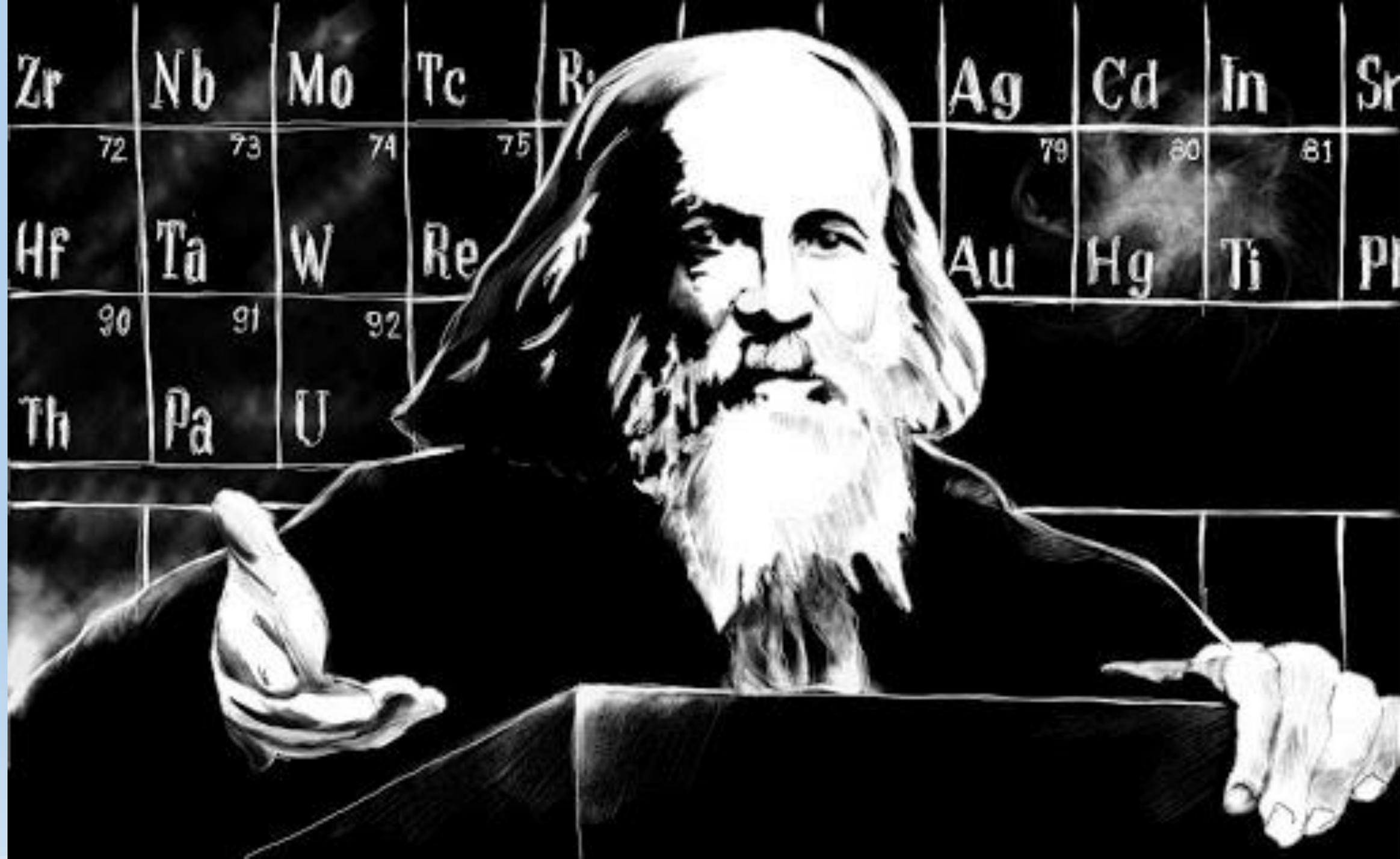


Реферат

«Периодическая система химических элементов Д.
И.Менделеева»

Выполнил: Мартынов Максим, 8В
Проверил: Погорелова Наталья

г. Новокузнецк, 2020 г



Группы Периоды	I	II	III	IV	V	VI	VII	VIII	VIII			
1	H 1,0079 1s							He 4,0026 1s ²				
2	Li 6,94 2s ¹	Be 9,012 2s ²	B 10,811 2s ² 2p ¹	C 12,011 2s ² 2p ²	N 14,0067 2s ² 2p ³	O 15,999 2s ² 2p ⁴	F 18,998 2s ² 2p ⁵	Ne 20,179 2s ² 2p ⁶				
3	Na 22,989 3s ¹	Mg 24,305 3s ²	Al 26,981 3s ² 3p ¹	Si 28,086 3s ² 3p ²	P 30,973 3s ² 3p ³	S 32,06 3s ² 3p ⁴	Cl 35,453 3s ² 3p ⁵	Ar 39,948 3s ² 3p ⁶				
4	K 39,098 4s ¹	Ca 40,08 4s ²	21 Sc 44,956 3d ¹ 4s ²	22 Ti 47,90 3d ² 4s ²	23 V 50,942 3d ³ 4s ²	24 Cr 51,996 3d ⁵ 4s ¹	25 Mn 54,938 3d ⁵ 4s ²	26 Fe 55,847 3d ⁶ 4s ²			27 Co 58,933 3d ⁷ 4s ²	28 Ni 58,70 3d ⁸ 4s ²
	29 Cu 63,546 3d ¹⁰ 4s ¹	30 Zn 65,38 3d ¹⁰ 4s ²	31 Ga 69,72 4s ² 4p ¹	32 Ge 72,59 4s ² 4p ²	33 As 74,921 4s ² 4p ³	34 Se 78,96 4s ² 4p ⁴	35 Br 79,904 4s ² 4p ⁵	36 Kr 83,80 4s ² 4p ⁶				
5	Rb 85,47 5s ¹	Sr 87,62 5s ²	39 Y 88,906 4d ¹ 5s ²	40 Zr 91,22 4d ² 5s ²	41 Nb 92,906 4d ⁴ 5s ¹	42 Mo 95,94 4d ⁵ 5s ¹	43 Tc 98,91 4d ⁵ 5s ²	44 Ru 101,07 4d ⁷ 5s ¹			45 Rh 102,905 4d ⁸ 5s ¹	46 Pd 106,4 4d ¹⁰
	47 Ag 107,868 4d ¹⁰ 5s ¹	48 Cd 112,41 4d ¹⁰ 5s ²	49 In 114,82 5s ² 5p ¹	50 Sn 118,70 5s ² 5p ²	51 Sb 121,75 5s ² 5p ³	52 Te 127,60 5s ² 5p ⁴	53 I 126,904 5s ² 5p ⁵	54 Xe 131,30 5s ² 5p ⁶				
6	Cs 132,905 6s ¹	Ba 137,33 6s ²	57 La 138,91 5d ¹ 6s ²	72 Hf 178,49 5d ² 6s ²	73 Ta 180,948 5d ³ 6s ²	74 W 183,85 5d ⁴ 6s ²	75 Re 186,21 5d ⁵ 6s ²	76 Os 190,2 5d ⁶ 6s ²			77 Ir 192,2 5d ⁷ 6s ²	78 Pt 195,08 5d ⁹ 6s ¹
	79 Au 196,967 5d ¹⁰ 6s ¹	80 Hg 200,59 5d ¹⁰ 6s ²	81 Tl 204,37 6s ² 6p ¹	82 Pb 207,9 6s ² 6p ²	83 Bi 208,98 6s ² 6p ³	84 Po [209] 6s ² 6p ⁴	85 At [210] 6s ² 6p ⁵	86 Rn [222] 6s ² 6p ⁶				
7	Fr [223] 7s ¹	88 Ra 226,025 7s ²	89 Ac [227] 6d ¹ 7s ²	104 Ku [268] 6d ¹⁰ 7s ²	105 Ns [269] 6d ¹⁰ 7s ²	106 6d ¹⁰ 7s ²	107 6d ¹⁰ 7s ²					

Периоды

58 Ce 140,12 4f ¹ 5d ¹ 6s ²	59 Pr 140,90 4f ³ 6s ²	60 Nd 144,24 4f ⁴ 6s ²	61 Pm [145] 4f ⁵ 6s ²	62 Sm 150,4 4f ⁶ 6s ²	63 Eu 151,96 4f ⁷ 6s ²	64 Gd 157,25 4f ⁷ 5d ¹ 6s ²	65 Tb 158,925 4f ⁹ 6s ²	66 Dy 162,50 4f ¹⁰ 6s ²	67 Ho 164,93 4f ¹¹ 6s ²	68 Er 167,26 4f ¹² 6s ²	69 Tm 168,9 4f ¹³ 6s ²	70 Yb 173,04 4f ¹⁴ 6s ²	71 Lu 174,97 4f ¹⁴ 5d ¹ 6s ²
---	---	---	--	--	---	---	--	--	--	--	---	--	--

Периоды

90 Th 232,038 6d ² 7s ²	91 Pa [231] 5f ² 6d ¹ 7s ²	92 U 238,03 5f ³ 6d ¹ 7s ²	93 Np [237] 5f ⁴ 6d ¹ 7s ²	94 Pu [244] 5f ⁶ 7s ²	95 Am [243] 5f ⁷ 7s ²	96 Cm [247] 5f ⁷ 6d ¹ 7s ²	97 Bk [247] 5f ⁹ 6d ¹ 7s ²	98 Cf [251] 5f ¹⁰ 6d ¹ 7s ²	99 Es [254] 5f ¹¹ 7s ²	100 Fm [257] 5f ¹² 7s ²	101 Md [258] 5f ¹³ 7s ²	102 [259] 5f ¹⁴ 7s ²	103 Lr [260] 5f ¹⁴ 6d ¹ 7s ²
--	--	--	--	--	--	--	--	---	---	--	--	---	--

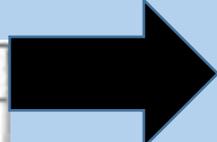


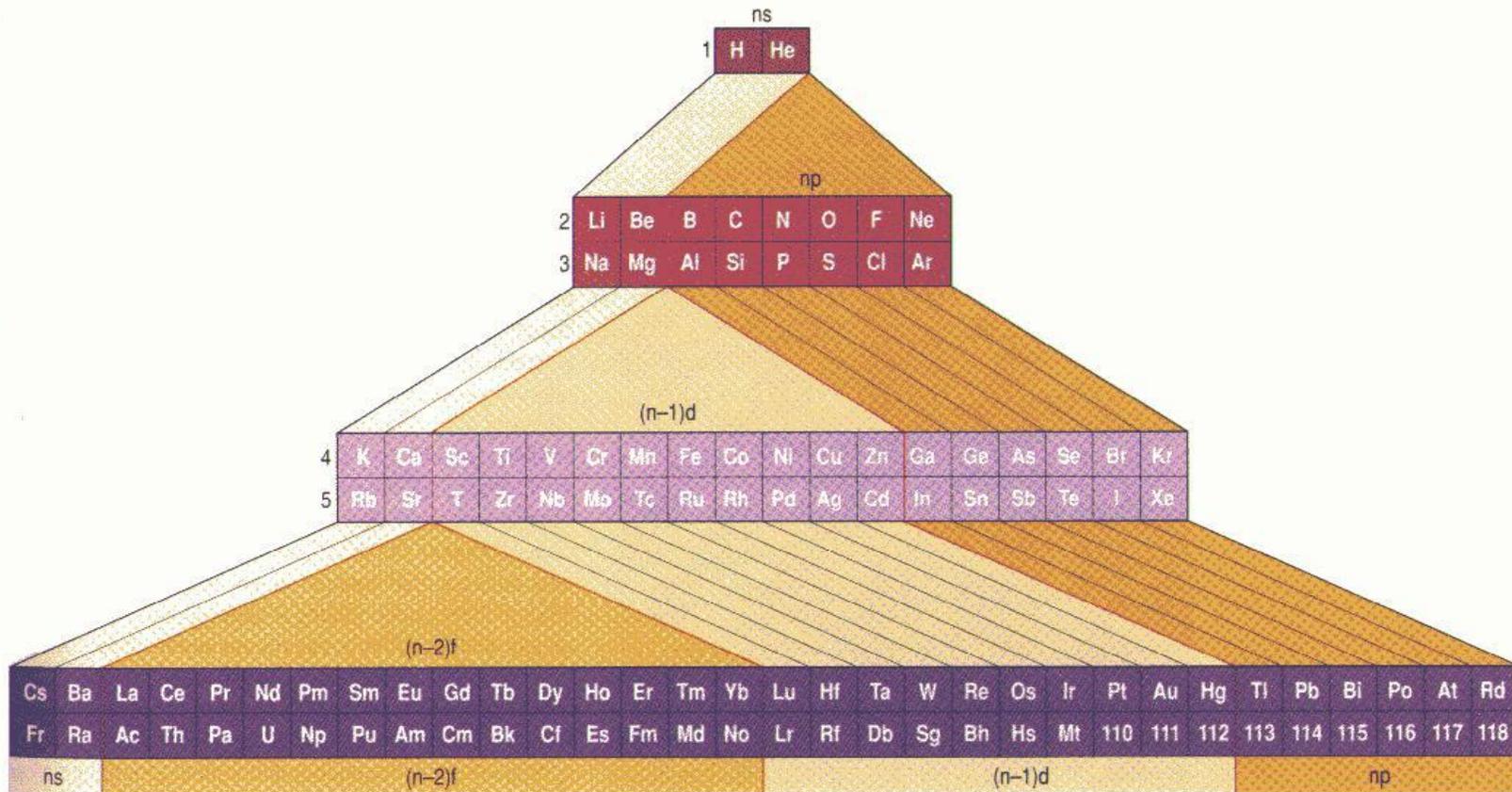
Таблица Мейера 1864 г. (фрагмент)

	4-wertig	3-wertig	2-wertig	1-wertig	1-wertig	2-wertig
	–	–	–	–	Li = 7.03	(Be = 9.3 [?])
<i>Differenz =</i>	–	–	–	–	16.02	(14.7)
	C = 12.0	N = 14.04	O = 16.00	F = 19.00	Na = 23.05	Mg = 24.0
<i>Differenz =</i>	16.5	16.95	16.07	16.46	16.08	16.0
	Si = 28.5	P = 31.0	S = 32.07	Cl = 35.46	K = 39.13	Ca = 40.0
<i>Differenz =</i>	89.1:2 = 44.55	44.0	46.7	44.51	46.3	47.6
	–	As = 75.0	Se = 78.8	Br = 79.97	Rb = 85.4	Sr = 87.6
<i>Differenz =</i>	44.55	45.6	49.5	46.8	47.6	49.5
	Sn = 117.6	Sb = 120.6	Te = 128.3	J = 126.8	Cs = 133	Ba = 137.1
<i>Differenz =</i>	89.4 = 2·44.7	87.4 = 2·43.7	–	–	(71 = 2·35.5)	–
	Pb = 207.0	Bi = 208.0	–	–	(Tl = 204 [?])	–

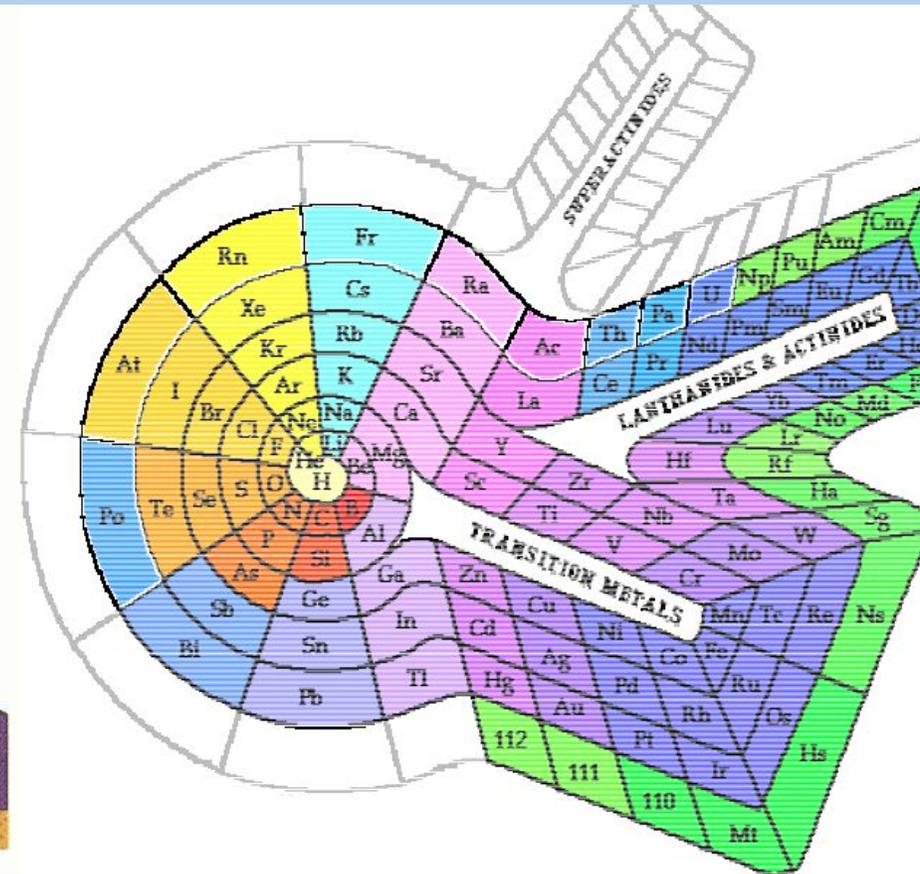
Современный «полудлинный» вариант системы элементов

Group	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
Period																			
1	1 H																		2 He
2	3 Li	4 Be											5 B	6 C	7 N	8 O	9 F	10 Ne	
3	11 Na	12 Mg											13 Al	14 Si	15 P	16 S	17 Cl	18 Ar	
4	19 K	20 Ca	21 Sc	22 Ti	23 V	24 Cr	25 Mn	26 Fe	27 Co	28 Ni	29 Cu	30 Zn	31 Ga	32 Ge	33 As	34 Se	35 Br	36 Kr	
5	37 Rb	38 Sr	39 Y	40 Zr	41 Nb	42 Mo	43 Tc	44 Ru	45 Rh	46 Pd	47 Ag	48 Cd	49 In	50 Sn	51 Sb	52 Te	53 I	54 Xe	
6	55 Cs	56 Ba	* 71 Lu	72 Hf	73 Ta	74 W	75 Re	76 Os	77 Ir	78 Pt	79 Au	80 Hg	81 Tl	82 Pb	83 Bi	84 Po	85 At	86 Rn	
7	87 Fr	88 Ra	** 103 Lr	104 Rf	105 Db	106 Sg	107 Bh	108 Hs	109 Mt	110 Ds	111 Uuu	112 Uub	113 Uut	114 Uuq	115 Uup	116 Uuh	117 Uus	118 Uuo	
*Lanthanoids			* 57 La	58 Ce	59 Pr	60 Nd	61 Pm	62 Sm	63 Eu	64 Gd	65 Tb	66 Dy	67 Ho	68 Er	69 Tm	70 Yb			
**Actinoids			** 89 Ac	90 Th	91 Pa	92 U	93 Np	94 Pu	95 Am	96 Cm	97 Bk	98 Cf	99 Es	100 Fm	101 Md	102 No			

Варианты графического изображения периодической системы



Ю. Томсен (1895)



Теодор Бенфи.