

Electron Configurations
Chemical Periodicity

1) Arrange these elements in order of increasing ionization energy: Cl, Ne, Na, and Si.

2) Arrange these elements in order of increasing size or radius: P, S, K.

3) Arrange these elements by increasingly negative electron affinity: Kr, Se, As, Br.

4) For the element with an electron configuration of $[\text{Ar}] 3d^{10} 4s^2$

a) What element is it?

b) Is the element paramagnetic or diamagnetic?

c) How many unpaired electrons does the $2+$ ion have?

5) Which rules (if any) are violated by these ground state electron configurations?

4s	3d	4p	Rules violated
$\uparrow\downarrow$	$\uparrow\downarrow$ $\uparrow\downarrow$ $\uparrow\downarrow$ $\uparrow\uparrow$ $\uparrow\downarrow$ $\uparrow\downarrow$	$\uparrow\downarrow$ $\uparrow\downarrow$ $\uparrow\downarrow$:
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