

Metals and their Compounds

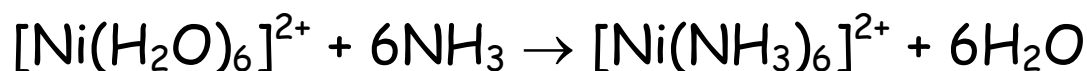
Lecture 8.1

Stability of Coordination compounds

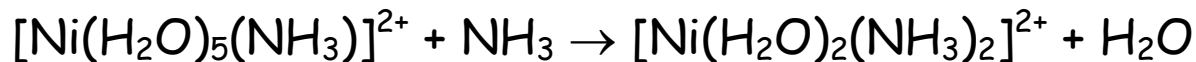
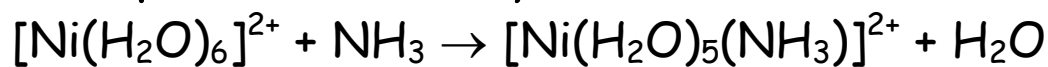
The formation of coordination complexes is a common reaction of transition metal ions. It usually involves displacement of one ligand by another.

Why should a metal prefer one type of ligand over another ?

Part of answer lies in *thermodynamics* i.e. energy and entropy (disorder). Consider the reaction(lab)

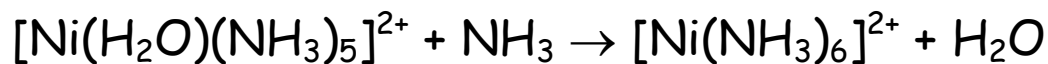


This proceeds in *steps*



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In each step, *one* Ni-O bond changes for a Ni-N bond.

First question - is Ni-N stronger than Ni-O ?