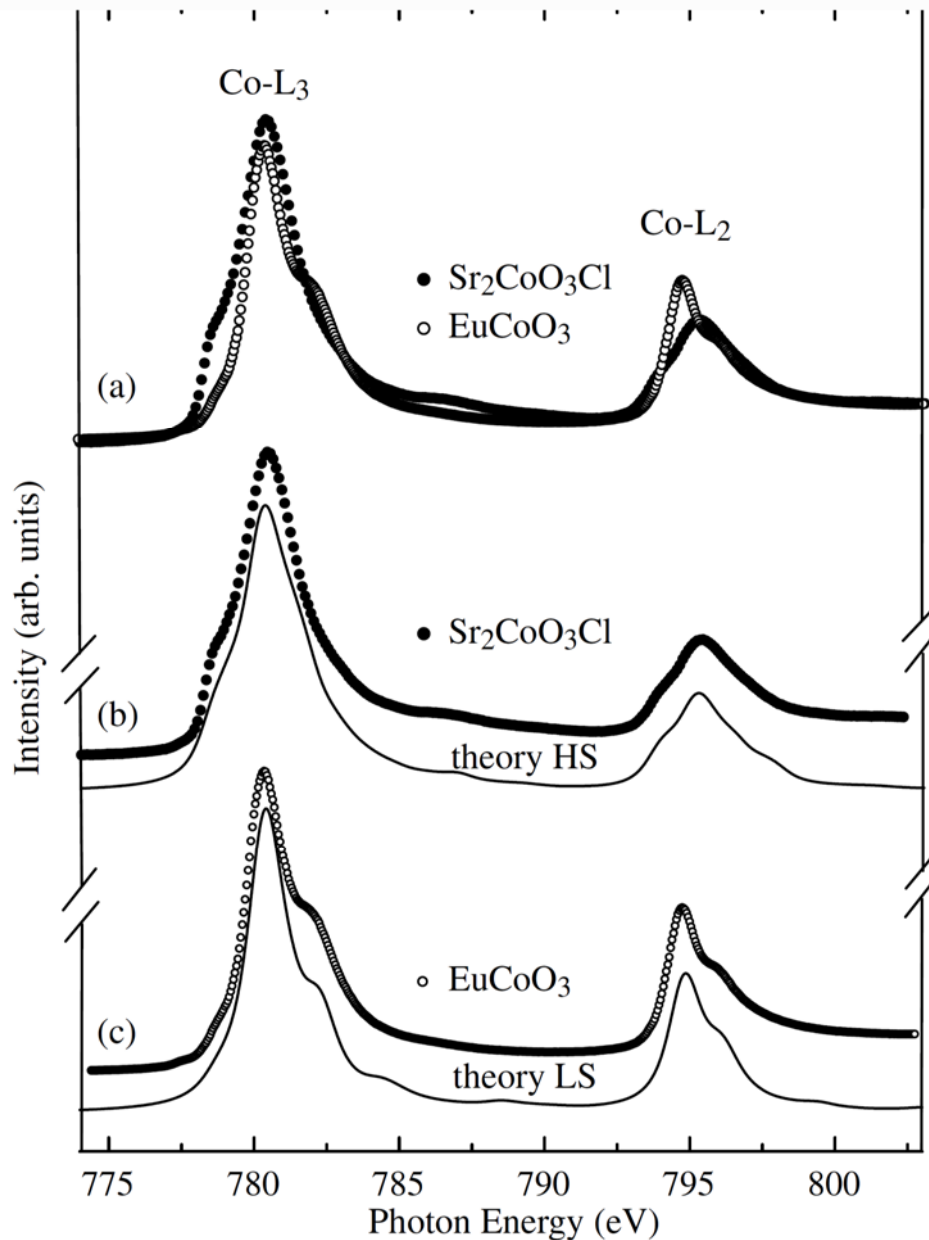


The crystal field multiplet spectrum of Co^{3+} systems



- Calculate the 2p XAS spectrum of EuCoO_3 and $\text{Sr}_2\text{CoO}_3\text{Cl}$. The symmetry is O_h ; optimise the value of $10Dq$. Use the following parameters in charge transfer calculations: $\Delta=2.5$, $U_{dd}=5.5$, $U_{pd}=7$, $V_{eg}=2.2$, $V_{t2g}=1.2$, $10Dq(Ld)=1$.
- At what value of $10Dq$ do you observe the transition? What is the multiplicity of the ground state of LS and HS states? Why?