

Answer on Question #54384 – Chemistry – Inorganic Chemistry

Question

What is the reason for the configurations $[\text{Ar}]3d^54s^1$ & $[\text{Ar}]3d^{10}4s^1$?

Answer:

$[\text{Ar}]3d^54s^1$ configuration is more stable and energetically preferable than $[\text{Ar}]3d^44s^2$ and $[\text{Ar}]3d^{10}4s^1$ is more stable than $[\text{Ar}]3d^94s^2$ too (energy subshell “tends” to be half-filled or full-filled).