

Periodensystem der Elemente

Hauptgruppen		Atommasse in u Ordnungszahl Atomsymbol Elektronegativität nach Pauling Name des Elements Elektronenkonfiguration										Hauptgruppen							
Ia		Nebengruppen										VIII A							
Ia		IIa		III B	IV B	V B	VI B	VII B	VIII B	VIII B	VIII B	I B	II B	III A	IV A	V A	VIA	VII A	VIII A
K	1,01 1 H _{2,2} Wasserstoff 1s ¹																		
L	6,94 3 Li _{1,0} Lithium [He]2s ¹	9,01 4 Be _{1,6} Beryllium [He]2s ²																	
M	22,99 11 Na _{0,9} Natrium [Ne]3s ¹	24,31 12 Mg _{1,2} Magnesium [Ne]3s ²																	
N	39,10 19 K _{0,8} Kalium [Ar]4s ¹	40,08 20 Ca _{1,0} Calcium [Ar]4s ²	44,96 21 Sc _{1,4} Scandium [Ar]3d ¹ 4s ²	47,87 22 Ti _{1,5} Titan [Ar]3d ² 4s ²	50,94 23 V _{1,6} Vanadium [Ar]3d ³ 4s ²	52,00 24 Cr _{1,7} Chrom [Ar]3d ⁵ 4s ¹	54,94 25 Mn _{1,5} Mangan [Ar]3d ⁵ 4s ²	55,85 26 Fe _{1,8} Eisen [Ar]3d ⁶ 4s ²	58,93 27 Co _{1,9} Cobalt [Ar]3d ⁷ 4s ²	58,69 28 Ni _{1,9} Nickel [Ar]3d ⁸ 4s ²	63,55 29 Cu _{1,9} Kupfer [Ar]3d ⁹ 4s ¹	65,39 30 Zn _{1,6} Zink [Ar]3d ¹⁰ 4s ²	69,72 31 Ga _{1,8} Gallium [Ar]3d ¹⁰ 4s ² 4p ¹	72,64 32 Ge _{2,0} Germanium [Ar]3d ¹⁰ 4s ² 4p ²	74,92 33 As _{2,2} Arsen [Ar]3d ¹⁰ 4s ² 4p ³	78,96 34 Se _{2,5} Selen [Ar]3d ¹⁰ 4s ² 4p ⁴	79,90 35 Br _{3,0} Brom [Ar]3d ¹⁰ 4s ² 4p ⁵	83,80 36 Kr Krypton [Ar]3d ¹⁰ 4s ² 4p ⁶	
O	85,47 37 Rb _{0,8} Rubidium [Kr]5s ¹	87,62 38 Sr _{1,0} Strontium [Kr]5s ²	88,91 39 Y _{1,2} Yttrium [Kr]4d ¹ 5s ²	91,22 40 Zr _{1,3} Zirkon [Kr]4d ² 5s ²	92,91 41 Nb _{1,6} Niob [Kr]4d ⁴ 5s ¹	95,94 42 Mo _{2,2} Molybdän [Kr]4d ⁵ 5s ¹	98,91 43 Tc _{1,9} Technetium [Kr]4d ⁵ 5s ¹	101,07 44 Ru _{2,2} Ruthenium [Kr]4d ⁶ 5s ¹	102,91 45 Rh _{2,3} Rhodium [Kr]4d ⁷ 5s ¹	106,42 46 Pd _{2,2} Palladium [Kr]4d ¹⁰	107,87 47 Ag _{1,9} Silber [Kr]4d ¹⁰ 5s ¹	112,41 48 Cd _{1,7} Cadmium [Kr]4d ¹⁰ 5s ²	114,82 49 In _{1,8} Indium [Xe]5d ¹⁰ 5s ² 5p ¹	118,71 50 Sn _{1,8} Zinn [Xe]5d ¹⁰ 5s ² 5p ²	121,76 51 Sb _{2,0} Antimon [Xe]5d ¹⁰ 5s ² 5p ³	127,60 52 Te _{2,1} Tellur [Xe]5d ¹⁰ 5s ² 5p ⁴	126,90 53 I _{2,7} Iod [Xe]5d ¹⁰ 5s ² 5p ⁵	131,29 54 Xe Xenon [Xe]5d ¹⁰ 5s ² 5p ⁶	
P	132,91 55 Cs _{0,8} Cäsium [Xe]6s ¹	137,33 56 Ba _{0,9} Barium [Xe]6s ²	138,91 57 La _{1,1} Lanthan	178,49 72 Hf _{1,3} Hafnium [Xe]4f ¹⁴ 5d ² 6s ²	180,95 73 Ta _{1,5} Tantal [Xe]4f ¹⁴ 5d ³ 6s ²	183,85 74 W _{2,4} Wolfram [Xe]4f ¹⁴ 5d ⁴ 6s ²	186,21 75 Re _{1,9} Rhenium [Xe]4f ¹⁴ 5d ⁵ 6s ²	190,23 76 Os _{2,2} Osmium [Xe]4f ¹⁴ 5d ⁶ 6s ²	192,22 77 Ir _{2,2} Iridium [Xe]4f ¹⁴ 5d ⁷ 6s ²	195,08 78 Pt _{2,3} Platin [Xe]4f ¹⁴ 5d ⁹ 6s ¹	196,97 79 Au _{2,5} Gold [Xe]4f ¹⁴ 5d ¹⁰ 6s ¹	200,59 80 Hg _{2,0} Quecksilber [Xe]4f ¹⁴ 5d ¹⁰ 6s ²	204,38 81 Tl _{2,0} Thallium [Xe]4f ¹⁴ 5d ¹⁰ 6s ² 6p ¹	207,2 82 Pb _{1,9} Blei [Xe]4f ¹⁴ 5d ¹⁰ 6s ² 6p ²	208,98 83 Bi _{2,0} Bismut [Xe]4f ¹⁴ 5d ¹⁰ 6s ² 6p ³	208,98 84 Po _{2,0} Polonium [Xe]4f ¹⁴ 5d ¹⁰ 6s ² 6p ⁴	209,99 85 At _{2,2} Astat [Xe]4f ¹⁴ 5d ¹⁰ 6s ² 6p ⁵	222,02 86 Rn _{0,9} Radon [Xe]4f ¹⁴ 5d ¹⁰ 6s ² 6p ⁶	
Q	223,02 87 Fr _{0,7} Francium [Rn]7s ¹	226,03 88 Ra _{0,9} Radium [Rn]7s ²	227,03 89 Ac _{1,1} Actinium	261,11 104 Rf Rutherfordium [Rn]5f ¹⁴ 6d ² 7s ²	262,11 105 Db Dubnium [Rn]5f ¹⁴ 6d ³ 7s ²	263,12 106 Sg Seaborgium [Rn]5f ¹⁴ 6d ⁴ 7s ²	262,12 107 Bh Bohrium [Rn]5f ¹⁴ 6d ⁵ 7s ²	265,13 108 Hs Hassium [Rn]5f ¹⁴ 6d ⁶ 7s ²	266,14 109 Mt Meitnerium [Rn]5f ¹⁴ 6d ⁷ 7s ²	281 110 Ds Darmstadtium [Rn]5f ¹⁴ 6d ⁹ 7s ¹	280 111 Rg Roentgenium [Rn]5f ¹⁴ 6d ¹⁰ 7s ¹	277 112 Cn Copernicium [Rn]5f ¹⁴ 6d ¹⁰ 7s ²							

Lanthanoid	140,12 58 Ce _{1,1} Cer [Xe]4f ¹ 6s ²	140,91 59 Pr _{1,1} Praseodym [Xe]4f ² 6s ²	144,24 60 Nd _{1,1} Neodym [Xe]4f ⁴ 6s ²	146,92 61 Pm _{1,1} Promethium [Xe]4f ⁶ 6s ²	150,36 62 Sm _{1,2} Samarium [Xe]4f ⁶ 6s ²	151,96 63 Eu _{1,2} Europium [Xe]4f ⁷ 6s ²	157,25 64 Gd _{1,3} Gadolinium [Xe]4f ⁷ 5d ¹ 6s ²	158,93 65 Tb _{1,2} Terbium [Xe]4f ⁹ 6s ²	162,50 66 Dy _{1,2} Dysprosium [Xe]4f ¹⁰ 6s ²	164,93 67 Ho _{1,2} Holmium [Xe]4f ¹¹ 6s ²	167,26 68 Er _{1,2} Erbium [Xe]4f ¹² 6s ²	168,93 69 Tm _{1,3} Thulium [Xe]4f ¹³ 6s ²	173,04 70 Yb _{1,1} Ytterbium [Xe]4f ¹⁴ 6s ²	174,97 71 Lu _{1,3} Lutetium [Xe]4f ¹⁴ 5d ¹ 6s ²
Actinoide	232,03 90 Th _{1,1} Thorium [Rn]6d ² 7s ²	231,04 91 Pa _{1,5} Protactinium [Rn]5f ² 6d ¹ 7s ²	238,03 92 U _{1,4} Uran [Rn]5f ³ 6d ¹ 7s ²	237,05 93 Np _{1,4} Neptunium [Rn]5f ⁴ 6d ¹ 7s ²	244,06 94 Pu _{1,3} Plutonium [Rn]5f ⁶ 7s ²	243,06 95 Am _{1,3} Americium [Rn]5f ⁷ 7s ²	247,07 96 Cm _{1,3} Curium [Rn]5f ⁷ 6d ¹ 7s ²	247,07 97 Bk _{1,3} Berkelium [Rn]5f ⁹ 7s ²	251,08 98 Cf _{1,3} Californium [Rn]5f ¹⁰ 7s ²	252,08 99 Es _{1,3} Einsteinium [Rn]5f ¹¹ 7s ²	257,10 100 Fm _{1,3} Fermium [Rn]5f ¹² 7s ²	258,10 101 Md _{1,3} Mendelevium [Rn]5f ¹³ 7s ²	259,10 102 No _{1,3} Nobelium [Rn]5f ¹⁴ 7s ²	262,11 103 Lr Lawrencium [Rn]5f ¹⁴ 6d ¹ 7s ²

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Hauptgruppen		Atommasse in u Ordnungszahl Atomsymbol Elektronegativität nach Pauling Name des Elements Elektronenkonfiguration										Hauptgruppen								
Ia		IIa		Nebengruppen										VIII A						
1a		IIa		III B IV B V B VI B VII B VIII B VIII B VIII B I B II B										III A IV A V A VI A VII A VIII A						
K	1,01 1 H _{2,2} Wasserstoff [He]2s ¹																			
L	6,94 3 Li _{1,0} Lithium [He]2s ¹	9,01 4 Be _{1,6} Beryllium [He]2s ²	Leichtmetall		Feststoff natürliches, nicht radioaktives Element										10,81 5 B _{2,0} Bor [He]2s ² 2p ¹	12,01 6 C _{2,5} Kohlenstoff [He]2s ² 2p ²	14,01 7 N _{3,0} Stickstoff [He]2s ² 2p ³	16,00 8 O _{3,4} Sauerstoff [He]2s ² 2p ⁴	19,00 9 F _{4,0} Fluor [He]2s ² 2p ⁵	20,18 10 Ne Helium 1s ²
M	22,99 11 Na _{0,9} Natrium [Ne]3s ¹	24,31 12 Mg _{1,3} Magnesium [Ne]3s ²	Schwermetall		Flüssigkeit										26,98 13 Al _{1,6} Aluminium [Ne]3s ² 3p ¹	28,09 14 Si _{1,9} Silicium [Ne]3s ² 3p ²	30,97 15 P _{2,2} Phosphor [Ne]3s ² 3p ³	32,07 16 S _{2,6} Schwefel [Ne]3s ² 3p ⁴	35,45 17 Cl _{3,2} Chlor [Ne]3s ² 3p ⁵	39,95 18 Ar Argon [Ne]3s ² 3p ⁶
N	39,10 19 K _{0,8} Kalium [Ar]4s ¹	40,08 20 Ca _{1,0} Calcium [Ar]4s ²	44,96 21 Sc _{1,4} Scandium [Ar]3d ¹ 4s ²	47,87 22 Ti _{1,5} Titan [Ar]3d ² 4s ²	50,94 23 V _{1,6} Vanadium [Ar]3d ³ 4s ²	52,00 24 Cr _{1,7} Chrom [Ar]3d ⁵ 4s ¹	54,94 25 Mn _{1,5} Mangan [Ar]3d ⁵ 4s ²	55,85 26 Fe _{1,8} Eisen [Ar]3d ⁶ 4s ²	58,93 27 Co _{1,9} Cobalt [Ar]3d ⁷ 4s ²	58,69 28 Ni _{1,9} Nickel [Ar]3d ⁸ 4s ²	63,55 29 Cu _{1,9} Kupfer [Ar]3d ⁹ 4s ¹	65,39 30 Zn _{1,6} Zink [Ar]3d ¹⁰ 4s ²	69,72 31 Ga _{1,8} Gallium [Ar]3d ¹⁰ 4s ² 4p ¹	72,64 32 Ge _{2,0} Germanium [Ar]3d ¹⁰ 4s ² 4p ²	74,92 33 As _{2,2} Arsen [Ar]3d ¹⁰ 4s ² 4p ³	78,96 34 Se _{2,5} Selen [Ar]3d ¹⁰ 4s ² 4p ⁴	79,90 35 Br _{3,0} Brom [Ar]3d ¹⁰ 4s ² 4p ⁵	83,80 36 Kr Krypton [Ar]3d ¹⁰ 4s ² 4p ⁶		
O	85,47 37 Rb _{0,8} Rubidium [Kr]5s ¹	87,62 38 Sr _{1,0} Strontium [Kr]5s ²	88,91 39 Y _{1,2} Yttrium [Kr]4d ¹ 5s ²	91,22 40 Zr _{1,3} Zirkon [Kr]4d ² 5s ²	92,91 41 Nb _{1,6} Niob [Kr]4d ⁴ 5s ¹	95,94 42 Mo _{2,2} Molybdän [Kr]4d ⁵ 5s ¹	98,91 43 Tc _{1,9} Technetium [Kr]4d ⁵ 5s ¹	101,07 44 Ru _{2,2} Ruthenium [Kr]4d ⁶ 5s ¹	102,91 45 Rh _{2,3} Rhodium [Kr]4d ⁷ 5s ¹	106,42 46 Pd _{2,2} Palladium [Kr]4d ¹⁰	107,87 47 Ag _{1,9} Silber [Kr]4d ¹⁰ 5s ¹	112,41 48 Cd _{1,7} Cadmium [Kr]4d ¹⁰ 5s ²	114,82 49 In _{1,8} Indium [Xe]5d ¹⁰ 5s ² 5p ¹	118,71 50 Sn _{1,8} Zinn [Xe]5d ¹⁰ 5s ² 5p ²	121,76 51 Sb _{2,2} Antimon [Xe]5d ¹⁰ 5s ² 5p ³	127,60 52 Te _{2,1} Tellur [Xe]5d ¹⁰ 5s ² 5p ⁴	126,90 53 I _{2,7} Iod [Xe]5d ¹⁰ 5s ² 5p ⁵	131,29 54 Xe Xenon [Xe]5d ¹⁰ 5s ² 5p ⁶		
P	132,91 55 Cs _{0,8} Cäsium [Xe]6s ¹	137,33 56 Ba _{0,9} Barium [Xe]6s ²	138,91 57 La _{1,1} Lanthan [Xe]5d ¹ 6s ²	178,49 72 Hf _{1,3} Hafnium [Xe]4f ¹⁴ 5d ² 6s ²	180,95 73 Ta _{1,5} Tantal [Xe]4f ¹⁴ 5d ³ 6s ²	183,85 74 W _{2,4} Wolfram [Xe]4f ¹⁴ 5d ⁴ 6s ²	186,21 75 Re _{1,9} Rhenium [Xe]4f ¹⁴ 5d ⁵ 6s ²	190,23 76 Os _{2,2} Osmium [Xe]4f ¹⁴ 5d ⁶ 6s ²	192,22 77 Ir _{2,2} Iridium [Xe]4f ¹⁴ 5d ⁷ 6s ²	195,08 78 Pt _{2,3} Platin [Xe]4f ¹⁴ 5d ⁹ 6s ¹	196,97 79 Au _{2,5} Gold [Xe]4f ¹⁴ 5d ¹⁰ 6s ¹	200,59 80 Hg _{2,0} Quecksilber [Xe]4f ¹⁴ 5d ¹⁰ 6s ²	204,38 81 Tl _{2,0} Thallium [Xe]4f ¹⁴ 5d ¹⁰ 6s ² 6p ¹	207,2 82 Pb _{1,9} Blei [Xe]4f ¹⁴ 5d ¹⁰ 6s ² 6p ²	208,98 83 Bi _{2,0} Bismut [Xe]4f ¹⁴ 5d ¹⁰ 6s ² 6p ³	208,98 84 Po _{2,0} Polonium [Xe]4f ¹⁴ 5d ¹⁰ 6s ² 6p ⁴	209,99 85 At _{2,2} Astat [Xe]4f ¹⁴ 5d ¹⁰ 6s ² 6p ⁵	222,02 86 Rn _{0,9} Radon [Xe]4f ¹⁴ 5d ¹⁰ 6s ² 6p ⁶		
Q	223,02 87 Fr _{0,7} Francium [Rn]7s ¹	226,03 88 Ra _{0,9} Radium [Rn]7s ²	227,03 89 Ac _{1,1} Actinium [Rn]5f ¹⁴ 6d ¹ 7s ²	261,11 104 Rf Rutherfordium [Rn]5f ¹⁴ 6d ² 7s ²	262,11 105 Ds Dubnium [Rn]5f ¹⁴ 6d ³ 7s ²	263,12 106 Sg Seaborgium [Rn]5f ¹⁴ 6d ⁴ 7s ²	262,12 107 Bh Bohrium [Rn]5f ¹⁴ 6d ⁵ 7s ²	265,13 108 Hs Hassium [Rn]5f ¹⁴ 6d ⁶ 7s ²	266,14 109 Mt Meitnerium [Rn]5f ¹⁴ 6d ⁷ 7s ²	281 110 Ds Darmstadtium [Rn]5f ¹⁴ 6d ⁹ 7s ¹	280 111 Rg Roentgenium [Rn]5f ¹⁴ 6d ¹⁰ 7s ¹	277 111 Cn Copernicium [Rn]5f ¹⁴ 6d ¹⁰ 7s ²								

Lanthanoid	140,12 58 Ce _{1,1} Cer [Xe]4f ¹ 6s ²	140,91 59 Pr _{1,1} Praseodym [Xe]4f ² 6s ²	144,24 60 Nd _{1,1} Neodym [Xe]4f ⁴ 6s ²	146,92 61 Pm _{1,1} Promethium [Xe]4f ⁶ 6s ²	150,36 62 Sm _{1,2} Samarium [Xe]4f ⁶ 6s ²	151,96 63 Eu _{1,2} Europium [Xe]4f ⁷ 6s ²	157,25 64 Gd _{1,3} Gadolinium [Xe]4f ⁷ 5d ¹ 6s ²	158,93 65 Tb _{1,2} Terbium [Xe]4f ⁹ 6s ²	162,50 66 Dy _{1,2} Dysprosium [Xe]4f ¹⁰ 6s ²	164,93 67 Ho _{1,2} Holmium [Xe]4f ¹¹ 6s ²	167,26 68 Er _{1,2} Erbium [Xe]4f ¹² 6s ²	168,93 69 Tm _{1,3} Thulium [Xe]4f ¹³ 6s ²	173,04 70 Yb _{1,1} Ytterbium [Xe]4f ¹⁴ 6s ²	174,97 71 Lu _{1,3} Lutetium [Xe]4f ¹⁴ 5d ¹ 6s ²
Actinoide	232,03 90 Th _{1,1} Thorium [Rn]6d ² 7s ²	231,04 91 Pa _{1,5} Protactinium [Rn]5f ² 6d ¹ 7s ²	238,03 92 U _{1,4} Uran [Rn]5f ³ 6d ¹ 7s ²	237,05 93 Np _{1,3} Neptunium [Rn]5f ⁴ 6d ¹ 7s ²	244,06 94 Pu _{1,4} Plutonium [Rn]5f ⁶ 7s ²	243,06 95 Am _{1,3} Americium [Rn]5f ⁷ 7s ²	247,07 96 Cm _{1,3} Curium [Rn]5f ⁷ 6d ¹ 7s ²	247,07 97 Bk _{1,3} Berkelium [Rn]5f ⁹ 7s ²	251,08 98 Cf _{1,3} Californium [Rn]5f ¹⁰ 7s ²	252,08 99 Es _{1,3} Einsteinium [Rn]5f ¹¹ 7s ²	257,10 100 Fm _{1,3} Fermium [Rn]5f ¹² 7s ²	258,10 101 Md _{1,3} Mendelevium [Rn]5f ¹³ 7s ²	259,10 102 No _{1,3} Nobelium [Rn]5f ¹⁴ 7s ²	262,11 103 Lr Lawrencium [Rn]5f ¹⁴ 6d ¹ 7s ²