MO diagram for σ-donor ligand system, octahedral complex
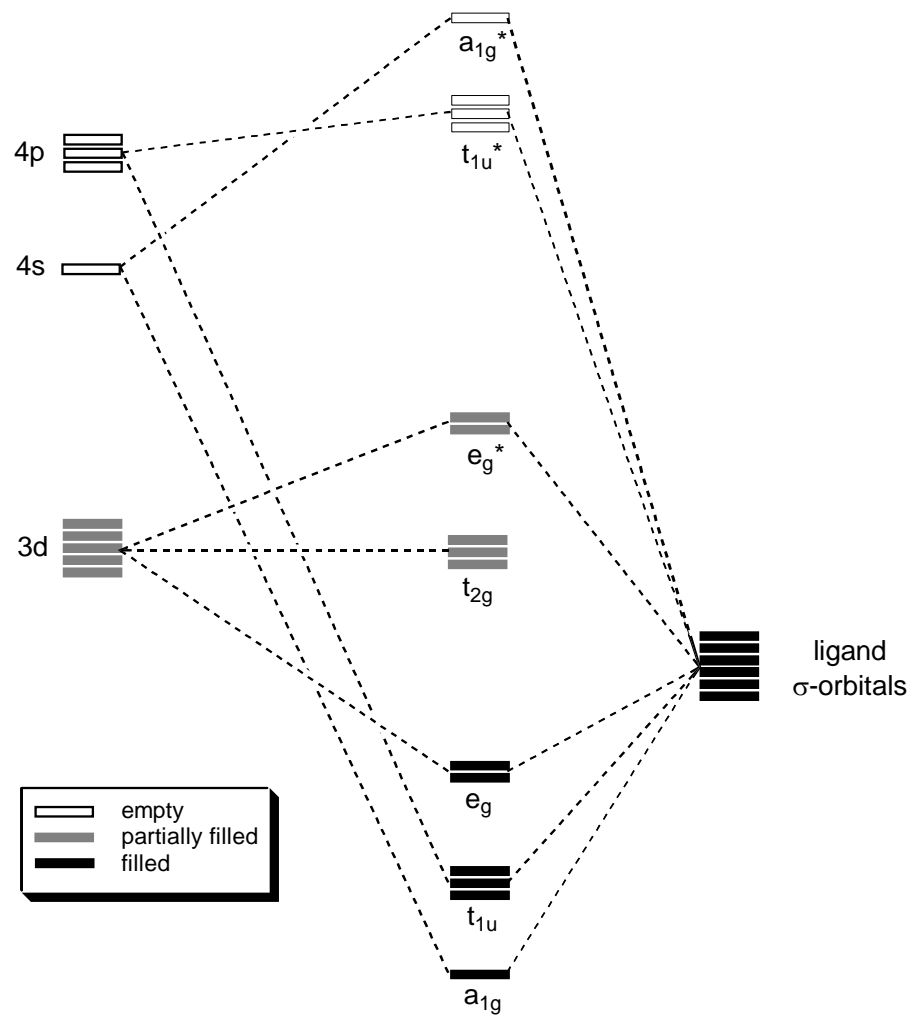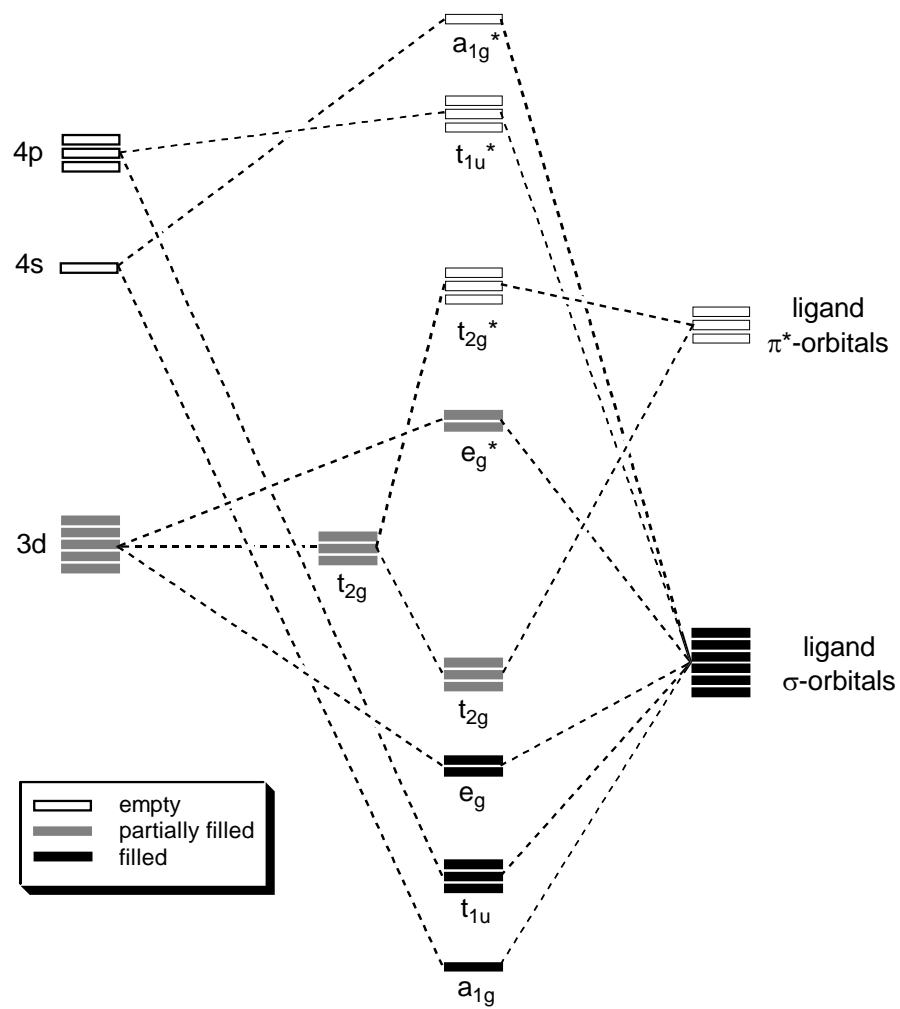
MO diagram for π-acceptor ligand system, octahedral complex

Notes: – each ligand contributes an electron pair whether it is neutral or negatively charged.
– overlap between metal orbitals and ligand s-orbitals is in the order *s > p > d*.
– the six electron pairs derived from the ligands can be considered to fill the a_{1g}, t_{1u} and e_g levels whilst the remaining electrons derived from the metal are placed in the non-bonding t_{2g} and antibonding e_g* levels (of course, we cannot distinguish between electrons derived from the ligand and those from the metal).