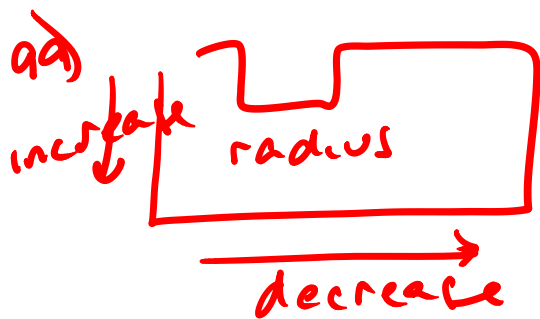


2a) - valence electrons are strongly attracted to the nucleus for elements with large ionization energies

• these species readily accept another electron and have very exothermic electron affinities

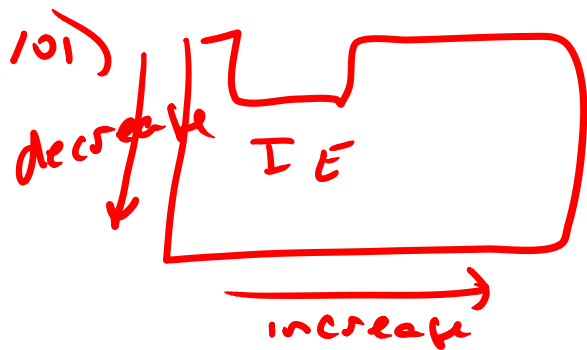
• noble gases are exceptions
high I.E., endothermic electron affinity



a) $S < Se < Te$

b) $Br < Ni < K$

c) $F < Si < Ba$



a) $Te < Se < S$

b) $K < Ni < Br$

c) $Ba < Si < F$

103) a) He

b) Cl

c) Element 116 - next oxygen family element

Element 119 - next alkali metal

Element 120 - next alkaline earth metal

116 would be the smallest

105) a) Sg: $[Rn] 7s^2 5f^{14} 6d^4$

b) W

c) SgO_3 , Sg_2O_3 , SgO_4^{2-} , $Sg_2O_7^{2-}$

107) As: $[Ar] 4s^2 3d^{10} 4p^3$

$\uparrow \uparrow \uparrow$

Se: $[Ar] 4s^2 3d^{10} 4p^4$

$\uparrow \downarrow \uparrow$

Se has more electron-electron repulsion, resulting in a lower ionization energy.