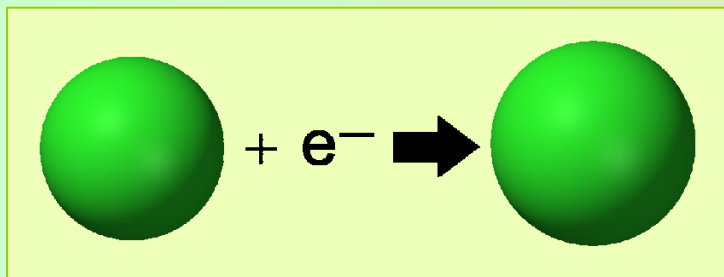


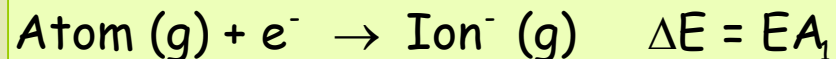
Electron Affinity



<http://upload.wikimedia.org/wikipedia/commons/2/29/Electron-affinity-1-Cl-3D-ionic.png>

Electron Affinity

The electron affinity (EA) is the energy change accompanying the addition of 1 mol electrons to 1 mol of gaseous atoms or ions.



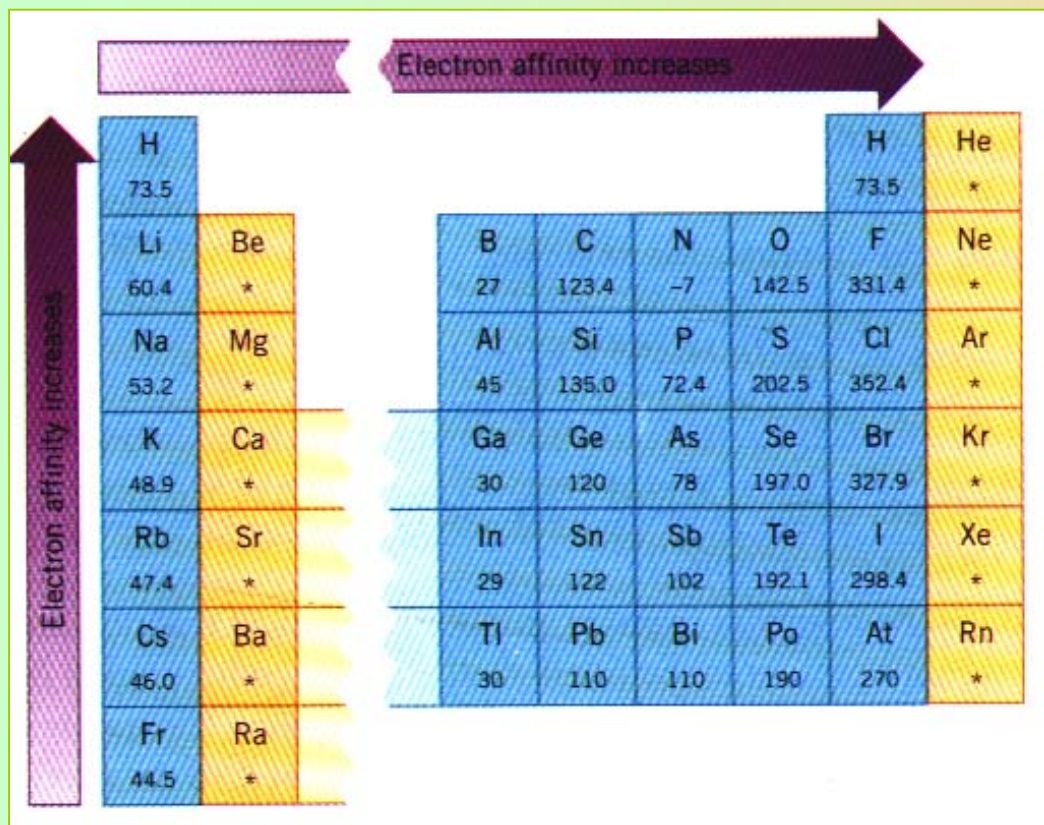
In most cases, energy is released when the first electron is added because it is attracted to the atom's nuclear charge. Thus, EA_1 is usually negative.

The second electron affinity (EA_2) is always positive because energy must be absorbed in order to overcome electrostatic repulsions and add another electron to a negative anion.

1A (1)	2A (2)	3A (13)	4A (14)	5A (15)	6A (16)	7A (17)	8A (18)
H -72.8							He (+21)
Li -59.6	Be (+241)	B -26.7	C -122	N 0	O -141	F -328	Ne (+29)
Na -52.9	Mg (+230)	Al -42.5	Si -134	P -72.0	S -200	Cl -349	Ar (+34)
K -48.4	Ca (+156)	Ga -28.9	Ge -119	As -78.2	Se -195	Br -325	Kr (+39)
Rb -46.9	Sr (+167)	In -28.9	Sn -107	Sb -103	Te -190	I -295	Xe (+40)
Cs -45.5	Ba (+52)	Tl -19.3	Pb -35.1	Bi -91.3	Po -183	At -270	Rn (+41)

http://www.chem.ufl.edu/~itl/2045_s99/change/C8F16.GIF

Electron Affinity



<http://nanotech.sc.mahidol.ac.th/genchem/bonding1/ea.jpg>

Trends

There are numerous exceptions to expected trends.

Theoretically, they increase

- in a group from down to top
- from left to right in a period

