

Second Ionization Energy - TREND

The energy required to remove each electron from an atom increases successively. Removing a "core" electron requires significantly more energy than valence electrons.

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TABLE 7.1 | Successive Ionization Energies for Period 2 Elements

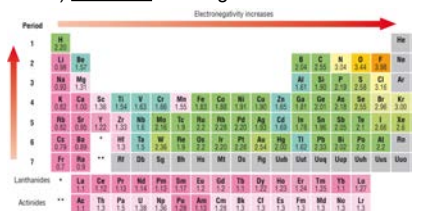
Element	IE_1	IE_2	IE_3	IE_4	IE_5	IE_6	IE_7	IE_8	IE_9	IE_{10}
Li	520	7298	11,815							
Be	899	1757	14,849	21,006						
B	800	2427	3660	25,026	32,827					
C	1086	2353	4620	6222	37,830	47,277				
N	1402	2856	4582	7475	9445	53,266	64,560			
O	1314	3388	5300	7469	10,989	13,326	71,334	84,078		
F	1681	3374	6050	8408	11,023	15,164	17,868	92,038	106,434	
Ne	2080	3952	6122	9370	12,178	15,238	19,999	23,069	115,379	131,431

Note: Ionization energies given in kJ/mol.

Electronegativity - TREND

--> A measure of an atom's ability to **pull on another** atom's electrons. Abbreviated "EN". No units!

- Electronegativity difference in a bond of > 1.7 indicates **ionic** bonding
- Electronegativity difference of < 1.7 indicates (molecular) **covalent** bonding



Electronegativity - TREND

Period Trend: (across a row - left to right)

- As atomic # INCREASES, EN increase.
- Nuclear charge is increasing.

