

MAS[®] ChemTRAK[®] · H

LIQUID ASSAYED CHEMISTRY CONTROL

IVD

INTENDED USE

MAS[®] chemTRAK[®] · H is intended for use as a consistent test sample of known concentration for monitoring assay conditions in many clinical laboratory determinations. Include **chemTRAK[®] · H** with patient serum specimens when assaying for any of the listed constituents. Assay values are provided for the specific systems listed. The user can compare observations with expected ranges as a means of assuring consistent performance of reagent and instrument.

PRODUCT DESCRIPTION

chemTRAK[®] · H is a liquid stable control material prepared from human serum. Analyte levels are adjusted with various animal extracts and other non-protein materials including drugs, drug metabolites and purified chemicals. Amylase, ALT/GPT, AST/GOT, CK and lipase are obtained from porcine tissue; alkaline phosphatase and GGT are from bovine tissue; LDH is from avian tissue. Preservatives and stabilizers are added to maintain product integrity.

CAUTION: chemTRAK[®] · H is prepared from human source material. Components of the control which are derived from human source material have been tested using FDA accepted methods and found non-reactive for Hepatitis B Surface Antigen (HBsAg), Hepatitis C (HCV), HIV-1 and HIV-2. However, no test method can offer complete assurance that products derived from human source material are free of infectious agents. This control must be handled in accordance with recommendations from Centers for Disease Control/National Institutes of Health manual, "Biosafety in Microbiological and Biomedical Laboratories," 2009. The packaging of this product contains dry natural rubber.

DANGER: chemTRAK[®] · H control contains ≤1.1% bovine serum albumin (BSA).

H317 - May cause allergic skin reaction.

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Avoid breathing mist or vapor. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/eye protection/face protection. In case of inadequate ventilation wear respiratory protection. If on skin: Wash with plenty of soap and water. IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If skin irritation or rash occurs: Get medical advice/attention. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician. Wash contaminated clothing before reuse. Dispose of contents/container to location in accordance with local/regional/national/international regulations.

CONSTITUENT LIST

The following constituents are contained in **chemTRAK[®] · H**:

Acetaminophen	Immunoglobulin G (IgG)*
Acid Phosphatase*	Immunoglobulin M (IgM)*
Alanine Aminotransferase (ALT/GPT)	Iron
Albumin	Lactate Dehydrogenase (LDH)
Alkaline Phosphatase (Alk. Phos.) ^(c)	Lactic Acid
Amikacin	Lidocaine
Amylase	Lipase
Amylase (Pancreatic)	Lipoprotein (Lp(a))
Apolipoprotein A (APO A)	Lithium
Apolipoprotein B (APO B)	Magnesium ^(c)
Aspartate Aminotransferase (AST/GOT)	Methotrexate
Bilirubin, Conjugated ^(a)	N-acetylprocainamide (NAPA)
Bilirubin, Direct ^(a)	Osmolality
Bilirubin, Neonatal ^(a)	Phenobarbital
Bilirubin, Total ^(a)	Phenytoin
Bilirubin, Unconjugated ^(a)	Phosphorus ^{(b)(c)}
Blood Urea Nitrogen (BUN)	Potassium
C3 Complement*	Prealbumin
C4 Complement*	Primidone
Caffeine	Procainamide
Calcium	Pseudocholinesterase
Carbamazepine	Quinidine
Carbon Dioxide (CO2)	Salicylate ^(b)
Chloride	Sodium
Cholesterol	T-Uptake
Cholesterol, HDL	Theophylline
Cholesterol, LDL	Thyroid Stimulating Hormone (TSH)
Creatine Kinase (CK)	Thyroxine (Total T4)
Creatinine	Thyroxine, Free (Free T4)*
Digoxin	Tobramycin
Disopyramide	Total Iron Binding Capacity (TIBC)
Ethanol	Total Protein
Ethosuximide	Transferrin*
Ferritin*	Tricyclic Antidepressants ^(d)
Gamma-Glutamyltransferase (GGT)	Triglycerides ^(b)
Gentamicin	Triiodothyronine (Total T3)*
Glucose	Triiodothyronine, Free (Free T3)*
Glutamate Dehydrogenase (GLDH)*	Unsaturated Iron Binding Capacity (UIBC)*
Haptoglobin*	Uric Acid
Hydroxybutyrate Dehydrogenase (HBDH)*	Valproic Acid
Immunoglobulin A (IgA)*	Vancomycin

* These constituent levels have not been adjusted but are at levels found in the source material used in preparation of the controls. No claim is made for expected values of these constituents.

STORAGE AND STABILITY

Once opened, vials of **chemTRAK[®] · H** are stable for 7 days when stored tightly capped at 2-8°C. Unopened vials of **chemTRAK[®] · H** are stable for 30 days from receipt when stored at 2-8°C. This product is stable until the expiration date on the box when stored at -25 to -15°C. For optimum performance, DO NOT store in a self-defrosting freezer, and maintain at -25 to -15°C until thawing for use.

Bacterial contamination produces an increase in turbidity and/or a characteristic odor. Discard vial if evidence of microbial contamination is observed.

CONTROL RANGES

The published control ranges are based upon a combination of replicate assays of representative samples by participating laboratories, instrument/reagent manufacturers and direct correlation with other analytical systems in accordance with established protocol. Instrument values provided are specific to this lot of control only and are intended to assist the laboratory in establishing its own means and ranges. All values have been assigned with instruments and reagents available at the time of assay and expected values may vary with different reagents and/or methodologies. Laboratory established means should fall within the assigned ranges although subsequent instrument, reagent or calibration modifications may invalidate assigned values.

Peer comparison data and latest QC lot specific updates are available online through LabLink[®] xL Quality Assurance Program at www.maslablink.com. Refer to the Technical Assistance section for contact information.

INSTRUCTIONS FOR USE

Thaw the control at room temperature (18-25°C) on a rocker or with periodic gentle inversion until liquid and then immediately store at 2-8°C. Once opened, do not allow the vial to come to room temperature. Maintain the control at 2-8°C at all times and minimize exposure to light. Thoroughly mix the contents of the vial before each use by gently inverting for several minutes. Once the control is removed from 2-8°C open the vial and transfer the required quantity of control into a clean sample cup. Replace cap immediately and store the opened vial at 2-8°C. Assay the aliquot of control in accordance with the reagent manufactures instructions. Do not return unused sample to the vial.

ONCE THAWED, DO NOT REFREEZE THE CONTROL.

Dropper tips are available to help minimize exposure of control samples to air. DO NOT use a syringe needle to withdraw sample through the control bottle cap.

QUALITY CONTROL

All quality control requirements should be performed in conformance with local, state and/or federal regulations or accreditation requirements.

LIMITATIONS OF PROCEDURE

Compatibility of **chemTRAK[®] · H** has been demonstrated only with methods shown in this insert. Caution should be employed when using these controls with methods for which values have not been printed.

The following constituent is also weighed into **chemTRAK[®] · H**. Stability Characteristics have not been established for Acid Phosphatase. No stability claim is made.

The specificity of antibodies used in immunoassay procedures may vary between lots. As with patient specimens, cross-reactivities between certain constituents in this control serum may occur with some reagents. Consult reagent manufacturer's package insert regarding possible interferences.

Minimize exposure to strong light for optimum bilirubin stability.

For best results when measuring CO₂, handle with the same care given patient samples. Avoid prolonged exposure of samples to air. Withdraw sample and replace cap immediately. Maintain the vial at 2-8°C. Assay the sample without delay.

If low values are observed for Alkaline Phosphatase, Phosphorus and/or Magnesium assay results upon initial thaw, an additional equilibration at 2-8°C for 18-24 hours may be necessary for full recovery.

Accurate and reproducible results are dependent upon properly functioning instruments, reagents, and good laboratory technique. This product is intended for use as an assayed control for quantitative assays of listed constituents in human serum. This product is not intended for use as a calibrator. For Professional Use Only.

TECHNICAL ASSISTANCE

In the USA, for technical assistance, call 800-232-3342 or 510-979-5417. For insert updates and information, if your laboratory subscribes to LabLink xL, visit www.maslablink.com and select LabLink Extra. Alternatively, to subscribe to LabLink xL call 800-232-3342 or 510-979-5451.

Outside of the USA, if your laboratory subscribes to LabLink xL, visit www.maslablink.com select LabLink Extra. Alternatively, please contact your local sales office or authorized distributor.

Cat. No.	Description	Size
CHA-1	chemTRAK [®] · H, Level 1	6 x 5 mL
CHA-2	chemTRAK [®] · H, Level 2	6 x 5 mL
CHA-3	chemTRAK [®] · H, Level 3	6 x 5 mL



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	CHA24081A		CHA24082A		CHA24083A		U	CHA24081A		CHA24082A		CHA24083A		U	
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ABBOTT AEROSSET / ARCHITECT SYSTEMS															
Acetaminophen	Enzymatic (3R11)	22.8	18.2 - 27.3	74.2	59.4 - 89.0	126	101 - 152	µg/mL	150	120 - 181	491	393 - 589	836	668 - 1003	µmol/L
Alanine Aminotransferase (ALT)	IFCC w/P5P (8L92)	**		**		**		U/L	**		**		**		µkat/L
Alanine Aminotransferase (ALT)	NADH w/out P5P (7D56)	36.5	29.2 - 43.8	101	81.0 - 122	154	123 - 185	U/L	0.61	0.49 - 0.73	1.69	1.35 - 2.03	2.58	2.06 - 3.09	µkat/L
Albumin	BCG (7D53)	4.03	3.22 - 4.84	3.40	2.72 - 4.08	2.70	2.16 - 3.24	g/dL	40.3	32.2 - 48.4	34.0	27.2 - 40.8	27.0	21.6 - 32.4	g/L
Albumin	BCP (7D54)	**		**		**		g/dL	**		**		**		g/L
Alkaline Phosphatase (ALP) ^(c)	IFCC (7D55)	**		**		**		U/L	**		**		**		µkat/L
Alkaline Phosphatase (ALP) ^(c)	p-NPP (7D55)	48.4	38.7 - 58.1	217	174 - 261	397	317 - 476	U/L	0.81	0.65 - 0.97	3.63	2.90 - 4.35	6.62	5.30 - 7.95	µkat/L
Amikacin	PETINIA (6L35 w/5P04 Cal.)	**		**		**		µg/mL	**		**		**		µmol/L
Amikacin	PETINIA (6L35 w/6L35-01 Cal.)	**		**		**		µg/mL	**		**		**		µmol/L
Amylase	CNPG3 (7D58)	95.5	76.4 - 115	301	241 - 361	502	401 - 602	U/L	1.59	1.28 - 1.91	5.03	4.02 - 6.03	8.38	6.70 - 10.1	µkat/L
Amylase	CNPG3, IFCC (7D58)	**		**		**		U/L	**		**		**		µkat/L
Amylase, Pancreatic	Enzymatic (6K22)	**		**		**		U/L	**		**		**		µkat/L
Apolipoprotein A1 (APO A1)	Immunoturbidimetric (9D92)	**		**		**		mg/dL	**		**		**		g/L
Apolipoprotein B (APO B)	Immunoturbidimetric (9D93)	**		**		**		mg/dL	**		**		**		g/L
Aspartate Aminotransferase (AST)	NADH w/out P5P (7D81)	37.2	29.8 - 44.6	154	123 - 185	276	220 - 331	U/L	0.62	0.50 - 0.75	2.58	2.06 - 3.09	4.60	3.68 - 5.52	µkat/L
Aspartate Aminotransferase (AST)	NADH w/P5P, Activated (8L91 Non U.S.)	**		**		**		U/L	**		**		**		µkat/L
Bilirubin, Direct ^(a)	Diazo (8G63)	0.68	0.54 - 0.82	2.77	2.22 - 3.32	4.06	3.25 - 4.87	mg/dL	11.6	9.23 - 14.0	47.4	38.0 - 56.8	69.4	55.6 - 83.3	µmol/L
Bilirubin, Total ^(a)	Diazonium Salt (6L45)	0.68	0.54 - 0.82	3.24	2.59 - 3.89	6.45	5.16 - 7.74	mg/dL	11.6	9.23 - 14.0	55.4	44.3 - 66.6	110	88.2 - 132	µmol/L
Calcium	Arsenazo III (3L79)	6.68	5.34 - 8.02	9.22	7.38 - 11.1	12.4	9.94 - 14.9	mg/dL	1.67	1.33 - 2.00	2.30	1.84 - 2.76	3.10	2.48 - 3.72	mmol/L
Carbamazepine	CMIA (1P36)	3.40	2.72 - 4.08	7.74	6.19 - 9.29	12.4	9.88 - 14.8	µg/mL	14.4	11.5 - 17.3	32.8	26.2 - 39.3	52.3	41.8 - 62.7	µmol/L
Carbamazepine	CMIA (1P36 Non U.S.)	**		**		**		µg/mL	**		**		**		µmol/L
Carbamazepine	PETINIA (5P05)	**		**		**		µg/mL	**		**		**		µmol/L
Carbon Dioxide (CO2)	PEPC (3L80)	28.4	21.3 - 35.5	20.0	14.2 - 25.8	13.5	7.98 - 19.0	mEq/L	28.4	21.3 - 35.5	20.0	14.2 - 25.8	13.5	7.98 - 19.0	mmol/L
Chloride (Cl)	Indirect ISE (2P32)	97.4	77.9 - 117	92.8	74.2 - 111	84.6	67.7 - 102	mEq/L	97.4	77.9 - 117	92.8	74.2 - 111	84.6	67.7 - 102	mmol/L
Cholesterol, HDL	Accelerator Selective Detergent (3K33)	53.2	42.6 - 63.8	35.2	28.2 - 42.2	21.0	16.8 - 25.2	mg/dL	1.38	1.10 - 1.65	0.91	0.73 - 1.09	0.54	0.44 - 0.65	mmol/L
Cholesterol, HDL	Enzymatic (DiaSys)	**		**		**		mg/dL	**		**		**		mmol/L
Cholesterol, LDL	Enzymatic (DiaSys)	**		**		**		mg/dL	**		**		**		mmol/L
Cholesterol, LDL	Selective Detergent (1E31)	86.8	69.4 - 104	65.0	52.0 - 78.0	38.4	30.7 - 46.1	mg/dL	2.25	1.80 - 2.70	1.68	1.35 - 2.02	0.99	0.80 - 1.19	mmol/L
Cholesterol, Total	Enzymatic (7D62)	207	165 - 248	136	109 - 164	65.9	52.7 - 79.1	mg/dL	5.35	4.28 - 6.42	3.53	2.83 - 4.24	1.71	1.37 - 2.05	mmol/L
Cholinesterase/Pseudocholinesterase	Butyrylthiocholine (6K24)	**		**		**		U/mL	**		**		**		µkat/L
Cholinesterase/Pseudocholinesterase	Enzymatic (6K92)	**		**		**		U/mL	**		**		**		µkat/L
Creatine Kinase (CK)	NAC (7D63)	86.5	69.2 - 104	368	295 - 442	638	511 - 766	U/L	1.44	1.16 - 1.73	6.15	4.92 - 7.38	10.7	8.53 - 12.8	µkat/L
Creatinine	Alkaline Picrate (3L81)	1.13	0.90 - 1.36	4.05	3.24 - 4.86	6.87	5.50 - 8.24	mg/dL	99.9	79.6 - 120	358	286 - 430	60.7	48.6 - 72.8	µmol/L
Creatinine	Enzymatic (8L24)	**		**		**		mg/dL	**		**		**		µmol/L
Creatinine	Jaffé (DiaSys)	**		**		**		mg/dL	**		**		**		µmol/L
Digoxin	CMIA (1P32)	0.91	0.73 - 1.09	2.01	1.61 - 2.41	3.18	2.54 - 3.82	ng/mL	1.17	0.94 - 1.40	2.57	2.06 - 3.09	4.07	3.25 - 4.89	nmol/L
Digoxin	PETINIA (1E06 w/1E06-02 Cal.)	**		**		**		ng/mL	**		**		**		nmol/L
Digoxin	PETINIA (1E06 w/5P04 Cal.)	**		**		**		ng/mL	**		**		**		nmol/L
Ethanol	Alcohol Dehydrogenase (3L36)	20.1	16.1 - 24.1	104	83.4 - 125	187	149 - 224	mg/dL	4.36	3.49 - 5.23	22.6	18.1 - 27.2	40.5	32.4 - 48.6	mmol/L
Gamma-Glutamyltransferase (GGT)	GCNA (7D65)	36.1	27.8 - 44.4	90.1	72.1 - 108	150	120 - 180	U/L	0.60	0.46 - 0.74	1.50	1.20 - 1.81	2.50	2.00 - 3.00	µkat/L
Gentamicin	CMIA (1P31)	8.92	7.14 - >10.0	5.05	4.04 - 6.06	1.92	1.54 - 2.30	µg/mL	18.7	15.0 - >20.9	10.6	8.46 - 12.7	4.02	3.22 - 4.82	µmol/L
Gentamicin	PETINIA (1E11)	**		**		**		µg/mL	**		**		**		µmol/L
Glucose	Hexokinase, G-6-PDH (3L82)	60.0	48.0 - 72.0	204	163 - 245	358	287 - 430	mg/dL	3.33	2.66 - 4.00	11.3	9.07 - 13.6	19.9	15.9 - 23.9	mmol/L
Haptoglobin	Immunoturbidimetric (9D91)	**		**		**		µg/dL	**		**		**		µmol/L
Iron	Ferene (6K95)	251	200 - 301	159	128 - 191	69.6	55.7 - 83.5	mg/dL	44.9	35.9 - 53.9	28.6	22.8 - 34.3	12.5	9.97 - 15.0	µmol/L
Iron Binding Capacity, Unsaturated (UIBC)	Ferene (4R29)	**		**		**		µg/dL	**		**		**		µmol/L
Lactate Dehydrogenase	Lactate to Pyruvate (2P56)	101	80.6 - 121	238	190 - 286	375	300 - 450	U/L	1.68	1.35 - 2.02	3.97	3.18 - 4.77	6.26	5.01 - 7.51	µkat/L
Lactic Acid	Lactate to Pyruvate (9P18)	11.9	9.54 - 14.3	33.5	26.8 - 40.2	57.0	45.6 - 68.4	mg/dL	1.32	1.06 - 1.59	3.72	2.97 - 4.46	6.33	5.06 - 7.59	mmol/L
Lipase	Quinone Dye (7D80)	33.9	27.1 - 40.7	47.2	37.8 - 56.6	63.7	51.0 - 76.4	U/L	0.57	0.45 - 0.68	0.79	0.63 - 0.95	1.06	0.85 - 1.28	µkat/L
Lipoprotein (a)	Immunoturbidimetric (7K00)	**		**		**		mg/dL	**		**		**		nmol/L
Lithium	Colorimetric (8L25)	0.80	0.64 - 0.96	1.48	1.18 - 1.78	2.17	1.74 - 2.60	mEq/L	0.80	0.64 - 0.96	1.48	1.18 - 1.78	2.17	1.74 - 2.60	mmol/L
Magnesium ^(c)	Arsenazo III (7D70)	**		**		**		mg/dL	**		**		**		mmol/L
Magnesium ^(c)	Enzymatic (3P68)	0.94	0.75 - 1.13	2.73	2.18 - 3.28	4.58	3.66 - 5.50	mg/dL	0.39	0.31 - 0.46	1.12	0.90 - 1.35	1.88	1.51 - 2.26	mmol/L
Magnesium ^(c)	Enzymatic (3P68 Non U.S.)	**		**		**		mg/dL	**		**		**		mmol/L
Phenobarbital	CMIA (1P33)	9.75	7.80 - 11.7	30.0	24.0 - 36.0	50.9	40.7 - 61.0	µg/mL	42.0	33.6 - 50.4	129	103 - 155	219	175 - 263	µmol/L
Phenobarbital	PETINIA (5P07)	**		**		**		µg/mL	**		**		**		µmol/L
Phenytoin	CMIA (1P34)	4.44	3.55 - 5.33	12.2	9.74 - 14.6	19.8	15.8 - 23.7	µg/mL	17.6	14.1 - 21.1	48.2	38.6 - 57.9	78.4	62.7 - 94.0	µmol/L
Phenytoin	EIA (5P08)	**		**		**		µg/mL	**		**		**		µmol/L

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	CHA24081A		CHA24082A		CHA24083A		U	CHA24081A		CHA24082A		CHA24083A		U	
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ABBOTT AEROSET / ARCHITECT SYSTEMS (Continued)															
Phosphorus ^{(b)(c)}	Phosphomolybdate (7D71)	2.25	1.80 - 2.70	4.95	3.96 - 5.94	7.27	5.82 - 8.72	mg/dL	0.73	0.58 - 0.87	1.60	1.28 - 1.92	2.35	1.88 - 2.82	mmol/L
Potassium (K)	Indirect ISE (2P32)	2.72	2.18 - 3.26	4.46	3.57 - 5.35	6.16	4.93 - 7.39	mEq/L	2.72	2.18 - 3.26	4.46	3.57 - 5.35	6.16	4.93 - 7.39	mmol/L
Prealbumin	Immunoturbidimetric (1E02)	24.0	19.2 - 28.8	17.7	14.2 - 21.2	11.6	9.28 - 13.9	mg/dL	240	192 - 288	177	142 - 212	116	92.8 - 139	mg/L
Quinidine	PETIA (6L31)	**	**	**	**	**	**	µg/mL	**	**	**	**	**	**	µmol/L
Salicylate ^(b)	Enzymatic, Colorimetric (3K01)	6.09	<5.00 - 7.89	15.8	12.6 - 19.0	23.3	18.7 - 28.0	mg/dL	0.44	<0.36 - 0.57	1.14	0.91 - 1.37	1.69	1.35 - 2.03	mmol/L
Sodium (Na)	Indirect ISE (2P32)	159	127 - 191	135	108 - 162	118	<100 - 142	mEq/L	159	127 - 191	135	108 - 162	118	<100 - 142	mmol/L
Theophylline	CMIA (1P29)	**	**	**	**	**	**	µg/mL	**	**	**	**	**	**	µmol/L
Theophylline	EIA (5P06)	5.42	4.34 - 6.50	18.0	14.4 - 21.6	29.9	23.9 - 35.9	µg/mL	30.1	24.1 - 36.1	99.8	79.9 - 120	166	133 - 199	µmol/L
Thyroid Stimulating Hormone (TSH)															
	CMIA (7K62)	1.30	1.04 - 1.56	3.94	3.15 - 4.73	7.66	6.13 - 9.19	µIU/mL	1.30	1.04 - 1.56	3.94	3.15 - 4.73	7.66	6.13 - 9.19	mIU/L
Thyroid Uptake	CMIA (2K48)	29.7	23.7 - 35.6	35.7	28.5 - 42.8	47.0	37.6 - 56.3	%	29.7	23.7 - 35.6	35.7	28.5 - 42.8	47.0	37.6 - 56.3	%
Thyroid Uptake	CMIA (2K48)	**	**	**	**	**	**	Unit	**	**	**	**	**	**	Unit
Thyroxine, Total (T4)	CMIA (7K66)	7.66	6.13 - 9.19	10.4	8.30 - 12.5	13.1	10.5 - 15.7	µg/dL	98.6	78.9 - 118	134	107 - 160	169	135 - 203	nmol/L
Tobramycin	PETINIA (7F93)	1.71	1.37 - 2.05	5.41	4.33 - 6.49	8.84	7.07 - >10.0	µg/mL	3.66	2.93 - 4.38	11.6	9.26 - 13.9	18.9	15.1 - >21.4	µmol/L
Total Protein	Biuret (7D73)	7.13	5.70 - 8.56	5.60	4.48 - 6.72	4.01	3.21 - 4.81	g/dL	71.3	57.0 - 85.6	56.0	44.8 - 67.2	40.1	32.1 - 48.1	g/L
Triglycerides ^(b)	GPO (7D74)	202	161 - 242	141	113 - 169	72.2	57.8 - 86.6	mg/dL	2.28	1.82 - 2.74	1.59	1.27 - 1.91	0.82	0.65 - 0.98	mmol/L
Urea Nitrogen (BUN)	Urease, GLDH (7D75)	14.9	11.9 - 17.9	40.2	32.2 - 48.2	64.4	51.5 - 77.3	mg/dL	5.32	4.25 - 6.38	14.4	11.5 - 17.2	23.0	18.4 - 27.6	mmol/L
Urea, Total	Urease, GLDH (7D75)	31.9	25.5 - 38.3	86.0	68.8 - 103	138	110 - 165	mg/dL	5.32	4.25 - 6.38	14.3	11.5 - 17.2	23.0	18.4 - 27.6	mmol/L
Uric Acid	Uricase (3P39)	3.17	2.54 - 3.80	6.99	5.59 - 8.39	10.8	8.66 - 13.0	mg/dL	189	151 - 226	416	332 - 499	644	515 - 773	µmol/L
Valproic Acid	CMIA (1P35)	144	115 - >150	89.4	71.5 - 107	31.2	25.0 - 37.5	µg/mL	995	796 - >1040	620	496 - 744	216	173 - 260	µmol/L
Valproic Acid	PETINIA (1E13 w/5P04 Cal.)	**	**	**	**	**	**	µg/mL	**	**	**	**	**	**	µmol/L
Vancomycin	CMIA (1P30)	8.28	6.62 - 9.94	22.6	18.1 - 27.1	36.8	29.5 - 44.2	µg/mL	5.71	4.57 - 6.86	15.6	12.5 - 18.7	25.4	20.3 - 30.5	µmol/L
Vancomycin	CMIA (1P30 Non U.S.)	**	**	**	**	**	**	µg/mL	**	**	**	**	**	**	µmol/L
Vancomycin	PETINIA (6E44 w/5P04 Cal.)	**	**	**	**	**	**	µg/mL	**	**	**	**	**	**	µmol/L



MAS[®] ChemTRAK[®] - H

LIQUID ASSAYED CHEMISTRY CONTROL

IVD

U	CON						SI							
	CHA24081A		CHA24082A		CHA24083A		U	CHA24081A		CHA24082A		CHA24083A		U
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ABBOTT ALINITY SYSTEMS														
Alanine Aminotransferase (ALT)														
IFCC w/P5P (08P18)	**	**	**			U/L	**	**	**					µkat/L
Alanine Aminotransferase (ALT)														
NADH w/out P5P (07P98)	35.3	28.2 - 42.4	99.0	79.2 - 119	150	120 - 180	U/L	0.59	0.47 - 0.71	1.65	1.32 - 1.98	2.51	2.01 - 3.01	µkat/L
Albumin BCG (08P02)	4.08	3.26 - 4.90	3.41	2.73 - 4.09	2.70	2.16 - 3.24	g/dL	40.8	32.6 - 49.0	34.1	27.3 - 40.9	27.0	21.6 - 32.4	g/L
Albumin BCP (08P03)	**	**	**	**	**	**	g/dL	**	**	**	**	**	**	g/L
Alkaline Phosphatase (ALP) ^(c)														
p-NPP, IFCC (08P20)	48.5	38.8 - 58.2	212	169 - 254	385	308 - 461	U/L	0.81	0.65 - 0.97	3.53	2.83 - 4.24	6.42	5.14 - 7.71	µkat/L
Amylase CNPG3, IFCC (07P58)	92.5	74.0 - 111	292	233 - 350	492	393 - 590	U/L	158	126 - 190	498	398 - 598	839	672 - 1007	µkat/L
Apolipoprotein A1 (APO A1)														
Immunoturbidimetric (09P46)	**	**	**	**	**	**	mg/dL	**	**	**	**	**	**	g/L
Apolipoprotein B (APO B)														
Immunoturbidimetric (09P47)	**	**	**	**	**	**	mg/dL	**	**	**	**	**	**	g/L
Aspartate Aminotransferase (AST)														
NADH w/out P5P (08P17)	36.4	29.1 - 43.7	149	119 - 179	262	209 - 314	U/L	0.61	0.49 - 0.73	2.49	1.99 - 2.98	4.37	3.50 - 5.25	µkat/L
Aspartate Aminotransferase (AST)														
NADH w/P5P (08P23)	**	**	**	**	**	**	U/L	**	**	**	**	**	**	µkat/L
Bilirubin, Direct ^(a)	0.66	0.53 - 0.79	2.76	2.21 - 3.31	4.02	3.22 - 4.82	mg/dL	11.3	9.06 - 13.5	47.2	37.8 - 56.6	68.7	55.1 - 82.4	µmol/L
Bilirubin, Total ^(a)	0.75	0.60 - 0.90	3.25	2.60 - 3.90	6.46	5.17 - 7.75	mg/dL	12.8	10.3 - 15.4	55.6	44.5 - 66.7	110	88.4 - 133	µmol/L
Calcium Arsenazo III (07P57)	6.61	5.29 - 7.93	9.26	7.41 - 11.1	12.7	10.1 - 15.2	mg/dL	1.65	1.32 - 1.98	2.31	1.85 - 2.77	3.16	2.53 - 3.79	mmol/L
Carbamazepine PETINIA (08P58)	3.70	2.38 - 5.02	6.44	4.73 - 8.15	9.58	7.06 - 12.1	µg/mL	15.7	10.1 - 21.2	27.3	20.0 - 34.5	40.5	29.9 - 51.2	µmol/L
Chloride (Cl) Indirect ISE (07P53)	97.7	78.2 - 117	92.6	74.1 - 111	84.3	67.4 - 101	mEq/L	97.7	78.2 - 117	92.6	74.1 - 111	84.3	67.4 - 101	mmol/L
Cholesterol, HDL Accelerator Selective Detergent (07P75)	55.0	44.0 - 66.0	36.9	29.5 - 44.2	21.0	16.8 - 25.2	mg/dL	1.42	1.14 - 1.71	0.95	0.76 - 1.15	0.54	0.43 - 0.65	mmol/L
Cholesterol, LDL Liquid Selective Detergent (07P71)	88.1	70.5 - 106	65.9	52.7 - 79.1	37.6	30.1 - 45.1	mg/dL	2.28	1.83 - 2.74	1.71	1.37 - 2.05	0.97	0.78 - 1.17	mmol/L
Cholesterol, Total Enzymatic (07P76)	203	163 - 244	134	107 - 161	63.8	51.0 - 76.6	mg/dL	5.27	4.21 - 6.32	3.47	2.77 - 4.16	1.65	1.32 - 1.98	mmol/L
Cholinesterase/Pseudocholinesterase														
Butyrylthiocholine (09P94)	**	**	**	**	**	**	U/mL	**	**	**	**	**	**	µkat/L
Creatine Kinase (CK) NAC (08P42)	86.5	69.2 - 104	359	287 - 431	623	498 - 747	U/L	1.44	1.16 - 1.73	6.00	4.80 - 7.20	10.4	8.32 - 12.5	µkat/L
Creatinine Enzymatic (08P01)	**	**	**	**	**	**	mg/dL	**	**	**	**	**	**	µmol/L
Creatinine Kinetic Alkaline Picrate (07P99)	1.15	0.92 - 1.38	4.11	3.29 - 4.93	6.90	5.52 - 8.28	mg/dL	102	81.3 - 122	363	291 - 436	610	488 - 732	µmol/L
Digoxin PETINIA (08P37)	0.90	0.72 - 1.08	1.88	1.50 - 2.26	2.85	2.28 - 3.42	ng/mL	1.15	0.92 - 1.38	2.41	1.92 - 2.90	3.65	2.92 - 4.38	nmol/L
Ethanol Alcohol Dehydrogenase (08P41)	20.0	14.2 - 25.9	106	84.6 - 127	191	153 - 229	mg/dL	4.35	3.08 - 5.62	23.0	18.4 - 27.5	41.4	33.1 - 49.7	mmol/L
Gamma-Glutamyltransferase (GGT)														
GCNA (07P73)	**	**	**	**	**	**	U/L	**	**	**	**	**	**	µkat/L
Gentamicin PETINIA (08P55)	**	**	**	**	**	**	µg/mL	**	**	**	**	**	**	µmol/L
Glucose Hexokinase, G-6-PDH (07P55)	60.6	48.5 - 72.7	209	167 - 250	362	290 - 434	mg/dL	3.36	2.69 - 4.04	11.6	9.26 - 13.9	20.1	16.1 - 24.1	mmol/L
Haptoglobin Immunoturbidimetric (09P59)	**	**	**	**	**	**	mg/dL	**	**	**	**	**	**	µmol/L
Iron Ferene (08P39)	**	**	**	**	**	**	µg/dL	**	**	**	**	**	**	µmol/L
Lactate Dehydrogenase														
Lactate to Pyruvate (07P74)	**	**	**	**	**	**	U/L	**	**	**	**	**	**	µkat/L
Lactic Acid Lactate to Pyruvate (08P21)	12.2	9.75 - 14.6	34.0	27.2 - 40.8	58.4	46.7 - 70.1	mg/dL	1.35	1.08 - 1.62	3.78	3.02 - 4.53	6.49	5.19 - 7.78	mmol/L
Lithium Colorimetric (08P53)	**	**	**	**	**	**	mEq/L	**	**	**	**	**	**	mmol/L
Magnesium ^(c) Enzymatic (08P19)	0.97	0.78 - 1.16	2.68	2.14 - 3.22	4.47	3.58 - 5.36	mg/dL	0.40	0.32 - 0.48	1.10	0.88 - 1.32	1.84	1.47 - 2.21	mmol/L
Phenytoin EIA (08P54)	5.56	4.45 - 6.67	13.0	10.4 - 15.6	20.4	16.3 - 24.5	µg/mL	22.0	17.6 - 26.4	51.6	41.3 - 61.9	80.9	64.7 - 97.0	µmol/L
Phosphorus Phosphomolybdate (08P40)	2.19	1.75 - 2.63	4.87	3.90 - 5.84	7.18	5.74 - 8.62	mg/dL	0.71	0.57 - 0.85	1.57	1.26 - 1.89	2.32	1.85 - 2.78	mmol/L
Potassium (K) Indirect ISE (07P53)	2.71	2.17 - 3.25	4.38	3.50 - 5.26	6.06	4.85 - 7.27	mEq/L	2.71	2.17 - 3.25	4.38	3.50 - 5.26	6.06	4.85 - 7.27	mmol/L
Sodium (Na) Indirect ISE (07P53)	158	127 - 190	133	106 - 160	117	<100 - 140	mEq/L	158	127 - 190	133	106 - 160	117	<100 - 140	mmol/L
Theophylline EIA (09P89)	**	**	**	**	**	**	µg/mL	**	**	**	**	**	**	µmol/L
Thyroid Stimulating Hormone (TSH)														
CMIA (07P48)	1.37	1.10 - 1.64	4.14	3.31 - 4.97	7.95	6.36 - 9.54	µIU/mL	1.37	1.10 - 1.64	4.14	3.31 - 4.97	7.95	6.36 - 9.54	mIU/L
Total Protein Biuret (07P52)	7.06	5.65 - 8.47	5.50	4.40 - 6.60	3.89	3.11 - 4.67	g/dL	70.6	56.5 - 84.7	55.0	44.0 - 66.0	38.9	31.1 - 46.7	g/L
Triglycerides GPO (07P77)	203	162 - 244	143	114 - 171	71.2	57.0 - 85.4	mg/dL	2.29	1.84 - 2.75	1.61	1.29 - 1.94	0.80	0.64 - 0.97	mmol/L
Urea Nitrogen (BUN) Urease (08P16)	14.7	11.7 - 17.6	40.4	32.3 - 48.5	65.1	52.1 - 78.2	mg/dL	5.24	4.19 - 6.29	14.4	11.5 - 17.3	23.2	18.6 - 27.9	mmol/L
Uric Acid Uricase (08P56)	3.13	2.50 - 3.76	7.02	5.62 - 8.42	10.9	8.73 - 13.1	mg/dL	186	149 - 224	418	334 - 501	649	519 - 779	µmol/L
Vancomycin PETINIA (08P52)	7.54	6.03 - 9.05	20.5	16.4 - 24.6	34.7	27.8 - 41.7	µg/mL	5.20	4.16 - 6.24	14.2	11.3 - 17.0	24.0	19.2 - 28.8	µmol/L



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IVD

U	CON						SI						
	CHA24081A		CHA24082A		CHA24083A		CHA24081A		CHA24082A		CHA24083A		
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BECKMAN COULTER AU SERIES													
Acetaminophen	EIA (DRI)	**		**		**		**		**		**	
Acetaminophen	Emit Tox (OSR7A229)	26.9	21.5 - 32.3	79.7	63.8 - 95.7	137	93.6 - 180	178	142 - 214	527	422 - 633	906	619 - 1194
Alanine Aminotransferase (ALT)	IFCC w/out P5P (OSR6x07)	**		**		**		**		**		**	
Alanine Aminotransferase (ALT)	IFCC w/P5P (OSR6x07 Non U.S.)	**		**		**		**		**		**	
Albumin	BCG (OSR6x02)	4.21	3.37 - 5.05	3.60	2.88 - 4.32	2.90	2.32 - 3.48	42.1	33.7 - 50.5	36.0	28.8 - 43.2	29.0	23.2 - 34.8
Albumin	BCG (OSR6x02 Non U.S.)	**		**		**		**		**		**	
Alkaline Phosphatase (ALP) ^(c)	pNPP, IFCC (OSR6x04)	43.6	34.9 - 52.3	221	177 - 265	406	325 - 488	0.73	0.58 - 0.87	3.69	2.95 - 4.43	6.79	5.43 - 8.14
Alkaline Phosphatase (ALP) ^(c)	pNPP, IFCC (OSR6x04 Non U.S.)	**		**		**		**		**		**	
Amikacin	Emit (6X019UL)	**		**		**		**		**		**	
Amikacin	QMS	**		**		**		**		**		**	
Amylase	CNPG3 (OSR6x06)	71.0	56.8 - 85.2	238	191 - 286	406	325 - 487	1.19	0.95 - 1.42	3.98	3.18 - 4.78	6.78	5.42 - 8.14
Amylase	CNPG3 (OSR6x06 Non U.S.)	**		**		**		**		**		**	
Amylase	IFCC (OSR6182 Non U.S.)	**		**		**		**		**		**	
Apolipoprotein A1 (APO A1)	Immunoturbidimetric (OSR6142)	**		**		**		**		**		**	
Apolipoprotein B (APO B)	Immunoturbidimetric (OSR6143)	**		**		**		**		**		**	
Aspartate Aminotransferase (AST)	IFCC w/out P5P (OSR6x09)	32.2	25.8 - 38.6	130	104 - 156	232	186 - 279	0.54	0.43 - 0.65	2.17	1.74 - 2.60	3.88	3.10 - 4.65
Aspartate Aminotransferase (AST)	IFCC w/P5P (OSR6x09 Non U.S.)	**		**		**		**		**		**	
Bilirubin, Direct ^(a)	DPD (OSR61181)	**		**		**		**		**		**	
Bilirubin, Direct ^(a)	DPD (OSR6x11)	0.60	0.48 - 0.72	2.69	2.15 - 3.23	4.20	3.36 - 5.04	10.3	8.21 - 12.3	46.0	36.8 - 55.2	71.8	57.5 - 86.2
Bilirubin, Direct ^(a)	DPD (OSR6x11 Non U.S.)	**		**		**		**		**		**	
Bilirubin, Total ^(a)	DPD (OSR6x12)	1.10	0.88 - 1.32	3.94	3.15 - 4.73	7.21	5.77 - 8.65	18.8	15.1 - 22.6	67.4	53.9 - 80.9	123	98.7 - 148
Bilirubin, Total ^(a)	DPD (OSR6x12 Non U.S.)	**		**		**		**		**		**	
Caffeine	Emit (6P419UL)	4.35	3.48 - 5.22	12.4	9.89 - 14.8	20.2	16.1 - 24.2	22.4	17.9 - 26.9	63.7	50.9 - 76.4	104	83.1 - 125
Calcium	Arsenazo III (OSR6x117)	6.21	4.97 - 7.45	8.96	7.17 - 10.8	12.4	9.90 - 14.9	1.55	1.24 - 1.86	2.24	1.79 - 2.68	3.09	2.47 - 3.71
Calcium	Arsenazo III (OSR6x117 Non U.S.)	**		**		**		**		**		**	
Calcium	o-Cresolphthalein Complexone (OSR6x13)	**		**		**		**		**		**	
Carbamazepine	CEDIA (100006)	**		**		**		**		**		**	
Carbamazepine	CEDIA (OSR6414 Non U.S.)	**		**		**		**		**		**	
Carbamazepine	Emit 2000 (OSR4F229)	4.05	3.12 - 4.98	9.28	6.34 - 12.2	14.6	11.5 - 17.7	17.1	13.2 - 21.1	39.3	26.8 - 51.7	61.9	48.7 - 75.1
Carbon Dioxide (CO2)	PEPC (OSR6x37)	30.5	24.4 - 36.6	22.9	18.3 - 27.5	16.8	13.4 - 20.2	30.5	24.4 - 36.6	22.9	18.3 - 27.5	16.8	13.4 - 20.2
Carbon Dioxide (CO2)	PEPC (OSR6x90 Non U.S.)	**		**		**		**		**		**	
Chloride (Cl)	Indirect ISE	97.2	77.8 - 117	92.3	73.8 - 111	83.5	66.8 - 100	97.2	77.8 - 117	92.3	73.8 - 111	83.5	66.8 - 100
Chloride (Cl)	Indirect ISE (Non U.S.)	**		**		**		**		**		**	
Cholesterol, HDL	Enzymatic (OSR6x95)	50.5	40.4 - 60.6	32.7	26.2 - 39.2	17.7	14.1 - 21.2	1.31	1.05 - 1.57	0.85	0.68 - 1.02	0.46	0.37 - 0.55
Cholesterol, HDL	Enzymatic (OSR6x87 Non U.S.)	**		**		**		**		**		**	
Cholesterol, LDL	Selective Detergents (OSR6x96)	78.5	62.8 - 94.2	59.3	47.4 - 71.2	34.2	27.4 - 41.0	2.03	1.63 - 2.44	1.54	1.23 - 1.84	0.89	0.71 - 1.06
Cholesterol, LDL	Selective Detergents (OSR6x83 Non U.S.)	**		**		**		**		**		**	
Cholesterol, Total	Enzymatic (OSR6x16)	195	156 - 234	129	103 - 155	60.3	48.2 - 72.4	5.05	4.04 - 6.06	3.34	2.67 - 4.01	1.56	1.25 - 1.87
Cholesterol, Total	Enzymatic (OSR6x16 Non U.S.)	**		**		**		**		**		**	
Cholinesterase/Pseudocholinesterase	Butyrylthiocholine (OSR6114)	**		**		**		**		**		**	
Creatine Kinase (CK)	IFCC (OSR6x79)	72.8	58.2 - 87.4	325	260 - 390	565	452 - 678	1.22	0.97 - 1.46	5.43	4.35 - 6.52	9.44	7.55 - 11.3
Creatine Kinase (CK)	IFCC (OSR6x79 Non U.S.)	**		**		**		**		**		**	
Creatinine	Enzymatic (OSR61204)	**		**		**		**		**		**	
Creatinine	Enzymatic (OSR61204 Non U.S.)	**		**		**		**		**		**	
Creatinine	Jaffé (OSR6178)	0.92	0.74 - 1.10	3.70	2.96 - 4.44	6.57	5.26 - 7.88	81.3	65.4 - 97.2	327	262 - 393	581	465 - 697
Creatinine	Jaffé Uncompensated (OSR6x78)	**		**		**		**		**		**	
Digoxin	EIA (DRI 1669-A)	**		**		**		**		**		**	



MAS[®] ChemTRAK[®] - H

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IVD

U	CON							SI							
	CHA24081A		CHA24082A		CHA24083A		U	CHA24081A		CHA24082A		CHA24083A		U	
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BECKMAN COULTER AU SERIES (Continued)															
Digoxin	EIA (DRI 1669 Non U.S.)	**		**		**		ng/mL	**		**		nmol/L		
Digoxin	EMIT 2000 (OSR4H229)	1.05	0.84 - 1.26	2.11	1.69 - 2.53	3.42	2.74 - 4.10	ng/mL	1.35	1.08 - 1.61	2.70	2.16 - 3.24	4.38	3.51 - 5.25	nmol/L
Digoxin	Microparticles (OSR6404)	**		**		**		ng/mL	**		**		nmol/L		
Digoxin	Microparticles (OSR6404 Germany)	**		**		**		ng/mL	**		**		nmol/L		
Disopyramide	Emit (6N319UL)	**		**		**		µg/mL	**		**		µmol/L		
Ethanol	ADH (DiaSys)	**		**		**		mg/dL	**		**		mmol/L		
Ethanol	ADH (DRI)	**		**		**		mg/dL	**		**		mmol/L		
Ethanol	Emit II Plus (OSR9K229)	19.5	13.1 - 25.9	105	83.9 - 126	190	152 - 228	mg/dL	4.23	2.85 - 5.61	22.8	18.2 - 27.3	41.3	33.0 - 49.5	mmol/L
Ethosuximide	Emit (6E119UL)	**		**		**		µg/mL	**		**		µmol/L		
Gamma-Glutamyltransferase (GGT)	IFCC (OSR6x20 Non U.S.)	**		**		**		U/L	**		**		µkat/L		
Gamma-Glutamyltransferase (GGT)	Szasz (OSR6x19)	26.1	20.9 - 31.3	66.9	53.5 - 80.3	108	86.2 - 129	U/L	0.44	0.35 - 0.52	1.12	0.89 - 1.34	1.80	1.44 - 2.16	µkat/L
Gamma-Glutamyltransferase (GGT)	Szasz (OSR6x19 Non U.S.)	**		**		**		U/L	**		**		µkat/L		
Gentamicin	CEDIA (100016)	**		**		**		µg/mL	**		**		µmol/L		
Gentamicin	CEDIA (OSR6420 Non U.S.)	**		**		**		µg/mL	**		**		µmol/L		
Gentamicin	Emit 2000 (OSR4T229)	8.91	7.13 - >10.0	6.04	4.83 - 7.25	2.92	2.34 - 3.50	µg/mL	18.7	14.9 - >20.9	12.7	10.1 - 15.2	6.11	4.90 - 7.33	µmol/L
Gentamicin	Emit 2000 (OSR4T229 Non U.S.)	**		**		**		µg/mL	**		**		µmol/L		
Gentamicin	QMS	**		**		**		µg/mL	**		**		µmol/L		
Glucose	Hexokinase (OSR6x21)	59.2	47.4 - 71.0	200	160 - 240	343	274 - 411	mg/dL	3.29	2.63 - 3.94	11.1	8.88 - 13.3	19.0	15.2 - 22.8	mmol/L
Glucose	Hexokinase (OSR6x21 Non U.S.)	**		**		**		mg/dL	**		**		mmol/L		
Haptoglobin	Immunoturbidimetric (OSR6165)	117	93.6 - 140	85.1	68.1 - 102	51.1	40.9 - 61.3	mg/dL	11.7	9.36 - 14.0	8.51	6.81 - 10.2	5.11	4.09 - 6.13	µmol/L
Iron	TPTZ (OSR6x86)	263	210 - 316	168	134 - 201	70.0	56.0 - 84.0	µg/dL	47.1	37.7 - 56.6	30.0	24.0 - 36.0	12.5	10.0 - 15.0	µmol/L
Iron	TPTZ (OSR6x86 Non U.S.)	**		**		**		µg/dL	**		**		µmol/L		
Iron Binding Capacity, Unsaturated (UIBC)	Ferrous-Iron (OSR6x205)	**		**		**		µg/dL	**		**		µmol/L		
Iron Binding Capacity, Unsaturated (UIBC)	Ferrous-Iron (OSR6x205 Non U.S.)	**		**		**		µg/dL	**		**		µmol/L		
Lactate Dehydrogenase	Lactate to Pyruvate (OSR6x27)	83.7	67.0 - 100	196	157 - 235	306	245 - 367	U/L	1.40	1.12 - 1.68	3.27	2.62 - 3.93	5.11	4.09 - 6.13	µkat/L
Lactate Dehydrogenase	Lactate to Pyruvate (OSR6x27 Non U.S.)	**		**		**		U/L	**		**		µkat/L		
Lactate Dehydrogenase	Lactate to Pyruvate, IFCC (OSR6128 Non U.S.)	**		**		**		U/L	**		**		µkat/L		
Lactic Acid	Lactate Oxidase (OSR6193)	10.8	8.65 - 13.0	33.4	26.7 - 40.1	56.0	44.8 - 67.2	mg/dL	1.20	0.96 - 1.44	3.71	2.97 - 4.45	6.22	4.98 - 7.46	mmol/L
Lactic Acid	Lactate Oxidase (OSR6193 Non U.S.)	**		**		**		mg/dL	**		**		mmol/L		
Lidocaine	Emit (6M119UL)	**		**		**		µg/mL	**		**		µmol/L		
Lipase	Enzymatic, Colorimetric (OSR6x30)	38.5	28.9 - 48.1	55.6	39.5 - 71.7	73.8	57.6 - 90.0	U/L	0.64	0.48 - 0.80	0.93	0.66 - 1.20	1.23	0.96 - 1.50	µkat/L
Lipase	Enzymatic, Colorimetric (OSR6x30 Non U.S.)	**		**		**		U/L	**		**		µkat/L		
Lithium	Colorimetric (InfinityTM)	**		**		**		mEq/L	**		**		mmol/L		
Lithium	Spectrophotometric (OSR7056)	0.76	0.61 - 0.91	1.46	1.17 - 1.75	2.15	1.72 - 2.58	mEq/L	0.76	0.61 - 0.91	1.46	1.17 - 1.75	2.15	1.72 - 2.58	mmol/L
Magnesium ^(c)	Xylidyl Blue (OSR6189)	1.00	0.80 - 1.20	2.65	2.12 - 3.18	4.32	3.46 - 5.18	mg/dL	0.41	0.33 - 0.49	1.09	0.87 - 1.31	1.78	1.42 - 2.13	mmol/L
Magnesium ^(c)	Xylidyl Blue (OSR6189 Non U.S.)	**		**		**		mg/dL	**		**		mmol/L		
Methotrexate	Emit (6L119UL)	**		**		**		µmol/L	**		**		µmol/L		
N-Acetylprocainamide (NAPA)	CEDIA (100015)	**		**		**		µg/mL	**		**		µmol/L		
N-Acetylprocainamide (NAPA)	Emit 2000 (OSR4N229)	**		**		**		µg/mL	**		**		µmol/L		
Phenobarbital	CEDIA (100003)	**		**		**		µg/mL	**		**		µmol/L		
Phenobarbital	CEDIA (OSR6413 Non U.S.)	**		**		**		µg/mL	**		**		µmol/L		
Phenobarbital	Emit 2000 (OSR4D229)	8.60	6.56 - 10.6	29.1	21.6 - 36.5	52.9	34.2 - 71.5	µg/mL	37.0	28.3 - 45.8	125	93.1 - 157	228	147 - 308	µmol/L
Phenytoin	CEDIA (100002)	**		**		**		µg/mL	**		**		µmol/L		
Phenytoin	CEDIA (OSR6411 Non U.S.)	**		**		**		µg/mL	**		**		µmol/L		



MAS[®] ChemTRAK[®] - H

LIQUID ASSAYED CHEMISTRY CONTROL

IVD

U	CON							SI							
	CHA24081A		CHA24082A		CHA24083A		U	CHA24081A		CHA24082A		CHA24083A		U	
	\bar{x}	<R>	\bar{x}	<R>	\bar{x}	<R>		\bar{x}	<R>	\bar{x}	<R>	\bar{x}	<R>		
BECKMAN COULTER AU SERIES (Continued)															
Phenytoin	Emit 2000 (OSR4A229)	4.59	3.67 - 5.51	12.2	9.79 - 14.7	19.8	15.8 - 23.8	µg/mL	18.2	14.6 - 21.8	48.5	38.8 - 58.2	78.5	62.8 - 94.2	µmol/L
Phosphorus ^{(b)(c)}	Phosphomolybdate, UV (OSR6x22)	2.29	1.83 - 2.75	4.99	3.99 - 5.99	7.33	5.86 - 8.80	mg/dL	0.74	0.59 - 0.89	1.61	1.29 - 1.93	2.37	1.89 - 2.84	mmol/L
Phosphorus ^{(b)(c)}	Phosphomolybdate, UV (OSR6x22 Non U.S.)	**	**	**	**	**	**	mg/dL	**	**	**	**	**	**	mmol/L
Potassium (K)	Indirect ISE	2.75	2.20 - 3.30	4.30	3.44 - 5.16	5.95	4.76 - 7.14	mEq/L	2.75	2.20 - 3.30	4.30	3.44 - 5.16	5.95	4.76 - 7.14	mmol/L
Potassium (K)	Indirect ISE (Non U.S.)	**	**	**	**	**	**	mEq/L	**	**	**	**	**	**	mmol/L
Prealbumin	Immunoturbidimetric (OSR6175)	28.0	22.2 - 33.9	23.0	18.4 - 27.6	17.2	13.8 - 20.7	mg/dL	280	222 - 339	230	184 - 276	172	138 - 207	mg/L
Primidone	Emit (6C119)	**	**	**	**	**	**	µg/mL	**	**	**	**	**	**	µmol/L
Procainamide	CEDIA (100014)	**	**	**	**	**	**	µg/mL	**	**	**	**	**	**	µmol/L
Procainamide	Emit 2000 (OSR4K229)	**	**	**	**	**	**	µg/mL	**	**	**	**	**	**	µmol/L
Quinidine	Emit 2000 (OSR4Q229)	**	**	**	**	**	**	µg/mL	**	**	**	**	**	**	µmol/L
Quinidine	QMS	**	**	**	**	**	**	µg/mL	**	**	**	**	**	**	µmol/L
Salicylate ^(b)	Audit Reagent	**	**	**	**	**	**	mg/dL	**	**	**	**	**	**	mmol/L
Salicylate ^(b)	Emit Tox (OSR7S229)	6.86	5.49 - 8.23	17.8	14.3 - 21.4	26.0	20.8 - 31.2	mg/dL	0.50	0.40 - 0.60	1.29	1.03 - 1.55	1.88	1.51 - 2.26	mmol/L
Sodium (Na)	Indirect ISE	158	126 - 189	133	106 - 159	115	92.2 - 138	mEq/L	158	126 - 189	133	106 - 159	115	92.2 - 138	mmol/L
Sodium (Na)	Indirect ISE (Non U.S.)	**	**	**	**	**	**	mEq/L	**	**	**	**	**	**	mmol/L
Theophylline	CEDIA (100008)	**	**	**	**	**	**	µg/mL	**	**	**	**	**	**	µmol/L
Theophylline	CEDIA (OSR6412 Non U.S.)	**	**	**	**	**	**	µg/mL	**	**	**	**	**	**	µmol/L
Theophylline	Emit 2000 (OSR4P229)	5.08	4.06 - 6.10	16.7	13.4 - 20.1	29.7	23.5 - 36.0	µg/mL	28.2	22.5 - 33.9	92.8	74.2 - 111	165	130 - 200	µmol/L
Thyroid Uptake	CEDIA	**	**	**	**	**	**	%	**	**	**	**	**	**	%
Thyroid Uptake	EIA (DRI)	**	**	**	**	**	**	%	**	**	**	**	**	**	%
Thyroxine, Total (T4)	CEDIA	**	**	**	**	**	**	µg/dL	**	**	**	**	**	**	nmol/L
Thyroxine, Total (T4)	EIA (DRI)	**	**	**	**	**	**	µg/dL	**	**	**	**	**	**	nmol/L
Tobramycin	CEDIA (100018)	**	**	**	**	**	**	µg/mL	**	**	**	**	**	**	µmol/L
Tobramycin	Emit 2000 (OSR4S229)	2.07	1.66 - 2.48	5.78	4.62 - 6.94	9.33	7.46 - >10.0	µg/mL	4.43	3.55 - 5.30	12.4	9.88 - 14.8	20.0	16.0 - >21.4	µmol/L
Tobramycin	QMS	**	**	**	**	**	**	µg/mL	**	**	**	**	**	**	µmol/L
Total Protein	Weichselbaum (OSR6x32)	6.78	5.42 - 8.14	5.12	3.80 - 6.44	3.77	3.02 - 4.52	g/dL	67.8	54.2 - 81.4	51.2	38.0 - 64.4	37.7	30.2 - 45.2	g/L
Total Protein	Weichselbaum (OSR6x32 Non U.S.)	**	**	**	**	**	**	g/dL	**	**	**	**	**	**	g/L
Tricyclic Antidepressants (TCA) ^(d)	EIA (DRI)	**	**	**	**	**	**	ng/mL	**	**	**	**	**	**	nmol/L
Tricyclic Antidepressants (TCA) ^(d)	EIA (DRI Non U.S.)	**	**	**	**	**	**	ng/mL	**	**	**	**	**	**	nmol/L
Tricyclic Antidepressants (TCA) ^(d)	Emit Tox (7C209)	**	**	**	**	**	**	Qual.	**	**	**	**	**	**	Qual.
Triglycerides ^(b)	GPO (OSR6x118)	218	174 - 261	161	129 - 193	95.5	76.4 - 115	mg/dL	2.46	1.97 - 2.95	1.82	1.46 - 2.18	1.08	0.86 - 1.29	mmol/L
Triglycerides ^(b)	GPO (OSR6x118 Non U.S.)	**	**	**	**	**	**	mg/dL	**	**	**	**	**	**	mmol/L
Urea Nitrogen (BUN)	Urease, GLDH (OSR6x34)	15.1	12.1 - 18.1	39.7	31.8 - 47.6	63.2	50.6 - 75.8	mg/dL	5.39	4.31 - 6.47	14.2	11.3 - 17.0	22.6	18.0 - 27.1	mmol/L
Urea Nitrogen (BUN)	Urease, GLDH (OSR6x34 Non U.S.)	**	**	**	**	**	**	mg/dL	**	**	**	**	**	**	mmol/L
Urea Nitrogen (BUN)	Urease, GLDH (STAT) (OSR6x41)	**	**	**	**	**	**	mg/dL	**	**	**	**	**	**	mmol/L
Urea, Total	Urease, GLDH (OSR6x34)	32.3	25.9 - 38.8	85.0	68.0 - 102	135	108 - 162	mg/dL	5.39	4.31 - 6.46	14.2	11.3 - 17.0	22.6	18.0 - 27.1	mmol/L
Urea, Total	Urease, GLDH (OSR6x34 Non U.S.)	**	**	**	**	**	**	mg/dL	**	**	**	**	**	**	mmol/L
Uric Acid	Uricase (OSR6x98)	3.24	2.59 - 3.89	6.89	5.51 - 8.27	10.5	8.38 - 12.6	mg/dL	193	154 - 231	410	328 - 492	623	498 - 747	µmol/L
Uric Acid	Uricase (OSR6x98 Non U.S.)	**	**	**	**	**	**	mg/dL	**	**	**	**	**	**	µmol/L
Valproic Acid	CEDIA (100013)	**	**	**	**	**	**	µg/mL	**	**	**	**	**	**	µmol/L
Valproic Acid	CEDIA (OSR6415 Non U.S.)	**	**	**	**	**	**	µg/mL	**	**	**	**	**	**	µmol/L
Valproic Acid	Emit 2000 (OSR4G229)	135	108 - >150	80.2	59.6 - 101	30.0	22.7 - 37.3	µg/mL	937	749 - >1040	556	413 - 698	208	157 - 259	µmol/L
Vancomycin	QMS	**	**	**	**	**	**	µg/mL	**	**	**	**	**	**	µmol/L
Vancomycin	Emit 2000 (OSR4W229)	7.09	5.67 - 8.51	18.3	14.6 - 22.0	30.7	24.6 - 36.8	µg/mL	4.89	3.91 - 5.87	12.6	10.1 - 15.2	21.2	16.9 - 25.4	µmol/L




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LIQUID ASSAYED CHEMISTRY CONTROL

IVD

U	CON						SI							
	CHA24081A		CHA24082A		CHA24083A		CHA24081A		CHA24082A		CHA24083A		U	
	\bar{x}	<R>	\bar{x}	<R>	\bar{x}	<R>	\bar{x}	<R>	\bar{x}	<R>	\bar{x}	<R>		
BECKMAN COULTER DXC / SYNCHRON SYSTEMS														
Acetaminophen	Immunoturbidimetric (ACTM)	**	**	**	**	**	**	**	**	**	**	µmol/L		
Alanine Aminotransferase (ALT)	IFCC w/PSP (ALT-)	**	**	**	**	**	**	**	**	**	**	µkat/L		
Alanine Aminotransferase (ALT)	Kinetic Rate w/out P5P	39.6	31.7 - 47.5	109	87.1 - 131	167	133 - 200	0.66	0.53 - 0.79	1.82	1.45 - 2.18	2.78	2.23 - 3.34	µkat/L
Albumin	BCG (ALBX)	**	**	**	**	**	**	**	**	**	**	g/L		
Albumin	BCP (ALB/ALBm)	3.97	3.18 - 4.76	3.21	2.57 - 3.85	2.40	1.92 - 2.88	39.7	31.8 - 47.6	32.1	25.7 - 38.5	24.0	19.2 - 28.8	g/L
Alkaline Phosphatase (ALP) ^(c)	AMP	43.9	35.1 - 52.7	221	176 - 265	418	334 - 501	0.73	0.59 - 0.88	3.68	2.95 - 4.42	6.98	5.58 - 8.37	µkat/L
Amikacin	QMS	**	**	**	**	**	**	**	**	**	**	µmol/L		
Amylase	Enzymatic (AMY7)	91.5	73.2 - 110	277	222 - 332	466	372 - 559	1.53	1.22 - 1.83	4.63	3.70 - 5.55	7.77	6.22 - 9.33	µkat/L
Amylase, Pancreatic	Immunoinhibition, PNP (PAM)	**	**	**	**	**	**	**	**	**	**	µkat/L		
Apolipoprotein A1 (APO A1)	Immunoturbidimetric	**	**	**	**	**	**	**	**	**	**	g/L		
Apolipoprotein B (APO B)	Immunoturbidimetric	**	**	**	**	**	**	**	**	**	**	g/L		
Aspartate Aminotransferase (AST)	Enzymatic w/out P5P	29.1	23.3 - 34.9	133	106 - 160	245	196 - 294	0.49	0.39 - 0.58	2.22	1.78 - 2.67	4.10	3.28 - 4.92	µkat/L
Aspartate Aminotransferase (AST)	IFCC w/PSP (AST-)	**	**	**	**	**	**	**	**	**	**	µkat/L		
Bilirubin, Direct ^(a)	Diazo (DBIL)	0.28	0.16 - 0.40	1.56	1.25 - 1.87	2.60	2.08 - 3.12	4.79	2.74 - 6.84	26.7	21.4 - 32.0	44.5	35.6 - 53.4	µmol/L
Bilirubin, Total ^(a)	Diazo (TBIL)	1.03	0.58 - 1.48	4.01	3.11 - 4.91	7.25	5.80 - 8.70	17.6	9.92 - 25.3	68.6	53.2 - 84.0	124	99.2 - 149	µmol/L
Calcium	Indirect ISE (CALC)	5.31	4.25 - 6.37	8.44	6.75 - 10.1	11.8	9.43 - 14.2	1.32	1.06 - 1.59	2.11	1.68 - 2.53	2.94	2.35 - 3.53	mmol/L
Carbamazepine	PETINIA (CAR)	3.51	2.81 - 4.21	8.13	6.50 - 9.76	12.2	9.74 - 14.6	14.9	11.9 - 17.8	34.4	27.5 - 41.3	51.6	41.2 - 61.9	µmol/L
Carbon Dioxide (CO2)	Indirect ISE	29.5	23.6 - 35.4	22.6	18.1 - 27.1	17.0	13.6 - 20.4	29.5	23.6 - 35.4	22.6	18.1 - 27.1	17.0	13.6 - 20.4	mmol/L
Carbon Dioxide (CO2)	PEPC (CO2E)	**	**	**	**	**	**	**	**	**	**	mmol/L		
Chloride (Cl)	Indirect ISE	94.8	75.8 - 114	90.9	72.7 - 109	82.8	66.2 - 99.4	94.8	75.8 - 114	90.9	72.7 - 109	82.8	66.2 - 99.4	mmol/L
Cholesterol, HDL	Enzymatic, Colorimetric	55.2	44.1 - 66.2	35.3	28.2 - 42.3	18.3	14.6 - 21.9	1.43	1.14 - 1.72	0.91	0.73 - 1.10	0.47	0.38 - 0.57	mmol/L
Cholesterol, LDL	Enzymatic, Colorimetric (LDLD)	72.8	58.2 - 87.4	56.3	45.1 - 67.6	33.5	26.8 - 40.2	1.89	1.51 - 2.26	1.46	1.17 - 1.75	0.87	0.69 - 1.04	mmol/L
Cholesterol, Total	Enzymatic (CHOL)	202	162 - 242	138	110 - 165	74.3	59.4 - 89.2	5.23	4.18 - 6.28	3.56	2.85 - 4.28	1.92	1.54 - 2.31	mmol/L
Cholinesterase/Pseudocholinesterase	Butyrylthiocholine	**	**	**	**	**	**	**	**	**	**	µkat/L		
Creatine Kinase (CK)	Enzymatic	83.9	67.1 - 101	379	303 - 455	660	528 - 792	1.40	1.12 - 1.68	6.33	5.06 - 7.60	11.0	8.81 - 13.2	µkat/L
Creatinine	Enzymatic (CR-E)	**	**	**	**	**	**	**	**	**	**	µmol/L		
Creatinine	Jaffe (CREA/CR-S)	0.95	0.76 - 1.14	3.78	3.02 - 4.54	6.68	5.34 - 8.02	84.0	67.2 - 101	334	267 - 401	591	472 - 709	µmol/L
Creatinine	Jaffe (CREm)	**	**	**	**	**	**	**	**	**	**	µmol/L		
Digoxin	Immunoturbidimetric (DIGN)	0.90	0.69 - 1.11	1.90	1.52 - 2.28	2.87	2.30 - 3.44	1.15	0.88 - 1.42	2.43	1.95 - 2.92	3.68	2.95 - 4.41	nmol/L
Ethanol	Alcohol Dehydrogenase (ETOH)	**	**	**	**	**	**	**	**	**	**	mmol/L		
Gamma-Glutamyltransferase (GGT)	Enzymatic	28.2	22.6 - 33.8	81.3	65.0 - 97.6	136	109 - 163	0.47	0.38 - 0.57	1.36	1.09 - 1.63	2.27	1.82 - 2.72	µkat/L
Gentamicin	Immunoturbidimetric (GEN)	**	**	**	**	**	**	**	**	**	**	µmol/L		
Glucose	Glucose Oxidase (GLUCm)	62.0	49.6 - 74.4	208	166 - 249	352	282 - 423	3.44	2.75 - 4.13	11.5	9.21 - 13.8	19.5	15.6 - 23.5	mmol/L
Glucose	Hexokinase (GLU/GLUH)	**	**	**	**	**	**	**	**	**	**	mmol/L		
Haptoglobin	Immunoturbidimetric (HPT)	**	**	**	**	**	**	**	**	**	**	µmol/L		
Iron	Ferrozine (FE)	236	189 - 284	151	120 - 181	65.9	52.7 - 79.1	42.3	33.9 - 50.8	27.0	21.6 - 32.4	11.8	9.44 - 14.2	µmol/L
Iron Binding Capacity, Total (TIBC)	Ferrozine (IBCT)	**	**	**	**	**	**	**	**	**	**	µmol/L		
Lactate Dehydrogenase	Lactate to Pyruvate, (LD)	77.5	62.0 - 93.0	186	149 - 223	293	235 - 352	1.29	1.04 - 1.55	3.10	2.48 - 3.73	4.90	3.92 - 5.88	µkat/L
Lactate Dehydrogenase	Lactate to Pyruvate, IFCC (LD-IFCC)	**	**	**	**	**	**	**	**	**	**	µkat/L		
Lactate Dehydrogenase	Pyruvate to Lactate (LD-P)	**	**	**	**	**	**	**	**	**	**	µkat/L		
Lactic Acid	Enzymatic (LACT)	**	**	**	**	**	**	**	**	**	**	mmol/L		
Lipase	Panteghini (LIP)	37.8	30.2 - 45.4	55.4	44.3 - 66.5	77.1	61.7 - 92.5	0.63	0.51 - 0.76	0.93	0.74 - 1.11	1.29	1.03 - 1.55	µkat/L
Lithium	Spectrophotometric (Li)	**	**	**	**	**	**	**	**	**	**	mmol/L		
Magnesium ^(c)	Calmagite (MG)	1.09	0.87 - 1.31	2.73	2.18 - 3.28	4.41	3.53 - 5.29	0.45	0.36 - 0.54	1.12	0.90 - 1.35	1.81	1.45 - 2.18	mmol/L
Phenobarbital	Immunoturbidimetric (PHE)	**	**	**	**	**	**	**	**	**	**	µmol/L		
Phenytoin	Immunoturbidimetric (PHY)	4.98	3.98 - 5.98	12.0	9.62 - 14.4	17.6	14.1 - 21.1	19.7	15.8 - 23.7	47.7	38.1 - 57.2	69.7	55.8 - 83.7	µmol/L
Phosphorus ^{(b)(c)}	Phosphomolybdate, UV (PHS)	2.82	2.26 - 3.38	5.55	4.44 - 6.66	8.10	6.48 - 9.72	0.91	0.73 - 1.09	1.79	1.43 - 2.15	2.62	2.09 - 3.14	mmol/L
Phosphorus ^{(b)(c)}	Phosphomolybdate, UV (PHOSm)	**	**	**	**	**	**	**	**	**	**	mmol/L		
Potassium (K)	Indirect ISE	2.57	2.06 - 3.08	4.29	3.43 - 5.15	5.93	4.74 - 7.12	2.57	2.06 - 3.08	4.29	3.43 - 5.15	5.93	4.74 - 7.12	mmol/L
Prealbumin	Immunoturbidimetric (PAB)	**	**	**	**	**	**	**	**	**	**	mg/L		
Salicylate ^(b)	Salicylate Hydroxylase (SALY)	**	**	**	**	**	**	**	**	**	**	mmol/L		
Sodium (Na)	Indirect ISE	152	122 - 183	131	105 - 157	115	<100 - 138	152	122 - 183	131	105 - 157	115	<100 - 138	mmol/L
Theophylline	Immunoturbidimetric (THE)	**	**	**	**	**	**	**	**	**	**	µmol/L		

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BECKMAN COULTER DXC / SYNCHRON SYSTEMS (Continued)															
Tobramycin	Immunoturbidimetric (TOB)	**		**		**		$\mu\text{g/mL}$	**		**		**		$\mu\text{mol/L}$
Total Protein	Timed Endpoint Biuret (TP)	7.16	5.73 - 8.59	5.71	4.57 - 6.85	4.20	3.36 - 5.04	g/dL	71.6	57.3 - 85.9	57.1	45.7 - 68.5	42.0	33.6 - 50.4	g/L
Total Protein	Rate Biuret (TPm)	**		**		**		g/dL	**		**		**		g/L
Triglycerides ^(b)	Enzymatic, Colorimetric (TG)	232	186 - 278	171	137 - 205	101	80.5 - 121	mg/dL	2.62	2.10 - 3.15	1.93	1.54 - 2.31	1.14	0.91 - 1.36	mmol/L
Urea Nitrogen (BUN)	Urease, Conductivity (BUNm)	**		**		**		mg/dL	**		**		**		mmol/L
Urea Nitrogen (BUN)	Urease, GLDH	16.6	13.3 - 19.9	42.0	33.6 - 50.4	67.4	53.9 - 80.9	mg/dL	5.92	4.74 - 7.11	15.0	12.0 - 18.0	24.1	19.2 - 28.9	mmol/L
Urea, Total	Urease, Conductivity (UREAm)	**		**		**		mg/dL	**		**		**		mmol/L
Urea, Total	Urease, GLDH	35.5	28.4 - 42.6	89.9	71.9 - 108	144	115 - 173	mg/dL	5.92	4.74 - 7.10	15.0	12.0 - 18.0	24.0	19.2 - 28.9	mmol/L
Uric Acid	Uricase (URIC)	3.08	2.46 - 3.70	6.35	5.08 - 7.62	9.16	7.33 - 11.0	mg/dL	183	146 - 220	378	302 - 453	545	436 - 654	$\mu\text{mol/L}$
Valproic Acid	Immunoturbidimetric (VPA)	121	97.1 - 146	73.2	58.6 - 87.8	23.8	17.0 - 30.5	$\mu\text{g/mL}$	842	673 - 1010	508	406 - 609	165	118 - 211	$\mu\text{mol/L}$
Vancomycin	Immunoturbidimetric (VANC)	6.86	5.49 - 8.23	20.0	16.0 - 24.0	37.5	30.0 - 45.0	$\mu\text{g/mL}$	4.73	3.79 - 5.68	13.8	11.0 - 16.5	25.9	20.7 - 31.1	$\mu\text{mol/L}$

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BECKMAN COULTER IMMAGE SYSTEMS													
Apolipoprotein A1 (APO A1)													
Rate Nephelometric	**		**		**		**		**		**		g/L
Apolipoprotein B (APO B)													
Rate Nephelometric	**		**		**		**		**		**		g/L
Haptoglobin	**		**		**		**		**		**		µmol/L
Rate Nephelometric	**		**		**		**		**		**		nmol/L
Lipoprotein (a)	**		**		**		**		**		**		nmol/L
Rate Nephelometric	**		**		**		**		**		**		nmol/L



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CAROLINA LIQUID CHEMISTRIES on AU SERIES														
Alanine Aminotransferase (ALT)														
Henry	29.9	23.3 - 36.4	85.4	68.3 - 102	128	103 - 154	U/L	0.50	0.39 - 0.61	1.43	1.14 - 1.71	2.14	1.71 - 2.57	µkat/L
Albumin BCG	4.61	3.69 - 5.53	3.95	3.16 - 4.74	3.21	2.57 - 3.85	g/dL	46.1	36.9 - 55.3	39.5	31.6 - 47.4	32.1	25.7 - 38.5	g/L
Albumin BCP	4.14	3.31 - 4.97	3.25	2.60 - 3.90	2.36	1.89 - 2.83	g/dL	41.4	33.1 - 49.7	32.5	26.0 - 39.0	23.6	18.9 - 28.3	g/L
Alkaline Phosphatase (ALP) ^(c)														
AACC	33.3	23.7 - 43.0	142	113 - 170	254	203 - 305	U/L	0.56	0.40 - 0.72	2.37	1.90 - 2.84	4.24	3.39 - 5.09	µkat/L
CNP3	123	98.2 - 147	447	357 - 536	761	609 - 913	U/L	2.05	1.64 - 2.46	7.46	5.97 - 8.95	12.7	10.2 - 15.3	µkat/L
Apolipoprotein A1 (APO A1)														
Immunoturbidimetric	**		**		**		mg/dL	**		**		**		g/L
Apolipoprotein B (APO B)														
Immunoturbidimetric	**		**		**		mg/dL	**		**		**		g/L
Aspartate Aminotransferase (AST)														
Henry	38.7	29.0 - 48.5	167	134 - 200	301	241 - 361	U/L	0.65	0.48 - 0.81	2.79	2.23 - 3.35	5.02	4.02 - 6.03	µkat/L
Bilirubin, Direct ^(a)	0.16	0.10 - 0.22	1.04	0.83 - 1.25	1.99	1.59 - 2.39	mg/dL	2.74	1.71 - 3.76	17.8	14.2 - 21.4	34.0	27.2 - 40.9	µmol/L
Bilirubin, Total ^(a)	1.19	0.62 - 1.76	4.93	3.94 - 5.92	9.20	7.36 - 11.0	mg/dL	20.4	10.6 - 30.1	84.3	67.4 - 101	157	126 - 189	µmol/L
Calcium Arsenazo III	6.48	5.18 - 7.78	9.16	7.33 - 11.0	12.6	10.1 - >15.0	mg/dL	1.62	1.29 - 1.94	2.29	1.83 - 2.74	3.15	2.52 - >3.74	mmol/L
Carbon Dioxide (CO2) Enzymatic	29.5	23.6 - 35.5	22.9	17.9 - 28.0	17.2	12.4 - 22.0	mEq/L	29.5	23.6 - 35.5	22.9	17.9 - 28.0	17.2	12.4 - 22.0	mmol/L
Chloride (Cl) ISE	97.6	78.0 - 117	93.2	74.6 - 112	84.5	67.6 - 101	mEq/L	97.6	78.0 - 117	93.2	74.6 - 112	84.5	67.6 - 101	mmol/L
Cholesterol, HDL Homogeneous	60.4	48.4 - 72.5	40.7	32.6 - 48.8	20.6	16.5 - 24.7	mg/dL	1.57	1.25 - 1.88	1.05	0.84 - 1.26	0.53	0.43 - 0.64	mmol/L
Cholesterol, LDL Homogeneous	83.5	66.8 - 100	61.6	49.3 - 73.9	33.2	26.6 - 39.9	mg/dL	2.16	1.73 - 2.60	1.60	1.28 - 1.91	0.86	0.69 - 1.03	mmol/L
Cholesterol, Total Enzymatic	224	179 - 269	150	120 - 180	77.4	46.4 - 108	mg/dL	5.80	4.64 - 6.96	3.89	3.11 - 4.67	2.00	1.20 - 2.80	mmol/L
Creatine Kinase (CK) Szasz	67.3	53.8 - 80.7	300	240 - 360	518	415 - 622	U/L	1.12	0.90 - 1.35	5.01	4.01 - 6.01	8.66	6.92 - 10.4	µkat/L
Creatinine Rate Jaffe	1.19	0.89 - 1.49	3.58	2.77 - 4.39	6.03	4.68 - 7.38	mg/dL	105	78.7 - 132	316	245 - 388	533	414 - 652	µmol/L
Gamma-Glutamyltransferase (GGT)														
Szasz	19.5	15.6 - 23.4	50.2	40.2 - 60.2	81.0	64.8 - 97.1	U/L	0.33	0.26 - 0.39	0.84	0.67 - 1.01	1.35	1.08 - 1.62	µkat/L
Glucose Hexokinase	66.0	52.8 - 79.2	210	168 - 252	356	285 - 428	mg/dL	3.66	2.93 - 4.39	11.6	9.31 - 14.0	19.8	15.8 - 23.7	mmol/L
Iron Ferrozine	>200		146	117 - 175	61.8	49.5 - 74.2	µg/dL	>35.8		26.1	20.9 - 31.4	11.1	8.86 - 13.3	µmol/L
Iron Binding Capacity, Total (TIBC) Ferrozine	**		**		**		µg/dL	**		**		**		µmol/L
Lactate Dehydrogenase														
Lactate to Pyruvate	85.3	68.3 - 102	202	162 - 243	309	247 - 371	U/L	1.43	1.14 - 1.71	3.37	2.70 - 4.05	5.16	4.13 - 6.20	µkat/L
Lipase Enzymatic	43.2	34.6 - 51.9	62.8	50.3 - 75.4	88.1	70.5 - 106	U/L	0.72	0.58 - 0.87	1.05	0.84 - 1.26	1.47	1.18 - 1.76	µkat/L
Lipoprotein (a) Immunoturbidimetric	**		**		**		mg/dL	**		**		**		nmol/L
Magnesium ^(c) Arsenazo III	0.78	0.62 - 0.94	2.08	1.67 - 2.50	3.35	2.68 - 4.02	mg/dL	0.32	0.26 - 0.39	0.86	0.69 - 1.03	1.38	1.10 - 1.65	mmol/L
Phosphorus ^{(b)(c)} Phosphomolybdate	2.61	2.09 - 3.13	5.36	4.29 - 6.43	7.66	6.13 - 9.19	mg/dL	0.84	0.67 - 1.01	1.73	1.39 - 2.08	2.47	1.98 - 2.97	mmol/L
Potassium (K) ISE	2.78	2.18 - 3.38	4.22	3.38 - 5.06	5.84	4.67 - 7.01	mEq/L	2.78	2.18 - 3.38	4.22	3.38 - 5.06	5.84	4.67 - 7.01	mmol/L
Sodium (Na) ISE	156	125 - 188	132	106 - 159	115	<100 - 138	mEq/L	156	125 - 188	132	106 - 159	115	<100 - 138	mmol/L
Total Protein Biuret	7.01	5.61 - 8.41	5.53	4.42 - 6.64	3.93	2.91 - 4.95	g/dL	70.1	56.1 - 84.1	55.3	44.2 - 66.4	39.3	29.1 - 49.5	g/L
Triglycerides ^(b) GPO	214	171 - 256	141	113 - 169	60.5	48.4 - 72.6	mg/dL	2.41	1.93 - 2.90	1.59	1.27 - 1.91	0.68	0.55 - 0.82	mmol/L
Urea Nitrogen (BUN) Urease	15.5	12.4 - 18.6	40.8	32.6 - 48.9	65.2	52.1 - 78.2	mg/dL	5.53	4.42 - 6.63	14.5	11.6 - 17.5	23.3	18.6 - 27.9	mmol/L
Uric Acid Uricase	3.62	2.90 - 4.34	6.79	5.43 - 8.15	8.97	7.18 - 10.8	mg/dL	215	172 - 258	404	323 - 485	534	427 - 640	µmol/L

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CAROLINA LIQUID CHEMISTRIES on BIOLIS/ CLC480 / DZ-LITE SYSTEMS														
Alanine Aminotransferase (ALT)														
Henry	29.3	21.1 - 37.6	89.6	71.7 - 108	136	109 - 163	U/L	0.49	0.35 - 0.63	1.50	1.20 - 1.80	2.27	1.82 - 2.73	µkat/L
Albumin														
BCG	4.49	3.59 - 5.39	3.90	3.12 - 4.68	3.20	2.56 - 3.84	g/dL	44.9	35.9 - 53.9	39.0	31.2 - 46.8	32.0	25.6 - 38.4	g/L
Alkaline Phosphatase (ALP) ^(c)														
AACC	36.7	27.4 - 46.1	153	122 - 183	270	216 - 324	U/L	0.61	0.46 - 0.77	2.55	2.04 - 3.06	4.52	3.61 - 5.42	µkat/L
CNP-G3	120	96.0 - 144	439	351 - 526	749	599 - 898	U/L	2.00	1.60 - 2.40	7.33	5.86 - 8.79	12.5	10.0 - 15.0	µkat/L
Apolipoprotein A1 (APO A1)														
Immunoturbidimetric	**		**		**		mg/dL	**		**		**		g/L
Apolipoprotein B (APO B)														
Immunoturbidimetric	**		**		**		mg/dL	**		**		**		g/L
Aspartate Aminotransferase (AST)														
Henry	38.1	30.5 - 45.7	170	136 - 204	309	247 - 370	U/L	0.64	0.51 - 0.76	2.84	2.27 - 3.41	5.16	4.12 - 6.19	µkat/L
Bilirubin, Direct ^(a)	0.19	0.15 - 0.23	1.29	1.03 - 1.55	2.49	1.99 - 2.99	mg/dL	3.25	2.57 - 3.93	22.0	17.6 - 26.5	42.6	34.0 - 51.1	µmol/L
Bilirubin, Total ^(a)	0.91	0.55 - 1.27	4.02	3.22 - 4.82	7.54	6.03 - 9.05	mg/dL	15.6	9.41 - 21.7	68.7	55.1 - 82.4	129	103 - 155	µmol/L
Calcium	5.90	4.72 - 7.08	8.30	6.64 - 9.96	11.1	8.86 - 13.3	mg/dL	1.47	1.18 - 1.77	2.07	1.66 - 2.49	2.76	2.21 - 3.31	mmol/L
Carbon Dioxide (CO2)	29.4	20.7 - 38.1	23.8	18.4 - 29.1	17.2	12.0 - 22.3	mEq/L	29.4	20.7 - 38.1	23.8	18.4 - 29.1	17.2	12.0 - 22.3	mmol/L
Chloride (Cl)	**		**		**		mEq/L	**		**		**		mmol/L
Cholesterol, HDL	63.2	50.5 - 75.8	42.5	34.0 - 51.0	21.4	17.1 - 25.7	mg/dL	1.64	1.31 - 1.96	1.10	0.88 - 1.32	0.55	0.44 - 0.66	mmol/L
Cholesterol, LDL	83.9	67.1 - 101	60.7	48.6 - 72.9	37.1	29.3 - 44.8	mg/dL	2.17	1.74 - 2.61	1.57	1.26 - 1.89	0.96	0.76 - 1.16	mmol/L
Cholesterol, Total	206	164 - 247	138	110 - 165	68.6	54.9 - 82.3	mg/dL	5.33	4.26 - 6.39	3.56	2.85 - 4.28	1.78	1.42 - 2.13	mmol/L
Creatine Kinase (CK)	53.9	40.5 - 67.4	245	189 - 302	418	317 - 518	U/L	0.90	0.68 - 1.13	4.09	3.15 - 5.04	6.97	5.29 - 8.66	µkat/L
Creatinine	0.71	0.57 - 0.85	3.30	2.64 - 3.96	5.98	4.78 - 7.18	mg/dL	62.8	50.4 - 75.1	292	233 - 350	529	423 - 635	µmol/L
Gamma-Glutamyltransferase (GGT)														
Szasz	17.7	14.2 - 21.2	48.0	38.4 - 57.5	75.6	60.4 - 90.7	U/L	0.30	0.24 - 0.35	0.80	0.64 - 0.96	1.26	1.01 - 1.51	µkat/L
UV Hexokinase	67.0	53.6 - 80.3	211	169 - 253	350	280 - 420	mg/dL	3.72	2.97 - 4.46	11.7	9.38 - 14.1	19.4	15.5 - 23.3	mmol/L
Iron	238	191 - 286	151	121 - 181	64.4	51.5 - 77.3	µg/dL	42.7	34.2 - 51.2	27.0	21.6 - 32.5	11.5	9.23 - 13.8	µmol/L
Lactate Dehydrogenase														
Lactate to Pyruvate	86.7	69.3 - 104	203	162 - 244	306	245 - 367	U/L	1.45	1.16 - 1.74	3.39	2.71 - 4.07	5.11	4.08 - 6.13	µkat/L
Enzymatic	37.3	29.8 - 44.8	52.6	42.1 - 63.1	73.3	58.6 - 88.0	U/L	0.62	0.50 - 0.75	0.88	0.70 - 1.05	1.22	0.98 - 1.47	µkat/L
Lipoprotein (a)	**		**		**		mg/dL	**		**		**		nmol/L
Magnesium ^(c)	0.82	0.66 - 0.98	2.06	1.65 - 2.47	3.28	2.62 - 3.94	mg/dL	0.34	0.27 - 0.40	0.85	0.68 - 1.02	1.35	1.08 - 1.62	mmol/L
Phosphorus ^{(b)(c)}	2.43	1.94 - 2.92	5.18	4.14 - 6.22	7.46	5.97 - 8.95	mg/dL	0.78	0.63 - 0.94	1.67	1.34 - 2.01	2.41	1.93 - 2.89	mmol/L
Potassium (K)	**		**		**		mg/dL	**		**		**		mmol/L
Sodium (Na)	**		**		**		mEq/L	**		**		**		mmol/L
Total Protein	6.97	5.58 - 8.36	5.53	4.42 - 6.64	3.97	3.18 - 4.76	g/dL	69.7	55.8 - 83.6	55.3	44.2 - 66.4	39.7	31.8 - 47.6	g/L
Triglycerides ^(b)	214	171 - 257	138	110 - 165	55.7	44.5 - 66.8	mg/dL	2.42	1.94 - 2.90	1.55	1.24 - 1.87	0.63	0.50 - 0.75	mmol/L
Urea Nitrogen (BUN)	16.4	13.1 - 19.7	40.3	32.2 - 48.4	63.1	50.5 - 75.7	mg/dL	5.86	4.69 - 7.03	14.4	11.5 - 17.3	22.5	18.0 - 27.0	mmol/L
Uric Acid	3.14	2.51 - 3.77	5.65	4.52 - 6.78	7.51	6.01 - 9.01	mg/dL	187	149 - 224	336	269 - 403	447	357 - 536	µmol/L

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CAROLINA CHEMISTRY CLC FAMILY SYSTEMS														
Alanine Aminotransferase (ALT)														
Henry	30.6	24.5 - 36.7	88.3	70.6 - 106	133	107 - 160	U/L	0.51	0.41 - 0.61	1.47	1.18 - 1.77	2.23	1.78 - 2.67	µkat/L
Albumin	4.12	3.29 - 4.94	3.50	2.80 - 4.20	2.80	2.24 - 3.36	g/dL	41.2	32.9 - 49.4	35.0	28.0 - 42.0	28.0	22.4 - 33.6	g/L
Alkaline Phosphatase (ALP) ^(c)														
AACC	36.8	26.3 - 47.3	158	126 - 189	280	224 - 336	U/L	0.61	0.44 - 0.79	2.63	2.11 - 3.16	4.68	3.74 - 5.62	µkat/L
Amylase	97.5	78.0 - 117	353	282 - 424	609	487 - 731	U/L	1.63	1.30 - 1.95	5.90	4.72 - 7.08	10.2	8.14 - 12.2	µkat/L
Aspartate Aminotransferase (AST)														
Henry	38.7	31.0 - 46.4	161	128 - 193	290	232 - 348	U/L	0.65	0.52 - 0.78	2.68	2.14 - 3.22	4.84	3.87 - 5.81	µkat/L
Bilirubin, Direct ^(a)	0.19	0.13 - 0.25	1.12	0.90 - 1.35	2.16	1.73 - 2.59	mg/dL	3.19	2.17 - 4.22	19.2	15.3 - 23.0	36.9	29.5 - 44.3	µmol/L
Bilirubin, Total ^(a)	0.89	0.71 - 1.06	3.99	3.19 - 4.78	7.57	6.05 - 9.08	mg/dL	15.2	12.1 - 18.2	68.2	54.5 - 81.8	129	104 - 155	µmol/L
Calcium	6.22	4.98 - 7.46	9.22	7.37 - 11.1	13.2	10.5 - >15.0	mg/dL	1.55	1.24 - 1.86	2.30	1.84 - 2.76	3.28	2.63 - >3.74	mmol/L
Carbon Dioxide (CO2)	30.6	24.5 - 36.7	22.9	18.3 - 27.5	16.8	13.1 - 20.4	mEq/L	30.6	24.5 - 36.7	22.9	18.3 - 27.5	16.8	13.1 - 20.4	mmol/L
Chloride (Cl)	96.6	77.3 - 116	92.5	74.0 - 111	84.7	<70.0 - 102	mEq/L	96.6	77.3 - 116	92.5	74.0 - 111	84.7	<70.0 - 102	mmol/L
Cholesterol, HDL	52.0	41.6 - 62.4	34.6	27.7 - 41.5	17.6	14.1 - 21.1	mg/dL	1.35	1.08 - 1.62	0.90	0.72 - 1.07	0.45	0.36 - 0.55	mmol/L
Cholesterol, LDL	89.9	71.9 - 108	66.5	53.2 - 79.7	36.2	28.9 - 43.4	mg/dL	2.33	1.86 - 2.79	1.72	1.38 - 2.07	0.94	0.75 - 1.12	mmol/L
Cholesterol, Total	210	168 - 252	139	111 - 167	68.9	55.1 - 82.6	mg/dL	5.45	4.36 - 6.54	3.60	2.88 - 4.32	1.78	1.43 - 2.14	mmol/L
Creatine Kinase (CK)	67.9	51.7 - 84.0	312	241 - 382	538	430 - 645	U/L	1.13	0.86 - 1.40	5.20	4.02 - 6.38	8.98	7.18 - 10.8	µkat/L
Creatinine	1.12	0.72 - 1.52	3.67	2.66 - 4.69	5.99	4.38 - 7.59	mg/dL	99.1	64.0 - 134	325	235 - 415	529	388 - 671	µmol/L
Gamma-Glutamyltransferase (GGT)														
Szasz	23.7	19.0 - 28.4	61.2	48.9 - 73.4	4.12	3.29 - 4.94	U/L	0.40	0.32 - 0.47	1.02	0.82 - 1.23	0.07	0.05 - 0.08	µkat/L
Glucose	68.3	54.6 - 81.9	213	171 - 256	359	287 - 431	mg/dL	3.79	3.03 - 4.55	11.8	9.47 - 14.2	19.9	15.9 - 23.9	mmol/L
Iron	239	191 - 286	151	121 - 181	63.2	50.6 - 75.8	µg/dL	42.7	34.2 - 51.3	27.0	21.6 - 32.4	11.3	9.06 - 13.6	µmol/L
Lactate Dehydrogenase														
Lactate to Pyruvate	95.8	76.6 - 115	223	179 - 268	344	275 - 413	U/L	1.60	1.28 - 1.92	3.73	2.98 - 4.47	5.75	4.60 - 6.89	µkat/L
Lipase	44.7	35.7 - 53.6	64.9	51.9 - 77.8	89.6	71.7 - 108	U/L	0.75	0.60 - 0.89	1.08	0.87 - 1.30	1.50	1.20 - 1.80	µkat/L
Magnesium ^(c)	1.10	0.86 - 1.33	2.66	2.13 - 3.19	4.18	3.35 - 5.02	mg/dL	0.45	0.35 - 0.55	1.09	0.88 - 1.31	1.72	1.38 - 2.07	mmol/L
Phosphorus ^{(b)(c)}	2.13	1.70 - 2.55	4.72	3.77 - 5.66	6.97	5.58 - 8.37	mg/dL	0.69	0.55 - 0.82	1.52	1.22 - 1.83	2.25	1.80 - 2.70	mmol/L
Potassium (K)	<3.00		4.32	3.46 - 5.18	5.92	4.74 - 7.10	mEq/L	<3.00		4.32	3.46 - 5.18	5.92	4.74 - 7.10	mmol/L
Sodium (Na)	155	124 - >173	134	107 - 161	119	<102 - 143	mEq/L	155	124 - >173	134	107 - 161	119	<102 - 143	mmol/L
Total Protein	6.59	5.27 - 7.90	5.21	4.17 - 6.25	3.75	3.00 - 4.50	g/dL	65.9	52.7 - 79.0	52.1	41.7 - 62.5	37.5	30.0 - 45.0	g/L
Triglycerides ^(b)	226	181 - 271	149	120 - 179	66.1	52.8 - 79.3	mg/dL	2.55	2.04 - 3.06	1.69	1.35 - 2.03	0.75	0.60 - 0.90	mmol/L
Urea Nitrogen (BUN)	15.8	12.7 - 19.0	40.1	32.1 - 48.1	63.4	50.7 - 76.1	mg/dL	5.65	4.52 - 6.78	14.3	11.4 - 17.2	22.6	18.1 - 27.1	mmol/L
Uric Acid	3.23	2.58 - 3.87	5.97	4.78 - 7.17	8.14	6.51 - 9.77	mg/dL	192	154 - 230	355	284 - 426	484	387 - 581	µmol/L

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	CHA24081A		CHA24082A		CHA24083A		U	CHA24081A		CHA24082A		CHA24083A		U
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CAROLINA LIQUID CHEMISTRIES on CLC720 SYSTEMS														
Alanine Aminotransferase (ALT)														
Henry	23.0	12.2 - 33.7	67.4	50.3 - 84.4	104	83.5 - 125	U/L	0.38	0.20 - 0.56	1.12	0.84 - 1.41	1.74	1.39 - 2.09	µkat/L
Albumin														
BCG	4.79	3.83 - 5.75	4.05	3.24 - 4.86	3.24	2.59 - 3.89	g/dL	47.9	38.3 - 57.5	40.5	32.4 - 48.6	32.4	25.9 - 38.9	g/L
Alkaline Phosphatase (ALP) ^(c)														
AACC	40.7	26.8 - 54.6	186	122 - 250	334	234 - 433	U/L	0.68	0.45 - 0.91	3.10	2.03 - 4.17	5.57	3.91 - 7.24	µkat/L
Amylase														
CNP-G3	95.1	76.1 - 114	344	275 - 413	599	479 - 719	U/L	1.59	1.27 - 1.91	5.74	4.59 - 6.89	10.0	8.01 - 12.0	µkat/L
Aspartate Aminotransferase (AST)														
Henry	29.1	23.0 - 35.2	137	109 - 164	252	202 - 303	U/L	0.49	0.38 - 0.59	2.28	1.83 - 2.74	4.21	3.37 - 5.06	µkat/L
Bilirubin, Direct ^(a)														
Diazo	0.22	0.18 - 0.26	1.51	1.21 - 1.81	2.89	2.31 - 3.47	mg/dL	3.76	3.08 - 4.45	25.8	20.7 - 31.0	49.4	39.5 - 59.3	µmol/L
Bilirubin, Total ^(a)														
Diazo	0.88	0.70 - 1.06	3.93	3.14 - 4.72	7.44	5.95 - 8.93	mg/dL	15.0	12.0 - 18.1	67.2	53.7 - 80.7	127	102 - 153	µmol/L
Calcium														
Arsenazo III	6.04	4.83 - 7.24	8.89	7.11 - 10.7	12.5	10.0 - >15.0	mg/dL	1.51	1.21 - 1.81	2.22	1.77 - 2.66	3.13	2.50 - >3.74	mmol/L
Carbon Dioxide (CO2)														
Enzymatic	30.7	24.6 - 36.9	23.4	18.7 - 28.1	16.7	12.5 - 20.9	mEq/L	30.7	24.6 - 36.9	23.4	18.7 - 28.1	16.7	12.5 - 20.9	mmol/L
Chloride (Cl)														
ISE	101	80.6 - 121	97.2	77.8 - 117	88.9	71.1 - 107	mEq/L	101	80.6 - 121	97.2	77.8 - 117	88.9	71.1 - 107	mmol/L
Cholesterol, HDL														
Homogeneous	66.6	53.3 - 79.9	44.0	35.2 - 52.9	22.4	17.9 - 26.9	mg/dL	1.72	1.38 - 2.07	1.14	0.91 - 1.37	0.58	0.46 - 0.70	mmol/L
Cholesterol, LDL														
Homogeneous	82.0	65.6 - 98.4	62.9	50.3 - 75.5	36.1	28.9 - 43.3	mg/dL	2.12	1.70 - 2.55	1.63	1.30 - 1.95	0.93	0.75 - 1.12	mmol/L
Cholesterol, Total														
Enzymatic	210	168 - 252	138	110 - 165	67.7	54.1 - 81.2	mg/dL	5.43	4.34 - 6.51	3.56	2.85 - 4.28	1.75	1.40 - 2.10	mmol/L
Creatine Kinase (CK)														
Szasz	66.5	47.3 - 85.6	294	209 - 379	504	365 - 643	U/L	1.11	0.79 - 1.43	4.91	3.49 - 6.33	8.41	6.09 - 10.7	µkat/L
Creatinine														
Enzymatic	0.75	0.60 - 0.90	3.31	2.65 - 3.97	5.92	4.74 - 7.10	mg/dL	66.3	53.0 - 79.6	293	234 - 351	523	419 - 628	µmol/L
Gamma-Glutamyltransferase (GGT)														
Szasz	25.0	20.0 - 29.9	65.5	52.4 - 78.6	106	84.5 - 127	U/L	0.42	0.33 - 0.50	1.09	0.88 - 1.31	1.76	1.41 - 2.12	µkat/L
Glucose														
Hexokinase	63.5	50.8 - 76.3	199	159 - 239	335	268 - 402	mg/dL	3.53	2.82 - 4.23	11.0	8.83 - 13.2	18.6	14.9 - 22.3	mmol/L
Iron														
Ferrozine	241	193 - 289	153	122 - 184	65.7	52.5 - 78.8	µg/dL	43.2	34.6 - 51.8	27.4	21.9 - 32.9	11.8	9.41 - 14.1	µmol/L
Lactate Dehydrogenase														
Lactate to Pyruvate	85.3	68.2 - 102	203	162 - 244	315	252 - 378	U/L	1.42	1.14 - 1.71	3.39	2.71 - 4.07	5.27	4.21 - 6.32	µkat/L
Lipase														
Enzymatic	47.9	38.3 - 57.5	70.0	56.0 - 84.0	101	80.5 - 121	U/L	0.80	0.64 - 0.96	1.17	0.94 - 1.40	1.68	1.34 - 2.02	µkat/L
Magnesium ^(c)														
Arsenazo III	1.07	0.86 - 1.28	2.54	2.03 - 3.05	3.99	3.19 - 4.79	mg/dL	0.44	0.35 - 0.53	1.04	0.84 - 1.25	1.64	1.31 - 1.97	mmol/L
Phosphorus ^{(b)(c)}														
Phosphomolybdate	2.37	1.90 - 2.84	4.77	3.82 - 5.72	6.82	5.46 - 8.18	mg/dL	0.77	0.61 - 0.92	1.54	1.23 - 1.85	2.20	1.76 - 2.64	mmol/L
Potassium (K)														
ISE	2.55	2.04 - 3.06	4.36	3.49 - 5.23	6.18	4.94 - 7.42	mEq/L	2.55	2.04 - 3.06	4.36	3.49 - 5.23	6.18	4.94 - 7.42	mmol/L
Sodium (Na)														
ISE	162	130 - 195	139	111 - 167	123	98.6 - 148	mEq/L	162	130 - 195	139	111 - 167	123	98.6 - 148	mmol/L
Total Protein														
Biuret	6.54	5.23 - 7.85	5.17	4.14 - 6.20	3.72	2.97 - 4.46	g/dL	65.4	52.3 - 78.5	51.7	41.4 - 62.0	37.2	29.7 - 44.6	g/L
Triglycerides ^(b)														
GPO	217	173 - 260	139	111 - 167	57.6	46.1 - 69.1	mg/dL	2.45	1.96 - 2.94	1.57	1.26 - 1.89	0.65	0.52 - 0.78	mmol/L
Urea Nitrogen (BUN)														
Urease	14.9	11.9 - 17.9	39.8	31.8 - 47.7	64.0	51.2 - 76.8	mg/dL	5.33	4.26 - 6.40	14.2	11.4 - 17.0	22.9	18.3 - 27.4	mmol/L
Uric Acid														
Uricase	3.76	3.01 - 4.51	6.90	5.52 - 8.28	9.27	7.42 - 11.1	mg/dL	224	179 - 268	410	328 - 492	551	441 - 661	µmol/L

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CAROLINA LIQUID CHEMISTRIES on DXC/SYNCHRON SYSTEMS															
Calcium	Arsenazo III (CA3)	**		**		**		mg/dL	**		**		**		mmol/L
Calcium	ISE (CALC)	**		**		**		mg/dL	**		**		**		mmol/L
Carbon Dioxide (CO2)	Differential Rate pH (CO2)	**		**		**		mEq/L	**		**		**		mmol/L
Chloride (Cl)	ISE (Cl)	**		**		**		mEq/L	**		**		**		mmol/L
Creatinine	Alkaline Picrate (CRE3)	**		**		**		mg/dL	**		**		**		μmol/L
Glucose	Glucose Oxidase (GLU3)	**		**		**		mg/dL	**		**		**		mmol/L
Potassium (K)	ISE (K)	**		**		**		mEq/L	**		**		**		mmol/L
Sodium (Na)	ISE (NA)	**		**		**		mEq/L	**		**		**		mmol/L
Total Protein	Biuret (TP3)	**		**		**		g/dL	**		**		**		g/L
Urea Nitrogen (BUN)	Urease (BUN3)	**		**		**		mg/dL	**		**		**		mmol/L

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EKF AND EPPENDORF[®] BIOSEN AND EBIO													
Glucose	GOD-Membrane (GLU)	**		**		**		**		**		**	
Lactic Acid	LOD-Membrane (LA)	**		**		**		**		**		**	




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ORTHO-VITROS CHEMISTRY SYSTEMS															
Acetaminophen	Enzymatic, Colorimetric (ACET)	25.1	20.1 - 30.1	83.4	66.7 - 100	139	111 - 167	µg/mL	166	133 - 199	552	441 - 662	918	735 - 1102	µmol/L
Alanine Aminotransferase (ALT)	NADH w/P5P	**		**		**		U/L	**		**		**		µkat/L
Alanine Aminotransferase (ALT)	NADH w/P5P (ALT)	41.6	33.3 - 49.9	119	95.5 - 143	174	139 - 208	U/L	0.69	0.56 - 0.83	1.99	1.60 - 2.39	2.90	2.32 - 3.48	µkat/L
Albumin	BCG (ALB)	4.11	3.29 - 4.93	3.34	2.67 - 4.01	2.53	2.02 - 3.04	g/dL	41.1	32.9 - 49.3	33.4	26.7 - 40.1	25.3	20.2 - 30.4	g/L
Alkaline Phosphatase (ALP) ^(c)	p-NPP, AMP Buffer	52.1	41.7 - 62.5	177	141 - 212	257	205 - 308	U/L	0.87	0.70 - 1.04	2.95	2.36 - 3.54	4.28	3.43 - 5.14	µkat/L
Amikacin	QMS	**		**		**		µg/mL	**		**		**		µmol/L
Amylase	Amylopectin, Colorimetric (AMYL)	83.6	66.9 - 100	182	145 - 218	275	220 - 330	U/L	1.40	1.12 - 1.68	3.03	2.42 - 3.64	4.60	3.68 - 5.52	µkat/L
Apolipoprotein A1 (APO A1)	Immunoturbidimetric	**		**		**		mg/dL	**		**		**		g/L
Apolipoprotein B (APO B)	Immunoturbidimetric	**		**		**		mg/dL	**		**		**		g/L
Aspartate Aminotransferase (AST)	Enzymatic, Colorimetric	48.5	38.8 - 58.2	170	136 - 204	267	214 - 321	U/L	0.81	0.65 - 0.97	2.84	2.27 - 3.41	4.47	3.57 - 5.36	µkat/L
Bilirubin, Conjugated ^(a)	Colorimetric (BuBc)	0.17	0.00 - 0.44	3.42	2.74 - 4.10	3.78	3.02 - 4.54	mg/dL	2.91	0.00 - 7.52	58.5	46.9 - 70.1	64.6	51.6 - 77.6	µmol/L
Bilirubin, Derived ^(a)	Derived (DBIL)	0.58	0.46 - 0.70	2.46	1.97 - 2.95	2.60	2.08 - 3.12	mg/dL	9.92	7.87 - 12.0	42.1	33.7 - 50.5	44.5	35.6 - 53.4	µmol/L
Bilirubin, Neonatal ^(a)	Derived (NBIL)	0.45	0.21 - 0.69	4.80	3.84 - 5.76	7.99	6.39 - 9.59	mg/dL	7.70	3.59 - 11.8	82.1	65.7 - 98.5	137	109 - 164	µmol/L
Bilirubin, Total ^(a)	Diazo-Diphylline (TBIL)	0.86	0.69 - 1.03	3.80	3.04 - 4.56	6.79	5.43 - 8.15	mg/dL	14.7	11.8 - 17.6	65.0	52.0 - 78.0	116	92.9 - 139	µmol/L
Bilirubin, Unconjugated ^(a)	Colorimetric (BuBc)	0.31	0.22 - 0.40	1.44	1.15 - 1.73	4.24	3.39 - 5.09	mg/dL	5.30	3.76 - 6.84	24.6	19.7 - 29.6	72.5	58.0 - 87.0	µmol/L
Calcium	Arsenazo III (Ca)	6.16	4.93 - 7.39	8.89	7.11 - 10.7	12.3	9.82 - >14.0	mg/dL	1.54	1.23 - 1.84	2.22	1.77 - 2.66	3.06	2.45 - >3.49	mmol/L
Carbamazepine	EIA (CRBM)	3.29	<3.00 - 4.01	7.10	5.68 - 8.52	12.9	10.3 - 15.5	µg/mL	13.9	<12.7 - 17.0	30.1	24.0 - 36.1	54.6	43.6 - 65.5	µmol/L
Carbon Dioxide (CO2)	Enzymatic End-Point (ECO2)	28.9	23.1 - 34.7	20.1	16.1 - 24.1	14.1	10.2 - 18.0	mEq/L	28.9	23.1 - 34.7	20.1	16.1 - 24.1	14.1	10.2 - 18.0	mmol/L
Chloride (Cl)	Direct ISE	100	80.3 - 120	96.0	76.8 - 115	87.4	69.9 - 105	mEq/L	100	80.3 - 120	96.0	76.8 - 115	87.4	69.9 - 105	mmol/L
Cholesterol, HDL	Enzymatic, Colorimetric (dHDL)	62.2	49.8 - 74.6	42.1	33.7 - 50.5	23.0	18.4 - 27.6	mg/dL	1.61	1.29 - 1.93	1.09	0.87 - 1.31	0.60	0.48 - 0.71	mmol/L
Cholesterol, LDL	Enzymatic, Colorimetric (dLDL)	**		**		**		mmol/L	**		**		**		mmol/L
Cholesterol, Total	Enzymatic (CHOL)	215	172 - 258	142	114 - 171	71.8	57.4 - 86.2	mg/dL	5.58	4.46 - 6.69	3.69	2.95 - 4.42	1.86	1.49 - 2.23	mmol/L
Cholinesterase/Pseudocholinesterase	Butyrylthiocholine (CHE)	**		**		**		U/mL	**		**		**		µkat/L
Creatine Kinase (CK)	NAC	73.8	59.0 - 88.6	291	232 - 349	544	436 - 653	U/L	1.23	0.99 - 1.48	4.85	3.88 - 5.82	9.09	7.27 - 10.9	µkat/L
Creatinine	Enzymatic, Colorimetric (CREA)	0.96	0.77 - 1.15	3.81	3.05 - 4.57	7.55	6.04 - 9.06	mg/dL	84.9	68.1 - 102	337	270 - 404	667	534 - 801	µmol/L
Digoxin	EIA (DGXN)	0.76	0.61 - 0.91	1.60	1.28 - 1.92	2.40	1.92 - 2.88	ng/mL	0.97	0.78 - 1.17	2.05	1.64 - 2.46	3.07	2.46 - 3.69	nmol/L
Ethanol	Alcohol Dehydrogenase (ALC)	22.4	17.9 - 26.9	107	85.9 - 129	183	146 - 219	mg/dL	4.86	3.89 - 5.84	23.3	18.7 - 28.0	39.6	31.7 - 47.5	mmol/L
Gamma-Glutamyltransferase (GGT)	p-Nitroaniline	45.1	36.1 - 54.1	129	103 - 155	203	162 - 243	U/L	0.75	0.60 - 0.90	2.16	1.73 - 2.59	3.38	2.71 - 4.06	µkat/L
Gentamicin	EIA (GENT)	**		**		**		µg/mL	**		**		**		µmol/L
Glucose	Glucose Oxidase (GLU)	62.4	49.9 - 74.9	197	158 - 237	313	251 - 376	mg/dL	3.46	2.77 - 4.16	10.9	8.75 - 13.1	17.4	13.9 - 20.9	mmol/L
Haptoglobin	Immunoturbidimetric (HPT)	**		**		**		mg/dL	**		**		**		µmol/L
Iron	Pyridyl Azo Dye (Fe)	264	211 - 317	164	131 - 197	67.0	53.6 - 80.4	µg/dL	47.3	37.8 - 56.8	29.4	23.5 - 35.3	12.0	9.60 - 14.4	µmol/L
Iron Binding Capacity, Total (TIBC)	Chromazurol B. (dTIBC)	402	322 - 482	290	232 - 348	171	137 - 206	µg/dL	72.0	57.6 - 86.4	51.9	41.5 - 62.3	30.7	24.5 - 36.8	µmol/L
Iron Binding Capacity, Total (TIBC)	Alumina Adsorption	**		**		**		µg/dL	**		**		**		µmol/L
Lactate Dehydrogenase	Pyruvate to Lactate (LDH)	103	<100 - 123	251	201 - 302	370	296 - 444	U/L	1.72	<1.67 - 2.06	4.20	3.36 - 5.04	6.19	4.95 - 7.42	µkat/L
Lactate Dehydrogenase	Pyruvate to Lactate (LDHI)	**		**		**		U/L	**		**		**		µkat/L
Lactic Acid	Lactate to Pyruvate (LAC)	10.8	8.65 - 13.0	33.5	26.8 - 40.2	53.8	43.0 - 64.5	mg/dL	1.20	0.96 - 1.44	3.72	2.98 - 4.46	5.97	4.78 - 7.16	mmol/L
Lipase	Enzymatic (LIPA)	259	207 - 311	586	469 - 703	936	749 - 1123	U/L	4.33	3.46 - 5.19	9.79	7.83 - 11.7	15.6	12.5 - 18.8	µkat/L
Lithium	Colorimetric (Li)	**		**		**		mEq/L	**		**		**		mmol/L
Magnesium ^(c)	Formazan Dye (Mg)	0.90	0.72 - 1.08	2.72	2.18 - 3.26	4.59	3.67 - 5.51	mg/dL	0.37	0.30 - 0.44	1.12	0.90 - 1.34	1.89	1.51 - 2.27	mmol/L
Phenylethanolamine	EIA (PHYT)	4.60	3.68 - 5.52	15.6	12.5 - 18.7	23.2	18.5 - 27.8	µg/mL	18.2	14.6 - 21.9	61.7	49.4 - 74.1	91.9	73.5 - 110	µmol/L
Phosphorus ^{(b)(c)}	Phosphomolybdate (PHOS)	2.63	2.10 - 3.16	5.08	4.06 - 6.10	7.37	5.90 - 8.84	mg/dL	0.85	0.68 - 1.02	1.64	1.31 - 1.97	2.38	1.91 - 2.85	mmol/L
Potassium (K)	Direct ISE	2.71	2.17 - 3.25	4.45	3.56 - 5.34	6.22	4.98 - 7.46	mEq/L	2.71	2.17 - 3.25	4.45	3.56 - 5.34	6.22	4.98 - 7.46	mmol/L
Prealbumin	Immunoturbidimetric (PALB)	**		**		**		mg/dL	**		**		**		mg/L
Salicylate ^(b)	Enzymatic, Colorimetric (SALI)	7.05	5.64 - 8.46	18.0	14.4 - 21.6	25.0	20.0 - 30.0	mg/dL	0.51	0.41 - 0.61	1.30	1.04 - 1.56	1.81	1.45 - 2.17	mmol/L
Sodium (Na)	Direct ISE	162	129 - 194	141	113 - 169	127	101 - 152	mg/dL	162	129 - 194	141	113 - 169	127	101 - 152	mmol/L
Theophylline	Enzymatic, PNPP (THEO)	**		**		**		µg/dL	**		**		**		µmol/L
Thyroxine, Total (T4)	Chemiluminescence	8.18	6.54 - 9.82	12.9	10.3 - 15.5	19.5	15.6 - 23.3	µg/dL	105	84.2 - 126	166	133 - 199	250	200 - 300	nmol/L
Tobramycin	EIA (TOBRA)	**		**		**		µg/mL	**		**		**		g/L
Total Protein	Biuret (TP)	6.98	5.58 - 8.38	5.61	4.49 - 6.73	4.21	3.37 - 5.05	g/dL	69.8	55.8 - 83.8	56.1	44.9 - 67.3	42.1	33.7 - 50.5	g/L
Triglycerides ^(b)	Enzymatic, Colorimetric (TRIG)	247	197 - 296	183	146 - 220	113	90.4 - 136	mg/dL	2.79	2.23 - 3.34	2.07	1.65 - 2.48	1.28	1.02 - 1.53	mmol/L
Urea Nitrogen (BUN)	Urease	15.6	12.5 - 18.7	37.4	29.9 - 44.9	57.2	45.8 - 68.6	mg/dL	5.57	4.45 - 6.68	13.4	10.7 - 16.0	20.4	16.3 - 24.5	mmol/L
Urea, Total	Urease (UREA)	33.5	26.8 - 40.2	80.2	64.2 - 96.3	123	98.2 - 147	mg/dL	5.58	4.46 - 6.69	13.4	10.7 - 16.1	20.5	16.4 - 24.5	mmol/L
Uric Acid	Uricase (URIC)	3.10	2.48 - 3.72	6.65	5.32 - 7.98	10.1	8.07 - 12.1	mg/dL	184	148 - 221	396	316 - 475	600	480 - 720	µmol/L
Valproic Acid	EIA (VALP)	134	108 - >150	81.9	65.5 - 98.2	26.1	20.9 - 31.3	µg/mL	932	746 - >1040	568	454 - 681	181	145 - 217	µmol/L
Vancomycin	EIA (VANC)	7.00	5.60 - 8.40	19.0	15.2 - 22.8	32.1	25.7 - 38.5	µg/mL	4.83	3.86 - 5.80	13.1	10.5 - 15.7	22.2	17.7 - 26.6	µmol/L

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		CHA24081A		CHA24082A		CHA24083A			CHA24081A		CHA24082A		CHA24083A		
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OSMOMETER															
Osmolality	Freezing Point	432	346 - 519	511	409 - 613	588	470 - 705	mOsm/kg	432	346 - 519	511	409 - 613	588	470 - 705	mOsm/kg



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IVD

U	CON							SI							
	CHA24081A		CHA24082A		CHA24083A		U	CHA24081A		CHA24082A		CHA24083A		U	
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ROCHE COBAS C / E / MODULAR SYSTEMS															
Acetaminophen	EIA (ACET2)	23.5	18.8 - 28.2	73.6	58.9 - 88.3	118	94.4 - 142	µg/mL	155	124 - 187	487	389 - 584	780	624 - 936	µmol/L
Acetaminophen	p-Aminophenol (ACETA)	**		**		**		µg/mL	**		**		**		µmol/L
Alanine Aminotransferase (ALT)	IFCC w/out P5P (ALT/ALTL)	**		**		**		U/L	**		**		**		µkat/L
Alanine Aminotransferase (ALT)	IFCC w/ P5P (ALTLP/ALTPM)	33.4	26.7 - 40.1	91.6	73.3 - 110	138	110 - 165	U/L	0.56	0.45 - 0.67	1.53	1.22 - 1.84	2.30	1.84 - 2.76	µkat/L
Albumin	BCG (ALB2)	4.58	3.66 - 5.50	3.88	3.10 - 4.66	3.11	2.49 - 3.73	g/dL	45.8	36.6 - 55.0	38.8	31.0 - 46.6	31.1	24.9 - 37.3	g/L
Albumin	BCP (ALBP)	**		**		**		g/L	**		**		**		g/L
Albumin	Immunoturbidimetric (ALBT2)	**		**		**		g/dL	**		**		**		g/L
Alkaline Phosphatase (ALP) ^(c)	p-NPP, IFCC (ALP2/ALP2S)	44.3	35.4 - 53.1	198	158 - 237	353	282 - 423	U/L	0.74	0.59 - 0.89	3.30	2.64 - 3.96	5.89	4.71 - 7.07	µkat/L
Amikacin	KIMS (AMIK2)	**		**		**		µg/mL	**		**		**		µmol/L
Amylase	Colorimetric (AMYL2)	87.1	69.7 - 104	253	203 - 304	410	328 - 493	U/L	1.45	1.16 - 1.74	4.23	3.38 - 5.08	6.85	5.48 - 8.22	µkat/L
Amylase, Pancreatic	Colorimetric (AMY-P)	**		**		**		U/L	**		**		**		µkat/L
Apolipoprotein A1 (APO A1)	Immunoturbidimetric	**		**		**		mg/dL	**		**		**		g/L
Apolipoprotein B (APO B)	Immunoturbidimetric	**		**		**		mg/dL	**		**		**		g/L
Aspartate Aminotransferase (AST)	IFCC, w/out P5P (AST/ASTL)	**		**		**		U/L	**		**		**		µkat/L
Aspartate Aminotransferase (AST)	IFCC, w/ P5P (ASTLP/ASTPM)	37.4	29.9 - 44.9	158	126 - 190	276	221 - 332	U/L	0.62	0.50 - 0.75	2.64	2.11 - 3.16	4.62	3.69 - 5.54	µkat/L
Bilirubin, Direct ^(a)	Diazo (BILD2)	**		**		**		mg/dL	**		**		**		µmol/L
Bilirubin, Direct ^(a)	Diazo (D Bii/DBILL)	0.30	0.24 - 0.36	1.49	1.19 - 1.79	2.70	2.16 - 3.24	mg/dL	5.13	4.10 - 6.16	25.5	20.4 - 30.6	46.2	36.9 - 55.4	µmol/L
Bilirubin, Total ^(a)	Diazo (BILT3)	0.77	0.62 - 0.92	3.42	2.74 - 4.10	6.29	5.03 - 7.55	mg/dL	13.2	10.6 - 15.7	58.5	46.9 - 70.1	108	86.0 - 129	µmol/L
Calcium	NM-BAPTA (CA2)	6.39	5.11 - 7.67	9.36	7.49 - 11.2	12.8	10.2 - 15.3	mg/dL	1.59	1.27 - 1.91	2.34	1.87 - 2.80	3.19	2.55 - 3.83	mmol/L
Carbamazepine	KIMS (CARB4)	3.76	3.01 - 4.51	8.70	6.96 - 10.4	13.6	10.8 - 16.3	µg/mL	15.9	12.7 - 19.1	36.8	29.5 - 44.2	57.3	45.9 - 68.8	µmol/L
Carbon Dioxide (CO2)	Enzymatic (CO2-L)	29.4	22.2 - 36.6	21.4	15.2 - 27.6	15.1	12.1 - 18.1	mEq/L	29.4	22.2 - 36.6	21.4	15.2 - 27.6	15.1	12.1 - 18.1	mmol/L
Chloride (Cl)	Indirect ISE	96.7	77.3 - 116	90.8	72.6 - 109	80.6	64.5 - 96.7	mEq/L	96.7	77.3 - 116	90.8	72.6 - 109	80.6	64.5 - 96.7	mmol/L
Cholesterol, HDL	Enzymatic, Colorimetric (HDL4)	49.3	39.5 - 59.2	31.0	24.8 - 37.2	15.5	12.4 - 18.6	mg/dL	1.28	1.02 - 1.53	0.80	0.64 - 0.96	0.40	0.32 - 0.48	mmol/L
Cholesterol, LDL	Enzymatic, Colorimetric (LDLC3)	127	102 - 152	88.3	70.7 - 106	46.8	37.4 - 56.1	mg/dL	3.29	2.63 - 3.94	2.29	1.83 - 2.75	1.21	0.97 - 1.45	mmol/L
Cholesterol, Total	Enzymatic (CHOL2)	208	167 - 250	140	112 - 168	70.9	56.7 - 85.1	mg/dL	5.40	4.32 - 6.48	3.63	2.90 - 4.36	1.84	1.47 - 2.20	mmol/L
Cholinesterase/Pseudocholinesterase	Butyrylthiocholine (CHE2)	**		**		**		U/mL	**		**		**		µkat/L
Creatine Kinase (CK)	IFCC (CK/CKL)	81.7	65.4 - 98.1	333	266 - 399	567	454 - 681	U/L	1.36	1.09 - 1.64	5.55	4.44 - 6.67	9.47	7.58 - 11.4	µkat/L
Creatinine	Enzymatic (CREP2)	0.90	0.72 - 1.08	3.84	3.07 - 4.61	6.58	5.26 - 7.90	mg/dL	79.6	63.7 - 95.5	339	271 - 408	582	465 - 698	µmol/L
Creatinine	Jaffe (CREJ2)	**		**		**		mg/dL	**		**		**		µmol/L
Digoxin	ECLIA	**		**		**		ng/mL	**		**		**		nmol/L
Digoxin	KIMS (DIG)	0.97	0.78 - 1.16	1.92	1.54 - 2.30	2.82	2.26 - 3.38	ng/mL	1.24	1.00 - 1.49	2.46	1.97 - 2.95	3.61	2.90 - 4.33	nmol/L
Ethanol	Alcohol Dehydrogenase (ETOH2)	19.8	15.9 - 23.8	101	80.6 - 121	189	151 - 226	mg/dL	4.30	3.44 - 5.16	21.9	17.5 - 26.3	40.9	32.8 - 49.1	mmol/L
Gamma-Glutamyltransferase (GGT)	Enzymatic, Colorimetric (GGT-2)	27.5	22.0 - 33.0	73.3	58.6 - 87.9	118	94.3 - 141	U/L	0.46	0.37 - 0.55	1.22	0.98 - 1.47	1.97	1.57 - 2.36	µkat/L
Gentamicin	CEDIA	**		**		**		µg/mL	**		**		**		µmol/L
Gentamicin	KIMS (GENT2)	**		**		**		µg/mL	**		**		**		µmol/L
Gentamicin	QMS	6.83	5.46 - 8.20	4.09	3.27 - 4.91	1.61	1.16 - 2.06	µg/mL	14.3	11.4 - 17.2	8.56	6.85 - 10.3	3.37	2.43 - 4.31	µmol/L
Glucose	Hexokinase	63.1	50.5 - 75.7	212	169 - 254	359	287 - 431	mg/dL	3.50	2.80 - 4.20	11.8	9.40 - 14.1	19.9	15.9 - 23.9	mmol/L
Haptoglobin	Immunoturbidimetric (HAPT2)	**		**		**		mg/dL	**		**		**		µmol/L
Iron	Ferrozine (IRON2)	**		**		**		µg/dL	**		**		**		µmol/L
Iron Binding Capacity, Unsaturated (UIBC)	Ferrozine	**		**		**		µg/dL	**		**		**		µmol/L
Lactate Dehydrogenase	IFCC (LDH12)	**		**		**		U/L	**		**		**		µkat/L
Lactic Acid	Enzymatic, Colorimetric (LACT2)	11.7	9.37 - 14.1	35.9	28.7 - 43.0	58.5	46.8 - 70.2	mg/dL	1.30	1.04 - 1.56	3.98	3.18 - 4.78	6.49	5.19 - 7.79	mmol/L
Lipase	Enzymatic, Colorimetric (LIPC)	35.2	28.1 - 42.2	48.2	38.5 - 57.8	60.0	48.0 - 72.0	U/L	0.59	0.47 - 0.70	0.80	0.64 - 0.97	1.00	0.80 - 1.20	µkat/L
Lipoprotein (a)	Immunoturbidimetric (LPA2)	**		**		**		mg/dL	**		**		**		nmol/L
Lipoprotein (a)	Immunoturbidimetric (LPA2 Non U.S.)	**		**		**		mg/dL	**		**		**		nmol/L
Lithium	Xylidyl Blue (LI)	0.82	0.66 - 0.98	1.56	1.25 - 1.87	2.25	1.80 - 2.70	mEq/L	0.82	0.66 - 0.98	1.56	1.25 - 1.87	2.25	1.80 - 2.70	mmol/L
Magnesium ^(c)	Xylidyl Blue (MG2)	1.01	0.81 - 1.21	2.72	2.18 - 3.26	4.38	3.50 - >4.86	mg/dL	0.42	0.33 - 0.50	1.12	0.90 - 1.34	1.80	1.44 - >2.00	mmol/L
N-Acetylprocainamide (NAPA)	Enzymatic (NAPA2)	**		**		**		µg/mL	**		**		**		µmol/L
Phenobarbital	KIMS (PHN02)	**		**		**		µg/mL	**		**		**		µmol/L
Phenytion	KIMS (PHNY2)	4.30	3.37 - 5.23	12.1	9.67 - 14.5	20.2	16.2 - 24.2	µg/mL	17.1	13.4 - 20.7	47.9	38.3 - 57.5	80.0	64.0 - 96.1	µmol/L
Phosphorus ^{(b)(c)}	Molybdate UV (PHOS2)	2.28	1.82 - 2.74	5.11	4.09 - 6.13	7.57	6.06 - 9.08	mg/dL	0.74	0.59 - 0.88	1.65	1.32 - 1.98	2.44	1.96 - 2.93	mmol/L
Potassium (K)	Indirect ISE	2.67	2.14 - 3.20	4.42	3.54 - 5.30	6.09	4.87 - 7.31	mEq/L	2.67	2.14 - 3.20	4.42	3.54 - 5.30	6.09	4.87 - 7.31	mmol/L
Prealbumin	Immunoturbidimetric (PREA)	**		**		**		mg/dL	**		**		**		mg/L

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ROCHE COBAS C / E / MODULAR SYSTEMS (Continued)														
Procainamide	EIA (PROC2)	**		**		**		**		**		**		µmol/L
Quinidine	KIMS (QUIN2)	**		**		**		**		**		**		µmol/L
Salicylate ^(b)	Enzymatic (SALI)	5.62	4.50 - 6.74	15.4	12.3 - 18.4	23.3	18.6 - 28.0	0.41	0.33 - 0.49	1.11	0.89 - 1.33	1.69	1.35 - 2.02	mmol/L
Sodium (Na)	Indirect ISE	157	125 - >180	133	106 - 159	115	92.0 - 138	157	125 - >180	133	106 - 159	115	92.0 - 138	mmol/L
Theophylline	KIMS (THE-2/THE02)	**		**		**		**		**		**		µmol/L
Thyroid Stimulating Hormone (TSH)	ECLIA	1.58	1.26 - 1.90	4.38	3.50 - 5.26	8.82	7.06 - 10.6	1.58	1.26 - 1.90	4.38	3.50 - 5.26	8.82	7.06 - 10.6	mIU/L
Thyroid Uptake	ECLIA (T-Uptake)	**		**		**		**		**		**		TBI
Thyroxine, Total (T4)	ECLIA	7.29	5.83 - 8.75	11.4	9.08 - 13.6	15.7	12.5 - 18.8	93.8	75.0 - 113	146	117 - 175	202	161 - 242	nmol/L
Tobramycin	EIA (TOBR2)	**		**		**		**		**		**		µmol/L
Total Protein	Biuret (TP2)	7.21	5.77 - 8.65	5.73	4.58 - 6.88	4.00	3.20 - 4.80	72.1	57.7 - 86.5	57.3	45.8 - 68.8	40.0	32.0 - 48.0	g/L
Triglycerides ^(b)	Enzymatic (TRIGL)	215	172 - 258	154	123 - 184	89.9	71.9 - 108	2.43	1.95 - 2.92	1.74	1.39 - 2.08	1.02	0.81 - 1.22	mmol/L
Urea Nitrogen (BUN)	Urease, GLDH (UREAL)	14.8	11.9 - 17.8	39.7	31.7 - 47.6	64.7	51.7 - 77.6	5.29	4.23 - 6.35	14.2	11.3 - 17.0	23.1	18.5 - 27.7	mmol/L
Urea, Total	Urease, GLDH (UREAL)	31.7	25.4 - 38.1	84.9	67.9 - 102	138	111 - 166	5.29	4.23 - 6.35	14.2	11.3 - 17.0	23.1	18.5 - 27.7	mmol/L
Uric Acid	Uricase (UA2)	3.11	2.49 - 3.73	6.89	5.51 - 8.27	10.7	8.54 - 12.8	185	148 - 222	410	328 - 492	635	508 - 761	µmol/L
Valproic Acid	EIA (VALP2)	128	102 - >150	77.5	62.0 - 93.0	24.8	19.8 - 29.7	885	708 - >1040	537	430 - 645	172	137 - 206	µmol/L
Vancomycin	KIMS (VANC3)	7.74	6.19 - 9.29	20.8	16.7 - 25.0	34.6	27.7 - 41.6	5.34	4.27 - 6.41	14.4	11.5 - 17.3	23.9	19.1 - 28.7	µmol/L



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ROCHE INTEGRA SYSTEMS														
Acetaminophen	Enzymatic, Colorimetric	**	**	**	**	**	**	**	**	**	**	**	µmol/L	
Alanine Aminotransferase (ALT)	IFCC w/out P5P	31.7	25.4 - 38.0	91.3	73.0 - 110	139	111 - 167	0.53	0.42 - 0.64	1.52	1.22 - 1.83	2.32	1.86 - 2.79	µkat/L
Albumin	BCG	4.56	3.65 - 5.47	3.86	3.09 - 4.63	3.10	2.48 - 3.72	45.6	36.5 - 54.7	38.6	30.9 - 46.3	31.0	24.8 - 37.2	g/L
Alkaline Phosphatase (ALP) ^(c)	p-NPP, IFCC	48.9	39.1 - 58.7	200	160 - 240	364	291 - 437	0.82	0.65 - 0.98	3.34	2.67 - 4.01	6.08	4.87 - 7.30	µkat/L
Amikacin	Fluorescence Polarization	**	**	**	**	**	**	**	**	**	**	**	**	µmol/L
Amylase	Ed-G7PNP	**	**	**	**	**	**	**	**	**	**	**	**	µkat/L
Apolipoprotein A1 (APO A1)	Immunoturbidimetric	**	**	**	**	**	**	**	**	**	**	**	**	g/L
Apolipoprotein B (APO B)	Immunoturbidimetric	**	**	**	**	**	**	**	**	**	**	**	**	g/L
Aspartate Aminotransferase (AST)	IFCC w/out P5P	36.1	28.9 - 43.3	157	126 - 189	282	226 - 338	0.60	0.48 - 0.72	2.63	2.10 - 3.15	4.71	3.77 - 5.65	µkat/L
Bilirubin, Direct ^(a)	Diazo (BIL-D)	**	**	**	**	**	**	**	**	**	**	**	**	µmol/L
Bilirubin, Total ^(a)	Diazo (BILT3)	0.80	0.64 - 0.96	3.59	2.87 - 4.31	6.69	5.35 - 8.03	13.7	10.9 - 16.4	61.4	49.1 - 73.7	114	91.5 - 137	µmol/L
Calcium	NM-BAPTA (CA2)	6.33	5.06 - 7.60	9.35	7.48 - 11.2	13.0	10.4 - 15.6	1.58	1.26 - 1.90	2.33	1.87 - 2.80	3.24	2.59 - 3.89	mmol/L
Calcium	o-Cresolphthalein Complex	**	**	**	**	**	**	**	**	**	**	**	**	mmol/L
Carbamazepine	Fluorescence Polarization	**	**	**	**	**	**	**	**	**	**	**	**	µmol/L
Carbon Dioxide (CO2)	Enzymatic	29.7	23.8 - 35.6	21.8	17.4 - 26.1	15.0	11.9 - 18.2	29.7	23.8 - 35.6	21.8	17.4 - 26.1	15.0	11.9 - 18.2	mmol/L
Chloride (Cl)	Indirect ISE	101	80.7 - 121	97.6	78.1 - 117	89.3	71.4 - 107	101	80.7 - 121	97.6	78.1 - 117	89.3	71.4 - 107	mmol/L
Cholesterol, HDL	Enzymatic, Colorimetric (HDLc4)	51.8	41.4 - 62.2	33.3	26.6 - 40.0	16.4	13.1 - 19.7	1.34	1.07 - 1.61	0.86	0.69 - 1.03	0.42	0.34 - 0.51	mmol/L
Cholesterol, LDL	Enzymatic, Colorimetric (LDLc3)	131	105 - 158	92.9	74.3 - 111	49.8	39.8 - 59.8	3.40	2.72 - 4.08	2.41	1.92 - 2.89	1.29	1.03 - 1.55	mmol/L
Cholesterol, Total	Enzymatic, Colorimetric	204	163 - 244	136	109 - 163	68.4	54.7 - 82.1	5.27	4.22 - 6.33	3.53	2.82 - 4.23	1.77	1.42 - 2.13	mmol/L
Cholinesterase/Pseudocholinesterase	Butyrylthiocholine	**	**	**	**	**	**	**	**	**	**	**	**	µkat/L
Creatine Kinase (CK)	UV, IFCC (CKL/CK2)	**	**	**	**	**	**	**	**	**	**	**	**	µkat/L
Creatinine	Kinetic Alkaline Picrate	1.00	0.80 - 1.20	3.66	2.93 - 4.39	6.43	5.14 - 7.72	88.4	70.7 - 106	324	259 - 388	568	454 - 682	µmol/L
Creatinine	Enzymatic, Colorimetric	**	**	**	**	**	**	**	**	**	**	**	**	µmol/L
Digoxin	KIMS	**	**	**	**	**	**	**	**	**	**	**	**	nmol/L
Ethanol	Alcohol Dehydrogenase	**	**	**	**	**	**	**	**	**	**	**	**	mmol/L
Gamma-Glutamyltransferase (GGT)	Enzymatic, Colorimetric	**	**	**	**	**	**	**	**	**	**	**	**	µkat/L
Gentamicin	Fluorescence Polarization	**	**	**	**	**	**	**	**	**	**	**	**	µmol/L
Glucose	Hexokinase	62.0	49.6 - 74.4	209	167 - 251	361	289 - 433	3.44	2.75 - 4.13	11.6	9.29 - 13.9	20.0	16.0 - 24.0	mmol/L
Haptoglobin	Immunoturbidimetric	**	**	**	**	**	**	**	**	**	**	**	**	µmol/L
Iron	Ferrozine	**	**	**	**	**	**	**	**	**	**	**	**	µmol/L
Lactate Dehydrogenase	Enzymatic, UV	**	**	**	**	**	**	**	**	**	**	**	**	µkat/L
Lactic Acid	Enzymatic, Colorimetric	**	**	**	**	**	**	**	**	**	**	**	**	mmol/L
Lidocaine	Fluorescence Polarization	**	**	**	**	**	**	**	**	**	**	**	**	µmol/L
Lipase	Enzymatic, Colorimetric	**	**	**	**	**	**	**	**	**	**	**	**	µkat/L
Lithium	Direct ISE	**	**	**	**	**	**	**	**	**	**	**	**	mmol/L
Magnesium ^(c)	Chlorophosphonazo III	**	**	**	**	**	**	**	**	**	**	**	**	mmol/L
N-Acetylprocainamide (NAPA)	Fluorescence Polarization	**	**	**	**	**	**	**	**	**	**	**	**	µmol/L
Phenobarbital	Fluorescence Polarization	**	**	**	**	**	**	**	**	**	**	**	**	µmol/L
Phenytoin	Fluorescence Polarization	**	**	**	**	**	**	**	**	**	**	**	**	µmol/L
Phosphorus ^{(b)(c)}	Phosphomolybdate, UV	**	**	**	**	**	**	**	**	**	**	**	**	mmol/L
Potassium (K)	Indirect ISE	2.62	2.10 - 3.14	4.42	3.54 - 5.30	6.20	4.96 - 7.44	2.62	2.10 - 3.14	4.42	3.54 - 5.30	6.20	4.96 - 7.44	mmol/L
Prealbumin	Immunoturbidimetric	**	**	**	**	**	**	**	**	**	**	**	**	mg/L
Primidone	Fluorescence Polarization	**	**	**	**	**	**	**	**	**	**	**	**	µmol/L
Procainamide	Fluorescence Polarization	**	**	**	**	**	**	**	**	**	**	**	**	µmol/L
Quinidine	Fluorescence Polarization	**	**	**	**	**	**	**	**	**	**	**	**	µmol/L
Salicylate ^(b)	Enzymatic	**	**	**	**	**	**	**	**	**	**	**	**	mmol/L
Sodium (Na)	Indirect ISE	155	124 - 185	132	106 - 158	117	93.2 - 140	155	124 - 185	132	106 - 158	117	93.2 - 140	mmol/L
Theophylline	Fluorescence Polarization	**	**	**	**	**	**	**	**	**	**	**	**	µmol/L
Thyroid Uptake	Fluorescence Polarization	**	**	**	**	**	**	**	**	**	**	**	**	Unit
Thyroxine, Total (T4)	Fluorescence Polarization	**	**	**	**	**	**	**	**	**	**	**	**	nmol/L
Tobramycin	Fluorescence Polarization	**	**	**	**	**	**	**	**	**	**	**	**	µmol/L
Total Protein	Biuret	6.89	5.51 - 8.27	5.39	4.31 - 6.47	3.86	3.09 - 4.63	68.9	55.1 - 82.7	53.9	43.1 - 64.7	38.6	30.9 - 46.3	g/L
Triglycerides ^(b)	Enzymatic, Colorimetric	225	180 - 270	159	127 - 191	90.6	72.5 - 109	2.54	2.03 - 3.05	1.80	1.44 - 2.16	1.02	0.82 - 1.23	mmol/L
Urea Nitrogen (BUN)	Urease, GLDH	15.8	12.6 - 19.0	41.6	33.3 - 49.9	67.0	53.6 - 80.4	5.64	4.51 - 6.77	14.9	11.9 - 17.8	23.9	19.1 - 28.7	mmol/L
Urea, Total	Urease, GLDH	33.8	27.1 - 40.6	89.0	71.2 - 107	143	115 - 172	5.64	4.51 - 6.76	14.8	11.9 - 17.8	23.9	19.1 - 28.7	mmol/L
Uric Acid	Uricase	**	**	**	**	**	**	**	**	**	**	**	**	µmol/L
Valproic Acid	Fluorescence Polarization	**	**	**	**	**	**	**	**	**	**	**	**	µmol/L
Vancomycin	Fluorescence Polarization	**	**	**	**	**	**	**	**	**	**	**	**	µmol/L

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SIEMENS ADVIA SYSTEMS															
Acetaminophen	Enzymatic (ACET)	**		**		**		**		**		**		µmol/L	
Alanine Aminotransferase (ALT)	IFCC w/out P5P (ALT/ALT_c)	**		**		**		**		**		**		µkat/L	
Alanine Aminotransferase (ALT)	IFCC w/P5P (ALTP5P/ALTPlc)	41.1	32.9 - 49.3	113	90.6 - 136	170	136 - 204	U/L	0.69	0.55 - 0.82	1.89	1.51 - 2.27	2.84	2.27 - 3.40	µkat/L
Albumin	BCG (ALB/ALB_c)	4.51	3.61 - 5.41	3.71	2.97 - 4.45	2.90	2.32 - 3.48	g/dL	45.1	36.1 - 54.1	37.1	29.7 - 44.5	29.0	23.2 - 34.8	g/L
Albumin	BCP (ALBP)	**		**		**		g/dL	**		**		**	g/L	
Alkaline Phosphatase (ALP) ^(c)	PNPP, AMP (ALP_2c)	47.2	37.7 - 56.6	191	153 - 229	343	274 - 412	U/L	0.79	0.63 - 0.94	3.19	2.55 - 3.82	5.73	4.58 - 6.87	µkat/L
Amylase	G7 PNP (AMYLAS)	86.8	69.4 - 104	256	204 - 307	419	335 - 503	U/L	1.45	1.16 - 1.74	4.27	3.41 - 5.12	6.99	5.60 - 8.39	µkat/L
Amylase, Pancreatic	G7 PNP (PAMY)	59.6	47.6 - 71.5	228	182 - 273	392	314 - 470	U/L	0.99	0.80 - 1.19	3.80	3.04 - 4.57	6.54	5.24 - 7.85	µkat/L
Apolipoprotein A1 (APO A1)	Immuno-turbidimetric	84.6	67.7 - 102	56.4	45.1 - 67.7	30.1	16.9 - 43.3	mg/dL	0.85	0.68 - 1.02	0.56	0.45 - 0.68	0.30	0.17 - 0.43	g/L
Apolipoprotein B (APO B)	Immuno-turbidimetric	55.0	44.0 - 66.0	37.4	29.9 - 44.9	18.7	<15.0 - 22.5	mg/dL	0.55	0.44 - 0.66	0.37	0.30 - 0.45	0.19	<0.15 - 0.22	g/L
Aspartate Aminotransferase (AST)	IFCC w/out P5P (AST/AST_c)	**		**		**		U/L	**		**		**	µkat/L	
Aspartate Aminotransferase (AST)	IFCC w/P5P (ASTP5P/ASTPLc)	42.7	34.1 - 51.2	171	137 - 205	303	242 - 363	U/L	0.71	0.57 - 0.85	2.86	2.29 - 3.43	5.05	4.04 - 6.06	µkat/L
Bilirubin, Direct ^(a)	Vanadate Oxidation (DBIL_2)	0.42	0.34 - 0.50	2.69	2.15 - 3.23	4.55	3.64 - 5.46	mg/dL	7.18	5.81 - 8.55	46.0	36.8 - 55.2	77.8	62.2 - 93.4	µmol/L
Bilirubin, Total ^(a)	Vanadate Oxidation (TBIL_2)	1.00	0.80 - 1.20	4.50	3.60 - 5.40	8.42	6.74 - 10.1	mg/dL	17.1	13.7 - 20.5	77.0	61.6 - 92.3	144	115 - 173	µmol/L
Calcium	Arsenazo III (CA_2/CA_2c)	6.50	5.20 - 7.80	9.16	7.33 - 11.0	12.2	9.74 - 14.6	mg/dL	1.62	1.30 - 1.95	2.29	1.83 - 2.74	3.04	2.43 - 3.65	mmol/L
Calcium	o-Cresolphthalein Complexone (CA/CA_c)	5.67	4.54 - 6.80	8.51	6.81 - 10.2	11.9	9.55 - 14.3	mg/dL	1.41	1.13 - 1.70	2.12	1.70 - 2.55	2.98	2.38 - 3.58	mmol/L
Carbamazepine	EMIT (CARB_2)	**		**		**		µg/mL	**		**		**	µmol/L	
Carbon Dioxide (CO2)	Enzymatic (CO2_L/CO2_c)	32.5	26.0 - 39.0	24.2	19.4 - 29.1	17.1	13.6 - 20.5	mEq/L	32.5	26.0 - 39.0	24.2	19.4 - 29.1	17.1	13.6 - 20.5	mmol/L
Chloride (Cl)	Indirect ISE	95.4	76.3 - 114	90.1	72.0 - 108	81.9	65.5 - 98.3	mEq/L	95.4	76.3 - 114	90.1	72.0 - 108	81.9	65.5 - 98.3	mmol/L
Cholesterol, HDL	Elimination, Catalase (D-HDL)	35.6	28.5 - 42.7	20.4	16.3 - 24.5	8.80	7.04 - 10.6	mg/dL	0.92	0.74 - 1.11	0.53	0.42 - 0.63	0.23	0.18 - 0.27	mmol/L
Cholesterol, LDL	Elimination, Catalase (DLDL)	96.1	76.9 - 115	69.4	55.5 - 83.3	40.0	32.0 - 48.1	mg/dL	2.49	1.99 - 2.99	1.80	1.44 - 2.16	1.04	0.83 - 1.24	mmol/L
Cholesterol, Total	Enzymatic (CHOL_2/CHOL_c)	204	163 - 245	137	110 - 165	76.6	61.3 - 91.9	mg/dL	5.28	4.23 - 6.34	3.55	2.84 - 4.26	1.98	1.59 - 2.38	mmol/L
Cholinesterase/Pseudocholinesterase	Butyrylthiocholine IFCC (CK_L)	7.61	6.09 - 9.13	4.57	3.66 - 5.48	<1.50		U/mL	127	102 - 152	76.3	61.1 - 91.5	<25.1		µkat/L
Creatine Kinase (CK)	IFCC (CK_L)	83.9	67.1 - 101	376	301 - 451	661	528 - 793	U/L	1.40	1.12 - 1.68	6.27	5.02 - 7.53	11.0	8.83 - 13.2	µkat/L
Creatinine	Enzymatic (ECRE_2)	0.78	0.62 - 0.94	3.39	2.71 - 4.07	6.11	4.89 - 7.33	mg/dL	69.0	54.8 - 83.1	300	240 - 360	540	432 - 648	µmol/L
Creatinine	Jaffe (CREA_2/CRE_2c)	0.97	0.78 - 1.16	3.46	2.77 - 4.15	5.88	4.70 - 7.06	mg/dL	85.8	69.0 - 103	306	245 - 367	520	415 - 624	µmol/L
Digoxin	Chemiluminescence (DIG)	**		**		**		ng/mL	**		**		**	nmol/L	
Digoxin	Latex-enhanced Immuno-turbidimetric (DIG)	**		**		**		ng/mL	**		**		**	nmol/L	
Ethanol	Enzymatic (ETOH_2)	20.1	16.1 - 24.1	112	89.4 - 134	204	163 - 245	mg/dL	4.36	3.48 - 5.23	24.3	19.4 - 29.1	44.3	35.4 - 53.2	mmol/L
Gamma-Glutamyltransferase (GGT)	IFCC	28.5	22.8 - 34.2	74.8	59.8 - 89.7	125	100 - 150	U/L	0.48	0.38 - 0.57	1.25	1.00 - 1.50	2.09	1.68 - 2.51	µkat/L
Gentamicin	Chemiluminescence (GENT)	**		**		**		µg/mL	**		**		**	µmol/L	
Gentamicin	EMIT (GENT_2)	**		**		**		µg/mL	**		**		**	µmol/L	
Glucose	Glucose Oxidase Trinder (GLUO/GLUO_c)	51.5	41.2 - 61.8	177	142 - 213	305	244 - 365	mg/dL	2.86	2.29 - 3.43	9.84	7.87 - 11.8	16.9	13.5 - 20.3	mmol/L
Glucose	Hexokinase (GLUH_c)	58.0	46.4 - 69.6	197	157 - 236	335	268 - 402	mg/dL	3.22	2.58 - 3.86	10.9	8.74 - 13.1	18.6	14.9 - 22.3	mmol/L
Haptoglobin	Immuno-turbidimetric (HAPT)	122	97.5 - 146	87.6	70.1 - 105	52.7	42.2 - 63.2	mg/dL	12.2	9.75 - 14.6	8.76	7.01 - 10.5	5.27	4.22 - 6.32	µmol/L
Iron	Ferrozine (IRON_2)	241	193 - 290	153	122 - 184	63.5	50.8 - 76.2	µg/dL	43.2	34.6 - 51.9	27.4	21.9 - 32.9	11.4	9.10 - 13.7	µmol/L
Iron Binding Capacity, Total (TIBC)	Ferric Chloride	**		**		**		µg/dL	**		**		**	µmol/L	
Lactate Dehydrogenase	Lactate to Pyruvate (LDLP)	102	81.7 - 123	244	195 - 293	377	302 - 453	U/L	1.71	1.36 - 2.05	4.08	3.26 - 4.89	6.30	5.04 - 7.56	µkat/L
Lactate Dehydrogenase	Pyruvate to Lactate (LDPL)	188	150 - 226	492	393 - 590	784	627 - 941	U/L	3.14	2.51 - 3.77	8.21	6.57 - 9.86	13.1	10.5 - 15.7	µkat/L
Lactic Acid	Colorimetric (LAC)	**		**		**		mg/dL	**		**		**	mmol/L	
Lipase	Enzymatic (LIP)	48.5	38.8 - 58.2	70.8	56.6 - 85.0	93.8	75.0 - 113	U/L	0.81	0.65 - 0.97	1.18	0.95 - 1.42	1.57	1.25 - 1.88	µkat/L
Lipoprotein (a)	Latex-enhanced Immuno-turbidimetric	**		**		**		mg/dL	**		**		**	nmol/L	
Lithium	Colorimetric (LITH/LITH_2)	0.76	0.61 - 0.91	1.51	1.21 - 1.81	2.25	1.80 - 2.70	mEq/L	0.76	0.61 - 0.91	1.51	1.21 - 1.81	2.25	1.80 - 2.70	mmol/L
Magnesium ^(c)	Xylydyl Blue (MG)	1.35	1.08 - 1.62	2.91	2.33 - 3.49	4.44	3.55 - >5.00	mg/dL	0.56	0.44 - 0.67	1.20	0.96 - 1.44	1.83	1.46 - >2.06	mmol/L
Phenobarbital	EMIT (PHNB_2)	**		**		**		µg/mL	**		**		**	µmol/L	
Phenobarbital	Latex-enhanced Immuno-turbidimetric (PHNB)	**		**		**		µg/mL	**		**		**	µmol/L	
Phenytoin	EMIT (PHNY_2)	**		**		**		µg/mL	**		**		**	µmol/L	
Phenytoin	Latex-enhanced Immuno-turbidimetric (PHNY)	**		**		**		µg/mL	**		**		**	µmol/L	
Phosphorus ^{(b)(c)}	Phosphomolybdate, UV (IP)	2.17	1.74 - 2.60	4.96	3.97 - 5.95	7.32	5.86 - 8.78	mg/dL	0.70	0.56 - 0.84	1.60	1.28 - 1.92	2.36	1.89 - 2.84	mmol/L
Potassium (K)	Indirect ISE	2.93	2.34 - 3.52	4.60	3.68 - 5.52	6.32	5.06 - 7.58	mEq/L	2.93	2.34 - 3.52	4.60	3.68 - 5.52	6.32	5.06 - 7.58	mmol/L
Prealbumin	PEG-enhanced Immuno-turbidimetric	25.2	20.2 - 30.2	18.2	14.6 - 21.8	11.1	8.88 - 13.3	mg/dL	25.2	20.2 - 30.2	18.2	14.6 - 21.8	11.1	8.88 - 13.3	mg/L
Salicylate ^(b)	Indirect ISE	**		**		**		mg/dL	**		**		**	mmol/L	

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SIEMENS ADVIA SYSTEMS (Continued)															
Sodium (Na)	ISE Indirect	157	126 - 188	132	106 - 159	116	<100 - 139	mEq/L	157	126 - 188	132	106 - 159	116	<100 - 139	mmol/L
Theophylline	EMIT (THEO_2)	**		**		**		µg/mL	**		**		**		µmol/L
Theophylline	Latex-enhanced														
	Immunoturbidimetric (THEO)	**		**		**		µg/mL	**		**		**		µmol/L
Thyroid Stimulating Hormone (TSH)	Chemiluminescence	**		**		**		µIU/mL	**		**		**		mIU/L
Thyroid Stimulating Hormone (TSH)	Chemiluminescence (TSH3-UL)	**		**		**		µIU/mL	**		**		**		mIU/L
Tobramycin	EMIT (TOB_2)	**		**		**		µg/mL	**		**		**		µmol/L
Total Protein	Biuret (TP/TP_c)	6.43	5.14 - 7.72	5.14	4.11 - 6.17	3.75	3.00 - 4.50	g/dL	64.3	51.4 - 77.2	51.4	41.1 - 61.7	37.5	30.0 - 45.0	g/L
Triglycerides ^(b)	GPO-Trinder (TRIG_2/TRIG_c)	205	164 - 247	153	122 - 183	92.2	73.7 - 111	mg/dL	2.32	1.86 - 2.79	1.72	1.38 - 2.07	1.04	0.83 - 1.25	mmol/L
Urea Nitrogen (BUN)	Urease, GLDH (BUN/BUN_c)	16.4	13.1 - 19.7	42.3	33.8 - 50.8	63.3	50.7 - 76.0	mg/dL	5.86	4.69 - 7.03	15.1	12.1 - 18.1	22.6	18.1 - 27.1	mmol/L
Urea, Total	Urease, GLDH (UN/UN_c)	35.2	28.2 - 42.3	90.8	72.6 - 109	136	109 - 163	mg/dL	5.87	4.70 - 7.04	15.1	12.1 - 18.2	22.7	18.1 - 27.2	mmol/L
Uric Acid	Uricase, Peroxidase (UA/UA_c)	3.14	2.51 - 3.77	6.87	5.50 - 8.24	10.5	8.38 - 12.6	mg/dL	187	149 - 224	409	327 - 490	623	498 - 748	µmol/L
Valproic Acid	EMIT (VPA_2)	**		**		**		µg/mL	**		**		**		µmol/L
Vancomycin	EMIT (VANC_2)	**		**		**		µg/mL	**		**		**		µmol/L

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SIEMENS ATELLICA SYSTEMS													
Alanine Aminotransferase (ALT)													
IFCC w/P5P (ALTPLc)	**		**		**		U/L	**	**	**		µkat/L	
Albumin							g/dL	**	**	**		g/L	
BCG (Alb)	**		**		**								
Alkaline Phosphatase (ALP) ^(c)													
p-NPP, IFCC (ALP_2c)	**		**		**		U/L	**	**	**		µkat/L	
Amylase							U/L	**	**	**		µkat/L	
Ed-G7PNP (Amylas)	**		**		**								
Aspartate Aminotransferase (AST)													
IFCC w/P5P (ASTPLc)	**		**		**		U/L	**	**	**		µkat/L	
Bilirubin, Direct ^(a)	**		**		**		mg/dL	**	**	**		µmol/L	
Vanadate Oxidation (DBil_2)	**		**		**			**	**	**		µmol/L	
Bilirubin, Total ^(a)	**		**		**		mg/dL	**	**	**		µmol/L	
Vanadate Oxidation (TBil_2)	**		**		**			**	**	**		µmol/L	
Calcium								**	**	**		mmol/L	
o-Cresolphthalein	**		**		**		mg/dL	**	**	**		mmol/L	
Complexone	**		**		**			**	**	**		mmol/L	
Carbamazepine	3.71	2.97 - 4.45	8.30	6.64 - 9.96	12.9	10.3 - 15.5	µg/mL	15.7	12.6 - 18.8	35.1	28.1 - 42.2	54.5	43.6 - 65.4
PETINIA (Carb)	**		**		**		mEq/L	**	**	**		mmol/L	
Chloride (Cl)	**		**		**			**	**	**		mmol/L	
Indirect IMT	**		**		**			**	**	**		mmol/L	
Cholesterol, HDL	**		**		**		mg/dL	**	**	**		mmol/L	
Elimination, Catalase	**		**		**			**	**	**		mmol/L	
(D-HDL/D_HDL)	**		**		**			**	**	**		mmol/L	
Cholesterol, LDL	**		**		**		mg/dL	**	**	**		mmol/L	
Elimination, Catalase	**		**		**			**	**	**		mmol/L	
(DLDL)	**		**		**			**	**	**		mmol/L	
Cholesterol, Total	**		**		**		mg/dL	**	**	**		mmol/L	
Elimination, Catalase	**		**		**			**	**	**		mmol/L	
(Chol_2)	**		**		**			**	**	**		mmol/L	
Cholinesterase/Pseudocholinesterase								**	**	**		µkat/L	
Butyrylthiocholine (CHE/Che)	**		**		**		U/mL	**	**	**		µkat/L	
Creatine Kinase (CK)	**		**		**		U/L	**	**	**		µkat/L	
Enzymatic, IFCC (CK_L)	**		**		**		mg/dL	**	**	**		µmol/L	
Creatinine	**		**		**		mg/dL	**	**	**		µmol/L	
Enzymatic (ECre_2)	**		**		**			**	**	**		µmol/L	
Gamma-Glutamyl Transferase (GGT)								**	**	**		µkat/L	
Kinetic, IFCC	**		**		**		U/L	**	**	**		µmol/L	
Gentamicin	6.66	5.33 - 7.99	4.16	3.20 - 5.12	1.66	1.24 - 2.08	µg/mL	14.0	11.2 - 16.7	8.71	6.70 - 10.7	3.48	2.60 - 4.36
PETINIA (Gent)	**		**		**		mmol/L	**	**	**		mmol/L	
Glucose	**		**		**		µg/dL	**	**	**		µmol/L	
Hexokinase (GluH_3)	**		**		**			**	**	**		µmol/L	
Iron	**		**		**		µg/dL	**	**	**		µmol/L	
Ferrozine (Iron_2)	**		**		**			**	**	**		µmol/L	
Lactate Dehydrogenase								**	**	**		µkat/L	
Lactate to Pyruvate (LDLP)	**		**		**		U/L	**	**	**		mmol/L	
Lactic Acid	**		**		**		mg/dL	**	**	**		µkat/L	
Lactate to Pyruvate (Lac)	**		**		**		U/L	**	**	**		µkat/L	
Lipase	**		**		**			**	**	**		µkat/L	
Enzymatic (Lip)	**		**		**			**	**	**		µkat/L	
Lipoprotein (a)	**		**		**		mg/dL	**	**	**		nmol/L	
Latex-enhanced	**		**		**		mg/dL	**	**	**		mmol/L	
Immunoturbidimetric	**		**		**		µg/mL	**	**	**		µmol/L	
(Lp(a)/Lp_a)	**		**		**		µg/mL	**	**	**		µmol/L	
Magnesium ^(c)	**		**		**		µg/mL	**	**	**		µmol/L	
Xylidyl Blue (Mg)	**		**		**		µg/mL	**	**	**		µmol/L	
Phenobarbital	**		**		**		µg/mL	**	**	**		µmol/L	
PETINIA (Phnb)	**		**		**		µg/mL	**	**	**		µmol/L	
Phenytoin	4.54	3.63 - 5.45	12.3	9.87 - 14.8	20.3	16.3 - 24.4	µg/mL	18.0	14.4 - 21.6	48.9	39.1 - 58.7	80.6	64.5 - 96.6
PETINIA (Phny)	**		**		**		µg/mL	**	**	**		µmol/L	
Phosphorus ^{(b)(c)}	**		**		**		mg/dL	**	**	**		mmol/L	
Phosphomolybdate (IP)	**		**		**		mEq/L	**	**	**		mmol/L	
Potassium (K)	**		**		**		mEq/L	**	**	**		mmol/L	
Indirect IMT	**		**		**		µg/mL	**	**	**		µmol/L	
Sodium (Na)	**		**		**		µg/mL	**	**	**		µmol/L	
Indirect IMT	**		**		**		µg/mL	**	**	**		µmol/L	
Theophylline	4.21	3.37 - 5.05	14.6	11.7 - 17.5	23.9	19.1 - 28.7	µg/mL	23.4	18.7 - 28.0	80.9	64.7 - 97.1	133	106 - 159
PETINIA (Theo)	**		**		**			**	**	**		µmol/L	
Thyroid Stimulating Hormone (TSH)								**	**	**		mIU/L	
Chemiluminescence	**		**		**		µIU/mL	**	**	**		g/L	
(TSH3-UL/TSH3UL)	**		**		**		mg/dL	**	**	**		mmol/L	
Total Protein	**		**		**		g/dL	**	**	**		mmol/L	
Biuret (TP)	**		**		**		mg/dL	**	**	**		mmol/L	
Triglycerides ^(b)	**		**		**		mg/dL	**	**	**		µmol/L	
GPO, Concentrated (Trig)	**		**		**		mg/dL	**	**	**		µmol/L	
Urea Nitrogen (BUN)	**		**		**		mg/dL	**	**	**		µmol/L	
Urease, GLDH (UN_c)	**		**		**		mg/dL	**	**	**		µmol/L	
Uric Acid	**		**		**		mg/dL	**	**	**		µmol/L	
Uricase (UA)	**		**		**		µg/mL	**	**	**		µmol/L	
Valproic Acid	115	92.1 - 138	71.6	57.3 - 85.9	24.4	19.5 - 29.2	µg/mL	799	639 - 958	497	397 - 596	169	135 - 203
PETINIA (VPA)	**		**		**		µg/mL	5.17	4.13 - 6.20	13.8	11.0 - 16.6	22.6	18.1 - 27.1
Vancomycin	7.49	5.99 - 8.99	20.0	16.0 - 24.0	32.7	26.2 - 39.3	µg/mL	5.17	4.13 - 6.20	13.8	11.0 - 16.6	22.6	18.1 - 27.1
PETINIA (Vanc)	**		**		**			**	**	**		µmol/L	

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SIEMENS BNII / PROSPEC													
Apolipoprotein A1 (APO A1)													
Immunonephelometry	**		**		**	mg/dL	**		**		**		g/L
Apolipoprotein B (APO B)													
Immunonephelometry	**		**		**	mg/dL	**		**		**		g/L
Haptoglobin													
Immunonephelometry	**		**		**	mg/dL	**		**		**		µmol/L
Lipoprotein (a)													
Immunonephelometry	**		**		**	mg/dL	**		**		**		nmol/L




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SIEMENS DIMENSION SYSTEMS															
Acetaminophen	p-Aminophenol (ACTM)	28.1	22.5 - 33.7	82.5	66.0 - 99.0	134	107 - 160	µg/mL	186	149 - 223	546	437 - 655	884	707 - 1061	µmol/L
Alanine Aminotransferase (ALT)	IFCC (ALTI)	36.9	29.5 - 44.3	103	82.4 - 124	157	126 - 189	U/L	0.62	0.49 - 0.74	1.72	1.38 - 2.06	2.63	2.10 - 3.15	µkat/L
Albumin	BCP (ALB)	4.09	2.95 - 5.23	3.29	2.63 - 3.95	2.31	1.85 - 2.77	g/dL	40.9	29.5 - 52.3	32.9	26.3 - 39.5	23.1	18.5 - 27.7	g/L
Alkaline Phosphatase (ALP) ^(c)	IFCC (ALPI)	49.7	39.8 - 59.6	199	159 - 239	359	287 - 431	U/L	0.83	0.66 - 1.00	3.33	2.66 - 3.99	6.00	4.80 - 7.20	µkat/L
Amylase	CNPG3 (AMY)	91.5	73.2 - 110	321	257 - 385	545	436 - >650	U/L	1.53	1.22 - 1.83	5.36	4.29 - 6.43	9.10	7.28 - >10.9	µkat/L
Amylase, Pancreatic	Enzymatic, Colorimetric (Sentinel)	**	**	**	**	**	**	U/L	**	**	**	**	**	**	µkat/L
Apolipoprotein A1 (APO A1)	Immunoturbidimetric (Sentinel)	**	**	**	**	**	**	mg/dL	**	**	**	**	**	**	g/L
Apolipoprotein B (APO B)	Immunoturbidimetric (Sentinel)	**	**	**	**	**	**	mg/dL	**	**	**	**	**	**	g/L
Aspartate Aminotransferase (AST)	IFCC w/PSP	35.5	28.4 - 42.6	152	121 - 182	270	216 - 323	U/L	0.59	0.47 - 0.71	2.53	2.03 - 3.04	4.50	3.60 - 5.40	µkat/L
Bilirubin, Direct ^(a)	Diazo Sulfanilic Acid (DBI)	0.30	0.24 - 0.36	1.44	1.15 - 1.73	2.52	2.02 - 3.02	mg/dL	5.13	4.10 - 6.16	24.6	19.7 - 29.6	43.1	34.5 - 51.6	µmol/L
Bilirubin, Total ^(a)	Diazo Sulfanilic Acid (TBI)	0.88	0.70 - 1.06	4.05	3.24 - 4.86	7.56	6.05 - 9.07	mg/dL	15.1	12.0 - 18.1	69.3	55.4 - 83.1	129	103 - 155	µmol/L
Calcium	o-Cresolphthalein Complexone (CA)	5.81	<5.00 - 6.97	8.85	7.08 - 10.6	12.3	9.86 - 14.8	mg/dL	1.45	<1.25 - 1.74	2.21	1.77 - 2.65	3.07	2.46 - 3.69	mmol/L
Carbamazepine	PETINIA (CRBM)	**	**	**	**	**	**	µg/mL	**	**	**	**	**	**	µmol/L
Carbon Dioxide (CO2)	Enzymatic (ECO2)	33.0	26.4 - 39.6	24.7	19.8 - 29.6	18.6	14.8 - 22.3	mEq/L	33.0	26.4 - 39.6	24.7	19.8 - 29.6	18.6	14.8 - 22.3	mmol/L
Chloride (Cl)	Indirect IMT (EXL / XPAND)	101	80.9 - 121	94.5	75.6 - 113	84.8	67.8 - 102	mEq/L	101	80.9 - 121	94.5	75.6 - 113	84.8	67.8 - 102	mmol/L
Chloride (Cl)	Indirect IMT (RXL)	**	**	**	**	**	**	mEq/L	**	**	**	**	**	**	mmol/L
Cholesterol, HDL	Enzymatic, Colorimetric (AHDH)	69.9	55.9 - 83.9	52.2	41.8 - 62.6	32.5	26.0 - 39.0	mg/dL	1.81	1.45 - 2.17	1.35	1.08 - 1.62	0.84	0.67 - 1.01	mmol/L
Cholesterol, LDL	Selective Detergents (ALDL)	**	**	**	**	**	**	mg/dL	**	**	**	**	**	**	mmol/L
Cholesterol, Total	Enzymatic (CHDL)	207	165 - 248	134	107 - 161	61.9	<50.0 - 74.3	mg/dL	5.35	4.28 - 6.42	3.48	2.78 - 4.17	1.60	<1.30 - 1.92	mmol/L
Cholinesterase/Pseudocholinesterase	Butyrylthiocholine (PCHE)	**	**	**	**	**	**	U/mL	**	**	**	**	**	**	µkat/L
Creatine Kinase (CK)	IFCC (CKI)	78.1	62.5 - 93.7	326	261 - 391	561	448 - 673	U/L	1.30	1.04 - 1.57	5.44	4.35 - 6.53	9.36	7.49 - 11.2	µkat/L
Creatinine	Enzymatic (EZCR)	**	**	**	**	**	**	mg/dL	**	**	**	**	**	**	µmol/L
Creatinine	Jaffe (CRE2)	0.93	0.74 - 1.12	3.88	3.10 - 4.66	6.86	5.49 - 8.23	mg/dL	82.2	65.4 - 99.0	343	274 - 412	606	485 - 728	µmol/L
Digoxin	ACMIA (DGNA)	**	**	**	**	**	**	ng/mL	**	**	**	**	**	**	nmol/L
Ethanol	Alcohol Dehydrogenase (ETOH)	19.1	15.3 - 22.9	97.0	77.6 - 116	176	141 - 211	mg/dL	4.15	3.32 - 4.98	21.1	16.9 - 25.3	38.2	30.6 - 45.9	mmol/L
Gamma-Glutamyltransferase (GGT)	IFCC w/PSP	41.6	33.3 - 49.9	99.6	79.7 - 120	156	124 - 187	U/L	0.69	0.56 - 0.83	1.66	1.33 - 2.00	2.60	2.08 - 3.12	µkat/L
Gentamicin	PETINIA (GENT)	**	**	**	**	**	**	µg/mL	**	**	**	**	**	**	µmol/L
Glucose	Hexokinase (GLUC)	66.0	52.8 - 79.2	209	167 - 251	349	279 - 418	mg/dL	3.66	2.93 - 4.40	11.6	9.27 - 13.9	19.4	15.5 - 23.2	mmol/L
Haptoglobin	PEG-enhanced Immunoturbidimetric (Sentinel)	**	**	**	**	**	**	mg/dL	**	**	**	**	**	**	µmol/L
Iron	Ferene (IRON)	240	192 - 288	152	122 - 183	64.4	51.5 - 77.3	µg/dL	43.0	34.4 - 51.6	27.3	21.8 - 32.7	11.5	9.23 - 13.8	µmol/L
Iron Binding Capacity, Total (TIBC)	Ferene, Direct (IBCT)	376	301 - 451	268	214 - 321	164	131 - 196	µg/dL	67.4	53.9 - 80.9	48.0	38.4 - 57.5	29.3	23.4 - 35.1	µmol/L
Lactate Dehydrogenase	Lactate to Pyruvate, IFCC (LDI)	95.2	76.2 - 114	232	185 - 278	365	292 - 438	U/L	1.59	1.27 - 1.91	3.87	3.09 - 4.64	6.10	4.88 - 7.32	µkat/L
Lactic Acid	Enzymatic (LA)	**	**	**	**	**	**	mg/dL	**	**	**	**	**	**	mmol/L
Lidocaine	PETINIA (LIDO)	**	**	**	**	**	**	µg/mL	**	**	**	**	**	**	µmol/L
Lipase	Colorimetric (LIPL)	106	84.9 - 127	137	110 - 165	167	134 - 200	U/L	1.77	1.42 - 2.13	2.29	1.84 - 2.75	2.79	2.23 - 3.35	µkat/L
Lipoprotein (a)	Latex Particle Immunoturbidimetric (Sentinel)	**	**	**	**	**	**	mg/dL	**	**	**	**	**	**	nmol/L
Lithium	Colorimetric (LI)	**	**	**	**	**	**	mEq/L	**	**	**	**	**	**	mmol/L
Magnesium ^(c)	Methylthymol Blue (MG)	1.00	0.80 - 1.20	2.79	2.23 - 3.35	4.50	3.60 - 5.40	mg/dL	0.41	0.33 - 0.49	1.15	0.92 - 1.38	1.85	1.48 - 2.22	mmol/L
Phenobarbital	PETINIA (PHND)	**	**	**	**	**	**	µg/mL	**	**	**	**	**	**	µmol/L
Phenytoin	PETINIA (PTN)	**	**	**	**	**	**	µg/mL	**	**	**	**	**	**	µmol/L
Phosphorus ^{(b)(c)}	Phosphomolybdate (PHOS)	2.67	2.14 - 3.20	5.37	4.30 - 6.44	7.72	6.18 - >9.00	mg/dL	0.86	0.69 - 1.03	1.73	1.39 - 2.08	2.49	2.00 - >2.91	mmol/L
Potassium (K)	Indirect IMT (EXL / XPAND)	2.51	2.01 - 3.01	4.30	3.44 - 5.16	6.12	4.90 - 7.34	mEq/L	2.51	2.01 - 3.01	4.30	3.44 - 5.16	6.12	4.90 - 7.34	mmol/L
Potassium (K)	Indirect IMT (RXL)	**	**	**	**	**	**	mEq/L	**	**	**	**	**	**	mmol/L
Prealbumin	PETIA (PALB)	**	**	**	**	**	**	mg/dL	**	**	**	**	**	**	mg/L
Procainamide	PETINIA (PROC)	**	**	**	**	**	**	µg/mL	**	**	**	**	**	**	µmol/L
Salicylate ^(b)	Colorimetric (SAL)	**	**	**	**	**	**	mg/dL	**	**	**	**	**	**	mmol/L
Sodium (Na)	Indirect IMT (EXL / XPAND)	156	125 - 188	133	106 - 160	117	93.5 - 140	mEq/L	156	125 - 188	133	106 - 160	117	93.5 - 140	mmol/L
Sodium (Na)	Indirect IMT (RXL)	**	**	**	**	**	**	mEq/L	**	**	**	**	**	**	mmol/L
Theophylline	PETINIA (THEO)	**	**	**	**	**	**	µg/mL	**	**	**	**	**	**	µmol/L
Thyroid Stimulating Hormone (TSH)	EIA	**	**	**	**	**	**	µIU/mL	**	**	**	**	**	**	mIU/L
Thyroid Stimulating Hormone (TSH)	LOC1 [®] (TSHL)	1.42	1.14 - 1.70	4.10	3.28 - 4.92	8.00	6.40 - 9.60	µIU/mL	1.42	1.14 - 1.70	4.10	3.28 - 4.92	8.00	6.40 - 9.60	mIU/L
Thyroid Uptake	EIA (TU)	**	**	**	**	**	**	%	**	**	**	**	**	**	%

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SIEMENS DIMENSION SYSTEMS (Continued)															
Thyroxine, Total (T4)	EIA	**		**		**		**		**		**		nmol/L	
Tobramycin	PETINIA (TOBR)	**		**		**		**		**		**		µmol/L	
Total Protein	Biuret (TP)	7.32	5.86 - 8.78	5.79	4.63 - 6.95	4.08	3.26 - 4.90			73.2	58.6 - 87.8	57.9	46.3 - 69.5	40.8	32.6 - 49.0
Triglycerides ^(b)	GPO (TGL)	209	167 - 250	152	122 - 183	91.6	73.3 - 110			2.36	1.89 - 2.83	1.72	1.38 - 2.07	1.04	0.83 - 1.24
Urea Nitrogen (BUN)	Urease, GLDH (BUN)	15.4	12.3 - 18.5	40.7	32.6 - 48.8	64.9	51.9 - 77.9			5.50	4.40 - 6.60	14.5	11.6 - 17.4	23.2	18.5 - 27.8
Urea, Total	Urease, GLDH	33.0	26.4 - 39.6	87.1	69.7 - 105	139	111 - 167			5.49	4.40 - 6.59	14.5	11.6 - 17.4	23.2	18.5 - 27.8
Uric Acid	Uricase (URCA)	3.32	2.66 - 3.98	6.83	5.46 - 8.20	10.8	8.66 - 13.0			197	158 - 237	406	325 - 488	644	515 - 773
Valproic Acid	EIA (VALP)	**		**		**		**		**		**		**	
Vancomycin	PETINIA (VANC)	7.92	6.34 - 9.50	21.6	17.2 - 25.9	34.7	27.8 - 41.6			5.46	4.37 - 6.56	14.9	11.9 - 17.8	23.9	19.2 - 28.7




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SIEMENS DIMENSION VISTA SYSTEMS															
Acetaminophen	p-Aminophenol (ACTM)	28.7	23.0 - 34.4	82.3	65.8 - 98.7	131	105 - 158	µg/mL	190	152 - 228	544	435 - 653	869	695 - 1043	µmol/L
Alanine Aminotransferase (ALT)	IFCC (ALTI)	38.0	30.4 - 45.6	106	84.6 - 127	159	127 - 190	U/L	0.63	0.51 - 0.76	1.77	1.41 - 2.12	2.65	2.12 - 3.18	µkat/L
Albumin	BCP (ALB)	4.18	3.34 - 5.02	3.25	2.60 - 3.90	2.31	1.85 - 2.77	g/dL	41.8	33.4 - 50.2	32.5	26.0 - 39.0	23.1	18.5 - 27.7	g/L
Albumin	Nephelometric (sALB)	**		**		**		g/dL	**		**		**		g/L
Alkaline Phosphatase (ALP) ^(c)	IFCC (ALPI)	46.6	37.3 - 55.9	194	155 - 233	346	277 - 415	U/L	0.78	0.62 - 0.93	3.24	2.59 - 3.88	5.78	4.62 - 6.93	µkat/L
Amylase	CNP33	92.1	73.7 - 111	328	262 - 393	562	450 - >650	U/L	1.54	1.23 - 1.85	5.47	4.38 - 6.57	9.39	7.51 - >10.9	µkat/L
Apolipoprotein A1 (APO A1)	Nephelometric	**		**		**		mg/dL	**		**		**		g/L
Apolipoprotein B (APO B)	Nephelometric	**		**		**		mg/dL	**		**		**		g/L
Aspartate Aminotransferase (AST)	IFCC	36.6	29.3 - 43.9	153	122 - 184	270	216 - 324	U/L	0.61	0.49 - 0.73	2.56	2.04 - 3.07	4.50	3.60 - 5.40	µkat/L
Bilirubin, Direct ^(a)	Diazo Sulfanilic Acid (DBIL)	0.30	0.24 - 0.36	1.56	1.25 - 1.87	2.81	2.25 - 3.37	mg/dL	5.13	4.10 - 6.16	26.7	21.4 - 32.0	48.1	38.5 - 57.6	µmol/L
Bilirubin, Total ^(a)	Diazo Sulfanilic Acid (TBIL)	0.89	0.71 - 1.07	3.96	3.17 - 4.75	7.57	6.06 - 9.08	mg/dL	15.2	12.1 - 18.3	67.7	54.2 - 81.2	129	104 - 155	µmol/L
Calcium	o-Cresolphthalein	6.17	<5.00 - 7.40	9.09	7.27 - 10.9	12.6	10.1 - >15.0	mg/dL	1.54	<1.25 - 1.85	2.27	1.81 - 2.72	3.14	2.51 - >3.74	mmol/L
Carbamazepine	Complexone	**		**		**		µg/mL	**		**		**		µmol/L
Carbon Dioxide (CO2)	PETINIA (CBRM)	31.0	24.8 - 37.2	23.4	18.7 - 28.1	16.8	13.4 - 20.1	mmol/L	31.0	24.8 - 37.2	23.4	18.7 - 28.1	16.8	13.4 - 20.1	mmol/L
Chloride (Cl)	Enzymatic	103	82.6 - 124	97.8	78.2 - 117	88.7	71.0 - 106	mEq/L	103	82.6 - 124	97.8	78.2 - 117	88.7	71.0 - 106	mmol/L
Cholesterol, HDL	Indirect IMT	67.7	54.2 - 81.2	50.6	40.5 - 60.7	30.8	24.6 - 37.0	mg/dL	1.75	1.40 - 2.10	1.31	1.05 - 1.57	0.80	0.64 - 0.96	mmol/L
Cholesterol, LDL	Direct (K3048A)	107	85.7 - 129	79.9	63.9 - 95.9	43.5	34.8 - 52.2	mg/dL	2.77	2.22 - 3.33	2.07	1.66 - 2.48	1.13	0.90 - 1.35	mmol/L
Cholesterol, Total	Selective Detergent (LDLC)	205	164 - 246	134	107 - 161	63.3	50.6 - 76.0	mg/dL	5.31	4.25 - 6.38	3.48	2.78 - 4.17	1.64	1.31 - 1.97	mmol/L
Cholinesterase/Pseudocholinesterase	Enzymatic (CHOL)	**		**		**		mg/dL	**		**		**		mmol/L
Creatine Kinase (CK)	Butyrylthiocholine (PCHE)	**		**		**		U/mL	**		**		**		µkat/L
Creatinine	IFCC (CKI)	83.0	66.4 - 99.6	327	262 - 392	561	448 - 673	U/L	1.39	1.11 - 1.66	5.46	4.37 - 6.55	9.36	7.49 - 11.2	µkat/L
Creatinine	Enzymatic (ECREA)	**		**		**		mg/dL	**		**		**		µmol/L
Creatinine	Jaffe (CRE2)	0.99	0.79 - 1.19	3.92	3.14 - 4.70	6.76	5.41 - 8.11	mg/dL	87.5	69.8 - 105	347	278 - 415	598	478 - 717	µmol/L
Digoxin	LOCI [®] (DIGXN)	0.97	0.78 - 1.16	1.89	1.51 - 2.27	2.85	2.28 - 3.42	ng/mL	1.24	1.00 - 1.49	2.42	1.93 - 2.91	3.65	2.92 - 4.38	nmol/L
Ethanol	Alcohol Dehydrogenase (ETOH)	20.8	16.6 - 25.0	106	84.9 - 127	192	154 - 231	mg/dL	4.52	3.61 - 5.42	23.0	18.4 - 27.6	41.8	33.4 - 50.1	mmol/L
Gamma-Glutamyltransferase (GGT)	IFCC	36.6	29.3 - 43.9	99.9	79.9 - 120	161	129 - 193	U/L	0.61	0.49 - 0.73	1.67	1.33 - 2.00	2.69	2.15 - 3.22	µkat/L
Gentamicin	PETINIA (GENT)	6.77	5.42 - 8.12	4.27	3.42 - 5.12	1.70	1.36 - 2.04	µg/mL	14.2	11.4 - 17.0	8.94	7.16 - 10.7	3.56	2.85 - 4.27	µmol/L
Glucose	Hexokinase (GLU)	64.5	51.6 - 77.4	203	163 - 244	341	272 - 409	mg/dL	3.58	2.86 - 4.30	11.3	9.03 - 13.6	18.9	15.1 - 22.7	mmol/L
Haptoglobin	Nephelometric (HAPT)	119	94.9 - 142	84.7	67.8 - 102	50.1	40.1 - 60.1	mg/dL	11.9	9.49 - 14.2	8.47	6.78 - 10.2	5.01	4.01 - 6.01	µmol/L
Iron	Ferene (IRON)	238	190 - 285	150	120 - 180	63.1	50.5 - 75.7	µg/dL	42.6	34.0 - 51.1	26.9	21.5 - 32.3	11.3	9.04 - 13.6	µmol/L
Iron Binding Capacity, Total (TIBC)	Ferene	**		**		**		µg/dL	**		**		**		µmol/L
Lactate Dehydrogenase	IFCC (LDI)	97.0	77.6 - 116	224	179 - 268	350	280 - 420	U/L	1.62	1.30 - 1.94	3.74	2.99 - 4.48	5.84	4.67 - 7.01	µkat/L
Lactic Acid	Lactate Dehydrogenase (LA)	**		**		**		mg/dL	**		**		**		mmol/L
Lidocaine	PETINIA (LIDO)	**		**		**		µg/mL	**		**		**		µmol/L
Lipase	Colorimetric (LIPL)	141	113 - 170	194	155 - 233	247	197 - 296	U/L	2.36	1.89 - 2.83	3.24	2.60 - 3.89	4.12	3.30 - 4.94	µkat/L
Lithium	Colorimetric (LITH)	0.79	0.61 - 0.97	1.52	1.22 - 1.82	2.26	1.81 - 2.71	mEq/L	0.79	0.61 - 0.97	1.52	1.22 - 1.82	2.26	1.81 - 2.71	mmol/L
Magnesium ^(c)	Methylthymol Blue (MG)	1.00	0.79 - 1.21	2.86	2.29 - 3.43	4.59	3.67 - 5.51	mg/dL	0.41	0.33 - 0.50	1.18	0.94 - 1.41	1.89	1.51 - 2.27	mmol/L
N-acetylprocainamide (NAPA)	PETINIA	**		**		**		µg/mL	**		**		**		µmol/L
Phenobarbital	PETINIA (PHNO)	10.8	8.13 - 13.5	31.9	25.5 - 38.3	51.1	40.9 - 61.4	µg/mL	46.6	35.0 - 58.3	137	110 - 165	220	176 - 264	µmol/L
Phenytoin	PETINIA (PTN)	4.99	3.99 - 5.99	13.1	10.5 - 15.7	20.3	16.3 - 24.4	µg/mL	19.8	15.8 - 23.7	51.9	41.5 - 62.3	80.6	64.5 - 96.8	µmol/L
Phosphorus ^{(b)(c)}	Phosphomolybdate (PHOS)	2.17	1.74 - 2.60	4.86	3.89 - 5.83	7.21	5.77 - 8.65	mg/dL	0.70	0.56 - 0.84	1.57	1.26 - 1.88	2.33	1.86 - 2.79	mmol/L
Potassium (K)	Indirect IMT	2.59	2.07 - 3.11	4.24	3.39 - 5.09	5.97	4.78 - 7.16	mg/dL	2.59	2.07 - 3.11	4.24	3.39 - 5.09	5.97	4.78 - 7.16	mmol/L
Prealbumin	Nephelometric (PREALB)	24.8	18.2 - 31.4	20.1	15.9 - 24.3	14.7	11.7 - 17.6	mg/dL	248	182 - 314	201	159 - 243	147	117 - 176	mg/L
Procainamide	PETINIA (PROC)	**		**		**		µg/mL	**		**		**		µmol/L
Salicylate ^(b)	Colorimetric (SAL)	7.82	6.26 - 9.38	14.2	11.4 - 17.0	17.3	13.9 - 20.8	mg/dL	0.57	0.45 - 0.68	1.03	0.82 - 1.23	1.25	1.00 - 1.50	mmol/L
Sodium (Na)	Indirect IMT	150	120 - 180	132	106 - 158	119	95.1 - 143	mEq/L	150	120 - 180	132	106 - 158	119	95.1 - 143	mmol/L
Theophylline	PETINIA (THEO)	**		**		**		µg/mL	**		**		**		µmol/L
Thyroid Stimulating Hormone (TSH)	LOCI [®]	1.39	1.11 - 1.67	4.05	3.24 - 4.86	7.98	6.38 - 9.58	µIU/mL	1.39	1.11 - 1.67	4.05	3.24 - 4.86	7.98	6.38 - 9.58	mIU/L
Thyroid Uptake	EMIT [®]	**		**		**		%	**		**		**		%
Thyroxine, Total (T4)	EMIT [®]	**		**		**		µg/dL	**		**		**		nmol/L
Tobramycin	PETINIA (TOBR)	1.36	1.09 - 1.63	4.44	3.55 - 5.33	7.49	5.99 - 8.99	µg/mL	2.91	2.33 - 3.49	9.50	7.59 - 11.4	16.0	12.8 - 19.2	µmol/L
Total Protein	Biuret (TP)	7.28	5.82 - 8.74	5.74	4.59 - 6.89	4.08	3.26 - 4.90	g/dL	72.8	58.2 - 87.4	57.4	45.9 - 68.9	40.8	32.6 - 49.0	g/L
Triglycerides ^(b)	GPO (TRIG)	225	180 - 270	167	134 - 201	103	82.6 - 124	mg/dL	2.54	2.03 - 3.05	1.89	1.51 - 2.27	1.17	0.93 - 1.40	mmol/L
Urea Nitrogen (BUN)	Urease, GLDH	15.2	12.2 - 18.2	40.8	32.6 - 49.0	64.1	51.3 - 76.9	mg/dL	5.42	4.34 - 6.51	14.6	11.7 - 17.5	22.9	18.3 - 27.5	mmol/L
Uric Acid	Uricase (URCA)	3.37	2.70 - 4.04	7.08	5.66 - 8.50	11.0	8.79 - 13.2	mg/dL	200	161 - 240	421	337 - 506	654	523 - 785	µmol/L
Valproic Acid	PETINIA (VALP)	129	104 - >150	81.1	64.9 - 97.3	26.2	21.0 - 31.5	µg/mL	897	718 - >1040	562	450 - 675	182	146 - 218	µmol/L
Vancomycin	PETINIA (VANC)	7.89	6.31 - 9.47	21.8	17.4 - 26.1	34.7	27.8 - 41.6	µg/mL	5.44	4.35 - 6.53	15.0	12.0 - 18.0	23.9	19.2 - 28.7	µmol/L

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SYSMED LAB SUPER G SERIES														
Glucose	Enzymatic (GLU)	**		**		**		**		**		**		mmol/L
Lactic Acid	Enzymatic (LA)	**		**		**		**		**		**		mmol/L

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THERMO FISHER SCIENTIFIC CDX SYSTEMS														
Amikacin	EMIT	**		**		**		**		**		**		µmol/L
Carbamazepine	EMIT 2000	**		**		**		**		**		**		µmol/L
Digoxin	EMIT 2000	**		**		**		**		**		**		nmol/L
Gentamicin	EMIT 2000	**		**		**		**		**		**		µmol/L
Methotrexate	EMIT	**		**		**		**		**		**		µmol/L
Phenytoin	EMIT 2000	**		**		**		**		**		**		µmol/L
Theophylline	EMIT 2000	**		**		**		**		**		**		µmol/L
Tobramycin	EMIT 2000	**		**		**		**		**		**		µmol/L
Valproic Acid	EMIT 2000	**		**		**		**		**		**		µmol/L
Vancomycin	EMIT 2000	**		**		**		**		**		**		µmol/L

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THERMO FISHER SCIENTIFIC KONELAB SYSTEMS													
Alanine Aminotransferase (ALT)													
IFCC w/out P5P (1-Rgt Non U.S.)	**		**		**		U/L	**	**	**	**	µkat/L	
Alanine Aminotransferase (ALT)													
IFCC w/P5P (3-Rgt Non U.S.)	**		**		**		U/L	**	**	**	**	µkat/L	
Albumin Bromocresol Green (Non U.S.)	**		**		**		g/dL	**	**	**	**	g/L	
Albumin Immunoturbidimetric (MST Non U.S.)	**		**		**		g/dL	**	**	**	**	g/L	
Alkaline Phosphatase (ALP) ^(c)													
IFCC, w/eCal (Non U.S.)	**		**		**		U/L	**	**	**	**	µkat/L	
Alkaline Phosphatase (ALP) ^(c)													
IFCC, w/Factoring (Non U.S.)	**		**		**		U/L	**	**	**	**	µkat/L	
Amylase IFCC (Non U.S.)	**		**		**		U/L	**	**	**	**	µkat/L	
Apolipoprotein A1 (APO A1)													
Immunoturbidimetric (Non U.S.)	**		**		**		mg/dL	**	**	**	**	g/L	
Apolipoprotein B (APO B)													
Immunoturbidimetric (Non U.S.)	**		**		**		mg/dL	**	**	**	**	g/L	
Aspartate Aminotransferase (AST)													
IFCC w/out P5P (1-Rgt) (Non U.S.)	**		**		**		U/L	**	**	**	**	µkat/L	
Aspartate Aminotransferase (AST)													
IFCC w/P5P (3-Rgt) (Non U.S.)	**		**		**		U/L	**	**	**	**	µkat/L	
Bilirubin, Direct ^(a)													
Diazotized DCA (Non U.S.)	**		**		**		mg/dL	**	**	**	**	µmol/L	
Bilirubin, Direct ^(a)													
Diazotized Sulfanilic Acid (Non U.S.)	**		**		**		mg/dL	**	**	**	**	µmol/L	
Bilirubin, Total ^(a)	**		**		**		mg/dL	**	**	**	**	µmol/L	
NBD (Non U.S.)	**		**		**		mg/dL	**	**	**	**	µmol/L	
Calcium Arsenazo III (Non U.S.)	**		**		**		mg/dL	**	**	**	**	mmol/L	
Chloride (Cl) Direct ISE (Non U.S.)	**		**		**		mEq/L	**	**	**	**	mmol/L	
Cholesterol, HDL Colorimetric, Enzymatic (Non U.S.)	**		**		**		mg/dL	**	**	**	**	mmol/L	
Cholesterol, LDL Colorimetric, Enzymatic (Non U.S.)	**		**		**		mg/dL	**	**	**	**	mmol/L	
Cholesterol, Total Enzymatic (Non U.S.)	**		**		**		mg/dL	**	**	**	**	mmol/L	
Creatine Kinase (CK) IFCC (981829/981828) (Non U.S.)	**		**		**		U/L	**	**	**	**	µkat/L	
Creatinine Enzymatic (Non U.S.)	**		**		**		mg/dL	**	**	**	**	µmol/L	
Creatinine Jaffe (Non U.S.)	**		**		**		mg/dL	**	**	**	**	µmol/L	
Gamma-Glutamyltransferase (GGT)													
IFCC (Non U.S.)	**		**		**		U/L	**	**	**	**	µkat/L	
Glucose GOD, POD (Non U.S.)	**		**		**		mg/dL	**	**	**	**	mmol/L	
Glucose Hexokinase (Non U.S.)	**		**		**		mg/dL	**	**	**	**	mmol/L	
Carbon Dioxide (CO2) PEPC (Non U.S.)	**		**		**		mEq/L	**	**	**	**	mmol/L	
Iron Ferrene (Non U.S.)	**		**		**		µg/dL	**	**	**	**	µmol/L	
Lactate Dehydrogenase IFCC (Non U.S.)	**		**		**		U/L	**	**	**	**	µkat/L	
Lactate Dehydrogenase SCE (Non U.S.)	**		**		**		U/L	**	**	**	**	µkat/L	
Lipase Colorimetric, Enzymatic (Non U.S.)	**		**		**		U/L	**	**	**	**	µkat/L	
Magnesium ^(c) Xylidil Blue (Non U.S.)	**		**		**		mg/dL	**	**	**	**	mmol/L	
Phosphorus ^{(b)(c)} Molybdate, UV (Non U.S.)	**		**		**		mg/dL	**	**	**	**	mmol/L	
Potassium (K) Direct ISE (Non U.S.)	**		**		**		mEq/L	**	**	**	**	mmol/L	
Sodium (Na) Direct ISE	**		**		**		mEq/L	**	**	**	**	mmol/L	
Triglycerides ^(b) GPO, POD (Non U.S.)	**		**		**		mg/dL	**	**	**	**	mmol/L	
Urea, Total Urease (Non U.S.)	**		**		**		mg/dL	**	**	**	**	mmol/L	
Uric Acid Uricase (AOX) (Non U.S.)	**		**		**		mg/dL	**	**	**	**	µmol/L	

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XYLEM YSI SYSTEMS														
Glucose	Glucose Oxidase	**		**		**		**		**		**		mmol/L
Lactic Acid	Lactate to Pyruvate	**		**		**		**		**		**		mmol/L

Aerosep[®], Architect[®], AxSYM[®], TDx[®], Reg. TM: Abbott Laboratories, Inc., Abbott Park, IL
Advia[®] Reg. TM: Siemens Healthcare Diagnostics, Tarrytown, NY
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BioLas 24i, Reg. TM: Carolina Liquid Chemistry's Corp, Winston-Salem, NC
Dimension[®] Systems, Dimension Vista[®], EMIT[®], Reg. TM: Siemens Healthcare Diagnostics, Glasgow, DE
Cobas[®], Hitachi[®], Integra[®], Modular[®] Reg. TM: Roche Diagnostics, Inc., Indianapolis, IN
Osmometer[®], Reg. TM: Precision Systems, Inc., Natick, MA
Photometer[®], Reg. TM: Instrumentation Laboratory, Lexington, MA
Konelab[™], CDx90, Reg. TM: Thermo Fisher Scientific, Vantaa, Finland
Vitros[®], Reg. TM: Ortho-Clinical Diagnostics, Rochester, NY
YSI2300[®], Reg. TM: YSI, Inc., Yellow Springs, OH

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**** Datos no disponibles. Si está interesado en participar en nuestro proceso de asignación de valores, envíe su información de contacto a nuestro grupo de asignación de valor por fax al 510-771-1539 o por correo electrónico a mgc-va@thermofisher.com.**

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**** Geen gegevens beschikbaar. Als u geïnteresseerd bent in deelname aan ons waardetoewijzingsproces, kunt u uw contactgegevens faxen of e-mailen naar onze Value Assignment-groep via 510-771-1539 of via mgc-va@thermofisher.com.**

**** Tietoa ei saatavilla. Jos olet kiinnostunut osallistumaan arvojen määrittämissessimmä, fakkaa tai läheta sähköpostilla yhteystietosi Value Assignment -osastollemme numeroon 510 771 1539 tai osoitteeseen mgc-va@thermofisher.com.**

**** Δεν υπάρχουν διαθέσιμα δεδομένα. Εάν ενδιαφέρεστε να συμμετάσχετε στη διαδικασία καθορισμού τιμών που εφαρμόζουμε, στείλετε φράξ ή email με τις πληροφορίες επικοινωνίας σας στην ομάδα Καθορισμού τιμών της εταιρείας μας στο τηλ. 510-771-1539 ή στη διεύθυνση mgc-va@thermofisher.com.**

**** Data ikke tilgjengelig. Hvis du er interessert i å delta i vår verditildringsprosess, kan du sende en faks eller e-post med din kontaktinformasjon til vår Value Assignment group på henholdvis 510-771-1539 og mgc-va@thermofisher.com.**

**** Dane nie są dostępne. W razie zainteresowania udziałem w naszym procesie przypisywania wartości należy przesłać swoje dane kontaktowe do naszej grupy ds. przypisywania wartości faksem pod numer 510-771-1539 lub pocztą elektroniczną na adres mgc-va@thermofisher.com.**

**** Dados não disponíveis. Se pretender participar no nosso processo de atribuição de valores, envie as suas informações de contacto para o nosso grupo de atribuição de valores por fax, através do número 510-771-1539, ou por e-mail, para o endereço mgc-va@thermofisher.com.**

**** Данные отсутствуют. Если вы хотите принять участие в процедуре определения числовых параметров, сообщите ваши контактные данные нашей группе специалистов по определению числовых параметров по факсу 510-771-1539 или электронной почте mgc-va@thermofisher.com.**

**** Data ej tillgängliga. Om du är intresserad av att delta i vår process för fastställning av värden kan du skicka ett fax eller e-postmeddelande med dina kontaktpgifter till vår avdelning för analysvärden, telefonnummer +1 510-771-1539 eller mgc-va@thermofisher.com.**

**** Veri mevcut değildir. Değer atama sürecimize katılmak istiyorsanız lütfen iletmiş bilgilerinizi 510-771-1539 numaralı telefona faks göndererek veya mgc-va@thermofisher.com adresine e-posta göndererek Değer Atama grubumuzla iletin.**

**** 无法提供数据。如果有兴趣参与我们的赋值过程，请传真或以电子邮件发送您的联系方式到我们的赋值小组。传真号码 510-771-1539，或发送邮件至 mgc-va@thermofisher.com。**

**** ご利用になれないデータです。値付けプロセスへの参加を希望される場合は、当社の値付け担当グループまでお客様の連絡先情報を Fax (510-771-1539) または電子メール (mgc-va@thermofisher.com) にてご連絡ください。**

**** 無法取得資料。如果有興趣參與我們的賦值過程，請將您的聯絡方式以傳真或電子郵件寄至我們的賦值小組。傳真號碼 510-771-1539。電子郵件信箱 mgc-va@thermofisher.com。**

(a) Bilirubin may decrease over the product shelf life.

- (a) La bilirubina pueden disminuir a lo largo de la vida útil del producto.
- (a) Die Bilirubinkonzentration kann sich während des Haltbarkeitszeitraums des Produkts verringern.
- (a) Les valeurs de bilirubine peuvent diminuer au fil de la durée de conservation du produit.
- (a) I valori della bilirubina potrebbero diminuire durante la durata di conservazione del prodotto.
- (a) Bilirubin kan reduceres i løbet af produktets holdbarhedstid.
- (a) Bilirubine kan afnemen gedurende de houdbaarheidsperiode van het product.
- (a) Bilirubiini voi vähentyä tuotteen säilytysaikana.
- (a) Η Χολερυθρίνη ενδέχεται να μειώνεται σε όλη τη διάρκεια ζωής του προϊόντος.
- (a) Bilirubin kan reduceres i løpet av produktlevetiden.
- (a) Stężenie bilirubiny może się obniżyć w miarę upływu okresu przydatności produktu do użycia.
- (a) A bilirubina pode diminuir após a data de validade do produto.
- (a) Уровень билирубина может уменьшаться в течение срока годности продукта.
- (a) Värdet för bilirubin kan reduceras under produktens livslängd.
- (a) Bilirubin, ürünün raf ömrünü süresince azalabilir.
- (a) 胆红素值在产品有效期内可能会降低。
- (a) ビリルビン値は、製品の有効期間中に低下する可能性があります。
- (a) 膽紅素的濃度在产品儲架壽命期間可能會逐漸降低。

- (b) **Phosphor, Salicylate, and Triglycerides may increase over the product shelf life.**
- (b) El fósforo, el salicilato y los triglicéridos pueden aumentar a lo largo de la vida útil del producto.
- (b) Die Phosphor-, Salicylat- und Triglyceridkonzentrationen können sich während des Haltbarkeitszeitraums des Produkts erhöhen.
- (b) Les valeurs de phosphore, de salicylate et de triglycérides peuvent augmenter au fil de la durée de conservation du produit.
- (b) I valori di fosforo, salicilato e trigliceridi potrebbero aumentare durante la durata di conservazione del prodotto.
- (b) Fosfor, salicylat og triglycerider kan øges i løbet af produktets holdbarhedstid.
- (b) Fosfor, salicylaat en triglyceriden kunnen toenemen gedurende de houdbaarheidsperiode van het product.
- (b) Fosfori, salisylaatti ja triglyseridit voivat lisääntyä tuotteen säilytysaikana.
- (b) Ο Φωσφορος, το Σαλικυλικό και τα Τριγλυκερίδια ενδέχεται να αυξάνονται σε όλη τη διάρκεια ζωής του προϊόντος.
- (b) Fosfor, salisylat og triglycerider kan øke i løpet av produktlevetiden.
- (b) Stężenia fosforu, salicylanów i trójglicerydów mogą wzrastać w miarę upływu okresu przydatności produktu do użycia.
- (b) Ο fósforo, o salicilato e os triglicéridos podem aumentar após o prazo de validade do produto.
- (b) Уровни фосфора, салицилата и триглицеридов могут повышаться в течение срока годности продукта.
- (b) Värdena för fosfor, salicylat och triglycerider kan öka under produktens livslängd.
- (b) Fosfor, Salisilat ve Trigliseritler ürünün raf ömrü süresince artabilir.
- (b) 磷、水楊酸鹽和甘油三酯的濃度在产品有效期内可能会升高。
- (b) リン、サリチル酸、トリグリセリドの値は、製品の有効期間中に増加する可能性があります。
- (b) 磷、水楊酸和三酸甘油酯的濃度在产品儲架壽命期間可能會逐漸增加。

(c) Alkaline Phosphatase, Phosphorus and Magnesium may recover low upon initial thaw requiring additional 2-8°C equilibration.

- (c) Tras la descongelación, es posible que se obtengan valores bajos de fosfatasa alcalina, fósforo y magnesio, y que sea necesaria una estabilización adicional a 2-8 °C.
- (c) Alkalische Phosphatase, Phosphor und Magnesium erzielen ggf. niedrige Wiederfindungswerte nach dem erstmaligen Auftauen und erfordern eine weitere Gleichgewichtseinstellung bei 2-8 °C.
- (c) La phosphatase alcaline, le phosphore et le magnésium peuvent présenter un faible niveau de détection lors de la décongélation initiale, nécessitant une équilibration supplémentaire entre 2 et 8°C.
- (c) Fosfatasi alcalina, fosforo e magnesio potrebbero presentare bassi valori di recupero nello scongelamento iniziale e richiedere un ulteriore equilibramento a 2-8 °C.
- (c) Alkalisk fosfatase, fosfor og magnesium genoprettes eventuelt med lave værdier straks efter første optining, så der kræves yderligere stabilisering ved 2-8 °C.
- (c) Alkaline fosfatase, fosfor en magnesium kunnen lage terugvindingswaarden hebben na eerste ontddooring en extra stabilisering bij 2-8 °C kan nodig zijn.
- (c) Alkalifosfataasi, fosfori ja magnesium voivat aiheuttaa alhaisia arvoja alkusulatuksen yhteydessä, mikä edellyttää lisätasapainotusta 2-8 °C:ssa.
- (c) Η Αλκαλική φωσφατάση, ο Φωσφορος και το Μαγνήσιο ενδέχεται να ανακάμπτουν αργά κατά την αρχική απόψυξη και να απαιτούν επιπλέον εξισορρόπηση σε θερμοκρασία 2-8 °C.
- (c) Fosfor og magnesium kan gjenvinnes lavt ved første tining og trengte ytterligere utbalansering ved 2-8 °C.
- (c) Odszyk fosfatazy alkalicznej, fosforu i magnezu po wstępnym rozmrozeniu może być niski. W takim przypadku konieczne jest dłuższe pozostawienie materiału w temperaturze 2-8°C w celu osiągnięcia stanu równowagi.
- (c) A fosfatase alcalina, o fósforo e o magnésio podem recuperar em baixo após descongelamento inicial, sendo necessária equilibração adicional entre 2 a 8 °C.
- (c) После первичного размораживания щелочная фосфатаза, фосфор и магний могут обнаруживаться в низких концентрациях, поэтому требуется дополнительное выдерживание при температуре 2-8 °C.
- (c) Alkaliskt fosfatas, fosfor och magnesium kan uppvisa lågt utbyte direkt efter upptiningen, vilket kan kräva extra utbalansering vid 2-8 °C.
- (c) İlk çözüme sonrasında Alkalın Fosfataz, Fosfor ve Magnezyum geri kazanımı düşük olabilir ve 2-8°C sıcaklıkta ek dengeleme gerekebilir.
- (c) 首次解冻后，如果需要再进行 2-8 °C 的平衡，则碱性磷酸酶、磷和镁的浓度可能会较低。
- (c) 最初に解凍したときに、アルカリホスファターゼ、リン、およびマグネシウムの回収率が低い場合は、さらに 2~8°C で温度平衡を保つ必要があります。
- (c) 鹼性磷酸酶、磷和鎂在最初解凍時的回收率可能偏低。可能需要進行額外的 2-8°C 平衡。

(d) Contains the following Tricyclic Antidepressants (TCA): Imipramine/Desipramine/Amitriptyline/Nortriptyline.

- (d) Contiene los siguientes antidepressivos tricíclicos (TCA): imipramina, desipramina, amitriptilina y nortriptilina.
- (d) Enthält die folgenden trizyklischen Antidepressiva (TCA): Imipramin/Desipramin/Amitriptylin/Nortriptylin.
- (d) Contient les antidépresseurs tricycliques (ATC) suivants : imipramine/désipramine/amitriptyline/nortriptyline.
- (d) Contiene i seguenti antidepressivi triciclici (TCA): imipramina/desipramina/amitriptilina/nortriptilina.
- (d) Indeholder følgende tricykliske antidepressiva (TCA): Imipramin/desipramin/amitriptylin/nortriptylin.
- (d) Bevat de volgende TCA (tricyclische antidepressiva): imipramine/desipramine/amitriptyline/nortriptyline.
- (d) Sisältää seuraavia trisyklisiä masennuslääkkeitä (TCA): imipramiini/desipramiini/amitriptyliini/nortriptyliini.
- (d) Περιέχει τα παρακάτω τρικυκλικά αντικαταθλιπτικά (Tricyclic Antidepressants, TCA): Ιμιπραμίνη/Δεσιπραμίνη/Αμιτριπυλίνη/Νορτριπυλίνη.
- (d) Indeholder følgende trisykliske antidepressiva (TCA): Imipramin/Desipramin/Amitriptylin/Nortriptylin.
- (d) Produkt zawiera następujące trójpierscieniowe leki przeciwdepresyjne (TCA): imipramina/dezypiramina/amitriptylina/nortriptylina.
- (d) Contém os seguintes antidepressivos tricíclicos (TCA): imipramina/desipramina/amitriptilina/nortriptilina.
- (d) Содержит следующие трициклические антидепрессанты (ТЦА): имипрамин/десипрамин/амитриптилин/нортриптилин.
- (d) Innehåller följande tricykliska antidepressiva (TCA): Imipramin/Desipramin/Amitriptylin/Nortriptylin.
- (d) Şu Trisiklik Antidepresanları (TCA) içerir: Imipramin/Desipramin/Amitriptylin/Nortriptylin.
- (d) 包含以下三环类抗抑郁剂 (TCA)：丙咪嗪/去甲丙咪嗪/阿米替林/去甲替林。
- (d) 次の三環系抗うつ薬 (TCA) を含有しています。イミプラミン/デンプラミン/アミトリプティリン/ノルトリプチリン。
- (d) 含有以下三環抗憂鬱劑 (TCA)：Imipramine/Desipramine/Amitriptyline/Nortriptyline。

LOT

Lot Number / Chargennummer / Numéro de lot / Numero di lotto / Número de lote / Partinummer / Partijnummer / Eränumero / Αριθμός παρτίδας / Lotnummer / Numer partii / Número de lote / Номер лота / Partinummer / Lot Numarası / 批号 / ロット番号 / 批號

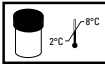


“Use By” date / Verwendbar bis / Date limite d'utilisation optimale / “Utilizzare entro” / Fecha límite de uso / “Anvendes før”-dato / Houdbaarheidsdatum / “Käyt. viim.”-päivämäärä / Ημερομηνία λήξης / Utløpsdato / Termin przydatności / Data de validade / Дата «Использовать до» / Utgångsdatum / “Son Kullanim” tarihi / 此日期前使用 / 使用期限 / 有效期限

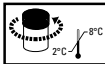
Shelf life: Frozen Temperature / Date limite d'utilisation optimale / Durée de conservation : température de congélation / Data di scadenza: se conservato a temperatura di congelamento / Vida útil: temperatura de congelación / Holdbarhed: Frysetemperatur / Houdbaarheidsperiode: in bevroren toestand / Käyttöikä: pakastuslämpötilassa / Διάρκεια ζωής: Θερμοκρασία κατάψυξης / Holdbarhet: Frysetemperatur / Okres trwałości: temperatura zamrażania / Prazo de validade: Temperatura congelada / Срок хранения: температура замораживания / Hållbarhetstid: Fryst temperatur / Raf ömrü: Donma Sıcaklığı / 保质期: 冻结温度 / 有効期間: 凍結時温度 / 儲架壽命: 冷凍溫度



Unopened Vial Stability: Refrigerated Temperature / Haltbarkeit des ungeöffneten Fläschchens: Kühltemperatur / Stabilité du flacon non ouvert : température de réfrigération / Stabilità provetta non aperta: a temperatura refrigerata / Estabilidad del vial sin abrir: temperatura refrigerada / Stabilitet i uåbnet hætteglas: Nedkølet / Stabilitet van ongeopend flesje: in gekoelde toestand / Avaamattoman ampullin stabiilius: jääkaappilämpötilassa / Σταθερότητα σφραγισμένου φιαλιδίου: Θερμοκρασία ψύξης / Stabilitet i uåbnet tilstand: Kjøletemperatur / Stabiłność odczynników w nieotwartej fiole: temperatura chłodzenia / Estabilidade no frasco fechado: Temperatura refrigerada / Стабильность не вскрытого флакона: температура охлаждения / Hållbarhet vid öppnad flaska: kyld temperatur / Açılmamış Flakon Stabilitesi: Soğutulmuş Sıcaklık / 未开封药瓶稳定性: 冷藏温度 / 未开封的バイアル安定性: 冷藏温度 / 未开封瓶稳定性: 冷藏温度



Opened Vial Stability: Refrigerated Temperature / Haltbarkeit des geöffneten Fläschchens: Kühltemperatur / Stabilité du flacon ouvert : température de réfrigération / Stabilità provetta aperta: a temperatura refrigerata / Estabilidad del vial abierto: temperatura refrigerada / Stabilitet i åbnet hætteglas: Nedkølet / Stabilitet van geopend flesje: in gekoelde toestand / Avatun ampullin stabiilius: jääkaappilämpötilassa / Σταθερότητα ανοιγμένου φιαλιδίου: Θερμοκρασία ψύξης / Stabilitet i åpnet tilstand: Kjøletemperatur / Stabiłność odczynników w otwartej fiole: temperatura chłodzenia / Estabilidade no frasco aberto: Temperatura refrigerada / Стабильность вскрытого флакона: температура охлаждения / Hållbarhet vid öppnad flaska: kyld temperatur / Açılmamış Flakon Stabilitesi: Soğutulmuş Sıcaklık / 已开封药瓶稳定性: 冷藏温度 / 开封后的バイアル安定性: 冷藏温度 / 已开封瓶稳定性: 冷藏温度

**REF**

Catalog Number / Katalognummer / Catalogue N° / Numero di catalogo / Número de catálogo / Katalognummer / Catalogusnummer / Tuotenumero / Αριθμός καταλόγου / Katalognummer / Numer katalogowy / Referência / Номер по каталогу / Katalognummer / Katalog Numarası / 目录编号 / カタログ番号 / 料號



Manufacturer / Hersteller / Fabricant / Produttore / Fabricante / Producent / Fabrikant / Valmistaja / Κατασκευαστής / Produzent / Producent / Fabricante / Производител / Tilverkare / Üretici / 制造商 / 製造元 / 製造商



Caution / Vorsicht / Attention / Attenzione / Atención / Forsigtig / Let op / Varoitus / Προσοχή / Advarsel / Przestroga / Cuidado / Осторожно / Viktigt / Dikkt / 注意 / 注意 / 注意



Consult instructions for use / Gebrauchsanweisung beachten / Se référer au mode d'emploi / Consultare le istruzioni per l'uso / Consultar las instrucciones de uso / Se brugsanvisningen / Raadpleeg de gebruiksaanwijzing / Katso käyttöohjeita / Συμβουλευτείτε τις οδηγίες χρήσης / Se i brugsanvisningen / Sprawdzić w instrukcji użytkowania / Consultar instruções de utilização / См. инструкцию по применению / Läs brugsanvisningen / Kullanim talimatlarına başvurun / 参阅使用说明 / 取扱説明書を参照 / 査閱使用指示

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IVD

For In Vitro Diagnostic Use / In-vitro-Diagnostikum / Diagnostics in vitro / Per uso diagnostico in vitro / Para uso en diagnóstico in vitro / Til in vitro-diagnostisk anvendelse / Voor diagnostisch gebruik in vitro / In Vitro -diagnostiseen käyttöön / Για In Vitro διαγνωστική χρήση / For in vitro-diagnostikk / Do stosowania w diagnostyce in vitro / Para utilização em diagnóstico in vitro / Для использования в диагностике in vitro / För in vitro-diagnostisk användning / In Vitro Diagnostik Kullanım İçin / 体外診斷用 / 供體外診斷使用



Biological risk / Biogefährdung / Matériel à risque biologique potentiel / Rischio biologico / Material potencialmente peligroso a nivel biológico / Biologisk risiko / Biologisk risiko / Biologinen riski / Βιολογικός κίνδυνος / Biologisk risiko / Zagrożenie biologiczne / Risco biológico / Биологическая опасность / Biologisk risk / Biyolojik risk / 生物风险 / 生物学的リスク / 生物風險

CE

CE Marking of Conformity / CE-Konformitätszeichen / Marquage CE de conformité / Marchio di conformità CE / Marca de conformidad CE / CE-mærkning / CE-conformiteitsmerk / CE-merkintä / Σήμανση συμμόρφωσης CE / CE-samsvarsmærking / Oznakowanie zgodności CE / Marca de Conformidade CE / Маркировка соответствия стандартам CE / CE-försäkran om överensstämmelse / CE Uyumluk İlgili / CE 合格标志 / 適合の CE マーキング / CE 符合性標示

X̄

Mean Value / Mittelwert / Valeur moyenne / Valore medio / Valor medio / Gennemsnitsværdi / Gemiddelde waarde / Keskiarvo / Μέση τιμή / Middelværdi / Wartość średnia / Valor médio / Среднее значение / Medelvärde / Ortalama Değer / 平均值 / 平均值

<R>

Expected Range / Erwarteter Bereich / Valeur attendue / Intervallo previsto / Intervallo previsto / Forventet område / Verwachte bereik / Odotettu vaihteluväli / Αναμενόμενο εύρος / Forventet område / Zakres wartości oczekiwanych / Intervallo esperado / Ожидаемый интервал / Förväntat intervall / Beklenen Aralık / 预期范围 / 予測範囲 / 預期範圍

U

Units / Einheiten / Unités / Unità / Unidades / Enheder / Eenheden / Yksiköt / Μονάδες / Enheter / Jednostki / Unidades / Единицы / Enheter / Birimler / 单位 / 單位 / 單位

CON

Conventional Units / Konventionelle Einheiten / Unités conventionnelles / Unità convenzionali / Unidades convencionales / Konventionelle enheder / Conventionele eenheden / Perinteiset yksiköt / Συμβατικές μονάδες / Konvensjonelle enheter / Jednostki konwencjonalne / Unidades convencionais / Основные единицы / Konventionella enheter / Konvansiyonel Birimler / 常用单位 / 慣用单位 / 常规单位

SI

System International Units / SI-Einheiten / Système international d'unités / Unità sistema internazionale / Unidades del sistema internacional / SI-enheder / System International-eenheden / Kansainvälliset yksiköt / Μονάδες διεθνούς συστήματος / SI-enheter / Jednostki w układzie SI / Unidades do Sistema Internacional / Единицы СИ / SI-enheter / Sistem Uluslararası Birimleri / 国际单位 / 國際單位系 / 系統國際單位

U

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If you have any questions concerning this notification, in the USA please contact the Technical Support Department at 800-232-3342 or 510-979-5417. Outside the USA, please contact your local Subsidiary or Distributor.

Falls Sie Fragen zu dieser Benachrichtigung haben, wenden Sie sich in den USA an den technischen Kundendienst unter 800-232-3342 oder 510-979-5417. Außerhalb der USA wenden Sie sich bitte an die Vertriebsniederlassung in Ihrer Nähe oder an einen autorisierten Vertriebspartner.

Aux États-Unis, pour toute question concernant cet avis, contacter le Service d'assistance technique au 800-232-3342 ou au 510-979-5417. En dehors des États-Unis, contacter la filiale locale ou le distributeur local.

Per domande relative a questa notifica e vi trovate negli Stati Uniti, rivolgersi al servizio di assistenza tecnica al numero verde 800-232-3342 o al numero 510-979-5417. Al di fuori degli Stati Uniti, rivolgersi alla filiale locale o al distributore.

Para cualquier consulta acerca de esta notificación, en EE.UU. póngase en contacto con el Departamento de Asistencia técnica en los números 800-232-3342 or 510-979-5417. Fuera de EE.UU., póngase en contacto con la subsidiaria o el distribuidor local.

Hvis du har nogle spørgsmål til denne meddelelse, kan du kontakte den tekniske supportafdeling på 800-232-3342 eller 510-979-5417, hvis du befinder dig i USA. Uden for USA kan du kontakte det lokale datterselskab eller distributøren.

Als u vragen hebt over deze kennisgeving, kunt u contact opnemen met de afdeling Technische ondersteuning op 800-232-3342 of 510-979-5417. Buiten de VS kunt u contact opnemen met de vestiging of distributeur in uw land.

Jos sinulla on kysyttävää tästä ilmoituksesta, ota Yhdysvalloissa yhteyttä tekniseen tukeen numeroon 800 232 3342 tai 510 979 5417. Ota Yhdysvaltojen ulkopuolella yhteyttä paikalliseen tytäryhtiöön tai jälleenmyyjään.

Για οποιοδήποτε ερωτήσεις αναφορικά με την παρούσα ειδοποίηση, εντός Η.Π.Α., επικοινωνήστε με το Τμήμα τεχνικής υποστήριξης στον αριθμό 800-232-3342 ή 510-979-5417. Εκτός Η.Π.Α., επικοινωνήστε με την τοπική σας θυγατρική ή τον τοπικό διανομέα.

Dersom du befinner deg i USA og har spørsmål knyttet til denne orienteringen, kontakt avdelingen for teknisk støtte på 800-232-3342 eller 510-979-5417. Dersom du befinner deg utenfor USA, kontakte din lokale forhandler eller distributør.

W razie jakichkolwiek pytań dotyczących tego powiadomienia, należy skontaktować się z działem wsparcia technicznego pod numerem 800-232-3342 lub 510-979-5417 (na obszarze Stanów Zjednoczonych). Poza obszarem Stanów Zjednoczonych należy skontaktować się z lokalnym oddziałem firmy lub dystrybutorem.

Se tiver quaisquer questões relativas a esta notificação, nos EUA por favor contacte o departamento de assistência técnica através do número 800-232-3342 ou 510-979-5417. Fora dos EUA, por favor contacte a filial da sua área ou o distribuidor local.

Если у вас есть вопросы относительно этого уведомления, в США обращайтесь в департамент технической поддержки по телефону 800-232-3342 или 510-979-5417. За пределами США обращайтесь в местную дочернюю компанию или к дистрибьютору.

Om du har några frågor om den här informationen och befinner dig i USA kan du kontakta vår avdelning för teknisk support på telefonnummer +1 800-232-3342 eller +1 510-979-5417. Utanför USA kan du kontakta ditt lokala avdelningskontor eller en distributör.

Bu bildirimde dair herhangi bir sorunuz varsa, ABD'de lütfen 800-232-3342 veya 510-979-5417 numaralı Teknik Destek Departmanı ile iletişim kurun. ABD'nin dışında, lütfen yerel Bayi veya Dağıtıcı ile iletişim kurun.

如果您有任何关于此通知的问题，在美国国内，请联系 800-232-3342 或 510-979-5417 技术支持部门。在美国以外地区，请联系您当地的分公司或经销商。

本通知に関するお問い合わせについては、米国内からはお電話にて (800-232-3342 または 510-979-5417) テクニカルサポート部門までお問い合わせください。米国外の場合は、地域の子会社または代理店までお問い合わせください。

若您對於此通知書有任何疑問，請致電 800-232-3342 或 510-979-5417 聯繫技術支援部門 (美國)。在美國以外地區，請聯繫您當地的子公司或是經銷商。

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