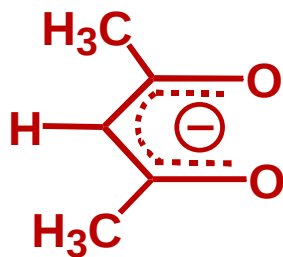
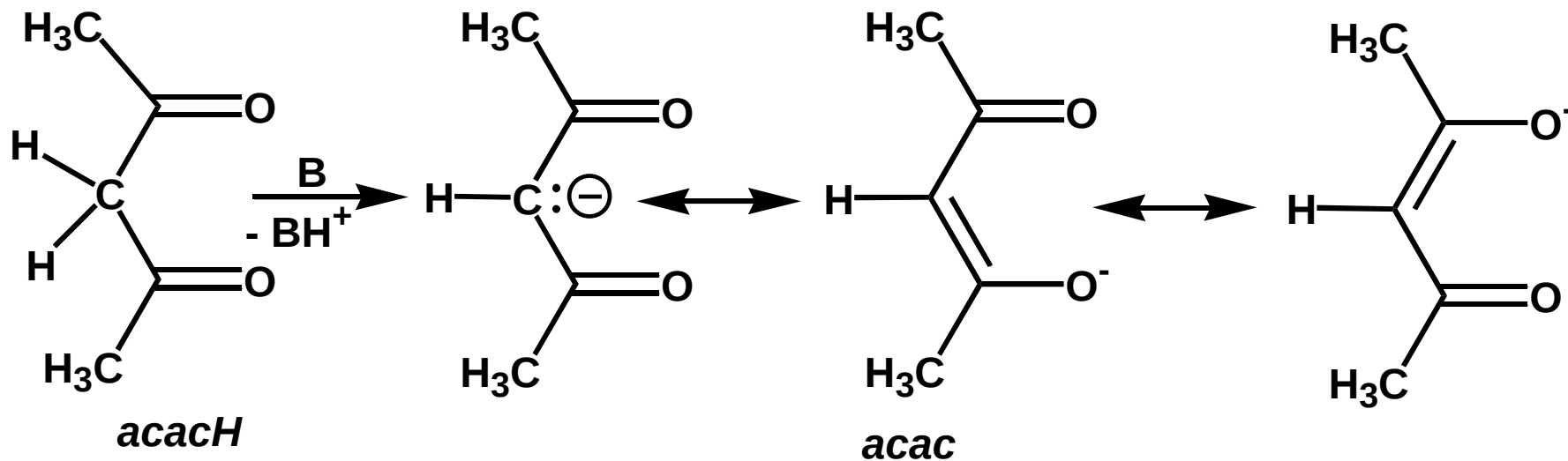


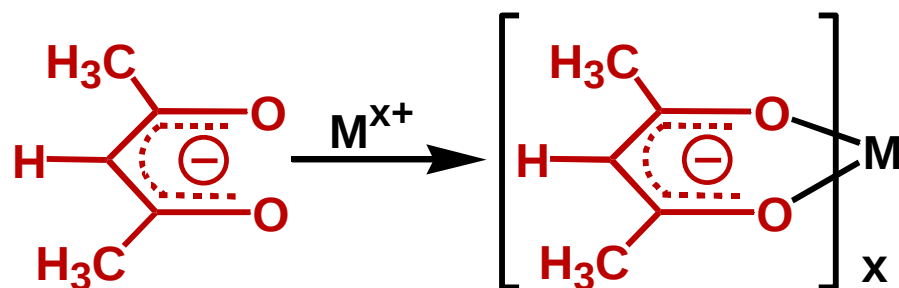
ESPERIENZA 1

Sintesi di acetilacetonato complessi di metalli di transizione della prima serie

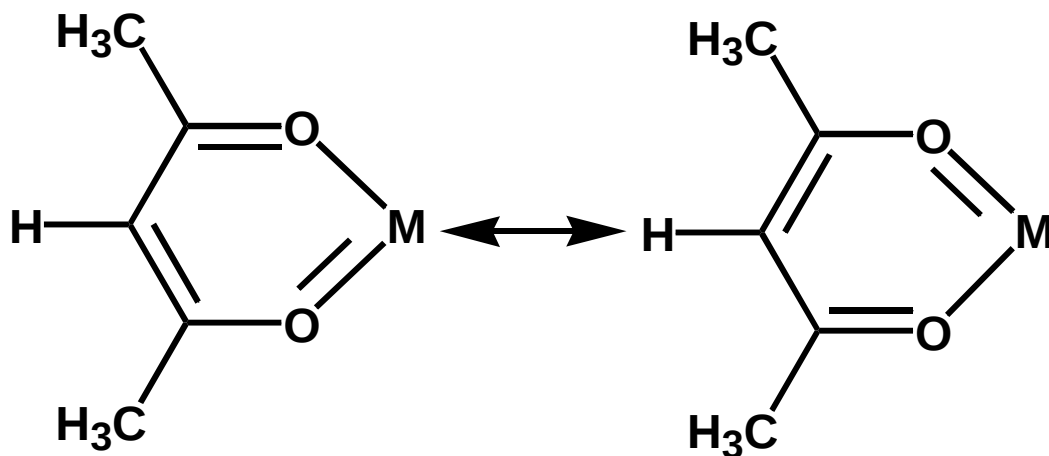
Il comportamento acido/base del 2,4-pentandione



La **coordinazione** dello ione acetilacetonato ai metalli di transizione



Altre **forme di risonanza** dovute alla coordinazione



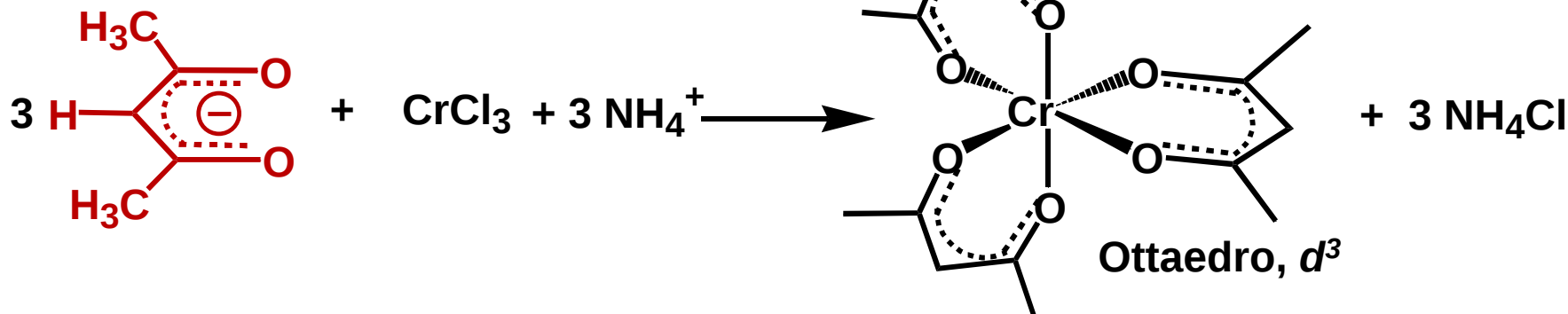
Distanze di legame a due a due **uguali**: M-O , C-O , C-C

Sintesi di $[\text{Cr}(\text{acac})_3]$

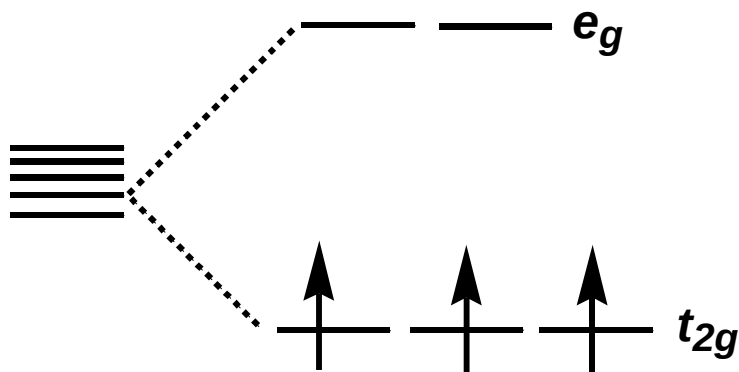
Idrolisi dell'urea



Sintesi del complesso



paramagnetico



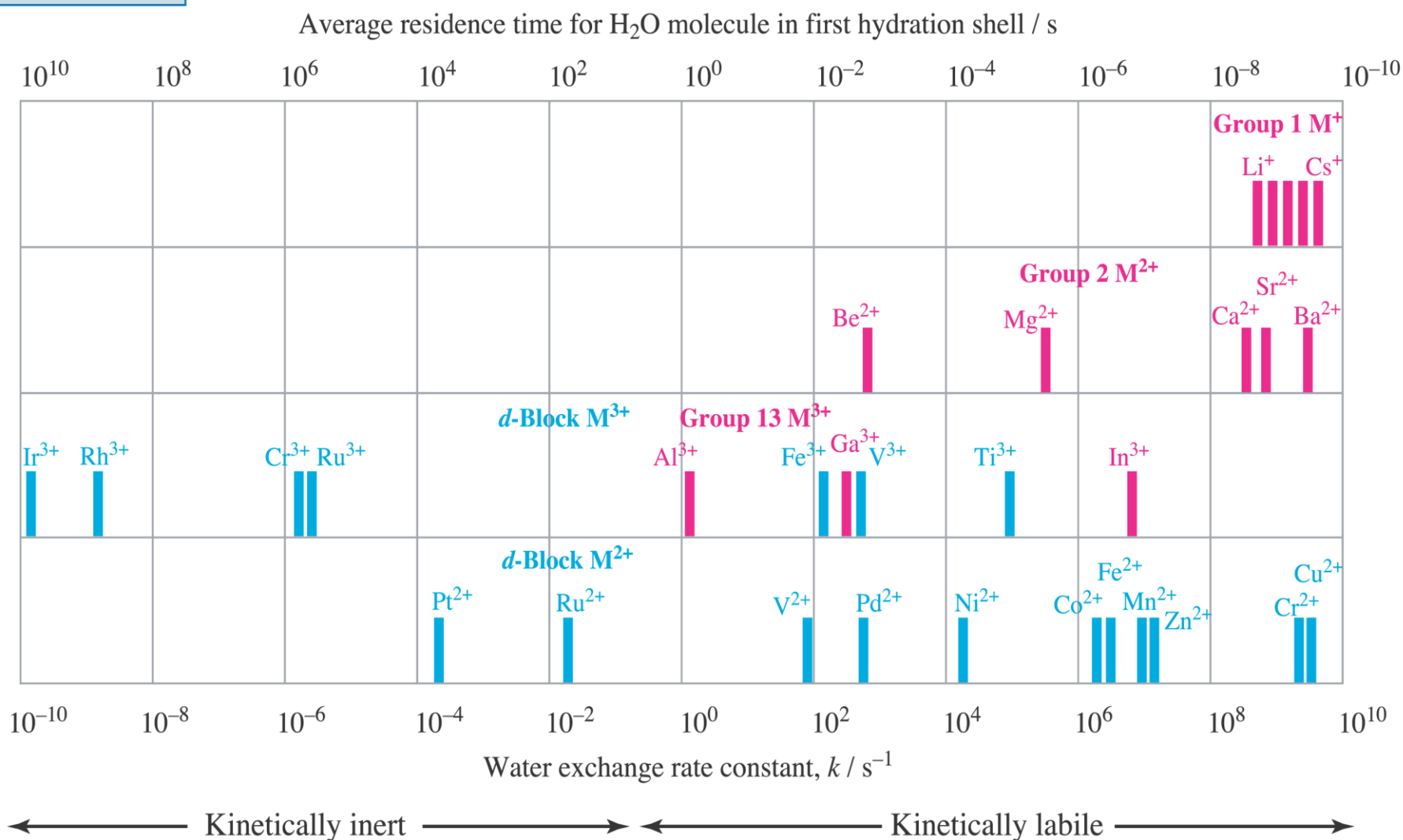
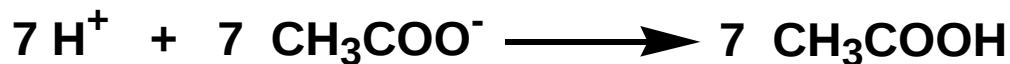
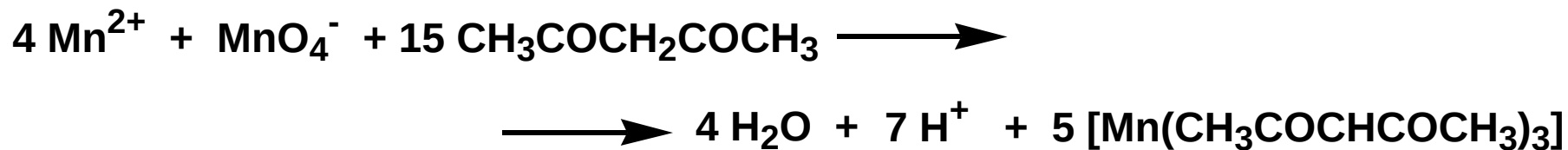
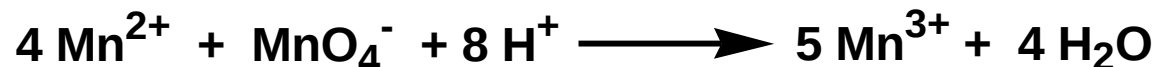
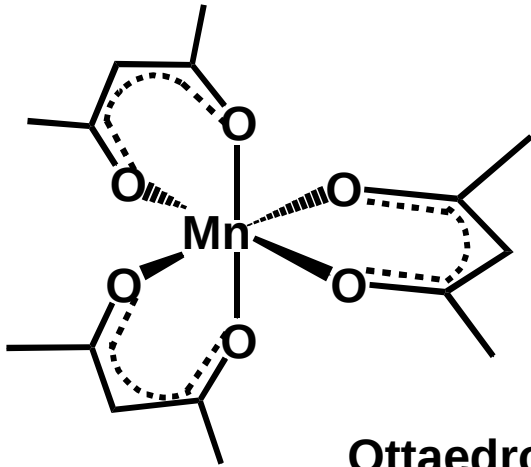


Fig. 26.1 Water exchange rate constants and average residence times for water molecules in the first coordination sphere of aquated metal ions at 298 K. Group 1, 2 and 13 metal ions are shown in pink, and *d*-block metal ions in blue. [Based on S.F. Lincoln (2005) *Helv. Chim. Acta*, vol. 88, p. 523 (Figure 1).]

Sintesi di $[\text{Mn}(\text{acac})_3]$

Sintesi del complesso



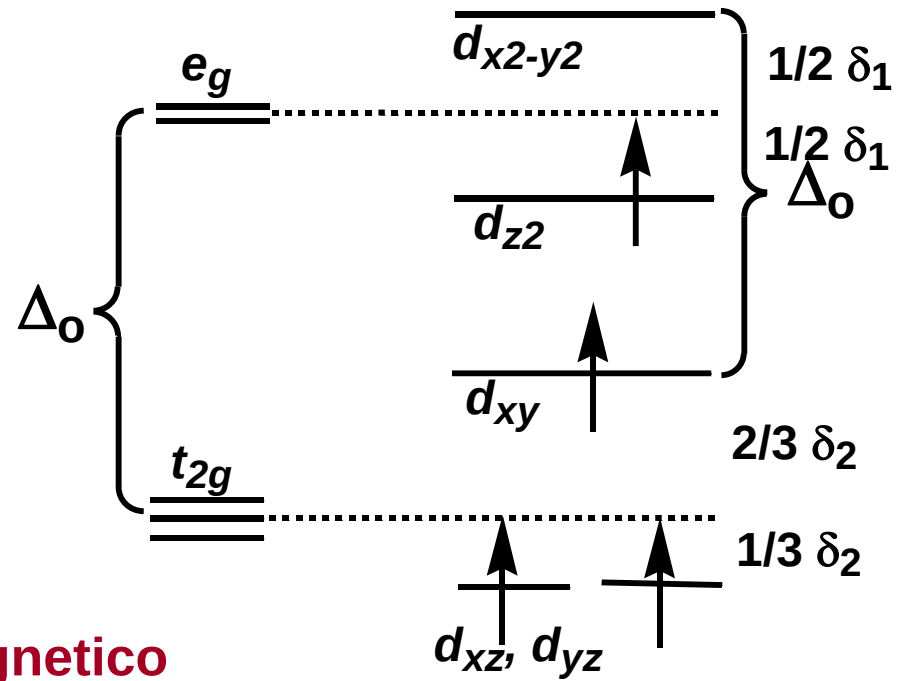
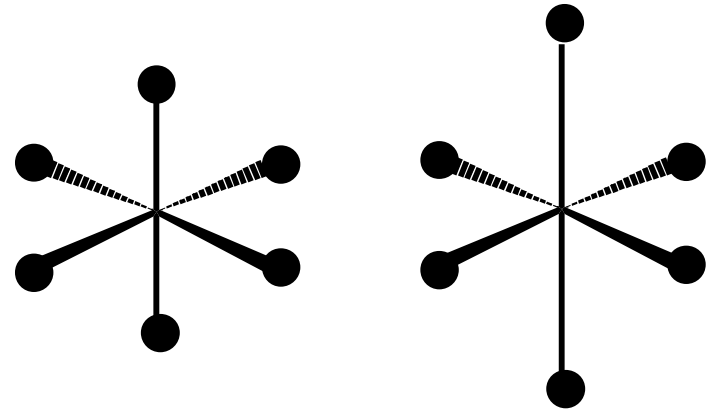


Ottaedro, d^4

Distorsioni per effetto Jahn-Teller:

Allungamento: 2 Mn-O 2.12 Å;
4 Mn-O 1.93 Å;

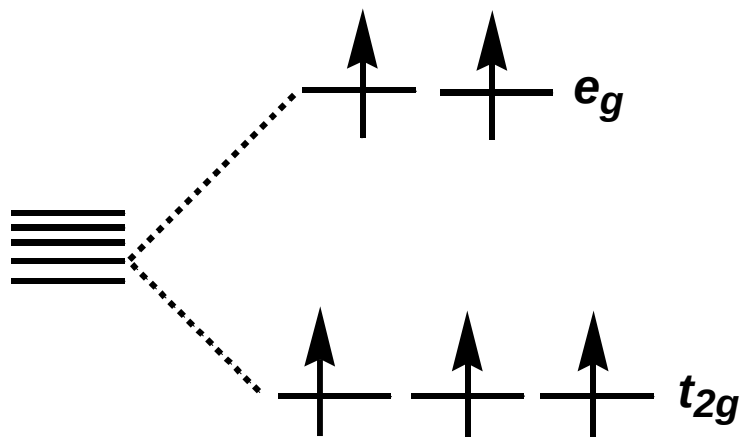
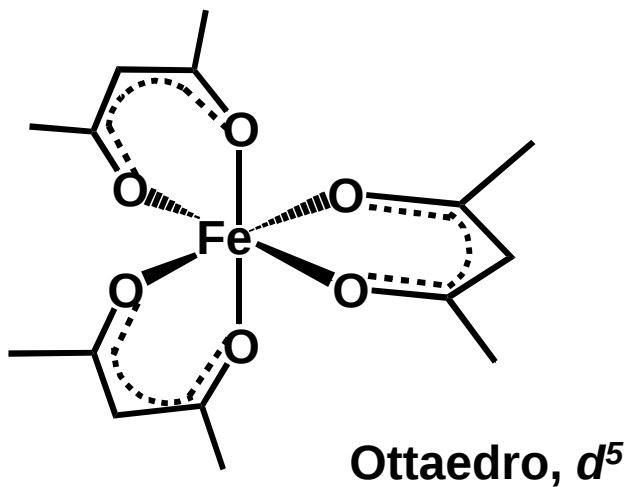
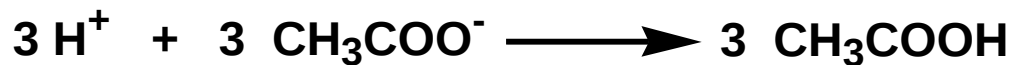
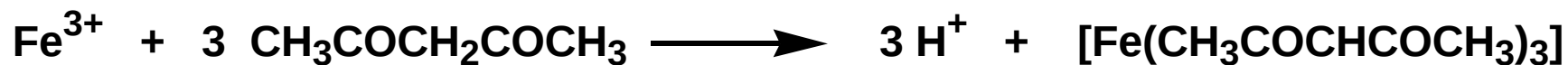
Compressione: 2 Mn-O 1.95 Å;
4 Mn-O 2.00 Å.



paramagnetico

Sintesi di $[\text{Fe}(\text{acac})_3]$

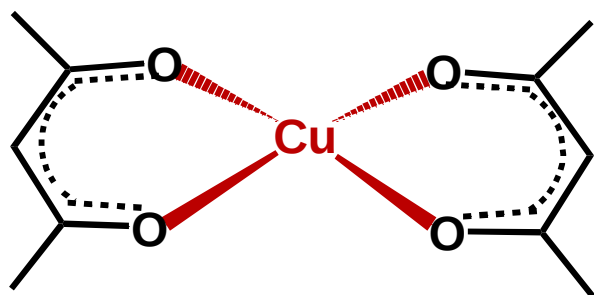
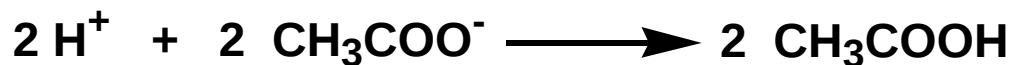
Sintesi del complesso



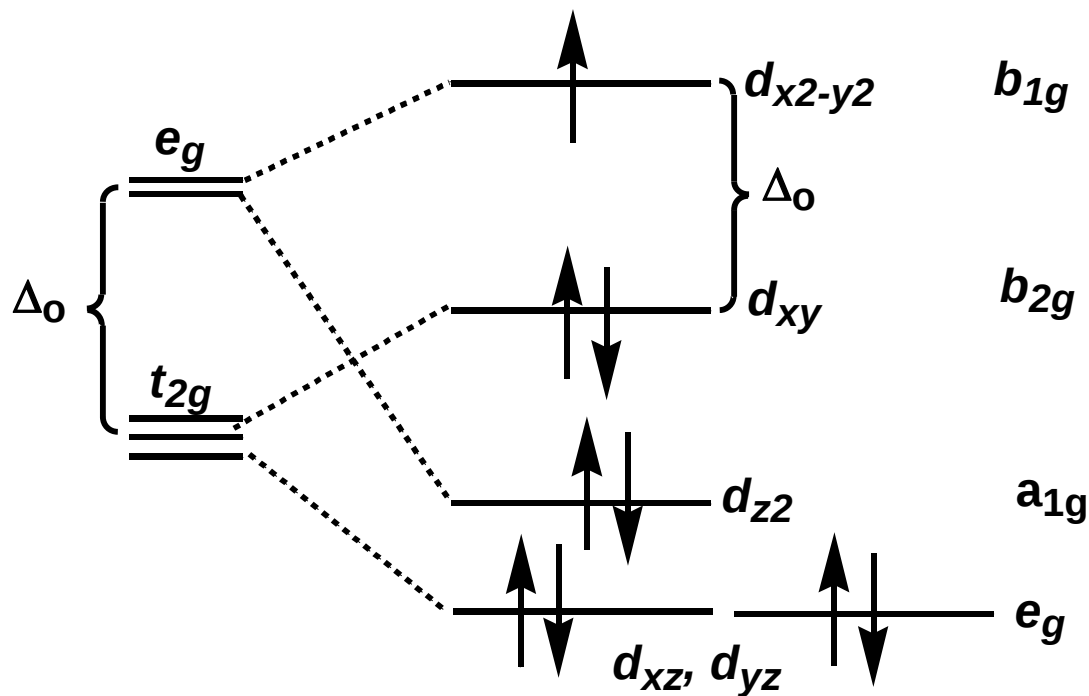
paramagnetico

Sintesi di $[\text{Cu}(\text{acac})_2]$

Sintesi del complesso



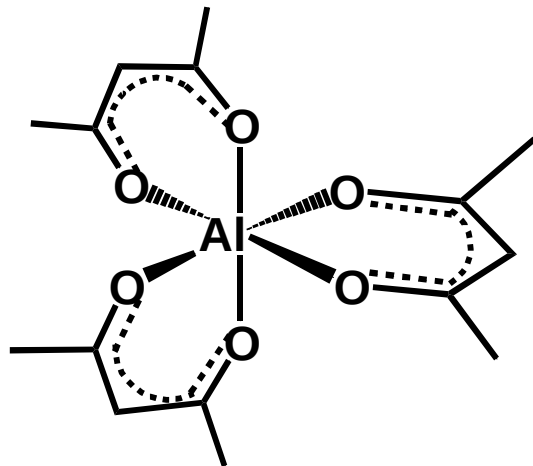
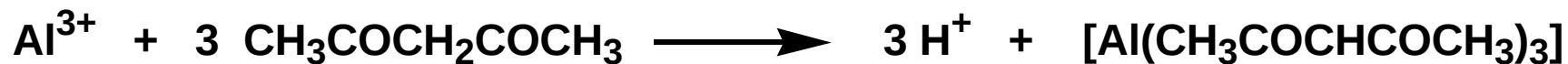
planare quadrato, d^9



paramagnetico

Sintesi di $[\text{Al}(\text{acac})_3]$

Sintesi del complesso



ottaedro, **no elettroni *d***

diamagnetico

ESPERIENZA 1

Cromatografia su strato sottile degli acetilacetonato complessi

Complesso	Colore	r_F
$[\text{Cr}(\text{acac})_3]$	viola	
$[\text{Mn}(\text{acac})_3]$	nero	
$[\text{Fe}(\text{acac})_3]$	Rosso	
$[\text{Cu}(\text{acac})_2]$	Azzurro verde	

Registrare spettri **IR** dei **complessi metallo-acac**