hydrogen 1]																helium 2
H																	He
1.0079																	4.0026
lithium	beryllium]										boron	carbon	nitrogen	oxygen	fluorine	neon
3	4											5	6	7	8	9	10
Li	Be											B	C	N	0	F	Ne
6.941	9.0122											10.811	12.011	14.007	15.999	18.998	20.180
sodium 11	magnesium 12											aluminium 13	silicon 14	phosphorus 15	sulfur 16	chlorine 17	argon 18
												l _	1		Č	ا ت	
Na	Mg											Al	Si	P)		Ar
22.990	24.305											26.982	28.086	30.974	32.065	35.453	39.948
potassium 19	calcium 20	scandium 21	titanium 22	vanadium 23	chromium 24	manganese 25	iron 26	cobalt 27	nickel 28	copper 29	zinc 30	gallium 31	germanium 32	arsenic 33	selenium 34	bromine 35	krypton 36
1		_		\/			l <u> </u>		Ni		Zn	_	1	_	l	Br	Kr
K	Ca	Sc	l li	V	Cr	Mn	Fe	Co	171	Cu	l .	Ga	Ge	As	Se	וט	I I
39.098	40.078	44.956	47.867	50.942	51.996	54.938	55.845	58.933	58.693	63.546	65.38	69.723	72.64	74.922	78.96	79.904	83.798
39.098 rubidium	40.078 strontium	44.956 yttrium	47.867 zirconium	niobium	51.996 molybdenum	54.938 technetium	55.845 ruthenium	58.933 rhodium	58.693 palladium	63.546 silver	65.38 cadmium	69.723 indium	72.64 tin	74.922 antimony	78.96 tellurium	79.904 iodine	83.798 xenon
39.098 rubidium 37	40.078 strontium 38	44.956	47.867 zirconium 40	niobium 41	51.996 molybdenum 42	54.938 technetium 43	55.845 ruthenium 44	58.933 rhodium 45	58.693 palladium 46	63.546 silver 47	65.38 cadmium 48	69.723 indium 49	72.64 tin 50	74.922 antimony 51	78.96 tellurium 52	79.904	83.798 xenon 54
39.098 rubidium 37 Rb	strontium 38 Sr	44.956 yttrium 39	47.867 zirconium 40 Zr	niobium 41 Nb	51.996 molybdenum 42 Mo	54.938 technetium 43 TC	ruthenium 44 Ru	58.933 rhodium 45 Rh	palladium 46	63.546 silver 47 Ag	65.38 cadmium 48 Cd	69.723 indium 49	72.64 tin 50 Sn	antimony 51 Sb	78.96 tellurium 52 Te	79.904 iodine 53	83.798 xenon 54 Xe
39.098 rubidium 37 Rb 85.468	40.078 strontium 38 Sr 87.62	44.956 yttrium 39	47.867 zirconium 40 Zr 91.224	niobium 41 Nb 92.906	51.996 molybdenum 42 Mo 95.96	54.938 technetium 43 TC [98]	ruthenium 44 Ru 101.07	58.933 rhodium 45 Rh 102.91	58.693 palladium 46 Pd 106.42	63.546 silver 47 Ag 107.87	65.38 cadmium 48 Cd 112.41	69.723 indium 49 In 114.82	72.64 tin 50 Sn 118.71	74.922 antimony 51 Sb 121.76	78.96 tellurium 52 Te 127.60	79.904 iodine 53 126.90	83.798 xenon 54 Xe 131.29
39.098 rubidium 37 Rb 85.468 caesium	strontium 38 Sr	44.956 yttrium 39	47.867 zirconium 40 Zr	niobium 41 Nb	51.996 molybdenum 42 Mo	54.938 technetium 43 TC	ruthenium 44 Ru	58.933 rhodium 45 Rh	palladium 46	63.546 silver 47 Ag	65.38 cadmium 48 Cd	69.723 indium 49	72.64 tin 50 Sn	antimony 51 Sb	78.96 tellurium 52 Te	79.904 iodine 53	83.798 xenon 54 Xe 131.29 radon
39.098 rubidium 37 Rb 85.468 caesium 55	strontium 38 Sr 87.62 barium 56	44.956 yttrium 39	47.867 zirconium 40 Zr 91.224 hafnium 72	niobium 41 Nb 92.906 tantalum 73	51.996 molybdenum 42 MO 95.96 tungsten 74	54.938 technetium 43 TC [98] rhenium 75	ruthenium 44 Ru 101.07 osmium 76	rhodium 45 Rh 102.91 iridium 77	58.693 palladium 46 Pd 106.42 platinum 78	63.546 silver 47 Ag 107.87 gold 79	65.38 cadmium 48 Cd 112.41 mercury 80	69.723 indium 49 In 114.82 thallium	72.64 tin 50 Sn 118.71 lead 82	74.922 antimony 51 Sb 121.76 bismuth 83	78.96 tellurium 52 Te 127.60 polonium 84	79.904 iodine 53 l 126.90 astatine 85	83.798 xenon 54 Xe 131.29 radon 86
39.098 rubidium 37 Rb 85.468 caesium 55 CS	strontium 38 Sr 87.62 barium 56 Ba	44.956 yttrium 39	47.867 zirconium 40 Zr 91.224 hafnium 72 Hf	niobium 41 Nb 92.906 tantalum 73 Ta	51.996 molybdenum 42 Mo 95.96 tungsten 74 W	technetium 43 TC [98] rhenium 75 Re	ruthenium 44 Ru 101.07 osmium 76 Os	ss.933 rhodium 45 Rh 102.91 iridium 77 Ir	palladium 46 Pd 106.42 platinum 78 Pt	63.546 silver 47 Ag 107.87 gold 79 Au	cadmium 48 Cd 112.41 mercury 80 Hg	69,723 indium 49 In 114.82 thallium 81	72.64 tin 50 Sn 118.71 lead 82 Pb	74.922 antimony 51 Sb 121.76 bismuth 83 Bi	78.96 tellurium 52 Te 127.60 polonium 84 Po	79.904 iodine 53	83.798 xenon 54 Xe 131.29 radon 86 Rn
39.098 rubidium 37 Rb 85.468 caesium 55 Cs 132.91	40.078 strontium 38 Sr 87.62 barium 56 Ba 137.33	44.956 yttrium 39	47.867 zirconium 40 Zr 91.224 hafnium 72 Hf 178.49	niobium 41 Nb 92.906 tantalum 73 Ta 180.95	51.996 molybdenum 42 Mo 95.96 tungsten 74 W 183.84	technetium 43 TC [98] rhenium 75 Re 186.21	ruthenium 44 Ru 101.07 osmium 76 Os 190.23	58.933 rhodium 45 Rh 102.91 iridium 77 Ir 192.22	palladium 46 Pd 106.42 platinum 78 Pt 195.08	63.546 silver 47 Ag 107.87 gold 79 Au 196.97	65.38 cadmium 48 Cd 112.41 mercury 80	69.723 indium 49 In 114.82 thallium	72.64 tin 50 Sn 118.71 lead 82	74.922 antimony 51 Sb 121.76 bismuth 83	78.96 tellurium 52 Te 127.60 polonium 84	79.904 iodine 53 l 126.90 astatine 85	83.798 xenon 54 Xe 131.29 radon 86
39.098 rubidium 37 Rb 85.468 caesium 55 CS	strontium 38 Sr 87.62 barium 56 Ba	44.956 yttrium 39	47.867 zirconium 40 Zr 91.224 hafnium 72 Hf	niobium 41 Nb 92.906 tantalum 73 Ta	51.996 molybdenum 42 Mo 95.96 tungsten 74 W	technetium 43 TC [98] rhenium 75 Re	ruthenium 44 Ru 101.07 osmium 76 Os	ss.933 rhodium 45 Rh 102.91 iridium 77 Ir	palladium 46 Pd 106.42 platinum 78 Pt	63.546 silver 47 Ag 107.87 gold 79 Au	cadmium 48 Cd 112.41 mercury 80 Hg	69,723 indium 49 In 114.82 thallium 81	72.64 tin 50 Sn 118.71 lead 82 Pb	74.922 antimony 51 Sb 121.76 bismuth 83 Bi	78.96 tellurium 52 Te 127.60 polonium 84 Po	79.904 iodine 53	83.798 xenon 54 Xe 131.29 radon 86 Rn
39.098 rubidium 37 Rb 85.468 caesium 55 CS 132.91 francium 87	40.078 strontium 38 Sr 87.62 barium 56 Ba 137.33 radium 88	44.956 yttrium 39	47.867 zirconium 40 Zr 91.224 hafnium 72 Hf 178.49 rutherfordium 104	niobium 41 Nb 92.906 tantalum 73 Ta 180.95 dubnium 105	51.996 molybdenum 42 MO 95.96 tungsten 74 W 183.84 seaborgium 106	technetium 43 TC [98] rhenium 75 Re 186.21 bohrium 107	ruthenium 44 Ru 101.07 osmium 76 OS 190.23 hassium 108	ss.933 rhodium 45 Rh 102.91 iridium 77 Ir 192.22 meitnerium 109	palladium 46 Pd 106.42 platinum 78 Pt 195.08 darmstadtium	63.546 silver 47 Ag 107.87 gold 79 Au 196.97 roentgenium 111	cadmium 48 Cd 112.41 mercury 80 Hg	69,723 indium 49 In 114.82 thallium 81	72.64 tin 50 Sn 118.71 lead 82 Pb	74.922 antimony 51 Sb 121.76 bismuth 83 Bi	78.96 tellurium 52 Te 127.60 polonium 84 Po	79.904 iodine 53	83.798 xenon 54 Xe 131.29 radon 86 Rn
39.098 rubidium 37 Rb 85.468 caesium 55 CS 132.91 francium	40.078 strontium 38 Sr 87.62 barium 56 Ba 137.33 radium	44.956 yttrium 39	47.867 zirconium 40 Zr 91.224 hafnium 72 Hf 178.49 rutherfordium	niobium 41 Nb 92.906 tantalum 73 Ta 180.95 dubnium	51.996 molybdenum 42 MO 95.96 tungsten 74 W 183.84 seaborgium	54.938 technetium 43 TC [98] rhenium 75 Re 186.21 bohrium	ruthenium 44 Ru 101.07 osmium 76 Os 190.23 hassium	58.933 rhodium 45 Rh 102.91 iridium 77 Ir 192.22 meitnerium	palladium 46 Pd 106.42 platinum 78 Pt 195.08 darmstadtium	63.546 silver 47 Ag 107.87 gold 79 Au 196.97 roentgenium	cadmium 48 Cd 112.41 mercury 80 Hg	69,723 indium 49 In 114.82 thallium 81	72.64 tin 50 Sn 118.71 lead 82 Pb	74.922 antimony 51 Sb 121.76 bismuth 83 Bi	78.96 tellurium 52 Te 127.60 polonium 84 Po	79.904 iodine 53	83.798 xenon 54 Xe 131.29 radon 86 Rn

Γ	lanthanum	cerium	praseodymium	,	promethium	samarium	europium	gadolinium	terbium	dysprosium	holmium	erbium	thulium	ytterbium	lutetium
	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71
	La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Но	Er	Tm	Yb	Lu
	138.91	140.12	140.91	144.24	[145]	150.36	151.96	157.25	158.93	162.50	164.93	167.26	168.93	173.05	174.97
Γ	actinium	thorium	protactinium	uranium	neptunium	plutonium	americium	curium	berkelium	californium	einsteinium	fermium	mendelevium	nobelium	lawrencium
	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103
	Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr
L	[227]	232.04	231.04	238.03	[237]	[244]	[243]	[247]	[247]	[251]	[252]	[257]	[258]	[259]	[262]