18 **0**

元 素 周 期 表 Periodic Table of the Elements

镧系

锕系

1 Signature Si		1 $\mathbf{I} \mathbf{A}$				Peri	odic	Tabl	le of	the I	<u>Elem</u>	ents							18 0
2	1	qīng S Hydrogen	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
3 11 15 15 16 16 16 16 16	2	$\mathop{\hbox{Lithium}}^{\rm lĭ}_{\rm [He]2s^1}$	Beryllium [He]2s²											péng Boron	tàn 误 Carbon	dàn 氨 Nitrogen	yǎng 氧 Oxygen	fú Fluorine	10 20.18 Ne năi Neon [He]2s²2p6
4 Potassium Calcium Scandium Indian	3	$ \begin{array}{c} \text{nà} \\ \hline \begin{matrix} \begin{matrix}$	Magnesium [Ne]3s ²											lǚ Aluminium [Ne]3s²3p¹	Silicon [Ne]3s²3p²	Phosphorus [Ne]3s²3p³	liú Th Sulfur [Ne]3s²3p⁴	lù Chlorine [Ne]3s²3p⁵	${\bf y}$ à ${\bf y}$ Argon ${\bf [Ne]}3{\bf s}^23{\bf p}^6$
5	4	Potassium [Ar]4s ¹	gài F Calcium [Ar]4s²	kàng Fil Scandium [Ar]3d ¹ 4s ²	tài ‡ Titanium [Ar]3d ² 4s ²	Vanadium [Ar]3d ³ 4s ²	Chromium [Ar]3d ⁵ 4s ¹	měng Manganese [Ar]3d ⁵ 4s ²	$\mathop{\mathbf{H}}_{\text{Iron}}^{\text{tiĕ}}$ $_{[\text{Ar}]3\text{d}^{6}4\text{s}^{2}}^{\text{tot}}$	Cobalt [Ar]3d ⁷ 4s ²	niè Q 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 Ā 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
6 Properties and the properties of the propertie	5	rú 钟 Rubidium	Strontium	¥Z Yttrium	gào 结 Zirconium	呢 Niobium	mù H Molybdenum	号 不Echnetium	liǎo 钉 Ruthenium	^{lǎo} 铑 Rhodium	能 担 Palladium	報 Silver	韓 掃 Cadmium	yīn 報 Indium	锡 Tin	tī 第 Antimony	dì 静 Tellurium	diǎn (H) Iodine	54 131.3 Xe xiān Xenon [Kr]4d ¹⁰ 5s ² 5p ⁶
făng léi lú dù xǐ bō hēi mài dá lún gē nǐ fū mò lì tián àc	6	caesium [Xe]6s1	bèi FJ Barium [Xe]6s²	镧系 Lanthanoids	hā †† Hafnium [Xe]4f ¹⁴ 5d ² 6s ²	$\begin{array}{c} \text{tăn} \\ \begin{array}{c} \\ \end{array} \\ \text{Tantalum} \\ \text{[Xe]} 4 \text{f}^{14} 5 \text{d}^3 6 \text{s}^2 \end{array}$	$\overset{ ext{w}ar{ ext{u}}}{ ext{H}}$ $\overset{ ext{Tungsten}}{ ext{[Xe]}4f^{14}5d^46s^2}$	lái ‡‡ Rhenium [Xe]4f ¹⁴ 5d ⁵ 6s ²	é Osmium [Xe]4f ¹⁴ 5d ⁶ 6s ²	$\mathbf{\hat{f}}^{y\bar{1}}$ $\mathbf{Iridium}$ $[Xe]4f^{14}5d^{7}6s^{2}$	bó H Platinum [Xe]4f ¹⁴ 5d ⁹ 6s ¹	jīn Gold [Xe]4f ¹⁴ 5d ¹⁰ 6s ¹	蒙ňng 末 Mercury [Xe]4f ¹⁴ 5d ¹⁰ 6s ²	$ \begin{array}{c} t\bar{a} \\ \hline \textbf{FE} \\ Thallium \\ [Xe] 4f^{14} 5d^{10} 6s^2 6p^1 \end{array} $	$\begin{array}{c} qi\bar{a}n \\ \hline {\bf FII} \\ Lead \\ [Xe] 4f^{14} 5d^{10} 6s^2 6p^2 \end{array}$	$\begin{array}{c} \text{bi} \\ \text{FW} \\ \text{Bismuth} \\ \text{[Xe]} 4 \text{f}^{14} 5 \text{d}^{10} 6 \text{s}^2 6 \text{p}^3 \end{array}$	Polonium [Xe]4f ¹⁴ 5d ¹⁰ 6s ² 6p ⁴		$\begin{array}{c} ^{\text{d\bar{o}ng}}\\ & \\ \text{Radon}\\ ^{[\text{Xe}]4\text{f}^{14}5\text{d}^{10}6\text{s}^26\text{p}^6} \end{array}$
Francium Radium Actinoids Rutherfordium Dubnium Seaborgium Bohrium Hassium Meitnerium Darmstadtium Roentgenium Copernicium Nihonium Flerovium Moscovium Livermorium Tennessine Ogane	7	fang F Francium	Radium	锕系	lú É Rutherfordium	触 知 Dubnium	惑 禧 Seaborgium	敬 別 Bohrium	Hassium	mài 接 Meitnerium	数 Darmstadtium	Roentgenium	gē 司 Copernicium	が Nihonium	铁 Flerovium	競 Moscovium	Elika Pilon	Tennessine	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 T b	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	钆	铽	镝	钬	铒	铥	镱	镥
Lanthan	um Cerium	Praseodymium	Neodymium	Promethium	Samarium	Europium	Gadolinium	Terbium	Dysprosium	Holmium	Erbium	Thulium	Ytterbium	Lutetium
[Xe]5d ¹ 6	$5s^2$ [Xe] $4f^15d^16s^2$	$[\mathrm{Xe}]4\mathrm{f}^36\mathrm{s}^2$	$[{ m Xe}]4{ m f}^46{ m s}^2$	$[{ m Xe}]4{ m f}^{5}6{ m s}^{2}$	$[{ m Xe}]4{ m f}^{6}6{ m s}^{2}$	$[\mathrm{Xe}]4\mathrm{f}^76\mathrm{s}^2$	$[{ m Xe}]4{ m f}^75{ m d}^16{ m s}^2$	$[{ m Xe}]4{ m f}^96{ m s}^2$	$[{ m Xe}]4{ m f}^{10}6{ m s}^2$	$[{ m Xe}]4{ m f}^{11}6{ m s}^2$	$[{ m Xe}]4{ m f}^{12}6{ m s}^2$	$[{ m Xe}]4{ m f}^{13}6{ m s}^2$	$[Xe]4f^{14}6s^{2}$	$[Xe]4f^{14}5d^{1}6s^{2}$
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	tŭ	pú	yóu	ná	bù	méi	jú	péi	kāi	āi	fèi	mén	nuò	láo
锕	钍	僕	铀	镎	钚	镅	锔	锫	锎	锿	镄	钔	锘	铹
														123
Actiniu	ım Thorium	Protactinium	Uranium	Neptunium	Plutonium	Americium	Curium	Berkelium	Californium	Einsteinium	Fermium	Mendelevium	Nobelium	Lawrencium
[Rn]6d ¹ 7	$7s^2$ [Rn]6d ² 7s ²	$[Rn]5f^{2}6d^{1}7s^{2}$	$[Rn]5f^{3}6d^{1}7s^{2}$	$[Rn]5f^46d^17s^2$	$[Rn]5f^{6}7s^{2}$	$[Rn]5f^{7}7s^{2}$	$[Rn]5f^{7}6d^{1}7s^{2}$	$[Rn]5f^{9}7s^{2}$	$[Rn]5f^{10}7s^{2}$	$[Rn]5f^{11}7s^2$	$[Rn]5f^{12}7s^2$	$[Rn]5f^{13}7s^{2}$	$[Rn]5f^{14}7s^{2}$	$[Rn]5f^{14}7s^{2}7p^{1}$