18 **0**

元 素 周 期 表 Periodic Table of the Elements

镧系

锕系

	1 $\mathbf{I} \mathbf{A}$				Per	iodic	Tab.	le of	the I	出em	ents							18 0
1	1 1.008 H qing Hydrogen 1s1	2 II A											13 III A	14 IV A	15 V A	16 VI A	17 VII A	2 4.003 He hai Helium 1s²
2	$\mathop{\hbox{Lithium}}^{\rm lĭ}_{\rm [He]2s^1}$	4 9.012 Be **Example 1.00 **Example 2.00 **Example 2.00											$ \begin{array}{c c} 5 & 10.81 & \mathbf{B} \\ & & & $	6 12.01 C tàn Carbon [He]2s ² 2p ²	dàn (X) Nitrogen [He]2s²2p³	yǎng Oxygen [He]2s²2p⁴	9 19.00 F fú Fluorine [He]2s ² 2p ⁵	10 20.18 Ne năi Neon [He] 2s²2p ⁶
3	$\begin{array}{c} \text{nà} \\ \hline \text{FM} \\ \text{Sodium} \\ \text{[Ne]} 3s^1 \end{array}$	12 24.31 Mg měi ‡ Magnesium [Ne]3s²	3 III A	4 IV B								12 II B	13 26.98 Al Iŭ Aluminium [Ne]3s ² 3p ¹	\mathbf{G}^{gu} \mathbf{G}^{gu} Silicon $[\mathrm{Ne}]3\mathrm{s}^{2}3\mathrm{p}^{2}$	15 30.97 P lin Phosphorus [Ne]3s ² 3p ³	liú Thi Sulfur [Ne]3s ² 3p ⁴	17 35.45 Cl lù Chlorine [Ne]3s ² 3p ⁵	y à \mathbf{x} Argon $[Ne]3s^23p^6$
4	potassium [Ar]4s ¹	gài FF Calcium [Ar]4s²	kàng FL Scandium [Ar]3d ¹ 4s ²	22 47.87 Ti tài K Titanium [Ar]3d ² 4s ²	fán FI Vanadium [Ar]3d ³ 4s ²	gè Chromium [Ar]3d ⁵ 4s ¹	měng Manganese [Ar]3d ⁵ 4s ²	$\overset{ ext{ti}\check{ ext{b}}}{ ext{ti}}$ $\overset{ ext{Iron}}{ ext{Iron}}$ $\overset{ ext{[Ar]} ext{3d}^6 ext{4s}^2}$	Gu Cobalt [Ar]3d ⁷ 4s ²	niè Ç Nickel [Ar]3d ⁸ 4s ²	tóng Fij Copper [Ar]3d ¹⁰ 4s ¹	Xin ‡‡ Zinc [Ar] 3d ¹⁰ 4s ²	jiā G allium [Ar]3d ¹⁰ 4s ² 4p ¹	zhě 括 Germanium [Ar]3d ¹⁰ 4s ² 4p ²	shēn Arsenic [Ar]3d ¹⁰ 4s ² 4p ³	Selenium [Ar]3d ¹⁰ 4s ² 4p ⁴	xiù 溴 Bromine [Ar]3d ¹⁰ 4s ² 4p ⁵	kè Krypton [Ar]3d ¹⁰ 4s ² 4p ⁶
5	37 85.47 Rb rú Rubidium [Kr]5s1	Strontium [Kr]5s ²	Yttrium [Kr]4d ¹ 5s ²	7 40 91.22 Zr gào 安告 Zirconium [Kr]4d ² 5s ²	ní Æ Niobium [Kr]4d ⁴ 5s ¹	Molybdenum [Kr]4d ⁵ 5s ¹	Technetium [Kr]4d ⁵ 5s ²	Ruthenium [Kr]4d ⁷ 5s ¹	lão É Rhodium [Kr]4d ⁸ 5s ¹	Palladium [Kr]4d ¹⁰	yín Q Silver [Kr]4d ¹⁰ 5s ¹	Cadmium [Kr]4d ¹⁰ 5s ²	yīn † Indium [Kr] 4d 105 s 2 5p 1	xī Tin [Kr]4d ¹⁰ 5s ² 5p ²	tī † Antimony [Kr] 4d 10 5s 2 5p 3	dì F Tellurium [Kr]4d ¹⁰ 5s ² 5p ⁴	diǎn Iodine [Kr]4d ¹⁰ 5s²5p⁵	54 131.3 Xe xiān Xenon [Kr]4d ¹⁰ 5s ² 5p ⁶
6	55 132.9 Cs sè Caesium [Xe]6s¹	56 137.3 Ba bèi EXI Barium [Xe]6s²	57-71 La-Lu 镧系 Lanthanoids	1 72 178.5 Hf hā Hafnium [Xe] 4f ¹⁴ 5d ² 6s ²	73 180.9 Ta tăn Tantalum [Xe]4f ¹⁴ 5d ³ 6s ²	74 183.8 W wū Tungsten [Xe] 4f ¹⁴ 5d ⁴ 6s ²	75 186.2 Re lái Rhenium [Xe] 4f ¹⁴ 5d ⁵ 6s ²	76 190.2 Os é Osmium [Xe]4f ¹⁴ 5d ⁶ 6s ²	77 192.2 Ir yī Iridium [Xe]4f ¹⁴ 5d ⁷ 6s ²	78 195.1 Pt b6 Platinum [Xe]4f ¹⁴ 5d ⁹ 6s ¹	79 197.0 Au jīn Gold [Xe]4f ¹⁴ 5d ¹⁰ 6s ¹	80 200.6 Hg gŏng Mercury [Xe]4f ¹⁴ 5d ¹⁰ 6s ²	81 204.4 Tl tā † Thallium [Xe]4f ¹⁴ 5d ¹⁰ 6s ² 6p ¹	qiān ÇII Lead	83 209.0 Bi bi Bismuth [Xe]4f ¹⁴ 5d ¹⁰ 6s ² 6p ³	84 [209] Po pō Polonium [Xe]4f ¹⁴ 5d ¹⁰ 6s ² 6p ⁴	85 [210] At	86 [222] Rn dong Radon [Xe] 4f ¹⁴ 5d ¹⁰ 6s ² 6p ⁶
7	87 [223] Fr fang Francium [Rn]7s1	88 [226] Ra léi Radium [Rn]7s²	89-103 Ac-Li 锕系 Actinoids	r 104 [267] Rf lú FF Rutherfordium [Rn]5f ¹⁴ 6d ² 7s ²	105 [268] Db dù th Dubnium [Rn]5f ¹⁴ 6d ³ 7s ²	106 [269] Sg xi Seaborgium [Rn]5f ¹⁴ 6d ⁴ 7s ²	107 [270] Bh bō Bohrium [Rn]5f ¹⁴ 6d ⁵ 7s ²	108 [269] Hs hēi Hassium [Rn]5f ¹⁴ 6d ⁶ 7s ²	109 [277] Mt mài E Meitnerium [Rn]5f ¹⁴ 6d ⁷ 7s ²	110 [281] Ds dá Darmstadtium [Rn]5f ¹⁴ 6d ⁸ 7s ²	轮	寄	113 [286] Nh nĭ Nihonium [Rn]5f ¹⁴ 6d ¹⁰ 7s ² 7p ¹	114 [289] Fl fū Flerovium [Rn]5f ¹⁴ 6d ¹⁰ 7s ² 7p ²	115 [290] Mo mò Q Moscovium [Rn]5f ¹⁴ 6d ¹⁰ 7s ² 7p ³	Fix Livermorium	Tián TiH	118 [294] Og ào Oganesson [Rn]5f ¹⁴ 6d ¹⁰ 7s ² 7p ⁶

57 138.9	La 58 140.1 C	e 59 140.9 Pr	60 144.2 Nd	61 [145] Pm	62 150.4 Sm	63 152.0 Eu	64 157.3 Gd	65 158.9 Tb	66 162.5 Dy	67 164.9 Ho	68 167.3 Er	69 168.9 Tm	70 173.1 Yb	71 175.0 Lu
lán	shì	pů	nů	pŏ	shān	yŏu	gá	tè	dī	huŏ	ěr	diū	yì	lŭ
镧	铈	镨	钕	钷	钐	铕	幺	铽	镝	钬	铒	铥	镱	镥
川利	արդ	113	K		T/	7 H	₹L		刀削	11/	74	厶	龙	項
Lanthar	um Cerium	Praseodymium	Neodymium	Promethium	Samarium	Europium	Gadolinium	Terbium	Dysprosium	Holmium	Erbium	Thulium	Ytterbium	Lutetium
[Xe]5d ¹ 6	is^2 [Xe]4 $f^15d^16s^2$	$[{\rm Xe}]4{\rm f}^{3}6{\rm s}^{2}$	$[\mathrm{Xe}]4\mathrm{f}^46\mathrm{s}^2$	$[{ m Xe}]4{ m f}^{5}6{ m s}^{2}$	$[\mathrm{Xe}]4\mathrm{f}^66\mathrm{s}^2$	$[\mathrm{Xe}]4\mathrm{f}^76\mathrm{s}^2$	$[{ m Xe}]4{ m f}^75{ m d}^16{ m s}^2$	$[{ m Xe}]4{ m f}^96{ m s}^2$	$[{ m Xe}]4{ m f}^{10}6{ m s}^2$	$[Xe]4f^{11}6s^{2}$	$[{ m Xe}]4{ m f}^{12}6{ m s}^2$	$[{ m Xe}]4{ m f}^{13}6{ m s}^2$	$[Xe]4f^{14}6s^{2}$	$[{ m Xe}]4{ m f}^{14}5{ m d}^{1}6{ m s}^{2}$
89 [227]	Ac 90 232.0 T	h 91 231.0 Pa	92 238.0 U	93 [237] Np	94 [244] Pu	95 [243] Am	96 [247] Cm	97 [247] Bk	98 [251] Cf	99 [252] Es	100 [257] Fm	101[258]Md	102 [259] No	103 [262] Lr
ā	tů	pú	yóu	ná	bù	méi	jú	péi	kāi	āi	fèi	mén	nuò	láo
锕	1 钍	僕	铀	镎	钚	镅	锔	锫	锎	锿	镄	钔	锘	铹
TH"	T.L.	趺	7四	1手	יוע י	7月	179	「口	777]	173	頻	TIJ	阳	切
Actiniu	ım Thorium	Protactinium	Uranium	Neptunium	Plutonium	Americium	Curium	Berkelium	Californium	Einsteinium	Fermium	Mendelevium	Nobelium	Lawrencium
[Rn]6d ¹	$7s^2$ [Rn]6d ² 7s ²	$[Rn]5f^{2}6d^{1}7s^{2}$	$[Rn]5f^{3}6d^{1}7s^{2}$	$[Rn]5f^46d^17s^2$	$[Rn]5f^67s^2$	$[Rn]5f^{7}7s^{2}$	$[Rn]5f^{7}6d^{1}7s^{2}$	$[Rn]5f^{9}7s^{2}$	$[Rn]5f^{10}7s^2$	$[Rn]5f^{11}7s^{2}$	$[Rn]5f^{12}7s^2$	$[Rn]5f^{13}7s^{2}$	$[Rn]5f^{14}7s^{2}$	$[Rn]5f^{14}7s^{2}7p^{1}$