



**Department  
of Health**

**ANDREW M. CUOMO**  
Governor

**HOWARD A. ZUCKER, M.D., J.D.**  
Commissioner

**SALLY DRESLIN, M.S., R.N.**  
Executive Deputy Commissioner

## **Clinical Chemistry Proficiency Test Program**

### **Statistical Summary – January 2016 (Event 16-1)**

This statistical report summarizes participant data for the five Clinical Chemistry proficiency survey specimens shipped on 25 January 2016. Test samples (Vials C31, C32, C33, C34, C35) were prepared by the quantitative transfer of constituents to pooled human serum. The material was subsequently sterile filtered, dispensed into aliquots, stored at -80°C, and distributed to participants for analysis.

Results for individual instrument and reagent systems where the number of laboratories using those systems is three or greater are provided. Mean and Standard Deviation ( $\pm 1$  SD) values are calculated by a robust statistical technique that does not assume a Gaussian distribution.

Please note that Troponin I and Troponin T, included in previous proficiency test events as educational challenges, are graded effective with this event.

Disclaimer:

Note: The use of brand and/or trade names in this report does not constitute an endorsement of the products on the part of the Wadsworth Center or the New York State Department of Health

Should you have any questions regarding this report, please contact the Clinical Chemistry Section at (518) 474-5582.

Summary of Participant Performance (Mean and Standard Deviation)

Glucose (mg/dL)

Specimen: C31	Specimen: C32	Specimen: C33	Specimen: C34	Specimen: C35	Number	[Code] Instrument or Reagent System
286.7 ± 6.83	80.2 ± 2.55	89.7 ± 3.50	156.3 ± 4.44	51.2 ± 1.98	n = 208	[---] All Methods & Instruments
<b>&lt;Instruments&gt;</b>						
274.1 ± 1.13	78.5 ± 0.57	85.2 ± 0.41	149.0 ± 0.75	50.0 ± 0.75	n = 4	[AXA] Abaxis Piccolo
290.3 ± 2.90	79.5 ± 1.27	88.2 ± 1.72	155.1 ± 2.45	49.8 ± 1.25	n = 17	[ABJ] Abbott Architect c System
285.8 ± 6.32	80.8 ± 2.35	87.9 ± 2.72	155.7 ± 4.18	50.8 ± 1.66	n = 36	[OLC] Beckman Coulter AU Chemistry System
281.0 ± 4.35	78.9 ± 1.19	86.6 ± 1.17	152.5 ± 1.85	49.2 ± 0.86	n = 10	[BCG] Beckman Coulter UniCel DxC 600
283.5 ± 0.57	79.7 ± 1.81	87.3 ± 1.38	154.7 ± 1.93	50.2 ± 1.89	n = 5	[BCH] Beckman Coulter UniCel DxC 800
336.7 ± 4.70	120.6 ± 5.47	124.5 ± 4.43	177.8 ± 4.39	77.2 ± 5.82	n = 5	[HEC] HemoCue Glucose 201
284.5 ± 3.62	78.2 ± 1.41	91.3 ± 1.26	155.8 ± 1.22	52.3 ± 1.15	n = 6	[JJE] Ortho Vitros 250/350/950
285.2 ± 4.11	76.7 ± 1.37	90.3 ± 1.37	154.5 ± 1.86	51.8 ± 2.36	n = 3	[JJF] Ortho Vitros 5,1FS
283.8 ± 4.33	76.4 ± 1.63	90.4 ± 1.90	154.9 ± 3.08	50.8 ± 2.26	n = 10	[JJG] Ortho Vitros 5600
288.4 ± 5.58	81.9 ± 2.05	89.2 ± 1.54	157.9 ± 2.86	51.0 ± 0.90	n = 3	[ROJ] Roche cobas c311
290.1 ± 5.35	82.2 ± 1.08	90.1 ± 1.09	159.0 ± 3.17	51.8 ± 0.67	n = 11	[ROC] Roche cobas c501
283.9 ± 5.22	80.3 ± 2.26	87.3 ± 2.26	151.0 ± 6.37	50.0 ± 0.90	n = 3	[ROT] Roche Cobas INTEGRA 800
286.9 ± 6.07	80.3 ± 2.04	88.0 ± 0.93	156.0 ± 3.41	50.8 ± 0.80	n = 5	[ROD] Roche MODULAR D/P
280.9 ± 4.64	79.3 ± 1.56	86.6 ± 1.39	153.0 ± 2.78	49.9 ± 1.01	n = 8	[BYE] Siemens ADVIA 1800
291.8 ± 5.93	82.2 ± 2.00	94.4 ± 2.25	160.9 ± 3.34	53.5 ± 2.15	n = 24	[DUE] Siemens Dimension EXL
293.5 ± 2.74	81.5 ± 2.74	94.5 ± 1.86	160.2 ± 3.23	53.1 ± 2.05	n = 3	[DUR] Siemens Dimension RxL
283.5 ± 6.73	79.3 ± 2.10	90.9 ± 2.60	155.5 ± 3.87	51.4 ± 1.56	n = 32	[DUT] Siemens Dimension Vista
293.8 ± 4.33	83.9 ± 1.80	95.4 ± 0.74	163.1 ± 2.38	54.8 ± 1.56	n = 7	[DUX] Siemens Dimension Xpand
<b>&lt;Reagents&gt;</b>						
274.1 ± 1.13	78.5 ± 0.57	85.2 ± 0.41	149.0 ± 0.75	50.0 ± 0.75	n = 4	[AX1] Abaxis
290.3 ± 2.90	79.5 ± 1.27	88.2 ± 1.72	155.1 ± 2.45	49.8 ± 1.25	n = 17	[AB1] Abbott
282.6 ± 4.59	79.0 ± 1.65	86.9 ± 1.41	153.4 ± 2.62	49.6 ± 1.52	n = 18	[BC1] Beckman Coulter
285.8 ± 5.89	80.9 ± 2.33	87.9 ± 2.52	155.7 ± 4.00	50.8 ± 1.56	n = 33	[OL1] Beckman Coulter AU Series
336.7 ± 4.70	120.6 ± 5.47	124.5 ± 4.43	177.8 ± 4.39	77.2 ± 5.82	n = 5	[HE1] HemoCue
284.6 ± 4.65	77.3 ± 2.01	90.8 ± 1.90	155.4 ± 2.29	51.6 ± 2.17	n = 20	[JJ1] Ortho Clinical Diagnostics
289.2 ± 5.58	82.0 ± 1.54	89.7 ± 1.52	158.4 ± 3.34	51.6 ± 0.81	n = 15	[RO4] Roche cobas c311/c501/c502/c701/c702
286.9 ± 6.07	80.3 ± 2.04	88.0 ± 0.93	156.0 ± 3.41	50.8 ± 0.80	n = 5	[RO2] Roche Hitachi and Modular D/P
286.1 ± 4.82	81.1 ± 2.05	87.9 ± 1.83	154.9 ± 6.57	50.6 ± 1.09	n = 5	[RO1] Roche Integra and MIRA
282.8 ± 5.95	79.8 ± 1.72	87.2 ± 1.80	154.0 ± 3.29	50.3 ± 1.19	n = 10	[BY1] Siemens ADVIA/ADVIA Centaur
288.4 ± 7.74	81.0 ± 2.71	93.0 ± 3.10	158.7 ± 4.67	52.5 ± 2.23	n = 66	[DA5] Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Urea Nitrogen (mg/dL)

Specimen: C31	Specimen: C32	Specimen: C33	Specimen: C34	Specimen: C35	Number	[Code] Instrument or Reagent System
52.8 ± 1.85	16.2 ± 0.80	37.1 ± 1.59	9.9 ± 0.49	22.2 ± 0.95	n = 198	[---] All Methods & Instruments
<Instruments>						
50.0 ± 0.00	15.0 ± 0.00	34.5 ± 0.57	9.0 ± 0.00	20.5 ± 0.57	n = 4	[AXA] Abaxis Piccolo
53.2 ± 0.63	16.0 ± 0.00	37.3 ± 0.71	9.7 ± 0.49	22.0 ± 0.00	n = 16	[ABJ] Abbott Architect c System
52.6 ± 1.07	16.4 ± 0.56	37.1 ± 0.91	10.0 ± 0.00	22.3 ± 0.64	n = 35	[OLC] Beckman Coulter AU Chemistry System
53.9 ± 1.13	17.0 ± 0.00	38.7 ± 0.48	10.0 ± 0.00	23.0 ± 0.00	n = 10	[BCG] Beckman Coulter UniCel DxC 600
51.2 ± 1.07	15.0 ± 0.00	35.0 ± 0.93	7.1 ± 1.38	20.0 ± 0.00	n = 5	[BCH] Beckman Coulter UniCel DxC 800
50.0 ± 0.82	15.2 ± 0.47	33.8 ± 1.12	10.0 ± 0.00	21.0 ± 0.00	n = 7	[JJE] Ortho Vitros 250/350/950
49.0 ± 0.90	15.3 ± 0.51	33.3 ± 0.51	10.3 ± 0.51	21.3 ± 0.51	n = 3	[JJF] Ortho Vitros 5,1FS
50.0 ± 1.38	15.0 ± 0.00	33.6 ± 1.09	10.0 ± 0.00	21.0 ± 0.84	n = 10	[JJG] Ortho Vitros 5600
52.6 ± 1.90	16.1 ± 0.44	37.3 ± 1.03	10.0 ± 0.00	22.1 ± 0.87	n = 11	[ROC] Roche cobas c501
53.6 ± 1.02	16.7 ± 0.51	37.3 ± 0.51	10.0 ± 0.00	21.7 ± 0.51	n = 3	[ROT] Roche Cobas INTEGRA 800
53.5 ± 0.83	17.0 ± 0.00	37.0 ± 0.00	10.0 ± 0.00	22.5 ± 0.83	n = 5	[ROD] Roche MODULAR D/P
53.7 ± 1.24	16.5 ± 0.57	37.5 ± 0.90	10.0 ± 0.00	23.0 ± 0.00	n = 8	[BYE] Siemens ADVIA 1800
53.4 ± 1.52	16.4 ± 0.94	37.7 ± 1.10	9.8 ± 0.75	22.4 ± 0.83	n = 24	[DUE] Siemens Dimension EXL
52.8 ± 1.77	16.0 ± 0.00	37.2 ± 1.17	9.7 ± 0.51	22.1 ± 0.87	n = 32	[DUT] Siemens Dimension Vista
54.3 ± 1.49	17.0 ± 0.82	39.0 ± 0.00	10.3 ± 0.74	22.6 ± 0.56	n = 7	[DUX] Siemens Dimension Xpand
<Reagents>						
50.0 ± 0.00	15.0 ± 0.00	34.5 ± 0.57	9.0 ± 0.00	20.5 ± 0.57	n = 4	[AX1] Abaxis
53.2 ± 0.63	16.0 ± 0.00	37.3 ± 0.71	9.7 ± 0.49	22.0 ± 0.00	n = 16	[AB1] Abbott
53.0 ± 1.61	16.4 ± 1.00	37.7 ± 1.80	9.9 ± 0.96	22.3 ± 1.43	n = 18	[BC1] Beckman Coulter
52.6 ± 1.13	16.5 ± 0.57	37.1 ± 0.99	10.0 ± 0.00	22.3 ± 0.65	n = 32	[OL1] Beckman Coulter AU Series
49.9 ± 1.12	15.1 ± 0.37	33.7 ± 1.01	10.0 ± 0.00	21.1 ± 0.61	n = 21	[JJ1] Ortho Clinical Diagnostics
52.7 ± 1.32	16.2 ± 0.56	37.3 ± 1.03	10.0 ± 0.00	22.1 ± 0.88	n = 14	[RO4] Roche cobas c311/c501/c502/c701/c702
53.5 ± 0.83	17.0 ± 0.00	37.0 ± 0.00	10.0 ± 0.00	22.5 ± 0.83	n = 5	[RO2] Roche Hitachi and Modular D/P
53.7 ± 1.10	16.5 ± 0.83	37.5 ± 0.83	10.0 ± 0.00	22.0 ± 0.00	n = 5	[RO1] Roche Integra and MIRA
53.9 ± 1.19	16.6 ± 0.55	37.7 ± 0.94	10.0 ± 0.00	23.0 ± 0.00	n = 10	[BY1] Siemens ADVIA/ADVIA Centaur
53.3 ± 1.66	16.4 ± 0.70	37.6 ± 1.18	9.8 ± 0.64	22.3 ± 0.83	n = 65	[DA5] Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Creatinine (mg/dL)

Specimen: C31	Specimen: C32	Specimen: C33	Specimen: C34	Specimen: C35	Number	[Code] Instrument or Reagent System
3.38 ± 0.24	0.98 ± 0.08	2.80 ± 0.17	0.99 ± 0.08	2.01 ± 0.08	n = 201	[---] All Methods & Instruments
<b>&lt;Instruments&gt;</b>						
3.14 ± 0.21	1.12 ± 0.19	2.64 ± 0.10	1.03 ± 0.09	1.96 ± 0.15	n = 4	[AXA] Abaxis Piccolo
3.65 ± 0.09	0.90 ± 0.02	2.97 ± 0.10	1.04 ± 0.04	1.99 ± 0.02	n = 16	[ABJ] Abbott Architect c System
3.26 ± 0.07	1.01 ± 0.03	2.72 ± 0.08	0.97 ± 0.05	2.00 ± 0.06	n = 35	[OLC] Beckman Coulter AU Chemistry System
3.28 ± 0.14	0.92 ± 0.03	2.68 ± 0.08	0.90 ± 0.03	1.94 ± 0.06	n = 10	[BCG] Beckman Coulter UniCel DxC 600
3.33 ± 0.08	1.02 ± 0.03	2.77 ± 0.04	0.99 ± 0.02	2.05 ± 0.03	n = 5	[BCH] Beckman Coulter UniCel DxC 800
2.90 ± 0.08	0.92 ± 0.04	2.87 ± 0.08	0.88 ± 0.04	2.00 ± 0.08	n = 4	[IAA] i-STAT
3.68 ± 0.07	1.04 ± 0.05	3.11 ± 0.02	1.00 ± 0.00	2.16 ± 0.05	n = 8	[JJE] Ortho Vitros 250/350/950
3.61 ± 0.16	1.02 ± 0.02	3.10 ± 0.10	0.96 ± 0.05	2.16 ± 0.06	n = 3	[JJF] Ortho Vitros 5,1FS
3.57 ± 0.07	1.01 ± 0.03	3.10 ± 0.07	0.98 ± 0.04	2.15 ± 0.07	n = 10	[JJG] Ortho Vitros 5600
3.30 ± 0.12	0.96 ± 0.07	2.69 ± 0.14	0.92 ± 0.10	2.01 ± 0.08	n = 11	[ROC] Roche cobas c501
3.10 ± 0.09	1.04 ± 0.05	2.60 ± 0.01	0.94 ± 0.05	2.07 ± 0.06	n = 3	[ROT] Roche Cobas INTEGRA 800
3.28 ± 0.14	0.99 ± 0.06	2.73 ± 0.11	1.00 ± 0.08	2.03 ± 0.04	n = 5	[ROD] Roche MODULAR D/P
3.15 ± 0.18	0.92 ± 0.06	2.72 ± 0.08	1.00 ± 0.00	1.89 ± 0.07	n = 9	[BYE] Siemens ADVIA 1800
3.52 ± 0.32	0.98 ± 0.07	2.73 ± 0.09	0.99 ± 0.06	2.00 ± 0.05	n = 23	[DUE] Siemens Dimension EXL
3.41 ± 0.17	0.96 ± 0.08	2.88 ± 0.12	1.07 ± 0.06	2.01 ± 0.05	n = 32	[DUT] Siemens Dimension Vista
3.70 ± 0.10	0.97 ± 0.05	2.78 ± 0.11	1.02 ± 0.05	2.01 ± 0.06	n = 7	[DUX] Siemens Dimension Xpand
<b>&lt;Reagents&gt;</b>						
3.14 ± 0.21	1.12 ± 0.19	2.64 ± 0.10	1.03 ± 0.09	1.96 ± 0.15	n = 4	[AX1] Abaxis
3.65 ± 0.09	0.90 ± 0.02	2.96 ± 0.10	1.04 ± 0.04	1.99 ± 0.03	n = 17	[AB1] Abbott
3.30 ± 0.11	0.96 ± 0.06	2.71 ± 0.06	0.94 ± 0.05	1.98 ± 0.08	n = 18	[BC1] Beckman Coulter
3.26 ± 0.07	1.00 ± 0.03	2.73 ± 0.09	0.97 ± 0.05	2.00 ± 0.06	n = 33	[OL1] Beckman Coulter AU Series
2.90 ± 0.09	0.93 ± 0.05	2.84 ± 0.10	0.90 ± 0.00	2.03 ± 0.05	n = 3	[IA1] i-STAT
3.62 ± 0.10	1.03 ± 0.04	3.12 ± 0.07	0.98 ± 0.04	2.16 ± 0.06	n = 21	[JJ1] Ortho Clinical Diagnostics
3.31 ± 0.13	0.98 ± 0.08	2.72 ± 0.14	0.94 ± 0.11	2.04 ± 0.08	n = 14	[RO4] Roche cobas c311/c501/c502/c701/c702
3.28 ± 0.14	0.99 ± 0.06	2.73 ± 0.11	1.00 ± 0.08	2.03 ± 0.04	n = 5	[RO2] Roche Hitachi and Modular D/P
3.18 ± 0.17	1.05 ± 0.08	2.65 ± 0.11	0.96 ± 0.08	2.07 ± 0.09	n = 5	[RO1] Roche Integra and MIRA
3.16 ± 0.09	0.91 ± 0.05	2.74 ± 0.08	0.99 ± 0.05	1.89 ± 0.06	n = 11	[BY1] Siemens ADVIA/ADVIA Centaur
3.47 ± 0.26	0.97 ± 0.08	2.80 ± 0.14	1.03 ± 0.08	2.00 ± 0.05	n = 64	[DA5] Siemens Dimension
3.55 ± 0.17	0.95 ± 0.05	2.85 ± 0.11	1.05 ± 0.07	2.00 ± 0.06	n = 49	[DA5] Siemens Dimension/Jaffe
3.10 ± 0.04	1.06 ± 0.06	2.65 ± 0.07	0.97 ± 0.05	2.00 ± 0.00	n = 15	[DA5] Siemens Dimension/Enzymatic

Summary of Participant Performance (Mean and Standard Deviation)

Uric Acid (mg/dL)

Specimen: C31	Specimen: C32	Specimen: C33	Specimen: C34	Specimen: C35	Number	[Code] Instrument or Reagent System
5.04 ± 0.19	3.18 ± 0.14	8.15 ± 0.31	10.87 ± 0.44	4.69 ± 0.20	n = 179	[---] All Methods & Instruments
<b>&lt;Instruments&gt;</b>						
5.07 ± 0.08	3.24 ± 0.06	8.33 ± 0.08	11.17 ± 0.10	4.82 ± 0.07	n = 16	[ABJ] Abbott Architect c System
5.14 ± 0.11	3.35 ± 0.08	8.31 ± 0.20	11.05 ± 0.28	4.81 ± 0.10	n = 35	[OLC] Beckman Coulter AU Chemistry System
4.55 ± 0.07	3.16 ± 0.06	7.80 ± 0.11	10.57 ± 0.16	4.68 ± 0.07	n = 7	[BCG] Beckman Coulter UniCel DxC 600
4.60 ± 0.00	3.18 ± 0.04	7.80 ± 0.11	10.51 ± 0.11	4.68 ± 0.04	n = 4	[BCH] Beckman Coulter UniCel DxC 800
5.08 ± 0.11	3.14 ± 0.11	8.22 ± 0.23	10.80 ± 0.24	4.79 ± 0.13	n = 5	[JJE] Ortho Vitros 250/350/950
5.03 ± 0.05	3.07 ± 0.05	8.08 ± 0.15	10.68 ± 0.15	4.66 ± 0.10	n = 3	[JJF] Ortho Vitros 5,1FS
5.09 ± 0.11	3.10 ± 0.08	8.26 ± 0.17	10.94 ± 0.21	4.81 ± 0.10	n = 10	[JJG] Ortho Vitros 5600
5.11 ± 0.14	3.24 ± 0.09	8.44 ± 0.26	11.30 ± 0.29	4.82 ± 0.09	n = 11	[ROC] Roche cobas c501
4.90 ± 0.09	3.10 ± 0.00	8.15 ± 0.11	10.90 ± 0.24	4.65 ± 0.08	n = 5	[ROD] Roche MODULAR D/P
5.00 ± 0.13	3.27 ± 0.09	8.32 ± 0.12	11.17 ± 0.20	4.85 ± 0.09	n = 8	[BYE] Siemens ADVIA 1800
5.16 ± 0.11	3.15 ± 0.11	8.17 ± 0.16	10.84 ± 0.19	4.61 ± 0.09	n = 23	[DUE] Siemens Dimension EXL
4.89 ± 0.12	3.02 ± 0.06	7.66 ± 0.16	10.17 ± 0.18	4.34 ± 0.08	n = 31	[DUT] Siemens Dimension Vista
5.05 ± 0.11	3.12 ± 0.08	8.14 ± 0.11	10.85 ± 0.18	4.55 ± 0.08	n = 5	[DUX] Siemens Dimension Xpand
<b>&lt;Reagents&gt;</b>						
5.07 ± 0.08	3.24 ± 0.06	8.33 ± 0.08	11.17 ± 0.10	4.82 ± 0.07	n = 16	[AB1] Abbott
4.60 ± 0.00	3.18 ± 0.06	7.82 ± 0.14	10.57 ± 0.16	4.69 ± 0.05	n = 14	[BC1] Beckman Coulter
5.15 ± 0.11	3.36 ± 0.08	8.33 ± 0.20	11.06 ± 0.28	4.81 ± 0.09	n = 32	[OL1] Beckman Coulter AU Series
5.08 ± 0.11	3.11 ± 0.09	8.23 ± 0.20	10.86 ± 0.24	4.79 ± 0.12	n = 19	[JJ1] Ortho Clinical Diagnostics
5.11 ± 0.12	3.24 ± 0.08	8.44 ± 0.23	11.30 ± 0.23	4.83 ± 0.10	n = 14	[RO4] Roche cobas c311/c501/c502/c701/c702
4.90 ± 0.09	3.10 ± 0.00	8.15 ± 0.11	10.90 ± 0.24	4.65 ± 0.08	n = 5	[RO2] Roche Hitachi and Modular D/P
5.00 ± 0.09	3.17 ± 0.05	8.23 ± 0.14	11.13 ± 0.14	4.67 ± 0.14	n = 3	[RO1] Roche Integra and MIRA
5.03 ± 0.12	3.25 ± 0.08	8.33 ± 0.11	11.20 ± 0.17	4.84 ± 0.08	n = 10	[BY1] Siemens ADVIA/ADVIA Centaur
5.01 ± 0.18	3.07 ± 0.10	7.91 ± 0.32	10.49 ± 0.42	4.47 ± 0.17	n = 61	[DA5] Siemens Dimension

## Summary of Participant Performance (Mean and Standard Deviation)

## Bilirubin (mg/dL)

Specimen: C31	Specimen: C32	Specimen: C33	Specimen: C34	Specimen: C35	Number	[Code] Instrument or Reagent System
0.86 ± 0.09	1.33 ± 0.12	2.49 ± 0.16	3.20 ± 0.18	0.83 ± 0.10	n = 195	[---] All Methods & Instruments
<Instruments>						
0.93 ± 0.09	1.45 ± 0.06	2.52 ± 0.04	3.30 ± 0.08	1.05 ± 0.06	n = 4	[AXA] Abaxis Piccolo
0.86 ± 0.11	1.42 ± 0.09	2.62 ± 0.13	3.41 ± 0.17	0.84 ± 0.09	n = 16	[ABJ] Abbott Architect c System
0.90 ± 0.00	1.34 ± 0.07	2.37 ± 0.08	3.15 ± 0.08	0.85 ± 0.06	n = 36	[OLC] Beckman Coulter AU Chemistry System
0.94 ± 0.14	1.42 ± 0.11	2.73 ± 0.12	3.34 ± 0.08	0.92 ± 0.11	n = 9	[BCG] Beckman Coulter UniCel DxC 600
0.99 ± 0.18	1.36 ± 0.13	2.74 ± 0.19	3.36 ± 0.14	0.90 ± 0.09	n = 5	[BCH] Beckman Coulter UniCel DxC 800
0.92 ± 0.07	1.45 ± 0.07	2.58 ± 0.11	3.34 ± 0.13	0.90 ± 0.05	n = 7	[JJE] Ortho Vitros 250/350/950
0.83 ± 0.05	1.40 ± 0.00	2.57 ± 0.05	3.27 ± 0.05	0.90 ± 0.00	n = 3	[JJF] Ortho Vitros 5,1FS
0.91 ± 0.10	1.44 ± 0.07	2.56 ± 0.09	3.37 ± 0.09	0.92 ± 0.05	n = 10	[JJG] Ortho Vitros 5600
0.78 ± 0.06	1.23 ± 0.05	2.42 ± 0.08	3.10 ± 0.07	0.74 ± 0.07	n = 11	[ROC] Roche cobas c501
0.67 ± 0.14	1.17 ± 0.05	2.20 ± 0.09	2.87 ± 0.14	0.67 ± 0.05	n = 3	[ROS] Roche Cobas INTEGRA 400
0.70 ± 0.00	1.17 ± 0.05	2.20 ± 0.09	2.83 ± 0.14	0.70 ± 0.00	n = 3	[ROT] Roche Cobas INTEGRA 800
0.66 ± 0.06	1.11 ± 0.14	2.26 ± 0.15	2.98 ± 0.19	0.68 ± 0.08	n = 5	[ROD] Roche MODULAR D/P
0.85 ± 0.06	1.44 ± 0.07	2.70 ± 0.12	3.48 ± 0.13	0.92 ± 0.04	n = 8	[BYE] Siemens ADVIA 1800
0.86 ± 0.06	1.26 ± 0.07	2.49 ± 0.08	3.14 ± 0.12	0.76 ± 0.05	n = 24	[DUE] Siemens Dimension EXL
0.88 ± 0.06	1.28 ± 0.05	2.49 ± 0.08	3.12 ± 0.08	0.80 ± 0.00	n = 32	[DUT] Siemens Dimension Vista
0.86 ± 0.06	1.28 ± 0.05	2.46 ± 0.09	3.10 ± 0.11	0.80 ± 0.00	n = 7	[DUX] Siemens Dimension Xpand
<Reagents>						
0.93 ± 0.09	1.45 ± 0.06	2.52 ± 0.04	3.30 ± 0.08	1.05 ± 0.06	n = 4	[AX1] Abaxis
0.86 ± 0.11	1.42 ± 0.09	2.62 ± 0.13	3.41 ± 0.17	0.84 ± 0.09	n = 16	[AB1] Abbott
0.96 ± 0.15	1.40 ± 0.12	2.69 ± 0.17	3.32 ± 0.14	0.91 ± 0.12	n = 17	[BC1] Beckman Coulter
0.90 ± 0.00	1.35 ± 0.07	2.37 ± 0.08	3.15 ± 0.08	0.86 ± 0.06	n = 33	[OL1] Beckman Coulter AU Series
0.90 ± 0.09	1.44 ± 0.07	2.57 ± 0.10	3.35 ± 0.12	0.91 ± 0.05	n = 21	[JJ1] Ortho Clinical Diagnostics
0.79 ± 0.05	1.23 ± 0.05	2.42 ± 0.09	3.09 ± 0.06	0.73 ± 0.06	n = 14	[RO4] Roche cobas c311/c501/c502/c701/c702
0.66 ± 0.06	1.11 ± 0.14	2.26 ± 0.15	2.98 ± 0.19	0.68 ± 0.08	n = 5	[RO2] Roche Hitachi and Modular D/P
0.71 ± 0.06	1.17 ± 0.05	2.20 ± 0.09	2.85 ± 0.14	0.70 ± 0.00	n = 6	[RO1] Roche Integra and MIRA
0.86 ± 0.06	1.45 ± 0.07	2.72 ± 0.12	3.51 ± 0.13	0.90 ± 0.00	n = 10	[BY1] Siemens ADVIA/ADVIA Centaur
0.87 ± 0.06	1.27 ± 0.06	2.48 ± 0.08	3.12 ± 0.10	0.79 ± 0.04	n = 65	[DA5] Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Phosphorus (mg/dL)

Specimen: C31	Specimen: C32	Specimen: C33	Specimen: C34	Specimen: C35	Number	[Code] Instrument or Reagent System
4.33 ± 0.23	5.31 ± 0.19	2.80 ± 0.22	2.97 ± 0.22	2.33 ± 0.18	n = 170	[---] All Methods & Instruments
<b>&lt;Instruments&gt;</b>						
4.34 ± 0.06	5.33 ± 0.08	2.81 ± 0.08	2.96 ± 0.07	2.33 ± 0.07	n = 15	[ABJ] Abbott Architect c System
4.24 ± 0.10	5.20 ± 0.13	2.72 ± 0.10	2.90 ± 0.09	2.27 ± 0.06	n = 34	[OLC] Beckman Coulter AU Chemistry System
4.32 ± 0.12	5.38 ± 0.09	2.80 ± 0.08	3.01 ± 0.10	2.37 ± 0.07	n = 7	[BCG] Beckman Coulter UniCel DxC 600
4.40 ± 0.09	5.50 ± 0.00	2.90 ± 0.00	3.22 ± 0.08	2.50 ± 0.00	n = 5	[BCH] Beckman Coulter UniCel DxC 800
4.93 ± 0.20	5.62 ± 0.23	3.40 ± 0.09	3.58 ± 0.16	2.92 ± 0.04	n = 5	[JJE] Ortho Vitros 250/350/950
4.86 ± 0.10	5.56 ± 0.10	3.33 ± 0.14	3.46 ± 0.10	2.82 ± 0.15	n = 3	[JJF] Ortho Vitros 5,1FS
4.86 ± 0.16	5.54 ± 0.19	3.30 ± 0.13	3.47 ± 0.11	2.76 ± 0.10	n = 10	[JJG] Ortho Vitros 5600
4.41 ± 0.09	5.39 ± 0.10	2.84 ± 0.08	3.03 ± 0.06	2.39 ± 0.07	n = 11	[ROC] Roche cobas c501
4.41 ± 0.14	5.31 ± 0.19	2.85 ± 0.08	3.00 ± 0.06	2.32 ± 0.08	n = 5	[ROD] Roche MODULAR D/P
4.42 ± 0.10	5.39 ± 0.10	2.87 ± 0.05	3.01 ± 0.09	2.37 ± 0.09	n = 8	[BYE] Siemens ADVIA 1800
4.35 ± 0.17	5.32 ± 0.14	2.83 ± 0.20	3.01 ± 0.20	2.38 ± 0.13	n = 16	[DUE] Siemens Dimension EXL
4.08 ± 0.07	5.11 ± 0.12	2.57 ± 0.08	2.72 ± 0.09	2.13 ± 0.07	n = 31	[DUT] Siemens Dimension Vista
4.46 ± 0.15	5.41 ± 0.13	2.90 ± 0.15	3.07 ± 0.16	2.44 ± 0.13	n = 5	[DUX] Siemens Dimension Xpand
<b>&lt;Reagents&gt;</b>						
4.34 ± 0.06	5.33 ± 0.08	2.81 ± 0.08	2.96 ± 0.07	2.33 ± 0.07	n = 15	[AB1] Abbott
4.31 ± 0.15	5.39 ± 0.16	2.81 ± 0.13	3.05 ± 0.18	2.38 ± 0.11	n = 15	[BC1] Beckman Coulter
4.25 ± 0.10	5.22 ± 0.13	2.73 ± 0.09	2.91 ± 0.09	2.27 ± 0.06	n = 31	[OL1] Beckman Coulter AU Series
4.87 ± 0.16	5.56 ± 0.18	3.32 ± 0.13	3.49 ± 0.13	2.79 ± 0.13	n = 19	[JJ1] Ortho Clinical Diagnostics
4.43 ± 0.08	5.40 ± 0.09	2.86 ± 0.07	3.04 ± 0.06	2.39 ± 0.07	n = 14	[RO4] Roche cobas c311/c501/c502/c701/c702
4.41 ± 0.14	5.31 ± 0.19	2.85 ± 0.08	3.00 ± 0.06	2.32 ± 0.08	n = 5	[RO2] Roche Hitachi and Modular D/P
4.40 ± 0.08	5.35 ± 0.12	2.89 ± 0.11	2.99 ± 0.11	2.37 ± 0.09	n = 4	[RO1] Roche Integra and MIRA
4.41 ± 0.09	5.38 ± 0.09	2.85 ± 0.06	3.01 ± 0.07	2.34 ± 0.10	n = 10	[BY1] Siemens ADVIA/ADVIA Centaur
4.19 ± 0.20	5.21 ± 0.18	2.68 ± 0.20	2.83 ± 0.20	2.23 ± 0.17	n = 54	[DA5] Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Calcium (mg/dL)

Specimen: C31	Specimen: C32	Specimen: C33	Specimen: C34	Specimen: C35	Number	[Code] Instrument or Reagent System
11.38 ± 0.31	8.55 ± 0.22	8.89 ± 0.36	9.13 ± 0.32	6.98 ± 0.23	n = 195	[---] All Methods & Instruments
<Instruments>						
11.27 ± 0.16	8.77 ± 0.09	8.73 ± 0.27	9.08 ± 0.15	7.20 ± 0.08	n = 4	[AXA] Abaxis Piccolo
11.47 ± 0.13	8.36 ± 0.10	8.97 ± 0.14	9.22 ± 0.14	7.04 ± 0.06	n = 16	[ABJ] Abbott Architect c System
11.50 ± 0.22	8.58 ± 0.15	9.14 ± 0.13	9.29 ± 0.16	7.16 ± 0.09	n = 36	[OLC] Beckman Coulter AU Chemistry System
11.18 ± 0.07	8.58 ± 0.09	8.81 ± 0.14	9.09 ± 0.14	6.96 ± 0.11	n = 9	[BCG] Beckman Coulter UniCel DxC 600
11.28 ± 0.17	8.66 ± 0.06	8.94 ± 0.11	9.25 ± 0.08	7.00 ± 0.00	n = 5	[BCH] Beckman Coulter UniCel DxC 800
11.78 ± 0.23	8.81 ± 0.14	9.33 ± 0.19	9.50 ± 0.16	7.08 ± 0.12	n = 6	[JJE] Ortho Vitros 250/350/950
11.70 ± 0.00	8.76 ± 0.10	9.23 ± 0.05	9.37 ± 0.05	7.10 ± 0.18	n = 3	[JFF] Ortho Vitros 5,1FS
11.60 ± 0.28	8.63 ± 0.26	9.28 ± 0.28	9.38 ± 0.26	6.96 ± 0.25	n = 10	[JJG] Ortho Vitros 5600
11.56 ± 0.22	8.61 ± 0.21	8.99 ± 0.19	9.31 ± 0.17	7.03 ± 0.20	n = 11	[ROC] Roche cobas c501
11.55 ± 0.19	8.65 ± 0.19	8.92 ± 0.24	9.19 ± 0.20	6.89 ± 0.20	n = 3	[ROT] Roche Cobas INTEGRA 800
11.62 ± 0.23	8.78 ± 0.23	8.98 ± 0.18	9.33 ± 0.18	7.10 ± 0.00	n = 5	[ROD] Roche MODULAR D/P
11.59 ± 0.12	8.62 ± 0.15	9.07 ± 0.12	9.29 ± 0.12	7.12 ± 0.13	n = 8	[BYE] Siemens ADVIA 1800
11.20 ± 0.24	8.54 ± 0.19	8.60 ± 0.16	8.89 ± 0.21	6.84 ± 0.19	n = 24	[DUE] Siemens Dimension EXL
11.04 ± 0.26	8.34 ± 0.21	8.44 ± 0.22	8.69 ± 0.25	6.69 ± 0.21	n = 32	[DUT] Siemens Dimension Vista
11.19 ± 0.22	8.46 ± 0.13	8.53 ± 0.15	8.81 ± 0.19	6.77 ± 0.16	n = 8	[DUX] Siemens Dimension Xpand
<Reagents>						
11.27 ± 0.16	8.77 ± 0.09	8.73 ± 0.27	9.08 ± 0.15	7.20 ± 0.08	n = 4	[AX1] Abaxis
11.47 ± 0.13	8.36 ± 0.10	8.97 ± 0.14	9.22 ± 0.14	7.04 ± 0.06	n = 16	[AB1] Abbott
11.21 ± 0.13	8.59 ± 0.10	8.90 ± 0.16	9.15 ± 0.12	7.01 ± 0.08	n = 17	[BC1] Beckman Coulter
11.51 ± 0.23	8.60 ± 0.15	9.15 ± 0.13	9.30 ± 0.17	7.16 ± 0.10	n = 33	[OL1] Beckman Coulter AU Series
11.68 ± 0.23	8.73 ± 0.20	9.31 ± 0.22	9.44 ± 0.20	7.04 ± 0.19	n = 20	[JJ1] Ortho Clinical Diagnostics
11.58 ± 0.23	8.63 ± 0.21	8.97 ± 0.18	9.32 ± 0.20	7.03 ± 0.19	n = 13	[RO4] Roche cobas c311/c501/c502/c701/c702
11.62 ± 0.23	8.78 ± 0.23	8.98 ± 0.18	9.33 ± 0.18	7.10 ± 0.00	n = 5	[RO2] Roche Hitachi and Modular D/P
11.63 ± 0.20	8.72 ± 0.13	9.05 ± 0.23	9.32 ± 0.04	7.02 ± 0.04	n = 5	[RO1] Roche Integra and MIRA
11.58 ± 0.11	8.60 ± 0.14	9.07 ± 0.16	9.29 ± 0.16	7.12 ± 0.15	n = 10	[BY1] Siemens ADVIA/ADVIA Centaur
11.12 ± 0.25	8.43 ± 0.21	8.51 ± 0.21	8.78 ± 0.24	6.75 ± 0.21	n = 66	[DA5] Siemens Dimension



Summary of Participant Performance (Mean and Standard Deviation)

Magnesium (mg/dL)

Specimen: C31	Specimen: C32	Specimen: C33	Specimen: C34	Specimen: C35	Number	[Code] Instrument or Reagent System
1.67 ± 0.10	4.82 ± 0.17	2.41 ± 0.10	1.06 ± 0.10	3.44 ± 0.11	n = 175	[---] All Methods & Instruments
<b>&lt;Instruments&gt;</b>						
1.80 ± 0.11	4.73 ± 0.11	2.62 ± 0.09	1.30 ± 0.06	3.49 ± 0.11	n = 16	[ABJ] Abbott Architect c System
1.70 ± 0.00	4.81 ± 0.11	2.41 ± 0.06	1.10 ± 0.00	3.40 ± 0.06	n = 34	[OLC] Beckman Coulter AU Chemistry System
1.67 ± 0.05	4.63 ± 0.09	2.38 ± 0.04	1.10 ± 0.00	3.40 ± 0.00	n = 8	[BCG] Beckman Coulter UniCel DxC 600
1.70 ± 0.00	4.60 ± 0.13	2.43 ± 0.20	1.10 ± 0.00	3.27 ± 0.14	n = 5	[BCH] Beckman Coulter UniCel DxC 800
1.65 ± 0.06	4.92 ± 0.04	2.42 ± 0.04	1.05 ± 0.06	3.47 ± 0.09	n = 4	[JJE] Ortho Vitros 250/350/950
1.63 ± 0.05	4.89 ± 0.20	2.40 ± 0.09	1.03 ± 0.05	3.42 ± 0.15	n = 3	[JJF] Ortho Vitros 5,1FS
1.58 ± 0.07	4.80 ± 0.08	2.30 ± 0.00	0.97 ± 0.05	3.45 ± 0.10	n = 9	[JJG] Ortho Vitros 5600
1.68 ± 0.06	4.82 ± 0.14	2.41 ± 0.07	1.07 ± 0.05	3.42 ± 0.09	n = 11	[ROC] Roche cobas c501
1.70 ± 0.05	4.70 ± 0.00	2.39 ± 0.07	1.13 ± 0.06	3.38 ± 0.08	n = 5	[ROD] Roche MODULAR D/P
1.88 ± 0.06	4.67 ± 0.21	2.50 ± 0.11	1.17 ± 0.05	3.43 ± 0.12	n = 8	[BYE] Siemens ADVIA 1800
1.61 ± 0.08	4.93 ± 0.09	2.40 ± 0.09	1.00 ± 0.05	3.50 ± 0.09	n = 21	[DUE] Siemens Dimension EXL
1.59 ± 0.08	4.96 ± 0.16	2.37 ± 0.10	0.97 ± 0.07	3.48 ± 0.13	n = 32	[DUT] Siemens Dimension Vista
1.64 ± 0.08	4.92 ± 0.12	2.37 ± 0.07	1.00 ± 0.00	3.50 ± 0.06	n = 6	[DUX] Siemens Dimension Xpand
<b>&lt;Reagents&gt;</b>						
1.80 ± 0.11	4.73 ± 0.11	2.62 ± 0.09	1.30 ± 0.06	3.49 ± 0.11	n = 16	[AB1] Abbott
1.68 ± 0.04	4.63 ± 0.09	2.37 ± 0.06	1.10 ± 0.00	3.33 ± 0.11	n = 16	[BC1] Beckman Coulter
1.70 ± 0.00	4.81 ± 0.10	2.41 ± 0.06	1.10 ± 0.00	3.41 ± 0.06	n = 31	[OL1] Beckman Coulter AU Series
1.61 ± 0.07	4.87 ± 0.12	2.36 ± 0.08	1.00 ± 0.06	3.45 ± 0.10	n = 17	[JJ1] Ortho Clinical Diagnostics
1.69 ± 0.05	4.80 ± 0.13	2.42 ± 0.07	1.07 ± 0.05	3.42 ± 0.08	n = 13	[RO4] Roche cobas c311/c501/c502/c701/c702
1.70 ± 0.05	4.70 ± 0.00	2.39 ± 0.07	1.13 ± 0.06	3.38 ± 0.08	n = 5	[RO2] Roche Hitachi and Modular D/P
1.63 ± 0.05	4.66 ± 0.10	2.37 ± 0.05	1.10 ± 0.00	3.30 ± 0.00	n = 3	[RO1] Roche Integra and MIRA
1.87 ± 0.06	4.65 ± 0.18	2.49 ± 0.06	1.18 ± 0.05	3.41 ± 0.13	n = 10	[BY1] Siemens ADVIA/ADVIA Centaur
1.60 ± 0.08	4.94 ± 0.13	2.38 ± 0.10	0.99 ± 0.06	3.49 ± 0.11	n = 61	[DA5] Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Iron (µg/dL)

Specimen: C31	Specimen: C32	Specimen: C33	Specimen: C34	Specimen: C35	Number	[Code] Instrument or Reagent System
124.8 ± 8.02	54.9 ± 2.58	113.8 ± 7.00	89.6 ± 4.04	74.8 ± 3.96	n = 137	[---] All Methods & Instruments
<b>&lt;Instruments&gt;</b>						
118.0 ± 2.51	54.7 ± 2.05	112.1 ± 2.37	87.0 ± 2.02	73.8 ± 1.92	n = 11	[ABJ] Abbott Architect c System
132.3 ± 2.47	55.9 ± 1.86	118.2 ± 2.95	92.0 ± 2.22	77.0 ± 2.45	n = 31	[OLC] Beckman Coulter AU Chemistry System
118.5 ± 3.31	53.6 ± 1.09	107.8 ± 2.11	87.8 ± 0.80	70.2 ± 0.42	n = 5	[BCG] Beckman Coulter UniCel DxC 600
121.0 ± 3.36	54.2 ± 1.46	107.0 ± 3.00	87.1 ± 2.04	69.4 ± 1.64	n = 4	[BCH] Beckman Coulter UniCel DxC 800
143.5 ± 6.39	54.6 ± 3.74	135.9 ± 4.51	100.9 ± 5.63	83.7 ± 6.68	n = 10	[JJG] Ortho Vitros 5600
131.4 ± 2.07	58.8 ± 1.73	120.3 ± 2.01	93.2 ± 2.07	78.7 ± 2.08	n = 7	[ROC] Roche cobas c501
127.8 ± 1.96	56.5 ± 0.57	116.1 ± 2.04	91.3 ± 1.58	77.2 ± 1.46	n = 4	[ROD] Roche MODULAR D/P
119.7 ± 2.15	57.1 ± 0.75	115.2 ± 1.37	91.1 ± 1.45	76.2 ± 1.67	n = 8	[BYE] Siemens ADVIA 1800
118.3 ± 1.97	52.2 ± 1.20	107.4 ± 1.89	85.5 ± 1.51	70.8 ± 1.23	n = 13	[DUE] Siemens Dimension EXL
121.1 ± 1.75	53.8 ± 1.54	109.2 ± 2.03	86.9 ± 1.47	72.6 ± 2.25	n = 27	[DUT] Siemens Dimension Vista
<b>&lt;Reagents&gt;</b>						
118.1 ± 1.94	54.6 ± 1.70	112.0 ± 1.77	86.8 ± 1.50	73.6 ± 1.60	n = 9	[AB3] Abbott-Iron/6K95
121.3 ± 5.01	54.1 ± 1.52	108.6 ± 3.90	88.0 ± 1.76	70.0 ± 0.00	n = 12	[BC1] Beckman Coulter
132.7 ± 2.22	55.9 ± 1.86	118.8 ± 2.25	92.3 ± 1.83	77.2 ± 2.41	n = 26	[OL1] Beckman Coulter AU Series
142.4 ± 7.16	54.7 ± 5.16	135.9 ± 5.51	100.4 ± 6.05	82.6 ± 5.62	n = 14	[JJ1] Ortho Clinical Diagnostics
130.1 ± 2.65	58.0 ± 2.08	119.4 ± 2.57	92.4 ± 2.47	77.9 ± 2.22	n = 10	[RO4] Roche cobas c311/c501/c502/c701/c702
127.8 ± 1.96	56.5 ± 0.57	116.1 ± 2.04	91.3 ± 1.58	77.2 ± 1.46	n = 4	[RO2] Roche Hitachi and Modular D/P
126.0 ± 6.42	55.5 ± 1.86	112.3 ± 1.37	89.0 ± 2.70	74.8 ± 1.54	n = 3	[GZ1] Sekisui Diagnostics (Genzyme)
119.7 ± 2.05	57.3 ± 0.99	115.3 ± 1.23	91.5 ± 1.46	76.2 ± 1.43	n = 10	[BY1] Siemens ADVIA/ADVIA Centaur
120.3 ± 2.18	53.3 ± 1.59	108.5 ± 2.12	86.4 ± 1.59	71.8 ± 1.92	n = 43	[DA5] Siemens Dimension

## Summary of Participant Performance (Mean and Standard Deviation)

## Sodium (mmol/L)

Specimen: C31	Specimen: C32	Specimen: C33	Specimen: C34	Specimen: C35	Number	[Code] Instrument or Reagent System
137.0 ± 2.49	129.1 ± 2.99	160.8 ± 2.94	145.5 ± 1.89	153.8 ± 1.90	n = 200	[---] All Methods & Instruments
<b>&lt;Instruments&gt;</b>						
133.5 ± 1.23	124.2 ± 1.27	157.2 ± 0.41	141.1 ± 2.04	150.5 ± 1.22	n = 4	[AXA] Abaxis Piccolo
138.7 ± 0.89	127.9 ± 1.03	163.1 ± 1.90	146.2 ± 1.03	154.8 ± 1.62	n = 16	[ABJ] Abbott Architect c System
135.7 ± 1.25	127.5 ± 1.24	158.7 ± 1.46	144.0 ± 1.01	152.1 ± 1.21	n = 36	[OLC] Beckman Coulter AU Chemistry System
134.9 ± 0.63	126.2 ± 1.12	159.0 ± 2.18	143.5 ± 1.29	151.4 ± 1.65	n = 9	[BCG] Beckman Coulter UniCel DxC 600
136.2 ± 1.89	129.0 ± 0.75	160.5 ± 1.07	144.8 ± 1.55	152.8 ± 0.80	n = 5	[BCH] Beckman Coulter UniCel DxC 800
134.4 ± 1.02	129.3 ± 0.51	161.0 ± 0.00	145.0 ± 0.00	152.0 ± 0.90	n = 3	[IAA] i-STAT
143.7 ± 1.15	127.2 ± 0.91	171.3 ± 1.98	148.7 ± 0.97	155.0 ± 0.90	n = 6	[JJE] Ortho Vitros 250/350/950
142.2 ± 2.92	126.4 ± 1.64	169.8 ± 1.96	147.1 ± 2.33	154.0 ± 1.65	n = 4	[JJF] Ortho Vitros 5,1FS
142.4 ± 0.97	126.7 ± 1.22	171.5 ± 3.04	148.0 ± 2.35	154.8 ± 2.01	n = 10	[JJG] Ortho Vitros 5600
137.0 ± 0.89	128.8 ± 1.00	162.6 ± 1.09	146.6 ± 0.98	154.5 ± 1.47	n = 11	[ROC] Roche cobas c501
136.3 ± 1.37	127.3 ± 0.51	161.0 ± 1.80	144.0 ± 0.90	153.0 ± 1.80	n = 3	[ROT] Roche Cobas INTEGRA 800
139.5 ± 0.83	129.5 ± 0.57	164.0 ± 1.54	146.9 ± 1.27	155.8 ± 0.80	n = 5	[ROD] Roche MODULAR D/P
139.1 ± 1.13	129.8 ± 1.03	162.0 ± 1.59	146.2 ± 0.88	154.0 ± 0.91	n = 8	[BYE] Siemens ADVIA 1800
137.7 ± 1.43	131.0 ± 1.68	161.2 ± 1.52	146.3 ± 1.75	154.7 ± 1.57	n = 24	[DUE] Siemens Dimension EXL
135.7 ± 1.58	134.0 ± 1.18	159.5 ± 1.57	145.5 ± 1.21	154.4 ± 1.02	n = 33	[DUT] Siemens Dimension Vista
138.4 ± 0.94	131.3 ± 0.74	161.5 ± 1.14	146.4 ± 1.30	155.4 ± 0.94	n = 7	[DUX] Siemens Dimension Xpand
<b>&lt;Reagents&gt;</b>						
133.5 ± 1.23	124.2 ± 1.27	157.2 ± 0.41	141.1 ± 2.04	150.5 ± 1.22	n = 4	[AX1] Abaxis
138.7 ± 0.89	127.9 ± 1.03	163.1 ± 1.90	146.2 ± 1.03	154.8 ± 1.62	n = 16	[AB1] Abbott
135.3 ± 1.29	126.9 ± 1.76	158.9 ± 2.32	143.6 ± 1.43	151.9 ± 1.62	n = 18	[BC1] Beckman Coulter
135.6 ± 1.22	127.4 ± 1.17	158.7 ± 1.34	144.0 ± 0.96	152.0 ± 1.17	n = 33	[OL1] Beckman Coulter AU Series
134.4 ± 1.02	129.3 ± 0.51	161.0 ± 0.00	145.0 ± 0.00	152.0 ± 0.90	n = 3	[IA1] i-STAT
142.9 ± 1.30	126.9 ± 1.03	171.0 ± 2.43	148.1 ± 1.88	154.6 ± 1.49	n = 20	[JJ1] Ortho Clinical Diagnostics
137.1 ± 1.10	128.9 ± 0.93	162.4 ± 1.08	146.5 ± 0.90	154.6 ± 1.24	n = 14	[RO4] Roche cobas c311/c501/c502/c701/c702
139.5 ± 0.83	129.5 ± 0.57	164.0 ± 1.54	146.9 ± 1.27	155.8 ± 0.80	n = 5	[RO2] Roche Hitachi and Modular D/P
137.1 ± 1.38	127.8 ± 0.80	161.8 ± 1.55	144.5 ± 0.83	153.6 ± 1.37	n = 5	[RO1] Roche Integra and MIRA
138.8 ± 1.24	129.7 ± 0.80	161.8 ± 1.07	146.0 ± 0.00	154.1 ± 0.84	n = 10	[BY1] Siemens ADVIA/ADVIA Centaur
136.8 ± 1.85	132.5 ± 2.10	160.3 ± 1.78	145.8 ± 1.50	154.6 ± 1.26	n = 66	[DA5] Siemens Dimension

## Summary of Participant Performance (Mean and Standard Deviation)

## Potassium (mmol/L)

Specimen: C31	Specimen: C32	Specimen: C33	Specimen: C34	Specimen: C35	Number	[Code] Instrument or Reagent System
2.97 ± 0.10	2.65 ± 0.07	6.37 ± 0.16	4.44 ± 0.08	5.55 ± 0.11	n = 200	[---] All Methods & Instruments
<b>&lt;Instruments&gt;</b>						
3.06 ± 0.18	2.70 ± 0.30	6.57 ± 0.23	4.60 ± 0.15	5.81 ± 0.23	n = 4	[AXA] Abaxis Piccolo
3.02 ± 0.04	2.64 ± 0.06	6.40 ± 0.00	4.47 ± 0.05	5.57 ± 0.05	n = 16	[ABJ] Abbott Architect c System
3.00 ± 0.00	2.65 ± 0.06	6.27 ± 0.10	4.40 ± 0.00	5.49 ± 0.06	n = 36	[OLC] Beckman Coulter AU Chemistry System
2.86 ± 0.06	2.50 ± 0.07	6.30 ± 0.07	4.34 ± 0.06	5.47 ± 0.05	n = 9	[BCG] Beckman Coulter UniCel DxC 600
2.96 ± 0.06	2.60 ± 0.00	6.44 ± 0.06	4.44 ± 0.06	5.60 ± 0.06	n = 5	[BCH] Beckman Coulter UniCel DxC 800
2.87 ± 0.05	2.57 ± 0.05	6.27 ± 0.05	4.37 ± 0.05	5.40 ± 0.00	n = 3	[IAA] i-STAT
3.15 ± 0.06	2.65 ± 0.06	6.70 ± 0.00	4.62 ± 0.09	5.67 ± 0.07	n = 6	[JJE] Ortho Vitros 250/350/950
3.10 ± 0.09	2.63 ± 0.05	6.60 ± 0.00	4.53 ± 0.05	5.60 ± 0.09	n = 3	[JJF] Ortho Vitros 5,1FS
3.16 ± 0.06	2.66 ± 0.06	6.73 ± 0.13	4.62 ± 0.11	5.68 ± 0.11	n = 10	[JJG] Ortho Vitros 5600
2.98 ± 0.07	2.70 ± 0.00	6.45 ± 0.09	4.51 ± 0.08	5.60 ± 0.09	n = 11	[ROC] Roche cobas c501
2.93 ± 0.05	2.60 ± 0.00	6.40 ± 0.09	4.43 ± 0.05	5.56 ± 0.10	n = 3	[ROT] Roche Cobas INTEGRA 800
3.15 ± 0.11	2.74 ± 0.06	6.50 ± 0.00	4.56 ± 0.06	5.70 ± 0.00	n = 5	[ROD] Roche MODULAR D/P
3.05 ± 0.06	2.70 ± 0.00	6.45 ± 0.10	4.50 ± 0.00	5.60 ± 0.00	n = 8	[BYE] Siemens ADVIA 1800
2.90 ± 0.00	2.60 ± 0.00	6.40 ± 0.06	4.44 ± 0.06	5.59 ± 0.07	n = 24	[DUE] Siemens Dimension EXL
2.90 ± 0.00	2.70 ± 0.00	6.20 ± 0.00	4.39 ± 0.04	5.46 ± 0.06	n = 33	[DUT] Siemens Dimension Vista
2.90 ± 0.00	2.60 ± 0.00	6.44 ± 0.06	4.46 ± 0.06	5.60 ± 0.00	n = 7	[DUX] Siemens Dimension Xpand
<b>&lt;Reagents&gt;</b>						
3.06 ± 0.18	2.70 ± 0.30	6.57 ± 0.23	4.60 ± 0.15	5.81 ± 0.23	n = 4	[AX1] Abaxis
3.02 ± 0.04	2.64 ± 0.06	6.40 ± 0.00	4.47 ± 0.05	5.57 ± 0.05	n = 16	[AB1] Abbott
2.91 ± 0.09	2.55 ± 0.09	6.32 ± 0.11	4.38 ± 0.06	5.50 ± 0.07	n = 18	[BC1] Beckman Coulter
3.00 ± 0.00	2.65 ± 0.06	6.26 ± 0.10	4.40 ± 0.00	5.48 ± 0.06	n = 33	[OL1] Beckman Coulter AU Series
2.87 ± 0.05	2.57 ± 0.05	6.27 ± 0.05	4.37 ± 0.05	5.40 ± 0.00	n = 3	[IA1] i-STAT
3.15 ± 0.06	2.65 ± 0.06	6.69 ± 0.11	4.59 ± 0.10	5.66 ± 0.10	n = 20	[JJ1] Ortho Clinical Diagnostics
2.98 ± 0.07	2.69 ± 0.06	6.45 ± 0.08	4.51 ± 0.08	5.60 ± 0.09	n = 14	[RO4] Roche cobas c311/c501/c502/c701/c702
3.15 ± 0.11	2.74 ± 0.06	6.50 ± 0.00	4.56 ± 0.06	5.70 ± 0.00	n = 5	[RO2] Roche Hitachi and Modular D/P
2.98 ± 0.08	2.60 ± 0.00	6.46 ± 0.11	4.48 ± 0.08	5.60 ± 0.10	n = 5	[RO1] Roche Integra and MIRA
3.04 ± 0.06	2.70 ± 0.00	6.45 ± 0.09	4.50 ± 0.00	5.60 ± 0.00	n = 10	[BY1] Siemens ADVIA/ADVIA Centaur
2.90 ± 0.00	2.64 ± 0.07	6.30 ± 0.12	4.41 ± 0.06	5.53 ± 0.09	n = 65	[DA5] Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Chloride (mmol/L)

Specimen: C31	Specimen: C32	Specimen: C33	Specimen: C34	Specimen: C35	Number	[Code] Instrument or Reagent System
91.8 ± 2.22	102.7 ± 1.84	123.2 ± 2.85	106.9 ± 1.67	114.6 ± 2.10	n = 197	[---] All Methods & Instruments
<b>&lt;Instruments&gt;</b>						
92.8 ± 1.27	104.2 ± 2.92	120.5 ± 2.32	104.7 ± 2.08	112.2 ± 1.96	n = 4	[AXA] Abaxis Piccolo
92.2 ± 0.67	104.4 ± 0.69	124.3 ± 1.21	107.8 ± 0.63	115.2 ± 1.14	n = 16	[ABJ] Abbott Architect c System
89.9 ± 0.97	102.4 ± 0.96	121.1 ± 1.32	105.8 ± 0.71	113.2 ± 0.70	n = 35	[OLC] Beckman Coulter AU Chemistry System
90.6 ± 0.70	102.8 ± 0.94	122.9 ± 1.52	106.3 ± 0.85	113.7 ± 1.12	n = 9	[BCG] Beckman Coulter UniCel DxC 600
90.5 ± 1.07	103.4 ± 1.37	122.8 ± 1.66	106.4 ± 1.09	114.2 ± 0.80	n = 5	[BCH] Beckman Coulter UniCel DxC 800
92.0 ± 0.90	103.0 ± 0.90	124.2 ± 1.76	107.1 ± 0.59	114.3 ± 0.97	n = 6	[JJE] Ortho Vitros 250/350/950
91.7 ± 0.51	102.3 ± 0.51	124.7 ± 0.51	106.3 ± 0.51	114.0 ± 0.00	n = 3	[JJF] Ortho Vitros 5,1FS
92.0 ± 0.00	102.5 ± 0.83	125.1 ± 0.99	107.1 ± 1.31	114.9 ± 1.62	n = 10	[JJG] Ortho Vitros 5600
86.4 ± 1.03	98.1 ± 1.43	119.3 ± 1.75	104.3 ± 0.87	111.6 ± 1.17	n = 11	[ROC] Roche cobas c501
92.6 ± 1.02	102.7 ± 0.51	124.3 ± 0.51	106.6 ± 1.02	115.0 ± 0.90	n = 3	[ROT] Roche Cobas INTEGRA 800
88.4 ± 1.09	100.0 ± 0.64	120.0 ± 0.00	105.4 ± 0.55	112.5 ± 0.83	n = 5	[ROD] Roche MODULAR D/P
92.2 ± 1.43	104.0 ± 1.31	123.4 ± 0.97	107.2 ± 1.29	114.4 ± 1.93	n = 8	[BYE] Siemens ADVIA 1800
93.3 ± 1.19	101.7 ± 1.19	122.2 ± 1.08	107.7 ± 1.10	115.9 ± 1.13	n = 23	[DUE] Siemens Dimension EXL
92.0 ± 0.90	100.0 ± 0.90	122.0 ± 1.80	107.0 ± 0.90	115.7 ± 1.37	n = 3	[DUR] Siemens Dimension RxL
93.5 ± 0.99	103.8 ± 0.96	126.2 ± 1.54	108.6 ± 1.16	117.0 ± 1.28	n = 33	[DUT] Siemens Dimension Vista
93.4 ± 0.94	101.4 ± 1.10	122.4 ± 1.34	107.5 ± 1.14	116.3 ± 1.11	n = 7	[DUX] Siemens Dimension Xpand
<b>&lt;Reagents&gt;</b>						
92.8 ± 1.27	104.2 ± 2.92	120.5 ± 2.32	104.7 ± 2.08	112.2 ± 1.96	n = 4	[AX1] Abaxis
92.2 ± 0.67	104.4 ± 0.69	124.3 ± 1.21	107.8 ± 0.63	115.2 ± 1.14	n = 16	[AB1] Abbott
90.6 ± 0.80	103.0 ± 1.06	122.6 ± 1.81	106.2 ± 0.96	113.9 ± 1.10	n = 18	[BC1] Beckman Coulter
89.8 ± 0.89	102.3 ± 0.93	121.0 ± 1.15	105.8 ± 0.67	113.2 ± 0.61	n = 32	[OL1] Beckman Coulter AU Series
91.9 ± 0.81	102.7 ± 0.89	124.9 ± 1.36	107.0 ± 1.16	114.6 ± 1.42	n = 20	[JJ1] Ortho Clinical Diagnostics
86.6 ± 1.00	98.1 ± 1.30	119.2 ± 1.58	104.3 ± 0.90	111.7 ± 0.94	n = 14	[RO4] Roche cobas c311/c501/c502/c701/c702
88.4 ± 1.09	100.0 ± 0.64	120.0 ± 0.00	105.4 ± 0.55	112.5 ± 0.83	n = 5	[RO2] Roche Hitachi and Modular D/P
92.8 ± 0.80	103.0 ± 0.64	124.6 ± 0.55	106.7 ± 1.10	115.2 ± 0.80	n = 5	[RO1] Roche Integra and MIRA
92.0 ± 1.18	103.7 ± 1.23	123.5 ± 1.07	107.0 ± 0.92	114.4 ± 1.67	n = 10	[BY1] Siemens ADVIA/ADVIA Centaur
93.3 ± 1.10	102.7 ± 1.66	124.1 ± 2.60	108.1 ± 1.26	116.4 ± 1.39	n = 66	[DA5] Siemens Dimension

## Summary of Participant Performance (Mean and Standard Deviation)

## Albumin (g/dL)

Specimen: C31	Specimen: C32	Specimen: C33	Specimen: C34	Specimen: C35	Number	[Code] Instrument or Reagent System
5.32 ± 0.18	2.47 ± 0.11	5.73 ± 0.20	4.24 ± 0.11	3.54 ± 0.10	n = 194	[---] All Methods & Instruments
<Instruments>						
5.55 ± 0.06	2.60 ± 0.00	5.68 ± 0.04	4.28 ± 0.04	3.65 ± 0.06	n = 4	[AXA] Abaxis Piccolo
5.16 ± 0.17	2.50 ± 0.11	5.60 ± 0.15	4.23 ± 0.12	3.57 ± 0.10	n = 16	[ABJ] Abbott Architect c System
5.22 ± 0.12	2.45 ± 0.07	5.61 ± 0.14	4.24 ± 0.10	3.54 ± 0.09	n = 36	[OLC] Beckman Coulter AU Chemistry System
5.20 ± 0.10	2.50 ± 0.00	5.77 ± 0.13	4.23 ± 0.17	3.57 ± 0.08	n = 9	[BCG] Beckman Coulter UniCel DxC 600
5.28 ± 0.11	2.48 ± 0.08	5.78 ± 0.04	4.30 ± 0.06	3.58 ± 0.08	n = 5	[BCH] Beckman Coulter UniCel DxC 800
5.10 ± 0.11	2.00 ± 0.06	5.44 ± 0.15	4.10 ± 0.14	3.43 ± 0.10	n = 6	[JJE] Ortho Vitros 250/350/950
5.13 ± 0.05	2.03 ± 0.05	5.40 ± 0.09	4.17 ± 0.14	3.50 ± 0.09	n = 3	[JJF] Ortho Vitros 5,1FS
5.25 ± 0.19	2.10 ± 0.00	5.54 ± 0.12	4.27 ± 0.11	3.53 ± 0.08	n = 10	[JJG] Ortho Vitros 5600
5.38 ± 0.12	2.62 ± 0.09	5.73 ± 0.07	4.39 ± 0.10	3.73 ± 0.10	n = 11	[ROC] Roche cobas c501
5.33 ± 0.14	2.57 ± 0.05	5.60 ± 0.09	4.30 ± 0.09	3.63 ± 0.05	n = 3	[ROT] Roche Cobas INTEGRA 800
5.49 ± 0.13	2.60 ± 0.00	5.79 ± 0.13	4.42 ± 0.11	3.74 ± 0.17	n = 5	[ROD] Roche MODULAR D/P
5.21 ± 0.10	2.47 ± 0.07	5.55 ± 0.09	4.24 ± 0.11	3.53 ± 0.07	n = 8	[BYE] Siemens ADVIA 1800
5.48 ± 0.08	2.42 ± 0.05	5.95 ± 0.07	4.21 ± 0.05	3.50 ± 0.05	n = 24	[DUE] Siemens Dimension EXL
5.40 ± 0.11	2.45 ± 0.06	5.84 ± 0.10	4.17 ± 0.08	3.50 ± 0.07	n = 32	[DUT] Siemens Dimension Vista
5.50 ± 0.12	2.40 ± 0.05	5.94 ± 0.11	4.18 ± 0.11	3.52 ± 0.07	n = 7	[DUX] Siemens Dimension Xpand
<Reagents>						
5.55 ± 0.06	2.60 ± 0.00	5.68 ± 0.04	4.28 ± 0.04	3.65 ± 0.06	n = 4	[AX1] Abaxis
5.16 ± 0.17	2.50 ± 0.11	5.60 ± 0.15	4.23 ± 0.12	3.57 ± 0.10	n = 16	[AB1] Abbott
5.23 ± 0.12	2.47 ± 0.07	5.77 ± 0.13	4.26 ± 0.11	3.57 ± 0.08	n = 17	[BC1] Beckman Coulter
5.21 ± 0.11	2.45 ± 0.07	5.61 ± 0.13	4.24 ± 0.09	3.53 ± 0.09	n = 33	[OL1] Beckman Coulter AU Series
5.18 ± 0.16	2.06 ± 0.06	5.49 ± 0.14	4.21 ± 0.14	3.50 ± 0.09	n = 20	[JJ1] Ortho Clinical Diagnostics
5.42 ± 0.15	2.63 ± 0.08	5.75 ± 0.09	4.39 ± 0.10	3.73 ± 0.10	n = 14	[RO4] Roche cobas c311/c501/c502/c701/c702
5.49 ± 0.13	2.60 ± 0.00	5.79 ± 0.13	4.42 ± 0.11	3.74 ± 0.17	n = 5	[RO2] Roche Hitachi and Modular D/P
5.34 ± 0.11	2.54 ± 0.06	5.66 ± 0.11	4.28 ± 0.08	3.64 ± 0.06	n = 5	[RO1] Roche Integra and MIRA
5.20 ± 0.08	2.48 ± 0.06	5.56 ± 0.08	4.26 ± 0.09	3.54 ± 0.07	n = 11	[BY1] Siemens ADVIA/ADVIA Centaur
5.44 ± 0.11	2.43 ± 0.06	5.90 ± 0.11	4.19 ± 0.08	3.50 ± 0.06	n = 65	[DA5] Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Total Protein (g/dL)

Specimen: C31	Specimen: C32	Specimen: C33	Specimen: C34	Specimen: C35	Number	[Code] Instrument or Reagent System
8.25 ± 0.21	4.01 ± 0.13	8.49 ± 0.24	6.95 ± 0.18	5.78 ± 0.16	n = 194	[---] All Methods & Instruments
<Instruments>						
8.25 ± 0.22	4.05 ± 0.06	8.23 ± 0.09	6.90 ± 0.08	5.75 ± 0.06	n = 4	[AXA] Abaxis Piccolo
8.07 ± 0.11	3.79 ± 0.10	8.27 ± 0.12	6.78 ± 0.10	5.55 ± 0.10	n = 17	[ABJ] Abbott Architect c System
8.10 ± 0.14	3.92 ± 0.11	8.27 ± 0.16	6.83 ± 0.16	5.67 ± 0.12	n = 35	[OLC] Beckman Coulter AU Chemistry System
8.21 ± 0.13	4.00 ± 0.00	8.44 ± 0.14	6.83 ± 0.18	5.70 ± 0.09	n = 10	[BCG] Beckman Coulter UniCel DxC 600
7.90 ± 0.00	3.84 ± 0.11	8.36 ± 0.15	6.80 ± 0.21	5.55 ± 0.18	n = 5	[BCH] Beckman Coulter UniCel DxC 800
8.30 ± 0.09	4.01 ± 0.06	8.83 ± 0.05	7.07 ± 0.11	5.78 ± 0.10	n = 6	[JJE] Ortho Vitros 250/350/950
8.13 ± 0.14	4.03 ± 0.05	8.65 ± 0.19	6.96 ± 0.10	5.77 ± 0.14	n = 3	[JFF] Ortho Vitros 5,1FS
8.24 ± 0.12	4.01 ± 0.08	8.80 ± 0.11	7.00 ± 0.12	5.80 ± 0.12	n = 10	[JJG] Ortho Vitros 5600
8.27 ± 0.16	4.03 ± 0.08	8.46 ± 0.18	6.95 ± 0.15	5.81 ± 0.14	n = 11	[ROC] Roche cobas c501
7.89 ± 0.29	3.87 ± 0.14	8.15 ± 0.36	6.65 ± 0.19	5.50 ± 0.27	n = 3	[ROT] Roche Cobas INTEGRA 800
8.27 ± 0.16	4.04 ± 0.06	8.40 ± 0.15	6.91 ± 0.13	5.80 ± 0.10	n = 5	[ROD] Roche MODULAR D/P
8.28 ± 0.12	4.05 ± 0.10	8.47 ± 0.13	7.00 ± 0.11	5.80 ± 0.11	n = 8	[BYE] Siemens ADVIA 1800
8.42 ± 0.13	4.10 ± 0.07	8.62 ± 0.13	7.08 ± 0.09	5.89 ± 0.08	n = 24	[DUE] Siemens Dimension EXL
8.41 ± 0.13	4.08 ± 0.07	8.57 ± 0.13	7.04 ± 0.11	5.85 ± 0.07	n = 32	[DUT] Siemens Dimension Vista
8.55 ± 0.18	4.10 ± 0.05	8.68 ± 0.13	7.15 ± 0.11	5.96 ± 0.06	n = 7	[DUX] Siemens Dimension Xpand
<Reagents>						
8.25 ± 0.22	4.05 ± 0.06	8.23 ± 0.09	6.90 ± 0.08	5.75 ± 0.06	n = 4	[AX1] Abaxis
8.07 ± 0.11	3.79 ± 0.10	8.27 ± 0.12	6.78 ± 0.10	5.55 ± 0.10	n = 17	[AB1] Abbott
8.08 ± 0.19	3.94 ± 0.12	8.39 ± 0.18	6.80 ± 0.19	5.66 ± 0.14	n = 18	[BC1] Beckman Coulter
8.10 ± 0.14	3.92 ± 0.11	8.28 ± 0.16	6.83 ± 0.15	5.68 ± 0.12	n = 32	[OL1] Beckman Coulter AU Series
8.26 ± 0.14	4.02 ± 0.08	8.81 ± 0.11	7.02 ± 0.13	5.80 ± 0.12	n = 20	[JJ1] Ortho Clinical Diagnostics
8.24 ± 0.17	4.03 ± 0.08	8.44 ± 0.19	6.93 ± 0.15	5.79 ± 0.14	n = 13	[RO4] Roche cobas c311/c501/c502/c701/c702
8.27 ± 0.16	4.04 ± 0.06	8.40 ± 0.15	6.91 ± 0.13	5.80 ± 0.10	n = 5	[RO2] Roche Hitachi and Modular D/P
8.07 ± 0.26	3.95 ± 0.11	8.34 ± 0.35	6.75 ± 0.16	5.63 ± 0.23	n = 5	[RO1] Roche Integra and MIRA
8.32 ± 0.15	4.08 ± 0.10	8.54 ± 0.19	7.04 ± 0.14	5.84 ± 0.14	n = 10	[BY1] Siemens ADVIA/ADVIA Centaur
8.42 ± 0.14	4.09 ± 0.07	8.60 ± 0.13	7.06 ± 0.11	5.88 ± 0.08	n = 65	[DA5] Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Cholesterol (mg/dL)

Specimen: C31	Specimen: C32	Specimen: C33	Specimen: C34	Specimen: C35	Number	[Code] Instrument or Reagent System
171.9 ± 7.87	100.4 ± 4.99	154.3 ± 9.00	238.0 ± 7.52	177.8 ± 5.57	n = 169	[---] All Methods & Instruments
<b>&lt;Instruments&gt;</b>						
177.8 ± 2.36	107.4 ± 2.56	162.0 ± 3.61	241.7 ± 4.22	180.3 ± 1.37	n = 3	[AXA] Abaxis Piccolo
179.2 ± 2.02	105.0 ± 1.56	160.5 ± 2.14	243.9 ± 1.96	183.9 ± 2.34	n = 13	[ABJ] Abbott Architect c System
171.1 ± 2.78	100.5 ± 2.76	152.5 ± 2.72	236.8 ± 5.51	177.3 ± 4.16	n = 35	[OLC] Beckman Coulter AU Chemistry System
168.4 ± 3.94	104.2 ± 0.81	156.9 ± 2.46	243.6 ± 5.30	181.7 ± 2.19	n = 7	[BCG] Beckman Coulter UniCel DxC 600
169.8 ± 8.12	102.2 ± 2.92	156.5 ± 5.26	244.9 ± 9.54	179.0 ± 6.63	n = 4	[BCH] Beckman Coulter UniCel DxC 800
190.8 ± 4.11	101.9 ± 2.86	169.7 ± 2.26	237.4 ± 5.58	173.4 ± 3.87	n = 3	[JJE] Ortho Vitros 250/350/950
190.3 ± 5.09	96.7 ± 3.07	173.3 ± 4.96	237.7 ± 3.16	173.1 ± 2.05	n = 3	[JJF] Ortho Vitros 5,1FS
191.5 ± 4.74	100.1 ± 3.04	173.5 ± 3.26	237.8 ± 5.86	176.1 ± 4.81	n = 10	[JJG] Ortho Vitros 5600
177.9 ± 4.64	104.8 ± 2.31	160.0 ± 3.89	243.2 ± 5.26	182.7 ± 3.39	n = 10	[ROC] Roche cobas c501
178.2 ± 3.87	103.5 ± 2.32	159.7 ± 0.90	242.1 ± 4.13	183.2 ± 2.80	n = 4	[ROD] Roche MODULAR D/P
172.5 ± 5.01	104.9 ± 2.42	158.1 ± 3.78	241.6 ± 4.88	179.2 ± 4.29	n = 8	[BYE] Siemens ADVIA 1800
166.6 ± 3.80	94.8 ± 2.36	144.0 ± 2.79	234.8 ± 5.38	174.5 ± 4.61	n = 20	[DUE] Siemens Dimension EXL
166.6 ± 4.38	96.3 ± 3.37	147.6 ± 5.61	230.8 ± 8.70	174.6 ± 5.38	n = 27	[DUT] Siemens Dimension Vista
165.7 ± 4.02	93.5 ± 1.22	142.8 ± 2.68	233.3 ± 4.29	174.2 ± 4.16	n = 4	[DUX] Siemens Dimension Xpand
<b>&lt;Reagents&gt;</b>						
177.8 ± 2.36	107.4 ± 2.56	162.0 ± 3.61	241.7 ± 4.22	180.3 ± 1.37	n = 3	[AX1] Abaxis
179.2 ± 2.02	105.0 ± 1.56	160.5 ± 2.14	243.9 ± 1.96	183.9 ± 2.34	n = 13	[AB1] Abbott
169.2 ± 5.66	103.3 ± 3.07	156.7 ± 4.02	242.3 ± 8.32	180.5 ± 4.65	n = 15	[BC1] Beckman Coulter
171.1 ± 2.82	100.5 ± 2.48	152.5 ± 2.31	236.9 ± 5.67	177.2 ± 3.94	n = 32	[OL1] Beckman Coulter AU Series
191.5 ± 4.87	100.0 ± 3.35	172.8 ± 4.07	238.2 ± 5.16	175.1 ± 4.30	n = 17	[JJ1] Ortho Clinical Diagnostics
178.0 ± 4.63	104.8 ± 2.65	159.5 ± 3.87	242.5 ± 5.25	182.6 ± 4.01	n = 12	[RO4] Roche cobas c311/c501/c502/c701/c702
176.7 ± 4.65	102.6 ± 2.84	160.3 ± 1.81	244.0 ± 5.66	182.6 ± 2.61	n = 5	[RO2] Roche Hitachi and Modular D/P
177.1 ± 1.88	103.5 ± 1.22	157.3 ± 1.58	239.4 ± 3.55	181.9 ± 2.04	n = 4	[RO1] Roche Integra and MIRA
172.7 ± 4.76	104.8 ± 2.27	158.3 ± 3.71	241.7 ± 4.81	179.2 ± 3.98	n = 10	[BY1] Siemens ADVIA/ADVIA Centaur
166.7 ± 4.04	95.3 ± 2.99	145.4 ± 4.56	233.0 ± 7.21	174.6 ± 4.84	n = 53	[DA5] Siemens Dimension



## Summary of Participant Performance (Mean and Standard Deviation)

## HDL-Cholesterol (mg/dL)

Specimen: C31	Specimen: C32	Specimen: C33	Specimen: C34	Specimen: C35	Number	[Code] Instrument or Reagent System
33.3 ± 3.12	26.8 ± 2.82	36.2 ± 4.15	64.7 ± 5.69	50.2 ± 3.61	n = 164	[---] All Methods
36.7 ± 5.32	25.4 ± 3.14	37.0 ± 4.14	64.5 ± 5.54	50.1 ± 4.00	n = 18	[---] All Precipitation Methods
33.2 ± 2.41	26.9 ± 2.78	36.1 ± 4.14	64.8 ± 5.70	50.3 ± 3.57	n = 146	[---] All Homogeneous (Direct) Methods
28.6 ± 1.02	17.7 ± 1.37	27.7 ± 1.37	57.3 ± 1.37	43.1 ± 2.05	n = 3	[AX1] Abaxis
34.3 ± 1.78	29.7 ± 1.38	39.7 ± 1.61	70.4 ± 2.14	53.3 ± 1.31	n = 11	[AB1] Abbott
33.8 ± 0.73	28.7 ± 0.93	39.3 ± 0.93	71.8 ± 2.14	54.1 ± 1.10	n = 12	[BC1] Beckman Coulter
33.4 ± 1.49	28.7 ± 1.47	39.2 ± 1.84	69.8 ± 2.99	52.8 ± 2.21	n = 26	[OL1] Beckman Coulter AU Series
42.2 ± 3.43	25.0 ± 2.00	39.6 ± 3.35	66.4 ± 4.25	49.7 ± 2.95	n = 10	[JJ1] Ortho Clinical Diagnostics
30.5 ± 1.29	23.4 ± 0.90	31.3 ± 0.96	60.2 ± 1.44	47.5 ± 1.09	n = 12	[RO4] Roche cobas c311/c501/c502/c701/c702
32.0 ± 0.00	24.0 ± 0.00	32.2 ± 0.41	61.0 ± 0.75	48.0 ± 0.75	n = 4	[RO2] Roche Hitachi and Modular D/P
31.5 ± 0.57	24.2 ± 0.41	32.0 ± 0.75	61.9 ± 1.88	48.7 ± 0.90	n = 4	[RO1] Roche Integra and MIRA
35.6 ± 1.02	29.9 ± 1.49	41.5 ± 1.94	74.5 ± 2.74	55.8 ± 2.39	n = 3	[GZ1] Sekisui Diagnostics
24.0 ± 1.56	22.5 ± 0.61	28.1 ± 0.39	61.4 ± 0.95	45.4 ± 0.52	n = 10	[BY1] Siemens ADVIA/ADVIA Centaur
33.6 ± 1.46	27.3 ± 1.44	35.3 ± 1.70	61.1 ± 2.30	49.1 ± 2.02	n = 46	[DA5] Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

LDL-Cholesterol (mg/dL)

Specimen: C31	Specimen: C32	Specimen: C33	Specimen: C34	Specimen: C35	Number	[Code] Instrument or Reagent System
113.3 ± 11.79	58.7 ± 8.43	96.6 ± 12.15	142.2 ± 13.03	103.6 ± 9.68	n = 157	[---] All Methods & Instruments
118.0 ± 8.16	62.7 ± 5.08	100.4 ± 9.12	147.9 ± 7.01	107.8 ± 5.75	n = 82	[-A-] Calculated Results Friedewald formula [LDL=TC-HDL-(Trigs÷5)]
110.8 ± 9.60	62.5 ± 11.02	96.3 ± 10.56	141.5 ± 8.26	103.4 ± 6.23	n = 3	[---] All Precipitation Methods
106.8 ± 12.22	52.8 ± 7.78	90.7 ± 12.86	132.9 ± 13.94	97.2 ± 10.53	n = 71	[---] All Homogeneous (Direct) Methods
105.3 ± 0.51	50.3 ± 0.51	88.0 ± 0.90	127.4 ± 1.02	92.7 ± 0.51	n = 3	[AB1] Abbott
99.7 ± 7.34	47.0 ± 2.98	82.8 ± 6.41	119.6 ± 7.60	88.6 ± 5.57	n = 4	[BC1] Beckman Coulter
94.6 ± 4.10	45.4 ± 3.15	79.3 ± 4.02	117.6 ± 5.57	86.0 ± 4.68	n = 14	[OL1] Beckman Coulter AU Series
110.6 ± 6.80	48.6 ± 1.25	87.6 ± 2.53	137.7 ± 6.29	98.1 ± 3.77	n = 6	[JJ1] Ortho Clinical Diagnostics
135.7 ± 5.55	71.0 ± 2.31	119.5 ± 5.22	158.0 ± 3.70	117.4 ± 3.47	n = 6	[RO4] Roche cobas c311/c501/c502/c701/c702
138.1 ± 2.86	70.3 ± 0.51	123.2 ± 2.36	158.8 ± 3.23	117.0 ± 0.90	n = 3	[RO2] Roche Hitachi and Modular D/P
93.4 ± 2.56	46.8 ± 2.36	79.7 ± 3.16	117.4 ± 1.02	85.8 ± 1.54	n = 3	[GZ1] Sekisui Diagnostics
106.3 ± 4.42	51.8 ± 2.34	89.8 ± 3.86	142.0 ± 6.66	102.1 ± 4.90	n = 5	[BY1] Siemens ADVIA/ADVIA Centaur
109.9 ± 4.12	55.6 ± 2.09	94.5 ± 4.28	134.7 ± 4.07	99.5 ± 3.57	n = 24	[DA5] Siemens Dimension

## Summary of Participant Performance (Mean and Standard Deviation)

## Triglycerides (mg/dL)

Specimen: C31	Specimen: C32	Specimen: C33	Specimen: C34	Specimen: C35	Number	[Code] Instrument or Reagent System
106.8 ± 6.72	52.5 ± 4.28	89.0 ± 5.52	123.4 ± 6.18	95.6 ± 5.22	n = 167	[---] All Methods & Instruments
<Instruments>						
118.2 ± 1.54	54.0 ± 0.00	94.3 ± 0.51	132.3 ± 0.51	104.3 ± 3.07	n = 3	[AXA] Abaxis Piccolo
100.6 ± 1.10	53.6 ± 1.18	88.0 ± 1.20	123.7 ± 2.07	93.3 ± 1.86	n = 13	[ABJ] Abbott Architect c System
103.9 ± 2.50	50.7 ± 1.79	84.9 ± 2.57	118.3 ± 2.73	93.5 ± 2.34	n = 33	[OLC] Beckman Coulter AU Chemistry System
115.3 ± 4.28	56.0 ± 3.22	96.7 ± 4.06	130.5 ± 3.34	99.3 ± 5.98	n = 7	[BCG] Beckman Coulter UniCel DxC 600
122.5 ± 2.67	56.8 ± 1.96	98.2 ± 1.27	135.0 ± 2.45	102.0 ± 1.50	n = 4	[BCH] Beckman Coulter UniCel DxC 800
116.6 ± 3.87	50.3 ± 1.37	93.8 ± 2.36	122.3 ± 1.37	94.8 ± 2.36	n = 3	[JJE] Ortho Vitros 250/350/950
116.7 ± 3.37	49.2 ± 1.54	93.9 ± 2.05	123.4 ± 3.87	95.7 ± 3.37	n = 3	[JJF] Ortho Vitros 5,1FS
114.4 ± 2.58	48.5 ± 0.57	92.7 ± 1.88	121.8 ± 2.42	94.0 ± 2.07	n = 10	[JJG] Ortho Vitros 5600
106.7 ± 1.96	57.5 ± 1.29	89.0 ± 1.75	124.9 ± 2.51	99.7 ± 2.24	n = 10	[ROC] Roche cobas c501
106.8 ± 2.37	55.1 ± 1.27	89.3 ± 2.35	124.3 ± 3.37	98.1 ± 2.69	n = 5	[ROD] Roche MODULAR D/P
106.4 ± 2.67	53.5 ± 1.93	90.3 ± 1.73	125.1 ± 2.88	96.1 ± 2.67	n = 8	[BYE] Siemens ADVIA 1800
99.3 ± 2.69	45.9 ± 2.20	81.8 ± 2.95	117.5 ± 2.57	88.7 ± 2.22	n = 20	[DUE] Siemens Dimension EXL
110.9 ± 2.34	55.8 ± 1.46	93.2 ± 2.18	130.1 ± 2.51	100.7 ± 2.06	n = 29	[DUT] Siemens Dimension Vista
102.1 ± 2.05	46.0 ± 2.70	82.5 ± 3.63	118.0 ± 2.70	88.9 ± 2.05	n = 3	[DUX] Siemens Dimension Xpand
<Reagents>						
118.2 ± 1.54	54.0 ± 0.00	94.3 ± 0.51	132.3 ± 0.51	104.3 ± 3.07	n = 3	[AX1] Abaxis
100.6 ± 1.10	53.6 ± 1.18	88.0 ± 1.20	123.7 ± 2.07	93.3 ± 1.86	n = 13	[AB1] Abbott
116.7 ± 7.57	55.7 ± 3.89	96.5 ± 4.56	131.1 ± 5.47	99.4 ± 5.90	n = 14	[BC1] Beckman Coulter
104.2 ± 2.32	50.8 ± 1.57	85.2 ± 2.53	118.6 ± 2.62	93.6 ± 2.11	n = 29	[OL1] Beckman Coulter AU Series
115.1 ± 2.97	48.9 ± 1.06	93.3 ± 2.07	122.4 ± 2.70	94.6 ± 2.48	n = 17	[JJ1] Ortho Clinical Diagnostics
106.3 ± 2.19	57.4 ± 1.51	88.8 ± 1.92	124.5 ± 2.43	99.4 ± 2.42	n = 12	[RO4] Roche cobas c311/c501/c502/c701/c702
106.8 ± 2.37	55.1 ± 1.27	89.3 ± 2.35	124.3 ± 3.37	98.1 ± 2.69	n = 5	[RO2] Roche Hitachi and Modular D/P
103.4 ± 2.64	53.3 ± 0.90	84.5 ± 0.57	119.1 ± 2.33	94.8 ± 1.46	n = 4	[RO1] Roche Integra and MIRA
107.1 ± 2.74	53.7 ± 1.78	90.9 ± 1.45	125.8 ± 2.53	96.8 ± 2.49	n = 10	[BY1] Siemens ADVIA/ADVIA Centaur
106.0 ± 6.69	51.6 ± 5.73	88.4 ± 6.76	124.8 ± 7.26	95.6 ± 7.17	n = 54	[DA5] Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Homocysteine (µmol/L)

Specimen: C31	Specimen: C32	Specimen: C33	Specimen: C34	Specimen: C35	Number	[Code] Instrument or Reagent System
13.05 ± 1.79	6.22 ± 0.92	14.73 ± 1.92	21.05 ± 2.26	27.80 ± 3.09	n = 50	[---] All Methods & Instruments
<Instruments>						
11.98 ± 0.58	5.60 ± 0.45	13.05 ± 0.56	18.21 ± 0.61	24.87 ± 1.19	n = 5	[ABH] Abbott Architect i System
14.01 ± 0.79	6.88 ± 0.81	15.92 ± 1.04	22.27 ± 1.44	29.85 ± 2.04	n = 12	[OLC] Beckman Coulter AU Chemistry System
11.26 ± 0.91	5.62 ± 0.49	13.19 ± 0.63	20.70 ± 1.61	26.91 ± 1.83	n = 9	[COB] Siemens ADVIA Centaur
10.62 ± 2.06	6.06 ± 1.34	12.25 ± 2.26	18.16 ± 4.31	23.44 ± 4.55	n = 5	[DUT] Siemens Dimension Vista
13.55 ± 1.17	5.79 ± 0.49	15.21 ± 0.97	20.60 ± 1.19	28.62 ± 2.39	n = 7	[DPD] Siemens Immulite 2000
<Reagents>						
12.10 ± 0.57	5.58 ± 0.40	12.95 ± 0.52	18.21 ± 0.54	24.93 ± 1.07	n = 6	[AB1] Abbott
14.70 ± 1.00	6.80 ± 0.91	16.34 ± 1.15	21.67 ± 0.23	29.05 ± 0.45	n = 3	[AS1] Axis-Shield
13.84 ± 0.39	7.03 ± 0.68	15.70 ± 0.94	22.40 ± 1.05	30.11 ± 1.40	n = 9	[DZ1] Diazyme
11.26 ± 0.91	5.62 ± 0.49	13.19 ± 0.63	20.70 ± 1.61	26.91 ± 1.83	n = 9	[BY1] Siemens ADVIA/ADVIA Centaur
10.76 ± 2.35	6.02 ± 1.54	12.55 ± 2.54	18.52 ± 4.87	23.71 ± 5.24	n = 4	[DA5] Siemens Dimension
13.57 ± 1.08	5.91 ± 0.58	15.16 ± 0.90	20.73 ± 1.14	28.17 ± 2.52	n = 8	[DP5] Siemens Immulite

Summary of Participant Performance (Mean and Standard Deviation)

**Troponin I (µg/L)**

Specimen: C31	Specimen: C32	Specimen: C33	Specimen: C34	Specimen: C35	Number	[Code] Instrument or Reagent System
0.455 ± 0.110	0.016 ± 0.012	0.379 ± 0.142	4.000 ± 4.753	0.013 ± 0.009	n = 132	[---] All Methods & Instruments
<b>&lt;Instruments&gt;</b>						
2.534 ± 0.070	0.010 ± 0.000	2.378 ± 0.077	19.076 ± 0.809	0.010 ± 0.000	n = 13	[ABH] Abbott Architect i System
0.337 ± 0.035	0.013 ± 0.011	0.264 ± 0.022	1.761 ± 0.103	0.013 ± 0.011	n = 14	[SAA] Beckman Coulter ACCESS
0.320 ± 0.035	0.000 ± 0.000	0.207 ± 0.009	1.336 ± 0.035	0.000 ± 0.000	n = 4	[BCV] Beckman Coulter UniCel DxI 600
0.313 ± 0.013	0.029 ± 0.031	0.223 ± 0.011	1.355 ± 0.067	0.029 ± 0.031	n = 7	[BCU] Beckman Coulter UniCel DxI 800
1.282 ± 0.158	0.040 ± 0.046	1.083 ± 0.042	8.584 ± 0.582	0.043 ± 0.042	n = 3	[IAA] i-STAT
1.369 ± 0.102	< 0.010	1.379 ± 0.117	13.083 ± 0.999	< 0.010	n = 8	[JJG] Ortho Vitros 5600
0.498 ± 0.081	0.011 ± 0.005	0.691 ± 0.075	7.416 ± 0.565	0.012 ± 0.005	n = 15	[COB] Siemens ADVIA Centaur
0.530 ± 0.039	0.046 ± 0.036	0.417 ± 0.034	1.972 ± 0.089	0.043 ± 0.038	n = 21	[DUE] Siemens Dimension EXL
0.500 ± 0.030	0.020 ± 0.000	0.397 ± 0.025	1.925 ± 0.063	0.013 ± 0.005	n = 32	[DUT] Siemens Dimension Vista
2.878 ± 0.149	< 0.060	2.009 ± 0.154	18.149 ± 1.221	< 0.060	n = 3	[TOM] Tosoh Bioscience
<b>&lt;Reagents&gt;</b>						
2.534 ± 0.070	0.010 ± 0.000	2.378 ± 0.077	19.075 ± 0.811	0.010 ± 0.000	n = 15	[AB1] Abbott
0.327 ± 0.031	0.011 ± 0.013	0.242 ± 0.031	1.579 ± 0.248	0.011 ± 0.013	n = 25	[BC1] Beckman Coulter
0.085 ± 0.040	< 0.050	0.195 ± 0.017	8.075 ± 0.963	< 0.050	n = 2	[BS1] Biosite
1.362 ± 0.075	< 0.010	1.382 ± 0.104	13.080 ± 0.803	< 0.010	n = 10	[JJ1] Ortho Clinical Diagnostics
< 0.300	< 0.300	0.308 ± 0.015	1.721 ± 0.213	< 0.300	n = 3	[RO3] Roche Elecsys/Modular E/e601/e411
0.491 ± 0.084	0.011 ± 0.005	0.682 ± 0.080	7.362 ± 0.644	0.012 ± 0.005	n = 16	[BY1] Siemens ADVIA/ADVIA Centaur
0.392 ± 0.096	0.031 ± 0.014	0.328 ± 0.058	1.898 ± 0.077	0.029 ± 0.017	n = 5	[DA5] Siemens Dimension
0.512 ± 0.037	0.020 ± 0.000	0.406 ± 0.030	1.943 ± 0.074	0.015 ± 0.007	n = 51	[DA6] Siemens Dimension LOCI

**Troponin T (µg/L)**

Specimen: C31	Specimen: C32	Specimen: C33	Specimen: C34	Specimen: C35	Number	[Code] Instrument or Reagent System
0.266 ± 0.018	0.010 ± 0.000	0.056 ± 0.009	0.250 ± 0.018	0.010 ± 0.000	n = 14	[---] All Methods & Instruments
<b>&lt;Instruments&gt;</b>						
0.263 ± 0.015	0.010 ± 0.000	0.053 ± 0.007	0.244 ± 0.020	0.010 ± 0.000	n = 8	[ROA] Roche cobas e601
0.275 ± 0.019	0.010 ± 0.000	0.063 ± 0.005	0.253 ± 0.014	0.010 ± 0.000	n = 3	[ROE] Roche MODULAR E
<b>&lt;Reagents&gt;</b>						
0.266 ± 0.018	0.010 ± 0.000	0.056 ± 0.009	0.250 ± 0.018	0.010 ± 0.000	n = 14	[RO3] Roche Elecsys/Modular E/e601/e411

## Summary of Participant Performance (Mean and Standard Deviation)

## Alanine Aminotransferase (U/L 37°C)

Specimen: C31	Specimen: C32	Specimen: C33	Specimen: C34	Specimen: C35	Number	[Code] Instrument or Reagent System
105.1 ± 9.42	200.9 ± 19.75	41.4 ± 4.87	26.2 ± 5.10	166.8 ± 17.20	n = 197	[---] All Methods & Instruments
<b>&lt;Instruments&gt;</b>						
92.7 ± 2.02	172.1 ± 2.33	39.3 ± 1.51	25.0 ± 3.16	140.6 ± 1.80	n = 4	[AXA] Abaxis Piccolo
103.8 ± 3.06	199.4 ± 3.37	39.8 ± 1.85	23.3 ± 1.55	166.5 ± 3.18	n = 17	[ABJ] Abbott Architect c System
91.5 ± 3.20	168.2 ± 5.30	35.8 ± 1.34	20.4 ± 0.97	139.7 ± 4.01	n = 36	[OLC] Beckman Coulter AU Chemistry System
100.5 ± 0.98	191.8 ± 2.42	41.4 ± 0.93	26.7 ± 0.96	159.7 ± 1.34	n = 10	[BCG] Beckman Coulter UniCel DxC 600
101.6 ± 1.52	192.5 ± 2.17	41.6 ± 0.55	26.5 ± 0.83	158.0 ± 0.00	n = 5	[BCH] Beckman Coulter UniCel DxC 800
116.0 ± 4.40	214.8 ± 3.75	47.1 ± 2.88	32.2 ± 2.11	174.5 ± 4.19	n = 6	[JJE] Ortho Vitros 250/350/950
112.3 ± 0.51	211.3 ± 1.37	47.5 ± 1.86	31.9 ± 2.86	172.0 ± 0.90	n = 3	[JJF] Ortho Vitros 5,1FS
115.6 ± 3.92	215.7 ± 7.81	47.3 ± 3.65	32.5 ± 3.21	174.6 ± 4.38	n = 10	[JJG] Ortho Vitros 5600
101.6 ± 2.15	194.5 ± 3.13	38.0 ± 0.91	22.7 ± 0.62	160.4 ± 2.41	n = 11	[ROC] Roche cobas c501
96.5 ± 1.86	189.8 ± 2.36	35.4 ± 1.02	21.0 ± 0.00	157.3 ± 1.37	n = 3	[ROS] Roche Cobas INTEGRA 400
95.2 ± 2.36	187.7 ± 6.93	36.0 ± 0.90	21.7 ± 0.51	153.7 ± 4.22	n = 3	[ROT] Roche Cobas INTEGRA 800
100.0 ± 2.53	190.2 ± 2.32	38.0 ± 1.54	23.5 ± 1.61	158.4 ± 2.05	n = 5	[ROD] Roche MODULAR D/P
106.3 ± 2.47	204.5 ± 2.75	40.4 ± 1.39	24.2 ± 1.20	170.0 ± 2.84	n = 8	[BYE] Siemens ADVIA 1800
112.8 ± 2.40	218.9 ± 4.51	46.1 ± 2.86	31.3 ± 1.52	184.4 ± 4.12	n = 24	[DUE] Siemens Dimension EXL
111.5 ± 2.32	215.9 ± 4.47	44.7 ± 2.22	29.9 ± 2.15	181.8 ± 3.45	n = 32	[DUT] Siemens Dimension Vista
113.6 ± 1.97	218.8 ± 6.34	46.1 ± 2.72	31.1 ± 2.56	183.9 ± 3.94	n = 7	[DUX] Siemens Dimension Xpand
<b>&lt;Reagents&gt;</b>						
92.7 ± 2.02	172.1 ± 2.33	39.3 ± 1.51	25.0 ± 3.16	140.6 ± 1.80	n = 4	[AX1] Abaxis
103.8 ± 3.06	199.4 ± 3.37	39.8 ± 1.85	23.3 ± 1.55	166.5 ± 3.18	n = 17	[AB1] Abbott
100.8 ± 1.43	192.2 ± 2.38	41.5 ± 0.85	26.6 ± 0.87	159.5 ± 1.56	n = 19	[BC1] Beckman Coulter
91.6 ± 3.03	168.6 ± 5.36	36.0 ± 1.29	20.5 ± 0.91	139.8 ± 4.19	n = 31	[OL1] Beckman Coulter AU Series
115.2 ± 3.95	214.3 ± 4.75	47.0 ± 3.08	32.1 ± 2.82	174.1 ± 3.82	n = 20	[JJ1] Ortho Clinical Diagnostics
101.4 ± 2.30	193.9 ± 3.19	38.1 ± 0.93	22.7 ± 0.59	159.9 ± 2.66	n = 14	[RO4] Roche cobas c311/c501/c502/c701/c702
100.0 ± 2.53	190.2 ± 2.32	38.0 ± 1.54	23.5 ± 1.61	158.4 ± 2.05	n = 5	[RO2] Roche Hitachi and Modular D/P
96.0 ± 2.11	190.6 ± 2.10	35.7 ± 0.97	21.3 ± 0.51	156.7 ± 1.41	n = 6	[RO1] Roche Integra and MIRA
105.5 ± 2.72	202.6 ± 4.32	40.3 ± 1.48	24.3 ± 1.03	168.7 ± 3.72	n = 11	[BY1] Siemens ADVIA/ADVIA Centaur
112.5 ± 2.62	218.2 ± 5.20	45.9 ± 2.60	31.0 ± 1.86	184.1 ± 3.80	n = 25	[DA5] Siemens Dimension
112.3 ± 2.32	217.0 ± 4.99	45.1 ± 2.44	30.5 ± 2.04	182.7 ± 4.10	n = 39	[DA8] Siemens Dimension IFCC Standardized

## Summary of Participant Performance (Mean and Standard Deviation)

## Aspartate Aminotransferase (U/L 37°C)

Specimen: C31	Specimen: C32	Specimen: C33	Specimen: C34	Specimen: C35	Number	[Code] Instrument or Reagent System
172.9 ± 11.63	506.1 ± 40.75	41.3 ± 3.67	35.0 ± 3.49	119.7 ± 9.00	n = 194	[---] All Methods & Instruments
<b>&lt;Instruments&gt;</b>						
166.9 ± 3.80	483.6 ± 9.44	45.0 ± 0.75	38.6 ± 1.80	119.6 ± 1.80	n = 4	[AXA] Abaxis Piccolo
175.4 ± 2.99	513.2 ± 12.05	43.6 ± 1.24	35.9 ± 0.99	121.7 ± 3.29	n = 16	[ABJ] Abbott Architect c System
152.9 ± 5.53	444.3 ± 15.97	37.8 ± 1.87	31.5 ± 1.39	105.3 ± 3.93	n = 35	[OLC] Beckman Coulter AU Chemistry System
168.6 ± 2.15	487.1 ± 16.41	42.8 ± 0.88	38.2 ± 0.93	119.7 ± 2.22	n = 10	[BCG] Beckman Coulter UniCel DxC 600
167.0 ± 2.41	488.8 ± 4.83	42.8 ± 1.07	38.0 ± 0.00	117.8 ± 1.89	n = 5	[BCH] Beckman Coulter UniCel DxC 800
187.1 ± 7.32	595.6 ± 20.73	46.4 ± 1.63	40.6 ± 1.44	136.4 ± 4.92	n = 6	[JJE] Ortho Vitros 250/350/950
191.5 ± 1.86	609.2 ± 15.87	47.3 ± 0.51	40.8 ± 1.54	136.1 ± 2.05	n = 3	[JJF] Ortho Vitros 5,1FS
192.4 ± 6.98	602.5 ± 30.30	47.5 ± 1.38	41.0 ± 1.54	138.3 ± 4.12	n = 10	[JJG] Ortho Vitros 5600
180.4 ± 3.90	529.2 ± 10.32	42.8 ± 0.81	35.7 ± 1.23	123.8 ± 3.19	n = 11	[ROC] Roche cobas c501
171.8 ± 5.00	523.3 ± 8.64	41.0 ± 0.90	35.0 ± 1.80	120.7 ± 3.16	n = 3	[ROS] Roche Cobas INTEGRA 400
170.8 ± 3.23	515.8 ± 12.27	41.4 ± 1.02	34.7 ± 0.51	119.2 ± 3.23	n = 3	[ROT] Roche Cobas INTEGRA 800
173.8 ± 4.22	506.1 ± 12.00	43.0 ± 0.64	37.4 ± 1.09	120.8 ± 0.41	n = 5	[ROD] Roche MODULAR D/P
185.8 ± 2.30	545.9 ± 5.49	45.7 ± 1.38	38.5 ± 1.71	129.3 ± 2.21	n = 8	[BYE] Siemens ADVIA 1800
172.0 ± 3.42	504.4 ± 11.00	38.9 ± 1.78	33.6 ± 1.61	118.7 ± 3.96	n = 24	[DUE] Siemens Dimension EXL
175.6 ± 4.89	513.9 ± 13.91	39.5 ± 2.30	33.3 ± 1.96	120.4 ± 2.64	n = 32	[DUT] Siemens Dimension Vista
175.5 ± 3.25	510.2 ± 11.51	39.2 ± 1.29	33.9 ± 1.96	120.5 ± 2.83	n = 7	[DUX] Siemens Dimension Xpand
<b>&lt;Reagents&gt;</b>						
166.9 ± 3.80	483.6 ± 9.44	45.0 ± 0.75	38.6 ± 1.80	119.6 ± 1.80	n = 4	[AX1] Abaxis
175.4 ± 2.99	513.2 ± 12.05	43.6 ± 1.24	35.9 ± 0.99	121.7 ± 3.29	n = 16	[AB1] Abbott
168.3 ± 2.53	488.3 ± 20.16	43.0 ± 1.01	38.1 ± 0.69	119.3 ± 2.70	n = 19	[BC1] Beckman Coulter
153.0 ± 5.47	445.0 ± 15.77	37.8 ± 1.86	31.4 ± 1.33	105.5 ± 4.03	n = 31	[OL1] Beckman Coulter AU Series
190.7 ± 6.42	602.5 ± 25.66	47.2 ± 1.35	40.9 ± 1.50	137.7 ± 3.87	n = 20	[JJ1] Ortho Clinical Diagnostics
179.4 ± 3.86	525.8 ± 11.24	42.8 ± 0.94	35.8 ± 1.34	123.0 ± 3.25	n = 14	[RO4] Roche cobas c311/c501/c502/c701/c702
173.8 ± 4.22	506.1 ± 12.00	43.0 ± 0.64	37.4 ± 1.09	120.8 ± 0.41	n = 5	[RO2] Roche Hitachi and Modular D/P
171.2 ± 4.12	520.0 ± 11.18	41.2 ± 1.00	34.8 ± 1.22	120.0 ± 3.24	n = 6	[RO1] Roche Integra and MIRA
185.4 ± 2.72	543.8 ± 7.50	45.4 ± 1.35	38.2 ± 1.55	128.9 ± 2.59	n = 10	[BY1] Siemens ADVIA/ADVIA Centaur
173.9 ± 4.63	509.0 ± 13.61	39.2 ± 2.09	33.4 ± 1.84	119.7 ± 3.45	n = 65	[DA5] Siemens Dimension

## Summary of Participant Performance (Mean and Standard Deviation)

 $\alpha$ -Amylase (U/L 37°C)

Specimen: C31	Specimen: C32	Specimen: C33	Specimen: C34	Specimen: C35	Number	[Code] Instrument or Reagent System
335.3 ± 57.50	106.5 ± 18.00	193.7 ± 29.28	55.6 ± 6.97	82.6 ± 11.21	n = 172	[---] All Methods & Instruments
<Instruments>						
304.2 ± 5.12	98.0 ± 2.70	173.0 ± 2.70	48.0 ± 0.90	76.0 ± 0.90	n = 3	[AXA] Abaxis Piccolo
366.9 ± 9.45	115.9 ± 3.28	210.6 ± 5.90	60.2 ± 2.14	89.0 ± 2.61	n = 16	[ABJ] Abbott Architect c System
275.5 ± 13.44	87.3 ± 4.78	157.9 ± 8.29	44.3 ± 2.01	66.4 ± 3.58	n = 29	[OLC] Beckman Coulter AU Chemistry System
350.3 ± 7.69	111.5 ± 2.33	207.3 ± 4.16	62.6 ± 0.96	89.1 ± 1.80	n = 7	[BCG] Beckman Coulter UniCel DxC 600
345.4 ± 7.55	110.1 ± 1.28	204.0 ± 2.90	62.1 ± 1.29	88.1 ± 0.94	n = 6	[BCH] Beckman Coulter UniCel DxC 800
209.2 ± 8.47	63.5 ± 6.40	134.8 ± 5.10	53.0 ± 5.60	58.2 ± 4.98	n = 4	[JJE] Ortho Vitros 250/350/950
223.8 ± 9.60	62.5 ± 2.74	140.5 ± 5.40	64.0 ± 3.58	62.7 ± 3.37	n = 3	[JJF] Ortho Vitros 5,1FS
222.2 ± 9.62	61.9 ± 4.32	143.9 ± 4.03	58.2 ± 7.28	61.7 ± 4.55	n = 10	[JJG] Ortho Vitros 5600
321.1 ± 5.25	103.4 ± 1.22	191.0 ± 3.22	61.8 ± 1.12	85.2 ± 1.40	n = 11	[ROC] Roche cobas c501
317.1 ± 0.69	103.2 ± 0.54	188.5 ± 0.92	60.8 ± 1.39	84.9 ± 0.10	n = 3	[ROS] Roche Cobas INTEGRA 400
312.3 ± 3.16	101.6 ± 1.02	185.1 ± 2.05	60.3 ± 0.51	83.3 ± 0.51	n = 3	[ROT] Roche Cobas INTEGRA 800
317.4 ± 7.31	101.9 ± 2.60	187.8 ± 4.89	61.2 ± 1.78	84.3 ± 2.57	n = 5	[ROD] Roche MODULAR D/P
334.9 ± 5.92	106.7 ± 2.32	196.7 ± 4.16	61.7 ± 1.56	86.6 ± 1.76	n = 8	[BYE] Siemens ADVIA 1800
393.6 ± 4.36	123.1 ± 1.45	221.7 ± 2.92	55.6 ± 1.02	91.0 ± 1.62	n = 20	[DUE] Siemens Dimension EXL
380.2 ± 6.29	118.9 ± 1.81	213.7 ± 3.64	52.8 ± 0.95	87.6 ± 1.33	n = 32	[DUT] Siemens Dimension Vista
397.3 ± 3.37	123.7 ± 0.51	222.0 ± 0.90	55.0 ± 0.00	90.7 ± 0.51	n = 3	[DUX] Siemens Dimension Xpand
<Reagents>						
304.2 ± 5.12	98.0 ± 2.70	173.0 ± 2.70	48.0 ± 0.90	76.0 ± 0.90	n = 3	[AX1] Abaxis
366.9 ± 9.45	115.9 ± 3.28	210.6 ± 5.90	60.2 ± 2.14	89.0 ± 2.61	n = 16	[AB1] Abbott
350.9 ± 7.43	111.6 ± 2.15	207.0 ± 3.17	62.7 ± 0.90	89.3 ± 1.52	n = 8	[BC1] Beckman Coulter
275.6 ± 12.28	87.3 ± 4.53	158.0 ± 7.84	44.3 ± 1.91	66.4 ± 3.27	n = 28	[OL1] Beckman Coulter AU Series
326.1 ± 40.91	103.7 ± 13.04	189.7 ± 25.62	57.3 ± 9.47	82.4 ± 12.20	n = 7	[BC2] Beckman Coulter IFCC Standardized
219.4 ± 10.99	62.6 ± 4.45	141.4 ± 5.99	58.2 ± 7.08	61.2 ± 4.72	n = 18	[JJ1] Ortho Clinical Diagnostics
320.8 ± 5.59	103.4 ± 1.46	190.9 ± 3.47	61.7 ± 1.16	85.2 ± 1.46	n = 13	[RO4] Roche cobas c311/c501/c502/c701/c702
317.4 ± 7.31	101.9 ± 2.60	187.8 ± 4.89	61.2 ± 1.78	84.3 ± 2.57	n = 5	[RO2] Roche Hitachi and Modular D/P
315.2 ± 3.29	102.5 ± 1.21	187.0 ± 2.33	60.5 ± 1.05	84.2 ± 0.97	n = 6	[RO1] Roche Integra and MIRA
332.8 ± 7.78	105.7 ± 3.09	195.2 ± 5.07	61.1 ± 1.85	85.9 ± 2.23	n = 10	[BY1] Siemens ADVIA/ADVIA Centaur
386.0 ± 9.15	120.8 ± 2.95	217.1 ± 5.30	54.0 ± 1.78	88.9 ± 2.22	n = 57	[DA5] Siemens Dimension



Summary of Participant Performance (Mean and Standard Deviation)

Alkaline Phosphatase (U/L 37°C)

Specimen: C31	Specimen: C32	Specimen: C33	Specimen: C34	Specimen: C35	Number	[Code] Instrument or Reagent System
428.4 ± 43.12	124.9 ± 12.61	201.8 ± 18.62	47.8 ± 5.25	234.0 ± 21.92	n = 196	[---] All Methods & Instruments
<b>&lt;Instruments&gt;</b>						
352.5 ± 13.24	107.1 ± 2.35	166.7 ± 7.09	43.3 ± 2.47	200.8 ± 6.15	n = 4	[AXA] Abaxis Piccolo
447.0 ± 10.36	130.2 ± 5.06	206.6 ± 5.01	48.9 ± 2.32	245.0 ± 3.55	n = 16	[ABJ] Abbott Architect c System
388.8 ± 20.75	112.4 ± 6.29	179.4 ± 10.05	41.6 ± 2.53	209.2 ± 12.86	n = 36	[OLC] Beckman Coulter AU Chemistry System
385.6 ± 20.22	112.5 ± 6.76	180.7 ± 9.64	42.0 ± 3.06	211.9 ± 11.64	n = 9	[BCG] Beckman Coulter UniCel DxC 600
388.8 ± 13.56	111.9 ± 2.33	178.6 ± 6.38	41.8 ± 1.28	205.7 ± 4.62	n = 5	[BCH] Beckman Coulter UniCel DxC 800
402.0 ± 2.12	115.7 ± 2.07	216.0 ± 4.54	57.3 ± 1.21	234.6 ± 3.48	n = 6	[JJE] Ortho Vitros 250/350/950
381.7 ± 13.02	114.1 ± 4.38	205.5 ± 2.74	56.3 ± 2.26	220.9 ± 2.05	n = 3	[JJF] Ortho Vitros 5,1FS
381.2 ± 16.11	111.4 ± 2.69	207.7 ± 10.13	56.4 ± 2.62	224.9 ± 4.45	n = 10	[JJG] Ortho Vitros 5600
424.9 ± 10.26	124.3 ± 3.01	198.2 ± 4.26	47.4 ± 1.29	230.9 ± 6.70	n = 12	[ROC] Roche cobas c501
436.9 ± 12.96	127.7 ± 3.37	201.4 ± 5.58	46.3 ± 0.51	233.8 ± 6.95	n = 3	[ROT] Roche Cobas INTEGRA 800
407.1 ± 3.07	123.0 ± 0.75	192.6 ± 5.84	46.0 ± 0.00	226.0 ± 0.75	n = 5	[ROD] Roche MODULAR D/P
464.9 ± 21.44	134.0 ± 7.95	214.3 ± 12.79	50.2 ± 2.97	249.9 ± 15.31	n = 8	[BYE] Siemens ADVIA 1800
463.7 ± 12.12	136.5 ± 3.89	215.4 ± 5.07	50.7 ± 3.21	253.0 ± 7.45	n = 24	[DUE] Siemens Dimension EXL
474.0 ± 15.77	136.9 ± 3.21	218.3 ± 6.24	50.0 ± 1.79	255.0 ± 5.82	n = 32	[DUT] Siemens Dimension Vista
461.8 ± 9.91	135.2 ± 4.16	213.5 ± 4.85	50.2 ± 1.87	249.3 ± 5.73	n = 7	[DUX] Siemens Dimension Xpand
<b>&lt;Reagents&gt;</b>						
352.5 ± 13.24	107.1 ± 2.35	166.7 ± 7.09	43.3 ± 2.47	200.8 ± 6.15	n = 4	[AX1] Abaxis
447.0 ± 10.36	130.2 ± 5.06	206.6 ± 5.01	48.9 ± 2.32	245.0 ± 3.55	n = 16	[AB1] Abbott
390.3 ± 17.45	113.5 ± 5.32	179.7 ± 7.52	42.3 ± 2.43	210.6 ± 9.34	n = 18	[BC1] Beckman Coulter
386.0 ± 20.69	111.7 ± 5.96	178.4 ± 10.18	41.3 ± 2.51	207.8 ± 12.49	n = 31	[OL1] Beckman Coulter AU Series
389.0 ± 19.99	113.2 ± 4.45	209.4 ± 9.81	56.5 ± 2.43	227.2 ± 8.56	n = 20	[JJ1] Ortho Clinical Diagnostics
424.6 ± 10.57	124.5 ± 3.39	198.0 ± 4.66	47.5 ± 1.21	231.3 ± 5.90	n = 14	[RO4] Roche cobas c311/c501/c502/c701/c702
407.1 ± 3.07	123.0 ± 0.75	192.6 ± 5.84	46.0 ± 0.00	226.0 ± 0.75	n = 5	[RO2] Roche Hitachi and Modular D/P
431.8 ± 10.68	126.5 ± 3.29	199.5 ± 4.84	46.7 ± 0.51	232.9 ± 7.37	n = 6	[RO1] Roche Integra and MIRA
457.9 ± 22.47	132.3 ± 7.05	211.0 ± 12.85	49.4 ± 2.85	246.3 ± 14.35	n = 11	[BY1] Siemens ADVIA/ADVIA Centaur
469.3 ± 9.69	137.2 ± 3.71	217.3 ± 5.11	50.6 ± 2.11	255.0 ± 5.43	n = 26	[DA5] Siemens Dimension
467.0 ± 16.34	136.2 ± 3.57	216.2 ± 6.26	50.2 ± 2.68	252.9 ± 7.20	n = 38	[DA8] Siemens Dimension IFCC Standardized

Summary of Participant Performance (Mean and Standard Deviation)

$\gamma$ -Glutamyltransferase (U/L 37°C)

Specimen: C31	Specimen: C32	Specimen: C33	Specimen: C34	Specimen: C35	Number	[Code] Instrument or Reagent System
71.5 ± 14.05	161.2 ± 34.09	149.3 ± 31.52	25.8 ± 5.87	254.6 ± 55.03	n = 156	[---] All Methods & Instruments
<b>&lt;Instruments&gt;</b>						
69.6 ± 3.39	155.4 ± 7.03	143.4 ± 7.08	24.2 ± 1.22	246.4 ± 11.62	n = 11	[ABJ] Abbott Architect c System
55.1 ± 2.70	122.2 ± 5.92	113.3 ± 5.02	21.0 ± 1.30	192.1 ± 8.19	n = 30	[OLC] Beckman Coulter AU Chemistry System
66.9 ± 1.11	165.0 ± 3.19	147.3 ± 3.58	18.9 ± 1.73	263.8 ± 5.67	n = 7	[BCG] Beckman Coulter UniCel DxC 600
66.0 ± 0.75	162.5 ± 1.23	142.7 ± 2.02	19.2 ± 0.41	255.9 ± 3.47	n = 4	[BCH] Beckman Coulter UniCel DxC 800
99.7 ± 0.51	257.4 ± 1.02	224.5 ± 1.86	28.0 ± 0.90	416.7 ± 5.91	n = 3	[JJE] Ortho Vitros 250/350/950
96.3 ± 2.26	250.0 ± 4.51	216.7 ± 5.09	27.4 ± 1.02	398.3 ± 6.93	n = 3	[JJF] Ortho Vitros 5,1FS
98.7 ± 3.49	257.5 ± 9.91	222.5 ± 8.41	28.0 ± 2.16	400.9 ± 14.11	n = 10	[JJG] Ortho Vitros 5600
61.6 ± 1.09	139.9 ± 2.75	129.1 ± 2.36	21.5 ± 0.69	219.9 ± 4.14	n = 10	[ROC] Roche cobas c501
63.2 ± 2.68	141.1 ± 2.33	129.8 ± 3.27	21.5 ± 0.57	224.5 ± 2.83	n = 4	[ROD] Roche MODULAR D/P
69.1 ± 4.09	155.5 ± 6.58	143.9 ± 5.57	26.1 ± 2.21	247.6 ± 9.51	n = 8	[BYE] Siemens ADVIA 1800
82.1 ± 2.53	180.3 ± 4.39	167.7 ± 4.53	35.2 ± 1.17	282.9 ± 6.43	n = 19	[DUE] Siemens Dimension EXL
79.7 ± 2.25	184.1 ± 3.35	170.3 ± 3.91	30.8 ± 2.17	291.5 ± 5.03	n = 29	[DUT] Siemens Dimension Vista
<b>&lt;Reagents&gt;</b>						
69.6 ± 3.39	155.4 ± 7.03	143.4 ± 7.08	24.2 ± 1.22	246.4 ± 11.62	n = 11	[AB1] Abbott
66.6 ± 0.99	163.6 ± 2.75	145.1 ± 3.57	19.5 ± 1.45	260.0 ± 6.09	n = 14	[BC1] Beckman Coulter
55.0 ± 2.64	122.2 ± 5.64	113.3 ± 4.86	21.0 ± 1.40	192.0 ± 7.89	n = 27	[OL1] Beckman Coulter AU Series
98.5 ± 2.90	256.6 ± 7.82	222.2 ± 6.52	27.9 ± 1.68	404.1 ± 13.21	n = 17	[JJ1] Ortho Clinical Diagnostics
61.5 ± 1.08	139.3 ± 2.65	129.1 ± 2.24	21.6 ± 0.76	219.7 ± 3.93	n = 13	[RO4] Roche cobas c311/c501/c502/c701/c702
63.2 ± 2.68	141.1 ± 2.33	129.8 ± 3.27	21.5 ± 0.57	224.5 ± 2.83	n = 4	[RO2] Roche Hitachi and Modular D/P
60.0 ± 1.65	138.5 ± 2.67	127.7 ± 1.51	20.7 ± 0.90	218.1 ± 3.00	n = 4	[RO1] Roche Integra and MIRA
69.1 ± 3.59	154.5 ± 6.09	142.9 ± 5.45	26.1 ± 2.23	245.8 ± 9.06	n = 10	[BY1] Siemens ADVIA/ADVIA Centaur
80.8 ± 2.79	182.6 ± 4.38	169.3 ± 4.42	32.6 ± 3.22	288.3 ± 7.13	n = 51	[DA5] Siemens Dimension

## Summary of Participant Performance (Mean and Standard Deviation)

## Creatine Kinase (U/L 37°C)

Specimen: C31	Specimen: C32	Specimen: C33	Specimen: C34	Specimen: C35	Number	[Code] Instrument or Reagent System
104.2 ± 10.51	248.6 ± 22.09	338.9 ± 24.09	302.3 ± 22.96	208.3 ± 14.37	n = 170	[---] All Methods & Instruments
<Instruments>						
114.6 ± 2.48	256.1 ± 5.72	355.2 ± 7.17	321.0 ± 6.23	215.4 ± 3.66	n = 16	[ABJ] Abbott Architect c System
88.9 ± 4.48	215.8 ± 14.61	294.1 ± 15.97	265.6 ± 16.52	181.1 ± 8.94	n = 33	[OLC] Beckman Coulter AU Chemistry System
111.4 ± 2.68	262.3 ± 5.60	355.5 ± 5.38	317.5 ± 6.79	212.8 ± 2.34	n = 7	[BCG] Beckman Coulter UniCel DxC 600
110.7 ± 3.47	261.8 ± 7.89	353.4 ± 4.33	312.5 ± 8.13	213.7 ± 3.37	n = 5	[BCH] Beckman Coulter UniCel DxC 800
92.1 ± 2.71	278.4 ± 21.72	350.2 ± 5.28	276.2 ± 8.43	218.8 ± 1.96	n = 4	[JJE] Ortho Vitros 250/350/950
93.1 ± 4.38	277.4 ± 17.17	346.9 ± 13.80	270.2 ± 12.34	216.9 ± 15.70	n = 3	[JJF] Ortho Vitros 5,1FS
99.7 ± 4.30	299.3 ± 12.33	369.7 ± 17.15	288.4 ± 14.39	231.7 ± 8.61	n = 10	[JJG] Ortho Vitros 5600
105.4 ± 2.67	270.2 ± 8.47	364.8 ± 9.34	333.4 ± 7.36	221.3 ± 4.87	n = 12	[ROC] Roche cobas c501
111.1 ± 1.27	242.4 ± 8.05	337.2 ± 7.01	303.0 ± 14.47	207.5 ± 6.62	n = 5	[ROD] Roche MODULAR D/P
93.4 ± 1.88	246.8 ± 8.18	329.7 ± 5.97	305.5 ± 9.61	205.6 ± 3.37	n = 8	[BYE] Siemens ADVIA 1800
107.9 ± 3.82	245.2 ± 5.30	335.9 ± 5.37	305.7 ± 7.07	207.1 ± 3.45	n = 19	[DUE] Siemens Dimension EXL
109.8 ± 2.65	246.0 ± 6.17	335.5 ± 5.53	308.0 ± 6.15	208.9 ± 4.08	n = 31	[DUT] Siemens Dimension Vista
108.5 ± 2.74	234.3 ± 6.76	329.9 ± 8.31	295.3 ± 12.29	203.9 ± 6.58	n = 3	[DUX] Siemens Dimension Xpand
<Reagents>						
114.6 ± 2.48	256.1 ± 5.72	355.2 ± 7.17	321.0 ± 6.23	215.4 ± 3.66	n = 16	[AB1] Abbott
111.9 ± 2.41	261.7 ± 6.37	354.8 ± 6.02	315.0 ± 8.60	213.5 ± 3.31	n = 16	[BC1] Beckman Coulter
89.0 ± 4.52	216.0 ± 15.52	293.6 ± 17.72	265.2 ± 17.40	180.8 ± 9.32	n = 28	[OL1] Beckman Coulter AU Series
97.0 ± 5.48	293.6 ± 16.01	361.2 ± 18.39	282.7 ± 14.46	227.1 ± 10.13	n = 18	[JJ1] Ortho Clinical Diagnostics
105.4 ± 3.35	268.7 ± 9.47	362.5 ± 10.92	331.6 ± 8.78	219.8 ± 6.08	n = 14	[RO4] Roche cobas c311/c501/c502/c701/c702
111.1 ± 1.27	242.4 ± 8.05	337.2 ± 7.01	303.0 ± 14.47	207.5 ± 6.62	n = 5	[RO2] Roche Hitachi and Modular D/P
104.0 ± 6.31	265.7 ± 0.51	357.5 ± 1.86	325.0 ± 5.48	210.0 ± 5.48	n = 3	[RO1] Roche Integra and MIRA
93.1 ± 1.87	246.0 ± 7.13	328.3 ± 5.34	303.9 ± 8.92	204.3 ± 3.93	n = 10	[BY1] Siemens ADVIA/ADVIA Centaur
109.2 ± 3.36	245.5 ± 6.56	335.7 ± 5.65	306.5 ± 7.90	208.0 ± 4.38	n = 51	[DA5] Siemens Dimension
108.9 ± 1.88	242.3 ± 3.89	332.0 ± 6.29	307.5 ± 2.67	207.8 ± 1.96	n = 4	[DA6] Siemens Dimension LOCI

## Summary of Participant Performance (Mean and Standard Deviation)

## Creatine Kinase-MB (ng/ml)

Specimen: C31	Specimen: C32	Specimen: C33	Specimen: C34	Specimen: C35	Number	[Code] Instrument or Reagent System
0.78 ± 0.25	0.80 ± 0.20	62.72 ± 10.34	58.01 ± 9.48	11.82 ± 1.64	n = 108	[-A-] All Methods - Results reported in ng/mL
1.86 ± 1.79	1.80 ± 1.84	60.70 ± 3.57	57.25 ± 3.32	11.05 ± 0.77	n = 13	[AB1] Abbott
0.86 ± 0.06	0.80 ± 0.00	71.16 ± 2.64	64.04 ± 2.25	13.82 ± 0.48	n = 10	[SAA] Beckman Coulter ACCESS
0.92 ± 0.06	0.79 ± 0.04	70.80 ± 3.68	63.86 ± 3.01	13.94 ± 0.51	n = 11	[BC1] Beckman Coulter UniCel
1.00 ± 0.00	1.00 ± 0.00	41.50 ± 4.67	37.25 ± 1.88	5.50 ± 0.11	n = 2	[BS1] Biosite
0.61 ± 0.07	0.51 ± 0.02	44.53 ± 1.59	40.60 ± 1.37	9.74 ± 0.30	n = 10	[JJ1] Ortho Clinical Diagnostics
1.06 ± 0.06	1.00 ± 0.00	71.39 ± 2.45	67.71 ± 2.36	12.46 ± 0.26	n = 15	[RO3] Roche Elecsys/Modular E/e601/e411
0.41 ± 0.18	0.79 ± 0.19	63.94 ± 3.47	61.68 ± 1.79	12.80 ± 0.58	n = 13	[BY1] Siemens ADVIA/ADVIA Centaur
0.63 ± 0.20	0.72 ± 0.22	65.74 ± 8.43	57.40 ± 7.44	10.74 ± 0.81	n = 15	[DA5] Siemens Dimension
0.76 ± 0.21	0.89 ± 0.17	52.32 ± 1.86	48.53 ± 1.47	10.95 ± 0.66	n = 17	[DA6] Siemens Dimension LOCI
1.00 ± 0.00	0.95 ± 0.06	68.35 ± 1.43	62.15 ± 2.45	13.90 ± 0.57	n = 2	[TO1] Tosoh

## Summary of Participant Performance (Mean and Standard Deviation)

## Lactate Dehydrogenase (U/L 37°C)

Specimen: C31	Specimen: C32	Specimen: C33	Specimen: C34	Specimen: C35	Number	[Code] Instrument or Reagent System
88.5 ± 8.20	343.8 ± 30.55	211.5 ± 17.11	190.7 ± 17.51	237.9 ± 19.81	n = 148	[-A-] All Methods (Lactate to Pyruvate)
266.9 ± 18.95	887.6 ± 27.26	585.3 ± 37.31	490.6 ± 19.29	621.1 ± 21.54	n = 18	[-B-] All Methods (Pyruvate to Lactate)
<Instruments>						
95.5 ± 5.00	360.6 ± 4.97	225.2 ± 5.96	199.8 ± 6.80	250.2 ± 5.95	n = 15	[ABJ] Abbott Architect c System
78.0 ± 3.59	305.0 ± 15.20	188.4 ± 8.69	168.0 ± 7.95	212.2 ± 9.04	n = 33	[OLC] Beckman Coulter AU Chemistry System
78.9 ± 2.43	300.6 ± 6.37	189.0 ± 5.08	169.3 ± 4.69	211.2 ± 4.69	n = 8	[BCG] Beckman Coulter UniCel DxC 600
79.1 ± 2.61	295.2 ± 10.48	187.3 ± 5.60	165.0 ± 6.91	208.1 ± 3.71	n = 5	[BCH] Beckman Coulter UniCel DxC 800
287.4 ± 29.28	884.8 ± 7.10	584.6 ± 32.42	484.1 ± 14.46	610.9 ± 8.52	n = 5	[JJE] Ortho Vitros 250/350/950
255.3 ± 11.32	881.1 ± 31.56	580.9 ± 13.58	469.0 ± 9.06	614.0 ± 26.05	n = 3	[JJF] Ortho Vitros 5,1FS
266.7 ± 14.00	891.8 ± 36.46	590.1 ± 40.27	501.4 ± 18.46	627.9 ± 20.36	n = 10	[JJG] Ortho Vitros 5600
93.3 ± 1.58	362.3 ± 8.78	219.9 ± 4.38	199.8 ± 4.20	249.0 ± 5.59	n = 12	[ROC] Roche cobas c501
92.9 ± 1.83	361.1 ± 4.99	221.4 ± 5.07	200.2 ± 0.41	248.6 ± 3.58	n = 5	[ROD] Roche MODULAR D/P
92.6 ± 2.17	356.3 ± 8.28	220.4 ± 5.45	201.0 ± 5.67	249.0 ± 6.18	n = 8	[BYE] Siemens ADVIA 1800
91.0 ± 3.77	361.3 ± 7.81	220.0 ± 5.08	199.7 ± 6.76	246.9 ± 7.16	n = 17	[DUE] Siemens Dimension EXL
92.3 ± 2.79	358.7 ± 7.23	219.4 ± 4.77	200.7 ± 4.92	248.5 ± 5.34	n = 31	[DUT] Siemens Dimension Vista
91.3 ± 4.96	361.4 ± 6.66	222.2 ± 5.00	201.7 ± 5.09	250.1 ± 5.22	n = 3	[DUX] Siemens Dimension Xpand
<Reagents>						
95.5 ± 5.00	360.6 ± 4.97	225.2 ± 5.96	199.8 ± 6.80	250.2 ± 5.95	n = 15	[AB1] Abbott
78.4 ± 2.85	297.9 ± 8.71	187.6 ± 5.61	165.6 ± 7.92	209.3 ± 4.81	n = 16	[BC1] Beckman Coulter
78.4 ± 3.24	307.1 ± 13.99	189.4 ± 7.86	168.9 ± 7.26	213.4 ± 8.21	n = 29	[OL1] Beckman Coulter AU Series
267.6 ± 19.51	886.3 ± 24.10	583.6 ± 34.69	490.5 ± 19.88	618.9 ± 19.83	n = 19	[JJ1] Ortho Clinical Diagnostics
93.3 ± 1.66	361.2 ± 9.52	219.5 ± 4.55	199.6 ± 4.36	248.5 ± 5.99	n = 15	[RO4] Roche cobas c311/c501/c502/c701/c702
92.9 ± 1.83	361.1 ± 4.99	221.4 ± 5.07	200.2 ± 0.41	248.6 ± 3.58	n = 5	[RO2] Roche Hitachi and Modular D/P
94.7 ± 1.37	369.9 ± 11.54	222.7 ± 3.37	201.9 ± 2.05	252.2 ± 5.90	n = 3	[RO1] Roche Integra and MIRA
92.3 ± 2.44	354.5 ± 9.68	219.4 ± 5.85	199.9 ± 6.07	247.6 ± 6.83	n = 10	[BY1] Siemens ADVIA/ADVIA Centaur
92.2 ± 3.40	359.8 ± 7.74	219.9 ± 4.98	200.7 ± 5.34	248.3 ± 5.99	n = 50	[DA5] Siemens Dimension