

## Spin pairing energies – $\Delta$ -values

- Pairing energies  $M^{z+}_{\text{gas}}$  : ~20% smaller in  $ML_n^{z+}$

Energy $10^3\text{cm}^{-1}$	Ti	V	Cr	Mn	Fe	Co	Ni	Cu
$\Delta$ from $\text{Maq}_6^{2+}$		12.2	13.9	7.7	10.4	9.7	8.5	12.5
$\Delta$ from $\text{Maq}_6^{3+}$	20.4	19	17.4	21	14	20		
$P M^{2+}$			23.5	25.5	17.6	22.5	27	
$P M^{3+}$				28	30	21		

Absorption spectrum of hexaaquatitanium(III)

