PERIODIC TABLE VARIANTS (E1)

1 H Hydrogen 1																	4 He Helium 2
7 Li Lithium 3	9 Be Beryllium 4											11 B Boron 5	12 C Carbon 6	14 N Nitrogen 7	16 O Oxygen 8	19 F Fluorine 9	20 Ne Neon 10
23 Na Sodium 11	24 Mg Magnesium 12											27 Al Aluminium 13	28 Si Silicon 14	31 P Phosphorus 15	32 S Sulfur 16	35.5 CI Chlorine 17	40 Ar Argon 18
39 K Potassium 19	40 Ca Calcium 20	45 Sc Scandium 21	48 Ti Titanium 22	51 V Vanadium 23	52 Cr Chromium 24	55 Mn Manganese 25	56 Fe Iron 26	59 Co Cobalt 27	59 Ni Nickel 28	63.5 Cu Copper 29	65 Zn Zinc 30	70 Ga Gallium 31	73 Ge Germanium 32	75 As Arsenic 33	79 Se Selenium 34	80 Br Bromine 35	84 Kr Krypton 36
85 Rb Rubidium 37	88 Sr Strontium 38	89 Y Yttrium 39	91 Zr Zirconium 40	93 Nb Niobium 41	96 Mo Molybdenum 42	[98] Tc Technetium 43	101 Ru Ruthenium 44	103 Rh Rhodium 45	106 Pd Palladium 46	108 Ag Silver 47	112 Cd Cadmium 48	115 In Indium 49	119 Sn Tin 50	122 Sb Antimony 51	128 Te Tellurium 52	127 lodine 53	131 Xe Xenon 54
133 Cs Caesium 55	137 Ba Barium 56	175 Lu Lutetium 71	178 Hf Hafnium 72	181 Ta Tantalum 73	184 W Tungsten 74	186 Re Rhenium 75	190 Os Osmium 76	192 Ir Iridium 77	195 Pt Platinum 78	197 Au ^{Gold} 79	201 Hg Mercury 80	204 TI Thallium 81	207 Pb Lead 82	209 Bi Bismuth 83	[209] Po Polonium 84	[210] At Astatine 85	[222] Rn Radon 86
[223] Fr Francium 87	[226] Ra Radium 88	[266] Lr Lawrencium 103	[261] Rf Rutherfordium 104	[262] Db Dubnium 105	[266] Sg Seaborgium 106	[264] Bh Bohrium 107	[277] Hs Hassium 108	[268] Mt Meitnerium 109	[271] Ds Darmstadium 110	[272] Rg Roentgenium 111	[285] Cn Copernicium 112	[286] Nh Nihonium 113	[289] FI Flerovium 114	[289] Mc Moscovium 115	[293] Lv Livermorium 116	[294] Ts Tennessine 117	[294] Og Oganesson 118

139	140	141	144	[145]	150	152	157	159	163	165	167	169	173
La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb
Lanthanum	Cerium	Praseodymium	Neodymium	Promethium	Samarium	Europium	Gadolinium	Terbium	Dysprosium	Holmium	Erbium	Thulium	Ytterbium
57	58	59	60	61	62	63	64	65	66	67	68	69	70
[227]	232	231	238	[237]	[244	243	[247]	[247]	[251]	[252]	[257]	[258]	[259]
Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No
Actinium	Thorium	Protactinium	Uranium	Neptunium	Plutonium	Americium	curium	Berkelium	Californium	Einsteinium	Fermium	Mendelevium	Nobelium
89	90	91	92	93	94	95	96	97	98	99	100	101	102

1 H Hydrogen																	4 He Helium 2
7 Li Lithium 3	9 Be Beryllium 4											11 B Boron 5	12 C Carbon 6	14 N Nitrogen 7	16 O Oxygen 8	19 F Fluorine 9	20 Ne Neon 10
23 Na Sodium 11	24 Mg _{Magnesium} 12											27 Al Aluminium 13	28 Si Silicon 14	31 P Phosphorus 15	32 S Sulfur 16	35.5 CI Chlorine 17	40 Ar Argon 18
39 K Potassium 19	40 Ca Calcium 20	45 Sc Scandium 21	48 Ti Titanium 22	51 V Vanadium 23	52 Cr Chromium 24	55 Mn Manganese 25	56 Fe Iron 26	59 Co Cobalt 27	59 Ni Nickel 28	63.5 Cu Copper 29	65 Zn Zinc 30	70 Ga Gallium 31	73 Ge Germanium 32	75 As Arsenic 33	79 Se Selenium 34	80 Br Bromine 35	84 Kr Krypton 36
85 Rb Rubidium 37	88 Sr Strontium 38	89 Y Yttrium 39	91 Zr Zirconium 40	93 Nb Niobium 41	96 Mo Molybdenum 42	[98] Tc Technetium 43	101 Ru Ruthenium 44	103 Rh Rhodium 45	106 Pd Palladium 46	108 Ag Silver 47	112 Cd Cadmium 48	115 In Indium 49	119 Sn Tin 50	122 Sb Antimony 51	128 Te Tellurium 52	127 	131 Xe Xenon 54
133 Cs Caesium 55	137 Ba Barium 56	175 Lu Lutetium 71	178 Hf Hafnium 72	181 Ta Tantalum 73	184 W Tungsten 74	186 Re Rhenium 75	190 Os Osmium 76	192 Ir Iridium 77	195 Pt Platinum 78	197 Au ^{Gold} 79	201 Hg Mercury 80	204 TI Thallium 81	207 Pb Lead 82	209 Bi Bismuth 83	[209] Po Polonium 84	[210] At Astatine 85	[222] Rn Radon 86
[223] Fr Francium 87	[226] Ra Radium 88	[266] Lr Lawrencium 103	[261] Rf Rutherfordium 104	[262] Db Dubnium 105	[266] Sg Seaborgium 106	[264] Bh Bohrium 107	[277] Hs Hassium 108	[268] Mt Meitnerium 109	[271] Ds Darmstadium 110	[272] Rg Roentgenium 111	[285] Cn Copernicium 112	[286] Nh Nihonium 113	[289] FI Flerovium 114	[289] Mc Moscovium 115	[293] Lv Livermorium 116	[294] Ts Tennessine 117	[294] Og Oganesson 118

139	140	141	144	[145]	150	152	157	159	163	165	167	169	173
La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb
Lanthanum	Gerium	Praseodymium	Neodymium	Promethium	Samarium	Europium	Gadolinium	Terbium	Dysprosium	Holmium	Erbium	Thulium	Ytterbium
57	58	59	60	61	62	63	64	65	66	67	68	69	70
[227]	232	231	238	[237]	[244	243	[247]	[247]	[251]	[252]	[257]	[258]	[259]
Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No
Actinium	Thorium	Protactinium	Uranium	Neptunium	Plutonium	Americium	curium	Berkelium	Californium	Einsteinium	Fermium	Mendelevium	Nobelium
89	90	91	92	93	94	95	96	97	98	99	100	101	102

1	2											3	4	5	6	7	0/8
1 H Hydrogen 1																	4 He Helium 2
7 Li Lithium 3	9 Be Beryllium 4											11 B Boron 5	12 C Carbon 6	14 N Nitrogen 7	16 O Oxygen 8	19 F Fluorine 9	20 Ne Neon 10
23 Na Sodium 11	24 Mg _{Magnesium} 12											27 Al Aluminium 13	28 Si Silicon 14	31 P Phosphorus 15	32 S Sultur 16	35.5 CI Chlorine 17	40 Ar Argon 18
39 K Potassium 19	40 Ca Calcium 20	45 Sc Scandium 21	48 Ti Titanium 22	51 V Vanadium 23	52 Cr Chromium 24	55 Mn Manganese 25	56 Fe Iron 26	59 Co Cobalt 27	59 Ni Nickel 28	63.5 Cu Copper 29	65 Zn Zinc 30	70 Ga Gallium 31	73 Ge Germanium 32	75 As Arsenic 33	79 Se Selenium 34	80 Br Bromine 35	84 Kr Krypton 36
85 Rb Rubidium 37	88 Sr Strontium 38	89 Y Yttrium 39	91 Zr Zirconium 40	93 Nb Niobium 41	96 Mo Molybdenum 42	[98] Tc Technetium 43	101 Ru Ruthenium 44	103 Rh Rhodium 45	106 Pd Palladium 46	108 Ag Silver 47	112 Cd Cadmium 48	115 In Indium 49	119 Sn Tin 50	122 Sb Antimony 51	128 Te Tellurium 52	127 lodine 53	131 Xe Xenon 54
133 Cs Caesium 55	137 Ba Barium 56	175 Lu Lutetium 71	178 Hf Hafnium 72	181 Ta Tantalum 73	184 W Tungsten 74	186 Re Rhenium 75	190 Os Osmium 76	192 Ir Iridium 77	195 Pt Platinum 78	197 Au Gold 79	201 Hg Mercury 80	204 TI Thallium 81	207 Pb Lead 82	209 Bi Bismuth 83	[209] Po Polonium 84	[210] At Astatine 85	[222] Rn Radon 86
[223] Fr Francium 87	[226] Ra Radium 88	[266] Lr Lawrencium 103	[261] Rf Rutherfordium 104	[262] Db Dubnium 105	[266] Sg Seaborgium 106	[264] Bh Bohrlum 107	[277] Hs Hassium 108	[268] Mt Meitnerium 109	[271] Ds Darmstadium 110	[272] Rg Roentgenium 111	[285] Cn Copernicium 112	[286] Nh Nihonium 113	[289] FI Flerovium 114	[289] Mc Moscovium 115	[293] Lv Livermorium 116	[294] Ts Tennessine 117	[294] Og Oganesson 118

139	140	141	144	[145]	150	152	157	159	163	165	167	169	173
La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb
Lanthanum	Cerium	Praseodymium	Neodymium	Promethium	Samarium	Europium	Gadolinium	Terbium	Dysprosium	Holmium	Erbium	Thulium	Ytterbium
57	58	59	60	61	62	63	64	65	66	67	68	69	70
[227]	232	231	238	[237]	[244	243	[247]	[247]	[251]	[252]	[257]	[258]	[259]
Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No
Actinium	Thorium	Protactinium	Uranium	Neptunium	Plutonium	Americium	Curium	Berkelium	Californium	Einsteinium	Fermium	Mendelevium	Nobelium
89	90	91	92	93	94	95	96	97	98	99	100	101	102

Alkali Metals	2											3	4	5	6	4 Halogens	o Noble & Gases
1 H Hydrogen 1																	4 He Helium 2
7 Li Lithium 3	9 Be Beryllium 4											11 B Boron 5	12 C Carbon 6	14 N Nitrogen 7	16 O Oxygen 8	19 F Fluorine 9	20 Ne Neon 10
23 Na Sodium 11	24 Mg _{Magnesium} 12											27 Al Aluminium 13	28 Si Silicon 14	31 P Phosphorus 15	32 S Sulfur 16	35.5 CI Chlorine 17	40 Ar Argon 18
39	40	45	48	51	52	55	56	59	59	63.5	65	70	73	75	79	80	84
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr
Potassium	Calcium	Scandium	Titanium	Vanadium	Chromium	Manganese	Iron	Cobalt	Nickel	Copper	Zinc	Gallium	Germanium	Arsenic	Selenium	Bromine	Krypton
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
85	88	89	91	93	96	[98]	101	103	106	108	112	115	119	122	128	127	131
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe
Rubidium	Strontium	Yttrium	Zirconium	Niobium	Molybdenum	Technetium	Ruthenium	Rhodium	Palladium	Silver	Cadmium	Indium	Tin	Antimony	Tellurium	lodine	Xenon
37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54
133	137	175	178	181	184	186	190	192	195	197	201	204	207	209	[209]	[210]	[222]
Cs	Ba	Lu	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	TI	Pb	Bi	Po	At	Rn
Caesium	Barium	Lutetium	Hafnium	Tantalum	Tungsten	Rhenium	Osmium	Iridium	Platinum	Gold	Mercury	Thallium	Lead	Bismuth	Polonium	Astatine	Radon
55	56	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86
[223]	[226]	[266]	[261]	[262]	[266]	[264]	[277]	[268]	[271]	[272]	[285]	[286]	[289]	[289]	[293]	[294]	[294]
Fr	Ra	Lr	Rf	Db	Sg	Bh	Hs	Mt	Ds	Rg	Cn	Nh	FI	Mc	Lv	Ts	Og
Francium	Radium	Lawrencium	Rutherfordium	Dubnium	Seaborgium	Bohrium	Hassium	Meitnerium	Darmstadium	Roentgenium	Copernicium	Nihonium	Flerovium	Moscovium	Livermorium	Tennessine	Oganesson
87	88	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118

Lanthanides

Lantha 57	a anum	140 Ce Cerium 58	141 Pr Praseodymium 59	144 Nd Neodymium 60	[145] Pm Promethium 61	150 Sm Samarium 62	152 Eu Europium 63	157 Gd Gadolinium 64	159 Tb Terbium 65	163 Dy Dysprosium 66	165 Ho Holmium 67	167 Er Erbium 68	169 Tm Thulium 69	173 Yb Ytterbium 70
[22 Actin 89	C ium	232 Th Thorium 90	231 Pa Protactinium 91	238 U Uranium 92	[237] Np Neptunium 93	[244 Pu Plutonium 94	243 Am Americium 95	[247] Cm ^{Curium} 96	[247] Bk Berkelium 97	[251] Cf Californium 98	[252] Es Einsteinium 99	[257] Fm Fermium 100	[258] Md Mendelevium 101	[259] No Nobelium 102

Actinides

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1 H Hydrogen 1																	4 He Helium 2
7 Li Lithium 3	9 Be Beryllium 4											11 B Boron 5	12 C Carbon 6	14 N Nitrogen 7	16 O Oxygen 8	19 F Fluorine 9	20 Ne Neon 10
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La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb
Lanthanum	Cerium	Praseodymium	Neodymium	Promethium	Samarium	Europium	Gadolinium	Terbium	Dysprosium	Holmium	Erbium	Thulium	Ytterbium
57	58	59	60	61	62	63	64	65	66	67	68	69	70
[227]	232	231	238	[237]	[244	243	[247]	[247]	[251]	[252]	[257]	[258]	[259]
Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No
Actinium	Thorium	Protactinium	Uranium	Neptunium	Plutonium	Americium	Curium	Berkelium	Californium	Einsteinium	Fermium	Mendelevium	Nobelium
89	90	91	92	93	94	95	96	97	98	99	100	101	102

Alkali Metals	N Alkaline Earth Metals	3	4	5	6	7	8	9	10	Coinage Metals	12	13	14 Tetrels	15 Pnictogens	9 Chalcogens	1 Halogens	Noble 8 Gases
1 H Hydrogen 1																	4 He Helium 2
7 Li Lithium 3	9 Be Beryllium 4											11 B Boron 5	12 C Carbon 6	14 N Nitrogen 7	16 O Oxygen 8	19 F Fluorine 9	20 Ne Neon 10
23 Na Sodium 11	24 Mg Magnesium 12											27 Al Aluminium 13	28 Si Silicon 14	31 P Phosphorus 15	32 S Sulfur 16	35.5 CI Chlorine 17	40 Ar Argon 18
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Lanthanides

Actinides

139	140	141	144	[145]	150	152	157	159	163	165	167	169	173
La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb
Lanthanum	Cerium	Praseodymium	Neodymium	Promethium	Samarium	Europium	Gadolinium	Terbium	Dysprosium	Holmium	Erbium	Thulium	Ytterbium
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[227]	232	231	238	[237]	[244	243	[247]	[247]	[251]	[252]	[257]	[258]	[259]
Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No
Actinium	Thorium	Protactinium	Uranium	Neptunium	Plutonium	Americium	Curium	Berkelium	Californium	Einsteinium	Fermium	Mendelevium	Nobelium
89	90	91	92	93	94	95	96	97	98	99	100	101	102

Alkali Metals	S Alkaline Earth Metals	3	4	5	6	7	8	9	10	L Coinage Metals	12	13 Triels	5 Tetrels	15 Pnictogens	9 Chalcogens	17 Halogens	Noble 8 Gases
Li Lithium + 3 P MT 23 12 Na Sodium	Be Beryllium 2+ 4 P Mg Magnesium											B Boron 5 P MT 27 14 Al Aluminium	C Carbon	N Nitrogen 3- 7 P 7 4 GC 31 16 4 P Phosphorus	Oxygen 2- 8 P 6 MC 32 16 8 S	MC 19 10 2 F Fluorine - 9 MC 25.5 C Cl Chlorine	Ne Neon 10 P 4 40 22 Ar Argon
⁺ 11 P 39 20	2+ 12 MT 40 ²⁰	MT 45 24 I	^{MT} 48 ²⁶	MT 51 ²⁸	efractory Metal	s MT 55 ³⁰	^{MT} 56 ³⁰	Platinum Group	MT 59 31	^{MT} 63.5 *	^{MT} 65 ³⁵	³⁺ 13 P ^{MT} 70 ³⁹	P 14 GC 73	³⁻ 15 * ^{MT} 75 ⁴²	²⁻ 16 ^{2 GC} 79 ⁴⁵	- 17 MC 80 45	18 A 84 48
Potassium	Ca Calcium 2+ 20	Sc Scandium 3+ 21 3	Ti Titanium	V Vanadium	Cr	Mn Manganese 2+/4+ 25 P	Fe Iron 2+/3+ 26 M	Co Cobalt	Ni Nickel	Cu Copper	Zn Zinc 2+ 30	Ga Gallium 3+ 31	Ge Germanium 4+ 32	As Arsenic 3- 33	Se Selenium 2- 34	Br Bromine	Kr Krypton 36
P	P •	P 21 0F	•	P 🛑	MT 96 ⁵⁴	P 65	P	P - "	P = 0	P _ 0	P 00						P •
00						"'' [QR] '"	M1101 5/	MT ₁₀₃ 58	MT ₁₀₆ 60	MT ₁₀₈ 61	MT ₁₁₂ 64	MT ₁₁₅ 66	MT ₁₁₀ 6	9 MT ₁₂₂ 71	GC ₁₂₈ 76	MC ₁₂₇ 74	A 131 77
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	MT106 ⁶⁰ Pd	^{MT} 108 ⁶¹ Ag	MT 112 ⁶⁴ Cd	In	Sn	^{9 MT} 122 ⁷¹ 4 Sb	^{1 GC} 128 ⁷⁶ Te	MC ₂ 127 ⁷⁴	A 131 77 Xe
Rb Rubidium ± 37	Strontium	Y Yttrium	Zr Zirconium	Nb Niobium	Mo Molybdenum 6+ 42	Tc Technetium 7+ 43	Ru Ruthenium 3+/4+ 44 N	Rh Rhodium 3+ 45 N	MT 106 60 Pd Palladium	MT 108 ⁶¹ Ag Silver + 47 N	MT 112 ⁶⁴ Cd Cadmium 2+ 48	In Indium 3+ 49	Sn Tin 21/41 50	9 MT 122 ⁷¹ 4 Sb Antimony	Te Tellurium 2- 52	MC127 ⁷⁴ 2 I Iodine 2 53	
Rubidium + 37	Strontium 2+ 38	Y Yttrium 3+ 39	Zr Zirconium	Nb Niobium 3+/5+ 41	Mo Molybdenum 6+ 42	Tc Technetium 7+ 43 F	Ru Ruthenium 3+/4+ 44 N	Rh Rhodium 3+ 45 N	Pd Palladium	MT 108 ⁶¹ Ag Silver + 47 N	MT 112 ⁶⁴ Cd Cadmium 2+ 48 P MT 204 121	In Indium 3+ 49	Sn Tin 2+/4+ 50 P	9 MT 122 71 4 Sb Antimony 3+5+ 51	Te Tellurium 2- 52 P MTr2001 ¹²⁵	- I lodine - 53	Xe Xenon 54
* 37 P MT 133 78 Cs	2+ 38 P 137 81 Ba	Y Yttrium 3+ 39 P MT 175 ¹⁰⁴ Lu	Zr Zirconium 1+ 40 MT178 ¹⁰⁶ Hf	Nb Niobium 3+15+ 41 P 41 MT 181 ¹⁰⁸ Ta	Mo Molybdenum 6+ 42 P MT 184 ¹¹⁰ W	Tc Technetium 7+ 43 F MT 186 111 Re	Ru Ruthenium 3+4+ 44 N P MT 190 ¹¹⁴ Os	Rh Rhodium 3+ 45 N P 192 ¹¹⁵ Ir	Pd Palladium 2-14-46 N P Pt	MT 108 ⁶¹ Ag Silver + 47 N MT 197 ¹¹⁸ Au	MT 112 ⁶⁴ Cd Cadmium 2+ 48 P MT 201 121 Hg	In Indium 3+ 49 P MT 204 ¹²³ TI	Sn Tin 2+4+ 50 P MT 207 ¹² Pb	9 MT 122 71 4 Sb Antimony 3+5+ 51 P 5 MT 209 ¹²⁶ Bi	1 GC 128 76	- I lodine - 53 P [210] ¹²⁵ At	Xe Xenon 54 P A [222] ¹³⁶ Rn
+ 37 P 37 MT 133 78	2+ 38 P 38 P 38 P 38 P 38 MT 137 81 Ba Barium 2+ 56	Y Yttrium 3+ 39 P MT 175 ¹⁰⁴ I Lu Lutetium 3+ 71	Zr Zirconium 1+ 40 MT178 ¹⁰⁶ Hf Hafnium	Nb Niobium 3+/5+ 41 P MT 181 ¹⁰⁸ Ta Tantalum	Mo Molybdenum 6+ 42 P 42 MT 184 ¹¹⁰ W Tungsten	Tc Technetium 7+ 43 F MT 186 111 Re Rhenium	Ru Ruthenium 3-/4+ 44 N P MT 190 ¹¹⁴ Os Osmium 4+ 76 N	Rh Rhodium 3+ 45 N P MT 192 ¹¹⁵ Ir Irdium	Pd Palladium 2**4 46 N PT 195*** Pt Platinum	MT 108 ⁶¹ Ag Silver + 47 N P MT 197 ¹¹⁸ Au Gold +/2- 79 N	MT 112 64 Cd Cadmium 2+ 48 P MT 201 121 Hg Mercury +2+ 80 N	In Indium 3+ 49 P MT 204 ¹²³	Sn Tin 244 50 P 50	9 MT 122 71 4 Sb Antimony 3+/5+ 51 P	1 GC 128 ⁷⁶ Te Tellurium 2- 52 P 3 MT [209] ¹²⁵	lodine - 53	Xe Xenon 54 P
Rubidium + 37 P 37 MT 133 78 Cs Caesium	2+ 38 P 38 P 38 P 38 MT 137 81 Ba Barium 2+ 56	Y Yttrium 3+ 39 4 P MT 175 ¹⁰⁴ I Lu Lutetium	Zr Zirconium 1+ 40 MT178 ¹⁰⁶ Hf Hafnium	Nb Niobium 3+/5+ 41 P 41 MT 181 ¹⁰⁸ Ta Tantalum	Mo Molybdenum 6+ 42 P 42 MT 184 ¹¹⁰ W Tungsten	Tc Technetium 7+ 43 F MT 186 111 Re Rhenium 7+ 75 N	Ru Ruthenium 3-/4+ 44 N P MT 190 ¹¹⁴ Os Osmium 4+ 76 N	Rh Rhodium 3+ 45 N P 45 N P 192 ¹¹⁵ Ir Irdium	Paladium 2**4* 46 N Platinum 2**4* 78 N P	MT 108 ⁶¹ Ag Silver + 47 N P MT 197 ¹¹⁸ Au Gold +/2- 79 N	MT 112 ⁶⁴ Cd Cadmium 2+ 48 P MT 201 ¹²¹ Hg Mercury 12+ 80 N P	In Indium 3+ 49 P MT 204 ¹²³ TI Thallium	Sn Tin 2*/4* 50 P MT 207 ¹² Pb Lead 2*/4* 82	9 MT 122 71 4 Sb Antimony 3*/5* 51 P 5 MT 209 ¹²⁶ Bi Bismuth 3*/5* 83	1 GC 128 76	I lodine - 53 P [210] 125 At Astatine	Xe Xenon 54 P A [222] ¹³⁶ Rn Radon
Rubidium + 37 MT 133 ⁷⁸ Cs Caesium + 55 [223] ¹³⁶	2+ 38 P Ba Barium 2+ 56 P Ra	Y Yttrium 3+ 39 P MT 175 ¹⁰⁴ Lu Lutetium 3+ 71 [266] ¹⁶³ Lr	Tr Zirconium 1+ 40 MT 178 ¹⁰⁶ Hf Hafnium 1+ 72 [261] ¹⁵⁷ Rf	Nb Niobium 181 ⁵⁺ 41 P MT 181 ¹⁰⁸ Ta Tantalum 5+ 73 [262] ¹⁵⁷ Db	Mo Molybdenum 6+ 42 MT 184 ¹¹⁰ W Tungsten 6+ 74 [266] ¹⁶⁰ Sg	Tc Technetium 7+ 43 F MT 186 111 Re Rhenium 7+ 75 N P 1264] 157 Bh	Ru Ruthenium 3*4* 44 N P MT 190 ¹¹⁴ Os Osmium 4+ 76 N P [277] ¹⁶⁹ Hs	Rh Rhodium 3+ 45 N P 45 N P 17 192 115 Ir Iridium 4+ 77 N P [268] 159 Mt	Pd Palladium 2**4* 46 N P Pt Platinum 2**4* 78 N P P P P P P P P P P P P P P P P P P P	*** 79 N P *** 79 R R *** R	MT 112 ⁶⁴ Cd Cadmium 2+ 48 P MT 201 ¹²¹ Hg Mercury 12+ 80 N P [285] ¹⁷³ Cn	In Indium 3+ 49 P P P P P P P P P P P P P P P P P P	Sn Tin 244- 50 P MT 207 ¹² Pb Lead 244- 82 P [289] ¹⁷	9 MT 122 71 4 Sb Antimony 3+5+ 51 P 5 MT 209 ¹²⁶ Bi Bismuth 3+5+ 83 P 5 [289] ¹⁷²	1 GC 128 76 Te Tellurium 2- 52 P Po Polonium 2-14- 84 F [293] ¹⁷⁷ Lv	I lodine - 53 2 [210] ¹²⁵ At Astatine - 85 F [294] ¹⁷⁷ Ts	Xe Xenon 54 P 54 P 6 P 6 P 6 P 6 P 6 P 6 P 6 P 6 P 6 P
Rubidium + 37 P MT 133 78 Cs Caesium + 55 P 223]136	Strontium 2+ 38 P 38 MT 137 81 Ba Barium 2+ 56 P 56 MT [226] 138	Y Yttrium 3+ 39 P MT 175 ¹⁰⁴ Lu Lutetium 3+ 71 [266] ¹⁶³ Lr	Zr Zirconium 1+ 40 MT 178 ¹⁰⁶ Hf Hafnium 1+ 72 [261] ¹⁵⁷ Rf Rutherfordium	Nb Niobium Niobium 181 ¹⁰⁸ Ta Tantalum 5+ 73 [262] ¹⁵⁷ Db Dubnium	Mo Molybdenum 6+ 42 MT 184 ¹¹⁰ W Tungsten 6+ 74 [266] ¹⁶⁰ Sg Seaborgium 6+ 106	Tc Technetium 7+ 43 Re Rhenium 7+ 75 N P [264] Bh Bohrium 7+ 107	Ru Ruthenium 3*4* 44 N P MT 190 ¹¹⁴ Os Osmium 4+ 76 N P [277] ¹⁶⁹	Rh Rhodium 3+ 45 N P 192 11 Ir Iridium 4+ 77 N P 1268	Pd Palladium 2*** 46 N Pt Platenum 2*** 78 N P P (271) 161	MT108 61 Ag Silver + 47 N P 47 N MT197 ¹¹⁸ Au Gold -/3- 79 N P 272] ¹⁶¹	MT 112 64 Cd Cadmium 2+ 48 P MT 201 ¹²¹ Hg Mercury	In Indium 3+ 49 P P P P P P P P P P P P P P P P P P	Sn Tin 244- 50 P MT 207 ¹² Pb Lead 244- 82 P	9 MT 122 71 4 Sb Antimony 3+5+ 51 5 MT 209 ¹²⁶ Bi Biamuth 3+5+ 83 P	Te Tellurium 2- 52 Po Polonium 2-14- 84 F [293] 177	E Iodine 53 2 [210] 125 At Astatine 85 F [294] 177	Xe Xenon 54 P

	MT 139 82	MT140 82	MT 141 82	^{MT} 144 ⁸⁴	^{MT} [145] ⁸⁴	MT 150 88	MT 152 89	MT157 93	MT 159 94	MT 163 97	MT 165 98	⁸ MT 167 ⁹⁹	MT 169 ¹⁰⁰	MT 173 ¹⁰³
Lanthanides	La Lanthanum	Ce Cerium	Pr Praseodymium	Nd Neodymium	Pm Promethium	Sm Samarium	Eu Europium	Gd Gadolinium	Tb Terbium	Dy Dysprosium	Ho Holmium	Er Erbium	Tm Thulium	Yb Ytterbium
	3+ 57	3+ 58	3+ 59	3+ 60 P	2+/3+ 61	2+/3+ 62 P	2+/3+ 63	3+ 64 M	3+ 65 M			3+ 68 N	1 ³⁺ 69 M	2+/3+ 70 P
	MT[227] ¹³⁸	MT232 ¹⁴²	MT231 ¹⁴⁰	MT238 ¹⁴⁶	MT[237] ¹⁴⁴	MT[244] ¹⁵⁰	MT 243 148	MT[247] ¹⁵¹	MT[247] ¹⁵⁰	^{MT} [251] ¹⁵³	MT[252] ¹⁵	[257]		[259]157
Actinides	Ac Actinium	Th Thorium	Pa Protactinium	Uranium	Np Neptunium	Pu Plutonium	Am Americium	Cm Curium	Bk Berkelium	Cf Californium	Es Einsteinium	Fm Fermium	Md Mendelevium	No Nobelium
	3+ 89 F	4+ 90 P	4*/5* 91 F	4+/0+ 92 P	5+ 93 F	4+/6+ 94 F	3+#+ 95 S	3+ 96 S	3+/4+ 97 S		3+ 99 S	3+ 100	2+/3+101 S	2+/3+102 S
				T	ransuranium E	lements							Transfermium E	lements