

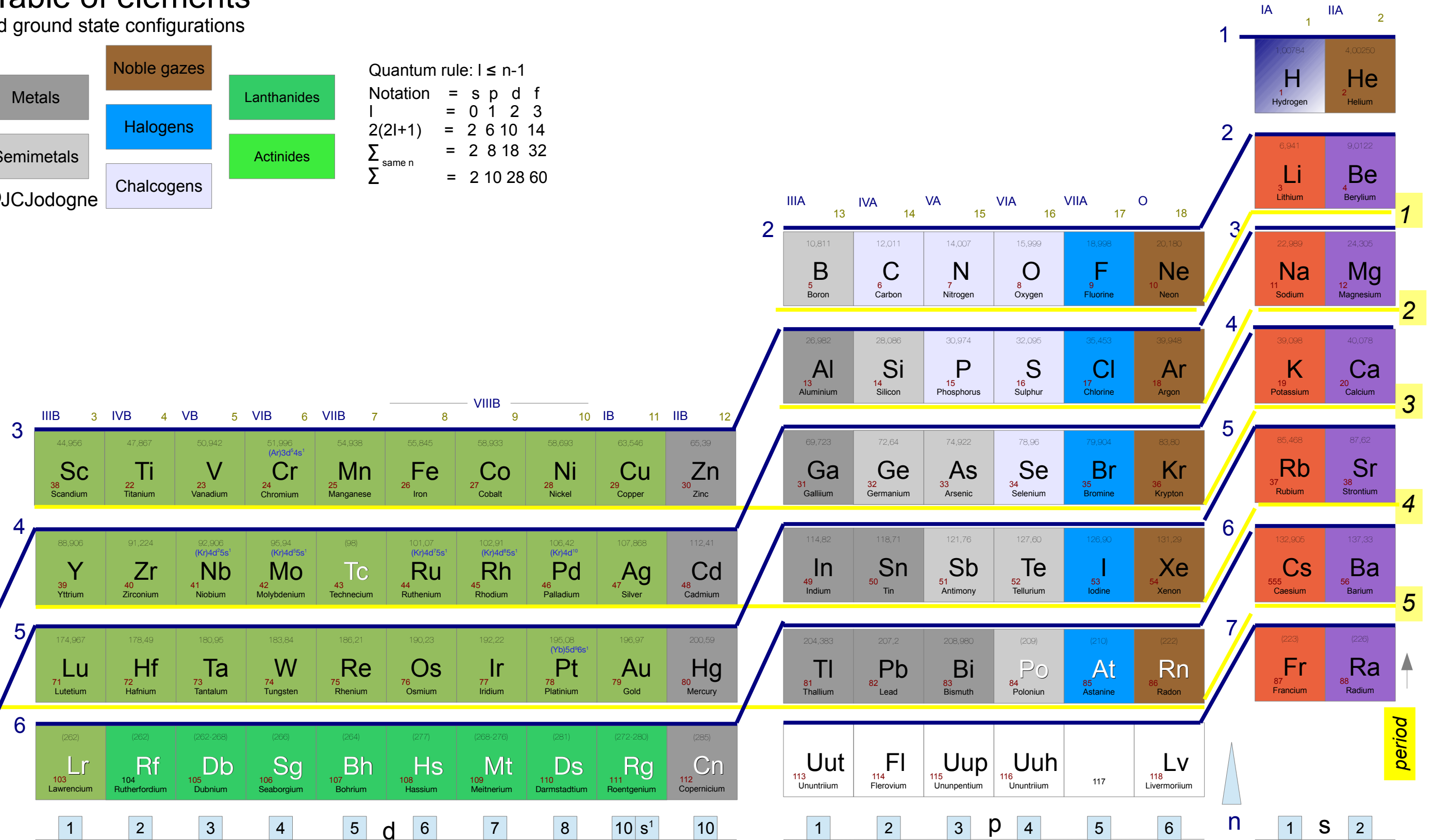
Periodic Table of elements

With orbitals and ground state configurations

Alkaline metals	Metals	Noble gases	Lanthanides
Alkaline earth metals	Semimetals	Halogens	Actinides
Transition metals	©JCJodogne	Chalcogens	

Quantum rule: $l \leq n-1$
 Notation = s p d f
 $l = 0 \ 1 \ 2 \ 3$
 $2(2l+1) = 2 \ 6 \ 10 \ 14$
 $\sum_{\text{same } n} = 2 \ 8 \ 18 \ 32$
 $\sum = 2 \ 10 \ 28 \ 60$

Mean Atomic Mass
 Symbol
 Z
 Name



Lanthanides:

138,905 (Ba)5d ¹	140,12 (Ba)4f ^{5d}	140,908	144,24	(145)	150,35	151,96	157,25 (Ba)4f ^{5d}	158,925	162,50	164,934	167,26	168,934	173,04
La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb
Lanthanum	Cerium	Praseodymium	Neodymium	Promethium	Samarium	Europium	Gadolinium	Terbium	Dysprosium	Holmium	Erbium	Thulium	Ytterbium

Actinides:

(227) (Ra)6d ¹	232,038 (Ra)6d ²	231,036 (Ra)5f ^{6d}	238,029 (Ra)5f ^{6d}	237,048 (Ra)5f ^{6d}	(244)	(243)	(247) (Ra)5f ^{6d}	(247)	(251)	(254)	(257)	(258)	(252-254)
Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No
Actinium	Thorium	Protactinium	Uranium	Neptunium	Plutonium	Americium	Curium	Berkelium	Californium	Einsteinium	Fermium	Mendelevium	Nobelium