

advanced microanalysis solutions

IA										IIA										IIIB										IVB										VB										VIB										VIIB										VIII										IB										IIB										IIIA										IVA										VA										VIA										VIIA										VIII A																																																																																																																																																																																																																																																																																												
1 1.008 <b>H</b> Hydrogen										3 6.941 <b>Li</b> Lithium	4 9.012 <b>Be</b> Beryllium										11 22.990 <b>Na</b> Sodium	12 24.305 <b>Mg</b> Magnesium										19 39.098 <b>K</b> Potassium	20 40.08 <b>Ca</b> Calcium	21 44.956 <b>Sc</b> Scandium	22 47.88 <b>Ti</b> Titanium	23 50.942 <b>V</b> Vanadium	24 51.996 <b>Cr</b> Chromium	25 54.938 <b>Mn</b> Manganese	26 55.847 <b>Fe</b> Iron	27 58.933 <b>Co</b> Cobalt	28 58.70 <b>Ni</b> Nickel	29 63.546 <b>Cu</b> Copper	30 65.39 <b>Zn</b> Zinc	31 69.72 <b>Ga</b> Gallium	32 72.61 <b>Ge</b> Germanium	33 74.922 <b>As</b> Arsenic	34 78.96 <b>Se</b> Selenium	35 79.904 <b>Br</b> Bromine	36 83.80 <b>Kr</b> Krypton	37 85.468 <b>Rb</b> Rubidium	38 87.62 <b>Sr</b> Strontium	39 88.906 <b>Y</b> Yttrium	40 91.22 <b>Zr</b> Zirconium	41 92.906 <b>Nb</b> Niobium	42 95.94 <b>Mo</b> Molybdenum	43 (98) <b>Tc</b> Technetium	44 101.07 <b>Ru</b> Ruthenium	45 102.906 <b>Rh</b> Rhodium	46 106.42 <b>Pd</b> Palladium	47 107.868 <b>Ag</b> Silver	48 112.41 <b>Cd</b> Cadmium	49 114.82 <b>In</b> Indium	50 118.71 <b>Sn</b> Tin	51 121.76 <b>Sb</b> Antimony	52 127.60 <b>Te</b> Tellurium	53 126.905 <b>I</b> Iodine	54 131.29 <b>Xe</b> Xenon	55 132.905 <b>Cs</b> Cesium	56 137.33 <b>Ba</b> Barium	57 138.906 <b>La</b> Lanthanum	72 178.49 <b>Hf</b> Hafnium	73 180.948 <b>Ta</b> Tantalum	74 183.85 <b>W</b> Tungsten	75 186.207 <b>Re</b> Rhenium	76 190.2 <b>Os</b> Osmium	77 192.22 <b>Ir</b> Iridium	78 195.08 <b>Pt</b> Platinum	79 196.967 <b>Au</b> Gold	80 200.59 <b>Hg</b> Mercury	81 204.38 <b>Tl</b> Thallium	82 207.2 <b>Pb</b> Lead	83 208.980 <b>Bi</b> Bismuth	84 (209) <b>Po</b> Polonium	85 (210) <b>At</b> Astatine	86 (222) <b>Rn</b> Radon	87 (223) <b>Fr</b> Francium	88 226.025 <b>Ra</b> Radium	89 227.028 <b>Ac</b> Actinium	90 232.038 <b>Th</b> Thorium	91 231.036 <b>Pa</b> Protactinium	92 238.029 <b>U</b> Uranium	93 237.048 <b>Np</b> Neptunium	94 (244) <b>Pu</b> Plutonium	95 (243) <b>Am</b> Americium	96 (247) <b>Cm</b> Curium	97 (247) <b>Bk</b> Berkelium	98 (251) <b>Cf</b> Californium	99 (252) <b>Es</b> Einsteinium	100 (257) <b>Fm</b> Fermium	101 (258) <b>Md</b> Mendelevium	102 (259) <b>No</b> Nobelium	103 (260) <b>Lr</b> Lawrencium	104 101.07 <b>Ru</b> Ruthenium	105 102.906 <b>Rh</b> Rhodium	106 106.42 <b>Pd</b> Palladium	107 107.868 <b>Ag</b> Silver	108 112.41 <b>Cd</b> Cadmium	109 114.82 <b>In</b> Indium	110 118.71 <b>Sn</b> Tin	111 121.76 <b>Sb</b> Antimony	112 127.60 <b>Te</b> Tellurium	113 126.905 <b>I</b> Iodine	114 131.29 <b>Xe</b> Xenon	115 132.905 <b>Cs</b> Cesium	116 137.33 <b>Ba</b> Barium	117 138.906 <b>La</b> Lanthanum	118 178.49 <b>Hf</b> Hafnium	119 180.948 <b>Ta</b> Tantalum	120 183.85 <b>W</b> Tungsten	121 186.207 <b>Re</b> Rhenium	122 190.2 <b>Os</b> Osmium	123 192.22 <b>Ir</b> Iridium	124 195.08 <b>Pt</b> Platinum	125 196.967 <b>Au</b> Gold	126 200.59 <b>Hg</b> Mercury	127 204.38 <b>Tl</b> Thallium	128 207.2 <b>Pb</b> Lead	129 208.980 <b>Bi</b> Bismuth	130 (209) <b>Po</b> Polonium	131 (210) <b>At</b> Astatine	132 (222) <b>Rn</b> Radon	133 101.07 <b>Ru</b> Ruthenium	134 102.906 <b>Rh</b> Rhodium	135 106.42 <b>Pd</b> Palladium	136 107.868 <b>Ag</b> Silver	137 112.41 <b>Cd</b> Cadmium	138 114.82 <b>In</b> Indium	139 118.71 <b>Sn</b> Tin	140 121.76 <b>Sb</b> Antimony	141 127.60 <b>Te</b> Tellurium	142 126.905 <b>I</b> Iodine	143 131.29 <b>Xe</b> Xenon	144 132.905 <b>Cs</b> Cesium	145 137.33 <b>Ba</b> Barium	146 138.906 <b>La</b> Lanthanum	147 178.49 <b>Hf</b> Hafnium	148 180.948 <b>Ta</b> Tantalum	149 183.85 <b>W</b> Tungsten	150 186.207 <b>Re</b> Rhenium	151 190.2 <b>Os</b> Osmium	152 192.22 <b>Ir</b> Iridium	153 195.08 <b>Pt</b> Platinum	154 196.967 <b>Au</b> Gold	155 200.59 <b>Hg</b> Mercury	156 204.38 <b>Tl</b> Thallium	157 207.2 <b>Pb</b> Lead	158 208.980 <b>Bi</b> Bismuth	159 (209) <b>Po</b> Polonium	160 (210) <b>At</b> Astatine	161 (222) <b>Rn</b> Radon	162 101.07 <b>Ru</b> Ruthenium	163 102.906 <b>Rh</b> Rhodium	164 106.42 <b>Pd</b> Palladium	165 107.868 <b>Ag</b> Silver	166 112.41 <b>Cd</b> Cadmium	167 114.82 <b>In</b> Indium	168 118.71 <b>Sn</b> Tin	169 121.76 <b>Sb</b> Antimony	170 127.60 <b>Te</b> Tellurium	171 126.905 <b>I</b> Iodine	172 131.29 <b>Xe</b> Xenon	173 132.905 <b>Cs</b> Cesium	174 137.33 <b>Ba</b> Barium	175 138.906 <b>La</b> Lanthanum	176 178.49 <b>Hf</b> Hafnium	177 180.948 <b>Ta</b> Tantalum	178 183.85 <b>W</b> Tungsten	179 186.207 <b>Re</b> Rhenium	180 190.2 <b>Os</b> Osmium	181 192.22 <b>Ir</b> Iridium	182 195.08 <b>Pt</b> Platinum	183 196.967 <b>Au</b> Gold	184 200.59 <b>Hg</b> Mercury	185 204.38 <b>Tl</b> Thallium	186 207.2 <b>Pb</b> Lead	187 208.980 <b>Bi</b> Bismuth	188 (209) <b>Po</b> Polonium	189 (210) <b>At</b> Astatine	190 (222) <b>Rn</b> Radon	191 101.07 <b>Ru</b> Ruthenium	192 102.906 <b>Rh</b> Rhodium	193 106.42 <b>Pd</b> Palladium	194 107.868 <b>Ag</b> Silver	195 112.41 <b>Cd</b> Cadmium	196 114.82 <b>In</b> Indium	197 118.71 <b>Sn</b> Tin	198 121.76 <b>Sb</b> Antimony	199 127.60 <b>Te</b> Tellurium	200 126.905 <b>I</b> Iodine	201 131.29 <b>Xe</b> Xenon	202 132.905 <b>Cs</b> Cesium	203 137.33 <b>Ba</b> Barium	204 138.906 <b>La</b> Lanthanum	205 178.49 <b>Hf</b> Hafnium	206 180.948 <b>Ta</b> Tantalum	207 183.85 <b>W</b> Tungsten	208 186.207 <b>Re</b> Rhenium	209 190.2 <b>Os</b> Osmium	210 192.22 <b>Ir</b> Iridium	211 195.08 <b>Pt</b> Platinum	212 196.967 <b>Au</b> Gold	213 200.59 <b>Hg</b> Mercury	214 204.38 <b>Tl</b> Thallium	215 207.2 <b>Pb</b> Lead	216 208.980 <b>Bi</b> Bismuth	217 (209) <b>Po</b> Polonium	218 (210) <b>At</b> Astatine	219 (222) <b>Rn</b> Radon	220 101.07 <b>Ru</b> Ruthenium	221 102.906 <b>Rh</b> Rhodium	222 106.42 <b>Pd</b> Palladium	223 107.868 <b>Ag</b> Silver	224 112.41 <b>Cd</b> Cadmium	225 114.82 <b>In</b> Indium	226 118.71 <b>Sn</b> Tin	227 121.76 <b>Sb</b> Antimony	228 127.60 <b>Te</b> Tellurium	229 126.905 <b>I</b> Iodine	230 131.29 <b>Xe</b> Xenon	231 132.905 <b>Cs</b> Cesium	232 137.33 <b>Ba</b> Barium	233 138.906 <b>La</b> Lanthanum	234 178.49 <b>Hf</b> Hafnium	235 180.948 <b>Ta</b> Tantalum	236 183.85 <b>W</b> Tungsten	237 186.207 <b>Re</b> Rhenium	238 190.2 <b>Os</b> Osmium	239 192.22 <b>Ir</b> Iridium	240 195.08 <b>Pt</b> Platinum	241 196.967 <b>Au</b> Gold	242 200.59 <b>Hg</b> Mercury	243 204.38 <b>Tl</b> Thallium	244 207.2 <b>Pb</b> Lead	245 208.980 <b>Bi</b> Bismuth	246 (209) <b>Po</b> Polonium	247 (210) <b>At</b> Astatine	248 (222) <b>Rn</b> Radon	249 101.07 <b>Ru</b> Ruthenium	250 102.906 <b>Rh</b> Rhodium	251 106.42 <b>Pd</b> Palladium	252 107.868 <b>Ag</b> Silver	253 112.41 <b>Cd</b> Cadmium	254 114.82 <b>In</b> Indium	255 118.71 <b>Sn</b> Tin	256 121.76 <b>Sb</b> Antimony	257 127.60 <b>Te</b> Tellurium	258 126.905 <b>I</b> Iodine	259 131.29 <b>Xe</b> Xenon	260 132.905 <b>Cs</b> Cesium	261 137.33 <b>Ba</b> Barium	262 138.906 <b>La</b> Lanthanum	263 178.49 <b>Hf</b> Hafnium	264 180.948 <b>Ta</b> Tantalum	265 183.85 <b>W</b> Tungsten	266 186.207 <b>Re</b> Rhenium	267 190.2 <b>Os</b> Osmium	268 192.22 <b>Ir</b> Iridium	269 195.08 <b>Pt</b> Platinum	270 196.967 <b>Au</b> Gold	271 200.59 <b>Hg</b> Mercury	272 204.38 <b>Tl</b> Thallium	273 207.2 <b>Pb</b> Lead	274 208.980 <b>Bi</b> Bismuth	275 (209) <b>Po</b> Polonium	276 (210) <b>At</b> Astatine	277 (222) <b>Rn</b> Radon	278 101.07 <b>Ru</b> Ruthenium	279 102.906 <b>Rh</b> Rhodium	280 106.42 <b>Pd</b> Palladium	281 107.868 <b>Ag</b> Silver	282 112.41 <b>Cd</b> Cadmium	283 114.82 <b>In</b> Indium	284 118.71 <b>Sn</b> Tin	285 121.76 <b>Sb</b> Antimony	286 127.60 <b>Te</b> Tellurium	287 126.905 <b>I</b> Iodine	288 131.29 <b>Xe</b> Xenon	289 132.905 <b>Cs</b> Cesium	290 137.33 <b>Ba</b> Barium	291 138.906 <b>La</b> Lanthanum	292 178.49 <b>Hf</b> Hafnium	293 180.948 <b>Ta</b> Tantalum	294 183.85 <b>W</b> Tungsten	295 186.207 <b>Re</b> Rhenium	296 190.2 <b>Os</b> Osmium	297 192.22 <b>Ir</b> Iridium	298 195.08 <b>Pt</b> Platinum	299 196.967 <b>Au</b> Gold	300 200.59 <b>Hg</b> Mercury	301 204.38 <b>Tl</b> Thallium	302 207.2 <b>Pb</b> Lead	303 208.980 <b>Bi</b> Bismuth	304 (209) <b>Po</b> Polonium	305 (210) <b>At</b> Astatine	306 (222) <b>Rn</b> Radon	307 101.07 <b>Ru</b> Ruthenium	308 102.906 <b>Rh</b> Rhodium	309 106.42 <b>Pd</b> Palladium	310 107.868 <b>Ag</b> Silver	311 112.41 <b>Cd</b> Cadmium	312 114.82 <b>In</b> Indium	313 118.71 <b>Sn</b> Tin	314 121.76 <b>Sb</b> Antimony	315 127.60 <b>Te</b> Tellurium	316 126.905 <b>I</b> Iodine	317 131.29 <b>Xe</b> Xenon	318 132.905 <b>Cs</b> Cesium	319 137.33 <b>Ba</b> Barium	320 138.906 <b>La</b> Lanthanum	321 178.49 <b>Hf</b> Hafnium	322 180.948 <b>Ta</b> Tantalum	323 183.85 <b>W</b> Tungsten	324 186.207 <b>Re</b> Rhenium	325 190.2 <b>Os</b> Osmium	326 192.22 <b>Ir</b> Iridium	327 195.08 <b>Pt</b> Platinum	328 196.967 <b>Au</b> Gold	329 200.59 <b>Hg</b> Mercury	330 204.38 <b>Tl</b> Thallium	331 207.2 <b>Pb</b> Lead	332 208.980 <b>Bi</b> Bismuth	333 (209) <b>Po</b> Polonium	334 (210) <b>At</b> Astatine	335 (222) <b>Rn</b> Radon	336 101.07 <b>Ru</b> Ruthenium	337 102.906 <b>Rh</b> Rhodium	338 106.42 <b>Pd</b> Palladium	339 107.868 <b>Ag</b> Silver	340 112.41 <b>Cd</b> Cadmium	341 114.82 <b>In</b> Indium	342 118.71 <b>Sn</b> Tin	343 121.76 <b>Sb</b> Antimony	344 127.60 <b>Te</b> Tellurium	345 126.905 <b>I</b> Iodine	346 131.29 <b>Xe</b> Xenon	347 132.905 <b>Cs</b> Cesium	348 137.33 <b>Ba</b> Barium	349 138.906 <b>La</b> Lanthanum	350 178.49 <b>Hf</b> Hafnium	351 180.948 <b>Ta</b> Tantalum	352 183.85 <b>W</b> Tungsten	353 186.207 <b>Re</b> Rhenium	354 190.2 <b>Os</b> Osmium	355 192.22 <b>Ir</b> Iridium	356 195.08 <b>Pt</b> Platinum	357 196.967 <b>Au</b> Gold	358 200.59 <b>Hg</b> Mercury	359 204.38 <b>Tl</b> Thallium	360 207.2 <b>Pb</b> Lead	361 208.980 <b>Bi</b> Bismuth	362 (209) <b>Po</b> Polonium	363 (210) <b>At</b> Astatine	364 (222) <b>Rn</b> Radon	365 101.07 <b>Ru</b> Ruthenium	366 102.906 <b>Rh</b> Rhodium	367 106.42 <b>Pd</b> Palladium	368 107.868 <b>Ag</b> Silver	369 112.41 <b>Cd</b> Cadmium	370 114.82 <b>In</b> Indium	371 118.71 <b>Sn</b> Tin	372 121.76 <b>Sb</b> Antimony	373 127.60 <b>Te</b> Tellurium	374 126.905 <b>I</b> Iodine	375 131.29 <b>Xe</b> Xenon	376 132.905 <b>Cs</b> Cesium	377 137.33 <b>Ba</b> Barium	378 138.906 <b>La</b> Lanthanum	379 178.49 <b>Hf</b> Hafnium	380 180.948 <b>Ta</b> Tantalum	381 183.85 <b>W</b> Tungsten	382 186.207 <b>Re</b> Rhenium	383 190.2 <b>Os</b> Osmium	384 192.22 <b>Ir</b> Iridium	385 195.08 <b>Pt</b> Platinum	386 196.967 <b>Au</b> Gold	387 200.59 <b>Hg</b> Mercury	388 204.38 <b>Tl</b> Thallium	389 207.2 <b>Pb</b> Lead	390 208.980 <b>Bi</b> Bismuth	391 (209) <b>Po</b> Polonium	392 (210) <b>At</b> Astatine	393 (222) <b>Rn</b> Radon	394 101.07 <b>Ru</b> Ruthenium	395 102.906 <b>Rh</b> Rhodium	396 106.42 <b>Pd</b> Palladium	397 107.868 <b>Ag</b> Silver	398 112.41 <b>Cd</b> Cadmium	399 114.82 <b>In</b> Indium	400 118.71 <b>Sn</b> Tin	401 121.76 <b>Sb</b> Antimony	402 127.60 <b>Te</b> Tellurium	403 126.905 <b>I</b> Iodine	404 131.29 <b>Xe</b> Xenon	405 132.905 <b>Cs</b> Cesium	406 137.33 <b>Ba</b> Barium	407 138.906 <b>La</b> Lanthanum	408 178.49 <b>Hf</b> Hafnium	409 180.948 <b>Ta</b> Tantalum	410 183.85 <b>W</b> Tungsten	411 186.207 <b>Re</b> Rhenium	412 190.2 <b>Os</b> Osmium	413 192.22 <b>Ir</b> Iridium	414 195.08 <b>Pt</b> Platinum	415 196.967 <b>Au</b> Gold	416 200.59 <b>Hg</b> Mercury	417 204.38 <b>Tl</b> Thallium	418 207.2 <b>Pb</b> Lead	419 208.980 <b>Bi</b> Bismuth	420 (209) <b>Po</b> Polonium	421 (210) <b>At</b> Astatine	422 (222) <b>Rn</b> Radon	423 101.07 <b>Ru</b> Ruthenium	424 102.906 <b>Rh</b> Rhodium	425 106.42 <b>Pd</b> Palladium	426 107.868 <b>Ag</b> Silver	427 112.41 <b>Cd</b> Cadmium	428 114.82 <b>In</b> Indium	429 118.71 <b>Sn</b> Tin	430 121.76 <b>Sb</b> Antimony	431 127.60 <b>Te</b> Tellurium	432 126.905 <b>I</b> Iodine	433 131.29 <b>Xe</b> Xenon	434 132.905 <b>Cs</b> Cesium	435 137.33 <b>Ba</b> <