18 **0**

元 素 周 期 表 Periodic Table of the Elements

镧系

锕系

	1 $\mathbf{I} \mathbf{A}$				Peri	odic	Tabl	le of	the I	tlem!	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 hài Helium 1s²
2	Lithium [He]2s ¹	4 9.012 Be ty Beryllium [He]2s²											5 10.81 B péng Boron [He]2s ² 2p ¹	tàn Ç Carbon [He]2s²2p²	dàn S Nitrogen [He]2s ² 2p ³	yǎng Oxygen [He]2s²2p⁴	fú Fluorine [He]2s²2p ⁵	10 20.18 Ne năi Neon [He]2s²2p ⁶
3	$\begin{array}{c} \text{nà} \\ \hline \begin{matrix} \begin{matrix}$	12 24.31 Mg ### Magnesium		4 IV B							11 I B	12 II B	13 26.98 Al 13 15 14 15 Aluminium [Ne] 3s^2 3p^1	Silicon [Ne]3s²3p²	15 30.97 P lin Phosphorus [Ne]3s²3p³	liú KiR Sulfur [Ne]3s²3p⁴	17 35.45 Cl lù Chlorine [Ne]3s²3p⁵	$\overset{ ext{yà}}{\text{Argon}}$ $\overset{ ext{[Ne]}3s^23p^6}{\text{[Ne]}3s^23p^6}$
4	jiă Potassium [Ar]4s ¹	gài FF Calcium [Ar]4s²	kàng FL Scandium [Ar]3d ¹ 4s ²	22 47.87 Ti tài tài Titanium [Ar]3d ² 4s ²	fán Vanadium [Ar]3d ³ 4s ²	gè Chromium [Ar]3d ⁵ 4s ¹	měng Manganese [Ar]3d ⁵ 4s ²	$\operatorname*{ti\check{e}}_{\mathbf{ff}}$ $\operatorname*{Iron}_{[\mathrm{Ar}]\mathrm{3d}^{6}\mathrm{4s}^{2}}$	Cobalt [Ar]3d ⁷ 4s ²	niè ‡ Nickel [Ar]3d ⁸ 4s ²	tóng Fij Copper [Ar]3d ¹⁰ 4s ¹	xīn ‡‡ Zinc [Ar]3d ¹⁰ 4s ²	jiā Gallium [Ar]3d ¹⁰ 4s ² 4p ¹	zhě Germanium [Ar]3d ¹⁰ 4s ² 4p ²	shēn Arsenic [Ar]3d ¹⁰ 4s ² 4p ³	xī Selenium [Ar]3d ¹⁰ 4s ² 4p ⁴	xiù ½ Bromine [Ar]3d ¹⁰ 4s ² 4p ⁵	Krypton [Ar]3d ¹⁰ 4s ² 4p ⁶
5	37 85.47 Rb rú Rubidium [Kr]5s ¹	Strontium [Kr]5s²	Yttrium [Kr]4d ¹ 5s ²	40 91.22 Zr gào Zirconium [Kr]4d²5s²	ní Æ Niobium [Kr]4d ⁴ 5s ¹	Molybdenum [Kr]4d ⁵ 5s ¹	$ \begin{array}{c} \text{d\'e} \\ \hline \begin{array}{c} \text{F} \\ \text{Technetium} \\ \text{[Kr]} \text{4d}^5 \text{5s}^2 \end{array} $	Ruthenium $[Kr]4d^75s^1$	Rhodium [Kr]4d ⁸ 5s ¹	bă FE Palladium [Kr]4d ¹⁰	yín Q Silver [Kr]4d ¹⁰ 5s ¹	Gadmium [Kr]4d ¹⁰ 5s ²	yīn † Indium [Kr]4d ¹⁰ 5s ² 5p ¹	Tin [Kr]4d ¹⁰ 5s ² 5p ²	tī Antimony [Kr]4d ¹⁰ 5s ² 5p ³	dì Tit Tellurium [Kr]4d ¹⁰ 5s ² 5p ⁴	diǎn Iodine [Kr]4d ¹⁰ 5s ² 5p ⁵	54 131.3 Xe xiān Xenon [Kr]4d ¹⁰ 5s ² 5p ⁶
6	caesium [Xe]6s1	bèi Ų Barium [Xe]6s²	镧系 Lanthanoids	72 178.5 Hf hā Hafnium [Xe]4f ¹⁴ 5d ² 6s ²	$ \begin{array}{c} \text{tắn} \\ \hline \\ \hline \\ \text{Tantalum} \\ \text{[Xe]} 4 \text{f}^{14} 5 \text{d}^3 6 \text{s}^2 \end{array} $	wū 14 Tungsten [Xe]4f ¹⁴ 5d ⁴ 6s ²	lái ‡ Rhenium [Xe]4f ¹⁴ 5d ⁵ 6s ²	é Osmium [Xe]4f ¹⁴ 5d ⁶ 6s ²	$ \begin{array}{c} y\overline{1} \\ \hline kx \\ Iridium \\ [Xe]4f^{14}5d^76s^2 \end{array} $	bó H Platinum [Xe]4f ¹⁴ 5d ⁹ 6s ¹		gŏng Rercury [Xe]4f ¹⁴ 5d ¹⁰ 6s ²	tā †È Thallium [Xe]4f ¹⁴ 5d ¹⁰ 6s ² 6p ¹	$\begin{array}{c} qi\bar{a}n \\ \hline {\bf F} \\ Lead \\ [Xe] 4f^{14} 5d^{10} 6s^2 6p^2 \end{array}$	bì FIX Bismuth [Xe]4f ¹⁴ 5d ¹⁰ 6s ² 6p ³	pō Polonium [Xe]4f ¹⁴ 5d ¹⁰ 6s ² 6p ⁴	$ \begin{array}{c} \text{ ài } \\ \\ \text{Astatine} \\ \\ [\text{Xe}]4 \\ $	dōng Radon [Xe] 4f ¹⁴ 5d ¹⁰ 6s ² 6p ⁶
7	87 [223] Fr fang Francium [Rn]7s1	88 [226] Ra léi Radium [Rn]7s ²	89-103 Ac-Lr 锕系 Actinoids	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 菜 喜 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	铸	110 [281] Ds dá tt Darmstadtium [Rn]5f ¹⁴ 6d ⁸ 7s ²	111 [282] Rg lún † Roentgenium [Rn]5f ¹⁴ 6d ⁹ 7s ²	112 [285] Cn 環 Copernicium [Rn]5f ¹⁴ 6d ¹⁰ 7s ²	nĭ Ś Nihonium	铁 Flerovium	競 Moscovium	116 [293] Lv 10 10 11 12 12 13 13 14 14 15 15 14 16 16 17 17 17 17 18 18 19 18 10	tián TH Tennessine	118 [294] Og ào Oganesson [Rn]5f ¹⁴ 6d ¹⁰ 7s ² 7p ⁶

lán shì pǔ nû p	oč shān võu					
		ou ga te		huŏ ěr	diū yì	lŭ
镧 铈 镨 钕 钴	[[钐 铕		镝 钅	钬 铒	铥 憶	镥
Lanthanum Cerium Praseodymium Neodymium Prome	ethium Samarium Europ	pium Gadolinium Terbium	Dysprosium Hol:	lmium Erbium	Thulium Ytterbium	Lutetium
	$16^{6}6s^{2}$ [Xe] $46^{6}6s^{2}$ [Xe] 46^{7}			$[Xe]4f^{11}6s^2$ $[Xe]4f^{12}6s^2$	$[Xe]4f^{13}6s^2$ $[Xe]4f^{14}6s^2$	$[{ m Xe}]4{ m f}^{14}5{ m d}^{1}6{ m s}^{2}$
89 [227] $ Ac $ 90 232.0 $ Th $ 91 231.0 $ Pa $ 92 238.0 $ U $ 93 [23	7] Np 94 [244] Pu 95 [243]	3] $\mathbf{Am} 96$ [247] $\mathbf{Cm} 97$ [247] \mathbf{B}	k 98 [251] Cf 99 [2	[252] Es 100 [257] Fm	101 [258] Md 102 [259] No	103 [262] Lr
ā tǔ pú yóu r	á bù méi	éi jú péi	kāi	āi fèi	mén nuò	láo
	拿 钚 镅			锿 镄	钔 诺	铹
Actinium Thorium Protactinium Uranium Nept	mium Plutonium Americ	icium Curium Berkelium	Californium Einst	steinium Fermium	Mendelevium Nobelium	Lawrencium
$[Rn]6d^{1}7s^{2} \qquad [Rn]6d^{2}7s^{2} \qquad [Rn]5f^{2}6d^{1}7s^{2} \qquad [Rn]5f^{3}6d^{1}7s^{2} \qquad [Rn]5f$	$[Rn]5f^{6}7s^{2}$ $[Rn]5f^{6}7s^{2}$ $[Rn]5f^{7}$	$[Rn]5f^76d^17s^2$ $[Rn]5f^97s^2$	$[Rn]5f^{10}7s^2$ $[Rn]$	$1]5f^{11}7s^2$ [Rn] $5f^{12}7s^2$	$[Rn]5f^{13}7s^2$ $[Rn]5f^{14}7s^2$	$[Rn]5f^{14}7s^{2}7p^{1}$