



Comprehensive Chemistry

Name	Line No.	Specimen 1			Specimen 2			Specimen 3			Specimen 4			Specimen 5			No. of Labs
		Range & Type	Mean	SD	Range & Type	Mean	SD	Range & Type	Mean	SD	Range & Type	Mean	SD	Range & Type	Mean	SD	
Alpha-fetoprotein																	
Initial Grouping by Reagent																	
Roche Elecsys	1	37.9 - 47.0	S 42.43	1.52	172.8 - 234.3	S 203.54	10.26	260.4 - 341.7	S 301.07	13.54	111.7 - 138.4	S 125.07	4.44	209.9 - 277.5	S 243.69	11.28	12
Initial Grouping by Sensitivity or Principle																	
Iuminometric	2	27.0 - 52.2	S 39.56	4.2	129.8 - 252.1	S 190.91	20.38	183.4 - 377.7	S 280.52	32.38	75.4 - 156.1	S 115.74	13.44	162.3 - 298.6	S 230.49	22.72	20
Total Population																	
Whole Population	3	26.8 - 52.9	S 39.84	4.34	126.5 - 254.4	S 190.42	21.32	179.9 - 379.8	S 279.88	33.32	76.1 - 154.9	S 115.51	13.13	159.3 - 300.9	S 230.12	23.6	27
Amylase																	
Initial Grouping by Reagent and Instrument																	
Abbott Aeroset/Architect & Abbott Architect c, ci, i	1	21 - 38	P 29.3	1.5	70 - 130	P 100.3	3.9	102 - 189	P 145.2	4.7	46 - 85	P 65.1	2.5	83 - 154	P 118.4	4.8	12
Beckman Olympus & Beck Olym AU 400/600/5400	2	15 - 29	P 22.0	1.5	53 - 98	P 75.6	4.6	76 - 142	P 109.1	7.0	35 - 64	P 49.6	2.1	63 - 117	P 89.8	5.5	18
Beckman Olympus & Beckman AU 480	3	16 - 29	P 22.3	1.3	54 - 100	P 76.9	4.0	78 - 145	P 111.3	6.0	35 - 65	P 50.2	2.4	64 - 119	P 91.6	4.9	16
Ortho Vitros & Ortho Vitros 3600, 5600	4	21 - 39	P 30.0	0.0	39 - 72	P 55.6	4.1	60 - 111	P 85.6	4.4	23 - 42	P 32.6	3.2	49 - 90	P 69.6	4.8	16
Ortho Vitros & Ortho Vitros not DT or ECi	5	21 - 39	P 30.0	0.0	42 - 78	P 59.8	3.9	61 - 114	P 87.5	4.4	26 - 48	P 37.1	3.8	51 - 95	P 72.7	3.6	12
Roche Cobas & Roche e/c, 1XX, X000, Elec series	6	20 - 37	P 28.2	1.1	64 - 119	P 91.5	2.5	93 - 173	P 132.8	2.9	42 - 78	P 59.9	1.2	76 - 141	P 108.5	2.9	12
Siemens Dimension & Siemens Dimension EXL	7	21 - 38	P 29.6	0.6	73 - 136	P 104.5	1.8	106 - 197	P 151.2	2.6	47 - 88	P 67.3	1.2	87 - 161	P 123.9	2.3	54
Siemens Dimension & Siemens Dimension Xpand	8	21 - 38	P 29.3	1.3	73 - 136	P 104.5	1.9	106 - 197	P 151.2	2.4	47 - 87	P 67.2	1.2	87 - 161	P 124.2	1.9	11
Initial Grouping by Reagent																	
Abbott Aeroset/Architect	9	21 - 38	P 29.3	1.5	70 - 130	P 100.3	3.9	102 - 189	P 145.2	4.7	46 - 85	P 65.1	2.5	83 - 154	P 118.4	4.8	12
Beckman Olympus	10	16 - 29	P 22.2	1.4	54 - 100	P 76.7	4.7	77 - 144	P 110.7	6.9	35 - 65	P 50.1	2.6	64 - 119	P 91.2	5.6	37
Ortho Vitros	11	21 - 39	P 30.0	0.0	40 - 75	P 57.4	4.3	60 - 112	P 86.1	4.4	24 - 45	P 34.6	3.9	50 - 92	P 70.7	4.4	32
Roche Cobas	12	20 - 37	P 28.6	0.9	65 - 120	P 92.4	2.1	93 - 174	P 133.5	2.6	42 - 79	P 60.5	1.2	77 - 143	P 109.7	2.5	24
Siemens Dimension	13	21 - 38	P 29.5	0.9	73 - 136	P 104.4	1.8	106 - 196	P 151.0	2.6	47 - 87	P 67.2	1.2	87 - 161	P 123.8	2.4	69
Initial Grouping by Sensitivity or Principle																	
Standardized methods	14	21 - 38	P 29.3	2.8	70 - 129	P 99.5	13.9	100 - 185	P 142.4	16.0	46 - 86	P 65.9	10.6	82 - 152	P 116.7	13.0	42
All Beckman	15	16 - 29	P 22.2	1.4	54 - 100	P 76.7	4.7	77 - 144	P 110.7	6.9	35 - 65	P 50.1	2.6	64 - 119	P 91.2	5.6	37
Vitros and related	16	21 - 39	P 30.0	0.0	40 - 75	P 57.4	4.3	60 - 112	P 86.1	4.4	24 - 45	P 34.6	3.9	50 - 92	P 70.7	4.4	32
Roche and related	17	20 - 37	P 28.6	0.9	65 - 120	P 92.4	2.1	93 - 174	P 133.5	2.6	42 - 79	P 60.5	1.2	77 - 143	P 109.7	2.5	24
Siemens and related	18	21 - 38	P 29.4	0.9	73 - 135	P 104.2	2.4	105 - 196	P 150.7	3.6	47 - 87	P 67.1	1.6	87 - 161	P 123.6	3.0	70
Total Population																	
Whole Population	19	20 - 36	P 28.0	3.2	63 - 116	P 89.3	18.2	90 - 168	P 129.2	25.0	40 - 75	P 57.8	12.9	74 - 138	P 106.2	20.5	214
Bilirubin, Direct Comprehensive																	
Initial Grouping by Reagent and Instrument																	
Abbott acid diazo & Abbott Architect c, ci, i	1	0 - 0.8	C 0.35	0.06	0.5 - 1.3	C 0.91	0.09	0.7 - 1.5	C 1.11	0.11	0.3 - 1.1	C 0.7	0.07	0.7 - 1.5	C 1.09	0.12	15
Beckman Coulter & Beck Coult Unicel DXC	2	0 - 0.6	C 0.17	0.06	0 - 0.9	C 0.45	0.1	0.2 - 1.0	C 0.58	0.17	0 - 0.7	C 0.34	0.08	0.2 - 1.0	C 0.58	0.12	10
Beckman Olympus & Beck Olym AU 400/600/5400	3	0 - 0.7	C 0.26	0.05	0.3 - 1.1	C 0.65	0.09	0.4 - 1.2	C 0.79	0.1	0.1 - 0.9	C 0.49	0.08	0.4 - 1.2	C 0.77	0.1	14
Beckman Olympus & Beckman AU 480	4	0 - 0.7	C 0.25	0.05	0.3 - 1.1	C 0.66	0.1	0.4 - 1.2	C 0.82	0.09	0.1 - 0.9	C 0.52	0.06	0.4 - 1.2	C 0.81	0.09	11
Ortho Vitros & Ortho Vitros 3600, 5600	5	0 - 0.4	C 0.04	0.07	0 - 0.6	C 0.23	0.41	0 - 0.6	C 0.18	0.34	0 - 0.6	C 0.16	0.31	0 - 0.8	C 0.35	0.51	14
Siemens Dimension DBI & Siemens Dimension EXL	6	0 - 0.6	C 0.16	0.05	0 - 0.8	C 0.43	0.07	0.2 - 1.0	C 0.59	0.09	0 - 0.7	C 0.32	0.06	0.1 - 0.9	C 0.54	0.09	45
Initial Grouping by Reagent																	
Abbott acid diazo	7	0 - 0.8	C 0.35	0.06	0.5 - 1.3	C 0.91	0.09	0.7 - 1.5	C 1.11	0.11	0.3 - 1.1	C 0.7	0.07	0.7 - 1.5	C 1.09	0.12	15
Beckman Coulter	8	0 - 0.6	C 0.18	0.06	0.1 - 0.9	C 0.5	0.12	0.2 - 1.0	C 0.64	0.17	0 - 0.8	C 0.38	0.09	0.2 - 1.0	C 0.62	0.13	16
Beckman Olympus	9	0 - 0.7	C 0.25	0.05	0.3 - 1.1	C 0.65	0.09	0.4 - 1.2	C 0.8	0.09	0.1 - 0.9	C 0.5	0.07	0.4 - 1.2	C 0.79	0.1	27
Ortho Vitros	10	0 - 0.4	C 0.03	0.07	0 - 0.6	C 0.16	0.38	0 - 0.6	C 0.2	0.38	0 - 0.5	C 0.11	0.26	0 - 0.7	C 0.27	0.47	27
Roche acid diazo	11	0 - 0.6	C 0.17	0.05	0 - 0.8	C 0.41	0.08	0.2 - 1.0	C 0.55	0.11	0 - 0.7	C 0.3	0.04	0.1 - 0.9	C 0.5	0.09	14

Siemens Dimension DBI	12	0 - 0.6	C 0.16	0.05	0 - 0.8	C 0.43	0.07	0.2 - 1.0	C 0.59	0.09	0 - 0.7	C 0.33	0.06	0.2 - 1.0	C 0.55	0.09	56
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Initial Grouping bySensitivityor Principle

Acid diazo methods	13	0 - 0.6	C 0.18	0.11	0.1 - 0.9	C 0.47	0.3	0.2 - 1.0	C 0.62	0.35	0 - 0.8	C 0.35	0.22	0.2 - 1.0	C 0.6	0.35	147
Diazonium ion methods	14	0 - 0.7	C 0.25	0.08	0.2 - 1.0	C 0.64	0.14	0.4 - 1.2	C 0.8	0.16	0.1 - 0.9	C 0.49	0.1	0.4 - 1.2	C 0.78	0.16	36
Other	15	0 - 0.6	C 0.15	0.09	0 - 0.8	C 0.36	0.2	0.1 - 0.9	C 0.47	0.25	0 - 0.7	C 0.28	0.15	0.1 - 0.9	C 0.46	0.25	11

Total Population

Whole Population	16	0 - 0.6	C 0.19	0.11	0.1 - 0.9	C 0.51	0.28	0.3 - 1.1	C 0.65	0.33	0 - 0.8	C 0.38	0.22	0.2 - 1.0	C 0.63	0.33	200
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Cortisol

Initial Grouping byReagent

Beckman Coulter Access	1	6 - 10	P 8.2	0.5	15 - 25	P 19.9	1.3	20 - 34	P 27.3	1.1	11 - 18	P 14.4	0.9	17 - 29	P 22.9	1.5	17
Roche Elecsys	2	5 - 9	P 7.3	0.5	15 - 25	P 19.8	2.2	20 - 33	P 26.7	1.3	10 - 17	P 13.3	0.7	17 - 28	P 22.3	1.3	17

Initial Grouping bySensitivityor Principle

Immuno-not FPIA	3	6 - 10	P 8.3	1.1	15 - 25	P 19.8	2.5	20 - 33	P 26.3	3.5	10 - 17	P 13.6	1.6	17 - 28	P 22.3	3.1	10
Luminometric	4	6 - 10	P 7.9	0.7	15 - 25	P 19.8	1.7	20 - 34	P 26.9	1.5	11 - 17	P 14.0	1.1	17 - 28	P 22.7	1.7	46

Total Population

Whole Population	5	6 - 10	P 8.0	0.8	15 - 25	P 19.8	1.9	20 - 34	P 26.9	2.1	11 - 17	P 14.0	1.2	17 - 28	P 22.6	2.0	58
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Creatine Kinase, Total

Initial Grouping byReagent and Instrument

Abbott & Abbott Architect c, ci, i	1	35 - 66	P 50.5	2.0	125 - 232	P 178.8	7.0	183 - 340	P 261.2	12.5	82 - 152	P 117.1	3.9	156 - 289	P 222.5	12.8	11
Beckman Olympus & Beck Olym AU 400/600/5400	2	31 - 57	P 43.7	3.1	109 - 203	P 156.1	8.4	158 - 294	P 226.2	14.2	70 - 130	P 100.3	5.6	132 - 245	P 188.2	9.3	19
Beckman Olympus & Beckman AU 480	3	31 - 58	P 44.5	3.1	110 - 205	P 157.4	9.2	162 - 301	P 231.6	15.4	71 - 131	P 100.8	6.4	135 - 250	P 192.5	11.1	11
Ortho Vitros & Ortho Vitros 3600, 5600	4	29 - 54	P 41.4	5.2	101 - 188	P 144.7	10.5	138 - 256	P 197.0	13.9	67 - 125	P 95.8	10.0	122 - 227	P 174.5	10.6	16
Ortho Vitros & Ortho Vitros not DT or ECi	5	30 - 55	P 42.2	3.1	103 - 192	P 147.8	7.4	147 - 273	P 210.0	11.6	71 - 132	P 101.2	8.1	129 - 239	P 183.8	10.4	10
Roche Cobas & Roche e/c, 1XX, X000, Elec series	6	37 - 69	P 53.0	2.9	131 - 244	P 187.5	8.3	192 - 356	P 273.7	12.4	84 - 156	P 120.3	5.6	161 - 300	P 230.5	11.4	11
Siemens Dimension & Siemens Dimension EXL	7	34 - 64	P 49.2	2.0	125 - 232	P 178.4	4.3	181 - 337	P 259.2	8.1	81 - 150	P 115.5	3.1	153 - 285	P 219.1	4.8	21
Siemens Dimension IFCC & Siemens Dimension EXL	8	34 - 63	P 48.8	2.8	125 - 232	P 178.1	6.2	181 - 336	P 258.3	9.8	80 - 149	P 114.7	3.9	151 - 281	P 216.4	7.3	35

Initial Grouping byReagent

Abbott	9	35 - 66	P 50.5	2.0	125 - 232	P 178.8	7.0	183 - 340	P 261.2	12.5	82 - 152	P 117.1	3.9	156 - 289	P 222.5	12.8	11
Beckman Coulter	10	35 - 65	P 49.7	5.6	119 - 221	P 169.8	13.8	171 - 318	P 244.4	19.3	78 - 145	P 111.7	9.9	145 - 269	P 207.1	16.8	13
Beckman Olympus	11	31 - 57	P 44.1	3.0	110 - 204	P 156.6	8.4	160 - 297	P 228.2	14.2	71 - 131	P 100.8	5.8	133 - 247	P 190.1	9.8	33
Ortho Vitros	12	29 - 54	P 41.8	4.4	103 - 191	P 146.8	9.9	142 - 264	P 203.4	14.9	69 - 128	P 98.4	9.6	125 - 232	P 178.7	11.6	29
Roche Cobas	13	37 - 68	P 52.3	2.8	129 - 239	P 183.8	8.2	186 - 345	P 265.7	17.5	83 - 155	P 119.0	4.8	158 - 292	P 225.0	11.0	24
Siemens Dimension	14	35 - 65	P 49.7	3.2	125 - 232	P 178.3	4.5	181 - 337	P 258.9	8.6	81 - 151	P 116.1	3.0	153 - 284	P 218.6	5.4	28
Siemens Dimension IFCC	15	34 - 64	P 48.9	2.9	125 - 231	P 178.0	6.7	181 - 336	P 258.3	10.2	81 - 150	P 115.1	4.4	152 - 281	P 216.5	7.9	45

Initial Grouping bySensitivityor Principle

IFCC standardized methods	16	34 - 63	P 48.2	4.8	120 - 223	P 171.8	13.4	174 - 324	P 248.9	20.8	78 - 144	P 111.1	10.0	147 - 272	P 209.4	17.4	188
Vitros and related	17	29 - 54	P 41.8	4.4	103 - 191	P 146.8	9.9	142 - 264	P 203.4	14.9	69 - 128	P 98.4	9.6	125 - 232	P 178.7	11.6	29

Total Population

Whole Population	18	33 - 62	P 47.4	5.2	118 - 219	P 168.5	15.5	170 - 315	P 242.6	25.5	77 - 142	P 109.4	10.8	144 - 267	P 205.3	19.7	220
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Gamma-Glutamyltransferase (GGT)

Initial Grouping byReagent and Instrument

Beckman Olympus & Beck Olym AU 400/600/5400	1	13 - 33	C 22.7	1.3	70 - 106	P 88.1	4.5	102 - 154	P 128.1	6.9	44 - 67	P 55.6	2.9	84 - 126	P 104.9	5.6	16
Beckman Olympus & Beckman AU 480	2	13 - 33	C 22.8	0.7	71 - 106	P 88.3	3.0	103 - 155	P 129.1	4.5	44 - 67	P 55.6	1.7	84 - 126	P 105.4	3.5	11
Roche Cobas & Roche e/c, 1XX, X000, Elec series	3	15 - 35	C 25.1	1.1	77 - 116	P 96.8	3.5	113 - 170	P 141.5	5.2	48 - 73	P 60.6	2.3	92 - 137	P 114.4	3.9	11
Siemens Dimension & Siemens Dimension EXL	4	29 - 49	C 39.0	1.9	105 - 157	P 131.1	2.7	150 - 226	P 188.1	3.8	68 - 102	P 85.3	2.2	123 - 185	P 154.2	2.7	21

Initial Grouping byReagent

Beckman Coulter	5	17 - 37	C 26.9	3.0	84 - 127	P 105.6	11.8	122 - 184	P 153.1	16.9	53 - 80	P 66.4	7.4	100 - 151	P 125.5	13.8	12
Beckman Olympus	6	13 - 33	C 22.8	1.1	71 - 106	P 88.4	3.9	103 - 154	P 128.7	5.9	45 - 67	P 55.7	2.5	84 - 126	P 105.4	4.8	30
Ortho Vitros	7	35 - 55	C 44.7	1.2	138 - 208	P 173.1	4.3	194 - 291	P 242.9	5.8	89 - 134	P 111.8	2.5	163 - 245	P 204.0	5.5	18
Roche Cobas	8	15 - 35	C 25.2	1.0	78 - 117	P 97.3	3.5	114 - 171	P 142.1	5.5	49 - 74	P 61.3	2.2	92 - 139	P 115.6	4.2	19
Siemens Dimension	9	29 - 49	C 38.9	2.2	105 - 158	P 131.3	3.4	151 - 226	P 188.4	4.6	68 - 102	P 85.3	2.7	124 - 186	P 154.7	3.6	28

Initial Grouping bySensitivityor Principle

Standardized methods	10	14 - 34	C 24.4	2.4	75 - 113	P 94.1	8.8	110 - 165	P 137.5	13.0	48 - 72	P 60.1	7.4	90 - 135	P 112.1	10.9	77
Abbott and Beckman Coulter	11	17 - 37	C 27.1	2.5	85 - 128	P 106.4	9.9	124 - 185	P 154.5	14.2	53 - 80	P 66.8	6.2	101 - 152	P 126.4	11.6	20
Vitros and related	12	35 - 55	C 44.7	1.2	138 - 208	P 173.1	4.3	194 - 291	P 242.9	5.8	89 - 134	P 111.8	2.5	163 - 245	P 204.0	5.5	18
Siemens and related	13	29 - 49	C 38.9	2.2	105 - 158	P 131.3	3.4	151 - 226	P 188.4	4.6	68 - 102	P 85.3	2.7	124 - 186	P 154.7	3.6	28

Total Population

Whole Population	14	20 - 40	C 30.0	8.0	90 - 135	P 112.3	27.7	130 - 195	P 162.1	37.6	58 - 87	P 72.2	18.6	106 - 160	P 133.1	32.6	148
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Human Chorionic Gonadotropin (hCG)

Initial Grouping by Reagent and Instrument

Beckman Coulter Access & Beckman Coulter Access	1	189 - 231	S 210.2	7.1	685 - 909	S 796.8	37.2	967 - 1303	S 1135.0	55.9	446 - 583	S 514.4	22.7	801 - 1089	S 945.0	48.0	31
Ortho Vitros ECI & Ortho Vitros 3600, 5600	2	190 - 250	S 220.0	10.2	718 - 934	S 826.0	35.9	1040 - 1321	S 1180.8	46.9	469 - 584	S 526.8	19.2	854 - 1102	S 978.3	41.4	12
Roche Elecsys & Roche e411/e601/E170/E2010	3	139 - 246	S 192.6	17.7	540 - 963	S 751.6	70.4	778 - 1401	S 1089.5	103.9	340 - 614	S 477.2	45.7	630 - 1151	S 890.3	86.8	20
Roche HCG Stat & Roche e411/e601/E170/E2010	4	141 - 179	S 160.1	6.2	571 - 700	S 635.5	21.4	875 - 1005	S 940.2	21.6	366 - 428	S 397.0	10.4	709 - 830	S 769.4	20.1	10
Roche HCG+b & Roche e411/e601/E170/E2010	5	160 - 238	S 199.3	13.0	685 - 895	S 790.1	35.0	980 - 1300	S 1139.9	53.2	435 - 563	S 498.8	21.4	810 - 1063	S 936.5	42.3	18
Siemens Advia & Siemens Centaur/Centaur CP	6	157 - 210	S 183.2	8.9	515 - 733	S 624.0	36.2	709 - 965	S 836.7	42.6	358 - 508	S 432.8	25.0	632 - 756	S 694.3	20.7	12
Siemens Dimension & Siemens Dimension EXL	7	175 - 216	S 195.8	6.8	640 - 808	S 724.2	28.1	827 - 1258	S 1042.4	71.9	416 - 513	S 464.6	16.1	747 - 941	S 843.8	32.4	24
Siemens Dimension LOCI & Siemens Dimension EXL	8	160 - 222	S 191.4	10.3	621 - 821	S 721.0	33.4	432 - 1560	S 995.7	188.0	393 - 527	S 460.3	22.3	732 - 943	S 837.6	35.2	12
Siemens Immulite & Siemens Immulite 1000	9	298 - 376	S 336.9	13.1	1039 - 1538	S 1288.4	83.0	1598 - 2200	S 1899.0	100.3	698 - 947	S 822.6	41.5	1312 - 1763	S 1537.4	75.1	20
Tosoh beta-hCG & Tosoh AIA	10	199 - 269	S 234.3	11.6	756 - 1113	S 934.6	59.6	1125 - 1607	S 1365.8	80.3	370 - 794	S 582.4	70.7	921 - 1299	S 1109.9	62.9	12
Tosoh beta-hCG & Tosoh AIA ST	11	201 - 281	S 241.2	13.2	702 - 1300	S 1001.2	99.8	1117 - 1678	S 1397.3	93.4	510 - 738	S 624.1	38.0	910 - 1396	S 1153.1	81.0	17

Initial Grouping by Reagent

Beckman Coulter Access	12	185 - 238	S 211.4	8.8	644 - 963	S 803.5	53.0	955 - 1334	S 1144.5	63.3	432 - 605	S 518.2	28.9	771 - 1142	S 956.4	61.8	40
Ortho Vitros ECI	13	186 - 250	S 218.0	10.7	723 - 925	S 824.1	33.6	1050 - 1310	S 1180.1	43.4	470 - 580	S 525.1	18.3	861 - 1092	S 976.6	38.5	14
Roche Elecsys	14	145 - 244	S 194.1	16.5	561 - 948	S 754.4	64.4	807 - 1401	S 1104.1	99.0	354 - 606	S 479.9	41.9	656 - 1148	S 902.0	81.8	29
Roche HCG Stat	15	142 - 178	S 160.0	5.9	574 - 696	S 635.3	20.4	877 - 1002	S 939.5	20.7	367 - 427	S 396.8	9.9	712 - 827	S 769.4	19.2	11
Roche HCG+b	16	161 - 237	S 198.9	12.6	665 - 904	S 784.1	39.9	947 - 1315	S 1131.1	61.2	417 - 573	S 495.0	26.1	781 - 1078	S 929.7	49.5	26
Siemens Advia	17	157 - 210	S 183.2	8.9	515 - 733	S 624.0	36.2	709 - 965	S 836.7	42.6	358 - 508	S 432.8	25.0	632 - 756	S 694.3	20.7	12
Siemens Dimension	18	169 - 219	S 194.2	8.4	637 - 805	S 721.2	28.0	827 - 1249	S 1038.0	70.5	415 - 513	S 463.6	16.3	745 - 939	S 842.0	32.4	27
Siemens Dimension LOCI	19	160 - 225	S 192.7	10.9	602 - 856	S 728.9	42.2	456 - 1544	S 1000.0	181.2	386 - 543	S 464.8	26.2	706 - 987	S 846.9	46.8	13
Siemens Immulite	20	297 - 377	S 337.3	13.4	1038 - 1529	S 1283.3	81.8	1497 - 2252	S 1874.2	125.8	689 - 950	S 819.3	43.6	1317 - 1748	S 1532.1	71.8	22
Tosoh Total b-hCG	21	187 - 299	S 243.0	18.6	369 - 1526	S 947.6	192.7	432 - 2202	S 1316.7	295.0	348 - 897	S 622.2	91.5	414 - 1769	S 1091.1	225.8	11
Tosoh beta-hCG	22	199 - 278	S 238.4	13.1	699 - 1249	S 974.1	91.7	1115 - 1653	S 1384.4	89.7	432 - 781	S 606.2	58.2	904 - 1367	S 1135.5	77.1	29

Initial Grouping by Sensitivity or Principle

IFCC standardized	23	135 - 269	S 201.9	22.4	447 - 1104	S 775.7	109.4	622 - 1593	S 1107.5	161.9	304 - 688	S 495.8	64.0	540 - 1291	S 915.6	125.2	203
Total Beta methods	24	157 - 312	S 234.8	25.8	329 - 1498	S 913.4	194.8	390 - 2150	S 1270.3	293.3	295 - 902	S 598.4	101.2	362 - 1739	S 1050.1	229.5	13
Vitros and related	25	186 - 250	S 218.0	10.7	723 - 925	S 824.1	33.6	1050 - 1310	S 1180.1	43.4	470 - 580	S 525.1	18.3	861 - 1092	S 976.6	38.5	14
Siemens Immulite and related	26	299 - 378	S 338.5	13.2	1002 - 1529	S 1265.3	87.9	1388 - 2312	S 1850.0	154.1	690 - 952	S 820.8	43.7	1260 - 1775	S 1517.7	85.9	27

Total Population

Whole Population	27	83 - 351	S 217.2	44.6	291 - 1373	S 832.0	180.4	372 - 2014	S 1193.0	273.8	190 - 878	S 534.2	114.6	353 - 1600	S 976.3	207.9	260
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Iron

Initial Grouping by Reagent and Instrument

Abbott Architect & Abbott Architect c, ci, i	1	40 - 61	P 50.5	1.2	100 - 150	P 124.7	2.8	137 - 205	P 170.7	4.0	70 - 105	P 87.4	2.6	116 - 173	P 144.4	2.8	11
Beck Oly tripyridyltriazine & Beck Olym AU 400/600/5400	2	43 - 64	P 53.4	2.4	107 - 161	P 134.1	4.2	149 - 224	P 186.7	5.8	74 - 112	P 93.1	3.1	125 - 187	P 155.7	3.6	10
Ortho Vitros & Ortho Vitros 3600, 5600	3	35 - 52	P 43.2	3.3	105 - 158	P 131.5	6.0	148 - 222	P 185.1	7.8	70 - 105	P 87.7	4.2	124 - 186	P 154.7	6.6	15
Roche Cobas & Roche Cobas 6000	4	43 - 64	P 53.5	3.4	102 - 154	P 128.0	3.3	141 - 212	P 176.4	4.2	73 - 110	P 91.7	2.8	119 - 179	P 148.8	3.1	10
Roche Cobas & Roche e/c, 1XX, X000, Elec series	5	42 - 63	P 52.1	3.3	102 - 153	P 127.3	5.2	140 - 210	P 175.0	6.8	72 - 108	P 89.9	4.2	118 - 177	P 147.2	6.4	10
Siemens Dimension & Siemens Dimension EXL	6	38 - 57	P 47.9	1.0	96 - 143	P 119.5	1.4	132 - 198	P 164.9	2.1	67 - 101	P 84.2	1.3	111 - 166	P 138.4	1.8	32

Initial Grouping by Reagent

Abbott Architect	7	40 - 61	P 50.5	1.2	100 - 150	P 124.7	2.8	137 - 205	P 170.7	4.0	70 - 105	P 87.4	2.6	116 - 173	P 144.4	2.8	11
Beck Oly tripyridyltriazine	8	43 - 64	P 53.5	2.6	108 - 162	P 134.6	4.7	150 - 226	P 188.0	6.3	76 - 113	P 94.4	4.3	126 - 189	P 157.2	5.0	20
Beckman Coulter	9	41 - 62	P 51.3	2.4	105 - 157	P 130.8	5.3	145 - 218	P 181.7	8.1	72 - 108	P 90.0	3.6	122 - 183	P 152.8	6.3	18
Beckman Olympus Ferene	10	41 - 62	P 51.3	4.2	105 - 158	P 131.7	7.2	147 - 220	P 183.2	8.7	73 - 110	P 91.6	4.9	123 - 185	P 153.8	7.4	12
Ortho Vitros	11	33 - 50	P 41.6	4.3	104 - 157	P 130.5	7.3	149 - 223	P 186.1	8.8	70 - 104	P 87.0	4.0	124 - 185	P 154.5	6.0	26
Roche Cobas	12	42 - 63	P 52.4	3.2	102 - 153	P 127.4	4.0	140 - 210	P 175.0	5.3	72 - 108	P 90.2	3.5	118 - 177	P 147.8	4.7	25
Siemens Dimension	13	38 - 57	P 47.9	0.9	95 - 143	P 119.3	1.3	132 - 198	P 164.6	2.1	67 - 101	P 84.1	1.3	111 - 166	P 138.3	1.9	44

Initial Grouping by Sensitivity or Principle

Ferene-based	14	39 - 58	P 48.4	3.0	97 - 146	P 121.4	6.9	134 - 201	P 167.3	9.4	68 - 102	P 85.4	4.7	113 - 169	P 140.7	7.7	80
Ferrozine-based	15	41 - 61	P 50.8	4.2	101 - 151	P 126.0	9.5	139 - 208	P 173.4	13.4	71 - 106	P 88.2	6.0	118 - 177	P 147.8	13.8	71
Tripyridyltriazine (TPTZ)	16	43 - 64	P 53.5	2.6	108 - 162	P 134.6	4.7	150 - 226	P 188.0	6.3	76 - 113	P 94.4	4.3	126 - 189	P 157.2	5.0	20
All other methods	17	33 - 50	P 41.6	4.3	104 - 157	P 130.5	7.3	149 - 223	P 186.1	8.8	70 - 104	P 87.0	4.0	124 - 185	P 154.5	6.0	26

Total Population

Whole Population	18	39 - 59	P 48.9	4.9	101 - 151	P 125.7	9.0	139 - 209	P 174.1	13.2	70 - 105	P 87.6	5.7	117 - 176	P 146.8	11.6	199
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Lactic Acid

Initial Grouping by Reagent and Instrument

Ortho Vitros & Ortho Vitros 3600, 5600	1	0.3 - 0.9	C 0.63	0.04	2.5 - 4.2	P 3.34	0.05	3.7 - 6.1	P 4.89	0.3	1.4 - 2.4	P 1.91	0.06	3.0 - 5.0	P 4.03	0.09	11
Siemens Dimension & Siemens Dimension EXL	2	0.5 - 1.1	C 0.76	0.11	2.8 - 4.6	P 3.71	0.13	4.2 - 6.9	P 5.55	0.16	1.7 - 2.8	P 2.23	0.14	3.3 - 5.6	P 4.46	0.14	39
Initial Grouping by Reagent																	
Ortho Vitros	3	0.3 - 0.9	C 0.64	0.06	2.5 - 4.2	P 3.37	0.07	3.8 - 6.3	P 5.05	0.38	1.5 - 2.4	P 1.94	0.07	3.1 - 5.1	P 4.09	0.11	17
Siemens Dimension	4	0.5 - 1.1	C 0.77	0.11	2.8 - 4.6	P 3.7	0.14	4.2 - 6.9	P 5.54	0.19	1.7 - 2.8	P 2.23	0.14	3.3 - 5.6	P 4.45	0.16	46
Initial Grouping by Sensitivity or Principle																	
Luminometric	5	0.4 - 1.0	C 0.73	0.11	2.7 - 4.5	P 3.61	0.19	4.1 - 6.8	P 5.41	0.34	1.6 - 2.7	P 2.15	0.17	3.3 - 5.5	P 4.36	0.21	63
Total Population																	
Whole Population	6	0.4 - 1.0	C 0.74	0.11	2.7 - 4.5	P 3.62	0.18	4.1 - 6.8	P 5.42	0.33	1.6 - 2.7	P 2.16	0.21	3.3 - 5.4	P 4.36	0.21	88

Lactate Dehydrogenase, Total (LDH)

Initial Grouping by Reagent and Instrument																	
Beckman Olympus & Beck Olym AU 400/600/5400	1	143 - 215	P 179.2	8.0	310 - 465	P 387.8	18.3	413 - 620	P 516.5	23.4	227 - 341	P 283.9	13.0	351 - 527	P 439.1	19.9	13
Beckman Olympus & Beckman AU 480	2	145 - 217	P 181.1	8.3	312 - 467	P 389.5	18.0	415 - 623	P 519.3	23.8	229 - 343	P 286.1	14.0	353 - 530	P 441.5	21.9	11
Ortho Vitros & Ortho Vitros not DT or ECI	3	538 - 807	P 672.3	9.4	1119 - 1678	P 1398.6	31.6	1518 - 2277	P 1897.9	37.5	826 - 1239	P 1032.2	22.3	1304 - 1956	P 1629.7	41.1	11
Siemens Flex LDI & Siemens Dimension EXL	4	166 - 249	P 207.2	8.9	353 - 530	P 441.4	12.0	476 - 714	P 595.0	18.0	263 - 395	P 329.0	12.1	407 - 611	P 509.0	12.2	26
Initial Grouping by Reagent																	
Beckman Coulter	5	143 - 214	P 178.4	8.5	301 - 452	P 376.8	15.2	397 - 596	P 496.3	21.1	223 - 335	P 279.0	13.1	342 - 513	P 427.4	17.5	12
Beckman Olympus	6	144 - 216	P 179.9	8.3	310 - 465	P 387.8	18.0	414 - 621	P 517.2	23.7	228 - 341	P 284.4	13.4	352 - 528	P 439.8	20.8	27
Ortho Vitros	7	522 - 783	P 652.4	90.3	1082 - 1623	P 1352.7	182.5	1428 - 2142	P 1785.2	263.5	801 - 1201	P 1001.2	133.8	1244 - 1866	P 1555.0	216.6	20
Roche Cobas	8	179 - 268	P 223.4	5.0	380 - 571	P 475.6	10.2	506 - 759	P 632.3	12.8	281 - 422	P 351.3	8.0	433 - 650	P 541.6	11.4	16
Siemens Dimension	9	165 - 247	P 206.1	7.1	356 - 533	P 444.5	10.8	477 - 715	P 595.7	17.6	261 - 392	P 326.6	8.8	408 - 612	P 509.7	13.7	14
Siemens Flex LDI	10	165 - 248	P 206.6	9.3	353 - 530	P 441.8	13.0	476 - 714	P 594.6	18.8	263 - 395	P 328.9	13.2	409 - 613	P 511.1	20.1	31
Initial Grouping by Sensitivity or Principle																	
IFCC Standardized	11	176 - 263	P 219.4	7.5	374 - 561	P 467.9	13.4	498 - 747	P 622.1	16.8	276 - 414	P 344.8	11.4	426 - 640	P 533.1	14.8	29
Other no cofactor	12	131 - 196	P 163.7	44.2	296 - 444	P 370.2	41.0	388 - 582	P 485.3	52.2	220 - 329	P 274.5	29.6	334 - 501	P 417.9	46.2	15
Siemens and related	13	155 - 233	P 193.8	15.9	332 - 498	P 415.4	32.7	444 - 667	P 555.5	47.1	246 - 368	P 307.0	25.9	381 - 571	P 475.7	41.8	85
Vitros and related	14	522 - 783	P 652.4	90.3	1082 - 1623	P 1352.7	182.5	1428 - 2142	P 1785.2	263.5	801 - 1201	P 1001.2	133.8	1244 - 1866	P 1555.0	216.6	20
Total Population																	
Whole Population	15	207 - 311	P 259.1	158.0	440 - 660	P 550.2	321.1	581 - 871	P 725.8	418.5	326 - 488	P 406.9	237.8	504 - 755	P 629.4	370.8	157

Lipase

Initial Grouping by Reagent and Instrument																	
Abbot Architect & Abbott Architect c, ci, i	1	11 - 20	P 15.4	0.9	25 - 46	P 35.7	1.2	34 - 62	P 48.0	1.7	18 - 34	P 25.9	1.0	28 - 53	P 40.7	1.4	10
Beckman Olympus & Beck Olym AU 400/600/5400	2	11 - 20	P 15.0	1.3	25 - 47	P 35.9	1.9	35 - 66	P 50.4	1.9	18 - 33	P 25.5	1.7	29 - 54	P 41.9	2.0	14
Beckman Olympus & Beckman AU 480	3	11 - 20	P 15.2	2.1	26 - 47	P 36.5	2.2	35 - 65	P 49.8	2.7	19 - 35	P 26.8	2.4	29 - 54	P 41.8	2.5	13
Ortho Vitros & Ortho Vitros 3600, 5600	4	95 - 176	P 135.4	4.1	250 - 464	P 356.6	9.9	334 - 620	P 476.7	13.0	177 - 328	P 252.4	6.4	287 - 533	P 409.9	10.5	16
Siemens Dimension & Siemens Dimension EXL	5	45 - 84	P 64.7	4.2	95 - 176	P 135.0	3.6	124 - 231	P 177.3	5.8	70 - 129	P 99.6	3.5	107 - 199	P 152.8	5.4	12
Siemens LIPL, liquid & Siemens Dimension EXL	6	45 - 83	P 64.2	4.4	93 - 173	P 133.2	5.2	123 - 229	P 176.4	6.3	70 - 130	P 100.0	5.2	107 - 198	P 152.6	5.6	38
Initial Grouping by Reagent																	
Abbot Architect	7	11 - 20	P 15.4	0.9	25 - 46	P 35.7	1.2	34 - 62	P 48.0	1.7	18 - 34	P 25.9	1.0	28 - 53	P 40.7	1.4	10
Beckman Olympus	8	11 - 20	P 15.1	1.7	25 - 47	P 36.3	2.0	35 - 65	P 50.1	2.3	18 - 34	P 26.1	2.1	29 - 54	P 41.9	2.2	28
Ortho Vitros	9	94 - 174	P 133.6	6.0	248 - 460	P 353.8	10.8	332 - 617	P 474.9	16.8	175 - 325	P 250.3	8.6	285 - 529	P 406.9	12.4	28
Roche Cobas Integra	10	11 - 20	P 15.1	0.9	23 - 42	P 32.6	2.4	30 - 56	P 42.7	3.5	17 - 31	P 24.1	1.7	26 - 48	P 36.6	2.7	14
Siemens Dimension	11	46 - 85	P 65.1	4.2	95 - 176	P 135.6	4.0	125 - 232	P 178.3	6.0	71 - 131	P 100.8	4.3	107 - 199	P 153.4	5.6	16
Siemens LIPL, liquid	12	45 - 83	P 63.6	4.7	93 - 173	P 133.1	6.8	123 - 229	P 176.3	9.4	71 - 132	P 101.4	12.1	107 - 198	P 152.5	8.1	45
Initial Grouping by Sensitivity or Principle																	
Enzymatic/colorimetric	13	45 - 84	P 64.3	42.1	106 - 198	P 152.0	113.9	143 - 266	P 204.4	153.5	78 - 145	P 111.5	80.3	123 - 228	P 175.1	130.7	131
Colorimetric	14	12 - 21	P 16.5	4.4	23 - 44	P 33.5	4.4	31 - 57	P 43.6	4.8	18 - 33	P 25.6	4.6	27 - 49	P 37.9	4.3	38
Total Population																	
Whole Population	15	36 - 68	P 52.1	41.6	85 - 157	P 121.1	110.4	113 - 210	P 161.8	149.0	62 - 116	P 89.1	78.2	98 - 181	P 139.3	126.9	178

Magnesium mg/dL

Initial Grouping by Reagent and Instrument																	
Abbott & Abbott Architect c, ci, i	1	1.1 - 1.8	P 1.45	0.1	2.1 - 3.6	P 2.85	0.12	2.7 - 4.6	P 3.65	0.11	1.6 - 2.7	P 2.16	0.09	2.4 - 4.0	P 3.19	0.12	15
Beckman Coulter & Beck Coulter Unicel DXC	2	1.1 - 1.9	P 1.52	0.04	2.1 - 3.5	P 2.77	0.13	2.7 - 4.5	P 3.58	0.08	1.6 - 2.7	P 2.15	0.05	2.3 - 3.9	P 3.11	0.05	10
Beckman Olympus & Beck Olym AU 400/600/5400	3	1.2 - 2.0	P 1.57	0.04	2.2 - 3.6	P 2.88	0.11	2.8 - 4.6	P 3.7	0.15	1.7 - 2.8	P 2.23	0.06	2.4 - 4.0	P 3.18	0.1	16
Beckman Olympus & Beckman AU 480	4	1.2 - 2.0	P 1.6	0.04	2.2 - 3.7	P 2.92	0.06	2.8 - 4.7	P 3.73	0.07	1.7 - 2.8	P 2.27	0.05	2.4 - 4.1	P 3.26	0.05	14
Ortho Vitros & Ortho Vitros 3600, 5600	5	1.2 - 2.1	P 1.66	0.07	2.3 - 3.8	P 3.01	0.08	2.9 - 4.8	P 3.82	0.11	1.8 - 2.9	P 2.34	0.1	2.5 - 4.2	P 3.37	0.09	17
Ortho Vitros & Ortho Vitros not DT or ECI	6	1.2 - 2.0	P 1.63	0.07	2.3 - 3.8	P 3.01	0.08	2.9 - 4.8	P 3.81	0.09	1.7 - 2.9	P 2.32	0.07	2.5 - 4.2	P 3.37	0.08	17
Roche Cobas & Roche Cobas 6000	7	1.2 - 2.0	P 1.63	0.05	2.2 - 3.7	P 2.95	0.07	2.8 - 4.7	P 3.78	0.07	1.7 - 2.9	P 2.3	0.0	2.5 - 4.1	P 3.3	0.06	10

Roche Cobas & Roche e/c, 1XX, X000, Elec series	8	1.2 - 2.0	P 1.61	0.03	2.2 - 3.6	P 2.91	0.06	2.8 - 4.7	P 3.75	0.07	1.7 - 2.9	P 2.29	0.08	2.5 - 4.1	P 3.28	0.09	14
Siemens Dimension & Siemens Dimension EXL	9	1.1 - 1.9	P 1.53	0.09	2.1 - 3.6	P 2.86	0.11	2.8 - 4.6	P 3.71	0.14	1.7 - 2.8	P 2.23	0.11	2.4 - 4.0	P 3.24	0.13	53
Siemens Dimension & Siemens Dimension Xpand	10	1.2 - 2.0	P 1.58	0.09	2.2 - 3.7	P 2.93	0.09	2.8 - 4.7	P 3.79	0.09	1.7 - 2.8	P 2.25	0.1	2.5 - 4.1	P 3.31	0.09	13
Initial Grouping by Reagent																	
Abbott	11	1.1 - 1.8	P 1.45	0.1	2.1 - 3.6	P 2.85	0.12	2.7 - 4.6	P 3.65	0.11	1.6 - 2.7	P 2.16	0.09	2.4 - 4.0	P 3.19	0.12	15
Beckman Coulter	12	1.2 - 1.9	P 1.55	0.05	2.1 - 3.5	P 2.84	0.13	2.7 - 4.6	P 3.64	0.11	1.6 - 2.7	P 2.19	0.08	2.4 - 4.0	P 3.18	0.11	19
Beckman Olympus	13	1.2 - 2.0	P 1.58	0.05	2.2 - 3.6	P 2.89	0.1	2.8 - 4.6	P 3.7	0.12	1.7 - 2.8	P 2.24	0.06	2.4 - 4.0	P 3.21	0.09	34
Ortho Vitros	14	1.2 - 2.1	P 1.65	0.07	2.3 - 3.8	P 3.01	0.08	2.9 - 4.8	P 3.83	0.1	1.7 - 2.9	P 2.33	0.09	2.5 - 4.2	P 3.38	0.08	38
Roche Cobas	15	1.2 - 2.0	P 1.62	0.04	2.2 - 3.6	P 2.91	0.09	2.8 - 4.7	P 3.74	0.09	1.7 - 2.9	P 2.29	0.06	2.5 - 4.1	P 3.27	0.08	28
Siemens Dimension	16	1.2 - 1.9	P 1.55	0.1	2.2 - 3.6	P 2.88	0.11	2.8 - 4.7	P 3.73	0.13	1.7 - 2.8	P 2.23	0.11	2.4 - 4.1	P 3.25	0.13	73
Initial Grouping by Sensitivity or Principle																	
Calmagite-based	17	1.2 - 2.0	P 1.57	0.1	2.1 - 3.6	P 2.86	0.13	2.7 - 4.5	P 3.59	0.19	1.7 - 2.8	P 2.22	0.12	2.4 - 4.0	P 3.18	0.11	27
Arsenazo	18	1.1 - 1.8	P 1.47	0.1	2.1 - 3.5	P 2.79	0.15	2.6 - 4.3	P 3.48	0.26	1.6 - 2.7	P 2.12	0.11	2.3 - 3.9	P 3.13	0.16	24
Magon (Xylydyl Blue)-based	19	1.2 - 2.0	P 1.57	0.08	2.2 - 3.6	P 2.87	0.13	2.8 - 4.6	P 3.67	0.16	1.7 - 2.8	P 2.25	0.1	2.4 - 4.0	P 3.19	0.14	54
All other methods	20	1.2 - 2.0	P 1.64	0.06	2.2 - 3.7	P 2.97	0.1	2.8 - 4.7	P 3.79	0.11	1.7 - 2.9	P 2.31	0.08	2.5 - 4.2	P 3.33	0.1	66
MTB (methylthymol blue)	21	1.2 - 1.9	P 1.55	0.1	2.2 - 3.6	P 2.88	0.11	2.8 - 4.7	P 3.73	0.13	1.7 - 2.8	P 2.23	0.11	2.4 - 4.1	P 3.25	0.13	73
Total Population																	
Whole Population	22	1.2 - 2.0	P 1.58	0.1	2.2 - 3.6	P 2.89	0.13	2.8 - 4.6	P 3.69	0.18	1.7 - 2.8	P 2.25	0.12	2.4 - 4.1	P 3.24	0.14	245

Magnesium mEq/L

Total Population																	
Whole Population	1	1.0 - 1.7	P 1.34	0.22	1.9 - 3.1	P 2.48	0.33	2.4 - 3.9	P 3.16	0.44	1.4 - 2.4	P 1.9	0.23	2.1 - 3.4	P 2.76	0.42	9

Thyroid Stimulating Hormone

Initial Grouping by Reagent and Instrument																	
Abbott CMIA & Abbott Architect c, ci, i	1	1.0 - 1.4	S 1.2	0.07	3.7 - 4.9	S 4.32	0.2	5.5 - 6.8	S 6.11	0.22	2.5 - 3.2	S 2.83	0.12	4.3 - 5.8	S 5.07	0.24	25
Beckman Coulter Access & Beckman Coulter Access	2	1.0 - 1.4	S 1.19	0.07	3.6 - 5.2	S 4.38	0.27	4.7 - 7.6	S 6.16	0.48	2.4 - 3.3	S 2.81	0.15	4.2 - 6.2	S 5.19	0.33	66
Beckman Coulter Access & Beckman Coulter Dxl	3	1.1 - 1.4	S 1.22	0.06	3.8 - 5.0	S 4.38	0.19	5.6 - 7.0	S 6.3	0.23	2.4 - 3.3	S 2.84	0.14	4.4 - 5.9	S 5.16	0.26	14
MP Biomedicals & All gamma counters	4	1.7 - 2.8	S 2.27	0.18	4.7 - 7.2	S 5.97	0.42	5.8 - 7.9	S 6.88	0.35	3.7 - 5.2	S 4.45	0.25	5.1 - 7.6	S 6.35	0.42	21
Ortho Vitros & Ortho Vitros 3600, 5600	5	1.4 - 1.9	S 1.67	0.09	5.5 - 6.7	S 6.14	0.2	7.6 - 9.8	S 8.7	0.37	3.4 - 4.5	S 3.97	0.19	6.4 - 8.1	S 7.27	0.29	18
Roche Elecsys & Roche e/c, 1XX, X000, Elec series	6	1.2 - 1.7	S 1.45	0.09	4.3 - 5.2	S 4.78	0.15	5.8 - 7.2	S 6.54	0.23	2.9 - 3.5	S 3.21	0.1	5.0 - 6.1	S 5.54	0.18	14
Roche Elecsys & Roche e411/e601/E170/E2010	7	1.3 - 1.6	S 1.46	0.06	4.2 - 5.3	S 4.78	0.18	5.7 - 7.2	S 6.48	0.25	2.5 - 3.9	S 3.23	0.23	4.6 - 6.4	S 5.51	0.31	31
Siemens Advia & Siemens Centaur/Centaur CP	8	1.1 - 1.7	S 1.39	0.11	3.9 - 6.1	S 4.97	0.36	5.6 - 8.5	S 7.07	0.49	2.6 - 3.8	S 3.23	0.21	4.9 - 6.9	S 5.91	0.33	15
Siemens Dimension & Siemens Dimension Xpand	9	1.0 - 1.7	S 1.31	0.12	3.6 - 5.9	S 4.74	0.39	5.3 - 8.4	S 6.84	0.53	2.4 - 3.8	S 3.09	0.22	4.4 - 6.9	S 5.66	0.41	16
Siemens Dimension LOCI & Siemens Dimension EXL	10	1.1 - 1.4	S 1.21	0.05	3.7 - 4.7	S 4.21	0.18	5.4 - 6.6	S 5.99	0.21	2.4 - 3.0	S 2.73	0.1	4.2 - 5.6	S 4.91	0.22	47
Siemens Immulite 3rd gen & Siemens Immulite 1000	11	0.8 - 1.9	S 1.36	0.17	4.1 - 5.9	S 5.01	0.29	5.2 - 8.5	S 6.85	0.54	2.3 - 4.1	S 3.23	0.29	4.2 - 7.5	S 5.86	0.55	14
Tosoh AIA & Tosoh AIA	12	1.2 - 2.0	S 1.6	0.12	4.6 - 6.6	S 5.62	0.34	6.6 - 8.8	S 7.71	0.38	3.0 - 4.2	S 3.64	0.2	5.6 - 7.3	S 6.45	0.29	34
Tosoh AIA & Tosoh AIA ST	13	1.3 - 1.9	S 1.58	0.1	4.8 - 6.4	S 5.63	0.27	6.5 - 9.0	S 7.78	0.42	2.9 - 4.3	S 3.62	0.22	4.1 - 8.7	S 6.39	0.76	19
Initial Grouping by Reagent																	
Abbott CMIA	14	1.0 - 1.4	S 1.2	0.07	3.7 - 4.9	S 4.32	0.2	5.5 - 6.8	S 6.11	0.22	2.5 - 3.2	S 2.83	0.12	4.3 - 5.8	S 5.07	0.24	25
Beckman Coulter Access	15	1.0 - 1.4	S 1.2	0.07	3.6 - 5.2	S 4.38	0.26	4.9 - 7.5	S 6.19	0.45	2.4 - 3.3	S 2.81	0.15	4.2 - 6.1	S 5.19	0.32	81
MP Biomedicals	16	1.7 - 2.8	S 2.27	0.18	4.7 - 7.2	S 5.97	0.42	5.8 - 7.9	S 6.88	0.35	3.7 - 5.2	S 4.45	0.25	5.1 - 7.6	S 6.35	0.42	21
Ortho Vitros	17	1.4 - 1.9	S 1.69	0.09	5.5 - 6.8	S 6.17	0.21	7.6 - 9.8	S 8.69	0.36	3.3 - 4.8	S 4.04	0.26	6.4 - 8.2	S 7.29	0.29	25
Roche Elecsys	18	1.3 - 1.7	S 1.46	0.07	4.3 - 5.3	S 4.79	0.17	5.8 - 7.2	S 6.51	0.24	2.7 - 3.8	S 3.23	0.18	4.7 - 6.3	S 5.52	0.26	59
Siemens Advia	19	1.1 - 1.7	S 1.4	0.11	3.9 - 6.1	S 5.01	0.37	5.7 - 8.5	S 7.1	0.48	2.6 - 3.9	S 3.26	0.23	4.9 - 7.0	S 5.94	0.34	16
Siemens Dimension	20	0.9 - 1.6	S 1.27	0.11	3.2 - 5.8	S 4.51	0.44	4.4 - 8.4	S 6.43	0.67	2.2 - 3.7	S 2.96	0.26	3.7 - 7.0	S 5.37	0.56	27
Siemens Dimension LOCI	21	1.1 - 1.4	S 1.21	0.05	3.7 - 4.7	S 4.21	0.18	5.4 - 6.6	S 5.99	0.21	2.4 - 3.0	S 2.72	0.11	4.2 - 5.6	S 4.9	0.23	48
Siemens Immulite 3rd gen	22	0.9 - 1.8	S 1.36	0.15	4.1 - 6.1	S 5.09	0.33	5.0 - 8.9	S 6.99	0.65	2.4 - 4.1	S 3.25	0.29	4.3 - 7.5	S 5.91	0.54	20
Tosoh AIA	23	1.3 - 1.9	S 1.59	0.11	4.7 - 6.6	S 5.63	0.32	6.5 - 9.0	S 7.76	0.43	3.0 - 4.3	S 3.63	0.21	4.9 - 7.9	S 6.43	0.5	55
Initial Grouping by Sensitivity or Principle																	
Standardized methods	24	0.6 - 2.0	S 1.32	0.23	2.7 - 6.7	S 4.71	0.66	3.8 - 9.4	S 6.58	0.94	1.6 - 4.6	S 3.07	0.49	3.0 - 8.0	S 5.5	0.83	220
Tosoh and RIA	25	0.6 - 2.7	S 1.66	0.35	4.1 - 7.0	S 5.54	0.48	5.5 - 9.2	S 7.37	0.62	2.2 - 5.1	S 3.69	0.48	4.7 - 7.9	S 6.26	0.53	103
Siemens non Immulite	26	1.0 - 1.5	S 1.23	0.09	3.3 - 5.3	S 4.32	0.33	4.7 - 7.6	S 6.15	0.49	2.2 - 3.4	S 2.81	0.21	3.7 - 6.4	S 5.07	0.44	75
Total Population																	
Whole Population	27	0.5 - 2.3	S 1.39	0.29	2.7 - 7.0	S 4.85	0.71	4.0 - 9.4	S 6.71	0.9	1.5 - 4.8	S 3.18	0.55	3.2 - 8.1	S 5.62	0.81	399

Thyroxine, Free (FT4)

Initial Grouping by Reagent and Instrument																	
Abbott CMIA & Abbott Architect c, ci, i	1	2.3 - 4.6	S 3.42	0.38	2.4 - 5.2	S 3.83	0.46	2.4 - 5.7	S 4.01	0.55	2.8 - 4.8	S 3.8	0.34	3.0 - 4.8	S 3.9	0.31	23
Beckman Coulter Access & Beckman Coulter Access	2	2.6 - 4.0	S 3.27	0.23	2.3 - 3.5	S 2.87	0.19	2.3 - 3.3	S 2.76	0.17	2.6 - 3.6	S 3.07	0.17	2.3 - 3.3	S 2.82	0.17	51
Beckman Coulter Access & Beckman Coulter Dxl	3	2.7 - 4.4	S 3.56	0.28	2.4 - 3.6	S 2.99	0.2	2.3 - 3.5	S 2.89	0.19	2.8 - 3.7	S 3.21	0.15	2.4 - 3.5	S 2.93	0.19	14

MP Biomedicals & All gamma counters	4	1.3 - 2.6	S 1.94	0.22	1.3 - 3.8	S 2.51	0.41	1.8 - 3.3	S 2.59	0.25	0.9 - 3.7	S 2.28	0.47	1.5 - 3.3	S 2.42	0.3	20
Ortho Vitros & Ortho Vitros 3600, 5600	5	6.8 - 7.1	S 6.94	0.05	6.8 - 7.1	S 6.94	0.05	6.8 - 7.1	S 6.94	0.05	6.8 - 7.1	S 6.94	0.05	6.8 - 7.1	S 6.94	0.05	17
Roche Elecsys & Roche e/c, 1XX, X000, Elec series	6	3.0 - 5.5	S 4.22	0.42	3.7 - 4.8	S 4.26	0.2	3.7 - 4.8	S 4.25	0.17	3.6 - 5.0	S 4.28	0.24	3.7 - 4.8	S 4.25	0.17	11
Roche Elecsys & Roche e411/e601/E170/E2010	7	3.4 - 4.6	S 4.01	0.2	3.9 - 4.7	S 4.29	0.13	3.8 - 5.0	S 4.41	0.2	2.7 - 5.7	S 4.19	0.49	3.2 - 5.6	S 4.41	0.4	10
Siemens Advia/Centaur/CP/XP & Siemens Centaur/Centaur CP	8	1.9 - 4.5	S 3.17	0.44	2.0 - 3.8	S 2.87	0.3	1.9 - 3.7	S 2.8	0.29	1.9 - 4.3	S 3.08	0.41	1.9 - 3.7	S 2.79	0.3	12
Siemens Dimension & Siemens Dimension Xpand	9	3.0 - 5.6	S 4.3	0.45	3.3 - 5.1	S 4.23	0.3	3.4 - 4.9	S 4.14	0.25	3.5 - 5.1	S 4.3	0.25	3.3 - 4.9	S 4.08	0.26	12
Siemens Dimension LOCI & Siemens Dimension EXL	10	3.6 - 6.9	S 5.22	0.54	4.0 - 5.2	S 4.6	0.2	3.9 - 4.7	S 4.3	0.15	4.4 - 5.7	S 5.06	0.22	3.8 - 5.0	S 4.4	0.19	41
Tosoh AIA & Tosoh AIA	11	3.2 - 6.7	S 4.98	0.58	3.8 - 5.4	S 4.59	0.27	3.7 - 5.4	S 4.54	0.29	3.9 - 5.6	S 4.74	0.28	3.8 - 5.4	S 4.64	0.27	22

Initial Grouping by Reagent

Abbott Cmia	12	2.3 - 4.6	S 3.42	0.38	2.4 - 5.2	S 3.83	0.46	2.4 - 5.7	S 4.01	0.55	2.8 - 4.8	S 3.8	0.34	3.0 - 4.8	S 3.9	0.31	23
Beckman Coulter Access	13	2.5 - 4.2	S 3.34	0.27	2.3 - 3.5	S 2.9	0.2	2.2 - 3.3	S 2.79	0.18	2.6 - 3.6	S 3.1	0.17	2.3 - 3.4	S 2.84	0.18	66
MP Biomedicals	14	1.3 - 2.6	S 1.94	0.22	1.3 - 3.8	S 2.51	0.41	1.8 - 3.3	S 2.59	0.25	0.9 - 3.7	S 2.28	0.47	1.5 - 3.3	S 2.42	0.3	20
Ortho Vitros	15	6.8 - 7.1	S 6.94	0.05	6.8 - 7.1	S 6.94	0.05	6.8 - 7.1	S 6.94	0.05	6.8 - 7.1	S 6.94	0.05	6.8 - 7.1	S 6.94	0.05	22
Roche Elecsys	16	3.1 - 5.1	S 4.11	0.33	3.7 - 4.8	S 4.25	0.17	3.7 - 4.9	S 4.29	0.2	3.3 - 5.2	S 4.25	0.32	3.4 - 5.1	S 4.29	0.28	32
Siemens Advia/Centaur/CP/XP	17	1.9 - 4.5	S 3.17	0.44	2.0 - 3.8	S 2.87	0.3	1.9 - 3.7	S 2.8	0.29	1.9 - 4.3	S 3.08	0.41	1.9 - 3.7	S 2.79	0.3	12
Siemens Dimension	18	2.7 - 6.7	S 4.72	0.66	3.4 - 5.2	S 4.32	0.3	3.5 - 4.9	S 4.16	0.24	3.3 - 5.8	S 4.55	0.41	3.3 - 5.1	S 4.21	0.3	19
Siemens Dimension LOCI	19	3.6 - 6.8	S 5.21	0.54	4.0 - 5.2	S 4.6	0.2	3.8 - 4.8	S 4.29	0.15	4.4 - 5.7	S 5.05	0.23	3.8 - 5.0	S 4.4	0.19	42
Siemens Immulite (1-step)	20	2.8 - 6.6	S 4.73	0.64	3.1 - 4.9	S 4.01	0.29	3.1 - 4.4	S 3.74	0.22	3.5 - 5.3	S 4.4	0.29	3.0 - 4.5	S 3.78	0.25	12
Tosoh AIA	21	3.3 - 6.5	S 4.91	0.54	3.8 - 5.4	S 4.61	0.26	3.7 - 5.3	S 4.54	0.26	3.9 - 5.5	S 4.73	0.26	3.4 - 5.9	S 4.67	0.42	31

Initial Grouping by Sensitivity or Principle

Standardized methods	22	0.9 - 6.4	S 3.67	0.92	1.1 - 6.0	S 3.57	0.81	1.1 - 6.1	S 3.57	0.83	1.1 - 6.1	S 3.63	0.84	1.0 - 6.2	S 3.57	0.86	185
Vitros and related	23	6.8 - 7.1	S 6.94	0.05	6.8 - 7.1	S 6.94	0.05	6.8 - 7.1	S 6.94	0.05	6.8 - 7.1	S 6.94	0.05	6.8 - 7.1	S 6.94	0.05	22
Siemens non-Immulite	24	2.0 - 7.5	S 4.75	0.92	2.2 - 6.2	S 4.24	0.67	2.3 - 5.8	S 4.01	0.59	2.3 - 6.9	S 4.59	0.78	2.2 - 6.0	S 4.08	0.63	73
All Immulite	25	3.1 - 6.4	S 4.76	0.56	3.1 - 4.8	S 3.94	0.29	3.0 - 4.4	S 3.69	0.23	3.5 - 5.4	S 4.43	0.31	3.0 - 4.4	S 3.71	0.24	16
Total Population																	
Whole Population	26	0.5 - 8.0	S 4.24	1.26	0.6 - 7.4	S 4.01	1.14	0.5 - 7.3	S 3.93	1.14	0.6 - 7.7	S 4.15	1.17	0.5 - 7.4	S 3.96	1.15	297

Thyroxine, Total (TT4)

Initial Grouping by Reagent and Instrument

Abbott Cmia & Abbott Architect c, ci, i	1	6.3 - 9.4	P 7.87	0.49	9.2 - 13.8	P 11.46	0.59	10.6 - 15.8	P 13.19	0.62	7.9 - 11.9	P 9.92	0.32	9.7 - 14.6	P 12.15	0.5	10
Beckman Coulter Access & Beckman Coulter Access	2	7.4 - 11.1	P 9.23	0.72	10.2 - 15.2	P 12.7	0.71	11.4 - 17.1	P 14.24	0.65	9.3 - 13.9	P 11.61	0.63	10.7 - 16.1	P 13.4	0.6	18
Beckman Coulter Access & Beckman Coulter Dxl	3	7.7 - 11.5	P 9.62	0.98	10.3 - 15.4	P 12.87	1.02	11.5 - 17.3	P 14.42	1.0	9.4 - 14.1	P 11.73	1.25	10.8 - 16.2	P 13.54	1.4	10
Siemens Dimension & Siemens Dimension EXL	4	7.3 - 11.0	P 9.14	0.63	10.1 - 15.2	P 12.65	0.47	12.0 - 18.0	P 15.01	0.59	8.8 - 13.2	P 11.04	0.75	11.0 - 16.5	P 13.76	0.6	16

Initial Grouping by Reagent

Abbott Cmia	5	6.3 - 9.4	P 7.87	0.49	9.2 - 13.8	P 11.46	0.59	10.6 - 15.8	P 13.19	0.62	7.9 - 11.9	P 9.92	0.32	9.7 - 14.6	P 12.15	0.5	10
Beckman Coulter Access	6	7.5 - 11.2	P 9.37	0.85	10.2 - 15.3	P 12.76	0.84	11.4 - 17.2	P 14.3	0.8	9.3 - 14.0	P 11.65	0.91	10.8 - 16.1	P 13.45	0.96	28
Roche Elecsys	7	6.3 - 9.5	P 7.91	0.44	8.9 - 13.3	P 11.12	0.67	10.5 - 15.7	P 13.08	0.79	7.6 - 11.5	P 9.56	0.53	9.6 - 14.3	P 11.95	0.79	17
Siemens Dimension	8	7.4 - 11.1	P 9.27	0.77	10.2 - 15.3	P 12.79	0.83	12.0 - 18.0	P 15.04	0.84	8.9 - 13.3	P 11.07	0.82	11.0 - 16.6	P 13.8	0.74	22
Tosoh AIA	9	6.4 - 9.6	P 8.04	0.83	9.5 - 14.3	P 11.91	1.2	10.8 - 16.2	P 13.46	1.44	8.0 - 11.9	P 9.95	0.57	9.8 - 14.7	P 12.22	1.47	10

Initial Grouping by Sensitivity or Principle

Standardized methods	10	6.8 - 10.2	P 8.48	0.89	9.6 - 14.4	P 12.01	1.2	11.2 - 16.7	P 13.94	1.39	8.3 - 12.4	P 10.35	0.97	10.3 - 15.4	P 12.83	1.33	89
Beckman Coulter and related	11	7.5 - 11.2	P 9.37	0.85	10.2 - 15.3	P 12.76	0.84	11.4 - 17.2	P 14.3	0.8	9.3 - 14.0	P 11.65	0.91	10.8 - 16.1	P 13.45	0.96	28
Total Population																	
Whole Population	12	7.0 - 10.4	P 8.7	0.95	9.7 - 14.6	P 12.18	1.17	11.2 - 16.8	P 14.01	1.29	8.5 - 12.8	P 10.65	1.11	10.4 - 15.6	P 12.96	1.28	118

Triiodothyronine, Total (TT3)

Initial Grouping by Reagent and Instrument

Beckman Coulter Access & Beckman Coulter Access	1	0.96 - 1.37	S 1.162	0.068	1.37 - 1.95	S 1.657	0.097	1.59 - 2.38	S 1.985	0.13	1.12 - 1.73	S 1.422	0.102	1.52 - 2.1	S 1.807	0.097	20
Beckman Coulter Access & Beckman Coulter Dxl	2	0.93 - 1.45	S 1.194	0.086	1.44 - 2.23	S 1.834	0.131	1.76 - 2.88	S 2.319	0.186	1.16 - 1.83	S 1.494	0.112	1.58 - 2.51	S 2.045	0.156	11
MP Biomedicals & All gamma counters	3	0.4 - 0.97	S 0.686	0.096	1.12 - 2.13	S 1.625	0.167	1.77 - 2.56	S 2.169	0.132	0.64 - 1.67	S 1.154	0.171	1.35 - 2.38	S 1.865	0.173	14
Roche Elecsys & Roche e/c, 1XX, X000, Elec series	4	0.58 - 1.74	S 1.162	0.194	1.55 - 1.98	S 1.766	0.071	1.74 - 2.22	S 1.984	0.08	1.3 - 1.83	S 1.567	0.088	1.72 - 2.03	S 1.875	0.051	10

Initial Grouping by Reagent

Beckman Coulter Access	5	0.94 - 1.41	S 1.174	0.077	1.3 - 2.14	S 1.722	0.14	1.44 - 2.77	S 2.104	0.221	1.11 - 1.78	S 1.447	0.111	1.39 - 2.39	S 1.892	0.166	31
MP Biomedicals	6	0.4 - 0.97	S 0.686	0.096	1.12 - 2.13	S 1.625	0.167	1.77 - 2.56	S 2.169	0.132	0.64 - 1.67	S 1.154	0.171	1.35 - 2.38	S 1.865	0.173	14
Roche Elecsys	7	0.66 - 1.63	S 1.145	0.162	1.48 - 2.11	S 1.791	0.105	1.63 - 2.36	S 1.996	0.121	1.26 - 1.93	S 1.594	0.113	1.57 - 2.17	S 1.871	0.1	24
Siemens Advia	8	1.13 - 1.46	S 1.292	0.055	1.28 - 1.77	S 1.524	0.081	1.29 - 1.97	S 1.633	0.113	1.16 - 1.67	S 1.418	0.085	1.31 - 1.85	S 1.58	0.089	11

Initial Grouping by Sensitivity or Principle

Standardized methods	9	0.6 - 1.71	S 1.156	0.186	1.11 - 2.2	S 1.657	0.182	1.09 - 2.53	S 1.81	0.242	1.12 - 1.93	S 1.524	0.135	1.1 - 2.33	S 1.716	0.206	43
Beckman Coulter and related	10	0.29 - 1.74	S 1.019	0.242	1.22 - 2.16	S 1.691	0.156	1.52 - 2.72	S 2.124	0.2	0.79 - 1.93	S 1.356	0.19	1.38 - 2.39	S 1.883	0.169	45
Total Population																	
Whole Population	11	0 - 3.86	S 1.316	0.849	0 - 3.85	S 1.788	0.687	0 - 4.53	S 2.1	0.811	0 - 4.66	S 1.66	0.999	0 - 4.17	S 1.926	0.748	108

T-Uptake % of Total

Initial Grouping by Reagent and Instrument

Beckman Coulter Access & Beckman Coulter Access	1	48 - 63	S 55.8	2.5	43 - 60	S 51.6	2.8	42 - 54	S 48.2	2.0	45 - 62	S 53.6	2.8	44 - 56	S 50.2	2.0	12
Siemens Dimension & Siemens Dimension EXL	2	40 - 53	S 46.6	2.2	39 - 49	S 43.6	1.7	39 - 45	S 41.6	1.0	40 - 48	S 44.3	1.3	39 - 48	S 43.2	1.5	10

Initial Grouping by Reagent

Beckman Coulter Access	3	48 - 63	S 55.8	2.5	43 - 59	S 51.2	2.7	42 - 54	S 48.0	1.9	46 - 61	S 53.9	2.5	42 - 57	S 49.9	2.5	20
Siemens Dimension	4	39 - 53	S 46.4	2.3	39 - 49	S 43.6	1.7	38 - 45	S 41.8	1.2	40 - 49	S 44.5	1.5	38 - 48	S 43.0	1.6	14

Initial Grouping by Sensitivity or Principle

Beckman Coulter and Vitros	5	44 - 72	S 58.2	4.6	35 - 74	S 54.7	6.5	29 - 75	S 52.4	7.7	41 - 73	S 56.8	5.3	33 - 75	S 53.8	6.9	27
Standardized methods	6	28 - 69	S 48.2	6.9	33 - 54	S 43.4	3.6	29 - 53	S 40.7	4.0	31 - 60	S 45.5	4.8	30 - 55	S 42.2	4.1	38

Total Population

Whole Population	7	29 - 75	S 52.2	7.7	25 - 70	S 47.9	7.5	21 - 70	S 45.4	8.1	28 - 72	S 50.1	7.4	23 - 70	S 46.8	7.9	67
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T-Uptake Ratio to Normal

Initial Grouping by Sensitivity or Principle

Luminometric	1	0.36 - 0.69	S 0.524	0.054	0.37 - 0.75	S 0.559	0.063	0.26 - 0.87	S 0.564	0.102	0.41 - 0.67	S 0.54	0.043	0.33 - 0.8	S 0.563	0.078	11
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Total Population

Whole Population	2	0.36 - 0.69	S 0.524	0.054	0.37 - 0.75	S 0.559	0.063	0.26 - 0.87	S 0.564	0.102	0.41 - 0.67	S 0.54	0.043	0.33 - 0.8	S 0.563	0.078	11
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