.31	2.3	0.22	13.10	13.54	-	2
OMNI S / Cobas b 221	14.45	14.43	0.33	2.3	0.06	13.74	15.10	1	27
RAPIDLab 1200 series (RL1240-RL1265)	13.11	13.11	0.04	0.3	0.03	13.08	13.14	-	2
RAPIDPoint 400/500 series	13.50	13.62	1.02	7.5	0.23	11.69	15.50	-	19
Stat Profile CCX	-	-	-	-	-	10.30	10.30	-	1
All	**12.90**	**12.96**	**1.03**	**8.0**	**0.06**	**10.00**	**15.70**	**-**	**308**

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

Sample S001 | Creatinine, µmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
ABL 800-837 + FLEX	357.5	354.2	19.8	5.5	4.2	330.0	405.0	-	22
epoc Blood Analysis System	469.5	459.0	32.6	6.9	9.4	430.0	515.0	-	12
All	**397.0**	**368.2**	**59.6**	**15.0**	**10.2**	**330.0**	**515.0**	**-**	**34**

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

Sample S001 | Urea, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
OMNI S / Cobas b 221	-	-	-	-	-	15.50	15.50	-	1
All	**-**	**-**	**-**	**-**	**-**	**15.50**	**15.50**	**-**	**1**

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

Sample S001 | Base excess, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
ABL 700-735 + FLEX	-4.90	-4.80	0.26	5.4	0.15	-5.20	-4.70	-	3
ABL 80 FLEX	-3.15	-2.80	0.83	26.4	0.34	-4.30	-2.40	-	6
ABL 800-837 + FLEX	-4.68	-4.70	0.50	10.8	0.05	-5.80	-3.20	2	127
ABL 9	-	-	-	-	-	-3.00	-3.00	-	1
ABL 90 FLEX	-5.48	-5.70	0.88	16.0	0.12	-8.00	-3.60	-	55
EasyBloodGas	-	-	-	-	-	-5.20	-5.20	-	1
EasyStat	-	-	-	-	-	-4.40	-4.40	-	1
epoc Blood Analysis System	-6.55	-6.75	0.65	9.9	0.26	-7.30	-5.40	-	6
Gastat-1810	-	-	-	-	-	-4.10	-4.10	-	1
Gem Premier 3000-3500	-3.03	-3.00	0.25	8.3	0.15	-3.30	-2.80	-	3
Gem Premier 4000	-3.80	-3.90	0.61	16.1	0.12	-4.90	-2.50	1	27
IRMA TruPoint	-1.20	-1.20	0.28	23.6	0.20	-1.40	-1.00	-	2
i-STAT	-3.56	-4.00	0.73	20.4	0.24	-4.00	-2.00	-	9
OMNI S / Cobas b 221	-3.77	-3.70	0.52	13.9	0.11	-4.90	-3.00	-	23
Opti CCA - TS	-	-	-	-	-	-3.20	-3.20	-	1
RAPIDLab 1200 series (RL1240-RL1265)	-4.01	-3.90	0.43	10.7	0.16	-4.60	-3.40	-	7
RAPIDLab 248	-	-	-	-	-	-4.10	-4.10	-	1
RAPIDLab 348/348EX	-4.50	-4.50	0.10	2.2	0.06	-4.60	-4.40	-	3
RAPIDPoint 400/500 series	-5.66	-5.50	1.12	19.7	0.28	-7.80	-4.30	-	16
All	**-4.64**	**-4.60**	**0.95**	**20.5**	**0.06**	**-7.70**	**-2.00**	**5**	**293**

Sample S001 | Base excess, mmol/l| histogram summaries in LabScala

Sample S001 | HCO3, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
ABL 700-735 + FLEX	-	-	-	-	-	22.60	22.60	-	1
ABL 80 FLEX	23.39	23.40	0.68	2.9	0.26	22.20	24.50	-	7
ABL 800-837 + FLEX	21.56	21.50	0.40	1.8	0.04	20.60	22.50	1	95
ABL 9	-	-	-	-	-	21.70	21.70	-	1
ABL 90 FLEX	21.47	21.50	0.58	2.7	0.09	19.50	22.70	1	40
EasyBloodGas	23.70	23.70	0.85	3.6	0.60	23.10	24.30	-	2
EasyStat	-	-	-	-	-	22.00	22.00	-	1
epoc Blood Analysis System	20.24	20.25	1.00	4.9	0.35	18.90	21.40	-	8
Gastat-1810	21.20	21.20	4.10	19.3	2.90	18.30	24.10	-	2
Gem Premier 3000-3500	24.00	23.65	1.75	7.3	0.87	22.50	26.20	-	4
Gem Premier 4000	23.55	23.80	1.54	6.5	0.28	21.00	27.30	-	30
IRMA TruPoint	26.15	26.10	0.60	2.3	0.30	25.50	26.90	-	4
i-STAT	22.42	22.20	0.45	2.0	0.15	21.90	23.10	-	9
OMNI C / Cobas b 121	-	-	-	-	-	23.80	23.80	-	1
OMNI S / Cobas b 221	23.76	23.70	0.42	1.8	0.09	23.00	25.10	1	24
Opti CCA - TS	-	-	-	-	-	23.90	23.90	-	1
RAPIDLab 1200 series (RL1240-RL1265)	22.26	22.40	0.94	4.2	0.36	21.00	23.40	-	7
RAPIDLab 248	-	-	-	-	-	23.40	23.40	-	1
RAPIDLab 348/348EX	22.47	23.20	1.54	6.8	0.89	20.70	23.50	-	3
RAPIDPoint 400/500 series	21.80	22.20	1.14	5.2	0.25	19.70	23.30	-	21
All	**22.14**	**21.90**	**1.25**	**5.7**	**0.08**	**18.30**	**25.90**	**5**	**262**

Sample S001 | HCO3, mmol/l| histogram summaries in LabScala

Sample S002 | pH, --

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
ABL 700-735 + FLEX	7.411	7.411	0.003	<0.1	0.002	7.406	7.414	-	4
ABL 80 FLEX	7.413	7.415	0.013	0.2	0.004	7.390	7.430	-	10
ABL 800-837 + FLEX	7.404	7.404	0.005	<0.1	<0.001	7.387	7.419	2	154
ABL 9	-	-	-	-	-	7.420	7.420	-	1
ABL 90 FLEX	7.410	7.410	0.006	<0.1	<0.001	7.398	7.434	1	65
Cobas b 123	-	-	-	-	-	7.403	7.403	-	1
EasyBloodGas	7.418	7.415	0.006	<0.1	0.003	7.414	7.424	-	3
EasyStat	-	-	-	-	-	7.421	7.421	-	1
epoc Blood Analysis System	7.397	7.398	0.010	0.1	0.003	7.374	7.410	-	10
Gastat-1810	7.437	7.437	0.006	<0.1	0.005	7.432	7.441	-	2
Gem Premier 3000-3500	7.447	7.450	0.007	<0.1	0.002	7.440	7.460	-	15
Gem Premier 4000	7.450	7.450	0.011	0.1	0.002	7.430	7.480	1	49
IRMA TruPoint	7.462	7.455	0.026	0.3	0.015	7.441	7.491	-	3
i-STAT	7.478	7.480	0.012	0.2	0.004	7.460	7.500	-	11
Konelab	-	-	-	-	-	7.527	7.527	-	1
Nova 8	7.457	7.440	0.029	0.4	0.017	7.440	7.490	-	3
OMNI C / Cobas b 121	-	-	-	-	-	7.417	7.417	-	1
OMNI S / Cobas b 221	7.405	7.406	0.006	<0.1	0.001	7.393	7.418	-	34
OPTI	-	-	-	-	-	7.430	7.430	-	1
Opti CCA - TS	7.447	7.447	0.009	0.1	0.007	7.440	7.453	-	2
RAPIDLab 1200 series (RL1240-RL1265)	7.424	7.427	0.009	0.1	0.003	7.410	7.436	-	9
RAPIDLab 248	7.433	7.435	0.007	<0.1	0.004	7.426	7.439	-	3
RAPIDLab 348/348EX	7.417	7.414	0.008	0.1	0.002	7.410	7.432	-	14
RAPIDPoint 400/500 series	7.409	7.408	0.007	0.1	0.001	7.390	7.420	-	25
Stat Profile CCX	-	-	-	-	-	7.424	7.424	-	1
All	**7.415**	**7.409**	**0.019**	**0.3**	**<0.001**	**7.374**	**7.474**	**11**	**423**

Sample S002 | pH, --| histogram summaries in LabScala

Sample S002 | CO2, kPa

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
ABL 700-735 + FLEX	5.11	5.11	0.03	0.5	0.01	5.07	5.13	-	4
ABL 80 FLEX	5.27	5.21	0.32	6.0	0.10	4.90	5.83	-	10
ABL 800-837 + FLEX	5.12	5.12	0.11	2.1	<0.01	4.80	5.41	1	153
ABL 9	-	-	-	-	-	5.51	5.51	-	1
ABL 90 FLEX	5.06	5.06	0.10	2.0	0.01	4.76	5.29	1	63
Cobas b 123	-	-	-	-	-	5.09	5.09	-	1
EasyBloodGas	5.25	5.23	0.05	1.0	0.03	5.21	5.31	-	3
EasyStat	-	-	-	-	-	5.25	5.25	-	1
epoc Blood Analysis System	5.07	5.02	0.20	3.9	0.06	4.83	5.41	-	10
Gastat-1810	-	-	-	-	-	5.64	5.64	-	1
Gem Premier 3000-3500	5.14	5.10	0.18	3.5	0.05	4.79	5.50	-	15
Gem Premier 4000	5.10	5.10	0.13	2.5	0.02	4.90	5.50	1	49
IRMA TruPoint	5.29	5.27	0.10	1.9	0.06	5.20	5.40	-	3
i-STAT	4.55	4.57	0.12	2.6	0.04	4.23	4.68	-	11
OMNI C / Cobas b 121	-	-	-	-	-	5.28	5.28	-	1
OMNI S / Cobas b 221	5.39	5.38	0.10	1.8	0.02	5.20	5.58	-	33
OPTI	-	-	-	-	-	5.19	5.19	-	1
Opti CCA - TS	4.93	4.93	0.18	3.6	0.13	4.80	5.05	-	2
RAPIDLab 1200 series (RL1240-RL1265)	5.01	4.96	0.16	3.2	0.05	4.83	5.25	-	9
RAPIDLab 248	5.13	5.12	0.02	0.4	0.01	5.12	5.16	-	3
RAPIDLab 348/348EX	5.24	5.22	0.09	1.7	0.02	5.12	5.38	-	14
RAPIDPoint 400/500 series	5.07	5.08	0.24	4.7	0.05	4.57	5.53	-	25
Stat Profile CCX	-	-	-	-	-	5.06	5.06	-	1
All	**5.12**	**5.10**	**0.18**	**3.6**	**<0.01**	**4.53**	**5.67**	**3**	**414**

Sample S002 | CO2, kPa| histogram summaries in LabScala

Sample S002 | O2, kPa

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
ABL 700-735 + FLEX	16.85	17.02	0.44	2.6	0.22	16.20	17.16	-	4
ABL 80 FLEX	15.96	15.96	0.88	5.5	0.28	13.97	17.00	-	10
ABL 800-837 + FLEX	16.96	16.90	0.47	2.8	0.04	16.00	18.80	4	149
ABL 9	-	-	-	-	-	18.00	18.00	-	1
ABL 90 FLEX	16.20	16.10	0.53	3.3	0.07	14.80	17.82	1	64
Cobas b 123	-	-	-	-	-	16.85	16.85	-	1
EasyBloodGas	16.71	16.76	0.20	1.2	0.12	16.49	16.89	-	3
EasyStat	-	-	-	-	-	17.02	17.02	-	1
epoc Blood Analysis System	15.78	15.77	0.33	2.1	0.10	15.30	16.16	-	10
Gastat-1810	-	-	-	-	-	14.99	14.99	-	1
Gem Premier 3000-3500	17.19	17.20	0.38	2.2	0.10	16.40	17.70	-	15
Gem Premier 4000	17.00	17.00	0.51	3.0	0.07	15.69	18.00	-	47
IRMA TruPoint	16.21	16.81	1.23	7.6	0.71	14.80	17.02	-	3
i-STAT	17.14	17.20	1.16	6.8	0.35	15.20	18.90	-	11
OMNI C / Cobas b 121	-	-	-	-	-	16.00	16.00	-	1
OMNI S / Cobas b 221	17.86	17.84	0.35	2.0	0.06	17.10	18.60	-	33
OPTI	-	-	-	-	-	16.89	16.89	-	1
Opti CCA - TS	15.97	15.97	0.37	2.3	0.26	15.71	16.23	-	2
RAPIDLab 1200 series (RL1240-RL1265)	16.43	16.28	0.46	2.8	0.15	15.77	17.17	-	9
RAPIDLab 248	15.94	15.90	0.83	5.2	0.48	15.13	16.80	-	3
RAPIDLab 348/348EX	15.63	15.48	0.52	3.3	0.14	15.17	17.02	1	14
RAPIDPoint 400/500 series	16.68	16.61	0.50	3.0	0.10	15.90	17.76	-	24
Stat Profile CCX	-	-	-	-	-	16.22	16.22	-	1
All	**16.80**	**16.80**	**0.74**	**4.4**	**0.04**	**14.80**	**19.15**	**5**	**408**

Sample S002 | O2, kPa| histogram summaries in LabScala

LABQUALITY

Sample S002 | Ca-ion actual, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
ABL 700-735 + FLEX	0.98	0.98	0.01	1.0	<0.01	0.97	0.99	-	3
ABL 80 FLEX	0.96	0.96	0.01	1.5	<0.01	0.94	0.98	-	6
ABL 800-837 + FLEX	1.00	1.00	0.02	1.5	<0.01	0.96	1.05	1	133
ABL 90 FLEX	0.99	0.99	<0.01	0.8	<0.01	0.97	1.02	2	64
Cobas b 123	-	-	-	-	-	0.95	0.95	-	1
EasyStat	-	-	-	-	-	0.93	0.93	-	1
epoc Blood Analysis System	0.93	0.93	<0.01	1.0	<0.01	0.92	0.95	-	7
Gem Premier 3000-3500	0.94	0.94	0.02	1.6	<0.01	0.91	0.97	-	12
Gem Premier 4000	0.95	0.95	0.02	2.1	<0.01	0.90	1.01	1	48
IRMA TruPoint	1.11	1.11	0.06	5.8	0.05	1.06	1.15	-	2
i-STAT	0.97	0.97	<0.01	<0.1	<0.01	0.97	0.97	-	2
Nova 8	0.99	0.97	0.03	2.9	0.02	0.97	1.02	-	3
OMNI C / Cobas b 121	-	-	-	-	-	0.93	0.93	-	1
OMNI S / Cobas b 221	0.94	0.94	<0.01	1.0	<0.01	0.92	0.95	1	30
Opti CCA - TS	-	-	-	-	-	1.06	1.06	-	1
RAPIDLab 1200 series (RL1240-RL1265)	0.96	0.95	0.05	5.5	0.02	0.90	1.04	-	8
RAPIDLab 348/348EX	1.00	1.00	0.08	8.0	0.04	0.92	1.08	-	4
RAPIDPoint 400/500 series	0.96	0.96	0.01	1.5	<0.01	0.93	0.99	-	23
Stat Profile CCX	-	-	-	-	-	1.03	1.03	-	1
All	**0.98**	**0.99**	**0.03**	**3.3**	**<0.01**	**0.89**	**1.08**	**2**	**350**

Sample S002 | Ca-ion actual, mmol/l| histogram summaries in LabScala

LABQUALITY

Sample S002 | Ca-ion adjusted, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
ABL 700-735 + FLEX	-	-	-	-	-	1.00	1.00	-	1
ABL 80 FLEX	0.96	0.97	0.01	1.5	<0.01	0.94	0.97	-	4
ABL 800-837 + FLEX	1.00	1.01	0.01	1.4	<0.01	0.97	1.04	1	106
ABL 90 FLEX	1.00	1.00	<0.01	0.9	<0.01	0.98	1.03	2	46
Cobas b 123	-	-	-	-	-	0.95	0.95	-	1
Gem Premier 3000-3500	0.96	0.96	0.02	2.0	<0.01	0.93	1.00	-	10
Gem Premier 4000	0.97	0.97	0.02	2.1	<0.01	0.91	1.04	1	45
IRMA TruPoint	-	-	-	-	-	0.99	0.99	-	1
Konelab	0.94	0.94	0.02	2.5	0.02	0.92	0.95	-	2
Nova 8	1.02	1.02	0.03	2.5	0.01	0.99	1.04	-	3
OMNI C / Cobas b 121	-	-	-	-	-	0.93	0.93	-	1
OMNI S / Cobas b 221	0.94	0.95	0.01	1.2	<0.01	0.92	0.97	-	29
Opti CCA - TS	-	-	-	-	-	1.06	1.06	-	1
RAPIDLab 1200 series (RL1240-RL1265)	0.97	0.96	0.04	4.5	0.02	0.92	1.02	-	6
RAPIDPoint 400/500 series	0.96	0.96	0.01	1.4	<0.01	0.93	0.99	-	18
All	**0.98**	**0.99**	**0.03**	**2.9**	**<0.01**	**0.91**	**1.06**	**-**	**274**

Sample S002 | Ca-ion adjusted, mmol/l| histogram summaries in LabScala

LABQUALITY

Sample S002 | Potassium, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
ABL 700-735 + FLEX	4.01	4.00	0.02	0.6	0.01	4.00	4.04	-	3
ABL 80 FLEX	3.98	3.97	0.02	0.6	<0.01	3.95	4.01	-	6
ABL 800-837 + FLEX	4.06	4.10	0.05	1.2	<0.01	4.00	4.10	2	142
ABL 90 FLEX	4.04	4.00	0.05	1.2	<0.01	4.00	4.10	1	61
Cobas b 123	-	-	-	-	-	4.00	4.00	-	1
EasyStat	-	-	-	-	-	3.90	3.90	-	1
epoc Blood Analysis System	3.94	3.90	0.05	1.3	0.01	3.90	4.00	-	16
Gastat-1810	-	-	-	-	-	3.70	3.70	-	1
Gem Premier 3000-3500	3.88	3.90	0.05	1.2	0.01	3.80	3.90	-	12
Gem Premier 4000	3.94	3.90	0.06	1.5	<0.01	3.80	4.00	-	48
IRMA TruPoint	4.07	4.07	0.44	10.8	0.31	3.76	4.38	-	2
i-STAT	3.86	3.90	0.05	1.4	0.02	3.80	3.90	-	5
Konelab	-	-	-	-	-	4.03	4.03	-	1
OMNI C / Cobas b 121	-	-	-	-	-	3.95	3.95	-	1
OMNI S / Cobas b 221	3.91	3.90	0.02	0.6	<0.01	3.85	3.95	1	31
Opti CCA - TS	4.05	4.05	0.07	1.7	0.05	4.00	4.10	-	2
RAPIDLab 1200 series (RL1240-RL1265)	3.99	3.95	0.07	1.8	0.03	3.90	4.10	-	7
RAPIDLab 348/348EX	4.11	4.10	0.10	2.4	0.06	4.02	4.22	-	3
RAPIDPoint 400/500 series	4.04	4.04	0.02	0.5	<0.01	3.99	4.07	1	22
Stat Profile CCX	-	-	-	-	-	4.10	4.10	-	1
All	**4.01**	**4.00**	**0.08**	**2.1**	**<0.01**	**3.76**	**4.23**	**2**	**366**

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

Sample S002 | Sodium, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
ABL 700-735 + FLEX	142.7	142.0	2.1	1.5	1.2	141.0	145.0	-	3
ABL 80 FLEX	142.8	143.0	0.4	0.3	0.2	142.0	143.0	-	6
ABL 800-837 + FLEX	144.7	145.0	0.9	0.6	<0.1	143.0	147.0	2	141
ABL 90 FLEX	148.0	148.0	0.5	0.3	<0.1	147.0	151.0	2	61
Cobas b 123	-	-	-	-	-	143.4	143.4	-	1
EasyStat	-	-	-	-	-	143.9	143.9	-	1
epoc Blood Analysis System	145.7	146.0	0.7	0.5	0.2	145.0	147.0	-	16
Gastat-1810	-	-	-	-	-	130.5	130.5	-	1
Gem Premier 3000-3500	144.5	144.0	1.8	1.2	0.5	142.0	149.0	-	12
Gem Premier 4000	143.1	143.0	1.0	0.7	0.2	141.0	146.0	1	48
IRMA TruPoint	141.0	142.8	6.4	4.6	3.7	133.8	146.3	-	3
i-STAT	145.0	145.0	1.2	0.8	0.6	144.0	146.0	-	4
Konelab	-	-	-	-	-	144.3	144.3	-	1
OMNI C / Cobas b 121	-	-	-	-	-	140.8	140.8	-	1
OMNI S / Cobas b 221	143.0	143.2	0.6	0.4	0.1	141.8	144.5	1	29
Opti CCA - TS	143.2	143.2	7.3	5.1	5.2	138.0	148.3	-	2
RAPIDLab 1200 series (RL1240-RL1265)	141.8	142.0	0.7	0.5	0.3	140.6	142.7	-	6
RAPIDLab 348/348EX	147.7	147.0	2.1	1.4	1.2	146.0	150.0	-	3
RAPIDPoint 400/500 series	142.9	142.9	0.9	0.6	0.2	141.4	144.6	1	23
Stat Profile CCX	-	-	-	-	-	146.0	146.0	-	1
All	**144.7**	**145.0**	**2.0**	**1.4**	**0.1**	**138.0**	**151.0**	**4**	**363**

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

Sample S002 | Chloride, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
ABL 700-735 + FLEX	104.7	105.0	0.6	0.6	0.3	104.0	105.0	-	3
ABL 80 FLEX	106.5	107.0	0.8	0.8	0.3	105.0	107.0	-	6
ABL 800-837 + FLEX	104.7	105.0	0.8	0.8	<0.1	103.0	107.0	3	112
ABL 90 FLEX	103.1	103.0	0.4	0.4	<0.1	103.0	105.0	1	53
Cobas b 123	-	-	-	-	-	105.0	105.0	-	1
epoc Blood Analysis System	112.2	112.0	0.8	0.7	0.3	111.0	113.0	-	9
Gem Premier 4000	110.1	110.0	1.0	0.9	0.2	108.0	112.0	-	41
Konelab	-	-	-	-	-	106.3	106.3	-	1
OMNI C / Cobas b 121	-	-	-	-	-	104.5	104.5	-	1
OMNI S / Cobas b 221	103.1	103.0	1.0	1.0	0.2	100.9	105.0	-	27
Opti CCA - TS	-	-	-	-	-	111.2	111.2	-	1
RAPIDLab 1200 series (RL1240-RL1265)	105.5	106.0	1.0	0.9	0.5	104.0	106.0	-	4
RAPIDLab 348/348EX	-	-	-	-	-	106.0	106.0	-	1
RAPIDPoint 400/500 series	103.6	104.0	1.0	1.0	0.2	100.0	105.0	1	19
Stat Profile CCX	-	-	-	-	-	108.0	108.0	-	1
All	**105.2**	**104.1**	**2.6**	**2.5**	**0.2**	**100.0**	**112.0**	**4**	**280**

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

LABQUALITY

Sample S002 | Magnesium, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Stat Profile CCX	-	-	-	-	-	0.64	0.64	-	1
All	**-**	**-**	**-**	**-**	**-**	**0.64**	**0.64**	**-**	**1**

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

Sample S002 | Glucose, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
ABL 700-735 + FLEX	8.43	8.40	0.15	1.8	0.09	8.30	8.60	-	3
ABL 80 FLEX	-	-	-	-	-	8.70	8.70	-	1
ABL 800-837 + FLEX	8.66	8.70	0.28	3.2	0.02	7.80	9.40	3	129
ABL 90 FLEX	8.79	8.80	0.16	1.8	0.02	8.40	9.10	-	59
Cobas b 123	-	-	-	-	-	8.90	8.90	-	1
epoc Blood Analysis System	8.95	9.00	0.13	1.4	0.04	8.70	9.10	-	10
Gem Premier 3000-3500	7.96	7.99	0.21	2.7	0.08	7.60	8.28	-	8
Gem Premier 4000	8.95	9.00	0.16	1.8	0.02	8.60	9.30	-	47
i-STAT	8.73	8.70	0.06	0.7	0.03	8.70	8.80	-	3
OMNI S / Cobas b 221	9.33	9.34	0.36	3.8	0.08	8.82	10.30	-	22
RAPIDLab 1200 series (RL1240-RL1265)	8.73	8.80	0.21	2.4	0.12	8.50	8.90	-	3
RAPIDPoint 400/500 series	8.87	8.90	0.19	2.1	0.04	8.60	9.20	-	21
All	**8.78**	**8.80**	**0.30**	**3.4**	**0.02**	**7.80**	**9.80**	**6**	**307**

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

Sample S002 | Lactate, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
ABL 700-735 + FLEX	6.50	6.70	0.35	5.3	0.20	6.10	6.70	-	3
ABL 80 FLEX	7.07	7.10	0.06	0.8	0.03	7.00	7.10	-	3
ABL 800-837 + FLEX	6.75	6.80	0.31	4.7	0.03	5.90	7.50	1	126
ABL 90 FLEX	7.17	7.15	0.16	2.3	0.02	6.80	7.60	-	56
Cobas b 123	-	-	-	-	-	6.65	6.65	-	1
epoc Blood Analysis System	7.02	6.86	0.52	7.4	0.16	6.39	7.90	-	10
Gem Premier 3000-3500	6.42	6.25	0.73	11.3	0.23	5.40	7.30	-	10
Gem Premier 4000	7.11	7.10	0.21	2.9	0.03	6.70	7.50	-	47
i-STAT	7.33	7.33	0.09	1.3	0.07	7.26	7.39	-	2
OMNI S / Cobas b 221	7.93	7.88	0.27	3.4	0.05	7.44	8.54	-	27
RAPIDLab 1200 series (RL1240-RL1265)	7.66	7.66	0.10	1.3	0.07	7.59	7.73	-	2
RAPIDPoint 400/500 series	6.82	6.77	0.36	5.2	0.09	6.34	7.60	1	18
Stat Profile CCX	-	-	-	-	-	6.60	6.60	-	1
All	**7.00**	**7.00**	**0.46**	**6.6**	**0.03**	**5.60**	**8.40**	**2**	**306**

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

Sample S002 | Creatinine, µmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
ABL 800-837 + FLEX	193.0	193.8	11.5	5.9	2.4	172.0	216.0	-	22
epoc Blood Analysis System	268.3	269.0	8.8	3.3	2.4	258.0	286.0	-	14
All	**222.3**	**204.0**	**38.6**	**17.4**	**6.4**	**172.0**	**286.0**	**-**	**36**

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

Sample S002 | Urea, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
OMNI S / Cobas b 221	-	-	-	-	-	9.15	9.15	-	1
All	**-**	**-**	**-**	**-**	**-**	**9.15**	**9.15**	**-**	**1**

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

LABQUALITY

Sample S002 | Base excess, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
ABL 700-735 + FLEX	-0.25	-0.30	0.17	69.3	0.09	-0.40	0.00	-	4
ABL 80 FLEX	0.53	0.55	0.71	132.4	0.29	-0.30	1.50	-	6
ABL 800-837 + FLEX	-0.58	-0.60	0.41	70.7	0.04	-1.60	0.70	1	130
ABL 9	-	-	-	-	-	2.10	2.10	-	1
ABL 90 FLEX	-0.63	-0.70	0.42	66.3	0.06	-1.30	0.40	-	50
Cobas b 123	-	-	-	-	-	-1.10	-1.10	-	1
EasyBloodGas	-	-	-	-	-	0.40	0.40	-	1
EasyStat	-	-	-	-	-	1.00	1.00	-	1
epoc Blood Analysis System	-1.31	-1.30	0.83	62.8	0.31	-2.60	-0.30	-	7
Gastat-1810	-	-	-	-	-	3.10	3.10	-	1
Gem Premier 3000-3500	2.55	2.60	0.68	26.5	0.34	1.70	3.30	-	4
Gem Premier 4000	2.30	2.40	0.53	23.0	0.10	1.50	3.70	-	28
IRMA TruPoint	-	-	-	-	-	3.20	3.20	-	1
i-STAT	1.33	1.00	0.71	53.0	0.24	0.00	2.00	-	9
OMNI C / Cobas b 121	-	-	-	-	-	0.50	0.50	-	1
OMNI S / Cobas b 221	0.22	0.20	0.29	129.2	0.06	-0.30	0.70	-	22
Opti CCA - TS	1.20	1.20	0.14	11.8	0.10	1.10	1.30	-	2
RAPIDLab 1200 series (RL1240-RL1265)	-0.36	-0.30	0.39	108.7	0.17	-1.00	0.00	-	5
RAPIDLab 248	-	-	-	-	-	1.50	1.50	-	1
RAPIDLab 348/348EX	0.67	0.60	0.21	31.2	0.12	0.50	0.90	-	3
RAPIDPoint 400/500 series	-1.39	-1.20	1.06	75.8	0.28	-3.60	-0.10	-	14
All	**-0.13**	**-0.40**	**1.12**	**871.6**	**0.07**	**-3.60**	**3.10**	**3**	**292**

Sample S002 | Base excess, mmol/l| histogram summaries in LabScala

Sample S002 | HCO3, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
ABL 700-735 + FLEX	22.70	22.00	1.21	5.3	0.70	22.00	24.10	-	3
ABL 80 FLEX	24.83	24.85	0.87	3.5	0.31	23.50	26.00	-	8
ABL 800-837 + FLEX	23.59	23.60	0.40	1.7	0.04	22.40	24.50	1	94
ABL 9	-	-	-	-	-	26.10	26.10	-	1
ABL 90 FLEX	24.03	24.00	0.49	2.0	0.08	23.30	25.80	1	36
Cobas b 123	-	-	-	-	-	23.40	23.40	-	1
EasyBloodGas	25.60	25.60	0.71	2.8	0.50	25.10	26.10	-	2
EasyStat	-	-	-	-	-	25.70	25.70	-	1
epoc Blood Analysis System	23.40	23.50	0.83	3.5	0.29	22.30	24.40	-	8
Gastat-1810	24.15	24.15	5.16	21.4	3.65	20.50	27.80	-	2
Gem Premier 3000-3500	26.90	27.00	0.84	3.1	0.42	25.80	27.80	-	4
Gem Premier 4000	26.42	26.40	0.50	1.9	0.09	25.70	27.70	1	30
IRMA TruPoint	28.20	27.80	1.30	4.6	0.65	27.20	30.00	-	4
i-STAT	25.16	25.20	0.67	2.7	0.22	24.10	26.30	-	9
OMNI C / Cobas b 121	-	-	-	-	-	25.00	25.00	-	1
OMNI S / Cobas b 221	24.77	24.80	0.36	1.4	0.07	23.80	25.30	-	24
Opti CCA - TS	25.00	25.00	0.42	1.7	0.30	24.70	25.30	-	2
RAPIDLab 1200 series (RL1240-RL1265)	24.63	24.60	0.78	3.2	0.29	23.70	25.90	-	7
RAPIDLab 248	-	-	-	-	-	25.50	25.50	-	1
RAPIDLab 348/348EX	24.87	24.80	0.21	0.8	0.12	24.70	25.10	-	3
RAPIDPoint 400/500 series	23.47	23.40	1.17	5.0	0.26	21.10	25.60	-	20
All	**24.34**	**24.00**	**1.23**	**5.1**	**0.08**	**20.50**	**27.80**	**4**	**261**

Sample S002 | HCO3, mmol/l| histogram summaries in LabScala

LABQUALITY

Sample S003 | pH, --

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
ABL 700-735 + FLEX	7.612	7.613	0.005	<0.1	0.003	7.605	7.617	-	4
ABL 80 FLEX	7.604	7.610	0.013	0.2	0.004	7.580	7.620	-	10
ABL 800-837 + FLEX	7.605	7.605	0.004	<0.1	<0.001	7.594	7.614	2	154
ABL 9	-	-	-	-	-	7.630	7.630	-	1
ABL 90 FLEX	7.615	7.615	0.006	<0.1	<0.001	7.605	7.639	1	65
Cobas b 123	-	-	-	-	-	7.608	7.608	-	1
EasyBloodGas	7.625	7.623	0.005	<0.1	0.003	7.621	7.630	-	3
EasyStat	-	-	-	-	-	7.628	7.628	-	1
epoc Blood Analysis System	7.634	7.634	0.009	0.1	0.003	7.620	7.651	-	10
Gastat-1810	7.611	7.611	0.058	0.8	0.041	7.570	7.652	-	2
Gem Premier 3000-3500	7.679	7.680	0.006	<0.1	0.002	7.670	7.690	-	15
Gem Premier 4000	7.681	7.680	0.008	0.1	0.001	7.660	7.690	2	48
IRMA TruPoint	7.666	7.664	0.010	0.1	0.005	7.656	7.678	-	4
i-STAT	7.706	7.704	0.009	0.1	0.003	7.696	7.725	-	11
Nova 8	7.653	7.650	0.006	<0.1	0.003	7.650	7.660	-	3
OMNI C / Cobas b 121	-	-	-	-	-	7.595	7.595	-	1
OMNI S / Cobas b 221	7.592	7.592	0.006	<0.1	<0.001	7.578	7.603	-	34
OPTI	-	-	-	-	-	7.620	7.620	-	1
Opti CCA - TS	7.654	7.654	0.008	0.1	0.006	7.648	7.660	-	2
RAPIDLab 1200 series (RL1240-RL1265)	7.627	7.628	0.009	0.1	0.003	7.608	7.638	-	9
RAPIDLab 248	7.634	7.629	0.010	0.1	0.006	7.627	7.645	-	3
RAPIDLab 348/348EX	7.620	7.620	0.007	<0.1	0.002	7.610	7.633	-	14
RAPIDPoint 400/500 series	7.615	7.615	0.011	0.1	0.002	7.588	7.640	-	24
Stat Profile CCX	-	-	-	-	-	7.625	7.625	-	1
All	**7.622**	**7.610**	**0.030**	**0.4**	**0.001**	**7.560**	**7.704**	**6**	**421**

Sample S003 | pH, --| histogram summaries in LabScala

Sample S003 | CO2, kPa

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
ABL 700-735 + FLEX	2.94	2.97	0.07	2.5	0.04	2.83	2.98	-	4
ABL 80 FLEX	3.07	3.02	0.27	8.8	0.09	2.70	3.58	-	10
ABL 800-837 + FLEX	2.95	2.95	0.07	2.4	<0.01	2.70	3.22	4	153
ABL 9	-	-	-	-	-	3.12	3.12	-	1
ABL 90 FLEX	2.93	2.93	0.09	3.1	0.01	2.67	3.13	1	65
Cobas b 123	-	-	-	-	-	3.05	3.05	-	1
EasyBloodGas	2.90	2.90	0.03	1.2	0.02	2.87	2.94	-	3
EasyStat	-	-	-	-	-	2.97	2.97	-	1
epoc Blood Analysis System	2.90	2.91	0.07	2.4	0.02	2.73	3.00	-	10
Gastat-1810	2.79	2.79	0.11	4.0	0.08	2.71	2.87	-	2
Gem Premier 3000-3500	2.78	2.79	0.11	4.1	0.03	2.66	3.06	-	15
Gem Premier 4000	2.81	2.80	0.07	2.5	0.01	2.70	3.00	-	48
IRMA TruPoint	2.88	2.89	0.11	3.9	0.06	2.74	3.01	-	4
i-STAT	2.78	2.74	0.10	3.5	0.03	2.62	2.96	-	11
OMNI C / Cobas b 121	-	-	-	-	-	2.89	2.89	-	1
OMNI S / Cobas b 221	2.97	2.95	0.06	2.0	0.01	2.89	3.09	-	33
OPTI	-	-	-	-	-	3.06	3.06	-	1
Opti CCA - TS	3.01	3.01	0.08	2.5	0.05	2.95	3.06	-	2
RAPIDLab 1200 series (RL1240-RL1265)	2.76	2.73	0.11	3.8	0.04	2.63	2.93	-	9
RAPIDLab 248	2.82	2.79	0.17	6.1	0.10	2.66	3.00	-	3
RAPIDLab 348/348EX	2.94	2.93	0.10	3.3	0.03	2.77	3.10	-	14
RAPIDPoint 400/500 series	2.91	2.94	0.18	6.1	0.04	2.41	3.17	-	24
Stat Profile CCX	-	-	-	-	-	2.91	2.91	-	1
All	**2.91**	**2.93**	**0.11**	**3.6**	**<0.01**	**2.60**	**3.22**	**7**	**416**

Sample S003 | CO2, kPa| histogram summaries in LabScala

LABQUALITY

Sample S003 | O2, kPa

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
ABL 700-735 + FLEX	21.67	21.61	0.85	3.9	0.43	20.70	22.74	-	4
ABL 80 FLEX	21.33	21.55	0.86	4.0	0.27	19.82	22.48	-	10
ABL 800-837 + FLEX	21.85	21.80	0.61	2.8	0.05	20.48	24.47	5	150
ABL 9	-	-	-	-	-	23.50	23.50	-	1
ABL 90 FLEX	22.21	22.30	0.63	2.8	0.08	20.22	23.60	2	64
Cobas b 123	-	-	-	-	-	21.59	21.59	-	1
EasyBloodGas	23.19	23.14	0.33	1.4	0.19	22.88	23.54	-	3
EasyStat	-	-	-	-	-	22.74	22.74	-	1
epoc Blood Analysis System	21.83	21.76	0.52	2.4	0.16	20.90	22.54	-	10
Gastat-1810	22.50	22.50	2.83	12.6	2.00	20.50	24.50	-	2
Gem Premier 3000-3500	22.75	22.80	0.50	2.2	0.13	21.81	23.54	-	15
Gem Premier 4000	22.24	22.30	0.52	2.4	0.08	21.20	23.30	1	47
IRMA TruPoint	22.23	22.62	0.99	4.5	0.50	20.76	22.94	-	4
i-STAT	21.53	21.50	0.51	2.4	0.15	20.70	22.50	-	11
OMNI C / Cobas b 121	-	-	-	-	-	20.92	20.92	-	1
OMNI S / Cobas b 221	22.39	22.31	0.49	2.2	0.09	21.17	23.42	-	33
OPTI	-	-	-	-	-	21.95	21.95	-	1
Opti CCA - TS	20.97	20.97	0.44	2.1	0.31	20.65	21.28	-	2
RAPIDLab 1200 series (RL1240-RL1265)	22.23	22.23	0.40	1.8	0.14	21.61	22.71	-	8
RAPIDLab 248	21.76	22.06	0.60	2.8	0.35	21.07	22.16	-	3
RAPIDLab 348/348EX	21.78	21.96	0.55	2.5	0.15	21.03	22.64	-	13
RAPIDPoint 400/500 series	21.36	21.35	0.75	3.5	0.16	20.04	22.81	-	23
Stat Profile CCX	-	-	-	-	-	21.30	21.30	-	1
All	**21.99**	**22.00**	**0.72**	**3.3**	**0.04**	**19.80**	**24.50**	**6**	**408**

Sample S003 | O2, kPa| histogram summaries in LabScala

Sample S003 | Ca-ion actual, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
ABL 700-735 + FLEX	0.49	0.50	0.02	3.5	0.01	0.47	0.50	-	3
ABL 80 FLEX	0.53	0.53	0.02	3.2	<0.01	0.51	0.56	-	6
ABL 800-837 + FLEX	0.50	0.50	0.02	4.2	<0.01	0.45	0.56	1	133
ABL 90 FLEX	0.50	0.50	<0.01	0.8	<0.01	0.49	0.51	1	63
Cobas b 123	-	-	-	-	-	0.45	0.45	-	1
EasyStat	-	-	-	-	-	0.44	0.44	-	1
epoc Blood Analysis System	0.44	0.44	0.01	2.6	<0.01	0.41	0.44	-	7
Gem Premier 3000-3500	0.40	0.40	0.02	5.3	<0.01	0.38	0.46	-	12
Gem Premier 4000	0.39	0.39	0.01	2.9	<0.01	0.38	0.43	1	47
IRMA TruPoint	0.52	0.52	0.07	13.6	0.05	0.47	0.57	-	2
i-STAT	0.44	0.44	<0.01	1.6	<0.01	0.43	0.44	-	2
Nova 8	0.48	0.47	0.05	10.6	0.03	0.43	0.53	-	3
OMNI C / Cobas b 121	-	-	-	-	-	0.44	0.44	-	1
OMNI S / Cobas b 221	0.42	0.42	<0.01	2.2	<0.01	0.40	0.44	-	29
Opti CCA - TS	-	-	-	-	-	0.54	0.54	-	1
RAPIDLab 1200 series (RL1240-RL1265)	0.46	0.45	0.05	10.0	0.02	0.38	0.51	-	8
RAPIDLab 348/348EX	0.46	0.51	0.13	28.8	0.08	0.31	0.56	-	3
RAPIDPoint 400/500 series	0.47	0.46	0.02	3.8	<0.01	0.43	0.50	-	22
Stat Profile CCX	-	-	-	-	-	0.52	0.52	-	1
All	**0.47**	**0.49**	**0.05**	**10.0**	**<0.01**	**0.38**	**0.62**	**1**	**345**

Sample S003 | Ca-ion actual, mmol/l| histogram summaries in LabScala

Sample S003 | Ca-ion adjusted, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
ABL 80 FLEX	-	-	-	-	-	0.58	0.58	-	1
ABL 800-837 + FLEX	0.55	0.56	0.05	9.4	0.02	0.43	0.62	-	10
ABL 90 FLEX	0.56	0.56	0.05	8.9	0.04	0.52	0.59	-	2
Cobas b 123	-	-	-	-	-	0.49	0.49	-	1
Gem Premier 3000-3500	0.46	0.46	0.03	5.9	<0.01	0.43	0.53	-	10
Gem Premier 4000	0.44	0.44	0.01	2.5	<0.01	0.42	0.46	2	43
IRMA TruPoint	-	-	-	-	-	0.52	0.52	-	1
Nova 8	0.54	0.53	0.06	10.3	0.03	0.49	0.60	-	3
OMNI C / Cobas b 121	-	-	-	-	-	0.49	0.49	-	1
OMNI S / Cobas b 221	0.46	0.46	0.02	4.9	<0.01	0.41	0.52	-	26
RAPIDLab 1200 series (RL1240-RL1265)	0.49	0.48	0.05	9.9	0.02	0.42	0.55	-	5
RAPIDPoint 400/500 series	0.51	0.50	0.02	3.6	<0.01	0.49	0.54	-	17
All	**0.47**	**0.46**	**0.04**	**8.8**	**<0.01**	**0.41**	**0.59**	**3**	**120**

Sample S003 | Ca-ion adjusted, mmol/l| histogram summaries in LabScala

Sample S003 | Potassium, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
ABL 700-735 + FLEX	5.59	5.60	0.08	1.4	0.05	5.50	5.66	-	3
ABL 80 FLEX	5.48	5.45	0.08	1.5	0.03	5.43	5.65	-	6
ABL 800-837 + FLEX	5.67	5.70	0.05	0.9	<0.01	5.60	5.80	2	141
ABL 90 FLEX	5.62	5.60	0.04	0.7	<0.01	5.60	5.70	-	61
Cobas b 123	-	-	-	-	-	5.67	5.67	-	1
EasyStat	-	-	-	-	-	5.72	5.72	-	1
epoc Blood Analysis System	5.76	5.80	0.06	1.1	0.02	5.70	5.90	-	16
Gastat-1810	-	-	-	-	-	5.70	5.70	-	1
Gem Premier 3000-3500	5.43	5.40	0.07	1.2	0.02	5.30	5.50	-	12
Gem Premier 4000	5.62	5.60	0.05	0.8	<0.01	5.50	5.70	-	47
IRMA TruPoint	5.70	5.70	0.03	0.5	0.02	5.68	5.72	-	2
i-STAT	5.46	5.50	0.05	1.0	0.02	5.40	5.50	-	5
Konelab	-	-	-	-	-	5.73	5.73	-	1
OMNI C / Cobas b 121	-	-	-	-	-	5.60	5.60	-	1
OMNI S / Cobas b 221	5.65	5.65	0.04	0.6	<0.01	5.59	5.75	-	31
Opti CCA - TS	5.75	5.75	0.07	1.2	0.05	5.70	5.80	-	2
RAPIDLab 1200 series (RL1240-RL1265)	5.68	5.69	0.06	1.0	0.02	5.60	5.78	-	7
RAPIDLab 348/348EX	5.70	5.67	0.09	1.6	0.05	5.63	5.80	-	3
RAPIDPoint 400/500 series	5.65	5.66	0.03	0.6	<0.01	5.57	5.71	1	21
Stat Profile CCX	-	-	-	-	-	5.90	5.90	-	1
All	**5.64**	**5.64**	**0.07**	**1.3**	**<0.01**	**5.40**	**5.80**	**4**	**363**

Sample S003 | Potassium, mmol/l| histogram summaries in LabScala

Sample S003 | Sodium, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
ABL 700-735 + FLEX	156.7	156.0	2.1	1.3	1.2	155.0	159.0	-	3
ABL 80 FLEX	156.5	156.5	1.0	0.7	0.4	155.0	158.0	-	6
ABL 800-837 + FLEX	159.2	159.0	1.0	0.7	<0.1	156.0	162.0	1	141
ABL 90 FLEX	163.8	164.0	0.4	0.2	<0.1	163.0	164.0	1	60
Cobas b 123	-	-	-	-	-	158.3	158.3	-	1
EasyStat	-	-	-	-	-	160.3	160.3	-	1
epoc Blood Analysis System	161.6	161.0	1.4	0.8	0.3	160.0	164.0	-	16
Gastat-1810	-	-	-	-	-	153.4	153.4	-	1
Gem Premier 3000-3500	159.6	160.0	1.4	0.9	0.4	158.0	162.0	-	11
Gem Premier 4000	157.0	157.0	1.1	0.7	0.2	154.0	160.0	1	47
IRMA TruPoint	161.2	160.5	1.4	0.9	0.8	160.3	162.9	-	3
i-STAT	161.0	161.0	0.8	0.5	0.4	160.0	162.0	-	4
Konelab	-	-	-	-	-	158.3	158.3	-	1
OMNI C / Cobas b 121	-	-	-	-	-	154.8	154.8	-	1
OMNI S / Cobas b 221	157.3	157.4	0.8	0.5	0.1	155.6	158.6	-	28
Opti CCA - TS	156.6	156.6	5.0	3.2	3.6	153.0	160.1	-	2
RAPIDLab 1200 series (RL1240-RL1265)	157.3	157.5	0.4	0.3	0.2	156.7	157.7	-	6
RAPIDLab 348/348EX	160.0	160.0	2.0	1.3	1.2	158.0	162.0	-	3
RAPIDPoint 400/500 series	158.5	158.5	1.1	0.7	0.2	156.0	161.0	-	21
Stat Profile CCX	-	-	-	-	-	163.0	163.0	-	1
All	**159.6**	**159.0**	**2.5**	**1.6**	**0.1**	**153.0**	**166.0**	**-**	**357**

Sample S003 | Sodium, mmol/l| histogram summaries in LabScala

Sample S003 | Chloride, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
ABL 700-735 + FLEX	120.0	120.0	<0.1	<0.1	<0.1	120.0	120.0	-	3
ABL 80 FLEX	124.0	124.0	1.1	0.9	0.4	123.0	126.0	-	6
ABL 800-837 + FLEX	120.1	120.0	1.2	1.0	0.1	117.0	123.0	1	112
ABL 90 FLEX	119.3	119.0	0.6	0.5	<0.1	118.0	120.0	1	53
Cobas b 123	-	-	-	-	-	121.0	121.0	-	1
epoc Blood Analysis System	133.3	134.0	1.0	0.8	0.3	132.0	134.0	-	9
Gem Premier 4000	126.4	126.0	1.1	0.9	0.2	124.0	128.0	-	40
Konelab	-	-	-	-	-	122.0	122.0	-	1
OMNI C / Cobas b 121	-	-	-	-	-	118.7	118.7	-	1
OMNI S / Cobas b 221	116.6	116.5	1.2	1.0	0.2	114.0	118.4	-	27
Opti CCA - TS	-	-	-	-	-	123.5	123.5	-	1
RAPIDLab 1200 series (RL1240-RL1265)	121.4	121.3	1.3	1.0	0.6	120.0	123.0	-	4
RAPIDLab 348/348EX	-	-	-	-	-	119.0	119.0	-	1
RAPIDPoint 400/500 series	118.7	119.0	2.0	1.7	0.5	114.0	124.0	-	19
Stat Profile CCX	-	-	-	-	-	124.0	124.0	-	1
All	**120.6**	**120.0**	**3.0**	**2.5**	**0.2**	**114.0**	**128.0**	**9**	**279**

Sample S003 | Chloride, mmol/l| histogram summaries in LabScala

Sample S003 | Magnesium, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
Stat Profile CCX	-	-	-	-	-	0.29	0.29	-	1
All	**-**	**-**	**-**	**-**	**-**	**0.29**	**0.29**	**-**	**1**

Sample S003 | Magnesium, mmol/l| histogram summaries in LabScala

LABQUALITY

Sample S003 | Glucose, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
ABL 700-735 + FLEX	2.33	2.30	0.06	2.5	0.03	2.30	2.40	-	3
ABL 80 FLEX	-	-	-	-	-	3.20	3.20	-	1
ABL 800-837 + FLEX	2.28	2.30	0.11	4.9	0.01	2.00	2.60	2	127
ABL 90 FLEX	2.22	2.20	0.07	3.1	<0.01	2.00	2.40	1	58
Cobas b 123	-	-	-	-	-	2.60	2.60	-	1
epoc Blood Analysis System	1.76	1.75	0.10	5.5	0.03	1.60	1.90	-	10
Gem Premier 3000-3500	1.67	1.69	0.15	8.8	0.05	1.33	1.83	-	10
Gem Premier 4000	2.06	2.10	0.07	3.6	0.01	1.90	2.22	-	46
i-STAT	2.30	2.30	0.10	4.3	0.06	2.20	2.40	-	3
OMNI S / Cobas b 221	2.34	2.40	0.21	9.0	0.04	1.90	2.70	-	23
RAPIDLab 1200 series (RL1240-RL1265)	2.17	2.20	0.05	2.4	0.03	2.11	2.20	-	3
RAPIDPoint 400/500 series	2.23	2.20	0.08	3.7	0.02	2.10	2.40	1	20
All	**2.21**	**2.20**	**0.18**	**8.3**	**0.01**	**1.60**	**2.70**	**3**	**305**

Sample S003 | Glucose, mmol/l| histogram summaries in LabScala

Sample S003 | Lactate, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
ABL 700-735 + FLEX	-	-	-	-	-	1.10	1.10	-	1
ABL 80 FLEX	1.30	1.30	0.08	6.3	0.04	1.20	1.40	-	4
ABL 800-837 + FLEX	1.22	1.20	0.09	7.3	<0.01	1.00	1.50	1	127
ABL 90 FLEX	1.21	1.20	0.05	3.9	<0.01	1.10	1.30	1	55
Cobas b 123	-	-	-	-	-	1.34	1.34	-	1
epoc Blood Analysis System	1.07	1.07	0.02	1.9	<0.01	1.04	1.10	-	9
Gem Premier 3000-3500	1.16	1.20	0.10	8.3	0.03	1.00	1.30	-	10
Gem Premier 4000	1.28	1.30	0.07	5.7	0.01	1.10	1.40	-	46
i-STAT	1.29	1.29	<0.01	<0.1	<0.01	1.29	1.29	-	2
OMNI S / Cobas b 221	1.39	1.40	0.08	5.6	0.01	1.20	1.56	-	27
RAPIDLab 1200 series (RL1240-RL1265)	1.60	1.60	0.22	13.7	0.16	1.44	1.75	-	2
RAPIDPoint 400/500 series	1.27	1.29	0.12	9.5	0.03	1.03	1.51	-	17
Stat Profile CCX	-	-	-	-	-	1.30	1.30	-	1
All	**1.24**	**1.20**	**0.10**	**7.9**	**<0.01**	**1.00**	**1.51**	**4**	**302**

Sample S003 | Lactate, mmol/l| histogram summaries in LabScala

Sample S003 | Creatinine, µmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
ABL 800-837 + FLEX	37.5	37.2	2.6	7.1	0.6	32.0	42.4	-	22
epoc Blood Analysis System	37.1	31.0	16.2	43.8	4.5	17.0	66.0	-	13
All	**37.3**	**37.0**	**9.9**	**26.4**	**1.7**	**17.0**	**66.0**	**-**	**35**

Sample S003 | Creatinine, µmol/l| histogram summaries in LabScala

	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
	37.5	37.2	2.6	7.1	0.6	32.0	42.4	-	22

Sample S003 | Urea, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
OMNI S / Cobas b 221	-	-	-	-	-	3.16	3.16	-	1
All	**-**	**-**	**-**	**-**	**-**	**3.16**	**3.16**	**-**	**1**

Sample S003 | Urea, mmol/l| histogram summaries in LabScala

LABQUALITY

Sample S003 | Base excess, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
ABL 700-735 + FLEX	0.48	1.00	1.28	269.8	0.64	-1.40	1.30	-	4
ABL 80 FLEX	1.97	2.00	0.81	41.3	0.33	0.60	2.90	-	6
ABL 800-837 + FLEX	0.29	0.40	0.55	188.6	0.05	-1.30	1.80	2	125
ABL 9	-	-	-	-	-	3.40	3.40	-	1
ABL 90 FLEX	0.56	0.85	1.16	207.4	0.16	-1.70	3.00	-	50
Cobas b 123	-	-	-	-	-	2.90	2.90	-	1
EasyBloodGas	-	-	-	-	-	3.40	3.40	-	1
EasyStat	-	-	-	-	-	2.10	2.10	-	1
epoc Blood Analysis System	1.13	1.90	1.78	158.1	0.67	-1.40	3.30	-	7
Gastat-1810	-	-	-	-	-	5.40	5.40	-	1
Gem Premier 3000-3500	5.83	6.00	1.12	19.3	0.56	4.30	7.00	-	4
Gem Premier 4000	6.23	6.20	0.81	12.9	0.15	4.50	7.80	-	29
IRMA TruPoint	6.05	6.05	0.21	3.5	0.15	5.90	6.20	-	2
i-STAT	4.89	6.00	1.36	27.9	0.45	3.00	6.00	-	9
OMNI C / Cobas b 121	-	-	-	-	-	1.20	1.20	-	1
OMNI S / Cobas b 221	0.15	-0.25	1.08	697.6	0.22	-1.20	2.10	-	24
Opti CCA - TS	5.30	5.30	0.57	10.7	0.40	4.90	5.70	-	2
RAPIDLab 1200 series (RL1240-RL1265)	-0.24	-0.40	0.66	274.2	0.29	-1.10	0.60	-	5
RAPIDLab 248	-	-	-	-	-	2.80	2.80	-	1
RAPIDLab 348/348EX	2.70	2.80	0.36	13.4	0.21	2.30	3.00	-	3
RAPIDPoint 400/500 series	0.55	0.60	0.85	154.0	0.24	-1.60	1.70	-	13
All	**1.33**	**0.60**	**2.21**	**166.6**	**0.13**	**-1.90**	**7.10**	**1**	**290**

Sample S003 | Base excess, mmol/l| histogram summaries in LabScala

Sample S003 | HCO3, mmol/l

Methodics	x_{pt}	Median	sd	CV%	SEM	min	max	Outliers	n
ABL 700-735 + FLEX	22.43	22.90	0.81	3.6	0.47	21.50	22.90	-	3
ABL 80 FLEX	23.09	23.40	1.54	6.7	0.54	20.50	25.10	-	8
ABL 800-837 + FLEX	22.26	22.20	0.52	2.3	0.05	20.90	24.20	3	95
ABL 9	-	-	-	-	-	27.90	27.90	-	1
ABL 90 FLEX	22.35	22.40	0.73	3.3	0.12	20.60	24.40	1	36
Cobas b 123	-	-	-	-	-	22.40	22.40	-	1
EasyBloodGas	22.80	22.80	0.14	0.6	0.10	22.70	22.90	-	2
EasyStat	-	-	-	-	-	23.40	23.40	-	1
epoc Blood Analysis System	23.04	22.85	0.63	2.7	0.22	22.50	24.30	-	8
Gastat-1810	21.50	21.50	3.96	18.4	2.80	18.70	24.30	-	2
Gem Premier 3000-3500	27.13	27.80	3.20	11.8	1.60	23.10	29.80	-	4
Gem Premier 4000	26.49	25.40	2.37	8.9	0.44	23.60	30.50	-	29
IRMA TruPoint	24.43	24.35	0.51	2.1	0.26	23.90	25.10	-	4
i-STAT	26.09	26.10	0.51	1.9	0.17	25.50	26.80	-	9
OMNI C / Cobas b 121	-	-	-	-	-	20.60	20.60	-	1
OMNI S / Cobas b 221	20.97	21.00	0.39	1.9	0.08	20.00	21.80	-	24
Opti CCA - TS	24.20	24.20	0.57	2.3	0.40	23.80	24.60	-	2
RAPIDLab 1200 series (RL1240-RL1265)	21.36	21.20	0.76	3.6	0.34	20.60	22.30	-	5
RAPIDLab 248	-	-	-	-	-	21.20	21.20	-	1
RAPIDLab 348/348EX	21.45	21.45	0.35	1.6	0.25	21.20	21.70	-	2
RAPIDPoint 400/500 series	21.74	21.90	1.24	5.7	0.28	18.50	23.20	1	20
All	**22.62**	**22.30**	**1.54**	**6.8**	**0.10**	**18.00**	**27.90**	**11**	**258**

Sample S003 | HCO3, mmol/l| histogram summaries in LabScala

Sodium | ABL800Flex

Sample S001, Sodium

All method groups · ABL 800-837 + FLEX
Own result 126.0 | 0.2%
(x_{pt}: 125.7 | Target area: 123.2-128.3)
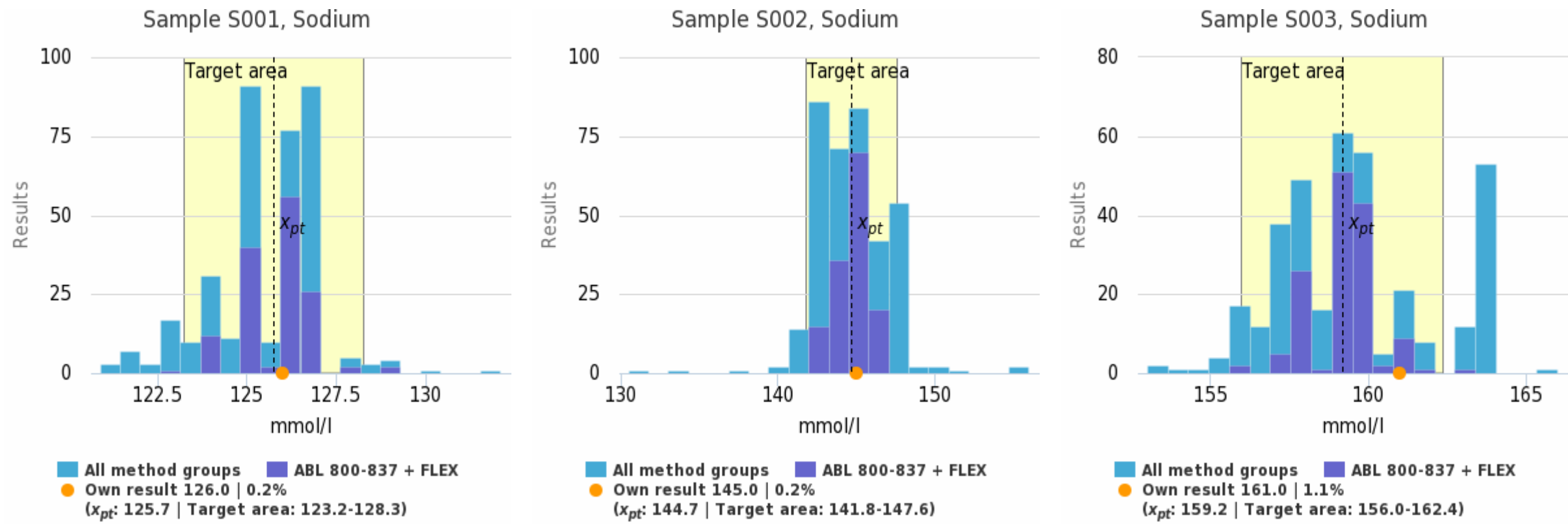
	x_{pt}	sd	SEM	CV%	n
ABL 800-837 + FLEX	125.7 mmol/l	0.9	<0.1	0.7	141
All methods	125.5 mmol/l	1.4	<0.1	1.1	365

Sample S002, Sodium

All method groups · ABL 800-837 + FLEX
Own result 145.0 | 0.2%
(x_{pt}: 144.7 | Target area: 141.8-147.6)

	x_{pt}	sd	SEM	CV%	n
ABL 800-837 + FLEX	144.7 mmol/l	0.9	<0.1	0.6	141
All methods	144.7 mmol/l	2.0	0.1	1.4	363

Sample S003, Sodium

All method groups · ABL 800-837 + FLEX
Own result 161.0 | 1.1%
(x_{pt}: 159.2 | Target area: 156.0-162.4)

	x_{pt}	sd	SEM	CV%	n
ABL 800-837 + FLEX	159.2 mmol/l	1.0	<0.1	0.7	141
All methods	159.6 mmol/l	2.5	0.1	1.6	357

History
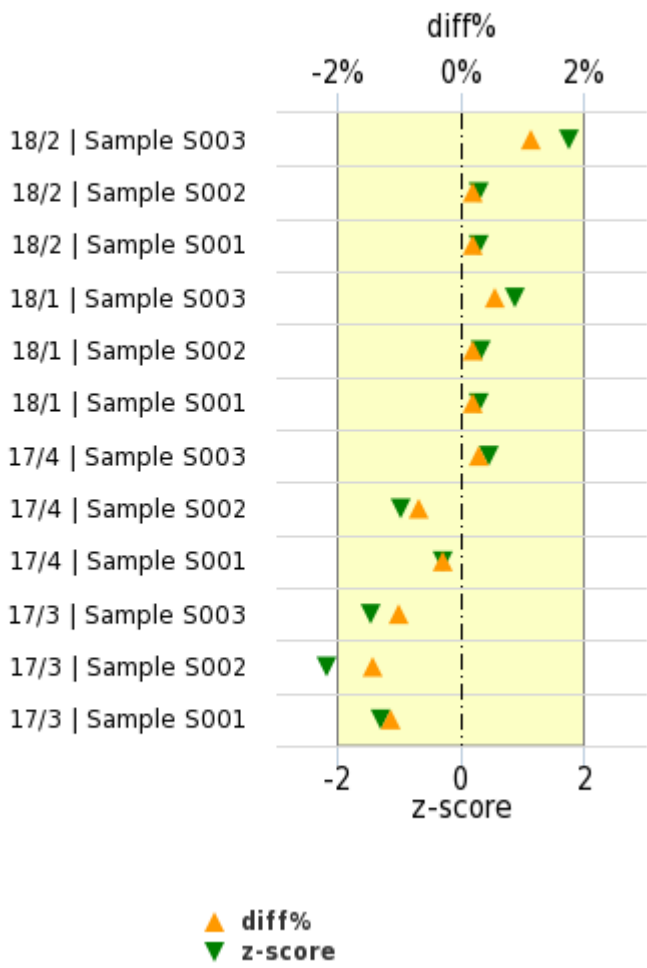
△ diff%
▽ z-score

Round	Sample	x_{pt}	Result	diff%	z-score
18/2	Sample S003	159.2	161.0	1.1%	1.8
18/2	Sample S002	144.7	145.0	0.2%	0.3
18/2	Sample S001	125.7	126.0	0.2%	0.3
18/1	Sample S003	159.1	160.0	0.5%	0.9
18/1	Sample S002	144.7	145.0	0.2%	0.3
18/1	Sample S001	125.8	126.0	0.2%	0.3
17/4	Sample S003	152.6	153.0	0.3%	0.5
17/4	Sample S002	135.9	135.0	-0.7%	-1.0
17/4	Sample S001	119.3	119.0	-0.3%	-0.3
17/3	Sample S003	152.5	151.0	-1.0%	-1.5
17/3	Sample S002	135.9	134.0	-1.4%	-2.2
17/3	Sample S001	119.4	118.0	-1.1%	-1.3

Potassium |ABL800Flex

Sample S001, Potassium

Own result 2.60 | 2.82%
(x_{pt}: 2.53 | Target area: 2.43-2.63)

Sample S002, Potassium

Own result 4.10 | 0.94%
(x_{pt}: 4.06 | Target area: 3.90-4.22)

Sample S003, Potassium

Own result 5.70 | 0.54%
(x_{pt}: 5.67 | Target area: 5.44-5.90)

Legend: ■ All method groups ■ ABL 800-837 + FLEX ● Own result
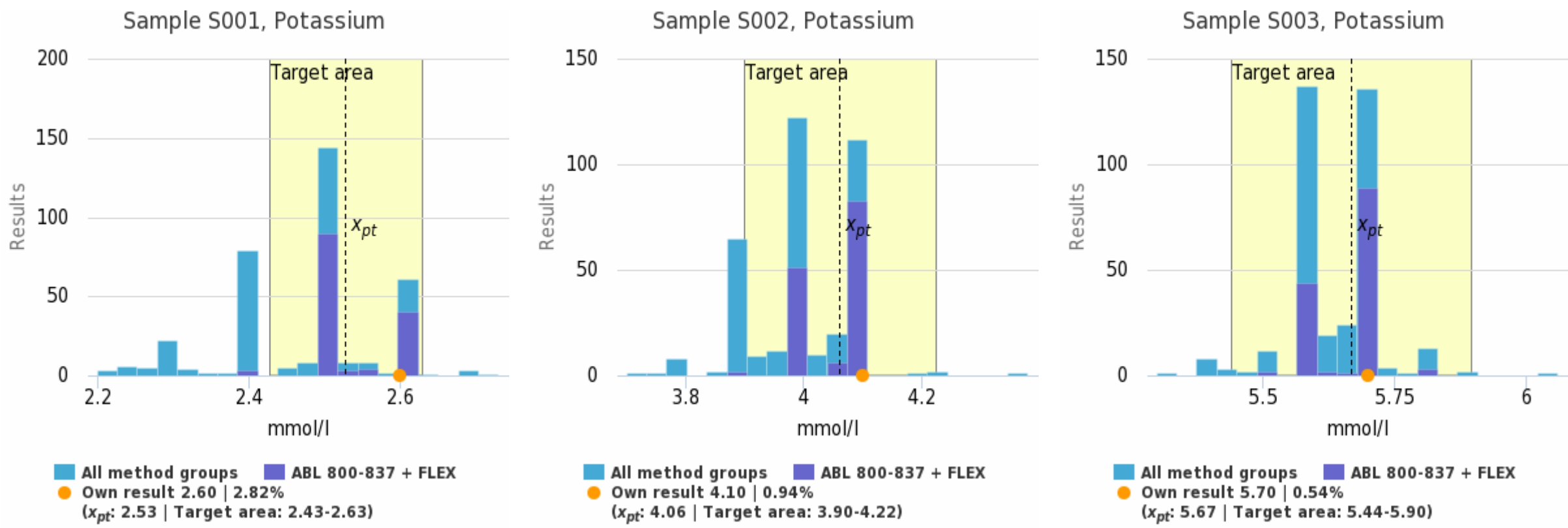
	x_{pt}	sd	SEM	CV%	n
ABL 800-837 + FLEX	2.53 mmol/l	0.05	<0.01	1.9	140
All methods	2.48 mmol/l	0.10	<0.01	3.8	364

	x_{pt}	sd	SEM	CV%	n
ABL 800-837 + FLEX	4.06 mmol/l	0.05	<0.01	1.2	142
All methods	4.01 mmol/l	0.08	<0.01	2.1	366

	x_{pt}	sd	SEM	CV%	n
ABL 800-837 + FLEX	5.67 mmol/l	0.05	<0.01	0.9	141
All methods	5.64 mmol/l	0.07	<0.01	1.3	363

History

Legend: ▲ diff% ▼ z-score
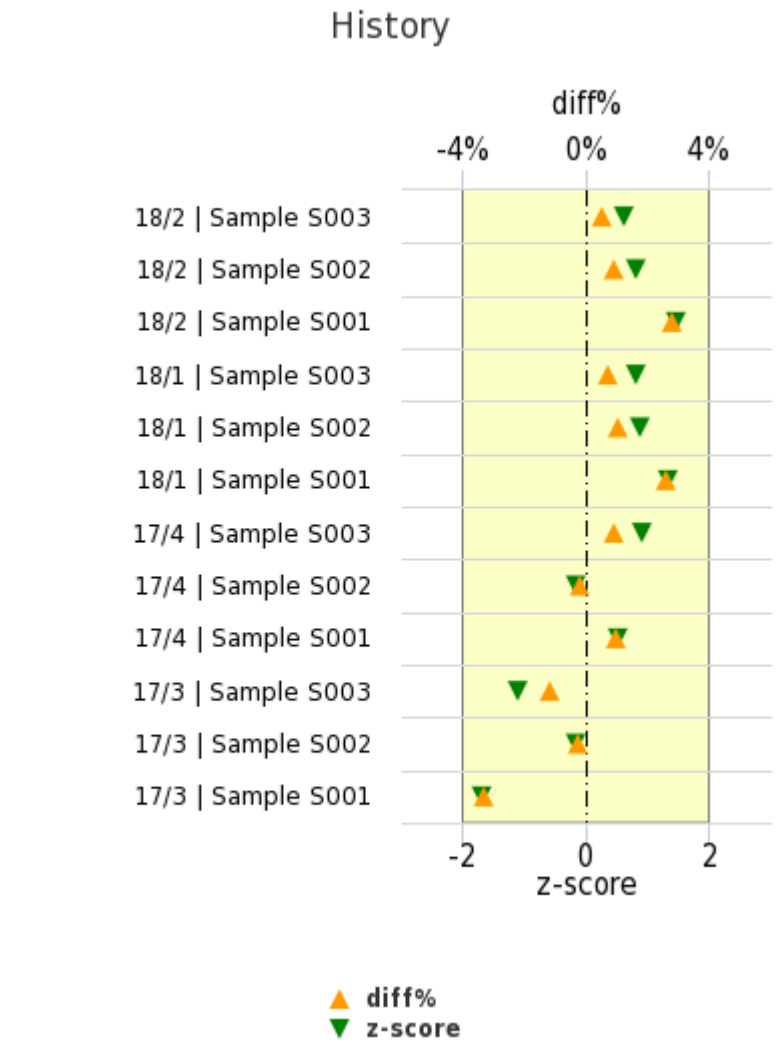
Round	Sample	x_{pt}	Result	diff%	z-score
18/2	Sample S003	5.67	5.70	0.54%	0.62
18/2	Sample S002	4.06	4.10	0.94%	0.80
18/2	Sample S001	2.53	2.60	2.82%	1.46
18/1	Sample S003	5.66	5.70	0.69%	0.81
18/1	Sample S002	4.06	4.10	1.05%	0.88
18/1	Sample S001	2.53	2.60	2.59%	1.34
17/4	Sample S003	4.76	4.80	0.93%	0.90
17/4	Sample S002	3.31	3.30	-0.21%	-0.17
17/4	Sample S001	2.28	2.30	1.00%	0.52
17/3	Sample S003	4.75	4.70	-1.14%	-1.10
17/3	Sample S002	3.31	3.30	-0.25%	-0.17
17/3	Sample S001	2.28	2.20	-3.33%	-1.68

Lactate |ABL800Flex

Sample S001, Lactate

- All method groups
- ABL 800-837 + FLEX
- Own result 12.70 | 3.39%
  (x_{pt}: 12.28 | Target area: 11.55-13.02)

	x_{pt}	sd	SEM	CV%	n
ABL 800-837 + FLEX	12.28 mmol/l	0.72	0.06	5.8	125
All methods	12.90 mmol/l	1.03	0.06	8.0	308

Sample S002, Lactate

- All method groups
- ABL 800-837 + FLEX
- Own result 7.00 | 3.64%
  (x_{pt}: 6.75 | Target area: 6.35-7.16)

	x_{pt}	sd	SEM	CV%	n
ABL 800-837 + FLEX	6.75 mmol/l	0.31	0.03	4.7	126
All methods	7.00 mmol/l	0.46	0.03	6.6	306

Sample S003, Lactate

- All method groups
- ABL 800-837 + FLEX
- Own result 1.20 | -1.38%
  (x_{pt}: 1.22 | Target area: 1.14-1.29)

	x_{pt}	sd	SEM	CV%	n
ABL 800-837 + FLEX	1.22 mmol/l	0.09	<0.01	7.3	127
All methods	1.24 mmol/l	0.10	<0.01	7.9	302

History
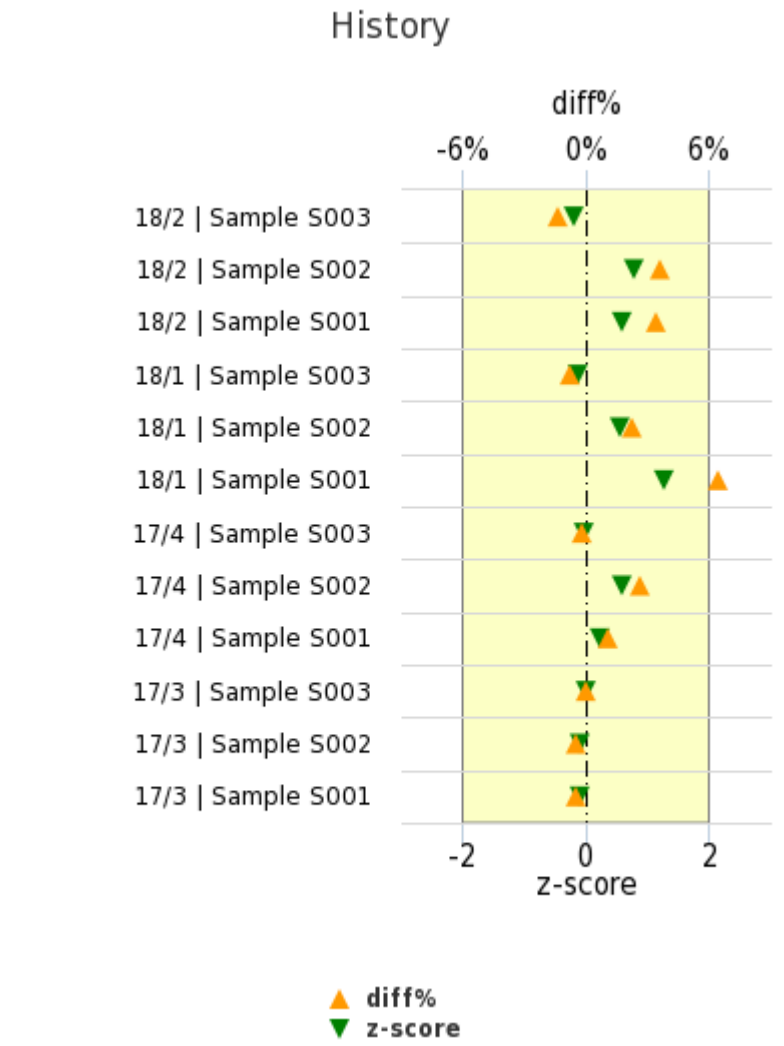
▲ diff%
▼ z-score

Round	Sample	x_{pt}	Result	diff%	z-score
18/2	Sample S003	1.22	1.20	-1.38%	-0.19
18/2	Sample S002	6.75	7.00	3.64%	0.78
18/2	Sample S001	12.28	12.70	3.39%	0.58
18/1	Sample S003	1.21	1.20	-0.80%	-0.13
18/1	Sample S002	6.75	6.90	2.24%	0.56
18/1	Sample S001	12.31	13.10	6.43%	1.28
17/4	Sample S003	1.40	1.40	-0.23%	-0.04
17/4	Sample S002	3.90	4.00	2.61%	0.59
17/4	Sample S001	5.93	6.00	1.11%	0.24
17/3	Sample S003	1.40	1.40	-0.03%	0.00
17/3	Sample S002	3.92	3.90	-0.47%	-0.11
17/3	Sample S001	5.93	5.90	-0.50%	-0.10

Glucose |ABL800Flex

Sample S001, Glucose

Sample S002, Glucose

Sample S003, Glucose

- All method groups / ABL 800-837 + FLEX
- Own result 15.10 | 0.45%
  (x_{pt}: 15.03 | Target area: 14.13-15.93)

- All method groups / ABL 800-837 + FLEX
- Own result 8.80 | 1.64%
  (x_{pt}: 8.66 | Target area: 8.14-9.18)

- All method groups / ABL 800-837 + FLEX
- Own result 2.40 | 5.46%
  (x_{pt}: 2.28 | Target area: 2.14-2.41)
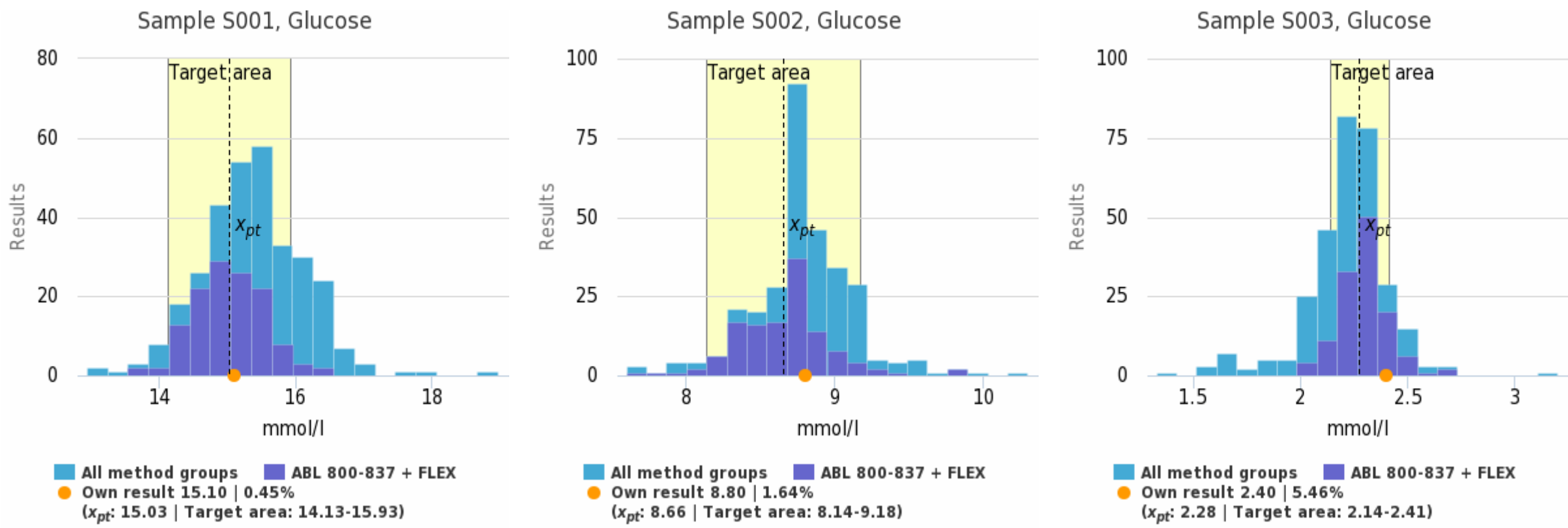
	x_{pt}	sd	SEM	CV%	n
ABL 800-837 + FLEX	15.03 mmol/l	0.52	0.05	3.5	129
All methods	15.36 mmol/l	0.68	0.04	4.4	313

	x_{pt}	sd	SEM	CV%	n
ABL 800-837 + FLEX	8.66 mmol/l	0.28	0.02	3.2	129
All methods	8.78 mmol/l	0.30	0.02	3.4	307

	x_{pt}	sd	SEM	CV%	n
ABL 800-837 + FLEX	2.28 mmol/l	0.11	0.01	4.9	127
All methods	2.21 mmol/l	0.18	0.01	8.3	305

History
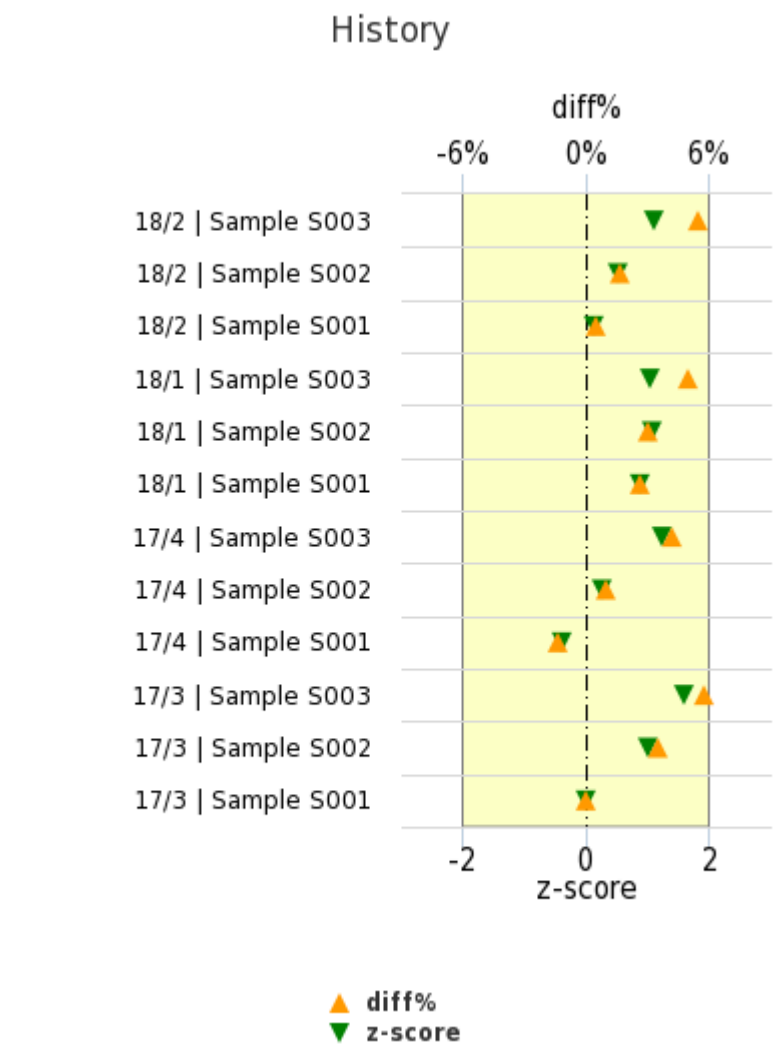
- ▲ diff%
- ▼ z-score

Round	Sample	x_{pt}	Result	diff%	z-score
18/2	Sample S003	2.28	2.40	5.46%	1.11
18/2	Sample S002	8.66	8.80	1.64%	0.51
18/2	Sample S001	15.03	15.10	0.45%	0.13
18/1	Sample S003	2.29	2.40	5.00%	1.04
18/1	Sample S002	8.64	8.90	3.04%	1.07
18/1	Sample S001	15.00	15.40	2.67%	0.86
17/4	Sample S003	5.47	5.70	4.23%	1.24
17/4	Sample S002	11.79	11.90	0.98%	0.26
17/4	Sample S001	20.79	20.50	-1.40%	-0.38
17/3	Sample S003	5.49	5.80	5.73%	1.60
17/3	Sample S002	11.79	12.20	3.50%	1.02
17/3	Sample S001	20.69	20.70	0.03%	0.01

pH |ABL800Flex

Sample S001, pH

All method groups ■ **ABL 800-837 + FLEX**
● Own result 7.232 | -0.041%
(x_{pt}: 7.235 | Target area: 7.199-7.271)
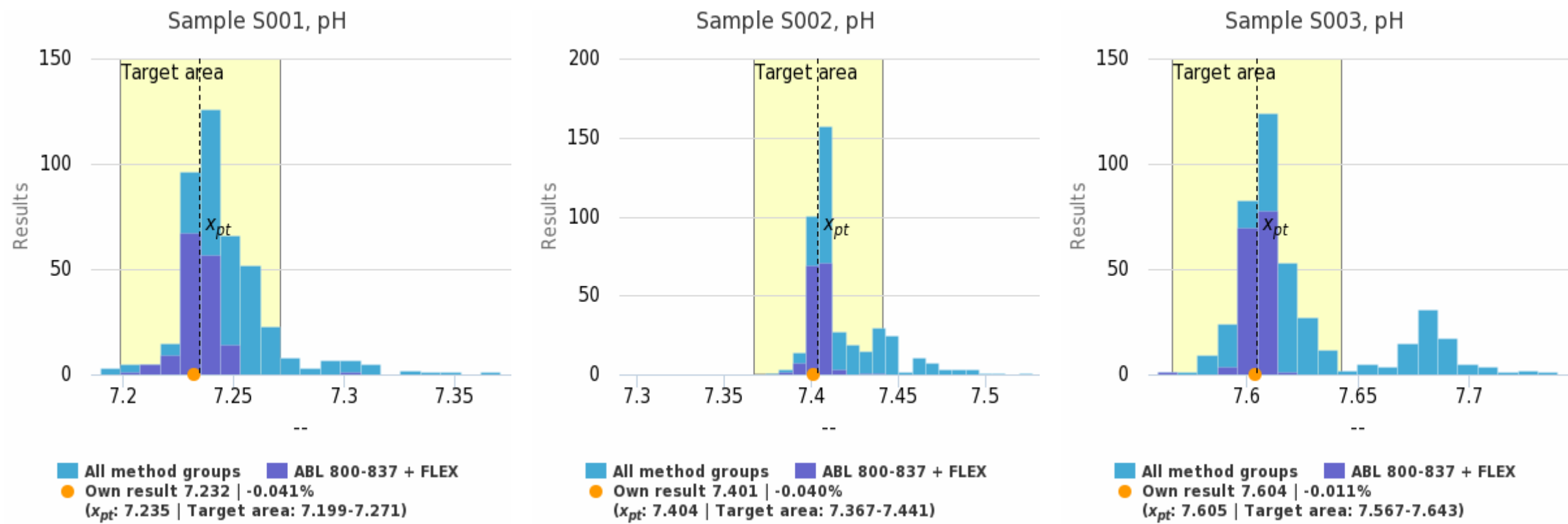
	x_{pt}	sd	SEM	CV%	n
ABL 800-837 + FLEX	7.235 --	0.008	<0.001	0.1	154
All methods	7.244 --	0.017	<0.001	0.2	426

Sample S002, pH

All method groups ■ **ABL 800-837 + FLEX**
● Own result 7.401 | -0.040%
(x_{pt}: 7.404 | Target area: 7.367-7.441)

	x_{pt}	sd	SEM	CV%	n
ABL 800-837 + FLEX	7.404 --	0.005	<0.001	<0.1	154
All methods	7.415 --	0.019	<0.001	0.3	423

Sample S003, pH

All method groups ■ **ABL 800-837 + FLEX**
● Own result 7.604 | -0.011%
(x_{pt}: 7.605 | Target area: 7.567-7.643)

	x_{pt}	sd	SEM	CV%	n
ABL 800-837 + FLEX	7.605 --	0.004	<0.001	<0.1	154
All methods	7.622 --	0.030	0.001	0.4	421

History
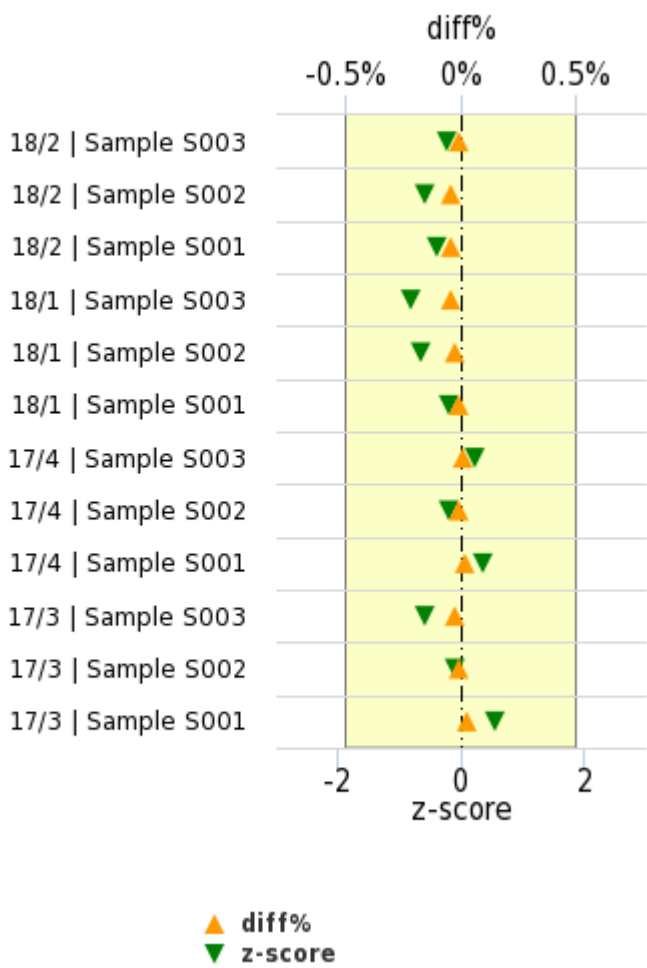
▲ diff%
▼ z-score

Round	Sample	x_{pt}	Result	diff%	z-score
18/2	Sample S003	7.605	7.604	-0.011%	-0.221
18/2	Sample S002	7.404	7.401	-0.040%	-0.587
18/2	Sample S001	7.235	7.232	-0.041%	-0.385
18/1	Sample S003	7.606	7.603	-0.045%	-0.824
18/1	Sample S002	7.406	7.403	-0.034%	-0.637
18/1	Sample S001	7.236	7.235	-0.014%	-0.208
17/4	Sample S003	7.512	7.513	0.012%	0.225
17/4	Sample S002	7.337	7.336	-0.011%	-0.181
17/4	Sample S001	7.167	7.169	0.022%	0.363
17/3	Sample S003	7.513	7.511	-0.027%	-0.587
17/3	Sample S002	7.337	7.337	-0.006%	-0.098
17/3	Sample S001	7.168	7.170	0.030%	0.535

LABQUALITY

CO2 |ABL800Flex

Sample S001, CO2

Sample S002, CO2

Sample S003, CO2

- ■ All method groups ■ ABL 800-837 + FLEX
- ● Own result 7.22 | 2.78%
  (x_{pt}: 7.02 | Target area: 6.74-7.31)

- ■ All method groups ■ ABL 800-837 + FLEX
- ● Own result 5.30 | 3.57%
  (x_{pt}: 5.12 | Target area: 4.91-5.32)

- ■ All method groups ■ ABL 800-837 + FLEX
- ● Own result 3.00 | 1.62%
  (x_{pt}: 2.95 | Target area: 2.83-3.07)
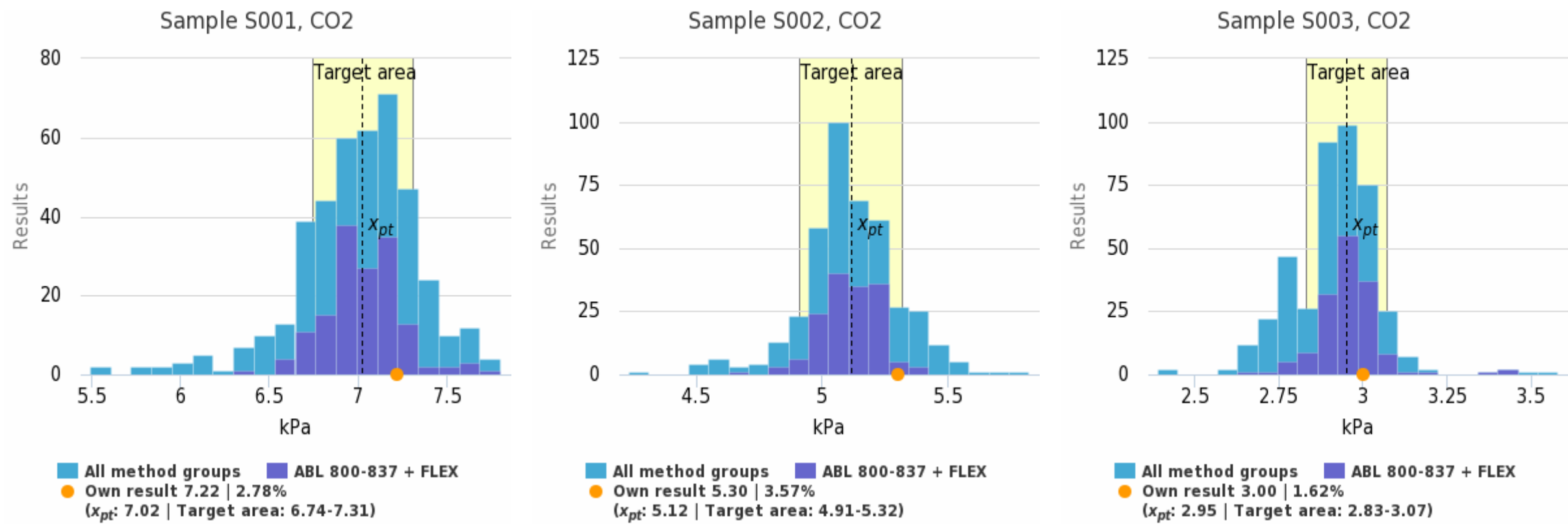
	x_{pt}	sd	SEM	CV%	n
ABL 800-837 + FLEX	7.02 kPa	0.21	0.02	3.0	152
All methods	7.02 kPa	0.31	0.02	4.4	418

	x_{pt}	sd	SEM	CV%	n
ABL 800-837 + FLEX	5.12 kPa	0.11	<0.01	2.1	153
All methods	5.12 kPa	0.18	<0.01	3.6	414

	x_{pt}	sd	SEM	CV%	n
ABL 800-837 + FLEX	2.95 kPa	0.07	<0.01	2.4	153
All methods	2.91 kPa	0.11	<0.01	3.6	416

History
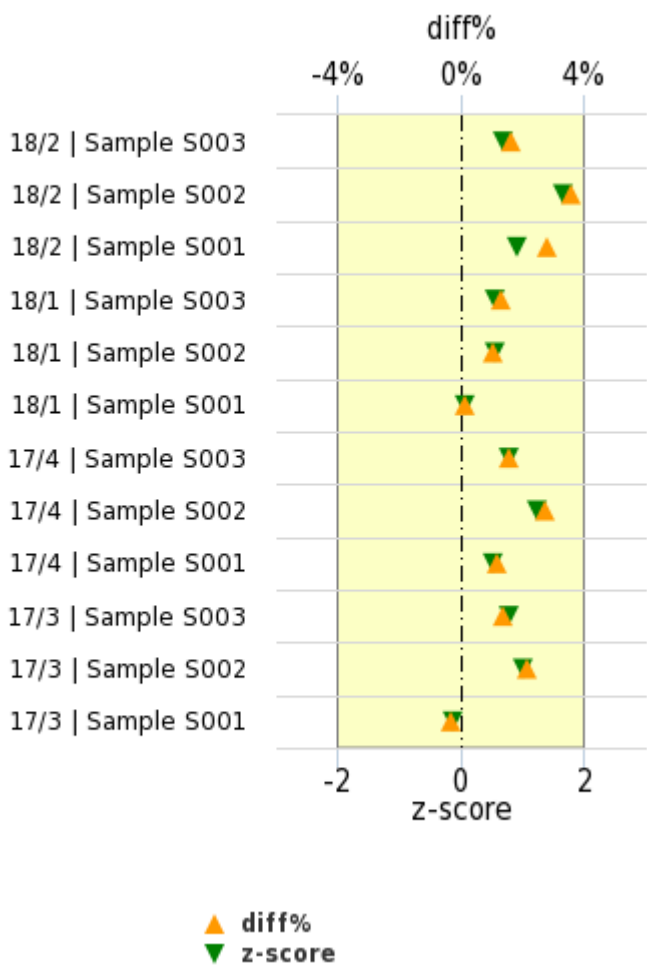
▲ diff%
▼ z-score

Round	Sample	x_{pt}	Result	diff%	z-score
18/2	Sample S003	2.95	3.00	1.62%	0.68
18/2	Sample S002	5.12	5.30	3.57%	1.66
18/2	Sample S001	7.02	7.22	2.78%	0.92
18/1	Sample S003	2.94	2.98	1.30%	0.56
18/1	Sample S002	5.13	5.18	1.04%	0.54
18/1	Sample S001	7.05	7.06	0.12%	0.05
17/4	Sample S003	4.11	4.17	1.54%	0.78
17/4	Sample S002	6.19	6.36	2.75%	1.24
17/4	Sample S001	8.40	8.50	1.19%	0.53
17/3	Sample S003	4.08	4.14	1.39%	0.77
17/3	Sample S002	6.18	6.31	2.12%	1.00
17/3	Sample S001	8.40	8.37	-0.31%	-0.14

LABQUALITY

O2 |ABL800Flex

Sample S001, O2

All method groups | ABL 800-837 + FLEX
Own result 12.10 | -0.68%
(x_{pt}: 12.18 | Target area: 11.45-12.91)

Sample S002, O2

All method groups | ABL 800-837 + FLEX
Own result 17.10 | 0.80%
(x_{pt}: 16.96 | Target area: 15.95-17.98)

Sample S003, O2

All method groups | ABL 800-837 + FLEX
Own result 21.50 | -1.58%
(x_{pt}: 21.85 | Target area: 20.53-23.16)
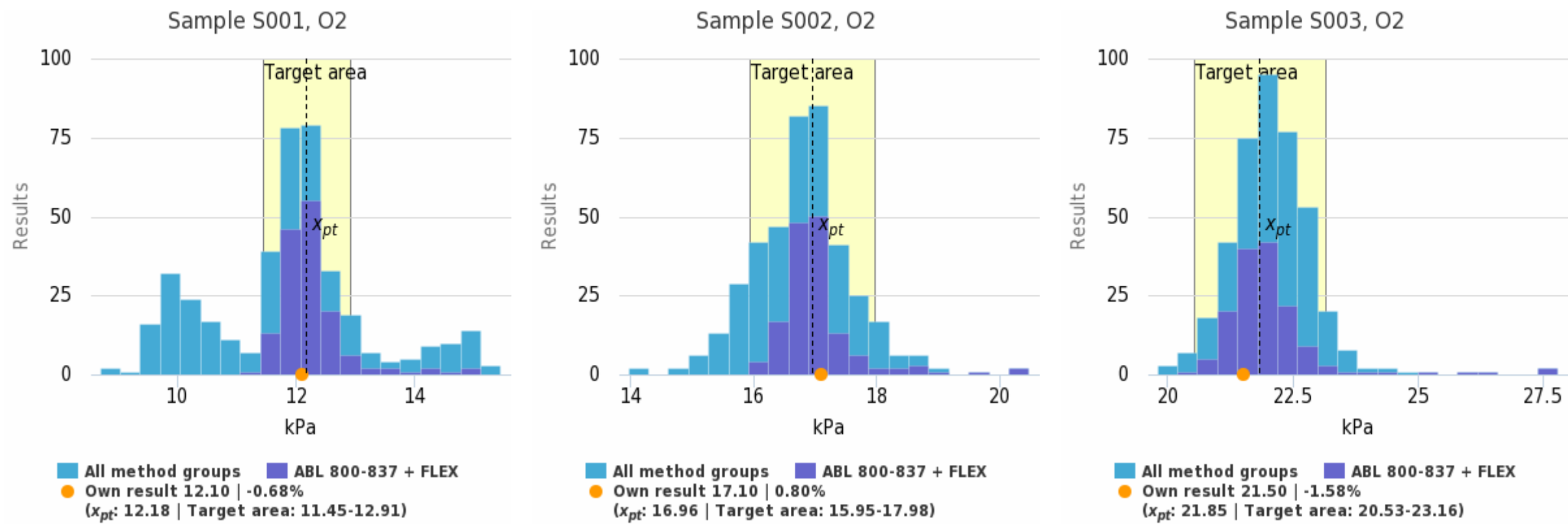
	x_{pt}	sd	SEM	CV%	n
ABL 800-837 + FLEX	12.18 kPa	0.39	0.03	3.2	151
All methods	11.88 kPa	1.34	0.07	11.3	410

	x_{pt}	sd	SEM	CV%	n
ABL 800-837 + FLEX	16.96 kPa	0.47	0.04	2.8	149
All methods	16.80 kPa	0.74	0.04	4.4	408

	x_{pt}	sd	SEM	CV%	n
ABL 800-837 + FLEX	21.85 kPa	0.61	0.05	2.8	150
All methods	21.99 kPa	0.72	0.04	3.3	408

History
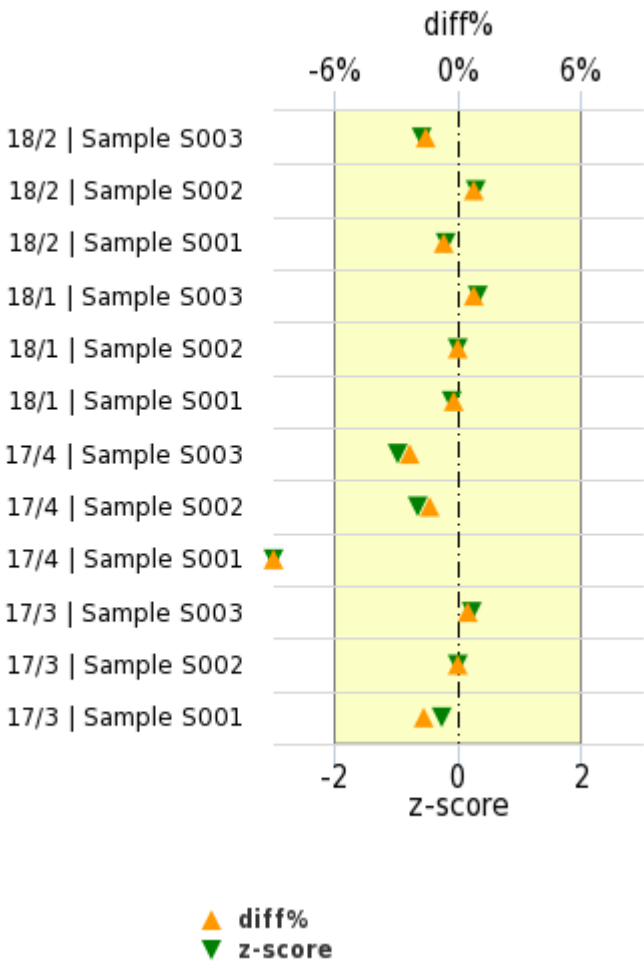
▲ diff%
▼ z-score

Round	Sample	x_{pt}	Result	diff%	z-score
18/2	Sample S003	21.85	21.50	-1.58%	-0.57
18/2	Sample S002	16.96	17.10	0.80%	0.29
18/2	Sample S001	12.18	12.10	-0.68%	-0.21
18/1	Sample S003	22.22	22.40	0.81%	0.31
18/1	Sample S002	17.10	17.10	-0.01%	-0.01
18/1	Sample S001	12.33	12.30	-0.22%	-0.09
17/4	Sample S003	19.56	19.10	-2.34%	-0.96
17/4	Sample S002	15.32	15.10	-1.41%	-0.66
17/4	Sample S001	6.30	4.82	-23.47%	-3.41
17/3	Sample S003	19.60	19.70	0.51%	0.22
17/3	Sample S002	15.40	15.40	0.02%	0.01
17/3	Sample S001	6.30	6.20	-1.64%	-0.25

LABQUALITY

Ca-ion actual |ABL800Flex

Sample S001, Ca-ion actual

Target area

x_{pt}

- All method groups
- ABL 800-837 + FLEX
- Own result 1.43 | 0.83%
  (x_{pt}: 1.42 | Target area: 1.38-1.46)

Sample S002, Ca-ion actual

Target area

x_{pt}

- All method groups
- ABL 800-837 + FLEX
- Own result 1.01 | 0.79%
  (x_{pt}: 1.00 | Target area: 0.97-1.03)

Sample S003, Ca-ion actual

Target area

x_{pt}

- All method groups
- ABL 800-837 + FLEX
- Own result 0.50 | 0.70%
  (x_{pt}: 0.50 | Target area: 0.48-0.51)
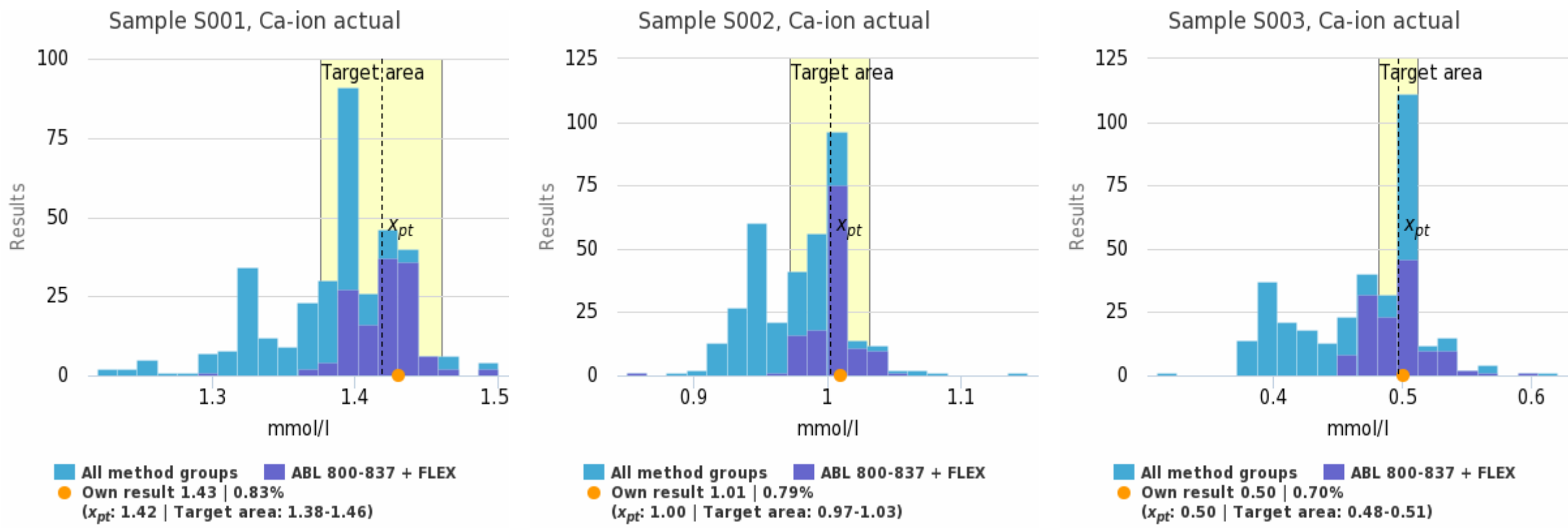
	x_{pt}	sd	SEM	CV%	n
ABL 800-837 + FLEX	1.42 mmol/l	0.02	<0.01	1.5	133
All methods	1.39 mmol/l	0.04	<0.01	3.1	353

	x_{pt}	sd	SEM	CV%	n
ABL 800-837 + FLEX	1.00 mmol/l	0.02	<0.01	1.5	133
All methods	0.98 mmol/l	0.03	<0.01	3.3	350

	x_{pt}	sd	SEM	CV%	n
ABL 800-837 + FLEX	0.50 mmol/l	0.02	<0.01	4.2	133
All methods	0.47 mmol/l	0.05	<0.01	10.0	345

History
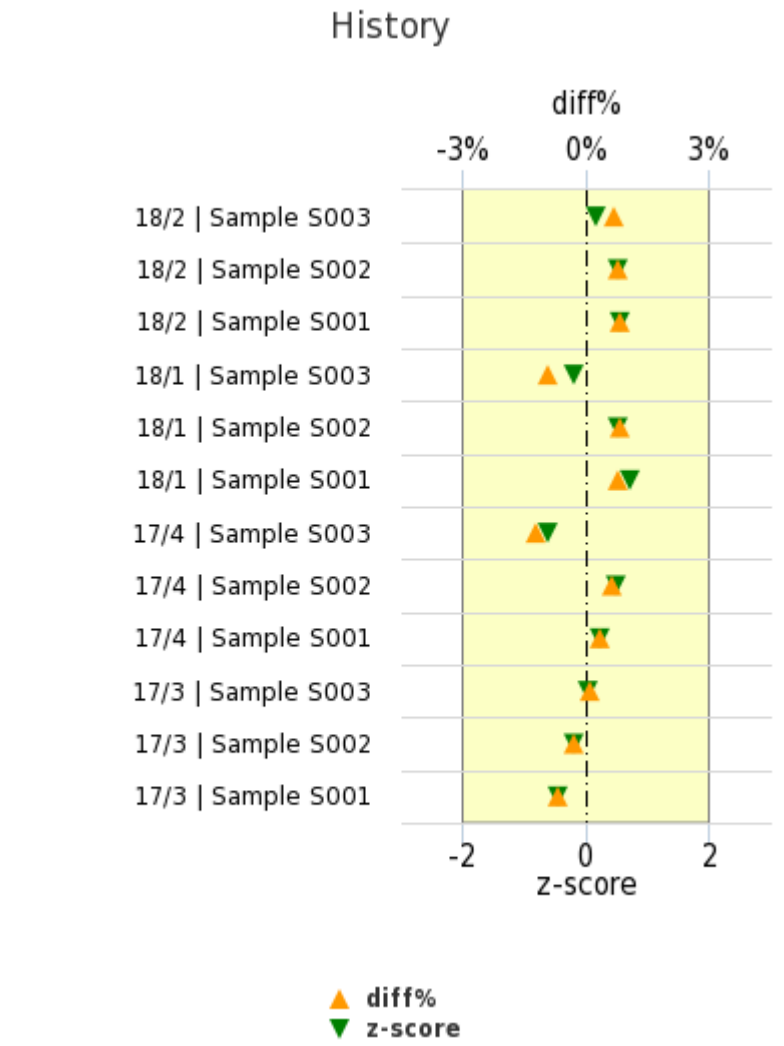
- ▲ diff%
- ▼ z-score

Round	Sample	x_{pt}	Result	diff%	z-score
18/2	Sample S003	0.50	0.50	0.70%	0.17
18/2	Sample S002	1.00	1.01	0.79%	0.51
18/2	Sample S001	1.42	1.43	0.83%	0.56
18/1	Sample S003	0.49	0.49	-0.91%	-0.21
18/1	Sample S002	1.00	1.01	0.82%	0.53
18/1	Sample S001	1.42	1.43	0.80%	0.72
17/4	Sample S003	0.78	0.77	-1.24%	-0.61
17/4	Sample S002	1.20	1.21	0.65%	0.50
17/4	Sample S001	1.70	1.71	0.36%	0.22
17/3	Sample S003	0.78	0.78	0.08%	0.03
17/3	Sample S002	1.20	1.20	-0.27%	-0.20
17/3	Sample S001	1.70	1.69	-0.68%	-0.46

LABQUALITY

Base excess |ABL800Flex

Sample S001, Base excess

All method groups ▪ ABL 800-837 + FLEX
● Own result -4.40
(x_{pt}: -4.68 | Target area: -5.69--3.68)
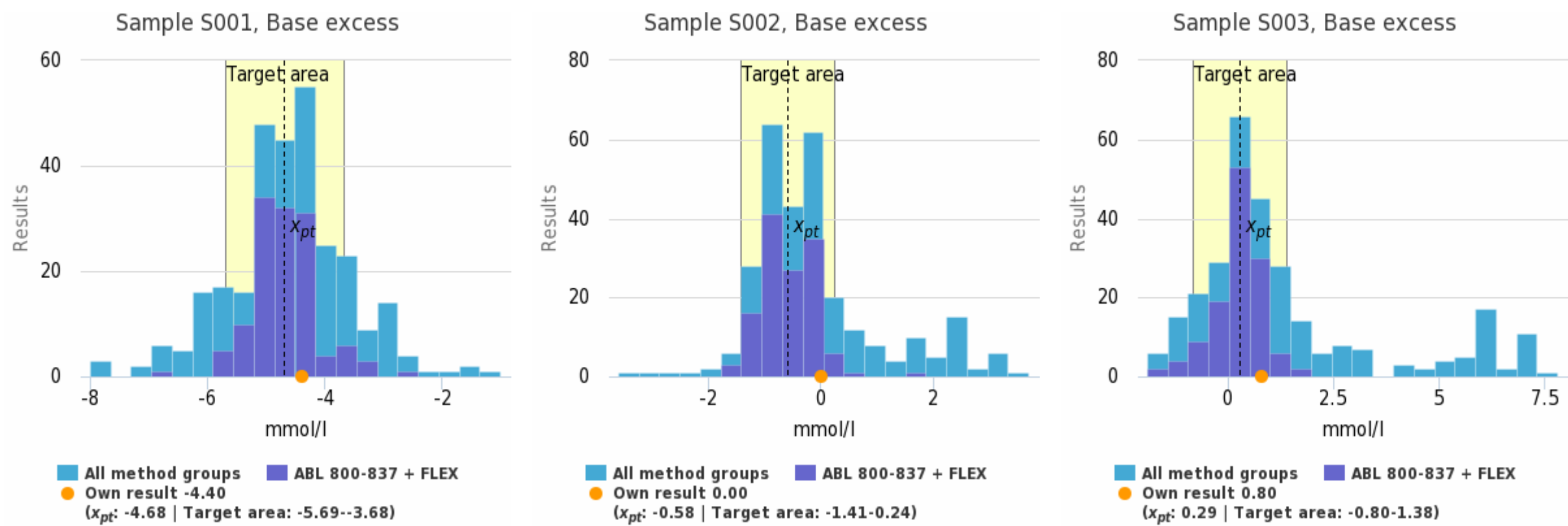
	x_{pt}	sd	SEM	CV%	n
ABL 800-837 + FLEX	-4.68 mmol/l	0.50	0.05	10.8	127
All methods	-4.64 mmol/l	0.95	0.06	20.5	293

Sample S002, Base excess

All method groups ▪ ABL 800-837 + FLEX
● Own result 0.00
(x_{pt}: -0.58 | Target area: -1.41-0.24)

	x_{pt}	sd	SEM	CV%	n
ABL 800-837 + FLEX	-0.58 mmol/l	0.41	0.04	70.7	130
All methods	-0.13 mmol/l	1.12	0.07	871.6	292

Sample S003, Base excess

All method groups ▪ ABL 800-837 + FLEX
● Own result 0.80
(x_{pt}: 0.29 | Target area: -0.80-1.38)

	x_{pt}	sd	SEM	CV%	n
ABL 800-837 + FLEX	0.29 mmol/l	0.55	0.05	188.6	125
All methods	1.33 mmol/l	2.21	0.13	166.6	290

History
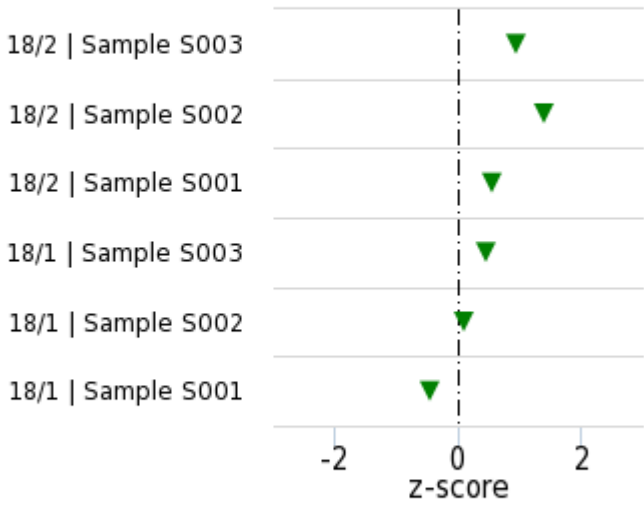
▼ z-score

Round	Sample	x_{pt}	Result	z-score
18/2	Sample S003	0.29	0.80	0.93
18/2	Sample S002	-0.58	0.00	1.41
18/2	Sample S001	-4.68	-4.40	0.56
18/1	Sample S003	0.32	0.60	0.46
18/1	Sample S002	-0.44	-0.40	0.11
18/1	Sample S001	-4.50	-4.70	-0.44

LABQUALITY

HCO3 |ABL800Flex

Sample S001, HCO3

All method groups ■ **ABL 800-837 + FLEX**
● **Own result 22.00 | 2.06%**
(x_{pt}: 21.56 | Target area: 20.48-22.63)
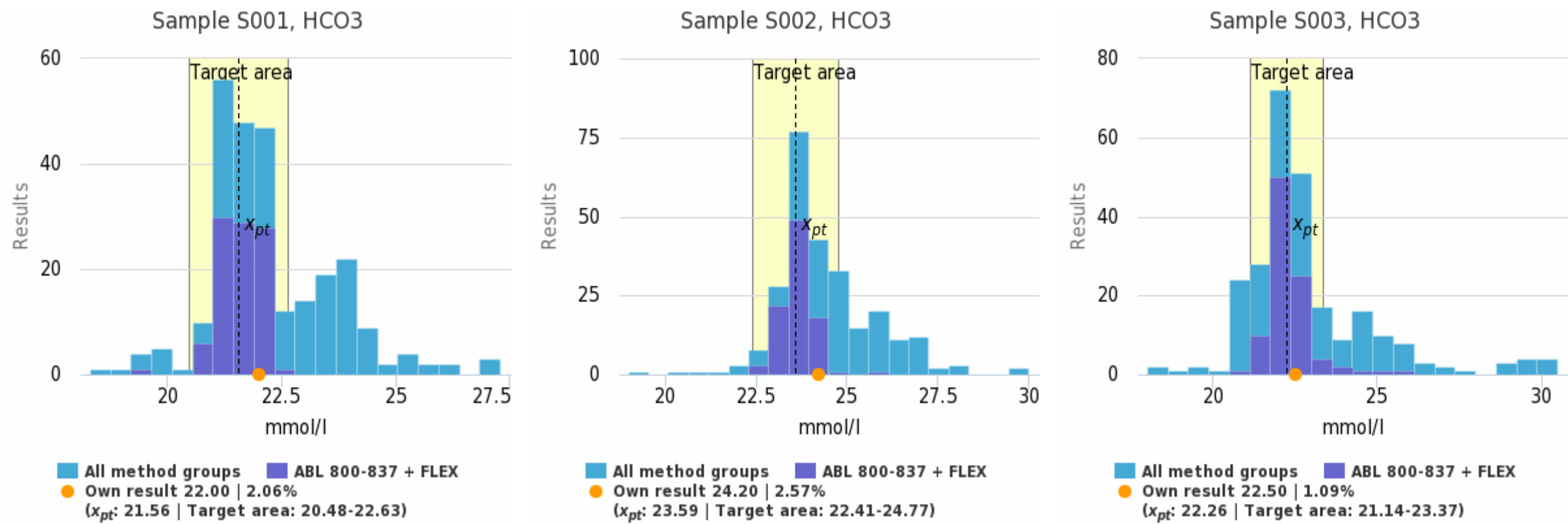
	x_{pt}	sd	SEM	CV%	n
ABL 800-837 + FLEX	21.56 mmol/l	0.40	0.04	1.8	95
All methods	22.14 mmol/l	1.25	0.08	5.7	262

Sample S002, HCO3

All method groups ■ **ABL 800-837 + FLEX**
● **Own result 24.20 | 2.57%**
(x_{pt}: 23.59 | Target area: 22.41-24.77)

	x_{pt}	sd	SEM	CV%	n
ABL 800-837 + FLEX	23.59 mmol/l	0.40	0.04	1.7	94
All methods	24.34 mmol/l	1.23	0.08	5.1	261

Sample S003, HCO3

All method groups ■ **ABL 800-837 + FLEX**
● **Own result 22.50 | 1.09%**
(x_{pt}: 22.26 | Target area: 21.14-23.37)

	x_{pt}	sd	SEM	CV%	n
ABL 800-837 + FLEX	22.26 mmol/l	0.52	0.05	2.3	95
All methods	22.62 mmol/l	1.54	0.10	6.8	258

History
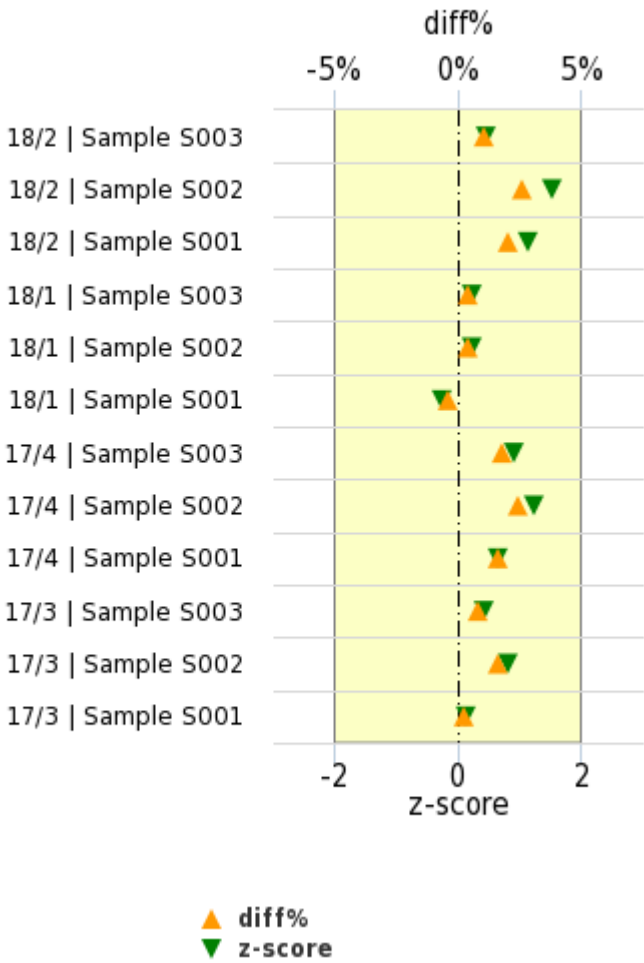
▲ diff%
▼ z-score

Round	Sample	x_{pt}	Result	diff%	z-score
18/2	Sample S003	22.26	22.50	1.09%	0.46
18/2	Sample S002	23.59	24.20	2.57%	1.52
18/2	Sample S001	21.56	22.00	2.06%	1.12
18/1	Sample S003	22.21	22.30	0.43%	0.23
18/1	Sample S002	23.71	23.80	0.38%	0.23
18/1	Sample S001	21.70	21.60	-0.44%	-0.26
17/4	Sample S003	24.57	25.00	1.77%	0.91
17/4	Sample S002	24.21	24.80	2.43%	1.23
17/4	Sample S001	21.94	22.30	1.63%	0.66
17/3	Sample S003	24.51	24.70	0.78%	0.42
17/3	Sample S002	24.21	24.60	1.60%	0.81
17/3	Sample S001	21.95	22.00	0.24%	0.12

LABQUALITY

External Quality Assessment Schemes

Acid-Base Status and Electrolytes 2, 2018

Thank you for participating in this Acid-Base Status and Electrolytes round.
This round had 244 participants (426 instruments) from 16 countries.
146 clients reported preanalytic results.
The preanalytical case will be next time on round 4, 2018.

Specimens
External quality assessment specimens **S001: LQ750818021, S002: LQ750818022 and S003: LQ750818023)** were prepared tonometrically by applying mixtures of carbon dioxide, oxygen and nitrogen into physiologically buffered matrix with purified bovine albumin and pure salts. This mixture is shaken until a thick foam is formed. The foam acts as a gas buffer protecting the liquid in the opened ampoule from atmospheric oxygen. The composition of specimens prepared in this manner resembles that of reference materials or calibrators. However, these specimens do differ in composition from patient samples, i.e. whole blood, which expires too soon for EQA round use. While patient sera contain 40 g/L albumin and 30 g/L globulin, the control materials contain 70 g/L albumin. This might have impact on the ISE-measurements, which makes it difficult to compare the different instrument groups.
The statistical parameters are calculated from the results that fall within the calculated limits for the group in question. The limits are obtained from the median value of the uncorrected results ± 3 * uncorrected SD if the group includes at least seven results.

The report contains
-individual histograms
(if results have been returned),
-numerical summary
-comments

The next Acid-Base Status and Electrolytes EQA round 3, 2018) will be carried out in August 2018.

Interpretation of the results
You are now able to see the method specific histograms in the numerical summary. The name of the method is listed on top of the histogram picture. In client specific reports your own result is shown with an orange dot. The target area is presented as a yellow area in the picture. In the history graphs you are now able to see your performance graphically both against the assigned value (x_{pt}) and the z-score area of -2 -- +2
From the beginning of 2018 we have made some changes in the statistical calculations and reporting. 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 2-11 results in a method group and the uncertainty of the target value is too large (u(xpt) < 0.1 * maximum allowable error) an automatic text is printed on the report: "The uncertainty of the assigned value is not negligible, and evaluations could be affected." In case there are 2-4 results in a method group, no z-score is calculated, and a text is printed on the report: "Due to the small number of results, the z score is not calculated." In case there are 5-11 results, the z-score is calculated and the report has a text: "Z score is uncertain due to the small number of observations."
Z-scores are calculated from the results of the EQA round concerned. Assessment of z-scores is based on the following criteria:
-2.0 ≤ z ≤ 2.0 is regarded as satisfactory;
-3.0 < z < -2.0 or 2.0 < z < 3.0 is regarded as questionable ('warning signal');
z ≤ -3.0 or z ≥ 3.0 is regarded as unsatisfactory ('action signal').

The very low SD, CV% and SEM are marked with less than (<) mark.

The target area for base excess is mean ± 2SD. The diff-% are not seen in base excess graphs and also the text of the results uncertainty is missing.
The base excess history data is generated from the round 1, 2018 onwards.

Detailed instructions on interpretation of the results are given in LabScala (LabScala user instructions; EQAS interpretation guidelines).

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: the laboratory-specific histograms, numerical summaries and report letter of this scheme are also available on Labquality´s homepage (www.labquality.fi). Please login to LabScala and fill in your laboratory's client code/personal user name and password. You are able to access your reports via LabScala by selecting "View reports" from the front page. Search for the specific scheme by name or code or press "Choose" to see all.

Comments

The samples on round 2, 2018 were the same as on the first round of year 2018. The results equaled to the results of the previous round, though CV% were somewhat higher. Sample S001 oxygen pressure had high variation, 11.3%. The mean of oxygen pressure in sample S001 was 11.88 kPa, which is in the reference range of arterial blood. However, the lowest reported values were below the reference range of oxygen pressure in arterial blood.

Preanalytics

Case history:

From 80-year old woman has been requested blood gas parameters as a capillary sample (pH, pCO2, pO2, HCO3 and BE). The peripheral blood circulation of the patient is impaired. To take the sample, the laboratory scientist has to make another puncture in the middle finger with 1.8 mm lancet. In the attached picture are the two capillaries taken from this patient. Capillaries are properly labeled with following information: patient name, patient ID, sampling date and time and requested laboratory test. For analysis capillaries are delivered to the laboratory packed in a refrigerated cool box

Comments

About 36% of participants would accept the result, however, adding a comment that tells the effect of the pre-analytical error. About 28% of participants would reject the result and request a new sample. Most participants considered the air bubbles as major pre-analytical error that could have an impact on the result erroneously. Others were wrong sample collection, cold puncture site and unsuccessful puncture.

Preanalytical errors: Cold puncture site, wrong sample collection, low quality sample and air bubbles in the tube/capillary.

Expected action: Reject the sample and request a new one.

Explanation: To ensure good blood circulation the puncture site should be warmed. Sampling requires a suitable size lancet taking into account the patient's age, the thickness and condition of skin etc. In order to prevent air contamination, the blood gas capillary must be filled continuously. If the proper sample is not gotten, another finger should be selected as a new puncture site.

End of report