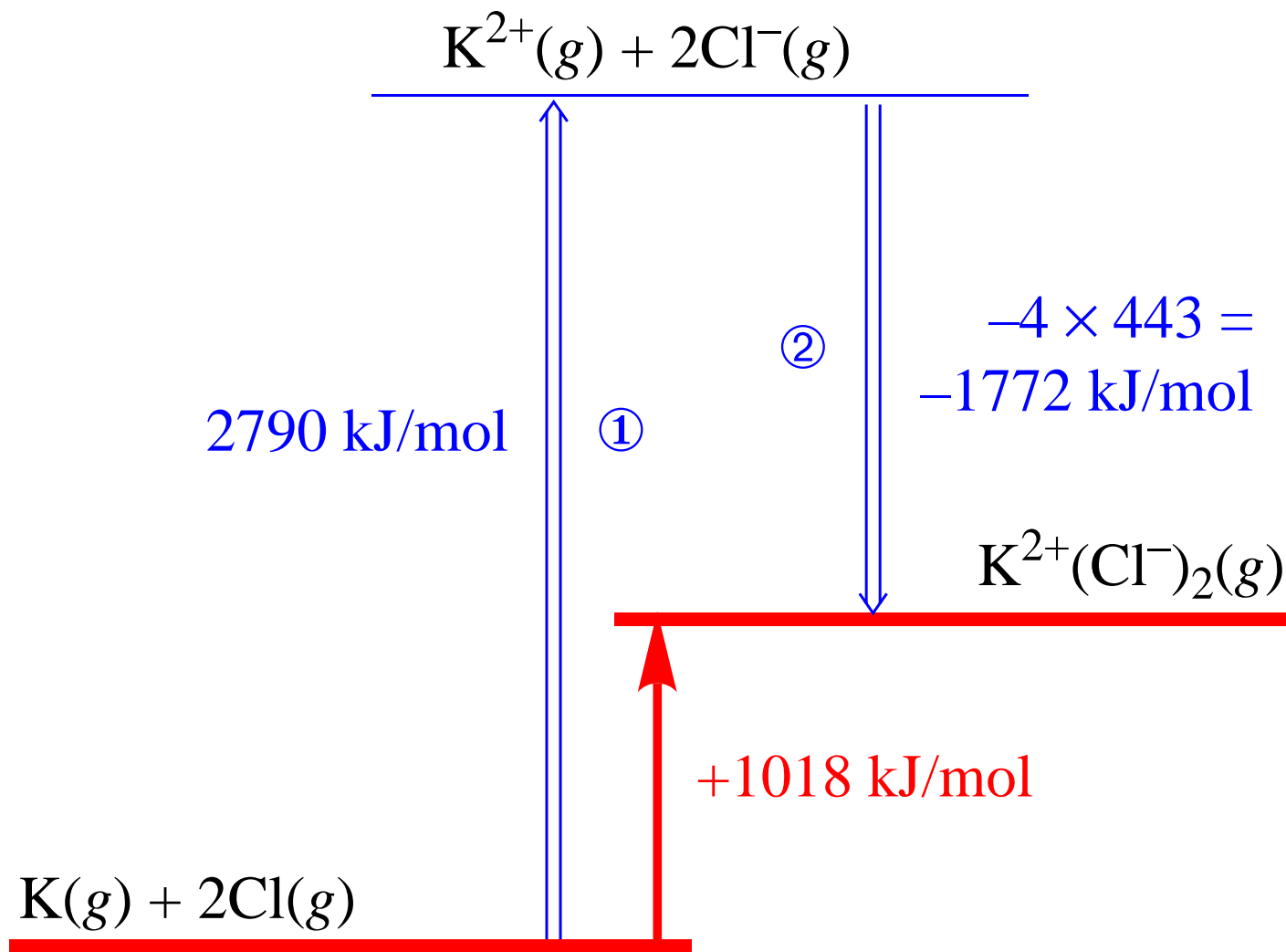
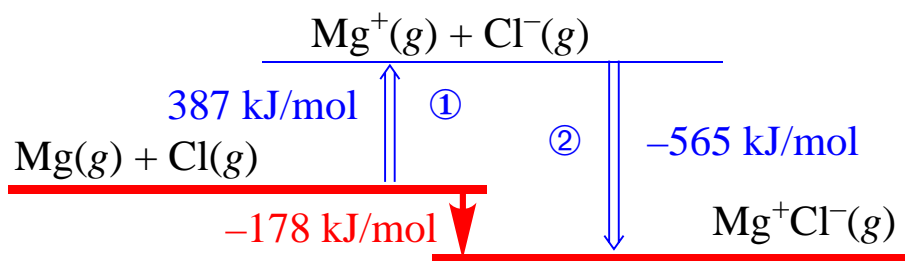


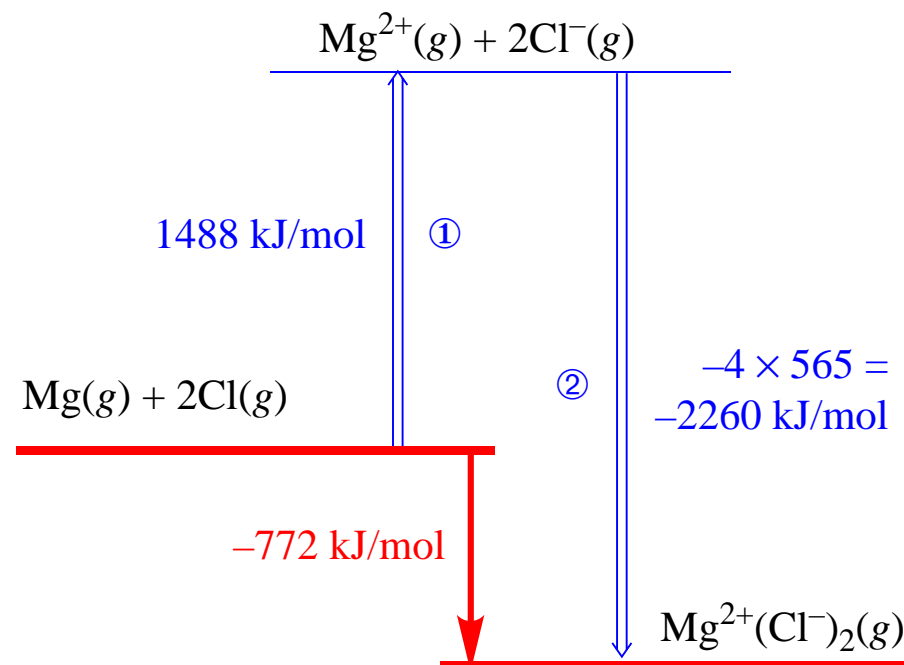
$$\textcircled{1} \Delta H_I(\text{K}) + \Delta H_{EA}(\text{Cl}) = 418 + (-349) = 69 \text{ kJ/mol}$$



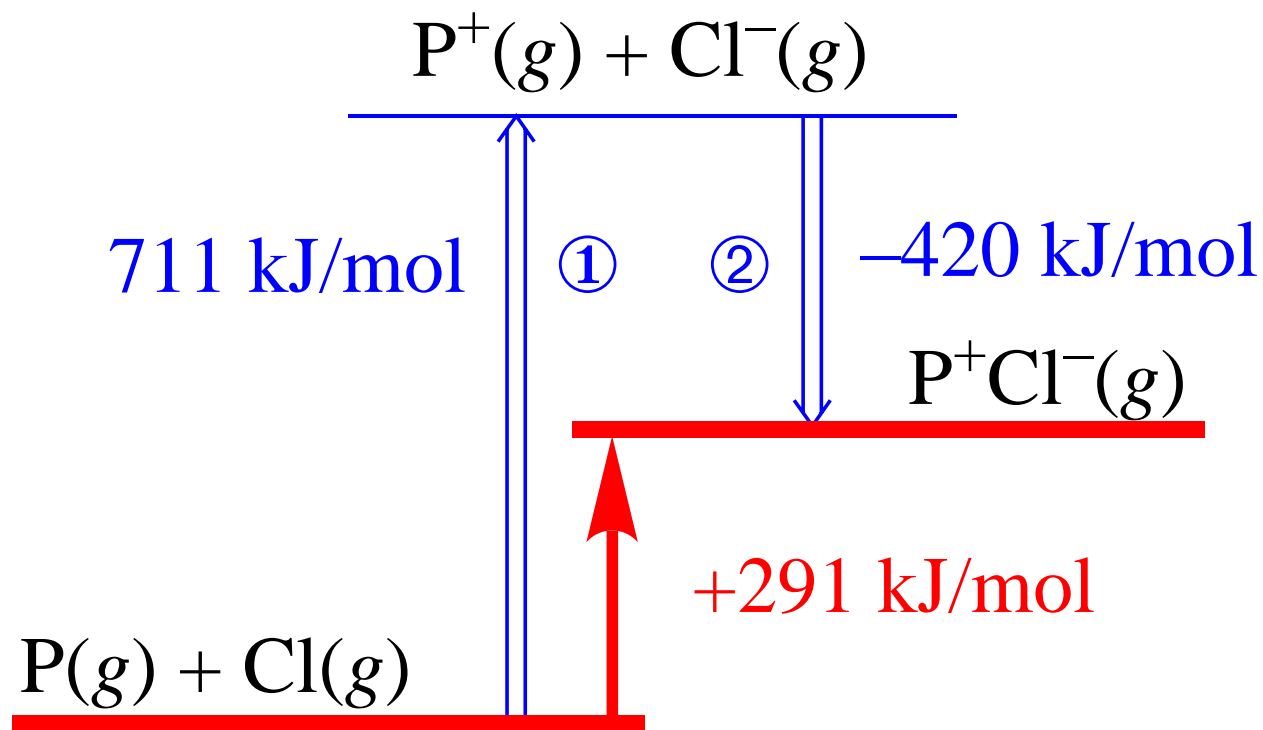
①  $\Delta H_{\text{I1}}(\text{K}) + \Delta H_{\text{I2}}(\text{K}) + 2 \times \Delta H_{\text{EA}}(\text{Cl}) =$   
 $418 + \mathbf{3070} + 2 \times (-349) = 3488 \text{ kJ/mol}$



$$\textcircled{1} \Delta H_{\text{I1}}(\text{Mg}) + \Delta H_{\text{EA}}(\text{Cl}) = 736 + (-349) = 387 \text{ kJ/mol}$$



$$\textcircled{1} \Delta H_{\text{I1}}(\text{Mg}) + \Delta H_{\text{I2}}(\text{Mg}) + 2 \times \Delta H_{\text{EA}}(\text{Cl}) = 736 + \mathbf{1450} + 2 \times (-349) = 1488 \text{ kJ/mol}$$




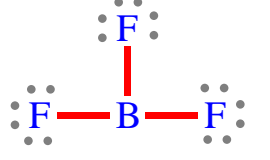
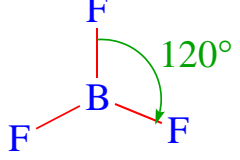
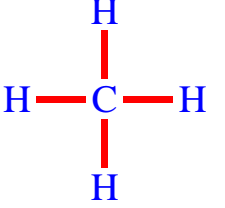
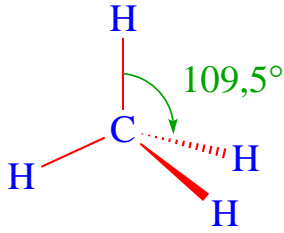
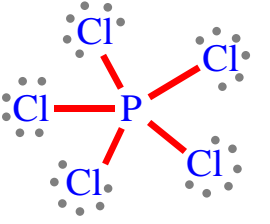
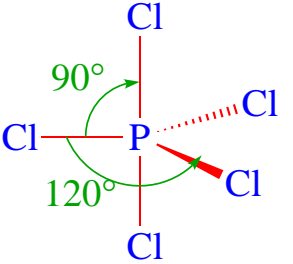
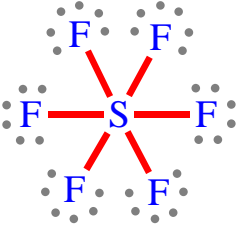
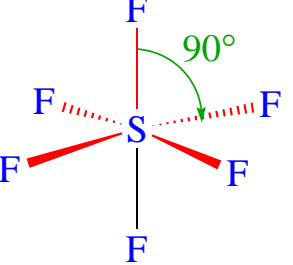
①  $\Delta H_I(P) + \Delta H_{EA}(Cl) = \mathbf{1060} + (-349) = 711 \text{ kJ/mol}$

**Tabla 2.1. Longitudes medias de enlaces simples y múltiples en ångströms ( $1 \text{ \AA} = 10^{-10} \text{ m}$ )**

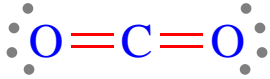
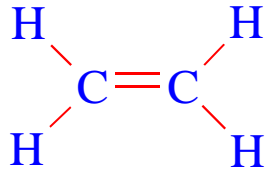
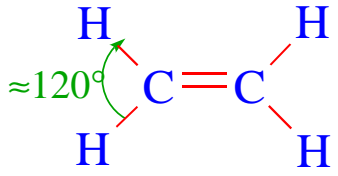
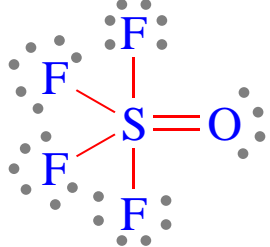
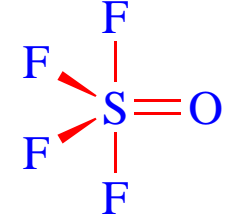
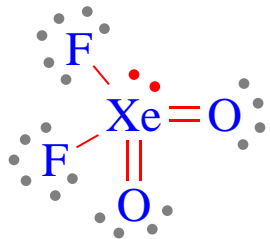
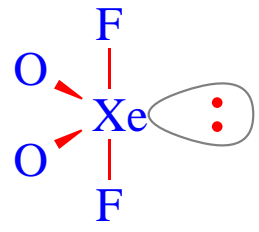
<b>H-H</b>	0,74	<b>F-F</b>	1,28	<b>Cl-Cl</b>	2,00	<b>Br-Br</b>	2,28	<b>I-I</b>	2,66				
<b>H-F</b>	0,92	<b>H-Cl</b>	1,27	<b>H-Br</b>	1,42	<b>H-I</b>	1,61	<b>O-H</b>	0,94	<b>N-H</b>	0,98	<b>C-H</b>	1,10
<b>O-O</b>	1,32	<b>N-N</b>	1,40	<b>C-C</b>	1,54	<b>N-O</b>	1,36	<b>C-O</b>	1,43	<b>C-N</b>	1,47		
				<b>C=C</b>	1,34	<b>N=O</b>	1,15	<b>C=O</b>	1,22	<b>C=N</b>	1,27		
				<b>C≡C</b>	1,21	<b>N≡O</b>	1,08	<b>C≡O</b>	1,13	<b>C≡N</b>	1,15		

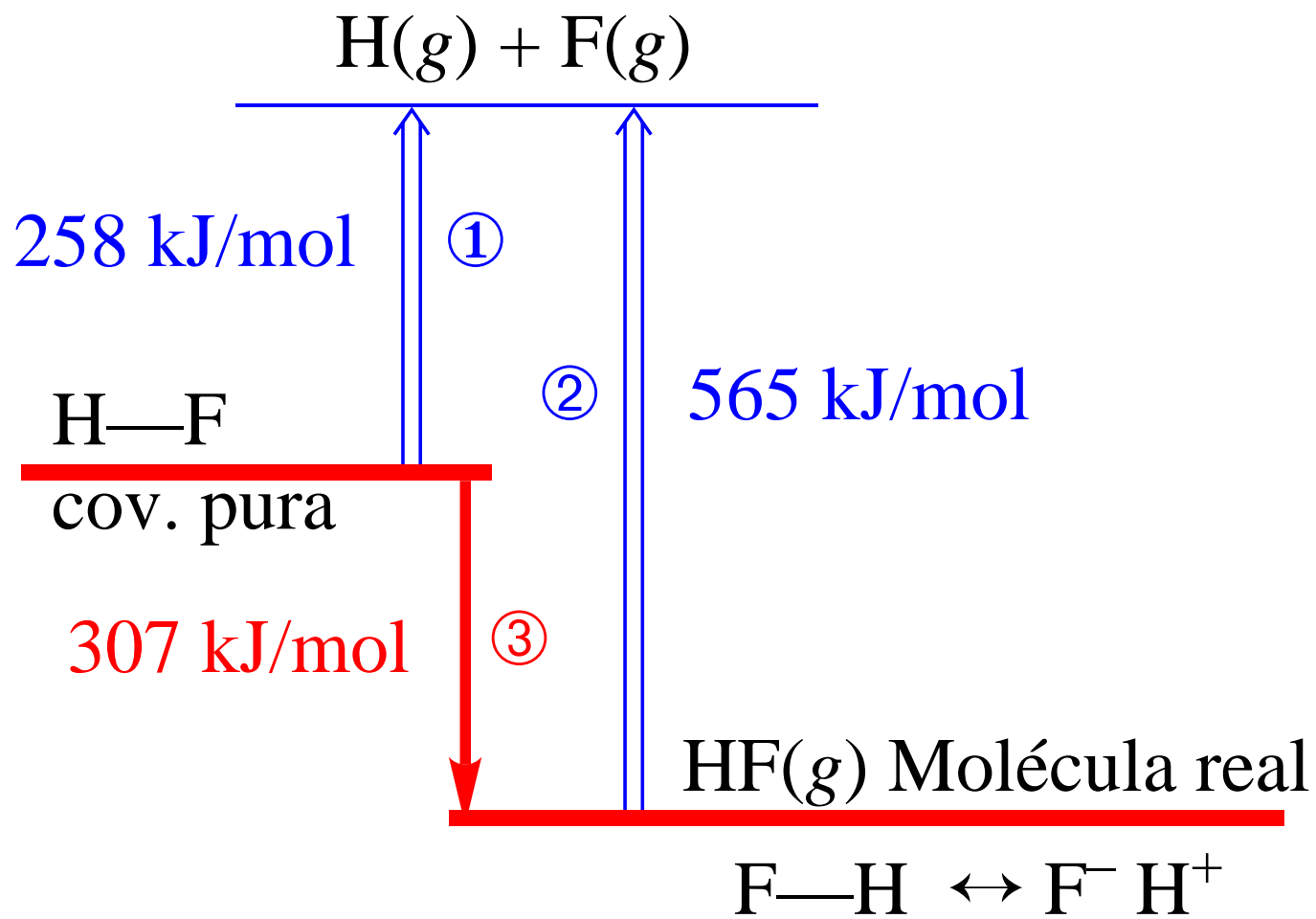
**Tabla 2.2. Entalpías medias de enlace en kilojulios por mol**

<b>H-H</b>	436	<b>F-F</b>	158	<b>Cl-Cl</b>	242	<b>Br-Br</b>	193	<b>I-I</b>	151				
<b>H-F</b>	565	<b>H-Cl</b>	431	<b>H-Br</b>	366	<b>H-I</b>	299	<b>O-H</b>	463	<b>N-H</b>	388	<b>C-H</b>	412
<b>O-O</b>	157	<b>N-N</b>	163	<b>C-C</b>	348	<b>N-O</b>	200	<b>C-O</b>	360	<b>C-N</b>	305		
<b>O=O</b>	496	<b>N=N</b>	409	<b>C=C</b>	612	<b>N=O</b>	600	<b>C=O</b>	743	<b>C=N</b>	615		
		<b>N≡N</b>	944	<b>C≡C</b>	837			<b>C≡O</b>	1070	<b>C≡N</b>	891		

<i>Molécula</i>	<i>Estructura de Lewis</i>	<i>Pares electrónicos</i>	<i>Geometría molecular</i>
<b>BeCl<sub>2</sub></b>		<b>2</b>	Cl—Be—Cl lineal
<b>BF<sub>3</sub></b>		<b>3</b>	 triangular plana
<b>CH<sub>4</sub></b>		<b>4</b>	 tetraédrica
<b>PCl<sub>5</sub></b>		<b>5</b>	 bipirámide trigonal
<b>SF<sub>6</sub></b>		<b>6</b>	 octaédrica

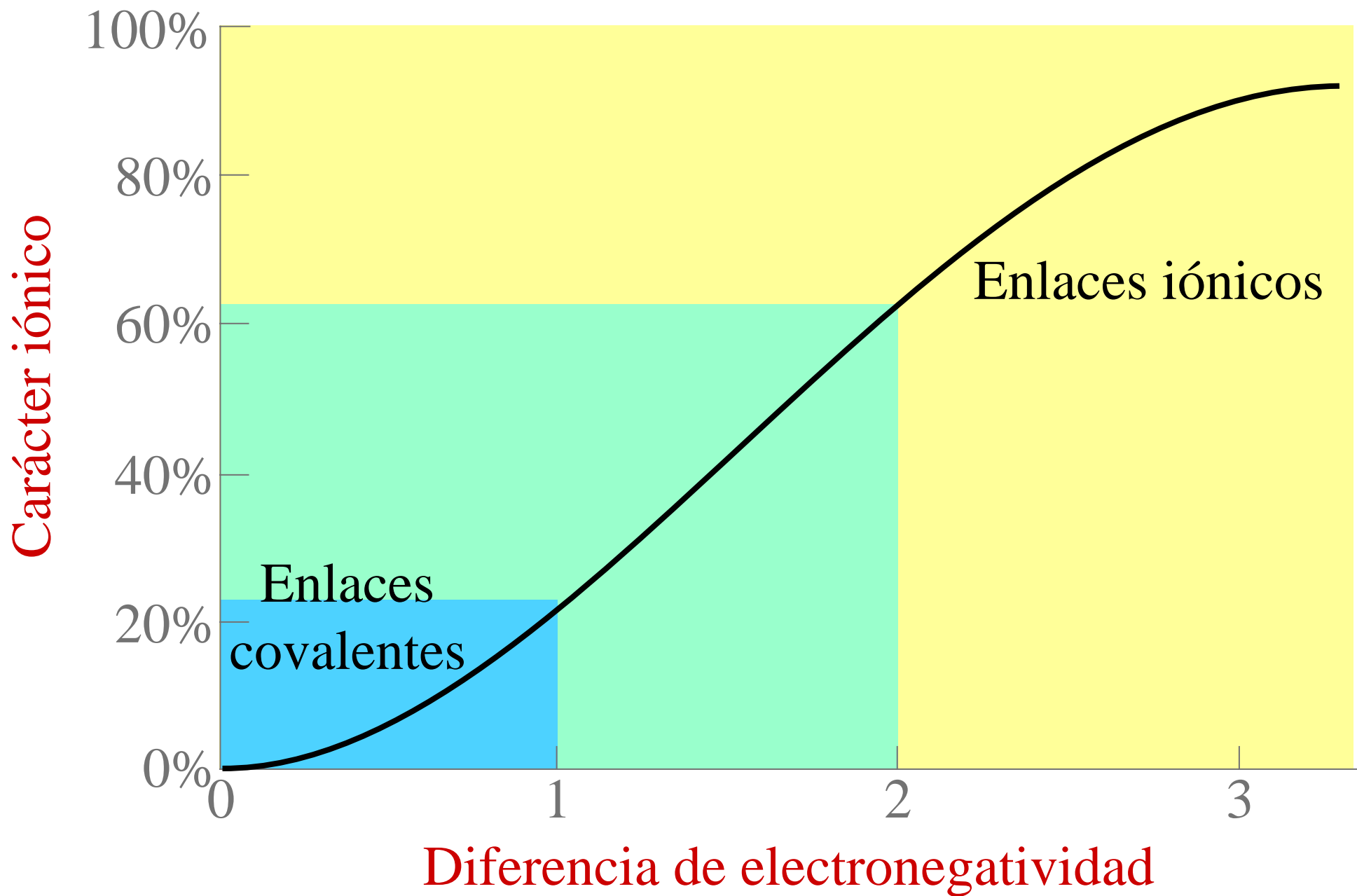
<i>Mol.</i>	<i>Est. de Lewis</i>	<i>PE</i>	<i>PS</i>	<i>P</i>	<i>Geometría electrónica</i>	<i>Geometría Molecular</i>	
<b>SnCl<sub>2</sub></b>		2	1	3	triangular plana		angular
<b>NH<sub>3</sub></b>		3	1	4	tetraédrica		pirámide trigonal
<b>H<sub>2</sub>O</b>		2	2	4	tetraédrica		angular
<b>SF<sub>4</sub></b>		4	1	5	bipirámide trigonal		tetraedro deformado o balancín
<b>ClF<sub>3</sub></b>		3	2	5	bipirámide trigonal		forma de T
<b>I<sub>3</sub><sup>-</sup></b>		2	3	5	bipirámide trigonal		lineal
<b>BrF<sub>5</sub></b>		5	1	6	octaédrica		pirámide cuadrada
<b>XeF<sub>4</sub></b>		4	2	6	octaédrica		plano-cuadrada

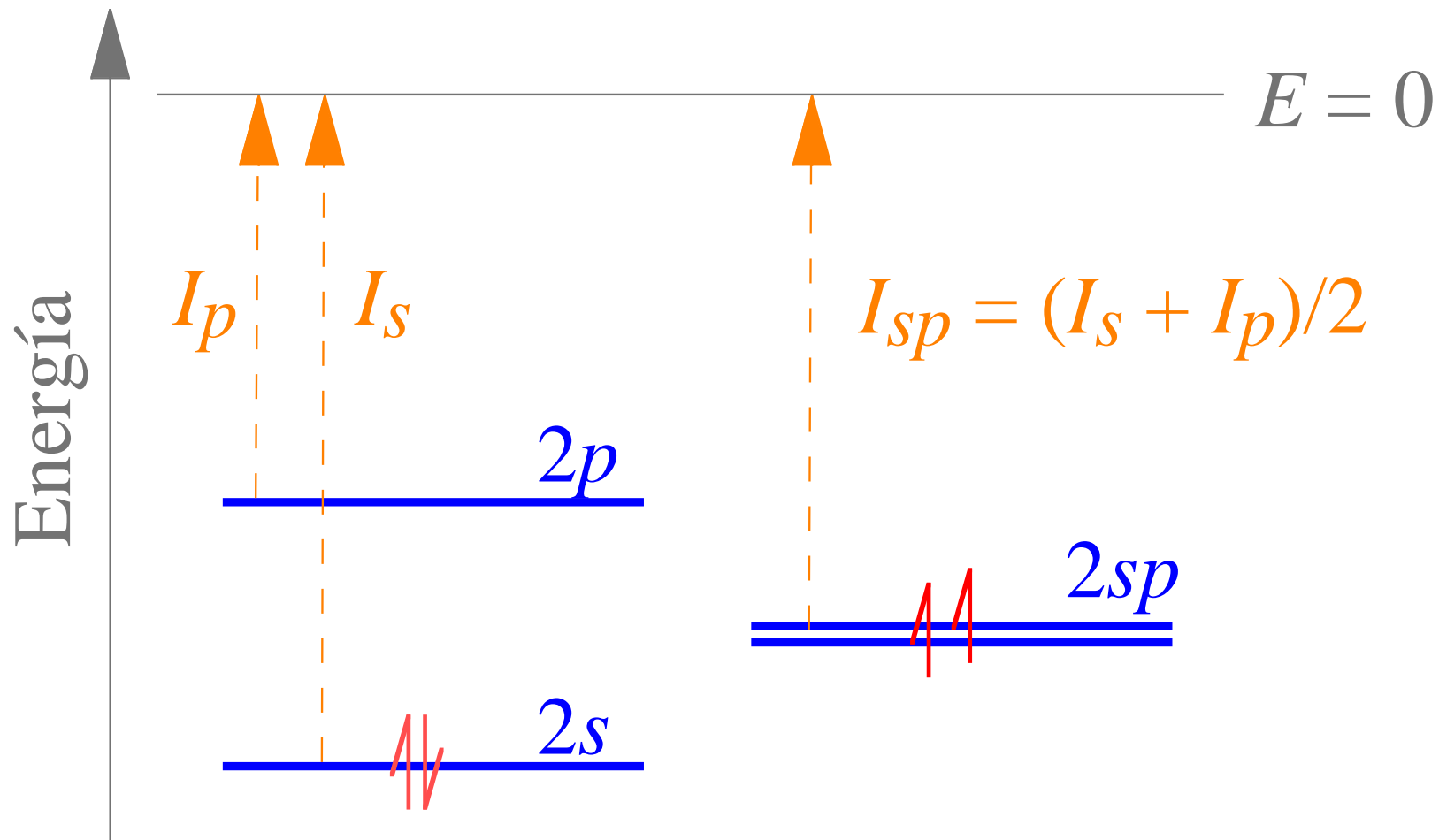
<i>Molécula</i>	<i>Estructura de Lewis</i>	<i>Enlaces</i>	<i>PS</i>	<i>Geometría molecular</i>
<b>CO<sub>2</sub></b>		<b>2</b>	<b>0</b>	O=C=O lineal
<b>C<sub>2</sub>H<sub>4</sub></b>		<b>3</b>	<b>0</b>	 triangular plana
<b>SOF<sub>4</sub></b>		<b>5</b>	<b>0</b>	 bipirámide trigonal
<b>XeO<sub>2</sub>F<sub>2</sub></b>		<b>4</b>	<b>1</b>	 balancín



1																	18	
H 2,1																		He
Li 1,0	Be 1,5											B 2,0	C 2,5	N 3,0	O 3,5	F 4,0	Ne	
Na 1,0	Mg 1,2	3	4	5	6	7	8	9	10	11	12	Al 1,5	Si 1,8	P 2,1	S 2,5	Cl 3,0	Ar	
K 0,9	Ca 1,0	Sc 1,3	Ti 1,4	V 1,5	Cr 1,6	Mn 1,6	Fe 1,7	Co 1,7	Ni 1,8	Cu 1,8	Zn 1,6	Ga 1,7	Ge 1,9	As 2,1	Se 2,4	Br 2,8	Kr	
Rb 0,9	Sr 1,0	Y 1,2	Zr 1,3	Nb 1,5	Mo 1,6	Tc 1,7	Ru 1,8	Rh 1,8	Pd 1,8	Ag 1,6	Cd 1,6	In 1,6	Sn 1,8	Sb 1,9	Te 2,1	I 2,5	Xe	
Cs 0,8	Ba 1,0	La 1,1	Hf 1,3	Ta 1,4	W 1,5	Re 1,7	Os 1,9	Ir 1,9	Pt 1,8	Au 1,9	Hg 1,7	Tl 1,6	Pb 1,7	Bi 1,8	Po 1,9	At 2,1	Rn	
Fr 0,8	Ra 1,0	Ac 1,1																







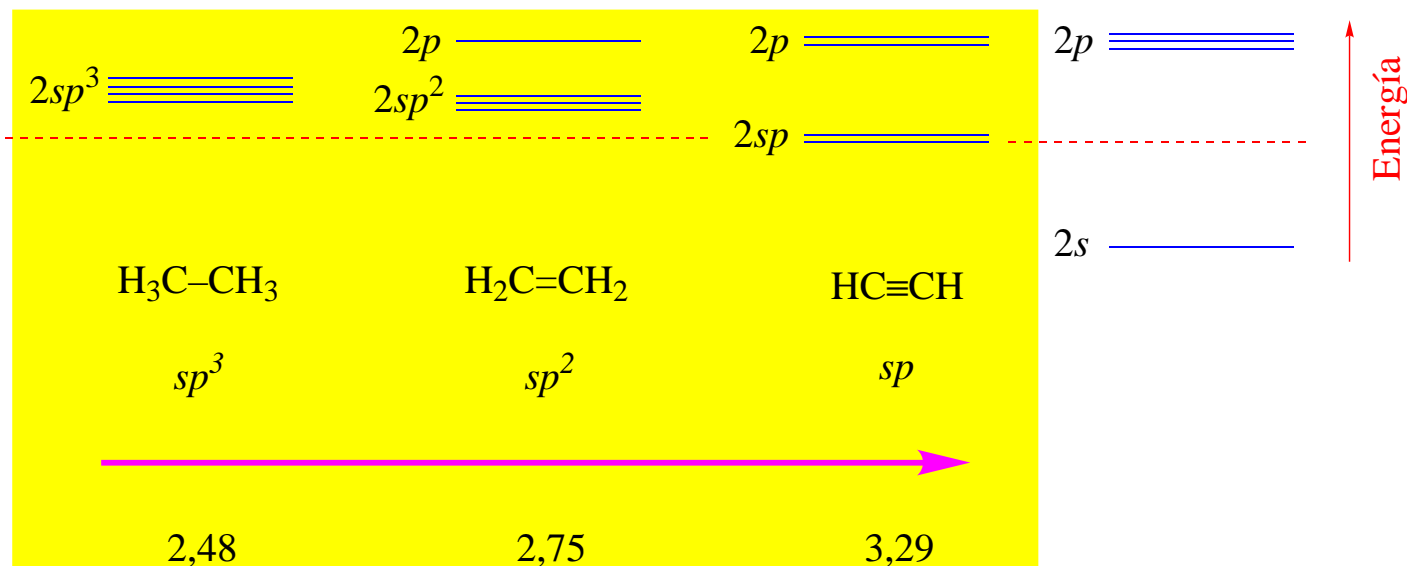
Energía media de los orbitales  $s$  y  $p$  del átomo de carbono

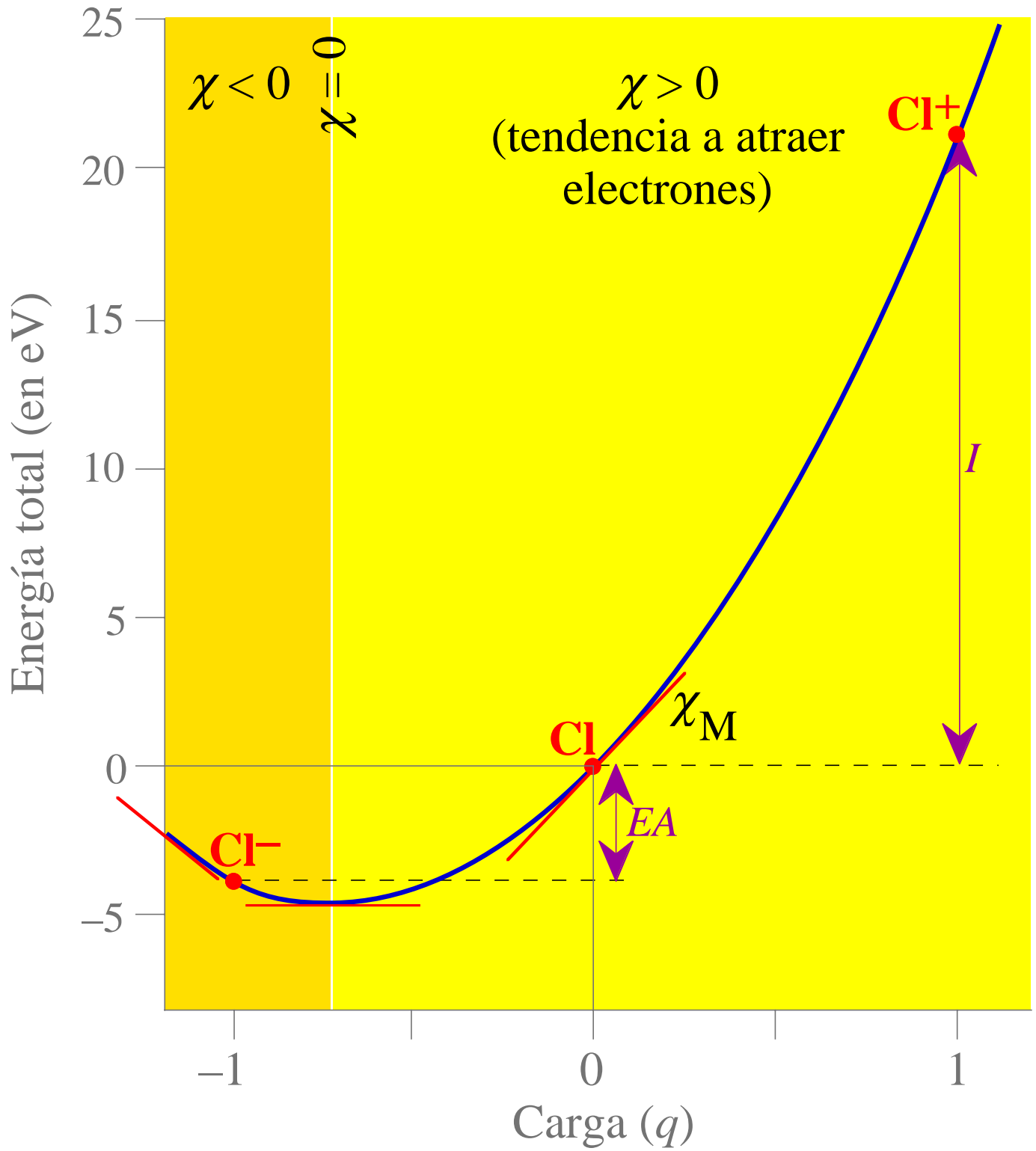
*Ejemplo*

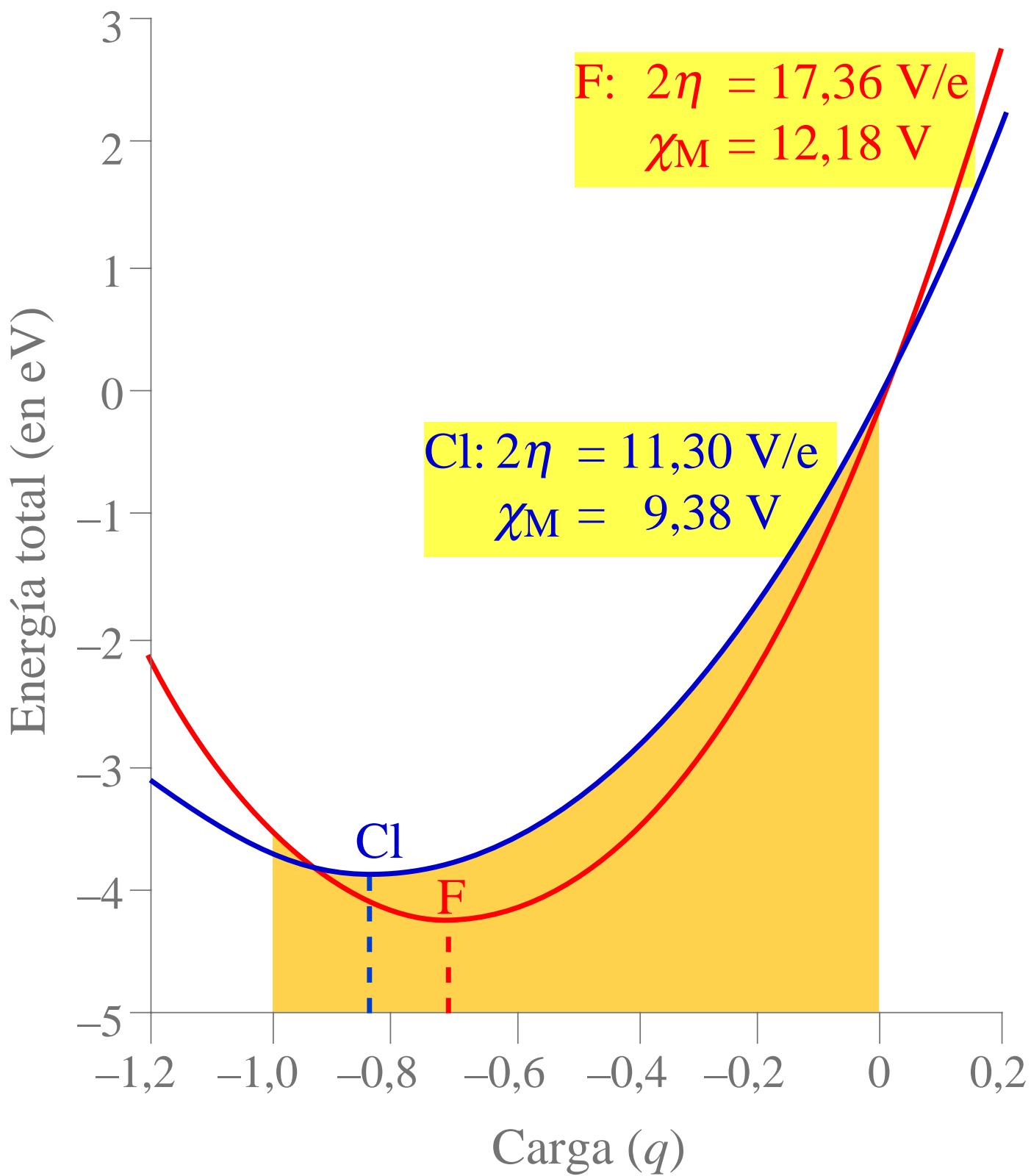
*Hibridación del orbital del C unido al H*

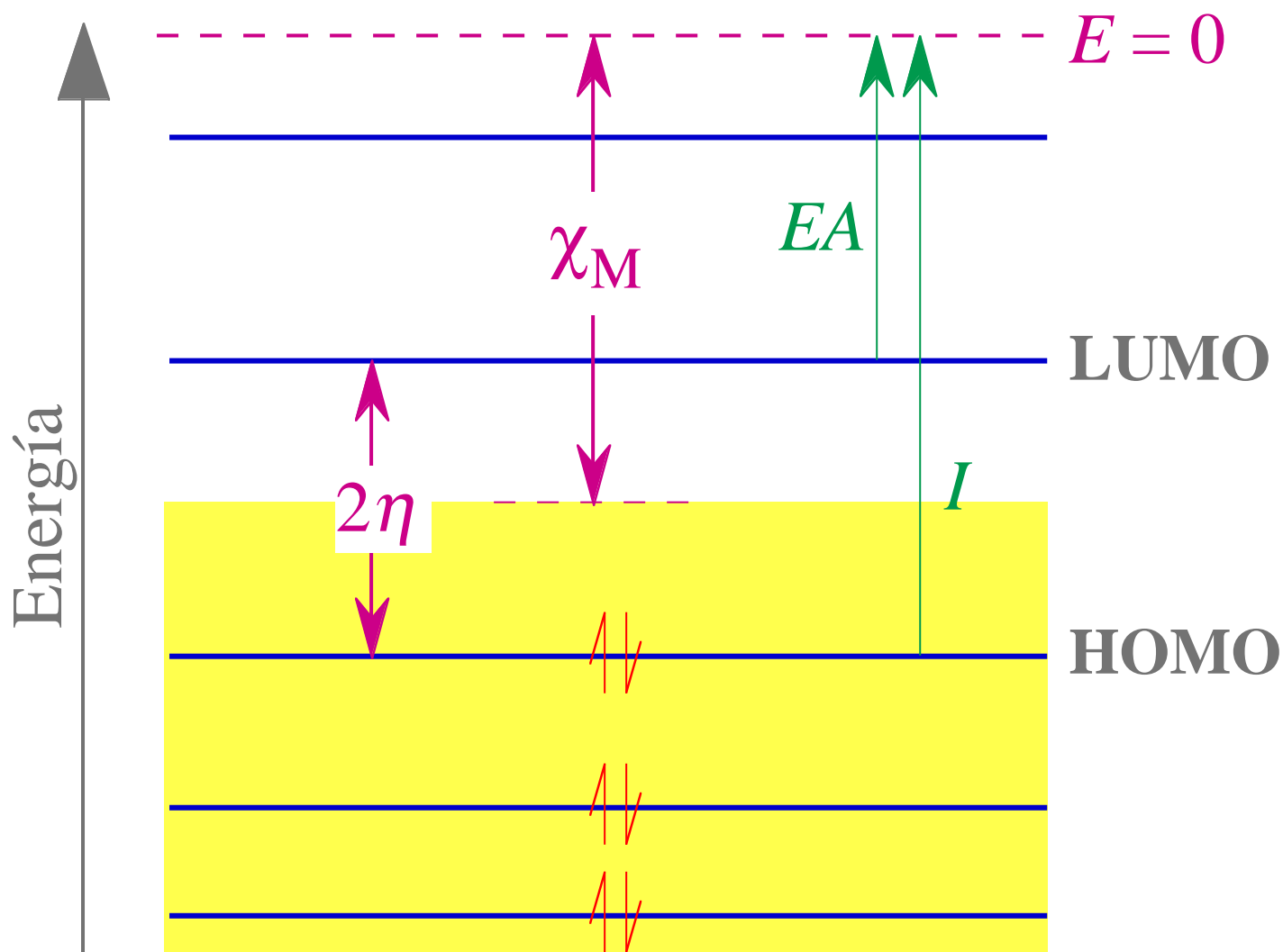
*Orden ascendente de electronegatividad del átomo de carbono*

*Electronegatividad de Mulliken*





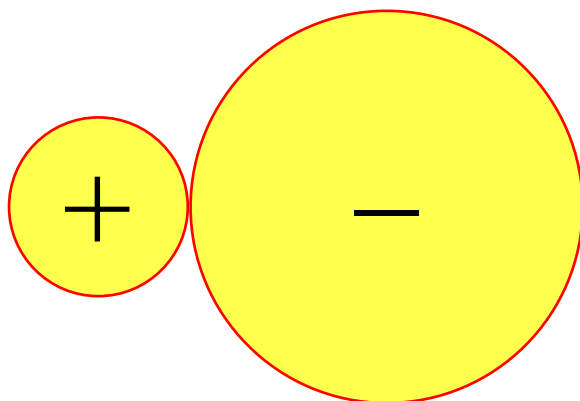




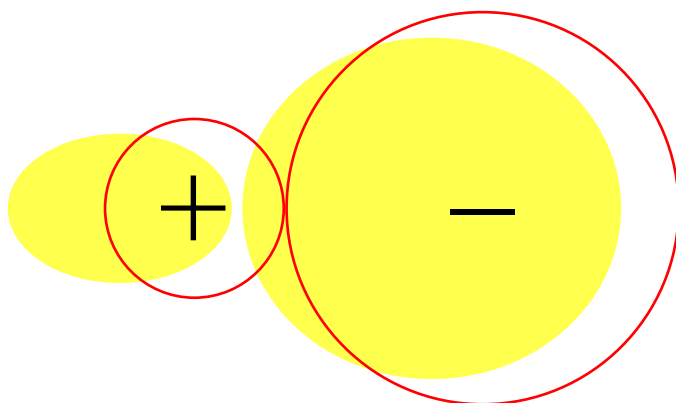
**Tabla 2.4. Electronegatividades de algunos grupos**

<b>Grupo</b>	$\chi_M$ (en unid. Pauling)	$\chi_M$ (en V)	$2\eta$ (en eV)
<b>CH<sub>3</sub></b>	2,28	7,45	4,64
<b>CH<sub>2</sub>CH<sub>3</sub></b>	2,29	7,52	3,78
<b>CF<sub>3</sub></b>	3,55	10,50	5,32
<b>CCl<sub>3</sub></b>	2,83	10,12	4,33
<b>CBr<sub>3</sub></b>	2,59	9,87	3,96
<b>CI<sub>3</sub></b>	2,51	9,43	3,77

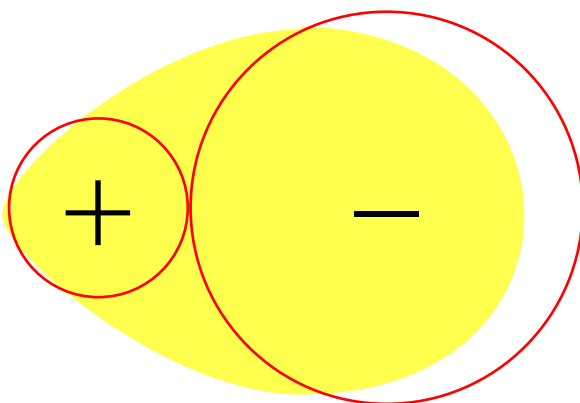
a)



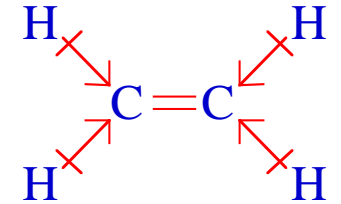
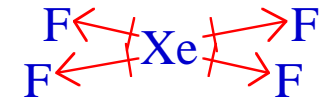
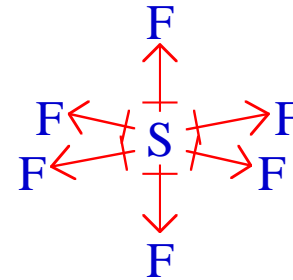
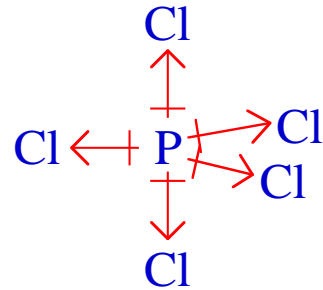
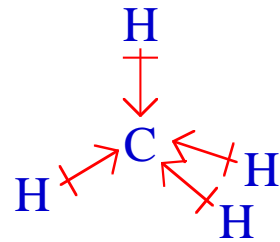
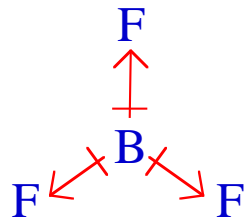
b)



c)



*Algunas moléculas apolares*



*Algunas moléculas polares*

