

Showing $n+1$ filling order left to right

Showing n+l filling order left to right

The diagram illustrates the filling order of atomic orbitals based on the principal quantum number n and the azimuthal quantum number l (where $n+l$ is constant). The orbitals are arranged in a grid, with rows representing n and columns representing l . The filling order is shown by arrows pointing from left to right across the grid, indicating the sequence of orbitals filled. The orbitals are color-coded: pink for s -block ($l=0$), light blue for f -block ($l=3$), light orange for d -block ($l=2$), and light purple for p -block ($l=1$). Brackets indicate the filling order for each $n+l$ value, showing the sequence of orbitals filled. For example, for $n+l=3$, the order is $3d$, $2p$, $1s$. For $n+l=4$, the order is $4f$, $3d$, $2p$, $1s$. The diagram illustrates the Aufbau principle and the resulting periodic table structure.