Supplementary Information

Table 1 Overall (log β_{H_hL}) and stepwise (log K_{H_hL}) [a,b] protonation constants of L^1 and L^2, and stability constants (log $\beta_{M_mH_hL_l}$ and log $K_{M_mH_hL_l}$) of their complexes with several divalent metal ions. Values for ([17](DBF)N_2O_2 and [22](DBF)N_2O_3 are also presented for comparison. T = 298.2 K; I = 0.10 mol dm^{-3} in aqueous KNO_3

Ion	Species	L^1		[17](DBF)N_2O_2 [c]	L^2		[22](DBF)N_2O_3 [c]
	mhl	log $\beta_{M_mH_hL_l}$	log $K_{M_mH_hL_l}$	log $K_{M_mH_hL_l}$	log $\beta_{M_mH_hL_l}$	log $K_{M_mH_hL_l}$	log $K_{M_mH_hL_l}$
H^+	011	10.23(1)	10.23	8.01	10.00(1)	10.00	8.78
	021	19.09(2)	8.86	7.13	19.02(1)	9.02	7.81
	031	23.62(2)	4.53	-	23.97(1)	4.95	-
	041	27.12(3)	3.50	-	27.55(1)	3.58	-
Co^{2+}	101	7.17(1)	7.17	2.92	5.96(4)	5.96	3.77
	111	14.56(4)	7.39	7.79	-	-	7.91
	1-11	-2.46(7)	-9.63	-	-3.46(5)	-9.42	-7.65
	1-21	-	-	-	-	-	-8.75
	201	-	-	-	8.94(7)	2.98	-
	2-21	-	-	-	-7.79(8)	-	-
Ni^{2+}	101	8.34(3)	8.34	3.38	7.04(1)	7.04	4.18
	111	15.28(7)	6.94	-	14.35(3)	7.31	-
	1-11	-0.64(9)	8.98	-	-	-	-7.90
	1-21	-	-	-	-	-	-8.59
	201	-	-	-	10.17(4)	3.13	-
	2-21	-	-	-	-5.96(4)	-	-
Cu^{2+}	101	15.2(2) [d]	15.15	6.99	12.53(2)	12.53	8.91
	111	[19.2] [d]	[4.0]	6.05	17.20(4)	4.67	-
	1-11	[6.2] [d]	[9.0]	-7.64	-	-	-7.90
	1-21	-	-	-8.88	-	-	-8.82
	201	-	-	-	15.06(7)	2.53	-
	2-11	-	-	-	10.03(4)	-5.03	-
	2-21	-	-	-	4.19(2)	-5.84	-
	2-31	-	-	-	-6.51(7)	-10.70	-
Zn^{2+}	101	7.78(1)	7.78	3.46	6.37(2)	6.37	4.24
	1-11	-2.36(9)	-10.14	-	-2.58(6)	-8.95	-7.36
	1-21	-	-	-	-12.65(7)	-10.07	-8.77
	201	-	-	-	9.77(3)	3.40	-
	2-11	-	-	-	2.80(1)	-6.97	-
	2-21	-	-	-	-4.47(2)	-7.27	-
Cd^{2+}	101	9.96(2)	9.96	5.51	5.68(5)	5.68	3.15
	111	15.81(7)	5.85	5.78	-	-	8.34
	1-11	-0.62(3)	-10.58	-9.24	-3.39(7)	-9.07	-8.52
	1-21	-	-	-	-	-	-8.61
	201	-	-	-	8.45(5)	2.77	-
	2-11	-	-	-	0.93(1)	-7.52	-
Pb^{2+}	101	9.11(1)	9.12	-	8.20(4)	8.20	-
	111	-	-	-	15.54(2)	7.34	-
	1-11	-0.35(3)	-9.45	-	-1.15(4)	-9.35	-

1-21	-11.32(3)	-10.97	-	-11.73(6)	-10.58	-

[a] See experimental, calculation of stability constants, for definitions. [b] Values in parentheses are standard deviations in the last significant figures. [c] Ref. 22. [d] Values obtained by batch titration.