**SEQUENTIAL COMPLEXATION BY SIMPLE LIGANDS**

These reactions are often viewed as Lewis Acid/Base reactions in which the ligand donates a pair of electrons to a vacant d-orbital of the metal, consider the following example of Ni(II)

Ni(H2O)2+ + 4 Cl- <===> NiCl42- + 4H2O)

Reaction occurs in a number of steps!

**Ni2+ + Cl- <===> NiCl+**

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**NiCl+ + Cl- <===> NiCl2 -**

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**NiCl2 + Cl- <===> NiCl3-**

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**NiCl3- + Cl- <===> NiCl4-2**



Formation constants are often expressed in terms of the overall reaction rather than the simple steps:

ß1= K1 ß2= K1K2 ß3= K1K2K3 ß4=K1K2K3K4

for example :

