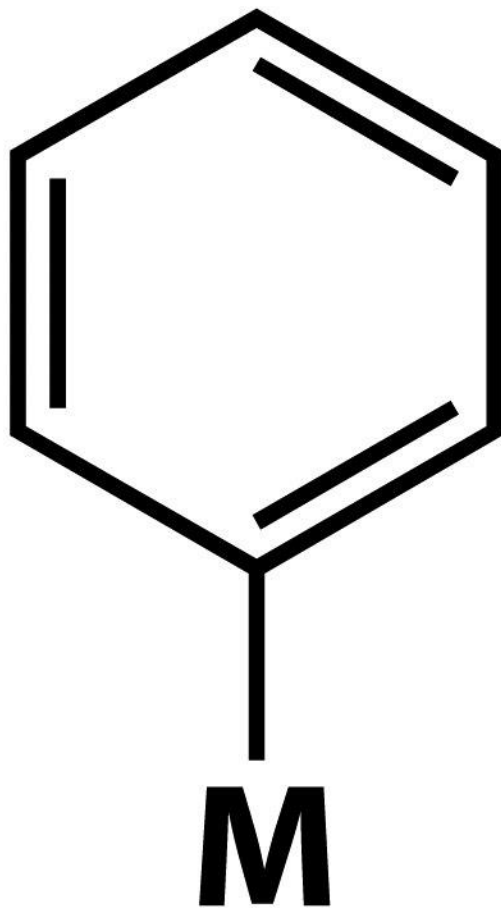


η^1 -alkenile

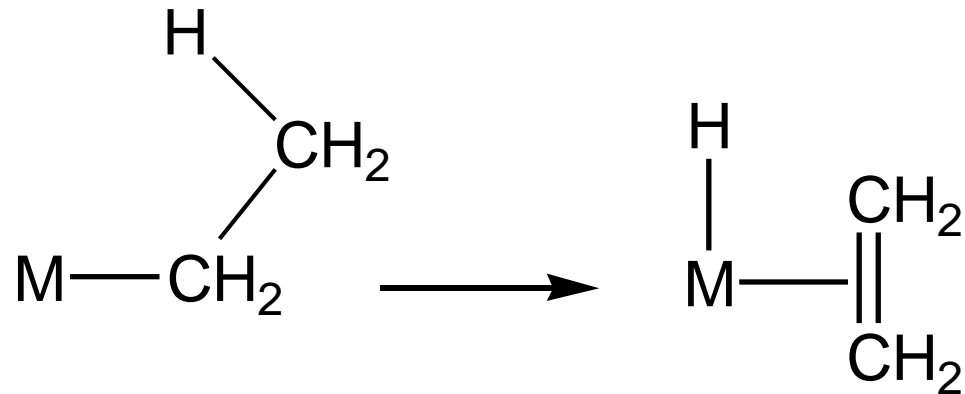


η^1 -alkynile



η^1 -arile

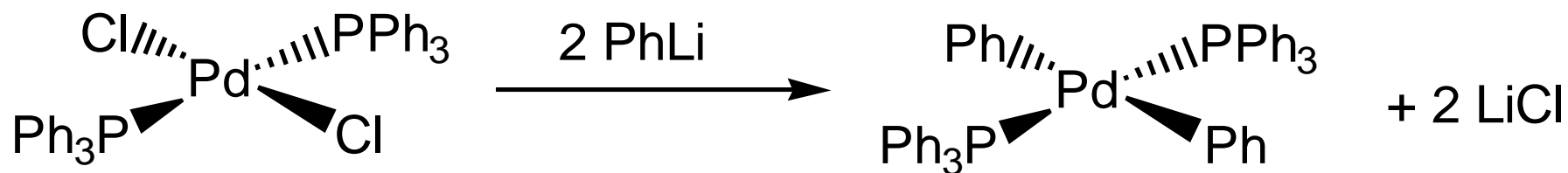
β -eliminazione di idruro



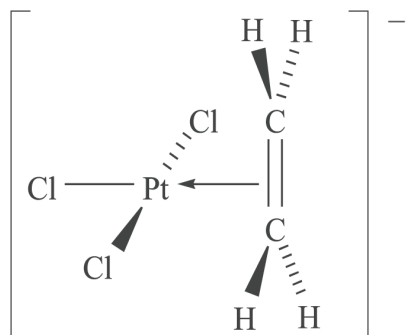
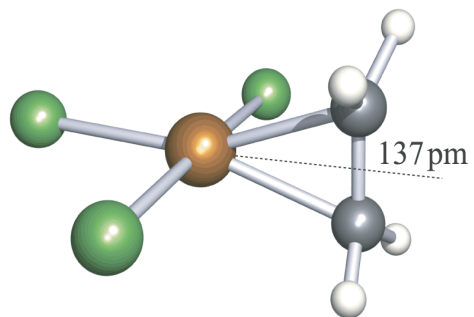
Gruppi stabili:

metile, benzile ($\text{CH}_2\text{C}_6\text{H}_5$), neopentile (CH_2CMe_3), e trimetilsililmetile (CH_2SiMe_3)

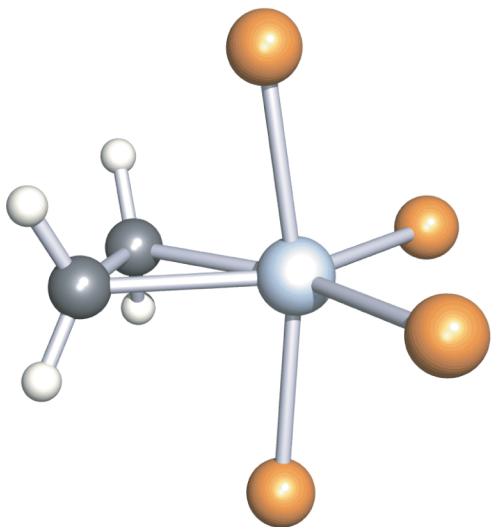
Tipico processo di sintesi



In alternativa si usano reattivi di Grignard

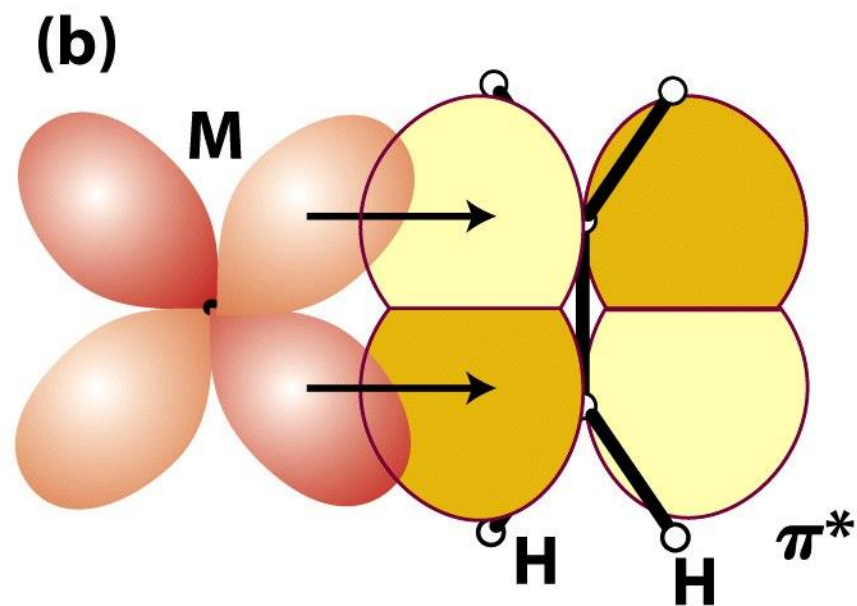
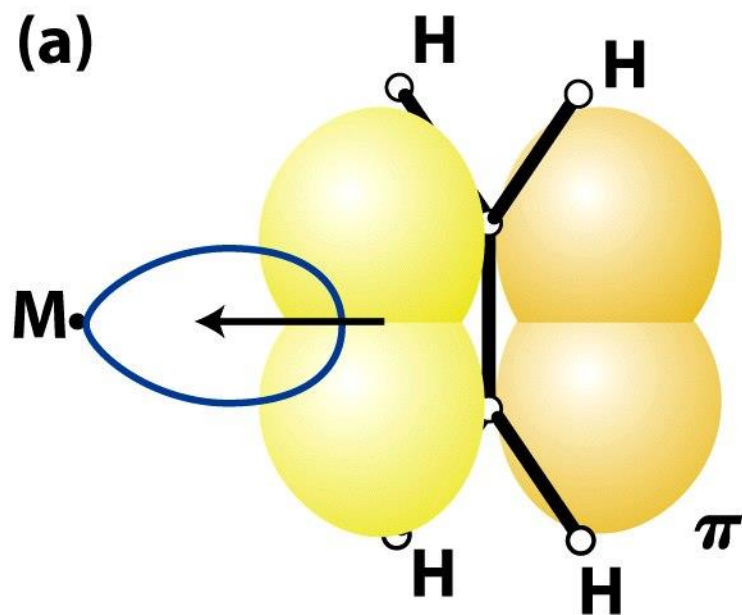


η^2 -alchene
coordinazione *side-on*

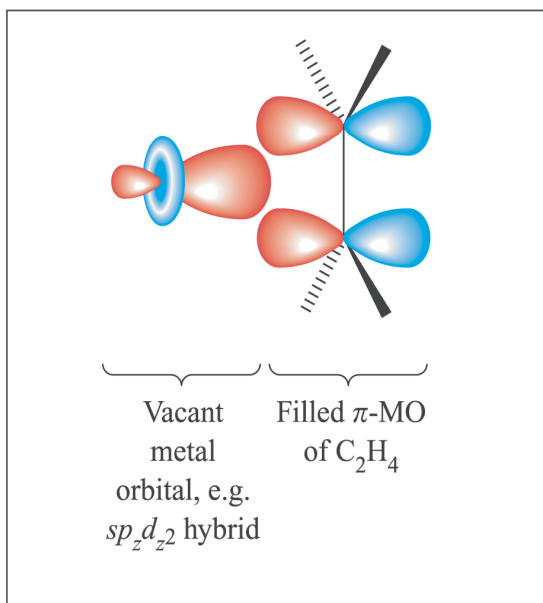
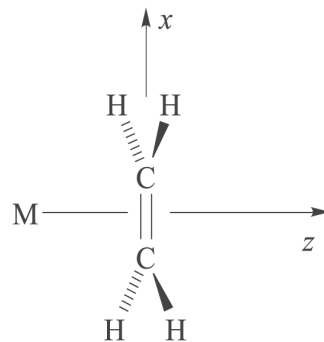


Struttura ai raggi-X di $\text{Ru}(\eta^2\text{-C}_2\text{H}_4)(\text{PMe}_3)_4$

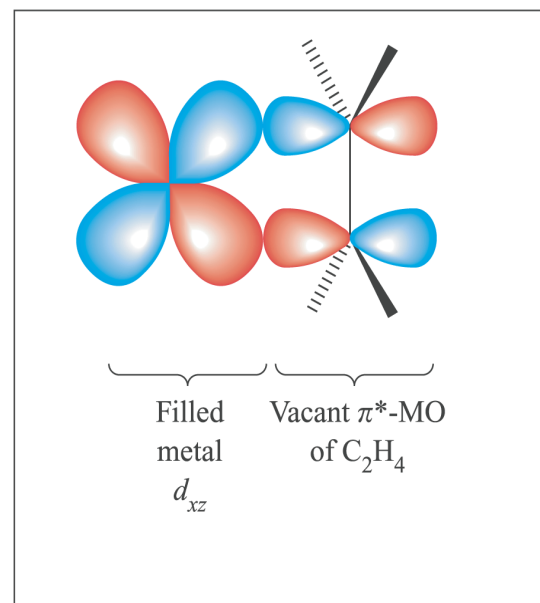
C-C = 144 pm vs 134 pm nell'etene



modello di Dewar – Chatt – Duncanson



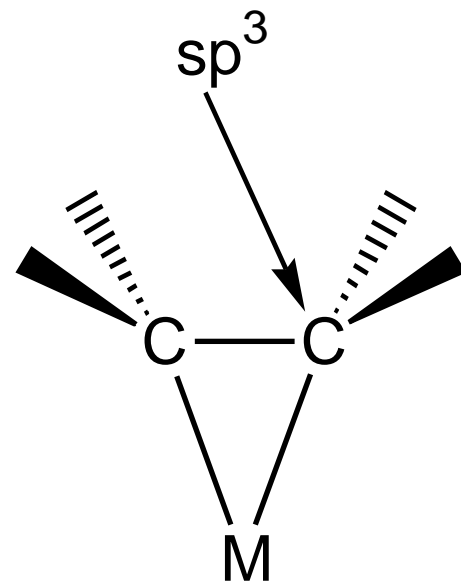
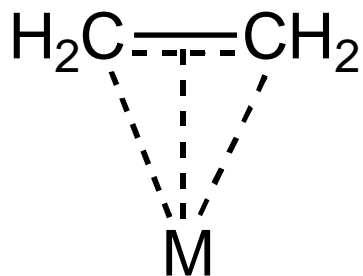
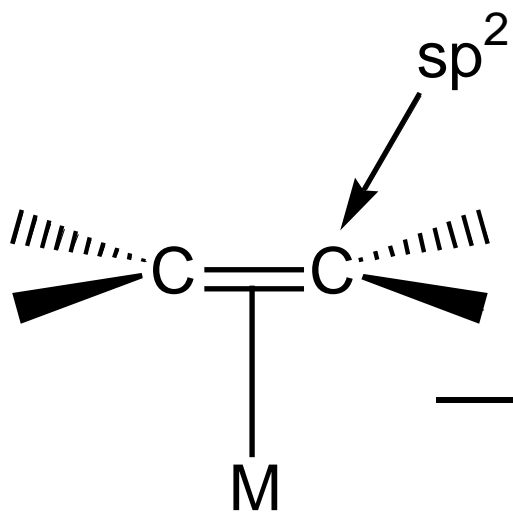
Alkene-to-M donation
(a)



M-to-alkene back-donation
(b)

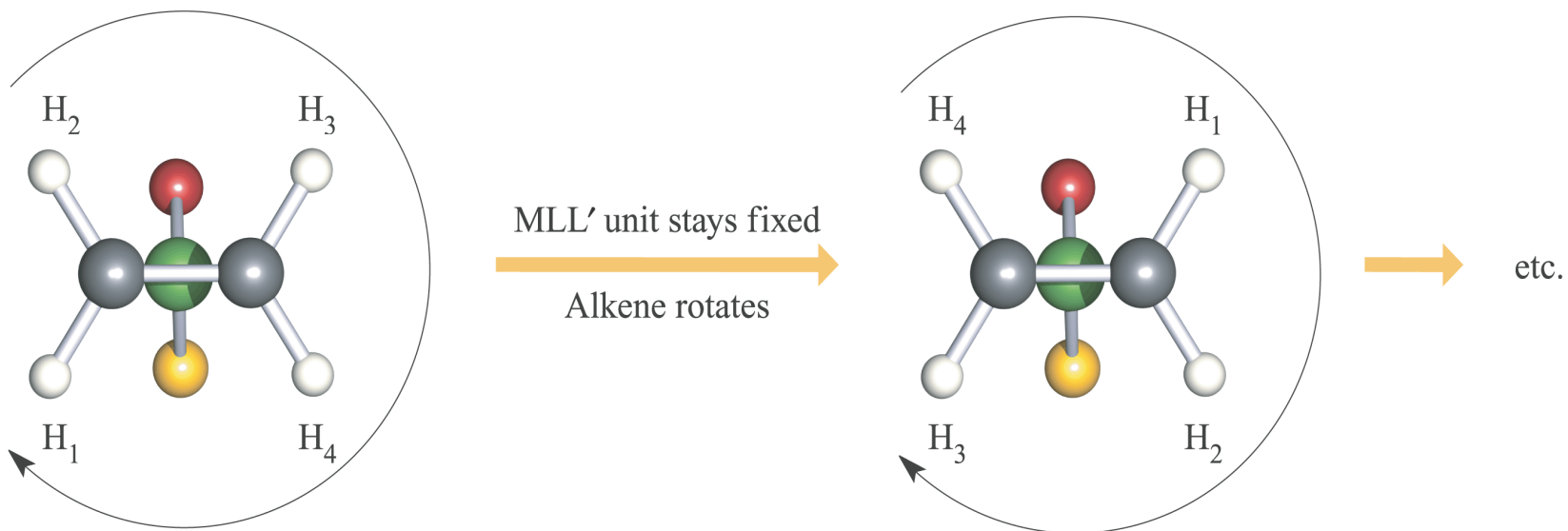
modello di Dewar – Chatt – Duncanson

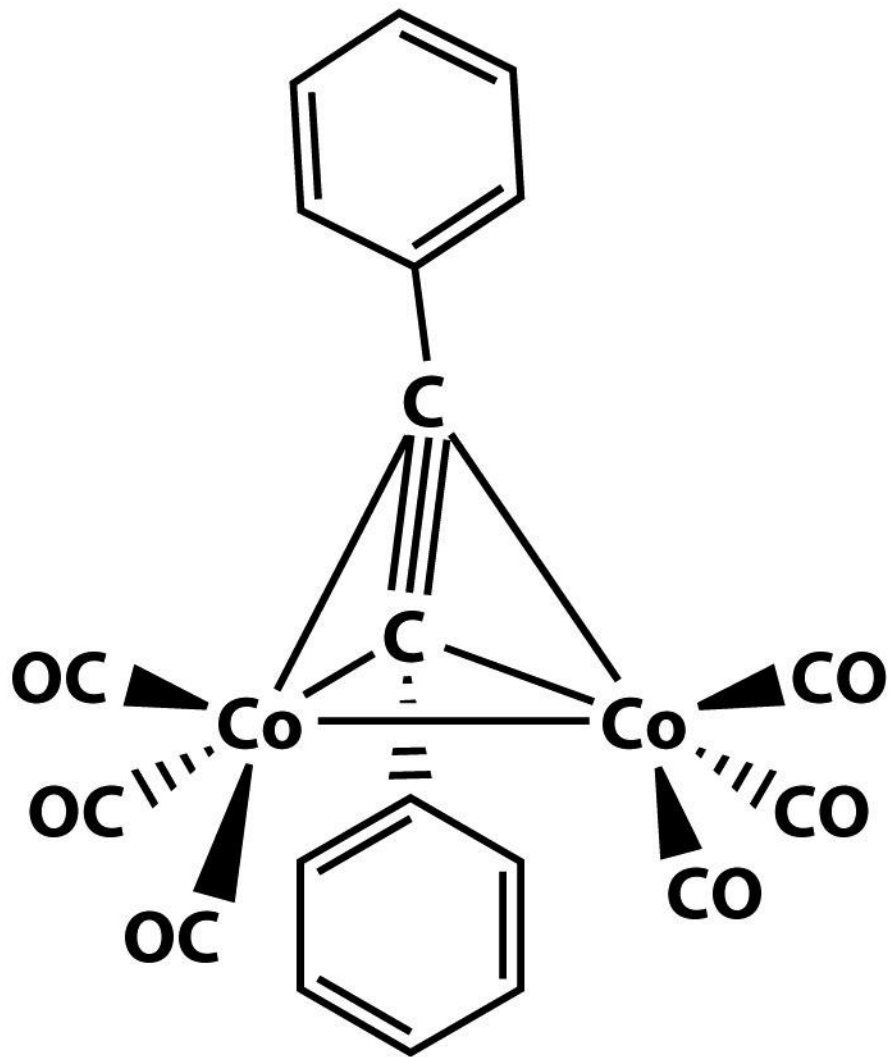
Retrodonazione π



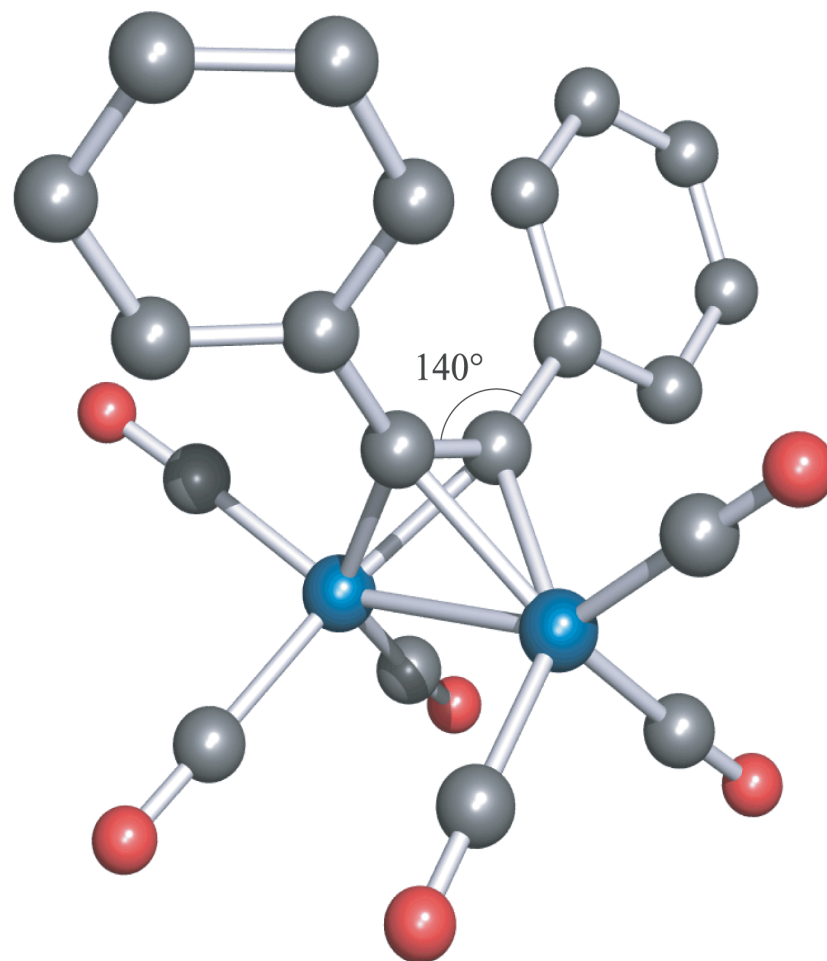
metallociclopropano

Flussionalità del legame η^2 -alchene



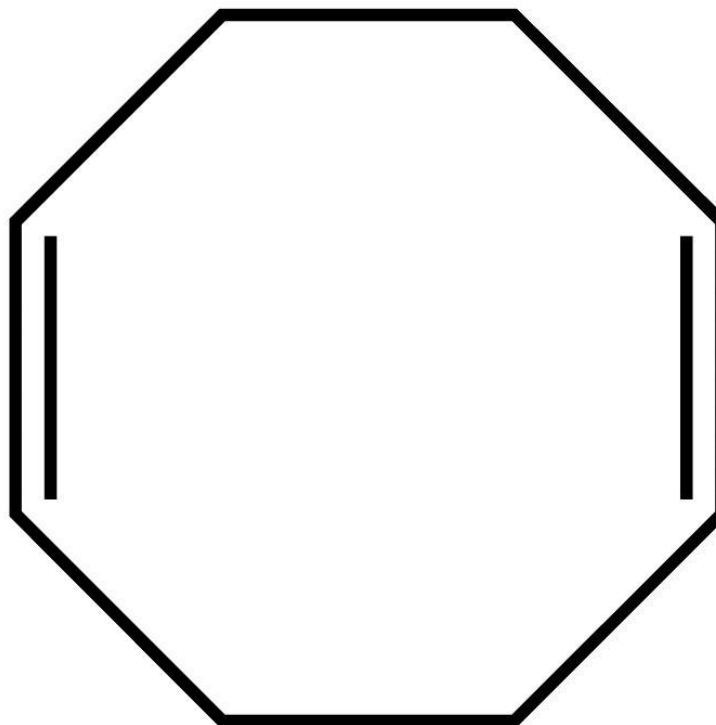


4-electron donor

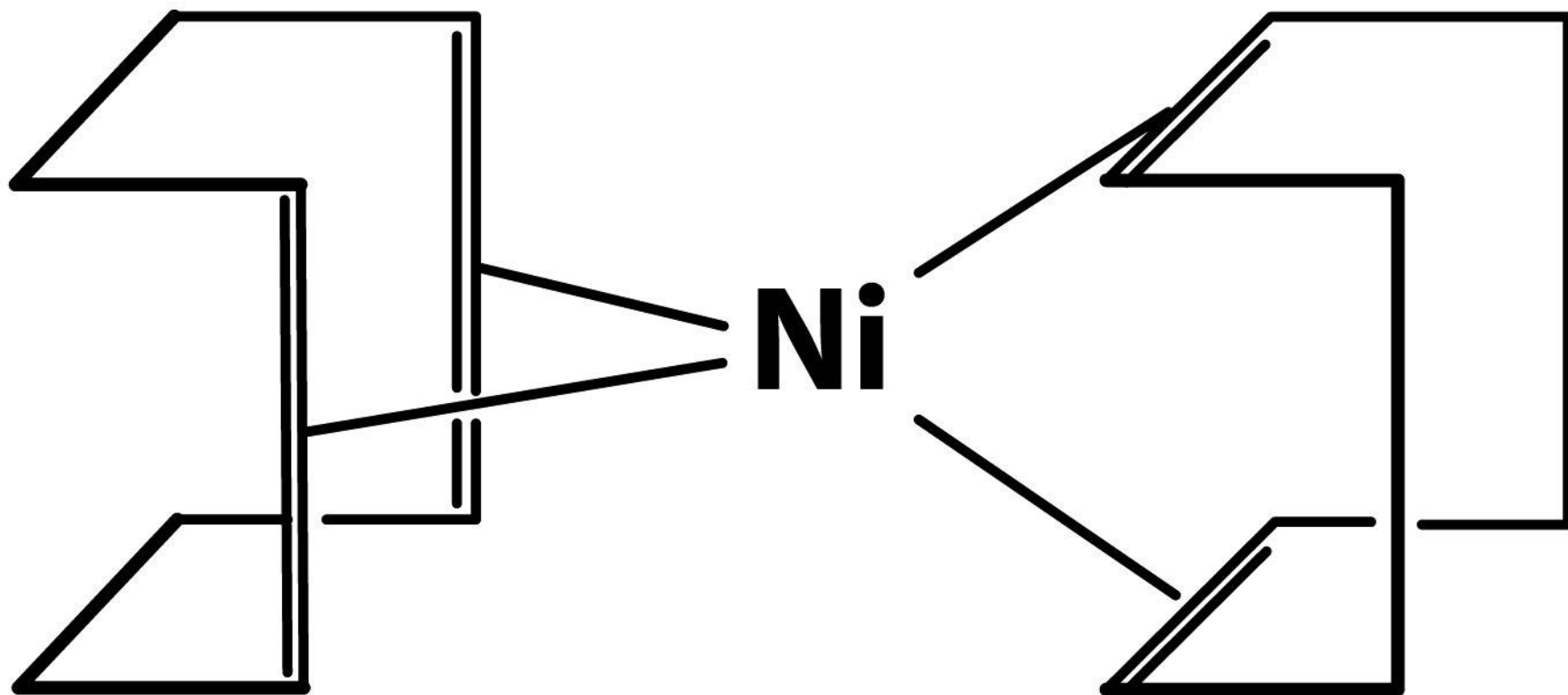


C—C in Co_2C_2 -unit = 136 pm

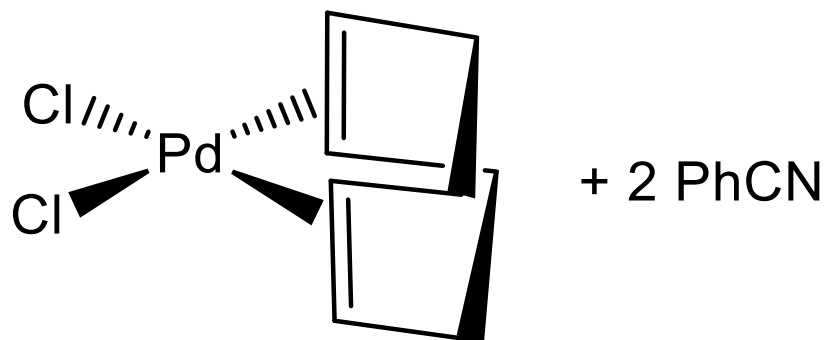
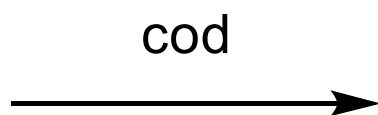
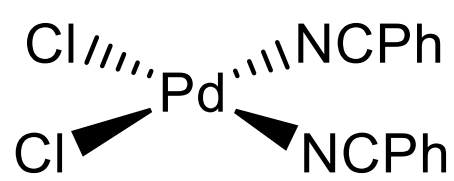
Dieni non-coniugati

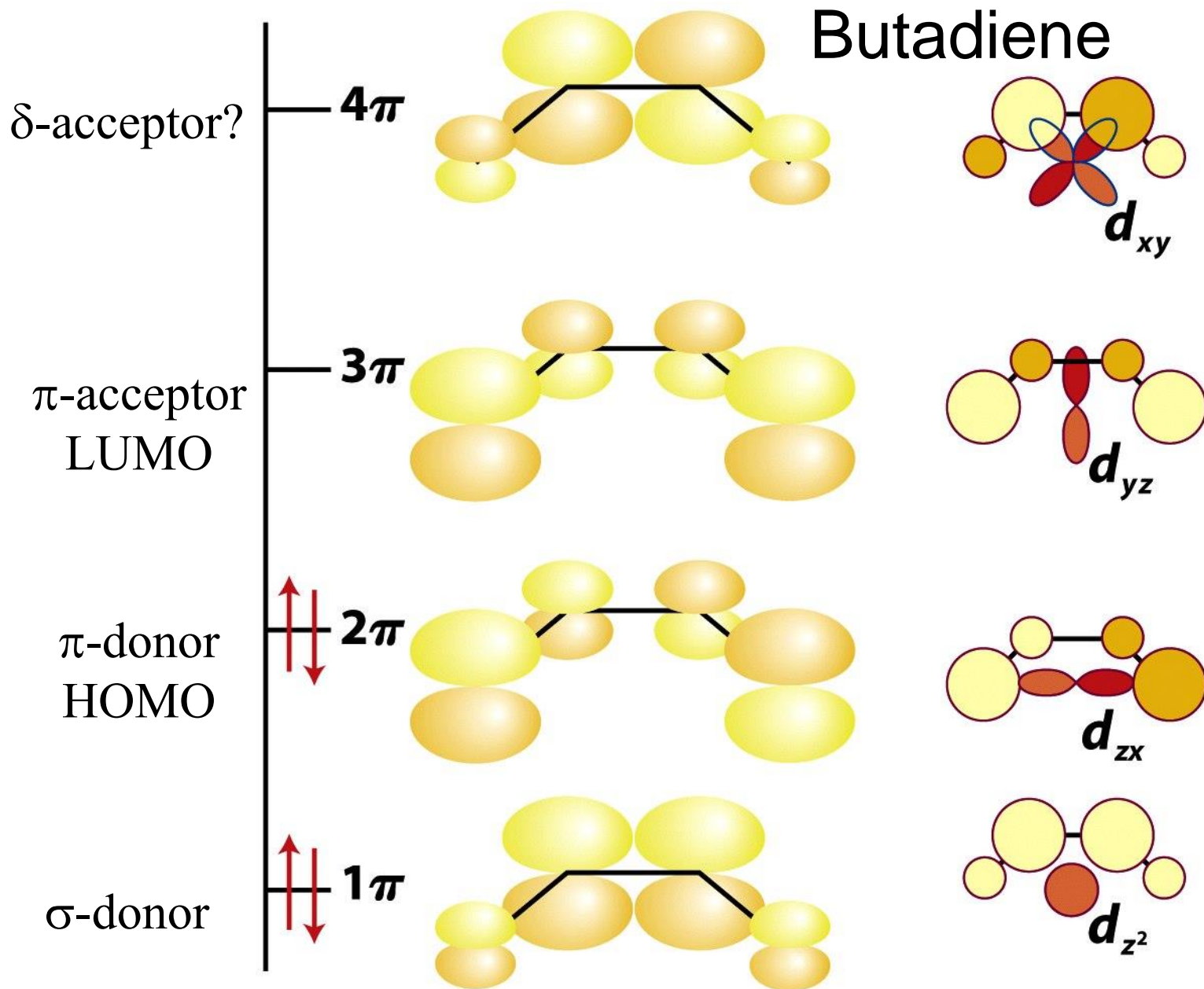


Cycloocta-1,5-diene, cod

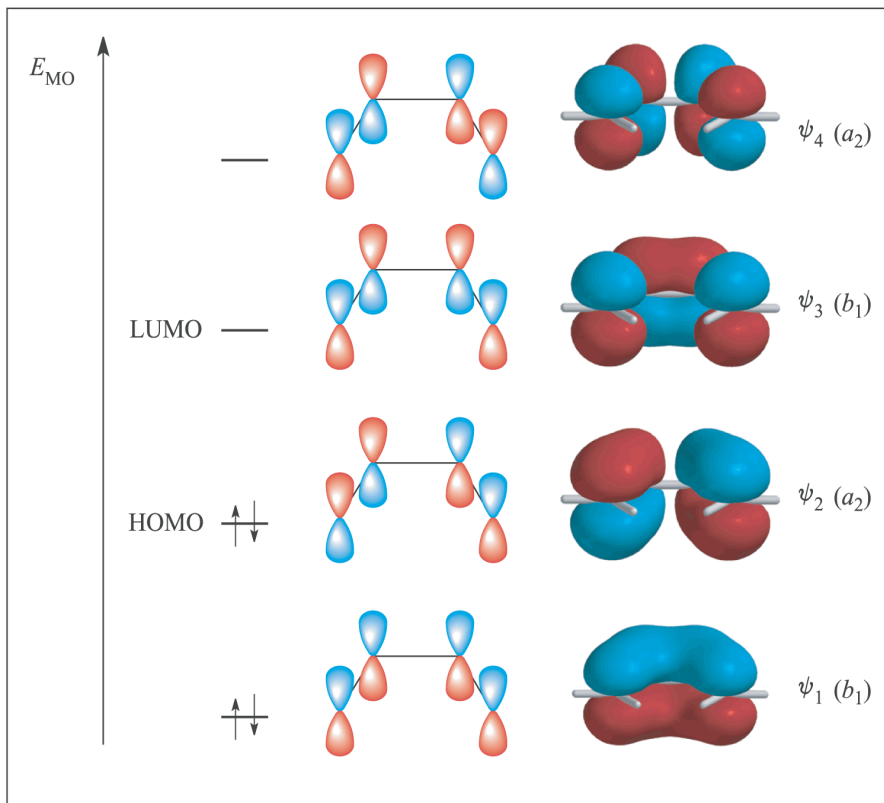


$\text{Ni}(\text{cod})_2$

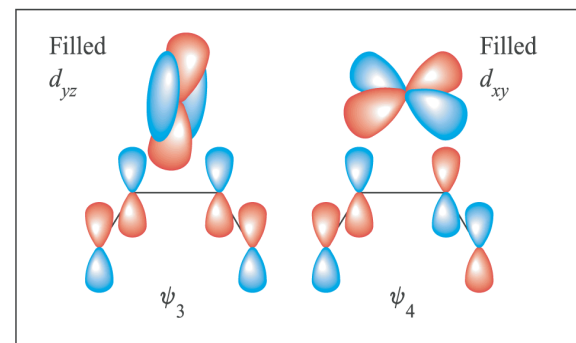
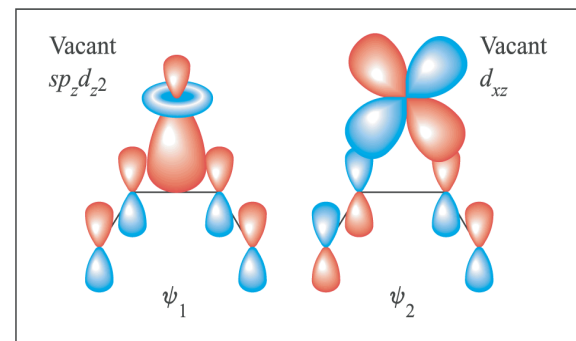
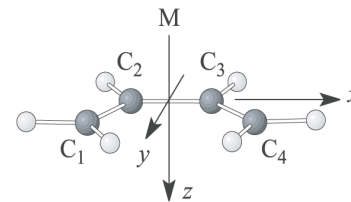




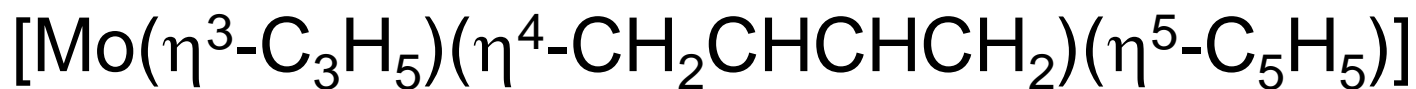
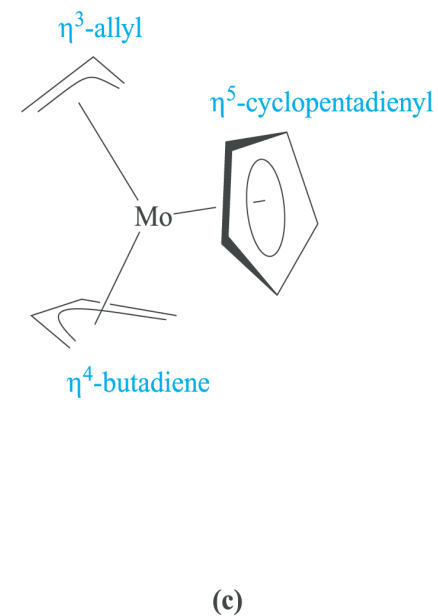
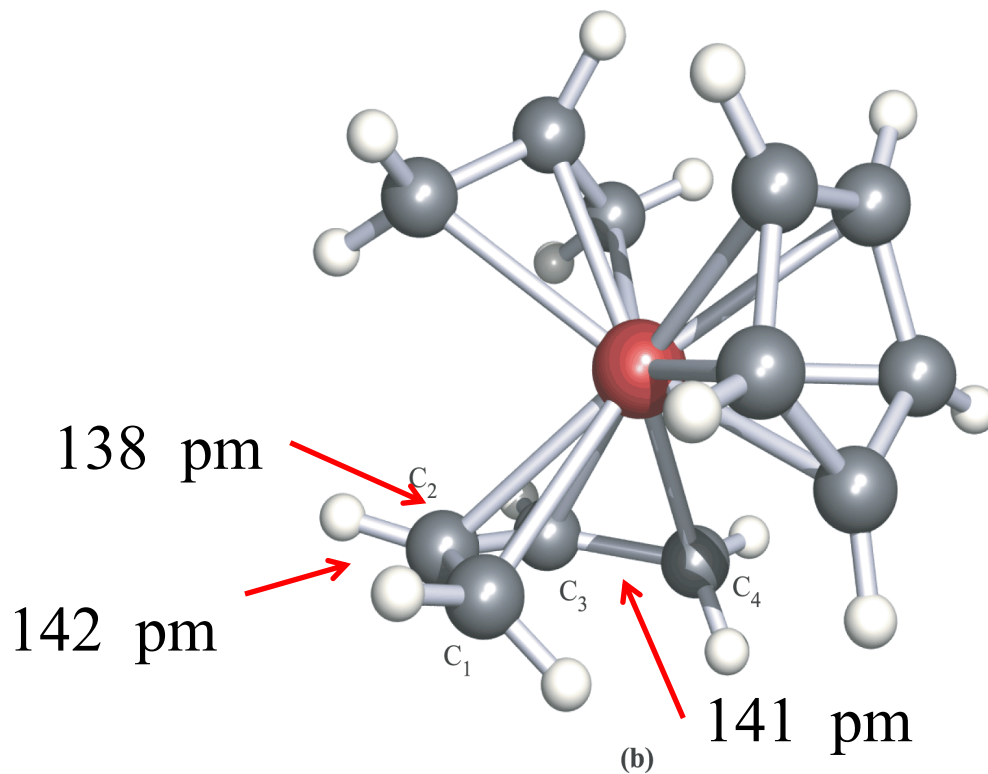
Il butadiene giace nel piano xy , sopra al metallo

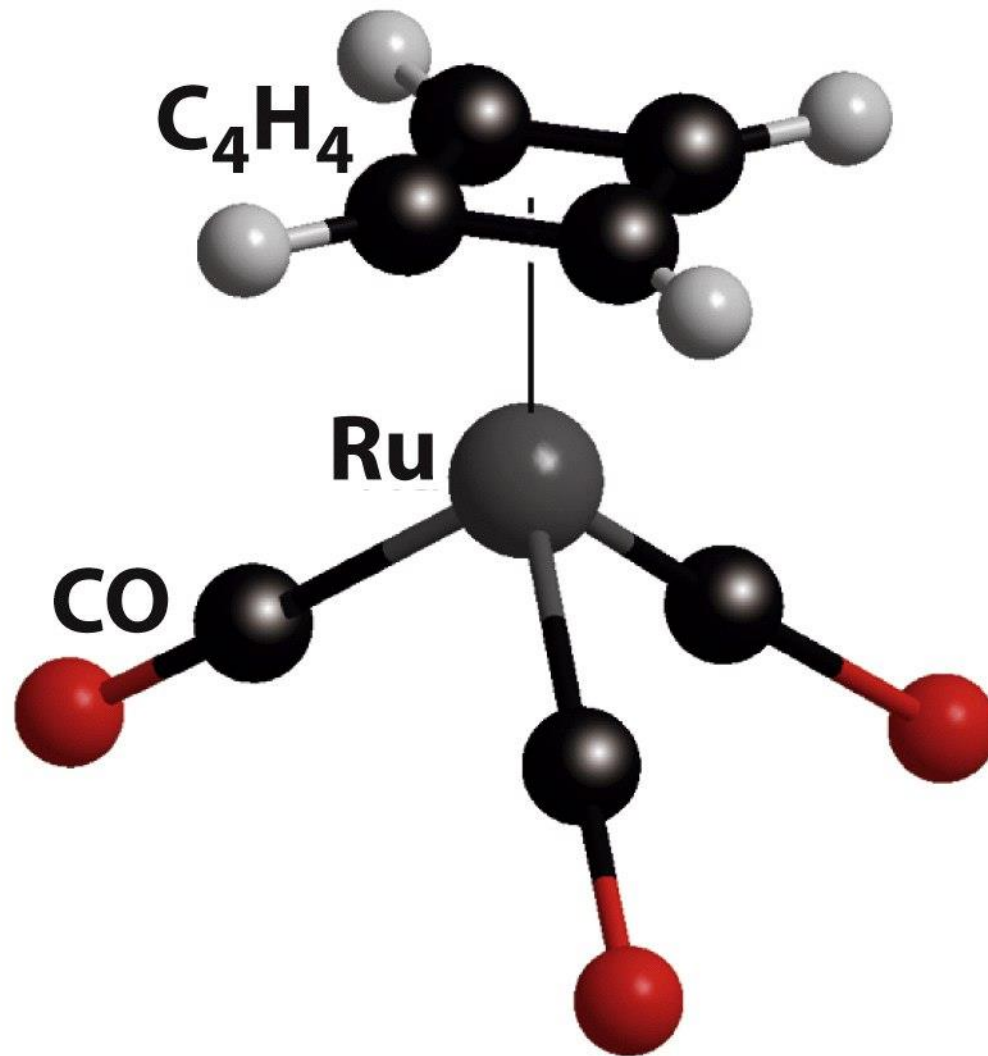


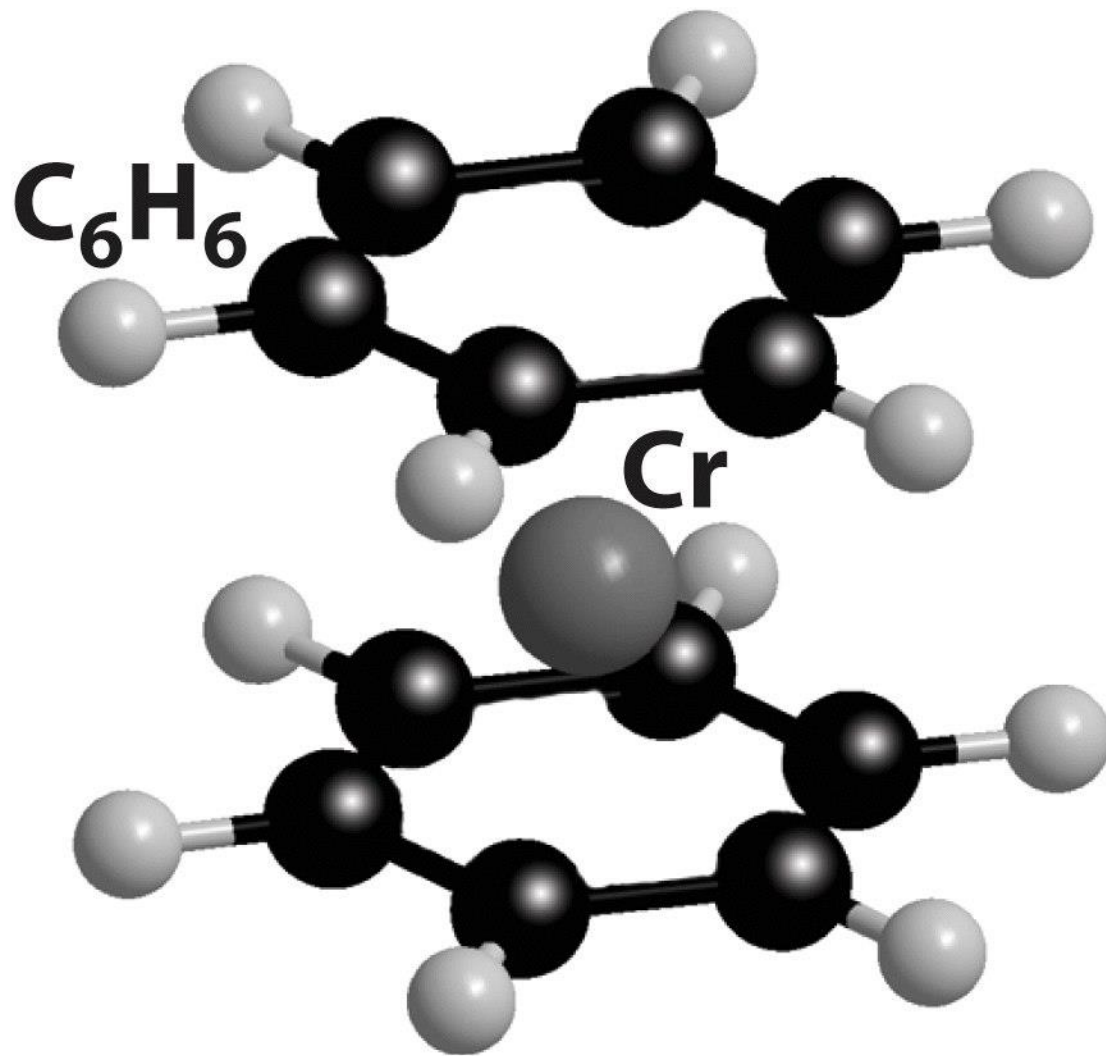
(a)

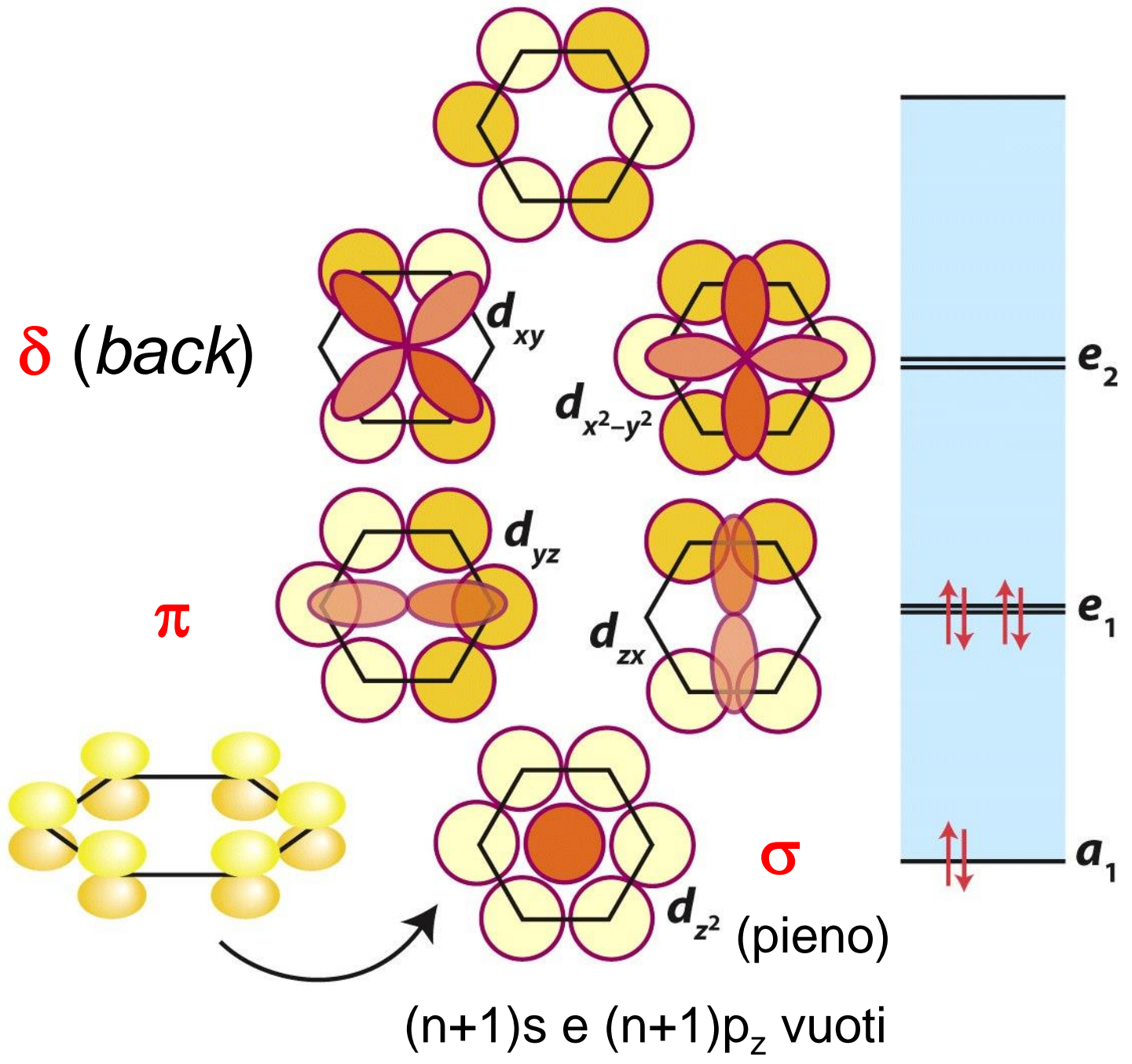


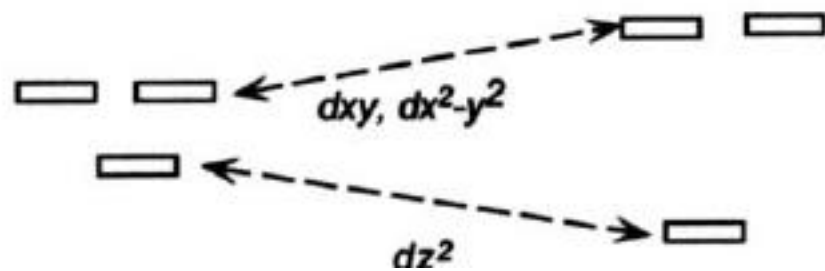
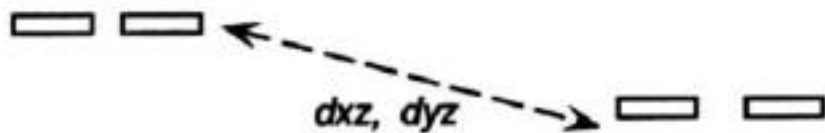
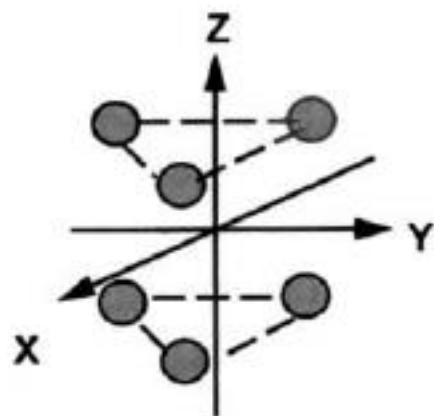
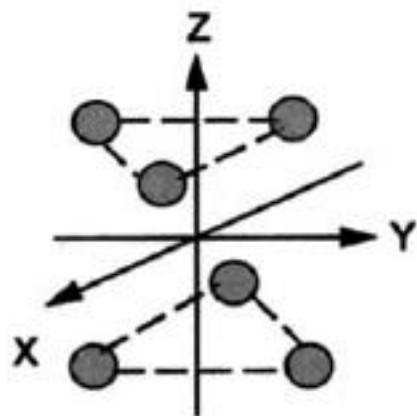
(b)

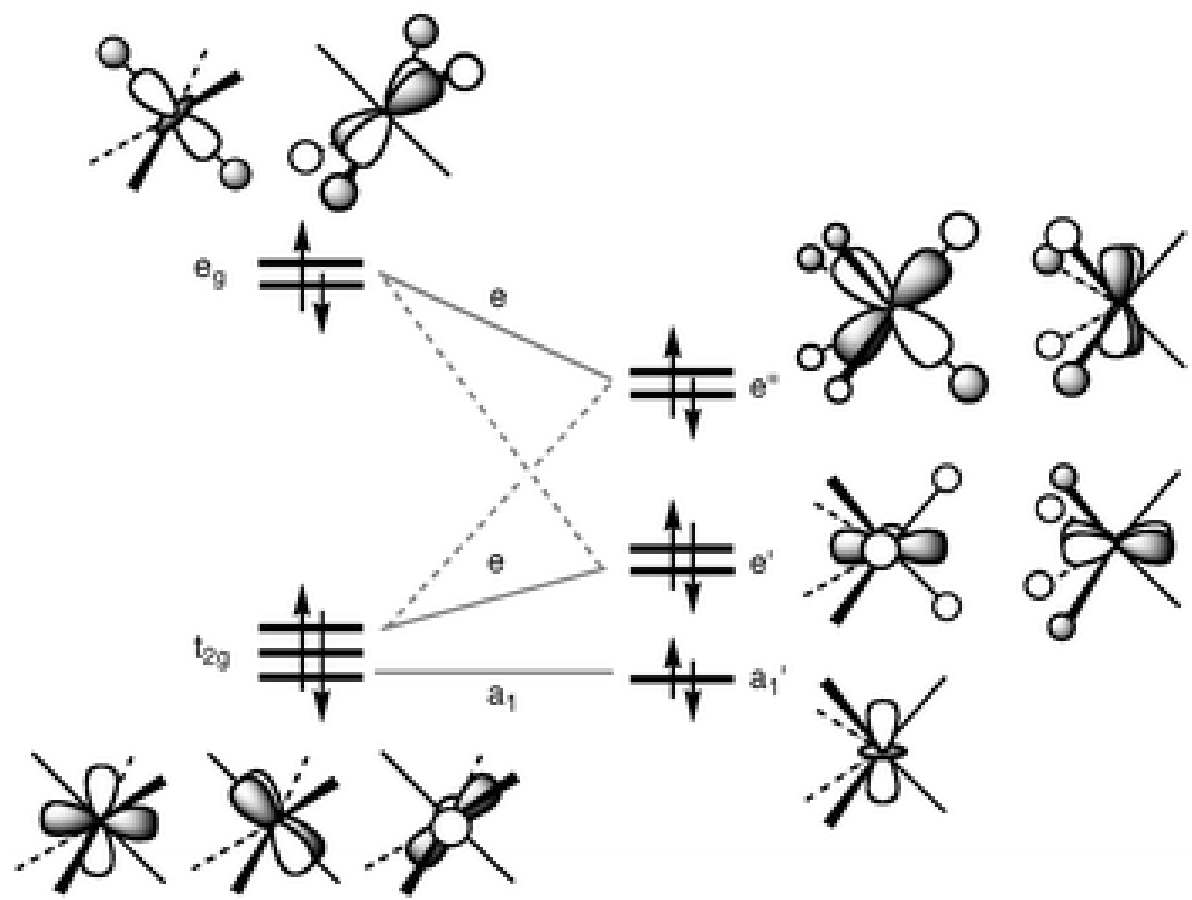
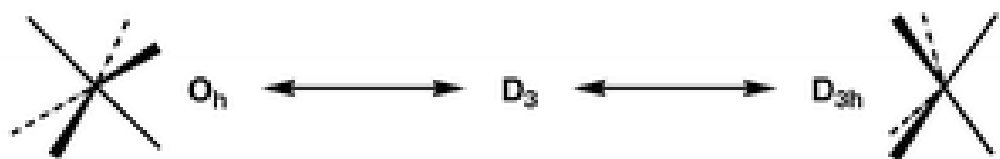


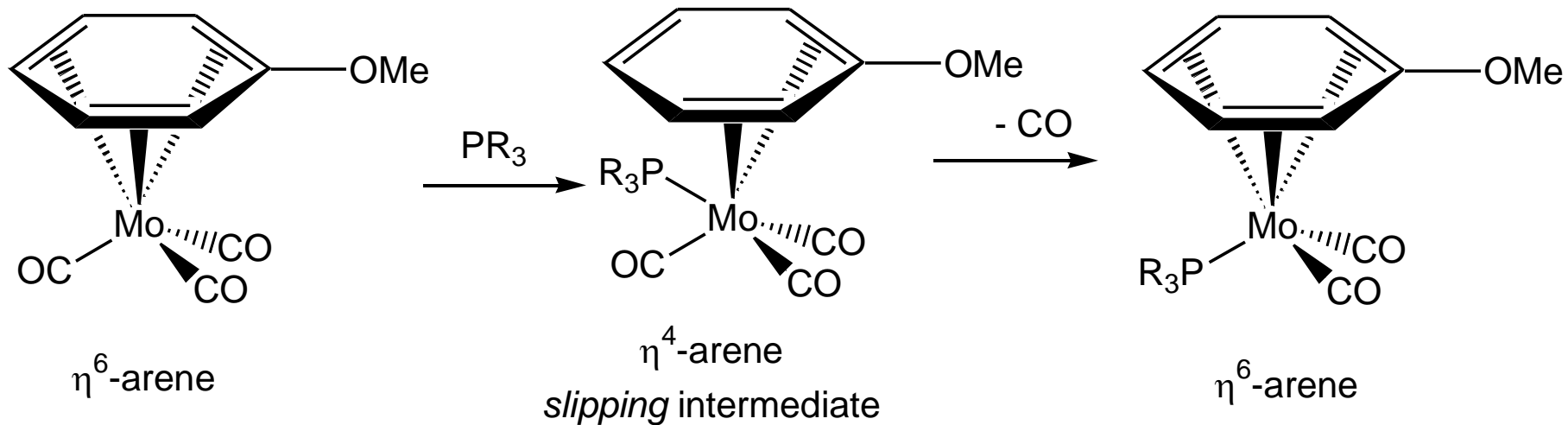
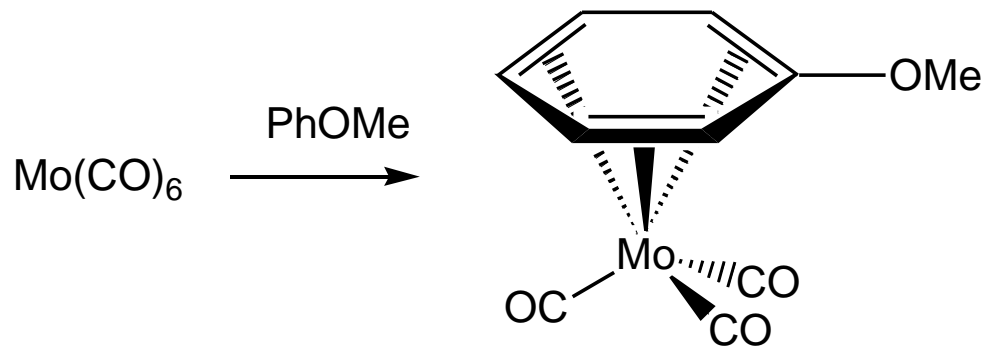






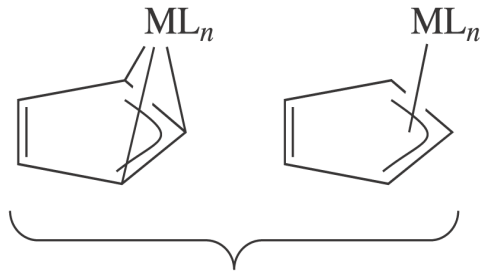




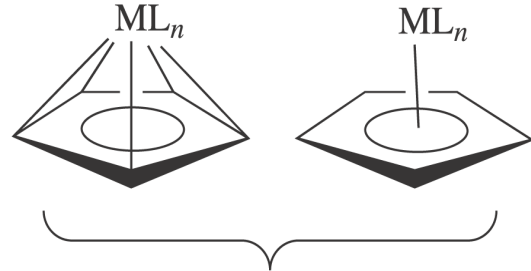




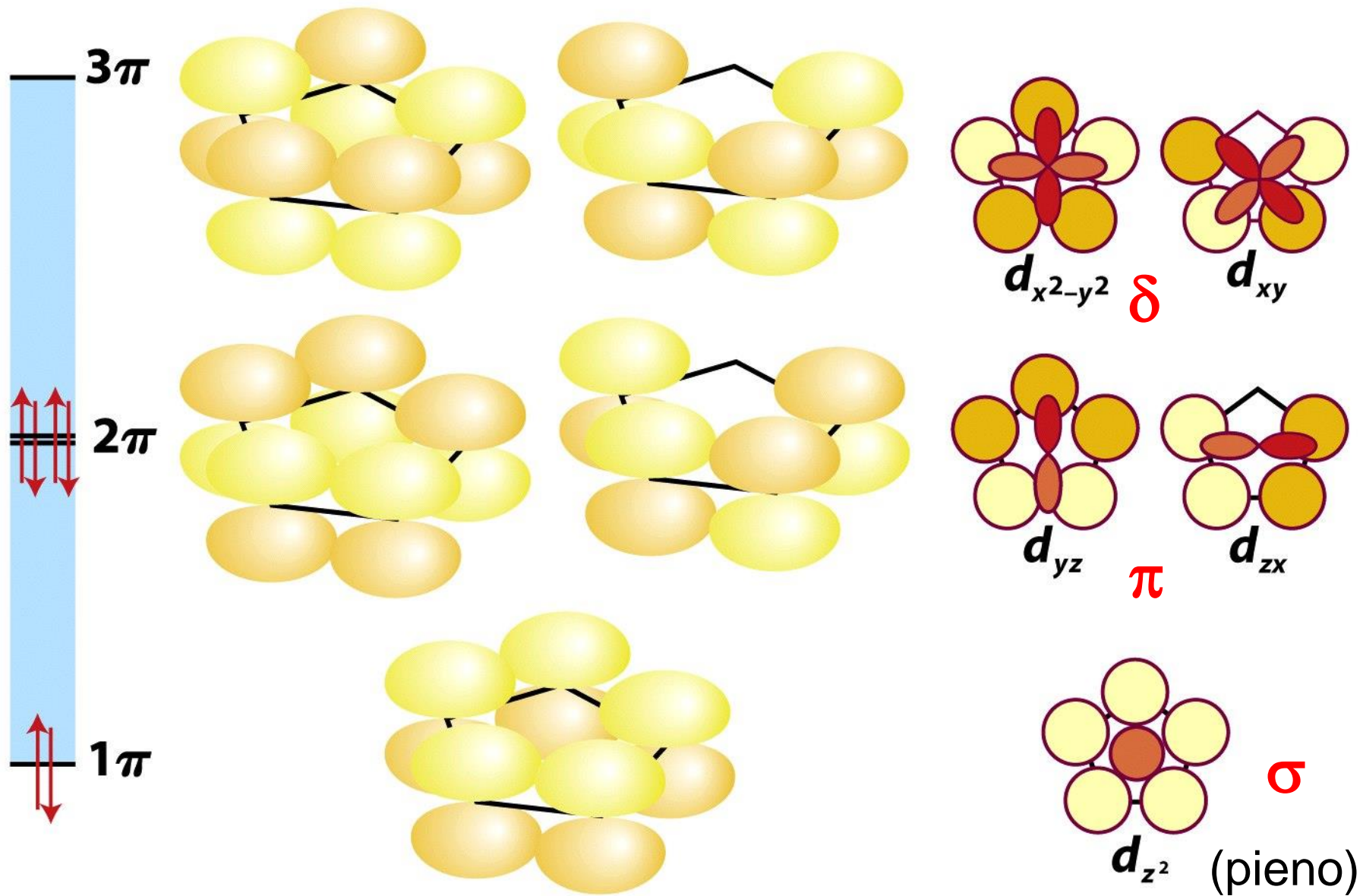
η^1 -mode



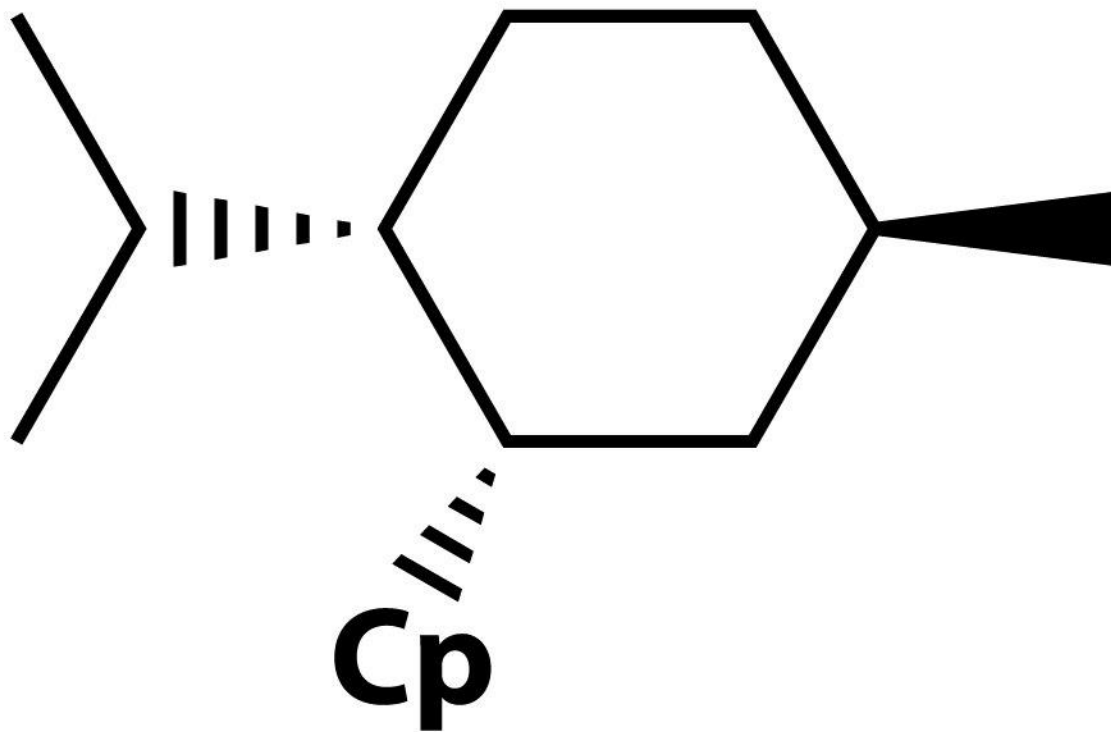
η^3 -mode



η^5 -mode

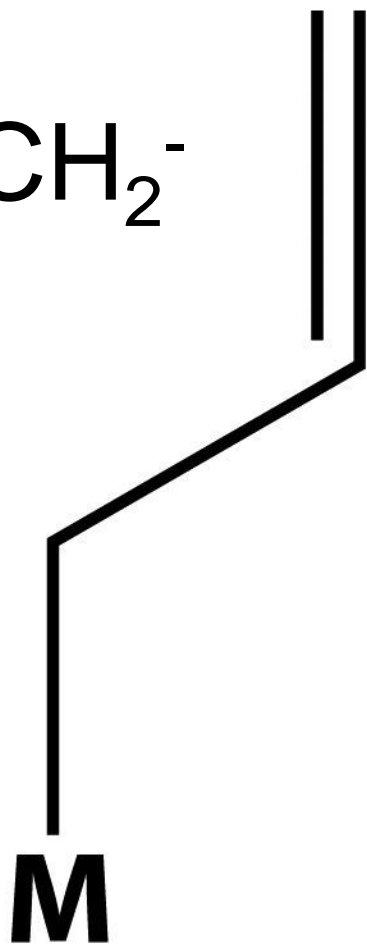


$(n+1)s$ e $(n+1)p_z$ vuoti

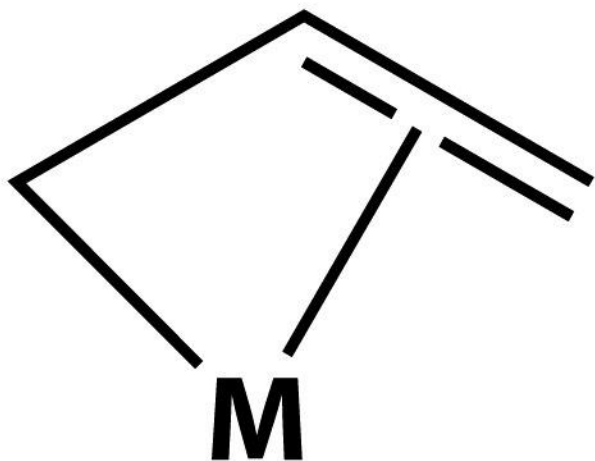


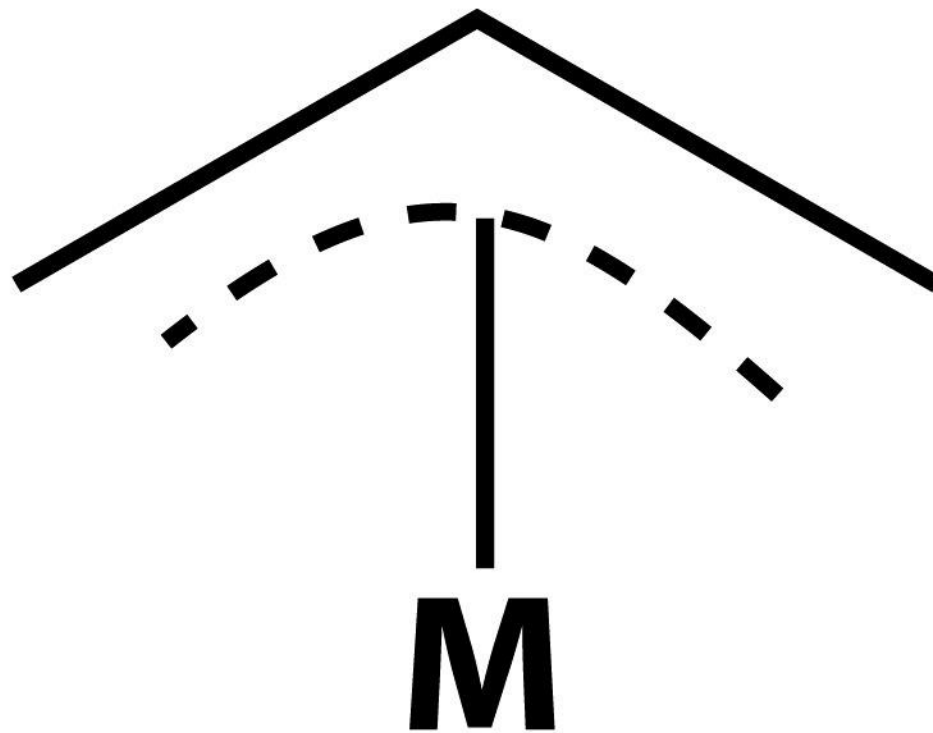
neo-Menthylcyclopentadienyl

Allyle, $\text{CH}_2=\text{CH}-\text{CH}_2^-$



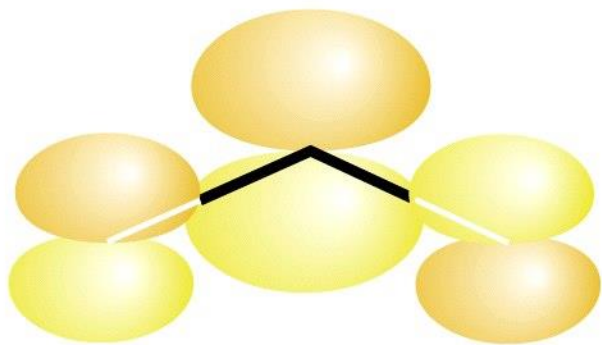
$\eta^1-(\text{CH}_2\text{CH}=\text{CH}_2)$





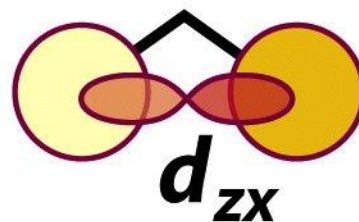
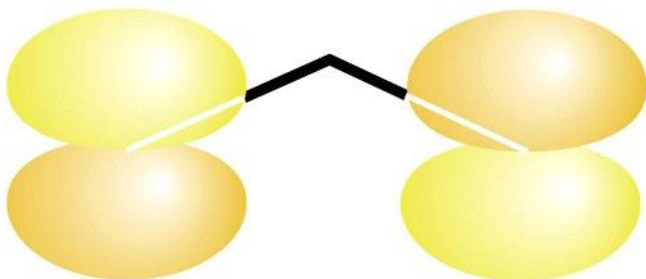
Accettore π

3π



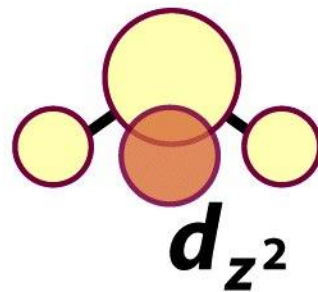
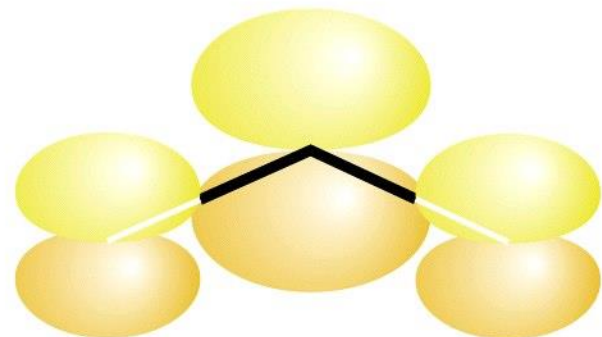
Donatore π

2π

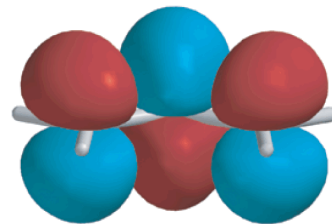
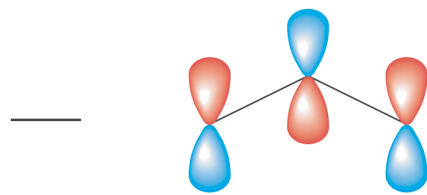


Donatore σ

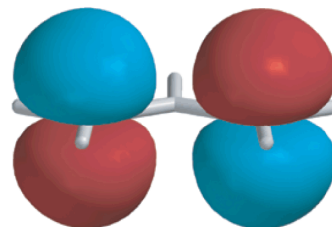
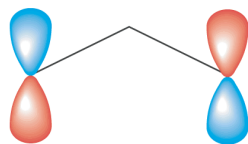
1π



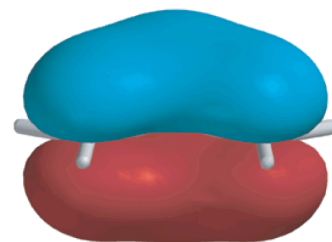
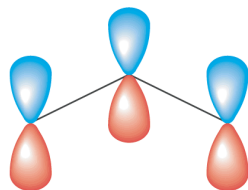
E_{MO}



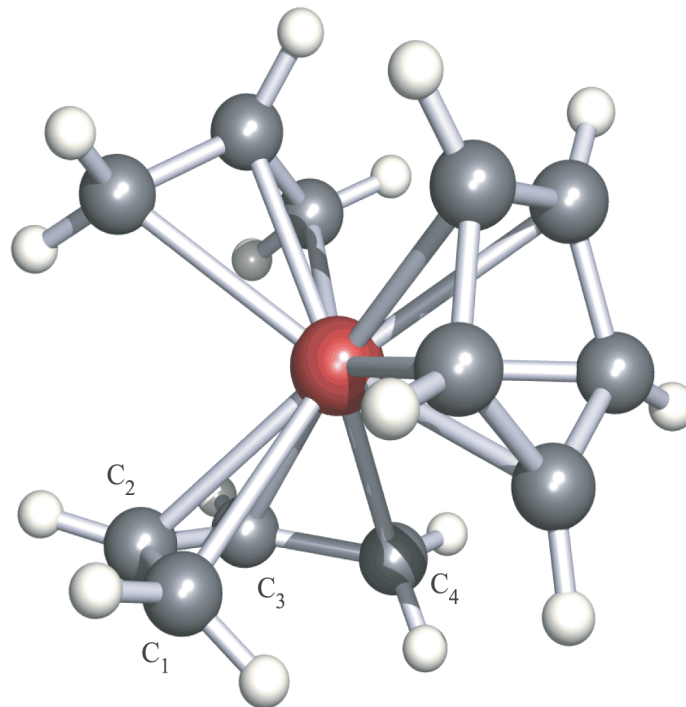
$\psi_3 (b_1)$ Antibonding



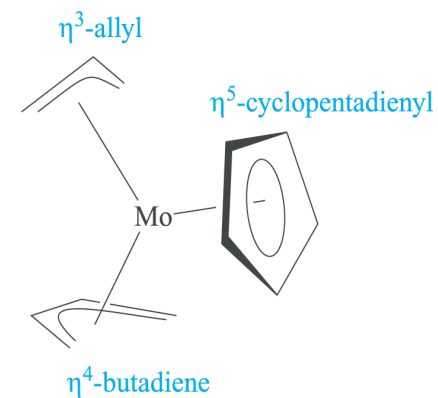
$\psi_2 (a_2)$ Non-bonding



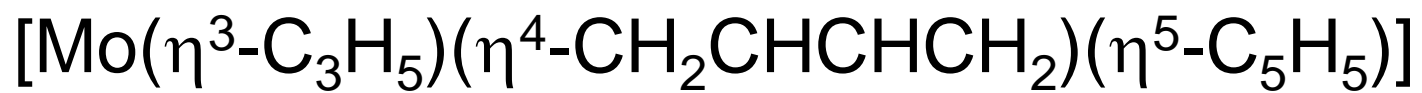
$\psi_1 (b_1)$ Bonding

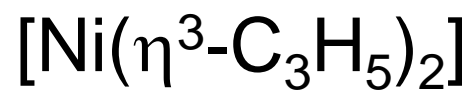
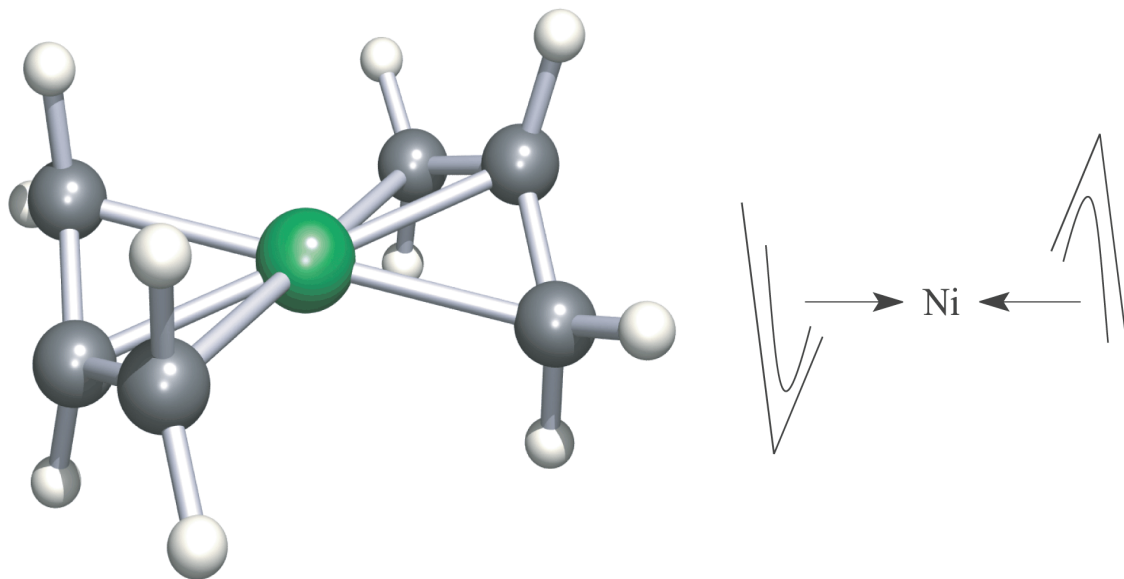


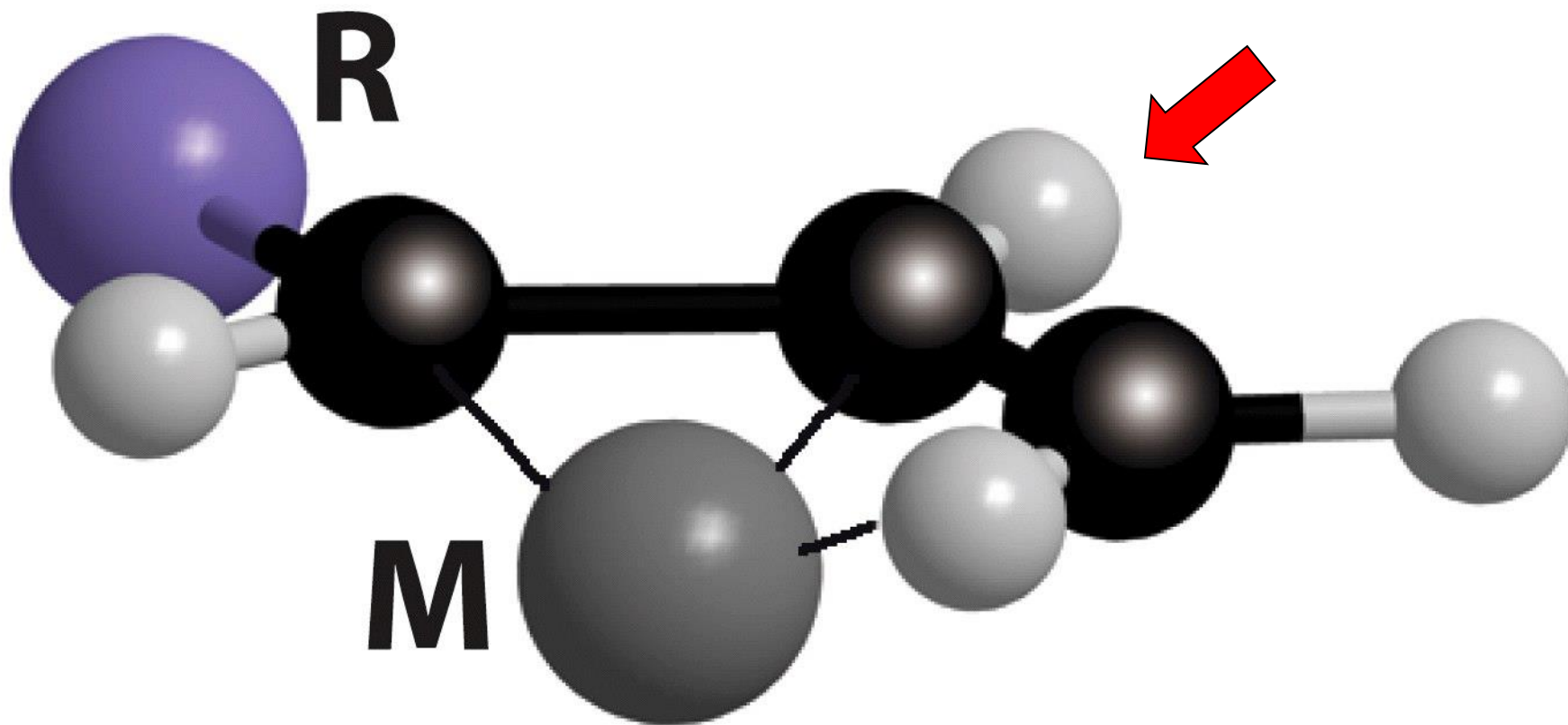
(b)



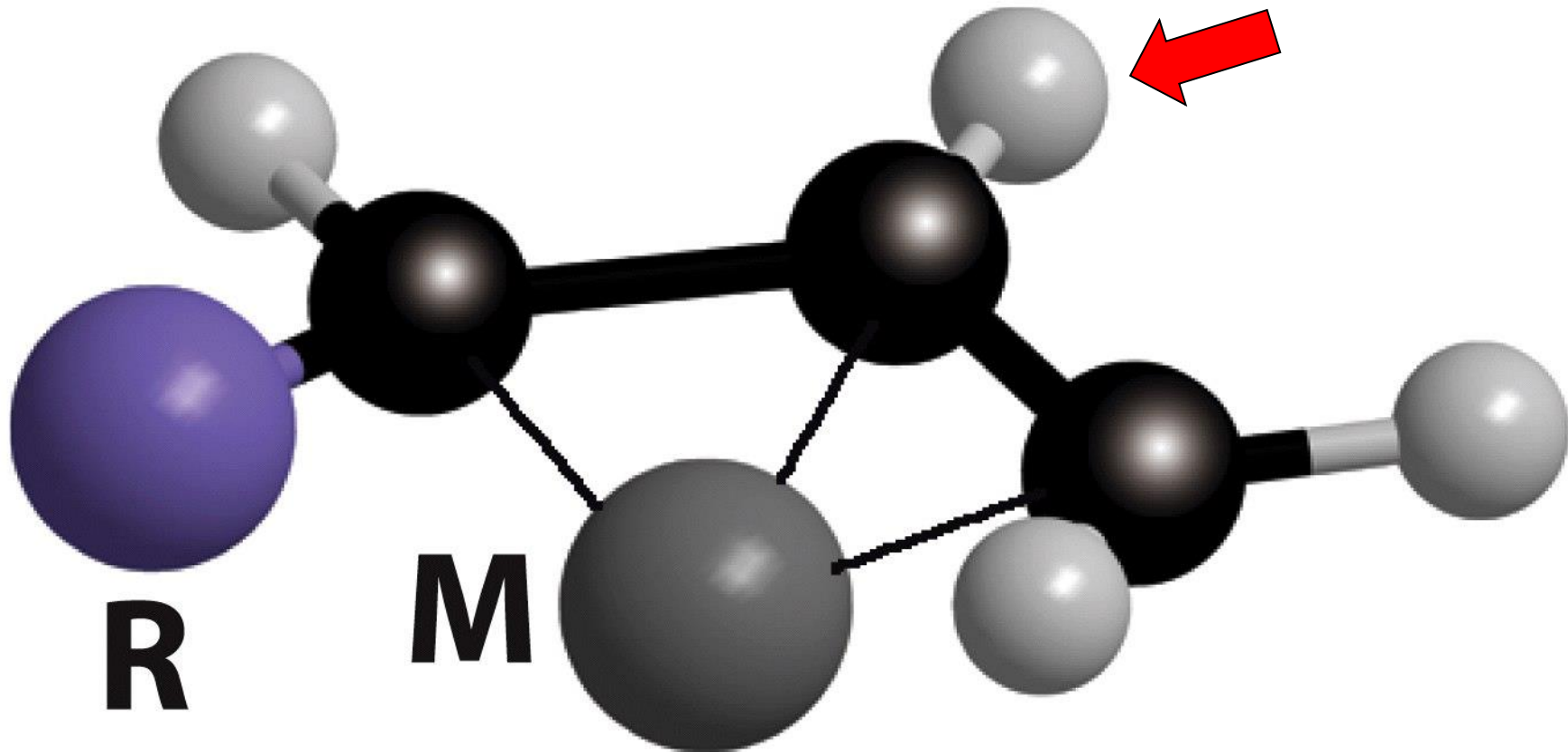
(c)







syn



anti

Meccanismo di scambio $\eta^3 \rightarrow \eta^1 \rightarrow \eta^3$

