

## SC-Database

Software version = 5.81 Data version = 4.62

Experiment list contains 4999 experiments for

(no ligands specified)

2 metals : Ni++, Ni+++

(no references specified)

(no experimental details specified)

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e- HL Electron (442)

Electron;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	oth	none	25°C	0.0	U				1970NMa	(26) 1
Method: Estimated data.K(Ni+e=Ni(I))=11.8(0.7V) to 18.6(1.1V)										
Ni++	oth	none	25°C	0.0	M	H			1968LCd	(27) 2
K(Ni+2e=Ni(s))=-7.71, -228 mV										
DH = 53.5 kJ mol-1										
Ni++	EMF	none	22°C	0.0	U				1962LOa	(28) 3
K(Ni+2e=Ni(s))=-8.32(-246 mV)										
Ni++	EMF	none	25°C	0.0	U				1962VUa	(29) 4
K(Ni+2e=Ni(s))=-9.13(-270 mV)										
Ni++	EMF	alc/w	25°C	100%	U				1961TAa	(30) 5
K(Ni+2e=Ni(s))=-5.78(-171 mV)										
Medium: MeOH										
Ni++	EMF	none	25°C	0.0	U				1952CBa	(31) 6
K(Ni+2e=Ni(s))=-7.84(-232 mV)										
Ni++	oth	none	25°C	0.0	U				1952LAB	(32) 7
K=16.6(490 mV)										
K'=56.7(1680 mV)										
K: Ni(IV)O2(s)+2H2O+2e=Ni(OH)2(s)+2OH. K: Ni(IV)O2(s)+4H+2e=Ni(OH)2(s)+2H2O										
From thermodynamic data										
Ni++	oth	none	25°C	0.0	U				1952LAB	(33) 8
K=-24.3(-720 mV)										
K: Ni(OH)2(s)+2e=Ni(s)+2OH. From thermodynamic data.										
Estimated value: K(Ni+2e=Ni(s))=-8.45(-250 mV)										
Ni++	EMF	none	25°C	0.0	U				1929HBa	(34) 9
K(Ni+2e=Ni(s))=-7.81(-231 mV)										

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AsO4--- H3L Arsenate CAS 7778-39-4 (1557)

Arsenate;

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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Ni++       oth oth/un 25°C  0.0  U                      1990SAa (1114)  10
                                           *K(Ni3L2(s)+2H=3Ni+2HL)=-2.21
Calculated from thermodynamic data.
-----
Ni++       sol oth/un 20°C  var  U                      1956CHc (1115)  11
                                           Kso(Ni3L2)=-25.51
*****
AsW11039----- H7L                                (2468)
alpha-Heteromonoarseno-polytungstate;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       gl  NaNO3  25°C 1.00M U          K1=2.72      1984COa (1170)  12
*****
As2W17H2061----- H8L                                (2469)
alpha-Heteropolydiarseno-polytungstate;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       gl  NaNO3  25°C 1.00M U          K1=7.75      1984COa (1181)  13
                                           K1=4.64 (alpha2 isomer)
*****
B04H4-     HL      Borate          CAS 10043-35-3 (991)
Borate; B(OH)4-
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       sol none  22°C  0.0  U                      1961SHd (1283)  14
                                           Kso=-8.7 (solid phase ?)
                                           B3=8.44
*****
Br-        HL      Bromide          CAS 10035-10-6 (19)
Bromide;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       sp  oth/un 25°C  ?  U          K1=-2.37      1990BJa (1406)  15
Medium: LiBr, I < 6.50 M
-----
Ni++       sp  non-aq 25°C 100% U  H      K1=1.20      19900Ia (1407)  16
Medium: DMF, 0.16 M R4NC104. DH(K1)=17.5 kJ mol-1 by calorimetry
-----
Ni++       cal non-aq 25°C 100% C  HM                      1989IOb (1408)  17
                                           B(NiBr(bpy))=7.80
                                           B(NiBr2(bpy))=13.39
DH(Ni+Br+bpy)=-11.6 kJ mol-1, DH(Ni+2Br+bpy)=-48.1.
Medium:DMF, 0.16 M Et4NC104

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Ni++	cal	KNO3	25°C	0.50M	U	H		1985BPb	(1409)	18
							B4=-15.0			
							DH(B4)=83.7 kJ mol <sup>-1</sup> ; TDS(B4)=-1.7 kJ mol <sup>-1</sup>			
Ni++	sol	oth/un	25°C	0.1M	C			1984PKb	(1410)	19
							Kout(Ni(phen)3+L)=0.74			
							Kout(Ni(phen)3+2L)=0.97			
							Medium:0.1M NaF;Also for 0.25M K1out=0.64, B2out=0.84;for 0.5 M K1out=0.56			
							phen=Phenanthroline; for 0.5M B2out=0.88; for 0.75M K1out=0.49, B2out=0.82			
Ni++	sp	non-aq	25°C	100%	U		K1=3.2 B2=6.00 K3=3.5	1978LGa	(1411)	20
Ni++	EMF	oth/un	25°C	1.50M	U	I	K1=-1.3	1978LKd	(1412)	21
							K1 defined in molality (Moles per kg) terms: K1=m(NiBr)/m(Ni).m(Br), ionic strength in m(Ni(ClO4)2). K1 (m): -1.3 (2.0), -1.3 (2.5), -1.15 (3.0)			
Ni++	cal	NaClO4	25°C	3.0M	U	H		1974BRa	(1413)	22
							Medium: LiClO4 DH(K1)=11.7 kJ mol <sup>-1</sup> , DS=23.0 J K <sup>-1</sup> mol <sup>-1</sup>			
Ni++	kin	NaClO4	25°C	1.0M	U		K1=-0.05	1973HHb	(1414)	23
Ni++	sp	oth/un	24°C	var	M		K1=-4.25	1972RHc	(1415)	24
							Medium: LiBr			
Ni++	ISE	non-aq	161°C	100%	U	T	K1=1.94 B2=2.54	1971PSa	(1416)	25
							Medium: (Li,Na,K)NO3 eutectic. K1=1.85,K2=0.5(180 C) x units			
Ni++	sp	non-aq	25°C	100%	U			1970GNb	(1417)	26
							K4=1.80			
							Medium: MeCN, 0.35 M Et4NBr			
Ni++	sp	NaClO4	25°C	3.0M	U		K1=-0.82	1970MMj	(1418)	27
							Medium: LiClO4			
Ni++	sp	alc/w	48°C	100%	U	IH		1967SWa	(1419)	28
							Medium(S): MeOH. 25-70 C, DH(NiBr2S4+Br=NiBr3S+3S)=50.6 kJ mol <sup>-1</sup> , 71.5(EtOH) 61.9(BuOH); DH(NiBr2S4=NiBr2S2+2S)=71.1(S=BuOH)			
Ni++	sp	non-aq	25°C	100%	U		K1=2.2	1966FIa	(1420)	29
							Medium: MeOCH2CH2OH			
Ni++	cal	NaClO4	40°C	2.0M	U	T H	K1=-0.11	1966KLb	(1421)	30
							K1=-0.12(25 C), DH(K1)=0.33(25 C), 0.29(40 C) kJ mol <sup>-1</sup> . DS=1.1 J K <sup>-1</sup> mol <sup>-1</sup>			
Ni++	sp	non-aq	25°C	100%	U			1965FIa	(1422)	31
							K4=2.0			
							Medium:Me2CO			

Ni++ sp NaClO4 25°C 5.70M U K1=-0.3 1963NDa (1423) 32  
Medium: HClO4

Ni++ EMF NaClO4 25°C 2.0M U T K1=-0.12 1961LWa (1424) 33  
Method: Ag electrode. K1=-0.34(0 C), -0.10(50 C)

Ni++ sp oth/un 18°C var U B2=-3.24 1936JOa (1425) 34  
K3.K4=-4.88

Medium: HBr.

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BrO3- HL Bromate (6017)

Bromate;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ kin non-aq 230°C 100% U T K1=1.1 1961DLA (2393) 35  
Medium: liquid (K,Na)NO3. K1=ca.0.1 (250 C), m units

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CN- HL Cyanide CAS 74-90-8 (230)

Cyanide;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ kin NaClO4 25°C 0.10M U M 1980KNa (2473) 36

K(NiA+L)=2.95

B(NiAL)=20.93

By spectrophotometry: K(NiA+L)=3.04, B(NiAL2)=24.88. H6A=Triethylenetetra-  
minehexaethanoic acid

Ni++ kin NaClO4 25°C 0.10M U M 1980KNa (2474) 37

B(NiL(DTPA))=22.43

B(NiL2(DPTA))=23.56

Ni++ sp oth/un 25°C 0.10M U T 1974HMc (2475) 38

B4=30.5

Medium: 0.1 M NaOH. At 10 C: B4=32.2; 40 C: 29.0

Ni++ gl oth/un 25°C 0.10M U TI 1974KAa (2476) 39

K'(Ni(CN)4+H)=5.88

K''(NiH(CN)4+H)=4.73

K'=6.3(I=0.01),6.3(I=0.02),6.1(I=0.05),5.63(I=0.2),5.0(I=0.5)

K''=4.55, 4.65, 4.57, 4.73, 4.24 at same ionic strengths

Ni++ gl oth/un 25°C 0.0 U TI 1974KAa (2477) 40

K'(Ni(CN)4+H)=6.59

K''(NiH(CN)4+H)=4.69

K'=6.63(30 C),6.68(35 C),6.69(40 C),6.72(45 C),6.78(50 C)

K''=4.70, 4.73, 4.74, 4.76, 4.78

Ni++ gl NaClO4 25°C 3.00M C K1=7.03 1974PEa (2478) 41

B4=31.06									
Ni++	sp	non-aq	190°C	100%	U		1972HNa	(2479)	42
B4=16.45									
Medium:liquid KSCN									
Ni++	gl	none	25°C	0.0	M T H		1971IJa	(2480)	43
B4=30.22									
B4=32.2(10 C), 27.43(40 C). DH=-189 kJ mol <sup>-1</sup> (10 C) or -185(40 C)									
Ni++	sp	NaCl04	20°C	2.0M	U		1971PHb	(2481)	44
K5=-0.77									
Ni++	oth	none	25°C	0.0	U		1969SMo	(2482)	45
Method:from survey of literature data									
Ni++	sp	non-aq	190°C	100%	U		1968HNa	(2483)	46
B4=19.5									
Medium: molten KSCN									
Ni++	EMF	oth/un	30°C	var	U T		1968KAa	(2484)	47
B4=22.2									
Method: amalgam electrode. Medium: KCN									
Ni++	sp	NaCl04	25°C	0.10M	U		1968KMc	(2485)	48
B4=30.5									
K(H+NiL4)=5.4									
K(H+HNiL4)=4.5									
Ni++	kin	NaCl04	25°C	0.10M	U		1968KMc	(2486)	49
K(H+H2NiL4)=2.6									
Ni++	sp	oth/un	22°C	0.0	U	M	1965CCa	(2487)	50
K(NiA+L)=1.4									
Medium: 0 corr. A=cyclic tetramine									
Ni++	sp	oth/un	25°C	4.0M	U		1965CPa	(2488)	51
K5=0.03									
Medium: KF, m units									
Ni++	sp	NaCl04	23°C	2.50M	U		1964GHe	(2489)	52
K5=-0.69									
Ni++	gl	none	25°C	0.0	U	H	1963CIb	(2490)	53
B4=30.1									
DH(B4)=-180.7 kJ mol <sup>-1</sup> , DS(B4)=-29 (by calorimetry)									
Ni++	oth	NaCl04	25°C	4.0M	U	I M	1963PBc	(2491)	54
K5=-0.55									
K6=-1.02									

Method: ir. K5=-0.59, K6=-1.06 in 4 M NaClO4, 2 M NH3. In 2M NaCN K(Ni(CN)5+Cl)=-0.66, K(Ni(CN)4+Cl)=-0.7

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Ni++ oth NaClO4 25°C 1.34M U T H 1960MJa (2492) 55

K5=-0.72

DH(K5)=-13 kJ mol<sup>-1</sup>; K5=-0.66 (15.4 C), -0.77(33.6 C). Method:ir

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Ni++ nmr oth/un 18°C var U 1959BGc (2493) 56

K=-2.29

K'=-7.88

K: CdL2(s)+NiL4=Cd+NiL6. K': NiL2(s)+2ZnL2(s)=2Zn+NiL6). Method: nmr

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Ni++ sp none 25°C 0.0 U I 1959FSa (2494) 57

B4=31.0

At I=0 corr B4=30.3

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Ni++ sp oth/un ??? 5.0M U I 1958KCa (2495) 58

K5.K6=3.3

B6=26 (assuming B4=22)

Medium: CH3COOK; K5.K6=3.4 in 10 M KNO2

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Ni++ oth none 25°C 0.0 U 1952LAb (2496) 59

B4=22

Method: combination of thermodynamic data

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Ni++ cal oth/un ??? ? U H 1951YAA (2497) 60

DH(B4)=-184.1 kJ mol<sup>-1</sup>

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Ni++ vlt oth/un 25°C var U 1950HKa (2498) 61

B4=22

K(Ni2L4(s)=Ni+NiL4)=-8.77

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Ni++ vlt oth/un ??? var U 1936SAa (2499) 62

B4=15.46

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Ni++ ISE oth/un 25°C var U 1932MAa (2500) 63

B4=11.7 to 12.0

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Ni++ ISE oth/un 25°C var U 1931MAa (2501) 64

B4=13.75

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CO L Carbon monoxide CAS 630-08-0 (551)

Carbon monoxide;

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	vlt	non-aq	25°C	100%	U	M		1994SFa (2781)	65
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K(NiA+L)=5.1

Medium: CH3CN; 0.1 M Pr4NClO4. A=N,N',N'',N'''-Tetramethyl-1,4,8,11-tetraaza-cyclotetradecane plus others

C03-- Carbonate;	H2L	Carbonate	CAS 465-79-6 (268)
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Ni++ sol NaCl04 25°C 0.0 C T 2001GPa (2980) 66  
\*K<sub>so</sub>(NiCO<sub>3</sub>+2H=Ni+CO<sub>2</sub>)=10.64

Ni++      sp   none   25°C   0.0   C   I      1987EFa   (2981)   67  
K(Ni+HCO3)=1.40

Ni++      oth oth/un 25°C   0.0   C   H   K1=4.83      1984FCa   (2982)   68  
K(Ni+HCO3)=2.22

Ni++	sol NaClO4 75°C 1.00M U	1982GRd (2983) 69
	*K <sub>s</sub> (NiCO3)=-7.05	
	*K <sub>s</sub> (NiCO3)=-6.99 (85 C)	
	*K <sub>s</sub> (NiCO3)=-6.96 (90 C)	

Ni++		sol none	25°C	0.0 U	1935KAa	(2984)	70
					Kso(NiCO <sub>3</sub> (s))=-6.87		
					+KpsO=-4.38		

Ni++      sol oth/un 25°C    var    U      1911AVa    (2985)    71  
Kso(NiCO3(s))=-8.18

CS<sub>3</sub>--                  H<sub>2</sub>L                  CAS 549-08-1    (936)

Trithiocarbonate;

Ni++      kin alc/w   25°C 100% U I      K1=0.05      1972MMa (3462) 72  
Medium:MeOH, 0.014 M NaClO4. K1=0.01(0.054 M NaClO4), -0.21(0.104 M NaClO4)

C6N6Fe---- H4L (2191)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ni++ con oth/un 20°C U T 1972BMe (3524) 74  
 $K(K2Ni3L2(s)=2K+3Ni+2L)=-33.6$   
 $Ks(K4Ni4L3)=-47.5$   
 $Ks(K12Ni8L7)=-113.6$

30 C:  $Ks(K2Ni3L2)=-31.3$

Ni++ vlt oth/un 25°C dil U 1960BRa (3525) 75  
 $Kso(Ni2L)=-13.12$

Ni++ sol oth/un 25°C var U 1956TGb (3526) 76  
 $Kso(Ni2L)=-14.89$

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Cl- HL Chloride CAS 7647-01-0 (50)  
 Chloride;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	non-aq	25°C	100%	C		K1=1.7 B2= 2.10 B3=2.2 B4=2.3	1999CSa (3877)	77

Medium: DMSO, 1.0 M LiClO4. In DMF, 1.0 M LiClO4, K1=1.8, B2=2.1, B3=2.9, B4=4.1. In PC, 0.1 M Et4NClO4, K1=9.2, B2=15.8, B3=21.4, B4=26.7.

Ni++	sp	non-aq	25°C	100%	C I		K1=3.18 B2= 4.19 B3=6.00 B4=7.79	1998UKb (3878)	78
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Medium: DMF, 0.2 M Et4NClO4. Also data for DMA, 0.2 M Bu4NClO4.

Ni++	sp	non-aq	25°C	100%	C I		K1=1.3 B2= 1.20	1995KCa (3879)	79
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Medium: methanol, 0.10 M LiClO4. In ethanol, 0.10 M LiClO4, K1=1.7, B2=1.8  
 In i-PrOH, 0.10 M LiClO4, K1=1.9, B2=2.2.

Ni++	sp	non-aq	25°C	100%	C H		K1=4.86 B2=8.61 4.79 3.29	1993SIa (3880)	80
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Medium: MeCN, 0.2 M Me4NBF4. DH(K1)=-2.1 kJ mol<sup>-1</sup>, DH(K2)=8, DH(K3)=30, DH(K4)=-10

Ni++	sp	non-aq	25°C	100%	U TIH		K1=4.31 B2=8.53 B3=13.0 B4=14.8	1992SIa (3881)	81
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Medium: N,N-Dimethylacetamide; 0.1 M (C4H9)4NBF4. DH(K1)=28.4, DH(B2)=50.4, DH(B3)=47.1, DH(B4)=40.7 kJ mol<sup>-1</sup>. Data also at 45 C, and in DMF at 45 C.

Ni++	sp	non-aq	25°C	100%	U H		K1=1.51	1990SIa (3882)	82
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Medium: DMSO, 0.4 M Et4NBF4. DH by calorimetry

Ni++	sp	non-aq	25°C	100%	U H		K1=2.85 K(Ni(bpy)+L)=3.68 K(Ni(bpy)2+L)=3.77	1989IOa (3883)	83
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K(Ni(bpy)L+L)=1.11 K(Ni(bpy)2L+L)=0.89 In N,N-dimethylformamide. DH(K1)=8.6 kJ mol <sup>-1</sup> ; DH(Ni(bpy)L)=8.4; DH(Ni(bpy)2L)=7.9; DH(Ni(bpy)L2)=15.3; DH(Ni(bpy)2L2)=10.5.									
Ni++	sol none	25°C	0.0	C	K1=-0.83	B2=-1.2	1989IPa	(3884)	84
Extrapolated to zero from 6 M NaClO4. In 6M: K1=-0.69, B2=-1.2. From solubility of Ni(IO3)2 (Kso=-5.11 at I=0)									
Ni++	sp oth/un	25°C	0.0	U I	K1=-2.0		1988BJa	(3885)	85
From measurements in 0-10.7 M HCl. In LiCl, K1=-1.82									
Ni++	ISE non-aq	25°C	100%	U	K1=2.45		1988SGa	(3886)	86
Medium: DMSO, 0.1 M Et4NCl									
Ni++	sp non-aq	25°C	100%	C H	K1=2.89 K3=2.05 K4=1.66	B2=3.75	1987IOa	(3887)	87
Medium: DMF, 0.4 M Et4NClO4.									
Ni++	cal non-aq	25°C	100%	U H	K1=2.85 K3=1.77 B3=5.53 K4=1.87 B4=7.40	B2=3.76	1987IOa	(3888)	88
DH(K1)=8.6, DH(K2)=19.1, DH(K3)= 62.9 and DH(K4)=-13.4 kJ mol <sup>-1</sup> . DS(K1)=84, DS(K2)=82, DS(K3)=245 and DS(K4)=-9 J K <sup>-1</sup> mol <sup>-1</sup> . Medium: DMF									
Ni++	sp non-aq	25°C	100%	U	K1=3.67		1986GPa	(3889)	89
Medium: N,N-dimethylformamide									
Ni++	sol oth/un	450°C	var	U TI			1984LPb	(3890)	90
K(NiO(s)+2HCl=NiCl2+H2O)=2.23 K=-4.17 + 4629/T(K) at 1 kbar and I=0. Results also for 2 kbar. 450-700 C									
Ni++	sol oth/un	25°C	0.1M	C			1984PKb	(3891)	91
Kout(Ni(phen)3+L)=0.64 Kout(Ni(phen)3+2L)=0.98 Medium:0.1M NaF;Also for 0.25M K1out=0.55, B2out=0.68;for 0.5 M K1out=0.44 phen=Phenanthroline; for 0.5M B2out=0.56; for 0.75M K1out=0.31, B2out=0.32									
Ni++	nmr none	1°C	0.0	U T	K1=-1.51		1983GDa	(3892)	92
Ni++	ISE alc/w	25°C	100%	U	K1=2.82	B2=5.05	1982DKa	(3893)	93
Ni++	sp non-aq	25°C	100%	U I	K1=2.41		1982LPa	(3894)	94
Medium: DMSO, 0.2 M M(ClO4)2									
Ni++	dis NaClO4	25°C	1.00M	C	K1=0.0		1976MKc	(3895)	95

Ni++ sp non-aq 25°C 100% U K1=1.9 B2=2.46 1975LPb (3896) 96  
 K3=-0.2  
 K4=0.9

Medium: DMSO, Et4NCl, K1 at I=0.15, other at I = 0.35; values of K1 to K4 in activity = 2.6, 0.9, -0.2, 0.6 resp.

Ni++ con non-aq 25°C 100% U K1=2.47 B2=3.31 1975LPd (3897) 97  
 In dimethyl sulfoxide

Ni++ gl none 25°C 0.0 U K1=-0.43 1975LTa (3898) 98

Ni++ ISE NaClO4 25°C 1.0M U K1=0 1974BLb (3899) 99

Ni++ ISE non-aq 25°C 100% U I K1=4.7 1974BMa (3900) 100  
 Medium: LiCl in tributylphosphate, saturated with H2O; AgCl/Cl-electrode

Ni++ cal NaClO4 25°C 3.0M U H 1974BRa (3901) 101  
 Medium: LiClO4. DH(K1)=9.6 kJ mol<sup>-1</sup>, DS=20.9 J K<sup>-1</sup> mol<sup>-1</sup>

Ni++ gl NaClO4 25°C 3.00M C K1=0.687 1974Gwa (3902) 102

Ni++ sol none 25°C 0.0 U 1974MSd (3903) 103  
 Ks(Ni(OH)1.5L0.5)=-11.4  
 Ks(Ni(OH)1.75L0.25)=-13.5

Ni++ kin NaClO4 25°C 1.0M U T K1=0.07 1973HHb (3904) 104  
 K1=-0.03(45 C)

Ni++ vlt non-aq 280°C 100% U K1=1.80 B2=2.96 1973SSc (3905) 105  
 K3=1.79  
 Medium: molten (Na,K)NO3(equimol mixt)

Ni++ kin non-aq 20°C 100% U 1971DHa (3906) 106  
 K1out=1.65  
 K2out=0.85  
 Medium: DMSO

Ni++ sp KCl rt var U B2=0.34 1971KGa (3907) 107  
 K(NiL2+2H+2L=H2NiL4)=-3.05

Ni++ sp none rt 0.0 U K1=-1.3 B2=-4.1 1971PHa (3908) 108

Ni++ ISE non-aq 161°C 100% U T K1=2.10 B2=2.80 1971PSa (3909) 109  
 Medium:(M)NO3 eutectic(M=L,Na,K). K1=2.06, K2=0.6(180 C)

Ni++ sp NaClO4 20°C 9.0M U K1=-0.52 1971WBa (3910) 110  
 Medium: HClO4

Ni++ sp non-aq 25°C 100% U M K1=3.05 1970GNb (3911) 111  
 K(NiBr4+L-=NiBr3L+Br)=2.05

$K(\text{NiBr}_3\text{L}+\text{L}=\text{NiBr}_2\text{L}_2+\text{Br})=1.68$   
 $K(\text{NiBr}_2\text{L}_2+\text{L}=\text{NiBrL}_3+\text{Br})=1.78$   
 $K(\text{NiBrL}_3+\text{L}=\text{NiL}_4+\text{Br})=1.79$

Medium: MeCN, 0.35 M Et<sub>4</sub>N(Cl,Br)

Ni++ sp non-aq 63°C 100% U T H 1970GSd (3912) 112

$K(\text{oct-tet})=0.35$

Medium: DMSO(S). K: [NiCl<sub>2</sub>S<sub>4</sub>](oct)+Cl=[NiCl<sub>3</sub>S](tetr)+3S)

DH=55.6 K=1.33(108 C), 1.93(160 C)

Ni++ sp NaClO<sub>4</sub> 25°C 3.0M U K<sub>1</sub>=-0.57 1970MMj (3913) 113

Medium: LiClO<sub>4</sub>

Ni++ sp R<sub>4</sub>N.X 56°C 6.0M U T H 1969GSc (3914) 114

$K(\text{Ni}(\text{H}_2\text{O})_5\text{L}+3\text{L}=\text{NiL}_4)=-1.02$

Medium: Me<sub>4</sub>NCl. K: octahedral=tetrahedral. DH=167(?) kJ mol<sup>-1</sup>.

K=0.38(96.1 C), 0.79(105.5 C), 1.67(120 C)

Ni++ vlt non-aq 145°C 100% U K<sub>1</sub>=0.9 B<sub>2</sub>=1.90 1968ILa (3915) 115

Medium: (Li,Na,K)NO<sub>3</sub> eutectic. m units

Ni++ sp non-aq 20°C 100% U T H 1968MSe (3916) 116

Medium: DMF, 0-40 C, DH(NiCl<sub>5</sub>S+2AlCl<sub>3</sub>=NiCl<sub>3</sub>S+2AlCl<sub>2</sub>)=32.6 kJ mol<sup>-1</sup>

DH(NiCl<sub>3</sub>S+AlCl<sub>2</sub>=NiCl<sub>2</sub>S<sub>2</sub>+AlCl<sub>3</sub>)=17.1(40-70 C). S=DMF

Ni++ sp alc/w 63°C 100% U H 1967SWa (3917) 117

Medium: EtOH. 40-85 C, DH(NiCl<sub>2</sub>S<sub>4</sub>+Cl=NiCl<sub>3</sub>S+3S)=61.0 kJ mol<sup>-1</sup>

Ni++ sp oth/un 200°C var U H 1966AGb (3918) 118

Medium: molten MgCl<sub>2</sub>. 125-320 C. DH(NiCl<sub>6</sub>=NiCl<sub>4</sub>+2Cl)=35.5 kJ mol<sup>-1</sup>

Ni++ sp NaClO<sub>4</sub> 30°C 10.0M U K<sub>1</sub>=-1.03 1966FLa (3919) 119

Medium: LiClO<sub>4</sub>

Ni++ cal NaClO<sub>4</sub> 40°C 2.0M U T H K<sub>1</sub>=-0.15 1966KLb (3920) 120

K<sub>1</sub>=-0.17(25 C), DH(K<sub>1</sub>)=2.1(25 C), 1.8(40 C) kJ mol<sup>-1</sup>; DS=3.6 J K<sup>-1</sup> mol<sup>-1</sup>

Ni++ ix NaClO<sub>4</sub> 20°C .691M U K<sub>1</sub>=0.23 B<sub>2</sub>=-0.04 1965MRa (3921) 121

Ni++ sp non-aq 25°C 100% U TIH 1964NJa (3922) 122

K<sub>4</sub>=2.55

Medium: MeCONMe<sub>2</sub>. K<sub>4</sub>=2.49(68 C), DH(K<sub>4</sub>)=-2.5 kJ mol<sup>-1</sup>, DS=41 J K<sup>-1</sup> mol<sup>-1</sup>

In MeCN: K<sub>4</sub>=4.00(25C), 3.62(68 C), DH(K<sub>4</sub>)=-15.9, DS=24

Ni++ vlt non-aq 280°C 100% U K<sub>1</sub>=0.74 B<sub>2</sub>=0.78 1963DGd (3923) 123

B<sub>3</sub>=1.18

B<sub>4</sub>=1.15

Medium: (K,Na)NO<sub>3</sub>(liquid). Using Ni electrode: K<sub>1</sub>=0.78, B<sub>2</sub>=0.60, B<sub>3</sub>=1.15, B<sub>4</sub>=1.20, m units

Ni++	sp	NaClO4	25°C	5.70M	U	K1=-0.5	1963NDa	(3924)	124
-----									
Ni++	vlt	non-aq	25°C	100%	U	K2=0 K3=-1 K4=0	1963NIa	(3925)	125
Medium:MeCN, 0.1 M Et4NClO4									
-----									
Ni++	oth	KN03	-3°C	sat	U	K1=0.38	1962FCa	(3926)	126
Method: freezing point									
-----									
Ni++	sp	NaClO4	?	1.50M	U	K1=-0.85	1962TCa	(3927)	127
-----									
Ni++	vlt	non-aq	180°C	100%	U	K1=1.42 K3=1.0	B2=1.7	1960C0d	(3928) 128
Medium: (Li,K)NO3 eutectic, m unit									
-----									
Ni++	EMF	NaClO4	25°C	0.30M	U	TIH	K1=-0.24 B(Ni2L)?=-0.39	1960LRa	(3929) 129
Method: Ag electrode. K1=-0.29(12 C), -0.21(40 C). In 2 M NaClO4 DH(K1)=5.3 kJ mol-1									
-----									
Ni++	oth	oth/un	0°C	sat	U	I	K1=0.23	1959KEb	(3930) 130
Method: freezing point, Medium: KClO3 sat. In KClO4 sat. K1=0.62. I=0 corr: K=0.89									
-----									
Ni++	ix	oth/un	?	1.50M	U		K1=-0.66	1958TRa	(3931) 131
-----									
Ni++	vlt	NaClO4	25°C	2.0M	U		K1=-0.25 B2=-0.05	1957KLa	(3932) 132
*****									
ClO3- HL Chlorate CAS 7790-93-4 (971)									
Chlorate;									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-----									
Ni++	cal	oth/un	25°C	1.00M	U	H		1975ARa	(6019) 133
DH(K1)=-5.30 kJ mol-1. DS = -24.5 J K-1 mol-1. Medium: 1.0 M NaClO3									
-----									
Ni++	kin	NaClO4	25°C	1.0M	U		K1=-0.35	1973HHb	(6020) 134
*****									
ClO4- HL Perchlorate CAS 7001-90-3 (287)									
Perchlorate;									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-----									
Ni++	con	non-aq	25°C	100%	U		K1=1.70	1981LGa	(6118) 135
Medium: DMSO; K1 in DMSO/benzene (mole fraction 0.3)=2.04									
-----									
Ni++	sp	NaClO4	25°C	?	U	H		1975BWb	(6119) 136
Kout((Ni(H2O)6)ClO4)=-1.88									
DH=6.3 kJ mol-1, DS=-14.6 J K-1 mol-1 when T=25.									

HClO4 from 0 to 17.3M.

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CrO4--                      H2L      Chromate                      CAS 7738-94-5    (2382)  
Chromate;

-----  
Metal            Mtd Medium Temp Conc Cal Flags Lg K values                      Reference ExptNo  
-----  
Ni++            gl   oth/un 25°C   var   U                      K1=2.40                      1994C0a    (6452) 137  
\*\*\*\*\*

F-                              HL      Fluoride                      CAS 7644-39-3    (201)  
Fluoride;

-----  
Metal            Mtd Medium Temp Conc Cal Flags Lg K values                      Reference ExptNo  
-----  
Ni++            ISE NaClO4 25°C 0.50M U   I                      K1=0.74                      1983ABd    (6598) 138  
For 60% v/v EtOH in H2O K1=1.21  
-----  
Ni++            ISE R4N.X 25°C 0.05M U   I                      K1=1.32                      1983SBa    (6599) 139  
Medium: 0.05 M Et4NF. In MeOH, 0.05 Et4NF, K1=2.91  
-----  
Ni++            ISE NaClO4 25°C 1.00M U   I                      K1=1.0                      1981KBb    (6600) 140  
-----  
Ni++            ISE NaClO4 25°C 3.00M U                      K1=0.76                      1976KBa    (6601) 141  
-----  
Ni++            cal oth/un 25°C 0.50M U   H                      K1=0.31                      1974ARc    (6602) 142  
DH(K1)=8.1 kJ mol-1, DS=33 J K-1 mol-1  
-----  
Ni++            ISE NaClO4 25°C 1.0M U                      K1=0.34                      1972BHc    (6603) 143  
-----  
Ni++            ISE NaNO3 16°C 0.50M U                      K1=0.18                      1970B0a    (6604) 144  
-----  
Ni++            kin NaClO4 25°C 0.10M U                      K1=1.1                      1969FTb    (6605) 145  
-----  
Ni++            EMF NaClO4 20°C 1.0M U                      K1=0.66                      1969VAa    (6606) 146  
electrode:quinhydrone electrode  
-----

Ni++            EMF NaClO4 20°C 1.00M U                      K1=0.66                      1956ARa    (6607) 147  
\*\*\*\*\*  
FClBrI                              HL                              (541)  
Halides, comparative (for book data under ligand 80)

-----  
Metal            Mtd Medium Temp Conc Cal Flags Lg K values                      Reference ExptNo  
-----  
Ni++            oth non-aq 125°C 100% U                              1968LNb    (7377) 148  
Method:amalgam electrode. Medium: DMSO, 2M LiClO4. B4=1.08(Cl) 11.97(Br),  
9.66(I)  
\*\*\*\*\*  
GeW11039-----                      H8L                              CAS 37369-86-1    (2466)  
alpha-Heteromonogermanium-polytungstate;  
-----

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	1.00M	U		K1=6.15	1984C0a (7462)	149
*****									
HP03--		H2L		Phosphite			CAS 13598-36-2	(6305)	
Phosphite;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaCl04	25°C	0.20M	U		K1=3.6 K(Ni+HL)=1.4	1970EEa (7498)	150
K1 on the basis K(HL)=6.5, K(H2L)=1.6									

Ni++	sol	oth/un	90°C	var	U			19690Ga (7499)	151
Kso=-4.64									
*****									
H2O		L		Water			CAS 7732-18-5	(6115)	
Water									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	non-aq	28°C	100%	U	T H		1974BCb (7561)	152
K(NiAB+L)=1.38									
K(NiAX+L)=2.30(8 C), 1.84(18 C), 1.24(30 C), 1.32(40 C), 0.83(50 C), 0.44(70 C). HA=Acetylacetone, B=Salicylaldehyde hydrazone. DH=-13 kJ mol <sup>-1</sup>									
Ni++	cal	non-aq	25°C	100%	U	H	K1=1.80 B2=3.23 B3=4.36 B4=5.20 B5=5.8?	1968HMc (7562)	153
Medium: C4H9OH. DH(K1)=-12.7 kJ mol <sup>-1</sup> , DH(B2)=-20.1, DH(B3)=-21.9, DH(B4)=-22.8, DH(B5)=-23.8?									

Ni++	sp	non-aq	25°C	100%	U	I	K1=0.79 B2=-0.21	1965PPa (7563)	154
Medium: acetone. In EtOH: K1=-0.24, K2=-2.31									

Ni++	sp	alc/w	25°C	100%	U			1954J0a (7564)	155
Kav=-0.09									
Medium: EtOH, NO3. N=6									

I03-		HL		Iodate			CAS 7782-68-5	(1257)	
Iodate;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sol	none	25°C	0	M	I		1989IPb (8451)	156
Kso=-5.11									
Extrapolated from 6 M NaCl04. Kso (6 M)=-4.29									

Ni++	sol	NaCl04	25°C	0.50M	U	I		1973FSc (8452)	157
------	-----	--------	------	-------	---	---	--	----------------	-----

Kso(NiL2(H2O)3)=-4.17

Medium: LiClO4. Kso=-5.06(I=0), -4.16(I=1), -4.25(I=2), -4.42(I=3), -4.64(I=4)

\*\*\*\*\*

MoO4--                      H2L      Molybdate                      (443)

Molybdate;

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

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Ni++	oth	oth/un	32°C	satd	U			1961TSc	(8696) 158
------	-----	--------	------	------	---	--	--	---------	------------

B(NiH6L6)=31

Medium: saturated Na2SO4. Method:freezing point

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NH3                              L      Ammonia                      CAS 7664-41-7      (414)

Ammonia

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	sol	oth/un	25°C	dil	C T H		K1=2.71    B2= 4.89	2004ZGa	(8949) 159
------	-----	--------	------	-----	-------	--	---------------------	---------	------------

K(NiOH+NH3=Ni(OH)NH3)=3.04

K(Ni(OH)2+NH3=Ni(OH)2NH3)=2.76

Dissolution of NiO (bunsenite) or beta-Ni(OH)2 (theophrasite) in mM NH4OH.

Data for 21-315 C. DH(NiOH+NH3)=-33 kJ mol-1, DH(Ni(OH)2+NH3)=4.3.

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Ni++	gl	R4N.X	25°C	0.10M	U	M		1995KBb	(8950) 160
------	----	-------	------	-------	---	---	--	---------	------------

K(NiA+L)=2.33

K(NiAL+L)=0.78

Medium: 0.1 M NH4NO3. H3A=NTA

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Ni++	sp	non-aq	25°C	100%	U	M		1989GRa	(8951) 161
------	----	--------	------	------	---	---	--	---------	------------

K(NiA+L)=1.69

Medium: acetonitrile. A=N,N'-ethylenebis(salicylideneamine).

Data also for complexation of other simple amines by NiA

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Ni++	cal	R4N.X	25°C	2.00M	U	TI		1987VBb	(8952) 162
------	-----	-------	------	-------	---	----	--	---------	------------

DH(K1)=-15.82 kJ mol-1, DH(K2)=-16.9, DH(K3)=-16.4, DH(K4)=-18.3, DH(K5)=-16.7

DH(K6)=-18.6. Medium: NH4NO3

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Ni++	gl	NaNO3	25°C	0.10M	A	M		1982SSa	(8953) 163
------	----	-------	------	-------	---	---	--	---------	------------

K(NiA+L) < 2.5

A=uridine-5'-triphosphate

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Ni++	cal	oth/un	25°C	1.00M	U	TIH	K1=2.78    B2=5.00	1982VBb	(8954) 164
------	-----	--------	------	-------	---	-----	--------------------	---------	------------

B3=6.71

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Ni++	gl	alc/w	25°C	1.0M	C	TI	K1=3.08	1976KSd	(8955) 165
------	----	-------	------	------	---	----	---------	---------	------------

K1=2.77 (100% H2O)

Medium 1.0 M NH4NO3 in 0.77 mol parts MeOH in H2O

For 15C K1=3.21; for 35 C K1=2.97

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Ni++	gl	alc/w	25°C	1.0M	C	TI	K1=3.37	1976KSd	(8956) 166
------	----	-------	------	------	---	----	---------	---------	------------

K1=2.77 (100% H2O)  
Medium 1.0 M NH4NO3 in 0.54 mol parts EtOH in H2O  
For 15C K1=3.49; for 35 C K1=3.26

-----  
Ni++ gl alc/w 25°C 1.0M C TI K1=3.60 1976KSd (8957) 167  
K1=2.77 (100% H2O)

Medium 1.0 M NH4NO3 in 0.54 mol parts 2-propanol in H2O  
For 15C K1=3.72; for 35 C K1=3.45

-----  
Ni++ oth R4N.X 30°C 2.0M C K1=4.137 B2= 7.67 1973RAc (8958) 168  
B3=10.529  
B4=12.681

Method: recalculation of literature data. Medium: H4NO3.

-----  
Ni++ kin R4N.X 30°C 0.20M U 1972CGa (8959) 169  
Medium: 0.2M NH4NO3. K1(p)(in kbar)/K1(1atm)=0.002(p=0.34), 0.024(p=0.52),  
0.048(p=0.69), 0.029(p=0.86), 0.035(p=1.03), 0.054(p=1.38)

-----  
Ni++ EMF alc/w ? 25% U K1=2.93 B2=5.25 1971MRa (8960) 170  
Medium: w% MeOH, 1 M (NH4)ClO4. w=0%:K1=2.72, K2=2.17; w=50%: 3.13, 2.61;  
w=65%: 3.18, 2.13; w=80%: 3.05, 2.49; w=90%: 3.12, 2.61; w=99%: 3.26, 2.53

-----  
Ni++ kin R4N.X 25°C 1.0M U K1=2.80 B2=4.99 1971RMb (8961) 171  
K3=1.73

Medium: NH4ClO4. By emf, K1=2.82, K4=1.12

-----  
Ni++ ISE NaClO4 25°C 2.0M U T K1=2.61 B2=4.76 1970LEc (8962) 172  
B3=6.79  
B4=8.35

Method:Ag electrode. Medium:NH4NO3. 40 C: K1=2.45, B2=4.50, B3=6.37, B4=7.24  
80 C:K1=1.96,B2=3.56,B3=4.80. 120 C:K1=1.36, B2=3.00. 180 C:K1=0.58, B2=1.50

-----  
Ni++ sp oth/un 20°C var U K1=3.0 B2=5.14 1970MAj (8963) 173  
K3=1.60

-----  
Ni++ gl NaClO4 30°C 2.0M U K1=2.78 B2=5.05 1969NGa (8964) 174  
K3=1.65  
K4=1.31  
K5=0.65  
K6=0.08

Medium: NH4NO3

-----  
Ni++ oth oth/un 20°C var U M 1968FLb (8965) 175  
K(Ni(en)2+2L)=4.11  
K(Ni(phen)2+2L)=2.92

Method: chemical analysis

-----  
Ni++ gl R4N.X 20°C 1.0M U T M K1=3.0 B2=5.18 1966FLb (8966) 176  
B3=6.82  
B4=7.98



Medium: NH<sub>4</sub>NO<sub>3</sub>. Also values for Ni-NH<sub>3</sub>-py complexes

---

Ni++	ISE	R4N.X	30°C	2.0M	U	T	K1=2.72	B2=4.92	1966LMd	(8967)	177
							K3=1.71				
							K4=1.24				
							K5=0.80				
							K6=0.14				

Medium: NH<sub>4</sub>NO<sub>3</sub>

---

Ni++	oth	none	40°C	0.0	U	T			1961MLa	(8968)	178
							B4=8.42				
							B5=7.79				

By partial pressure of L. I=0 corr. 4=7.15(60 C), B5=5.59(60 C)

---

Ni++	gl	R4N.X	30°C	2.0M	U		K1=2.79	B2=5.05	1961RYa	(8969)	179
							K3=1.69				
							K4=1.25				
							K5=0.74				
							K6=0.03				

Medium: NH<sub>4</sub>NO<sub>3</sub>. B6=8.74.

---

Ni++	cal	R4N.X	25°C	2.0M	U	H			1959SCd	(8970)	180
------	-----	-------	------	------	---	---	--	--	---------	--------	-----

Medium:NH<sub>4</sub>NO<sub>3</sub>. DH(K1)=-16.8 kJmol<sup>-1</sup>,DH2=-15.0,DH3=-18.8,DH4=-13.1, DH5=-12.4  
DH6=-18.4, DS1=-2.1, DS2=-6.61, DS3=-29.2, DS4=-20.2, DS5=-26.5, DS6=-60.38.

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Ni++	cal	R4N.X	27°C	2.0M	U	H			1957YMb	(8971)	181
------	-----	-------	------	------	---	---	--	--	---------	--------	-----

Medium:NH<sub>4</sub>NO<sub>3</sub>. T=26.8C. DH1=DH2=DH3=DH4=-16.7kJmol<sup>-1</sup>, DH5=DH6=-18.0; DS1=-2.1, DS2=-13.0, DS3=-22.6, DS4=-33.1, DS5=-45.6, DS6=-59.4. DHn is DH(Kn)

---

Ni++	sp	oth/un	?	var	U				1956YGa	(8972)	182
							K5.K6=0.0				

---

Ni++	cal	R4N.X	25°C	1.0M	U	H			1955PBa	(8973)	183
							B6=8.61				

Medium: NH<sub>4</sub>NO<sub>3</sub>. DH(B6)=-87.9 kJ mol<sup>-1</sup>; DS(B6)=-130 J K<sup>-1</sup> mol<sup>-1</sup>

---

Ni++	gl	R4N.X	25°C	1.0M	U		K1=2.36	B2=4.26	1954LLa	(8974)	184
							K3=1.55				
							K4=1.23				
							K5=0.85				
							K6=0.42				

Medium: NH<sub>4</sub>NO<sub>3</sub>.

---

Ni++	gl	R4N.X	23°C	2.0M	U		B2=5.14		1954W0a	(8975)	185
							B4=8.28				
							B6=9.42				

Medium: NH<sub>4</sub>NO<sub>3</sub>

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Ni++	cal	oth/un	rt	dil	U	H			1952FYa	(8976)	186
------	-----	--------	----	-----	---	---	--	--	---------	--------	-----

DH(B6)=-79.1 kJ mol<sup>-1</sup>; DS(B6)=-116.

-----  
 Ni++ cal oth/un 25°C var U H 1952YGa (8977) 187  
 DH(B4)=-71 kJ mol-1, DH(B6)=-109.  
 -----

Ni++ oth oth/un 23°C ? U T H 1945CAa (8978) 188  
 B6=9.13  
 B6=8.81(30 C). DH(B6)=-79 kJ mol-1, DS=-92 J K-1 mol-1  
 -----

Ni++ sol R4N.X 25°C 0.10M U K1=2.80 B2=4.85 1943DVa (8979) 189  
 K3=1.66  
 K4=1.3?  
 K5=1.15?  
 Medium: NH4NO3.  
 -----

Ni++ gl R4N.X 30°C 2.0M U IH K1=2.80 B2=5.04 1941BJa (8980) 190  
 K3=1.73  
 K4=1.19  
 K5=0.75  
 K6=0.03  
 Medium: NH4NO3. B6=8.74. At I=0 corr. K1=2.67, K2=2.12, K3=1.61, K4=1.07,  
 K5=0.63, K6=-0.09, B6=8.01. DH(B6)=-80 kJ mol-1  
 -----

Ni++ sp oth/un 16°C var U 1928JOa (8981) 191  
 B3=4.4  
 -----

Ni++ oth oth/un 25°C var U B2=4.62 1925WJa (8982) 192  
 B4=7.32  
 B6=7.68  
 -----

By partial pressure of H2O.

-----  
 Ni++ ISE oth/un ? var U 1904EUB (8983) 193  
 B4=4.96  
 -----

\*\*\*\*\*  
 NH3O L Hydroxylamine; CAS 5470-11-1 (1808)  
 Hydroxylamine; NH2.OH  
 -----

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	NaCl	RT	0.05M	C		B4=3.69 B6=5.64	1989BCb	(9248) 194

-----

Ni++	EMF	KNO3	25°C	1.0M	U		K1=4.98 K3=4.10 K4=3.94 K5=3.82 K6=3.72	B2=9.30	1974ISa (9249) 195
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Ni++	sp	NaNO3	?	2.50M	U		B2=1.46	1972TAb	(9250) 196
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Ni++ gl NaClO4 25°C 0.10M U K1=1.4 1968SFa (9251) 197

Ni++ gl oth/un 25°C var U B2=9.72 1966FPa (9252) 198  
B4=12.53  
B6=18.55

By spectrophotometry: B2=9.84, B4=12.58, B6=18.58

Ni++ gl NaNO3 20°C 0.50M U K1=1.5 1963SZa (9253) 199  
\*\*\*\*\*  
NO2- HL Nitrite CAS 7782-77-6 (635)  
Nitrite;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
Ni++ gl NaClO4 25°C 1.0M C K1=0.77 B2=1.08 1986AEb (9337) 200

Ni++ sp NaNO3 25°C 7.0M U B2=-0.8 1970GAa (9338) 201  
\*\*\*\*\*  
NO3- HL Nitrate CAS 7697-37-2 (288)  
Nitrate;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ sol oth/un 25°C 0.1M C 1984PKb (9480) 202  
Kout(Ni(phen)3+L)=0.75  
Kout(Ni(phen)3+2L)=1.09

Medium: 0.1M NaF; Also for 0.25M K1out=0.67, B2out=0.91; for 0.5 M K1out=0.54  
phen=Phenanthroline; for 0.5M B2out=0.83; for 0.75M K1out=0.49; B2out=0.77

Ni++ con non-aq 25°C 100% U K1=1.34 1980GPa (9481) 203  
Medium: DMSO

Ni++ cal NaNO3 25°C 1.00M U H 1975ARa (9482) 204  
DH(K1)=-3.53 kJ mol<sup>-1</sup>. DS = -10.3 J K<sup>-1</sup> mol<sup>-1</sup>.

Ni++ kin non-aq 20°C 100% U H K1=4.40 B2=7.48 1974HJa (9483) 205  
K3=2.34  
K1out=1.86  
K2out=0.80

Medium: MeCN DH(K1)=16.7 kJ mol<sup>-1</sup>, DH(K2)=14.6, DH(K3)=6.3

Ni++ sol NaClO4 25°C 1.0M U I K1=-0.22 B2=-1.0 1973FSc (9484) 206  
K1=-0.44, B2=-0.52(I=2). K1=-0.55, B2=-0.89(I=3). K1=-0.30, B2=-0.62,  
B3=-1.30(I=4). K1=0.45(I=0 corr)

Ni++ kin NaClO4 25°C 1.0M U T K1=0.08 1973HHb (9485) 207  
K1=0.07(45 C)

Ni++ ISE non-aq 125°C 100% U B2=3.43 1968LHa (9486) 208  
K3=0.78

Medium: Me2SO2, 2 M LiClO4

Ni++ sp non-aq ? 100% U 1963TBa (9487) 209  
K3K4=4.81

Medium: Me2CO

Ni++ sp non-aq ? 100% U M 1960MLa (9488) 210  
K(NiL2+TPB=NiL2(TBP))=-0.1

Medium: BuOH

\*\*\*\*\*

N2H4 L Hydrazine CAS 302-01-2 (2117)

Hydrazine; H2N.NH2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl R4N.X 25°C 0.10M U M 1995KBb (10059) 211  
K(NiA+L)=2.18  
K(NiAL+L)=0.78

Medium: 0.1 M (NH3NH3)(NO3)2. H3A=NTA

Ni++ gl oth/un 25°C var U K1=4.28 B2=7.66 1974AKa (10060) 212  
K3=2.56

Ni++ gl NaClO4 30°C 0.10M U I K1=2.6 B2=4.40 1970BGa (10061) 213  
K3=1.7  
K4=1.2  
K5=1.8  
K6=0.7

Also data for MeN2H3, EtN2H3. Values +/- 0.5

Ni++ gl NaClO4 25°C 0.10M U K1=2.4 1968SFa (10062) 214

Ni++ gl NaClO4 30°C 1.0M U K1=3.18 1967BSb (10063) 215

Ni++ gl oth/un 20°C 0.50M U K1=2.76 B2=5.20 1952SZa (10064) 216  
K3=2.15  
K4=1.85  
K5=1.55  
K6=1.24

Medium: N2H5BF4. B6=11.99. By solubility Ks(NiHLHSO4(s)=Ni+HLHSO4)=-13.15

\*\*\*\*\*

N3- HL Azide CAS 7782-79-8 (441)

Azide;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ sp KNO3 25°C 1.00M U M 19950Na (10141) 217  
K(NiA+L)=1.275  
K(NiB+L)=1.714  
K(NiC+L)=1.67

A=1,4,8,11-tetraaza-1,4,8,11-tetraethylcyclooctatetradecane, B=1,4,8,11-tetraaza-1,4-dimethyl-8,11-diethyl analogue, C=8,11-dipropyl analogue

---

Ni++ gl NaClO4 25°C 2.0M C K1=0.76 B2=0.99 1992INa (10142) 218  
 B3=0.88  
 B4=2.72  
 B(Ni2L2)=1.51  
 B(Ni2L3)=2.23  
 B(Ni2L4)=4.32; B(Ni2L5)=5.36; B(Ni2L6)=5.86; B(Ni3L4)=4.36; B(Ni3L5)=6.54;  
 B(Ni3L6)=8.08

---

Ni++ gl NaClO4 25°C 2.0M C K1=0.88 1983SNc (10143) 219  
 B(Ni2N3)=0.63

---

Ni++ cal oth/un 25°C 0.05M C H 1981ABd (10144) 220  
 Medium: NaN3. DH(K1)=6.32 kJ mol<sup>-1</sup>, DS(K1)=53.6 J K<sup>-1</sup> mol<sup>-1</sup>.

---

Ni++ con NaClO4 25°C 1.0M U K1=0.58 B2=1.18 1980AVb (10145) 221

---

Ni++ ISE none 25°C 0.0 M K1=1.69 B2=2.09 1976DMa (10146) 222

---

Ni++ gl NaClO4 25°C 1.00M C H K1=0.87 B2=1.26 1975AAa (10147) 223  
 B3=1.30  
 DH(K1)=-0.96 kJ mol<sup>-1</sup>, DH(B2)=-3.3, DH(B3)=-10.3

---

Ni++ sp alc/w ? 100% U I B2=6.7 1973AEa (10148) 224  
 B3=16.3  
 Medium: MeOH. In EtOH: B4=14.6; in Me2NCHO: B2=6.7

---

Ni++ sp NaClO4 25°C 1.0M U K1=0.84 1970SGa (10149) 225

---

Ni++ kin NaClO4 25°C 0.10M U K1=0.66 1969FTb (10150) 226

---

Ni++ gl NaClO4 25°C 3.0M U K1=1.04 1967MRb (10151) 227  
 \*\*\*\*\*

OCN- HL Cyanate CAS 661-20-1 (6165)  
 Cyanate, Fulminate;

---

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

---

Ni++ sp oth/un var U K1=1.97 B2=3.53 1967LOa (10289) 228  
 K3=1.37  
 K4=1.3

---

\*\*\*\*\*  
 OH- HL Hydroxide (57)  
 Hydroxide;

---

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

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Ni++ sol oth/un 25°C dil C T H 2004ZGa (10570) 229

\*B2=-22.68

Ni++ sol oth/un 25°C dil C T H 2004ZGa (10571) 230

$$*K_S(\text{Ni}(\text{OH})_2 + 2\text{H} = \text{Ni} + 2\text{H}_2\text{O}) = 11.81$$
$$*K_s(\text{NiO}(\text{rhomb})+2\text{H})=12.32$$
$$*K_s(\text{NiO}(\text{cubic})+2\text{H})=11.54$$

```
Ni++      sol NaClO4 25°C  0.0  C TIH      2002Gwa (10572) 231
```

$$*K_{so}(\text{Ni}(\text{OH})_2) = 11.1$$

Ni++          gl   NaClO<sub>4</sub> 25°C 0.10M U                      2001PSb (10573) 232

\*K1=-8.10

\*B2=-16.87

Ni++ gl NaNO3 25°C 0.10M C 2000MSa (10574) 233

\*K1=-8.10

\*B2=-16.87

Ni++ gl NaCl04 30°C 0.20M U 1999PGa (10575) 234

\*K1=-8.10

\*B2=-16.87

Ni++ gl NaNO3 30°C 0.20M U 1999PPa (10576) 235

\*K1=-8.10

\*B2=-16.87

Ni++      gl   KCl      35°C 0.10M C      1998ALa (10577) 236

\*B2=-18.09

Ni++	gl	NaNO3	25°C	0.10M	U	1998MSe	(10578)	237
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\*K1=-8.10

\*B2=-16.87

Ni++	gl	alc/w	25°C	50%	C	1997Mgb (10579)	238
------	----	-------	------	-----	---	-----------------	-----

\*K1=-7.62

\*B2=-15.88

Medium: 50% v/v EtOH/H<sub>2</sub>O, 0.2 M NaNO<sub>3</sub>.

Ni++ sol NaClO4 25°C 0.01M C K1=5.65 1997MRb (10580) 239

Medium: 0.01 M NaClO<sub>4</sub>, pH 7-11.3. Analysis by ICP.

$$K_{so}(\text{Ni}(\text{OH})_2) = -16.1$$

Ni++ gl alc/w 30°C 50% C 1991MCb (10581) 240

Medium: 50% v/v EtOH/H<sub>2</sub>O, 0.2 M NaNO<sub>3</sub>.

\*K1=-8.52  
\*B2=-17.48

\*K1=-7.62  
\*B2=-15.88

\*K1=-7.62  
\*B2=-15.88

\*K1=-9.87  
\*B(4,4)=-28.04

$$K_{so}(\text{Ni}(\text{OH})_2) = -11.82$$

\*B(2,1)=-9.5  
\*B(4,4)=-28.18

$$*B(4,4)=-27.0$$
$$K_{so}(\text{Ni}(\text{OH})_2(s) = \text{Ni} + 2\text{OH}) = -14.7$$
$$*B(4,4)=-27.11$$

\*K<sub>S</sub>=14.1

Medium: 10% dioxan/H<sub>2</sub>O, 3 M LiClO<sub>4</sub>. \*K<sub>s</sub>: Ni(OH)<sub>2</sub>(s)+2H=Ni+2H<sub>2</sub>O  
;\*K<sub>so</sub>=13.3(0%); 13.1(20%)

Ni++	sol	NaCl	25°C	0.55M	U	1973Nca (10593)	252	Kso(Ni(OH)2(s)=Ni+2OH)=-15.2
Ni++	gl	NaCl04	30°C	0.50M	U	1971BSk (10594)	253	B(2,6)=38.8
Ni++	oth	NaCl	60°C	3.00M	U	1971BZc (10595)	254	*B(2,1)=-8.5 *B(4,4)=-25.33
Ni++	kin	oth/un	?		U	1971HGa (10596)	255	*K1=-11.0
Ni++	gl	NaCl	25°C	3.00M	U	19710Ba (10597)	256	*K1 < -10.5 *B(2,1) < -10.5 *B(4,4)=-28.55
Ni++	kin	NaCl04	25°C	0.10M	U	1969FTb (10598)	257	K1=4.3
Ni++	gl	NaCl04	25°C	1.50M	U	1969KKa (10599)	258	*B(4,4)=-27.05
Ni++	cal	NaCl	25°C	3.00M	U H	1966AVa (10600)	259	DH(*B(4,4))=179.7 kJ mol <sup>-1</sup> . DS=58.5 J K <sup>-1</sup> mol <sup>-1</sup>
Ni++	gl	NaNO3	25°C	3.00M	U	1966BIa (10601)	260	*B(3,3)=-21.58 *B(2,1)=-9.6
Ni++	gl	NaCl04	25°C	3.00M	U	1965BLa (10602)	261	*B(4,4)=-27.37 *B(2,1)=-10?
Ni++	gl	NaCl	25°C	3.00M	U	1965BLc (10603)	262	*B(4,4)=-28.42 *B(2,1)=-9.3
Ni++	gl	KNO3	20°C	1.50M	U TIH	1964PEa (10604)	263	*K1=-10.18 *K1=-10.26(I=1.0). Also lower I values. At I=0 corr: *K1=-10.22(15 C), -10.05(20 C), -9.86(25 C), -9.75(30 C), -9.43(42 C). DH(25 C)=51.8 kJ mol <sup>-1</sup> , DS=12
Ni++	gl	NaCl04	25°C	1.00M	U T H	1963BJa (10605)	264	*K1=-9.76 *K1=-9.65(30 C), -9.52(40 C), -9.3(50 C). DH(*K1)=32.4 kJ mol <sup>-1</sup>
Ni++	gl	none	?	0.0	U	1963FSa (10606)	265	Kso=-17.2 (aged)



Kso=-14.7 (active)

Ni++	gl	NaCl04	28°C	1.0M	U		1963SSa (10607)	266
						*K1=-10.01		
Ni++	gl	none	25°C	0.0	U		1959ACa (10608)	267
						*K1=-10.92		
						*K2=-4		
Ni++	sol	oth/un	20°C	dil	U	B2=10.96	1959ASa (10609)	268
						K(Ni(OH)2(s)=Ni(OH)2)=-3.89		
Ni++	gl	none	20°C	0.0	U		1956CKa (10610)	269
						*K1=-8.94		
						Kso(Ni(OH)2)=-15.0		
Ni++	sol	none	28°C	0.0	U		1956JPa (10611)	270
						Kso(Ni(OH)2)=-16.0		
Ni++	gl	none	75°C	0.0	U		1954D0a (10612)	271
						Kso(Ni(OH)2)=-16.2		
Ni++	gl	oth/un	?	var	U	K1=5	1953SPd (10613)	272
						Kso(Ni(OH)2)=-15.5		
Ni++	gl	KCl	30°C	0.10M	U		1952CCa (10614)	273
						*K1=-9.4		
Ni++	gl	none	25°C	0.0	U		1952GWa (10615)	274
						*K1=-10.64		
Ni++	gl	none	18°C	0.0	U		1950AFa (10616)	275
						Kso(Ni(OH)2)=-14.87		
Ni++	sol	none	25°C	0.0	U		1949GGb (10617)	276
						K(Ni(OH)2(s)=Ni(OH)2)=-17.19		
						*Kso=10.81		
						K(Ni(OH)2(s))=-7		
						K(Ni(OH)2(s)+OH=Ni(OH)3)=-4.22		
Ni++	EMF	none	25°C	0.0	U		1942NAa (10618)	277
						Kso(Ni(OH)2)=-15.21		
Ni++	gl	oth/un	25°C	dil	U		1938OKa (10619)	278
						Kso(Ni(OH)2)=-14.5		
Ni++	dis	oth/un	20°C	var	U	K1=4.70	1933JEa (10620)	279
Medium: NiAc2								
Ni++	EMF	oth/un	17°C	var	C		1925BRa (10621)	280

Kso(Ni(OH)2)=-18.06

Ni++ sol oth/un 25°C var U 1925WIa (10622) 281  
Kso(Ni(OH)2)=-13.82

Ni++ kin oth/un 100°C dil U K1=3.77 1913KUa (10623) 282  
\*K1=-8.60

Ni++ EMF oth/un 25°C var C I 1908DEa (10624) 283  
\*K1=-8.3

Medium:NiSO4. Method:H electrode. Alternatively \*B2=-12.96. In NiCl2 \*K1=6.5  
\*\*\*\*\*

O2 L Oxygen CAS 7782-44-7 (83)  
Dioxygen, also oxide; O-- , and superoxide, O2-

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
Ni++ EMF non-aq 750°C 100% U 1970CTa (12557) 284  
Kso=-9.5 (x units)

Ligand=Oxide, O--; Medium: fused (Na,K)Cl

\*\*\*\*\*

O2-- H2L Peroxide CAS 7772-84-1 (2813)  
Peroxide; -0.0-

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
Ni++ sp oth/un ? var U M 1966ZSa (12646) 285  
K(Ni(bpy)2+HL)=4.5

\*\*\*\*\*

P04--- H3L Phosphate CAS 7664-38-2 (176)  
Phosphate;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
Ni++ gl NaNO3 25°C 0.10M M 1996SSa (12967) 286  
K(Ni+HL)=2.20

Ni++ nmr NaCl 25°C 1.00M U M 1992MDa (12968) 287  
Keff(NiC+L)=1.08  
In 1.0 M NaCl, 0.05M HEPES, pH 7. C=carboxypeptidase A.

Ni++ gl NaCl04 25°C 0.20M U K1=3.26 1991SPa (12969) 288

Ni++ nmr oth/un 25°C ? U M 1985MGa (12970) 289  
K(Ni(trien)+L)=1.41

Ni++ gl NaNO3 25°C 0.10M C 1981BKb (12971) 290  
K(Ni+HP04)=2.08

Ni++ gl NaCl04 25°C 0.10M M 1976TDa (12972) 291

$K(\text{Ni}+\text{HL})=2.11$   
 $K(\text{Ni}+\text{H}_2\text{L})=0.5$

---

Ni++      gl    KNO<sub>3</sub>    15°C 0.10M U      1972FSa (12973) 292  
 $K(\text{Ni}+\text{HL})=2.00$

---

Ni++      gl    NaClO<sub>4</sub> 25°C 0.10M U    I      1967SBc (12974) 293  
 $K(\text{Ni}+\text{HL})=2.08$   
 In 10% dioxan, 0.1 M NaClO<sub>4</sub>:  $K(\text{Ni}+\text{HL})=2.22$

---

Ni++      gl    oth/un 20°C    dil    U      1961CAa (12975) 294  
 $K_{\text{so}}(\text{Ni}_3\text{L}_2)=-30.3$

\*\*\*\*\*  
 PW11039-----      H7L      (2467)  
 alpha-Heteromonophospho-polytungstate;

---

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	NaNO <sub>3</sub>	25°C	1.00M	U			$K_1=4.27$	1984C0a (13394)	295

\*\*\*\*\*  
 P207-----      H4L      Pyrophosphate      CAS 2466-09-3 (198)  
 Diphosphate; from (HO)<sub>2</sub>PO.O.PO(OH)<sub>2</sub>

---

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	nmr	NaCl	25°C	1.00M	U	M		$K_{\text{eff}}(\text{NiC}+\text{L})=2.46$	1992MDa (13500)	296

In 1.0 M NaCl, 0.05M HEPES, pH 7. C=carboxypeptidase A.

---

Ni++      gl    R4N.X    25°C 0.50M C       $K_1=1.75$     B2= 4.17    1979DH a (13501) 297  
 $K(\text{Ni}+\text{HL}=\text{NiL}+\text{H})=-6.70$   
 $K(\text{Ni}+2\text{HL}=\text{NiL}_2+2\text{H})=-12.75$   
 $K(\text{NiL}+\text{HL}=\text{NiL}_2+\text{H})=-6.05$   
 Medium: 0.50 M Me<sub>4</sub>NCl.  $K_{\text{so}}(\text{Ni}_2\text{P207.6H}_2\text{O})=-15.3$ .

---

Ni++      gl    R4N.X    25°C 0.20M U T H       $K_1=6.60$     B2= 9.75    1979MFb (13502) 298  
 $K(\text{Ni}+\text{HP207})=3.95$   
 Medium: Me<sub>4</sub>NBr, 0.20 M. Data for 5-35 C.  
 By calorimetry:  $\text{DH}(K_1)=27 \text{ kJ mol}^{-1}$ .

---

Ni++      kin    KNO<sub>3</sub>    15°C 0.10M U       $K_1=6.22$       1978FSa (13503) 299  
 $K(\text{Ni}+\text{HL})=3.50$   
 Method: temperature jump

---

Ni++      kin    R4N.X    30°C 0.10M U       $K_1=6.35$       1978KH a (13504) 300

---

Ni++      gl    KNO<sub>3</sub>    25°C 0.02M U    I M     $K_1=6.39$       1973PSa (13505) 301  
 $K(\text{Ni}+\text{HL})=4.01$   
 $K_1=6.04$ ,  $K(\text{Ni}+\text{HL})=3.78(I=0.05)$ ; 5.94, 3.71( $I=0.1$ ); 5.60, 3.39( $I=0.2$ ).  
 $I=0.1$ , 5 C: 5.63, 3.15; 15 C: 5.81, 3.55; 35 C: 6.21, 4.07

Ni++	EMF	KNO3	15°C	0.10M	U		K1=6.22 K(Ni+HL)=3.50	1972FSa (13506)	302
Ni++	gl	R4N.X	25°C	0.10M	U		K1=6.98 K(Ni+HL)=3.83	1964HMb (13507)	303
Medium: Me4NCl									
Ni++	sp	oth/un	25°C	var	U		K1=3.62	1958VRb (13508)	304
Ni++	sol	oth/un	25°C	var	U		K1=5.82 B2=7.19 Kso(Ni2L)=-12.77	1956YVa (13509)	305
Ni++	sol	oth/un	25°C	var	U		K2=1.48	1956YVb (13510)	306
Ni++	cal	oth/un	25°C	var	U	H	K1=1.60 DH(K1)=17.6 kJ mol <sup>-1</sup> , DH(K2)=-9.2	1956YVb (13511)	307
*****									
P2W17O61----- Polytungstate (2102)									
alpha-Heterodiphospho-polytungstate (usually alpha1 isomer)									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	1.00M	U		K1=7.76 K1=5.49 (alpha2 isomer)	1984COa (13702)	308
*****									
P3O10----- H5L CAS 10380-08-2 (1001)									
Tripolyphosphate; from (HO)2PO.O.PO(OH).O.PO(OH)2									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	kin	KNO3	15°C	0.10M	U		K1=7.20 K(Ni+HL)=4.40	1978FSa (13779)	309
Method: temperature jump									
Ni++	kin	oth/un	30°C	0.10M	U		K1=6.65	1978KHa (13780)	310
Ni++	gl	KNO3	25°C	0.10M	U	T H	K1=7.07 K(Ni+HL)=3.95	1973TRa (13781)	311
At 2 C: K1=7.34, K(Ni+HL)=3.65; 35 C: K1=8.33, B=4.81									
DH(K1)=-6.7, DH(Ni+HL)=0 kJ mol <sup>-1</sup> (25C)									
Ni++	EMF	KNO3	15°C	0.10M	U		K1=7.20 K(Ni+HL)=4.40	1972FSa (13782)	312
Ni++	gl	KNO3	45°C	0.10M	U		K1=6.92 B2=8.22 K(Ni+HL)=3.73 K(NiL+HL)=2.1 K(NiL2+H)=8.93	1971TRa (13783)	313

Ni++ gl R4N.X 20°C 0.10M U H K1=7.8 1965ANa (13784) 314  
 K(Ni+HL)=4.9  
 K(NiL+H)=5.9

Medium: Me4NNO3. By calorimetry: DH(K1)=20.9 kJ mol<sup>-1</sup>, DS=220 J K<sup>-1</sup> mol<sup>-1</sup>

Ni++ gl KCl 25°C 0.10M U K1=6.72 1964EMb (13785) 315  
 K(Ni+HL)=3.65  
 K(NiL+H)=4.99

Ni++ gl R4N.X 25°C 0.10M U K1=7.90 1964HMB (13786) 316  
 K(Ni+HL)=5.01

Medium: Me4NCl

Ni++ sp KNO3 30°C 1.0M U K(Ni+HL)=4.18 1964SSc (13787) 317

\*\*\*\*\*

P309--- H3L CAS 13566-25-1 (235)

Cyclotrimetaphosphate;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ con none 25°C 0.0 U K1=3.22 1949JMa (13932) 318

\*\*\*\*\*

P4012---- H4L CAS 13598-74-8 (234)

Cyclotetrametaphosphate;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ EMF R4N.X 30°C 1.00M U K1=2.63 B2=3.48 1955GGa (13983) 319

Medium: Me4NNO3, Ni/Hg electrode

Ni++ con none 25°C 0.0 U K1=4.95 1950JMb (13984) 320

\*\*\*\*\*

P4013----- H6L Tetrphosphate (1102)

Tetrphosphate;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ kin oth/un 30°C 0.10M U K1=6.45 1978KHa (14034) 321

\*\*\*\*\*

P6012----- H6L CAS 25268-83-1 (6590)

Dodecaoxohexaphosphate(III); anion of (PO.OH)<sub>6</sub>

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ sp KCl 25°C 1.00M U I K1=5.39 1990NTa (14054) 322

Data also at I=1.5 M KCl: B1=5.21; 2.0 4.95; 2.5 4.72; 3.0 4.60.

\*\*\*\*\*

S-- H2L Sulfide CAS 7783-06-4 (705)

Sulfide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	vlt	oth/un	25°C	0.72M	C			K(Ni+HL)=5.1 K(Ni+2HL)=10.8	1999AVb (14194)	323
Method: determination of Ni by cathodic stripping voltammetry using oxine as competitive ligand. Medium: seawater, pH 8.0, S=35.										
Ni++	vlt	NaCl04	24°C	0.50M	C	I		K1=5.33 B(Ni2(S5))=11.41	1999CRb (14195)	324
Ligand is S5--. Method: polarography. Also data for 0.55 M NaCl.										
Ni++	vlt	oth/un	25°C	0.70M	C	I		K(Ni+HS)=4.97 K(2Ni+HS)=9.99 K(3Ni+HS)=15.90	1996LRb (14196)	325
Method: voltammetry at Hg/HgS electrode. Medium: seawater. Also data for 0.5 and 0.1 strength seawater										
Ni++	vlt	NaCl	25°C			? U		K1eff=5.3	1994ZMa (14197)	326
Medium: sea water, pH=8. Method: cathodic stripping square wave voltammetry										
Ni++	oth	none				? 0 U		*Ks(NiS+H=Ni+HS)=-5.6 (alpha) *Ks(NiS+H=Ni+HS)=-11.1 (beta) *Ks(NiS+H=Ni+HS)=-12.8 (gamma)	1990DKa (14198)	327
Recalculation of literature data.										
Ni++	oth	none	25°C	0.0	C			K(Ni+HS=NiS+H)=2.3 *Kso(NiS)=-9.5 Kso(NiS)=-7.2	1989DYa (14199)	328
Calculated from literature data, based on K(H+S)=17.0. NiS is millerite.										
Ni++	oth	none	25°C			0 U		Kso(NiS,alpha)=-24.3 *Kso(NiS,alpha)=-6.9 Kso(NiS,beta)=-29.5 *Kso(NiS,beta)=-12.2	1988LIa (14200)	329
Derived from thermodynamic data and K(H+S=HS)=17.3. Kso(NiS,gamma)=-31.3, *Kso(NiS,gamma)=-13.9.										
Ni++	oth	none	25°C			0 U		Kso(NiS,millerite)=-28.06	1988SBc (14201)	330
Method: recal. from literature data using K(H+S=HS)=18.57 and K(H+HS)=6.99										
Ni++	dis	oth/un	25°C	0.69M	U				1985DYa (14202)	331

Medium: DMF, 0.40 M Et<sub>4</sub>NClO<sub>4</sub>.

Ni++ oth NaClO4 25°C 1.0M U I R K1=1.14 1997BP a (14540) 341  
IUPAC evaluation

---

Ni++ sp non-aq 25°C 100% U H K1=3.88 B2=6.68 1995KI a (14541) 342  
B3=8.70  
B4=10.20  
Medium: N,N-Dimethylacetamide, 0.2 M Bu4NBF4. DH(K1)=1.3 kJ mol<sup>-1</sup>, DH(B2)=  
0.7, DH(B3)=7, DH(B4)=6.3 (by calorimetry)

---

Ni++ con non-aq 25°C 100% C K1=4.48 B2= 7.26 1995PG a (14542) 343  
Medium: dimethylformamide.  
K1: Ni(DMF)6+SCN=Ni(SCN)(DMF)5+DMF.

---

Ni++ cal non-aq 25°C 100% U H T K1=2.7 B2=4.6 1990IO a (14543) 344  
K3=0.8  
K4=0.8  
Medium: N,N-Dimethylformamide, 0.4 M Et4NClO4. DH(K1)=-0.7, DH(K2)=-1.8,  
DH(K3)=-3.0, DH(K4)=1.4 kJ mol<sup>-1</sup>. DS(K1)=50 J K<sup>-1</sup> mol<sup>-1</sup>.

---

Ni++ sp oth/un 25°C 0.0 U T 1988BJ b (14544) 345  
K4=-0.92  
Extrapolated from data in 4-10 M NaSCN

---

Ni++ vlt KNO3 25°C 0.10M C K1=2.13 1988EC a (14545) 346  
Method: differential pulse polarography, using anodically generated Hg++  
as indicator ion. By d.c. polarography, K1=2.08.

---

Ni++ sol oth/un 25°C 0.1M C 1984PK b (14546) 347  
Kout(Ni(bipy)3+L)=2.14  
Kout(Ni(bipy)3+2L)=3.55  
Medium: NaF ;also for I=0.25 M K1out=1.98, B2out=3.30; I=0.5 M Kout=1.90  
B2out=3.10, B3out=3.08;I=0.75 K1out=1.82; B2out=3.0; B3out=2.86,B4out=2.56

---

Ni++ oth NaClO4 25°C 1.0M C H K1=1.124 B2= 1.57 1976KK g (14547) 348  
B3=1.26  
Method: recalculation from published data. DH(K1)=-12.2 kJ mol<sup>-1</sup>, DH(B2)=  
-21.7, DH(B3)=-36.

---

Ni++ dis NaClO4 25°C 1.00M C T K1=1.1 B2=1.6 1976MK c (14548) 349

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Ni++ sp oth/un 25°C 0.01M U TI K1=2.6 1975CH a (14549) 350  
At 30 C: K1=2.5; 20 C: 2.7

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Ni++ cal alc/w 25°C 100% C K1=2.08 B2= 3.16 1975RA a (14550) 351  
B3=3.94  
Medium: methanol. By spectrophotometry: K1=2.06, B2=3.02, B3=3.81.

---

Ni++ kin none 20°C 0.0 U T K1=1.83 1974DH b (14551) 352  
K1out=0.74

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Ni++	kin alc/w	20°C	100%	U	I	K1=5.18	B2=8.23	1974DHb (14552)	353
						K1out=2.23			
						K2out=1.0			
Medium: MeOH. In MeCN, K1=5.52, K2=4.30, K1out=1.93, K2out=0.85									
-----									
Ni++	kin non-aq	20°C	100%	U	T	K1=3.00	B2=4.54	1974DHb (14553)	354
Medium: DMSO									
-----									
Ni++	kin non-aq	20°C	100%	U	T	K1=3.92	B2=6.29	1974DHb (14554)	355
						K1out=1.85			
						K2out=0.88			
Medium: DMF									
-----									
Ni++	sp non-aq	130°C	100%	U				1974HNa (14555)	356
						B4=8.59			
Medium: dimethylsulfone. Using current-voltage studies, B4=5.95									
-----									
Ni++	cal NaClO4	25°C	1.0M	U	H T	K1=1.14	B2=1.58	1974KUa (14556)	357
						B3=1.60			
DH(K1)=-12.0 kJ mol <sup>-1</sup> , DS=-18.4 J K <sup>-1</sup> mol <sup>-1</sup> . DH(B2)=-8.9, DS=-21.3.									
DH(B3)=-8.2, DS=-27.2									
-----									
Ni++	sp non-aq	?	100%	U		B2=7.8		1974MIc (14557)	358
						B3=10.1			
						B4=11.2			
Medium: acetonitrile									
-----									
Ni++	sp non-aq	?	100%	U		K1=2.7	B2=3.7	1974MIc (14558)	359
						B4=5.4			
Medium: DMSO									
-----									
Ni++	sp non-aq	?	100%	U		K1=3.3	B2=5.3	1974MIc (14559)	360
						B3=5.6			
						B4=6.0			
Medium: trimethylphosphate. In DMF, K1=3.5, B2=6.3, B3=8.1, B4=9.1									
-----									
Ni++	sp NaClO4	?	3.0M	U				1974NBd (14560)	361
						K1=0.3 to 1.4			
medium:LiClO4									
-----									
Ni++	sp non-aq	?	100%	U				1974SIb (14561)	362
						B6=10.5(error in abstract(?))			
Medium: acetone									
-----									
Ni++	kin non-aq	25°C	100%	U		K1=2.995		1974WP a (14562)	363
Medium: DMSO									
-----									
Ni++	kin NaClO4	25°C	1.0M	U T	T	K1=1.13		1973HHb (14563)	364
K1=1.04(45 C)									
-----									

Ni++	kin	alc/w	25°C	100%	U T	K1=3.28	1973WPa (14564)	365
Medium: MeOH. K1=3.49(30 C), 3.57(33.5 C)								
Ni++	ISE	none	25°C	0.0	U T H	K1=1.98	1971DDb (14565)	366
DH(K1)=-21.55 kJ mol-1. K1=1.85(35 C), 1.74(45 C)								
Ni++	kin	non-aq	20°C	100%	U		1971DHa (14566)	367
						K1out=1.65		
						K2out=0.85		
Medium: DMSO								
Ni++	ix	oth/un	?	var	U	K1=2.2 K3=0.2 K4=-0.5	B2=2.40 1971LCa (14567)	368
Ni++	EMF	alc/w	25°C	100%	U I	K1=4.8	B2=7.70 1970DHa (14568)	369
Medium: MeOH, 0.03 M NaClO4; K1=5.7, K2=3.3(Constants corrected I=0)								
Ni++	sp	NaClO4	25°C	3.0M	U	K1=1.34	1970MMj (14569)	370
Medium: LiClO4								
Ni++	kin	NaClO4	25°C	0.25M	U	K1=1.3	1969SUa (14570)	371
Ni++	vlt	NaClO4	35°C	0.65M	U T H	K1=1.17	1968MTe (14571)	372
Medium: HClO4. K1=1.34(15 C), 1.24(25 C). DH(K1)=-14.4 kJ mol-1, DS=-24								
Ni++	EMF	oth/un	35°C	0.0	U	K1=1.85	1968PRd (14572)	373
Ni++	cal	oth/un	25°C	0.0	U H	K1=1.76	1967NTa (14573)	374
Medium: 0 corr. DH(K1)=-9.4 kJ mol-1, DS=2.1 J K-1 mol-1								
Ni++	dis	NaClO4	20°C	3.0M	U I T	K1=1.19 B3=1.30 B4=1.54	B2=1.68 1964TCa (14574)	375
I=1.5:K1=1.14, B2=1.75, B3=1.70, B4=2.04. Kd(Ni+2L=NiL2(MeCOBu))=-0.14								
Ni++	vlt	NaClO4	25°C	0.70M	U I	K1=1.21	1963TCb (14575)	376
Also K1=1.27(I=5), 1.11(I=2.5), 1.12(I=1.5), 1.17(I=1.0)								
Ni++	oth	oth/un	?	var	U	K1=1.18	1962FLa (14576)	377
Method: ir. In 3M NaClO4 K1in=1.08, K1out=0.5								
Ni++	sp	NaClO4	?	2.0M	U T	K1=1.10	1962TCa (14577)	378
Ni++	sp	none	25°C	0.0	U T	K1=1.76	1962WIa (14578)	379
Ni++	sp	oth/un	1°C	0.50M	U T	K1=1.38	1961DSd (14579)	380
K1=1.28(9.3 C)								
Ni++	sp	none	25°C	0.0	U T H	K1=1.50	1961MDa (14580)	381

at 35 C(by emf) K1=1.82. DH(K1)=55 kJ mol<sup>-1</sup>, DS=213 J K<sup>-1</sup> mol<sup>-1</sup> ?

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Ni++	sp	NaCl04	?	2.0M	U	K1=1.27	1959UTa (14581)	382
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Ni++	sp	none	22°C	0.0	U	K1=1.67	1958YKa (14582)	383
------	----	------	------	-----	---	---------	-----------------	-----

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Ni++	sp	NaCl04	20°C	1.0M	U	T K1=1.18 K3=0.17	B2=1.64	1953FRa (14583)	384
------	----	--------	------	------	---	----------------------	---------	-----------------	-----

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Additional method: cation exchange

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S03--	H2L	Sulfite	CAS 7782-99-2	(801)
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Sulfite;

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	EMF	NaCl	25°C	0.00	U	I	K1=2.88	1991RZb (15413)	385
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S04--	H2L	Sulfate	CAS 7664-93-9	(15)
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Sulfate;

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	con	mixed	20°C	50%	C	I	K1=3.14	2001MTa (15706)	386
------	-----	-------	------	-----	---	---	---------	-----------------	-----

Medium: 50 % w/w DMF/H2O. Data for 0-80 % w/w DMF/H2O. At 0% DMF/H2O, K1=2.14

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Ni++	con	none	20°C	0.0	C	I	K1=2.14	2000TMa (15707)	387
------	-----	------	------	-----	---	---	---------	-----------------	-----

Also data for 0.06-0.69 mole fraction MeOH/H2O.

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Ni++	sp	none	25°C	0.0	C		K1=2.10	1990WAa (15708)	388
------	----	------	------	-----	---	--	---------	-----------------	-----

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Ni++	con	none	25°C	0.0	C		K1=2.25	1985SGd (15709)	389
------	-----	------	------	-----	---	--	---------	-----------------	-----

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Ni++	con	none	25°C	0.0	C	T	K1=2.29	1979FFc (15710)	390
------	-----	------	------	-----	---	---	---------	-----------------	-----

Also data for 15 C. Also data at 1000 and 2000 atm. K expressed on molal scale.

---

Ni++	con	diox/w	25°C	100%	U	I M		1979NBa (15711)	391
------	-----	--------	------	------	---	-----	--	-----------------	-----

K(NiA+L)=2.08

A=5,7,7,12,14,14-Hexamethyl-1,4,8,11-tetraazacyclotetradecane-4,11-diene.

Data also for varying dielectric constants

---

Ni++	nmr	oth/un	25°C	0.00	U	T H	K1=0.98	B2=0.82	1978BLa (15712)	392
------	-----	--------	------	------	---	-----	---------	---------	-----------------	-----

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Ni++	sp	NaCl04	25°C	5.00M	U	H		1977AHa (15713)	393
------	----	--------	------	-------	---	---	--	-----------------	-----

K1out=0.77

DH=0 kJ mol<sup>-1</sup>, DS=14.8 J K<sup>-1</sup> mol<sup>-1</sup>

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Ni++	dis	NaCl04	25°C	1.00M	C		K1=1.0	B2=1.4	1976MKc (15714)	394
------	-----	--------	------	-------	---	--	--------	--------	-----------------	-----

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Ni++	con	none	0°C	0.0	U		K1=2.4	1975TAa (15715)	395
-----									
Ni++	cal	NaClO4	25°C	3.0M	U	H		1974BRa (15716)	396
Medium: LiClO4. DH(K1)=2.4 kJ mol-1, DS(K1)=12.5 J K-1 mol-1									
-----									
Ni++	con	none	25°C	0.0	U	T H	K1=2.27	1973KAb (15717)	397
K1=2.19(0 C); 2.23(10 C); 2.34(45 C)									
DH(K1)=5.3 kJ mol-1, DS(K1)=61.5 J K-1 mol-1(25 C)									
-----									
Ni++	cal	none	25°C	0.0	U	H		1973POa (15718)	398
DH(K1)=5.7 to 5.9 kJ mol-1									
-----									
Ni++	oth	none	25°C	0.0	C		K1=2.35 B2= 1.75	1972PIa (15719)	399
Calculated from published osmotic coefficient data.									
-----									
Ni++	oth	none	0°C	0.0	U		K1=2	1971ISc (15720)	400
Method: freezing point; K1=1.8 to 2.4(depending upon ion size parameter)									
-----									
Ni++	cal	none	25°C	0.0	C	H		1970LAe (15721)	401
DH(K1)=6.4 kJ mol-1, DS(K1)=65.7 J K-1 mol-1.									
Method: heat of dilution measurements.									
-----									
Ni++	sp	NaClO4	25°C	3.0M	U		K1=0.26	1970MMj (15722)	402
-----									
Ni++	vlt	NaClO4	25°C	5.0M	U		K1=1.19	1970TRa (15723)	403
Method: current-voltage studies									
-----									
Ni++	EMF	NaClO4	25°C	2.0M	U	M		1970TRa (15724)	404
K(Nipy+L)=1.02									
K(Ni(thiourea)+L)=1.14									
-----									
Ni++	cal	oth/un	25°C	0.0	U	H	K1=2.81	1969IEa (15725)	405
DH(K1)=1.7 kJ mol-1, DS(K1)=59.0 J K-1 mol-1									
-----									
Ni++	ISE	oth/un	35°C	0.0	U		K1=2.05	1968PRd (15726)	406
-----									
Ni++	con	oth/un	25°C	0.0	U	M	K1=2.16	1968YMa (15727)	407
K(Ni(en)+L)=2.02									
K(Ni(en)3+L)=2.23									
-----									
Ni++	sol	oth/un	300°C	0.0	U	T H		1967Gnd (15728)	408
Kso(NiLH2O)=-6.80									
Kso=-3.69(160 C), -4.01(180 C), -4.35(200 C), -4.70(220 C), -5.10(240 C), -5.57(260 C), -6.12(280 C). At 25 C: DHso=-50.2 kJ mol-1, DS=175.6 J K-1 m-1									
-----									
Ni++	oth	oth/un	25°C	0.0	U	H	K1=2.32	1967HEb (15729)	409
From thermodynamic data. DH(K1)=13.3 kJ mol-1, DS=89.0 J K-1 mol-1									
-----									
Ni++	oth	oth/un	25°C	0.0	U		K1=1.94	1965POa (15730)	410
K(Ni(H2O)2L=Ni(H2O)L)=-0.3									

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-----
Ni++      oth oth/un   ?   1.0M U               1964LAb (15731) 411
                                         K1in/K1=-1.1
Method:infrared spectra. Medium: NiSO4
-----
Ni++      vlt NaClO4 25°C 1.0M U   M   K1=0.57   B2=1.42   1963TSa (15732) 412
                                         B(NiAL)=0.0
                                         B(NiAL2)=0.5
HA=CH3CO2H
-----
Ni++      vlt KNO3   25°C 0.20M U T       K1=1.0           1961TOa (15733) 413
K1=1.16(15 C), 1.16(35 C)
-----
Ni++      EMF oth/un 25°C 0.0 U T H       K1=2.32           1959NNa (15734) 414
Method: H electrode. K1=2.08(0 C), 2.18(10 C), 2.24(15 C), 2.39(35 C), 2.46
(45 C). DH(K1)=13.9 kJ mol-1, DS=91 J K-1 mol-1
-----
Ni++      oth KNO3   -3°C sat U           K1=0.70   B2=1.50   1959RRc (15735) 415
Method: freezing point
-----
Ni++      oth KNO3   0°C sat U I           K1=0.69           1958KEa (15736) 416
Method: freezing point. K1=1.27(KClO3 sat), 1.70(KClO4, sat). 2.29(I=0 corr)
-----
Ni++      oth oth/un 0°C 0.0 U           K1=2.34           1956FSa (15737) 417
Method: freezing point
-----
Ni++      oth oth/un 0°C 0.0 U           K1=2.2           1955BPb (15738) 418
Method: freezing point. K1=2.06 to 2.39
-----
Ni++      sol oth/un 25°C 0.0 U           1954DOa (15739) 419
                                         Kso(Ni(OH)1.5L0.25)=-13.35
-----
Ni++      con oth/un 25°C 0.0 U           K1=2.40           1932MDa (15740) 420
*****
S2O3--      H2L      Thiosulfate      CAS 73686-28-7 (177)
Thiosulfate;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      dis NaClO4 25°C 1.00M C           K1=0.9   B2=1.3   1976MKc (16705) 421
-----
Ni++      cal R4N.X 25°C 0.50M U   H   K1=0.78           1974ARa (16706) 422
DH=1.84 kJ mol-1.
-----
Ni++      sol none   25°C 0.0 U           K1=2.06           1951DMb (16707) 423
*****
Se--      H2L      Selenide      (6335)
Selenide;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo

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SiW11039----- H8L (2464)  
alpha-Heterosilicon-polytungstate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	1.00M	U		K1=7.32 K(beta1 isomer)=6.95 K(beta2 isomer)=6.75 K(beta3 isomer)=6.82	1984COa (17228)	432

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CH2N4	L	Tetrazole	CAS 288-94-8	(3534)
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Tetrazole; cyclo(-HN.N:N:CH-)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	non-aq	24°C	100%	U		K1=0.4 B2=1.12	1966HDb (17474)	433

Medium: DMF, 0.179 M Ni(ClO4)2. B2=1.12 ?

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CH2O2	HL	Formic acid	CAS 64-18-6	(37)
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Methanoic acid; H.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	oth	NaClO4	25°C	2.0M	U		K1=0.64	1990FTa (17542)	434

Methods: averaged results from potentiometric, polarographic and spectrophotometric measurements.

Ni++	vlt	oth/un	25°C	1.00M	U		K1=1.26 B2=1.51 B3=1.95	1973TRc (17543)	435
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Ni++	gl	NaClO4	25°C	5.00M	U		K1=1.04	1971BAb (17544)	436
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Ni++	gl	NaNO3	30°C	0.40M	U		K1=0.67	1970BTa (17545)	437
------	----	-------	------	-------	---	--	---------	-----------------	-----

Ni++	EMF	NaClO4	25°C	2.00M	U		K1=0.46 B2=0.87	1970FMa (17546)	438
------	-----	--------	------	-------	---	--	-----------------	-----------------	-----

Ni++	sp	NaClO4	rt	2.00M	U		K1=0.40 B2=0.86	1970GFa (17547)	439
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CH3O5P	H3L	Phosphonoformic	CAS 4428-95-9	(5654)
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Phosphonoformic Acid; O:P(OH)2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++	gl	NaNO3	25°C	0.10M	C		K1=5.39 K(Ni+HL)=2.45 K(NiL+H)=4.63	1994SCa (17692)	440
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CH4N2S	L	Thiourea	CAS 62-56-6	(51)
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Thiocarbamide, Thiourea; (H2N)2CS

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++ sp alc/w 20°C 95% U I K1=-1.4 B2=0.84 1966SIc (17736) 441  
Medium: 95% EtOH, 18-22 C. In 0.3 M NaClO4, 95% EtOH: B2=0.7 ?, B6=1.36 ?

Ni++ EMF mixed 25°C 90% U K1=1.05 B2=1.50 1966SLb (17737) 442  
Medium: 90% Me2CO, 2 M NaClO4

Ni++ EMF mixed 25°C 90% U K1=1.05 B2=1.50 1966SLc (17738) 443  
Medium: 90% acetone

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CH4O L Methyl alcohol CAS 67-56-1 (597)  
Methanol; CH3.OH

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ sp non-aq 20°C 100% U T HM 1988LJa (17870) 444  
K(NiAB+2L)=0.06  
K(NiAC+2L)=0.46  
K(NiAD+2L)=0.80

Medium: 1,2-dichlorethane; Square planar = octahedral equilibria  
A:tetramethyldiamine B:acetylacetone C:benzoylacetone D:dibenzoylmethanat  
\*\*\*\*\*  
CH4O3ClP H2L CAS 2565-58-4 (1973)  
Chloromethylphosphonic acid; Cl.CH2.PO3H2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ EMF NaNO3 25°C 0.10M U K1=1.81 1970TNa (17921) 445  
\*\*\*\*\*  
CH5N3O L Semicarbazide CAS 563-41-7 (373)  
Semicarbazide, N-Aminourea; H2N.CO.NH.NH2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ sp KNO3 30°C 0.10M U T H B2=4.79 1977AGa (18049) 446  
B3=6.65  
DH(B2)=-58.5 kJ mol-1; DS=-103 J K-1 mol-1; DH(B3)=-65.9; DS=-95  
\*\*\*\*\*  
CH5N3S L CAS 79-19-6 (372)  
Thiosemicarbazide; H2N.CS.NH.NH2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.50M U K1=2.04 B2=4.92 1979LGa (18060) 447  
B3=7.17  
B4=7.50

-----  
Ni++ sp KNO3 30°C 0.10M U T H B2=4.80 1977AGa (18061) 448  
B3=7.20  
DH(B2)=-44.1 kJ mol-1; DS=-54 J K-1 mol-1; DH(B3)=-85.7; DS=-144  
\*\*\*\*\*



CH5N3Se L CAS 21198-79-8 (371)  
 Selenosemicarbazide; H2N.CSe.NH.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	KNO3	30°C	0.10M	U T H		B2=3.30 B3=5.08	1977AGa (18085)	449

DH(B2)=-51.9 kJ mol<sup>-1</sup>; DS=-107 J K<sup>-1</sup> mol<sup>-1</sup>; DH(B3)=-59.3; DS=-103  
 \*\*\*\*\*  
 CH5O3P H2L CAS 13590-71-1 (1752)  
 Methylphosphonic acid; CH3.PO3H2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.10M	M		K1=2.25	1992SCa (18111)	450

\*\*\*\*\*  
 CH5O4P H2L CAS 86703-09-5 (1751)  
 Methylphosphoric acid; CH3OP(O)(OH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.10M	M		K1=1.94	1996SSa (18159)	451

Ni++ sp oth/un 20°C 0.10M U T K1=1.91 1965BRb (18160) 452  
 K1(65 C)=2.28  
 \*\*\*\*\*  
 CH6NO2P HL (7264)  
 Aminomethylphosphinic acid; H2NCH2PO(OH)H

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C		K1=3.95 B2=6.14 B(NiH-1L)=-3.73 B(NiH-2L)=-14.0	1996RLa (18178)	453

\*\*\*\*\*  
 CH6NO3P H2L AMPA CAS 1066-51-3 (1981)  
 Aminomethylphosphonic acid; H2N.CH2.PO3H2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C I	R	K1=5.30 B2= 9.00 K(Ni+HL)=1.6	2001PRa (18199)	454

IUPAC Recommended values

Ni++	gl	NaNO3	25°C	0.10M	C		K1=5.30 K(Ni+HL)=1.47 K(NiL+H)=6.65	1994SCa (18200)	455
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Ni++	gl	KNO3	25°C	0.10M	U		K1=5.29 B2=8.98 B(NiHL)=11.69	1979WNb (18201)	456
------	----	------	------	-------	---	--	----------------------------------	-----------------	-----

B(NiHL2)=16.4  
B(NiH2L2)=22.6

Ni++	gl	NaClO4	25°C	0.10M	U	K1=4.90	B2=8.91	1976SOa (18202)	457
Ni++	gl	oth/un	25°C	0.10M	U	K1=5.2	B2=8.80	1972AUa (18203)	458
Ni++	gl	NaClO4	25°C	0.50M	U	K1=4.94	B2=8.48	1971GDa (18204)	459
Ni++	gl	KNO3	25°C	0.10M	U	K1=5.18	B2=9.0	1971WNC (18205)	460
						B(NiHL)=11.64			
						B(NiH2L2)=23.6			
						B(NiHL2)=16.8			

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CH6N4O L Carbohydrazide CAS 497-18-7 (3537)  
Carbohydrazide; H2N.NH.CO.NH.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	NaClO4	20°C	0.10M	U			K1=3.44 B2=6.62 B3=8.64	1964C0d (18235)	461

\*\*\*\*\*

CH6N4S L CAS 2231-57-4 (4209)  
Thiocarbohydrazide; H2N.NH.CS.NH.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.50M	U			K1=4.40 B2=8.10 K3=3.11	1969BDa (18241)	462

\*\*\*\*\*

CH6O6P2 H4L Medronic acid CAS 1984-15-2 (2384)  
Methanediphosphonic acid; CH2(P03H2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.10M	U			K1=8.16 K(Ni+HL)=4.87 K(Ni+2HL)=10.01 K(2Ni+L)=12.70 K(2Ni+HL)=8.07	1967KLa (18258)	463

\*\*\*\*\*

CH6O7P2 H3L CAS 56399-35-0 (7664)  
Methyldiphosphoric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.10M	M			K1=3.59	1999SSa (18304)	464

\*\*\*\*\*

C2H02F3 HL Trifluoroacetic CAS 76-05-1 (1360)  
Trifluoroethanoic acid; F3C.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	con	non-aq	25°C	100%	U		K1=1.85	1979PPb (18346)	465
Medium: DMSO									
*****									
C2H2		L		Acetylene			CAS 74-85-1	(703)	
Ethyne; HCCH									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	dis	none	40°C	0.0	U T		K1=-1.47	1984DWa (18351)	466
*****									
C2H2O2Cl2		HL					CAS 79-43-6	(1282)	
Dichloroethanoic acid; Cl2CH.CO0H									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	20°C	1.00M	U		K1=1.3 B2=2.6	1969PJc (18388)	467
*****									
C2H2O3		HL		Glyoxylic acid			CAS 298-12-4	(1142)	
Glyoxylic acid; OHC.CO0H									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.50M	U	M	K1=0.94	1966LHc (18414)	468
See glycine, alanine and 2-aminoisobutanoic acid for ternary complexes									
*****									
C2H2O4		H2L		Oxalic acid			CAS 144-62-7	(24)	
Ethanedioic acid; (COOH)2									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.10M	C	M	K1=3.46 B2= 6.42	1998KR a (18602)	469
B(NiLA)=7.16									
HA: inosine.									
-----									
Ni++	gl	KNO3	35°C	0.10M	C	M	K1=4.92	1997PSb (18603)	470
K(NiL+A)=5.92									
H2A is thiamine orthophosphoric acid.									
-----									
Ni++	gl	KNO3	30°C	0.10M	U		K1=5.28	1994RSa (18604)	471
-----									
Ni++	gl	KNO3	25°C	0.10M	M	M	K1=4.432	1993AHa (18605)	472
-----									
Ni++	cal	KNO3	25°C	1.0M	C	H	K1=4.10 B2= 7.15	1990LGc (18606)	473
B3=8.51									
DH(K1)=-5.40 kJ mol-1, DH(K2)=-5.62, DH(K3)=-6.03. DH(Ni+2L+en)=-67.2, DS=23.9 J K-1 mol-1;DH(Ni+L+en)=-58.1,DS=21.3;DH(Ni+L+2en)=-106.3, DS=-47.3.									

Ni++ gl NaCl 25°C 0.50M C K1=4.05 B2=6.01 1989FRa (18607) 474

Ni++ sp KNO3 25°C 0.10M U M 1988BBd (18608) 475

K(NiA+L)=2.8  
K(NiAL+NiA)=1.6

A=1,4,8,11-tetraazacyclotetradecane

Ni++ vlt alc/w 25°C 50% C K1=4.16 B2=7.58 1988CRa (18609) 476  
Medium: 50% v/v MeOH/H2O, 0.1 M KNO3

Ni++ gl KNO3 35°C 0.10M C M K1=5.23 1985RRc (18610) 477  
B(NiL(cytidine))=9.31

Ni++ gl KNO3 35°C 0.10M C K1=5.23 1985RRh (18611) 478

Ni++ vlt NaClO4 20°C 0.10M C K1=4.26 B2= 7.54 1981UBa (18612) 479  
Method: polarography.

Ni++ gl KNO3 25°C 2.5M M K1=5.30 1979FLc (18613) 480

Ni++ dis NaClO4 25°C 1.00M C K1=3.7 B2=6.6 1976MKc (18614) 481

Ni++ oth oth/un 30°C 35% C K1=6.5 1976YGa (18615) 482  
K(Ni+HL)=2.3

Method: paper electrophoresis.

Ni++ sp R4N.X 25°C 1.50M U M 1973BDd (18616) 483  
K(Ni+Cu+3L+A=NiL2ACuL)=31.73  
K'=0.59

Medium: NH4NO3. H4A=EDTA. K': (NiL2)2A+(CuL)2A=2(NiL2)A(CuL)

Ni++ sp R4N.X 25°C 1.50M U 1973BFd (18617) 484  
K(NiA+L)=1.43  
K(NiAL+NiL3=(NiL2)2A)=3.62

Medium : NH4NO3. H4A=EDTA

Ni++ dis NaClO4 20°C 0.10M U K1=3.83 B2=7.06 1969MBe (18618) 485

Ni++ gl KNO3 25°C 1.00M U M B2=7.64 1968FVa (18619) 486  
B3=8.4  
B(Ni(en)L)=11.20  
B(Ni(en)2L)=16.15  
B(Ni(en)L2)=13.02

B(Ni(Gly)L2)=10.45, B(Ni(Gly)2L)=12.53

Ni++ sp NaNO3 19°C 0.01M U M 1963CUa (18620) 487  
K(2NiA+L)=5  
K(NiB+L)=1.00

17-21 C, A=triethylenetetramine, B=4,6,6-trimethyl-3,7-diazanon-3-ene-1,9-diamine

Ni++	sol	KNO3	25°C	2.0M	U	M	B2=7.64 B(Ni(en)L)=11.20	1963FVa (18621)	488
Ni++	dis	NaClO4	20°C	0.10M	U		B2=7.88	1963STc (18622)	489
Ni++	EMF	oth/un	45°C	0.0	U	H		1961MNa (18623)	490
Method: H electrode. 0-45 C K1=9.065-(0.02655T+0.00004512T^(2)), DH(K1)=0.6 kJ mol-1, DS=101.2 J K-1 mol-1									
Ni++	gl	oth/un	0°C	0.0	U	T	K1=5.18	1961MNb (18624)	491
K1=5.14(15 C); 5.16(25 C); 5.17(35 C); 5.18(45 C). DH(K1)=1 kJ mol-1									
Ni++	gl	KNO3	25°C	1.0M	U	M	K1=4.10 K3=1.36 B(Ni(en)2L)=16.15 B(Ni(en)L2)=13.02 B(Ni(en)L)=11.29	1960WDa (18625)	492
Ni++	gl	oth/un	25°C	0.10M	U		K1=5.3	1958GHc (18626)	493
Ni++	gl	oth/un	25°C	>0.1	U		B2=7.64	1956ZOa (18627)	494
Ni++	sol	oth/un	25°C	0.0	U		B2=6.51	1951BAa (18628)	495
Ni++	vlt	oth/un	18°C	?	U		B3=14	1934SAa (18629)	496

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C2H2S4                      H2L                      CAS 82766-65-2 (2965)  
Tetrathio-oxalic acid; HSSC.CSSH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	oth/un	25°C	0.10M	U		B2=9.43	1958DEb (19169)	497
*****									
C2H3N		L						CAS 75-05-8 (1399)	
Acetonitrile; CH3.CN									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	non-aq	25°C	100%	U	M	K(NiA+L)=-0.93 K(NiAL+L)=-0.17	1994SFa (19172)	498
Medium: CH3NO2. A=1,4,8,11-Tetraazacyclotetradecane (cyclam). When A=7,14-dimethyl analogue K(NiA+L)=-0.44, K(NiAL+L)=0.28 plus others									
*****									
C2H3NO4		HL						CAS 625-75-2 (2968)	
Nitroacetic acid; O2N.CH2.COOH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	NaNO3	30°C	0.40M	U	K1=0.23	1970BTa (19333)	506
Ni++	EMF	NaClO4	18°C	2.00M	U	K1=0.20	1970FMa (19334)	507
Ni++	EMF	NaClO4	20°C	1.00M	U	K1=1.3 B2=2.6	1969PJc (19335)	508
*****								
C2H4		L	Ethylene			CAS 74-85-1	(478)	
Ethene; H2C:CH2								
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference ExptNo
Ni++	dis	none	40°C	0.0	U T	K1=-0.55	1984Dwa (19419)	509
*****								
C2H4N2O4		H2L				CAS 1687-60-1	(2969)	
Oxalldihydroxamic acid; (CO.NH.OH)2								
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference ExptNo
Ni++	gl	KNO3	25°C	0.10M	C	K1=7.07 B2=12.82	2000SFa (19445)	510
B(NiH-1L2)=4.04								
*****								
C2H4N2S2		L	Rubeanic acid			CAS 79-40-3	(2782)	
Dithiooxamide; H2N.CS.CS.NH2								
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference ExptNo
Ni++	sp	none	25°C	0.0	U	K1=4.70	1976AMc (19450)	511
*****								
C2H4N4		L				CAS 16682-77-9	(3539)	
1-Methyltetrazole; CHN4-CH3								
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference ExptNo
Ni++	sp	alc/w	25°C	100%	U	K1=0.6 B2=2.05	1963GBa (19458)	512
Medium: EtOH								
*****								
C2H4N4		HL				CAS 61-82-5	(1265)	
3-Amino-1,2,4-triazole; C2H2N3.NH2								
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference ExptNo
Ni++	gl	KNO3	25°C	0.10M	C	K1=6.14	2002Bma (19468)	513
Ni++	gl	KNO3	25°C	0.10M	U I	K(Ni+HL)=2.03	1997DBa (19469)	514
							K(Ni+2HL)=3.67	
Data also for I=0.5 and 1.0 M								
Ni++	gl	KNO3	25°C	0.50M	U	K(Ni+HL)=2.34	1980LKb (19470)	515

K(Ni+2HL)=5.81

K(Ni+3HL)=6.95

K(Ni+4HL)=7.30

\*\*\*\*\*

C2H4N4 HL CAS 584-13-4 (819)  
4-Amino-1,2,4-triazole; C2H2N3.NH2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.50M U 1980LKb (19483) 516

K(Ni+HL)=2.18

K(Ni+2HL)=5.65

K(Ni+3HL)=6.90

K(Ni+4HL)=7.70

\*\*\*\*\*

C2H4N4O2 HL Urazine; CAS 21531-96-4 (3541)  
4-Amino-1,2,4-triazolidin-3,5-dione;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaClO4 20°C 0.10M U K1=2.65 B2=4.80 1963COb (19489) 517

\*\*\*\*\*

C2H4N4S HL CAS 16691-43-3 (9032)  
3-Amino-5-mercapto-1,2,4-triazole;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.10M C K1=3.09 2003AHa (19493) 518

\*\*\*\*\*

C2H4OS HL Thioacetic acid CAS 507-09-5 (4223)  
Thiolethanoic acid; CH3.CO.SH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl diox/w 30°C 60% U K1=4.1 B2=7.70 19720Tc (19504) 519  
Medium: 60% dioxan, 1 M (K,Na)NO3

\*\*\*\*\*

C2H4O2 HL Acetic acid CAS 64-19-7 (36)  
Ethanoic acid; CH3.CO.OH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl alc/w 25°C 0.30M C I K1=2.10 B2= 3.00 1998ISc (19713) 520  
Medium: 0.3 M NaClO4 in 0.5 mol parts EtOH in H2O;  
For 0.3 M NaClO4 in H2O K1=1.17;

-----  
Ni++ gl mixed 25°C 0.30M C I K1=2.63 B2= 5.13 1998ISc (19714) 521  
Medium: 0.3 M NaClO4 in 0.5 mol parts acetone in H2O;  
For 0.3 M NaClO4 in H2O K1=1.17;  
-----



Ni++	vlt	NaClO4	25°C	2.0M	U	K1=0.52	B2= 0.94	1991TRa (19715)	522
Ni++	oth	NaClO4	25°C	2.0M	U	K1=0.77		1990FTa (19716)	523
Methods: averaged results from potentiometric, polarographic and spectrophotometric measurements.									
Ni++	gl	KCl	25°C	0.10M	U	K1=0.87		1983LTa (19717)	524
Ni++	gl	NaNO3	25°C	0.10M	C	K1=0.68		1981BKb (19718)	525
Ni++	kin	oth/un	10°C	?	U	K1=1.58		1976BEa (19719)	526
						Kout(Ni+L)=1.30			
Ni++	nmr	NaClO4	-5°C	1.24M	U TI	K1=1.7		1975FMa (19720)	527
Ni++	kin	NaClO4	25°C	1.00M	U	K1=0.83		1973HHb (19721)	528
Ni++	kin	oth/un	45°C	1.00M	U	K1=0.80		1973HHb (19722)	529
Ni++	ix	oth/un	25°C	0.20M	U I	K1=0.81		19730Ha (19723)	530
						K1(I=0.3)=0.77, K1(I=0.4)=0.75, K1(I=0.5)=0.74, K1(I=1.0)=0.72			
Ni++	vlt	oth/un	25°C	1.00M	U	K1=0.36	B2=0.89	1971TRc (19724)	531
Ni++	sp	oth/un	25°C	1.00M	U	K1=0.36		1971TRc (19725)	532
Ni++	gl	NaNO3	30°C	0.40M	U	K1=0.72		1970BTa (19726)	533
Ni++	EMF	NaClO4	25°C	2.00M	U	K1=0.72	B2=1.15	1970FMa (19727)	534
						B3=0.40			
Ni++	sp	NaClO4	25°C	2.00M	U	K1=0.82	B2=0.99	1970GFa (19728)	535
Ni++	dis	NaClO4	20°C	0.10M	U	K1=2.12		1969MBe (19729)	536
Ni++	oth	oth/un	?	?	U	B2=3.64		1967MBa (19730)	537
Method: paper electrophoresis									
Ni++	gl	oth/un	25°C	0.0	U	K1=1.43		1964AMa (19731)	538
Ni++	gl	non-aq	25°C	100%	U	K2=7.63		1964KLa (19732)	539
Medium: ethanoic acid									
Ni++	vlt	NaClO4	25°C	1.0M	U M	K1=0.28		1963TSa (19733)	540
						B(NiL(SO4))=0.0			
						B(NiL(SO4)2)=0.5			
Ni++	gl	oth/un	25°C	0.10M	U	K1=1.0		1960YYa (19734)	541
Ni++	vlt	KNO3	15°C	0.20M	U T	K1=0.41		1959TKa (19735)	542

K1=0.41(25 C); 0.38(35 C)

Ni++	sp	oth/un	?	?	U	K1=1.12	1958SBc (19736)	543
Ni++	gl	oth/un	22°C	->0	U	K1=1.12 B2=1.81	1958SBc (19737)	544
Ni++	sp	oth/un	20°C	?	U	K1=1.65 B2=2.96	1958WAb (19738)	545
Ni++	oth	none	25°C	0.0	U	K1=1.80	1956YFa (19739)	546
Ni++	EMF	oth/un	30°C	?	U	K1=1.13	1953JAa (19740)	547

Ni++ ix NaCl04 20°C 1.0M U K1=0.67 B2=1.25 1952FRa (19741) 548  
By quinhydrone electrode K1=0.74

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C2H4O2S H2L Thioglycolic CAS 68-11-1 (596)  
Mercaptoethanoic acid; HS.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaCl04	25°C	0.20M	U T M		K1=6.78 B2=13.41 K(NiA+L)=6.59	1996JOa (20276)	549

Data for 35 and 45 C. A is 2,2'-bipyridylamine.

Ni++	gl	alc/w	30°C	5%	U		K1=6.28	1995RRb (20277)	550
Medium: 5% v/v EtOH/H2O, 0.10 M KNO3.									
Ni++	gl	NaCl04	30°C	0.10M	U		K1=6.98 B2=12.88	1988NDa (20278)	551
Ni++	gl	NaCl04	30°C	0.20M	U M		K1=6.78 K(Ni(his)+L)=5.87 K(Ni(nta)+L)=4.83	1984JOa (20279)	552
Ni++	vlt	KCl	25°C	0.10M	U M			1971TAb (20280)	553
							K(NiBO2+2HL=NiBO2(HL)2)=7.79		
Ni++	gl	NaCl04	20°C	0.10M	U		K1=6.2 B2=13.01 B3=14.99 B(Ni2L3)=22.7 B(Ni3L4)=33.27 B(Ni4L6)=49.85	1967PSe (20281)	554

Ni++ gl KCl 25°C 0.10M U H 1960LLa (20282) 555  
0-40 C. DH(B2)=-14.6 kJ mol<sup>-1</sup>, DS=200.6 J K<sup>-1</sup> mol<sup>-1</sup>; DH(4Ni+6L)=-129.6, DS=518

Ni++ gl KCl 0°C 0.10M U T B2=13.15 1960LLa (20283) 556  
B(Ni4L6)=51.83  
15 C: B2=13.04, B(Ni4L6)=50.67; 35 C: B2=12.9, B(Ni4L6)=49.23, B(Ni3L4)=33.5  
40 C: B2=12.70, B(Ni4L6)=48.48, B(Ni3L4)=32.7

Ni++ gl oth/un 25°C 0.10M U K1=6.98 B2=13.53 1958LEa (20284) 557  
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C2H4O3 HL Glycolic acid CAS 79-14-1 (33)  
 2-Hydroxyethanoic acid; HO.CH2.COOH

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	NaClO4	30°C	0.20M	U	M	K1=4.76 K(Ni(bpy)+L)=5.09 K(Ni(his)+L)=3.53	1988JOa (20451)	558
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Ni++	con	none	20°C	0	U		K1=2.32	1983ISd (20452)	559
At 200 kg cm-1 K1=2.24, at 600 kg cm-2 K1=2.10, at 1000 kg cm-2 K1=2.00									

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Ni++	gl	NaClO4	30°C	0.20M	U		K1=4.76 B2=9.11	1975JBb (20453)	560
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Ni++	EMF	NaClO4	25°C	2.00M	U		K1=1.69 B2=2.70 B3=3.05	1970FMa (20454)	561
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Ni++	sp	NaClO4	25°C	2.00M	U		K1=1.62 B2=2.70	1970GFa (20455)	562
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C2H5NO2 HL Glycine CAS 56-40-6 (85)  
 2-Aminoethanoic acid; H2N.CH2.COOH

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	alc/w	25°C	40%	C		K1=11.77 B2=16.15 B(NiHL)=6.48	2003DKa (21129)	563
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Medium: 40% v/v EtOH/H2O, 0.10 M NaCl.

Ni++	gl	NaNO3	25°C	0.10M	C	M	K1=5.90 B2=10.78 K(NiA+L)=4.77	2000KAb (21130)	564
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H2A=Dipicolinic acid.

Ni++	gl	KNO3	25°C	0.10M	C	M	K1=5.50 K(NiL+A)=3.72 B(NiLA)=9.22 K(NiL+B)=3.62 B(NiLB)=9.12	1999AAa (21131)	565
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K(NiL+C)=3.44, B(NiLC)=8.94, K(NiHL+D)=3.66.

HA=MOPSO, HB=MOPS, HC=DIPSO, HD=TAPSO.

Ni++	gl	alc/w	25°C	0.1M	U	I	K1=7.26 B2=13.35 In 100% H2O K1=5.70	1999ISc (21132)	566
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Medium: 0.1 M NaClO4 in 0.9 mol parts EtOH in H2O;for 0.4 mol p. K1=6.61;  
 Also for 0.3 M NaClO4 in 0.4 mol parts of acetone in H2O K1=7.75;K2=6.51

Ni++	gl	alc/w	25°C	0.10M	U	I	K1=7.26 B2=13.35	1999ISc (21133)	567
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Medium:0.1 M NaClO4 in 0.9 mol parts EtOH/H2O;for 0.4 m.p. K1=6.61;K2=5.62

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Ni++ gl mixed 25°C 0.30M U I K1=7.75 B2=14.26 1999ISc (21134) 568  
Medium: 0.3 M NaClO4 in 0.4 mol parts acetone/H2O;  
for : 0.3 M NaClO4 in H2O K1=5.70; K2=4.95

Ni++ gl NaNO3 25°C 0.10M U K1=5.77 1997ISd (21135) 569

Ni++ gl alc/w 25°C 50% C K1=6.23 1997MGb (21136) 570

Ni++ gl KNO3 35°C 0.10M C M K1=5.90 1997PSb (21137) 571  
K(NiL+A)=4.95

H2A is thiamine orthophosphoric acid.

Ni++ gl NaClO4 25°C 0.20M U T M K1=5.90 B2=10.95 1996JOa (21138) 572  
K(NiA+L)=5.48

Data for 35 and 45 C. A is 2,2'-bipyridylamine.

Ni++ gl KNO3 25°C 0.05M C I K1=5.827 B2=10.65 1995AKa (21139) 573  
B3=13.973

Data for 0.05-2.50 m KNO3 and Me4NNO3. At I=0.0 M, K1=6.11, B2=11.07,  
B3=14.363.

Ni++ gl alc/w 20°C 50% M M K1=6.09 1995AMb (21140) 574  
K(NiA+L)=5.71

Medium: 50% v/v EtOH/H2O, 0.20 M NaClO4. A is 2,2',2''-terpyridine.

Ni++ gl none 25°C 0.0 C TIH K1=6.12 B2=11.10 1995CDc (21141) 575  
B3=14.37

Data for 0-0.09 M and 5-45 C. DH(K1)=-18.6 kJ mol<sup>-1</sup>, DH(B2)=-39.3,  
DH(B3)=-61

Ni++ gl non-aq 25°C 100% U I K1=5.70 B2=10.65 1995ILa (21142) 576  
Medium: DMSO. In DMSO/H2O, 0.90 mol.parts DMSO K1=8.02, K2=7.46

Ni++ sp KNO3 25°C 0.07M C I K1=6.126 B2=10.71 1994KCb (21143) 577  
K3=3.060

Method: evolving factor analysis. Data for 0.07-0.26 M KNO3.

Ni++ gl NaNO3 37°C 0.10M U M K1=5.94 1994MGc (21144) 578  
Data for ternary complexes with 6-aminopenicillanic acid

Ni++ gl NaClO4 25°C 0.20M C K1=6.12 1993BAb (21145) 579

Ni++ gl NaClO4 25°C 0.20M U T M K1=5.90 B2=10.95 1993PPa (21146) 580  
K(NiA+L)=5.48

A is 2,2'-bipyridylamine. Also data for 35 and 45 C.

Ni++ nmr KNO3 25°C 1.0M U H K1=5.89 B2=10.62 1992ZSa (21147) 581  
B3=13.99

Also methods used: potentiometry, spectrophotometry

Ni++ gl none 25°C 0.0 C TIH R K1=6.16 B2=11.11 1991KSa (21148) 582  
B3=14.43

DH(K1)=-19.3, DH(B2)=-39.6, DH(B3)=-61.8 kJ mol<sup>-1</sup>. At I=0.15 M: K1=5.80, B2=10.62, B3=14.0; 1.0 M: 5.66, 10.44, 13.9. IUPAC evaluation

Ni++ gl KNO3 37°C 0.15M C M K1=5.54 B2=10.16 1989KKd (21149) 583  
B3=13.29

B(Ni(imidazole)L)=8.21

B(Ni(imidazole)2L)=10.37

B(Ni(imidazole)2L2)=14.367

B(NiH-1(imidazole)L)=-0.96

Ni++ gl KNO3 25°C 0.10M U M K1=6.25 1989MAc (21150) 584  
K(NiA+L)=5.69

H4A is adenosine-5'-triphosphoric acid.

Ni++ gl KNO3 35°C 0.20M U M K1=5.90 B2=10.44 1989RVa (21151) 585  
K(NiA+L)=5.40

A=bis(imidazol-2-yl)methane

Ni++ gl NaClO4 30°C 0.20M U M K1=5.90 1988JOa (21152) 586  
K(Ni(bpy)+L)=5.50  
K(Ni(his)+L)=4.89

Ni++ gl NaClO4 27°C 0.20M U M K1=5.90 B2=10.95 1988PPc (21153) 587  
K(NiA+L)=5.23

A is 2,2'-dipyridylamine.

Ni++ gl NaCl 25°C 1.00M C R K1=5.64 B2=10.39 1987BOa (21154) 588  
B3=13.9

Used to define a recommended technique for pH-metric determin. of constants

Ni++ gl NaCl 25°C 0.15M U K1=5.55 B2=10.31 1987DSb (21155) 589  
B3=13.85

Ni++ gl NaClO4 25°C 3.00M C IH K1=5.74 B2=10.70 1987IOc (21156) 590  
K3=3.74

Medium: LiClO4

Medium: LiClO4

Ni++ gl diox/w 30°C 50% C K1=6.51 B2=12.14 1987MSd (21157) 591  
Medium: 50% v/v dioxane/H2O, 0.2 M NaNO3.

Ni++ gl KNO3 30°C 0.10M U H K1=5.81 1986DRb (21158) 592  
Data for 30-50 C. DH(K1)=-17.1 kJ mol<sup>-1</sup>, D(K1)=-54.5 J K<sup>-1</sup> mol<sup>-1</sup>.

Ni++ gl NaCl 25°C 1.00M U K1=5.63 B2=10.4 1986IBa (21159) 593  
B3=13.7

Ni++ gl NaCl 25°C 1.0M C K1=5.620 B2=10.36 1986IBb (21160) 594

B3=13.708

Ni++ gl diox/w 25°C 55% U H T K1=6.47 B2=12.20 1986IPa (21161) 595  
K3=4.65  
B3=16.85

DH(K1)=-27.6, DH(B2)=-35.9 and DH(B3)=-36.7 kJ mol<sup>-1</sup>. DS(K1)=31, DS(B2)=-11, DS(B3)=-34 J K<sup>-1</sup> mol<sup>-1</sup>. In 3M LiClO<sub>4</sub>. Alternative method: calorimetry.

Ni++ gl none 25°C 0 U T K1=6.13 B2=11.12 1986VKc (21162) 596  
B3=14.63

At 15 C: K1=6.05, B2=10.99, B3=14.52; 35 C: 6.25, 11.27, 14.76

Ni++ gl NaCl 25°C 0.10M C K1=5.55 B2=10.251 1985ADa (21163) 597  
B3=13.75  
K(Ni+L=NiL(OH)+H)=-3.70

Ni++ gl NaCl 37°C 0.15M U K1=5.587 B2=10.237 1985CFb (21164) 598  
B3=13.72

Ni++ gl NaCl 25°C 1.0M C K1=5.627 B2=10.44 1985GSc (21165) 599  
B3=13.992

Ni++ gl KNO<sub>3</sub> 35°C 0.10M C M K1=5.92 1985RRc (21166) 600  
K(Ni+HL+cytidine))=8.56  
K(NiL(cytidine)+H)=5.72

Ni++ gl KNO<sub>3</sub> 35°C 0.10M C K1=5.92 1985RRh (21167) 601

Ni++ gl NaCl 25°C 0.15M C K1=5.592 B2=10.44 1985TSc (21168) 602  
B3=13.86

Ni++ gl NaClO<sub>4</sub> 30°C 0.20M U M K1=5.90 1984J0a (21169) 603  
K(Ni(his)+L)=4.89  
K(Ni(nta)+L)=4.88

Ni++ oth NaClO<sub>4</sub> 35°C 0.01M U K1=6.56 B2=10.39 1984YSa (21170) 604  
Method: paper electrophoresis.

Ni++ sp KCl 25°C 1.0M U K1=6.18 B2=11.14 1983FAa (21171) 605

Ni++ gl KNO<sub>3</sub> 30°C 0.10M C T HM K1=5.81 B2=10.46 1983RKa (21172) 606  
B(NiAL)=5.36

HA is thiazolidine-4-carboxylic acid. DH(K1)=-17.2 kJ mol<sup>-1</sup>, DS(K1)=55 J K<sup>-1</sup> mol<sup>-1</sup>; DH(K2)=-22.7, DS(K2)=14; DH(NiAL)=-14.9, DS(NiAL)=53

Ni++ gl NaCl 25°C 1.00M U K1=5.62 B2=10.36 1982BDa (21173) 607  
B3=13.43

Ni++ gl NaNO<sub>3</sub> 37°C 0.15M U M 1982ESa (21174) 608  
B(NiLA)=8.849

B(NiHLAB)=23.080  
B(NiH2LAB)=29.543

A= Imidazole and B= Pyridoxamine.

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Ni++      gl   NaCl   25°C 1.00M C      K1=5.58   B2=10.30   1982ZKa (21175) 609  
B3=13.75

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Ni++      gl   NaNO3   30°C 0.20M C      M      K1=5.83   B2=10.64   1981RSd (21176) 610  
K(Ni(asp)+L)=4.78  
B(Ni(asp)L)=11.94

H2asp is aspartic acid.

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Ni++      gl   NaNO3   30°C 0.20M C      M      1981RSe (21177) 611  
B(Ni(ida)L)=12.95  
K(Ni(ida)+L)=4.77

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Ni++      sp   NaCl   25°C 0.20M U      IH      K1=5.62   B2=10.35   1981VZb (21178) 612  
K3=13.79

for 15 C K1=5.75; B2=10.63;  
for 35 C K1=5.49; B2=10.05; B3=13.10

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Ni++      gl   KNO3   30°C 0.10M U      M      1980MSb (21179) 613  
K(Ni(His)+L)=4.98

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Ni++      cal   NaClO4   25°C 1.0M C      HM T      K1=5.69   B2=10.51   1979EBb (21180) 614  
B3=13.95

DG(K1)=-32.50 kJ mol<sup>-1</sup>, DH=-17.2, DS=51.2 J K<sup>-1</sup> mol<sup>-1</sup>; DG(B2)=-59.97,  
DH=-37.8, DS=74.2; DG(B3)=-79.61, DH=-60.4, DS=64.2. Also Ni(Gly)(Ala) etc.

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Ni++      EMF mixed   30°C 80% U      1979EHa (21181) 615  
B(NiH-1L)=-3.12  
B(NiH-2L2)=-8.06

Medium: 80% Dimethylsulfoxide / 0.1M NaNO3.

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Ni++      gl   KNO3   25°C 2.5M M      K1=5.33   1979FLc (21182) 616

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Ni++      gl   NaCl   25°C 1.00M C      R      K1=5.638   B2=10.391   1978B0a (21183) 617  
B3=13.922

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Ni++      gl   KNO3   25°C 0.10M U      M      1978D0b (21184) 618  
B(NiL(His))=13.39  
B(NiL(Histamine))=11.75  
B(NiL2(His)2)=15.17  
B(NiL(Histamine)2)=15.43

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Ni++      gl   NaNO3   20°C 0.10M U      K1=5.78   B2=10.58   1978LEb (21185) 619

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Ni++      gl   oth/un   30°C      ?      U      M      1977J0a (21186) 620  
K(Ni(His)+L)=4.90  
K(NiA+L)=4.85

H2A=iminodiethanoic acid

Ni++ gl KNO3 25°C 0.10M C M 1977NPa (21187) 621

K(Ni(Tren)+L)=4.32  
K(Ni(Trien)+L)=4.45  
K(Ni(EDDA)+L)=4.16

Ni++ gl NaCl 25°C 1.0M C K1=5.53 B2=10.26 1976B0d (21188) 622  
B3=13.59

Ni++ gl KNO3 25°C 0.10M C M T K1=5.74 B2=10.55 1976D0a (21189) 623  
B3=13.95

B(NiL(bpy))= 12.26; B(NiL2(bpy))=18.61; B(NiL(bpy)2)=16.46

Ni++ gl KNO3 25°C 0.10M C T K1=5.75 B2=10.65 1975IPb (21190) 624

Ni++ gl NaClO4 30°C 0.20M U K1=5.90 B2=10.95 1975JBb (21191) 625

Ni++ gl KCl 25°C 0.20M U H K1=5.65 B2=10.40 1975SGc (21192) 626  
By calorimetry: DH(K1)=-21.1 kJ mol<sup>-1</sup>, DS(K1)=37.7 J K<sup>-1</sup> mol<sup>-1</sup>;  
DH(B2)=-42.0, DS(B2)=58.2. Ligand is the DL-amino acid.

Ni++ gl NaNO3 25°C 0.20M U K1=5.96 B2=10.79 1974FSa (21193) 627  
B3=14.36  
B(NiL2A)=12.80  
B(NiL2B)=12.82  
B(NiL2C)=12.56

A=succinyl dihydrazide; B=1,6-hexanedioic acid dihydrazide;  
C=acetylhydrazide; other data are also given

Ni++ gl KCl 25°C 0.20M C K1=5.68 B2=10.45 1974GNb (21194) 628  
B3=13.83

Ni++ gl KCl 25°C 0.20M C K1=5.68 B2=10.45 1974Gnd (21195) 629  
B3=13.83

Ni++ gl mixed 25°C 20% C I K1=6.17 B2=11.19 1974MMa (21196) 630  
K3=3.52

Medium: 20% DMF, 0.1M KNO3. Also data for 40%, 50%, 60%, 70%, 75%, 80% DMF

Ni++ gl NaClO4 25°C 0.10M C I T K1=5.96 B2=10.72 1974MMa (21197) 631  
K3=3.29

Also data for 20%, 40%, 50%, 60%, 70%, 75%, 80% Dioxan, 0.1M NaClO4

Ni++ gl KCl 25°C 0.20M U H K1=5.65 B2=10.40 1974SGb (21198) 632  
By calorimetry, DH(K1)=-21.1 kJ mol<sup>-1</sup>, DS(K1)=37 J K<sup>-1</sup> mol<sup>-1</sup>; DH(K2)=-42.0  
DS(K2)=54.

Ni++ gl KNO3 25°C 0.10M U M 1973BDd (21199) 633  
B(NiCuL3A)=38.84, K((NiL2)2A+(CuL)2A=2(NiL2)A(CuL))=0.79. H4A=EDTA



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Ni++      sp  KNO3   25°C 1.50M U    M                      1973BDd (21200) 634
                                   K(NiA+L)=3.04
                                   K(NiAL+NiL3=(NiL2)2A)=3.30
H4A=EDTA
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Ni++      gl  NaClO4 25°C 1.00M U    M T                      1973MSb (21201) 635
                                   B(NiL(Ala))=10.67
                                   B(NiL(Ala)2)=14.10
                                   B(NiL2(Ala))=14.25
                                   B(NiL(Val))=10.57
B(NiL2(Val))=14.31; B(NiL(Val)2)=13.77
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Ni++      gl  KCl    25°C 0.05M U    M T K1=5.80  B2=10.65  1972GSc (21202) 636
                                   B(NiL(Ala))=10.72
                                   B(NiLA)=10.66
                                   B(NiL(Ser))=10.63
A=norvaline. B(NiL(Phe))=10.43; B(NiL(Thr))=10.70; K(Ni+L+HTyr)=10.37.
-----
Ni++      gl  none   25°C 0.00  U T    R K1=6.13  B2=11.05  1972IJb (21203) 637
                                   K3=3.18
10 C: K1=6.28, K2=5.14, K3=3.51; 40 C: K1=6.00, K2=4.76, K3=3.00.
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Ni++      gl  KNO3   25°C 0.10M U T M                      1972IVc (21204) 638
                                   K(NiA+L)=4.91
H2A=methyliminodiethanoic acid. 15 C, K=5.06; 50 C, K=4.68; 70 C, K=4.43
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Ni++      gl  KNO3   25°C 0.10M U    T K1=5.94  B2=10.79  1972UTa (21205) 639
                                   K3=3.21
-----
Ni++      cal KCl    25°C 0.05M U    H T K1=5.77  B2=10.65  1971GNa (21206) 640
DH(K1)=-15.0 kJ mol-1, DS=59 J K-1 mol-1; DH(B2)=-20, DS=25
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Ni++      gl  NaClO4 25°C 0.10M U    T K1=5.83  B2=10.74  1971GSb (21207) 641
                                   K3=3.3
-----
Ni++      cal KNO3   25°C 0.10M U    T K1=5.79  B2=10.57  1971LNa (21208) 642
-----
Ni++      gl  oth/un 25°C          U    K1=5.86  B2=10.84  1970CBb (21209) 643
-----
Ni++      gl  NaClO4 25°C 0.50M U    I T K1=5.60  B2=10.34  1970FRa (21210) 644
                                   K3=3.44
Medium: LiClO4. Other media: 54,3% MeOH, 0.5 M LiClO4: K1=6.16,K2=5.27,
K3=3.91; 48.1% dioxan, 0.5 M LiClO4: K1=6.51, K2=5.62, K3=4.26
-----
Ni++      gl  NaClO4 25°C 1.00M U    T K1=5.69  B2=10.50  1970MMa (21211) 645
                                   B3=13.94
-----
Ni++      gl  KNO3   25°C 0.10M U    T K1=5.73  B2=10.56  1969GEb (21212) 646
                                   B3=14.00

```



B(NiA2L2)=15.29  
 10 C: K(NiAL)=8.19,K(NiAL2)=13.57,K(NiA2L2)=15.76, At 25 C: DH(NiAL)=-10.9  
 kJ mol<sup>-1</sup>; DH(NiA2L2)=-49.7. HA=pyruvic acid

-----  
 Ni++ gl NaCl04 25°C 1.0M U M T K1=5.70 B2=10.50 1964MPb (21225) 659  
 B3=13.96  
 B(NiL(Ala))=10.85  
 B(NiL2(Ala))=15.50  
 B(NiL(Ala)2)=14.40  
 -----

Ni++ gl oth/un 25°C 0.15M U T T K1=5.97 B2=10.92 1956LWa (21226) 660  
 30 C: K1=5.88, K2=4.86; 40 C: K1=5.74, K2=4.70. DH(B2)=-58.5 kJ mol<sup>-1</sup>,  
 DS=10.5 J K<sup>-1</sup> mol<sup>-1</sup>  
 -----

Ni++ gl diox/w 25°C 45% U T K1=7.16 B2=13.22 1956LWa (21227) 661  
 30 C: K1=7.09, K2=5.97; 40 C: K1=6.96, K2=5.77. In 70% dioxan: 25 C:  
 K1=8.51, K2=7.24; 30 C: K1=8.45, K2=7.22  
 -----

Ni++ gl oth/un 25°C 0.15M U K1=5.97 B2=10.92 1956WMb (21228) 662  
 -----

Ni++ gl NaCl04 25°C 0.10M U T K1=5.86 B2=10.64 1954BCb (21229) 663  
 -----

Ni++ gl KCl 20°C 0.10M U K1=5.73 B2=10.49 1954IRa (21230) 664  
 -----

Ni++ gl diox/w 30°C 75% U K1=9.0 B2=13.8 1954UFa (21231) 665  
 -----

Ni++ gl oth/un 20°C 0.01M U K1=6.1 B2=11.0 1953ALa (21232) 666  
 -----

Ni++ gl oth/un 22°C 0.01M U B2=11.0 1952PEa (21233) 667  
 Medium: NiCl2  
 -----

Ni++ gl oth/un 25°C ->0 U R K1=6.18 B2=11.14 1951MOa (21234) 668  
 -----

Ni++ gl oth/un 25°C 0.01M U K1=6.12 B2=11.15 1949MMa (21235) 669  
 -----

Ni++ gl KNO3 20°C 0.50M U K1=5.77 B2=10.57 1945FLa (21236) 670  
 K3=3.61  
 -----

\*\*\*\*\*  
 C2H5NO2 HL Acetohydroxamic CAS 546-88-3 (2766)  
 Acetohydroxamic acid, N-Hydroxyacetamide; CH3.CO.NHOH  
 -----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl KCl 25°C 0.20M C M 2000FEa (21785) 671  
 -----

B(Ni(en)L)=12.62  
 B(Ni(bpy)L)=12.78  
 B(Ni(gly)L)=10.20  
 B(Ni(tiron)L)=13.36

B(Ni(en)L2)=15.89, B(Ni(en)2L)=17.85, B(NiH-1(en)L)=1.8,  
 B(Ni(bpy)L2)=17.31, B(Ni(gly)2L)=14.18.



Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	20°C	0.10M	U		K1=6.32 B2=11.20	1978LEb (21858)	681
*****									
C2H6N2O		L					Glycinamide CAS 598-41-4 (60)		
2-Aminoethanoic acid amide; H2N.CH2.CO.NH2									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	37°C	0.15M	U	M	K1=4.08	1995NNa (21939)	682
							B(NiH-1L)=-2.90		
							B(NiH-2L2)=-10.99		
							*K(NiL)=-6.98		
							B(NiAL)=6.89		
B(NiHCL)=16.03, B(NiCL)=10.34, B(NiH-1CL)=2.98, K(NiHC+L)=4.18.									
A is imidazole, C is histamine.									
Ni++	gl	NaClO4	37°C	0.15M	U	M		1995NNa (21940)	683
							B(NiH(his)L)=17.43		
							B(Ni(his)L)=12.39		
							B(NiH-1(his)L)=5.36		
							K(NiH(his)+L)=4.35		
Ni++	gl	NaClO4	25°C	0.10M	U		K1=3.80 B2=6.88	1975DBa (21941)	684
							B3=9.3		
							B(NiH-2L2)=-12.13		
Ni++	gl	NaClO4	25°C	0.10M	U		K1=4.13	1972TSc (21942)	685
Ni++	gl	KNO3	25°C	0.16M	U		K1=4.20 B2=7.6	1960Mca (21943)	686
							K3=2.1		
							K(NiH-1L+H)=9.8		
							K(NiH-1LOH+H)=10.1		
Ni++	gl	oth/un	25°C	0.15M	U		K1=4.18 B2=7.27	1958LCa (21944)	687
*****									
C2H6N2O		L					Acethydrazide CAS 1068-57-1 (2566)		
Ethanoic acid hydrazide, Acetylhydrazine; CH3.CO.NH.NH2									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.20M	U		K1=2.4 B2=4.52	1974FSa (21960)	688
							B3=6.26		
*****									
C2H6N2O2		HL					CAS 5549-80-4 (833)		
2-Amino-N-hydroxyacetamide, Glycine hydroxamic acid; H2N.CH2.CO.NH.OH									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo

Ni++ gl NaCl 25°C 0.15M U K1=7.045 B2=13.643 1986EMb (21981) 689  
 B(NiH-1L)=-0.216  
 B(NiH-1L2)=3.968

Ni++ gl KCl 25°C 0.50M C K1=6.768 B2=13.38 1986LEb (21982) 690  
 B(NiH-1L2)=5.061

Ni++ gl NaCl 25°C 0.15M U K1=6.60 B2=19.70 1983BRc (21983) 691  
 \*\*\*\*\*  
 C2H6N2S2 HL (5846)  
 2-Methylhydrazinedithiocarboxylic acid; H2N.N(CH3)CSSH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ sp oth/un 25°C 0.01M M 1986IGb (22013) 692  
 Kso(NiL2)=-19.79

In tris or phosphate buffer, pH 6.4-8.9; by atomic absorption spectroscopy.  
 Data also for (CH3)2N.NH.CSSH and (CH3)(C6H5)N.NH.CSSH

Ni++ sp oth/un 25°C 0.01M U K1=7.20 B2=14.02 1985IGb (22014) 693  
 \*\*\*\*\*  
 C2H6N4O2 H2L CAS 110-21-4 (2971)  
 Diaminoglyoxime; (C(NH2):NOH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ sp none 20°C 0.0 U K1=2.69 B2=7.39 1958WMa (22018) 694  
 K3=7.33

\*\*\*\*\*  
 C2H6O L Ethanol CAS 64-17-5 (1913)  
 Ethanol; CH3.CH2.OH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ sp non-aq 20°C 100% U T HM 1988LJa (22024) 695  
 K(NiAB+2L)=-0.42  
 K(NiAC+2L)=-0.11  
 K(NiAD+2L)=0.13

Medium: 1,2-dichlorethane; Square planar = octahedral equilibria  
 A:tetramethylendiamine B:acetylacetone C:benzoylacetone D:dibenzoylmethanat  
 \*\*\*\*\*

C2H6OS HL CAS 60-24-2 (841)  
 2-Mercaptoethanol; HS.CH2.CH2.OH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ vlt NaClO4 25°C 0.50M U K1=3.92 2000LTa (22049) 696  
 Voltammetry using Hg/HL electrode.

Ni++ gl KNO3 25°C 0.50M U 1974BPa (22050) 697

K=13.023

Ni++	gl	KNO3	25°C	0.50M	U	1972BPb (22051)	698
						B(Ni(NiL2)n)=13.051*n	- 2.30

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K	values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	---	--------	-----------	--------

$$K'': \text{Ni}(\text{DMSO})_4\text{L} + 2\text{DMSO} = \text{Ni}(\text{DMSO})_6 + \text{L}$$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K	values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	---	--------	-----------	--------

Medium:  $\text{NH}_4\text{Cl}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K	values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	---	--------	-----------	--------

Medium: dimethylformamide

Data for I=0.2, 0.3, 0.5, 0.7 and 1.0 M KNO<sub>3</sub>.

Also data for 2 M NaClO<sub>4</sub>.

Ni++ gl oth/un 25°C 0.10M U K1=3.05 B2=5.30 1981HAa (22345) 705  
K3=1.85

Medium: 0.1 M HOCH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub>.HNO<sub>3</sub>

---

Ni++	gl	mixed	25°C	0.4M	U	K1=3.24	B2= 5.84	1979TMa (22346)	706
						K3=2.05			
						K2=2.16	in 100% H2O		
						K1=2.98	in 100% H2O		
						K3=1.64	in 100% H2O		

Medium: 35 mol % ethyleneglycol in H<sub>2</sub>O

Also data for 10 mol%:K1=3.11;K2=2.31; K3=1.77

---

Ni++	gl	mixed	25°C	0.4M	U	K1=3.37	B2= 5.87	1979TMa (22347)	707
						K3=1.83			
						K2=2.16	in 100% H2O		
						K1=2.98	in 100% H2O		
						K3=1.64	in 100% H2O		

Medium: 35 mol % glycerine in H<sub>2</sub>O

Also data for 10 mol%:K1=3.14;K2=2.26; K3=1.76

---

Ni++	gl	mixed	25°C	0.4M	U	K1=3.61	B2= 6.47	1979TMa (22348)	708
						K3=2.03			
						K2=2.16	in 100% H2O		
						K1=2.98	in 100% H2O		
						K3=1.64	in 100% H2O		

Medium: 28.8 mol % diethylenglycol in H<sub>2</sub>O

Also data for 13 mol%:K1=3.30;K2=2.59; K3=1.83

---

Ni++	gl	mixed	20°C	0.35M	U	K1=3.45	B2= 6.05	1979TMb (22349)	709
						K(NiL <sub>2</sub> +L)=1.86			
						K2=2.20	in 100% H2O		
						K1=2.94	in 100% H2O		
						K3=1.60	in 100% H2O		

Medium: 64 mol % MeOH in H<sub>2</sub>O

Also data for 10; 16; 23 and 40 mol% MeOH

---

Ni++	sp	alc/w	25°C	100%	U	K1=2.48	B2=4.58	1975KDa (22350)	710
						K3=1.91			

Medium: MeOH; in EtOH K1=2.54, K2=2.11, K3=1.89; in BuOH K1=2.54, K2=2.10, K3=1.93

---

Ni++	gl	NaClO <sub>4</sub>	30°C	1.0M	U	K1=3.18	B2=6.04	1972BSd (22351)	711
						K3=1.72			
						K4=1.47			
						K5=0.47			
						K6=0.33			

---

Ni++	gl	NaClO <sub>4</sub>	30°C	1.0M	U	K1=3.18	B2=6.03	1971BSh (22352)	712
						B3=7.77			
						B4=9.24			
						B5=9.70			

---



Ni++	gl	NaCl04	30°C	3.0M	U					1971BSh (22353)	713
B(Ni2L2)=7.00											
B(Ni3L3)=12.83											
-----											
Ni++	sp	alc/w	?	?	U			K1=6.64	B2=12.38	1969GTb (22354)	714
K3=4.12											
Medium: EtOH											
-----											
Ni++	sp	oth/un	?	dil	U			K1=4.18	B2=7.38	1966UDa (22355)	715
K3=2.88											
-----											
Ni++	gl	KN03	25°C	0.10M	U			K1=2.98	B2=5.33	1962CWa (22356)	716
K3=2.00											
-----											
Ni++	gl	oth/un	25°C	0.40M	U			K1=3.06	B2=5.52	1962SGa (22357)	717
B3=6.95											
*****											
C2H7NO3S HL Taurine CAS 107-35-7 (2214)											
2-Aminoethane sulfonic acid; H2N.CH2.CH2.SO3H											
-----											
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values		Reference	ExptNo
-----											
Ni++	gl	NaCl04	25°C	0.10M	M	M		K1=3.62		1984MCb (22433)	718
*****											
C2H7NS HL CAS 60-23-1 (588)											
2-Aminoethanethiol; H2N.CH2.CH2.SH											
-----											
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values		Reference	ExptNo
-----											
Ni++	gl	KCl	25°C	0.10M	C			K1=9.14	B2=18.72	1995LMa (22462)	719
B(NiH-1L)=1.68											
-----											
Ni++	sp	NaCl04	20°C	1.00M	U	M		K2=10.0		1972GSg (22463)	720
K(Ni+NiL2)=2.95											
K(Ni+2NiL2)=6.10											
K(3NiL2+2H=Ni3L4+2HL)=18.0											
-----											
Ni++	gl	KCl	25°C	0.10M	U			K1=9.23		1955FRa (22464)	721
K(Ni+HL)=4.29											
-----											
Ni++	gl	KN03	0°C	1.0M	U	T		K1=10.96	B2=21.50	1951G0a (22465)	722
30 C: K1=10.05, K2=9.76; 50 C: K1=9.96, K2=9.76											
*****											
C2H7N3O L CAS 67015-05-8 (2702)											
2-Aminoacetamidoxime; H2N.CH2.C(:NOH)NH2											
-----											
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values		Reference	ExptNo
-----											
Ni++	gl	NaCl04	25°C	1.0M	C			K1=5.72	B2=10.843	1983S0a (22505)	723
B3=14.74											

B(NiH-1L2)=4.27

\*\*\*\*\*

C2H7N5 L Biguanide CAS 56-03-1 (2967)  
Biguanide; H2N.C(:NH)NH.C(:NH)NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	cal	KCl	25°C	0.10M	C	H		1978FMc (22520)	724
DH(B2)=-101 kJ mol <sup>-1</sup> , DS=84 J K <sup>-1</sup> mol <sup>-1</sup>									

Ni++	sp	KCl	30°C	0.50M	U		B2=18.31	1959RRb (22521)	725
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Ni++	gl	oth/un	32°C	0.05M	U		B2=13.54	1956SRb (22522)	726
------	----	--------	------	-------	---	--	----------	-----------------	-----

\*\*\*\*\*

C2H7O<sub>2</sub>PS2 HL CAS 993-44-2 (4228)  
Dimethyldithiophosphonic acid; (CH3S)2PO.H

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	ISE	alc/w	25°C	90%	U		K1=2.46 B2=4.44	1972TCa (22525)	727
Medium: 90% EtOH, 0.3 M NaClO4									

\*\*\*\*\*

C2H7O<sub>2</sub>PS2 HL CAS 5930-72-3 (4229)  
O,O-Dimethyldithiophosphoric acid; (CH3O)2.PS.SH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	non-aq	25°C	100%	U	M		1977FMa (22539)	728
							K(NiL2+A)=2.16		
							K(NiL2A+A)=2.48		

Medium: Toluene, A=4-picoline

Ni++	sp	non-aq	25°C	100%	U	T M		1972MFa (22540)	729
							K(NiL2+A)=3.47		
							K(NiL2+B)=3.03		
							K(NiL2+C)=2.30		

Medium: benzene. K(NiL2+D)=2.56. Temperature range 8-34.6 C. A=pyrrolidine, B=piperidine, C=morpholine, D=hexamethyleneimine

Ni++	sp	non-aq	25°C	100%	U	M		1970NYa (22541)	730
							K(NiL2+py)=1.98		
							K(NiL2+bpy)=7.17		
							K(NiL2+2py)=4.20		

Medium: benzene

\*\*\*\*\*

C2H7O3P H2L CAS 71778-99-9 (1978)  
Ethylphosphonic acid; CH3.CH2.PO3H2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++ gl NaNO3 25°C 0.10M M K1=2.30 1992SCa (22559) 731  
 \*\*\*\*\*

C2H8NO2P HL (7266)  
 Aminomethyl(methylphosphinic acid); H2NCH2PO(OH)CH3

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl KNO3 25°C 0.10M C K1=3.22 B2=5.68 1996RLa (22583) 732  
 \*\*\*\*\*

C2H8NO3P H2L CAS 6323-97-3 (1862)  
 1-Aminoethanephosphonic acid; CH3.CH(NH2).PO3H2

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl KCl 25°C 0.20M C K1=10.11 B2=15.66 1998KMa (22602) 733  
 -----

Ni++ gl KCl 25°C 0.20M C K1=5.42 B2=9.31 1987KBb (22603) 734  
 B3=12.20  
 B(NiHL)=11.98  
 -----

Ni++ gl KNO3 25°C 0.20M C K1=5.18 B2=9.10 1978MAb (22604) 735  
 K(Ni+HL)=1.00  
 \*\*\*\*\*

C2H8NO3P H2L CAS 2041-14-7 (1863)  
 2-Aminoethanephosphonic acid; H2N.CH2.CH2.PO3H2

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl KCl 25°C 0.20M C K1=5.34 B2=9.04 1987KBb (22622) 736  
 B(NiHL)=12.37  
 -----

Ni++ gl KNO3 25°C 0.10M U K1=5.20 B2=10.1 1979WNb (22623) 737  
 B(NiHL)=12.80  
 B(NiHL2)=18.8  
 B(NiH2L2)=25.6  
 -----

Ni++ gl KNO3 25°C 0.20M C K1=5.36 B2=9.79 1978MAb (22624) 738  
 K(Ni+HL)=1.76  
 \*\*\*\*\*

C2H8NO4P H2L CAS 1071-23-4 (1864)  
 2-Aminoethyl-dihydrogenphosphoric acid; H2N.CH2.CH2.OPO3H2

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl KCl 20°C 0.10M U K1=5.14 1987BPb (22650) 739  
 K(Ni+HL)=2.80  
 -----

Ni++ gl KNO3 25°C 0.20M C 1978MAb (22651) 740  
 K(Ni+HL)=1.87  
 -----

Ni++ gl KNO3 25°C 0.20M C 1978MAc (22652) 741  
K(Ni+HL)=1.87

Ni++ gl R4N.X 20°C 0.10M U K1=4.6 1965HFb (22653) 742  
K(Ni+HL)=1.8

Medium: (C3H7)4NI

\*\*\*\*\*

C2H8N2 L Ethylenediamine CAS 107-15-7 (23)

1,2-Diaminoethane; H2N.CH2.CH2.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	alc/w	25°C	50%	C		K1=7.33	1997MGb (22910)	743
Ni++	gl	KNO3	30°C	0.10M	U		K1=7.56	1994RSa (22911)	744
Ni++	gl	KCl	25°C	0.20M	C		K1=7.12 B2=13.06 B3=17.25	1993KKb (22912)	745

Ni++	gl	mixed	25°C	80%	C		K1=8.74 B2=16.69 B3=23.17	1991LMa (22913)	746
------	----	-------	------	-----	---	--	---------------------------	-----------------	-----

Medium: 80% w/w DMSO/H2O, 0.1 M KClO4

Ni++ cal KNO3 25°C 1.50M U HM 1989KCa (22914) 747  
DH(Ni(IDA)+L)=-22.8 kJ mol-1

Ni++ gl NaClO4 25°C 0.30M U I K1=7.50 B2=14.04 1989NSb (22915) 748  
K3=4.50  
In 0.7 Mol EtOH/H2O:K1=9.57 K2=8.39 K3=6.27

Ni++ cal oth/un 25°C dil C H K1=7.35 B2=13.54 19890Fa (22916) 749  
B3=17.71

Medium: NH4Cl/NH3 buffer, pH 10. DH(K1)=-36.65 kJ mol-1,  
DH(B2)=-78.91, DH(B3)=-117.9.

Ni++ gl KNO3 35°C 0.10M U M K1=7.08 1989RSb (22917) 750  
K(Ni(thiodipropionate)+L)=6.99

Ni++ gl KNO3 35°C 0.20M U M K1=7.46 B2=13.71 1989RVa (22918) 751  
K(NiA+L)=6.63

A=bis(imidazol-2-yl)methane

Ni++ gl NaCl 20°C 2.00M U K1=5.47 B2=11.69 1987BDa (22919) 752  
B3=16.76  
B(NiHL)=12.52  
K(Ni+HL)=2.35  
B(NiH2L2)=26.56

B(NiH3L3)=38.15; K(Ni+3HL)=7.64. Other data also given.

Ni++ gl NaClO4 25°C 1.00M U IH K1=7.59 B2=14.08 1987GCa (22920) 753

In 0.8 mol dimethylacetamide/H<sub>2</sub>O: K<sub>1</sub>=10.96; K<sub>2</sub>=9.62; K<sub>3</sub>=7.80

Medium: LiClO<sub>4</sub>. DH(K1)=-45.4 kJ mol<sup>-1</sup>, DS=-2 J K<sup>-1</sup> mol<sup>-1</sup>; DH(K2)=-50.2, DS=-41; DH(K3)=-53.6, DS=-91

IUPAC evaluation.  $\text{DH}(\text{K1})=-37.7$ ,  $\text{DH}(\text{K2})=-38.5$ ,  $\text{DH}(\text{K3})=-40.5 \text{ kJ mol}^{-1}$

Medium: LiClO<sub>4</sub>. Data for 0.1, 0.2 mole fraction dioxane/H<sub>2</sub>O. Calorimetry: DH(K1)=-45.4 kJ mol<sup>-1</sup>, DS=-1.7; DH(K2)=-50.2, DS=-41; DH(K3)=53.6, DS=-91.

HA is thiazolidine-4-carboxylic acid.  $\text{DH}(\text{K1}) = -39.8 \text{ kJ mol}^{-1}$ ,  $\text{DS}(\text{K1}) = 14 \text{ J K}^{-1} \text{ mol}^{-1}$ ;  $\text{DH}(\text{NiAL}) = -38.6$ ,  $\text{DS}(\text{NiAL}) = 10$

H2asp is aspartic acid.

H2A is oxalic acid; H2B is malonic acid; H2C is phthalic acid.  
B(NiBL(gly))=14.57; B(NiCL(gly))=16.25.

Ni++	gl	KNO3	25°C	2.5M	M	K1=7.60		1979FLc (22932)	765
Ni++	gl	mixed	25°C	0.3M	U TI	K1=4.37 B3=7.33 B2=9.42 100% H2O K1=7.48 100% H2O B3=10.68 100% H2O	B2= 5.87	1979GSd (22933)	766
In 0.1 M NaClO4 in 0.82 mol parts dimethylacetamide in H2O for 35 C K1=4.14; B2=5.55; B3=6.91									
Ni++	gl	KCl	25°C	0.20M	C HM	K1=7.36 B3=17.78	B2=13.52	1979SGb (22934)	767
Ni++	kin	NaClO4	25°C	0.10M	U M	K(NiL2+CN)=7.17 K((NiL2CN+CN)=3.02 B(NiL2+2CN)=10.19		1978KNd (22935)	768
Ni++	gl	KCl	25°C	0.20M	U M	K1=7.36 B3=17.78	B2=13.52	1978SKa (22936)	769
Ni++	sp	oth/un	3°C	?	U T	K(Ni(RR-PMCN)+L)=3.60		1976MHb (22937)	770
RR-PMCN=N,N'-bis[2(S)-2-pyrrolidinylmethyl]-1(R),2(R)-cyclohexanediamine									
Ni++	sp	oth/un	25°C	?	U T	K(Ni(RR-PMCN)+L)=3.04		1976MHb (22938)	771
RR-PMCN=N,N'-bis[2(S)-2-pyrrolidinylmethyl]-1(R),2(R)-cyclohexanediamine K=2.48 (48 C); 1.98 (72 C). Data also for some similar ligands									
Ni++	cal	non-aq	25°C	100%	U H	K1=11.7 K3=8.8	B2=22.50	1976wVa (22939)	772
Medium: DMSO. DH(K1)=-70.7 kJ mol-1, DH(K2)=-45.1 and DH(K3)=-36.8									
Ni++	sp	KNO3	25°C	0.50M	U	K1=7.36 B3=18.06	B2=13.74	1975LMc (22940)	773
Ni++	gl	KNO3	25°C	0.10M	C I	K1=7.56 K3=4.30	B2=13.85	1974MMa (22941)	774
Also data for 55%, 60%, 65%, 70%, 75%, 80% MeOH, 0.1M KNO3									
Ni++	gl	mixed	25°C	20%	C I	K1=7.71 K3=4.45	B2=14.11	1974MMa (22942)	775
Medium: 20% DMF, 0.1M KNO3. Also data for 40%, 50%, 60%, 70%, 75%, 80% DMF									
Ni++	gl	NaClO4	25°C	0.10M	C I	K1=7.44 K3=4.07	B2=13.49	1974MMa (22943)	776
Also data for 20%, 40%, 50%, 60%, 70%, 75%, 80% Dioxan, 0.1M NaClO4									

Ni++	gl	NaClO4	30°C	0.15M	U	M	K1=7.82		1974PBb (22944)	777
							B(NiL(bpy))=7.32			
							B(NiL(phen))=7.09			
-----										
Ni++	gl	mixed	25°C	1.00M	U	TI	K1=7.40	B2=13.46	1974SHa (22945)	778
							K3=3.70			
Medium: 0.43 mole parts of acetone in H2O; data at other ratio also given.										
0.106-0.430 m.p. In H2O: K1=7.52, K2=6.36, K3=4.35										
-----										
Ni++	sp	R4N.X	25°C	1.50M	U	M			1973BDd (22946)	779
B((NiL2)A(CuL))=44.8, K((NiL2)2A+(CuL)2A=2(NiL2)A(CuL))=1.30. H4A=EDTA.										
Medium: NH4NO3										
-----										
Ni++	sp	R4N.X	25°C	1.50M	U	M			1972BFd (22947)	780
							K(NiA+L)=4.30			
							K(NiAL+NiL3=Ni2AL4)=2.52			
Medium: NH4NO3. H4A=EDTA										
-----										
Ni++	gl	oth/un	25°C		U		K1=7.30	B2=13.25	1972NBa (22948)	781
							K3=4.08			
-----										
Ni++	gl	NaClO4	25°C	0.10M	U		K1=6.97	B2=13.15	1971GSb (22949)	782
							K3=4.38			
-----										
Ni++	vlt	NaClO4	25°C	0.30M	U	M			1971KKb (22950)	783
							K(NiA+L)=5.84			
H3A=nitritotriethanoic acid										
-----										
Ni++	gl	KNO3	25°C	0.10M	U		K2=6.30		1970DNa (22951)	784
-----										
Ni++	EMF	oth/un	?	?	U		K1=7.63	B2=13.96	1970FAa (22952)	785
							K3=4.31			
-----										
Ni++	sp	oth/un	?	?	U		K1=7.62	B2=13.98	1970FAa (22953)	786
							K3=4.40			
-----										
Ni++	gl	oth/un	25°C	0.50M	U	I	K1=7.36	B2=13.62	1970FRa (22954)	787
							K3=4.40			
Media: LiClO4; 0.5 LiClO4, 54.3% MeOH: K1=7.64, K2=6.54, K3=4.60;										
0.5 LiClO4, 48.1% dioxan: K1=8.18, K2=7.02, K3=5.02										
-----										
Ni++	sp	KNO3	25°C	0.50M	U		K1=7.76	B2=14.61	1970MAg (22955)	788
							K3=4.78			
-----										
Ni++	oth	oth/un	?	?	U		K1=7.69	B2=14.02	1969MMb (22956)	789
							K3=4.37			
Data from survey of literature data										
-----										
Ni++	dis	oth/un	20°C	?	U	M	K1=7.45	B2=13.66	1968FLb (22957)	790
							B3=18.1			

B(NiL(NH<sub>3</sub>)<sub>2</sub>)=17.77

---

Ni++      gl   KNO<sub>3</sub>   25°C 1.00M U    M    B<sub>2</sub>=14.06      1968FVa (22958) 791  
B<sub>3</sub>=18.61  
B(NiL(Gly))=12.55  
B(NiL<sub>2</sub>(Gly))=18.51  
B(NiL(Gly)<sub>2</sub>)=15.45

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Ni++      gl   diox/w 30°C 50% U      K<sub>1</sub>=7.80    B<sub>2</sub>=14.01    1968H0a (22959) 792  
K<sub>3</sub>=4.09

Constants corrected to zero ionic strength

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Ni++      gl   KNO<sub>3</sub>   37°C 0.15M U    M    K<sub>1</sub>=6.982    B<sub>2</sub>=12.79    1968PSf (22960) 793  
K<sub>3</sub>=3.662  
K(NiA+L)=5.78  
K(NiA<sub>2</sub>+L)=3.93  
K(NiAL+L)=3.29

A=histamine. K(Ni(ser)+L)=6.57; K(Ni(ser)<sub>2</sub>+L)=4.99; K(Ni(ser)L+L)=4.30.  
Ternary complexes with NTA and EDTA also

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Ni++      gl   NaClO<sub>4</sub> 25°C 0.30M C    H    K<sub>1</sub>=7.49    B<sub>2</sub>=13.94    1967HWa (22961) 794  
K<sub>3</sub>=4.11

By calorimetry DH(K<sub>1</sub>)=-39.1 kJ mol<sup>-1</sup>, DH(K<sub>2</sub>)=-38.4, DH(K<sub>3</sub>)=-39.5

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Ni++      gl   NaClO<sub>4</sub> 25°C var U I      1965NKd (22962) 795  
K<sub>1</sub>=7.32±0.290I  
K<sub>2</sub>=6.18±0.343I  
K<sub>3</sub>=4.11±0.409I

---

Ni++      sp   oth/un 25°C 1.20M U      K<sub>1</sub>=7.55    B<sub>2</sub>=13.75    1963CAB (22963) 796  
K<sub>3</sub>=4.77

---

Ni++      gl   KCl    25°C 1.0M U    H      1960CPa (22964) 797  
DG(K<sub>1</sub>)=-43.89 kJ mol<sup>-1</sup>; DH=-37.2, DS=23; DG(B<sub>2</sub>)=-80.2, DH=-76.8, DS=12;  
DG(B<sub>3</sub>)=-104.9, DH=-118.5, DS=-45

---

Ni++      gl   KNO<sub>3</sub>   25°C 1.0M U    M    K<sub>1</sub>=7.61    B<sub>2</sub>=14.00    1960WDa (22965) 798  
K<sub>3</sub>=4.35

Ternary complexes with oxalate.

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Ni++      gl   oth/un 10°C ->0 U T      K<sub>1</sub>=7.74    B<sub>2</sub>=14.18    1959MBa (22966) 799  
K<sub>3</sub>=4.67

20 C: K<sub>1</sub>=7.52, K<sub>2</sub>=6.32, K<sub>3</sub>=4.49; 30 C: K<sub>1</sub>=7.27, K<sub>2</sub>=6.11, K<sub>3</sub>=4.20;  
40 C: K<sub>1</sub>=7.04, K<sub>2</sub>=5.89, K<sub>3</sub>=4.05

---

Ni++      gl   oth/un 10°C ->0 U T H      1959MBa (22967) 800  
10-40 C: DG(K<sub>1</sub>)=-41.8 kJ mol<sup>-1</sup>, DH=-40, DS=8; DG(K<sub>2</sub>)=-8.3, DH=-31, DS=13;  
DG(K<sub>3</sub>)=-25.50, DH=-31, DS=-38

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Ni++      vlt oth/un 25°C 0.10M U      K<sub>1</sub>=7.52    B<sub>2</sub>=13.80    1957MCA (22968) 801



K3=4.26

Ni++ gl oth/un 25°C 1.40M U K1=7.51 B2=13.86 1957PBa (22969) 802  
K3=4.42

Ni++ oth oth/un 25°C 1.0M U H 1956RAa (22970) 803  
DS(Ni(NH3)6+3L=NiL3+6NH3)=88 J K-1 mol-1

Ni++ gl oth/un 25°C 0.15M U H 1955CHa (22971) 804  
DH(K1)=-33.0 kJ mol-1, DS=41.8 J K-1 mol-1; DH(K2)=-32.6, DS=8.4;  
DH(K3)=-29, DS=-20

Ni++ gl oth/un 0°C 0.15M U T K1=7.88 B2=14.58 1955CHb (22972) 805  
K3=4.78

49.1 C: K1=6.92, K2=5.75, K3=3.90

Ni++ cal KNO3 25°C 1.0M U H 1955PBa (22973) 806  
DH(K1)=-37.6 kJ mol-1, DS=17.1 J K-1 mol-1; DH(B2)=-76.1, DS=9.6;  
DH(B3)=-116.6, DS=-42.2

Ni++ cal KNO3 0°C 0.50M U H 1954BMa (22974) 807  
DH(B3)=-104.9 kJ mol-1, DS=4.2 J K-1 mol-1

Ni++ cal KCl 25°C 0.10M U H 1954DSa (22975) 808  
DH(B2)=-72.3 kJ mol-1, DS=14.2 J K-1 mol-1; DH(B3)=-117.0, DS=-58.5

Ni++ gl diox/w 30°C 75% U K1=8.2 1954UFa (22976) 809

Ni++ gl oth/un 0°C 30.0M U T K1=7.83 B2=14.44 1953MCa (22977) 810  
K3=4.84

30 C: K1=7.28, K2=6.09, K3=4.20

Ni++ gl KNO3 0°C 0.50M U T K1=7.92 B2=14.69 1952BMa (22978) 811  
K3=5.36

25 C: K1=7.60, K2=6.48, K3=5.03

Ni++ gl KNO3 0°C 0.50M U H 1952BMb (22979) 812  
0-25 C. DH(K1)=-20.1 kJ mol-1, DS=79.4 J K-1 mol-1; DH(K2)=-18.0, DS=62.7;  
DH(K3)=-20.5, DS=29.3

Ni++ gl KCl 30°C 1.0M U K1=7.45 B2=13.68 1952HAa (22980) 813  
K3=4.34

Ni++ gl KCl 25°C 1.0M U K1=7.72 B2=14.08 1950EDa (22981) 814  
K3=4.33

Ni++ gl KCl 30°C 1.0M U K1=7.52 B2=13.80 1945CMA (22982) 815  
K3=4.26

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C2H8N4S

L

CAS 35771-42-7 (4227)

S-Methylisothiocarbohydrazide; H2N.N:C(S.CH3).NH.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.50M	U		K1=6.16 B2=11.79 B3=16.395	1972BMc (23249)	816

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C2H8O7P2 H4L HEDPA CAS 2809-21-4 (436)  
1-Hydroxyethane-1,1-diphosphonic acid; CH3.C(OH)(PO3H2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C		K1=8.62 K(NiL+H)=6.96 K(NiHL+H)=4.8	1997DBb (23309)	817

Ni++	gl	KNO3	25°C	0.10M	U		K1=8.6 B(NiHL)=15.7 B(NiH2L)=20.7 B(Ni(OH))=3.3 B(Ni(OH)2)=10.7	1995DSa (23310)	818
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Ni++	nmr	oth/un	25°C	?	U		K1=9.51 K(Ni+HL)=4.74 K(Ni+H2L)=2.72 B(Ni2L)=13.82	1987ASa (23311)	819
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Ni++	gl	KNO3	25°C	0.10M	U		K1=5.64 K(Ni+HL)=3.80 K(Ni+H2L)=3.01	1980ZRC (23312)	820
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Ni++	gl	KCl	25°C	0.10M	U		K1=9.24 K(Ni+HL)=5.14 K(2Ni+H-1L)=18.53 K(2Ni+L)=12.18 K(2Ni+HL)=7.70	1967KLa (23313)	821
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C2H9NO6P2 H4L IDPA CAS 32545-63-4 (1335)  
Imino-N,N-bis(methylenephosphonic acid); HN(CH2PO3H2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.1M	C		K1=8.32 B2=9.84 B(NiHL)=14.23 B(NiH2L)=19.01	1985MMA (23438)	822

Ni++	gl	KNO3	25°C	1.00M	M		K1=7.71 K(Ni+HL)=3.01	1982BGB (23439)	823
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Ni++	gl	KCl	25°C	0.10M	U		K1=10.06	1979ZPa (23440)	824
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 C2H16N5O4Co HL (231)  
 Pentaammineoxalatocobalt(III); Co(NH3)5(HC2O4)

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 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Ni++ sp NaClO4 28°C 0.30M U K1=2.14 1974NDa (23469) 825

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C3H2N2O3 H2L (7432)

2-Cyano-2-(hydroxyimino)ethanoic acid; NC.C(:NOH)COOH

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Ni++ gl KNO3 25°C 0.10M C B2=9.67 1998SDa (23484) 826

B(NiHL2)=14.79

B(NiH-1L2)=-1.10

\*\*\*\*\*

C3H3NO L Isoxazole CAS 288-14-2 (384)

Isoxazole; cyclo(-O.N:CH.CH:CH-) C3H3NO

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 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl KNO3 25°C 0.50M U K1=0.28 1978KLa (23494) 827

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C3H3NO2 HL Cyanoacetic CAS 372-09-8 (38)

Cyanoethanoic acid; NC.CH2.COOH

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 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl NaClO4 25°C 2.0M U K1=0.44 1981MFa (23506) 828

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C3H3NS L Isothiazole CAS 288-16-4 (383)

Isothiazole; cyclo(-S.N:CH.CH:CH-) C3H3NS

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 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Ni++ gl KNO3 25°C 0.50M U K1=0.65 B2=1.60 1978KLa (23515) 829

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C3H3NS L Thiazole CAS 288-47-1 (382)

Thiazole; cyclo(-S.CH:N.CH:CH-) C3H3NS

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl KNO3 25°C 0.50M U K1=1.96 B2=3.51 1974LKb (23523) 830

B3=4.68

\*\*\*\*\*

C3H3N3O2 HL (7390)

2-Cyano-2-(hydroxyimino)acetamide; CNC.C(NOH).CO.NH2

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo



Ni++          gl   KNO3    35°C 0.10M C      M    K1=3.07          1999DSb (23710) 839  
B(NiAL)=4.04

A is thiamine hydrochloride.

-----  
Ni++          gl   NaClO4 37°C 0.15M U      M                      1999NNa (23711) 840  
B(NiAL)=9.81  
B(NiAL2)=11.57  
K(NiA+L)=3.49  
K(NiL+A)=6.44

K(NiL2+A)=5.87. HA is nicotinic acid.

-----  
Ni++          gl   NaClO4 37°C 0.15M U      M                      1999NNb (23712) 841  
B(NiHAL)=12.17  
B(NiAL)=7.75  
B(NiAL2)=10.56  
K(NiA+L)=4.48

K(NiL+A)=4.38, K(NiAL+L)=2.81. A is 6-aminopenicillanic acid.

-----  
Ni++          gl   NaClO4 30°C 0.20M U                      K1=2.83          1999PGa (23713) 842

-----  
Ni++          gl   NaNO3    30°C 0.20M U                      K1=2.78          1999PPa (23714) 843

-----  
Ni++          gl   NaNO3    25°C 0.50M M                      K1=3.09          1998KSa (23715) 844

-----  
Ni++          gl   NaNO3    25°C 0.10M U      M    K1=3.69          1998MSe (23716) 845

-----  
Ni++          gl   NaNO3    37°C 0.10M U                      K1=2.99          1997MGa (23717) 846

-----  
Ni++          gl   KNO3     35°C 0.10M C      M    K1=3.30          1997PSb (23718) 847  
K(NiL+A)=6.72

H2A is thiamine orthophosphoric acid.

-----  
Ni++          gl   KCl        25°C 0.10M C    IH   R   K1=3.03    B2=5.54    1997SJa (23719) 848  
K3=2.01  
K4=1.47

IUPAC evaluation. DH(K1)=-24.3 kJ mol<sup>-1</sup>(I=0.16).

I=0: K1=3.02, K2=2.50, K3=2.00, K4=1.46. I=3.0: 3.35, 2.74, 2.21, 1.61

-----  
Ni++          gl   NaClO4 25°C 0.10M C      M    K1=3.12          1994MGb (23720) 849  
K(Ni(succinate)+L)=3.44  
K(Ni(malate)+L)=3.46  
K(Ni(tartrate)+L)=3.39

-----  
Ni++          gl   NaNO3    37°C 0.10M U                      K1=2.99          1994MGc (23721) 850  
Data for ternary complexes with 6-aminopenicillanic acid

-----  
Ni++          gl   NaNO3    25°C 0.10M M      M    K1=3.04          1993JCa (23722) 851  
K(NiA+L)=2.96

HA=N,N-bis(2-hydroxyethyl)glycine (bicine)

Also data for ternary complexes with cysteine, cysteic acid and penicillamine.

Medium(S): methanol. A is 3,7,15,19-tetraaza-11,23-dimethyltricyclo[19.3.1.1(9,13)]hexacos-1(25),9,11,13(26),21,23-hexaene-25,26-diol.

Data for ternary complexes with valine, glycine and alanine.

Method: polarography. Values only approximate because of high stability.

Ni++      gl   NaNO3   37°C   0.10M U      M      1983ERa (23728) 857  
B(NiL(Gly))=8.849  
B(NiL4(Gly))=16.846  
B(NiL2(Gly)2)=16.247

Ni++      gl    NaNO3    25°C   0.10M   A      M      1982SSa (23730) 859  
K(Ni(ATP)+L)=2.44

A=uridine-5'-triphosphate

Ni++      g1   NaClO4 37°C 0.15M C      K1=2.890   B2= 5.14   1979KBf (23733) 862  
B3=6.882

B4=7.967

-----  
Ni++ gl alc/w 25°C 0.24M U T K1=3.79 1979SKc (23734) 863

Medium: 0.24 M NaClO4 in 0.9 mol parts EtOH in H2O;

For 15 C K1=3.94; for 35 C K1=3.65; Als data for 0.5 mol parts EtOH

-----  
Ni++ gl NaClO4 25°C 3.00M C M 1978FOa (23735) 864

B(NiLCl)=3.16

B(NiL2Cl)=5.48

B(NiL3Cl)=8.29

B(NiL2Cl2)=5.70

B(NiL4Cl2)=10.17. Combined potentiometric and spectrophotometric method

-----  
Ni++ gl NaClO4 25°C 0.16M U T K1=3.20 1978SPc (23736) 865

-----  
Ni++ gl NaClO4 25°C 3.00M C M K1=3.344 B2=6.087 1975FSa (23737) 866

B3=8.31

B4=9.92

\*K(NiL)=-5.85

-----  
Ni++ gl NaCl 25°C 3.00M C M K1=3.250 B2=5.852 1975FSa (23738) 867

B3=7.86

B4=9.08

\*K(NiL)=-6.04

-----  
Ni++ gl NaClO4 25°C 0.50M C TIH K1=3.034 B2=5.517 1974LVa (23739) 868

B5=12.328

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Ni++ ISE R4N.X 29°C 0.50M U K1=3.02 B2=5.45 1971BLb (23740) 869

B3=7.5

B4=9.1

B5=10.2

B6=10.7

Medium: NH4NO3

-----  
Ni++ gl NaClO4 25°C 0.10M U M K1=2.94 1968ISa (23741) 870

K(Ni(NTA)+L)=3.01

K(Ni(NTA)L+L)=1.57

K(Ni(EDTA)+L)=2.23

-----  
Ni++ gl KNO3 25°C 0.16M U H K1=3.09 B2=5.56 1966SKc (23742) 871

K3=2.00

K4=1.54

K5=1.1

K6=0.5

10-50 C:DH(K1)=-21.7 kJ mol<sup>-1</sup>,DS=-12 J K<sup>-1</sup> mol<sup>-1</sup>;DH(K2)=-19.2,DS=-17; DH(K3)  
=-17.5,DS=-22; DH(K4)=-16,DS=-20; DH(K5)=-12,DS=-25; DH(K6)=-12,DS=-29

-----  
Ni++ gl KNO3 25°C 0.20M U K1=3.01 1963CCb (23743) 872

Ni++	gl	KCl	0°C	.135M	U T	K1=3.36	B2=6.15	1955MAb (23745)	874
						K3=2.24			
						K4=1.3			

\*\*\*\*\*

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.50M	U	H		K1=3.33 B2= 5.11 B3=6.09	1979BEC	(23941) 875

\*\*\*\*\*

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	g1	KN03	25°C	0.50M	U			K1=1.45 B3=3.12	B2=2.50	1982GKa (23954) 876

\*\*\*\*\*

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.10M	U			K1=5.36 B2=10.00	1977STc	(23966) 878

\*\*\*\*\*

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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\*\*\*\*\*

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------



Ni++ sp oth/un 25°C .001M U K1=8.63 1958DEa (24006) 880  
 \*\*\*\*\*

C3H4O3 HL Pyruvic acid CAS 127-17-3 (1152)  
 2-Oxopropanoic acid; CH3.CO.COOH

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl NaClO4 25°C 2.00M U K1=0.73 B2=0.81 1980MKb (24027) 881  
 -----

Ni++ sol KCl 25°C 0.50M U M K1=1.12 B2=0.46 1966LHb (24028) 882  
 Ternary complexes with glycine, sarcosine, b-alanine, isoleucine, alanine  
 -----

Ni++ gl KCl 25°C 0.65M U T K1=1.15 1964LSa (24029) 883  
 At 10 C: K1=1.40  
 \*\*\*\*\*

C3H4O4 H2L Malonic acid CAS 141-82-2 (79)  
 Propanedioic acid; CH2(COOH)2

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl NaNO3 25°C 0.10M C M K1=3.92 B2= 6.84 1998KR a (24269) 884  
 B(NiLA)=8.47

HA: inosine.

Ni++ gl KNO3 35°C 0.10M C M K1=3.51 1997PSb (24270) 885  
 K(NiL+A)=5.35

H2A is thiamine orthophosphoric acid.

-----  
 Ni++ gl KNO3 25°C 0.10M M M K1=4.583 1993AHa (24271) 886  
 -----

Ni++ vlt NaClO4 25°C 0.10M U K1= 3.28 B2= 5.45 1992URa (24272) 887  
 B(NiHL)=7.17  
 K(Ni+HL)=1.85

-----  
 Ni++ gl NaCl 25°C 0.50M C K1=2.74 1989FRa (24273) 888  
 -----

Ni++ con none 20°C 0.0 U 1986KIa (24274) 889

K1=1.09 (0.1 MPa)  
 K1=1.05 (20 MPa)  
 K1=1.02 (40 MPa)  
 K1=0.96 (60 MPa)

K1=0.90 (80 MPa) and K1=0.84 (100 MPa).

-----  
 Ni++ gl NaNO3 30°C 0.20M C M K1=3.17 1981RSd (24275) 890  
 K(Ni(asp)+L)=2.06  
 B(Ni(asp)L)=9.22

H2asp is aspartic acid.

-----  
 Ni++ gl NaNO3 30°C 0.20M C M K1=3.17 1981RSe (24276) 891

B(Ni(ida)L)=10.20

K(Ni(ida)+L)=2.02

Ni++ gl NaCl04 30°C 0.10M U K1=3.96 1978JSc (24277) 892

Ni++ gl diox/w 25°C 50% C I K1=5.70 B2=8.93 1978RZa (24278) 893  
K3=2.5

Data available for 10 to 50% v/v dioxan/H2O

Ni++ vlt NaCl04 25°C 1.00M U 1975TQa (24279) 894  
K(Ni+HL)=0.54

Ni++ sp oth/un 25°C ? U I K1=3.98 1974UYa (24280) 895  
Data also given for dioxan/H2O mixtures to 0.064 mole fraction

Ni++ kin none 25°C 0.00 U K1=4.48 1972HAa (24281) 896  
Method: pressure jump

Ni++ gl NaCl04 25°C 0.10M U K1=3.29 19700Va (24282) 897

Ni++ gl KNO3 25°C 0.10M U K1=3.27 B2=4.94 1969PJb (24283) 898

Ni++ gl NaCl04 25°C 0.10M U K1=3.29 19680Va (24284) 899  
K(Ni+HL)=1.04

Ni++ gl NaCl04 20°C 0.10M U K1=3.30 1963CAa (24285) 900  
K(Ni+HL)=1.41

Ni++ gl NaCl04 25°C 0.20M U I K1=3.02 1962BNa (24286) 901  
K1=4.102(0 corr), 4.097(I=0), 3.516(I=0.03), 3.393(I=0.05), 3.196(I=0.10),  
3.090(I=0.15)

Ni++ gl oth/un 0°C ->0 U T H K1=4.02 1961NNA (24287) 902  
DH(K1)=7.5 kJ mol<sup>-1</sup>, DS=104 J K<sup>-1</sup> mol<sup>-1</sup>. K1=4.04(15 C), 4.10(25 C),  
4.14(35 C), 4.20(45 C)

Ni++ sp oth/un 25°C 0.10M U K1=3.2 1960YYa (24288) 903

Ni++ EMF oth/un 25°C 0.04M U K1=4.00 1949SDa (24289) 904

Ni++ con oth/un 25°C ->0 U K1=3.72 1935DAa (24290) 905

Ni++ con oth/un ? ->0 U K1=4.14 1932MDa (24291) 906  
\*\*\*\*\*

C3H4O5 H2L Tartronic acid CAS 80-69-3 (839)  
Hydroxypropanedioic acid; HO.CH(COOH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ con none 20°C 0.0 U 1986KIa (24607) 907

K1=0.83 (0.1 MPa)  
K1=0.77 (20 MPa)  
K1=0.73 (40 MPa)  
K1=0.69 (60 MPa)

K1=0.61 (80 MPa) and K1=0.58 (100 MPa).

Ni++ gl NaClO4 20°C 0.10M U K1=3.45 1963CAa (24608) 908  
K(Ni+HL)=2.10

\*\*\*\*\*  
C3H5NO3 H2L (7332)  
2-Hydroxyiminopropanoic acid; CH3.C(:NOH).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.10M C B2=13.49 1997SJb (24663) 909  
B(NiH2L2)=28.86  
B(NiHL2)=23.66

\*\*\*\*\*  
C3H5N3O L CAS 140-87-4 (2976)  
Cyanoacetohydrazide; NC.CH2.CO.NH.NH2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl oth/un 20°C 0.01M U K1=6.0 1956ARd (24675) 910

\*\*\*\*\*  
C3H5N3S L CAS 108-33-8 (1428)  
2-Amino-5-methyl-1,3,4-thiadiazole; C2N2S(NH2)(CH3)

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.50M U K1=1.24 1982GLa (24680) 911

\*\*\*\*\*  
C3H5N3S L CAS 17467-35-5 (1425)  
5-Amino-3-methyl-1,2,4-thiadiazole; C2N2S(NH2)(CH3)

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.50M U K1=0.76 1982GLa (24686) 912

\*\*\*\*\*  
C3H5O2Cl HL CAS 107-94-8 (1436)  
3-Chloropropanoic acid; Cl.CH2.CH2.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ oth oth/un 25°C 0.00 U K1=1.38 1976HYa (24725) 913

Method: laser temperature jump  
\*\*\*\*\*  
C3H6 L Propylene CAS 115-07-1 (702)  
Propene; CH3.CH:CH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	dis	none	40°C	0.0	U T		K1=-1.21	1984DWa (24750)	914
*****									
C3H6N2O2		HL					(7333)		
2-Hydroxyiminopropanamide; CH3.C(:NOH).CONH2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C		K1=4.82 B2=9.21 B(NiH-1L2)=1.57 B(NiH-2L2)=-8.97	1997SJB (24775)	915
*****									
C3H6N2O2		L	D-Cycloserine				CAS 68-41-7 (907)		
D-4-Amino-1,2-oxazolidine-3-one;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.50M	U		K1=1.84 B2=4.81 B3=3.82 B4=5.92	1983GWA (24786)	916
-----									
Ni++	gl	KCl	25°C	0.10M	U		K1=2.07 K(Ni+H-1L)=4.02 K(Ni+2H-1L)=7.23	1981BDB (24787)	917
*****									
C3H6N2O2		L	Methylglyoxime				CAS 2140-03-6 (2981)		
Methylglyoxime; CH3.C(:N.OH).CH:N.OH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	25°C	50%	U		K1=9.6 B2=18.8	1958BPA (24799)	918
*****									
C3H6N2O3		H2L					(7445)		
2-(Hydroxyimino)propanohydroxamic acid; CH3C(:NOH)CONHOH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C		B2=22.16 B(NiHL2)=27.48 B(NiH-1L2)=10.56 B(NiH2L2)=32.71	1999DDa (24822)	919
-----									
Ni++	gl	KNO3	25°C	0.10M	C		B2=22.16 B(NiH2L2)=32.71 B(NiHL2)=27.48 B(NiH-1L2)=10.56	1998DFa (24823)	920
*****									
C3H6O		L	Acetone				CAS 67-64-1 (1912)		
Propan-2-one, acetone; CH3.CO.CH3									

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       sp  non-aq 20°C 100%  U T HM                      1988LJa (24852) 921
                                         K(NiAB+2L)=-1.51
                                         K(NiAC+2L)=-0.98
                                         K(NiAD+2L)=-0.51
Medium: 1,2-dichlorethane; Square planar = octahedral equilibria
A:tetramethylendiamine B:acetylacetone C:benzoylacetone D:dibenzoylmethanat
*****
C3H6OS2          HL    Xanthic acid      CAS 151-01-9 (590)
(Ethoxy)dithiomethanoic acid; CH3.CH2O.CSSH
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       cal non-aq 30°C 100%  U    M                      1971DGB (24864) 922
                                         K(NiL2+2py)=3.23
Medium: benzene
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-----
Ni++       sp  alc/w 25°C 75%  U          B2=7.74          1970BPd (24865) 923
Medium: 75% MeOH, 0.3 M NaClO4
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-----
Ni++       sp  non-aq 25°C 100%  U I M                      1970NYa (24866) 924
                                         K(NiL2+2A)=-0.81
                                         K(NiL2+2py)=3.32
                                         K(NiL2+2B)=0.16
                                         K(NiL2+bpy)=5.31
Medium: benzene. K(NiL2+2C)=3.57. A=a-picoline, B=quinoline, C=b-picoline
Values for K(NiL2+2py) in CCl4: 3.08; CHCl3: 2.73; EtOH: 2.35
*****
C3H6O2          HL    Propionic acid    CAS 79-09-4 (35)
Propanoic acid; CH3.CH2.COOH
-----

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       oth NaClO4 25°C 2.0M U          K1=0.81          1990FTa (24942) 925
Methods: averaged results from potentiometric, polarographic and
spectrophotometric measurements.
-----
Ni++       oth oth/un 25°C 0.00 U          K1=1.48          1976HYa (24943) 926
Method: laser temperature jump
-----
Ni++       vlt oth/un 25°C 1.00M U          K1=0.85  B2=1.40  1971TRc (24944) 927
-----
Ni++       sp  oth/un 25°C 1.00M U          K1=0.88          1971TRc (24945) 928
-----
Ni++       EMF NaClO4 25°C 2.00M U          K1=0.73  B2=0.96  1970FMa (24946) 929
                                         B3=0.97
-----
Ni++       sp  NaClO4 25°C 2.00M U          K1=0.86  B2=1.26  1970GFa (24947) 930
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C3H6O2S                      H2L      Thiolactic acid   CAS 79-42-5   (366)  
2-Mercaptopropanoic acid; CH3.CH(SH).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.20M	U	T M	K1=7.31   B2=14.29 K(NiA+L)=6.78	1996JOa (25111)	931

Data for 35 and 45 C. A is 2,2'-bipyridylamine.

Ni++	gl	NaClO4	30°C	0.10M	U		K1=6.65   B2=12.80	1988NDa (25112)	932
------	----	--------	------	-------	---	--	--------------------	-----------------	-----

Ni++	gl	NaClO4	25°C	0.10M	U	M		1985MSa (25113)	933
							K(NiL+dientriamine)=7.54		

Ni++	gl	NaClO4	30°C	0.20M	U	M	K1=7.31	1984JOa (25114)	934
							K(Ni(his)+L)=6.41		
							K(Ni(nta)+L)=4.59		

Ni++	gl	NaClO4	25°C	0.10M	U	M	K1=5.88   B2=13.52	1984MSb (25115)	935
							K(NiL+en)=5.91		

Ni++	kin	KNO3	25°C	0.50M	U			1981CKc (25116)	936
							K(Ni+HL)=1.75		

Ni++	cal	KNO3	25°C	0.50M	U	H	K1=6.052   B2=13.144	1975BGa (25117)	937
							B(Ni3L4)=30.71		

DH(B2)=-0.8 kJ mol<sup>-1</sup>, DS(B2)=247 J mol<sup>-1</sup> K<sup>-1</sup>, DH(Ni3L4)=-33.5, DS=472

Ni++	EMF	NaClO4	20°C	0.10M	U	T	K1=5.66   B2=13.35	1972SSd (25118)	938
							30 C: K1=6.03, K2=7.65; 40 C: K1=6.28, K2=7.52		

\*\*\*\*\*

C3H6O2S                      H2L                      CAS 107-96-0   (437)  
3-Mercaptopropanoic acid; HS.CH2.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	KNO3	25°C	0.50M	U			1976BCa (25193)	939
							B(Ni5L10)=64.54		
							B(Ni6L12)=78.94		
							B(Ni6L9)=63.58		
							B(Ni6L10)=67.80		

Ni++	gl	KNO3	20°C	0.10M	U	T	K1=5.39   B2=10.58	1969SGf (25194)	940
							K1(30 C)=5.49, K2(30 C)=5.25; K1(40 C)=5.59, K2(40 C)=5.34		
Conductivity also used.									

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C3H6O3                      HL                      CAS 81598-26-7   (2521)  
3-Hydroxypropanoic acid; HO.CH2.CH2.COOH

-----

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	NaCl04	25°C	2.00M	U			K1=0.96 B2=1.30 B3=1.56	1976KGa (25251)	941
Ni++	sp	NaCl04	25°C	2.00M	U			K1=0.77 B2=1.32	1972SSa (25252)	942
*****										
C3H6O3 HL L-Lactic acid CAS 79-33-4 (82)										
L-2-Hydroxypropanoic acid; CH3.CH(OH).COOH										
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	EMF	NaCl04	25°C	1.0M	C	TIH R		K1=1.65 B2= 2.90	2003PLa (25342)	943
IUPAC Recommended values. Data for metal complexes of all aliphatic hydroxycarboxylic acids evaluated critically										
Ni++	gl	NaCl04	30°C	0.20M	U	M		K1=5.01 K(Ni(bpy)+L)=5.12 K(Ni(his)+L)=4.07	1988JOa (25343)	944
Ni++	con	none	20°C	0	U			K1=2.19	1983ISd (25344)	945
At 200 kg cm-1 K1=2.10, at 600 kg cm-2 K1=1.96, at 1000 kg cm-2 K1=1.86										
Ni++	gl	NaCl04	25°C	2.00M	U			K1=1.71 B2=2.84 B3=3.50	1976KGa (25345)	946
Ni++	gl	NaCl04	30°C	0.20M	U			K1=5.01 B2=9.60	1975JBb (25346)	947
Ni++	kin	oth/un	var	var	U	T		K1=2.18	1973HTa (25347)	948
Method: pressure jump. 10 C, K1=2.20; 30 C, K1=2.18										
Ni++	sp	NaCl04	25°C	2.00M	U			K1=1.57 B2=2.94	1972SSa (25348)	949
Ni++	oth	oth/un	25°C	0.20M	U			B2=1.89	1968BVa (25349)	950
Method: circular dichroism.										
Ni++	EMF	NaCl04	25°C	1.0M	U			K1=1.59 B2=2.67 K3=0.3	1967TGa (25350)	951
Method: quinhydrone electrode										
Ni++	con	oth/un	25°C	?	U			K1=2.216	1954EMa (25351)	952
*****										
C3H6O4 HL Glyceric acid CAS 473-81-4 (2520)										
2,3-Dihydroxypropanoic acid; HO.CH2.CH(OH).COOH										
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	sp	NaCl04	25°C	2.00M	U			K1=1.32 B2=2.38 B3=3.00	1975PGa (25622)	953
*****										

C3H7NO L DMF CAS 68-12-2 (598)  
 N,N-Dimethylformamide; HCO.N(CH3)2

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	sp	non-aq	25°C	100%	U	M		1994LTa (25646)	954
							K(Ni(acac)A+L)=1.21		
							K(Ni(acac)AL+L)=2.05		
							K(Ni(bzac)A+L)=1.23		
							K(Ni(bzac)AL+L)=2.70		

A:N,N'-tetramethyl-1,2-diaminoethane; bzac:benzoylacetone. Medium: nitromethane. Also data for other diones and amines.

---

Ni++	sp	non-aq	25°C	100%	U	HM		1992REb (25647)	955
							K(NiA+L)=-0.097		

Medium: Nitromethane/0.1 M NaClO4. A is 1,4,8,11-Tetramethyl-1,4,8,11-Tetraazacyclotetradecane. DH=-16.2 kJ mol<sup>-1</sup>, DS=-34.4 J K<sup>-1</sup> mol<sup>-1</sup>.

---

Ni++	sp	non-aq	25°C	100%	U	H		1984LHa (25648)	956
							K(NiA+L)=1.0		

Medium: DMF. A=1,4,8,11-tetramethyl-1,4,8,11-tetraazacyclotetradecane  
 DH(NiAL)=-12.8 kJ mol<sup>-1</sup>; DS(NiAL)=-24.1

---

Ni++	sp	non-aq	25°C	100%	U	T		1984MSa (25649)	957
							K(NiR+L=NiRL)=0.18		

trans complex; R=1,4,8,11-tetramethyl-1,4,8,11-tetraazacyclotetradecane  
 Medium: DMF

\*\*\*\*\*

C3H7NO2 HL Alanine CAS 56-41-7 (86)  
 2-Aminopropanoic acid; H2N.CH(CH3).COOH

---

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

---

Ni++	gl	alc/w	25°C	40%	C		K1=11.30 B2=15.35	2003DKa (25944)	958
							B(NiHL)=6.22		

Medium: 40% v/v EtOH/H2O, 0.10 M NaCl.

---

Ni++	gl	NaNO3	25°C	0.10M	U		K1=5.75	1997ISd (25945)	959
------	----	-------	------	-------	---	--	---------	-----------------	-----

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Ni++	gl	KNO3	35°C	0.10M	C	M	K1=5.26	1997PSb (25946)	960
							K(NiL+A)=4.76		

H2A is thiamine orthophosphoric acid.

---

Ni++	gl	KNO3	25°C	0.20M	U	T HM	K1=5.38	1996JLd (25947)	961
							K(Ni(bpy)+L)=5.00		

Data for 25-45 C. DH(K1)=-3.4 kJ mol<sup>-1</sup>, DS(K1)=3.4 J K<sup>-1</sup> mol<sup>-1</sup>;  
 DH(Ni(bpy)L)=-8.8, DS(Ni(bpy)L)=123.

---

Ni++	gl	NaClO4	25°C	0.20M	U	T M	K1=5.55 B2=10.08	1996J0a (25948)	962
							K(NiA+L)=5.28		



Data for 35 and 45 C. A is 2,2'-bipyridylamine.

Ni++ gl alc/w 20°C 50% M M K1=5.93 1995AMb (25949) 963  
K(NiA+L)=5.29

Medium: 50% v/v EtOH/H2O, 0.20 M NaClO4. A is 2,2',2''-terpyridine.

Ni++ gl KNO3 30°C 0.10M U K1=5.56 1994RSa (25950) 964

Ni++ gl NaClO4 25°C 0.20M C K1=5.77 1993BAb (25951) 965

Ni++ gl KCl 25°C 0.20M C M 1993BCf (25952) 966

K(NiA+(S)-L)=18.37

K(NiA+(R)-L)=18.54

A: N,N'-bis[(2S)-pyrrolidine-2-yl]propane-1,3-diamine.

Ni++ gl KCl 25°C 0.20M C K1=5.32 B2=9.74 1993FBa (25953) 967  
B3=12.80  
B(NiH-1L2)=-1.79

Ni++ gl NaClO4 25°C 0.20M U T M K1=5.55 B2=10.08 1993PPa (25954) 968  
K(NiA+L)=5.28

A is 2,2'-bipyridylamine. Also data for 35 and 45 C.

Ni++ gl KCl 25°C 0.10M C IH R K1=5.41 B2=9.89 1993SKa (25955) 969  
B3=12.99

IUPAC evaluation. DH(K1)=-15 kJ mol<sup>-1</sup>, DH(B2)=-33. All T

At I=0:K1=5.87, B2=10.56. Recommended: I=1.0:K1=5.40, B2=9.92, B3=13.04

Ni++ gl KNO3 35°C 0.10M U K1=5.32 1990RSe (25956) 970

Ni++ gl KNO3 25°C 0.10M C M K1=5.45 1989MAd (25957) 971  
K(NiA+L)=4.75  
B(NiAL)=12.77

H2A is N-(2-acetamido)imino diethanoic acid.

Ni++ gl KNO3 35°C 0.20M U M K1=5.60 B2=9.70 1989RVa (25958) 972  
K(NiA+L)=5.07

A=bis(imidazol-2-yl)methane

Ni++ gl KNO3 25°C 0.20M U M K1=5.83 1988BSc (25959) 973  
K(Ni(bpy)+L)=5.37

Ni++ gl NaClO4 30°C 0.20M U M K1=5.54 1988JOa (25960) 974  
K(Ni(bpy)+L)=5.14  
K(Ni(his)+L)=4.64

Ni++ gl NaClO4 27°C 0.20M U M K1=5.55 B2=10.08 1988PPc (25961) 975  
K(NiA+L)=4.93

A is 2,2'-dipyridylamine.

Ni++ gl KNO3 30°C 0.10M U H K1=5.35 1986DRb (25962) 976  
Data for 30-50 C. DH(K1)=-11.5 kJ mol<sup>-1</sup>, D(K1)=-64.5 J K<sup>-1</sup> mol<sup>-1</sup>.

Ni++ gl NaCl 37°C 0.15M U M 1986XHa (25963) 977  
B(NiL(His))=12.60  
B(NiL2(His))=14.51

Ni++ gl NaCl 37°C 0.15M U M K1=5.261 B2=9.567 1985CFb (25964) 978  
B3=12.36  
B(NiL(His))=12.60; B(NiL2(His))=14.51

Ni++ gl NaCl04 30°C 0.20M U M K1=5.05 1984J0a (25965) 979  
K(Ni(his)+L)=4.64  
K(Ni(nta)+L)=4.72

Ni++ gl KCl 25°C 0.20M C M 1984KDb (25966) 980  
K(Ni(DOPA)+L)=4.72  
B(NiHL(DOPA))=24.62  
K(Ni(Dopamine)+L)=4.31  
B(NiHL(Dopamine))=23.68  
K(NiA+L)=4.58, B(NiHLA)=22.84; K(NiB+L)=4.47, B(NiHLB)=23.31  
A=Noradrenaline, B=Adrenaline, H3DOPA=3,4-dihydroxyphenylalanine

Ni++ sp KCl 25°C 1.0M U K1=5.96 B2=10.66 1983FAa (25967) 981

Ni++ gl KNO3 30°C 0.10M C T HM K1=5.35 B2= 9.67 1983RKa (25968) 982  
B(NiAL)=4.91  
HA is thiazolidine-4-carboxylic acid. DH(K1)=-11.5 kJ mol<sup>-1</sup>, DS(K1)=65  
J K<sup>-1</sup> mol<sup>-1</sup>; DH(K2)=-20.3, DS(K2)=16; DH(NiAL)=-7.1, DS(NiAL)=71

Ni++ gl KNO3 25°C 0.10M U M K1=5.50 B2=10.16 19800Fa (25969) 983  
K3=3.29  
B(NiL(ATP))=8.10  
K(Ni(ATP)+L)=5.49  
K(NiL+ATP)=2.60

Ni++ cal NaCl04 25°C 1.0M C HM T K1=5.39 B2=9.92 1979EBb (25970) 984  
B3=13.06  
DG(K1)=-30.78 kJ mol<sup>-1</sup>, DH=-16.8, DS=46.8 J K<sup>-1</sup> mol<sup>-1</sup>; DG(B2)=-56.60,  
DH=-37.3, DS=64.6; DG(B3)=-74.53, DH=-56.6, DS=60.1. Also Ni(Gly)(Ala) etc.

Ni++ gl KNO3 30°C 0.10M M M K1=5.96 B2=10.66 1978MSi (25971) 985  
K(Ni(his)+L)=4.78  
B(Ni(his)L)=13.47  
K(Ni(his)+OH+L)=8.14

Ni++ gl oth/un 30°C ? U M 1977J0a (25972) 986  
K(Ni(His)+L)=4.65  
K(NiA+L)=4.59

H2A=iminodiethanoic acid

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-----
Ni++      gl  NaCl   25°C  1.0M C      K1=5.16  B2= 9.50  1976B0d (25973) 987
                                     B3=12.35
-----
Ni++      gl  NaCl04 30°C  0.20M U      K1=5.54  B2=10.07  1975JBb (25974) 988
-----
Ni++      gl  KCl    25°C  0.20M U  H    K1=5.32  B2= 9.74  1975SGc (25975) 989
By calorimetry: DH(K1)=-16.8 kJ mol-1, DS(K1)=45.2 J K-1 mol-1;
DH(B2)=-36.3, DS(B2)=62.8. Ligand is the DL-amino acid.
-----
Ni++      gl  KCl    25°C  0.20M U  H    K1=5.32  B2= 9.74  1974SGb (25976) 990
By calorimetry, DH(K1)=-16.9 kJ mol-1, DS(K1)=45.2 J K-1 mol-1;
DH(K2)=-36.3, DS(K2)=62.3.
-----
Ni++      gl  NaCl04 25°C  1.00M U      M      1973MSb (25977) 991
                                     B(NiL(Val))=10.24
                                     B(NiL(Val)2)=13.42
                                     B(NiL2(Val))=13.38
-----
Ni++      gl  KCl    25°C  0.05M U      M T K1=5.48  B2=10.01  1972GSc (25978) 992
                                     B(NiL(Thr))=10.37
                                     B(NiL(Phe))=10.11
                                     B(NiHL(Tyr))=10.10
                                     B(NiL(Gly))=10.72
B(NiLA)=10.24; B(NiLB)=10.26, B(NiL(Ser))=10.29. HA=a-aminobutanoic acid,
HB=norleucine
-----
Ni++      gl  none   25°C  0.00  U T      T K1=5.832  B2=10.48  1971GKa (25979) 993
K1(35 C)=5.744; K2(35 C)=4.549.
-----
Ni++      gl  KCl    25°C  0.05M U T H      T K1=5.463  B2=9.93   1971GKa (25980) 994
K1(35 C)=5.375, K2(35 C)=4.376
DH(K1)=-14.2 kJ mol-1, DH(K2)=-16.3, DS(K1)=59 J K-1 mol-1, DS(K2)=33
-----
Ni++      gl  oth/un 25°C  dil  U      K1=5.85  B2=10.34  1970CBb (25981) 995
-----
Ni++      gl  NaCl04 25°C  1.00M U      M R K1=5.39  B2=9.91   1970MMa (25982) 996
                                     B3=13.05
                                     B(NiL(Gly))=10.67
                                     B(NiL(Gly)2)=14.25
                                     B(NiL2(Gly))=14.10
-----
Ni++      gl  oth/un 40°C  0.0  U T H      T K1=5.69  B2=10.19  1967AGa (25983) 997
K1=5.93(10 C),5.81(25 C); K2=4.87(10 C),4.73(25 C). DH(K1)=-13.4 kJ mol-1,
DS=66.5 J K-1 mol-1; DH(K2)=-21.3, DS=19.6
-----
Ni++      cal oth/un 25°C  0.0  U T H      1967AGa (25984) 998
DH(K1)=-14.2 kJ mol-1(10 C),-13.79(25 C),-15.01(40 C);DS=63.1 J K-1 mol-1,
64.8,64.4(10,25,40 C).DH(K2)=-19.2,-16.3,-10.8(10,25,40 C),DS=22.7,36.4,47.7
-----

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Method: optical rotation

Ni++	g1	KCl	25°C	0.50M	U	M	T	K1=5.31	B2=9.73	1966LHC	(25987)1001
								B3=12.73			
								B(NiAL)=7.14			
								K(NiBL)=7.56			
								B(NiAL2)=11.6			

Ni++      gl   KCl   40°C 0.20M U T H T K1=5.38   B2=9.66   1965Smb (25989)1003  
K1=5.65(15 C), 5.53(25 C); K2=4.57(15 C), 4.45(25 C). DH(K1)=18.4 kJ mol<sup>-1</sup>,  
DS=41.8 J K<sup>-1</sup> mol<sup>-1</sup>, DH(K2)=-20.1, DS=16.7

Method: paper electrophoresis

Ni++      gl   oth/un   25°C   ->0   U      K1=5.96   B2=10.66   1951M0a (25993)1007  
 \*\*\*\*\*

IUPAC evaluation.  $\Delta H(B2) = -25.5 \text{ kJ mol}^{-1}(T)$

By electrophoresis

Ni++ gl NaNO3 30°C 0.20M C M K1=4.64 B2= 7.97 1981RSd (26397)1011  
 K(Ni(asp)+L)=3.68  
 B(Ni(asp)L)=10.84

H2asp is aspartic acid.

Ni++ gl NaNO3 30°C 0.20M C M K1=4.64 B2= 7.97 1981RSe (26398)1012  
 B(Ni(ida)L)=11.85  
 K(Ni(ida)+L)=3.67

Ni++ gl NaNO3 20°C 0.10M U K1=4.68 B2=7.95 1978LEb (26399)1013

Ni++ gl NaCl 25°C 1.00M C T K1=4.45 B2=7.75 1976B0b (26400)1014  
 B3=9.95

Ni++ gl KNO3 25°C 0.10M C M K1=4.50 B2=7.78 1976D0a (26401)1015  
 B3=9.7

B(NiL(bpy))=11.99; B(NiL2(bpy))=17.13; B(NiL(bpy)2)=13.48

Ni++ gl oth/un 25°C dil U K1=5.28 1970CBb (26402)1016

Ni++ oth oth/un 45°C 0.0 U T HM T K1=4.86 1967BBd (26403)1017  
 Method: H electrode. K1=5.22(0 C),5.08(15 C),4.99(25 C),4.92(35 C). DH(K1)=  
 -14.5 kJ mol<sup>-1</sup>. By calorimetry,25 C: DH(K1)=-15.9,DS=42.6. See Solochrome VR

Ni++ cal KNO3 22°C 0.10M U H 1967SSl (26404)1018  
 DH(B2)=-25.5 kJ mol<sup>-1</sup>, DS=66.5 J K<sup>-1</sup> mol<sup>-1</sup>

Ni++ gl KCl 25°C 0.50M U M T K1=4.46 B2=7.84 1966LHb (26405)1019  
 B3=9.55  
 B(NiAL)=8.34  
 B(NiAL2)=11.95  
 B(NiA2L2)=15.17

HA=pyruvic acid

Ni++ gl KCl 40°C 0.20M U T H T K1=4.65 B2=7.89 1965SMb (26406)1020  
 K1=4.80(15 C),4.71(25 C); K2=3.54(15 C),3.41(25 C)  
 DH(K1)=-16.7 kJ mol<sup>-1</sup>, DS=33.4 J K<sup>-1</sup> mol<sup>-1</sup>; DH(K2)=-20.9, DS=-4.2

Ni++ gl KCl 20°C 0.10M U T K1=4.63 B2=8.03 1954IRa (26407)1021  
 \*\*\*\*\*  
 C3H7NO2 HL DL-Alanine CAS 302-72-7 (189)  
 DL-2-Aminopropanoic acid; H2N.CH(CH3).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	nmr	KNO3	25°C	1.0M	U	H	K1=5.58 B2=10.05 B3=13.20	1992ZSa	(26522)1022

Also methods used: potentiometry, spectrophotometry

Ni++ gl KNO3 37°C 0.15M C M K1=5.18 B2= 9.46 1989KKd (26523)1023

Ni++      gl   NaNO3   30°C   0.20M C   M   K1=5.51   B2= 9.98   1981RSd (26524)1024  
K(Ni(asp)+L)=4.32  
B(Ni(asp)L)=11.48

Ni++      gl   KCl      25°C 0.20M C      M      1979KGa (26525)1025  
B(NiHLA)=23.68  
B(NiLA)=13.32

In 35%:K1=6.01, B2=11.06, B3=14.67; 50%:6.48, 11.98, 16.03; 65%:6.85, 12.71, 17.13

C3H7NO2 L Methylglycinate CAS 616-34-3 (1738)  
Glycine methyl ester; NH2.CH2.COOCH3

Where Tren= 2,2',2''-Triaminotriethylamine, Trien=triethylenetetramine

C3H7NO2                      HL            Sarcosine                      CAS 107-97-1    (87)  
N-Methyl-2-aminoethanoic acid; CH<sub>3</sub>.NH.CH<sub>2</sub>.COOH

Ni++      gl   NaClO4 21°C 0.10M M   I      K1=5.42   B2=9.87   1985Lwb (26583)1030  
Values in 50% methanol-water (v/v) are also given.

$$B(\text{NiL}(\text{bpy}))=11.90; B(\text{NiL}_2(\text{bpy}))=18.30; B(\text{NiL}(\text{bpy})_2)=16.56$$

Ni++      gl    KNO3    25°C 0.10M U      M      1972IVc (26585)1032

K(NiA+L)=4.63

H2A=methyliminodiethanoic acid

-----  
Ni++ gl KCl 25°C 0.50M U M K1=5.24 B2=9.54 1966LHb (26586)1033  
B3=12.4  
B(NiAL)=5.97  
B(NiAL2)=7.8  
B(NiA2L2)=8.7

HA=pyruvic acid

-----  
Ni++ gl oth/un 25°C 0.01M U K1=5.42 B2=9.90 1959DLb (26587)1034

-----  
Ni++ gl NaCl04 25°C 0.10M U K1=5.50 B2=9.88 1954BCb (26588)1035  
\*\*\*\*\*

C3H7NO2 HL (6927)  
N-Methylacetohydroxamic acid; CH3.CO.N(OH)CH3

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl KCl 25°C 0.20M C K1=4.73 B2= 8.27 2000FEc (26616)1036  
B(NiH-1L2)=-3.2

-----  
C3H7NO2 HL (7502)  
Propanohydroxamic acid; C2H5CONHOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl KCl 25°C 0.20M C K1=5.24 B2= 9.51 2000FEc (26628)1037  
B3=12.34  
B(NiH-1L2)=-0.76  
B(NiH-1L)=-3.78

-----  
C3H7NO2S H2L Cysteine CAS 52-90-4 (96)  
2-Amino-3-mercaptopropanoic acid; H2N.CH(CH2.SH)COOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl NaCl04 37°C 0.15M U M 2000NNb (26693)1038  
B(NiAL)=13.54  
B(NiHAL)=18.17  
B(NiH-1AL)=4.58  
K(NiHA+L)=9.28  
K(NiA+L)=9.96, K(NiL+A)=4.40, K(NiH-1A+L)=9.22. HA is ampicillin.

-----  
Ni++ gl NaCl04 37°C 0.15M U M 2000NNb (26694)1039  
B(NiAL)=13.12  
B(NiHAL)=18.84  
K(NiHA+L)=11.11  
K(NiA+L)=9.85

K(NiL+A)=3.98. HA 6-aminopenicillanic acid.

-----  
Ni++ gl NaClO4 37°C 0.15M U M 1999NAb (26695)1040

B(NiAL)=18.50  
B(NiHAL)=27.10  
B(NiH2AL)=33.99  
K(NiHA+L)=8.98

K(NiL+A)=9.36, K(NiA+L)=8.84. H2A is dopamine.  
-----

Ni++ gl NaClO4 37°C 0.15M U M 1999NAb (26696)1041

B(NiAL)=19.06  
B(NiHAL)=27.89  
B(NiH2AL)=35.08  
K(NiA+L)=8.76

K(NiL+A)=10.46. H2A is dopa: 2-amino-3-(3,4-dihydroxyphenyl)propanoic acid  
-----

Ni++ gl KCl 25°C 0.20M C TI R K1=8.7 B2=19.61 1995BEa (26697)1042

B(NiHL)=14.87  
B(NiHL2)=24.02  
B(Ni2L3)=30.3  
B(Ni3L4)=44.51

IUPAC evaluation. I=0.15 M, 37 C: K1=9.60, B2=19.22, B(Ni2L3)=31.49;  
I=0.1 M, 20 C: K1=9.0, B2=14.20, B(Ni2L3)=26.34, B(Ni3L4)=37.98  
-----

Ni++ gl NaClO4 37°C 0.15M C M 1995NAb (26698)1043

B(NiL(dapa))=18.68  
B(NiL(daba))=18.20  
B(NiHL(dapa))=23.71  
B(NiHL(daba))=25.13

B(NiHL(orn))=25.02, B(NiH2L(dapa))=29.41, B(NiH2L(daba))=30.51,  
B(NiH2L(orn))=31.48 daba: 2,3-diaminopropanoate daba: 2,4-diaminobutanoate  
-----

Ni++ gl NaClO4 37°C 0.15M U M 1995NAb (26699)1044

B(NiL2Zn)=25.15  
-----

Ni++ gl NaClO4 37°C 0.15M C M K1=9.14 B2=20.21 1993NAa (26700)1045

B(NiHL2)=25.86  
B(NiHAL)=19.84  
B(NiAL)=13.80  
B(NiA2L)=16.43

A=imidazole. Also complexes for A=histamine: B(NiAL)=16.94, B(NiHAL)=23.09,  
B(NiH2AL)=27.56; HA=histidine: B(NiAL)=18.36, B(NiHAL)=23.77, B(NiH2AL)=29.1  
-----

Ni++ gl KCl 25°C 0.50M M T H K1=9.75 1988MAa (26701)1046

Data for 25-40 C. DH(K1)=35.0 kJ mol<sup>-1</sup>, DS(K1)=-70.3 J K<sup>-1</sup> mol<sup>-1</sup>.  
-----

Ni++ gl NaCl 37°C 0.15M U T K1=9.603 B2=19.219 1985CFb (26702)1047

B(Ni2L3)=31.49  
-----

Ni++ gl KCl 25°C 0.20M U T K1=8.7 B2=19.61 1979SGa (26703)1048

B(NiHL)=14.87



B(NiHL2)=24.02

B(Ni2L3)=30.3

B(Ni3L4)=44.51

-----  
Ni++ gl oth/un 25°C 0.10M U K1=10.45 B2=19.95 1975IMa (26704)1049  
Medium not stated.

-----  
Ni++ gl KCl 25°C 0.10M U K1=9.82 B2=20.07 1972RJa (26705)1050  
DL cysteine: K2=10.55

-----  
Ni++ gl NaCl04 20°C 0.10M U T K1=9.0 B2=20.16 1968PSe (26706)1051  
B(NiHL)=15.43  
B(Ni2L3)=33.01  
B(Ni3L4)=45.72

-----  
Ni++ gl KNO3 25°C 0.10M U K1=9.64 B2=19.04 1964LMa (26707)1052

-----  
Ni++ gl oth/un 25°C 0.15M U K1=10.48 B2=19.79 1956WMb (26708)1053

-----  
Ni++ gl oth/un 20°C 0.01M U B2=19.3 1952ALa (26709)1054

\*\*\*\*\*

C3H7NO3 HL Serine CAS 56-45-1 (49)

2-Amino-3-hydroxypropanoic acid; H2N.CH(CH2.OH)COOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

-----  
Ni++ gl alc/w 25°C 40% C K1=11.25 B2=15.44 2003DKa (27010)1055  
B(NiHL)=6.22

Medium: 40% v/v EtOH/H2O, 0.10 M NaCl.

-----  
Ni++ gl KNO3 25°C 0.10M C M K1=5.62 1999AAa (27011)1056

K(NiL+A)=3.85

B(NiLA)=9.47

K(NiL+B)=3.41

B(NiLB)=9.03

K(NiHL+C)=3.15, K(NiL+D)=3.45, B(NiLD)=9.07.

HA=MOPSO, HB=MOPS, HC=DIPSO, HD=TAPSO.

-----  
Ni++ gl KNO3 25°C 0.10M M M K1=5.80 1996AEa (27012)1057

Data for ternary complexes with dipicolinic acid.

-----  
Ni++ gl KCl 25°C 0.20M C M 1993BCf (27013)1058

K(NiA+(S)-L)=18.52

K(NiA+(R)-L)=18.62

A: N,N'-bis[(2S)-pyrrolidine-2-yl]propane-1,3-diamine.

-----  
Ni++ gl NaCl04 25°C 0.20M U T M K1=5.69 B2=10.45 1993PPa (27014)1059

K(NiA+L)=5.20

A is 2,2'-bipyridylamine. Also data for 35 and 45 C.

Ni++ gl KNO3 25°C 0.10M U I K1=5.19 B2=8.40 1990RAB (27015)1060  
Data also for 10% w/w EtOH/H2O (K1=5.57; B2=9.07) and 25% (5.81; 10.07)

Ni++ gl KNO3 25°C 0.10M U M K1=5.90 1989MAc (27016)1061  
K(NiA+L)=4.94

H4A is adenosine-5'-triphosphoric acid.

Ni++ gl KNO3 25°C 0.10M C M K1=5.39 1989MAd (27017)1062  
K(NiA+L)=4.35  
B(NiAL)=12.37

H2A is N-(2-acetamido)imino diethanoic acid.

Ni++ gl KNO3 35°C 0.20M U M K1=5.42 B2=9.76 1989RVa (27018)1063  
K(NiA+L)=4.88

A=bis(imidazol-2-yl)methane

Ni++ gl NaCl 25°C 3.00M M K1=5.34 B2=9.94 1988BFa (27019)1064  
B3=13.02

Ni++ gl NaCl04 27°C 0.20M U M K1=5.69 B2=10.45 1988PPc (27020)1065  
K(NiA+L)=5.21

A is 2,2'-dipyridylamine.

Ni++ gl NaCl 25°C 3.00M C K1=5.34 B2=9.94 1985PBb (27021)1066  
B3=13.02

D-, L- and DL-serine studied.

Ni++ sp KCl 25°C 1.0M U K1=5.42 B2= 9.76 1983FAa (27022)1067

Ni++ gl NaNO3 30°C 0.20M C M K1=5.40 B2= 9.68 1981RSd (27023)1068  
K(Ni(asp)+L)=4.30  
B(Ni(asp)L)=11.46

H2asp is aspartic acid.

Ni++ gl NaNO3 30°C 0.20M C M K1=5.40 B2= 9.68 1981RSe (27024)1069  
B(Ni(ida)L)=12.58  
K(Ni(ida)+L)=4.40

Ni++ gl KNO3 25°C 0.10M C T K1=5.14 B2=9.74 1976PSa (27025)1070  
B3=12.73

Ni++ gl NaNO3 25°C 0.20M U K1=5.54 B2=10.04 1974FSa (27026)1071  
B(NiL2A)=11.83  
B(NiLA2)=9.76  
B(NiLA)=7.52

A=acetylhydrazide

Ni++ gl NaCl04 25°C 3.00M U T K1=5.63 B2=10.62 1973WIa (27027)1072  
B3=14.18

Ni++ gl KCl 25°C 0.05M U T K1=5.43 B2=9.96 1972GMb (27028)1073  
K1(20 C)=5.48, K2=4.59; K1(30 C)=5.40, K2=4.47; K1(35 C)=5.30, K2=4.41

Ni++ gl KCl 25°C 0.15M U M K1=5.43 B2=9.96 1972GSc (27029)1074  
B(NiL(Phe))=10.07  
B(NiL(Thr))=10.34  
K(Ni+L+HTyr)=10.13

Ni++ gl KCl 25°C 0.05M U M 1972GSc (27030)1075  
B(NiL(Gly))=10.63  
B(NiL(Ala))=10.29  
B(NiLA)=10.21  
B(NiLB)=10.27

B(NiLC)=10.21. A=a-aminobutanoic acid, B=norvaline, C=norleucine

Ni++ gl oth/un 25°C 0.16M U K1=5.45 B2=9.98 1970LBa (27031)1076  
K3=3.54

Ni++ gl KNO3 37°C 0.15M U M K1=5.211 B2=9.590 1968PSf (27032)1077  
B3=12.491

Ternary complexes with 4(2-aminoethyl)imidazole

Ni++ gl KNO3 40°C 0.20M U T H K1=5.28 B2=9.47 1968RMb (27033)1078  
K1=5.50(15 C), 5.42(25 C); K2=4.44(15 C), 4.34(25 C)  
DH(B2)=-32.6 kJ mol<sup>-1</sup>, DS=79 J K<sup>-1</sup> mol<sup>-1</sup>

Ni++ cal KNO3 22°C 0.10M U H 1967SSl (27034)1079  
DH(B2)=-33.4 kJ mol<sup>-1</sup>, DS=79.4 J K<sup>-1</sup> mol<sup>-1</sup>

Ni++ oth oth/un 25°C 0.0 U K1=6.0 B2=10.6 1964SYa (27035)1080

Ni++ gl oth/un 10°C ? U T K1=5.66 B2=10.37 1960PEd (27036)1081  
B3=13.68  
19.5 C: K1=5.56, B2=10.12, B3=13.20; 25 C: 5.48, 9.94, 12.97; 30 C: 5.43,  
9.82, 12.79; 40 C: 5.27, 9.57, 12.34

Ni++ gl oth/un 10°C ? U T H K1=5.66 B2=10.37 1957PEa (27037)1082  
B3=13.68  
DH(K1)=-21.8 kJ mol<sup>-1</sup>, DS=33; DH(K2)=-23.7, DS=6.7; DH(K3)=-26.2, DS=-30.  
20 C: K1=5.44, B2=9.82, B3=12.79; 30 C: K1=5.27, B2=9.57, B3=12.34

Ni++ gl oth/un 20°C ? U K1=5.44 B2=10.06 1956PCb (27038)1083  
B3=13.17

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C3H7NO3 HL CAS 2786-22-3 (1893)  
2-Aminooxypropanoic acid; CH<sub>3</sub>.CH(O.NH<sub>2</sub>).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.50M U K1=3.18 1985WTa (27208)1084

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C3H7NO3 HL iso-Serine CAS 632-12-2 (351)  
DL-3-Amino-2-hydroxypropanoic acid; H2N.CH2.CH(OH).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	cal	KCl	25°C	0.10M	U	H	K1=9.083 B2=13.91	1980BDb (27223)	1085

DH(K1)=-43.34 kJ mol<sup>-1</sup>, DH(B2)=-55.44.

Ni++	gl	KCl	25°C	0.10M	U		K1=9.083 B2=13.915	1976BMe (27224)	1086
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Ni++	gl	oth/un	25°C	0.16M	U		K1=4.19 B2=7.85	1970LBa (27225)	1087
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C3H7NO5S H2L Cysteic acid CAS 23537-25-9 (2603)  
2-Amino-3-sulfonatopropanoic acid; HO3S.CH2.CH(NH2).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaCl04	37°C	0.15M	U	M		2000NNb (27242)	1088

B(NiAL)=9.03  
B(NiHAL)=14.13  
K(NiHA+L)=6.76  
K(NiA+L)=5.76

K(NiL+A)=3.10. HA 6-aminopenicillanic acid.

Ni++	gl	NaCl04	37°C	0.15M	U	M		2000NNb (27243)	1089
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B(NiAL)=9.49  
B(NiHAL)=14.36  
B(NiH-1AL)=1.27  
K(NiHA+L)=5.47

K(NiA+L)=5.91, K(NiL+A)=3.56, K(NiH-1A+L)=5.91. HA is ampicillin.

Ni++	gl	NaCl04	37°C	0.15M	U	M		1999NAb (27244)	1090
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B(NiAL)=14.92  
B(NiHAL)=23.51  
B(NiHA+L)=5.39  
K(NiA+L)=5.26

K(NiL+A)=8.99. H2A is dopamine

Ni++	gl	NaCl04	37°C	0.15M	U	M		1999NAb (27245)	1091
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B(NiAL)=16.12  
B(NiHAL)=23.78  
B(NiH2AL)=31.76  
K(NiA+L)=5.28

K(NiL+A)=10.19. H2A is dopa: 2-amino-3-(3,4-dihydroxyphenyl)propanoic acid

Ni++	gl	NaCl04	37°C	0.15M	C	M		1995NAb (27246)	1092
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B(NiL(dapa))=14.05  
B(NiL(daba))=14.28  
B(NiL(orn))=12.39

B(NiHL(daba))=20.50, B(NiHL(orn))=20.66, B(NiH2L(daba))=24.74,  
 B(NiH2L(daba))=26.4 daba: 2,3-diaminopropanoate daba: 2,4-diaminobutanoate

Ni++ gl NaClO4 37°C 0.15M C M K1=5.93 B2=10.53 1993NAa (27247)1093  
 B(NiAL)=10.60  
 B(NiA2L)=13.56  
 A=imidazole. Also complexes for A=histamine: B(NiAL)=12.49, B(NiHAL)=18.15,  
 B(NiH2AL)=23.83; HA=histidine: B(NiAL)=14.11, B(NiHAL)=19.72, B(NiH2AL)=23.93

Ni++ gl KNO3 25°C 0.50M U K1=6.69 B2=12.08 1979DZb (27248)1094  
 \*\*\*\*\*  
 C3H7NS2 HL CAS 128-04-1 (2125)  
 Dimethyldithiocarbamic acid; (CH3)2N.CSSH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	EMF	non-aq	25°C	100%	U		B2=11.9	1987USa (27266)	1095

Medium: DMF, 0.1 M LiClO4

Ni++ ISE non-aq 25°C 100% U K1=4.05 B2=6.87 1974TBa (27267)1096  
 Medium: DMF, Ag electrode  
 \*\*\*\*\*  
 C3H7N5 L (6903)  
 5-(2-Aminoethyl)-1H-tetrazole; NH2.CH2.CH2.CHN4

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	20°C	0.10M	U		K1=5.95 B2=12.20	1978LEb (27288)	1097

\*\*\*\*\*  
 C3H7O5P H3L CAS 5926-41-4 (3549)  
 2-Phosphonopropanoic acid; CH3.CH(PO3H2).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	R4N.X	25°C	0.25M	U		K1=2.34	1957WBa (27296)	1098

Medium: 0.1-0.4 M (C3H7)4NI  
 \*\*\*\*\*  
 C3H7O6P H2L (6830)  
 3-Hydroxy-2-oxopropylphosphoric acid; CH2(OH).CO.CH2.OPO3H2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.10M	U		K1=1.85	1992LCb (27316)	1099

\*\*\*\*\*  
 C3H7O7P H3L CAS 28474-06-8 (3552)  
 D-2,3-Dihydroxypropanoic acid 2-phosphate (D-2-phosphoglyceric acid)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++ gl R4N.X 25°C 0.25M U K1=2.88 1957WBa (27326)1100  
Medium: 0.1-0.4 M (C3H7)4NI

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C3H8NO5P H3L 3-Phosphono-Ala CAS 20263-06-3 (1509)  
2-Amino-3-phosphonatopropanoic acid; (H2O3P)CH2.CH(NH2).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.20M	C			K1=7.38 B2=12.14 B(NiHL)=13.3	1989KFb (27342)	1101

Ni++	gl	KNO3	25°C	0.20M	C			K1=6.94 B2=12.03 K(Ni+HL)=2.80 K(NiL+HL)=2.90	1978MAb (27343)	1102
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C3H8NO5P H3L CAS 23052-80-4 (1508)  
3-Amino-3-phosphonatopropanoic acid; (H2O3P)(NH2)CH.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.20M	C			K1=7.23 B2=11.83 B(NiH2L)=17.99 B(NiHL)=13.20	1989KFb (27357)	1103

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C3H8NO5P H3L Glyphosate CAS 1071-83-6 (1617)  
N-(Phosphonomethyl)glycine; H2O3P.CH2.NH.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.10M	C	I R		K1=8.0 B2=12.30 B(NiHL)=13.3	2001PRa (27382)	1104

IUPAC Recommended value

Ni++	gl	KNO3	25°C	0.10M	C			K1=8.08 B2=12.48 B(NiHL)=13.34 B(NiH-1L)=-2.83 B(NiH-1L2)=0.98 B(Ni2L)=9.48	1998PGa (27383)	1105
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Ni++	gl	NaCl	25°C	0.10M	U			K1=7.90 B2=12.27 B(NiHL)=13.22	1993DLa (27384)	1106
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Ni++	gl	KNO3	25°C	0.1M	C			K1=8.10 B2=12.25 B(NiHL)=13.36	1985MMa (27385)	1107
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C3H8NO6P H3L Phosphoserine CAS 17885-08-4 (1865)  
Serine dihydrogenphosphate, O-Phosphoserine; NH2.CH(CH2.OPO3H2).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ni++ gl KNO3 15°C 0.15M C K1=6.48 B2=11.22 1983MBa (27436)1108  
K(Ni+HL)=2.31  
Data for LL. For DL: K1=6.50, K2=4.68, K(Ni+HL)=2.31

Ni++ gl KNO3 25°C 0.20M C M K1=6.32 B2=10.17 1979MBa (27437)1109  
K(Ni+HL)=2.45  
K(NiL+HL)=2.32  
B(NiH(histamine)L)=18.94  
K(Ni(histamine)+L)=5.55  
K(Ni(phen)+HL)=1.99, K(Ni(phen)+L)=5.87, K(Ni(bpy)+HL)=2.25, K(Ni(bpy)+L)=5.93

Ni++ gl KNO3 25°C 0.20M C K1=6.29 B2=10.87 1978MAb (27438)1110  
K(Ni+HL)=2.35  
K(NiL+HL)=1.98

Ni++ gl KNO3 25°C 0.20M C K1=6.29 B2=10.87 1978MAc (27439)1111  
K3=2.84  
K(Ni+HL)=2.35  
K(NiHL+L)=1.98  
K(NiL+H)=5.78

Ni++ gl R4N.X 20°C 0.10M U K1=6.7 1965HFa (27440)1112  
K(Ni+HL)=2.6

Medium: (C3H7)NI

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C3H8N2O L Alaninamide CAS 2726-84-5 (5392)  
Alaninamide, 2-Aminopropanoic acid amide; NH2.CH(CH3).CO.NH2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
Ni++ gl KCl 25°C 0.10M C K1=3.18 B2= 5.80 1997DFb (27482)1113  
B3=7.64  
B(NiH-2L2)=-11.64

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C3H8N2O L Sarcosine amide CAS 6250-76-6 (2982)  
Sarcosine amide; CH3.NH.CH2.CO.NH2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
Ni++ gl oth/un 25°C 0.01M U K1=3.36 B2=6.08 1959DLb (27488)1114  
C3H8N2O2 HL CAS 71292-18-7 (356)  
2,3-Diaminopropanoic acid; H2N.CH2.CH(NH2).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
Ni++ gl NaClO4 37°C 0.15M U M 2002NNa (27531)1115  
B(NiH2LA)=21.92  
B(NiHLA)=17.35  
B(NiAL)=12.05

$K(\text{NiHL}+\text{A})=3.64$   
HA is 6-aminopenicillanic acid.  $K(\text{NiA}+\text{L})=8.78$ ,  $K(\text{NiL}+\text{A})=3.58$ .

-----  
Ni++            gl   NaCl04 37°C 0.15M U        M                            2000NNa (27532)1116

$B(\text{NiAH2L})=22.51$   
 $B(\text{NiAHL})=17.86$   
 $B(\text{NiAL})=11.99$   
 $B(\text{NiAH-1L})=3.58$

HA is ampicillin.  $K(\text{NiHL}+\text{A})=4.15$ ,  $K(\text{NiA}+\text{L})=8.41$ ,  $K(\text{NiL}+\text{A})=3.52$ ,  
 $K(\text{NiH-1A}+\text{L})=8.22$ .

-----  
Ni++            gl   NaCl04 37°C 0.15M U        M                            1998NAa (27533)1117

$B(\text{NiHAL})=17.16$   
 $B(\text{NiAL})=11.38$   
 $B(\text{NiA2L})=14.24$   
 $K(\text{NiHL}+\text{A})=3.45$

A is imidazole.  $K(\text{NiA}+\text{L})=7.81$ ,  $K(\text{NiL}+\text{A})=2.91$ ,  $K(\text{NiAL}+\text{A})=2.86$ ,  $K(\text{NiA2}+\text{L})=$   
 $8.54$ .  $B(\text{NiC2L})=13.22$ ,  $B(\text{NiHCL})=16.72$ ,  $B(\text{NiCL})=11.22$ . C is benzimidazole.

-----  
Ni++            gl   NaCl04 37°C 0.15M U        M                            1998NAb (27534)1118

$B(\text{NiH2LA})=26.49$   
 $B(\text{NiHLA})=20.95$   
 $B(\text{NiLA})=15.08$   
 $K(\text{NiA}+\text{L})=8.72$

$K(\text{NiL}+\text{A})=6.61$ . A is histamine. HL is DL-2,3-diaminopropanoic acid.

-----  
Ni++            gl   NaCl04 37°C 0.15M U        M                            1998NAb (27535)1119

$B(\text{NiH2L}(\text{his}))=27.52$   
 $B(\text{NiHL}(\text{his}))=22.10$   
 $B(\text{NiL}(\text{his}))=16.87$   
 $K(\text{Ni}(\text{his})+\text{L})=8.13$

$K(\text{NiL}+\text{his})=8.50$ . HL is DL-2,3-diaminopropanoic acid.

-----  
Ni++            gl   NaCl04 37°C 0.15M C        M        K1=8.47    B2=15.77    1995NAb (27536)1120

$B(\text{NiHL})=13.71$   
 $B(\text{NiHL2})=21.61$

Data for ternary complexes with cysteine, cysteic acid and penicillamine.

-----  
Ni++            gl   KCl        25°C 0.20M C                            K1=8.13    B2=15.17    1981FGb (27537)1121

$B3=18.35$   
 $B(\text{NiHL})=13.43$   
 $B(\text{NiH2L2})=26.36$   
 $B(\text{NiHL2})=21.04$

$B(\text{NiHL3})=26.46$

-----  
Ni++            gl   NaCl        37°C 0.15M C        M        K1=8.148    B2=14.966    1981JMa (27538)1122

$B(\text{NiL}(\text{His}))=15.198$   
 $B(\text{NiHL})=13.224$   
 $B(\text{NiHL}(\text{His}))=20.855$   
 $B(\text{NiHL2})=20.49$





Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.50M	C		K1=6.57 B(NiH-1L2)=5.36 B2=13.48	1989LEd (27615)	1132
Ni++	gl	NaCl	25°C	0.15M	U		K1=7.20 B2=20.30	1983BRc (27616)	1133
*****									
C3H8N2S2		HL					CAS 14353-59-4	(6147)	
N,N-Dimethylhydrazine-dithiocarboxylic acid; (CH3)2N.NH.CSSH									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	oth/un	25°C	0.01M	U		K1=6.32 B2=12.64	1985IGb (27637)	1134
*****									
C3H8N4O		L					CAS 44648-02-4	(2983)	
Guanylmethylurea; H2N.C(:NH).CH2.NH.CO.NH2									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	30°C	0.10M	U		B2=10.26	1960DUa (27640)	1135
*****									
C3H8O		L		n-Propanol			CAS 71-23-8	(1914)	
1-Propanol; CH3.CH2.CH2.OH									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	non-aq	20°C	100%	U	T HM		1988LJa (27642)	1136
							K(NiAB+2L)=-0.65 K(NiAC+2L)=-0.31 K(NiAD+2L)=-0.056		
Medium: 1,2-dichlorethane; Square planar = octahedral equilibria									
A:tetramethylendiamine B:acetylacetone C:benzoylacetone D:dibenzoylmethanat									
*****									
C3H8OS2		H2L		BAL			CAS 59-52-9	(379)	
2,3-Dimercaptopropan-1-ol; HS.CH2.CH(SH).CH2(OH)									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	KCl	30°C	0.10M	U		B2=22.78 B(Ni2L3(OH))=45.6	1959LEa (27655)	1137
*****									
C3H8O2S		HL		1-Thioglycerol			CAS 96-27-5	(1848)	
3-Mercapto-1,2-propanediol HS.CH2.CH(OH).CH2.OH									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaCl04	20°C	0.10M	U	TI	K1=8.73	1986NDb (27701)	1138
Ni++	gl	KNO3	25°C	0.50M	U			1974BP a (27702)	1139

K=13.232

Ni++      gl    KNO3    25°C 0.50M U      1972BPb (27703)1140  
K(Ni(NiL2)+Ni+2L)=13.25

C3H8O3S3	H3L	Unithiol	CAS 74-61-3	(1271)
2,3-Dimercaptopropanesulfonic acid; HS.CH2.CH(SH).CH2.SO3H				

Ni++	sp	oth/un	?	0.20M U	B2=9.57	19720Fa (27771)1141
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C3H9N                    L    n-Propylamine    CAS 107-10-8   (2356)  
1-Aminopropane; H2N.CH2.CH2.CH3

Ni++      ISE R4N.X    25°C 2.00M U      K1=2.81    B2=5.02    1969PMc (27817)1142  
K3=1.77  
K4=1.52

C3H9N L iso-Propylamine CAS 75-31-0 (157)  
2-Propylamine; CH<sub>3</sub>.CH(CH<sub>3</sub>).NH<sub>2</sub>

Ni++      ISE R4N.X    25°C 2.00M U                  K1=2.71     B2=4.86     1970PMa (27838)1143  
K3=1.71  
K4=1.26  
K5=0.60

C3H9NO L CAS 2799-16-8 (905)  
1-Aminopropan-2-ol; H2N.CH2.CH(OH).CH3

Ni++      EMF KNO3    25°C    1.0M U      K1=3.20    B2=5.63    1981AAa (27871)1144  
B3=6.49

\*\*\*\*\*

C3H9NO	L	CAS 109-83-1	(899)
2-(Methylamino)ethanol; HO.CH2.CH2.NH.CH3			

Ni++ gl KNO3 25°C 0.0 M I K1=2.83 B2=4.80 1987AAb (27883)1145

B3=5.85

Data for I=0.2, 0.3, 0.5, 0.7 and 1.0 M KNO<sub>3</sub>.

Ni++ vlt KNO<sub>3</sub> 25°C 1.00M U K1=2.87 B2=4.66 1980AAa (27884)1146  
\*\*\*\*\*

C<sub>3</sub>H<sub>9</sub>NO L i-Propanolamine CAS 14008-30-1 (945)  
2-Aminopropan-2-ol; CH<sub>3</sub>.C(NH<sub>2</sub>)(OH).CH<sub>3</sub>

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO<sub>3</sub> 30°C 1.00M U K1=3.46 B2=6.48 1982RMa (27891)1147  
K3=2.08

\*\*\*\*\*

C<sub>3</sub>H<sub>9</sub>NO L CAS 156-87-6 (906)  
3-Aminopropan-1-ol; HO.CH<sub>2</sub>.CH<sub>2</sub>.CH<sub>2</sub>.NH<sub>2</sub>

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ EMF KNO<sub>3</sub> 25°C 1.0M U K1=2.82 B2=4.59 1981AAa (27913)1148  
\*\*\*\*\*

C<sub>3</sub>H<sub>9</sub>NS L CAS 18542-42-2 (1215)  
1-Amino-3-thiabutane; H<sub>2</sub>N.CH<sub>2</sub>.CH<sub>2</sub>.S.CH<sub>3</sub>

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO<sub>3</sub> 25°C 0.50M C H K1=3.299 B2=6.10 1977HGa (27938)1149  
K3=1.63

DH(K<sub>1</sub>)=-23.3 kJ mol<sup>-1</sup>, DS(K<sub>1</sub>)=-15.0 J K<sup>-1</sup> mol<sup>-1</sup>  
DH(K<sub>2</sub>)=-25.3 kJ mol<sup>-1</sup> DS(K<sub>2</sub>)=-31.0 J K<sup>-1</sup> mol<sup>-1</sup>

Ni++ gl KNO<sub>3</sub> 30°C 1.0M U T H K1=3.23 B2=6.02 1954GFa (27939)1150  
K3=1.73

DH(K<sub>1</sub>)=-21 kJ mol<sup>-1</sup>, DS=-13; DH(K<sub>2</sub>)=-25, DS=-33; DH(K<sub>3</sub>)=-17, DS=-29.  
0 C: K<sub>1</sub>=3.64, K<sub>2</sub>=3.26, K<sub>3</sub>=2.00; 50 C: K<sub>1</sub>=2.98, K<sub>2</sub>=2.50, K<sub>3</sub>=1.48

\*\*\*\*\*

C<sub>3</sub>H<sub>9</sub>N<sub>2</sub>O<sub>4</sub>P H<sub>2</sub>L CAS 30211-73-5 (7117)  
Glycylaminomethylphosphonic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO<sub>3</sub> 25°C 0.10M C K1=4.541 B2=7.95 1995HLA (27963)1151  
B(NiHL)=10.33  
B(NiH-1L)=-3.94  
B(NiH-1L2)=-0.99

Ni++ gl KNO<sub>3</sub> 25°C 0.10M U K1=4.75 1975HMc (27964)1152  
K(NiL+H)=5.79

\*\*\*\*\*

C<sub>3</sub>H<sub>9</sub>N<sub>3</sub>O L CAS 19728-65-5 (2703)  
2-(Methylamino)acetamidoxime; CH<sub>3</sub>.NH.CH<sub>2</sub>.C(:NOH)NH<sub>2</sub>

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	1.00M	C		K1=5.253 B2=9.505 B3=11.88 B(NiH-1L2)=2.406	1983SOa (27973)	1153
*****									
C3H9N3O		HL					(6985)		
3-Aminopropanamidoxime; H2N.CH2.CH2.C(:NOH)NH2									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaCl	25°C	0.10M	C			19960Sa (27977)	1154
							B(0,1,1)=4.89 B(0,1,2)=8.35 B(-1,1,2)=-0.51 B(-8,5,4)=-36.32 B(-9,5,4)=-45.9. B(p,q,r): pH+qNi+r(HL)=(H)p(Ni)q(HL)r.		
*****									
C3H9N3O2		HL					CAS 471915-95-4	(8549)	
2,3-Diamino-N-hydroxypropanamide;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.20M	C		B2=16.22 B(NiHL)=15.92 B(NiH2L2)=30.16 B(NiHL2)=23.83 B(NiH-1L2)=6.10	2002ECa (27980)	1155
*****									
C3H9N5		L					CAS 80247-85-7	(2974)	
Methylbiguanide; CH3.NH.C(:NH).NH.C(:NH).NH2									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	oth/un	32°C	0.05M	U		B2=11.78	1956SRb (27990)	1156
*****									
C3H9OPS2		HL					CAS 999-83-7	(4241)	
Methyl(ethyl)dithiophosphonic acid; (CH3S)(C2H5S)PO.H									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	ISE	alc/w	25°C	90%	U		K1=2.47 B2=4.47	1972TCa (27991)	1157
Medium: 90% EtOH, 0.3 M NaClO4									
*****									
C3H9O4P		H2L					(6694)		
(Phosphonylmethoxy)ethane; H2O3P.CH2.O.CH2.CH3									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo

Ni++ gl NaNO3 25°C 0.10M M K1=2.33 1992SCa (28014)1158  
 \*\*\*\*\*  
 C3H9O6P H2L CAS 57-03-4 (2984)  
 2,3-Dihydroxypropylphosphoric acid, Glycerol 1-phosphate; HO.CH2.CH(OH).CH2.OPO3H2

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++ gl NaNO3 25°C 0.10M U K1=1.90 1992LCb (28038)1159  
 \*\*\*\*\*  
 C3H9P L CAS 594-09-2 (1732)  
 Trimethyl phosphine; (CH3)3P

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++ sp non-aq 25°C 100% U 1974TSa (28054)1160  
 K4<9

Medium: benzene

\*\*\*\*\*  
 C3H10NO3P H2L (1986)  
 1,1-Dimethyl-1-aminomethylphosphonic acid; H2N.C(CH3)2.PO3H2

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++ gl KCl 25°C 0.10M U K1=5.65 B2=10.98 1969DMd (28069)1161  
 K(Ni+HL)=3.02

\*\*\*\*\*  
 C3H10NO3P H2L CAS 35869-68-2 (1989)  
 Dimethylaminomethylphosphonic acid; (CH3)2N.CH2.PO3H2

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++ gl KNO3 25°C 0.10M C K1=5.07 1993SKc (28094)1162  
 K(NiL+H)=8.01

\*\*\*\*\*  
 C3H10N2 L CAS 78-90-0 (2905)  
 1,2-Diaminopropane; CH3.CH(NH2)CH2.NH2

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++ gl NaClO4 37°C 0.15M U M 2002NNa (28137)1163  
 B(NiAL)=10.57  
 K(NiA+L)=7.30  
 K(NiL+A)=3.62

HA is 6-aminopenicillanic acid.

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++ gl NaClO4 37°C 0.15M U M 2000NNa (28138)1164  
 B(NiAHL)=16.48  
 B(NiAL)=10.98  
 K(NiHL+A)=4.19  
 K(NiA+L)=7.40

HA is ampicillin.  $K(\text{NiL}+\text{A})=4.03$ .

-----  
Ni++            gl   NaCl04 37°C 0.15M U       M                            1998NAa (28139)1165

B(NiHAL)=15.60

B(NiAL)=10.22

B(NiA2L)=12.65

K(NiHL+A)=3.31

A is imidazole.  $K(\text{NiA}+\text{L})=6.65$ ,  $K(\text{NiL}+\text{A})=3.27$ ,  $K(\text{NiAL}+\text{A})=2.43$ ,  $K(\text{NiA2}+\text{L})=6.95$ .  $B(\text{NiC2L})=11.73$ ,  $B(\text{NiCL})=9.97$ ,  $B(\text{NiHCL})=15.11$ . C is benzimidazole.

-----  
Ni++            gl   NaCl04 37°C 0.15M U       M                            1998NAb (28140)1166

B(NiH2LA)=24.31

B(NiHLA)=19.08

B(NiLA)=13.15

K(NiA+L)=6.79

$K(\text{NiL}+\text{A})=6.20$ . A is histamine.

-----  
Ni++            gl   NaCl04 37°C 0.15M U       M                            1998NAb (28141)1167

B(NiH2L(his))=26.02

B(NiHL(his))=20.83

B(NiL(his))=15.74

K(Ni(his)+L)=6.90

$K(\text{NiL}+\text{his})=8.79$ .

-----  
Ni++            gl   KNO3    25°C 0.10M M       M                            1980MMf (28142)1168

B(NiA+L)=7.48

B(NiB+L)=6.45

B(NiC+L)=7.72

B(NiAL(gly))=17.50

H2A is oxalic acid; H2B is malonic acid; H2C is phthalic acid.

$B(\text{NiBL}(\text{gly}))=14.71$ ;  $B(\text{NiCL}(\text{gly}))=16.30$ .

-----  
Ni++            gl   NaCl04 30°C 0.15M U       M       K1=8.16            1974PBb (28143)1169

B(NiL(bpy))=7.48

B(NiL(phen))=7.57

-----  
Ni++            gl   NaCl04 25°C 0.10M U       I       K1=7.295    B2=13.59    1972CHa (28144)1170

K3=4.88

I=0.35 M, K1=7.33, K2=6.38, K3=4.74

-----  
Ni++            EMF none    25°C 0.00 U       M                            1972KKe (28145)1171

B(NiL(en))=13.7

B(NiL2(en))=18.2

B(NiL(en)2)=18.3

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Ni++            gl   oth/un 25°C 0.10M U                            K1=7.34    B2=13.43    1970ABc (28146)1172

DL, D and L isomers

-----  
Ni++            gl   NaCl04 25°C var U       I M                            1962NMb (28147)1173

$K1=7.29+1.32I-1.72I^{(3/2)}+0.69I^{(2)}$ ,  $B2=13.43+1.99I-2.18I^{(3/2)}+0.84I^{(2)}$

Ni++      g1   KN03   25°C 0.50M U T      K1=7.43   B2=13.62   1954BCa (28148)1174  
K3=4.27

Ni++      gl   KCl   25°C   1.0M U      K1=8.04   B2=14.41   1950EDa (28149)1175  
K3=4.24

Ni++      g1   KCl   30°C 0.50M U      K1=7.41   B2=13.71   1945Cma (28150)1176  
K3=4.29

C3H10N2	L	Propanediamine	CAS 109-76-2	(123)
1,3-Diaminopropane; H2N.CH2.CH2.CH2.NH2				

Ni++      gl   NaClO4 37°C 0.15M U      M      2002NNa (28244)1177

HA is 6-aminopenicillanic acid.  $K(\text{NiA}+\text{L})=6.55$ ,  $K(\text{NiL}+\text{A})=3.86$ .

Ni++      gl    NaClO4 37°C 0.15M U      M      2000NNa (28245)1178

HA is ampicillin.  $K(\text{NiA}+\text{L})=7.15$ ,  $K(\text{NiL}+\text{A})=4.77$ .

Ni++      gl   NaClO4 37°C 0.15M U      K1=5.96   B2=11.28   1999NAa (28246)1179  
B(NiHL)=13.45

Ni++ gl NaClO4 37°C 0.15M U M 1998NAa (28247)1180

A is imidazole.  $K(\text{NiA}+\text{L})=6.38$ ,  $K(\text{NiL}+\text{A})=3.99$ ,  $K(\text{NiAL}+\text{A})=2.08$ ,  $K(\text{NiA}_2+\text{L})=6.33$ .  $B(\text{NiC}_2\text{L})=10.72$ ,  $B(\text{NiHCL})=16.36$ ,  $K(\text{NiHL}+\text{C})=2.91$ . C is benzimidazole.

Ni++ gl NaClO4 37°C 0.15M U M 1998NAb (28248)1181

B(NiH<sub>2</sub>LA)=25.36  
B(NiHLA)=19.48  
B(NiLA)=12.11  
K(NiA+L)=5.75

$K(\text{NiL}+\text{A})=6.15$ . A is histamine.

Ni++ gl NaClO4 37°C 0.15M U M 1998NAb (28249)1182



$B(\text{NiH}_2\text{L}(\text{his}))=26.77$   
 $B(\text{NiHL}(\text{his}))=21.73$   
 $B(\text{NiL}(\text{his}))=14.66$   
 $K(\text{Ni}(\text{his})+\text{L})=5.82$

$K(\text{NiL}+\text{his})=8.70$ .

---

$\text{Ni}^{++}$       gl     $\text{KNO}_3$      $25^\circ\text{C}$     $0.10\text{M}$    U      M       $K_1=7.80$                       1982KJa (28250)1183  
 $K(\text{Ni}_2(\text{CDTA})+2\text{L})=10.02$

---

$\text{Ni}^{++}$       gl     $\text{KCl}$        $25^\circ\text{C}$     $0.20\text{M}$    C      HM       $K_1=6.31$      $B_2=10.62$     1979SGb (28251)1184  
 $B_3=13.40$

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$\text{Ni}^{++}$       gl     $\text{KNO}_3$      $25^\circ\text{C}$     $0.10\text{M}$    C      M       $K_1=6.30$      $B_2=10.62$     1978DAa (28252)1185  
 $B_3=13.30$   
 $B(\text{NiL}(\text{citrate}))=11.34$

---

$\text{Ni}^{++}$       gl     $\text{KCl}$        $25^\circ\text{C}$     $0.20\text{M}$    C      H       $K_1=6.31$      $B_2=10.62$     1976GSd (28253)1186  
 $B_3=13.40$

By calorimetry:  $\text{DH}(K_1)=-36.0 \text{ kJ mol}^{-1}$ ,  $\text{DH}(B_2)=-67.4$

---

$\text{Ni}^{++}$       gl    oth/un    $30^\circ\text{C}$     $0.10\text{M}$    U      M       $K_1=6.44$      $B_2=10.72$     1975PBb (28254)1187  
 $K(\text{Ni}(\text{NTA})+\text{L})=5.21$   
 $K(\text{Ni}(\text{His})+\text{L})=5.25$   
 $K(\text{Ni}(\text{IDA})+\text{L})=5.21$

---

$\text{Ni}^{++}$       gl    oth/un    $25^\circ\text{C}$                       U                       $K_1=6.18$      $B_2=10.46$     1972NBa (28255)1188

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$\text{Ni}^{++}$       sp     $\text{KCl}$        $22^\circ\text{C}$     $0.10\text{M}$    U                       $K_1=6.3$      $B_2=10.60$     1970MAi (28256)1189  
 $K(\text{NiL}+\text{H}_2\text{L}=\text{NiHL}_2+\text{H})=-6.98$

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$\text{Ni}^{++}$       gl     $\text{NaClO}_4$     $25^\circ\text{C}$     $0.30\text{M}$    C      H       $K_1=6.92$      $B_2=12.27$     1967Hwa (28257)1190  
 $K_3=3.01$

By calorimetry  $\text{DH}(K_1)=-30.3 \text{ kJ mol}^{-1}$ ,  $\text{DH}(K_2)=-30.7$ ,  $\text{DH}(K_3)=-29.8$

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$\text{Ni}^{++}$       gl     $\text{NaClO}_4$     $25^\circ\text{C}$    var    U    1965NKd (28258)1191  
 $K_1=6.28+0.272\text{I}$   
 $K_2=4.20+0.321\text{I}$

---

$\text{Ni}^{++}$       gl    oth/un    $10^\circ\text{C}$     $\rightarrow 0$    U T H       $K_1=6.67$      $B_2=11.38$     1958BFa (28259)1192  
 $\text{DH}(K_1)=-42.7 \text{ kJ mol}^{-1}$ ,  $\text{DS}=-25$ ;  $\text{DH}(K_2)=-34$ ,  $\text{DS}=-29$ .  $20^\circ\text{C}$ :  $K_1=6.40$ ,  $K_2=4.44$ ;  
 $30^\circ\text{C}$ :  $K_1=6.18$ ,  $K_2=4.28$ ;  $40^\circ\text{C}$ :  $K_1=5.94$ ,  $K_2=4.09$

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$\text{Ni}^{++}$       gl     $\text{KNO}_3$        $0^\circ\text{C}$      $1.0\text{M}$    U                       $K_1=7.00$      $B_2=11.92$     1956HFb (28260)1193

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$\text{Ni}^{++}$                       oth oth/un    $25^\circ\text{C}$      $1.0\text{M}$    U      H    1956RAa (28261)1194  
 $\text{DS}(\text{Ni}(\text{NH}_3)_6+2\text{L}=\text{NiL}_2+6\text{H}_2\text{N}_3)=59 \text{ J K}^{-1} \text{ mol}^{-1}$

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$\text{Ni}^{++}$       gl    oth/un    $25^\circ\text{C}$     $0.15\text{M}$    U      H    1955CHa (28262)1195  
 At  $25^\circ\text{C}$ :  $\text{DH}(K_1)=-36.8 \text{ kJ mol}^{-1}$ ,  $\text{DS}=0 \text{ J K}^{-1} \text{ mol}^{-1}$ ;  $\text{DH}(K_2)=-34.3$ ,  $\text{DS}=-29.3$ ;  
 $\text{DH}(K_3)=-25.1$ ,  $\text{DS}=-54$     $0-49^\circ\text{C}$

-----  
Ni++ gl oth/un 0°C 0.15M U T K1=6.98 B2=11.91 1955CHb (28263)1196  
B3=13.8

49.1 C: K1=5.91, K2=3.93, B3=11.0

-----  
Ni++ cal KNO3 25°C 1.0M U H K1=6.39 B2=10.78 1955PBa (28264)1197  
B3=12.01

DH(K1)=-32.5 kJ mol<sup>-1</sup>, DS=12.5 J K<sup>-1</sup> mol<sup>-1</sup>; DH(B2)=-62.7, DS=-4.59

DH(B3)=-89.0, DS=-69.4

-----  
Ni++ gl KNO3 0°C 1.0M U T K1=7.00 B2=11.92 1952HAa (28265)1198  
30 C: K1=5.32, K2=3.27

\*\*\*\*\*

C3H10N2 L CAS 109-81-9 (1308)

N-Methyl-1,2-diaminoethane; CH3.NH.CH2.CH2.NH2

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

-----  
Ni++ gl KNO3 25°C 1.00M C H K1=7.31 B2=13.12 1982ABc (28346)1199  
K3=2.27

By calorimetry: DH1=-29.1 kJ mol<sup>-1</sup>, DS1=42.7; DH(B2)=-63.4, DS(B2)=38.5

-----  
Ni++ gl none 25°C 0.00 U K1=7.12 B2=12.66 1970NKa (28347)1200

-----  
Ni++ gl oth/un 10°C ->0 U T H K1=7.40 B2=13.15 1959MBa (28348)1201  
K3=2.78

DH(K1)=-39 kJ mol<sup>-1</sup>, DS=4; DH(K2)=-33, DS=-4; DH(K3)=-17, DS=-8

20C: K1=7.17, K2=5.56, K3=2.72; 30 C: 6.97, 5.40, 2.68; 40 C: 6.70, 5.16, 2.45

-----  
Ni++ gl KNO3 0°C 0.50M U T K1=7.95 B2=14.10 1952BMa (28349)1202  
B3=16.51

25 C: K1=5.74, B2=13.10, B3=15.11

-----  
Ni++ gl KNO3 0°C 0.50M U H 1952BMb (28350)1203

At 0 C: 0-25 C: DH(K1)=-36.8 kJ mol<sup>-1</sup>, DS=16.7J K<sup>-1</sup> mol<sup>-1</sup>, DH(K2)=-25.5,

DS=24.7, DH(K3)=-25.1, DS=-46

-----  
Ni++ gl oth/un 0°C ->0 U K1=7.58 B2=13.71 1952Mca (28351)1204

-----  
Ni++ gl KCl 25°C 1.0M U K1=7.79 B2=13.77 1950EDa (28352)1205  
K3=2.34

\*\*\*\*\*

C3H10N2O L CAS 616-29-5 (1910)

1,3-Diaminopropane-2-ol; H2N.CH2.CH(OH).CH2.NH2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

-----  
Ni++ gl NaCl 30°C 0.16M U K1=5.47 B2=9.61 1965MBa (28377)1206

-----  
Ni++ gl oth/un 20°C 0.0 U T H K1=5.56 B2=9.88 1958BBc (28378)1207

DH(K1)=-24 kJ mol<sup>-1</sup>, DS=25; DH(K2)=-21, DS=13. 10 C: K1=5.68, K2=4.41;  
 30 C: K1=5.42, K2=4.16; 40 C: K1=5.25, K2=4.05

Ni++ gl KNO3 30°C 1.0M U T K1=5.64 B2=10.02 1955GFa (28379)1208  
 0 C: K1=6.19, K2=4.88; 50 C: K1=5.37, K2=4.01

\*\*\*\*\*

C3H11NO6P2 H4L (6735)  
 N-Methylimino-N,N-bis(methylenephosphonic acid); CH3.N(CH2PO3H2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	KCl	25°C	0.10M	C	I	R K1=9.6 K(Ni+HL)=3.8 K(NiL+H)=6.25 K(NiHL+H)=4.4 K(NiHL+HL)=3.0	2001PRa (28427)	1209
------	----	-----	------	-------	---	---	--	-----------------	------

IUPAC Recommended values

Ni++	gl	KCl	25°C	0.20M	C		K1=9.00 B(NiHL)=15.01 B(NiH2L)=19.13 B(NiH-1L)=-2.09	2000KKa (28428)	1210
------	----	-----	------	-------	---	--	---	-----------------	------

Ni++	gl	KNO3	25°C	0.10M	C		K1=9.59 K(NiL+H)=6.26 K(NiHL+H)=4.58 *K(NiL)=-12.1	1993SKc (28429)	1211
------	----	------	------	-------	---	--	---	-----------------	------

Ni++	gl	NaClO4	25°C	0.10M	U		K1=9.40 B2=13.23 B(NiHL)=15.63 B(NiH2L2)=30.58	1988LDa (28430)	1212
------	----	--------	------	-------	---	--	--	-----------------	------

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C3H11N2O3P H2L CAS 23575-68-0 (4244)  
 Ethylenediamine-N-methylenephosphonic acid; H2N.CH2.CH2.NH.CH2.PO3H2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	oth/un	25°C	0.10M	U		K1=9.6 B2=16.25 K(Ni+HL)=4.3	1972AUa (28462)	1213
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C3H11N3 L CAS 21292-99-6 (2975)  
 Propane-1,2,3-triamine; H2N.CH2.CH(NH2).CH2.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++	gl	KCl	25°C	0.10M	C		K1=9.58 B2=17.35 B(NiHL)=15.45 B(NiHL2)=23.87	1998ZMa (28476)	1214
------	----	-----	------	-------	---	--	---	-----------------	------

Ni++	gl	NaCl	25°C	0.15M	C	H	K1=9.35 B2=17.40	1997CSa (28477)	1215
------	----	------	------	-------	---	---	------------------	-----------------	------

B(NiHL)=15.613  
 B(NiHL2)=24.318  
 B(NiH2L2)=30.24

By calorimetry: DH(K1)=-41 kJ mol<sup>-1</sup>, DS=42 J K<sup>-1</sup> mol<sup>-1</sup>; DH(K2)=-42, DS=13;  
 DH(Ni+HL)=-30, DS=14; DH(NiL+HL)=-33, DS=-9; DH(NiHL+L)=-44, DS=19

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Ni++	gl	KCl	20°C	0.10M	U		K1=9.3	1950PSa (28478)1216
							K(Ni+HL)=6.0	

\*\*\*\*\*  
 C3H12N09P3                      H6L      NTPA                      CAS 6419-19-8 (2920)  
 Nitrilotris(methylenephosphonic acid); N(CH2P03H2)3

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ni++	gl	KCl	25°C	0.10M	C	I	R		2001PRa (28519)1217	
								K(Ni+HL)=7.1		
								K(NiL+H)=8.2		
								K(NiHL+H)=5.60		
								K(NiH2L+H)=3.5		

IUPAC Recommended values.

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Ni++	gl	KNO3	25°C	0.10M	C			K1=11.3	1997DBb (28520)1218
								K(NiL+H)=8.28	
								K(NiH2L+H)=3.4	
								K(NiHL+H)=5.67	

---

Ni++	gl	KNO3	25°C	0.10M	U			K1=12.68	1990VSA (28521)1219
								K(Ni+HL)=7.50	
								K(Ni+H2L)=5.60	
								K(Ni+H3L)=3.40	

---

Ni++	gl	KNO3	25°C	0.1M	C			K1=12.68	1990VSB (28522)1220
								K(Ni+HL)=7.50	
								K(Ni+H2L)=5.60	
								K(Ni+H3L)=3.40	

---

Ni++	gl	KNO3	25°C	0.10M	C			K1=11.7	1989SAa (28523)1221
								K(NiL+H)=8.11	
								K(NiHL+H)=5.56	
								K(NiH2L+H)=3.5	

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Ni++	nmr	none	25°C		U	M		K1=11.18	1986SAb (28524)1222
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Ni++	gl	KCl	25°C	0.1M	M			K1=11.06	1975MNa (28525)1223
								K(Ni+HL)=7.23	
								K(Ni+H2L)=5.69	
								K(Ni+H3L)=4.31	

By spectrophotometry: K1=11.96, K(Ni+H2L)=6.54, K(Ni+H3L)=4.60

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Ni++	gl	R4N.X	20°C	0.1M	C			K1=9.85	1967HEa (28526)1224
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K(Ni+HL)=6.9  
K(Ni+H2L)=5.2

\*\*\*\*\*

C3H12O10P4                      H6L                      (7924)

Tris(dihydroxy-phosphonylmethyl)phosphineoxide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	R4N.X	20°C	0.10M	C		K1=8.5 K(Ni+H2L)=3.75 K(NiHL+H)=5.35 K(NiL+H)=7.94	1977ANb (28607)	1225

\*\*\*\*\*

C4H2O4                      H2L      Squaric acid      CAS 2892-51-5      (439)

3,4-Dihydroxy-3-cyclobutene-1,2-dione;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	NaClO4	25°C	3.00M	U		K1=1.29 K(2Ni+L)=2.03	1973AVa (28632)	1226

Ni++	oth	NaClO4	25°C	0.50M	U		K1=1.49	1969TWa (28633)	1227
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Method: paper chromatography

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C4H3N2O2Br                      H2L      5-Bromouracil      CAS 51-20-7      (8651)

5-Bromo-2,4-dihydroxypyrimidine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.10M	C	M	K(Ni+HL)=6.19	2000SSd (28679)	1228

Also data for ternary complexes.

\*\*\*\*\*

C4H3N2O2F                      HL      5-Fluorouracil      CAS 51-21-8      (4277)

5-Fluoro-2,4(1H,3H)-pyrimidinedione;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.10M	U	M	K1=5.12 K(NiA+L)=6.22	1996SGa (28688)	1229

A is adenine.

\*\*\*\*\*

C4H3N2O2I                      H2L      5-Iodouracil      CAS 696-07-1      (8652)

5-Iodo-2,4-dihydroxypyrimidine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.10M	C	M	K(Ni+HL)=5.98	2000SSd (28697)	1230

Also data for ternary complexes.

\*\*\*\*\*

C4H3N3O3S                      H3L      Thiovioluric      CAS 23036-77-3    (2000)  
2-Thio-4,5,6(H)-pyrimidinetetrone 5-oxime

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.50M	C		K1=3.51    B2= 5.89	1984HNb (28712)	1231
Ni++	gl	NaNO3	25°C	0.10M	C		K(Ni+H2L)=3.50 K(Ni+2H2L)=5.89	1979DDb (28713)	1232

Ni++	gl	diox/w	30°C	50%	U		K1=3.82    B2=8.12	1973CSb (28714)	1233
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Medium: 50% dioxan, 0.1 M NaClO4

\*\*\*\*\*

C4H3N3O4                      H3L      Violuric acid      CAS 26351-19-9    (1208)  
2,4,5,6-(1H,3H)Pyrimidinetetrone-5-oxime, 5-isonitrosobarbituric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	mixed	25°C	80%	C		K(Ni+H2L)=5.06 K(Ni+2H2L)=9.38 K(Ni+3H2L)=12.98 K(Ni(HL)3+H)=8.368	1986GMb (28738)	1234

Medium: 80% DMSO/H2O, 0.1 M NaClO4.    K(Ni(HL)3+2H)=15.760  
K(Ni(HL)3+3H)=22.361

Ni++	gl	NaNO3	25°C	0.50M	C		K1=3.56    B2= 6.35	1984HNb (28739)	1235
Ni++	sp	oth/un	25°C	?	U		K1=3.96    B2=7.49 B3=10.65	1980FMc (28740)	1236

Ni++	gl	NaNO3	25°C	0.50M	U		K1=3.5    B2= 6.30	1978DDa (28741)	1237
Ni++	sp	oth/un	rt	?	U		B2=7.6	1971ENb (28742)	1238

Borate buffer

\*\*\*\*\*

C4H3N3O4                      H3L      Oxonic acid      CAS 937-13-3    (1296)  
4,6-Dihydroxy-1,3,5-triazine-2-carboxylic acid; C3N3(OH)2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	NaClO4	20°C	0.20M	U		K1=6.51	1981LDa (28755)	1239

\*\*\*\*\*

C4H3N3O5                      H3L      Dilituric acid      CAS 480-68-2    (8715)  
5-Nitrobarbituric acid, 5-Nitro-2,4,6-pyrimidinetrione;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++ gl KCl 25°C 0.05M C 2002MGb (28762)1240

K(Ni+HL)=3.79

\*\*\*\*\*

C4H4N2 L Pyridazine CAS 289-80-5 (1484)

1,2-Diazine, Pyridazine; cyclo(-N:N.CH:CH.CH:CH-)

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.50M U K1=1.33 B2=2.21 1988KLa (28766)1241

B3=2.95

\*\*\*\*\*

C4H4N2 L Pyrazine CAS 290-37-9 (620)

1,4-Diazine, Pyrazine;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ sp alc/w 25°C 100% U M 1992NDa (28783)1242

K(Ni2A(S)4+2L=Ni2AL2+4S)=0.67

Medium(S): methanol. A is 3,7,15,19-tetraaza-11,23-dimethyltricyclo[19.3.1.1  
(9,13)]hexacos-1(25),9,11,13(26),21,23-hexaene-25,26-diol.

-----  
Ni++ sp oth/un 25°C 1.00M U T K1=1.01 1972MSf (28784)1243

K1(10 C)=1.12, K1(35 C)=0.91

\*\*\*\*\*

C4H4N2O5 HL 2-Thiouracil CAS 141-90-2 (4278)

4-Hydroxy-2-mercaptopyrimidine; HO.C4H2N2.SH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl oth/un 25°C 0.01M U K1=2.49 B2=5.15 1970GWa (28802)1244

\*\*\*\*\*

C4H4N2O2 HL Uracil CAS 66-22-8 (412)

2,4-Dihydroxypyrimidone, 2,4-Pyrimidinedione;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaNO3 37°C 0.10M U M K1=3.95 1994MGd (28836)1245

B(NiAL)=7.62

\*K(NiAL)=-7.27

\*K(Ni(OH)AL)=-9.77

HA is 6-aminopenicillanic acid.

-----  
Ni++ gl NaClO4 25°C 0.20M U K1=3.12 1991SPa (28837)1246  
-----

Ni++ gl KNO3 35°C 0.10M U M K1=3.89 1989SRc (28838)1247

K(Ni(thiamine)+L)=3.28

-----  
Ni++ gl KNO3 25°C 0.10M U T H K1=3.85 1983KSa (28839)1248  
-----

Ni++ gl KNO3 35°C 0.10M U K1=3.99 B2=7.90 1981TSa (28840)1249

-----  
 Ni++ gl KNO3 45°C 0.10M U K1=3.8 1974KKa (28841)1250  
 \*\*\*\*\*  
 C4H4N2O2 H2L CAS 123-33-1 (8346)  
 3,6-Dihydroxypyridazine;  
 -----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----  
 Ni++ vlt mixed 25°C 30% C T H K1=10.72 1992SBb (28873)1251  
 Method: polarography. Medium: 30% DMSO/H2O, 0.10 M LiClO4.  
 Data for 15 and 35 C. DH(K1)=-57.9 kJ mol<sup>-1</sup>, DS(K1)=-61 J K<sup>-1</sup> mol<sup>-1</sup>.  
 \*\*\*\*\*  
 C4H4N2O2S H2L Thiobarbituric CAS 504-17-6 (4279)  
 4,6-Dihydroxy-2-mercaptopyrimidine, 2-thiobarbituric acid;  
 -----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----  
 Ni++ gl NaClO4 31°C 0.10M U T H K1=5.65 B2= 9.82 1984SJa (28880)1252  
 Also data for 18 and 42 C. DH(K1)=-54.5 kJ mol<sup>-1</sup>, DS(K1)=-79.4 J K<sup>-1</sup> mol<sup>-1</sup>  
 DH(K2)=-38.2, DS(K2)=-46.1.  
 \*\*\*\*\*  
 C4H4N2S HL CAS 1450-85-7 (1521)  
 2-Mercapto-1,3-diazine, 2-Mercaptopyrimidine; C4H3N2.SH  
 -----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----  
 Ni++ gl KNO3 35°C 0.10M C K1=4.14 1996RRa (28927)1253  
 -----  
 Ni++ gl KNO3 45°C 0.10M C K1=4.43 1986KZa (28928)1254  
 \*\*\*\*\*  
 C4H4N6 L 8-Azaadenine CAS 1123-54-2 (1884)  
 8-Aza-6-aminopurine;  
 -----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----  
 Ni++ gl KNO3 30°C 0.10M U K1=5.5 1983SKa (28946)1255  
 -----  
 Ni++ gl KNO3 45°C 0.10M U K1=4.4 1973TKa (28947)1256  
 \*\*\*\*\*  
 C4H4N6O L 8-Azaguanine CAS 134-58-7 (114)  
 2-Amino-6-hydroxy-8-azapurine;  
 -----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----  
 Ni++ gl alc/w 25°C 50% U M K1=9.47 1978MCb (28959)1257  
 K(Ni(bpy)+L)=7.56  
 K(Ni(phen)+L)=9.36  
 K(Ni(NTA)+L)=4.83  
 \*\*\*\*\*  
 C4H4O4 H2L Maleic acid CAS 110-16-7 (111)  
 -----



cis-Butenedioic acid; HOOC.CH:CH.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.10M	C	M		K1=3.70 B2= 6.52 B(NiLA)=7.54	1998KR	(29023)1258

HA: Inosine

Ni++	gl	KNO3	25°C	0.10M	M	M		K1=5.270	1993AHa	(29024)1259
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Ni++	kin	none	25°C	0.00	U			K1=2.6	1973HY	(29025)1260
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Ni++	gl	oth/un	25°C	0.10M	U			K1=2.0	1960YY	(29026)1261
------	----	--------	------	-------	---	--	--	--------	--------	-------------

\*\*\*\*\*  
C4H4O5 H2L Oxobutanedioic CAS 328-42-7 (1733)  
2-Oxosuccinic acid, Oxalacetic acid; HOOC.CH2.CO.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++	gl	NaClO4	25°C	0.50M	U	TI		K1=2.19	1990MO	(29247)1262
------	----	--------	------	-------	---	----	--	---------	--------	-------------

At 0.1 M, K1=2.56. At 30 C and 0.5 M, K1=2.17.

Ni++	gl	oth/un	25°C	0.10M	U			K1=3.5 K(NiL+Ni)=2.2	1958GH	(29248)1263
------	----	--------	------	-------	---	--	--	-------------------------	--------	-------------

\*\*\*\*\*  
C4H5NO L Methylisoxazole CAS 5765-44-6 (2045)  
5-Methylisoxazole; C3H2N.O.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++	EMF	KNO3	25°C	0.50M	U			K1=0.32 B2=0.84	1977LK	(29287)1264
------	-----	------	------	-------	---	--	--	-----------------	--------	-------------

\*\*\*\*\*  
C4H5NOF6 L CAS 68982-08-1 (5453)  
1,1-Bis(trifluoromethyl)-2-aminoethan-1-ol; (CF3)2C(OH).CH.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++	gl	oth/un	25°C	0.10M	U			B2=9.08	1977CW	(29293)1265
------	----	--------	------	-------	---	--	--	---------	--------	-------------

\*\*\*\*\*  
C4H5NO2 HL Succinimide CAS 123-56-8 (390)  
Succinic acid imide; (CH2.CO)2NH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++	gl	KNO3	25°C	0.50M	U	H		K1=2.93 B2= 4.49 B3=6.63	1979BE	(29303)1266
------	----	------	------	-------	---	---	--	-----------------------------	--------	-------------

By calorimetry: DH(K1)=-9.08 kJ mol<sup>-1</sup>, DS(K1)=25.7 J K<sup>-1</sup> mol<sup>-1</sup>;  
DH(B2)=-18.4, DS(B2)=25; DH(B3)=-24.7, DS(B3)=44.

Ni++	sp	alc/w	?	100%	U				1971MS	(29304)1267
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B4=7.93

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C4H5NS	L	4-Methiazole	CAS 693-95-5	(820)
4-Methylthiazole; C3H2NS.CH3				

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++      gl   KNO3    25°C 0.50M U      K1=0.59    B2=1.04    1976LKb (29322)1268

\*\*\*\*\*

C<sub>4</sub>H<sub>5</sub>N<sub>2</sub>Cl                  L                  CAS 872-49-1 (7589)

5-Chloro-1-methylimidazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ni++      gl    NaNO3    25°C   0.50M M      K1=2.60      1998KSa (29329)1269

\*\*\*\*\*

C<sub>4</sub>H<sub>5</sub>N<sub>3</sub> L CAS 109-12-6 (1480)

2-Amino-1,3-diazine; C<sub>4</sub>H<sub>3</sub>N<sub>2</sub>.NH<sub>2</sub>

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++      gl   KN03   25°C 0.50M U      K1=0.41   B2=0.93   1988KLa (29340)1270

\*\*\*\*\*

C4H5N3O	HL	Cytosine	CAS 71-30-7	(1096)
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2-Oxy-6-aminopyrimidine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++ gl NaCl04 25°C 0.10M M 1995LWa (29378)1271

$$K(\text{Ni}+\text{HL})=1.22$$
$$K(\text{Ni(atp)}+\text{HL})=1.54$$

Ni++      gl    NaNO3    37°C   0.10M   U      M    K1=1.70      1994MGd (29379)1272

$$B(\text{NiAL}) = 5.38$$
$$*K(\text{NiAL}) = -7.31$$

HA is 6-aminopenicillanic acid.

Ni++      gl    KNO3    35°C 0.10M U      M    K1=2.31      1989SRe (29380)1273

$$B(\text{NiHLAsp})=8.30$$
$$B(\text{NiLAsp}) = 7.57$$
$$K(\text{NiL}+\text{gly})=5.80$$

Ni++      gl    KNO3    35°C 0.10M U      M      1986RRe (29381)1274

$$K(\text{Ni}+\text{HL}+\text{HA})=8.53$$
$$K(\text{Ni}(\text{HL})\text{A}+\text{H})=5.99$$
$$K(\text{Ni}+\text{HL}+\text{D})=9.45$$
$$K(\text{Ni}+\text{HL}+\text{C})=11.45$$

HA is glycine; H2D is oxalic acid; C is histamine.

Ni++      gl    KNO3    35°C 0.10M U T H      1983KSa (29382)1275

K(Ni+HL)=2.31  
K(Ni+2HL)=3.16

Ni++ gl KNO3 30°C 0.10M U K1=5.2 1983SKa (29383)1276

Ni++ gl KNO3 45°C 0.10M U 1978KJa (29384)1277  
K(Ni+HL)=2.21  
K(NiHL+HL)=3.40

Ni++ gl KNO3 45°C 0.10M U 1974KKa (29385)1278  
K(Ni+HL)=2.9

\*\*\*\*\*

C4H5N3O2 HL (1327)  
4-Oximino-3-methyl-2-pyrazolin-5-one;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
Ni++ gl alc/w 20°C 50% U T K1=4.31 B2=7.52 1981SSc (29426)1279  
At 30 C: K1=4.30, B2=7.40

\*\*\*\*\*

C4H6N2 L 2-Me-Imidazole CAS 693-98-1 (122)  
2-Methyl-1,3-diazole; C3H3N2.CH3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl NaClO4 30°C 0.20M U K1=3.00 1999PGa (29461)1280

Ni++ gl NaNO3 30°C 0.20M U K1=3.96 1999PPa (29462)1281

Ni++ gl NaClO4 25°C 0.10M C M 1994MGb (29463)1282  
K(Ni(malate)+L)=3.23  
K(Ni(tartrate)+L)=3.17

\*\*\*\*\*

C4H6N2 L Methylpyrazole CAS 453-58-3 (368)  
3-Methyl-1,2-diazole; C3H3N2.CH3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.50M U K1=1.80 B2=3.23 1975LWc (29498)1283  
B3=4.39  
B4=5.28

\*\*\*\*\*

C4H6N2 L CAS 7554-65-6 (2052)  
4-Methyl-1,2-diazole; C3H3N2.CH3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.50M U K1=2.01 B2=3.66 1978LKc (29509)1284  
B3=4.96  
B4=5.96

B5=6.62

B6=6.92

\*\*\*\*\*

C4H6N2 L 4-Me-Imidazole CAS 822-36-6 (353)

4-Methyl-1,3-diazole; C3H3N2.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.50M	U		K1=2.92 B3=7.03 B4=8.25	1977LOa (29521)	1285

\*\*\*\*\*

C4H6N2 L N-Me-Imidazole CAS 616-47-7 (354)

N-Methyl-1,3-diazole; C3H3N2.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.50M	M		K1=3.04	1998K5a (29548)	1286
Ni++	cal	NaNO3	25°C	1.0M	C			1983ARa (29549)	1287
DH(K1)=-22.72 kJ mol <sup>-1</sup> , DS(K1)=-17.9 J K <sup>-1</sup> mol <sup>-1</sup> .									
Ni++	gl	KNO3	25°C	0.50M	M		K1=3.05 B3=7.61 B4=9.13	1977LBb (29550)	1288

\*\*\*\*\*

C4H6N2O L CAS 13148-65-7 (2050)

2,5-Dimethyl-1,3,4-oxadiazole; C2N2O(CH3)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	ISE	KNO3	25°C	0.50M	U		K1=0.32 B2=0.67	1977LGa (29611)	1289

Competition with Ag

\*\*\*\*\*

C4H6N2O5 H2L CAS 25081-31-6 (3003)

N-Nitrosoiminodiethanoic acid; O:N.N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	30°C	0.10M	U		K1=1.4	1957TBb (29627)	1290

\*\*\*\*\*

C4H6N2O6 H2L CAS 25081-33-8 (3004)

N-Nitroiminodiethanoic acid; O2N.N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	30°C	0.10M	U		K1=1.7	1957TBb (29633)	1291

\*\*\*\*\*

C4H6N2S L CAS 27464-82-0 (1457)

2,5-Dimethyl-1,3,4-thiadiazole; C2N2S(CH3)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.50M	U		K1=0.80	1985GLa (29639)	1292
Competitive potentiometric method using Ag(I) as an auxiliary cation									
Using spectrophotometry, K1=0.76									
*****									
C4H6N2S		L					CAS 7063-91-4	(1422)	
2-Amino-4-methylthiazole; C3HNS(CH3).NH2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.50M	U		K1=0.95	1982GKa (29646)	1293
*****									
C4H6N2S		HL			Methimazole		CAS 60-56-0	(1824)	
N-Methyl-2-mercaptoimidazole; C3H2N2(CH3).SH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.10M	U		K1=5.52 B2=10.68	1977STc (29655)	1294
*****									
C4H6N4O		L					(1012)		
4(5)-Aminoimidazole-5(4)-carboxamide; H2N.CO.C3H2N2.NH2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.10M	C		K1=2.45 B2= 4.16	1998TSa (29675)	1295
*****									
C4H6N4O		L					CAS 1672-50-0	(5993)	
4,5-Diamino-6-hydroxypyrimidine;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	45°C	0.10M	C			1986KZa (29678)	1296
							K(Ni+HL)=3.06		
							K(NiHL+HL)=3.3		
*****									
C4H6N4O3S2		L					(6481)		
2-Acetylamino-1,3,4-thiadiazole-5-sulphonamide;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	alc/w	25°C	50%	U		K1=4.94	1990FBb (29687)	1297
							B(Ni2L3)=17.80		
*****									
C4H6O4		H2L			Succinic acid		CAS 110-15-6	(112)	
1,4-Butanedioic acid; HOOC.CH2.CH2.COOH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++ gl KNO3 25°C 0.10M C M 2002BMa (29861)1298

K(NiL+A)=6.86

K(NiL+B)=9.23

K(NiL+C)=3.40

HA is 1,2,4-triazole; HB is 3-amino-1,2,4-triazole; HC is 3-mercapto-1,2,4-triazole (1,2,4-triazoline-3-thione)

Ni++ gl NaNO3 25°C 0.10M C M K1=3.12 1998KR a (29862)1299

B(NiLA)=8.04

HA: inosine.

Ni++ gl KNO3 25°C 0.10M U K1=1.62 1998VA a (29863)1300

Ni++ gl KNO3 25°C 0.1M C K1=1.62 1998VZ b (29864)1301

Also K1=1.33 found by specrophotometry

Ni++ gl NaNO3 25°C 0.10M U M K1=6.54 1997IS d (29865)1302

K(NiL+gly)=5.55

K(NiL+ala)=5.65

K(NiL+leu)=5.41

K(NiL+asp)=7.21

Ni++ gl KNO3 25°C 0.10M M M K1=5.921 1993AH a (29866)1303

Ni++ vlt NaClO4 25°C 0.10M U I K1= 1.84 1992UR a (29867)1304

In 0.5 NaClO4: K1=1.18.

Ni++ gl NaCl 25°C 0.50M C K1=1.47 1989FR a (29868)1305

B(NiHL)=5.79

Ni++ cal KCl 25°C 0.10M U H 1967MN c (29869)1306

DH(K1)=10.5 kJ mol<sup>-1</sup>, DS=79.4 J K<sup>-1</sup> mol<sup>-1</sup>

Ni++ gl oth/un 25°C ->0 U T H K1=2.36 1961MN c (29870)1307

DH(K1)=9.5 kJ mol<sup>-1</sup>, DS=76.6. K1=2.25(0 C), 2.29(15 C), 2.41(35 C), 2.48(45 C)

Ni++ gl oth/un 25°C 0.10M U K1=1.6 1960YY a (29871)1308

\*\*\*\*\*

C4H6O4 HL Acetoxyacetic a CAS 13831-30-6 (4249)

Acetoxyethanoic acid; CH3.CO2.CH2.CO0H

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl NaNO3 30°C 0.40M U K1=0.63 1970BT a (30081)1309

\*\*\*\*\*

C4H6O4 H2L Me-Malonic Acid CAS 516-15-2 (816)

Methylpropanedioic acid; H00C.CH(CH3).CO0H

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl NaClO4 25°C 0.10M U K1=2.62 19680Va (30106)1310  
 \*\*\*\*\*

C4H6O4S H2L Thiodiacetic CAS 123-93-3 (140)  
 2,2'-Thiodiglycolic acid, Thiodiethanoic acid; HOOCH2SCH2COOH

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	KNO3	35°C	0.10M	C	M	K1=4.24 B(NiAL)=5.38	1999DSb (30185)	1311
------	----	------	------	-------	---	---	-------------------------	-----------------	------

A is thiamine hydrochloride.

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Ni++	gl	KNO3	35°C	0.10M	U	M	B(Ni(asp)L)=6.53 K(NiL+en)=6.89 K(NiL+his)=8.64 K(NiL+A)=2.71	1990RSd (30186)	1312
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K(NiL+met)=4.92, K(NiL+ox)=2.74, K(NiL+B)=4.99, K(NiL+trp)=5.31,  
 K(NiL+HC)=4.80. A is imidazole, HB is phenylalanine, H2C is tyrosine.

---

Ni++	gl	NaClO4	25°C	0.10M	U	TIH	K1=4.26 B2= 7.09	1984DBa (30187)	1313
------	----	--------	------	-------	---	-----	------------------	-----------------	------

Data for 35 and 45 C and I=0.2 and 0.3 M. At I=0, K1=4.07, K2=2.64.  
 DH(B2)=-11.9 kJ mol<sup>-1</sup>, DS(B2)=92.6 J K<sup>-1</sup> mol<sup>-1</sup>.

---

Ni++	gl	KNO3	25°C	0.10M	U	M	K1=3.93 B2=6.6 B(NiHL)=6.0	1981ACa (30188)	1314
------	----	------	------	-------	---	---	-------------------------------	-----------------	------

B(NiLpy)=6.40

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Ni++	gl	NaClO4	30°C	0.10M	U		K1=4.18	1978JSc (30189)	1315
------	----	--------	------	-------	---	--	---------	-----------------	------

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Ni++	gl	none	25°C	0.0	U		B2=12.67 B(Ni3L4)=32.70 B(Ni4L6)=49.30	1974DVa (30190)	1316
------	----	------	------	-----	---	--	--	-----------------	------

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Ni++	gl	NaClO4	25°C	2.00M	U		K1=3.93 B2=7.03 B3=8.55	1972ANa (30191)	1317
------	----	--------	------	-------	---	--	----------------------------	-----------------	------

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Ni++	gl	NaClO4	25°C	0.10M	U		K1=4.20 B2=7.01 K(Ni+HL)=2.15	1970PPa (30192)	1318
------	----	--------	------	-------	---	--	----------------------------------	-----------------	------

---

Ni++	gl	oth/un	25°C	0.10M	U		K1=4.0	1960YYa (30193)	1319
------	----	--------	------	-------	---	--	--------	-----------------	------

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Ni++	gl	KCl	30°C	0.10M	U		K1=4.1 B2=6.7	1957TBb (30194)	1320
------	----	-----	------	-------	---	--	---------------	-----------------	------

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C4H6O4S H3L Thiomalic acid CAS 70-49-5 (109)  
 2-Mercaptosuccinic acid, 2-Sulfanyl-1,4-butanedioic acid; HOOCH(SH)CH2COOH

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	NaClO4	25°C	0.20M	U	T M	K1=7.62 B2=14.24 K(NiA+L)=7.99	1996J0a (30283)	1321
------	----	--------	------	-------	---	-----	-----------------------------------	-----------------	------

Data for 35 and 45 C. A is 2,2'-bipyridylamine.

Ni++ gl NaClO4 30°C 0.10M U K1=6.49 B2=12.28 1988NDa (30284)1322

Ni++ gl NaCl 37°C 0.15M C K1=7.219 B2=13.107 1986FIa (30285)1323  
B(Ni4L3)=30.904  
B(Ni2L2)=17.014

Ni++ gl NaClO4 30°C 0.20M U K1=7.68 1984JOa (30286)1324

Ni++ gl KNO3 20°C 0.10M U K1=7.02 1977CAd (30287)1325  
K(Ni+HL)=1.89

Ni++ gl KNO3 25°C 0.10M U K1=7.97 B2=12.29 1969PPa (30288)1326  
K(Ni+HL)=2.17

Ni++ gl KNO3 30°C 0.10M U T H K1=7.96 B2=14.35 1968SGf (30289)1327  
K1=7.86(20 C),7.87(25 C); K2=6.24(20 C),6.31(25 C)  
DH(B2)=-36.8(?) kJ mol<sup>-1</sup>, DS=146(?) J K<sup>-1</sup> mol<sup>-1</sup>

Ni++ gl KNO3 25°C 0.10M U 1965LMa (30290)1328  
K(NiLOH+H)=9.37

Ni++ gl KNO3 25°C 0.10M U K1=7.67 B2=13.88 1965LMa (30291)1329

Ni++ sp oth/un 30°C 0.40M U 1965NKc (30292)1330  
B3=9.6(?)

Medium: ammomia buffer. By polarography: B3=10.2(?)

Ni++ vlt oth/un ? ? U B2=9.6 1962NKa (30293)1331  
B3=10.2

Ni++ gl oth/un 25°C ? U K1=7.97 B2=12.87 1959CFa (30294)1332

\*\*\*\*\*

C4H6O4S2 H2L CAS 505-73-7 (3585)

Dithiodiethanoic acid; HOOC.CH2.S.S.CH2.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl NaClO4 25°C 0.10M U TIH K1=2.84 1984DBa (30406)1333

Data for 35 and 45 C and I=0.2 and 0.3 M. At I=0, K1=2.81.

DH(K1)=-6.95 kJ mol<sup>-1</sup>, DS(K1)=30.0 J K<sup>-1</sup> mol<sup>-1</sup>.

Ni++ gl NaClO4 25°C 0.10M U K1=1.8 1968SKd (30407)1334

\*\*\*\*\*

C4H6O4S2 H4L CAS 304-55-2 (3002)

meso-2,3-Dimercaptobutanedioic acid (meso-dithiotartaric acid)

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo



Ni++	gl	KNO3	25°C	0.10M	U			1965LMa (30422)1335
							K(NiL+H)=8.7	
							K(NiHL+H)=3.3	
-----								
Ni++	gl	NaNO3	25°C	0.10M	U		K1=11.69 B2=22.09	1965LMa (30423)1336
							K(Ni+H2L)=3.9	
							K(Ni+HL)=9.5	
							K(NiOHL+H)=11.14	
							K(NiL2OH+H)=10.4	
*****								
C4H6O4Se		H2L					CAS 6228-62-2	(984)
Selenodiethanoic acid; H00C.CH2.Se.CH2.C00H								
-----								
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference ExptNo
-----								
Ni++	gl	KNO3	25°C	0.10M	C		K1=2.96	1975LPa (30441)1337
							K(Ni+HL)=1.76	
-----								
Ni++	gl	NaClO4	25°C	0.10M	U		K1=2.9	1966SYa (30442)1338
*****								
C4H6O5		H2L					CAS 617-48-1	(393)
2-Hydroxybutane-1,4-dioic acid, Hydroxy-succinic acid; H00C.CH2.CH(OH).C00H								
-----								
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference ExptNo
-----								
Ni++	gl	KNO3	25°C	0.10M	C	M	K1=3.25	2002BMa (30537)1339
							K(NiL+A)=6.71	
							K(NiL+B)=8.60	
							K(NiL+C)=3.25	
HA is 1,2,4-triazole; HB is 3-amino-1,2,4-triazole; HC is 3-mercapto-1,2,4-triazole (1,2,4-triazoline-3-thione)								
-----								
Ni++	gl	NaNO3	25°C	0.10M	C	M	K1=4.60	1998KRa (30538)1340
							B(NiLA)=9.43	
HA: inosine.								
-----								
Ni++	gl	NaNO3	25°C	0.10M	U	M	K1=5.75	1997ISd (30539)1341
							K(NiL+gly)=5.20	
							K(NiL+ala)=4.95	
							K(NiL+leu)=4.82	
							K(NiL+asp)=6.97	
-----								
Ni++	gl	NaClO4	30°C	0.20M	U	M	K1=5.50	1988JOa (30540)1342
							K(Ni(bpy)+L)=5.22	
							K(Ni(his)+L)=4.57	
-----								
Ni++	con	oth/un	20°C	?	U			1986IKa (30541)1343
							K1=3.90 (0.1 MPa)	
							K1=3.85 (20 MPa)	
							K1=3.79 (40 MPa)	

K1=3.65 (80 MPa) and K1=3.58 (100 MPa).  
K1=3.71 (60 MPa)

---

Ni++	gl	NaClO4	30°C	0.10M	U	M		1978JSc (30542)1344
							B(NiAL)=5.52	
							K(NiA+L)=3.91	
							K(NiL+A)=2.23	

H2A is thiodipropionic acid.

---

Ni++	gl	NaClO4	30°C	0.10M	U	M		1978JSc (30543)1345
							B(NiAL)=9.02	
							K(NiA+L)=4.85	
							K(NiL+A)=5.73	

H2A is thiodiglycolic acid.

---

Ni++	gl	NaClO4	30°C	0.10M	U	M		1978JSc (30544)1346
							B(NiAL)=7.44	
							K(NiA+L)=4.15	
							K(NiL+A)=3.33	

H2A is 3,5-dinitrosalicylic acid.

---

Ni++	gl	NaClO4	30°C	0.10M	U		K1=3.29	1978JSc (30545)1347
------	----	--------	------	-------	---	--	---------	---------------------

---

Ni++	gl	NaClO4	30°C	0.20M	U		K1=5.50	B2=10.39	1975JBb (30546)1348
------	----	--------	------	-------	---	--	---------	----------	---------------------

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Ni++	gl	NaClO4	20°C	0.10M	U			1963CAa (30547)1349
							K(Ni+H2L)=1.83	
							K(Ni+HL)=3.17	

\*\*\*\*\*

C4H6O5                      H2L      Diglycolic acid    CAS 110-99-6 (243)  
Di(carboxy)methyl ether, 2,2'-Oxydiethanoic acid; HOOC.CH2.O.CH2.COOH

---

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

---

Ni++	gl	NaClO4	25°C	0.10M	U	M	K1=3.32	1989NDb (30815)1350
							B(NiAL)=7.32	
							B(NiBL)=5.48	
							B(NiCL)=5.41	

H2A is maleic acid, H2B is malonic acid, H2C is phthalic acid.

---

Ni++	gl	NaClO4	25°C	0.10M	M	M	K1=3.32	1987NDb (30816)1351
							B(Ni(ida)L)=7.73	

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Ni++	gl	NaClO4	25°C	0.10M	U	TIH	K1=2.74	1984DBa (30817)1352
------	----	--------	------	-------	---	-----	---------	---------------------

Data for 35 and 45 C and I=0.2 and 0.3 M. At I=0, K1=2.70.  
DH(K1)=-7.20 kJ mol<sup>-1</sup>, DS(K1)=27.4 J K<sup>-1</sup> mol<sup>-1</sup>.

---

Ni++	gl	KCl	25°C	0.10M	C		K1=2.81	1984MMg (30818)1353
							K(NiL+H)=1.97	

---

Ni++ gl KNO3 25°C 0.10M U M K1=2.32 1981ACa (30819)1354  
B(NiLpy)=5.05; B(NiL(py)2)=6.10

Ni++ gl KNO3 25°C 0.10M U K1=2.78 1975MTc (30820)1355

Ni++ gl NaClO4 25°C 2.00M U K1=2.25 B2=3.45 1972ANa (30821)1356

Ni++ gl oth/un 25°C 0.10M U K1=2.6 1960YYa (30822)1357

Ni++ gl KCl 30°C 0.10M U K1=2.8 1957TBb (30823)1358

\*\*\*\*\*  
C4H6O6 H2L DL-Tartaric acid CAS 133-37-9 (94)  
DL-Tartaric acid,DL-2,3-Dihydroxybutanedioic acid; HOOC.CH(OH).CH(OH).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.1M C K1=3.07 1998VKb (30996)1359

K(Ni+HL)=1.86

Also for I=0.5 M K1=2.86, K(Ni+HL)=1.99;for I=1.0 M K1=3.15, K(Ni+HL)=2.27

Ni++ gl NaNO3 25°C 0.10M U M K1=5.54 1997ISd (30997)1360

K(NiL+gly)=5.00

K(NiL+ala)=4.75

K(NiL+leu)=4.55

K(NiL+asp)=6.82

Ni++ con oth/un 20°C ? U 1986IKa (30998)1361

K1=3.45 (0.1 MPa)

K1=3.37 (20 MPa)

K1=3.30 (40 MPa)

K1=3.23 (60 MPa)

K1=3.18 (80 MPa) and K1=3.11 (100 MPa).

\*\*\*\*\*  
C4H6O6 H2L L-Tartaric acid CAS 87-69-4 (92)  
L-Tartaric acid, L-2,3-Dihydroxybutanedioic acid; HOOC.CH(OH).CH(OH).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.10M C M K1=2.95 2002BMa (31126)1362

K(NiL+A)=6.58

K(NiL+B)=8.07

K(NiL+C)=3.17

HA is 1,2,4-triazole; HB is 3-amino-1,2,4-triazole; HC is 3-mercapto-1,2,4-triazole (1,2,4-triazoline-3-thione)

Ni++ gl NaNO3 25°C 0.10M C M K1=4.68 B2= 9.04 1998KRa (31127)1363

B(NiLA)=8.54

HA: inosine.

Ni++ gl KNO3 25°C 0.10M M M K1=4.682 1993AHa (31128)1364

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-----
Ni++      oth NaClO4 40°C 0.10M C      B2=5.65      1982SYb (31129)1365
              K(Ni+HL)=3.16
Method: paper electrophoresis. Medium: 0.10 M HClO4.
-----
Ni++      gl  KCl      30°C 0.10M U      B2=7.55      1980ZHa (31130)1366
-----
Ni++      gl  KNO3     30°C 0.03M U      1970TPa (31131)1367
              K(Ni+H2L)=-4.57
              K(NiH-1L+H)=7.30
              K(NiH-2L+H)=9.63
              B(NiH-1L)=-4.40
-----
Ni++      dis NaClO4 20°C 0.10M U      K1=3.01      B2=5.04      1969MBe (31132)1368
-----
Ni++      dis NaClO4  ?  0.10M U      K1=5.47      B2=7.60      1969SKb (31133)1369
-----
Ni++      dis NaClO4 20°C 0.10M U      B2=5.42      1963STc (31134)1370
-----
Ni++      gl  diox/w 30°C 75% U      K1=9.9      B2=16.8      1954UFa (31135)1371
*****
C4H7NO2          HL                      (8137)
(S)-Azetidine-2-carboxylic acid;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl  KNO3     25°C 0.10M C      K1=8.8      B2=16.40     1989ARa (31437)1372
*****
C4H7NO2          HL                      CAS 57-71-6 (6204)
But-2,3-dione monoxime; CH3.CO.C(:NOH).CH3
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl  alc/w  25°C 75% U      K1=7.3      B2=12.40     1986BTa (31452)1373
Medium: 75% MeOH/H2O, 0.1 M NaClO4
*****
C4H7NO2S          HL      Thioproline      CAS 444-27-9 (1183)
Thiazolidine-4-carboxylic acid; C3H6NS.CO0H
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl  KNO3     30°C 0.10M C T H      K1=4.03      1983RKa (31465)1374
DH(K1)=-13.4 kJ mol-1, DS(K1)=33.
-----
Ni++      gl  NaCl      37°C 0.15M C      K1=4.007     B2=7.259     1981HMa (31466)1375
              B3=9.239
-----
Ni++      gl  NaClO4  25°C 0.15M U      K1=3.925     B2=7.207     1976FJa (31467)1376
              B3=8.825
*****

```

C4H7NO3 HL CAS 543-24-8 (3586)  
N-Acetylglutamine; CH3.CO.NH.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	40°C	0.50M	U		K1=0.58	1970BTa (31493)	1377

\*\*\*\*\*

C4H7NO4 H2L Aspartic acid CAS 56-84-8 (21)  
Aminobutanedioic acid; H2N.CH(CH2.COOH).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C	M	K1=7.41 K(NiL+A)=3.82	2003AHa (31680)	1378

HA is 3-amino-5-mercapto-1,2,4-triazole.

Ni++	gl	NaNO3	25°C	0.10M	C	M	K1=7.07 B2=12.44 K(NiA+L)=7.48	2000KAb (31681)	1379
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H2A=Dipicolinic acid.

Ni++	gl	NaNO3	25°C	0.10M	C		K1=7.33 B2=12.00 B(NiH-1L)=-1.77	2000MSa (31682)	1380
------	----	-------	------	-------	---	--	-------------------------------------	-----------------	------

Ni++	gl	KNO3	25°C	0.10M	C	M	K1=7.49 K(NiL+A)=3.85 B(NiLA)=11.34 K(NiL+B)=3.67 B(NiLB)=11.16	1999AAa (31683)	1381
------	----	------	------	-------	---	---	---	-----------------	------

K(NiHL+C)=5.82, K(NiHL+D)=1.61.  
HA=MOPSO, HB=MOPS, HC=DIPSO, HD=TAPSO.

Ni++	gl	KNO3	25°C	0.10M	C		K1=7.20	1999BIa (31684)	1382
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Ni++	gl	NaNO3	30°C	0.20M	U	M	K1=7.25 B(NiAL)=10.13 B(NiBL)=11.31 B(NiCL)=10.40	1999PPa (31685)	1383
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A is imidazole, B is 2-Me-imidazole, C is 2-Et-imidazole.

Ni++	gl	NaCl	25°C	0.15M	C	M	K1=7.09 B2=12.66 B(NiHL)=12.79 B(NiH4L2)=32.84 B(NiH2L3)=31.86 B(NiH4L3)=42.00	1999SMa (31686)	1384
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B(NiHLA)=22.04, B(NiH2LA)=29.49, B(NiH3LA)=34.50, B(NiH4LA)=38.22,  
B(NiL2A)=19.62, B(NiH3L2A)=41.66, B(NiH4L2A)=47.46. HA=Pyridoxamine.

Ni++	gl	alc/w	25°C	20%	M	M	K1=7.42 K(NiL+oxine)=9.02	1998ABa (31687)	1385
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Medium: 20% w/w EtOH/H2O, 0.1 M KNO3.



Ni++	gl	KNO3	25°C	0.10M	C	M	K1=7.35		1989MAd (31700)1398
							K(NiA+L)=9.58		
							B(NiAL)=17.60		
H2A is N-(2-acetamido)imino diethanoic acid.									
Ni++	gl	KNO3	35°C	0.20M	U	M	K1=7.17	B2=13.16	1989RVa (31701)1399
							K(NiA+L)=6.46		
A=bis(imidazol-2-yl)methane									
Ni++	gl	NaClO4	30°C	0.20M	U	M	K1=7.12		1988J0a (31702)1400
							K(Ni(bpy)+L)=6.72		
							K(Ni(his)+L)=4.78		
Ni++	gl	NaClO4	27°C	0.20M	U	M	K1=7.12	B2=12.44	1988PPc (31703)1401
							K(NiA+L)=6.75		
A is 2,2'-dipyridylamine.									
Ni++	gl	NaClO4	30°C	0.20M	U	M	K1=7.12		1984J0a (31704)1402
							K(Ni(his)+L)=4.78		
							K(Ni(nta)+L)=4.19		
Ni++	cal	KNO3	25°C	1.00M	U	TIH			1983VKa (31705)1403
DH(K1)=-15.41 kJ mol <sup>-1</sup> ; DH(B2)=-37.86									
Ni++	gl	KNO3	25°C	0.10M	M		K1=6.74	B2=11.31	1981GVa (31706)1404
Ni++	gl	NaNO3	30°C	0.20M	C		K1=7.16	B2=12.36	1981RSd (31707)1405
Ni++	gl	NaClO4	30°C	0.10M	U	M	K1=7.12	B2=12.39	1978JSa (31708)1406
							K(Ni+L+HA)=14.35		
							K(Ni+L+HB)=5.92		
							B(NiLC)=6.88		
							B(NiLD)=11.37		
H3A=thiomalic acid; H3B=thiodiglycollic acid; H2C=malic acid;									
H2D=3,5-dinitrosalicylic acid									
Ni++	gl	NaClO4	30°C	0.10M	U	M			1978JSc (31709)1407
							B(NiAL)=5.92		
							K(NiL+A)=4.31		
H2A is thiodipropanoic acid.									
Ni++	gl	NaClO4	30°C	0.20M	U		K1=7.12	B2=12.44	1975JBb (31710)1408
Ni++	gl	KCl	25°C	0.20M	C	M	K1=7.14	B2=12.43	1974GNb (31711)1409
							B(NiHL)=11.19		
							B(Ni(gly)L)=11.89		
							B(Ni(gly)2L)=14.43		
Ni++	gl	NaNO3	25°C	1.00M	U	M	K1=6.81	B2=11.99	1973BJd (31712)1410

B(NiL(Met))=11.95

Ni++ gl NaClO4 25°C 0.10M U M 1973SSe (31713)1411

K(NiL+Gly)=4.86

K(NiL+Ala)=4.62

K(NiL+Val)=4.47

K(NiL+Leu)=4.71

Ni++ gl NaCl 25°C 0.12M U K1=6.60 B2=11.92 1972IBa (31714)1412

Ni++ gl KNO3 25°C 0.10M U K1=7.14 B2=12.34 1965RWa (31715)1413

Ni++ gl oth/un 20°C 0.01M U B2=12.7 1952ALa (31716)1414

Ni++ gl KCl 30°C 0.10M U K1=7.12 B2=12.39 1952CMb (31717)1415

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C4H7NO4 H2L IDA CAS 142-73-4 (118)

Iminodiethanoic acid; HN(CH2.COOH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 35°C 0.10M C M K1=8.76 1999DSb (32101)1416

B(NiAL)=10.05

A is thiamine hydrochloride.

Ni++ gl NaNO3 25°C 0.10M M K1=8.45 1996KSc (32102)1417

Ni++ gl NaClO4 25°C 0.50M U K1=8.10 B2=14.63 1992GLa (32103)1418

B(NiH-1L)=-1.02

B3=17.65

Ni++ gl KNO3 25°C 0.10M C M K1=8.13 1991DAc (32104)1419

Data for ternary complexes with acetohydroxamic acid

Ni++ gl KNO3 25°C 0.10M C M K1=8.13 1990DAb (32105)1420

K(NiL+A)=4.87

B(NiLA)=13.00

H2A: salicylaldoxime

Ni++ gl KNO3 25°C 0.10M C M K1=8.13 1990DAc (32106)1421

K(NiL+A)=3.92

B(NiAL)=12.05

HL: benzohydroxamic acid

Ni++ gl NaClO4 25°C 0.20M C M 1990UBc (32107)1422

B(Ni(Gly)L)=13.55

B(Ni(Ala)L)=13.31

B(Ni(Phe)L)=12.80

B(Ni(HTyr)L)=12.86

B(Ni(Trp)L)=13.37, B(Ni(en)L)=15.77; B(Ni(1,3-pn)L)=14.78,



B(Ni(catecholate)L)=15.42 plus others

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Ni++	gl	NaClO4	25°C	0.10M	M	K1=8.35	1987NDb (32108)1423
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Ni++	gl	NaClO4	25°C	0.10M	U	TIH	K1=8.22	B2=14.25	1984DBa (32109)1424
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Data for 35 and 45 C and I=0.2 and 0.3 M. At I=0, K1=8.17, K2=6.00.  
DH(B2)=-13.6 kJ mol<sup>-1</sup>, DS(B2)=220 J K<sup>-1</sup> mol<sup>-1</sup>.

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Ni++	cal	KNO3	25°C	0.50M	U	TIH	1984VKb (32110)1425
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DH(K1)=-12.25 kJ mol<sup>-1</sup>; DH(B2)=-40.74

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Ni++	gl	KNO3	25°C	0.10M	U		K1=8.13	1983FSa (32111)1426
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Ni++	gl	KNO3	25°C	0.10M	U	M	K1=8.07	B2=14.23	1981ACa (32112)1427
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B(NiLpy)=10.07; B(NiL(py)2)=11.4

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Ni++	gl	KNO3	25°C	0.10M	U	I	K1=8.5	B2=14.8	1981FMb (32113)1428
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Interpolated from graph. Data also for 20, 50, 80% v/v MeOH/H2O

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Ni++	gl	NaNO3	30°C	0.20M	C		K1=8.18	B2=14.40	1981RSe (32114)1429
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Ni++	gl	KNO3	25°C	2.5M	M		K1=7.53	1979FLc (32115)1430
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Ni++	gl	KNO3	25°C	0.10M	U	M		1971TSh (32116)1431
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K(NiL+Ala)=4.68  
K(NiL+Gly)=5.02  
K(NiL+Asp)=5.70

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Ni++	gl	KNO3	30°C	0.10M	U	M		1971TSj (32117)1432
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K(NiL+A)=6.45

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A=1,2-diaminopropane

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Ni++	sp	oth/un	25°C	0.33M	U		K1=14.9	1970CMa (32118)1433
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Ni++	sp	NaClO4	25°C	0.10M	U	M		1970CMa (32119)1434
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K(NiL+2CN)=11.20

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Ni++	oth	none	25°C	0.00	U		K1=9.24	B2=15.71	1970NLb (32120)1435
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Ni++	gl	NaClO4	25°C	0.12M	U	I	K1=8.48	B2=15.03	1970NPc (32121)1436
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In 0.52 M NaClO4 K1=8.21, K2=6.57; in 1.0 M K1=8.18, K2=6.61;  
in 2.0 M K1=8.40, K2=6.90; in 0.007-0.008 M K1=8.93, K2=6.44

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Ni++	EMF	oth/un	30°C	0.10M	U	M		1970STf (32122)1437
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K(NiL+en)=6.32  
K(NiL+A)=6.45  
K(NiL+B)=5.29

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A=1,2-diaminopropane; B=1,3-diaminopropane

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Ni++	gl	R4N.X	25°C	1.50M	U		K1=8.21	1969FDa (32123)1438
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Ni++	dis R4N.X	25°C	1.50M	U	M	1969FDa (32124)1439
						B(NiL(py))=10.10
						B(NiL(py)2)=10.9
						B(NiL(py)3)=11.27
						B(NiL(NH3))=10.72

Ni++            gl   KNO3   20°C 0.10M U   H   K1=8.19   B2=14.3   1964ANa (32125)1440  
By calorimetry: DH(K1)=-21.1 kJ mol<sup>-1</sup>, DS=83.6 J K<sup>-1</sup> mol<sup>-1</sup>  
DH(B2)=-39.7, DS(B2)=138.4

Ni++            g1   KCl       30°C 0.10M U                    K1=8.26   B2=14.61   1952Cma (32127)1442  
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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KN03	25°C	0.10M	C			K1=6.4 B2=11.05	1987AKa	(32417)1443
Ni++	gl	KN03	25°C	0.10M	U			K1=6.4 B2=11.05	1987BKa	(32418)1444
Ni++	gl	KN03	25°C	0.10M	C			K1=6.43 B2=10.97	1984FVa	(32419)1445
*****										
C4H7N3			L					CAS 13400-46-9		(3567)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.30M	C	H		K1=5.85 K3=3.12	B2=10.67	1967Hwa (32435)1446
By calorimetry DH(K1)=-36.3 kJ mol-1, DH(K2)=-36.2, DH(K3)=-36.2										

Ni++	g1	oth/un	25°C	0.01M	U	K1=6.0	B2=11.0	1960HJa (32436)1447
						B3=14.3		

C4H7N3S L CAS 14068-53-2 (1456)  
2-Amino-5-ethyl-1,3,4-thiadiazole; C2N2S(C2H5).NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.50M	U			K1=1.15	1985GLa	(32442)1448

C4H7N3S L CAS 13275-68-8 (1427)  
2-Ethylamino-1,3,4-thiadiazole; C2HN2S.NHC2H5

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.50M	U		K1=0.84 B2=1.75	1982GLa (32448)	1449
*****									
		C4H8N2O2		H2L		Dimethylglyoxim	CAS 95-45-4 (2032)		
		2,3-Butanedione dioxime,				Dimethylglyoxime;	CH3.(C:NOH).(C:NOH).CH3		
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	oth/un	25°C	0.01M	M			1986IGb (32503)	1450
							Kso(NiL2)=-23.06		
							In tris or phosphate buffer, pH 6.4-8.9; by atomic absorption spectroscopy.		
Ni++	ix	KCl	?	0.20M	U			1967BKa (32504)	1451
							K(NiL2+L)=3.02		
Ni++	sol	NaClO4	20°C	0.10M	U		K1=8.08 B2=16.65	1964ASb (32505)	1452
Ni++	dis	NaClO4	25°C	0.10M	U		K1=9.0 B2=17.62	1964SAe (32506)	1453
Ni++	gl	diox/w	25°C	75%	U	I	K1=11.0 B2=23.1	1963BAb (32507)	1454
							Kso=-23.66		
							In aqueous soln: B2=17.0		
Ni++	gl	alc/w	20°C	50%	U		B2=21.8	1961VL a (32508)	1455
							Medium: 50% MeOH, 0.1 M KCl		
Ni++	sp	diox/w	20°C	50%	U		B2=21.8	1961VL b (32509)	1456
Ni++	dis	non-aq	25°C	100%	U		K1=14.73 B2=17.24	1959DKa (32510)	1457
							Medium: CHCl3, 0.1 M NaClO4		
Ni++	sol	non-aq	25°C	100%	U	IH		1959FLa (32511)	1458
							Ks2=-3.34		
							Medium: CHCl3, DH(s2)=20 kJ mol-1. In dil soln. Ks2=-5.98, DH=38; C6H6:		
							Ks2=-6.60, DH=27.6 plus others		
Ni++	sol	oth/un	25°C	?	U	T H		1958BBb (32512)	1459
							Kso=23.78		
							DH(so)=50 kJ mol-1, DS=-280. 40 C: Kso=23.23		
Ni++	gl	diox/w	25°C	50%	U		K1=11.55 B2=21.88	1958BP a (32513)	1460
Ni++	sol	alc/w	?	9.6%	U	I		1955BMa (32514)	1461
							Ks2=-3.52		
							In CHCl3 Ks2=-3.26, plus others		
Ni++	gl	diox/w	25°C	50%	U	T H	K1=11.16 B2=21.70	1954CFa (32515)	1462
							DH(B2)=8.8 kJ mol-1. At 39.6 C: K1=11.18, K2=10.59		

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 Ni++ sol none 25°C 0.0 U I B2=17.72 1954CSa (32516)1463  
 In 0.05 M NaCl B2=17.35, Kso=-23.37, Ks2=-6.01. In CHCl3 Ks2=-3.32  
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Ni++ gl diox/w 30°C 75% U K1=14.6 B2=28.40 1954UFa (32517)1464  
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C4H8N2O3 HL Asparagine CAS 70-47-3 (17)  
 2-Aminobutanedioic acid 4-amide; H2N.CH(CH2.CO.NH2).COOH  
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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	KNO3	25°C	0.3M	C	IH	K1=6.02 B2= 9.70	2003ZKb (32631)	1465
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DH1=-6.41 kJ/mol  
 For I=0.5 M K1=6.46; B2=9.76; for I=1.0 M K1=6.43, B2=9.72  
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Ni++	gl	KNO3	25°C	0.10M	C	TIH	K1=5.61	2001BTa (32632)	1466
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Data for 20-50% w/w EtOH, DMF, dioxane, AN/H2O, 0.10 M KNO3 and 15-45 C.  
 DH(K1)=-19.26 kJ mol<sup>-1</sup>, DS(K1)=-42.8 J K<sup>-1</sup> mol<sup>-1</sup>.  
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Ni++	gl	KNO3	25°C	0.10M	C		K1=5.61	1999BIa (32633)	1467
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Ni++	gl	KNO3	25°C	0.10M	M	M	K1=5.57	1996AEa (32634)	1468
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Data for ternary complexes with dipicolinic acid.  
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Ni++	gl	NaCl	25°C	1.00M	C		K1=5.31 B2=9.43	1996BFb (32635)	1469
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Ni++	gl	NaClO4	25°C	0.20M	C		K1=5.62	1993BAb (32636)	1470
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Ni++	gl	KNO3	25°C	0.10M	U	T H	K1=5.69 B2=10.33	1980ZYb (32637)	1471
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Ni++	gl	NaClO4	25°C	3.00M	C	T	K1=6.152 B2=11.16 B3=14.545	1974Bwa (32638)	1472
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Ni++	gl	KCl	25°C	0.20M	C	M	K1=7.14 B2=12.43	1974Gnd (32639)	1473
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B(NiHL)=11.19  
 B(Ni(gly)L)=11.89  
 B(Ni(gly)2L)=14.43  
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Ni++	gl	NaClO4	25°C	3.00M	C		B(NiLCl)=6.1 B(NiL2Cl)=11.7 B(NiH-1LCl)=11.64	1974Gwa (32640)	1474
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Ni++	gl	KNO3	25°C	0.10M	U	T	K1=5.68 B2=10.23	1965RWa (32641)	1475
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Ni++	gl	oth/un	25°C	0.15M	U		K1=5.58 B2=9.96	1958Lda (32642)	1476
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Ni++	gl	oth/un	20°C	0.01M	U		B2=10.6	1950ALa (32643)	1477
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C4H8N2O3 HL Gly-Gly CAS 556-50-3 (54)

Glycyl-glycine;  $\text{H}_2\text{N}.\text{CH}_2.\text{CO}.\text{NH}.\text{CH}_2.\text{COOH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.20M	C			K1=3.96 B2= 7.16 B(NiH-1L)=-4.91 B(NiH-1L2)=-2.51 B(NiH-2L2)=-11.99	2003AMb	(32914)1478
Ni++	gl	NaCl	25°C	0.15M	M			K1=3.96 B2= 7.19 B(NiH-1L)=-4.83 B(NiH-2L2)=-11.45	2003MYa	(32915)1479
Ni++	gl	NaCl04	25°C	0.20M	U	M		K1=4.33 B2= 7.74 K(Ni(bpy)+L)=3.88 K(Ni(phen)+L)=4.19 K(NiA+L)=4.00 K(Ni(his)+L)=3.96	1997PJ a	(32916)1480
A is 2,2'-bipyridylamine. K(Ni(ida)+L)=4.02.										
Ni++	gl	NaCl04	37°C	0.15M	U	M		K1=4.38 B(NiH-1L)=-2.06 B(NiH-2L2)=-8.95 B(NiH-1L2)=0.41 *K(NiL)=-6.44	1995NNa	(32917)1481
B(NiAL)=7.28, B(NiHCL)=16.70, B(NiCL)=10.80, Ni(H-1CL)=3.80, K(NiHC+L)=4.85. A is imidazole, C is histamine.										
Ni++	gl	NaCl04	37°C	0.15M	U	M		B(NiH(his)L)=17.75 B(Ni(his)L)=12.81 B(NiH-1(his)L)=5.94 K(NiH(his)+L)=4.67	1995NNa	(32918)1482
Ni++	gl	NaNO3	37°C	0.15M	M	M		K1=3.95 B2=7.18 B(NiH-1L)=-4.77 B(NiH-2L2)=-11.56 B(NiLA)=8.82 B(NiL2A2)=14.30	1987MOb	(32919)1483
A=imidazole. Also B(NiH2LB)=26.26, B(NiH2L2B)=29.07, B(NiH2LB2)=32.13 where B=pyridoxamine. Also ternary NiHLAB complexes.										
Ni++	oth	NaCl04	35°C	0.10M	C	M		K1=4.20 B2= 7.20 K(Ni(nta)+L)=5.39	1986SYa	(32920)1484
Method: paper electrophoresis. Medium pH 8.5.										
Ni++	gl	NaNO3	35°C	0.10M	U	M		K1=4.10 K(NiL+CMP)=2.15	1985KSc	(32921)1485
H2CMP=cytidine-5'-monophosphoric acid										

Ni++ gl KCl 25°C 0.20M C M 1984KDb (32922)1486

K(Ni(DOPA)+L)=3.84

B(NiHL(DOPA))=23.74

Ternary data also with Dopamine, Adrenaline and Noradrenaline

Ni++ gl KCl 20°C 0.20M U K1=4.08 B2=7.32 1982KRd (32923)1487

B3=9.68

B(NiH-1L2)=-1.8

B(NiH-2L2)=-11.57

Ni++ gl NaNO3 30°C 0.10M U 1979EHa (32924)1488

B(NiH-1L)=-3.36

Ni++ gl NaCl 25°C 0.12M U K1=4.17 B2=7.44 1977PNa (32925)1489

Ni++ gl NaCl 25°C 0.12M U K1=4.17 B2= 7.44 1976PNa (32926)1490

Ni++ gl KNO3 25°C 0.10M C K1=3.88 B2= 7.00 1975KMe (32927)1491

K(Ni+HL)=2.69

K(NiL+H)=6.29

\*K(NiL)=-8.88

Ni++ gl KNO3 25°C 0.10M C K1=3.88 B2=7.00 1974KMc (32928)1492

K(Ni+HL)=2.69

K(NiH-1L+H)=8.88

K(NiL+H)=6.29

Ni++ gl NaClO4 25°C 0.10M U 1972TSc (32929)1493

K3=2.11

K(NiH-1L2+H)=8.80

K(NiH-2L2+H=NiH-1L2)=9.48

Ni++ gl KNO3 25°C 0.10M U K1=4.11 B2=7.32 1971LNa (32930)1494

Ni++ gl NaClO4 25°C 1.00M U M K1=4.03 B2=7.24 1970MMa (32931)1495

B3=9.41

K(NiH-1L+H)=2.07

K(NiH-2L+2H)=12.15

Data for other complexes also given

Ni++ EMF oth/un ? ? U K1=4.17 B2=7.44 1970PBb (32932)1496

Ni++ gl diox/w 25°C 45% U T K1=5.06 B2=9.09 1969MPb (32933)1497

B3=11.82

Temperature range 10-40C

K1(10 C)=5.28, B2(10 C)=9.55, B3(10 C)=12.38

Ni++ gl diox/w 25°C 60% U T K1=6.33 B2=11.79 1969MPb (32934)1498

B3=15.52

In 70% MeOH: K1=5.81, B2=9.87, B3=12.94. In 39%: K1=4.92, B2=8.75, B3=11.43

$$K1(40\text{ }^{\circ}\text{C})=3.98, \quad B2(40\text{ }^{\circ}\text{C})=6.92, \quad B3(40\text{ }^{\circ}\text{C})=8.71$$

Ni++ cal KNO3 22°C 0.10M U H 1967SS1 (32937)1501  
DH(B2)=-25.1 kJ mol-1

Hydrazine-N,N'-diethanoic acid;  $\text{HOOC} \cdot \text{CH}_2 \cdot \text{NH} \cdot \text{NH} \cdot \text{CH}_2 \cdot \text{COOH}$ 

N(1)-Hydroxyasparagine, aspartyl-beta-hydroxamic acid;  $\text{H}_2\text{N}.\text{CH}(\text{CH}_2.\text{CO}.\text{NHOH}).\text{COOH}$

$$\begin{aligned} B(\text{NiHL}) &= 14.45 \\ B(\text{Ni}_2\text{HL}) &= 21.74 \end{aligned}$$

```

B(Ni2L)=14.42
B(Ni2H-1L)=4.56
-----
Ni++      gl  KCl      25°C 0.20M C      K1=8.38  B2=14.41  1990FBa (33128)1513
B(NiHL)=14.45
B(NiHL2)=21.74
B(NiH-1L2)=4.56
*****
C4H8N2O4      HL      CAS 20154-32-9 (1548)
N-Hydroxy-asparagine; HO.NH.CH(CH2.CO.NH2)COOH
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl  KCl      25°C 0.50M C      K1=8.38  B2=14.73  1988LEb (33146)1514
B(NiHL)=14.25
B(Ni2L3)=25.78
*****
C4H8N2S2      L      CAS 120-79-6 (2820)
N,N'-Dimethyl-dithiooxamide; CH3.NH.CS.CS.NH.CH3
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      sp  none  25°C 0.0 U      K1=5.26      1976AMc (33167)1515
*****
C4H8N3O3P      H2L      CAS 270249-45-1 (8827)
Amino-1H-imidazol-4ylmethylphosphonic acid;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl  KNO3  25°C 0.10M C      B2=14.63      2003SBc (33171)1516
B(NiH2L2)=30.16
*****
C4H8O2      HL      CAS 107-92-6 (1118)
n-Butanoic acid; CH3.CH2.CH2.COOH
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      oth NaClO4 25°C 2.0M U      K1=0.75      1990FTa (33301)1517
Methods: averaged results from potentiometric, polarographic and
spectrophotometric measurements.
-----
Ni++      oth oth/un 25°C 0.00 U      K1=1.54      1976HYa (33302)1518
Method: laser temperature jump
-----
Ni++      sp  NaClO4 25°C 2.00M U  I      K1=0.71  B2=0.88  1974GMB (33303)1519
-----
Ni++      EMF NaClO4 25°C 2.00M U      K1=0.73  B2=0.80  1970FMa (33304)1520
B3=1.34
-----
Ni++      sp  NaClO4 25°C 2.00M U      K1=0.81  B2=0.80  1970GFa (33305)1521

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C4H8O2S HL CAS 627-04-3 (3007)  
S-Ethylthioethanoic acid; CH3.CH2.S.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	cal	NaNO3	25°C	1.0M	U	H	K1=1.04 K3=0.47	B2= 1.81 1977ARa (33390)	1522
DH(K1)=1.2 kJ mol <sup>-1</sup> , DH(K2)=1.2, DH(K3)=-1.2									

Ni++	gl	NaClO4	25°C	1.00M	U		K1=1.04 B3=2.28	B2=1.81 1970SAa (33391)	1523
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Ni++	gl	diox/w	30°C	50%	U		K1=3.12	1956IFa (33392)	1524
------	----	--------	------	-----	---	--	---------	-----------------	------

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C4H8O3 HL CAS 594-61-6 (81)  
2-Hydroxy-2-methylpropanoic acid; (CH3)2C(OH).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	EMF	NaClO4	25°C	1.0M	U		K1=1.67 K3=0.4	B2=2.80 1967TGa (33435)	1525

Method: quinhydrone electrode

\*\*\*\*\*

C4H8O3 HL CAS 965-70-8 (423)  
2-Hydroxybutanoic acid; CH3.CH2.CH(OH).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	oth	NaClO4	25°C	2.0M	U		K1=1.72	1990FTa (33563)	1526
Methods: averaged results from potentiometric, polarographic and spectrophotometric measurements.									

Ni++	EMF	NaClO4	25°C	2.00M	U		K1=1.72 B3=3.63	B2=2.89 1978MMg (33564)	1527
------	-----	--------	------	-------	---	--	--------------------	-------------------------	------

Ni++	sp	NaClO4	25°C	2.00M	U	I	K1=1.72 B3=3.35	B2=2.91 1974GMb (33565)	1528
------	----	--------	------	-------	---	---	--------------------	-------------------------	------

Ni++	sp	NaClO4	25°C	2.00M	U		K1=1.72 B3=3.35	B2=2.91 1973GPa (33566)	1529
------	----	--------	------	-------	---	--	--------------------	-------------------------	------

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C4H8O3 HL CAS 300-85-6 (30)  
3-Hydroxybutanoic acid; CH3.CH(OH).CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	oth	NaClO4	25°C	2.0M	U		K1=1.00	1990FTa (33603)	1530
Methods: averaged results from potentiometric, polarographic and spectrophotometric measurements.									

-----  
 Ni++ EMF NaClO4 25°C 2.00M U K1=1.00 B2=1.34 1978MMg (33604)1531  
 B3=1.71  
 -----

Ni++ sp NaClO4 25°C 2.00M U I K1=1.00 B2=1.36 1974GMb (33605)1532  
 B3=1.57  
 -----

\*\*\*\*\*  
 C4H8O3 HL CAS 591-81-1 (39)  
 4-Hydroxybutanoic acid; HO.CH2.CH2.CH2.COOH  
 -----

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

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Ni++	EMF	NaClO4	25°C	2.00M	U		K1=0.63 B2=0.18	1978MMg (33646)	1533
------	-----	--------	------	-------	---	--	-----------------	-----------------	------

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Ni++	sp	NaClO4	25°C	2.00M	U	I	K1=0.52 B2=1.04	1974GMb (33647)	1534
------	----	--------	------	-------	---	---	-----------------	-----------------	------

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C4H8O3 HL Ethoxyacetic ac CAS 627-03-2 (2996)  
 Ethoxyacetic acid; C2H5.O.CH2.COOH  
 -----

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

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Ni++	cal	NaNO3	25°C	1.0M	U	H	K1=1.02 B2= 1.50	1977ARa (33666)	1535
------	-----	-------	------	------	---	---	------------------	-----------------	------

DH(K1)=4.1 kJ mol<sup>-1</sup>, DH(K2)=5.0  
 -----

Ni++	gl	NaClO4	25°C	1.00M	U		K1=1.02 B2=1.51 B3=1.23	1970SAa (33667)	1536
------	----	--------	------	-------	---	--	----------------------------	-----------------	------

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\*\*\*\*\*  
 C4H8S L CAS 110-01-0 (150)  
 Tetrahydrothiophene; cyclo(-CH2.CH2.S.CH2.CH2-)  
 -----

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

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Ni++	cal	non-aq	30°C	100%	U	H		1976GSb (33725)	1537
------	-----	--------	------	------	---	---	--	-----------------	------

K(NiA2+L)=0.43  
 -----

In benzene. A2 = BF2-bridged methylpropylglyoxime. DH=-12.0 kJ mol<sup>-1</sup>; DS=-31  
 \*\*\*\*\*

C4H9NO L Morpholine CAS 110-91-8 (318)  
 Perhydro-1,4-oxazine, Tetrahydro-1,4-oxazine; C4H8NO  
 -----

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

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Ni++	sp	oth/un	25°C	?	U	M		1981CKb (33780)	1538
------	----	--------	------	---	---	---	--	-----------------	------

K(Ni(C6H5)4porphin+L)=1.30  
 -----

Ni++	sp	non-aq	13°C	100%	U	T	M	1976CUa (33781)	1539
------	----	--------	------	------	---	---	---	-----------------	------

K(NiA+2L)=5.28  
 -----

Medium: chlorobenzene. H2A=biacetyl-bis-a-hydroxybenzylidenehydrazone  
 K=4.99(19 C); 4.68(26 C); 4.46(31 C)  
 -----

Ni++	ISE	R4N.X	25°C	2.00M	U		K1=2.54 B2=4.62	1969PDa (33782)	1540
------	-----	-------	------	-------	---	--	-----------------	-----------------	------

K3=1.65  
K4=1.16  
K5=0.93  
K6=0.97

Medium: NH4NO3

\*\*\*\*\*

C4H9NO2 HL Aminoisobutyric CAS 144-90-1 (188)  
2-Amino-2-methylpropanoic acid; H2N.C(CH3)2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaCl	25°C	1.0M	C		K1=5.14 B2= 9.25 B3=12.06	1976B0d (33826)	1541
Ni++	gl	KCl	25°C	0.50M	U	M	K1=5.12 B2=9.32 B3=11.91 B(NiAL)=7.36 B(NiAL2)=12.35 B(NiA2L2)=14.17	1966LHc (33827)	1542

HA=glyoxylic acid

Ni++	gl	KCl	20°C	0.10M	U	K1=5.16	B2=9.39	1963IPa	(33828)	1543
*****										
C4H9NO2		HL		2-Aminobutyric		CAS	2835-81-6		(571)	
2-Aminobutanoic acid; CH3.CH2.CH(NH2).COOH										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaCl04	37°C	0.15M	U	M	B(NiAL)=11.72 B(NiHAL)=19.51 K(NiL+A)=6.16 K(NiA+L)=5.76	1999NAa (33880)	1544

A is 1,3-diaminopropane.

Ni++	gl	NaCl04	37°C	0.15M	U	M	B(NiAL)=8.94 B(NiA2L)=11.23 K(NiA+L)=5.37 K(NiL+A)=3.88	1998NAa (33881)	1545
------	----	--------	------	-------	---	---	--	-----------------	------

K(NiAL+A)=2.29, K(NiA2+L)=5.53, K(NiL+2A)=5.67. A is imidazole.  
B(NiCL)=8.14, K(NiC+L)=5.77, K(NiL+C)=2.58. C is benzimidazole.

Ni++	gl	NaCl04	37°C	0.15M	U	M	B(NiHLA)=17.59 B(NiLA)=11.87 K(NiA+L)=5.61 K(NiL+A)=6.41	1998NAb (33882)	1546
------	----	--------	------	-------	---	---	---	-----------------	------

A is histamine. HL is DL-2-aminobutanoic acid.

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Ni++ gl NaCl04 37°C 0.15M U M 1998NAb (33883)1547

B(NiHL(his))=19.06

B(NiL(his))=14.28

K(Ni(his)+L)=5.44

K(NiL+his)=8.72

HL is DL-2-aminobutanoic acid.

Ni++ gl NaCl04 37°C 0.15M U M 1998NAc (33884)1548

B(NiAHL)=19.80

B(NiAL)=12.49

B(NiA2HL)=26.87

B(NiA2L)=18.50

A is 1,2-diaminopropane. K(NiA+L)=5.54, K(NiL+A)=6.93, K(NiA2+L)=5.43,  
K(NiAL+A)=6.01.

Ni++ gl NaCl 25°C 1.0M C K1=5.23 B2= 9.56 1976B0d (33885)1549  
B3=12.52

Ni++ gl KCl 25°C 0.20M U H K1=5.22 B2= 9.53 1975SGc (33886)1550  
By calorimetry: DH(K1)=-17.2 kJ mol<sup>-1</sup>, DS(K1)=42.3 J K<sup>-1</sup> mol<sup>-1</sup>;  
DH(B2)=-33.9, DS(B2)=68.6. Ligand is DL-amino acid.

Ni++ gl KCl 25°C 0.20M U H K1=5.22 B2= 9.53 1974SGb (33887)1551  
By calorimetry, DH(K1)=-17.2 kJ mol<sup>-1</sup>, DS(K1)=42.3 J K<sup>-1</sup> mol<sup>-1</sup>;  
DH(K2)=-33.9, DS(K2)=68.6.

Ni++ gl KCl 25°C 0.05M U K1=5.35 B2=9.76 1972GMb (33888)1552

Ni++ gl KCl 25°C 0.05M U M K1=5.38 B2=9.80 1972GSc (33889)1553  
B(NiLA)=10.18  
B(NiLB)=10.21  
B(NiL(Ser))=10.21  
B(NiL(Phe))=10.02  
HA=norleucine, HB=norvaline. B(NiL(Thr))=10.27, K(Ni+L+HTyr)=10.02

Ni++ gl KCl 25°C 0.05M U M 1972GSc (33890)1554

B(NiL(Gly))=10.59

B(NiL(Ala))=10.24

Ni++ gl oth/un 25°C 0.16M U K1=5.46 B2=9.82 1970LBa (33891)1555

Ni++ gl KCl 40°C 0.20M U T H K1=5.29 B2=9.48 1965SMb (33892)1556  
K1=5.58(15 C),5.46(25 C); K2=4.48(15 C),4.36(25 C)  
DH(K1)=-20.1 kJ mol<sup>-1</sup>,DS=37.6 J K<sup>-1</sup> mol<sup>-1</sup>; DH(K2)=-20.1,DS=16.7

\*\*\*\*\*  
C4H9NO2 HL 3-Aminobutyric CAS 2835-82-7 (2894)  
3-Aminobutanoic acid; CH3.CH(NH2).CH2.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

B(NiAL)=10.12  
B(NiHAL)=18.57  
K(NiL+A)=6.05  
K(NiA+L)=4.16

$B(\text{NiAL})=8.12$   
 $B(\text{NiA2L})=9.91$   
 $K(\text{NiA+L})=4.55$   
 $K(\text{NiL+A})=4.05$

B(NiHLA)=16.99  
B(NiLA)=10.37  
K(NiA+L)=4.01  
K(NiL+A)=6.30

B(NiHL(his))=18.65  
B(NiL(his))=12.82  
K(Ni(his)+L)=3.98  
K(NiL+his)=8.75

B(NiAHL)=20.39  
B(NiAL)=12.26  
B(NiA2HL)=27.48  
K(NiA+L)=5.31

Ni++ gl NaClO4 37°C 0.15M U M 1999NAa (33973)1565

B(NiAL)=9.20  
B(NiHAL)=18.25  
K(NiL+A)=6.00  
K(NiA+L)=3.24

A is 1,3-diaminopropane.

Ni++ gl NaCl04 37°C 0.15M U M 1998NAa (33974)1566

B(NiAL)=7.45  
B(NiA2L)=9.22  
K(NiA+L)=3.88  
K(NiL+A)=4.25

K(NiAL+A)=1.77, K(NiA2+L)=3.52, K(NiL+2A)=6.02. A is imidazole. B(NiC2L)=7.97, K(NiC2+L)=3.86, K(NiL+2C)=4.77. C is benzimidazole.

Ni++ gl NaCl04 37°C 0.15M U M 1998NAb (33975)1567

B(NiHLA)=16.84  
B(NiLA)=9.42  
K(NiA+L)=3.06  
K(NiL+A)=6.22

A is histamine.

Ni++ gl NaCl04 37°C 0.15M U M 1998NAb (33976)1568

B(NiHL(his))=18.06  
B(NiL(his))=11.87  
K(Ni(his)+L)=3.03  
K(NiL+his)=8.67

Ni++ gl NaCl04 37°C 0.15M U M 1998NAc (33977)1569

B(NiAHL)=20.54  
B(NiAL)=10.03  
B(NiA2HL)=28.35  
K(NiL+A)=6.83

A is 1,2-diaminopropane.

Ni++ gl NaCl 25°C 1.00M C K1=3.54 1976B0b (33978)1570

C4H9NO2 L CAS 623-33-6 (3011)  
Glycine ethyl ester; H2N.CH2.CO.OCH2CH3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl NaCl04 30°C 1.0M U K1=2.30 B2=4.22 1966HJa (33998)1571

Ni++ gl oth/un 25°C 0.15M U K1=2.49 B2=4.58 1956WMa (33999)1572

C4H9NO2 HL Dimethylglycine CAS 1118-68-9 (88)  
N,N-Dimethyl-2-aminoethanoic acid; (CH3)2N.CH2.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl alc/w 21°C 50% M I K1=4.98 B2=9.17 1984LOe (34022)1573  
B(NiHL)=10.82

Ni++ gl KNO3 25°C 0.10M U M 1972IVc (34023)1574  
K(NiA+L)=4.45

H2A=iminodiethanoic acid

Ni++ gl oth/un 25°C 0.15M U K1=4.77 B2=8.47 1958Lda (34024)1575

Ni++ gl NaClO4 25°C 0.10M U K1=4.82 B2=8.60 1954BCb (34025)1576

\*\*\*\*\*

C4H9NO2 HL N-Ethylglycine CAS 627-01-0 (3010)

N-Ethylglycine; CH3.CH2.NH.CH2.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
Ni++ gl NaClO4 25°C 0.10M U K1=4.81 B2=8.54 1954BCb (34038)1577  
\*\*\*\*\*

C4H9NO2S HL CAS 3335-52-2 (8306)

2-(Aminoethyl)thioethanoic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
Ni++ gl KNO3 25°C 0.50M U H K1=6.14 B2=11.53 1983HTa (34042)1578

By calorimetry: DH(K1)=-22.6 kJ mol<sup>-1</sup>, DH(K2)=-22.7.

\*\*\*\*\*

C4H9NO2S HL CAS 88806-98-8 (3019)

2-Amino-3-mercaptopropanoic acid methyl ester, cysteine methyl ester;

HSCH2CH(NH2)COOCH3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
Ni++ gl KCl 25°C 0.10M U K1=7.61 B2=17.24 1969PPd (34049)1579

B3=24.27

B(Ni4L6)=58.35

B(NiHL)=11.46

B(NiHL2)=20.48

K(NiLOH+H)=8.6

\*\*\*\*\*

C4H9NO2S HL Methylcysteine CAS 1187-84-4 (84)

2-Amino-3-methylmercaptopropanoic acid; H2N.CH(CH2.S.CH3)COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
Ni++ gl NaClO4 37°C 0.15M U M 2000NNb (34077)1580

B(NiAL)=9.29

B(NiHAL)=14.59

K(NiHA+L)=7.22

K(NiA+L)=6.02

K(NiL+A)=3.57. HA 6-aminopenicillanic acid.

-----  
Ni++            gl   NaClO4 37°C 0.15M U       M                            2000NNb (34078)1581

B(NiAL)=9.81  
B(NiHAL)=14.49  
B(NiH-1AL)=1.32  
K(NiHA+L)=5.60

K(NiA+L)=6.23, K(NiL+A)=4.09, K(NiH-1A+L)=5.96. HA is ampicillin.  
-----

Ni++            dis NaClO4 35°C 0.10M U       M       K1=5.35    B2=9.70    1990TSb (34079)1582

Method: electrophoresis. Ternary complexes with NTA  
-----

Ni++            gl   KCl       25°C 0.20M C                            K1=5.14    B2=9.78    1987SPa (34080)1583

B3=12.76  
-----

Ni++            gl   KNO3       25°C 0.10M U                            K1=5.26    B2=9.82    1964LMa (34081)1584

\*\*\*\*\*

C4H9NO3                            HL       Threonine                            CAS 72-19-5    (48)

2-Amino-3-hydroxybutanoic acid; H2N.CH(CH(OH).CH3)COOH  
-----

Metal            Mtd Medium Temp Conc Cal Flags Lg K values                            Reference ExptNo  
-----

Ni++            gl   KNO3       20°C 0.01M U                            K1=5.51    B2=9.91    1996EMa (34228)1585

Ni++            gl   KNO3       25°C 0.10M C T       R    K1=5.47    B2=9.99    1995BEa (34229)1586

IUPAC evaluation  
-----

Ni++            gl   KCl       25°C 0.20M C       M                            1993BCf (34230)1587

K(NiA+(S)-L)=18.41  
K(NiA+(R)-L)=18.68

A: N,N'-bis[(2S)-pyrrolidine-2-yl]propane-1,3-diamine.  
-----

Ni++            gl   NaClO4 25°C 0.20M U T    M       K1=5.96    B2=10.89    1993PPa (34231)1588

K(NiA+L)=5.34

A is 2,2'-bipyridylamine. Also data for 35 and 45 C.  
-----

Ni++            gl   KNO3       25°C 0.10M U       M       K1=5.51                            1989MAc (34232)1589

K(NiA+L)=4.30

H4A is adenosine-5'-triphosphoric acid.  
-----

Ni++            gl   KNO3       25°C 0.10M C       M       K1=5.53                            1989MAd (34233)1590

K(NiA+L)=4.81  
B(NiAL)=12.83

H2A is N-(2-acetamido)imino diethanoic acid.  
-----

Ni++            gl   KNO3       35°C 0.20M U       M       K1=5.52    B2=9.80    1989RVa (34234)1591

K(NiA+L)=4.94

A=bis(imidazol-2-yl)methane  
-----

Ni++            gl   NaClO4 27°C 0.20M U       M       K1=5.96    B2=10.89    1988PPc (34235)1592

K(NiA+L)=5.35



A is 2,2'-dipyridylamine.

Ni++ gl oth/un 20°C 0.10M U K1=5.59 B2=10.30 1987MTa (34236)1593

Ni++ gl NaCl 37°C 0.15M U M K1=4.92 B2=9.09 1986XHa (34237)1594  
B(NiL(His))=12.90  
B(NiHL(His))=19.26

Ni++ gl KNO3 25°C 0.10M C T K1=5.14 B2=9.74 1976PSa (34238)1595  
B3=12.73

Ni++ gl KNO3 25°C 0.05M U T K1=5.42 B2=9.95 1972GMb (34239)1596  
20-35C  
K1(20 C)=5.52, K1(35 C)=5.38, K2(20 C)=4.59, K2(35 C)=4.44

Ni++ gl KNO3 25°C 0.05M U M K1=5.50 B2=10.08 1972GSc (34240)1597  
B(NiL(Phe))=10.09  
K(Ni+L+HTyr)=10.14

Ni++ gl KNO3 25°C 0.05M U M 1972GSc (34241)1598  
B(NiL(Gly))=10.70  
B(NiL(Ala))=10.37  
B(NiLA)=10.29  
B(NiLB)=10.30

B(NiLC)=10.27, B(NiL(Ser))=10.34. HA=norvaline, HB=norleucine,  
HC=2-aminobutanoic acid

Ni++ gl oth/un 25°C 0.16M U T K1=5.46 B2=9.97 1970LBa (34242)1599  
K3=3.45

Ni++ gl KNO3 40°C 0.20M U T H T K1=5.28 B2=9.47 1968RMb (34243)1600  
K1=5.50(15 C),5.42(25 C); K2=4.44(15 C),4.34(25 C)  
DH(B2)=-33.9 kJ mol<sup>-1</sup>, DS=79.4 J K<sup>-1</sup> mol<sup>-1</sup>

\*\*\*\*\*  
C4H9NO3 HL Homoserine CAS 1927-25-9 (578)  
2-Amino-4-hydroxybutanoic acid; HO.CH2.CH2.CH(NH2).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KCl 25°C 0.10M U K1=5.40 B2=9.52 1971BDc (34351)1601  
K3=2.6

Ni++ gl oth/un 25°C 0.16M U K1=5.51 B2=10.11 1970LBa (34352)1602  
K3=3.26

\*\*\*\*\*  
C4H9NO3 HL CAS 4385-95-9 (1894)  
2-Aminooxybutanoic acid;CH3.CH2.CH(O.NH2).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.50M U K1=2.81 1985WTa (34362)1603  
 \*\*\*\*\*  
 C4H9NO3 HL CAS 924-49-2 (538)  
 4-Amino-3-hydroxybutanoic acid; H2N.CH2.CH(OH).CH2.COOH

---

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaCl04	37°C	0.15M	U	M		1999NAa (34384)1604	
							B(NiAL)=14.55 K(NiL+A)=6.08 K(NiA+L)=8.59		

A is 1,3-diaminopropane.

---

Ni++	gl	NaCl04	37°C	0.15M	U	M		1998NAa (34385)1605	
							B(NiAL)=12.35 K(NiA+L)=8.78 K(NiL+A)=3.88 B(NiC2L)=13.05		

A is imidazole. K(NiC2+L)=8.94, K(NiL+2C)=4.58. C is benzimidazole.

---

Ni++	gl	NaCl04	37°C	0.15M	U	M		1998NAb (34386)1606	
							B(NiHLA)=23.06		

A is histamine. HL is DL-4-aminobutanoic acid.

---

Ni++	gl	NaCl04	37°C	0.15M	U	M		1998NAb (34387)1607	
							B(NiHL(his))=23.84		

HL is DL-4-aminobutanoic acid.

---

Ni++	gl	NaCl04	37°C	0.15M	U	M		1998NAc (34388)1608	
							B(NiAL)=15.32 K(NiA+L)=8.37		

A is 1,2-diaminopropane.

---

Ni++	gl	NaCl04	37°C	0.15M	U	M	K1=8.47 B2=16.17	1993NAd (34389)1609	
							B(NiLCu)=15.28 B(NiL2Cu)=24.33 B(NiLZn)=11.43 B(NiL2Zn)=21.42		

---

Ni++	gl	oth/un	25°C	0.16M	U		K1=3.99 B2=7.17	1970LBa (34390)1610	

\*\*\*\*\*  
 C4H9NO3 L CAS 2788-84-3 (3014)  
 Serine methyl ester; H2N.CH(CH2.OH).CO.OCH3

---

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	oth/un	25°C	0.15M	U		K1=2.37 B2=4.35	1958LDa (34396)1611	

\*\*\*\*\*  
 C4H9N3O2 HL CAS 20238-94-2 (1136)  
 Glycyl-glycinamide; H2N.CH2.CO.NH.CH2.CO.NH2

```

-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       gl  NaClO4 25°C 0.10M U      K1=3.42  B2=6.21  1975DBa (34413)1612
                                     B3=8.6
                                     B(NiH-1L)=-5.10
                                     B(NiH-2L)=-14.44
                                     B(NiH-3L)=-24.97

```

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*****
C4H9N3O2      HL      CAS 57-00-1 (8275)
Methylguanidoethanoic acid;
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       gl  NaClO4 20°C 0.10M U T H  K1=3.00  B2= 5.38  1983SSg (34416)1613
Also data for 30 and 40 C. DH(B2)=-8.08 kJ mol-1, DS(B2)=212 J K-1 mol-1.

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```

*****
C4H9N3O3      HL      (6027)
Glycylglycine hydroxamic acid; H2N.CH2.CO.NH.CH2.CO.NHOH
-----

```

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       gl  KCl    25°C 0.20M C      K1=5.88  B2=10.23  1989BMc (34426)1614
                                     B(Ni2L)=8.94
                                     B(NiH2L2)=24.29
                                     B(NiH-1L2)=1.32
                                     B(NiH-2L2)=-7.79

```

```

B(NiH3L3)= 36.11
*****
C4H9N5      L      (6904)
5-(3-Aminopropyl)-1H-tetrazole; NH2.CH2.CH2.CH2.CHN4
-----

```

```

-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       gl  NaNO3  20°C 0.10M U      K1=5.86  B2=8.92  1978LEb (34437)1615

```

```

*****
C4H10NO5P      H3L      (6029)
2-Amino-3-phosphonatobutanoic acid; CH3.CH(H2O3P).CH(NH2).COOH
-----

```

```

-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       gl  KCl    20°C 0.10M U      K1=7.51      1987BDc (34447)1616
                                     K(Ni+HL)=2.83

```

```

*****
C4H10NO5P      H3L      CAS 6323-99-5 (6043)
2-Amino-4-phosphonatobutanoic acid; H2O3P.CH2.CH2.CH(NH2)COOH
-----

```

```

-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       gl  KCl    25°C 0.20M C      K1=6.41  B2=10.47  1989KFb (34456)1617

```

Ni++	gl	KCl	20°C	0.10M	U			K1=5.73		1987BDc	(34457)1618
K(Ni+HL)=3.31											
*****											
C4H10N06P			H2L					CAS	6401-59-8		(2399)
O-Phospho-2-methylserine;											
-----											
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values		Reference	ExptNo
-----											
Ni++	gl	KN03	25°C	0.20M	C			K1=6.26	B2=10.78	1978MAc	(34471)1619
K(Ni+HL)=1.98											
K(NiHL+L)=1.93											
K(NiL+H)=5.79											
*****											
C4H10N06P			H2L					CAS	1114-81-4		(2400)
O-Phospho-threonine;											
-----											
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values		Reference	ExptNo
-----											
Ni++	gl	KN03	25°C	0.20M	C			K1=6.57	B2=11.16	1978MAc	(34479)1620
K(Ni+HL)=2.76											
K(NiL+H)=5.86											
*****											
C4H10N2			L						(7831)		
3-Aminopyrrolidine;											
-----											
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values		Reference	ExptNo
-----											
Ni++	gl	KCl	25°C	0.10M	C			K1=4.1	B2= 8.1	2001KSa	(34493)1621
*****											
C4H10N2O			L					CAS	1857-19-8		(3015)
Sarcosine methylamide; CH3.NH.CH2.CO.NH.CH3											
-----											
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values		Reference	ExptNo
-----											
Ni++	gl	oth/un	25°C	0.01M	U			K1=3.21	B2=6.04	1959DLb	(34511)1622
*****											
C4H10N2O2			HL					CAS	1883-09-6		(45)
2,4-Diaminobutanoic acid; H2N.CH2.CH2.CH(NH2)COOH											
-----											
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values		Reference	ExptNo
-----											
Ni++	gl	NaCl04	37°C	0.15M	U	M				2002NNa	(34550)1623
B(NiH2LA)=23.12											
B(NiHLA)=18.10											
B(NiAL)=12.41											
K(NiHL+A)=3.67											
HA is 6-aminopenicillanic acid. K(NiA+L)=9.14, K(NiL+A)=3.64.											

-----  
Ni++            gl   NaClO4 37°C 0.15M U       M                            2000NNa (34551)1624

B(NiAH2L)=23.02

B(NiAHL)=19.19

B(NiAL)=12.52

B(NiAH-1L)=3.77

HA is ampicillin. K(NiHL+A)=4.76, K(NiA+L)=8.44, K(NiL+A)=3.75,  
K(NiH-1A+L)=8.41.

-----  
Ni++            gl   NaClO4 37°C 0.15M U       M       K1=8.77    B2=15.57    1998NAa (34552)1625

B(NiHL)=14.43

B(NiHL2)=22.42

B(NiAL)=11.53

B(NiHAL)=17.77

K(NiHL+A)=3.34, K(NiA+L)=7.96, K(NiL+A)=2.76. A is imidazole. B(NiHCL)=  
17.29, B(NiC2L)=13.69, K(NiHL+C)=2.86, K(NiC2+L)=9.58. C is benzimidazole.

-----  
Ni++            gl   NaClO4 37°C 0.15M U       M                            1998NAb (34553)1626

B(NiH2LA)=26.55

B(NiHLA)=20.74

B(NiLA)=14.82

K(NiA+L)=8.46

K(NiL+A)=6.05. A is histamine. HL is DL-2,4-diaminobutanoic acid.

-----  
Ni++            gl   NaClO4 37°C 0.15M U       M                            1998NAb (34554)1627

B(NiHL(his))=22.60

B(NiL(his))=16.68

K(Ni(his)+L)=7.34

K(NiL+his)=7.91

HL is DL-2,4-diaminobutanoic acid.

-----  
Ni++            gl   NaClO4 37°C 0.15M C       M       K1=8.77    B2=15.57    1995NAb (34555)1628

B(NiHL)=14.43

B(NiHL2)=22.42

Data for ternary complexes with cysteine, cysteic acid and penicillamine.

-----  
Ni++            gl   KCl       25°C 0.20M C                            K1=8.97    B2=16.34    1981FGb (34556)1629

B3=19.80

B(NiHL)=14.89

B(NiH2L2)=29.15

B(NiHL2)=23.12

B(NiHL3)=29.49; B(NiH2L3)=36.61; B(NiH3L3)=43.55

-----  
Ni++            gl   KNO3       25°C 0.10M C                            K1=8.91    B2=15.97    1976BPb (34557)1630

B(NiHL)=14.74

B(NiHL2)=22.84

-----  
Ni++            gl   oth/un 20°C 0.01M U                            B2=16.4            1952ALa (34558)1631

\*\*\*\*\*

C4H10N2O2

HL

(2557)

2-Amino-3-(methylamino)propanoic acid, CH<sub>3</sub>.NH.CH<sub>2</sub>.CH(NH<sub>2</sub>).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KNO <sub>3</sub>	25°C	0.10M	C			K1=8.42 B2=15.25 B(NiHL)=14.03 B(NiHL2)=21.46 B3=17.89	1989NOa	(34572)1632

\*\*\*\*\*

C4H10N2O2 HL EDMA (2784)  
Diaminoethane-N-ethanoic acid; H<sub>2</sub>N.CH<sub>2</sub>.CH<sub>2</sub>.NH.CH<sub>2</sub>.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.50M	C			K1=10.106 B2=16.629	1985LEa	(34583)1633
Ni++	vlt	NaClO <sub>4</sub>	25°C	0.30M	U			K1=10.44	1974KOb	(34584)1634
Ni++	sp	NaClO <sub>4</sub>	25°C	0.30M	U			K1=10.44 B2=16.78	1970KFa	(34585)1635

\*\*\*\*\*

C4H10N2O3 HL CAS 4475-93-8 (5892)  
Threoninehydroxamic acid;  
2-Amino-N,3-dihydroxybutanamide; CH<sub>3</sub>.CH(OH).CH(NH<sub>2</sub>).CO.NHOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.50M	C			K1=6.476 B2=13.300 B(NiH-1L2)=5.115	1989LEc	(34600)1636

\*\*\*\*\*

C4H10N2O4S HL ACES CAS 7365-82-4 (7488)  
N-(2-Acetamido)-2-aminoethanesulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KNO <sub>3</sub>	25°C	0.10M	C	M		K1=3.85	2001AAa	(34613)1637

Also data for ternary complexes with 5'-GMP, 5'-IMP and 5'-CMP.

Ni++	gl	KNO <sub>3</sub>	25°C	0.10M	C			K1=3.67	2000ADa	(34614)1638
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\*\*\*\*\*

C4H10N4O L CAS 16352-04-8 (3016)  
Guanylethylurea; H<sub>2</sub>N.C(:NH).CH<sub>2</sub>.CH<sub>2</sub>.NH.CO.NH<sub>2</sub>

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KCl	30°C	0.10M	U			B2=11.81	1960DUa	(34642)1639

\*\*\*\*\*

C4H10N4O2 L CAS 4146-43-4 (2564)  
1,4-Butanedioic acid dihydrazide; H<sub>2</sub>N.NH.CO.CH<sub>2</sub>.CH<sub>2</sub>.CO.NH.NH<sub>2</sub>

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ni++ vlt KNO3 25°C 0.10M U K1=2.43 B2=3.69 1980AAa (34833)1646  
\*\*\*\*\*

C4H11NO L CAS 124-68-5 (948)  
2-Amino-2-methylpropan-1-ol; CH3.C(NH2)(CH3).CH2.OH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 30°C 1.00M U K1=2.305 B2=4.18 1982RMa (34849)1647  
K3=0.54

\*\*\*\*\*  
C4H11NO L CAS 108-01-0 (3590)  
N,N-Dimethyl-2-aminoethanol; HO.CH2.CH2.N(CH3)2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.0 M I K2=2.90 1987AAb (34872)1648  
Data for I=0.3, 0.5, 0.7 and 1.0 M KNO3.

\*\*\*\*\*  
C4H11NOS L (1220)  
1-Hydroxy-3-thia-5-aminopentane; HO.CH2.CH2.S.CH2.CH2.NH2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.50M C H K1=3.208 B2=5.76 1977HGa (34883)1649  
DH(K1)=-20.1 kJ mol<sup>-1</sup>, DS(K1)=-6.3 J K<sup>-1</sup> mol<sup>-1</sup>  
DH(K2)=-22.7 kJ mol<sup>-1</sup> DS(K2)=-27.2 J K<sup>-1</sup> mol<sup>-1</sup>

-----  
Ni++ gl NaClO4 30°C 1.0M U T K1=3.28 B2=6.01 1953MCa (34884)1650  
K3=1.70

50 C: K1=3.07, K2=2.40, K3=1.69

\*\*\*\*\*  
C4H11NO2 L Diethanolamine CAS 111-42-2 (89)  
2,2'-Iminodiethanol; HN(CH2.CH2.OH)2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ sp non-aq 25°C 100% U H K1=2.33 B2=4.10 1989KRb (34927)1651  
Medium: dimethylformamide

-----  
Ni++ gl NaClO4 25°C 0.5M U I K1=2.60 B2= 4.47 1982BDd (34928)1652  
Also data for 2 M NaClO4.

-----  
Ni++ sp alc/w 25°C 100% U K1=2.89 B2=4.75 1975KDa (34929)1653  
Medium: MeOH; in EtOH K1=2.96, K2=1.89; in BuOH K1=2.97, K2=1.76

-----  
Ni++ gl NaClO4 30°C 1.00M U K1=2.79 B2=4.42 1972BSd (34930)1654  
K3=1.18

-----  
Ni++ gl oth/un 25°C 0.43M U K1=3.31 B2=5.44 1966SKe (34931)1655



K3=1.42

Medium: CH<sub>2</sub>OHCH<sub>2</sub>NH<sub>3</sub>NO<sub>3</sub>

\*\*\*\*\*

C<sub>4</sub>H<sub>11</sub>N<sub>2</sub>O<sub>2</sub> L CAS 115-69-5 (949)

2-Amino-2-methyl-1,3-propanediol; HO.CH<sub>2</sub>.C(NH<sub>2</sub>)(CH<sub>3</sub>).CH<sub>2</sub>.OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO <sub>3</sub>	30°C	1.00M	U		K1=2.70 B2=4.70 K3=1.27	1982RMa	(34980)1656

\*\*\*\*\*

C<sub>4</sub>H<sub>11</sub>N<sub>3</sub>O<sub>3</sub> L Tris buffer CAS 77-86-1 (550)

2-Amino-2-(hydroxymethyl)-propan-1,3-diol; (HO.CH<sub>2</sub>)<sub>3</sub>C.NH<sub>2</sub>

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaCl	25°C	0.15M	C		K1=2.641 B2=4.75 B(Ni <sub>2</sub> H-3L <sub>3</sub> )=-14.58 K(Ni <sub>4</sub> H-5L <sub>4</sub> )=-21.65 B(Ni <sub>4</sub> H-6L <sub>4</sub> )=-29.75	1983BSa	(35030)1657
Ni++	gl	KNO <sub>3</sub>	30°C	1.00M	U		K1=2.54 B2=4.74	1982RMa	(35031)1658
Ni++	gl	KNO <sub>3</sub>	25°C	0.10M	C	M	K1=2.74 K(Ni(ATP)+L)=2.35	1979FHa	(35032)1659
Ni++	gl	NaClO <sub>4</sub>	25°C	3.00M	C	M	K1=3.18 B2=5.73 B(-5,3,2)=-30.06 B(-8,4,4)=-46.65 B(-9,4,4)=-54.85 B(-10,4,4)=-63.60	1978FOb	(35033)1660

B(p,q,r): pH+qNi+rL=Hp(Ni)qLr

Ni++	gl	KNO <sub>3</sub>	25°C	0.10M	U		K1=2.63 B2=4.53 K(2Ni+3L=Ni <sub>2</sub> H-3L <sub>3</sub> +3H)=-13.4 K(3Ni+3L=Ni <sub>3</sub> H-5L <sub>3</sub> +5H)=-27.0	1969Bmd	(35034)1661
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Ni++	gl	KNO <sub>3</sub>	?	0.10M	U		K1=2.86	1962HSa	(35035)1662
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\*\*\*\*\*

C<sub>4</sub>H<sub>11</sub>N<sub>2</sub>O<sub>8</sub>P<sub>2</sub> H<sub>5</sub>L CAS 2439-99-8 (2129)

N-Carboxymethyl-N,N-bis(methylenephosphonic acid); H<sub>2</sub>OC.CH<sub>2</sub>.N(CH<sub>2</sub>.PO<sub>3</sub>H<sub>2</sub>)<sub>2</sub>

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO <sub>3</sub>	25°C	0.10M	C		K1=12.6 K(NiL+H)=6.45 K(NiHL+H)=4.88 K(NiL+OH)=3.0	2000SDa	(35090)1663

Ni++	gl	NaCl	25°C	0.10M	U		K1=11.99	1993DLA	(35091)1664
------	----	------	------	-------	---	--	----------	---------	-------------

B(NiH2L)=23.06

B(NiHL)=18.24

Ni++ sp KNO3 20°C 0.50M U K1=11.63 1974Nka (35092)1665

K(Ni+HL)=7.04

K(Ni+H2L)=5.55

K(Ni+H3L)=2.67

C4H11N2O4P H2L CAS 53626-52-1 (9088)

2[(Aminoacetyl)amino]ethylphosphonic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.10M U K1=4.44 1975HMc (35146)1666

K(NiL+H)=6.64

C4H11N2O4P H2L (7118)

Alanylaminomethylphosphonic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.10M C K1=3.939 B2=6.89 1995HLA (35150)1667

B(NiH-1L)=-4.69

B(NiHL)=9.80

C4H11N2O4P H2L (7121)

Glycyl-1-aminoethylphosphonic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KCl 25°C 0.10M U K1=4.625 B2=7.963 1995HLA (35155)1668

B(NiHL)=10.64

B(NiH-1L)=-4.14

C4H11N3 L CAS 171868-16-9 (7833)

cis-3,4-Diaminopyrrolidine;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KCl 25°C 0.10M C K1=6.41 B2=11.24 2001KSa (35159)1669

B3=13.7

B(NiHL)=14.14

B(NiH2L2)=27.06

B(NiHL2)=19.37

C4H11N3O L (2704)

2-(Dimethylamino)acetamidoxime; (CH3)2N.CH2.C(:NOH)NH2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl NaCl04 25°C 1.00M C K1=3.979 B2=5.52 1983S0a (35165)1670  
 B(NiH-1L2)=-3.24  
 K(4Ni+4L=Ni4H-6L4+6H)=-26.77

\*\*\*\*\*

C4H11N30 HL (6986)  
 3-(Methylamino)propanamidoxime; CH3.NH.CH2.CH2.C(:NOH)NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++	gl	NaCl	25°C	0.10M	C		B2=6.78 B(0,1,1)=4.46 B(0,1,2)=6.78 B(-1,1,2)=-1.18 B(-8,5,4)=-37.34	19960Sa (35169)	1671
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B(-9,5,4)=-46.7. B(p,q,r): pH+qNi+r(HL)=(H)p(Ni)q(HL)r.

\*\*\*\*\*

C4H11N302 HL CAS 471915-94-3 (8550)  
 2,4-Diamino-N-hydroxybutanamide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	KCl	25°C	0.20M	C		B2=16.75 B(NiHL)=15.70 B(NiH2L2)=31.00 B(NiHL2)=24.18 B(NiH-1L2)=4.96	2002ECa (35172)	1672
------	----	-----	------	-------	---	--	---	-----------------	------

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C4H11N5 L CAS 657-24-7 (2998)  
 Dimethylbiguanide; CH3.NH.C(:NH).NH.C(:NH).NH.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++	gl	oth/un	32°C	0.05M	U		B2=10.56	1956SRa (35183)	1673
------	----	--------	------	-------	---	--	----------	-----------------	------

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C4H11N5 L CAS 41283-85-6 (2999)  
 Ethylbiguanide; CH3.CH2.NH.C(:NH).NH.C(:NH).NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++	gl	oth/un	32°C	0.05M	U		B2=11.78	1956SRa (35186)	1674
------	----	--------	------	-------	---	--	----------	-----------------	------

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C4H11N50 L CAS 53490-38-3 (3017)  
 N-(2-Hydroxyethyl)biguanide; HO.CH2.CH2.NH.C(:NH).NH.C(:NH).NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	KCl	30°C	0.20M	U		B2=12.50	1960SRa (35189)	1675
------	----	-----	------	-------	---	--	----------	-----------------	------

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C4H11N502 HL CAS 20004-00-6 (2934)  
 Iminobis(acetamidoxime); HN(CH2.C(:NOH)NH2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	1.00M	C		K1=7.59 B2=14.65 K(NiH-1L2+H)=7.50	19850Sa (35192)	1676
*****									
C4H11N2O3P		HL					(7917)		
(Glycylamino)methyl(methylphosphinic acid);									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KN03	25°C	0.10M	C		K1=4.087 B2= 7.27 B(NiHL)=9.32	2001LKa (35197)	1677
*****									
C4H11O2PS2		H3L					CAS 298-06-6 (210)		
O,O'-Diethyldithiophosphoric acid; (C2H5O)2P(S)SH									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	dis	KN03	25°C	0.20M	C		B2=1.11	1985HSd (35213)	1678
Method: distribution from 0.10 M KN03 into CHCl3.									
Ni++	sp	non-aq	25°C	100%	U	M		1977FMa (35214)	1679
							K(NiL2+A)=1.85		
							K(NiL2A+A)=1.95		
Medium: benzene. A=4-picoline. In toluene K(NiL2+A)=1.95, K(NiL2A+A)=1.91									
Ni++	sp	non-aq	25°C	100%	U	T M		1972MFa (35215)	1680
							K(NiL2+A)=3.20		
							K(NiL2+B)=2.60		
							K(NiL2+C)=2.04		
							K(NiL2+D)=1.86		
Medium: benzene. A=pyrrolidine, B=piperidine, C=hexamethyleneimine, D=morpholine. Temperature range 6-39.5 C									
Ni++	ISE	alc/w	25°C	90%	U		K1=2.30 B2=4.12	1972TCa (35216)	1681
Medium: 90% MeOH, 0.3 M NaClO4									
Ni++	cal	non-aq	25°C	100%	U	M		1971DGB (35217)	1682
							K(NiL2+py)=1.42		
							K(NiL2+A)=1.72		
							K(NiL2py+py)=1.34		
							K(NiL2A+A)=1.86		
Medium: benzene. A=4-methylpyridine									
Ni++	ISE	alc/w	25°C	90%	U		K1=2.07 B2=3.71	1971TCa (35218)	1683
Medium: 90% EtOH, 0.3 M NaClO4									
Ni++	sp	non-aq	25°C	100%	U	M		1970NYa (35219)	1684
							K(NiL2+A)=-0.24		

K(NiL2+B)=1.56  
K(NiL2+py)=1.49  
K(ML2+2py)=3.41

Medium: benzene. K(NiL+C)=1.86, K(NiL+D)=-0.23, K(NiL+bpy)=6.47,  
A=2-picoline, B=3-picoline, C=4-picoline, D=quinoline

Ni++ sp alc/w 20°C 95% U I B2=7.8 1967LSc (35220)1685

Medium: 95% EtOH. B2=4.0(80%), 4.8(85%), 6.3(90%). In acetone/H2O:

B2=3.9(75%), 4.8(80%), 5.9(85%), 6.7(90%), 9.0(95%)

\*\*\*\*\*

C4H11O4P H2L (5867)

n-Butyl phosphoric acid; C4H9.O.PO(OH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl NaNO3 25°C 0.10M C K1=2.08 1988MSa (35280)1686

\*\*\*\*\*

C4H11PS2 HL CAS 886-54-6 (3591)

Diethylphosphinodithioic acid; (CH3.CH2)2PSSH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ sp non-aq 25°C 100% U 1970NYa (35291)1687

K(NiL2+py)=1.98

K(NiL2+bpy)=6.21

K(NiL2+2py)=3.38

Medium: benzene

\*\*\*\*\*

C4H12NO3P H2L AMPPH CAS 18108-24-2 (222)

1-Amino-2-methylpropylphosphonic acid; (CH3)2.CH.CH(NH2).PO3H2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 24°C 0.10M U K1=6.19 1989YKa (35304)1688

\*\*\*\*\*

C4H12N2 L CAS 881-93-8 (3581)

1,2-Diamino-2-methylpropane; H2N.CH2.C(NH2)(CH3)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl NaClO4 25°C 0.10M U I K1=6.55 B2=12.55 1972CHa (35321)1689

K3=3.06

Range of ionic strengths 0-0.20. I=0.0, K1=6.48, K2=6.25, K3=3.7

I=0.2, K1=6.60, K2=5.95, K3=2.90

\*\*\*\*\*

C4H12N2 L (4260)

1,2-Diaminobutane; H2N.CH2.CH(NH2).CH2.CH3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl NaClO4 25°C 0.10M U I K1=7.29 B2=13.91 1972CHa (35324)1690  
K3=5.19

I=0.0: K1=7.24, K2=6.85, K3=5.24.

I=0.2, K1=7.33, K2=6.62, K3=5.15

\*\*\*\*\*

C4H12N2 L CAS 590-88-5 (3580)

1,3-Diaminobutane; H2N.CH2.CH2.CH(NH2).CH3

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl none 25°C 0.00 U K1=6.25 B2=10.43 1968NTa (35328)1691  
-----

Ni++ gl NaClO4 25°C var U 1968NTa (35329)1692

K(Ni+H2L=NiL+2H)=-12.69-1.018SQRTI/(1+1.48SQRTI)-0.250I

K(NiL+H2L=NiL2+2H)=-14.76-1.018SQRTI/(1+1.36SQRTI)-0.192I.

-----  
Ni++ gl oth/un 25°C 0.0 U K1=6.25 B2=10.43 1968NTa (35330)1693  
-----

\*\*\*\*\*

C4H12N2 L CAS 563-86-0 (59)

DL-2,3-Diaminobutane; H2N.CH(CH3).CH(CH3).NH2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.10M U H K1=7.640 B2=14.01 1977PSb (35374)1694  
-----

B(NiHL)=12.84

B3=18.0

By calorimetry, DH1=-32.4 kJ mol<sup>-1</sup>, DS1=37.2 J K<sup>-1</sup> mol<sup>-1</sup>, DH(B2)=-62.0,

DH(B3)=-81.7

-----  
Ni++ gl KCl 25°C 0.10M U K1=7.39 B2=13.55 1970ABc (35375)1695  
-----

For DL isomer, K1=7.39, K2=6.16. For D isomer, K1=7.35, K2=6.09

-----  
Ni++ gl KNO3 25°C 0.50M U T K1=7.71 B2=14.19 1954BCa (35376)1696  
-----

K3=4.31

0 C: K1=8.30, K2=7.09, K3=5.00

\*\*\*\*\*

C4H12N2 L Dimeen CAS 110-70-3 (125)

N,N'-Dimethyl-1,2-diaminoethane; CH3.NH.CH2.CH2.NH.CH3

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KCl 25°C 0.20M C HM K1=5.76 B2=9.61 1979SGb (35410)1697  
-----

B3=11.27

-----  
Ni++ gl NaClO4 25°C 0.0 U I K1=6.84 B2=10.69 1966NKa (35411)1698  
-----

In I M NaClO4: K(Ni+H2L=NiL+2H)=-9.986-1.018SQRTI/(1+0.983SQRTI)-0.315I

K(NiL+H2L=NiL2+2H)=-12.977-1.018SQRTI/(1+1.897SQRTI)-0.314I

-----  
Ni++ gl KNO3 25°C 0.50M U T K1=7.11 B2=11.84 1954BMa (35412)1699  
-----

K3=1.5

0 C: K1=7.87, K2=5.28, K3=2.50

Ni++ gl KCl 25°C 0.10M U K1=6.65 B2=10.50 1954IGa (35413)1700

\*\*\*\*\*

C4H12N2 L CAS 108-00-9 (2661)

N,N-Dimethyl-1,2-diaminoethane; (CH3)2N.CH2.CH2.NH2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl NaCl04 25°C 0.50M C I K1=5.95 B2=9.92 19750Ta (35450)1701  
B3=11.48

Ni++ gl KNO3 25°C 0.50M U T K1=6.77 B2=12.17 1954BCa (35451)1702  
K3=2.25

0 C: K1=7.27, K2=5.94, K3=2.77

\*\*\*\*\*

C4H12N2 L CAS 110-72-5 (1307)

N-Ethyl-1,2-diaminoethane; C2H5.NH.CH2.CH2.NH2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl none 25°C 0.00 U K1=6.51 B2=11.36 1969NTa (35468)1703

Ni++ gl KNO3 25°C 0.50M U T K1=6.78 B2=12.08 1952BMa (35469)1704  
K3=2.00

0 C: K1=7.19, K2=5.78, K3=2.51

Ni++ gl KNO3 13°C 0.50M U T H 1952BMb (35470)1705

At 0 C: DH(K1)=-25.5 kJ mol<sup>-1</sup>, DS=44.3 J K<sup>-1</sup> mol<sup>-1</sup>; DH(K2)=-30.1, DS=1.7;  
DH(K3)=-31.8, DS=-69

Ni++ gl KCl 25°C 1.0M U K1=7.81 B2=13.79 1950EDa (35471)1706  
K3=2.56

\*\*\*\*\*

C4H12N2 L CAS 6291-84-5 (2679)

N-Methyl-1,3-diaminopropane; CH3.NH.CH2.CH2.CH2.NH2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl NaCl04 25°C 0.10M C K1=5.43 B2=8.34 19800Tb (35474)1707

\*\*\*\*\*

C4H12N2 L Butanedi-amine CAS 20759-15-3 (58)

meso-2,3-Diaminobutane; H2N.CH(CH3).CH(CH3).NH2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.10M U H K1=6.729 B2=12.31 1977PSb (35484)1708  
B(NiHL)=12.7  
B3=14.87

By calorimetry, DH(K1)=-28.2 kJ mol<sup>-1</sup>, DS1=34 J K<sup>-1</sup> mol<sup>-1</sup>, DH(B2)=-51.9,

DH(B3)=-63

-----  
Ni++ gl oth/un 25°C 0.10M U K1=6.71 B2=12.39 1970ABc (35485)1709  
-----

Ni++ gl KNO3 25°C 0.50M U T K1=7.04 B2=12.74 1954BCa (35486)1710  
K3=2.89

0 C: K1=7.37, K2=6.16, K3=3.21

\*\*\*\*\*

C4H12N2O L CAS 2752-17-2 (312)

Bis-(2-aminoethyl)ether; H2N.CH2.CH2.O.CH2.CH2.NH2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.50M C H K1=5.78 B2=9.25 1995MMd (35496)1711  
B(NiH-1L=Ni(OH)L)=9.1  
B(NiH-1L2=Ni(OH)L2)=13.41

DH(K1)=-29.1 kJ mol<sup>-1</sup>, DS=13 J K<sup>-1</sup> mol<sup>-1</sup>; DH(K2)=-26.7, DS=-23;

DH(NiH-1L2)=-36.7, DS=134

-----  
Ni++ gl KNO3 25°C 0.50M U H K1=5.895 B2=9.52 1974BVa (35497)1712

By calorimetry: DH(K1)= -28.0 kJ mol<sup>-1</sup>, DS=18.8, DH(K2)= -27.2, DS=-20

-----  
Ni++ gl oth/un 20°C 0.0 U T H K1=5.75 B2=9.25 1959LBb (35498)1713

DH(K1)=-30 kJ mol<sup>-1</sup>, DS=8; DH(K2)=-31, DS=-42. 10 C: K1=5.93, k2=3.69;

30 C: K1=5.54, k2=3.19; 40 C: K1=5.41, K2=3.18

\*\*\*\*\*

C4H12N2O L CAS 111-41-1 (648)

N-(2-Hydroxyethyl)diaminoethane, 1,4-Diaza-7-oxaheptane; H2N.CH2.CH2.NH.CH2.CH2.OH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.50M C H K1=6.96 B2=12.78 1995MMd (35529)1714  
DH(K1)=-29.7 kJ mol<sup>-1</sup>, DS=34 J K<sup>-1</sup> mol<sup>-1</sup>; DH(K2)=-37.8, DS=-15

-----  
Ni++ gl NaNO3 25°C 0.10M U K1=6.85 B2=12.34 1982HTa (35530)1715  
-----

Ni++ cal NaClO4 25°C 0.10M C 1975BAa (35531)1716

DH(K1)=-32.5 kJ mol<sup>-1</sup>, DS=24.2 J K<sup>-1</sup> mol<sup>-1</sup>, DH(K2)=-34.7, DS=-5.0

-----  
Ni++ gl NaClO4 25°C var U 1966NTa (35532)1717

K1=6.76+1.018SQRTI/(1+0.904SQRTI)-1.018SQRTI/(1+1.56SQRTI)+0.231I

K2=5.52+1.018SQRTI/(1+0.904SQRTI)-1.018SQRTI/(1+2.52SQRTI)+0.262I

-----  
Ni++ gl oth/un 25°C 0.50M U K1=6.66 B2=12.46 1960HDa (35533)1718  
-----

Ni++ gl KCl 25°C 1.0M U K1=7.78 B2=13.86 1950EDa (35534)1719

\*\*\*\*\*

C4H12N2S L CAS 871-76-1 (1854)

1,5-Diamino-3-thiapentane; H2N.CH2.CH2.S.CH2.CH2.NH2



Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.50M	U		K1=7.377 B2=13.52	1979HGb (35557)	1720

Ni++ cal KNO3 25°C 0.50M C H 1979HGd (35558)1721  
 DH(K1)=-41.9 kJ mol<sup>-1</sup>, DS(K1)=0.7 J K<sup>-1</sup> mol<sup>-1</sup>; DH(K2)=-48.6, DS(K2)=-45

Ni++ gl KNO3 30°C 1.0M U T H K1=7.27 B2=13.37 1954GFa (35559)1722  
 DH(K1)=-42 kJ mol<sup>-1</sup>, DS=0; DH(K2)=-92, DS=-46. 0 C: K1=8.05, K2=6.96;  
 50 C: K1=6.81, K2=5.53

\*\*\*\*\*  
 C4H12O7P2 H3L CAS 52811-47-9 (7665)  
 N-Butyldiphosphoric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.10M	M		K1=3.73	1999SSa (35579)	1723

\*\*\*\*\*  
 C4H13NO6P2 H4L CAS 5995-26-6 (1336)  
 N-Ethyliminobis(methylenephosphonic) acid; C2H5N(CH2PO3H2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.20M	C		K1=8.14	2000KKa (35597)	1724

B(NiHL)=15.00  
 B(NiH2L)=19.44  
 B(NiH-1L)=-2.94

Ni++ gl KNO3 25°C 1.00M M K1=7.97 1982BGB (35598)1725  
 K(Ni+HL)=2.72

\*\*\*\*\*  
 C4H13N3 L CAS 14478-63-8 (3000)  
 1,3-Diamino-2-aminomethylpropane; H2N.CH2.CH(CH2.NH2).CH2.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	20°C	0.10M	U		K1=9.90	1962ANb (35627)	1726

K(Ni+HL)=5.55

Ni++ gl KNO3 22°C 1.0M U K1=9.23 1961SBa (35628)1727  
 K(Ni+HL)=5.90

\*\*\*\*\*  
 C4H13N3 L Dien CAS 111-40-0 (584)  
 1,4,7-Triazaheptane, 2,2'-Iminobis(ethylamine), diethylenetriamine;  
 NH2.(CH2)2.NH.(CH2)2.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.20M	U	M		1996UBa (35708)	1728

B(Ni(catecholate)L)=16.90

B(Ni(oxalate)L)=12.45  
 B(Ni(malonate)L)=11.37  
 B(Ni(gly)L)=13.85  
 B(Ni(beta-Ala)L)=13.27, B(Ni(en)L)=16.13, B(Ni(1,3-pn)L)=14.15,  
 B(Ni(2-aminophenol)L)=12.70.

Ni++ gl diox/w 30°C 50% U M K1=11.00 1987PCb (35709)1729  
 K(NiA+L)=9.48  
 K(NiB+L)=9.15  
 K(Ni(bpy)+L)=8.83  
 K(Ni(phen)+L)=8.90

K(Ni(dipyridylamine)+L)=8.80; K(Ni(2-(2'-pyridyl)imidazoline)+L)=8.52  
 A=5-nitrophenanthroline, B=2-(2'-pyridyl)benzimidazole

Ni++ gl NaClO4 25°C 0.10M U M K1=10.68 B2=18.87 1985MSa (35710)1730  
 K(Ni(thiolactate)+L)=7.54

Ni++ gl KNO3 25°C 0.10M U K1=10.9 B2=19.10 1973AHc (35711)1731

Ni++ sp KNO3 22°C 0.50M U K1=10.89 B2=19.22 1970MAi (35712)1732

Ni++ sp NaCl 25°C 0.50M U M 1967JMa (35713)1733  
 K(NiL+Gly)=5.13

In 1 M KCl: K(NiL+A)=4.59, H2A=oxalic acid

Ni++ cal KCl 25°C 0.10M U H 1961CPa (35714)1734  
 DG(K1)=-105.75 kJ mol<sup>-1</sup>, DH=-49.6, DS=36; DG(K2)=-59.97, DH=-56.3, DS=-36

Ni++ gl oth/un 35°C 1.0M U H 1952JHa (35715)1735  
 DH(K1)=-50.2 kJ mol<sup>-1</sup>, DH(K2)=-54.4

Ni++ gl KCl 30°C 1.0M U T K1=10.81 B2=18.95 1952JHa (35716)1736  
 40 C: K1=10.54, K2=7.83

Ni++ gl KCl 20°C 0.10M U K1=10.7 B2=18.9 1950PSa (35717)1737

\*\*\*\*\*

C4H14N2O4P2 H2L CAS 37107-07-6 (4287)

Ethylenebis(iminomethylenephosphonous acid)

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.10M U K1=7.52 1971MMh (35825)1738

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C4H14N2O6P2 H2L EDDPO CAS 1733-49-9 (2435)

1,2-Diaminoethane-N,N'-bis(methylenephosphonic) acid; (H2O3P.CH2.NH.CH2)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KCl 25°C 0.10M C K1=11.57 2001MNa (35851)1739

B(NiHL)=20.95

B(NiH4L2)=52.69

B(NiH2L2)=36.77

B(NiH6L2)=65.29

B(Ni2L)=16.79; B(NiH2L)=26.55; B(NiH3L)=32.04

Ni++ gl KNO3 25°C 0.10M U K1=11.52 1976TIa (35852)1740  
K(Ni+H2L)=4.32

Ni++ gl KNO3 25°C 0.10M U M K1=11.52 1975ITa (35853)1741

Ni++ gl oth/un 25°C 0.10M U K1=11.65 1972AUa (35854)1742  
K(Ni+HL)=6.75  
K(Ni+H2L)=3.85

Ni++ gl KNO3 25°C 0.10M U K1=11.70 1971MMh (35855)1743  
K(NiL+H)=5.53  
K(NiHL+H)=4.99

Ni++ gl KCl 25°C 0.10M U K1=12.02 1965DKb (35856)1744  
K(Ni+HL)=4.71

\*\*\*\*\*  
C4H14N4 L (7798)  
1,2,3,4-Tetraaminobutane;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
Ni++ gl KCl 25°C 0.10M C K1=10.5 B2=19.10 2001ZKa (35899)1745  
B(NiHL)=18.0  
B(NiHL2)=27.3  
B(NiH2L2)=35.0  
B(Ni2L)=13.8

Data for (2R,3S) isomer. For the (2S,2S) isomer B2=18.5, B(NiHL)=17.4  
B(NiH2L)=21.9, B(NiHL2)=26.4, B(NiH2L2)=33.8, B(NiH3L2)=38.2

\*\*\*\*\*  
C5H2O2F6 HL HFA CAS 1522-22-1 (195)  
1,1,1,5,5,5-Hexafluoropentane-2,4-dione; F3C.CO.CH2.CO.CF3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
Ni++ dis NaClO4 25°C 1.0M U K1=1.9 B2=3.1 1977SIa (35914)1746

Ni++ dis NaClO4 25°C 1.0M C M K1=1.78 B2= 3.26 1977SMe (35915)1747  
K(NiL2(org)+A(org))=5.8  
K(NiL2(org)+2A(org))=10.5

Method: distribution from 1.0 M NaClO4 into CCl4/HL/tri-octylphosphine  
oxide (A). K(Ni+2HL(org)=NiL2(org)+2H)=-4.0.

\*\*\*\*\*  
C5H3N2O4Br H2L 5-Bromoorotic CAS 15018-62-9 (3629)  
1,2,3,6-Tetrahydro-2,6-dioxo-5-bromo-4-pyrimidinecarboxylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	R4N.X	25°C	0.10M	U		K1=4.19	1964TTa (35957)	1748
Medium: Me4NBr									
*****									
C5H3N2O4I		H2L					5-Iodoorotic	CAS 17687-22-8	(3630)
1,2,3,6-Tetrahydro-2,6-dioxo-5-iodo-4-pyrimidinecarboxylic acid;									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	R4N.X	25°C	0.10M	U		K1=4.65	1964TTa (35964)	1749
Medium: Me4NBr									
*****									
C5H3N3O6		H2L					5-Nitroorotic	CAS 17687-24-0	(3615)
1,2,3,6-Tetrahydro-2,6-dioxo-5-nitro-4-pyrimidinecarboxylic acid;									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	KNO3	25°C	0.10M	U		K1=3.1	1964TTa (35970)	1750
-----									
Ni++	gl	KCl	25°C	0.10M	U		K1=3.04	1961TDa (35971)	1751
*****									
C5H3N4Cl		L					6-Chloropurine	CAS 87-42-3	(3032)
6-Chloropurine;									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	45°C	0.10M	U		K1=6.6	1971TKc (35984)	1752
*****									
C5H4NBr		L						CAS 1120-87-2	(8780)
4-Bromopyridine;									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.50M	C		K1=1.58	2002KSb (35997)	1753
*****									
C5H4NCl		L						CAS 626-60-8	(322)
3-Chloropyridine; C5H4N.Cl									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.50M	C		K1=1.34	2002KSb (36011)	1754
-----									
Ni++	sp	non-aq	25°C	100%	C	M		1989ANb (36012)	1755
							K(Ni(OAc)2+L)=1.11		
Medium: CCl4 + 10% acetic acid									
-----									
Ni++	sp	non-aq	11°C	100%	U	T M		1976CUa (36013)	1756
							K(NiA+2L)=2.78		
Medium: chlorobenzene. H2A=biacetyl-bis-a-hydroxybenzylidenehydrazone									

K=2.55(17 C); 2.33(23 C); 2.13(28 C)

\*\*\*\*\*

C5H4N2O2 L 4-Nitropyridine CAS 1122-61-8 (1357)

4-Nitropyridine; C5H4N.N02

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ sp none 25°C 0.0 U T H K1=0.83 1974VSa (36038)1757

\*\*\*\*\*

C5H4N2O2 HL CAS 98-97-5 (1879)

Pyrazine-2-carboxylic acid; cyclo(-CH:CH.N:C(COOH).CH:N-)

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ sp NaClO4 25°C 1.0M C K1=5.69 B2=10.35 1979MMi (36044)1758  
B3=14.10  
K(Ni+HL=NiL+H)=2.99  
K(NiL+HL=NiL2+H)=1.96  
K(NiL2+HL=NiL3+H)=1.05

-----  
Ni++ sp NaClO4 25°C 1.00M U K1=5.69 B2=10.35 1977MAa (36045)1759  
B3=14.1

\*\*\*\*\*

C5H4N2O3S H2L Thioorotic acid (4335)

1,2,3,6-Tetrahydro-2-thio-6-oxo-4-pyrimidinecarboxylic acid;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaCl 20°C 0.15M U K1=6.29 1979DZe (36069)1760  
K(Ni+HL)=2.65

-----  
Ni++ oth oth/un ? ? U K1=5.84 B2=9.67 1973SLa (36070)1761

\*\*\*\*\*

C5H4N2O4 H2L Orotic acid CAS 65-86-1 (624)

1,2,3,6-Tetrahydro-2,6-dioxo-4-pyrimidinecarboxylic acid;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaCl 25°C 0.15M U T H K1=7.00 1979DZd (36093)1762

-----  
Ni++ gl NaCl 20°C 0.15M U K1=7.28 1979DZe (36094)1763  
K(Ni+HL)=2.78

-----  
Ni++ gl R4N.X 25°C 0.10M U K1=6.82 1967TKc (36095)1764  
Medium: Me4NBr

\*\*\*\*\*

C5H4N2O4 H2L Isoorotic acid CAS 23945-44-0 (3616)

1,2,3,6-Tetrahydro-2,6-dioxo-5-pyrimidinecarboxylic acid;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----



\*\*\*\*\*

C5H4N4S                      HL      6-Purinethiol      CAS 6112-76-1    (115)  
6-Mercaptopurine, 6-Thiohypoxanthine;

-----  
Metal            Mtd Medium Temp Conc Cal Flags Lg K values                      Reference ExptNo  
-----

Ni++            gl    KNO3      45°C 0.10M U                      K1=6.8                      1971TKc (36218)1776  
-----

Ni++            gl    diox/w 25°C 50% U                      K1=5.29                      1959CFb (36219)1777  
-----

\*\*\*\*\*

C5H4O2S                      HL      2-Thenoic acid      CAS 527-72-0    (2312)  
Thiophene-2-carboxylic acid; C4H3S.CO0H

-----  
Metal            Mtd Medium Temp Conc Cal Flags Lg K values                      Reference ExptNo  
-----

Ni++            gl    KNO3      25°C 0.10M U T M      K1=2.83                      1988NSc (36240)1778  
-----

B(NiAL)=8.46

HA is pyridine-2-carboxylic acid. At 40 C, K1=2.72, B(NiAL)=8.32.  
-----

Ni++            cal NaNO3    25°C 1.00M U      H                      1979ARa (36241)1779  
-----

DH(NiL)=0.13 kJ mol<sup>-1</sup>; DS=39.5.

-----  
Ni++            gl    diox/w 25°C 50% U                      K1=1.85                      1968EGb (36242)1780  
-----

Medium: 50% dioxan, 0.1 M NaClO4

\*\*\*\*\*

C5H4O3                      HL      Pyromeconic aci    CAS 496-63-9    (3600)  
3-Hydroxy-4H-pyran-4-one;

-----  
Metal            Mtd Medium Temp Conc Cal Flags Lg K values                      Reference ExptNo  
-----

Ni++            gl    NaClO4    25°C 0.10M U T H      K1=4.473    B2=8.45                      1977SMd (36270)1781  
-----

\*\*\*\*\*

C5H4O3                      HL      2-Furoic acid      CAS 88-14-2    (2492)  
Furan-2-carboxylic acid; C4H3O.CO0H

-----  
Metal            Mtd Medium Temp Conc Cal Flags Lg K values                      Reference ExptNo  
-----

Ni++            cal NaNO3    25°C 1.0M C                      1987ARb (36285)1782  
-----

DH(K1)=0.67 kJ mol<sup>-1</sup>, DS(K1)=18.0 J K<sup>-1</sup> mol<sup>-1</sup>.

-----  
Ni++            cal NaNO3    25°C 1.0M C                      1982ARb (36286)1783  
-----

DH(K1)=0.67 kJ mol<sup>-1</sup>, DS(K1)=18.0 J K<sup>-1</sup> mol<sup>-1</sup>.

-----  
Ni++            gl    NaNO3      25°C 0.10M U                      K1=1.87                      1982MPc (36287)1784  
-----

-----  
Ni++            EMF NaClO4    25°C 1.00M U                      K1=1.52                      1972LPb (36288)1785  
-----

\*\*\*\*\*

C5H5N                      L      Pyridine                      CAS 110-86-1    (31)  
Pyridine, Azine;  
-----

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.50M	C		K1=1.94	2002KSb (36407)	1786
Ni++	cal	non-aq	25°C	100%	C	H	K1=4.31 2.34 1.58 B2= 7.68	2000KKb (36408)	1787
Medium: MeCN, 0.10 M Et4NClO4. DH(K1)=-35.4 kJ mol <sup>-1</sup> , DS=-36 J K <sup>-1</sup> mol <sup>1</sup> ; DH(K2)=-31.9, DS=-42; DH(K3)=-31, DS(K3)=-60; DH(K4)=-26, DS=-56.									
Ni++	sp	non-aq	25°C	100%	U	M		1994LTa (36409)	1788
							K(Ni(acac)A+L)=2.00 K(Ni(acac)AL+L)=3.62 K(Ni(acac)B+L)=1.73 K(Ni(acac)BL+L)=2.81		
A:N-dimethyl-N'-methyl-1,2-diaminoethane; B:N-diethyl-N'-ethyl-1,2-diaminoethane. Medium: nitromethane. Also data for other diones.									
Ni++	sp	alc/w	?	????	U			1993NDa (36410)	1789
							K(Ni2A+2L)=Ni2AL2)=1.08		
Medium: methanol. A: a triamino-diphenol macrocycle.									
Ni++	sp	alc/w	25°C	100%	U	M		1992NDa (36411)	1790
							K(Ni2A(S)4+2L=Ni2AL2+4S)=1.04		
Medium(S): methanol. A is 3,7,15,19-tetraaza-11,23-dimethyltricyclo[19.3.1.1(9,13)]hexacos-1(25),9,11,13(26),21,23-hexaene-25,26-diol.									
Ni++	sp	non-aq	25°C	100%	U	M		1991WEa (36412)	1791
							K(NiA2+L=NiA2L)=0.49 K(NiA2L+L=NiA2L2)=1.03 K(NiB2+L=NiB2L)=0.86 K(NiB2L+L=NiB2L2)=1.27		
Medium: acetone. A=N-(1-cyclohexylethyl)salicylalimine, B=N-(1-phenylethyl)salicylalimine									
Ni++	sp	non-aq	25°C	100%	C	M		1989ANb (36413)	1792
							K(Ni(OAc)2+L)=0.93		
Medium: CCl4 + 10% acetic acid									
Ni++	sp	non-aq	25°C	100%	U	M		1989LLa (36414)	1793
							K(NiX2+L)=1.18 K(NiX2+2L)=3.15		
Medium: benzene. X=Bis-(0,0'-Dicyclohexyldithiophosphato)									
Ni++	gl	diox/w	25°C	0.3M	U	IH	K1=1.70 K3=0.40 B2= 2.67	1985PSd (36415)	1794
0.3 M LiClO4 in 0.18 mol parts dioxane in H2O; for 0.3 M LiClO4 in H2O (100%) K1=1.93; K2=1.20; K3=0.63									
Ni++	sp	non-aq	25°C	100%	U	HM		1984CGa (36416)	1795



In 1,2-Dichloroethane, HA=N,N-diethyl-N'-benzoylthiourea  
When HA=piperidyl-N'-benzoylthiourea, K values are 0.34, 1.37

$$\begin{aligned} K(\text{NiACl}+2\text{L}) &= 2.20 \\ K(\text{NiABr}+2\text{L}) &= 1.99 \\ K(\text{NiAI}+2\text{L}) &= 1.59 \\ K(\text{NiA}(\text{NCS})+2\text{L}) &= 2.90 \end{aligned}$$

In benzene, HA=S-methyl-N-(2-pyridyl)methylenehydrazine-carbodithioic acid  
Data also for other related HA ligands.

$$\begin{aligned} K(\text{NiA}(\text{Cl})+\text{L}=\text{NiAL}+\text{Cl}) &= 1.62 \\ K(\text{NiA}(\text{Br})+\text{L}=\text{NiAL}+\text{Br}) &= 2.50 \\ K(\text{NiA}(\text{I})+\text{L}=\text{NiAL}+\text{I}) &= 2.78 \end{aligned}$$

Medium: DMSO. A=methyl-2-(B-aminoisopropylamino)cyclopent-1-enedithiocarboxylate

$$K(\text{NiA}_2 + \text{L}) = 1.44$$

Medium: CCl<sub>4</sub>. HA=diphenylthiocarbazone Data also in 10 other media

Ternary complexes with Iminodiacetic, 2,2'-oxydiacetic and thiodiacetic acid  
e.g.  $B(\text{NiL}(\text{IDA}))=10.07$ ;  $B(\text{NiL}(\text{ODA}))=5.05$ ;  $B(\text{NiL}(\text{TDA}))=6.40$ .

 $K_1 = 1.87$  $K1=1.95$ 

In chlorobenzene. DH(K1)=-34 kJ mol<sup>-1</sup>; DH(B2)=-78. Ni=bis(diphenyldithiophosphinato)nickel(II)

$$\begin{aligned} K(\text{NiA}_2 + \text{L}) &= 1.34 \\ K(\text{NiA}_2\text{L} + \text{L}) &= 0.64 \end{aligned}$$

Medium: dichloroethane. HA=dithizone

$$K(NiA+2L)=4.19$$

Medium: chlorobenzene. H2A=biacetyl-bis-a-hydroxybenzylidenehydrazone  
K=4.02(15 C); 3.94(17 C); 3.65(25 C)

$$K(NiA2+L)=0.46$$

In CH<sub>3</sub>CN. A2 = BF<sub>2</sub>-bridged methylethylglyoxime. DH=-28.0 kJ mol<sup>-1</sup>; DS=-84  
Also data for methylpropyl-, diphenyl- and phenyl-glyoximes.

Ni++	cal	non-aq	30°C	100%	U	H		1974DGa (36427)1806
							K(NiA2+2L)=4.40	
							K(NiB2+2L)=4.56	
In benzene. HA=thioacetyl-1,1,1-trifluoroacetone; DH=-64 kJ mol <sup>-1</sup> ; DS=-127								
HB=thiobenzoyl-1,1,1-trifluoroacetone; DH=-74 kJ mol <sup>-1</sup> ; DS=-158.								
Ni++	cal	non-aq	30°C	100%	U	H		1974GPa (36428)1807
							K(NiA2+2L)=3.74	
							K(NiB2+2L)=3.23	
							K(NiC2+2L)=3.04	
							K(NiD2+2L)=3.11	
In benzene. DH(NiA2L2)=-79.2 kJ mol <sup>-1</sup> (A=O-methylxanthate); DH=-75.0 (A=O-ethylxanthate); DH=-81.4 (A=O-propylxanthate); DH=-76.8 (A=O-hexylxanthate)								
Ni++	cal	non-aq	30°C	100%	U	H		1974GPa (36429)1808
							K(NiA2+2L)=3.08	
							K(NiB2+2L)=3.62	
							K(NiC2+2L)=2.51	
In benzene. DH=-77.4 kJ mol <sup>-1</sup> (A=O-isobutylxanthate); DH=-80.8 (B=O-benzylxanthate); DH = -62.4 (C=O-isopropylxanthate). Also DS.								
Ni++	cal	non-aq	30°C	100%	U	H		1974GPa (36430)1809
							K(NiA2+2L)=2.45	
							K(NiB2+2L)=2.26	
In benzene. DH = -72.8 kJ mol <sup>-1</sup> , DS = -193 (A=O-cyclohexylxanthate); DH = -74.9, DS = -204 (B=O-2-methylcyclohexylxanthate)								
Ni++	gl	KNO3	25°C	0.10M	U		K1=2.08	1974ILa (36431)1810
Ni++	gl	none	25°C	0.0	U T H		K1=1.91	1974VSA (36432)1811
Ni++	gl	KNO3	25°C	0.50M	U		K1=1.78 B2=3.00	1973BJa (36433)1812
							K3=0.3	
							K4=-0.3	
							K5=-0.3	
Ni++	sp	mixed	25°C	50%	U	I M		1972RMD (36434)1813
							B(NiCl2L)=0.71	
							B(NiCl2L2)=1.63	
Medium: 0-71.4% (v/v) acetone. B(NiCl2L)(0%)=0.61; B(NiCl2L2)(0%)=1.20; B(NiCl2L)(71.4%)=0.75; B(NiCl2L2)(71.4%)=1.45								
Ni++	gl	KNO3	25°C	0.10M	U		K1=1.92	1972TPC (36435)1814
Ni++	sp	non-aq	20°C	100%	U	M		1971ADa (36436)1815
							K(NiA2+2L)=5.40	
HA=thenoyltrifluoroacetone								
Ni++	ISE	oth/un	25°C	0.10M	U		K1=1.86 B2=3.12	1971HBa (36437)1816

B3=3.71

Range of ionic strength 0.1-0.3

Ni++ sp non-aq ? 100% U I M 1971MAg (36438)1817

K(NiA2+L)=2.39

K(NiA2+2L)=2.31

Medium: Benzene. HA=benzoylacetone. Data also in CHCl3 and 92% benzene/DMF

Ni++ sp non-aq 25°C 100% U I M 1971MAg (36439)1818

K(NiA2+L)=1.88

K(NiA2+2L)=1.00

K(NiB2+L)=1.92

K(NiB2+2L)=1.04

Medium: DMF. HA=benzoylacetone; HB=dibenzoylmethane

K(NiC2+L)=1.54; K(NiC2+2L)=1.52, HC=acetylacetone

Ni++ sp mixed ? 60% U I M 1971MAh (36440)1819

K(NiCl2+L)=0.62

K(NiCl2+2L)=1.21

Medium: 0-100% HCON(CH3)2. K(NiCl2+L)(0%)=0.15; K(NiCl2+2L)(0%)=1.03.

Data also 0-100% benzene in 100-0% HCON(CH3)2

Ni++ gl NaClO4 ? 0.20M U K1=2.40 B2=4.25 1971SBb (36441)1820

Ni++ EMF none 25°C 0.00 M K1=1.95 1970DTd (36442)1821

Ni++ gl NaClO4 25°C 0.50M U I K1=1.88 B2=3.08 1970FRa (36443)1822

Medium: 0.5 LiClO4. In 54.3% MeOH, 0.5 M LiClO4: K1=1.89, K2=1.23;

0.5 LiClO4, 48.1% dioxan: K1=1.91, K2=1.26

Ni++ ISE alc/w 25°C 50% U I K1=1.04 B2=1.42 1970NBa (36444)1823

Ag electrode. Medium: 0-96% EtOH, 0.5 M LiNO3. Data also for 25-90% PrOH, 25-90% acetone

Ni++ gl KNO3 25°C 0.61M U K1=1.91 B2=3.19 1967SBd (36445)1824

B3=3.7

Ni++ gl oth/un 20°C 1.0M U M K1=2.10 B2=3.39 1967TKe (36446)1825

K3=-1.3

Medium: Cl- or Br-. In SO4--: K1=1.42, K2=0.74, K3=-1.4. Ternary complexes with EDTA and 3-butylacetylacetone

Ni++ dis oth/un 20°C 1.0M U M K1=1.98 B2=3.02 1966FLc (36447)1826

B3=3.42

B4=3.44

B(Ni(NH3)L)=4.54

B(Ni(NH3)L2)=5.4

Medium: NH4NO3. B(Ni(NH3)L3)=5.14; B(Ni(NH3)2L)=6.65, B(Ni(NH3)2L2)=6.3;

B(Ni(NH3)3L)=7.10; B(Ni(NH3)3L2)=7.0. Other constants also

Ni++ sp non-aq 20°C 100% U HM 1965NSb (36448)1827

K(NiL2I2+2L)=4.49

Medium: CHCl3. By calorimetry: DH(K1)=-99.5 kJ mol-1, DS=-255 J K-1 mol-1

Ni++ gl NaCl04 25°C 0.10M U K1=1.85 1964KSb (36449)1828

Ni++ gl NaCl04 25°C 1.0M U H K1=2.13 B2=3.79 1963ABa (36450)1829  
K3=1.12  
K4=0.64

By calorimetry: DHi(average)=-11.3 kJ mol-1; DS(K1)=4 J K-1 mol-1,  
DS(K2)=-4, DS(K3)=-17, DS(K4)=-25

Ni++ sp mixed ? 100% U I K1=3.49 1959ANb (36451)1830

Medium: 100% acetone. K1=2.04(0%), 2.19(50%), 2.28(85%)

Ni++ sp alc/w ? 100% U K1=2.35 1959ANb (36452)1831

Medium: 100% MeOH. In EtOH: K1=2.21(85%), 2.96(100%). In n-BuOH: K1=3.19

Ni++ sp oth/un ? ? U K1=1.92 B2=2.77 1957ANf (36453)1832  
B3=3.37  
B4=3.50

Ni++ oth oth/un ? ? U K1=1.17 B2=1.96 1957TSd (36454)1833  
B3=3.48  
B4=-2 ?

Ni++ gl oth/un 25°C 0.50M U K1=1.78 B2=2.83 1950BJa (36455)1834  
K3=0.31

Medium: 0.5 M C5H5N.HNO3

Ni++ oth oth/un ? ? U B6=9.8 1948MMa (36456)1835

\*\*\*\*\*  
C5H5NO L 3-Pyridinol CAS 109-00-2 (1475)  
3-Hydroxypyridine; C5H4N.OH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.50M U K1=1.44 B2=2.48 1978LRa (36702)1836  
B3=3.10  
B4=3.33

\*\*\*\*\*  
C5H5NO2 HL CAS 13161-30-3 (5582)  
1-Hydroxypyridin-2(1H)-one, 2-Hydroxypyridine 1-oxide;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KCl 25°C 0.20M C K1=4.844 B2= 9.06 2000FEc (36741)1837  
B3=11.91  
B(NiH-1L2)=-0.78



Ni++ gl R4N.X 25°C 0.10M U K1=6.01 1967TKc (36862)1847

Medium: Me4NBr

\*\*\*\*\*

C5H5N3O4 H2L CAS 59048-06-5 (6096)

N-Methylvioluric acid;

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.50M	C		K1=3.49 B2= 6.57	1984HNB (36872)	1848

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Ni++ gl NaNO3 25°C 0.50M C T K1=3.49 B2=6.57 1978VNa (36873)1849

\*\*\*\*\*

C5H5N5 L Adenine CAS 73-24-5 (237)

6-Aminopurine; H2N.C5H3N4

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	vlt	KCl	25°C	0.20M	C			2002MGa (36929)	1850

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K(Ni+HL)=3.70

Method: catalytic linear sweep voltammetry. Medium pH 7.1.

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Ni++ gl NaNO3 25°C 0.10M C M K1=7.66 2000SSd (36930)1851

K(Ni+HL)=3.26

K(Ni+HL+OH)=11.21

K(NiHL+OH)=8.01

K(Ni+L+2OH)=18.84

Also data for ternary complexes. K(NiLOH+OH)=5.85.

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Ni++ gl NaNO3 25°C 0.10M U K1=5.32 1996SGa (36931)1852

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Ni++ gl NaClO4 25°C 0.10M M 1995LWa (36932)1853

K(Ni+HL)=1.36

K(Ni(atp)+HL)=1.64

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Ni++ gl NaNO3 37°C 0.10M U M K1=8.41 1994MGd (36933)1854

B(NiAL)=12.09

\*K(NiAL)=-7.20

\*K(Ni(OH)AL)=-8.52

HA is 6-aminopenicillanic acid.

---

Ni++ gl KNO3 35°C 0.10M U M K1=2.45 1989SRe (36934)1855

B(NiHLAsp)=8.09

B(NiLAsp)=7.60

K(NiL+Gly)=5.84

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Ni++ gl KNO3 35°C 0.10M U T H 1983Ksa (36935)1856

K(Ni+HL)=2.45

K(Ni+2HL)=3.39

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Ni++ gl KNO3 30°C 0.10M U K1=7.1 1983SKa (36936)1857



C5H5O2F3                      HL                      CAS 367-57-7 (163)  
1,1,1-Trifluoropentane-2,4-dione; CF3.CO.CH2.CO.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.50M	C			1983HOb (37038)	1868
							K(Ni+HL=NiL+H)=-1.95		
Ni++	dis	NaClO4	25°C	1.0M	U		K1=3.74    B2=6.68	1977SIa (37039)	1869
Ni++	dis	NaClO4	25°C	1.0M	C	M	K1=3.74    B2= 6.68	1977SMe (37040)	1870
							K(NiL2(org)+A(org))=ca. 5		
							K(NiL2(org)+2A(org))=ca. 8		

Method: distribution from 1.0 M NaClO4 into CCl4/HL/tri-octylphosphine oxide (A). K(Ni+2HL(org)=NiL2(org)+2H)=ca. -9.

Ni++              gl    diox/w    30°C    75%    U              B2=14.2              1953UFe (37041)1871  
\*\*\*\*\*

C5H6N2                      L                      CAS 1072-63-5 (8709)  
1-Vinylimidazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.50M	U		K1=2.94    B2= 5.34	1989LKc (37083)	1872
							B3=7.24		
							B4=8.43		
							B5=9.10		

\*\*\*\*\*

C5H6N2                      L              2-Aminopyridine    CAS 504-29-0 (1478)  
2-Aminoazine, 2-Pyridylamine; C5H4N.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.50M	C		K1=0.42	2002KSb (37108)	1873
Ni++	gl	KNO3	25°C	0.10M	U	TIH	K1=3.20    B2=5.36	1976BBE (37109)	1874

\*\*\*\*\*  
C5H6N2                      L              3-Aminopyridine    CAS 462-08-8 (1477)  
3-Aminoazine, 3-Pyridylamine; C5H4N.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.50M	U		K1=1.84    B2=3.24	1978LRa (37149)	1875
							B3=4.18		
							B4=4.68		
Ni++	gl	KNO3	25°C	0.61M	U		K1=1.97    B2=3.23	1967SBd (37150)	1876
							B3=4.1		

\*\*\*\*\*

C5H6N2                      L              4-Aminopyridine    CAS 504-24-5 (1356)



4-Aminoazine, 4-Pyridylamine; C5H4N.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	none	25°C	0.0	U T H		K1=2.59	1974V Sa (37171)	1877
*****									
C5H6N2O		L						CAS 16867-03-1	(2903)
2-Amino-3-hydroxypyridine; C5H3N(OH)(NH2)									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	20°C	0.10M	U T H		K1=3.32 B2= 6.21	1982K Me (37185)	1878
Data for 0.05-0.20 M KNO3. At I=0, K1=3.66, K2=3.04.									
Data for 30 and 40 C. DH(B2)=-35.1 kJ mol-1, DS(B2)=-0.4 J K-1 mol-1.									
*****									
C5H6N2O		HL						(3035)	
2-Aminopyridine 1-oxide; C5H4N(-O)(NH2)									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.10M	U		K1=<8.58	1963S Bd (37198)	1879
At I=0.5 M K(Ni+HL)=1.03									
*****									
C5H6N2OS		L						CAS 2361-27-5	(2642)
2-Thiophenecarboxylic acid hydrazide; C4H3S.CO.NH.NH2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	NaClO4	25°C	0.10M	U		K1=3.53 B2=6.84 B3=9.75	1981B Pc (37208)	1880
*****									
C5H6N2OS		HL						(4336)	
5-Methyl-2-thiouracil (5-methyl-4-hydroxy-2-mercaptopyrimidine);									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	oth/un	25°C	0.01M	U		K1=2.66 B2=5.45	1970G Wa (37213)	1881
*****									
C5H6N2OS		HL						CAS 3581-30-4	(4337)
6-Methyl-2-thiouracil (6-methyl-4-hydroxy-2-mercaptopyrimidine);									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	oth/un	26°C	0.01M	U		K1=4.13 B2=7.31	1970G Wa (37217)	1882
*****									
C5H6N2O2		HL		Thymine				CAS 65-71-4	(413)
2,4-Dihydroxy-5-methylpyrimidine; C4HN2(CH3)(OH)2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++ gl NaNO3 37°C 0.10M U M K1=3.91 1994MGd (37253)1883  
 B(NiAL)=7.57  
 \*K(NiAL)=-7.32  
 \*K(Ni(OH)AL)=-9.81

HA is 6-aminopenicillanic acid.

Ni++ gl KNO3 35°C 0.10M U M K1=4.24 1989SRc (37254)1884  
 K(Ni(thiamine)+L)=3.75

Ni++ gl KNO3 25°C 0.10M U T H K1=4.38 1983KSa (37255)1885

Ni++ gl KNO3 35°C 0.10M U K1=4.24 B2=8.04 1982TSa (37256)1886

Ni++ gl KNO3 45°C 0.10M U K1=4.30 1974KKa (37257)1887  
 \*\*\*\*\*

C5H6N2O2 HL CAS 3326-71-4 (2607)  
 2-Furanecarboxylic acid hydrazide; C4H3O.CONH.NH2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl diox/w 25°C 50% C I K1=2.890 1992BRb (37296)1888  
 Data for 10-60% v/v dioxane/H2O and 10-60% DMF/H2O. In 50% DMF/H2O,  
 K1=3.977, B2=6.803.

Ni++ gl KNO3 25°C 0.10M U M K1=4.16 B2=8.09 1990NAa (37297)1889  
 K(Ni(Oxine)+L)=4.38

Ni++ sp NaClO4 25°C 0.10M U K1=3.60 B2=7.00 1981BPc (37298)1890  
 B3=10.02

\*\*\*\*\*  
 C5H6N2O2 HL CAS 645-65-8 (3620)  
 4(or 5)-Imidazolyethanoic acid; C3H3N2.CH2.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl NaClO4 25°C 0.10M C K1=4.81 B2= 8.49 1998TSa (37313)1891  
 B3=10.56  
 B(NiH-1L)=-2.26

Ni++ gl KCl 0°C 0.25M U T H K1=4.65 B2=8.49 1965AZa (37314)1892  
 K3=2.28

K1=4.83(15 C),4.70(25 C),4.34(40 C); K2=3.71(15 C),3.55(25 C),2.44(40 C)  
 At 15 C: DH(K1)=-9.6 kJ mol<sup>-1</sup>; DH(K2)=-14.2

\*\*\*\*\*  
 C5H6N2O2S HL CAS 15112-09-1 (8298)  
 N-Methyl-2-thiobarbituric acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl NaClO4 31°C 0.10M U T H K1=5.76 B2=10.04 1984SJa (37322)1893

Also data for 18 and 42 C. DH(K1)=-60.8 kJ mol<sup>-1</sup>, DS(K1)=-90.0 J K<sup>-1</sup> mol<sup>-1</sup>  
 DH(K2)=-38.9, DS(K2)=-46.5.

\*\*\*\*\*

C5H6N6 HL Diaminopurine CAS 1904-98-9 (4290)  
 2,6-Diaminopurine;

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 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Ni++ gl KNO3 45°C 0.10M U K1=8.1 1973TKa (37333)1894

\*\*\*\*\*

C5H6O4 H2L Citraconic acid CAS 498-23-7 (3021)  
 Citraconic acid; CH3.C(COOH):CH.COOH

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 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl oth/un 25°C 0.10M U K1=1.8 1960YYa (37351)1895

\*\*\*\*\*

C5H6O4 H2L CAS 598-10-7 (70)  
 Cyclopropane-1,1-dicarboxylic acid; C3H4(COOH)2

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl NaClO4 25°C 0.10M U K1=3.89 1972RVh (37383)1896

\*\*\*\*\*

C5H6O4 H2L Itaconic acid CAS 97-65-4 (398)  
 Methylenesuccinic acid; HOOC.CH2.C(:CH2).COOH

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 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl oth/un 25°C 0.10M U K1=1.8 1960YYa (37404)1897

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C5H6O4S3 H2L (7055)  
 Trithiocarboglycolic acid; HOOC.CH2.S.CS.S.CH2.COOH

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl alc/w 25°C 20% U T H K1=6.87 B2=11.60 1994BSc (37464)1898

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C5H6O7 H3L (8107)  
 Carboxymethyltartronic acid;

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl KCl 25°C 0.10M C K1=3.84 1984MMg (37483)1899  
 K(NiL+H)=2.89

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C5H7NOF6 L (5454)  
 1,1-Bis(trifluoromethyl)-3-aminopropan-1-ol; (CF3)2C(OH).CH2.CH2.NH2

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 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

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-----
Ni++      gl  oth/un 25°C 0.10M U      B2=8.11      1977Cwa (37498)1900
*****
C5H7NO2      HL      Glutarimide      CAS 1121-89-7 (4312)
Piperidine-2,6-dione;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl  alc/w 45°C 50% C      K1=5.77      1996MMc (37504)1901
Medium: 50% v/v MeOH/H2O, 0.10 M KNO3.
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Ni++      sp  alc/w  ? 100% U      B2=9.03      1971MSc (37505)1902
Medium: MeOH
*****
C5H7NO3      HL      5-Oxoproline      CAS 149-87-1 (2110)
2-Pyrrolidone-5-carboxylic acid, Pyroglutamic acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl  NaCl04 25°C 0.10M U      K1=1.5      1991YNa (37517)1903
B(NiH-1L)=-5.3
*****
C5H7NO4S2      H3L      CAS 36061-59-3 (1953)
Bis(carboxymethyl)dithiocarbamic acid; (HOOC.CH2)2.N.CSSH
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      EMF KNO3 22°C 1.00M U      K1=6.60 B2=12.52 1970TPb (37550)1904
-----
Ni++      dis KNO3 20°C 0.10M U      B2=7.9      1967HMc (37551)1905
*****
C5H7NS      L      CAS 541-58-2 (1421)
2,4-Dimethylthiazole; C3HNS(CH3)2
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl  KNO3 25°C 0.50M U      K1=-1.00 B2=-0.29 1982GKa (37566)1906
*****
C5H7N3      L      CAS 42166-50-7 (4291)
2-Pyridylhydrazine; C5H4N.NH.NH2
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      EMF NaNO3 20°C 0.10M U      K1=7.06 B2=13.87 1971ANA (37579)1907
K3=5.79
*****
C5H7N3O2      L      (6254)
1-Carbamido-3-methyl-pyrazol-5-one; CH3.C3H2N2(:O).CO.NH2
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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Ni++ gl diox/w 25°C 50% U K1=6.65 B2=12.22 1979PDa (37594)1908  
\*\*\*\*\*

C5H8N2 L CAS 1759-84-0 (173)  
1,2-Dimethylimidazole; C3H2N2(CH3)2  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.50M U K1=2.15 B2=3.55 1980LBa (37611)1909  
B3=4.24  
\*\*\*\*\*

C5H8N2 L CAS 7098-07-9 (2053)  
1-Ethylimidazole; C3H3N2.C2H5  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.50M U K1=3.04 B2=5.54 1979LBa (37636)1910  
B3=7.52  
B4=8.97  
B5=9.85  
B6=10.20  
\*\*\*\*\*

C5H8N2 L CAS 1072-62-4 (929)  
2-Ethylimidazole; C3H3N2.C2H5  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaClO4 30°C 0.20M U K1=3.00 1999PGa (37653)1911  
-----

Ni++ gl NaNO3 30°C 0.20M U K1=3.05 1999PPa (37654)1912  
-----

Ni++ gl KNO3 25°C 0.50M U K1=1.65 B2=2.78 1982LKb (37655)1913  
B3=3.40  
\*\*\*\*\*

C5H8N2 L Di-Me-Pyrazole CAS 67-51-6 (369)  
3,5-Dimethyl-1,2-diazole; C3H2N2(CH3)2  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.50M U K1=0.92 B2=1.59 1977LGb (37670)1914  
B3=2.00  
-----

Ni++ vlt alc/w 25°C 100% U K1=0.40 B2=0.8 1966CRb (37671)1915  
B3=0.81  
B4=0.88  
-----

Medium: MeOH(?), 0.1 KNO3  
\*\*\*\*\*

C5H8N2O L (1429)  
5-Amino-3,4-dimethylisoxazole; C3NO(CH3)2(NH2)  
-----

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	ISE	KNO3	25°C	0.50M	U		K1=0.97	1983Gwa (37682)	1916

Constant determined by means of the competitive potentiometric method using Ag(I) as the auxilliary cation, silver electrode applied.

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C5H8N2O3 HL (6597)  
2,3-Dehydro-N-glycyl-alanine; NH2.CH2.CO.NH.C(COOH):CH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.10M	C		K1=3.60 B(NiH-1L)=-3.10 B(NiH-1L2)=-0.47 B(NiH-2L2)=-8.50	1994JBa (37695)	1917

\*\*\*\*\*

C5H8N2O4 H2L (7335)  
N-Pyruvoylglycine oxime; CH3.C(:NOH).CONH.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C		K1=5.56 B2=10.61 B(NiH-1L2)=0.48 B(NiH-2L2)=-10.72	1997SJb (37716)	1918

\*\*\*\*\*

C5H8N2S L CAS 34631-53-3 (3621)  
4-(2'-Aminoethyl)-1,3-thiazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	oth/un	25°C	.02M	U		K1=5.6 B2=9.6	1960HJa (37722)	1919

\*\*\*\*\*

C5H8N4O2 HL (7433)  
N-(2-Aminoethyl)-2-cyano-2-(hydroxyimino)ethanoic acid amide;  
NC.C(:NOH)CONH.CH2CH2NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C		B(NiH-1L)=-4.00 B(NiH-2L)=-12.70	1998SDa (37729)	1920

\*\*\*\*\*

C5H8OS HL (4314)  
1-Mercapto-1,3-dimethylprop-1-en-3-one; HS.C(CH3):CH.CO.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	dis	oth/un	25°C	0.10M	C		K1=6.60 B2=12.46	1979LJa (37733)	1921

Method: 63Ni extraction from 0.10 M buffer into CHCl3.

\*\*\*\*\*

C5H8O2                      HL      Acetylacetone      CAS 123-54-6    (164)  
Pentane-2,4-dione; CH3.CO.CH2.CO.CH3

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ni++	dis	oth/un	30°C	0.26M	U	I			1990SBa (37836)	1922
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Keff=5.03

In NH4 acetate, pH 7.24 using HPLC. Data also given for 20% MeOH/water

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Ni++	dis	NaClO4	25°C	0.10M	C			K1=5.9	1986SNa (37837)	1923
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Method: rate of distribution of volatile ligand between aqueous phase and inert gas phase. K(H+L)=9.17 assumed.

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Ni++	oth	NaClO4	25°C	0.10M	C	I	R	K1=5.71	B2=10.16	1982SLc (37838)	1924
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IUPAC evaluation. I=0 corr.: K1=5.96, B2=10.54

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Ni++	gl	diox/w	30°C	75%	U			K1=7.86	B2=14.97	1977AHb (37839)	1925
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Ni++	dis	NaClO4	25°C	1.0M	C		M			1977SMe (37840)	1926
------	-----	--------	------	------	---	--	---	--	--	-----------------	------

K(NiL2(org))+A(org))=ca. 2

Method: distribution from 1.0 M NaClO4 into CCl4/HL/tri-octylphosphine oxide (A).

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Ni++	gl	diox/w	30°C	50%	U		M	K1=6.63	B2=12.19	1975DBd (37841)	1927
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K(Ni(bpy)+L)=6.52

K(Ni(phen)+L)=6.43

K(Ni(IDA)+L)=5.39

K(Ni(NTA)+L)=4.85

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Ni++	sp	non-aq	25°C	100%	U		M			1972CHd (37842)	1928
------	----	--------	------	------	---	--	---	--	--	-----------------	------

K(Ni3L6=3NiL2)=-5.40

K(2Ni3L6+3py=3Ni2L4py)=11.64

K(Ni2L4py+3py=2NiL2py2)=6.60

Medium: CH2Cl2

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Ni++	gl	KNO3	25°C	0.02M	U	T		K1=5.69	B2=10.16	1971RMc (37843)	1929
------	----	------	------	-------	---	---	--	---------	----------	-----------------	------

K1(15 C)=5.81, K1(40 C)=5.54, K2(15 C)=4.56, K2(40 C)=4.23

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Ni++	gl	diox/w	25°C	75%	U	T		K1=8.77	B2=15.98	1971RMc (37844)	1930
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K1(15 C)=8.87, K1(40 C)=8.74, K2(15 C)=7.28, K2(40 C)=7.14

Medium: 0.02 N(CH3)4Cl, 75% dioxan

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Ni++	EMF	oth/un	25°C		?	U		K1=7.40	B2=13.50	1968BDb (37845)	1931
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Ni++	gl	alc/w	25°C	0.61M	U	I		K1=7.92	B2=13.70	1968GDc (37846)	1932
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Medium: 0.610 mol fraction MeOH, 0.0172 NaCl. 0 MF: K1=6.05, K2=4.61; 0.285MF :K1=6.85, K2=5.21. Data also in EtOH/H2O, PrOH/H2O, dioxan/H2O

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Ni++	gl	NaClO4	25°C	0.10M	U		H	K1=5.72	B2=9.66	1968GFa (37847)	1933
------	----	--------	------	-------	---	--	---	---------	---------	-----------------	------

By calorimetry: DH(K1)=-14.2 kJ mol<sup>-1</sup>, DS=62.7 J K<sup>-1</sup> mol<sup>-1</sup>; DH(K2)=-31.8, DS=

79.4

Ni++	gl	alc/w	30°C	100%	U	K1=8.0	B2=13.10	1960DRa (37848)1934
Medium: EtOH, 0.025 M NaClO4								
Ni++	gl	diox/w	30°C	75%	U	K1=10.19	B2=18.40	1959MFa (37849)1935
Ni++	gl	oth/un	30°C	0.0	U	K1=5.92 K3=2.11	B2=10.38	1955IFa (37850)1936
Ni++	gl	oth/un	20°C	0.0	U T H	K1=6.06 K3=2.32	B2=10.77	1955IFb (37851)1937
DH(K1)=-28 kJ mol-1, DS=50; DH(K2)=-26, DS=-0.8; DH(K3)=-28, DS=-50. 10 C: K1=6.16, K2=4.84, K3=2.51; 40 C: K1=5.86, K2=4.40, K3=1.90								
Ni++	gl	diox/w	30°C	50%	U	K1=6.90	B2=12.00	1954BFb (37852)1938
Ni++	gl	diox/w	30°C	50%	U	K1=6.91	B2=12.08	1954BRc (37853)1939
Ni++	gl	diox/w	30°C	75%	U	K1=9.70	B2=17.85	1953UFb (37854)1940
Ni++	gl	none	25°C	0.0	U I	K1=5.92	B2=10.49	1949MMa (37855)1941
In 20% dioxan K1=6.12, K2=4.79								
*****								
C5H8O3	HL		Laevulinic acid		CAS 123-76-2 (941)			
4-Ketopentanoic acid; CH3.CO.CH2.CH2.COOH								
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference ExptNo
Ni++	gl	KCl	25°C	0.10M	U		K1=0.79	1983LTa (38166)1942
*****								
C5H8O3	HL		CAS 16874-33-2 (2493)					
Tetrahydrofuran-2-carboxylic acid; C4H7O.COOH								
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference ExptNo
Ni++	gl	diox/w	25°C	50%	U		K1=2.01	1982MPc (38178)1943
*****								
C5H8O4	H2L		CAS 595-46-0 (1144)					
Dimethylmalonic acid; H00C.C(CH3)2.COOH								
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference ExptNo
Ni++	gl	NaClO4	25°C	0.10M	U		K1=1.95	19700Va (38199)1944
*****								
C5H8O4	H2L		CAS 601-75-2 (479)					
Ethylpropanedioic acid; H00C.CH(C2H5).COOH								
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference ExptNo



Ni++ gl NaClO4 25°C 0.10M U K1=2.53 19680Va (38227)1945  
\*\*\*\*\*

C5H8O4 H2L Glutaric acid CAS 110-94-1 (420)  
Pentanedioic acid; HOOC.CH2.CH2.CH2.COOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaClO4 20°C 1.00M M K1=4.58 B2=7.93 1989MKa (38294)1946  
K(Ni+HL)=2.45  
K(Ni+2HL)=4.93  
K(Ni+3HL)=6.45  
-----

Ni++ gl oth/un 25°C 0.10M U K1=1.6 1960YYa (38295)1947  
\*\*\*\*\*

C5H8O4S H2L CAS 36303-63-6 (988)  
3-Thiahexane-1,6-dioic acid; HOOC.CH2.S.CH2.CH2.COOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaClO4 25°C 2.00M C K1=2.48 B2=4.15 1975AHb (38376)1948  
K(Ni+HL)=1.18

By spectrophotometry: K1=2.52; K2=1.70.  
-----

Ni++ gl KNO3 25°C 0.10M C K1=2.30 1975LPa (38377)1949  
\*\*\*\*\*

C5H8O4S2 H2L CAS 2068-24-8 (908)  
2,2'-(Methylenebis(thio))bis-ethanoic acid; HOOC.CH2.S.CH2.S.CH2.COOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaClO4 25°C 2.00M U K1=1.31 1974AHa (38390)1950  
K(Ni+HL)=0.85

Spectrophotometry also used  
-----

C5H9NO2 H2L CAS 69651-97-4 (1164)  
2-Amino-(2-allyl)ethanoic acid; H2N.CH(CH2.CH:CH2)COOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.10M C K1=5.313 B2=9.89 1975IPb (38463)1951  
\*\*\*\*\*

C5H9NO2 HL CAS 14401-90-2 (6205)  
Pent-2,4-dione monoxime; CH3.CO.CH2.C(:NOH).CH3

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl alc/w 25°C 75% U K1=6.8 B2=11.00 1986BTa (38469)1952  
Medium: 75% MeOH/H2O, 0.1 M NaClO4

\*\*\*\*\*  
C5H9NO2 HL Proline CAS 147-85-3 (44)

## Pyrrolidine-2-carboxylic acid; C4H8N.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C			K1=6.60	1999BIa	(38569)1953
Ni++	nmr	KNO3	25°C	1.0M	U	H		K1=6.10 B3=14.58	B2=11.26	1992ZSa (38570)1954

Also methods used: potentiometry, spectrophotometry

Ni++	gl	KN03	30°C	0.10M	U	H	K1=6.23	1986DRb	(38571)1955
Data for 30-50 C. DH(K1)=-12.4 kJ mol-1, D(K1)=-62.6 J K-1 mol-1.									
-----									
Ni++	gl	KN03	30°C	0.10M	C	T HM	K1=6.23	B2=11.41	1983Rka (38572)1956
							B(NiAL)=5.77		

HA is thiazolidine-4-carboxylic acid. DH(K1)=-12.4 kJ mol<sup>-1</sup>, DS(K1)=73 J K<sup>-1</sup> mol<sup>-1</sup>; DH(K2)=-19.8, DS(K2)=32; DH(NiAL)=-16.2, DS(NiAL)=52

Ni++	gl	KN03	25°C	0.10M	M	M	K1=5.83	B2=11.00	1982LBa (38573)1957
Data for ternary complexes with polymer-grafted L-proline ligands.									
-----									
Ni++	gl	KN03	25°C	0.10M	U	M	K1=5.94	B2=10.85	1981DAb (38574)1958
							K3=3.00		
							B(NiL(bpy))=12.75		
							B(NiL(bpy)2)=18.56		
							B(NiL2(bpy))=17.78		

Ni++      gl   KNO3   25°C 0.10M U      K1=6.15   B2=11.28   1973KLa (38575)1959

Ni++	gl	KCl	20°C	0.10M	U	K1=5.46	1970G	Va	(38576)	1960
------	----	-----	------	-------	---	---------	-------	----	---------	------

Ni++            gl   oth/un   20°C   0.03M U            B2=11.3            1950ALa (38577)1961  
 \*\*\*\*\*

C5H9NO3	HL	Hydroxyproline	CAS 51-35-4	(416)
4-Hydroxy-2-pyrrolidinecarboxylic acid; C4H7N(OH)(COOH)				

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++ nmr KNO3 25°C 1.0M U H K1=6.05 B2=11.15 1992ZSa (38699)1962  
B3=14.10

Also methods used: potentiometry, spectrophotometry

Ni++      vlt NaCl04 25°C 0.10M C      K1=12.0      B2=15.70      1983KVb (38700)1963  
B3=18.2

Method: polarography. pH 8.0

Ni++      g1   KNO3   30°C 0.10M C T HM   K1=6.11   B2=11.03   1983Rka (38701)1964  
B(NiAl)=5.56

HA is thiazolidine-4-carboxylic acid. DH(K1)=-19.6 kJ mol<sup>-1</sup>, DS(K1)=52 J K<sup>-1</sup> mol<sup>-1</sup>; DH(K2)=-22.5, DS(K2)=20; DH(NiAL)=-18.9, DS(NiAL)=44



-----  
 Ni++ gl KNO3 20°C 0.10M U K1=10.91 B2=21.53 1977SHa (38822)1974  
 K(NiH-1L+H)=5.89

\*\*\*\*\*

C5H9NO4 H2L Glutamic acid CAS 56-86-0 (22)  
 2-Aminopentanedioic acid; H2N.CH(CH2.CH2.COOH)COOH

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl KNO3 25°C 0.10M C M K1=5.59 2003AHa (38946)1975  
 K(NiL+A)=3.61

HA is 3-amino-5-mercapto-1,2,4-triazole.

-----  
 Ni++ gl NaNO3 25°C 0.10M C M K1=5.96 B2=10.17 2000KAb (38947)1976  
 K(NiA+L)=6.26

H2A=Dipicolinic acid.

-----  
 Ni++ gl KNO3 25°C 0.10M C M K1=5.81 1999AAa (38948)1977  
 K(NiL+A)=3.83  
 B(NiLA)=9.64  
 K(NiL+B)=3.93  
 B(NiLB)=9.47

K(NiL+C)=3.46, B(NiLC)=9.27. HA=MOPSO, HB=MOPS, HC=DIPSO.

-----  
 Ni++ gl KNO3 25°C 0.10M C M K1=5.81 1999AAa (38949)1978  
 K(NiL+A)=3.83  
 B(NiLA)=9.64  
 K(NiL+B)=3.93  
 B(NiLB)=9.47

K(NiL+C)=3.46, B(NiLC)=9.27. HA=MOPSO, HB=MOPS, HC=DIPSO.

-----  
 Ni++ gl KNO3 25°C 0.10M C K1=5.95 1999BIa (38950)1979  
 -----

Ni++ gl NaNO3 30°C 0.20M U M K1=4.90 1999PPa (38951)1980  
 B(NiAL)=8.23  
 B(NiBL)=9.41  
 B(NiCL)=9.00

A is imidazole, B is 2-Me-imidazole, C is 2-Et-imidazole.

-----  
 Ni++ gl NaCl 25°C 0.15M C M K1=6.06 B2=10.33 1999SMa (38952)1981  
 B(NiHL)=12.33  
 B(NiH-1L)=-3.21  
 B(NiH2L2)=24.58  
 B(NiH4L2)=33.51

B(NiH4L3)=42.33. B(NiLA)=12.09, B(NiHLA)=21.41, B(NiH2LA)=28.94,  
 B(NiH3LA)=35.76, B(NiH4LA)=39.80, B(NiHL2A)=25.16. HA=pyridoxamine.

-----  
 Ni++ gl alc/w 25°C 20% M M K1=5.40 1998ABa (38953)1982  
 K(NiL+oxine)=8.15

Medium: 20% w/w EtOH/H2O, 0.1 M KNO3.

Ni++	gl	alc/w	20°C	50%	M	M	K1=5.99 K(NiA+L)=6.97	1995AMb (38954)	1983
Medium: 50% v/v EtOH/H2O, 0.20 M NaClO4. A is 2,2',2''-terpyridine.									
Ni++	gl	NaClO4	25°C	0.20M	C		K1=5.90	1993BAb (38955)	1984
Ni++	gl	NaClO4	25°C	1.0M	M		K1=3.78 B2=10.66 K(Ni+HL)=5.00 K(Ni+2HL)=5.43 K(Ni+3HL)=5.08	1991MKa (38956)	1985
Ni++	gl	KNO3	25°C	0.10M	U	M	K1=5.90 K(NiA+L)=7.53	1989MAc (38957)	1986
H4A is adenosine-5'-triphosphoric acid.									
Ni++	gl	KNO3	25°C	0.10M	C	M	K1=5.92 K(NiA+L)=8.72 B(NiAL)=16.74	1989MAd (38958)	1987
H2A is N-(2-acetamido)imino diethanoic acid.									
Ni++	gl	NaCl	37°C	0.15M	U		K1=5.533 B2=9.754 B3=12.02 B(NiHL)=10.40	1985CFb (38959)	1988
Ni++	gl	NaClO4	25°C	0.10M	U	M	K(NiL+uracil)=3.46 K(NiL+thymine)=3.96	1985NSd (38960)	1989
Ni++	gl	KNO3	25°C	0.10M	M		K1=5.42 B2= 9.11	1981GVa (38961)	1990
Ni++	gl	NaClO4	30°C	0.10M	U	M	B(NiAL)=8.59 K(NiA+L)=2.97 K(NiL+A)=4.63	1978JSc (38962)	1991
H2A is malonic acid.									
Ni++	gl	NaClO4	30°C	0.10M	U	M	B(NiAL)=11.26 K(NiA+L)=7.08 K(NiL+A)=5.64	1978JSc (38963)	1992
H2A is thiodiglycolic acid.									
Ni++	gl	KNO3	25°C	0.10M	U		K1=5.90 B2=10.28	1976GPd (38964)	1993
Ni++	gl	NaNO3	25°C	0.20M	U		K1=5.79 B2=10.64 B3=14.12 B(NiLA)=7.59 B(NiL2A)=12.13 B(NiLA2)=9.92	1974FSa (38965)	1994

A=acetylhydrazide

Ni++ gl NaNO3 25°C 1.00M U K1=6.29 B2=11.13 1973BJd (38966)1995

Ni++ EMF NaCl 25°C 0.12M U K1=5.34 B2=9.34 1972IBa (38967)1996

Ni++ cal KNO3 25°C 0.10M C H 1971BPi (38968)1997  
DH(B1)=-30.8 kJ mol<sup>-1</sup>, For D-His: DH=-30.9, for rac-His: DH=-30.7

Ni++ gl KNO3 25°C 0.10M U K1=5.58 B2=9.70 1965RWa (38969)1998

Ni++ oth KNO3 20°C 0.10M U K1=5.8 B2=9.20 1964J0a (38970)1999  
Method: paper electrophoresis

Ni++ gl oth/un 30°C 0.10M U K1=5.62 1959NCa (38971)2000

Ni++ gl oth/un 25°C 0.02M U K1=5.90 B2=10.34 1954REa (38972)2001

Ni++ gl oth/un 20°C 0.01M U B2=10.3 1952ALa (38973)2002  
\*\*\*\*\*  
C5H9NO4 H2L CAS 1948-48-7 (3038)  
3-Carboxymethylaminopropanoic acid; HOOC.CH2.NH.CH2.CH2.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
Ni++ gl KCl 30°C 0.10M U K1=7.35 B2=12.58 1952CMb (39153)2003  
\*\*\*\*\*  
C5H9NO4 H2L MIDA CAS 4408-64-4 (190)  
N-Methyliminodiethanoic acid; CH3.N(CH2.COOH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
Ni++ gl NaClO4 25°C 0.50M U K1=8.48 B2=15.61 1992GLa (39194)2004  
B(NiH-1L)=1.04

Ni++ gl KNO3 25°C 0.10M C M K1=8.67 1990DAb (39195)2005  
K(NiL+A)=4.78  
B(NiLA)=13.45

H2A: salicylaldoxime

Ni++ gl KNO3 25°C 0.10M C M K1=8.67 1990DAc (39196)2006  
K(NiL+A)=3.85  
B(NiAL)=12.52

HL: benzohydroxamic acid

Ni++ gl KNO3 25°C 0.10M U K1=8.67 1983FSa (39197)2007

Ni++ gl KNO3 25°C 0.10M U K1=8.73 1977TIa (39198)2008

Ni++ gl KNO3 25°C 0.10M U T M 1973IVa (39199)2009

K(NiL+Pro)=5.18

K1(15 C)=5.33, K(37 C)=5.07, K(55 C)=4.80

---

Ni++            gl   KNO3    25°C 0.10M U T M                            1972IVa (39200)2010

K(NiL+A)=4.50

K1(15 C)=4.59, K(37 C)=4.34, K(55 C)=4.20. HA=cycloserine

---

Ni++            sp   oth/un 25°C 0.10M U       M    B2=16.1            1970Cma (39201)2011

K(NiL+2CN)=10.32

---

Ni++            vlt NaClO4 25°C 0.10M U                            K1=8.4    B2=15.96    1969VPa (39202)2012

---

Ni++            cal KNO3    20°C 0.10M U    H                            1965ANa (39203)2013

DH(K1)=-19.6 kJ mol<sup>-1</sup>, DS=99.9 J K<sup>-1</sup> mol<sup>-1</sup>, DH(B2)=-32.0, DS=196

---

Ni++            gl   KCl        20°C 0.10M U                            K1=8.73    B2=15.95    1955SAa (39204)2014

\*\*\*\*\*

C5H9NO4S                            H2L                            (1736)

3-(Carboxymethyl)thio-L-alanine; HOOC.CH2.S.CH2.CH(NH2)COOH

---

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	cal	NaNO3	37°C	0.20M	C		K1=6.40    B2=11.65	1987ARa (39302)2015	
DH(K1)=-17.1 kJ mol <sup>-1</sup> , DS(K1)=65.2 J K <sup>-1</sup> mol <sup>-1</sup> ; DH(K2)=-23.3, DS(K2)=22.									
Ni++	gl	NaClO4	25°C	2.00M	U		K1=6.40    B2=11.65	1980MAc (39303)2016	
Ni++	gl	NaClO4	25°C	2.0M	U		K1=6.40    B2=11.60	1976AHc (39304)2017	
Ni++	gl	KNO3	25°C	0.10M	C		K1=6.22    B2=11.16	1974NBb (39305)2018	
*****									
		C5H9NS2		HL			CAS 25769-03-3	(3623)	
Pyrrolidine-N-carboxydithioic acid; C4H8N-CSSH									

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	dis	oth/un	22°C	0.01M	U		B2=13.2	1973SSa (39325)2019	
Ni++	vlt	KCl	25°C	1.00M	U		B2=12.7	1973SSa (39326)2020	
Ni++	sp	alc/w	25°C	75%	U		B2=8.56	1970PNa (39327)2021	
Medium: 75% MeOH, 0.3 M NaClO4									
*****									
		C5H9N3		L			Isohistamine	CAS 19225-96-8	(4294)
2-(2'-Aminoethyl)imidazole;									

---

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	oth/un	25°C	0.10M	U		K1=7.12    B2=12.63	1969EHc (39341)2022	
							B3=16.16		

\*\*\*\*\*

C5H9N3 L Betazole CAS 51-45-6 (3601)  
3-(2'-Aminoethyl)pyrazole;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl oth/un 25°C .02M U K1=5.7 1960HJa (39346)2023

\*\*\*\*\*

C5H9N3 L Histamine CAS 51-45-6 (103)  
4(5)-(2'-Aminoethyl)imidazole; C3H3N2.CH2.CH2.NH2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaClO4 37°C 0.15M U M 1999NNa (39463)2024

B(NiHAL)=18.98

B(NiAL)=13.31

K(NiA+L)=6.99

K(NiL+A)=6.95

K(NiHL+A)=7.13. HA is nicotinic acid.

-----  
Ni++ gl NaClO4 37°C 0.15M U M 1999NNb (39464)2025

B(NiH2AL)=21.82

B(NiHAL)=15.69

B(NiAL)=11.03

K(NiA+L)=7.76

K(NiL+A)=4.67. A is 6-aminopenicillanic acid.

-----  
Ni++ gl KCl 25°C 0.10M C IH R K1=6.82 B2=11.87 1997SJa (39465)2026

K3=3.12

IUPAC evaluation. DH(K1)=-38 kJ mol<sup>-1</sup>, DH(K2)=-33, DH(K3)=-25

-----  
Ni++ gl NaClO4 37°C 0.15M C M K1=6.36 B2=11.22 1993NAa (39466)2027

B(NiHL)=11.85

B(NiHL2)=17.86

Also data for ternary complexes with cysteine, cysteic acid and penicill-amine.

-----  
Ni++ gl KNO3 35°C 0.10M C M K1=6.36 1985RRc (39467)2028

B(NiL(cytidine))=12.65

-----  
Ni++ gl KNO3 25°C 0.50M U K1=6.87 B2=11.90 1983LWa (39468)2029

-----  
Ni++ gl KNO3 25°C 0.10M C M 1979DAa (39469)2030

B(NiHL(pn))=19.85

B(NiL(pn))=11.58

B(NiL2(pn))=15.45

B(NiL(pn)2)=14.42

pn=1,3-Diaminopropane

-----  
Ni++ gl KCl 25°C 0.20M U M K1=6.85 B2=11.93 1978SKa (39470)2031





-----  
Ni++ gl KNO3 30°C 1.0M U T K1=6.87 B2=11.83 1952HAa (39483)2044  
K3=3.08

50 C: K1=6.50, K2=4.78, K3=2.83

\*\*\*\*\*

C5H9N3 L (3602)

4(5)-Aminomethyl-2-methylimidazole;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl oth/un 25°C .02M U K1=5.99 B2=11.10 1962HJa (39551)2045  
B3=15.16

\*\*\*\*\*

C5H9N3O4S H2L CAS 16907-58-7 (2106)

Thiosemicarbazone-diethanoic acid; H2N.CS.NH.N(CH2.COOH)2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KCl 30°C 0.10M U K1=5.9 1967GNb (39557)2046  
K(Ni+HL)=4.6

-----  
Ni++ cal KNO3 30°C 0.10M U H 1967Gnc (39558)2047

DH(K1)=-3.3 kJ mol<sup>-1</sup>, DS=100 J K<sup>-1</sup> mol<sup>-1</sup>

\*\*\*\*\*

C5H9N3O5 H2L CAS 85594-21-4 (9125)

2-(Acetylamino)-N,N'-dihydroxypropanediamide;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ vlt KNO3 25°C 0.10M C 2004YYa (39579)2048  
K1eff=7.82

Method: square wave voltammetry. Medium pH 7.0.

\*\*\*\*\*

C5H9N3O5 H2L CAS 4438-86-2 (3622)

Semicarbazone-1,1-diethanoic acid; H2N.CO.NH.N(CH2.COOH)2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KCl 30°C 0.10M U K1=6.4 1967GNb (39587)2049  
K(Ni+HL)=5.1

-----  
Ni++ cal KNO3 30°C 0.10M U H 1967Gnc (39588)2050

DH(K1)=-4.6 kJ mol<sup>-1</sup>, DS=109 J K<sup>-1</sup> mol<sup>-1</sup>

\*\*\*\*\*

C5H9N3S HL (1822)

2-Mercaptohistamine;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaClO4 25°C 0.10M U K1=7.48 B2=13.14 1977STc (39603)2051

\*\*\*\*\*

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.10M	U			B2=8.24 B(NiHL2)=12.5 B(NiH2L2)=16.1	1987PHa (39619)	2052

C5H10N07P                      H4L                      PMIDa                      CAS 5994-61-6 (2433)  
N-(Phosphonomethyl)iminodiethanoic acid; H2O3P.CH2.N(CH2.COOH)2

Ni++	gl	KN03	25°C 0.10M C	K1=13.2	2000SDa (39642)2053
				K(NiL+H)=5.46	
				K(NiHL+H)=2.4	
				K(NiL+OH)=3.0	

Ni++      oth KN03      RT 0.10M C      1980Mva (39644)2055  
K(Ni+HL) >6.8

\*\*\*\*\*

C5H10N2O	L	Prolinamide	CAS 7531-52-4	(5978)
Prolinamide:				

Ni++      gl   KCl      25°C 0.10M C      K1=3.85    B2= 7.16    1997DFb (39695)2056  
B(NiH-2L2)=-9.75

C5H10N2O2 HL (3039)  
Dimethylglyoxime O-methyl ether; CH3.C(:N.OH).C(:N.O.CH3).CH3

Ni++ gl diox/w 25°C 50% U K1=6.21 B2=12.06 1958BPa (39702)2057

\*\*\*\*\*

C5H10N2O2                      HL                      CAS 4775-86-4    (3040)  
Ethylmethylglyoxime (Pentane-2,3-dione dioxime)

Ni++      sol NaClO4 25°C 0.10M U      K1=8.42    B2=17.79    1969EGa (39712)2059

-----  
Ni++ gl diox/w 25°C 75% U I K1=10.4 B2=23.97 1963BAb (39713)2060  
Kso=-23.27

Medium: 75% dioxan, 0.1 M. B2=17.26(0%)

-----  
Ni++ gl diox/w 25°C 50% U K1=11.5 B2=22.5 1958BP a (39714)2061  
\*\*\*\*\*

C5H10N2O3 HL Glutamine CAS 56-85-9 (18)  
2-Aminopentanedioic acid 5-amide; H2N.CH(CH2.CH2.CO.NH2)COOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

-----  
Ni++ gl KNO3 25°C 0.10M C K1=5.05 1999BIa (39784)2062

-----  
Ni++ gl NaClO4 25°C 0.20M C K1=5.30 1993BAb (39785)2063

-----  
Ni++ gl NaCl 37°C 0.15M U T K1=4.979 B2=9.015 1985CFb (39786)2064  
B3=11.62  
B(NiH-1L2)=-1.91

-----  
Ni++ gl NaClO4 25°C 0.10M U K1=4.94 B2=9.24 1973TSb (39787)2065

-----  
Ni++ gl NaClO4 25°C 3.00M U K1=5.56 B2=10.28 1973WIA (39788)2066  
B3=13.82

-----  
Ni++ gl KNO3 25°C 0.10M U T K1=5.17 B2=9.45 1965RWa (39789)2067  
\*\*\*\*\*

C5H10N2O3 HL Ala-Gly CAS 687-69-4 (55)  
Alanyl-glycine; H2N.CH(CH3).CO.NH.CH2.COOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

-----  
Ni++ gl KCl 20°C 0.20M U K1=3.60 B2=6.41 1982KRd (39879)2068  
B3=8.70  
B(NiH-1L2)=-2.21  
B(NiH-2L2)=-12.08

\*\*\*\*\*  
C5H10N2O3 HL Gly-beta-Ala CAS 3695-73-6 (972)  
Glycyl-3-alanine; H2N.CH2.CO.NH.CH2.CH2.COOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

-----  
Ni++ gl NaCl 25°C 0.12M U K1=4.08 B2=7.77 1977PNa (39906)2069

-----  
Ni++ gl KNO3 25°C 0.10M C K1=4.191 B2=7.529 1975BP a (39907)2070  
B3=9.74  
B(NiH-1L)=-5.04  
B(NiH-2L2)=-11.4

-----  
Ni++ EMF oth/un ? ? U K1=4.08 B2=7.77 1970PBb (39908)2071

\*\*\*\*\*

C5H10N2O3                      HL      Gly-DL-Ala                      CAS 926-77-2    (66)  
Glycyl-DL-alanine; H2N.CH2.CO.NH.CH(CH3).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	20°C	0.20M	U		K1=4.35    B2=7.74 B3=10.44 B(NiH-1L2)=-1.52 B(NiH-2L2)=-11.76	1982KRd (39925)	2072

Ni++	gl	NaCl	25°C	0.12M	U		K1=4.18    B2=7.70	1977PNa (39926)	2073
------	----	------	------	-------	---	--	--------------------	-----------------	------

Ni++	EMF	oth/un	?	?	U		K1=4.18    B2=7.70	1970PBb (39927)	2074
------	-----	--------	---	---	---	--	--------------------	-----------------	------

Ni++	EMF	NaClO4	25°C	0.10M	U		K1=4.08    B2=7.87	1967Smd (39928)	2075
------	-----	--------	------	-------	---	--	--------------------	-----------------	------

\*\*\*\*\*

C5H10N2O3                      HL      Gly-Ala                      CAS 3695-73-6    (56)  
Glycyl-alanine; H2N.CH2.CO.NH.CH(CH3).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C	H	K1=4.17    B2= 7.55 B3=9.76 B(NiH-1L)=-4.5 B(NiH-2L)=-14.16 B(NiH-1L2)=-2.1	2001CFb (39989)	2076

DH(K1)=-21 kJ mol<sup>-1</sup>, DS(K1)=9 J K<sup>-1</sup> mol<sup>-1</sup>, DH(B2)=-49, DS(B2)=-18,  
DH(NiH-1L)=-13, DS(NiH-1L)=-128, DH(NiH-2L)=36, DS(NiH-2L)=-152.

Ni++	gl	NaClO4	30°C	0.20M	U	M	K1=4.21 B(NiAL)=6.15 B(NiBL)=6.66 B(NiCL)=6.66	1999PGa (39990)	2077
------	----	--------	------	-------	---	---	---	-----------------	------

A=imidazole, B=2-methylimidazole, C=2-ethylimidazole.

Ni++	gl	NaCl	25°C	0.12M	U		K1=4.26    B2= 7.81	1976PNa (39991)	2078
------	----	------	------	-------	---	--	---------------------	-----------------	------

with L=glycyl-DL-alpha-alanine K1=4.18, K2=3.52

Ni++	gl	KNO3	25°C	0.10M	C		K1=4.229    B2=7.596 B3=9.7 B(NiH-1L)=-4.560 B(NiH-2L2)=-12.239	1975BPa (39992)	2079
------	----	------	------	-------	---	--	--	-----------------	------

Ni++	EMF	oth/un	?	?	U		K1=4.26    B2=7.81	1970PBb (39993)	2080
------	-----	--------	---	---	---	--	--------------------	-----------------	------

\*\*\*\*\*

C5H10N2O3                      HL      Gly-b-Ala                      CAS 7536-21-2    (9057)  
Glycyl-beta-alanine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

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-----
Ni++      gl  KCl      25°C 0.20M C      K1=4.06   B2= 7.43   2003AMb (40009)2081
                                     B(NiH-1L)=-4.94
                                     B(NiH-1L2)=-2.41
                                     B(NiH-2L2)=-12.67

```

\*\*\*\*\*

```

C5H10N2O3      HL      Gly-Sar      CAS 29816-01-1 (2331)
Glycyl-sarcosine; H2N.CH2.CO.N(CH3).CH2.COOH

```

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----

```

```

Ni++      gl  KNO3     25°C 0.16M U      K1=4.44   B2=8.09   1960Mca (40026)2082
                                     K3=2.1
                                     K(NiLOH+H)=10.7

```

\*\*\*\*\*

```

C5H10N2O3      HL      B-Ala-Gly      CAS 2672-88-0 (4323)
beta-Alanylglycine; H2N.CH2.CH2.CO.NH.CH2.COOH

```

```

-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----

```

```

Ni++      gl  KCl      25°C 0.20M C      K1=3.82   B2= 6.53   2003AMb (40050)2083
                                     B(NiH-1L)=-4.59
                                     B(NiH-1L2)=-2.21
                                     B(NiH-2L2)=-12.44

```

\*\*\*\*\*

```

C5H10N2O3S     H2L      Cys-Gly      CAS 19246-18-5 (2006)
Cysteiny1-glycine; H2N.CH(CH2.SH)CO.NH.CH2.COOH

```

```

-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----

```

```

Ni++      gl  KCl      25°C 0.20M C      K1=7.94   B2=17.77   1987Kba (40057)2084

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\*\*\*\*\*

```

C5H10N2O3S     H2L      Gly-Cys      CAS 57281-78-4 (2550)
Glycyl-cysteine; H2N.CH2.CO.NH.CH(CH2.SH).COOH

```

```

-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----

```

```

Ni++      gl  KCl      25°C 0.20M C      B2=14.91   1987Kba (40065)2085
                                     B(Ni2H-2L2)=6.85
                                     B(NiH-1L2)=6.42

```

\*\*\*\*\*

```

C5H10N2O4      HL      CAS 1955-67-5 (6736)
2-Aminopentanoic-5-hydroxamic acid; HOOC.CH(NH2).CH2.CH2.CO.NOH

```

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----

```

```

Ni++      gl  KCl      25°C 0.20M C      K1=7.84   1993FBa (40075)2086
                                     B(NiHL)=14.42
                                     B(Ni2HL)=20.51
                                     B(Cu2L)=11.54

```

C5H10N2O4                      HL              Ser-Gly                      CAS 687-63-8    (2386)  
Seryl-glycine; H2N.CH(CH2.OH).CO.NH.CH2.CO.OH

\*\*\*\*\*

$K(\text{NiL2+py}) = -0.27$   
 $K(\text{NiL2+3-Me-py}) = 0.03$   
 $K(\text{NiL2+2-Me-py}) = 0.20$   
 $K(\text{NiL2+Isoquinoline}) = -0.29$

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C5H10O6                      HL       D-Ribonic acid       CAS 18315-89-4       (6941)  
2R,3S,4R,5-Tetrahydroxo-pentanoic acid; D-Ribonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	20°C	0.10M	C		K1=2.28 B2=4.86 B(NiH-2L)=-16.66	1994ESa	(40377)2092
*****									
C5H11N		L					CAS 1003-03-8	(304)	
Cyclopentylamine;									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	37°C	0.15M	C		K1=6.824 B2=9.06	1974MWb	(40389)2093
*****									
C5H11N		L		Piperidine			CAS 110-89-4	(105)	
Perhydropyridine; cyclo(-CH2.CH2.CH2.NH.CH2.CH2-) C5H11N									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	non-aq	25°C	100%	U	HM		1984CGa	(40413)2094
K(NiA2+L)=1.13									
In 1,2-dichloroethane, HA=N,N-diethyl-N'-benzoylthiourea									
When HA=piperidyl-N'-benzoylthiourea, K=1.17									
-----									
Ni++	sp	non-aq	16°C	100%	U	T M		1976CUa	(40414)2095
K(NiA+2L)=5.95									
Medium: chlorobenzene. H2A=biacetyl-bis-a-hydroxybenzylidenehydrazone									
K=5.95(22 C); 5.39(28 C); 5.16(33 C)									
-----									
Ni++	cal	non-aq	30°C	100%	U	H		1976GSb	(40415)2096
K(NiA2+L)=1.86									
In CH3CN. A2 = BF2-bridged methylethylglyoxime. DH=-37.9 kJ mol-1; DS=-89									
Also data for methylpropyl- and methyl-2-propylglyoxime.									
-----									
Ni++	sp	non-aq	22°C	100%	U	T HM		1975WHa	(40416)2097
K(NiY+2L)=0.56									
Medium: toluene. DH(NiY+2L)=-36.4 kJ mol-1 at 25 C. 25 C: K=0.41; 35 C:0.27;									
45 C: 0.06. NiY=(p-Cyano)tetraphenylporphyrin complex of Ni(II)									
-----									
Ni++	sp	non-aq	22°C	100%	U	M		1975WHa	(40417)2098
K(NiW+2L)=-0.69									
K(NiX+2L)=-0.60									
K(NiY+2L)=-0.29									
K(NiZ+2L)=-0.12									
Medium: toluene. W=(p-Methoxy)tetraphenylporphyrin complex of Ni(II).									
X=(p-methyl-), Y=(p-Fluoro), Z=(p-Chloro) analogue									
-----									
Ni++	sp	non-aq	22°C	100%	U	M		1975WHa	(40418)2099
K(NiX+2L)=0.21									
K(NiY+2L)=0.65									
X=(p-COOCH3)tetraphenylporphyrin complex of Ni(II). Y=(p-Nitrito) analogue									
Medium: toluene									



-----  
Ni++ sp non-aq 22°C 100% U M 1975WHa (40419)2100

K(NiW+2L)=-0.55

K(NiX+2L)=-0.46

K(NiY+2L)=-0.46

K(NiY+2L)=0.12

Medium: toluene. W=(m-Methoxy)tetraphenylporphyrin complex of Ni(II).

X=(m-methyl) analogue, Y=(H) analogue, Z=(m-Fluoro) analogue  
-----

Ni++ sp non-aq 25°C 100% U M 1975WHa (40420)2101

K(NiX+2L)=0.22

K(NiY+2L)=0.76

Medium: toluene. X=(m-Chloro)tetraphenylporphyrin-Ni(II). Y=(m-Nitrito)  
-----

Ni++ sp non-aq 25°C 100% U M 1975WHa (40421)2102

K(NiY+2L)=-0.37

Medium: toluene. NiY=p-Tetraphenylporphyrin-Ni(II). 25 C: K(NiY+2L)=-0.46;

30 C: -0.54; 35 C: -0.62; 45 C: -0.70. DH=-23.4 kJ mol<sup>-1</sup>  
-----

Ni++ dis non-aq 20°C 100% U M 1971ADa (40422)2103

K(NiA2+L)=3.18

Medium: CHCl<sub>3</sub>, 0.1 M NaClO<sub>4</sub>. HA=thenoyltrifluoro-acetone  
-----

Ni++ sp non-aq ? 100% U I M 1971MAh (40423)2104

K(NiCl2+L)=0.85

Medium: 50% benzene/50% HCON(CH<sub>3</sub>)<sub>2</sub>. 0% benzene, K=1.80, 25%, K=0.54,

40%, K1=0.74  
-----

Ni++ sp non-aq ? 100% U M 1971MAh (40424)2105

K(NiA2+L)=2.52

K(NiA2+2L)=2.88

Medium: benzene. HA=benzoylacetone. When HA=dibenzoylmethane, values are

2.20 and 2.18. Data in other solvent mixtures  
-----

Ni++ oth non-aq 20°C 100% U M 1968RMa (40425)2106

K(NiA2+2L)=2.88

Medium: CHCl<sub>3</sub>. HA=0,0-diethyldithiophosphoric acid

Method: magnetic susceptibility measurements  
\*\*\*\*\*

C5H11NO2 HL Valine CAS 72-18-4 (43)

2-Amino-3-methylbutanoic acid; H<sub>2</sub>N.CH(CH(CH<sub>3</sub>)<sub>2</sub>)COOH  
-----

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

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Ni++	gl	alc/w	25°C	40%	C		K1=10.83 B2=15.80	2003DKa (40608)	2107
------	----	-------	------	-----	---	--	-------------------	-----------------	------

B(NiHL)=6.43

Medium: 40% v/v EtOH/H<sub>2</sub>O, 0.10 M NaCl.  
-----

Ni++	gl	KN03	25°C	0.20M	U T HM		K1=4.74	1996JLd (40609)	2108
------	----	------	------	-------	--------	--	---------	-----------------	------

K(Ni(bpy)+L)=3.24

Data for 25-45 C. DH(K1)=-20.9 kJ mol<sup>-1</sup>, DS(K1)=20 J K<sup>-1</sup> mol<sup>-1</sup>;  
DH(Ni(bpy)L)=-45.6, DS(Ni(bpy)L)=91.

---

Ni++      gl   alc/w   20°C   50%   M   M   K1=5.68      1995AMb (40610)2109  
K(NiA+L)=5.03

Medium: 50% v/v EtOH/H<sub>2</sub>O, 0.20 M NaClO<sub>4</sub>. A is 2,2',2''-terpyridine.

---

Ni++      gl   KNO<sub>3</sub>   30°C   0.10M   U   K1=5.54      1994RSa (40611)2110

---

Ni++      gl   NaClO<sub>4</sub>   25°C   0.20M   C   K1=5.75      1993BAb (40612)2111

---

Ni++      gl   KCl   25°C   0.20M   C   M   1993BCf (40613)2112  
K(NiA+(S)-L)=18.02  
K(NiA+(R)-L)=18.51

A: N,N'-bis[(2S)-pyrrolidine-2-yl]propane-1,3-diamine.

---

Ni++      gl   NaClO<sub>4</sub>   25°C   0.20M   U   T   M   K1=5.48   B2= 9.90   1993PPa (40614)2113  
K(NiA+L)=4.90

A is 2,2'-bipyridylamine. Also data for 35 and 45 C.

---

Ni++      gl   KCl   25°C   0.10M   C   TIH   T   K1=5.27   B2=9.36   1993SKa (40615)2114  
IUPAC evaluation. DH(K1)=-16.4 kJ mol<sup>-1</sup>, DH(B2)=-36.3, DH(B3)=-54

---

Ni++      gl   KNO<sub>3</sub>   25°C   0.10M   U   M   K1=5.12      1989MAc (40616)2115  
K(NiA+L)=4.07

H<sub>4</sub>A is adenosine-5'-triphosphoric acid.

---

Ni++      gl   KNO<sub>3</sub>   25°C   0.10M   C   M   K1=5.40      1989MAd (40617)2116  
K(NiA+L)=4.86  
B(NiAL)=12.88

H<sub>2</sub>A is N-(2-acetamido)imino diethanoic acid.

---

Ni++      gl   KNO<sub>3</sub>   35°C   0.20M   U   M   K1=5.70   B2=9.99   1989RVa (40618)2117  
K(NiA+L)=5.14

A=bis(imidazol-2-yl)methane

---

Ni++      gl   NaClO<sub>4</sub>   27°C   0.20M   U   M   K1=5.48   B2= 9.90   1988PPc (40619)2118  
K(NiA+L)=4.90

A is 2,2'-dipyridylamine.

---

Ni++      oth   NaClO<sub>4</sub>   35°C   0.10M   C   M   T   K1=5.40   B2=9.70   1986SRb (40620)2119  
Exp. method: paper electrophoresis. Data also for NTA ternary complexes

---

Ni++      oth   NaClO<sub>4</sub>   25°C   1.0M   U   M   1982CSc (40621)2120  
B(Ni(ala)L)=10.24  
B(Ni(ala)L<sub>2</sub>)=13.42  
B(Ni(ala)<sub>2</sub>L)=13.4

Method: recalculation of literature data.

---

Ni++      oth   NaClO<sub>4</sub>   25°C   1.0M   U   M   1982CSc (40622)2121

B(Ni(ala)(gly)L)=13.91

Method: recalculation of literature data.

Ni++ vlt NaClO4 25°C 0.50M U T K1=5.26 B2=9.42 1967RPd (40623)2122  
K3=2.53

Ni++ gl oth/un 30°C ? U TIH K1=5.37 B2=9.53 1960PEa (40624)2123  
B3=11.96

10 C: K1=5.62, B3=12.76; 40 C: K1=5.31, B2=9.39, B3=11.71. DH(K1)=-18.1 kJ  
mol<sup>-1</sup>, DS=43.7; DH(K2)=-22.6, DS=6; DH(K3)=-18.8, DS=15.9

Ni++ gl diox/w 25°C 69% U TI K1=8.40 B2=15.44 1960PEa (40625)2124  
B3=19.74

15 C: K1=8.57, K2=6.62, K3=4.44; 30 C: 8.31, 6.93, 4.24; 35 C: 8.23, 6.84, 4.18;  
40 C: 8.17, 6.74, 4.13. Also for 44.9 and 59.7% dioxan.

Ni++ gl alc/w 25°C 70% U I K1=6.52 B2=11.85 1960PEa (40626)2125  
B3=15.58

Medium: 70% w/w MeOH. In 39%: K1=5.85, 2=4.85, B3=13.77

Ni++ gl oth/un 25°C 0.15M U T H T K1=5.37 B2=10.53 1956LWa (40627)2126

DH(B2)=-60.7 kJ mol<sup>-1</sup>, DS=-23.0 J K<sup>-1</sup> mol<sup>-1</sup>. 30 C: K1=5.27, K2=4.07;

35 C: K1=5.17, K2=3.99; 40 C: K1=5.11, K2=3.91

Ni++ gl oth/un 18°C ? U K1=5.53 B2=9.88 1956PCb (40628)2127  
B3=12.71

\*\*\*\*\*  
C5H11NO2 HL Nor-Valine CAS 760-78-1 (689)  
2-Aminopentanoic acid; CH3.CH2.CH2.CH(NH2).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl NaNO3 25°C 0.10M C M K1=5.70 B2=10.40 2000KAb (40808)2128  
K(NiA+L)=4.60

H2A=Dipicolinic acid.

Ni++ gl KNO3 25°C 0.20M U T HM K1=5.45 1996JLd (40809)2129  
K(Ni(bpy)+L)=5.15

Data for 25-45 C. DH(K1)=-17.6 kJ mol<sup>-1</sup>, DS(K1)=45 J K<sup>-1</sup> mol<sup>-1</sup>;

DH(Ni(bpy)L)=-17.6, DS(Ni(bpy)L)=21.

Ni++ gl KNO3 25°C 0.10M C T K1=5.27 B2=9.65 1975IPb (40810)2130

Ni++ gl KCl 25°C 0.20M U H K1=5.28 B2= 9.62 1975SGc (40811)2131

By calorimetry: DH(K1)=-17.9 kJ mol<sup>-1</sup>, DS(K1)=41.0 J K<sup>-1</sup> mol<sup>-1</sup>;

DH(B2)=-35.6, DS(B2)=64.9. Ligand is the DL-amino acid.

Ni++ gl KCl 25°C 0.20M U H K1=5.28 B2= 9.62 1974SGb (40812)2132

By calorimetry, DH(K1)=-17.2 kJ mol<sup>-1</sup>, DS(K1)=42.3 J K<sup>-1</sup> mol<sup>-1</sup>;

DH(K2)=-33.9, DS(K2)=68.6.



Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.50M	U	H	K1=4.157 B2= 7.40	1983HTa (40910)	2141
By calorimetry: DH(K1)=-14.6 kJ mol <sup>-1</sup> , DH(K2)=-17.6.									
*****									
C5H11NO2S		HL		Methionine		CAS	63-68-3 (42)		
2-Amino-4-(methylthio)butanoic acid; H2N.CH(CH2.CH2.S.CH3)COOH									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	alc/w	25°C	40%	C		K1=11.21 B2=15.12	2003DKa (41006)	2142
							B(NiHL)=6.07		
Medium: 40% v/v EtOH/H2O, 0.10 M NaCl.									
Ni++	gl	KNO3	25°C	0.10M	C	M	K1=6.02	1999AAa (41007)	2143
							K(NiL+A)=3.78		
							B(NiLA)=9.80		
							K(NiL+B)=3.45		
							B(NiLB)=9.47		
K(NiHL+C)=3.26. HA=MOPSO, HB=MOPS, HC=DIPSO.									
Ni++	gl	KNO3	25°C	0.10M	C	R	K1=5.33 B2=9.90	1995BEa (41008)	2144
IUPAC evaluation									
Ni++	gl	NaClO4	25°C	0.20M	U	T M	K1=5.60 B2= 9.78	1993PPa (41009)	2145
							K(NiA+L)=5.38		
A is 2,2'-bipyridylamine. Also data for 35 and 45 C.									
Ni++	gl	KNO3	25°C	0.70M	C		K1=5.08 B2= 9.43	1992AAc (41010)	2146
							K(Ni+OH+L)=9.42		
Ni++	gl	KNO3	25°C	0.10M	U	M	K1=5.62	1989MAc (41011)	2147
							K(NiA+L)=4.90		
H4A is adenosine-5'-triphosphoric acid.									
Ni++	gl	KNO3	35°C	0.20M	U	M	K1=5.32 B2=9.66	1989RVa (41012)	2148
							K(NiA+L)=4.72		
A=bis(imidazol-2-yl)methane									
Ni++	gl	KCl	25°C	0.50M	M	T H	K1=7.55	1988MAa (41013)	2149
Data for 25-40 C. DH(K1)=-35.0 kJ mol <sup>-1</sup> , DS(K1)=-263 J K <sup>-1</sup> mol <sup>-1</sup> .									
Ni++	gl	NaClO4	27°C	0.20M	U	M	K1=5.60 B2=10.41	1988PPc (41014)	2150
							K(NiA+L)=5.38		
A is 2,2'-dipyridylamine.									
Ni++	gl	KCl	25°C	0.20M	C		K1=5.23 B2=9.71	1987SPa (41015)	2151
							B3=12.60		

Ni++ gl NaClO4 25°C 0.50M M M K1=5.10 B2=9.88 1984Mca (41016)2152  
B(NiLA)=9.50; B(MHLA)=12.07. HA=ethionine.

Ni++ gl NaClO4 25°C 0.10M M M K1=5.08 B2=9.65 1984MCb (41017)2153  
K(NiL2+A)=3.75. HA=2-Aminoethanesulfonic acid.

Ni++ gl KCl 25°C 0.20M U K1=5.50 B2=10.15 1982FGa (41018)2154

Ni++ gl KNO3 25°C 0.10M U H K1=5.318 B2=9.894 1976SPb (41019)2155  
B3=11.7

With D-Met: K1=5.330, B2=9.892, B3=11.5; DL-Met: K1=5.340, B2=9.990, B3=11.9  
L-Met:DH(K1)=-13.1 kJ mol<sup>-1</sup>, DH(K2)=-22.1; D-Met:-13.2,-21.8; DL:-13.3,-22.8

Ni++ gl KNO3 25°C 0.10M C T K1=5.34 B2=9.90 1975IPb (41020)2156

Ni++ gl NaNO3 25°C 0.20M U K1=5.57 B2=10.11 1974FSa (41021)2157  
B3=13.05  
B(NiLA)=7.62  
B(NiL2A)=11.38  
B(NiLA2)=9.63

A=acetylhydrazide; other data are also given

Ni++ gl NaNO3 25°C 1.00M U K1=5.41 B2=10.81 1973BJd (41022)2158  
B3=12.43

Ni++ oth KNO3 20°C 0.10M U K1=5.7 B2=9.40 1964JOa (41023)2159  
K3=2.3

Method: paper electrophoresis

Ni++ gl KNO3 25°C 0.10M U K1=5.19 B2=9.84 1964LMa (41024)2160

Ni++ gl oth/un 25°C ? U TIH K1=5.56 B2=10.19 1960PEa (41025)2161  
K3=2.63

DH(K1)=-21.6 kJ mol<sup>-1</sup>,DS=34; DH(K2)=-21.6,DS=16; DH(K3)=-26.9,DS=-40.  
10 C:K1=5.77,K2=4.87,K3=2.80; 15 C:5.70,4.78,2.73; 40 C:5.39,4.48,2.37

Ni++ gl diox/w 15°C 69% U TI K1=8.48 B2=15.61 1960PEa (41026)2162  
K3=4.79

30 C: K1=8.43, K2=7.09; 40 C: K1=8.39, K2=6.86, K3=4.19. Data also in 44.6%,  
59.7% dioxan

Ni++ gl oth/un 19°C ? U K1=5.59 B2=10.30 1956PCb (41027)2163  
B3=13.12

\*\*\*\*\*

C5H11NO2S HL CAS 2442-39-9 (8307)  
3-(2-Aminoethyl)thiopropionic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.50M U H K1=3.739 B2= 6.92 1983HTa (41139)2164

By calorimetry:  $\Delta H(K1) = -13.6 \text{ kJ mol}^{-1}$ ,  $\Delta H(K2) = -15.9$ .

\*\*\*\*\*

C5H11NO2S                      H2L      D-Penicillamine    CAS 52-67-5    (1323)  
D-2-Amino-3-mercapto-3-methylbutanoic acid;  $(\text{CH}_3)_2\text{C}(\text{SH})\text{CH}(\text{NH}_2)\text{COOH}$

-----  
Metal            Mtd Medium Temp Conc Cal Flags Lg K values                      Reference ExptNo  
-----

Ni++            gl    NaCl04   37°C   0.15M   U        M                                      2000NNb (41160)2165

B(NiAL)=15.25  
B(NiHAL)=20.02  
K(NiHA+L)=12.65  
K(NiA+L)=11.98

K(NiL+A)=3.75. HA 6-aminopenicillanic acid.

-----  
Ni++            gl    NaCl04   37°C   0.15M   U        M                                      2000NNb (41161)2166

B(NiAL)=15.71  
B(NiHAL)=20.49  
B(NiH-1AL)=6.99  
K(NiHA+L)=11.60

K(NiA+L)=12.13, K(NiL+A)=4.21, K(NiH-1A+L)=11.63. HA is ampicillin.

-----  
Ni++            gl    NaCl04   37°C   0.15M   U        M                                      1999NAb (41162)2167

B(NiAL)=21.74  
B(NiHAL)=29.63  
B(NiH2AL)=37.40  
K(NiA+L)=10.90

K(NiL+A)=10.24. H2A is dopa: 2-amino-3-(3,4-dihydroxyphenyl)propanoic acid

-----  
Ni++            gl    NaCl04   37°C   0.15M   U        M                                      1999NAb (41163)2168

B(NiAL)=20.86  
B(NiHAL)=29.31  
B(NiHA+L)=11.19  
K(NiA+L)=11.20

K(NiL+A)=9.36. H2A is dopamine

-----  
Ni++            gl    NaCl04   37°C   0.15M   U        M                                      1995NAc (41164)2169

B(NiLZn)=14.21  
B(NiL2Zn)=27.18

-----  
Ni++            gl    NaCl04   37°C   0.15M   C        M      K1=11.50   B2=23.41   1993NAa (41165)2170

B(NiAL)=15.29  
B(NiA2L)=17.87  
B(NiHAL)=21.46

A=imidazole. Also complexes for A=histamine: B(NiAL)=18.14, B(NiHAL)=23.76,  
B(NiH2AL)=29.13; HA=histidine: B(NiAL)=19.93, B(NiHAL)=24.50.

-----  
Ni++            gl    KCl        25°C   0.10M   M                                      K1=10.76   B2=23.03   1987HLA (41166)2171

-----  
Ni++            sp    NaCl        25°C   0.15M   U                                      K1=11.22   B2=22.71   1979LPa (41167)2172  
-----

Ni++ gl KCl 25°C 0.20M C K2=22.92 1979SGa (41168)2173  
 B(NiHL2)=27.06  
 B(NiL(His))=18.05  
 B(NiL(histamine))=17.0

\*\*\*\*\*

C5H11NO2S H2L Penicillamine CAS 52-66-4 (350)  
 DL-2-Amino-3-mercapto-3-methylbutanoic acid; (CH3)2C(SH)CH(NH2)COOH

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl NaCl04 37°C 0.15M C M 1995NAb (41224)2174  
 B(NiL(dapa))=19.70  
 B(NiL(daba))=20.11  
 B(NiL(orn))=18.47  
 B(NiHL(dapa))=25.37  
 B(NiHL(daba))=26.63, B(NiHL(orn))=27.01, B(NiH2L(daba))=31.97,  
 B(NiH2L(orn))=33.4. daba: 2,3-diaminopropanoate daba: 2,4-diaminobutanoate

-----  
 Ni++ gl KNO3 32°C 0.0 U 1992BKf (41225)2175  
 K(Ni+HL=NiL+H)=-0.77  
 K(Ni+2H2L=NiL2+4H)=-15.62

Medium: 0.005 M KNO3

-----  
 Ni++ gl KCl 25°C 0.10M U K1=10.63 B2=22.87 1972RJa (41226)2176  
 For the DD isomer. K2=12.39

-----  
 Ni++ gl NaCl04 20°C 0.10M U K1=10.75 B2=22.89 1968PSg (41227)2177

-----  
 Ni++ gl KNO3 25°C 0.10M U K1=11.11 B2=21.79 1964LMa (41228)2178

-----  
 Ni++ gl KNO3 25°C 0.15M U K1=11.4 B2=22.30 1962KRa (41229)2179

\*\*\*\*\*

C5H11NO2S HL CAS 2629-59-6 (2461)  
 S-Ethyl-L-cysteine; H2N.CH(CH2.S.C2H5).COOH

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl NaCl04 25°C 1.00M C I K1=5.16 B2=9.93 1981CPb (41289)2180  
 B3=12.67

In 2.0 M NaCl04: K1=5.38, B2=10.30, B3=13.10

\*\*\*\*\*

C5H11NO2S2 HL CAS 1528-32-9 (2127)  
 Di(2-hydroxyethyl)dithiocarbamic acid; (HO.CH2.CH2)2N.CSSH

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ ISE non-aq 25°C 100% U K1=4.83 B2=7.01 1974TBa (41296)2181  
 Medium: DMF, Ag electrode

\*\*\*\*\*

C5H11NO3 HL CAS 93715-84-5 (3626)



N-(2'-Hydroxyethyl)-3-aminopropanoic acid; H<sub>2</sub>N.CH<sub>2</sub>.CH(CH<sub>2</sub>.CH<sub>2</sub>.OH).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KCl	20°C	0.10M	U			K1=4.75 B2=8.15	1964ULa (41308)	2182
*****										
		C5H11NS2	HL					CAS 147-84-2	(2126)	
Diethyldithiocarbamic acid; (CH <sub>3</sub> .CH <sub>2</sub> ) <sub>2</sub> N.CSSH										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++		EMF non-aq	25°C	100%	U			B2=12.3	1987USa (41323)	2183
Medium: DMF, 0.1 M LiClO <sub>4</sub>										
Ni++		ISE non-aq	25°C	100%	U			K1=10.3 B2=21.5	1984LSb (41324)	2184
Medium: DMSO, 0.1 M NaClO <sub>4</sub> ; Ag-electrode. In MeOH: K1=9.4, B2=18.2										

Ni++		ISE non-aq	25°C	100%	U			K1=4.25 B2=7.18	1974TBa (41325)	2185
Medium: DMF, Ag electrode										

Ni++		dis oth/un	25°C	0.10M	U			B2=12.9	1973SSa (41326)	2186
------	--	------------	------	-------	---	--	--	---------	-----------------	------

Ni++		vlt KCl	25°C	1.00M	U			B2=12.1	1973SSa (41327)	2187
------	--	---------	------	-------	---	--	--	---------	-----------------	------

Ni++		sp alc/w	25°C	75%	U			B2=8.56	1970PNa (41328)	2188
Medium: 75% MeOH, 0.3 M NaClO <sub>4</sub>										

		C5H1108P	H2L	Ribose-5-phosph	CAS 4300-28-1	(2756)				
Ribose-5-phosphoric acid, Ribofuranoside 5 Phosphoric acid;										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	NaNO <sub>3</sub>	25°C	0.10M	C			K1=2.00	1988MSa (41411)	2189
Ni++	gl	NaClO <sub>4</sub>	25°C	0.10M	M			K1=1.99 K(Ni+HL)=0.7	1976TDa (41412)	2190

Ni++	gl	KNO <sub>3</sub>	15°C	0.10M	U			K1=1.90	1972FSa (41413)	2191
*****										
		C5H12NO3P	H2L	PYPH		(223)				
Piperidine-2-phosphonic acid; C5H10N.PO3H2										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KNO <sub>3</sub>	24°C	0.10M	U			K1=5.89 K(Ni+HL)=2.07	1989YKa (41431)	2192

		C5H12NO4P	HL		CAS 51276-47-2	(5704)				
2-Amino-4-(methylhydroxyphosphoryl)butanoic acid;										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	23°C	0.10M	U		K1=6.21	1990YTa (41439)	2193
*****									
C5H12N2			L				CAS 38932-70-6	(4301)	
1,1-Di(aminomethyl)cyclopropane; C3H4(CH2.NH2)2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	oth/un	25°C		U		K1=6.42 B2=10.42	1972NBa (41451)	2194
*****									
C5H12N2			L				CAS 171868-16-9	(7832)	
cis-1,2-Cyclopentanediamine;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.10M	C		K1=7.02 B2=12.70 B3=15.98	2001KSa (41456)	2195
*****									
C5H12N2O			HL				CAS 93099-93-5	(3045)	
3-Amino-3-methylbutan-2-one oxime; CH3.C(NH2)(CH3).C(:NOH).CH3									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.02M	U	I		1982PNa (41467)	2196
							K(Ni+HL)=6.31		
In 36% dioxan/H2O: K(Ni+HL)=6.35									

Ni++	gl	oth/un	24°C	0.27M	U			1958MUa (41468)	2197
							K(Ni+2HL=Ni(HL)2)=8.6		
							K(Ni(HL)2=H+NiHL2)=-2.5		
							K(NiHL2=H+NiL2)=-11.8		
*****									
C5H12N2O			L				(3046)		
Sarcosine dimethylamide; CH3.NH.CH2.CO.N(CH3)2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	oth/un	25°C	0.01M	U		K1=3.80 B2=7.29	1959DLb (41472)	2198
*****									
C5H12N2O			L		Valinamide		CAS 3474-22-1	(5977)	
Valinamide; NH2.CH(CH(CH3)2).CO.NH2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.10M	C		K1=2.77 B2= 4.93 B(NiH-2L2)=-11.60	1997DFb (41484)	2199
*****									
C5H12N2OS2			HL				CAS 54887-93-3	(8360)	
N-(2-Aminoethyl)-N-2-(hydroxyethyl)dithiocarbamic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	sp	KNO3	25°C	0.10M	C				1978SHa (41486)	2200
									K(Ni+2HL=Ni(HL)2)=12.8	

NTA used as a competitive ligand.

\*\*\*\*\*

C5H12N2O2                      HL      Ornithine                      CAS 1069-31-4    (46)  
 2,5-Diaminopentanoic acid; H2N.CH2.CH2.CH2.CH(NH2)COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	NaClO4	37°C	0.15M	U	M			2002NNa (41536)	2201
									B(NiHLA)=18.67	
									K(NiHL+A)=3.78	

HA is 6-aminopenicillanic acid.

Ni++	gl	NaClO4	37°C	0.15M	U	M			2000NNa (41537)	2202
									B(NiAHL)=19.05	
									B(NiAL)=11.06	
									K(NiHL+A)=4.16	
									K(NiA+L)=7.48	

HA is ampicillin. K(NiL+A)=3.68.

Ni++	gl	NaClO4	37°C	0.15M	U	M			1998NAa (41538)	2203
									B(NiHAL)=18.22	
									B(NiA2L)=13.64	
									K(NiHL+A)=3.33	
									K(NiA2+L)=7.94	

K(NiL+2A)=6.26. A is imidazole. B(NiHCL)=17.78, B(NiCL)=10.47,  
 K(NiHL+C)=2.89, K(NiC+L)=7.45, K(NiL+C)=2.44. C is benzimidazole.

Ni++	gl	NaClO4	37°C	0.15M	U	M			1998NAb (41539)	2204
									B(NiH2LA)=27.18	
									B(NiHLA)=20.46	
									B(NiLA)=13.31	
									K(NiA+L)=6.95	

K(NiL+A)=5.93. A is histamine. HL is DL-ornithine.

Ni++	gl	NaClO4	37°C	0.15M	U	M			1998NAb (41540)	2205
									B(NiH2L(his))=28.53	
									B(NiHL(his))=23.45	
									B(NiL(his))=15.87	
									K(Ni(his)+L)=7.03	

K(NiL+his)=8.49. HL is DL-ornithine.

Ni++	gl	NaClO4	37°C	0.15M	C	M	K1=7.38	B2=13.33	1995NAb (41541)	2206
									B(NiHL)=14.89	
									B(NiH2L2)=29.13	

Data for ternary complexes with cysteine, cysteic acid and penicillamine.



Ni++ gl KCl 25°C 0.20M C K1=6.53 B2=13.55 19960Ga (41602)2214  
B(NiH-1L2)=5.15

Ni++ gl NaCl 37°C 0.15M M M K1=6.84 B2=14.03 1992MMd (41603)2215  
B(NiH-1L)=0.41  
B(NiH-1L2)=5.76

B(NiCuL2)=22.77, B(NiCuH-2L2)=10.94, B(NiCuH-3L3)=11.44.  
B(NiZnH-1L2)=10.96, B(NiZnH-2L2)=4.09, B(NiZnH-3L3)=19.73.

\*\*\*\*\*  
C5H12N2O2S HL (1737)  
3-(2-Aminoethyl)thio-L-alanine; H2N.CH2.CH2.S.CH2.CH(NH2)COOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.10M C 1974NBb (41612)2216  
K(Ni+HL)=4.38  
K(NiL+HL)=3.71  
K(NiHL=NiL+H)=-5.57  
K(NiHL2=NiL2+H)=-9.04

\*\*\*\*\*  
C5H12N4O3 HL Canavanine CAS 543-38-4 (5565)  
Canavanine; H2N.CH(COOH).CH2.CH2.O.NH.C(:NH)-NH2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaNO3 25°C 0.10M U K1=6.00 B2=10.69 1991APa (41638)2217  
B3=13.77

\*\*\*\*\*  
C5H13NO L CAS 108-16-7 (947)  
1-Dimethylaminopropan-2-ol; CH3.CH(OH).CH2.N(CH3)2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 30°C 1.00M U K1=2.33 B2=3.58 1982RMa (41723)2218  
K3=1.42

\*\*\*\*\*  
C5H13N2O4P H2L (7122)  
(S,S)-Alanyl-1-aminoethylphosphonic acid;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KCl 25°C 0.10M U K1=3.956 B2=7.17 1995HLA (41784)2219  
B(NiHL)=9.53  
B(NiH-1L)=-4.48

For the (S,R) isomer, K1=3.767, B2=6.50, B(NiHL)=9.86, B(NiH-1L)=-4.89

\*\*\*\*\*  
C5H13N3 L (1866)  
cis-3,5-Diaminopiperidine; C5H9N(NH2)2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

-----  
Ni++ gl KCl 25°C 0.10M C K1=11.33 B2=21.22 2000PSb (41791)2220  
\*\*\*\*\*

C5H13N3O HL (6983)  
3-(Dimethylamino)propanamidoxime; (CH3)2N.CH2.CH2.C(:NOH)NH2  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaCl 25°C 0.10M C 19960Sa (41798)2221  
B(0,1,1)=2.74  
B(-9,5,4)=-54.1  
B(-8,5,4)=-44.62

B(p,q,r): pH+qNi+r(HL)=(H)p(Ni)q(HL)r.  
\*\*\*\*\*

C5H13N5O L CAS 53644-71-4 (3048)  
1-(2-Methoxyethyl)biguanide; CH3O.CH2.CH2.NH.C(:NH).NH.C(:NH).NH2  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ sp KCl 30°C 0.20M U B2=11.96 1960SRa (41801)2222  
\*\*\*\*\*

C5H13N5O HL (3047)  
1-(3-Hydroxypropyl)biguanide; HO.CH2.CH2.CH2.NH.C(:NH).NH.C(:NH).NH2  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ sp KCl 30°C 0.20M U B2=12.32 1960SRa (41804)2223  
\*\*\*\*\*

C5H13OPS2 HL CAS 1000-64-2 (4339)  
O-Butyl hydrogen-P-methylphosphonodithioate;  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ ISE alc/w 25°C 90% U K1=2.57 B2=4.57 1972TCa (41807)2224  
Medium: 90% EtOH, 0.3 M NaCl04  
\*\*\*\*\*

C5H14NO2P HL (7265)  
Aminomethyl(butylphosphinic acid); H2NCH2PO(OH)C4H9  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.10M C K1=3.62 B2=6.27 1996RLa (41816)2225  
B3=8.45  
B(NiH-1L)=-5.18  
B(NiH-2L)=-14.80  
\*\*\*\*\*

C5H14NO5P H2L CAS 5994-60-5 (1302)  
N,N'-Bis(2-hydroxyethyl)aminomethylphosphonic acid; (HO.CH2.CH2)2N.CH2.PO3H2  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Ni++ gl NaClO4 20°C 0.10M U K1=6.69 B2=9.46 1970KMa (41842)2226  
\*\*\*\*\*

C5H14N2 L CAS 7328-91-8 (3029)

2,2-Dimethyl-1,3-diaminopropane; H2N.CH2.C(CH3)2.CH2.NH2  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl oth/un 25°C U K1=6.28 B2=10.44 1972NBa (41870)2227  
-----

Ni++ gl KNO3 30°C 1.0M U T H K1=6.59 B2=11.00 1956HFb (41871)2228  
DH(K1)=-33.5 kJ mol<sup>-1</sup>, DS=12.6; DH(K2)=-29.3, DS(K2)=-12.6. 0 C: K1=7.22,  
K2=4.99; 50 C: K1=6.23, K2=4.15  
\*\*\*\*\*

C5H14N2 L CAS 111-33-1 (938)

2,6-Diazaheptane, N,N'-Dimethyl-1,3-diaminopropane; CH3.NH.CH2.CH2.CH2.NH.CH3  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KCl 25°C 0.50M U K1=5.1 1974KZa (41880)2229  
\*\*\*\*\*

C5H14N2 L CAS 19522-62-7 (3031)

N-Isopropylethylenediamine; (CH3)2.CH2.NH.CH2.CH2.NH2  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.50M U T K1=5.17 B2=8.64 1952BMa (41897)2230  
0 C: K1=5.62, K2=3.84  
-----

Ni++ gl KNO3 var 0.50M U H 1952BMb (41898)2231  
0-25 C. At 0 C: DH(K1)=-28.0 kJ mol<sup>-1</sup>, DS=4.6 J K<sup>-1</sup> mol<sup>-1</sup>; DH(K2)=-23.0,  
DS=-10.9  
\*\*\*\*\*

C5H14N2 L CAS 111-39-7 (3030)

N-n-Propylethylenediamine; CH3.CH2.CH2.NH.CH2.CH2.NH2  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.50M U T K1=6.60 B2=11.76 1952BMa (41903)2232  
K3=2.00  
-----

0 C: K1=7.10, K2=5.82, K3=2.26  
-----

Ni++ gl KNO3 var 0.50M U H 1952BMb (41904)2233  
0-25 C. At 0 C: DH(K1)=-31.4 kJ mol<sup>-1</sup>, DS=21.3 J K<sup>-1</sup> mol<sup>-1</sup>; DH(K2)=-1.4,  
DS=-39.7; DH(K3)=-16.3, DS=-16.7  
\*\*\*\*\*

C5H14N2O L CAS 36753-44-3 (3050)

N-(2-Hydroxypropyl)ethylenediamine; H2N.CH2.CH2.NH.CH2.CH(OH).CH3  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo





1,1,1-Tris(aminomethyl)ethane; (H<sub>2</sub>N.CH<sub>2</sub>)<sub>3</sub>C.CH<sub>3</sub>

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ni++	cal	KNO <sub>3</sub>	25°C	0.50M	C	H			1980SVa (41969)	2241
------	-----	------------------	------	-------	---	---	--	--	-----------------	------

DH<sub>1</sub>=-44.6 kJ mol<sup>-1</sup>, DS<sub>1</sub>=44.7, DH(K<sub>2</sub>)=-45.9, DS(K<sub>2</sub>)=-18, + NiHL and NiHL<sub>2</sub>

Ni++	EMF	KNO <sub>3</sub>	20°C	0.10M	U			K <sub>1</sub> =10.76 K(Ni+HL)=5.65 K(Ni+H <sub>2</sub> L)=1.79	1970KAd (41970)	2242
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C<sub>5</sub>H<sub>15</sub>N<sub>3</sub> L CAS 13531-52-7 (738)  
1,4,8-triazaoctane, N-(2-Aminoethyl)propane-1,3-diamine; H<sub>2</sub>NCH<sub>2</sub>CH<sub>2</sub>NHCH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub>

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++	cal	KNO <sub>3</sub>	25°C	0.50M	U	H			1974BFb (41991)	2243
------	-----	------------------	------	-------	---	---	--	--	-----------------	------

DH(K<sub>1</sub>)=-56.6, DH(K<sub>2</sub>)=-57.4 and DH(M+HL=MHL)=-32.6 kJ mol<sup>-1</sup>.

Ni++	gl	KNO <sub>3</sub>	25°C	0.10M	U			K <sub>1</sub> =11.0 B <sub>2</sub> =18.00	1973AHc (41992)	2244
------	----	------------------	------	-------	---	--	--	--	-----------------	------

Ni++	gl	KNO <sub>3</sub>	25°C	0.50M	U			K <sub>1</sub> =11.23 B <sub>2</sub> =18.29 K(Ni+HL)=5.86	1973BFa (41993)	2245
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Ni++	gl	KCl	25°C	0.50M	U			K <sub>1</sub> =10.7 B <sub>2</sub> =17.8	1970WBa (41994)	2246
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C<sub>5</sub>H<sub>16</sub>N<sub>4</sub> L (3614)  
Tetrakis(aminomethyl)methane; C(CH<sub>2</sub>.NH<sub>2</sub>)<sub>4</sub>

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ni++	gl	KNO <sub>3</sub>	25°C	0.10M	U			K <sub>1</sub> =10.7 B <sub>2</sub> =18.80 K(NiL+H)=7.6 K(NiL <sub>2</sub> +H)=8.0 K(NiHL <sub>2</sub> +H)=7.6	1968ZBa (42009)	2247
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Ni++	gl	KNO <sub>3</sub>	25°C	0.10M	U			K <sub>1</sub> =10.8 K(Ni+HL)=8.5	1966ZBa (42010)	2248
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C<sub>5</sub>H<sub>17</sub>N<sub>0</sub>13P<sub>4</sub> H<sub>5</sub>L ADOPPH CAS 82372-37-0 (228)  
1-Hydroxy-3-(N,N-bis(methylenephosphonic)-aminopropylidene)-1,1-diphosphonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ni++	gl	KNO <sub>3</sub>	25°C	1.0M	U			K <sub>1</sub> =12.7 K(Ni+HL)=10.8 K(Ni+H <sub>2</sub> L)=7.7 K(Ni+H <sub>3</sub> L)=5.6	1982SBa (42016)	2249
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C<sub>6</sub>H<sub>2</sub>O<sub>4</sub>Cl<sub>2</sub> H<sub>2</sub>L Chloranilic acid CAS 87-88-7 (1281)

3,6-Dichloro-2,5-dihydroxy-1,4-benzoquinone;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	oth/un	35°C	0.15M	U T H		K1=3.95	1967CAa (42048)	2250
K1=4.08(15 C),4.02(25 C); DH(K1)=-6.9 kJ mol <sup>-1</sup> , DS=-53(?) J K <sup>-1</sup> mol <sup>-1</sup>									
*****									
C6H3N3O7		HL		Picric acid			CAS 88-89-1	(593)	
2,4,6-Trinitrophenol; HO.C6H2(NO2)3									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	oth/un	21°C	0.40M	U		B2=2.89	1955BKa (42079)	2251
Medium:0.2-0.6(some EtOH)									
*****									
C6H4NO2Cl		HL					CAS 39825-15-5	(3709)	
4-Chloro-2-nitrosophenol; HO.C6H3.(2-N:O)(4-Cl)									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	25°C	50%	U		K1=6.08	1961SHa (42175)	2252
Medium: 50% dioxan, 0.1 M KNO3									
*****									
C6H4N2		L					CAS 100-54-9	(3055)	
3-Cyanopyridine (nicotinonitrile); C5H4N.CN									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C H		K1=1.23	1979HMa (42182)	2253
DH(K1)=-4.6 kJ mol <sup>-1</sup>									
*****									
Ni++	sp	NaNO3	24°C	1.0M	U		K1=1.45	1964MWa (42183)	2254
*****									
C6H4N2		L					CAS 100-48-1	(321)	
4-Cyanopyridine; C5H4N.CN									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	non-aq	10°C	100%	U T M			1976CUa (42188)	2255
K(NiA+2L)=3.83									
Medium: chlorobenzene. H2A=biacetyl-bis-a-hydroxybenzylidenehydrazone									
K=2.59(16 C); 2.34(22 C); 2.11(28 C)									
*****									
C6H4N2O5		HL					CAS 50-28-5	(505)	
2,4-Dinitrophenol; HO.C6H3(NO2)2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	vlt	alc/w	20°C	25%	U		K1=0.6	1967CEb (42217)	2256
Medium: 25 % EtOH, 0.3 M acetate buffer									

-----  
 Ni++ sp oth/un 21°C 0.40M U B2=2.68 1955BKa (42218)2257  
 Medium: 0.2-0.6 (some EtOH)

\*\*\*\*\*  
 C6H4N2O6 H2L CAS 7659-29-2 (2694)  
 1,2-Dihydroxy-3,5-dinitrobenzene; (HO)2.C6H2(NO2)2

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 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl KCl 25°C 0.10M M K1=6.84 B2=11.94 1986HAd (42258)2258  
 B3=15.3

\*\*\*\*\*  
 C6H4N4O HL CAS 900-47-0 (3083)  
 4-Hydroxypteridine;

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl oth/un 20°C 0.01M U K1=4.4 B2=7.8 1954AHb (42273)2259

\*\*\*\*\*  
 C6H4N4O2 H2L Lumazine CAS 487-21-8 (3084)  
 2,4-Dihydroxypteridine (2,4-Pteridinediol)

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl oth/un 20°C 0.01M U K1=3.7 B2=6.5 1953ALa (42284)2260

\*\*\*\*\*  
 C6H4O4 H2L CAS 615-94-1 (1280)  
 2,5-Dihydroxy-1,4-benzoquinone;

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl KCl 30°C 25% M TIH K1=5.81 B2= 9.36 1991GDe (42299)2261  
 Medium: 35% Dioxan/H2O, 0.1 M NaClO4. Other solvents and backgroundf concs.

\*\*\*\*\*  
 C6H4O5 H2L Comenic acid CAS 499-78-5 (2544)  
 3-Hydroxypyran-4-one-6-carboxylic acid;

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 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Ni++ gl KCl 25°C 0.10M M I K1=5.03 1985PRa (42315)2262

\*\*\*\*\*  
 C6H5NO L Picolinaldehyde CAS 1121-60-4 (1186)  
 2-Pyridinecarboxaldehyde; C5H4N.CHO

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 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl KNO3 25°C 0.10M U M K1=1.98 B2= 3.90 1999NDa (42374)2263  
 Data for ternary complexes with histidine.

-----  
 Ni++ gl KNO3 25°C 0.10M U M 1999NMb (42375)2264

B(Ni(val)L)=11.48  
B(Ni(val)L2)=13.73  
B(Ni(val)2L2)=18.46  
K(NiL+val)=9.50

K(Ni(val)+L)=6.22, K(Ni(val)L+L)=2.25.

Ni++ gl KNO3 25°C 0.10M U M 1999NMb (42376)2265

B(Ni(phe)L)=11.30  
B(Ni(phe)L2)=13.56  
B(Ni(phe)2L2)=18.25  
K(NiL+phe)=9.32

K(Ni(phe)+L)=6.15, K(Ni(phe)L+L)=2.26.

Ni++ gl KNO3 25°C 0.10M U M 1999NMb (42377)2266

B(Ni(trp)L)=11.39  
B(Ni(trp)L2)=13.87  
B(Ni(trp)2L2)=18.35  
K(NiL+trp)=9.41

K(Ni(trp)+L)=6.34, K(Ni(trp)L+L)=2.48.

Ni++ gl NaNO3 30°C 0.50M U M 1979EDa (42378)2267

K(Ni+H-1L)=7.27  
K(Ni+2(H-1L))=14.26  
K(Ni+H-1L+malonate)=11.88  
B(NiL(malonate))=7.89

B(NiHL(oxalate))=13.82; B(NiL2(oxalate))=10.28

Ni++ sp KCl 30°C 0.50M U K1=1.23 B2=1.73 1977EEa (42379)2268

B(NiH-1L)=-5.34  
B(NiH-2L)=-13.85  
B(NiH-3L)=-24.74  
B(NiH-2L2)=-10.99

\*\*\*\*\*  
C6H5NO2 HL Picolinic acid CAS 98-98-6 (391)  
2-Pyridine-carboxylic acid; C5H4N.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.10M U T K1=4.88 1988NSc (42450)2269  
At 40 C, K1=4.69.

Ni++ gl alc/w 25°C var U T 1974DKa (42451)2270

K1=84.11/D+5.486  
K2=32.88/D+5.654

D=Dielectric constant of the 1-PrOH/H2O mixture. Also at 0 and 40 C

Ni++ ISE NaNO3 20°C 0.10M U K1=6.80 B2=12.58 1960ANb (42452)2271  
K3=4.64

Ni++ gl oth/un 25°C 0.0 U K1=7.63 B2=12.45 1957LUa (42453)2272

Ni++	gl	KNO3	25°C	0.10M	U		K1=6.4	B2=11.90	1957SYa (42454)	2273
-----										
Ni++	sp	oth/un	25°C	.001M	U		K1=6.68 K3=5.12	B2=12.66	1956GTa (42455)	2274
-----										
Ni++	gl	oth/un	25°C	0.02M	U	I	K1=5.9	B2=11.3	1955HCa (42456)	2275
In 50% dioxan K1=6.1, K2=6.1										
*****										
C6H5NO2		HL	Nicotinic acid		CAS	59-67-6	(419)			
3-Pyridine-carboxylic acid; C5H4N.CO0H										
-----										
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-----										
Ni++	gl	NaCl	25°C	0.10M	U		K1=2.48		2001DSb (42652)	2276
-----										
Ni++	gl	NaCl04	37°C	0.15M	U		K1=6.32	B2=11.70	1999NNa (42653)	2277
-----										
Ni++	gl	KNO3	30°C	0.10M	U	M	K1=2.03 K(NiA+L)=2.41 B(NiAL)=11.44		1989BBg (42654)	2278
H2A is 8-hydroxyquinoline-5-sulfonic acid.										
*****										
C6H5NO3		HHL			CAS	824-40-8	(878)			
Pyridine-2-carboxylic acid N-oxide (Picolinic acid N-oxide); C5H4N(O)CO0										
-----										
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-----										
Ni++	gl	KNO3	30°C	0.10M	U	M	K1=2.93 K(NiA+L)=4.87		1986KR a (42825)	2279
HA=6-methylpicolinic acid										
-----										
Ni++	gl	KNO3	30°C	0.10M	U	I	K1=2.93	B2=4.82	1986SRc (42826)	2280
-----										
Ni++	gl	NaCl04	25°C	0.10M	U	T	K1=3.56	B2=6.48	1981RRb (42827)	2281
Temp range 25-50. K1 at 50 C = 3.30; K2 at 50 C = 2.81										
*****										
C6H5NO4		H2L	3-Nitrocatechol		CAS	6665-98-1	(2685)			
1,2-Dihydroxy-3-nitrobenzene; 02N.C6H3(OH)2										
-----										
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-----										
Ni++	gl	KCl	25°C	0.10M	M		K1=8.21 B3=17.4	B2=13.90	1986HAb (42849)	2282
*****										
C6H5NO4		H2L	4-Nitrocatechol		CAS	3316-09-4	(890)			
1,2-Dihydroxy-4-nitrobenzene; 02N.C6H3(OH)2										
-----										
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo

Ni++ gl KNO3 25°C 0.10M C M K1=7.55 B2=12.87 1989DAa (42891)2283  
K(NiA+L)=6.25  
B(NiAL)=15.27

H2A: 8-hydroxyquinoline-5-sulfonic acid.

Ni++ gl KNO3 35°C 0.20M U M K1=6.16 B2=11.14 1989RVa (42892)2284  
K(NiA+L)=5.71

A=bis(imidazol-2-yl)methane

Ni++ gl NaClO4 30°C 0.05M U TIH K1=9.10 B2=16.67 1986NDa (42893)2285  
I=0.1, 40 C: K1=7.46, B2=13.59; 50 C: K1=7.31, B2=13.40  
I=0.1, 30 C:K1= 7.86, B2=14.31; I=0.2, 30 C:K1=7.79, B2=13.80

Ni++ gl KCl 25°C 0.10M M K1=7.90 B2=13.20 1984HAc (42894)2286

Ni++ gl KNO3 25°C 0.10M U K1=7.89 B2=13.39 1972JWa (42895)2287

Ni++ gl KNO3 30°C 0.10M U K1=7.82 B2=13.09 1964MTb (42896)2288  
K3=3.81

\*\*\*\*\*  
C6H5NO4 HL CAS 78901-24-3 (885)  
4-Hydroxypyridine-2-carboxylic acid N-oxide; C5H3N(O)(OH).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl NaClO4 30°C 0.10M U T K1=3.92 B2=6.42 1982RRa (42966)2289  
\*\*\*\*\*

C6H5N3 L Azabenzimidazol CAS 273-21-2 (2033)  
4-Azabenzimidazole, 1H-Imidazo[4,5-b]pyridine;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.50M U K1=2.01 B2=3.61 1981LMb (42985)2290  
B3=4.82

\*\*\*\*\*  
C6H5N4Cl L CAS 2346-74-9 (5786)  
2-Chloro-9-methylpurine;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ dis NaClO4 25°C 1.00M U K1=0.9 1985A0a (42993)2291  
\*\*\*\*\*

C6H5N4Cl L CAS 2436-75-0 (5790)  
8-Chloro-9-methylpurine;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ dis NaClO4 25°C 1.00M U K1=1.0 1985A0a (42996)2292  
\*\*\*\*\*

C6H5O2Cl H2L 4-Cl-Catechol CAS 2138-22-9 (1656)

1,2-Dihydroxy-4-chlorobenzene; Cl.C6H3(OH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	U		K1=8.38 B2=13.85	1972JWa (43078)	2293
Ni++	gl	KNO3	30°C	0.10M	U		K1=7.90 B2=12.90 K3=4.16	1964MTb (43079)	2294

\*\*\*\*\*  
C6H5O3Cl HL CAS 7599-81-1 (2689)  
5-Hydroxy-2-(chloromethyl)-4H-pyran-4-one;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.10M	M	I	K1=4.79	1985PRa (43091)	2295
C6H5O3I		HL					CAS 16065-34-2	(2690)	
5-Hydroxy-2-(iodomethyl)-4H-pyran-4-one;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.10M	M	I	K1=4.92	1985PRa (43097)	2296
C6H5O4Br		L					CAS 40838-32-2	(1084)	
6-Bromo-5-hydroxy-2-(hydroxymethyl)-4H-pyran-4-one;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.10M	M	I	K1=4.48	1985PRa (43102)	2297
C6H5O4Cl		HL					Chlorokojic aci (3086)		
3-Chloro-5-hydroxy-2-hydroxymethyl-4-pyrone;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	25°C	75%	U		K1=9.22 B2=16.64	1960KFc (43123)	2298
C6H5O4I		L					(1085)		
6-Iodo-5-hydroxy-2-hydroxymethyl-4H-pyran-4-one;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.10M	M	I	K1=4.61	1985PRa (43145)	2299
C6H6NBr		L					(8782)		
5-Bromo-2-methylpyridine;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.50M	C		K1=0.01	2002KSb (43188)	2300

C6H6NC1 L CAS 10445-91-7 (8781)  
4-(Chloromethyl)pyridine;

Ni++      gl    NaNO3    25°C 0.50M C      K1=1.84      2002KSb (43204)2301

C6H6NO6P                      H2L                      CAS 330-13-2    (5865)  
4-Nitrophenylphosphoric acid; NO2.C6H4.O.PO.(OH)2

Ni++ gl NaNO3 25°C 0.10M C K1=1.59 1988MSa (43237)2302

C6H6N2O L Isonicotinamide CAS 1453-82-3 (1949)  
Isonicotinamide, Pyridine-4-carboxylic acid amide; C5H4N.CO.NH2

Ni++	g1	KN03	25°C	0.50M	U	K1=1.48	B2=2.48	1974WAb (43254)2303
						B3=3.04		

Ni++      0th none      0°C      ? U      K1=1.74      B2=2.94      1971KAc (43255)2304  
Method: freezing point depression

C6H6N2O                      HL                      CAS 873-69-8    (1258)  
Pyridine-2-aldoxime; C5H4N.CH:NOH

Ni++      gl   NaCl    25°C 1.00M C           K1=4.19   B2=7.62   19890Sa (43279)2305  
B3=10.42;    B(NiH-1L2)=2.80  
B(NiH-2L2)=-3.68  
B(NiH-1L3)=5.58  
B(NiH-2L3)=-0.70

Ni++ sp non-aq 25°C 100% U 1976GMa (43280)2306  
K(NiA2+L)=6.18

In benzene. A = 0,0-diethylphosphorodithioate.

Ni++ g1 NaCl04 25°C 0.30M U M K1=9.4 B2=16.50 1966BEa (43281)2307  
K3=5.5

## Ternary complexes with NTA

[illegible]

C6H6N2O L Acetamidopyrid. CAS 1452-77-3 (2047)



Pyridine-2-carboxylic acid amide; C5H4N.CO.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.50M	U		K1=2.75 B2=5.10	1976WAa	(43310)2309
Ni++	oth	none	0°C	0.00	U		K1=3.11 B2=5.44 K3=1.28	1971KAc	(43311)2310

Method: freezing point depression

Ni++	vlt	KNO3	25°C	0.20M	U		K1=1.0 B2=1.90 K3=0.7 K4=0.5 K5=0.3 K6=0.2	1971KAc	(43312)2311
------	-----	------	------	-------	---	--	--	---------	-------------

\*\*\*\*\*  
C6H6N2O L Nicotinamide CAS 98-92-0 (1473)  
Pyridine-3-carboxylic acid amide, Vitamin PP, C5H4N.CO.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	15°C	0.10M	U		K1=1.54	1990BSa	(43326)2312
Ni++	gl	KNO3	25°C	0.50M	U		K1=1.23 B2=1.91 B3=2.05	1981LRa	(43327)2313
Ni++	EMF	NaNO3	25°C	0.50M	U		K1=1.34 B2=1.93	1977BNb	(43328)2314
Ni++	sp	oth/un	25°C	var	U	M	K(Ni(Gly)+L)=0.91 K(Ni(Gly)2+L)=0.74	1973FDa	(43329)2315

Ni++	oth	none	0°C	?	U		K1=1.49 B2=3.05	1971KAc	(43330)2316
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Method: freezing point depression

Ni++	sp	NaNO3	24°C	1.0M	U		K1=3.40	1964Mwa	(43331)2317
------	----	-------	------	------	---	--	---------	---------	-------------

\*\*\*\*\*  
C6H6N2O2 HL Aminonicotinic CAS 5345-47-1 (903)  
2-Aminopyridine-3-carboxylic acid; H2N.C5H4N.CO.OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	35°C	0.15M	U	T H	K1=2.92	1980SKb	(43346)2318

Temperature range is 25-45C. At 35C, DH1=-11.67 kJ mol-1;  
DS1=18.83 J mol-1 K-1

Ni++	gl	diox/w	35°C	50%	U		K1=3.42	1980SKb	(43347)2319
------	----	--------	------	-----	---	--	---------	---------	-------------

\*\*\*\*\*  
C6H6N2O2 HL (8281)  
3-Hydroxy-2-amidocarboxypyridine, Hydroxypicolinamide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C		K1=6.59 B2=12.63 K(NiL2+L)=5.52	1990ARa (43367)	2320

\*\*\*\*\*

C6H6N2O2 HL CAS 31888-72-9 (2051)  
Isonicotinoylhydroxamic acid; C5H4N.CO.NH.OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	35°C	0.10M	U	M	K1=4.69 B2=8.34 K(NiL+bpy)=4.55 K(NiL+Oxine-5-sulph)=3.96	1977ASd (43410)	2321

\*\*\*\*\*

C6H6N2O2 HL CAS 5657-61-4 (1430)  
Nicotinyhydroxamic acid; C5H4N.CO.NH.OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	35°C	0.10M	U	M	K1=4.92 B2=8.77 K(NiL+bpy)=4.79 K(NiL+Oxine-5-sulph.)=4.20	1977ASd (43434)	2322

\*\*\*\*\*

C6H6N2O3 HL CAS 99-57-0 (469)  
2-Amino-4-nitrophenol; H2N.C6H3(OH)(NO2)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	30°C	50%	U		K1=4.10 B2=7.26	1966VMa (43442)	2323

Medium: 50% dioxan, 0.1 M NaClO4

\*\*\*\*\*

C6H6N2O3 H2L CAS 2504-83-8 (1141)  
Imidazolylpyruvic acid; C3H3N2.CH2.CO.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.10M	U		K1=5.6 B2=9.20	1975SDa (43450)	2324

\*\*\*\*\*

C6H6N2O3S H2L CAS 342778-78-3 (8834)  
2-(4-Methylthiazol-2-yl)-2-(hydroxyimino)ethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C		B2=11.83 B(NiH2L2)=25.45 B(NiHL2)=20.06	2002MSa (43455)	2325

\*\*\*\*\*

C6H6N2O4 L Methyl orotate CAS 6153-44-2 (2612)  
2,4-Dihydroxypyrimidine-6-carboxylic acid methyl ether

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       gl  NaCl   19°C 0.15M U          K1=4.50          1979DZc (43456)2326
*****
C6H6N2O4          HL   Methylorotic      CAS 706-36-2 (2611)
3N-Methyl-2,4-dihydroxypyrimidine-6-carboxylic acid, methylorotic acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       sp  oth/un 20°C 0.10M C          K1=7.77          1981LGc (43463)2327
Medium: acetate (0.1 M) or phosphate (0.1 M) buffers.
-----
Ni++       gl  NaCl   20°C 0.15M U          K1=7.41          1979DZc (43464)2328
                                K(Ni+HL)=2.59
*****
C6H6N4          L    Biimidazole      CAS 492-98-8 (1007)
2,2'-Biimidazole; C3H3N2-C3H3N2
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       gl  NaCl04 25°C 0.10M C          K1=4.87    B2= 8.86  1998TSa (43479)2329
-----
Ni++       sp  NaCl04 25°C 0.30M C T        K1=3.82          1996DAa (43480)2330
Data for 15-35 C.
*****
C6H6N4          L    9-Methylpurine  CAS 20427-22-9 (2480)
9-Methylpurine;
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       dis NaCl04 25°C 0.10M C          K1=1.61          1985ALa (43486)2331
Method: distribution of ligand into organic phase (CCl4) determined by LC.
-----
Ni++       gl  NaCl04 25°C 1.00M U          K1=1.56          1983ALa (43487)2332
-----
Ni++       sp  NaCl04 25°C 0.18M U    H    K1=1.50    B2=1.76  1983ALb (43488)2333
DH(K1)=-19.5 kJ mol-1
-----
Ni++       kin KNO3   25°C 0.10M U          K1=1.95          1971KKc (43489)2334
*****
C6H6N4O          L                                CAS 2503-56-2 (3682)
5-Methyl-7-hydroxy-[1,2,4]-triazolo[1,5-a]pyrimidine;
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       gl  KNO3   20°C 0.10M U          K1=2.53    B2=5.11  19660Ca (43496)2335
*****
C6H6N4S          L                                CAS 33426-53-8 (3093)
6-Mercapto-9-methylpurine;
-----

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	25°C	50%	U		K1=6.76 B2=12.54	1959CFb (43505)	2336
*****									
C6H6O2		H2L		Catechol			CAS 120-80-9	(534)	
1,2-Dihydroxybenzene, pyrocatechol; HO.C6H4.OH									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	30°C	0.10M	U		K1=7.67	1994RSa (43663)	2337
Ni++	gl	KNO3	25°C	0.10M	C	M	K1=8.48 B2=15.08 K(NiA+L)=7.75 B(NiAL)=16.77	1989DAa (43664)	2338
H2A: 8-hydroxyquinoline-5-sulfonic acid.									
Ni++	gl	KNO3	35°C	0.20M	U	M	K1=7.60 B2=13.78 K(NiA+L)=7.42	1989RVa (43665)	2339
A=bis(imidazol-2-yl)methane									
Ni++	gl	KNO3	35°C	0.10M	U	M	K1=4.56 K(NiL+Cytosine)=4.60	1989SRe (43666)	2340
Ni++	gl	NaClO4	30°C	0.10M	M	TIH	K1=7.59 B2=13.63	1986DNa (43667)	2341
Data for 0.05-0.20 M NaClO4. Extrap. to I=0.0, K1=7.70, B2=14.06.									
Data for 30-50 C. DH(K1)=-12.7 kJ mol-1.									
Ni++	gl	KNO3	35°C	0.10M	C		K(Ni+HL)=4.57	1985RRh (43668)	2342
Ni++	gl	KNO3	30°C	0.10M	C	T HM	K1=7.39 B(NiAL)=7.66	1983RKa (43669)	2343
HA is thiazolidine-4-carboxylic acid. DH(K1)=-26.7 kJ mol-1, DS(K1)=95 J K-1 mol-1; DH(NiAL)=-14.4, DS(NiAL)=102									
Ni++	gl	KCl	25°C	0.20M	C	M	B(NiHLA)=25.52 B(NiLA)=15.10	1979KGa (43670)	2344
H2A=dopamine.									
Ni++	gl	oth/un	25°C	0.10M	U	M	K(Ni(bpy)+L)=7.68	1975JBc (43671)	2345
Ni++	gl	NaClO4	30°C	0.20M	U	M	K(Ni(His)+L)=6.82	1974MJa (43672)	2346
Ni++	gl	KNO3	25°C	0.10M	U		K1=8.93 B2=14.49	1972JWa (43673)	2347
Ni++	gl	NaClO4	25°C	0.10M	U		K1=8.89 B2=15.04	1971GSb (43674)	2348

Ni++	gl	NaClO4	25°C	0.20M	U		K1=7.65	B2=13.24	1971PBb (43675)2349
Ni++	sp	oth/un	25°C	0.10M	U		K1=9.34		196800a (43676)2350
Ni++	gl	KNO3	25°C	1.0M	U	M			1968TMa (43677)2351
							K(Ni+H2L=NiL+2H)=-13.511		
Ni++	gl	NaClO4	30°C	0.10M	U		K1=8.36	B2=13.51	1966APb (43678)2352
Ni++	gl	KCl	25°C	0.10M	U		K1=8.74	B2=13.84	1966JNa (43679)2353
*****									
C6H6O2S		HL		(3683)					
2-Acetyl-3-hydroxythiophene; C4H2S(CO.CH3)OH									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference ExptNo
Ni++	gl	diox/w	25°C	50%	U	M	K1=5.44		1967SIb (43903)2354
							K(Ni(bpy)+L)=5.39		
Medium: 50% dioxan, 0.1 M NaClO4									
Ni++	sp	diox/w	25°C	10%	U		K1=4.38		1966PSb (43904)2355
Medium: 10% dioxan, 0.1 M NaClO4. By glass electrode, K1=4.34									
*****									
C6H6O2S		HL		CAS 36448-58-5 (3684)					
3-Acetyl-4-hydroxythiophene; C4H2S(CO.CH3)OH									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference ExptNo
Ni++	sp	diox/w	25°C	10%	U		K1=3.2		1966PSb (43915)2356
Medium: 10% dioxan, 0.1 M NaClO4									
*****									
C6H6O3		H3L		Pyrogallol		CAS 87-66-1 (696)			
1,2,3-Trihydroxybenzene; C6H3(OH)3									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference ExptNo
Ni++	gl	NaClO4	30°C	0.10M	M	TIH			1986DNa (43939)2357
							K(Ni+HL)=7.40		
							K(Ni+2HL)=12.75		
Data for 0.05-0.20 M NaClO4. Extrap. to I=0.0, K(Ni+HL)=8.03, K(Ni+2HL)=13.45. Data for 30-50 C. DH(Ni+HL)=-11.6 kJ mol-1.									
Ni++	gl	oth/un	25°C	0.10M	U	M			1975JBc (43940)2358
							K(Ni(bpy)+L)=6.75		
Ni++	gl	NaClO4	30°C	0.20M	U		K1=5.69		1974MJa (43941)2359
Ni++	gl	NaClO4	25°C	0.20M	U				1971PBb (43942)2360
							K(Ni+HL)=7.25		

C6H6O3                      H3L              Phloroglucinol              CAS 6099-90-7              (2525)  
1,3,5-Trihydroxybenzene; C6H3(OH)3

Ni++      sp   none   25°C   0.0   C      1983EEa (44010)2361  
K(Ni+H2L)=6.67

\*\*\*\*\*

$\Delta H(K1) = -10.0 \text{ kJ mol}^{-1}$ ;  $\Delta S(K1) = 59.8 \text{ J K}^{-1} \text{ mol}^{-1}$ ;  $\Delta H(K2) = -9.6$ ;  $\Delta S(K2) = 43.0$ ;

DH(K3)=-17.1; DS(K3)=-4.2. 20 C, K1=4.91, B2=8.90, B3=11.17; 40 C, K1=4.79

Ni++ gl diox/w 30°C 75v% U K1=9.72 B2=17.29 1960KFc (44166)2371

Ni++ EMF KCl 21°C 0.10M U K1=4.9 B2=8.7 19590Kb (44167)2372  
Method: H electrode

Ni++ gl diox/w 30°C 50% U K1=7.44 B2=20.32 1957Cwa (44168)2373

Ni++ gl diox/w 30°C 50% U K1=7.1 B2=12.6 1954BFa (44169)2374

C6H6O5S H2L (8129)

2,3-Dihydroxybenzenesulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C	M	K1=8.25 K(NiA+L)=7.22 B(NiAL)=16.24	1989DAa (44269)	2375

H2A: 8-hydroxyquinoline-5-sulfonic acid.

C6H6O5S H3L CAS 7134-09-0 (3687)

3,4-Dihydroxybenzenesulfonic acid; (HO)2.C6H3.SO3H

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	30°C	0.10M	U		K1=8.85 B2=14.41 K3=4.73	1963MNC (44275)	2376

C6H6O8S2 H4L Tiron CAS 149-45-1 (104)

4,5-Dihydroxybenzene-1,3-disulfonic acid; (HO)2.C6H2(SO3H)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C	M	K1=7.87 K(NiA+L)=6.38 B(NiAL)=15.40	1989DAa (44369)	2377

H2A: 8-hydroxyquinoline-5-sulfonic acid.

Ni++ gl NaClO4 30°C 0.05M U TIH K1=9.82 B2=17.27 1986NDa (44370)2378  
I=0.1, 40 C: K1= 9.19, B2=16.50; 50 C: K1= 9.13, B2=16.35  
I=0.1, 30 C:K1= 9.66, B2=17.00; I=0.2, 30 C:K1= 8.00, B2=16.23

Ni++ gl KNO3 25°C 0.10M C M K1=9.76 B2=16.73 19830Za (44371)2379  
B(NiH-1L2)=5.23  
B(NiL(bpy))=18.89  
K(NiH-1L(bpy))=7.08

Ni++ sp oth/un 25°C 0.10M U K1=9.40 196800a (44372)2380

Ni++	gl	KCl	20°C	0.10M	U		K1=9.96 K(Ni+HL)=3.00	1964PCa (44373)	2381
-----									
Ni++	gl	NaClO4	25°C	1.0M	U		K1=8.56 K(NiL+H)=5.3	1960NAf (44374)	2382
-----									
Ni++	gl	oth/un	25°C	0.0	U		K1=11.24	1959NAa (44375)	2383
*****									
C6H6O9		H4L						Ditartronic ac (8108)	
Di(2-Propane-1,3-dioic acid)ether;									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-----									
Ni++	gl	KCl	25°C	0.10M	C		K1=4.40 K(NiL+H)=3.37	1984MMg (44530)	2384
*****									
C6H6S		HL						Thiophenol CAS 108-98-5 (883)	
Phenyl mercaptan, thiophenol; C6H5.SH									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-----									
Ni++	sp	non-aq	0°C	100%	U		K1=4.82 K3=3.94 K4=4.08	1981KSb (44544)	2385
*****									
C6H7N		L						Picoline CAS 109-06-8 (320)	
2-Methylpyridine; C5H4N.CH3									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-----									
Ni++	gl	NaNO3	25°C	0.50M	C		K1=0.20	2002KSb (44566)	2386
-----									
Ni++	cal	non-aq	25°C	100%	C	H	K1=0.76	2000KKb (44567)	2387
Medium: MeCN, 0.10 M Et4NClO4. DH(K1)=-34.2 kJ mol-1, DS=-100 J K-1 mol-1.									
-----									
Ni++	sp	alc/w	25°C	100%	U	M		1992NDa (44568)	2388
K(Ni2A(S)4+2L=Ni2AL2+4S)=-0.52									
Medium(S): methanol. A is 3,7,15,19-tetraaza-11,23-dimethyltricyclo[19.3.1.1(9,13)]hexacos-1(25),9,11,13(26),21,23-hexaene-25,26-diol.									
-----									
Ni++	sp	non-aq	25°C	100%	U	T H		1984RCa (44569)	2389
K(NiA(Cl)+L=NiAL+Cl)=1.67									
Medium: DMSO. A=methyl-2-(B-aminoisopropylamino)cyclopent-1-enedithiocarboxylate									
-----									
Ni++	cal	non-aq	30°C	100%	U	H	K1=1.1	1978AGa (44570)	2390
In chlorobenzene. DH(K1)=-34 kJ mol-1. Ni=bis(diphenyldithiophosphinato)-nickel(II).									
-----									
Ni++	sp	non-aq	9°C	100%	U	T M		1976CUa (44571)	2391



Medium: chlorobenzene. H2A=biacetyl-bis-a-hydroxybenzylidenehydrazone  
K=1.34(12 C); 1.15(17 C); 1.00(21 C)

$$K(NiA_{2+2L})=4.44$$

\*\*\*\*\*

$$K(\text{Ni}_2\text{A}(\text{S})_4 + 2\text{L} = \text{Ni}_2\text{AL}_2 + 4\text{S}) = 1.19$$
$$K(NiA_2 + 2L) = 0.93$$
$$K(NiA_{2+2L})=0.127$$
$$K(\text{NiA}(\text{Br}) + \text{L} = \text{NiAL} + \text{Br}) = 2.73$$

Ni++      gl   KNO3   25°C 0.50M U      K1=2.07   B2=3.45   1978LRb (44647)2402

B3=4.32

B4=4.65

-----  
 Ni++ sp non-aq 14°C 100% U T M 1976CUb (44648)2403

K(NiA+2L)=4.07

Medium: chlorobenzene. H2A=biacetyl-bis-a-hydroxybenzylidenehydrazone

K=3.75(22 C); 3.52(28 C); 3.34(33 C)

-----  
 Ni++ gl none 25°C 0.0 U T H K1=1.92 1974Vsa (44649)2404

-----  
 Ni++ gl KNO3 25°C 0.10M U K1=1.89 1972TPc (44650)2405

-----  
 Ni++ gl NaClO4 35°C 0.20M U K1=2.82 B2=5.19 1971SBb (44651)2406

-----  
 Ni++ gl oth/un 25°C 0.61M U K1=1.97 B2=3.21 1967SBd (44652)2407  
 B3=3.9

-----  
 Ni++ con oth/un 25°C ? U 1966GJb (44653)2408

B4=4.03

-----  
 Ni++ sp non-aq 20°C 100% U HM 1965NSb (44654)2409

K(NiL2I2+2L)=3.98

Medium: CHCl3. By calorimetry: DH(K1)=-90.7 kJ mol<sup>-1</sup>, DS=-234 J K<sup>-1</sup> mol<sup>-1</sup>

-----  
 Ni++ gl NaClO4 25°C 0.10M U K1=1.85 1964KSb (44655)2410

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C6H7N L gamma-Picoline CAS 108-89-4 (325)

4-Methylpyridine; C5H4N.CH3

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 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

-----  
 Ni++ cal non-aq 25°C 100% C H K1=4.81 B2= 8.71 2000KKb (44745)2411

2.78

1.98

Medium: MeCN, 0.10 M Et4NClO4. DH(K1)=-37.0 kJ mol<sup>-1</sup>, DS=-32 J K<sup>-1</sup> mol<sup>-1</sup>;

DH(K2)=-32.6, DS=-35; DH(K3)=-31, DS=-51; DH(K4)=-30, DS=-62.

-----  
 Ni++ sp alc/w 25°C 100% U M 1992NDa (44746)2412

K(Ni2A(S)4+2L=Ni2AL2+4S)=1.29

Medium(S): methanol. A is 3,7,15,19-tetraaza-11,23-dimethyltricyclo[19.3.1.1(9,13)]hexacos-1(25),9,11,13(26),21,23-hexaene-25,26-diol.

-----  
 Ni++ sp non-aq 25°C 100% U HM 1984CGa (44747)2413

K(NiA2+L)=0.62

K(NiA2+2L)=1.34

In 1,2-Dichloroethane, HA=N,N-diethyl-N'-benzoylthiourea

When HA=piperidyl-N-benzoylthiourea, K values are 0.80, 1.32

-----  
 Ni++ sp non-aq 25°C 100% U HM 1984ISa (44748)2414

K(NiACl+2L)=2.85

K(NiABr+2L)=2.56  
K(NiAI+2L)=2.23  
K(NiA(NCS)+2L)=3.38

In benzene, HA=S-methyl-N-(2-pyridyl)methylenehydrazine-carbodithioic acid  
Data also for other related HA ligands

---

Ni++ sp non-aq 25°C 100% U T H 1984RCa (44749)2415  
K(NiA(Br)+L=NiAL+Br)=2.90  
K(NiA(Cl)+L=NiAL+Cl)=1.91

Medium: DMSO. A=methyl-2-(B-aminoisopropylamino)cyclopent-1-enedithiocarboxy  
late

---

Ni++ sp non-aq 25°C 100% U I M 1982HYa (44750)2416  
K(NiA2+L)=1.80

Medium: CCl4. HA=diphenylthiocarbazon. Data also in other media

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Ni++ cal non-aq 30°C 100% U H K1=3.00 B2=4.70 1978AGa (44751)2417  
In chlorobenzene. DH(K1)=-35 kJ mol<sup>-1</sup>; DH(B2)=-76. Ni=bis(diphenyldithio-  
phosphinato)nickel(II).

---

Ni++ sp non-aq 19°C 100% U 1978GSa (44752)2418  
K(NiA2+L)=1.54  
K(NiA2L+L)=0.84

Medium: C2H4Cl2. HA=dithizone. By calorimetry DH(NiA2+L)=-26 kJ mol<sup>-1</sup>;  
DH(NiA2L+L)=+7

---

Ni++ sp non-aq 12°C 100% U T M 1976Cub (44753)2419  
K(NiA+2L)=4.83

Medium: chlorobenzene. HA=biacetyl-bis-a-hydroxybenzylidenehydrazone  
K=4.59(17 C); 4.31(31 C); 4.00(30 C)

---

Ni++ cal non-aq 30°C 100% U H 1976GSb (44754)2420  
K(NiA2+L)=0.80

In CH3CN. A2 = BF2-bridged methylethylglyoxime. DH=-25.0 kJ mol<sup>-1</sup>; DS=-67  
Also data for methylpropyl-, diphenyl- and phenyl-glyoximes and nioxime.

---

Ni++ cal non-aq 30°C 100% U H 1974GPa (44755)2421  
K(NiA2+2L)=3.21

In benzene. A=O-isopropylxanthate. DH = -70.6 kJ mol<sup>-1</sup>, DS = -171

---

Ni++ gl none 25°C 0.0 U T H K1=2.08 1974Vsa (44756)2422

---

Ni++ ISE alc/w 25°C 50% U I K1=1.89 B2=3.23 1973NBa (44757)2423  
B3=4.08

Medium: 0-96% EtOH, 0.5 M LiNO3

K1(0%)=2.07, K1(96%)=2.19, B2(0%)=3.59, B2(96%)=3.67, B3(0%)=4.34, B4(0%)=4.70

---

Ni++ ISE mixed 25°C 50% U I K1=1.75 B2=2.79 1973NBa (44758)2424  
B3=3.70  
B4=3.84

Medium: 50-90% propanol, 0/5 M LiNO<sub>3</sub>

K<sub>1</sub>(75%)=1.75, K<sub>1</sub>(90%)=2.01, B<sub>2</sub>(75%)=2.84, B<sub>2</sub>(90%)=3.34, B<sub>3</sub>(75%)=3.26

---

Ni++	ISE mixed	25°C	50%	U	I	K <sub>1</sub> =1.93	B <sub>2</sub> =3.24	1973NBa (44759)2425
						B <sub>3</sub> =4.07		
						B <sub>4</sub> =4.44		

Medium: 50-90% acetone, 0.5 M LiNO<sub>3</sub>

K<sub>1</sub>(75%)=2.08, K<sub>1</sub>(90%)=2.42, B<sub>2</sub>(75%)=3.54, B<sub>2</sub>(90%)=4.15, B<sub>3</sub>(75%)=4.20

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Ni++	gl	KNO <sub>3</sub>	25°C	0.10M	U	K <sub>1</sub> =2.11		1972TPc (44760)2426
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Ni++	dis	non-aq	20°C	100%	U	M		1971ADa (44761)2427
							K(NiA <sub>2</sub> +2L)=5.70	

Medium: CHCl<sub>3</sub>. HA=thenoyltrifluoroacetone

---

Ni++	ISE	oth/un	25°C	0.10M	U	K <sub>1</sub> =2.25	B <sub>2</sub> =4.60	1971HBa (44762)2428
						B <sub>3</sub> =5.44		

Range of ionic strength 0.1-0.3

---

Ni++	gl	NaClO <sub>4</sub>	35°C	0.20M	U	K <sub>1</sub> =3.10	B <sub>2</sub> =5.61	1971SBb (44763)2429
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Ni++	gl	KNO <sub>3</sub>	25°C	1.00M	U	K <sub>1</sub> =2.15	B <sub>2</sub> =3.83	1969LWc (44764)2430
						B <sub>3</sub> =4.81		

---

Ni++	sp	non-aq	21°C	100%	U	M		1968GMa (44765)2431
							K(NiA <sub>2</sub> +L)=1.67	
							K(NiB <sub>2</sub> +L)=0.98	
							K(NiC <sub>2</sub> +L)=0.81	
							K(NiA <sub>2</sub> L+L)=0.08	

Medium:toluene. HA=2-hydroxy-5-methylbenzophenone, HB=2-hydroxypropiophenone  
HC=ethyl-2-hydroxybenzoate. K(NiB<sub>2</sub>L+L)=-0.38, K(NiC<sub>2</sub>L+L)=-0.85 plus others

---

Ni++	gl	KNO <sub>3</sub>	25°C	0.61M	U	K <sub>1</sub> =2.09	B <sub>2</sub> =3.51	1967SBd (44766)2432
						B <sub>3</sub> =4.3		

---

Ni++	gl	diox/w	25°C	50%	U	M	K <sub>1</sub> =2.03	1967SIb (44767)2433
							K(Ni(bpy)+L)=1.83	

Medium: 50% dioxan, 0.1 M NaClO<sub>4</sub>

---

Ni++	con	oth/un	25°C	?	U			1966GJb (44768)2434
							B <sub>4</sub> =4.03	

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Ni++	gl	NaClO <sub>4</sub>	25°C	0.10M	U	K <sub>1</sub> =2.11		1964KSb (44769)2435
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C<sub>6</sub>H<sub>7</sub>NO                      HL      2-Aminophenol      CAS 95-55-6      (2868)  
2-Amino-1-hydroxybenzene; HO.C<sub>6</sub>H<sub>4</sub>.NH<sub>2</sub>

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference ExptNo
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Ni++	gl	diox/w	30°C	50%	U	M		1990DSc (44912)2436
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B(NiL(NTA))=4.38  
B(NiL(IMDA))=4.75

Ni++ dis alc/w 30°C 20% U 1989SBa (44913)2437

Keff=4.67

At pH 7.24 using HPLC and 20% methanol-water-ammonium acetate mobile phase

Ni++ gl none 20°C 0.0 U K1=5.4 1959SIb (44914)2438

Ni++ gl diox/w 25°C 50% U K1=6.10 B2=10.97 1952FCa (44915)2439

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C6H7NO L CAS 586-98-1 (3094)

2-Hydroxymethylpyridine (2-pyridylmethanol); C5H4N.CH2.OH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.16M U K1=2.90 B2=5.26 1967SBd (44957)2440  
B3=7.04  
B4=7.1

Ni++ gl KNO3 25°C 0.10M U I K1=2.79 B2=5.39 1965MTa (44958)2441

Ni++ gl oth/un 25°C 0.01M U K1=9.0 1955Lfa (44959)2442

\*\*\*\*\*

C6H7NO L Pyridylcarbinol CAS 100-55-0 (2036)

3-(Hydroxymethyl)azine; C5H4N.CH2OH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.50M U K1=1.86 B2=3.12 1981LRa (44978)2443  
B3=3.80  
B4=3.90

Ni++ gl KNO3 25°C 0.61M U K1=1.85 B2=2.99 1967SBd (44979)2444

\*\*\*\*\*

C6H7NO L CAS 586-95-8 (1476)

4-(Hydroxymethyl)pyridine; C5H4N.CH2OH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.50M U K1=2.00 B2=3.39 1987KLb (45001)2445  
B3=4.17

Ni++ gl KNO3 25°C 0.61M U K1=1.97 B2=3.02 1967SBd (45002)2446

\*\*\*\*\*

C6H7NO2 HL (4362)

3-Cyanoacetylacetone; CH3.CO.CH(CN).CO.CH3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl diox/w 25°C 75% U I K1=3.97 B2=7.52 1968CSa (45032)2447  
K3=3.10

Medium: 75% dioxan, 0.08 M KCl

I=0.04: K1=4.09, K2=3.63, K3=3.12; I=0.15: K1=3.87, K2=3.47, K3=3.06

\*\*\*\*\*

C6H7N03S HL CAS 88-21-1 (7102)  
2-Aminobenzenesulfonic acid, Aniline-2-sulfonic acid; H2N.C6H4.S03H

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ sol oth/un 25°C 0.1M C 1983KPc (45059)2448

Kout(Ni(phen)3+L)= 1.35

Kout(Ni(phen)3+2L)=2.21

Medium:NaF; for I=0.25 M K1out=1.31, B2out=2.14; B3out=2.49;

for I=0.75 K1out=1.20, B2out=1.91, B3out=2.15; phen=phenantroline

-----  
Ni++ sol oth/un 25°C 0.1M C 1983KPd (45060)2449

Kout(Ni(bipy)3+L)= 1.04

Kout(Ni(bipy)3+2L)1.59

Medium:NaF; for I=0.25 M K1out=1.06, B2out=1.62; B3out=1.76;

for I=0.75 K1out=1.01, B2out=1.49, B3out=1.64;

\*\*\*\*\*

C6H7N04S H2L CAS 3343-41-7 (3711)  
1-Hydroxy-1-(2'-pyridyl)methanesulfonic acid;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaCl04 25°C 0.10M U K1=5.13 B2=8.68 1964BGa (45074)2450

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C6H7N04S H2L CAS 4812-14-0 (3712)  
1-Hydroxy-1-(3'-pyridyl)methanesulfonic acid;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaCl04 25°C 0.10M U K1=7.67 B2=14.39 1964BGa (45079)2451

\*\*\*\*\*

C6H7N30 HL CAS 71933-05-6 (5375)  
Pyridine-2-carboxamide oxime;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Ni++ gl NaCl 25°C 0.10M C 19960Sa (45094)2452

K(Ni+HL)=4.93

K(NiHL+HL)=4.59

K(NiH2L2+HL)=4.40

K(Ni+2HL=NiHL2+H)=1.76

K(Ni+2HL=NiL2+2H)=6.84, K(Ni+3HL=NiH2L3+H)=5.69, K(Ni+3HL=NiHL3+2H)=-3.99,

K(Ni+3HL=NiL3+3H)=-14.89.

\*\*\*\*\*

C6H7N30 L CAS 1452-63-7 (3097)

Pyridine-2-carboxylic acid hydrazide; C5H4N.CO.NH.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	oth/un	20°C	0.01M	U			K1=10.7 B2=20.2	1956ARd (45097)	2453
*****										
C6H7N3O		L						CAS 553-53-7	(4361)	
Pyridine-3-carboxylic acid hydrazide; C5H4N.CO.NH.NH2										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	oth/un	20°C	0.01M	U			K1=6.0 B2=10.7	1956ARd (45104)	2454
*****										
C6H7N3O		L						CAS 54-85-3	(1267)	
Pyridine-4-carboxylic acid hydrazide; C5H4N.CO.NH.NH2										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	sp	mixed	25°C		C	I		K1=3.96 B2= 5.91	2000BSc (45118)	2455
K(Ni+HL)=2.31										
In 0.68 mol parts DMSO in H2O; Also data for 0.06; 0.1 and 0.2 mol parts										
Also for 100%H2O K1=2.68; B2=5.22; K(Ni+HL)=1.54;K(Ni+L+HL)=4.75										

Ni++	gl	oth/un	20°C	0.01M	U			K1=5.5 B2=9.8	1956ARd (45119)	2456
*****										
C6H7N3O2I2		HL						(7181)		
2,5-Diiodo-histidine;										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.50M	C			K1=4.99	1994WCa (45136)	2457
B(NiH-1L)=-1.09										
B(NiH-1L2)=3.14										
B(NiH-2L2)=-4.7										
B(Nih-3L2)=-15.83										

C6H7N3O4		H2L						CAS 54784-33-7	(6082)	
1,3-Dimethyl-5-nitroso-barbituric acid; 1,3-Dimethylvioluric acid;										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.50M	C			K1=3.76 B2= 7.12	1984HNb (45146)	2458
*****										
Ni++	gl	NaNO3	25°C	0.50M	C			K1=3.76 B2=7.11	1977VNa (45147)	2459
*****										
C6H7N5		L						CAS 5752-48-9	(5785)	
2-Amino-9-methylpurine;										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ni++ dis NaClO4 25°C 1.00M U K1=1.45 1985A0a (45156)2460  
\*\*\*\*\*

C6H7N5 L CAS 84602-80-2 (5789)  
8-Amino-9-methylpurine;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Ni++ dis NaClO4 25°C 1.00M U K1=1.6 1985A0a (45164)2461  
\*\*\*\*\*

C6H7N5 HL 9-Methyladenine CAS 700-00-5 (4347)  
9-Methyl-6-aminopurine;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ dis NaClO4 25°C 1.00M U K1=0.7 1985A0a (45171)2462  
\*\*\*\*\*

C6H7N5O HL 9-Methylguanine CAS 5502-78-3 (6661)  
9-Methyl-2-amino-6-hydroxypurine;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaNO3 25°C 0.10M M K1=3.46 1999SSb (45175)2463  
K(Ni+HL)=1.81  
\*K(NiHL)=-7.91  
\*\*\*\*\*

C6H7O4P H2L CAS 701-64-4 (5866)  
Phenyl phosphoric acid; C6H5O.PO(OH)2

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaNO3 25°C 0.10M C K1=1.91 1988MSa (45222)2464  
\*\*\*\*\*

C6H8N4P H2L (3713)  
2-Pyridylmethanephosphoric acid (1'-picolyl phosphate)

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.10M U K1=2.85 1968MTd (45243)2465  
\*\*\*\*\*

C6H8N2 L CAS 95-54-5 (2899)  
1,2-Diaminobenzene, 1,2-Phenylenediamine; C6H4(NH2)2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 20°C 0.10M C T H K1=3.21 1980Ma (45266)2466  
DH(K1)=-89.0 kJ mol<sup>-1</sup>; DS=-250 J K<sup>-1</sup> mol<sup>-1</sup>. Data up to 32 C  
\*\*\*\*\*

C6H8N2 L CAS 108-45-2 (6105)  
1,3-Diaminobenzene, 1,3-Phenylenediamine; C6H4(NH2)2  
-----



Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	20°C	0.10M	C T H		K1=3.25	1980Ma (45274)	2467
DH(K1)=-83.1 kJ mol <sup>-1</sup> ; DS=-220 J K <sup>-1</sup> mol <sup>-1</sup> . Data up to 32 C									
*****									
C6H8N2		L			Diaminobenzene		CAS 106-50-3	(2869)	
1,4-Phenylenediamine; H2N.C6H4.NH2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	20°C	0.10M	C T H		K1=3.33	1980Ma (45278)	2468
DH(K1)=-38.2 kJ mol <sup>-1</sup> ; DS=-66.1 J K <sup>-1</sup> mol <sup>-1</sup> . Data up to 32 C									
*****									
C6H8N2		L					CAS 31410-01-2	(7717)	
1-Allylimidazole;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.50M	C		K1=3.00 B2= 5.50 B3=7.50 B4=9.20 B5=10.20	2000KGc (45282)	2469
*****									
C6H8N2		L			2-Picolylamine		CAS 29722-36-9	(502)	
2-(Aminomethyl)pyridine; C5H4N.CH2NH2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	cal	NaCl	25°C	0.15M	C H		K1=7.128 B2=13.359 B3=18.345	1987ENa (45317)	2470
DH(K1)=-41.3 kJ mol <sup>-1</sup> , DS=-2 J K <sup>-1</sup> mol <sup>-1</sup> ; DH(B2)=-82.2, DS=-20;									
DH(B3)=-112.4, DS=-50									

Ni++	EMF	NaNO3	20°C	0.10M	U		K1=7.24 B2=13.59 K3=5.31	1971ANa (45318)	2471
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Ni++	gl	KNO3	25°C	0.50M	U		K1=7.11 B2=13.52 K3=5.14	1971GEa (45319)	2472
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Ni++	gl	NaClO4	25°C	0.30M	C H		K1=7.17 B2=13.13 K3=4.42	1967HWa (45320)	2473
By calorimetry DH(K1)=-36.9 kJ mol <sup>-1</sup> , DH(K2)=-35.7, DH(K3)=35.7									

Ni++	vlt	diox/w	25°C	50%	U H		B2=13.15	1966WRb (45321)	2474
Medium: 50% dioxan, 0.1 M KNO3. By calorimetry, DH(B2)=-85.7 kJ mol <sup>-1</sup> , DS=-35.9 J K <sup>-1</sup> mol <sup>-1</sup>									

Ni++	gl	KNO3	25°C	0.10M	U		K1=7.1	1964LMb (45322)	2475
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Ni++	gl	KNO3	25°C	0.10M	U		K1=7.1	1964LMb (45323)	2476
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Ni++ gl oth/un 25°C .015M U K1=7.3 B2=13.6 1960HJa (45324)2477  
B3=19.4  
-----

Ni++ gl oth/un 20°C ->0 U T H K1=7.32 B2=13.64 1959GFa (45325)2478  
K3=5.07

DH(K1)=-34.9 kJ mol<sup>-1</sup>,DS=21; DH(K2)=-38.7,DS=-13; DH(K3)=-35.3,DS=-25

10 C: K1=7.49,K2=6.56,K3=5.31; 30 C:7.09,6.08,4.95; 40 C:6.86,5.87,4.66

\*\*\*\*\*

C6H8N2 L CAS 2851-95-8 (4349)

2-Methyl-1-vinylimidazole;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.50M C K1=1.68 B2= 2.91 2000KGa (45371)2479

\*\*\*\*\*

C6H8N2O2 HL CAS 1074-59-5 (3099)

3-(4-Imidazolyl)propanoic acid;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.20M U K1=3.32 1963CCb (45391)2480

\*\*\*\*\*

C6H8N2O3S HL CAS 20349-92-2 (4399)

d-Tetranorbiotin;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl oth/un 26°C 0.01M U K1=3.03 B2=6.02 1970Gwa (45403)2481

\*\*\*\*\*

C6H8N2O4 H2L (3100)

Cyanomethyliminodiethanoic acid; NC.CH2.N(CH2.COOH)2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KCl 20°C 0.10M U K1=6.2 B2=11.2 1955SAa (45410)2482

\*\*\*\*\*

C6H8N2O6 H2L (6576)

Oxamide-N,N'-diethanoic acid; HOOC.CH2.NH.CO.CO.NH.CH2.COOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaNO3 25°C 0.10M C 1992LSb (45422)2483

K(Ni+H2L)=1.93

K(2Ni+H2L=Ni2L+2H)=-11.09

B(Ni2L)=13.1

\*\*\*\*\*

C6H8N2S HL CAS 22325-27-5 (8521)

4,6-Dimethyl-2-mercaptopyrimidine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	35°C	0.10M	C	M	K1=5.14 B(NiAL)=8.69 B(NiBL)=7.87 B(Ni(bpy)L)=11.15 B(Ni(phen)L)=12.04 B(Ni(en)L)=10.11. H2A is oxalic acid, H2B is malonic acid.	1996RRa (45424)	2484
*****									
C6H8N3O2I HL (7180) 5-Moniodo-histidine;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.50M	C		K1=7.12 B2=13.09 B(NiH-1L2)=3.33 B(NiH-2L2)=-7.2	1994WCa (45429)	2485
*****									
C6H8N4B- L (7237) Bis(pyrazol-1-yl)borate; (C3H3N2)2BH2-									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	dis	non-aq	25°C	100%	U		K(Ni+2HL=NiL2(org)+2H)=-0.46	1996KSa (45435)	2486
By solvent extraction into CHCl3									
*****									
C6H8O2 HL CAS 765-70-8 (8322) 3-Methylcyclopentane-1,2-dione;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	alc/w	30°C	5%	U	M	K(NiA+L)=5.91 B(NiAL)=12.19	1995RRb (45447)	2487
Medium: 5% v/v EtOH/H2O, 0.10 M KNO3. H2A is thioglycolic acid.									
*****									
Ni++	gl	KNO3	30°C	0.10M	U	HM	K1=3.82 B2= 7.26 B(Ni(ala)L)=8.95 B(Ni(val)L)=8.91 B(Ni(en)L)=10.99 B(Ni(bpy)L)=10.61 DH(K1)=-15.8 kJ mol <sup>-1</sup> , DS(K1)=21.1 J K <sup>-1</sup> mol <sup>-1</sup> . B(NiAL)=8.51, B(NiBL)=11.01, K(Ni(bpy)+L)=3.48, K(NiA+L)=3.23. H2A=oxalic acid, H2B=catechol.	1994RSa (45448)	2488
*****									
C6H8O2 L CAS 765-87-7 (4348) Cyclohexane-1,2-dione; C6H8(:O)2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++ sp oth/un 20°C 1.00M U K1=11.94 B2=22.68 1969A1c (45454)2489  
\*\*\*\*\*

C6H8O4 H2L CAS 2583-25-7 (958)  
2-Allylpropanedioic acid; HOOCH(CH2.CH:CH2).COOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.10M C K1=2.46 1975IPa (45459)2490  
\*\*\*\*\*

C6H8O4 H2L CAS 5445-51-2 (69)  
Cyclobutane-1,1-dicarboxylic acid; C4H6(COOH)2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.10M U K1=2.34 B2=3.34 1969PJb (45496)2491  
-----

Ni++ gl NaClO4 25°C 0.10M U K1=2.20 1966OCb (45497)2492  
\*\*\*\*\*

C6H8O4Se H2L (3691)  
cis-Tetrahydroselenophene-2,5-dicarboxylic acid; C4H6Se(COOH)2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaClO4 25°C 0.10M U K1=3.0 B2=5.90 1968SNa (45525)2493  
\*\*\*\*\*

C6H8O6 H3L Tricarballic CAS 99-14-9 (1620)  
1,2,3-Propanetricarboxylic acid; HOOCH2.CH(COOH).CH2.COOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaClO4 20°C 0.10M U K1=2.65 1964COB (45550)2494  
K(Ni+HL)=1.66  
K(Ni+H2L)=1.07

-----  
Ni++ gl oth/un 25°C 0.15M U K1=2.70 1964PCa (45551)2495  
K(Ni+HL)=1.56  
\*\*\*\*\*

C6H8O6 H2L Ascorbic acid CAS 50-81-7 (285)  
Ascorbic acid (Vitamin C);

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 30°C 0.10M C M 1984BPc (45604)2496  
K(Ni(phen)+L)=5.20  
K(Ni(bpy)+L)=5.95  
K(Ni(en)+L)=5.35  
K(Ni(baea)+L)=6.08  
K(Ni(dipropylenetriamine)+L) = 4.70; baea=bis(aminoethyl)amine

-----  
Ni++ gl NaNO3 25°C 2.00M C 1981BHa (45605)2497

K(Ni+HL)=0.18  
K(Ni+HL=Nil+H)=-5.72

Ni++ EMF NaCl04 20°C 1.00M U K1=4.01 B2=5.52 1981M0c (45606)2498  
Ascorbic acid treated as HL. Antimony electrode used

Ni++ gl mixed 25°C 80% U 1980KKd (45607)2499  
K(Co+HL)=1.9

Medium: 80% DMF

\*\*\*\*\*

C6H8O6S H3L CAS 99-68-3 (3692)  
(Carboxymethylthio)butanedioic acid; HOOC.CH(S.CH2.COOH).CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	20°C	0.10M	U		K1=4.32 K(Ni+HL)=2.99	1977CAAd (45678)	2500

Ni++ gl KNO3 25°C 0.05M M K1=4.15 1975DPb (45679)2501  
\*\*\*\*\*  
C6H8O7 H3L Citric acid CAS 77-92-9 (95)  
2-Hydroxypropane-1,2,3-tricarboxylic acid; HOOCCH2.CH(OH)(COOH).CH2COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	dis	NaCl	25°C	0.30M	C	I	K1eff=4.91	2000BCc (45881)	2502

Medium: 0.3 M NaCl, pH=6.0. Also data for 1.0-5.0 M NaCl.

Ni++	gl	KNO3	25°C	0.10M	M	M	K1=4.536	1993AHa (45882)	2503
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Ni++	gl	KNO3	25°C	0.25M	C	T	H	K1=5.46 B2= 8.52 1984D0a (45883)	2504
B(NiHL)=9.38									
B(NiHL2)=13.90									
B(Ni2H-2L2)=-4.35									

Data for 10-45 C. DH(K1)=15.5 kJ mol<sup>-1</sup>, DS=160, DH(B2)=14.3, DS=210,  
DH(NiHL)=11.8, DS=218, DH(NiHL2)=30.2, DS=370, DH(Ni2H-2L2)=101, DS=256.

Ni++	gl	KCl	25°C	0.10M	C		K1=5.51 B2=7.84 1980HLA (45884)	2505
K(Ni+HL)=3.36								
K(Ni+H2L)=1.54								

Ni++	gl	KNO3	25°C	0.10M	C		K2=2.85 1980SWa (45885)	2506
B(NiHL)=8.75								
K(4Nil=Ni4H-4L3+4H)=-28.3								

K for tetramer from spectrophotometry.

Ni++	gl	KNO3	25°C	0.10M	C	M	1978DAa (45886)	2507
B(NiL(gly))=9.93								
B(NiL(malonate))=6.5								

Ni++	gl	KNO3	25°C	0.10M	U	M	K1=5.30 B(NiHL)=8.84	1978D0a (45887)2508
B(NiL(bpy))=12.36								
Ni++	gl	KNO3	25°C	0.10M	C	M	K1=5.30 B(NiHL)=8.84 B(NiH-2L2)=-4.71	1976D0d (45888)2509
B(NiHL(His))=17.33; B(NiL(His))=12.70; B(NiHL(histamine))=17.54; B(NiL(histamine))=11.81								
Ni++	gl	KNO3	25°C	0.10M	C		K1=5.40 B(NiHL)=9.04	1975FCc (45889)2510
Ni++	ix	NaNO3	?	0.50M	U		K1=4.25 K(Ni+HL)=2.90 K(Ni+H2L)=1.55	1972KCb (45890)2511
Ni++	oth	KNO3	?	0.70M	U		K(Ni+H3L=NiH2L+H)=-1.4 K(NiH2L=NiH-1L+3H)=-12.9	1970BBe (45891)2512
Method: zone electrophoresis								
Ni++	sol	oth/un	35°C	?	U		K(NiH-1L+H)=7.9	1965PPb (45892)2513
Ni++	gl	NaClO4	20°C	0.10M	U		K1=5.40 K(Ni+HL)=3.30 K(Ni+H2L)=1.75	1964C0b (45893)2514
Ni++	gl	oth/un	25°C	0.15M	U		K1=5.11 K(Ni+HL)=3.19	1959LLa (45894)2515
Ni++	ix	oth/un	25°C	?	U		K1=4.47 K(Ni+H-1L)=11.22	1958HFa (45895)2516
Ni++	gl	KNO3	25°C	2.0M	U		K1=4.99 K(Ni+H-1L)=5.27	1958MSb (45896)2517
Ni++	gl	KNO3	32°C	0.25M	U		K(Ni+H3L=NiHL+2H)=-4.1 K(NiL+H)=3.7 K(NiH-1L+H)=7.9	1957PPa (45897)2518
Ni++	gl	oth/un	33°C	.025M	U		K1=5.10 K(Ni+HL)=3.37 K(NiH-2L+H)=7.87	1957PPb (45898)2519

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C6H8O7P2                      H3L                      CAS 101378-64-7 (7666)  
Phenyldiphosphoric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.10M	M		K1=3.51	1999SSa (46339)	2520
*****									
C6H9NO6		H3L					CAS 41035-84-1	(4367)	
N-Carboxymethyl-L-aspartic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	1.0M	U		K1=9.02 B2=13.48 B(NiHL)=13.71 K(Ni(OH)+L)=10.47	2004GKc (46369)	2521
For 0.5 mol/L KNO3 K1=9.37; B2=13.81; B(NiHL)=13.84; K(Ni(OH)+L)=10.67									
For 0.1 mol/L KNO3 K1=10.25; B2=15.20; B(NiHL)=14.26; K(Ni(OH)+L)=10.96									
*****									
C6H9NO6		H3L		NTA			CAS 139-13-9	(191)	
Nitrilotriethanoic acid; N(CH2.COOH)3									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.10M	M		K1=10.61	1996KSc (46520)	2522
Ni++	gl	KNO3	25°C	1.0M	C T M		K(NiL+H)=2.40 K(NiL+bpy)=2.75 K(NiL+phen)=3.016	1994CBa (46521)	2523

Data for 20-35 C.

Ni++	gl	KNO3	25°C	0.10M	C	M	K1=11.50 K(NiL+A)=4.50 B(NiLA)=16.00	1990DAb (46522)	2524
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H2A: salicylaldoxime

Ni++	gl	KNO3	25°C	0.10M	C	M	K1=11.50 K(NiL+A)=3.75 B(NiAL)=15.25	1990DAc (46523)	2525
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HL: benzohydroxamic acid

Ni++	oth	NaClO4	35°C	0.10M	C	M	K1=11.42	1986SRb (46524)	2526
Exp. method: paper electrophoresis. Data also for NTA ternary complexes									

Ni++	oth	NaClO4	35°C	0.10M	C		K1=11.42	1986SYa (46525)	2527
Method: paper electrophoresis. Medium pH 8.5.									

Ni++	dis	NaClO4	35°C	0.10M	U	M	K1=11.42 K=(Ni(NTA)+Leu)=5.34	1985SRa (46526)	2528
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Ni++	gl	KNO3	25°C	0.10M	U		K1=11.50	1983FSa (46527)	2529
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Ni++ gl KNO3 20°C 0.10M C R K1=11.54 B2=16.42 1982ANa (46528)2530  
 Evaluation of literature data

Ni++ gl NaNO3 25°C 0.10M C M 1981BKb (46529)2531  
 K(NiL+py)=2.18  
 K(NiL+A)=3.02  
 K(NiL+NH3)=2.54  
 K(NiL+CH3COO)=0.37

A=1,3-diazole. K(NiL+HB)=<0.4, H3B=H3PO4  
 K(NiL+NH3)=2.54 in 0.5M NaClO4, by spectrophotometry.

Ni++ gl KNO3 25°C 0.10M U T M 1981SVa (46530)2532  
 K(NiL+Gly)=4.50  
 At 20 C: K(NiL+Gly)=4.57; 30 C: 4.42; 40 C: 4.25

Ni++ gl KNO3 25°C 0.10M U M 1980MCc (46531)2533  
 B(NiL(bpy))=12.0  
 K(NiL(bpy)+en)=2.5  
 K(NiL(bpy)+pn)=2.7  
 B(NiL(phen))=12.4  
 K(NiL(phen)+en)=2.5, K(NiL(phen)+pn)=3.1. pn=1,2-diaminopropane

Ni++ gl KNO3 25°C 2.5M M K1=11.44 1979FLc (46532)2534

Ni++ gl NaClO4 25°C 0.10M U M K1=11.54 1979KNa (46533)2535  
 K(NiL+CN)=4.72  
 K(NiLCN+CN)=3.00

Ni++ gl NaClO4 25°C 0.10M U M 1975Vsa (46534)2536  
 B(NiH-1L(Gly))=4.55  
 B(NiH-1L(Ala))=4.31  
 B(NiH-1L(Val))=3.93  
 B(NiH-1L(Leu))=4.28

Ni++ oth NaClO4 25°C 0.20M U M 1973CBa (46535)2537  
 K(NiL+Gly)=4.88  
 K(NiL+Ala)=4.72  
 K(NiL+beta-Ala)=3.76

Ni++ gl KNO3 25°C 0.10M U T M 1971ICa (46536)2538  
 K(NiL+Pro)=4.99  
 K(NiL+Gly)=4.41  
 At 15 C: K(NiL+Pro)=5.11; 70 C, K=4.27

Ni++ gl KNO3 25°C 0.10M U T M 1971ICb (46537)2539  
 K(NiL+A)=4.12  
 HA=piperidine-2-carboxylic acid. 15 C, K=4.16; 70 C, K=3.64

Ni++ gl KNO3 25°C 0.10M U T M 1971ICc (46538)2540  
 K(Ni(OH)L+H)=10.86





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-----
Ni++      gl  NaClO4  25°C 0.10M U    M    1968ICb (46549)2551
              K(NiL+Asp)=4.20
              K(NiL+Glu)=4.04
-----
Ni++      sp  KCl     25°C 0.50M U    M    1967JMa (46550)2552
              K(NiL+NH3)=2.54
In 0.5 M NaClO4: K(NiL+en)=7.20; 0.5 M NaCl: K(NiL+Gly)=4.89; 0.5 M KNO3:
K(NiL+A)=2.17, H2A=oxalic acid
-----
Ni++      cal KNO3   20°C 0.10M U    H    1964HDa (46551)2553
DH(K1)=-10.6 kJ mol-1, DS=184.3 J K-1 mol-1
-----
Ni++      gl  NaNO3   ?   0.50M U    M    1963ISb (46552)2554
              K(NiL+A)=3.02
              K(NiL+Gly)=4.41
              K(NiL+B)=5.18
H2As=salicylic acid, B=pyridine aldoxime
-----
Ni++      dis NaClO4 20°C 0.10M U      T K1=11.54    1963STc (46553)2555
-----
Ni++      vlt KNO3   20°C 0.10M U      T K1=11.54    1956SGa (46554)2556
-----
Ni++      vlt KNO3   20°C 0.10M U      T K1=11.53    1955SAa (46555)2557
-----
Ni++      gl  KCl     20°C 0.10M U      K1=11.26    1951SFa (46556)2558
-----
Ni++      gl  KCl     20°C 0.10M U      K1=>10     K2=4.7     1948SBa (46557)2559
              K(NiLOH+H)=12
*****
C6H9N3O2          HL   Histidine          CAS 71-00-1 (1)
2-Amino-3-(4'-imidazolyl)propanoic acid; H2N.CH(CH2.C3H3N2)COOH
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl  KNO3   25°C 0.10M C    M    K1=8.30      1999AAa (47346)2560
              K(NiL+A)=3.76
              B(NiLA)=12.06
              K(NiL+B)=3.58
              B(NiLB)=11.88
K(NiHL+C)=3.99, K(NiL+D)=3.68, B(NiLD)=11.98.
HA=MOPSO, HB=MOPS, HC=DIPSO, HD=TAPSO.
-----
Ni++      gl  KNO3   25°C 0.10M C      K1=8.70      1999BIa (47347)2561
-----
Ni++      gl  NaClO4 37°C 0.15M U    M    1999NNa (47348)2562
              B(NiHAL)=20.02
              B(NiAL)=15.19
              K(NiA+L)=8.87
              K(NiL+A)=6.35

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K(NiHL+A)=6.94. HA is nicotinic acid.

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Ni++	gl	NaClO4	37°C	0.15M	U	M		1999NNb (47349)2563
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B(NiH2AL)=22.99

B(NiHAL)=16.73

B(NiAL)=12.49

K(NiA+L)=9.22

K(NiL+A)=3.65. A is 6-aminopenicillanic acid.

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Ni++	gl	NaClO4	37°C	0.15M	U	M		1995NAc (47350)2564
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B(NiLZn)=11.75

B(NiL2Zn)=19.82

B(NiH-1L2Zn)=13.06

B(NiH-1LZn)=5.28

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Ni++	gl	NaNO3	25°C	0.50M	C		K1=8.11 B2=14.78	1994WCa (47351)2565
------	----	-------	------	-------	---	--	------------------	---------------------

B(NiH-1L2)=4.69

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Ni++	gl	NaClO4	37°C	0.15M	C	M	K1=8.84 B2=15.94	1993NAa (47352)2566
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B(NiHL)=13.08  
B(NiHL2)=21.04

Also data for ternary complexes with cysteine, cysteic acid and penicill-amine.

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Ni++	gl	NaCl	25°C	0.20M	U		B2=15.57	1992TSa (47353)2567
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B(NiH-1LA)=4.84

HA=Asp-Ala-His-methylamide

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Ni++	nmr	KNO3	25°C	1.0M	U	H	K1=3.58 B2=15.62	1992ZSa (47354)2568
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B3=15.95

Also methods used: potentiometry, spectrophotometry

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Ni++	gl	NaClO4	30°C	0.20M	U	M	K1=8.68 B2=16.25	1990MBa (47355)2569
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Ni++	gl	KNO3	35°C	0.10M	U	M	K1=8.85	1989RSb (47356)2570
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B(NiL(thiodipropionate))=19.60  
K(Ni(TDPA)+L)=8.10

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Ni++	gl	KNO3	35°C	0.20M	U	M	K1=8.35	1989RVa (47357)2571
------	----	------	------	-------	---	---	---------	---------------------

K(NiA+L)=7.58

A=bis(imidazol-2-yl)methane

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Ni++	gl	NaCl	37°C	0.15M	U	M	K1=8.315 B2=14.86	1985CFb (47358)2572
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B(NiL(Ala))=12.60  
B(NiL(Ala)2)=14.51

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Ni++	gl	KNO3	35°C	0.10M	C	M	K1=8.42	1985RRc (47359)2573
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B(NiL(cytidine))=13.48

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Ni++	gl	KNO3	35°C	0.10M	C		K1=8.42	1985RRh (47360)2574
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Ni++      gl  KCl    25°C 0.20M C    M    1984KDb (47361)2575
          K(Ni(DOPA)+L)=7.33
          B(NiHL(DOPA))=27.23
          K(Ni(Dopamine)+L)=7.43
          B(NiHL(Dopamine))=26.80
K(NiA+L)=7.45, B(NiHLA)=26.39; K(NiB+L)=7.55, B(NiHLB)=25.71
A=Noradrenaline, B=Adrenaline
-----

Ni++      gl  KCl    25°C 0.10M C TIH R K1=8.67 B2=15.50 1984PEa (47362)2576
IUPAC evaluation. DH(B2)=-69.1 kJ mol-1
37 C and 0.15 mol dm-3: K1(tentative)=8.43, B2=15.14
-----

Ni++      sp  KCl    25°C 1.0M U          K1=8.69 B2=15.52 1983FAa (47363)2577
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Ni++      gl  KNO3   35°C 0.10M C    M    K1=8.85      1983KSc (47364)2578
          K(Ni+HA+L)=12.50
          K(Ni+HB+L)=12.32
A is adenine; HB is cytosine.
-----

Ni++      gl  NaNO3   37°C 0.15M U          K1=8.533 B2=15.100 1982ESa (47365)2579
          B(NiHL)=12.913
          B(NiHL2)=20.869
-----

Ni++      gl  NaNO3   37°C 0.15M U    M    1982ESa (47366)2580
          B(NiHL(pyridoxamine))=23.044
          B(NiH2L(pyridoxamine))=32.317
          B(NiH3L(pyridoxamine))=37.936
          B(NiH4L(pyridoxamine))=41.309
B(NiH4L2(pyridoxamine))=50.298, B(NiH4L2(pyridoxamine)2)=54.027
-----

Ni++      gl  NaCl    25°C 0.15M C    M    K1=8.57 B2=15.57 1982GSe (47367)2581
          B(NiH-1L2)=4.8
-----

Ni++      gl  NaCl    25°C 0.15M C          K1=8.57 B2=15.57 1982GSe (47368)2582
-----

Ni++      cal KNO3   25°C 0.10M U    H    K1=8.67 B2=15.52 1981AAc (47369)2583
DH(K1)=-33.4 and DH(B2)=-70.1 kJ mol-1.
-----

Ni++      gl  KCl     25°C 0.10M U          K1=8.70 B2=15.34 1980DMa (47370)2584
-----

Ni++      gl  KNO3    25°C 0.10M C    M    1979ADa (47371)2585
          B(CuNiL2)=21.20
          B(CuNiHL2)=25.56
          B(CuNiH-1L2)=14.00
          B(CuNiH-2L2)=5.45
-----

Ni++      gl  NaCl    25°C 0.20M U TIH    K1=8.40 B2=15.20 1979KKc (47372)2586
          B3=17.40
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Ni++ gl KNO3 25°C 0.10M C M T 1978D0c (47373)2587

B(NiLA)=14.47

B(NiHLA)=20.28

A=Imidazole-5-ethylamine

Ni++ gl KNO3 30°C 0.10M M K1=8.69 B2=15.52 1978MSi (47374)2588

Ni++ gl KCl 25°C 0.20M U M K1=8.52 B2=15.30 1978SKa (47375)2589

B(NiL(Gly))=13.43, B(NiL(en))=14.84

Ni++ gl KNO3 25°C 0.10M C M K1=8.67 B2=15.52 1976D0d (47376)2590

B(NiHL(citrate))=17.33; B(NiL(citrate))=12.70;

Ni++ gl KNO3 25°C 0.10M C T K1=8.64 B2=15.46 1976PSb (47377)2591

B(NiHL)=12.28

B(NiHL2)=20.49

Ni++ gl KNO3 25°C 0.10M C K1=8.63 B2=15.47 1976PSb (47378)2592

B(NiHL)=12.21

B(NiHL2)=20.49

Ligand: D-His

Ni++ gl KCl 25°C 0.10M C T K1=8.656 B2=15.497 1976RIa (47379)2593

K(Ni(DL-His))=8.645

B(Ni(DL-His)2)=15.703

Ni++ gl none 21°C 0.0 M K1=7.89 B2=14.83 1974YAa (47380)2594

Ni++ gl NaNO3 25°C 1.00M U M K1=8.36 B2=15.40 1973BJd (47381)2595

B(NiL(Asp))=14.60

B(NiL(Glu))=13.78

B(NiL(Met))=13.40

B(NiL(Trp))=13.20

B(NiL(Lys))=10.00

Ni++ EMF NaCl 25°C 0.12M U K1=8.48 B2=15.24 1972IBa (47382)2596

Ni++ gl NaCl 25°C 0.12M U K1=8.48 B2=15.24 1972IBa (47383)2597

Ni++ gl oth/un ? ? U B2=14.78 1972KPd (47384)2598

DL-histidine: B=15.76

Ni++ cal KNO3 25°C 0.10M C H 1971BPi (47385)2599

DH(B1)=-69.03 kJ mol<sup>-1</sup>, For D-His: DH=-69.12, for rac-His: DH=-70.91

Ni++ gl KCl 25°C 0.10M U T K1=8.69 B2=15.58 1970MMf (47386)2600

DL-histidine: K1=8.69, K2=7.15

Ni++ gl NaCl04 25°C 3.00M U T K1=9.20 B2=16.65 1970WIa (47387)2601

Ni++ gl KNO3 25°C 0.10M U T K1=8.66 B2=15.50 1969RGc (47388)2602  
DL-histidine: K1=8.65, K2=7.06

Ni++ gl KNO3 25°C 0.20M U T K1=8.92 B2=16.05 1969RMb (47389)2603  
K1(15 C)=9.09, K1(40 C)=8.69, K2(15 C)=7.30, K2(40 C)=6.88

Ni++ gl KNO3 37°C 0.15M U K1=8.43 B2=15.14 1967PSd (47390)2604

Ni++ cal KNO3 22°C 0.10M U H 1967SSl (47391)2605  
DH(B2)=-69.4 kJ mol<sup>-1</sup>, DS=62.3 J K<sup>-1</sup> mol<sup>-1</sup>

Ni++ EMF oth/un 25°C ? U K1=8.7 B2=15.30 1966PAa (47392)2606

Ni++ gl KCl 40°C 0.25M U T H K1=8.30 B2=14.70 1965AZa (47393)2607  
K1=9.28(0 C),8.79(15 C),8.50(25 C); K2=7.71(0 C),7.08(15 C),6.69(25 C)  
At 15 C: DH(K1)=-47.7 kJ mol<sup>-1</sup>, TDS=0.8 kJ mol<sup>-1</sup>, DH(K2)=-57.3

Ni++ gl KCl 15°C 0.25M U T HM 1965AZa (47394)2608  
DH(NiA+L=NiL+A)=-19.2 kJ mol<sup>-1</sup>; DH(NiA3+2L=NiL2+3A)=100.7 A= His-Me ester

Ni++ gl KNO3 25°C 0.20M U K1=8.62 1963CCb (47395)2609

Ni++ gl oth/un 25°C 0.01M U K1=8.69 B2=15.52 1959LRa (47396)2610

Ni++ gl oth/un 25°C 0.20M U K1=8.79 B2=15.84 1957LDa (47397)2611

Ni++ gl oth/un 25°C 0.01M U B2=15.9 1952ALa (47398)2612  
\*\*\*\*\*

C6H9N3O2S H2L Thiolhistidine CAS 13552-61-9 (5659)  
1-Amino-2-(2-Mercaptoimidazole)-propionic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl NaClO4 25°C 0.10M U K1=9.31 B2=15.68 1982TSb (47635)2613  
\*\*\*\*\*

C6H9N3O3 L Metronidazole CAS 443-48-1 (1432)  
2-Methyl-5-nitro-H-imidazole-1-ethanol; C3HN2(NO2)(CH3).CH2.CH2.OH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.50M U K1=0.64 1983LWa (47645)2614  
\*\*\*\*\*

C6H9O3Cl HL CAS 609-15-4 (3101)  
Ethyl-2-chloroacetoacetate; CH3.CO.CH(Cl)CO2.C2H5

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl alc/w 30°C 99% U K1=10.6 B2=16.80 1953UFc (47650)2615  
\*\*\*\*\*

C6H9O6P H3L CAS 4408-72-4 (7015)

Phosphinotriethanoic acid; P(CH<sub>2</sub>.COOH)<sub>3</sub>

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO <sub>4</sub>	25°C	0.10M	U	I	K1=3.77 B2=6.41 B(NiHL)=10.44	1980POa (47653)	2616
In 50% v/v Dioxan/H <sub>2</sub> O: K1=6.13; B2=19.61; B(NiHL)=10.44									
Ni++	gl	NaClO <sub>4</sub>	25°C	0.10M	U	I	K1=3.77 B2=6.41 B(NiHL)=7.18	1979POa (47654)	2617

Also data for 50% v/v dioxan/H<sub>2</sub>O

\*\*\*\*\*

C6H<sub>10</sub>N<sub>2</sub> L CAS 35203-44-2 (2054)  
1-Propylimidazole; C<sub>3</sub>H<sub>3</sub>N<sub>2</sub>.CH<sub>2</sub>.CH<sub>2</sub>.CH<sub>3</sub>

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KN <sub>3</sub>	25°C	0.50M	U		K1=3.06 B2=5.56 B3=7.60 B4=9.18 B5=10.33 B6=11.00	1979LBa (47676)	2618

\*\*\*\*\*

C6H<sub>10</sub>N<sub>2</sub>O<sub>2</sub> HL Nioxime CAS 492-99-9 (1098)  
Cyclohexane-1,2-dione-dioxime; C<sub>6</sub>H<sub>8</sub>(:NOH)<sub>2</sub>

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sol	NaClO <sub>4</sub>	20°C	1.00M	U		K1=11.94 B2=22.68	1969Aic (47697)	2619
Ni++	dis	NaClO <sub>4</sub>	25°C	0.10M	U		K1=11.0 B2=21.60	1964SAe (47698)	2620
Ni++	gl	diox/w	25°C	75%	U	I	K1=11.1 B2=22.5 Kso=-28.39	1963BAb (47699)	2621
Medium: 75% dioxan. B2=17.3(0%)									

Ni++	gl	oth/un	25°C	.001M	U	T		1958BBb (47700)	2622
							Kso=-28.39		

40 C, Kso=26.96

\*\*\*\*\*

C6H<sub>10</sub>N<sub>2</sub>O<sub>4</sub> H<sub>2</sub>L (8064)  
1-Acetyl-2,3-butanedione dioxime;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KN <sub>3</sub>	25°C	0.10M	U	I		1976LUa (47714)	2623
							K(Ni+HL)=6.60 K(NiHL+HL)=8.30 K(Ni+H <sub>2</sub> L=NiHL+H)=-3.15 K(Ni+2H <sub>2</sub> L=Ni(HL) <sub>2</sub> +2H)=-4.65		

Data for 25, 50 and 75% v/v dioxan/H<sub>2</sub>O. At 50%, K(Ni+HL)=8.50,  
K(NiHL+HL)=10.55, K(Ni+H<sub>2</sub>L=NiHL+H)=-3.30, K(Ni+2H<sub>2</sub>L=Ni(HL)<sub>2</sub>+2H)=-4.55

\*\*\*\*\*

C6H10N2O4 H2L (3695)

N-(Iminomethyl)-2-aminopentanedioic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.10M	U		K1=5.94 B2=10.75	1965Nca	(47717)2624

\*\*\*\*\*

C6H10N2O4 H2L (7336)

N-Pyruvoylalanine oxime; CH<sub>3</sub>.C(:NOH).CONH.CH(CH<sub>3</sub>).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C		K1=5.43 B2=10.31	1997Sjb	(47722)2625

B(NiH-1L2)=0.06

B(NiH-2L2)=-11.01

\*\*\*\*\*

C6H10N2O5 H2L Gly-Asp CAS 4685-12-5 (282)

Glycyl-aspartic acid; H<sub>2</sub>N.CH<sub>2</sub>.CO.NH.CH(CH<sub>2</sub>.COOH).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C		K1=4.52 B2=7.28	1995KLa	(47774)2626

B(NiH-1L)=-4.52

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaCl	25°C	0.12M	U		K1=4.44 B2=7.02	1972IBa	(47775)2627

\*\*\*\*\*

C6H10N2O5 H2L ADA CAS 26239-55-4 (2747)

N-(2-Acetamido)iminodiethanoic acid; H<sub>2</sub>N.CO.CH<sub>2</sub>.N(CH<sub>2</sub>.COOH)<sub>2</sub>

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C	M	K1=6.70	2003Aha	(47801)2628

K(NiL+A)=3.64

HA is 3-amino-5-mercapto-1,2,4-triazole.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.10M	C		K1=7.15	2000KHb	(47802)2629

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	alc/w	25°C	20%	M	M	K1=6.73	1998ABa	(47803)2630

K(NiL+oxine)=8.38

Medium: 20% w/w EtOH/H<sub>2</sub>O, 0.1 M KNO<sub>3</sub>.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	M	M	K1=6.73	1996AEa	(47804)2631

Data for ternary complexes with dipicolinic acid

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	alc/w	25°C	20%	C			1994IMa	(47805)2632

K(NiL+bpy)=3.81

K(NiL+phen)=4.68



Medium: 20% w/w MeOH/H2O, 0.10 M KNO3.

Ni++	gl	KNO3	25°C	0.10M	C	K1=8.02	1989MAd (47806)	2633
Ni++	gl	KNO3	25°C	0.10M	C	K1=7.86	B2=11.61	1983LRc (47807)2634
Ni++	gl	KNO3	25°C	0.10M	C	K1=7.86	1979NAb (47808)	2635
Ni++	gl	KCl	20°C	0.10M	U	K1=8.02	B2=11.90	1955SAa (47809)2636

\*\*\*\*\*

C6H10N2O6P2                      H4L                      (6893)

N-(2-Pyridyl)aminomethylenedi(phosphonic acid); C5H4N.NH.CH(PO3H2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	U		K1=9.04 K(Ni+HL)=7.08 K(Ni+H2L)=4.12	1990GKa (47866)	2637

\*\*\*\*\*

C6H10N4                      L                      Metrazole                      CAS 54-95-5 (2046)

1,5-Pentamethylenetetrazole, 6,7,8,9-Tetrahydro-5H-tetrazoloazepine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	EMF	KNO3	25°C	0.50M	U		K1=0.54	1976LWa (47874)	2638

Ag(Hg)/Ag+ cell, competitive measurement. K1 by spectrophotometry=0.49-0.58

\*\*\*\*\*

C6H10N4O5                      L                      (2622)

4,5-Dimethyl-2,4,6,8-tetraazabicyclo[3,3,0]-octane-3-one-7-thione;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	U		K1=4.80	1986KKa (47886)	2639

\*\*\*\*\*

C6H10N4O2                      HL                      CAS 25486-00-4 (2554)

2-Amino-3-(4'-imidazolyl)propanehydroxamic acid, Histidine-hydroxamic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.10M	U		B2=16.99 B(NiHL)=15.68 B(NiH2L2)=29.89 B(NiHL2)=23.77 B(NiL2(OH))=6.80	1990KBb (47902)	2640

Ni++	gl	NaCl	25°C	0.15M	M		K1=10.494	B2=18.795	1988ESa (47903)2641
							B(NiHL)=15.779		
							B(NiH-1L)=3.744		
							B(NiHL2)=25.199		
							B(NiH-1L2)=12.038		

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-----
Ni++      gl  KCl      25°C 0.50M C      K1=9.27  B2=15.644 1987LEa (47904)2642
                                     B(NiHL)=15.009
                                     B(NiH2L2)=28.821
                                     B(NiHL2)=22.793
                                     B(NiH-1L2)=4.961

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Two methods of refinement reported

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C6H10N8O      L      (8205)

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Bis(5-tetrazolyethylene)oxide;

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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Ni++      gl  NaNO3  20°C 0.1M U      K1=6.8      1979ESa (47912)2643

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C6H10N8S      L      (8206)

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Bis(5-tetrazolyethane)sulphide;

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----

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```

Ni++      gl  NaNO3  20°C 0.1M U      K1=7.16      1979ESa (47918)2644

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C6H10O2      HL      CAS 3002-24-2 (2742)

```

2,4-Hexanedione; CH3.CO.CH2.CO.CH2.CH3

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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Ni++      gl  diox/w 30°C 75% U      K1=9.60  B2=17.90 1953UFd (47925)2645

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C6H10O2      HL      CAS 815-57-6 (2261)

```

3-Methyl-pent-2,4-dione; CH3.CO.CH(CH3).CO.CH3

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----

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```

Ni++      gl  diox/w 30°C 75% U      K1=9.60      1962MMb (47943)2646

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C6H10O3      HL      CAS 16841-19-3 (3649)

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1-Hydroxycyclopentanecarboxylic acid; HO.C5H8.COOH

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----

```

```

Ni++      gl  NaClO4 25°C 0.10M U      K1=1.82  B2=3.12 1967PRb (47981)2647

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```

C6H10O3      HL      CAS 141-97-9 (3068)

```

Ethyl acetoacetate; CH3.CO.CH2.CO2.C2H5

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----

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```

Ni++      gl  diox/w 30°C 75% U      K1=9.45      1973AAa (48006)2648

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Ni++ gl alc/w 30°C 99% U K1=12.3 B2=19.5 1953UFc (48007)2649

\*\*\*\*\*

C6H10O4 H2L Adipic acid CAS 124-04-9 (401)

1,6-Hexanedioic acid; HOOC.(CH2)4.COOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ oth NaClO4 40°C 0.10M U K1=3.2 1981SSe (48045)2650

Method: Paper electrophoresis.

-----  
Ni++ gl oth/un 25°C 0.10M U K1=1.6 1960YYa (48046)2651

\*\*\*\*\*

C6H10O4S H2L CAS 42715-54-8 (986)

2,2'-Thiodipropanic acid; HOOC.CH(CH3).S.CH(CH3).COOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaClO4 30°C 0.10M U K1=1.61 1978JSc (48120)2652

Ni++ gl KNO3 25°C 0.10M C K1=3.59 1975LPa (48121)2653

K(Ni+HL)=1.7

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C6H10O4S H2L CAS 111-17-1 (139)

3,3'-Thiodipropionic acid; HOOC.CH2.CH2.S.CH2.CH2.COOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 35°C 0.10M C M K1=3.14 1999DSb (48155)2654

B(NiAL)=5.41

A is thiamine hydrochloride.

-----  
Ni++ gl NaClO4 25°C 0.10M U TIH K1=3.36 1984DBa (48156)2655

Data for 35 and 45 C and I=0.2 and 0.3 M. At I=0, K1=3.23.

DH(K1)=-5.60 kJ mol<sup>-1</sup>, DS(K1)=44.0 J K<sup>-1</sup> mol<sup>-1</sup>.

-----  
Ni++ gl KNO3 25°C 0.05M M K1=3.17 1975DPb (48157)2656

Ni++ gl KNO3 25°C 0.10M C K1=2.15 1975LPa (48158)2657

K(Ni+HL)=1.76

-----  
Ni++ gl NaClO4 25°C 2.00M U K1=1.2 1972ANa (48159)2658

-----  
Ni++ gl NaClO4 25°C 0.10M U K1=1.6 1968SKd (48160)2659

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C6H10O4S2 H2L CAS 7244-02-2 (438)

1,2-Bis(carboxymethylthio)ethane; HOOC.CH2.S.CH2.CH2.S.CH2.COOH

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ vlt KNO3 25°C 0.10M C K1=4.20 1988ECa (48218)2660

Method: differential pulse polarography, using anodically generated Hg++ as indicator ion. Medium pH 4.8.

Ni++ gl NaClO4 25°C 2.00M U K1=4.58 1974AHa (48219)2661  
K(Ni+HL)=2.95

Spectrophotometry also used

Ni++ gl KNO3 25°C 0.10M U K1=4.31 1971FPa (48220)2662

Ni++ gl NaClO4 25°C 0.10M U K1=4.49 B2=5.9 1971PPb (48221)2663  
K(Ni+HL)=3.00

K2 by solubility at I=2.0 M

Ni++ oth oth/un 25°C 0.10M U K1=4.5 1964PCa (48222)2664  
\*\*\*\*\*

C6H10O4S2 H2L CAS 1119-62-6 (3697)  
3,3'-Di(thiopropionic acid); HOOC.CH2.CH2.S.S.CH2.CH2.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl NaClO4 20°C 0.10M U T H K1=3.58 B2= 6.82 1984SGd (48264)2665  
K values by Bjerrum's method. By least squares, K1=3.59, K2=3.25.  
Also data for 30 and 40 C. DH(B2)=-95.6 kJ mol<sup>-1</sup>, DS(B2)=-176 J K<sup>-1</sup> mol<sup>-1</sup>.

\*\*\*\*\*

C6H10O4Se H2L CAS 80030-00-8 (987)  
2,2'-Selenodipropionic acid; HOOC.CH(CH3).Se.CH(CH3).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.10M C K1=2.73 1975LPa (48278)2666  
K(Ni+HL)=1.8

\*\*\*\*\*

C6H10O4Se H2L CAS 2168-88-9 (982)  
3,3'-Selenodipropionic acid; HOOC.CH2.CH2.Se.CH2.CH2.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.10M C K1=1.83 1975LPa (48289)2667  
K(Ni+HL)=1.56

\*\*\*\*\*

C6H10O4Te H2L CAS 2168-91-4 (983)  
3,3'-Tellurodipropionic acid; HOOC.CH2.CH2.Te.CH2.CH2.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.10M C K1=3.0 1975LPa (48300)2668  
K(Ni+HL)=2.8

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C6H10O5 H2L CAS 5961-83-1 (981)  
3,3'-Oxodipropionic acid; HOOC.CH2.CH2.O.CH2.CH2.COOH

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl  KNO3   25°C 0.10M C      K1=1.39      1975LPa (48310)2669
*****
C6H10O6      H2L      CAS 23243-68-7 (242)
1,2-Bis(carboxymethoxy)ethane; HOOCH2OCH2CH2OCH2COOH
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl  KNO3   25°C 0.10M U      K1=1.79      1975MTc (48324)2670
*****
C6H10O7      HL      Galacturonic      CAS 685-73-4 (290)
D-Galacturonic acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl  NaNO3   20°C 0.10M C      B(NiH-2L)=-15.2
-----
Ni++      gl  NaClO4  25°C 1.00M U      K1=1.04      1990DGB (48379)2672
*****
C6H10O7      HL      Glucuronic acid   CAS 6556-12-3 (599)
D-Glucuronic acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl  NaNO3   20°C 0.10M C      B(NiH-2L)=-15.0
*****
C6H10O8      H2L      Mucic acid        CAS 526-99-8 (3650)
2,3,4,5-Tetrahydroxyhexanedioic acid, Galactaric acid; HOOCH(OH)4COOH
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl  NaNO3   25°C 0.05M C      K1=3.22  B2= 6.19  2002SFa (48432)2674
B(NiH-1L)=-4.61
B(NiH-2L)=-11.33
B(NiH-1L2)=-0.9
B(NiH-2L2)=-7.68
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-----
Ni++      gl  NaNO3   25°C 1.0M U      K(Ni+L=NiH-1L+H)=-9.34
K(Ni+L=NiH-2L+2H)=-18.08
*****
C6H10O8      H2L      Saccharic acid    CAS 87-73-0 (1191)
D-2,3,4,5-Tetrahydroxy-1,6-hexanedioic acid, Glucaric acid; HOOCH(OH)4COOH
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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Ni++ gl NaClO4 25°C 0.10M U K1=3.35 1997PPa (48455)2676  
K(Ni+H2L=NiL+2H)=-4.02  
\*K(NiL)=-7.33

Ni++ gl NaClO4 25°C 0.10M U M K1=3.70 1997PPc (48456)2677  
K(Ni(edta)+L)=3.39

Ni++ gl KNO3 25°C 1.00M U 1976VOa (48457)2678  
K(Ni+H2L=NiH-1L+3H)=-8.64

Ni++ sp KNO3 25°C 1.0M C 1975VOa (48458)2679  
K(Ni+H-1L)=8.64

Authors assume that K(H-1L+H)=14.0.

\*\*\*\*\*

C6H11NO L Caprolactam CAS 105-60-2 (405)  
Aza-2-cycloheptanone, 6-Caprolactam;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.10M U K1=4.5 1987MTb (48495)2680

Ni++ vlt KNO3 30°C 0.10M U K1=0.18 B2= 1.69 1984KPe (48496)2681  
B3=2.18

Method: polarography using Cd competition ('indicator ion method').

Medium pH 6.2

\*\*\*\*\*

C6H11NO2 HL CAS 52-52-8 (3105)  
1-Aminocyclopentanecarboxylic acid; H2N.C5H8.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KCl 20°C 0.10M U K1=5.60 B2=10.23 1963IPa (48500)2682

\*\*\*\*\*

C6H11NO2 HL CAS 16258-05-2 (1128)  
2-Amino-hex-5-enoic acid; CH2:CH.CH2.CH2.CH(NH2).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.10M U K1=5.38 B2=9.89 1975IPb (48508)2683

\*\*\*\*\*

C6H11NO2 HL CAS 37910-65-9 (6018)  
2-Aminocyclopentane-1-carboxylic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl NaClO4 25°C 0.50M C K1=3.946 1986GGa (48515)2684  
B(NiH-1L)=-4.89

cis isomer.

\*\*\*\*\*

C6H11NO2 HL Pipecolinic acid CAS 3105-95-1 (1125)

2-Piperidine carboxylic acid; C<sub>5</sub>H<sub>10</sub>N.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	KNO <sub>3</sub>	30°C	0.10M	U	M		1986RRc (48529)	2685
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K(Ni(Gly)+L)=4.41

B(Ni(Gly)L)=10.22

K(Ni(Ala)+L)=4.28

B(Ni(Ala)L)=9.63

Values for other ternary complexes: Phe: 4.49,9.66. Pro: 4.26,10.49.

picolinic acid: 4.58,10.98. phen: 4.94,13.89 plus others

Ni++	gl	oth/un	30°C	0.10M	U	H	K <sub>1</sub> =5.47 B <sub>2</sub> =10.04	1985RRe (48530)	2686
------	----	--------	------	-------	---	---	--	-----------------	------

DH(K<sub>1</sub>)=-152 kJ mol<sup>-1</sup>, DS=398 J K<sup>-1</sup> mol<sup>-1</sup>, DH(K<sub>2</sub>)=-72, DS=150

Ni++	EMF	none	20°C	0.0	U		K <sub>1</sub> =5.2 B <sub>2</sub> =9.60	1978CUa (48531)	2687
------	-----	------	------	-----	---	--	--	-----------------	------

Additional constants given for derivatives of pipecolic acid

Ni++	gl	alc/w	25°C	var	U	T		1974DKa (48532)	2688
------	----	-------	------	-----	---	---	--	-----------------	------

K<sub>1</sub>=53.70/D+4.690

K<sub>2</sub>=44.08/D+4.057

D=Dielectric constant for the 1-PrOH/H<sub>2</sub>O mixture. Also at 0 and 40 C

\*\*\*\*\*

C<sub>6</sub>H<sub>11</sub>N<sub>3</sub>O<sub>3</sub>S H<sub>2</sub>L CAS 52574-90-0 (1270)

2-Mercaptopropanoyl-beta-alanine; CH<sub>3</sub>.CH(SH).CO.NH.CH<sub>2</sub>.CH<sub>2</sub>.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++	gl	KNO <sub>3</sub>	20°C	0.10M	U		K <sub>1</sub> =4.56	1976SHb (48553)	2689
------	----	------------------	------	-------	---	--	----------------------	-----------------	------

B(NiH-1L)=-2.81

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C<sub>6</sub>H<sub>11</sub>N<sub>3</sub>O<sub>3</sub>S H<sub>2</sub>L CAS 65134-68-1 (1325)

3-Mercaptopropanoyl-beta-alanine; HS.CH<sub>2</sub>.CH<sub>2</sub>.CO.NH.CH<sub>2</sub>.CH<sub>2</sub>.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++	gl	KNO <sub>3</sub>	20°C	0.10M	U		K <sub>1</sub> =4.15	1976SHb (48556)	2690
------	----	------------------	------	-------	---	--	----------------------	-----------------	------

B(NiH-1L)=-3.86

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C<sub>6</sub>H<sub>11</sub>N<sub>3</sub>O<sub>3</sub>S<sub>2</sub> H<sub>2</sub>L (2160)

2-Mercaptopropanoyl-cysteine; CH<sub>3</sub>.CH(SH).CO.NH.CH(CH<sub>2</sub>.SH).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++	gl	KNO <sub>3</sub>	20°C	0.10M	U		K <sub>1</sub> =11.38	1977SHa (48561)	2691
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K(NiH-1L+H)=6.16

Ni++	gl	KNO <sub>3</sub>	20°C	0.10M	U		K <sub>1</sub> =11.38	1976SHb (48562)	2692
------	----	------------------	------	-------	---	--	-----------------------	-----------------	------

K(NiH-1L+H)=8.59

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C6H11NO4                      H2L                      (1232)  
2,2'-Iminodipropionic acid; HN(CH(CH3)COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C		K1=7.6      B2=13.50	1987AKa	(48569)2693

Ni++	gl	KNO3	25°C	0.10M	U		K1=7.6      B2=13.50	1987BKa	(48570)2694
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C6H11NO4                      H2L                      (3106)  
Iminodipropionic acid; HN(CH2.CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	30°C	0.10M	U		K1=6.16      B2=9.93	1952Cma	(48587)2695

C6H11NO4                      H2L                      CAS 103954-11-6      (5805)  
N-(1-Carboxyethyl)-alanine; HOOCH(CH3).NH.CH2.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C		K1=8.24      B2=14.34	1984FVa	(48593)2696

C6H11NO4                      H2L                      CAS 5336-17-4      (345)  
N-Ethyliminodiethanoic acid; C2H5.N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.10M	U		K1=8.86      B2=16.12	1976JPa	(48598)2697

C6H11NO4S                      H3L                      CAS 58033-48-5      (3124)  
N-2-Mercaptoethyliminodiethanoic acid; HS.CH2.CH2.N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	20°C	0.10M	U		K1=13.75      B2=17.90	1955SAa	(48604)2698

\*\*\*\*\*  
C6H11NO4S                      H2L                      CAS 104640-54-2      (2460)  
S-Carboxyethyl-L-cysteine; H2N.CH(CH.S.CH2.CH2.COOH).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	cal	NaNO3	37°C	0.20M	C		K1=5.62      B2=10.10	1987Ara	(48618)2699

K3=2.65  
DH(K1)=-13.4 kJ mol<sup>-1</sup>, DS(K1)=62 J K<sup>-1</sup> mol<sup>-1</sup>; DH(K2)=-18, DS(K2)=25;  
DH(K3)=-24, DS(K3)=-30.

Ni++	gl	NaClO4	25°C	2.0M	U		K1=5.65      B2=10.10	1976AHc	(48619)2700
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K3=2.67



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C6H11NO5                      H2L                      CAS 50825-12-2 (5806)  
N-(1-Carboxyethyl)-N-hydroxy-alanine; HOOC.CH(CH3).N(OH).CH2.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C			K1=6.07    B2=11.13	1984FVa (48624)	2701

\*\*\*\*\*

C6H11NO5                      H2L    HIMDA                      CAS 93-62-9 (192)  
N-(2-Hydroxyethyl)iminodiethanoic acid; HO.CH2.CH2.N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	U			K1=9.33	1983FSa (48655)	2702
Ni++	gl	NaClO4	25°C	0.10M	U			K1=9.15    B2=14.18	1976JPa (48656)	2703
								K(NiH-1L+H)=10.79		

Ni++	gl	R4N.X	25°C	1.50M	U	M		K1=9.54	1969FDa (48657)	2704
								B(NiL(py))=10.01		
								B(NiL(py)2)=11.26		
								B(NiL(NH3))=11.79		
								B(NiL(NH3)2)=12.71		

B(NiL(NH3)(py))=12.19. Medium: NH4NO3

Ni++	oth	KNO3	20°C	0.10M	U			K1=10.2    B2=15.50	1965JMa (48658)	2705
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Method: electrophoresis

Ni++	gl	KCl	20°C	0.10M	U			K1=9.28    B2=14.25	1955SAa (48659)	2706
								K(NiLOH+H)=10.83		

Ni++	gl	KCl	30°C	0.10M	U			K1=9.54    B2=14.69	1952CCa (48660)	2707
------	----	-----	------	-------	---	--	--	---------------------	-----------------	------

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C6H11NO5                      H2L                      (1233)  
N-Hydroxyimino-2,2'-dipropionic acid; HO.N(CH(CH3)COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C			K1=5.7    B2=10.70	1987AKa (48831)	2708
Ni++	gl	KNO3	25°C	0.10M	U			K1=5.7    B2=10.70	1987BKa (48832)	2709

\*\*\*\*\*

C6H11NS2                      L                      CAS 98-99-7 (3108)  
Piperidine-1-carbodithioic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	dis	oth/un	25°C	0.01M	U			B2=13.9	1973SSa (48852)	2710
Ni++	vlt	KCl	25°C	1.00M	U			B2=12.1	1973SSa (48853)	2711

\*\*\*\*\*

C6H11N3 L CAS 34392-54-6 (4350)  
4-(2-Methylaminoethyl)imidazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.10M	U		K1=5.86 B2=9.42 B(Ni2L3)=18.15	1973BDb (48862)	2712

\*\*\*\*\*

C6H11N3 L CAS 16227-10-4 (8351)  
4-Butyl-4H-1,2,4-triazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.10M	U	TIH	K1=2.75 B2= 5.06	1981RPb (48867)	2713

Medium: KClO4. Also data for 35 C and for 0.05 M KClO4.  
Also DH and DS values.

\*\*\*\*\*

C6H11N3O4 HL Gly-Asn CAS 1999-33-3 (283)  
Glycyl-asparagine; H2N.CH2.CO.NH.CH(CH2.CO.NH2).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	cal	KNO3	25°C	0.5M	U			2005ZKa (48881)	2714

DH(K1)=-20.3 kJ mol<sup>-1</sup>  
DH(Ni+2L)=-47.4  
For 1.0 mol/l KNO3 DH(K1)=-19.2; DH(Ni+2L)=-49.7  
For 1.5 mol/l KNO3 DH(K1)=-18.1; DH(Ni+2L)=-52.2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	EMF	NaCl	25°C	0.12M	U		K1=4.27 B2=7.36	1972IBa (48882)	2715

\*\*\*\*\*

C6H11N3O4 HL Gly-Gly-Gly CAS 556-33-2 (415)  
Glycyl-glycyl-glycine; H2N.CH2.CO.NH.CH2.CO.NH.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.20M	C		K1=3.75 B2= 6.77 B(NiH-1L)=-5.45 B(NiH-2L)=-12.85	2003AMb (48942)	2716

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C		K1=3.800 B2=6.88 B(NiH-1L)=-4.75	1975BPb (48943)	2717

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C		K1=3.72 B2= 6.51 K(Ni+HL)=2.86 K(NiL+H)=6.58 *K(NiL)=-8.91 K(NiH-2L+H)=7.83	1975KMe (48944)	2718

K(NiH-2L+2H)=16.74

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Ni++	gl	KNO3	25°C	0.10M	C	K1=3.72	B2=6.51	1974KMc (48945)	2719
						K(Ni+HL)=2.86			
						K(NiH-1L+H)=8.91			
						K(NiH-2L+H)=7.83			

Ni++	gl	KNO3	25°C	0.10M	U	K1=3.69	B2=6.73	1971LNa (48946)	2720
						K(NiH-2L+2H)=16.44			

Ni++	cal	KNO3	25°C	0.10M	U	K1=3.69	B2=6.73	1971LNa (48947)	2721
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Ni++	gl	KNO3	25°C	0.16M	U	K1=3.71	B2=6.81	1970BMb (48948)	2722
						K(NiH-1L+H)=8.8			
						K(NiH-2L+H)=7.7			

Ni++	sp	KNO3	25°C	0.16M	U			1970BMb (48949)	2723
						K(NiH-2L(OH)+H=NiH-2L)=12.8			

Ni++	gl	KNO3	25°C	0.10M	U	K1=3.76	B2=6.86	1967KMa (48950)	2724
						K(NiH-2L+2H)=16.9			
						K(NiH-2LOH+H)=10.5			

Ni++	gl	KNO3	25°C	0.16M	U	K1=3.70	B2=6.60	1960Mca (48951)	2725
						K3=1.6			
						K(NiH-1L+H)=8.25			
						K(NiH-2L+H)=8.45			

Ni++	gl	KNO3	25°C	0.15M	U	K1=3.72		1958LCb (48952)	2726
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Ni++	gl	KCl	25°C	.058M	U T	B2=7.30		1957LYa (48953)	2727
						B2=8.20(0 C)			

Ni++	EMF	none	25°C	0.0	U	K1=3.99	B2=7.08	1955EMa (48954)	2728
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C6H11N9 L (7008)

Di(2-(5-tetrazolyl)ethyl)amine; ((CHN4)CH2.CH2)2NH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++	gl	NaNO3	20°C	0.10M	U		K1=6.55	1981ESa (48998)	2729
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Ni++	gl	NaNO3	20°C	0.1M	U		K1=6.55	1979ESa (48999)	2730
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C6H11O4P H2L CAS 85931-58-4 (5652)

Ethylphosphinediethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++	gl	NaClO4	25°C	0.10M	U		B2=9.06	1983NPa (49007)	2731
						B(NiHL2)=12.69			
						B(NiH2L2)=16.21			

Additional method: spectrophotometry.

\*\*\*\*\*

C6H12N2O2 HL CAS 4437-52-9 (3700)  
Hexan-3,4-dione dioxime (diethylglyoxime); CH3CH2.C(:NOH).C(:NOH)C2H5

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	25°C	75%	U	I	K1=12.4 B2=23.7 Kso=-24.12	1963BAb (49043)	2732

Medium: 75% dioxan, 0.1 M. B2=17.2(0% dioxan)

\*\*\*\*\*

C6H12N2O2S2 L (2821)  
N,N'-Dihydroxyethyl-dithiooxamide; HO.C2H4.NH.CS.CS.NH.C2H4.OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	none	25°C	0.0	U		K1=4.98	1976AMc (49049)	2733

\*\*\*\*\*

C6H12N2O3 HL B-Ala-B-Ala CAS 34322-87-7 (2118)  
3-Alanyl-3-alanine; H2N.CH2.CH2.CO.NH.CH2.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.20M	C		K1=3.70 B2= 6.15 B(NiH-1L)=-6.02 B(NiH-1L2)=-3.76 B(NiH-2L2)=-13.38	2003AMb (49058)	2734

Ni++	gl	NaCl	25°C	0.12M	U		K1=3.94 B2=6.49	1977PNa (49059)	2735
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C6H12N2O3 HL B-Ala-Ala (8030)  
3-Alanyl-alanine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C	H	K1=4.03 B2= 7.20 B3=9.4 B(NiH-1L)=-4.8 B(NiH-1L2)=-2.3	2001CFb (49063)	2736

DH(K1)=-21 kJ mol<sup>-1</sup>, DS(K1)=4 J K<sup>-1</sup> mol<sup>-1</sup>, DH(B2)=-45, DS(B2)=-15,  
DH(B3)=-67, DS(B3)=44.

\*\*\*\*\*

C6H12N2O3 HL Ala-Ala CAS 1948-31-8 (53)  
Alanyl-alanine; H2N.CH(CH3).CO.NH.CH(CH3).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C	T	K(Ni+HL=NiL+H)=3.91	2000RNa (49094)	2737

Data for 35 and 45 C.

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-----
Ni++      gl  KNO3   25°C 0.10M U      K1=4.14  B2=7.02  1977KMb (49095)2738
                                         K(Ni+HL)=2.89
                                         K(NiL+H)=6.90
                                         K(NiH-1L+H)=8.67
-----

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-----
Ni++      gl  NaCl    25°C 0.12M U      K1=3.51  B2=6.56  1977PNa (49096)2739
-----

```

```

Ni++      gl  NaCl    25°C 0.12M U      K1=3.61  B2= 6.77  1976PNa (49097)2740
L=DL-alpha-alanyl-DL-alpha-alanine
-----

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```

Ni++      gl  NaCl    25°C 0.12M U      K1=3.51  B2= 6.56  1976PNa (49098)2741
L=L-alpha-alanyl-L-alpha-alanine
-----

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```

Ni++      gl  NaCl    25°C 0.12M U      K1=3.94  B2= 6.49  1976PNa (49099)2742
L=beta-alanyl-beta-alanine
-----

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```

Ni++      EMF oth/un 25°C 0.10M U      K1=3.61  B2=6.77  1970PBb (49100)2743
*****

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C6H12N2O3      HL      D-Ala-Ala      CAS 1115-78-2 (2138)
D-Alanyl-L-alanine; H2N.CH(CH3).CO.NH.CH(CH3).COOH
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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Ni++      gl  KNO3   25°C 0.10M U      K1=3.90  B2=6.92  1977KMb (49114)2744
                                         K(Ni+HL)=2.04
                                         K(NiL+H)=6.42
                                         K(NiH-1L+H)=9.06
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C6H12N2O3      HL      DL-Ala-DL-Ala  CAS 2867-20-1 (67)
DL-Alanyl-DL-alanine; H2N.CH(CH3).CO.NH.CH(CH3).COOH
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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Ni++      gl  KCl    20°C 0.20M U      K1=3.65  B2=6.57  1982KRd (49123)2745
                                         B3=8.84
                                         B(NiH-1L2)=-2.41
                                         B(NiH-2L2)=-12.31
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Ni++      gl  NaCl    25°C 0.12M U      K1=3.61  B2=6.77  1977PNa (49124)2746
*****

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C6H12N2O3      HL      CAS 32595-87-7 (4380)
Glycyl-4-aminobutanoic acid; H2N.CH2.CO.NH.(CH2)3.COOH
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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Ni++      cal KNO3   25°C 0.10M U      K1=4.11  B2=7.49  1971LNa (49136)2747
*****

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C6H12N2O3      HL      CAS 627-74-7 (3110)
Glycylglycine ethyl ester; H2N.CH2.CO.NH.CH2.CO.OCH2.CH3

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.16M	U		K1=3.65 K3=2.0 K(NiH-1L+H)=9.2 K(NiH-1LOH+H)=9.8	1960Mca (49140)	2748
*****									
C6H12N2O3		HL		Sar-Sar			CAS 38082-70-1	(3114)	
Sarcosylsarcosine; CH3.NH.CH2.CO.N(CH3).CH2.COOH									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	oth/un	25°C	0.01M	U		K1=4.38 B2=8.42	1959DLb (49149)	2749
*****									
C6H12N2O3S		H2L		Ala-Cys			(670)		
Alanyl-cysteine; NH2.CH(CH3).CO.NH.CH(CH2.SH).COOH									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.20M	U		B2=15.08 B(NiH-1L)=1.76 B(NiH-1L2)=6.48 B(Ni2H-2L2)=7.43	1990CRa (49154)	2750
*****									
C6H12N2O4		H2L		EDDA			CAS 5657-17-0	(119)	
1,2-Diaminoethane-N,N'-diethanoic acid; HOOC.CH2.NH.CH2.CH2.NH.CH2.COOH									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	U		K1=13.65	1983FSa (49194)	2751
Ni++	gl	NaClO4	25°C	0.10M	U	M	K1=13.8 K(NiL+CN)=5.08 K(NiLCN+CN)=3.11	1979KNa (49195)	2752
Ni++	gl	KNO3	25°C	0.10M	U	M	K1=13.78	1975ITa (49196)	2753
Ni++	vlt	NaClO4	25°C	0.30M	U		K1=13.20	1974KOb (49197)	2754
Ni++	gl	KNO3	25°C	0.10M	U	M	K(NiL+Gly)=4.24	1972IVb (49198)	2755
Ni++	gl	KNO3	25°C	0.10M	U	M	K1=13.65 K(NiL+en)=6.31	1970DNa (49199)	2756
Ni++	sp	NaClO4	25°C	0.50M	U	M	K(NiL+NH3)=2.00	1967JMa (49200)	2757
Ni++	gl	KCl	30°C	0.10M	U		K1=13.5	1952CMc (49201)	2758

C6H12N2O4                      H2L                      N,N-EDDA                      CAS 5835-29-0 (2333)  
1,2-Diaminoethane-N,N-diethanoic acid; H2N.CH2.CH2.N(CH2.COOH)2

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65H13N304 U21 CAS 1736-33-4 (5011)

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$$K(Nil_{2+py}) = 0.11$$

K(NiL2+py)=0.11  
K(NiL2+3-Me-py)=0.15

K(NiL2+4-Me-py)=0.23  
K(NiL2+Isoquinoline)=-0.03

\*\*\*\*\*

C6H12N2S2 L CAS 35840-78-9 (2824)  
Tetramethyl-dithiooxamide; (CH3)2N.CS.CS.N(CH3)2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ sp none 25°C 0.0 U K1=6.62 1976AMc (49374)2766

\*\*\*\*\*

C6H12N4O3 HL CAS 35790-47-7 (1135)  
Glycyl-glycyl-glycinamide; H2N.CH2.CO.NH.CH2.CO.NH.CH2.CO.NH2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaClO4 25°C 0.10M U K1=3.47 B2=6.29 1975DBa (49389)2767  
B(NiH-3L)=-20.37

\*\*\*\*\*

C6H12N4O4 HL (6028)  
Triglycine hydroxamic acid; H2N.CH2.CO.NH.CH2.CO.NH.CH2.CO.NHOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KCl 25°C 0.20M C K1=5.20 B2=9.37 1989BMc (49392)2768  
B(Ni2L)=8.93  
B(Ni2H2L3)=32.23  
B(NiH2L2)=22.76  
B(NiH-2L2)=-7.18

B(NiH-3L3)= -14.10

\*\*\*\*\*

C6H12N4O6 H3L (2677)  
Nitrilotriacetohydroxamic acid; N(CH2.CO.NH.OH)3

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KCl 25°C 0.10M M K1=13.32 B2=19.71 1980LSa (49398)2769  
B(NiH3L)=31.21  
B(NiH2L)=25.05  
B(NiHL)=19.85  
B(NiHL2)=28.23

\*\*\*\*\*

C6H12O2S2 HL CAS 35088-67-6 (2829)  
1-Ethylthio-2-thiocarboxymethylethane; C2H5.S.CH2.CH2.S.CH2.COOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaClO4 25°C 1.0M C K1=2.10 B2= 4.58 1980PPd (49450)2770  
By spectrophotometry, K1=2.05

\*\*\*\*\*

C6H12O7 HL Gluconic acid CAS 526-95-4 (904)



D-Gluconic acid, 2,3,4,5,6-Pentahydroxyhexanoic acid; HO.CH<sub>2</sub>(CHOH)<sub>4</sub>.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO <sub>3</sub>	20°C	0.10M	C		B(NiH-1L)=-4.95 B(NiH-2L)=-8.33 B(NiH-1L3)=-1.27	1994ESa (49672)	2771

Ni++	gl	KCl	25°C	0.20M	U		K1=2.45	1981FDb (49673)	2772
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Ni++	gl	KNO <sub>3</sub>	25°C	0.12M	U		B(Ni <sub>2</sub> (OH) <sub>4</sub> L)=29.4 pH < 7 ?. By spectrophotometry, pH 7-9: K1=1.82, Kso(Ni <sub>2</sub> (OH) <sub>3</sub> L)=-27	1965JPa (49674)	2773
------	----	------------------	------	-------	---	--	--	-----------------	------

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C<sub>6</sub>H<sub>13</sub>N L CAS 108-91-8 (314)  
Cyclohexylamine; C<sub>6</sub>H<sub>11</sub>.NH<sub>2</sub>

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO <sub>4</sub>	37°C	0.15M	C		K1=5.94 B2=8.18	1974MWb (49798)	2774

\*\*\*\*\*

C<sub>6</sub>H<sub>13</sub>NO<sub>2</sub> HL Isoleucine CAS 73-32-5 (424)  
2-Amino-3-methylpentanoic acid; CH<sub>3</sub>.CH<sub>2</sub>.CH(CH<sub>3</sub>).CH(NH<sub>2</sub>).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	alc/w	25°C	40%	C		K1=11.40 B2=15.60 B(NiHL)=6.36	2003DKa (49867)	2775

Medium: 40% v/v EtOH/H<sub>2</sub>O, 0.10 M NaCl.

Ni++	gl	KNO <sub>3</sub>	25°C	0.20M	U T HM		K1=5.31 K(Ni(bpy)+L)=4.70	1996JLd (49868)	2776
------	----	------------------	------	-------	--------	--	------------------------------	-----------------	------

Data for 25-45 C. DH(K1)=-15.9 kJ mol<sup>-1</sup>, DS(K1)=49 J K<sup>-1</sup> mol<sup>-1</sup>;  
DH(Ni(bpy)L)=-36.8, DS(Ni(bpy)L)=37.

Ni++	gl	alc/w	20°C	50%	M M		K1=5.44 K(NiA+L)=4.71	1995AMb (49869)	2777
------	----	-------	------	-----	-----	--	--------------------------	-----------------	------

Medium: 50% v/v EtOH/H<sub>2</sub>O, 0.20 M NaClO<sub>4</sub>. A is 2,2',2"-terpyridine.

Ni++	gl	NaClO <sub>4</sub>	25°C	0.20M	U T M		K1=5.43 B2= 9.92 K(NiA+L)=5.09	1993PPa (49870)	2778
------	----	--------------------	------	-------	-------	--	-----------------------------------	-----------------	------

A is 2,2'-bipyridylamine. Also data for 35 and 45 C.

Ni++	gl	NaClO <sub>4</sub>	27°C	0.20M	U M		K1=5.43 B2= 9.92 K(NiA+L)=4.95	1988PPc (49871)	2779
------	----	--------------------	------	-------	-----	--	-----------------------------------	-----------------	------

A is 2,2'-dipyridylamine.

Ni++	gl	oth/un	30°C	?	U		K1=4.55 B2=9.06	1977J0a (49872)	2780
------	----	--------	------	---	---	--	-----------------	-----------------	------

Ni++ gl KCl 25°C 0.50M U M T K1=5.22 B2=9.45 1966LHc (49873)2781  
 K(NiL+A)=0.99  
 B(NiAL)=6.2  
 B(NiAL2)=11.1  
 B(NiA2L2)=13.05

HA=pyruvic acid

Ni++ gl oth/un 25°C 0.10M U K1=5.48 B2=9.69 1966MMc (49874)2782  
 B3=13.03

\*\*\*\*\*

C6H13NO2 HL Leucine CAS 61-90-5 (47)  
 2-Amino-4-methylpentanoic acid; H2N.CH(CH2.CH(CH3)2)COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 Ni++ gl alc/w 25°C 40% C K1=11.12 B2=14.74 2003DKa (49998)2783  
 B(NiHL)=6.16

Medium: 40% v/v EtOH/H2O, 0.10 M NaCl.

Ni++ gl NaNO3 25°C 0.10M U K1=5.70 1997ISd (49999)2784

Ni++ gl KNO3 25°C 0.20M U T HM K1=5.36 1996JLd (50000)2785  
 K(Ni(bpy)+L)=4.81

Data for 25-45 C. DH(K1)=-8.8 kJ mol<sup>-1</sup>, DS(K1)=75 J K<sup>-1</sup> mol<sup>-1</sup>;  
 DH(Ni(bpy)L)=-35.2, DS(Ni(bpy)L)=26.

Ni++ gl KCl 25°C 0.20M C M 1993BCf (50001)2786  
 K(NiA+(S)-L)=18.19  
 K(NiA+(R)-L)=18.52

A: N,N'-bis[(2S)-pyrrolidine-2-yl]propane-1,3-diamine.

Ni++ gl NaClO4 25°C 0.20M U T M K1=5.54 B2=10.09 1993PPa (50002)2787  
 K(NiA+L)=5.38

A is 2,2'-bipyridylamine. Also data for 35 and 45 C.

Ni++ gl KNO3 25°C 0.10M U I K1=5.33 B2=8.71 1990RAB (50003)2788  
 Data also for 10% w/w EtOH/H2O (B1=5.68; B2=9.86) and 25% (6.10; 10.84)

Ni++ gl KNO3 25°C 0.10M U M K1=6.06 1989MAc (50004)2789  
 K(NiA+L)=5.62

H4A is adenosine-5'-triphosphoric acid.

Ni++ gl KNO3 35°C 0.20M U M K1=5.47 B2=9.90 1989RVa (50005)2790  
 K(NiA+L)=4.87

A=bis(imidazol-2-yl)methane

Ni++ gl NaClO4 27°C 0.20M U M K1=5.54 B2=10.09 1988PPc (50006)2791  
 K(NiA+L)=5.24

A is 2,2'-dipyridylamine.

Ni++ dis NaClO4 35°C 0.10M U M K1=5.50 B2=9.90 1985SRa (50007)2792  
K=(Ni(NTA)+Leu)=5.34

Method - paper electrophoresis

Ni++ gl oth/un 30°C ? U M 1977J0a (50008)2793

K(Ni(His)+L)=4.57

K(NiA+L)=4.34

H2A=iminodiethanoic acid

Ni++ gl oth/un 25°C 0.10M U K1=5.71 B2=10.26 1966MMc (50009)2794  
B3=14.97

With D-leucine:K1=5.68,B2=10.02,B3=14.27. L-Leucine:K1=5.53,B2=9.46,B3=14.38

Ni++ oth KNO3 20°C 0.10M U K1=6.3 B2=10.30 1964J0a (50010)2795  
K3=2.5

Method: paper electrophoresis

Ni++ gl oth/un 25°C 0.01M U T K1=5.58 B2=10.14 1959DLb (50011)2796

\*\*\*\*\*

C6H13NO2 HL Norleucine CAS 616-06-8 (602)  
2-Aminohexanoic acid (2-Aminocaproic acid) CH3.(CH2)3.CH(NH2).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.10M C T K1=5.40 B2=10.01 1975IPb (50144)2797

Ni++ gl KCl 25°C 0.20M U H K1=5.27 B2= 9.61 1975SGc (50145)2798

By calorimetry: DH(K1)=-16.7 kJ mol<sup>-1</sup>, DS(K1)=44.8 J K<sup>-1</sup> mol<sup>-1</sup>;

DH(B2)=-32.7, DS(B2)=74.5. Ligand is the DL-amino acid.

Ni++ gl KCl 25°C 0.20M U H K1=5.27 B2= 9.61 1974SGb (50146)2799

By calorimetry, DH(K1)=-16.7 kJ mol<sup>-1</sup>, DS(K1)=44.8 J K<sup>-1</sup> mol<sup>-1</sup>;

DH(K2)=-32.7, DS(K2)=74.5.

Ni++ gl KCl 25°C 0.05M U M T K1=5.43 B2=9.88 1972GSc (50147)2800

B(NiL(Phe))=10.07

B(NiL(Ser))=10.21

B(NiL(Thr))=10.31

K(Ni+L+HTyr)=10.08

B(NiL(Gly))=10.62; B(NiL(Ala))=10.26; B(NiLA)=10.18; B(NiLB)=10.22.

HA=2-aminobutanoic acid, HB=norvaline

Ni++ gl oth/un 25°C 0.10M U K1=5.51 B2=9.67 1966MMc (50148)2801

B3=13.86

Ni++ gl oth/un 20°C 0.01M U B2=11.1 1950ALa (50149)2802

\*\*\*\*\*

C6H13NO2 HL CAS 4312-93-0 (4386)

Hexanohydroxamic acid; CH3.CH2.CH2.CH2.CH2.CO.NH.OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.20M	C		K1=5.15 B2= 9.06 B(NiH-1L2)=-0.4	2000FEc (50224)	2803
*****									
C6H13NO2		HL					CAS 1606-01-5	(2907)	
N,N'-Diethylglycine; (C2H5)2N.CH2.COOH									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.10M	U		K1=4.21	1954BCb (50234)	2804
*****									
C6H13NO2		HL					CAS 3182-81-8	(3112)	
N-Butylglycine; CH3.CH2.CH2.CH2.NH.CH2.COOH									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.10M	U		K1=4.76 B2=8.38	1954BCb (50239)	2805
*****									
C6H13NO2S		HL					CAS 67-21-0	(1909)	
2-Amino-4-(ethylthio)butanoic acid; CH3.CH2.S.CH2.CH2.CH(NH2).COOH									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.50M	M	M	K1=4.98 B2=9.46	1984Mca (50254)	2806
B(NiLA)=9.50; B(NiHLA)=12.07. HA=methionine									
-----									
Ni++	gl	NaClO4	25°C	0.10M	M	M	K1=4.97 B2=9.24	1984MCb (50255)	2807
K(NiL2+A)=3.68. HA=2-Aminoethanesulfonic acid									
-----									
Ni++	gl	KNO3	25°C	0.10M	U		K1=6.15 B2=11.33	1964Lma (50256)	2808
*****									
C6H13NO3		HL					CAS 28120-18-5	(1896)	
2-Aminooxy-4-methyl-pentanoic acid;CH3.CH(CH3).CH2.CH(O.NH2).COOH									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.50M	U		K1=2.08	1985WTa (50271)	2809
*****									
C6H13NO3		HL					CAS 4383-88-4	(1895)	
2-Aminooxyhexanoic acid;CH3.CH2.CH2.CH2.CH(O.NH2).COOH									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.50M	U		K1=2.10	1985WTa (50275)	2810
*****									
C6H13NO4		HL					CAS 150-25-4	(2124)	
N,N-Bis(2-hydroxyethyl)glycine; (HO.CH2.CH2)2N.CH2.COOH									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo

Ni++	sp	KNO3	25°C	1.00M	U	M	K1=6.02 K(Ni(ATP)+L)=5.44	1992CSb (50311)	2811
Ni++	gl	KNO3	25°C	0.10M	C		K1=6.42 B2=10.74	1991KNa (50312)	2812
Ni++	gl	KNO3	30°C	0.10M	U	M	K1=6.12 K(Ni(phen)+L)=5.50	1984GHb (50313)	2813
Ni++	sp	NaClO4	20°C	0.10M	U		K1=6.5 K(NiH-1L2+H)=11.9	1967SKb (50314)	2814
By paper electrophoresis									
Ni++	oth	KNO3	20°C	0.10M	U		K1=7.7 B2=12.70	1964JMa (50315)	2815
Method: paper electrophoresis									
Ni++	gl	KCl	30°C	0.10M	U		K1=6.37 B2=10.77	1957FCa (50316)	2816
Ni++	gl	KCl	30°C	0.10M	U		K1=6.38 B2=10.78	1953CCa (50317)	2817
*****									
C6H13NO5		L		D-Mannosamine		CAS	5505-63-5 (6426)		
2-Amino-2-deoxy-D-mannose;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C		B2=6.11 B(NiH-1L2)=-2.49 B(NiH-2L2)=-11.08	1990KBa (50437)	2818
Ni++	vlt	NaClO4	25°C	0.15M	C		K1=3.20 B2= 5.85	1990UKb (50438)	2819
Method: polarography.									
*****									
C6H13NO5		L		D-Glucosamine		CAS	3416-24-8 (565)		
2-Amino-2-deoxyglucose;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	vlt	NaClO4	25°C	0.15M	C		K1=2.95 B2= 5.62	1988UKa (50455)	2820
Method: d.c. polarography.									
Ni++	gl	NaCl	25°C	0.15M	U		B2=6.73 B(NiH-2L2)=-11.58	1986LDc (50456)	2821
Ni++	gl	NaNO3	25°C	0.10M	U	I	K1=2.65 B2=5.61	1984GMa (50457)	2822
*****									
C6H13NO5		L		D-Galactosamine		CAS	1772-03-8 (2553)		
D-Galactosamine, 2-Amino-2-deoxy-D-galactopyranose. chondrosamine;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo



Ni++ gl KNO3 25°C 0.10M U K1=5.10 B2=9.10 1970CMc (50563)2832  
\*\*\*\*\*

C6H13O3N HL (7070)  
NN-Dimethylthreonine; (CH3)2N.CH(CH(OH)CH3)COOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KCl 25°C 0.10M C K1=3.49 1994BPb (50595)2833  
B(NiH-1L)=-5.64

\*\*\*\*\*  
C6H14NO2P HL (6465)  
Piperidinemethylphosphinic acid; C5H10N.CH2.PO2H2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaClO4 25°C 0.10M C K1=4.45 B2=8.65 1992LBa (50630)2834  
B3=12.84

\*\*\*\*\*  
C6H14NO2S (6142)  
2-Amino-4-(S,S-dimethylsulphonium)butanoic acid; (CH3)2S(+).CH2CH2CH(NH2)CHLH;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KCl 25°C 0.20M U K1=4.87 B2=9.0 1982FGa (50639)2835  
K(Ni+2(H-1L))=15.43

\*\*\*\*\*  
C6H14N2 L (4351)  
1,1-Di(aminomethyl)cyclobutane; C4H6(CH2.NH2)2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl oth/un 25°C dil U K1=6.36 B2=10.43 1972NBa (50646)2836  
\*\*\*\*\*

C6H14N2 L (6517)  
1,5-Diazacyclooctane;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ sp NaNO3 25°C 0.10M U B2=13.1 1990HNa (50649)2837  
\*\*\*\*\*

C6H14N2 L CAS 7154-73-6 (3078)  
2,2'-Aminoethylpyrrolidine; C4H8N.CH2.CH2.NH2

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl oth/un 30°C ->0 U K1=5.36 B2=8.52 1961RFa (50652)2838  
\*\*\*\*\*

C6H14N2 L CAS 20439-47-8 (3077)  
cis-1,2-Diaminocyclohexane; C6H10(NH2)2

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	oth/un	25°C	0.10M	U		K1=7.12 B2=13.83	1970ABc	(50665)2839
meso isomer									

Ni++	gl	oth/un	20°C	->0	U T H		K1=7.28 B2=13.22	1958BFa	(50666)2840
DH(K1)=-32.2 kJ mol <sup>-1</sup> ,DS=29 J K <sup>-1</sup> mol <sup>-1</sup> ; DH(K2)=-26.4,DS=25. 10 C: K1=7.50, K2=6.10; 30 C: 7.12, 5.80; 40 C: 6.91, 5.65									

Ni++	gl	KCl	20°C	0.10M	U		K1=7.41 B2=13.54	1956SBa	(50667)2841
							K3=2.94		

\*\*\*\*\*

C6H14N2	L	CAS	21436-03-3	(2456)
trans-1,2-Diaminocyclohexane; C6H10(NH2)2				

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaCl04	25°C	0.00	C	I M	K1=7.88 B2=14.62	1979TIa	(50684)2842
							B3=19.16		

Ni++	gl	oth/un	20°C	->0	U T H		K1=7.93 B2=14.77	1958BFa	(50685)2843
							K3=4.90		
DH(K1)=-35.6 kJ mol <sup>-1</sup> ,DS=29; DH(K2)=-33.1,DS=21; DS(K3)=-38.1,DS=38. 10 C: K1=8.22,K2=7.08,K3=5.14; 30 C: 7.82, 6.71, 4.67; 40 C: 7.60, 6.49, 4.45									

Ni++	gl	KCl	20°C	0.10M	U		K1=7.99 B2=14.98	1956SBa	(50686)2844
							K3=5.09		

\*\*\*\*\*

C6H14N2O	L	(2357)
1-Oxa-4,7-diazacyclononane; Cyclo(-((CH2)2.NH)2(CH2)2.O.-)		

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaCl04	25°C	0.10M	U		K1=8.4 B2=15.70	1995DDa	(50702)2845
Ni++	gl	KNO3	25°C	0.10M	U		K1=8.05 B2=15.90	1990CCa	(50703)2846
Ni++	gl	NaNO3	25°C	0.10M	U		K1=8.49 B2=15.69	1986TSa	(50704)2847
Ni++	gl	NaNO3	25°C	0.01M	U		K1=8.59 B2=15.86	1982HTa	(50705)2848

\*\*\*\*\*

C6H14N2O	L	CAS	2038-03-1	(3115)
4,2'-Aminoethylmorpholine; C4H8ON.CH2.CH2.NH2				

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	30°C	1.00M	U		K1=3.78	1956HFb	(50717)2849

\*\*\*\*\*

C6H14N2O	L	CAS	10466-61-2	(3116)
L-Leucine amide; H2N.CH(CH2.CH(CH3)2).CO.NH2				



Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.01M	U			K1=2.98 B2=5.53	1959DLb	(50722)2850
*****										
C6H14N2O2 HL Lysine CAS 56-87-1 (41)										
2,6-Diaminohexanoic acid; H2N.(CH2)4.CH(NH2)COOH										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C			K1=5.80	1999BIa	(50791)2851
Ni++	gl	NaClO4	25°C	0.10M	C			B2=9.96 B(NiHL)=15.60 B(NiH2L2)=30.47 B(NiH3L3)=43.95 B(NiHL2)=20.68	1987LMa	(50792)2852

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	NaCl	37°C	0.15M	U			K1=5.6 B2=9.76 B(NiHL)=15.08 B(NiHL2)=20.12 B(NiH2L2)=29.50 B(NiH-1L)=-3.26	1985CFb	(50793)2853

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.20M	C			B3=12.31 B(NiHL)=15.50 B(NiHL2)=20.38 B(NiH2L2)=30.22 B(NiHL3)=23.18; B(NiH2L3)=33.55; B(NiH3L3)=43.67	1981FGb	(50794)2854

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C			K1=5.75 B2=10.34 B(NiHL)=15.60 B(NiH2L2)=30.49 B(NiH3L3)=44.05 B(NiH2L3)=34.26 B(NiHL2)=20.43	1976BPb	(50795)2855

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	1.00M	U	M		K1=5.47 B2=9.00 B3=10.98 B(NiL(Met))=10.00	1973BJd	(50796)2856

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	oth/un	20°C	0.01M	U			B2=8.8	1952ALa	(50797)2857
*****										
C6H14N2O2 HL (7229)										
2-Amino-N-hydroxy-3-methylpentanamide; CH3CH2CH(CH3)CH(NH2)CONHOH										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.50M	C			K1=6.90 B2=14.28	1993LEb	(50843)2858

$$B(\text{NiH-1L2})=6.06$$

\*\*\*\*\*

C6H14N2O2 HL CAS 69749-17-3 (1546)  
2-Amino-N-hydroxyhexanamide;  $\text{CH}_3.(\text{CH}_2)_3.\text{CH}(\text{NH}_2).\text{CO}.\text{NH}.\text{OH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.50M	C		K1=6.571 B2=13.90 B(NiH-1L2)=6.17	1988LEa (50849)	2859

\*\*\*\*\*

C6H14N2O2 HL (5984)  
Leucinehydroxamic acid;  $\text{NH}_2.\text{CH}(\text{CH}_2.\text{CH}(\text{CH}_3)_2).\text{CO}.\text{NHOH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.10M	U		K1=6.18 B2=13.150 B(NiL2(OH))=4.70	1990KBb (50859)	2860

\*\*\*\*\*

C6H14N2O3 HL 5-Hydroxylysine CAS 13204-98-3 (1585)  
2,6-Diamino-5-hydroxyhexanoic acid;  $\text{H}_2\text{N}.\text{CH}_2.\text{CH}(\text{OH}).\text{CH}_2.\text{CH}_2.\text{CH}(\text{NH}_2).\text{COOH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.15M	C T H		K1=5.70 B2=9.88 B3=11.7 B(NiHL)=14.393 B(NiH2L)=19.1 B(NiHL2)=19.42	1989DZa (50867)	2861

Also  $B(\text{NiH}_2\text{L}_2)=28.14$ ;  $B(\text{Ni}_2\text{L}_2)=13.96$ ;  $B(\text{Ni}_2\text{H}-2\text{L}_2)=-4.80$ ;  $B(\text{Ni}_3\text{H}-2\text{L}_2)=-0.92$ .  
Also data at 18, 37 and 47 C and derived DH and DS values.

Ni++	gl	NaClO4	25°C	0.10M	U		K1=4.76 B2=8.74	1965NCa (50868)	2862
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C6H14N2S L (5635)  
1-Thia-4,7-diazacyclononane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C		K1=11.09 B2=21.10	1992WLB (50880)	2863
Ni++	gl	NaNO3	25°C	0.10M	U		K1=10.82 B2=20.77	1987HDA (50881)	2864
Ni++	gl	NaNO3	25°C	0.10M	U		K1=10.45 B2=20.05	1983HBB (50882)	2865

\*\*\*\*\*

C6H14N4O2 L CAS 1071-93-8 (2563)  
1,6-Hexanedioic acid dihydrazide;  $\text{H}_2\text{N}.\text{NH}.\text{CO}.\text{CH}_2.\text{CH}_2.\text{CH}_2.\text{CH}_2.\text{CO}.\text{NH}.\text{NH}_2$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	25°C	50%	C I		K1=4.133 B2= 6.35	1992BRb (50899)	2866

B(NiHL2)=9.351

Data for 10-60% v/v dioxane/H2O and 10-60% DMF/H2O. In 50% DMF/H2O,  
K1=4.052, B(NiHL)=5.694, B(NiHL2)=10.306.

Ni++ gl NaNO3 25°C 0.20M U K1=2.56 B2=4.96 1974FSa (50900)2867  
B3=6.56

\*\*\*\*\*

C6H14N4O2 L (1529)  
1,8-Diamino-3,6-diaza-2,7-octanedione; (H2N.CH2.CO.NH.CH2)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.10M U K1=5.04 1984MDc (50918)2868  
K(NiL=NiH-2L+2H)=-16.06

Method: batch technique.

Ni++ kin NaClO4 25°C 0.10M U 1978PPa (50919)2869  
K(NiH-2L+H)=11.54

Ni++ gl KCl 25°C 0.50M U K1=5.32 1971KAb (50920)2870  
K(NiH-2L+2H)=16.46

Ni++ gl KCl 25°C 1.00M U K1=5.65 B2=8.81 1970BMa (50921)2871  
K(NiH-2L+2H)=16.50

Ni++ gl KNO3 25°C 0.10M U K1=5.38 B2=8.50 1969BMc (50922)2872  
K(NiH-2L+2H)=16.04

Ni++ gl KCl 25°C 1.0M U K1=5.42 1953CGa (50923)2873  
K(NiH-1L+H)=7.04  
K(NiH-2L+H)=8.94

\*\*\*\*\*

C6H14N4O2 HL Arginine CAS 74-79-3 (40)  
2-Amino-5-guanidopentanoic acid; H2N.CH((CH2)3.NH.C(:NH)(NH2)COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl NaNO3 25°C 0.10M U K1=4.88 B2= 8.89 1991APa (50975)2874  
B3=12.04

Ni++ gl KNO3 25°C 0.10M C 1976BPb (50976)2875  
B(NiHL)=17.06  
B(NiH2L2)=33.15  
B(NiH3L3)=48.38  
B(NiH2L3)=37.62

Ni++ gl KNO3 25°C 0.10M U K1=5.18 B2=9.49 1970CMc (50977)2876

Ni++ gl oth/un 25°C ? U T K1=4.92 B2=9.12 1960PEd (50978)2877  
K3=3.08

17 C: K1=4.98, K2=4.32, K3=3.21; 30 C: 4.86, 4.14, 3.03; 35 C: 4.83, 4.10, 2.93; 40 C: 4.77, 4.04, 2.85

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Ni++ gl oth/un 20°C 0.01M U B2=9.2 1952ALa (50979)2878  
\*\*\*\*\*

C6H14N4O4S2 H2L (6642)  
Cystine dihydroxamic acid; HONH.CO.CH(NH2).CH2.SS.CH2.CH(NH2).CO.HNOH  
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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	KCl	25°C	0.20M	C			1992FKa (51030)2879	
							B(NiHL)=17.15 B(Ni2L2)=27.79		

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Ni++	gl	KCl	25°C	0.50M	C		B2=13.83 B(Ni2HL)=31.26 B(Ni3L4)=42.34	1990LEa (51031)2880	
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C6H14O8P2 H4L CAS 36011-96-8 (4391)  
trans-1,2-Cyclohexanediol diphosphate; C6H10(OPO3H2)2  
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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	R4N.X	20°C	0.10M	U		K1=4.72 K(Ni+HL)=2.42	1969HRa (51113)2881	
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Medium: (C3H7)4NI

\*\*\*\*\*  
C6H15N L CAS 37007-11-7 (4353)  
Diisopropylamine; ((CH3)2.CH)2.NH  
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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	ISE	R4N.X	25°C	2.00M	U		K1=2.79 K3=1.74 K4=1.31 K5=0.65	1969MPd (51144)2882	
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Medium: NH4NO3

\*\*\*\*\*  
C6H15N L Triethylamine CAS 121-44-8 (1340)  
N,N,N-Triethylamine; (C2H5)3N  
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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	sp	oth/un	20°C	?	U	T M		1979CDb (51171)2883	
							K(NiA+L)=2.25		

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Method: GLC. K=1.81 (40 C), 1.61 (50 C), 1.55 (59 C), 1.24 (79 C)

A=7,7,11,11-tetramethylheptadecane-8,10-dionate

\*\*\*\*\*  
C6H15NO L CAS 100-37-8 (3117)  
N,N-Diethyl-2-aminoethanol; (CH3.CH2)2N.CH2.CH2.OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	KNO3	25°C	0.0 M	I		K1=1.50	1987AAb (51193)	2884
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Extrapolated from data at I=1.0 M KNO3.

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C6H15NO2	L						CAS 110-97-4	(944)	
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Di-isopropanolamine; CH3.CH(OH).CH2.NH.CH2.CH(OH).CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	KNO3	30°C	1.00M	U		K1=3.50 B2=5.61 K3=0.99	1982RMa (51205)	2885
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C6H15NO3		Triethanolamine					CAS 102-71-6	(447)	
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Tris-(2-hydroxyethyl)amine; L

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	sp	non-aq	25°C	100%	U	H	K1=2.99	1989KRb (51252)	2886
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Medium: dimethylformamide

Ni++	gl	NaNO3	25°C	0.10M	U		K1=2.76 B2=6.36	1984HNa (51253)	2887
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Ni++	sp	NaClO4	25°C	0.50M	C	I	K1=2.85 B2=2.99 K(2NiL=Ni2(OH)2L2+2H)=-14.8	1982ABd (51254)	2888
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Medium: 0.5 M triethanolamine-HClO4

Ni++	sp	alc/w	25°C	100%	U		K1=2.90	1975KDa (51255)	2889
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Medium: MeOH

Ni++	gl	NaClO4	30°C	1.00M	U		K1=2.92 B2=4.74 B(Ni2L2)=7.45	1972BSd (51256)	2890
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Ni++	gl	oth/un	25°C	0.43M	U		K1=3.43 B2=5.63 K3=1.37	1966SKe (51257)	2891
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Medium: CH2OHCH2.NH3NO3

Ni++	EMF	NaClO4	?	2.0M	U		K1=2.95 B(Ni2L2(OH)2)=18.2 B(Ni4L4(OH)6)=47.8	1963CAc (51258)	2892
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By spectrophotometry: K1=3.06, K(Ni4L4(OH)6+2L+20H)=-1.7

K(Ni2L3(OH)4+4OH=2NiL(OH)4+3L)=-2.4

Ni++	gl	oth/un	25°C	0.50M	U		K1=2.27 B2=3.09	1963SGc (51259)	2893
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C6H15NO6S	HL	TES					CAS 7365-44-8	(2787)	
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N-Tris(hydroxymethyl)methyl-2-aminoethanesulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++      gl  KNO3    20°C 0.05M U      K1=3.13      1986VGa (51334)2894
              B(NiH-1L)=-2.32
-----
Ni++      gl  KNO3    20°C 0.05M U T    K1=3.13      1986VGb (51335)2895
              B(NiHL)=5.45
*****
C6H15NS          HL          CAS 1942-52-5 (2595)
2-(Diethylamino)ethanethiol; (CH3.CH2)2N.CH2.CH2.SH
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl  NaClO4  20°C 0.10M U TI    K1=7.26    B2=13.20  1986NDb (51349)2896
*****
C6H15N3          L          CAS 26150-46-9 (149)
1,3,5-cis,cis-Triaminocyclohexane; C6H9.(NH2)3
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      cal NaClO4  25°C 0.10M U    H          1980FMa (51364)2897
DH1 = -36.8 kJ mol-1, DS1 = 73.6, DH(K2)=-36.0, DS(K2)=-2.1
-----
Ni++      gl  KCl     25°C 0.10M U      K1=9.88      1971CWa (51365)2898
*****
C6H15N3          L          CAS 4730-54-5 (26)
1,4,7-Triazacyclononane; cyclo(-NH.CH2.CH2.NH.CH2.CH2.NH.CH2.CH2-)
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl  KNO3    25°C 0.10M M      K1=16.2      1976YZa (51390)2899
-----
Ni++      gl  KNO3    25°C 0.10M U      K1=13.6    B2=25.40  1973AHc (51391)2900
*****
C6H15N3O2        HL          CAS 52760-35-7 (6670)
Lysine hydroxamic acid; H2N.(CH2)4.CH(NH2)CO.NHOH
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl  KCl     25°C 0.20M C      B2=16.12      19960Ga (51419)2901
              B(NiHL)=16.73
              B(NiH2L2)=34.56
              B(NiHL2)=26.40
              B(NiH-1L2)=5.43
-----
Ni++      gl  KCl     25°C 0.50M C          1993LEa (51420)2902
              B(NiHL)=16.93
              B(NiH2L2)=34.87
              B(NiHL2)=27.70
*****
C6H15N3O2        HL      DTMA          CAS 55682-20-7 (2334)

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N,N-Bis(2-aminoethyl)glycine; (H2N.CH2.CH2)2N.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ni++	gl	KNO3	25°C	0.10M	C			K1=14.37 K(NiL+H)=4.65	1975MMe (51433)	2903
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C6H15N3O3		L						(6613)		
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1,3,5-Triamino-1,3,5-trideoxy-cis-inositol,5-Amino-5-deoxy-streptamine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ni++	gl	KNO3	25°C	0.10M	C			K1=12.37 B2=20.94	1992HGa (51443)	2904
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C6H15N5O		L						(3118)		
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Methoxypropylbiguanide; CH3O.NH.C(:NH).NH.C(:NH).NH.CH2.CH2.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ni++	sp	KCl	30°C	0.20M	U			B2=11.75	1960SRa (51463)	2905
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C6H15N5O2		L						CAS 5699-67-2 (6357)		
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2-Amino-5-((Aminoiminomethyl)amino)-N-hydroxypentanamide, Arginine hydroxamic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++	gl	KCl	25°C	0.20M	C			K1=5.90 B2=13.30 B(NiH-1L2)=5.52	19960Ga (51468)	2906
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Ni++	gl	KCl	25°C	0.50M	C			K1=5.81 B2=13.093 B(NiH-1L2)=4.87 B(Ni2H-1L2)=9.73	1991LNa (51469)	2907
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C6H15ON3		HL						(2937)		
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N,N-Diethyl-2-aminoacetamidoxime; (C2H5)2N.CH2.C(:NOH)NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ni++	gl	NaCl	25°C	1.00M	C			K1=2.21 K(2Ni+2L=Ni2H-2L2+2H)=-8.34 K(4Ni+4L=Ni4H-6L4+6H)=-28.96	1989S0a (51477)	2908
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C6H15O2PS2		HL						(2059)		
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O,O'-Dipropyl dithiophosphoric acid; (C3H7O)2P(S)SH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ni++	ISE	alc/w	25°C	90%	U			K1=2.33 B2=4.24	1972TCa (51480)	2909
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Medium: 90% EtOH, 0.3 M NaClO4

Ni++ cal non-aq 30°C 100% U M 1971DGb (51481)2910  
K(NiL2+py)=1.18  
K(NiL2(py)+py)=1.43

Medium: benzene

Ni++ sp non-aq 25°C 100% U M 1970NYa (51482)2911  
K(NiL2+py)=1.40  
K(NiL2+bpy)=6.37  
K(NiL2+2py)=3.46

Medium: benzene

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C6H15O2PS2 HL CAS 25134-38-7 (4401)  
Phosphorodithioic acid 0,0-diisopropyl ester; (CH3.CH(CH3)O)2PS.SH

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Ni++ sp non-aq 25°C 100% U M 1977FMa (51493)2912  
K(NiL2+A)=2.51  
K(NiL2A+A)=2.72

Medium: toluene. A=4-picoline

-----  
Ni++ sp alc/w 25°C 75% U B2=5.24 1970BPd (51494)2913  
Medium: 75% MeOH, 0.4 M NaClO4

-----  
Ni++ sp non-aq 25°C 100% U M 1970NYa (51495)2914  
K(NiL2+py)=1.23  
K(NiL2+bpy)=6.82  
K(NiL2+2py)=2.84

Medium: benzene

\*\*\*\*\*  
C6H15O3P L CAS 122-52-1 (1723)  
Triethylphosphite; (C2H5O)3P

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ sp non-aq 25°C 100% U 1974TSa (51507)2915  
K4<10

Medium: benzene

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Ni++ sp alc/w 25°C 100% U M 1973GTc (51508)2916  
K(NiBr2+4L)=10.76  
K(NiI2+4L)=11.94

Medium: EtOH

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C6H15P L CAS 554-70-1 (166)  
Triethylphosphine; (C2H5)3P

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Ni++ sp non-aq 25°C 100% U 1974TSa (51545)2917



K4=1.9

Medium: benzene

Ni++ sp alc/w 20°C 100% U TI M 1969RGb (51546)2918

K(NiL2(CN)2+L)=1.13

Medium: EtOH. Temperature range 0-30C.K(0 C)=1.73, K(30 C)=0.88

Medium: dichloroethane: K(0 C)=1.01, K(20 C)=0.28

C6H15PS2 HL CAS 22689-71-0 (4395)

P,P-Dipropylphosphinodithioic acid; (CH3.CH2.CH2)2.PS.SH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ ISE alc/w 25°C 90% U K1=2.75 1972TCa (51551)2919

Medium: 90% EtOH, 0.3 M NaClO4

C6H16NO4P HL CAS 387383-55-3 (8776)

N,N,N-Trimethyl-2-(phosphonomethoxy)ethylamine;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl NaNO3 25°C 0.10M M K1=1.75 2002FGb (51567)2920

C6H16N2 L CAS 20485-44-3 (3667)

2,3-Dimethyl-2,3-diaminobutane; (CH3)2.C(NH2).C(NH2)(CH3)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ sp KNO3 39°C 0.50M U T H B2=14.32 1954BCa (51590)2921

B2=14.87(15 C),14.68(25 C). By calorimetry, 0 C:DH(B2)=-58.9 kJ mol<sup>-1</sup>,DS=84

C6H16N2 L CAS 19764-59-1 (6276)

3,3-Dimethyl-1,2-diamino-butane; NH2.CH2.CH(NH2).C(CH3)2.CH3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.10M C K1=8.00 B2=14.67 1974YKa (51595)2922

C6H16N2 L CAS 111-74-0 (970)

N,N'-Diethyl-1,2-diaminoethane; C2H5.NH.CH2.CH2.NH.C2H5

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ sp NaClO4 25°C 0.10M U K1=5.67 1972TRb (51606)2923

Ni++ kin NaClO4 25°C 0.10M U K1=5.81 1972TRb (51607)2924

Ni++ gl NaClO4 25°C var U 1965NKe (51608)2925

K1=5.50+1.112I-1.078I<sup>(3/2)</sup>+0.380I<sup>(2)</sup>

K2=2.36+1.168I-1.318I<sup>(3/2)</sup>+0.536I<sup>(2)</sup>

Ni++ cal KNO3 25°C 0.50M U H K1=5.62 B2=8.9 1954Bma (51609)2926  
DH(B2)=-32.6 kJ mol-1, DS=113 J K-1 mol-1. At 0 C: K1=7.42, K2=4.76, K3=2.0

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C6H16N2 L Tetrameen CAS 110-18-9 (124)  
N,N,N',N'-Tetramethyl-1,2-diaminoethane; (CH3)2N.CH2.CH2.N(CH3)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ sp NaClO4 25°C 0.10M U K1=3.57 1972TRb (51637)2927

Ni++ gl KNO3 25°C 0.50M U B2=14.68 1954BCa (51638)2928

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C6H16N2 L CAS 100-36-7 (3081)  
N,N-Diethyl-1,2-diaminoethane; H2N.CH2.CH2.N(CH2.CH3)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ sp NaClO4 25°C 0.10M U K1=4.57 1972TRb (51659)2929

Ni++ kin NaClO4 25°C 0.10M U K1=4.80 1972TRb (51660)2930

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C6H16N2 L CAS 19522-69-1 (3080)  
N-Butylethylenediamine; CH3.CH2.CH2.CH2.NH.CH2.CH2.NH2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 0°C 0.50M U T H K1=7.25 B2=13.22 1952Bma (51665)2931  
K3=2.79

DH(K1)=-31.4 kJ mol-1,DS=21 J K-1 mol-1; DH(K2)=-41.4,DS=-40; DH(K3)=-16.3,  
DS=-17. 25 C: K1=6.73, K2=5.56, K3=2.20

Ni++ gl KNO3 13°C 0.50M U H 1952Bmb (51666)2932

0-25 C: At 0 C: DH(K1)=-32.6 kJ mol-1, DS=20.1 J K-1 mol-1; DH(K2)=-25.5,  
DS=21.3; DH(K3)=-36.8, DS=-81.1

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C6H16N2OS L (3128)  
3-Oxa-6-thiaoctane-1,8-diamine; H2N.CH2.CH2.O.CH2.CH2.S.CH2.CH2.NH2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl none 20°C 0.0 U T H K1=6.38 1959LBb (51669)2933

K1=6.61(10 C); 6.17(30 C), 6.01(40 C). DH(K1)=-34.3 kJ mol-1, DS=4

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C6H16N2O2 L CAS 3197-06-6 (7963)  
2-Amino-N,N-bis(2-hydroxyethyl)ethylamine;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl NaCl 25°C 0.16M U K1=6.89 2001SRa (51673)2934

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K	values	Reference	ExptNo
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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K	values	Reference	ExptNo
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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K	values	Reference	ExptNo
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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K	values	Reference	ExptNo
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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K	values	Reference	ExptNo
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Medium: benzene

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	1.00M	M		K(Ni+HL)=4.05	1982BGB (51809)	2948

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C6H17N2O3P                      H2L                      (7486)  
 N,N,N'-Trimethyldiaminoethane-N'-methylphosphonic acid;  
 (CH3)2N.CH2CH2.N(CH3)CH2PO3H2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C		K1=9.14 K(NiL+H)=4.5 K(NiL+OH)=3.0	2001DSa (51815)	2949

Ni++	gl	KNO3	25°C	0.10M	C		K1=9.14 K(NiL+H)=4.5 K(NiL+OH)=3.0	2001DSa (51816)	2950
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C6H17N3                      L                      CAS 54473-27-7 (171)  
 1,1,1-Tris(aminomethyl)propane; (H2N.CH2)3C.CH2.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	cal	KNO3	25°C	0.50M	C	H		1980SVa (51833)	2951

DH1=-42.3 kJ mol<sup>-1</sup>, DS1=58.5, DH(K2)=-46.3, DS(K2)=-12, also NiHL, NiHL2

Ni++	gl	KNO3	25°C	0.50M	C		K1=10.468 B2=17.97	1977MSc (51834)	2952
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C6H17N3                      L                      CAS 35513-87-2 (292)  
 1,4,9-Triazanonane, 3-Azaheptane-1,7-diamine; H2NCH2CH2NHCH2CH2CH2CH2NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.50M	C		K1=7.81 B2=11.89 K(Ni+HL)=6.026 K(Ni+2HL)=10.60 K(Ni+L+HL)=11.62	1975BPd (51846)	2953

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C6H17N3                      L                      CAS 56-18-8 (968)  
 1,5,9-Triazanonane, 4-azaheptane-1,7-diamine; H2N.CH2.CH2.CH2.NH.CH2.CH2.CH2.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.20M	U	M		1996UBa (51876)	2954

B(Ni(catecholate)L)=16.69  
 B(Ni(oxalate)L)=11.55  
 B(Ni(malonate)L)=10.50  
 B(Ni(gly)L)=13.56

B(Ni(beta-Ala)L)=12.50, B(Ni(en)L)=15.04, B(Ni(1,3-pn)L)=14.16,

B(Ni(2-aminophenol)L)=12.26.

Ni++ gl diox/w 30°C 50% U M K1=10.14 1987PCb (51877)2955

K(CuA+L)=9.71

K(CuB+L)=9.20

K(Cu(bpy)+L)=8.02

K(Cu(phen)+L)=8.04

K(Cu(dipyridylamine)+L)=8.06; K(Cu(2-(2'-pyridyl)imidazoline)+L)= 7.74

A=5-nitrophenanthroline, B=2-(2'-pyridyl)benzimidazole

Ni++ gl KNO3 25°C 0.10M U K1=9.2 B2=13.10 1973AHc (51878)2956

Ni++ cal KCl 25°C 0.10M U H 1966PNa (51879)2957

DH(K1)=-44.1 kJ mol<sup>-1</sup>, DS=27.6 J K<sup>-1</sup> mol<sup>-1</sup>, DH(K2)=-29.7, DS=-31

Ni++ gl KCl 25°C 0.10M U K1=9.19 B2=12.74 1966VAa (51880)2958

Ni++ gl KNO3 30°C 1.0M U T H K1=9.09 1956HFb (51881)2959

DH(K1)=-42 kJ mol<sup>-1</sup>, DS=38 J K<sup>-1</sup> mol<sup>-1</sup>. K1=10.25(0 C), 8.88(50 C)

\*\*\*\*\*

C6H17N3O L CAS 58145-14-5 (7964)

2-Hydroxy-N,N-bis(2-aminoethyl)ethylamine;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl NaCl 25°C 0.16M U K1=10.65 2001SRa (51921)2960

K(Ni+H2L)<2

K(Ni+HL)=6.27

\*K(NiL)=-9.03

\*\*\*\*\*

C6H18N2O4P2 H2L (7261)

1,2-Diaminoethane-N,N'-bis-(dimethylenemethylphosphinic acid); (CH2NHCH2PO(OH)CH3)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl R4N.X 25°C 0.10M M K1=8.35 1996BCa (51926)2961

Medium: 0.1 M Me4NNO3.

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C6H18N2O6P2 H4L CAS 85416-96-2 (1364)

Diaminoethane-N,N'-diethylphosphonic acid; (H2O3P.CH2.CH2.NH.CH2.)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl oth/un 25°C 0.10M U K1=12.99 1976MDa (51932)2962

K(Ni+HL)=10.64

K(Ni+H2L)=5.48

\*\*\*\*\*

C6H18N2O6P2 H4L (1363)

N,N'-Dimethyldiaminoethane-N,N'-dimethylphosphonic acid;

CH3N(CH2PO3H2).CH2.CH2.N(CH2.PO3H2)CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C		K1=13.96 K(NiL+H)=5.70 K(NiL+OH)=1.8 K(NiHL+H)=4.7	2001DSa (51938)	2963

Ni++	gl	KNO3	25°C	0.10M	C		K1=13.96 K(NiL+H)=5.70 K(NiHL+H)=4.7 K(NiL+OH)=1.8	2001DSa (51939)	2964
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Ni++	gl	oth/un	25°C	0.10M	U		K1=14.67 K(Ni+HL)=9.19 K(Ni+H2L)=5.96	1976MDa (51940)	2965
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C6H18N2O6P2                      H4L                      (7487)

N,N-Dimethyldiaminoethane-N',N'-dimethyldiphosphonic acid;

(CH3)2N.CH2CH2.N(CH2PO3H2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C		K1=13.79 K(NiL+H)=5.75 K(NiL+OH)=1.3 K(NiHL+H)=4.5	2001DSa (51959)	2966

Ni++	gl	KNO3	25°C	0.10M	C		K1=13.79 K(NiL+H)=5.75 K(NiHL+H)=4.5 K(NiL+OH)=1.3	2001DSa (51960)	2967
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C6H18N4                      L                      Trien-tetramine CAS 112-24-3 (11)

1,4,7,10-Tetraazadecane; H2N.CH2.CH2.NH.CH2.CH2.NH.CH2.CH2.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	1.00M	C	H	K1=14.45 B(NiHL)=19.95	1982ABc (52035)	2968

By calorimetry: DH1=-56.9 kJ mol<sup>-1</sup>, DS1=86.2

Ni++	gl	NaCl	25°C	0.15M	C		K1=14.34    B2=20.64 B(NiH2L2)=37.28 B(Ni2L3)=40.05 B(Ni2HL3)=49.20 B(Ni2H2L3)=55.02	1979LPa (52036)	2969
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Ni++	gl	alc/w	25°C	65%	U	I	K1=13.13	1972RBa (52037)	2970
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Medium: 40-99% MeOH, 0.1 M NaClO4. K1(40%)=14.62, K1(99%)=13.84

Results questionable because of slow formation kinetics

Ni++	gl	oth/un	25°C	0.10M	U	M	1972SBa (52038)2971	K(Ni(phen)+L)=13.60 K(Ni(phen)+HL)=8.22
Ni++	gl	KNO3	25°C	0.10M	U	T M	1971IVa (52039)2972	K(NiL+Gly)=4.34 K(NiL+Gly)(15 C)=4.41, (50 C)=3.90, (70 C)=3.69
Ni++	sp	KNO3	20°C	0.10M	U		1971MA1 (52040)2973	K1=13.93 K(Ni+HL)=8.73
Ni++	gl	KCl	25°C	0.50M	U		1970WBa (52041)2974	K1=14.4 B2=18.6 B(Ni2L3)=36.9
Ni++	cal	KNO3	25°C	0.10M	U	HM	1965WHa (52042)2975	DH(K1)=-58.1 kJ mol <sup>-1</sup> , DS=75.2 J K <sup>-1</sup> mol <sup>-1</sup> . Ternary complexes with oxalate
Ni++	kin	NaClO4	25°C	0.10M	U		1963MRa (52043)2976	K1=13.82 K(Ni+HL)=8.7 K(NiL+H)=4.7
Ni++	cal	KCl	25°C	0.10M	U	H	1961SPb (52044)2977	DG(K1)=-78.78 kJ mol <sup>-1</sup> , DH=-58.6, DS=66.9 J K <sup>-1</sup> mol <sup>-1</sup>
Ni++	gl	KCl	25°C	0.10M	U		1957RSb (52045)2978	K1=14.1
Ni++	gl	KNO3	40°C	1.0M	U	T H	1952JHa (52046)2979	B(Ni3L2)=5.41 Medium: 1 M (KNO3+KCl). B(Ni3L2)=5.63(30C), DH=-37.6 kJ mol <sup>-1</sup> ; DH(K1)=-54.3
Ni++	gl	oth/un	30°C	1.0M	U	T	1952JHa (52047)2980	K1=14.34 B2=19.97 40 C: K1=14.01, B2=19.42
Ni++	gl	KCl	20°C	0.10M	U		1950SCa (52048)2981	K1=14.0 K(Ni+HL)=8.9
*****								
C6H18N4 L Tren CAS 4097-89-6 (817)								
2,2',2''-Triaminotriethylamine; (H2N.CH2.CH2)3N								
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference ExptNo
Ni++	gl	NaClO4	25°C	1.00M	C		K1=14.95	1994AGa (52159)2982
Ni++	gl	oth/un	25°C	0.10M	C		K1=14.6 K(NiLOH+H)=9.8	1982MMb (52160)2983
Ni++	gl	KNO3	25°C	0.10M	U		K1=14.50	1975APc (52161)2984



Ni++	gl	R4N.X	25°C	0.10M	C	K1=14.44	1975JTa (52162)2985
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Ni++	sp	KCl	20°C	0.50M	U	K1=14.81 K(Ni+HL)=9.85	1970MAh (52163)2986
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Ni++	cal	KCl	25°C	0.10M	U	H	1960PCa (52164)2987
DG(K1)=-83.18 kJ mol <sup>-1</sup> , DH=-63.4, DS=67 J K <sup>-1</sup> mol <sup>-1</sup>							
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Ni++	gl	KCl	20°C	0.10M	U	K1=14.8 K(Ni+H2L)=4 K(Ni+HL)=9	1950PSa (52165)2988
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C6H19N209P3                      H6L                      (8063)  
N-Methylethylenediamine-N,N',N'-trimethylenetris(phosphonic acid);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-----									
Ni++	gl	KNO3	25°C	0.10M	C		K1=15.88 K(NiL+H)=7.42 K(NiH2L+H)=4.41 K(NiHL+H)=5.46 K(NiH3L+H)=3.1	2001DSa (52231)2989	
							K(NiL+OH)=2.4		
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Ni++	gl	KNO3	25°C	0.10M	C		K1=15.88 K(NiL+H)=7.42 K(NiHL+H)=5.46 K(NiH2L+H)=4.41 K(NiH3L+H)=3.1	2001DSa (52232)2990
							K(NiL+OH)=2.4	
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C6H20N208P4                      H4L                      CAS 938-16-3 (4402)  
Ethylenediaminetetra(methylenephosphonous acid);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-----									
Ni++	gl	KNO3	25°C	0.10M	U		K1=8.44	1971MMh (52244)2991	
-----									
C6H20N2012P4				H8L	EDTPA		CAS 1429-50-1 (434)		
Ethane-1,2-bis(iminobis(methylenephosphonic acid)); ((H2O3PCH2)2NCH2.)2									
-----									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-----									
Ni++	gl	KNO3	25°C	0.10M	C		K1=16.64 K(NiL+H)=8.92 K(NiH2L+H)=5.43 K(NiHL+H)=7.32 K(NiH3L+H)=4.3	2001DSa (52279)2992	
							K(NiL+OH)=1.4		
-----									

Ni++ gl KNO3 25°C 0.10M C K1=16.64 2001DSa (52280)2993  
 K(NiL+H)=8.92  
 K(NiHL+H)=7.32  
 K(NiH2L+H)=5.43  
 K(NiH3L+H)=4.3

K(NiL+OH)=1.4

Ni++ gl NaCl 37°C 0.15M C K1=11.76 1995JWa (52281)2994  
 K(NiL+H)=8.80  
 K(NiH2L+H)=5.68  
 K(NiHL+H)=7.77  
 K(NiH3L+H)=4.09

Ni++ gl KNO3 25°C 0.10M C K1=16.38 1976MMa (52282)2995  
 K(NiL+H)=8.94  
 K(NiHL+H)=7.40  
 K(NiH2L+H)=5.48  
 K(NiH3L+H)=4.33

Ni++ gl oth/un 25°C 0.10M U 1971MMb (52283)2996  
 K(NiL+H)=9.03  
 K(NiHL+H)=7.47  
 K(NiH2L+H)=5.51  
 K(NiH3L+H)=4.57

Ni++ gl KCl 25°C 0.10M U K1=15.30 1967KDa (52284)2997  
 K(Ni+HL)=12.00  
 K(Ni+H2L)=9.12  
 K(Ni+H3L)=6.77  
 K(Ni+H4L)=4.72

K(Ni+H5L)=2.34

\*\*\*\*\*

C7H4N2O7 H2L CAS 609-99-4 (400)  
 3,5-Dinitrosalicylic acid; (O2N)2.C6H2(OH).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ kin oth/un 25°C 0.3M U T 1994SWa (52436)2998  
 K(Ni+HL)=2.74  
 At 15 C: K=2.68, 30 C: 2.77, 35 C: 2.80. Data at pH 6.0

Ni++ gl KCl 25°C 0.20M U M K1=3.60 1992ASa (52437)2999  
 K(NiL+ser)=5.20  
 K(NiL+thr)=5.60  
 K(NiL+asp)=9.30  
 K(NiL+HA)=4.53

HA is lysine

Ni++ sp NaCl04 25°C 0.3M U K1=3.84 1987DSc (52438)3000  
 K(Ni+HL)=0.60

-----  
Ni++ sp none 25°C 0.0 C K1=4.13 1983SGd (52439)3001  
-----

Ni++ EMF NaCl04 30°C 0.10M U M K1=4.11 1978JSa (52440)3002  
B(NiLA)=7.54  
B(NiL(Glu))=9.21

H2A=thiodipropionic acid

-----  
Ni++ gl NaCl04 30°C 0.10M U M K1=4.11 1978JSc (52441)3003  
B(NiAL)=12.86  
K(NiA+L)=3.46  
K(NiL+A)=8.75

H2A is 5-hydroxysalicylic acid.

-----  
Ni++ gl NaCl04 30°C 0.10M U K1=4.11 1978JSc (52442)3004  
-----

Ni++ sp NaCl04 25°C 0.10M C K1=4.05 1975CTb (52443)3005  
-----

Ni++ gl KCl 25°C 0.0 C T H K1=5.29 1975DNd (52444)3006  
DH(K1)=17.23 kJ mol<sup>-1</sup>, DS=159.0 J mol<sup>-1</sup> K<sup>-1</sup>. Calculated from 0.1 M KCl by  
the Davies equation. Values also at 35 and 45 C

-----  
Ni++ gl NaCl04 30°C 0.10M U K1=4.11 1975JKa (52445)3007  
-----

Ni++ EMF NaCl04 30°C 0.10M U K1=4.11 1972JKa (52446)3008  
-----

Ni++ gl KNO3 35°C 0.10M U K1=4.80 1970DDa (52447)3009  
\*\*\*\*\*  
C7H4N4O4 L CAS 50365-37-2 (7762)  
5,6-Dinitrobenzimidazole;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaNO3 25°C 0.50M M K1=1.23 1999Ksa (52514)3010  
K(Ni+H-1L)=3.31  
\*K(NiL)=-6.84

\*\*\*\*\*  
C7H4O2Cl2 HL CAS 90-60-8 (3743)  
2-Hydroxy-3,5-dichlorobenzaldehyde (3,5-dichlorosalicylaldehyde)

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ EMF diox/w 20°C 50% U K1=3.0 1963CCa (52522)3011  
Medium: 50% dioxan, 0.3 M NaCl04

\*\*\*\*\*  
C7H4O3Br2 H2L CAS 3147-55-5 (1116)  
3,5-Dibromosalicylic acid; C6H2(OH)(Br)2.COOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaClO4 30°C 0.10M U T K1=6.10 1975JKa (52538)3012  
 \*\*\*\*\*  
 C7H4O3Cl2 H2L CAS 320-72-9 (1117)  
 3,5-Dichlorosalicylic acid; C6H2(OH)(Cl)2.COOH

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl NaClO4 30°C 0.10M U T K1=5.98 1975JKa (52551)3013  
 \*\*\*\*\*  
 C7H5NOS HL CAS 7405-23-4 (3177)  
 4-Hydroxybenzothiazole;

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl diox/w 25°C 50% U K1=7.35 B2=13.46 1960FFa (52586)3014  
 \*\*\*\*\*  
 C7H5NO4 H2L Quinolinic acid CAS 89-00-9 (567)  
 2,3-Pyridinedicarboxylic acid; C5H3N.(COOH)2

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl KNO3 25°C 0.10M U K1=4.5 B2=7.5 1958YYa (52613)3015  
 \*\*\*\*\*  
 C7H5NO4 H2L CAS 499-80-9 (566)  
 2,4-Pyridinedicarboxylic acid; C5H3N.(COOH)2

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl KNO3 25°C 0.10M U K1=4.6 B2=7.8 1958YYa (52642)3016  
 \*\*\*\*\*  
 C7H5NO4 H2L CAS 100-26-5 (2528)  
 2,5-Pyridinedicarboxylic acid, Isocinchomeric acid; C5H3N.(COOH)2

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl KNO3 20°C 0.10M U T H K1=4.56 B2=8.80 1983PSd (52661)3017  
 30 C: K1=4.45, K2=4.14; 40 C: K1=4.34, K2=4.03  
 \*\*\*\*\*  
 C7H5NO4 H2L Dipicolinic aci CAS 449-83-2 (418)  
 2,6-Pyridinedicarboxylic acid; C5H3N.(COOH)2

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl KNO3 35°C 0.10M C M K1=5.15 1999DSb (52715)3018  
 B(NiAL)=8.60

A is thiamine hydrochloride.

-----  
 Ni++ gl KNO3 25°C 0.10M M M K1=5.60 1996AEa (52716)3019  
 Data for ternary complexes with aspartic acid, serine, asparagine and  
 N-(2-acetamido)iminodiacetic acid

-----  
Ni++ gl NaClO4 25°C 0.20M C M 1990UBc (52717)3020

B(Ni(Gly)L)=12.20  
B(Ni(Ala)L)=11.90  
B(Ni(Phe)L)=11.78  
B(Ni(HTyr)L)=11.90

B(Ni(Trp)L)=12.89; B(Ni(en)L)=14.36, B(Ni(1,3-pn)L)=13.42, B(Ni(oxalate)L)=  
10.35, B(Ni(catecholate)L)=14.82 plus many others  
-----

Ni++ gl NaClO4 25°C 0.20M U M K1=7.05 B2=13.72 1984PRa (52718)3021  
B(NiL(en)) = 14.232  
-----

Ni++ gl diox/w 25°C 50% U B2=17.88 1977MSe (52719)3022  
-----

Ni++ EMF NaNO3 20°C 0.10M U K1=6.95 B2=13.50 1960ANb (52720)3023  
-----

Ni++ gl KCl 30°C 0.10M U K1=8 B2=14.1 1957TBb (52721)3024  
-----

\*\*\*\*\*

C7H5NO4 HL CAS 97-51-8 (1887)

5-Nitrosalicylaldehyde; O2N.C6H3(OH).CHO  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl diox/w 25°C 50% U T K1=3.80 B2=6.93 1973CGc (52931)3025

Medium: 50% dioxan, 0.3 M NaClO4. Temperature range 15-50 C

K1(15 C)=4.10, K1(50 C)=3.21, K2(15 C)=3.44, K2(50 C)=2.81

\*\*\*\*\*

C7H5NO4S2 H2L (3178)

4-Hydroxybenzothiazole-7-sulfonic acid;  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl diox/w 25°C 50% U K1=8.1 B2=14.0 1962FFa (52946)3026

\*\*\*\*\*

C7H5NO5 H2L Nitrosalicylic CAS 85-38-1 (1416)

2-Hydroxy-3-nitrobenzoic acid; HO.C6H3(NO2).COOH  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ sp none 25°C 0.0 C K1=5.89 1983SGd (52962)3027  
-----

Ni++ gl NaClO4 30°C 0.10M U T K1=5.96 1975JKa (52963)3028  
-----

Ni++ EMF NaClO4 30°C 0.10M U K1=5.96 1972JKa (52964)3029  
-----

Ni++ oth diox/w 30°C 25% U K1=6.22 B2=12.22 1972KAe (52965)3030

Medium: 25% dioxan, 0.1 M NaClO4

\*\*\*\*\*

C7H5NO5 H2L Nitrosalicylic CAS 619-19-2 (1288)

2-Hydroxy-4-nitrobenzoic acid; HO.C6H3(NO2).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	none	25°C	0.0	C		K1=5.46	1983SGd (52984)	3031
*****									
C7H5NO5		H2L		Nitrosalicylic		CAS 96-97-9		(148)	
2-Hydroxy-5-nitrobenzoic acid; HO.C6H3(NO2).COOH									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	kin	NaNO3	25°C	0.30M	U	M		1993Hwa (53017)	3032
							K(NiA+L)=3.69		
H2A: diaminoethane-N,N-diethanoic acid.									
-----									
Ni++	gl	NaClO4	25°C	0.10M	U		K1=6.68	1980MSa (53018)	3033
-----									
Ni++	gl	NaClO4	25°C	0.15M	U			1980YAa (53019)	3034
							K(Ni+HL=NiL+H)=0.02		
							K(Ni+H2L=NiL+2H)=-3.92		
-----									
Ni++	gl	NaClO4	35°C	0.10M	U	M	K1=5.35 B2= 9.91	1978ABd (53020)	3035
							K(Ni(bpy)+L)=5.46		
-----									
Ni++	gl	KCl	25°C	0.10M	U	T H	K1=5.87	1975DNb (53021)	3036
DH(K1)=20.9 kJ mol-1 and DS(K1)=198.5 J mol-1 K-1.									
Values also available at 35 and 45 C									
-----									
Ni++	gl	NaClO4	30°C	0.10M	U		K1=5.86	1975JKa (53022)	3037
-----									
Ni++	sp	NaNO3	25°C	0.30M	U	M	K1=5.62	1974HKa (53023)	3038
							K(NiA+L)=3.38		
H5A=triphosphoric acid									
-----									
Ni++	oth	diox/w	30°C	75%	U		K1=6.12 B2=11.92	1973KAc (53024)	3039
Medium: 75% dioxan, 0.1 M NaClO4									
-----									
Ni++	EMF	NaClO4	30°C	0.10M	U		K1=5.36	1972JKa (53025)	3040
*****									
C7H5NO5		H3L		CAS 499-51-4		(3150)			
4-Hydroxypyridine-2,6-dicarboxylic acid; HO.C5H2N(COOH)2									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	oth/un	20°C	0.10M	U		K1=9.2 B2=17.3	1963And (53066)	3041
							K(NiL+H)=5.67		
							K(NiL2+H)=6.08		
							K(NiHL2+H)=5.38		
*****									
C7H5N3O		HL		CAS 35252-03-0		(3142)			
2-Hydroxypyrido[3',4'-b]pyrazine;									

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       gl  oth/un 20°C 0.01M U      K1=6.1    B2=11.3    1954AHb (53088)3042
*****
C7H5N3O          HL                      CAS 37538-67-3 (3140)
4-Hydroxypyrido[2,3-e]pyrimidine;
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       gl  oth/un 20°C 0.01M U      K1=6.1    B2=11.5    1954AHb (53092)3043
*****
C7H5N3O          HL                      CAS 35252-45-8 (3141)
8-Hydroxypyrido[2,3-b]pyrazine;
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       gl  oth/un 20°C 0.01M U      K1=5.9    B2=11.0    1954AHb (53094)3044
*****
C7H5N3O2         L                      CAS 94-52-0 (7761)
5-Nitrobenzimidazole;
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       gl  NaNO3  25°C 0.50M M      K1=1.63    1999KSa (53097)3045
                        K(Ni+H-1L)=4.1
                        *K(NiL)=-8.1
*****
C7H5O2Br         HL                      CAS 4584-68-3 (2691)
3-Bromotropolone;
-----

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       gl  diox/w 30°C 50% U      K1=6.5    B2=12.1    1954BFd (53110)3046
*****
C7H5O2Br         HL                      CAS 1761-61-1 (1886)
5-Bromosalicylaldehyde; Br.C6H3(OH).CHO
-----

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       gl  diox/w 25°C 50% U T      K1=4.28    B2=7.64    1973CGc (53128)3047
Medium: 50% dioxan, 0.3 M NaClO4. Temperature range 15-50 C
K1(15 C)=4.44, K1(50 C)=4.01, K2(15 C)=3.46, K2(50 C)=3.14
*****
C7H5O2Cl         HL                      (3747)
2-Hydroxy-6-chlorobenzaldehyde (6-chlorosalicylaldehyde)
-----

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       gl  diox/w 30°C 75% U      K1=5.81    B2=10.22    1978RJ a (53152)3048

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Ni++	sp	none	25°C	0.0	C		K1=6.48		1983SGd (53303)3056
Ni++	sp	NaClO4	25°C	0.15M	U	T			1980YAa (53304)3057
							K(Ni+HL=NiL+H)=0.59		
							K(Ni+H2L=NiL+2H)=-3.94		
Ni++	gl	NaClO4	35°C	0.10M	U	M	K1=6.52	B2=11.13	1978ABd (53305)3058
							K(Ni(bpy)+L)=6.82		
*****									
C7H5O3Cl		H2L					CAS 321-14-2		(1113)
5-Chlorosalicylic acid; Cl.C6H3(OH).COOH									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference ExptNo
Ni++	sp	none	25°C	0.0	C		K1=6.49		1983SGd (53328)3059
Ni++	gl	NaClO4	25°C	0.10M	U	T	K1=6.36		1980MSa (53329)3060
Ni++	sp	NaClO4	25°C	0.15M	U	T			1980YAa (53330)3061
							K(Ni+HL=NiL+H)=0.63		
							K(Ni+H2L=NiL+2H)=-3.98		
Ni++	gl	NaClO4	35°C	0.10M	U	M	K1=6.55	B2=11.17	1978ABd (53331)3062
							K(Ni(bpy)+L)=6.80		
Ni++	gl	NaClO4	30°C	0.10M	U	T	K1=7.82		1975JKa (53332)3063
*****									
C7H6NO2Cl		HL					CAS 7120-43-6		(3782)
5-Chloro-2-hydroxybenzaldehyde oxime (5-chlorosalicylaldoxime)									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference ExptNo
Ni++	gl	diox/w	20°C	75%	U		K1=6.6	B2=13.70	1965BEb (53384)3064
Medium: 75% dioxan, 0.1 M NaClO4									
*****									
C7H6NO3Br		H2L					CAS 87353-69-3		(207)
4-Bromosalicylhydroxamic acid; Br.C6H3(OH).CO.NH.OH									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference ExptNo
Ni++	EMF	diox/w	30°C	50%	U		K1=3.99		1977DJa (53392)3065
Medium: 50% dioxan, 0.1 M NaClO4									
*****									
C7H6NO3Br		H2L					CAS 5798-94-7		(206)
5-Bromosalicylhydroxamic acid; Br.C6H3(OH).CO.NH.OH									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference ExptNo
Ni++	EMF	diox/w	30°C	50%	U		K1=3.99		1977DJa (53403)3066
Medium: 50% dioxan, 0.1 M NaClO4									

\*\*\*\*\*

C7H6NO3Cl H2L (205)  
3-Chlorosalicylhydroxamic acid; Cl.C6H3(OH).CO.NH.OH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ EMF diox/w 30°C 50% U K1=4.63 1977DJa (53412)3067  
Medium: 50% dioxan, 0.1 M NaClO4

\*\*\*\*\*

C7H6N2 L Benzimidazole CAS 51-17-2 (52)  
Benzimidazole; C7H6N2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaNO3 25°C 0.10M C M K1=3.07 2000MSa (53449)3068  
B(NiAL)=10.11  
B(NiH-1AL)=1.33  
B(Ni2A2L)=20.41  
B(Ni2H-1A2L)=14.50

H2A is aspartic acid.

-----  
Ni++ gl NaClO4 37°C 0.15M U M B(NiAL)=8.67  
B(NiAL2)=9.64  
K(NiA+L)=2.35  
K(NiL+A)=6.30

K(NiL2+A)=5.53. HA is nicotinic acid.

-----  
Ni++ gl NaClO4 37°C 0.15M U M B(NiAL)=6.39  
B(NiAL2)=9.27  
K(NiA+L)=3.12  
K(NiL+A)=4.02

K(NiAL+L)=2.88. A is 6-aminopenicillanic acid.

-----  
Ni++ gl KNO3 35°C 0.10M C M K1=2.84 1997PSb (53452)3071  
K(NiL+A)=6.20

H2A is thiamine orthophosphoric acid.

-----  
Ni++ sp non-aq 25°C 100% U B2=2.35 1984DPa (53453)3072  
Medium: DMSO

-----  
Ni++ gl KNO3 25°C 0.50M U K1=2.02 B2=3.62 1981LMb (53454)3073  
B3=4.86

-----  
Ni++ sp non-aq 20°C 100% U M 1967GGc (53455)3074  
K(NiL2Cl2+2L)=2.34  
K(NiL2Br2+2L)=2.72  
K(NiL2I2+2L)=3.19

Medium: acetone. In nitromethane: K(NiL2Br2+2L)=4.10, K(NiL2I2+2L)=5.28

\*\*\*\*\*

C7H6N2O HL (1926)  
8-Hydroxyimidazo[1,2-a]-pyridine;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl diox/w 25°C 50% U K1=6.59 B2=11.40 1991SYa (53478)3075  
\*\*\*\*\*

C7H6N2OS HL CAS 26278-79-5 (3179)  
2-Amino-4-hydroxybenzothiazole;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl diox/w 25°C 50% U K1=8.1 B2=15.3 1962FFa (53484)3076  
\*\*\*\*\*

C7H6N2O4 HL CAS 1595-15-9 (3754)  
2-Hydroxy-5-nitrobenzaldehyde oxime (5-nitrosalicylaldoxime)

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl diox/w 20°C 75% U K1=6.5 B2=13.80 1965BEb (53489)3077  
Medium: 75% dioxan, 0.1 M NaClO4  
\*\*\*\*\*

C7H6N2O4 H2L CAS 2683-49-0 (3753)  
4-Aminopyridine-2,6-dicarboxylic acid (4-aminodipicolinic acid)

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl KNO3 20°C 0.10M U K1=8.18 B2=15.52 1965ABa (53497)3078  
\*\*\*\*\*

C7H6N2O5 H2L CAS 831-51-6 (208)  
5-Nitrosalicylhydroxamic acid; O2N.C6H3(OH).CO.NH.OH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ EMF diox/w 30°C 50% U K1=3.24 1977DJa (53519)3079  
Medium: 50% dioxan, 0.1 M NaClO4  
\*\*\*\*\*

C7H6N4 L CAS 5318-52-9 (3726)  
1-Phenyltetrazole; CHN4.C6H5

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ sp non-aq 25°C 100% U K1=0.6 B2=3.54 1963GBa (53536)3080  
Medium: THF  
\*\*\*\*\*

C7H6OS HL Thiobenzoic CAS 98-91-9 (6294)  
Thiobenzoic acid; C6H5.COSH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl diox/w 30°C 60% U K1=4.3 B2=8.2 19720Tc (53552)3081  
 Medium: 60% v/v dioxan, 1 M (K,Na)NO3

\*\*\*\*\*

C7H6O2 HL Salicylaldehyde CAS 90-02-8 (193)  
 2-Hydroxybenzaldehyde, Salicylaldehyde; HO.C6H4.CHO

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	30°C	0.10M	U	M	K1=3.80 B2= 6.45 B(Ni(val)L)=10.42 B(Ni(val)2L)=13.50 B(Ni(val)2L2)=17.35 B(Ni(phe)L)=10.25	1991RSc (53592)	3082

B(Ni(phe)2L)=13.30, B(Ni(phe)2L2)=17.10.

Evidence for formation of Schiff base in ternary complexes.

Ni++	gl	KNO3	30°C	0.10M	U	M	1991RSc (53593)	3083
							B(Ni(trp)L)=10.15 B(Ni(trp)2L)=13.15 B(Ni(trp)2L2)=17.10	

Evidence for formation of Schiff base in ternary complexes.

Ni++	gl	diox/w	30°C	75%	U		K1=6.43 B2=11.39	1978RJa (53594)	3084
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Ni++	gl	diox/w	25°C	75%	U		K1=18.39	1978SRa (53595)	3085
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Ni++	gl	KCl	25°C	0.50M	U	M	K1=3.58 B2=6.5 B(NiL(Gly))=10.75 B(NiL(Gly)2)=15.62 B(NiL2(Gly)2)=18.89	1968LBa (53596)	3086
------	----	-----	------	-------	---	---	--	-----------------	------

Ni++	gl	diox/w	30°C	75%	U		K1=5.36 B2=9.11	1964JVa (53597)	3087
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Medium: 75% dioxan, 0.1 M NaClO4

Ni++	EMF	diox/w	20°C	50%	U		K1=4.5	1963CCa (53598)	3088
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Medium: 50% dioxan, 0.3 M NaClO4

Ni++	gl	alc/w	?	50%	U		B2=9.03	1957HSa (53599)	3089
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Ni++	gl	diox/w	30°C	75%	U		K1=8.25 B2=14.50	1954UFa (53600)	3090
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Ni++	gl	diox/w	25°C	50%	U		K1=5.22 B2=9.19	1949MMa (53601)	3091
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C7H6O2 HL Tropolone CAS 533-75-5 (3129)  
 2-Hydroxycyclohepta-2,4,6-trien-1-one;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	30°C	50%	U	M	K1=11.82 B2=18.24	1980KSa (53651)	3092

$$B(\text{Ni}(\text{bpy})+\text{L})=6.39$$

Ni++	sp	NaClO4	25°C	0.10M	U		K1=5.97	19680Wa (53652)3093
Ni++	gl	diox/w	30°C	50%	U		K1=7.7 K3=4.0	B2=13.8 1954BFb (53653)3094
*****								
C7H6O2		HL	Benzoic Acid			CAS 65-85-0	(462)	
Benzenecarboxylic acid; C6H5.COOH								
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference ExptNo
Ni++	gl	NaClO4	25°C	1.00M	U T H		K1=0.60	1991BAa (53791)3095
K1 also at 30, 35 and 40C. DH=10.5 kJ mol <sup>-1</sup> , DS=47 J K <sup>-1</sup> mol <sup>-1</sup> .								
Ni++	sol	oth/un	25°C	0.1M	C			1983KPc (53792)3096
							Kout(Ni(phen)3+L)= 1.0	
							Kout(Ni(phen)3+2L)=1.51	
Medium:NaF;Also for I=0.25 M K1out=0.87, B2out=1.2,for I=0.50 M K1out=0.77 for I=0.75 K1out=0.71, B2out=0.95; phen=phenantroline								
Ni++	sol	oth/un	25°C	0.1M	C			1983KPd (53793)3097
							Kout(Ni(bipy)3+L)=0.82	
							Kout(Ni(bipy)3+2L)=1.16	
Medium:NaF;Also for I=0.25 M K1out=0.64, B2out=0.8,for I=0.50 M K1out=0.56 for I=0.75 K1out=0.45, B2out=0.53;								
Ni++	gl	diox/w	25°C	70%	U I		K1=2.87	1980SSb (53794)3098
In 70% EtOH/H2O: K1=2.52								
Ni++	gl	NaClO4	25°C	0.00	U I		K1=1.86	1979TPa (53795)3099
Ni++	gl	KNO3	30°C	0.40M	U		K1=0.55	1970BTa (53796)3100
Ni++	gl	oth/un	25°C	0.10M	U		K1=0.9	1960YYa (53797)3101
*****								
C7H6O2S		H2L	Thiosalicylic			CAS 147-93-3	(236)	
2-Mercaptobenzoic acid; HS.C6H4.COOH								
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference ExptNo
Ni++	gl	alc/w	25°C	50%	M T H		K1=7.33	1992MSf (53885)3102
							B(Ni(en)L)=13.47	
Medium: 50% v/v MeOH/H2O, 0.10 M NaClO4. Data for 40 and 55 C. DH(K1)=48.8 kJ mol <sup>-1</sup> , DS(K1)=304 J K <sup>-1</sup> mol <sup>-1</sup> .								
Ni++	sp	NaClO4	25°C	0.3M	U		K1=4.53	1987DSc (53886)3103
Ni++	sp	NaClO4	20°C	0.10M	U		K1=3.5	B2=7.15 1977LSb (53887)3104

Ni++ gl diox/w 25°C 0.10M U K1=8.09 B2=16.00 1977WVa (53888)3105

Ni++ gl alc/w 17°C 50% U K1=6.77 B2=13.14 1970RBc (53889)3106  
Medium: 50% EtOH, 0.05 M NaClO4

Ni++ gl alc/w 50°C 45% U T H K1=7.64 B2=12.44 1968RSh (53890)3107  
Medium: 45% EtOH, 0.15 M. K1=7.08(30 C),7.34(40 C); K2=4.46(30 C),4.64(40 C)  
DH(K1)=48 kJ mol<sup>-1</sup>, DS=292 J K<sup>-1</sup> mol<sup>-1</sup>; DH(K2)=33, DS=196

Ni++ gl diox/w 25°C 50% U K1=8.1 B2=13.35 1964LSe (53891)3108

C7H6O2S2 H2L CAS 89677-36-1 (5448)  
3-(2-Thiophene)-2-mercaptopropenoic acid; C4H3S.CH:C(SH).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
Ni++ gl diox/w 25°C 0.10M U K1=10.06 B2=20.79 1977WVa (53926)3109

C7H6O3 H2L CAS 95-01-2 (4407)  
2,4-Dihydroxybenzaldehyde; (OH)2.C6H3.CHO

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
Ni++ gl diox/w 30°C 75% U K1=8.59 B2=15.42 1978RJa (53935)3110

Ni++ gl diox/w 30°C 50% U 1969VMa (53936)3111  
K(Ni+HL)=3.90  
K(NiHL+HL)=2.85

Medium: 50% dioxan, 0.1 M NaClO4

C7H6O3 H2L CAS 1194-98-5 (4408)  
2,5-Dihydroxybenzaldehyde; (OH)2.C6H3.CHO

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
Ni++ gl diox/w 30°C 50% U 1969VMa (53945)3112

K(Ni+HL)=4.50  
K(NiHL+HL)=3.15

Medium: 50% dioxan, 0.1 M NaClO4

C7H6O3 H2L Salicylic acid CAS 69-72-7 (14)  
2-Hydroxybenzoic acid, Salicylic acid; HO.C6H4.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
Ni++ gl NaNO3 25°C 0.10M C M K1=8.65 B2=13.30 1998KRa (54082)3113

B(NiLA)=13.75

HA: Inosine

Ni++ gl alc/w 24°C 20% C M 1996MIa (54083)3114

$$K(\text{Ni(ada)+L})=2.92$$

Medium: 20% w/w EtOH/H<sub>2</sub>O, 0.10 M KNO<sub>3</sub>.  
ada: N-(acetamido)-iminodiethanoic acid.

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Ni++ cal alc/w 25°C 100% U H 1990PJ a (54084)3115  
Medium: MeOH. DG(K<sub>1</sub>)=-28.0 kJ mol<sup>-1</sup>, DH=22; DG(B<sub>2</sub>)=-43.5; DH=42

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Ni++ gl alc/w 25°C 100% M 1988LT a (54085)3116  
K(Ni+HL)=4.9  
K(Ni+2HL)=7.6

Medium: MeOH

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Ni++ gl NaNO<sub>3</sub> 35°C 0.10M U M T K<sub>1</sub>=6.80 1985KS c (54086)3117  
K(NiL+CMP)=0.84

H<sub>2</sub>CMP=cytidine-5'-monophosphoric acid

---

Ni++ sp none 25°C 0.0 C K<sub>1</sub>=8.17 1983SG d (54087)3118

---

Ni++ gl KNO<sub>3</sub> 30°C 0.50M U M T K<sub>1</sub>=6.73 B<sub>2</sub>=13.73 1981EK a (54088)3119  
B(NiH<sub>3</sub>L(pyridoxamine))=39.29  
B(NiH<sub>2</sub>L(pyridoxamine)<sub>2</sub>)=37.59  
B(NiH<sub>3</sub>L(pyridoxamine)<sub>2</sub>)=46.20  
B(NiH<sub>4</sub>L(pyridoxamine)<sub>2</sub>)=53.73

---

Ni++ sp NaClO<sub>4</sub> 25°C 0.15M U T 1980YA a (54089)3120  
K(Ni+HL=NiL+H)=0.63  
K(Ni+H<sub>2</sub>L=NiL+2H)=-3.65

---

Ni++ kin NaClO<sub>4</sub> 25°C 0.10M U 1979MP a (54090)3121  
K(NiL+H)=5.96

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Ni++ gl NaClO<sub>4</sub> 25°C 0.10M U T K<sub>1</sub>=6.961 B<sub>2</sub>=11.78 1976AB b (54091)3122

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Ni++ gl NaClO<sub>4</sub> 30°C 0.10M U K<sub>1</sub>=8.92 1975JK a (54092)3123

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Ni++ gl alc/w 17°C 50% U K<sub>1</sub>=4.52 B<sub>2</sub>=8.80 1970RB c (54093)3124  
Medium: 50% EtOH, 0.05 M NaClO<sub>4</sub>

---

Ni++ gl diox/w 30°C 75% U M K<sub>1</sub>=8.41 B<sub>2</sub>=15.45 1964JV a (54094)3125  
Medium: 75% dioxan, 0.1 M NaClO<sub>4</sub>. Ternary complexes with NTA

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Ni++ gl KCl 20°C 0.10M U K<sub>1</sub>=6.95 B<sub>2</sub>=11.75 1958PE e (54095)3126

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Ni++ gl diox/w 30°C 75% U K<sub>1</sub>=5.2 1954UF a (54096)3127

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C<sub>7</sub>H<sub>6</sub>O<sub>3</sub> H<sub>2</sub>L CAS 139-85-5 (881)  
3,4-Dihydroxybenzaldehyde, protocatechuic aldehyde; C<sub>6</sub>H<sub>3</sub>(OH)<sub>2</sub>.CHO

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

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Ni++ sp oth/un 25°C 0.10M U K1=7.80 1969HAd (54352)3128  
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C7H6O3S H2L CAS 55927-33-8 (5445)  
3-Furyl-2-mercaptopropenoic acid; C4H3O.CH:C(SH).COOH

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Ni++ gl alc/w 30°C 10% C K1=7.50 B2=16.39 1986IGc (54442)3129  
Medium: 10% v/v EtOH/H2O, 0.1 M KNO3

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Ni++ gl diox/w 25°C 0.10M U K1=10.53 B2=21.53 1977WVa (54443)3130  
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C7H6O4 H3L Resorcylic acid CAS 89-86-1 (876)  
2,4-Dihydroxybenzoic acid, b-Resorcylic acid; C6H3(OH)2.COOH

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl alc/w 25°C 50% M M K1=7.50 1983ADb (54506)3131  
K(Ni(phen)+L)=7.26  
Medium: 50% v/v EtOH/H2O, 0.10 M NaNO3.

-----  
Ni++ gl NaClO4 30°C 0.10M U K1=10.62 1975JKa (54507)3132  
B(NiHL)=10.62

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Ni++ gl diox/w 30°C 50% U 1971VMa (54508)3133  
K(Ni+HL)=9.08  
Medium: 50% dioxan, 0.1 M NaClO4

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C7H6O4 H3L CAS 409-79-9 (1115)  
2,5-Dihydroxybenzoic acid; C6H3(OH)2.COOH

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ EMF NaClO4 30°C 0.10M U M T K1=9.40 1978JSa (54573)3134  
B(NiL(Malate))=8.66  
B(NiL)Thiodipropionate)=7.39  
B(NiL(Thiodiglycolate))=8.16

-----  
Ni++ gl NaClO4 30°C 0.10M U K1=9.40 1978JSc (54574)3135

-----  
Ni++ gl NaClO4 30°C 0.10M U T K1=9.40 1975JKa (54575)3136

-----  
Ni++ gl diox/w 30°C 50% U 1971VMa (54576)3137  
K(Ni+HL)=8.76

Medium: 50% dioxan, 0.1 M NaClO4

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C7H6O4 H3L g-Resorcylic ac CAS 303-07-1 (1624)  
2,6-Dihydroxybenzoic acid; C6H3(OH)2.COOH

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo



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Ni++      sp  NaClO4 25°C 0.3M U      K1=7.30      1987DSc (54602)3138
*****
C7H6O4      H3L      Protocatechuic      CAS 99-50-3 (875)
3,4-Dihydroxybenzoic acid; C6H3(OH)2.COOH
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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	oth/un	25°C	0.10M	U		K1=8.19	1969HAd (54642)	3139
Ni++	gl	NaNO3	30°C	0.10M	U		K1=7.92 B2=11.57 K3=3.10	1968JHa (54643)	3140
Ni++	gl	NaClO4	30°C	0.10M	U		K1=8.96 B2=14.34	1966APb (54644)	3141
Ni++	gl	KNO3	30°C	0.10M	U		K1=8.27 B2=12.98 K3=3.89	1963MNC (54645)	3142

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*****
C7H6O5S      H2L      CAS 29848-93-9 (3151)
Salicylaldehyde-5-sulfonic acid; (5-Sulfosalicylaldehyde)
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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.11M	U	I	K1=3.63 B2=6.15	1972MSa (54790)	3143
Range of ionic strength 0-0.60. K1(I=0)=4.42, K1(I=0.60)=3.23, B2(I=0)=6.99, B2(I=0.60)=5.74									
Ni++	gl	KCl	25°C	0.10M	U		B3=8.4	1972MSa (54791)	3144

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Ni++      gl  oth/un 25°C 0.10M U      K1=3.79 B2=6.56 1948CMA (54792)3145
*****
C7H6O6S      H3L      CAS 5965-83-3 (399)
5-Sulfosalicylic acid, 2-Hydroxy-5-sulfobenzoic; HO3S.C6H3(OH).COOH
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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.10M	C	M	K1=6.35 B2=10.17 B(NiLA)=11.33	1998KRa (54904)	3146

HA: Inosine

Ni++	nmr	KNO3	25°C	1.00M	U		K1=5.68 B2=9.3	1993POa (54905)	3147
Ni++	gl	KCl	25°C	0.20M	U	M	K1=7.18 K(NiL+ser)=5.60 K(NiL+thr)=5.10 K(NiL+asp)=9.40 K(NiL+A)=4.80	1992ASa (54906)	3148

K(NiL+gln)=4.60, K(NiL+HB)=4.60. HA is asparagine, HB is lysine.

Ni++ sol oth/un 25°C 0.1M C 1983KPc (54907)3149

Kout(Ni(phen)3+L)= 1.24

Kout(Ni(phen)3+2L)=2.23

Medium:NaF; for I=0.25 M K1out=1.27, B2out=2.07; B3out=2.39;  
for I=0.75 K1out=1.16, B2out=1.85, B3out=2.06; phen=phenantroline

Ni++ sp none 25°C 0.0 C K1=6.14 1983SGd (54908)3150

Ni++ gl NaCl04 25°C 0.10M U K1=6.70 1980MSa (54909)3151

Ni++ ix oth/un 25°C 0.10M U K1=6.4 B2=10.24 1979CPa (54910)3152  
K(NiL+H)=6.4  
K(NiL+2H)=9.0

Ni++ ix oth/un 80°C 0.50M U K1=6.15 B2=11.3 1968GIa (54911)3153

Ni++ gl KCl 25°C 0.10M U K1=6.61 B2=10.81 1962NAa (54912)3154

Ni++ gl NaCl04 25°C 0.10M U K1=6.42 B2=10.24 1960BSb (54913)3155

Ni++ gl KCl 20°C 0.10M U K1=6.30 B2=10.20 1958PEe (54914)3156

\*\*\*\*\*

C7H7N L CAS 100-69-6 (299)

2-Vinylpyridine; C5H4N.CH:CH2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.10M U K1=1.2 1974ILa (55112)3157

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C7H7N L CAS 100-43-6 (294)

4-Vinylpyridine; C5H4N.CH:CH2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ kin alc/w 25°C 55% U K1=2.84 19830Ea (55119)3158

Ni++ gl KNO3 25°C 0.10M U K1=2.09 1974ILa (55120)3159

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C7H7NO L CAS 1112-62-9 (497)

2-Acetylpyridine; C5H4N.CO.CH3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ kin oth/un 25°C 0.10M C K1=2.69 1974C0a (55129)3160

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C7H7NO L CAS 350-03-8 (1479)

3-Acetylpyridine; C5H4N.CO.CH3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.50M U K1=1.45 B2=2.19 1986BLa (55135)3161  
\*\*\*\*\*

C7H7NO L CAS 1122-54-9 (494)  
4-Acetylpyridine; C5H4N.CO.CH3

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.50M U K1=1.50 B2=2.43 1983LRa (55143)3162  
B3=2.79

\*\*\*\*\*

C7H7NO2 HL Anthranilic CAS 118-92-3 (1589)  
2-Aminobenzoic acid, Anthranilic acid; H2N.C6H4.COOH

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Ni++ gl alc/w 24°C 20% C M 1996MIa (55188)3163  
K(Ni(ada)+L)=2.96

Medium: 20% w/w EtOH/H2O, 0.10 M KNO3.  
ada: N-(acetamido)-iminodiethanoic acid.

-----  
Ni++ gl KNO3 30°C 0.10M U M K1=2.19 1989BBg (55189)3164  
K(NiA+L)=3.08  
B(NiAL)=12.11

H2A is 8-hydroxyquinoline-5-sulfonic acid.

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Ni++ gl oth/un 25°C 0.0 U 1960LUa (55190)3165  
Kso=-11.72

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Ni++ gl oth/un 25°C ->0 U K1=2.12 B2=3.59 1958LUa (55191)3166  
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Ni++ gl diox/w 35°C 50% U K1=3.2 1958YSa (55192)3167

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C7H7NO2 H2L Salicylaldoxime CAS 94-67-7 (1486)  
2-Hydroxybenzaldehyde oxime; HO.C6H4.CH:N.OH

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.10M C M K1=6.51 B2=11.37 1990DAb (55290)3168  
Also ternary complexes with bpy, ida, mida, ada and nta.

-----  
Ni++ gl KNO3 25°C 0.10M C K1=6.51 B2=11.37 1990DAb (55291)3169  
-----

Ni++ sp non-aq 20°C 100% U M 1968MRa (55292)3170  
K(NiL2+2py)=3.70  
K(NiL2+2A)=3.84  
K(NiL2+2B)=4.28

A=3-methyl pyridine, B=4-methyl pyridine

-----  
Ni++ gl diox/w 20°C 75% U 1965BEb (55293)3171  
K(Ni+HL)=6.9

$$K(\text{NiHL}+\text{HL})=7.4(?)$$

Medium: 75% dioxan, 0.1 M NaClO4

Ni++ sp oth/un ? ? U 1956BJa (55294)3172

$$K(\text{Ni}+2\text{HL})=3.77$$

\*\*\*\*\*

C7H7NO2 HL Salicylamide CAS 65-45-2 (3155)  
2-Hydroxybenzamide; HO.C6H4.CO.NH2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl diox/w 30°C 75% U K1=5.65 1964JVa (55323)3173

Medium: 75% dioxan, 0.1 M NaClO4

\*\*\*\*\*

C7H7NO2 HL 2-Pyridylacetic CAS 16179-97-8 (2211)  
2-Pyridylethanoic acid; C5H4N.CH2.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl NaClO4 25°C 0.50M U K1=3.55 B2=6.77 1971FLa (55341)3174

Ni++ gl diox/w 35°C 50% U T K1=4.89 B2=8.84 1966WRb (55342)3175

Medium: 50% dioxan, 0.1 M KNO3. K2=6.47(15 C), 6.06(25 C)

\*\*\*\*\*

C7H7NO2 HL CAS 39825-16-6 (3756)  
4-Methyl-2-nitrosophenol; CH3.C6H3(N:O).OH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl diox/w 25°C 50% U K1=7.03 1961SHa (55402)3176

Medium: 50% dioxan, 0.1 M KNO3

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C7H7NO2 HL CAS 3222-47-7 (3154)  
6-Methylpyridine-2-carboxylic acid; CH3.C5H3N.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 30°C 0.10M U M K1=4.98 1986KRa (55415)3177

$$K(\text{Ni}(\text{Gly})+\text{L})=6.17$$

$$K(\text{Ni}(\text{Pro})+\text{L})=5.77$$

$$K(\text{Ni}(\text{hydroxyproline})+\text{L})=5.56$$

$$K(\text{Ni}(\text{Ala})+\text{L})=5.15$$

Ni++ gl NaNO3 20°C 0.10M U K1=5.15 B2=9.50 1960ANb (55416)3178

$$K3=3.0$$

Ni++ gl oth/un 25°C 0.02M U K1=5.1 B2=9.2 1955HCb (55417)3179

Ni++ gl diox/w 25°C 50% U K1=7.4 B2=13.2 1955HCb (55418)3180

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C7H7NO2 HL CAS 495-18-1 (184)  
Benzohydroxamic acid; C6H5.CO.NH.OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.20M	C		K1=4.92 B2= 8.73 B3=10.7 B(NiH-1L2)=-2.7	2000FEc (55466)	3181

Ni++	gl	NaNO3	25°C	0.10M	M	M	K1=4.95 B2= 8.80 K(Ni(nta)+L)=3.24 K(Ni(ida)+L)=4.02 K(Ni(ada)+L)=3.78	1996KSc (55467)	3182
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H2ada: N-(2-acetamido)iminodiethanoic acid.

Ni++	gl	diox/w	30°C	50%	U		K1=10.38 B2=18.79	1994JBb (55468)	3183
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Medium: 50% v/v dioxane/H2O, 0.10 M NaClO4.

Ni++	gl	KNO3	25°C	0.10M	C	M	K1=5.45 B2= 9.51	1990DAc (55469)	3184
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Also ternary complexes with bpy, ida, mida, ada and nta.

Ni++	gl	KNO3	25°C	0.10M	C		K1=5.45 B2= 9.51	1990DAc (55470)	3185
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Ni++	gl	KNO3	25°C	0.10M	C	M		1989DAc (55471)	3186
------	----	------	------	-------	---	---	--	-----------------	------

B(NiA+L)=5.30  
B(NiB+L)=5.66  
B(NiC+L)=5.25

A: 2,2'-dipyridylamine; B: 5-nitro-1,10-phenanthroline;  
C: 5-methyl-1,10-phenanthroline.

Ni++	gl	NaClO4	25°C	0.10M	U	M	K1=5.14 B2=9.24 K(NiL+oxinate)=4.44 K(Ni(bpy)+L)=5.02	1976ABb (55472)	3187
------	----	--------	------	-------	---	---	---	-----------------	------

Ni++	gl	diox/w	35°C	50%	U		K1=7.18 B2=12.32	1972ATa (55473)	3188
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Medium: 50% dioxan, I=0 corr.

Ni++	gl	diox/w	25°C	70%	U		K1=6.35 B2=11.46	1969JSa (55474)	3189
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C7H7NO3 H2L CAS 89-73-6 (204)  
2-Hydroxybenzohydroxamic acid (salicylhydroxamic acid); HO.C6H4.CO.NHOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.10M	C		K1=6.07	2000KHa (55573)	3190
Ni++	gl	NaNO3	25°C	0.10M	M	M	K1=6.04 B2= 9.99 K(Ni(nta)+L)=3.47 K(Ni(nta)+H+L)=11.11 K(Ni(ida)+L)=4.76	1996KSc (55574)	3191

$$K(\text{Ni}(\text{ida})+\text{H}+\text{L})=12.35$$

$$K(\text{Ni}(\text{ada})+\text{L})=4.42, K(\text{Ni}(\text{ada})+\text{H}+\text{L})=12.11$$

H2ada: N-(2-acetamido)iminodiethanoic acid.

-----  
 Ni++ EMF diox/w 30°C 50% U K1=4.55 1977DJa (55575)3192  
 Medium: 50% dioxan, 0.1 M NaClO4

\*\*\*\*\*

C7H7NO3 HL CAS 548-93-6 (3156)  
 3-Hydroxyanthranilic acid (2-Amino-3-hydroxybenzoic acid)

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl oth/un 20°C ? U K1=5.1 B2=8.7 1959SIb (55623)3193

\*\*\*\*\*

C7H7NO3 HL CAS 1197-10-0 (3759)  
 6-(Hydroxymethyl)pyridine-2-carboxylic acid; HO.CH2.C5H3N.CO0H

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ sp oth/un 25°C ? U K1=5.21 B2=10.05 1962G0a (55646)3194

\*\*\*\*\*

C7H7NO4 HL CAS 17209-50-6 (886)  
 4-Methoxypyridine-2-carboxylic acid N-oxide; C5H3N(O)(OCH3).CO0H

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl KNO3 30°C 0.10M U HM K1=3.10 1986DRb (55657)3195

$$B(\text{Ni}(\text{gly})\text{L})=5.60$$

$$B(\text{Ni}(\text{ala})\text{L})=5.11$$

$$B(\text{Ni}(\text{pro})\text{L})=5.85$$

$$B(\text{Ni}(\text{hyp})\text{L})=5.80$$

Data for 30-50 C. DH(K1)=-29.0 kJ mol<sup>-1</sup>, DS=37.1 J K<sup>-1</sup> mol<sup>-1</sup>. DH(Ni(gly)L)  
 =-23.4, DS=-41; DH(Ni(ala)L)=-16.9; DH(Ni(pro)L)=-18.0; DH(Ni(hyp)L)=-28.1

-----  
 Ni++ gl KNO3 30°C 0.10M U M K1=3.07 1986KRb (55658)3196

$$K(\text{NiA}+\text{L})=2.48$$

$$K(\text{NiB}+\text{L})=7.47$$

HA=picolinic acid, HB=6-methylpicolinic acid

-----  
 Ni++ gl NaClO4 30°C 0.10M U T K1=3.98 B2=6.54 1982RRa (55659)3197

\*\*\*\*\*

C7H7NO5S H2L CAS 3577-63-7 (3181)  
 5-Sulfoanthranilic acid; (5-sulfo-2-aminobenzoic acid)

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl oth/un 35°C 0.01M U K1=2.88 B2=5.23 1956HSb (55671)3198

\*\*\*\*\*

C7H7NO5S H3L CAS 38191-13-8 (4463)  
 Salicylaldehyde-5-sulfonic acid; HO3S.C6H3(OH).CH:N.OH

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      EMF NaCl04 25°C 0.50M U I      B2=13.4      1972SAb (55683)3199
I=0: K(Ni+HL)=5.83, K(Ni+2HL)=10.83, K(Ni+L+HL)=14.89
*****
C7H7N2OCl      L      (7853)
4-Chlorobenzoic acid hydrazide;
-----

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      sp mixed 25°C      C      K1=3.35 B2= 5.69 2000BSc (55707)3200
In 0.68 mol parts DMSO in H2O; Also for 0.1 mol parts K1=2.75; B2=4.81
*****
C7H7N2O2F3S      HL      CAS 73255-69-3 (559)
2-(Trifluoromethanesulfonamidomethyl)pyridine; C5H4NCH2S(:O)2NHCF3
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl diox/w 30°C 45% U      K1=8.34 B2=15.08 1982MYb (55710)3201
Medium: 45% v/v dioxan/H2O, 0.01 M KNO3
*****
C7H7N3      L      CAS 934-32-7 (8240)
2-Aminobenzimidazole;
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl KNO3 25°C 0.50M U      K1=1.49      1990LGb (55722)3202
*****
C7H7N3      L      (6358)
7-Methyl-4-azabenzimidazole;
-----

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl NaCl04 25°C 0.10M C      K1=2.13 B2=3.84 1992RKa (55728)3203
Data also by spectrophotometry: B1=2.63
*****
C7H7N3O2      H2L      CAS 4463-97-2 (1654)
2,6-Pyridinedialdoxime; C5H3N.(CH:NOH)2
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl NaCl04 25°C 0.10M U      K1=8.6 B2=15.70 1963BFb (55737)3204
By spectrophotometry: K1=8.4
*****
C7H7N3O3      L      CAS 606-26-8 (2643)
2-Nitrobenzoic acid hydrazide; O2N.C6H4.CO.NH.NH2
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----

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Ni++ sp NaClO4 25°C 0.10M U K1=3.47 B2=6.63 1981BPc (55745)3205  
B3=9.45

\*\*\*\*\*

C7H7N3O3 L CAS 618-94-0 (2644)

3-Nitrobenzoic acid hydrazide; O2N.C6H4.CO.NH.NH2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ sp NaClO4 25°C 0.10M U K1=3.35 B2=6.28 1981BPc (55750)3206  
B3=8.54

\*\*\*\*\*

C7H7N3O3 L CAS 636-97-5 (2645)

4-Nitrobenzoic acid hydrazide; O2N.C6H4.CO.NH.NH2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ sp NaClO4 25°C 0.10M U K1=3.26 B2=6.13 1981BPc (55755)3207  
B3=8.47

\*\*\*\*\*

C7H7N3O4 H2L CAS 15658-59-0 (8571)

Pyridine-2,6-dihydroxamic acid;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.10M C K1=9.80 B2=18.29 2002SGa (55760)3208  
B(NiH-1L2)=10.35

\*\*\*\*\*

C7H7O2NS H2L CAS 60587-83-9 (5449)

3-(2-Pyrrole)-2-mercaptopropenoic acid; C4H4N.CH:C(SH).COOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl diox/w 25°C 0.10M U K1=10.36 B2=20.89 1977WVa (55769)3209

\*\*\*\*\*

C7H8NCl L CAS 615-65-6 (5522)

4-Chloro-2,6-dimethylpyridine;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaNO3 25°C 0.50M U K1=1.3 1983BEb (55791)3210

\*\*\*\*\*

C7H8N2O HL CAS 5451-39-8 (3157)

2-Acetylpyridine oxime; C5H4N.C(:N.OH).CH3

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaCl 25°C 0.10M C 1998S0d (55795)3211

B(0,1,1)=4.98

B(0,1,2)=9.39

B(0,1,3)=12.88



B(-1,1,2)=4.57  
 B(-2,1,2)=-3.55; B(-1,1,3)=7.28; B(-2,1,3)=-0.09; B(-3,1,3)=-9.31  
 B(-3,2,3)=-1.33. B(p,q,r): pH+qNi+rHL=(H)p(Ni)q(HL)r.  
 \*\*\*\*\*

C7H8N2O L CAS 3724-16-1 (1948)  
 3-Acetamidopyridine; C5H4N.CH2.CO.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.50M	U		K1=1.72 B2=2.87 B3=3.6	1974WAb (55802)	3212

\*\*\*\*\*  
 C7H8N2O L (2035)  
 3-N-Acetylaminoazine; C5H4N.NH.CO.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.50M	U		K1=1.58 B2=2.85 B3=3.81	1981LRa (55807)	3213

\*\*\*\*\*  
 C7H8N2O HL CAS 1195-40-0 (5749)  
 6-Methylpyridine-2-carboxaldehyde oxime;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaCl	25°C	0.10M	C		B(0,1,1)=1.94 B(0,1,2)=3.86 B(-2,1,2)=-7.43 B(-3,2,3)=-7.28	1998S0d (55813)	3214

B(-5,3,3)=-20.11. B(p,q,r): pH+qNi+rHL=(H)p(Ni)q(HL)r.  
 \*\*\*\*\*

C7H8N2O HL CAS 88-68-6 (4438)  
 Benzamide oxime; C6H5.C(:N.OH)NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	mixed	22°C	70%	U		K1=7.78 B2=16.25	1978MGd (55818)	3215

Medium: 0.1 M KNO3 in 70% (v/v) dioxane in H2O

\*\*\*\*\*  
 C7H8N2O L Benzhydrazide CAS 613-94-5 (2565)  
 Benzoic acid hydrazide; C6H5.CO.NH.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	NaNO3	20°C	0.10M	U		K1=2.18	1985BBe (55829)	3216

Medium: 0.14 ppm DMSO in H2O

Ni++	gl	NaNO3	25°C	0.20M	U		K1=2.59 B2=3.96 B3=6.53	1974FSa (55830)	3217
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Ni++ gl oth/un 20°C 0.01M U K1=6.3 1956ARd (55831)3218  
\*\*\*\*\*

C7H8N2O L CAS 114-33-0 (1506)

N-Methylnicotinamide, N-methyl-pyridine-3-carboxylic acid amide;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.50M U K1=1.45 B2=2.34 1987KLb (55837)3219  
B3=2.86

C7H8N2O HL Salicylaldehyde CAS 3291-00-7 (3760)

Salicylaldehyde-hydrazone; 2-(OH).C6H4.CH:N.NH2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl mixed 28°C 20% U I K1=4.602 B2=7.86 1987RRa (55845)3220  
B(NiHL)=10.628

In 20% DMF. In 40% DMF, K1=4.975, K2=3.580, B(NiHL)=11.308;  
in 60% DMF, K1=5.398, K2=3.856, B(NiHL)=11.729

C7H8N2O2 HL Salicylic hydra CAS 936-02-7 (2646)

2-Hydroxybenzoic acid hydrazide; HO.C6H4.CO.NH.NH2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 30°C 0.10M U M K1=4.32 1993RDa (55864)3221

Also data for ternary complexes with alanine, phenylalanine, bipyridyl,  
catechol, oxalate and 1,2-diaminoethane.

Ni++ sp NaClO4 25°C 0.10M U K1=9.18 B2=17.36 1981BPc (55865)3222  
B3=24.46  
K(Ni+H-1L)=14.75

Ni++ gl diox/w 25°C 25% U K1=5.35 B2=9.45 1975GSb (55866)3223

C7H8N2O2 L CAS 15513-52-7 (5516)

3-Nitro-2,6-dimethylpyridine;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl NaNO3 25°C 0.50M U K1=1.7 1983BEb (55894)3224

C7H8N2O2 L CAS 4913-57-9 (5517)

4-Nitro-2,6-dimethylpyridine;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl NaNO3 25°C 0.50M U K1=1.6 1983BEb (55914)3225

C7H8N2O2                      L                      CAS 3569-99-1    (1950)  
N-(Hydroxymethyl)isonicotinamide; C5H4N.CO.NH.CH2.OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KN03	25°C	0.50M	U			K1=1.41 B2=2.34	1974WAb	(55923)3226
*****										

C7H8N2O3S                      H2L                      (3783)  
2-Ethylthio-1H-1,3-diazin-4-one-5-carboxylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.10M	U			K(Ni+HL)=2.70	1961TDb	(55930)3227

C7H8N3OC1                      HL                      CAS 5756-04-1    (4465)  
1-(2'-Chloro)phenyl-3-methyl-3-hydroxytriazene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	EMF	diox/w	25°C	70%	U			K1=7.26 B2=13.08	1969DSa	(55949)3228
Medium: 70% dioxan, 0.1 M KCl										
*****										

C7H8N3OCl HL CAS 5756-73-0 (4466)  
1-(4'-Chloro)phenyl-3-methyl-3-hydroxytriazene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	EMF	diox/w	25°C	70%	U			K1=7.00 B2=12.63	1969DSa	(55950)3229
Medium: 70% dioxan, 0.1 M KCl										
*****										

C7H8N4 L CAS 85180-62-7 (2481)  
2,9-Dimethylpurine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	dis	NaClO4	25°C	0.10M	C			K1=1.38	1985ALa (55953)	3230
Method: distribution of ligand into organic phase (CCl4) determined by LC.										

Ni++      gl    NaClO4 25°C 1.00M U      K1=1.26      1983ALa (55954)3231

Ni++ sp NaClO4 25°C 0.1M U H K1=1.23 1983ALb (55955)3232  
DH(K1)=-20.8 kJ mol-1

\*\*\*\*\*  
C7H8N4 L (2641)  
4,4'-(5,5')-Bisimidazolylmethane; C3H3N2.CH2.C3H3N2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ni++ gl KNO3 30°C 0.16M U K1=7.33 B2=13.63 1965DFa (55961)3233

\*\*\*\*\*

C7H8N4 L CAS 14675-46-8 (2484)  
6,9-Dimethylpurine;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaClO4 25°C 1.00M U K1=<0.2 1983ALa (55968)3234

\*\*\*\*\*

C7H8N4 L CAS 85180-61-6 (2482)  
8,9-Dimethylpurine;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ dis NaClO4 25°C 0.10M C K1=1.27 1985ALa (55974)3235

Method: distribution of ligand into organic phase (CCl4) determined by LC.

-----  
Ni++ gl NaClO4 25°C 1.00M U K1=1.28 1983ALa (55975)3236  
-----

Ni++ sp NaClO4 25°C 0.18M U H K1=1.25 1983ALb (55976)3237  
DH=-14.2 kJ mol<sup>-1</sup>

\*\*\*\*\*

C7H8N4 L (1928)

Bis(imidazol-2-yl)methane; C3H3N2.CH2.C3H3N2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 35°C 0.20M U M 1990RMa (55985)3238

K(CoL2+Gly)=4.72

K(CoL2+Ala)=4.40

K(CoL2+Val)=4.52

K(CoL2+norVal)=4.72

K(CoL2+Leu)=4.44, K(CoL2+norLeu)=4.23, K(CoL2+Phe)=4.27

K(CoL2+Trp)=4.84, K(CoL2+Ser)=4.26, K(CoL2+Thr)=4.31

-----  
Ni++ gl KNO3 35°C 0.20M U M K1=6.85 B2=12.78 1989RVa (55986)3239

Ternary complexes with amino acids

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C7H8N4O L CAS 79069-17-3 (5787)

2-Methoxy-9-methylpurine;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ dis NaClO4 25°C 0.10M C K1=1.52 1985ALa (55999)3240

Method: distribution of ligand into organic phase (CCl4) determined by LC.

-----  
Ni++ dis NaClO4 25°C 1.00M U K1=1.38 1985AOa (56000)3241

\*\*\*\*\*

C7H8N4O L CAS 86433-80-9 (5791)

8-Methoxy-9-methylpurine;

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ni++	dis	NaClO4	25°C	0.10M	C			K1=1.33	1985ALa (56003)	3242
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Method: distribution of ligand into organic phase (CCl4) determined by LC.

Ni++	dis	NaClO4	25°C	1.00M	U			K1=1.36	1985AOa (56004)	3243
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C7H8N4O2	H2L	Theophylline	CAS	58-55-9	(1749)
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1,3-Dimethylxanthine, 2,6-Dihydroxy-1,3-dimethylpurine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ni++	gl	oth/un	25°C	0.01M	U			K1=3.26 B2=6.26	1973Kwa (56011)	3244
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C7H8N4S	L		CAS	24851-45-4	(5788)
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9-Methyl-2-(methylthio)purine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++	dis	NaClO4	25°C	1.00M	U			K1=1.33	1985AOa (56026)	3245
------	-----	--------	------	-------	---	--	--	---------	-----------------	------

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C7H8N4S	L		CAS	1127-75-9	(5792)
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9-Methyl-8-(methylthio)purine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++	dis	NaClO4	25°C	1.00M	U			K1=1.31	1985AOa (56029)	3246
------	-----	--------	------	-------	---	--	--	---------	-----------------	------

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C7H8O2	HL	Salicyl alcohol	CAS	90-01-7	(3727)
--------	----	-----------------	-----	---------	--------

2-Hydroxybenzyl alcohol; HO.C6H5.CH2.OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ni++	gl	diox/w	30°C	75%	U			K1=6.82	1964JVa (56089)	3247
------	----	--------	------	-----	---	--	--	---------	-----------------	------

Medium: 75% dioxan, 0.1 M NaClO4

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C7H8O3S	H2L	FMPA	(6145)
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3-(2-Furyl)-2-mercaptopropanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++	gl	alc/w	25°C	10%	C			K1=6.02 B2=13.38	1986IGc (56107)	3248
------	----	-------	------	-----	---	--	--	------------------	-----------------	------

Medium: 10% v/v EtOH/H2O, 0.1 M KNO3

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C7H8O3S	L		CAS	55832-65-0	(3763)
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3-Hydroxythiophene-2-carboxylic acid ethyl ester

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++	sp	diox/w	25°C	10%	U			K1=4.35	1965CSa (56112)	3249
------	----	--------	------	-----	---	--	--	---------	-----------------	------

Medium: 10% dioxan, 0.1 M NaClO<sub>4</sub>

\*\*\*\*\*

C7H8O4                      HL      Methyl kojic              CAS 1506-07-8    (2686)  
3-Hydroxy-6-(hydroxymethyl)-2-methyl-4H-pyran-4-one;

-----  
Metal              Mtd Medium Temp Conc Cal Flags Lg K values              Reference ExptNo  
-----

Ni++              gl    KCl              25°C 0.10M M    I              K1=5.56              1985PRa (56121)3250

\*\*\*\*\*

C7H8O5                      HL                              CAS 2029-29-4    (2687)  
3-Hydroxy-2,6-bis(hydroxymethyl)-4H-pyran-4-one;

-----  
Metal              Mtd Medium Temp Conc Cal Flags Lg K values              Reference ExptNo  
-----

Ni++              gl    KCl              25°C 0.10M M    I              K1=5.12              1985PRa (56140)3251

\*\*\*\*\*

C7H8O8P2                      H4L                              (6892)  
1,2-((Phenylenedioxy)methylene)diphosphonic acid); C<sub>6</sub>H<sub>4</sub>O<sub>2</sub>C(P<sub>2</sub>O<sub>3</sub>H<sub>2</sub>)<sub>2</sub>

-----  
Metal              Mtd Medium Temp Conc Cal Flags Lg K values              Reference ExptNo  
-----

Ni++              gl    R4N.X              25°C 0.50M U              K1=7.21              1985GMb (56161)3252

K(Ni+HL)=3.73

Medium: 0.5 M Me<sub>4</sub>NCI

\*\*\*\*\*

C7H8S                      HL      p-Thiocresol              CAS 106-45-6    (884)  
4-Mercaptotoluene; CH<sub>3</sub>.C<sub>6</sub>H<sub>4</sub>.SH

-----  
Metal              Mtd Medium Temp Conc Cal Flags Lg K values              Reference ExptNo  
-----

Ni++              sp    non-aq              0°C 100% U              K1=3.45    B2=6.70    1981KSb (56174)3253

K3=2.93

K4=2.94

\*\*\*\*\*

C7H9N                      L      2,4-Lutidine              CAS 108-37-4    (319)  
2,4-Dimethylpyridine; C<sub>5</sub>H<sub>3</sub>N.(CH<sub>3</sub>)<sub>2</sub>

-----  
Metal              Mtd Medium Temp Conc Cal Flags Lg K values              Reference ExptNo  
-----

Ni++              sp    non-aq              12°C 100% U T M              1976CUa (56187)3254

K(NiA+2L)=1.84

Medium: chlorobenzene. H<sub>2</sub>A=biacetyl-bis-a-hydroxybenzylidenehydrazone  
K=1.68(16 C); 1.58(20 C)

-----  
Ni++              gl    oth/un              35°C 0.10M U T              K1=3.26    B2=5.93    1973SBc (56188)3255

K1(45 C)=3.14, K2(45 C)=2.56

-----  
Ni++              oth    KNO<sub>3</sub>              ?    0.50M U              K1=3.63              1971LWb (56189)3256

\*\*\*\*\*

C7H9N                      L      2,6-Lutidine              CAS 108-44-1    (723)

2,6-Dimethylpyridine; C5H3N.(CH3)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ni++	sp	non-aq	25°C	100%	U T H			1984RCa (56208)3257 K(NiA(Cl)+L=NiAL+Cl)=1.56		
------	----	--------	------	------	-------	--	--	--	--	--

Medium: DMSO. A=methyl-2-(B-aminoisopropylamino)cyclopent-1-enedithiocarboxy late

Ni++	gl	NaNO3	25°C	0.50M	U			K1=1.6	1983BEb (56209)3258	
------	----	-------	------	-------	---	--	--	--------	---------------------	--

Ni++	gl	oth/un	35°C	?	U T			K1=3.32 B2=6.09	1973SBc (56210)3259	
------	----	--------	------	---	-----	--	--	-----------------	---------------------	--

K1(45 C)=3.25, K2(45 C)=2.70

\*\*\*\*\*

C7H9N L 3,4-Lutidine CAS 583-58-4 (2056)  
3,4-Dimethylpyridine; C5H3N.(CH3)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++	sp	non-aq	25°C	100%	C M			1989ANb (56247)3260 K(Ni(OAc)2+L)=0.45		
------	----	--------	------	------	-----	--	--	---	--	--

Medium: CCl4 + 10% acetic acid

Ni++	gl	KNO3	25°C	0.50M	U			K1=2.10 B2=3.71 B3=4.83 B4=5.49 B5=5.69	1979LRa (56248)3261	
------	----	------	------	-------	---	--	--	--	---------------------	--

Ni++	gl	KNO3	25°C	0.61M	U			K1=2.26 B2=3.2 B3=5.21	1967SBd (56249)3262	
------	----	------	------	-------	---	--	--	---------------------------	---------------------	--

\*\*\*\*\*

C7H9N L 3,5-Lutidine (323)  
3,5-Dimethylpyridine; C5H3N.(CH3)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++	gl	NaNO3	25°C	0.50M	C			K1=2.12	2002KSb (56268)3263	
------	----	-------	------	-------	---	--	--	---------	---------------------	--

Ni++	gl	KNO3	25°C	1.00M	U			K1=1.85 B2=3.24 B3=4.16	1978LRb (56269)3264	
------	----	------	------	-------	---	--	--	----------------------------	---------------------	--

Ni++	sp	non-aq	11°C	100%	U T M			1976CUa (56270)3265 K(NiA+2L)=4.30		
------	----	--------	------	------	-------	--	--	---------------------------------------	--	--

Medium: chlorobenzene. H2A=biacetyl-bis-a-hydroxybenzylidenehydrazone  
K=4.10(16 C); 3.85(22 C); 3.64(28 C)

Ni++	gl	KNO3	25°C	0.61M	U			K1=2.13 B2=3.1 B3=4.87	1967SBd (56271)3266	
------	----	------	------	-------	---	--	--	---------------------------	---------------------	--

\*\*\*\*\*

C7H9N L 3-Ethylpyridine CAS 536-78-7 (2038)

3-Ethylazine, 3-Ethylpyridine; C5H4N.C2H5

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.50M	U		K1=1.87 B2=3.32 B3=4.36 B4=4.97	1981LRa (56292)	3267

\*\*\*\*\*  
 C7H9N L 4-Ethylpyridine CAS 536-75-4 (2055)  
 4-Ethylazine, 4-Ethylpyridine; C5H4N.C2H5

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	vlt	KNO3	25°C	0.10M	U		K1=2.30	1972TPc (56314)	3268
Ni++	sp	KNO3	25°C	1.00M	U		K1=1.90 B2=3.32 K3=0.66	1971LWa (56315)	3269

Ni++	EMF	KNO3	25°C	1.00M	U		K1=1.91 B2=3.34 K3=0.68	1971LWa (56316)	3270
------	-----	------	------	-------	---	--	-------------------------------	-----------------	------

\*\*\*\*\*  
 C7H9NO L o-Anisidine CAS 90-04-0 (2474)  
 2-Methoxyaniline; CH3O.C6H4.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	25°C	85%	C		K1 < 1.3	1983HBa (56384)	3271

\*\*\*\*\*  
 C7H9NO3S2 HL (940)  
 2-(Thiophene-2-aldimino)ethane sulfonic acid; C4H3S.CH:N.CH2.CH2.SO3H

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.10M	U		K1=5.12 B2=9.06	1982MSa (56454)	3272

\*\*\*\*\*  
 C7H9NO4S H2L (3784)  
 Hydroxy(6-methyl-2-pyridyl)methanesulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.10M	U		K1=4.27 B2=7.11	1964BGa (56461)	3273

\*\*\*\*\*  
 C7H9NS L CAS 3145-77-5 (3768)  
 2-(Methylthiomethyl)pyridine; C5H4N.CH2.S.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	25°C	50%	U	M	K1=1.97 K(Ni(bpy)+L)=1.69	1967SIb (56480)	3274



Medium: 50% dioxan, 0.1 M NaClO4

-----  
Ni++ gl NaClO4 25°C 0.10M U K1=2.06 1964KSb (56481)3275  
\*\*\*\*\*  
C7H9N3O HL CAS 5156-69-4 (4440)  
1-Phenyl-3-methyl-3-hydroxytriazene; C6H5.N:N.N(OH)CH3  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ EMF diox/w 25°C 70% U K1=8.34 B2=15.39 1969DSa (56487)3276  
Medium: 70% dioxan, 0.1 M KCl  
\*\*\*\*\*  
C7H9N3O HL CAS 261735-05-1 (5422)  
Pyridine-2-acetamid oxime;  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl NaCl 25°C 0.10M C 19960Sa (56489)3277  
K(Ni+HL)=3.59  
K(NiHL+HL)=3.27  
K(Ni+2HL=NiHL2+H)=-1.56  
K(2Ni+2HL=Ni2H-1L2+3H)=-13.82  
\*\*\*\*\*

C7H9N3O2 HL Spinacine CAS 59981-63-5 (4441)  
Spinacine;  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl KCl 25°C 0.10M U K1=5.33 B2=9.32 1973BDc (56495)3278  
B(NiHL)=11.61  
\*\*\*\*\*

C7H9N3O2S2 L (6945)  
1-Ethoxycarbonyl-3-thiazole-2-ylthiourea; C3H2NS.NHCSNHCOOC2H5  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl alc/w 25°C 60% U K1=5.11 1994KEa (56498)3279  
Medium: 60 % EtOH/H2O, 0.1 M NaNO3  
\*\*\*\*\*  
C7H9N5 L CAS 938-55-6 (5793)  
2,9-Dimethyladenine;  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ dis NaClO4 25°C 1.00M U K1=0.6 1985A0a (56507)3280  
\*\*\*\*\*  
C7H9N5 L CAS 87578-82-3 (5794)  
8,9-Dimethyladenine;  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

-----  
 Ni++ dis NaClO4 25°C 1.00M U K1=<0.1 1985AOa (56510)3281  
 \*\*\*\*\*  
 C7H9N5O HL 9-Ethylguanine CAS 879-08-3 (6679)  
 9-Ethyl-2-amino-6-hydroxypurine;  
 -----

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.10M	M		K1=3.48 K(Ni+HL)=1.76 *K(NiHL)=-7.85	1999SSb (56517)	3282

\*\*\*\*\*  
 C7H9N5O4 HL CAS 215525-73-8 (7724)  
 N-(4-Amino-1,6-dihydro-1-methyl-5-nitroso-6-oxo-pyrimidin-2-yl)glycine;  
 -----

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	35°C	0.10M	C		K1=3.44 B2= 7.04 B(NiH-1L)=-5.39	1998ALa (56520)	3283

\*\*\*\*\*  
 C7H10NO2P HL (7267)  
 Aminomethyl(phenylphosphinic acid); H2NCH2PO(OH)C6H5  
 -----

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C		K1=2.39 B2=5.20 B(NiH-1L)=-5.82 B(NiH-2L)=-15.18	1996RLa (56537)	3284

\*\*\*\*\*  
 C7H10NO6ClP2 H4L (6895)  
 N-(4-Chlorophenyl)aminomethylenedi(phosphonic acid); ClC6H4.NH.CH(PO3H2)2  
 -----

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	U		K1=9.1 K(Ni+HL)=5.3	1990GKa (56551)	3285

\*\*\*\*\*  
 C7H10N2 L CAS 13173-22-3 (8012)  
 1-Allyl-2-methylimidazole ;  
 -----

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.50M	C		K1=1.80 B2= 3.20	2001KGa (56559)	3286

\*\*\*\*\*  
 C7H10N2 L CAS 2706-56-1 (2748)  
 2-(2'-Aminoethyl)pyridine; C5H4N.CH2CH2NH2  
 -----

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.50M	U		K1=5.37 B2=8.74	1971GEa (56585)	3287

By calorimetry  $\Delta H(K1) = -28.9 \text{ kJ mol}^{-1}$ ,  $\Delta H(K2) = -29.3$ ,  $\Delta H(K3) = 29.2$

Ni++ gl oth/un 25°C 0.10M U K1=5.2 1964PCa (56588)3290

Ni++ gl oth/un 20°C ->0 U T H K1=5.25 B2=8.53 1959GFa (56590)3292

$\Delta H(K1) = -29.9 \text{ kJ mol}^{-1}$ ,  $\Delta S = 0 \text{ J K}^{-1} \text{ mol}^{-1}$ ;  $\Delta H(K2) = -17$ ,  $\Delta S = 8$  (at 10 C)

10 C: K1=5.45, K2=3.59; 30 C: 5.14, 3.20; 40 C: 4.90, 3.30

\*\*\*\*\*

2-(Methylaminomethyl)pyridine (2-Picolylmethylamine)

Ni++      gl    KNO3    25°C 0.50M U      K1=6.91    B2=12.44    1971GEa (56599)3293

Ni++ cal diox/w 25°C 50% U H 1966WRb (56600)3294

Medium: 50% dioxan, 0.1 KNO<sub>3</sub>. DH(B2)=-70.6 kJ mol<sup>-1</sup>

Ni++ gl oth/un 20°C ->0 U T H K1=6.93 B2=12.41 1959GFa (56601)3295

$$K_3 = 2.88$$

$DH(K1) = -37.8 \text{ kJ mol}^{-1}$ ,  $DS = 4 \text{ J K}^{-1} \text{ mol}^{-1}$ ;  $DH(K2) = -35.3$ ,  $DS = -17$ ;  $DH(K3) = -15.7$ ,

DS=4. 10 C: K1=7.15,K2=5.75,K3=3.17; 30 C:6.66,5.30,2.79; 40 C:6.50,5.12,2.9

\*\*\*\*\*

3-(N,N-Dimethylamino)pyridine; C<sub>5</sub>H<sub>4</sub>N.N(CH<sub>3</sub>)<sub>2</sub>

Ni++      gl   KN03   25°C 0.50M U      K1=1.81   B2=3.21   1981LRa (56619)3296

B3=4.19

$$B4=4.75$$

\*\*\*\*\*

4-(N,N-Dimethylamino)pyridine; C<sub>5</sub>H<sub>4</sub>N.N(CH<sub>3</sub>)<sub>2</sub>

Ni++ gl KNO3 25°C 0.10M C H K1=2.70 B2= 5.34 1979HMa (56626)3297

$$\text{DH(K1)} = -25 \text{ kJ mol}^{-1}$$

\*\*\*\*\*

4-Methyl-1,2-diaminobenzene;  $\text{CH}_3.\text{C}_6\text{H}_3(\text{NH}_2)_2$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	20°C	0.10M	C T H		K1=3.73	1980Ma (56638)	3298
DH(K1)=-59.1 kJ mol <sup>-1</sup> ; DS=-130 J K <sup>-1</sup> mol <sup>-1</sup> . Data up to 32 C									
*****									
C7H10N2		L					CAS 95-80-7	(6106)	
4-Methyl-1,3-diaminobenzene, 4-Methyl-1,3-phenylenediamine;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	20°C	0.10M	C T H		K1=3.16	1980Ma (56642)	3299
DH(K1)=-46.2 kJ mol <sup>-1</sup> ; DS=-98.7 J K <sup>-1</sup> mol <sup>-1</sup> . Temperatures up to 32 C									
*****									
C7H10N2		L					CAS 6627-60-7	(3729)	
6-Methyl-2-(aminomethyl)pyridine; CH3.C5H3N.CH2.NH2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	EMF	NaNO3	20°C	0.10M	U		K1=5.15 B2=8.80	1971ANa (56647)	3300
							K3=2		

Ni++	vlt	diox/w	25°C	50%	U	H	B2=8.43	1966WRb (56648)	3301
Medium: 50% dioxan, 0.1 M KNO3. By calorimetry: DH(B2)=-37.6 kJ mol <sup>-1</sup> , DS=34.7 J K <sup>-1</sup> mol <sup>-1</sup>									
*****									
C7H10N2O		L					(7890)		
1-Propyl-2-imidazolecarboxaldehyde;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.5M	C		K1=1.53 B2= 2.29	1999BKa (56659)	3302
							B3=4.19		
*****									
C7H10N2O5		HL					CAS 51-52-5	(4468)	
6-Propyl-2-thiouracil (6-propyl-4-hydroxy-2-mercaptopyrimidine);									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	oth/un	26°C	0.01M	U		K1=1.35 B2=4.86	1970Gwa (56673)	3303
*****									
C7H10N2O2S		HL					(560)		
2-(Methanesulfonamidomethyl)pyridine; C5H4N.CH2S(:O)2NHCH3									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	30°C	45%	U		K1=8.30 B2=15.59	1982MYb (56680)	3304
Medium: 45% v/v dioxan/H2O, 0.01 M KNO3									
*****									
C7H10N2O3S		HL					CAS 71691-06-0	(1247)	
2-(N-Pyrrolideneimino)ethane sulfonic acid; C4H4N.CH:N.CH2.CH2.SO3H									

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       gl  NaClO4 25°C 0.10M U T      K1=9.75   B2=16.30  1979GSa (56689)3305
*****
C7H10N2O4          H3L                      (3769)
4-Carboxycyclohexane-1,2-dione dioxime; H0OC.C6H7(:N.OH)2
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       sp  oth/un 25°C 9.0M U          K1=28.7   B2=29.50  1962BLa (56696)3306
                                   K3=3.7(?)

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Medium: KOH
*****
C7H10O3          H2L                      (793)
Heptane-2,4,6-trione; CH3.CO.CH2.CO.CH2.CO.CH3
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       gl  alc/w 25°C 70% C          B(NiHL)=18.99
                                   B(Ni2L2)=24.66
*****
C7H10O4          H2L                      CAS 5802-62-3 (71)
Cyclopentane-1,1-dicarboxylic acid; C5H8.(COOH)2
-----

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       gl  NaClO4 25°C 0.10M U          K1=2.08      1972RVh (56726)3308
*****
C7H10O4          H2L                      CAS 5164-76-1 (959)
Pent-1-ene-5-dioic acid; CH2:CH.CH2.CH2.CH(COOH)2
-----

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       gl  KNO3   25°C 0.10M C          K1=2.48      1975IPa (56741)3309
*****
C7H10O6          H3L                      CAS 57056-39-0 (5947)
2-(Carboxymethyl)glutaric acid; H0OC.CH2.CH(CH2.COOH)2
-----

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       gl  KNO3   25°C 0.50M U          K1=1.90      1983WKa (56752)3310
                                   B(NiHL)=6.30
                                   B(NiH2L)=9.89
*****
C7H11NO2          HL                      CAS 54162-90-2 (6019)
2-Aminocyclohexene(4)-1-carboxylic acid;
-----

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----

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-----  
Ni++ gl NaClO4 25°C 0.50M C K1=4.674 B2=7.812 1986GGa (56766)3311  
B(NiH-1L)=-4.5

cis isomer. For trans isomer, K1=4.676, B2=7.812, B(NiH-1L)=-4.48

\*\*\*\*\*

C7H11NO3 L (3356)  
3-(N-Acetylimido)pentane-2,4-dione; CH3COCH(NHCOCH3)COCH3

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ sp NaClO4 25°C 0.50M C K1=4.83 1996HPa (56774)3312  
K(NiL+H)<0.3

\*\*\*\*\*

C7H11NO4 H2L CAS 16598-06-4 (965)  
N-(Prop-2-enyl)iminodiethanoic acid; CH2:CH.CH2.N(CH2.COOH)2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.10M C K1=8.58 B2=15.39 1975IPa (56780)3313

Ni++ gl KCl 25°C 0.10M U K1=8.55 B2=15.30 1966SIb (56781)3314

\*\*\*\*\*

C7H11NO4 H2L CAS 5626-40-4 (2803)  
N-Carboxymethylpyrrolidine-2-carboxylic acid; H00C.C4H7N-CH2COOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 1.00M U K1=9 B2=17 1974MIb (56791)3315

\*\*\*\*\*

C7H11NO4 H2L CAS 499-82-1 (3163)  
Piperidine-2,6-dicarboxylic acid; C5H9N(COOH)2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KCl 30°C 0.10M U K1=6.8 B2=11.6 1957TBb (56798)3316

\*\*\*\*\*

C7H11NO5 H2L (3164)  
1-Amino-2-propanone-N,N-diethanoic acid; CH3.CO.CH2.N(CH2.COOH)2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.10M U K1=7.43 B2=12.70 1965AUa (56820)3317  
Previously published as K1=7.32, K2=5.29

-----  
Ni++ gl KNO3 25°C 0.10M U K1=7.4 B2=12.6 1963ANa (56821)3318

\*\*\*\*\*

C7H11NO6 H3L CAS 40199-58-4 (3165)  
N-(2'-Carboxyethyl)iminodiethanoic acid; H00C.CH2.CH2.N(CH2.COOH)2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

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-----
Ni++      vlt  KNO3   25°C 0.10M U      K1=11.37      1967UKa (56863)3319
-----
Ni++      gl   KCl    30°C 0.10M U      K1=11.4       1953CMa (56864)3320
*****
C7H11NO6      H3L    MNTA              (1026)
Nitrilo(2-propanoic)-diethanoic acid; H00C.CH(CH3).N(CH2.COOH)2
-----

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl   KNO3   25°C 0.10M U      K1=11.21      1983FSa (56893)3321
-----
Ni++      gl   KNO3   20°C 0.10M U      K1=11.92      1974RMf (56894)3322
*****
C7H11NO6P2     H4L    DPHP              (226)
2,6-bis(Dioxyphosphorylmethyl)pyridine; C5H3N.(CH2.PO3H2)2
-----

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```

Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl   KCl    25°C 0.10M U      K1=6.80       1988KPa (56925)3323
                        K(Ni+HL)=3.74
                        K(Ni+H2L)=2.10
*****
C7H11NO6P2     H4L              CAS 4712-06-5 (4470)
Amino(phenyl)methylenediphosphonic acid;
-----

```

```

Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl   KCl    25°C 0.10M U      K1=12.39      1969DMd (56933)3324
                        K(Ni+HL)=8.07
                        B(Ni2L)=16.71
*****
C7H11N3      L              CAS 63763-86-0 (6062)
2,6-Di(aminomethyl)pyridine;
-----

```

```

Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl   NaNO3  20°C 1M C      K1=10.9  B2=20.70  1992CPb (56954)3325
Constant confirmed by spectrophotometry
*****
C7H11N3O2     L              CAS 7389-87-9 (3162)
Histidine methyl ester
-----

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```

Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl   KCl    25°C 0.10M U      K1=6.1  B2=10.9  1971HMc (56987)3326
-----
Ni++      EMF oth/un 25°C  ?  U      K1=6.8  B2=12.10  1966PAa (56988)3327
-----
Ni++      gl   KCl    40°C 0.25M U T H  K1=5.95  B2=10.29  1965AZa (56989)3328
-----

```

K3=2.11  
 K1=7.32(0 C),6.65(15 C),6.02(25 C); K2=5.88(0 C),5.14(15 C),4.30(25 C)  
 K3=3.59(0 C),2.76(15 C),2.50(25 C). DH(K1)=DH(K2)=-70 kJ mol<sup>-1</sup>, DH(K3)=-72

Ni++ gl KNO3 25°C 0.16M U M K1=6.19 B2=11.10 1965Cma (56990)3329  
 K3=2.90

Ternary complexes with histidine

Ni++ gl oth/un 25°C 0.20M U K1=6.73 B2=11.84 1957Lda (56991)3330  
 \*\*\*\*\*  
 C7H11N3O2 HL L-N-MeHistidine CAS 31632-58-3 (1192)  
 L-N-Methylhistidine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.10M	C		K1=8.551 B2=15.049 K(Ni(DL-N-Me-His))=8.536 B(Ni(DL-N-Me-His)2)=15.559	1976RIa (57013)	3331
*****									
C7H11N3O4		HL					CAS 73260-55-6	(8728)	
Glycyl-2,3-didehydroalanylglycine;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C		B(NiH-1L2)=1.27 B(NiH-2L2)=-6.66	2002SBa (57019)	3332
*****									
C7H12N2		L					CAS 4316-42-1	(8409)	
1-Butyl-1H-imidazole;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.50M	M		K1=3.30 B2= 5.88 B3=7.96	1977LBc (57036)	3333
*****									
C7H12N2		L					(7888)		
1-Propyl-2-methylimidazole;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.5M	C		K1=2.05 B2= 3.41 B3=4.19	1999BKa (57040)	3334
*****									
C7H12N2O		L					(7889)		
1-Propyl-2-Hydroxymethylimidazole;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.5M	C		K1=2.54 B2= 4.83	1999BKa (57048)	3335



B3=6.25

B4=7.50

\*\*\*\*\*

C7H12N2O L CAS 5700-58-3 (3166)

N-(2-Furylmethyl)ethylenediamine; C4H3O.CH2.NH.CH2.CH2.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	20°C	0.10M	U		K1=6.38 B2=11.61 K3=2.68	1958H0c	(57055)3336

\*\*\*\*\*

C7H12N2O2 H2L Heptoxime CAS 530-97-2 (1304)

1,2-Cycloheptanedione dioxime; C7H10(:NOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	20°C	75%	U		K1=12.53 B2=24.80	1981HFa	(57060)3337
Ni++	sol	NaCl04	20°C	0.10M	U		K1=10.77 B2=21.16	1964ASb	(57061)3338
Ni++	dis	NaCl04	25°C	0.10M	U		K1=11.2 B2=21.88	1964SAe	(57062)3339
Ni++	gl	diox/w	25°C	75%	U I		K1=12.3 B2=24.7 Kso=-26.64	1963BAb	(57063)3340

Medium: 75% dioxan, 0.1 M. B2=19.4(0% dioxan)

Ni++	gl	oth/un	25°C	0.0	U T H		Kso=26.64	1958BBb	(57064)3341
------	----	--------	------	-----	-------	--	-----------	---------	-------------

Medium: 0.001 M, DH(so)=-105 kJ mol<sup>-1</sup>, DS=151 J K<sup>-1</sup> mol<sup>-1</sup>. Kso=25.74(40 C)

\*\*\*\*\*

C7H12N2O2 HL (6181)

2-(N-2-Pyrrolidimino)propanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaCl04	25°C	0.10M	U TIH		B2=20.20	1988GRb	(57070)3342

35 C:B2=20.32, 45 C:20.45. DH(B2)=22.7 kJ mol<sup>-1</sup>, DS=462.7 kJ mol<sup>-1</sup>

\*\*\*\*\*

C7H12N2O2 HL CAS 18310-18-4 (3167)

3-Methylcyclohexane-1,2-dione dioxime; CH3.C6H7(:NOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	25°C	75%	U I		K1=11.3 B2=23.52 Kso=-27.62	1963BAb	(57077)3343

Medium: 75% dioxan, 0.1. B2=18.28(0% dioxan)

Ni++	gl	oth/un	25°C	0.0	U T H		Kso=27.62	1958BBb	(57078)3344
------	----	--------	------	-----	-------	--	-----------	---------	-------------

Medium: 0.001, DH(so)=-109 kJ mol<sup>-1</sup>, DS=155 J K<sup>-1</sup> mol<sup>-1</sup>. Kso=26.68(40 C)

\*\*\*\*\*

C7H12N2O2 HL CAS 18310-19-5 (3168)  
4-Methylcyclohexane-1,2-dione dioxime; CH3.C6H7(:NOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	25°C	75%	U	I	K1=10.8 B2=23.0 Kso=-28.25	1963BAb (57080)	3345
Medium: 75% dioxan, 0.1. B2=17.9(0% dioxan)									

Ni++	gl	oth/un	25°C	.001M	U	T H	Kso=28.25	1958BBb (57081)	3346
------	----	--------	------	-------	---	-----	-----------	-----------------	------

Kso=27.20(40 C). At 25 C: DH(Kso)=-121 kJ mol<sup>-1</sup>, DS=121 J K<sup>-1</sup> mol<sup>-1</sup>

\*\*\*\*\*

C7H12N2O2S L Cyclo-Met-Gly CAS 97605-73-7 (8135)  
Cyclo-(L-methionyl-L-glycine), 3-[2-(Methylthio)ethyl]-2,5-piperazine dione;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	NaCl04	20°C	1.0M	C		K1=-0.6	1982BBb (57083)	3347
pH 3.0									

\*\*\*\*\*

C7H12N2O3 HL Gly-Pro CAS 704-15-4 (257)  
Glycyl-proline; H2N.CH2.CO.NC4H7.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	20°C	0.20M	U		K1=4.86 B2=8.83 B3=11.90	1982KRd (57109)	3348
Ni++	gl	KNO3	25°C	0.10M	C		K1=4.757 B2=8.645 B3=11.46	1975BP a (57110)	3349
Ni++	gl	KNO3	25°C	0.16M	U		K1=4.62 B2=8.42 K3=2.5 K(NiLOH+H)=10.7	1960Mca (57111)	3350

\*\*\*\*\*

C7H12N2O3 HL Pro-Gly CAS 2578-97-6 (262)  
Prolyl-glycine; C4H8N.CO.NH.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	20°C	0.20M	U		K1=4.36 B2=8.10 B3=10.22 B(NiH-1L2)=-0.95 B(NiH-2L2)=-10.48	1982KRd (57143)	3351

\*\*\*\*\*

C7H12N2O5 H2L Gly-Glu CAS 7412-78-4 (280)  
Glycyl-glutamic acid; H2N.CH2.CO.NH.CH(CH2.CH2.COOH).COOH

-----

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	20°C	0.10M	U		K1=9.34 B2=14.05	1980BBc	(57165)3352

\*\*\*\*\*

C7H12N3O5P H2L PMEC CAS 117087-39-5 (8366)  
1-[2-(Phosphonomethoxy)ethyl]cytosine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.10M	M		K1=2.26 K(Ni+HL)=0.6 K(NiL+H)=5.3	1999BHb	(57194)3353

\*\*\*\*\*

C7H12N4 L CAS 18102-76-6 (3732)  
1-Cyclohexyltetrazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	alc/w	25°C	100%	U		K1=1.1 B2=2.05	1963GBa	(57204)3354

Medium: EtOH  
\*\*\*\*\*

C7H12N4O L (6725)  
Glycyl-histamine

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.10M	C		K1=4.20 B2=7.73 B(NiHL)=10.46 B(NiH-1L)=-2.69 B(NiH-2L)=-12.22 B(NiH-1L2)=-0.16	1995GHa	(57210)3355

\*\*\*\*\*

C7H12O2 HL CAS 1540-34-7 (3730)  
3-Ethylpentan-2,4-dione; CH3.CO.CH(CH2.CH3).CO.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	non-aq	30°C	100%	U		K(Ni3L6=3NiL2)=-1.23	1968AGa	(57217)3356

Medium: toluene.  
\*\*\*\*\*

C7H12O2 HL CAS 7307-03-1 (3135)  
5-Methylhexane-2,4-dione; CH3.CO.CH2.CO.CH(CH3)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	30°C	75%	U		K1=9.55 B2=18.15	1953UFd	(57224)3357

\*\*\*\*\*

C7H12O2 HL CAS 7424-54-6 (4421)  
Heptane-3,5-dione; CH3.CH2.CO.CH2.CO.CH2.CH3

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       gl  diox/w 25°C  50%  U          K1=6.68  B2=12.53  1973AHb (57238)3358
*****
C7H12O4          HL                      CAS 96740-23-7 (2249)
1,5-Dimethoxy-pent-2,4-dione, CH3.O.CH2.CO.CH2.CO.CH2.O.CH3
-----

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       gl  diox/w 24°C  50%  U          K1=7.0      1979ACa (57283)3359
*****
C7H12O4          H2L    Pimelic acid      CAS 111-16-0 (985)
1,7-Heptanedioic acid; HOOC.(CH2)5.COOH
-----

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       gl  KNO3   25°C  0.10M C          K1=1.20      1975LPa (57301)3360
*****
C7H12O4          H2L                      CAS 534-59-8 (480)
Butylpropanedioic acid (Butylmalonic acid); HOOC.CH(C4H9).COOH
-----

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       gl  KNO3   25°C  0.10M C          K1=2.66      1975IPa (57324)3361
-----
Ni++       gl  oth/un 25°C  0.0  U  I          K1=3.424     1962BNa (57325)3362
In NaClO4: K1=3.412(I=0),2.829(I=0.03),2.709(I=0.05),2.49(I=0.10),
2.414(I=0.15),2.347(I=0.20)
*****
C7H12O4          H2L                      CAS 510-20-3 (482)
Diethylpropanedioic acid (Diethylmalonic acid); HOOC.C(C2H5)2.COOH
-----

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       gl  NaClO4 25°C  0.10M U          K1=2.37      19700Va (57350)3363
*****
C7H12O4S2          H2L                      (1094)
1,3-Dithiopropene-S,S'-diethanoic acid; (HOOC.CH2.S.CH2)2.CH2
-----

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```

Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       sp  NaClO4 25°C  2.00M U          K1=2.70      1974AHa (57381)3364
                        K(Ni+HL)=1.55
Potentiometric methods also used
*****
C7H13NO2          HL                      (3170)
1-Aminocyclohexanecarboxylic acid; H2N.C6H10.COOH
-----

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```

Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----

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-----  
Ni++ gl KCl 20°C 0.10M U K1=5.50 B2=10.05 1963IPa (57427)3365  
\*\*\*\*\*

C7H13NO2 HL CAS 103067-99-4 (1127)  
2-Amino-hept-6-enoic acid; CH2:CH.CH2.CH2.CH2.CH(NH2).COOH  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.10M U K1=5.32 B2=9.72 1975IPb (57433)3366  
\*\*\*\*\*

C7H13NO2 HL CAS 5691-19-0 (4449)  
2-Aminocyclohexanecarboxylic acid; H2N.C6H10.COOH  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaClO4 25°C 0.50M C K1=4.504 1986GGa (57442)3367  
B(NiH-1L)=-4.506  
cis isomer. For trans isomer K1=3.560, B(NiH-1L)=-5.35  
-----

Ni++ gl oth/un 25°C 0.10M U K1=4.41 B2=7.72 1972KSa (57443)3368  
Constants for cis isomer. For trans isomer, K1=3.74, K2=2.71  
\*\*\*\*\*

C7H13NO2 HL CAS 99571-58-1 (6223)  
6-Methylpiperidine-2-carboxylic acid; CH3.C5H9N.COOH  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl oth/un 30°C 0.10M U H K1=5.33 1985RRe (57448)3369  
DH(K1)=-120 kJ mol-1, DS=294 J K-1 mol-1  
\*\*\*\*\*

C7H13NO2 HL CAS 3235-67-4 (3772)  
Piperidine-N-ethanoic acid; C5H10N-CH2.COOH  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ EMF KCl 20°C 0.10M U K1=3.7 B2=7 1963IPb (57455)3370  
Method: H electrode  
\*\*\*\*\*

C7H13NO2S HL (6377)  
2-Propylthiazolidine-4-carboxylic acid;  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 30°C 0.10M U TIH K1=3.61 B2= 6.33 1983Rkb (57462)3371  
At I=0.0, K1=3.74, K2=2.84. Data for 25-50 C. DH(K1)=-14.0 kJ mol-1,  
DS(K1)=16.4 J K-1 mol-1; DH(K2)=-11.7, DS(K2)=11.3.  
\*\*\*\*\*

C7H13NO3 HL (7175)  
3,3'-Dimethylglutaramide; HOOCCCH2C(CH3)2CH2CONH2  
-----

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	U		B2=4.20	1995MWb (57468)	3372
*****									
C7H13NO4		H2L					CAS 5394-32-1	(340)	
N-(1-Methylethyl)iminodiethanoic acid; (CH3)2.CH.N(CH2.COOH)2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.10M	U		K1=8.41 B2=15.68	1976JPa (57508)	3373
*****									
C7H13NO4		H2L					CAS 16578-07-5	(341)	
N-Propyliminodiethanoic acid; CH3.CH2.CH2.N(CH2.COOH)2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.10M	U		K1=8.78 B2=15.86	1976JPa (57518)	3374
Ni++	gl	KNO3	25°C	0.10M	C		K1=8.78 B2=15.65	1975IPa (57519)	3375
Ni++	gl	KCl	25°C	0.10M	U		K1=8.80 B2=15.60	1966SIb (57520)	3376
*****									
C7H13NO4S		HL					(6310)		
Acetylacetone-2-aminoethane sulfonic acid schiff base; CH3.CO.CH2.C(CH3):N.CH2.CH2.HSO3									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	25°C	50%	U T H		K1=10.30	19760Ma (57532)	3377
*****									
C7H13NO4S		H2L					(3184)		
N-(2-Methylthioethyl)iminodiethanoic acid; CH3.S.CH2.CH2.N(CH2.COOH)2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	20°C	0.10M	U		K1=10.00 B2=15.00	1955SAa (57539)	3378
*****									
C7H13NO5		H2L					(334)		
N-(1-Methyl-2-hydroxyethyl)iminodiethanoic acid; HOCH2CH(CH3)N(CH2COOH)2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.10M	U		K1=9.85 B2=13.21	1976JPa (57560)	3379
K(NiH-1L+H)=10.67									
*****									
C7H13NO5		H2L					CAS 59881-61-0	(336)	
N-(2-Hydroxypropyl)iminodiethanoic acid; CH3.CH(OH).CH2.N(CH2.COOH)2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++ gl NaClO4 25°C 0.10M U K1=9.31 B2=13.39 1976JPa (57561)3380  
K(NiH-1L+H)=10.97

\*\*\*\*\*

C7H13NO5 H2L CAS 62117-07-1 (3171)

N-(2-Methoxyethyl)iminodiethanoic acid; CH3.O.CH2.CH2.N(CH2.COOH)2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KCl 20°C 0.10M U K1=9.39 B2=14.85 1955SAa (57566)3381

\*\*\*\*\*

C7H13NO5 H2L CAS 59881-62-1 (339)

N-(3-Hydroxypropyl)iminodiethanoic acid; HO.(CH2)3.N(CH2.COOH)2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaClO4 25°C 0.10M U K1=9.28 B2=15.20 1976JPa (57582)3382

Ni++ gl KCl 30°C 0.10M U K1=9.1 B2=14.8 1954Cma (57583)3383

\*\*\*\*\*

C7H13NO5 H2L CAS 41433-03-8 (4451)

N-(Carboxymethyl)-N-(2'-hydroxyethyl)alanine;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ EMF KNO3 20°C 0.10M U K1=9.21 B2=14.27 1968MRb (57591)3384

\*\*\*\*\*

C7H13NO6 H2L CAS 32013-58-4 (6079)

N-(2,3-Dihydroxypropyl)iminodiethanoic acid; HO.CH2.CH(OH).CH2.N(CH2.COOH)2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 20°C 0.10M U K1=9.09 B2=13.56 1980MRc (57601)3385

\*\*\*\*\*

C7H13NS2 HL (4455)

Hexamethylenedithiocarbamic acid; (CH2)6N.CSSH

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ dis oth/un 25°C 0.01M U B2=14.3 1973SSa (57627)3386

Ni++ vlt KCl 25°C 1.0M U B2=14.7 1973SSa (57628)3387

\*\*\*\*\*

C7H13N3 L CAS 673-46-1 (4424)

4-(2-Dimethylaminoethyl)imidazole;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KCl 25°C 0.10M U K1=3.88 1973BDb (57636)3388

\*\*\*\*\*

C7H13N3O3S HL CAS 60198-01-8 (916)

N-2-(4-Sulfonyl)-pyrrylmethyl-ethylenediamine; H03S.C4H3N.CH2NH(CH2)2NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	1.00M	U			K1=6.52 B2=11.58 K(NiL=NiH-1L+OH)=-9.19 K(NiH-1L=NiH-1L(OH)+H)=-10.5 K(NiL2+NiH-1L2+H)=-9.14 K(NiH-1L2=Ni(H-1L)2+H)=-11.2	1976SAa (57641)	3389

\*\*\*\*\*  
C7H13N3O4 HL Ala-Asn CAS 1999-41-3 (5934)  
Alanyl-asparagine; NH2.CH(CH3.CO.NH.CH(CH2.CO.NH2).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	NaCl	20°C	0.15M	U			K1=3.73 B2=6.34 K(NiH-1L2+H)=8.43	1989DKa (57645)	3390

D/L-Ala-D/L-Asn stereoisomer  
\*\*\*\*\*  
C7H13N3O4 HL Gly-b-Ala-Gly CAS 42538-54-5 (9058)  
Glycyl-beta-alanylglycine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.20M	C			K1=4.18 B2= 7.34 B(NiH-1L)=-5.26 B(NiH-2L)=-12.45	2003AMb (57659)	3391

\*\*\*\*\*  
C7H13N3O4 HL Gly-Gly-b-Ala CAS 42538-53-4 (4453)  
Glycylglycyl-beta-alanine; H2N.CH2.CO.NH.CH2.CO.NH.CH2.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.20M	C			K1=3.82 B2= 6.90 B(NiH-1L)=-5.03 B(NiH-2L)=-12.34	2003AMb (57678)	3392

\*\*\*\*\*  
C7H13N3O4 HL b-Ala-Gly-Gly CAS 42538-55-6 (4452)  
beta-Alanylglycylglycine; H2N.CH2.CH2.CO.NH.CH2.CO.NH.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.20M	C			K1=3.53 B(NiH-1L)=-5.25 B(NiH-2L)=-12.47	2003AMb (57693)	3393

\*\*\*\*\*  
C7H13N3O4S H2L Gly-Gly-Cys CAS 95416-30-1 (2549)  
Glycyl-glycyl-cysteine; H2N.CH2.CO.NH.CH2.CO.NH.CH(CH2.SH).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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B3=9.5

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C7H14N2O3 HL Val-Gly CAS 686-43-1 (3174)  
 Valylglycine; H2N.CH(CH(CH3)2).CO.NH.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.16M	U		K1=3.00 B2=5.20 K3=0.9 K(NiH-1L+H)=9.0 K(NiH-1LOH+H)=9.6	1960Mca	(57763)3404

\*\*\*\*\*

C7H14N2O3S HL Gly-Met CAS 554-94-9 (726)  
 Glycyl-methionine; H2N.CH2.CO.NH.CH(CH2.CH2.S.CH3).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.20M	C		K1=4.14 B2=7.56 B(NiH-1L)=-4.77 B(NiH-1L2)=-2.82 B(NiH-2L2)=-12.40	1987SPa	(57785)3405
Ni++	gl	NaCl	25°C	0.12M	U		K1=4.15 B2=7.67	1977PNa	(57786)3406
Ni++	gl	NaCl	25°C	0.12M	U		K1=4.15 B2=7.67	1976PNa	(57787)3407
Ni++	EMF	NaCl04	25°C	0.10M	U		K1=4.44 B2=8.32	1967SMd	(57788)3408
Ni++	gl	KCl	25°C	.058M	U T		B2=7.56	1957LYa	(57789)3409

\*\*\*\*\*

C7H14N2O3S HL Met-Gly CAS 14486-03-4 (727)  
 Methionyl-glycine; H2N.CH(CH2.CH2.S.CH3).CO.NH.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.20M	C		K1=3.33 B2=5.88 B(NiH-1L)=-4.92 B(NiH-2L2)=-12.64	1987SPa	(57810)3410

\*\*\*\*\*

C7H14N2O4 HL CAS 38937-65-4 (1661)  
 Pimelyldihydroxamic acid; HONH.CO.(CH2)5.CO.NHOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.15M	C		K1=7.453 B2=11.41 B(NiH2L)=21.36 B(NiH1.5L)=18.792	1986BGc	(57819)3411

\*\*\*\*\*

C7H14N2O4S2 H2L CAS 28052-93-7 (526)

S,S'-Methylenebis(L-cysteine);  $\text{H}_2\text{N}(\text{HOOC})\text{CH}.\text{CH}_2.\text{S}.\text{CH}_2.\text{S}.\text{CH}_2.\text{CH}(\text{COOH})\text{NH}_2$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.10M	U			K1=8.66 B2=12.98 B(NiHL)=14.10	1981BLa (57824)	3412

\*\*\*\*\*

C7H14N4O4P H2L CAS 550359-20-1 (9059)  
[[2-(4-Amino-2-imino-1(2H)-pyrimidinyl)ethoxy]methyl]phosphonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ni++	gl	NaNO3	25°C	0.10M	M			K1=1.75	2003FHa (57836)	3413
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C7H14O8 HL Glucoheptonic CAS 23351-51-1 (6940)  
2R,3R,4S,5R,6R,7-Hexahydroxo-heptanoic acid, glucoheptonic acid,  
glucosemonocarboxylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++	gl	NaNO3	20°C	0.10M	C				1994ESa (57894)	3414
------	----	-------	------	-------	---	--	--	--	-----------------	------

B(NiH-2L2)=-11.83

B(NiH-3L2)=-17.16

\*\*\*\*\*

C7H15NO2 HL (6264)  
4-(2-Hydroxyethylimino)pentane-2-one;  $\text{CH}_3.\text{CO}.\text{CH}_2.\text{CH}(\text{NH}.\text{CH}_2.\text{CH}_2.\text{OH})\text{CH}_3$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++	gl	diox/w	30°C	50%	U	M		K1=10.32	1977DBc (57914)	3415
------	----	--------	------	-----	---	---	--	----------	-----------------	------

K(Ni(bpy)+L)=9.66

K(Ni(phen)+L)=9.20

Data also for 2-hydroxypropyl analogue

\*\*\*\*\*

C7H15NO4 HL CAS 41244-51-3 (4459)  
N,N-Bis(2'-hydroxyethyl)alanine;  $(\text{HO}.\text{CH}_2.\text{CH}_2)_2.\text{N}.\text{CH}(\text{CH}_3)\text{COOH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++	EMF	KNO3	20°C	0.10M	U			K1=5.98 B2=9.81	1968MRb (57927)	3416
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C7H15NO4S HL MOPS CAS 1132-61-2 (2792)  
3-(N-Morpholino)propanesulfonic acid;  $\text{C}_4\text{H}_8\text{ON}.\text{CH}_2.\text{CH}_2.\text{CH}_2.\text{SO}_3\text{H}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++	gl	KNO3	25°C	0.10M	C			K1=3.45	2001A0a (57956)	3417
------	----	------	------	-------	---	--	--	---------	-----------------	------

Ni++	gl	KNO3	25°C	0.10M	C	M		K1=3.45	1999AAa (57957)	3418
------	----	------	------	-------	---	---	--	---------	-----------------	------

K(Ni(Gly)+2L)=6.39

K(Ni(Ser)+2L)=6.44

K(Ni(Met)+2L)=6.32

K(Ni(Asp)+2L)=6.53

K(Ni(Glu)+2L)=6.45, K(Ni(His)+2L)=6.46.

\*\*\*\*\*

C7H15N05 L (6007)

1-Methoxy-D-glucosamine;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaCl 25°C 0.15M U K1=3.10 1987PDa (57966)3419

B(NiH-1L2)=-2.59

B(NiH-2L2)=-12.13

\*\*\*\*\*

C7H15N05 L CAS 3329-30-4 (564)

2-Methylamino-2-deoxyglucose;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaNO3 30°C 0.10M U K1=3.1 1979MNa (57970)3420

\*\*\*\*\*

C7H15N05S HL MOPSO CAS 68399-77-9 (1967)

3-(N-Morpholino)-2-hydroxypropane sulfonic acid;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.10M C M K1=3.50 2001AAa (57987)3421

Also data for ternary complexes with 5'-GMP, 5'-IMP and 5'-CMP.

-----  
Ni++ gl KNO3 25°C 0.10M C K1=3.68 2000ADa (57988)3422  
-----

Ni++ gl KNO3 25°C 0.10M C M K1=3.43 1999AAa (57989)3423

K(Ni(Gly)+2L)=7.15

K(Ni(Ser)+2L)=7.58

K(Ni(Met)+2L)=7.30

K(Ni(Asp)+2L)=7.33

K(Ni(Glu)+2L)=7.32, K(Ni(His)+2L)=7.73.

\*\*\*\*\*

C7H15N07 HL (6519)

2-Amino-2-deoxy-D-glycero-D-gulo-heptonic acid;H00C.CH(NH2).(CHOH)4.CH2OH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaClO4 25°C 0.10M U K1=4.93 B2=14.43 1992DGa (58000)3424

B(NiH2L2)=21.73

\*\*\*\*\*

C7H15N07 HL (7135)

2-Amino-2-deoxy-D-glycero-L-glucoheptonic acid; H00CCH(NH2)(CHOH)4CH2OH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

-----  
Ni++ gl KNO3 25°C 0.10M C K1=5.06 B2=9.59 1995DFc (58006)3425  
B(NiH2L2)=23.42

\*\*\*\*\*  
C7H15NS2 HL CAS 25179-61-7 (3175)  
N,N-Di-n-propyldithiocarbamic acid; (CH3.CH2.CH2)2.N.CS.SH  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ ix NaClO4 22°C 0.10M U B2=>14 1956BFa (58015)3426

\*\*\*\*\*  
C7H16N2 L CAS 38932-72-8 (4426)  
1,1-Di(aminomethyl)cyclopentane; C5H8(CH2.NH2)2  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl oth/un 25°C dil U K1=6.60 B2=10.90 1972NBa (58033)3427

\*\*\*\*\*  
C7H16N2 L CAS 55666-99-4 (3137)  
2,2'-Aminoethylpiperidine; C5H10N.CH2.CH2.NH2  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl none 20°C 0.0 U T H K1=5.28 B2=9.59 1963HGa (58038)3428  
DH(K1)=-4 kJ mol<sup>-1</sup>, DS=88 J K<sup>-1</sup> mol<sup>-1</sup>; DH(K2)=-16, DS=21  
30 C, K1=5.28, K2=4.42; 40 C, K1=5.37, K2=4.55  
-----

Ni++ gl oth/un 40°C ->0 U K1=4.30 1961RFa (58039)3429

\*\*\*\*\*  
C7H16N2 L CAS 86849-08-3 (3136)  
trans-Cycloheptane-1,2-diamine; C7H12(NH2)2  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl oth/un 10°C ->0 U K1=7.77 B2=14.41 1958BFa (58042)3430  
K3=3.83

\*\*\*\*\*  
C7H16N2O L (6586)  
1-Oxa-4,8-diazacyclodecane;  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.10M U K1=6.48 B2=11.1 1990CCa (58051)3431

-----  
Ni++ gl NaNO3 25°C 0.10M U K1=5.28 1990HWa (58052)3432  
\*\*\*\*\*

C7H16N2S L (6463)  
1-Thia-4,8-diazacyclodecane;  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

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-----
Ni++      gl  KNO3   25°C 0.10M C      K1=10.1      1992Wlb (58063)3433
*****
C7H16N4O2      L      (934)
1,9-Diamino-3,7-diaza-2,8-nonanedione; (H2N.CH2.CO.NH.CH2)2.CH2
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl  KCl    25°C 0.50M U      K1=5.43      1971KAb (58072)3434
                        K(NiH-2L+2H)=14.93
*****
C7H16N4O2      L      (135)
1,9-Diamino-3,7-diazanonane-4,6-dione; H2N(CH2)2.NHCO.CH2.CONH.(CH2)2NH2
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl  NaCl04 35°C 0.20M U      B(NiH-2L)=-12.00
                        1981KKa (58079)3435
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-----
Ni++      sp  oth/un 60°C 0.10M U      M      19700Ya (58080)3436
                        K(NiA+L=NiL+A)=2.06
A=N,N'-bis(2-pyridinecarbonyl)diaminoethane. Medium: NaOH
*****
C7H16N4O2      L      CAS 20144-45-6 (4461)
3,7-Diazanonanediamide; H2N.CO.CH2.NH.CH2.CH2.CH2.NH.CH2.CO.NH2
-----

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl  KCl    25°C 0.50M U      K1=8.55      1974KZa (58086)3437
                        K(NiH-2L+2H)=17.82
*****
C7H16N4O2      L      IsoLactulose      CAS 26451-47-8 (8500)
R-N,N'-Diglycyldiaminopropane;
-----

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl  KNO3   25°C 0.10M U      K1=5.46      B2= 9.77      1984MDc (58088)3438
                        K(NiL=NiH-2L+2H)=-15.64
-----

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Method: batch technique.
*****
C7H17NO5S      HL      AMPSO      CAS 68399-79-1 (1968)
3-[1,1-Dimethyl-2-hydroxyethylamino]-2-hydroxypropanesulfonic acid;
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl  KNO3   25°C 0.10M C      K1=3.62      2001AOa (58115)3439
*****
C7H17NO6S      HL      DIPSO      (1097)
3-[N,N-Bis(2-hydroxyethyl)amino]-2-hydroxypropane sulfonic acid;
-----

```

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C		K1=3.76	2000ADa (58128)	3440
Ni++	gl	KNO3	25°C	0.10M	C		K1=3.68	1999AAa (58129)	3441
*****									
C7H17N07P2		HL					CAS 220491-02-1	(7714)	
N-2-Methyltetrahydrofuryliminodi(methylenephosphonic acid);									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.20M	C		K1=9.35 B2=12.78 B(NiHL)=15.79 B(NiH2L)=20.16 B(NiH2L2)=30.18 B(NiHL2)=24.43	2000KKa (58147)	3442
*****									
C7H17N07S		HL		TAPSO			CAS 68399-81-5	(167)	
3-[N-(Tris(hydroxymethyl)methyl)amino]-2-hydroxypropane sulfonic acid									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C	M	K1=3.55	2001AAa (58164)	3443
Also data for ternary complexes with 5'-GMP, 5'-IMP and 5'-CMP.									
Ni++	gl	KNO3	25°C	0.10M	C		K1=3.70	2000ADa (58165)	3444
Ni++	gl	KNO3	25°C	0.10M	C		K1=3.48	1999AAa (58166)	3445
*****									
C7H17N203P		HL					(7919)		
(Glycylamino)methyl(t-butylphosphinic acid);									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C		K1=4.09 B2= 7.40 B(NiHL)=9.38	2001LKa (58186)	3446
*****									
C7H17N204P		H2L		Leu-Gly(P)			CAS 60668-11-3	(7119)	
Leucylaminomethylphosphonic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C		K1=3.786 B2=6.90 B(NiH-1L)=-4.68 B(NiHL)=9.57	1995HLA (58193)	3447
*****									
C7H17N204PS		H2L					CAS 82611-22-1	(7392)	
Methionyl-1-aminoethylphosphonic acid; H2L									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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2-Aza-2'-methyl-5-thia-8-amino-octane; CH<sub>3</sub>.N(CH<sub>3</sub>). (CH<sub>2</sub>)<sub>2</sub>.S. (CH<sub>2</sub>)<sub>3</sub>.NH<sub>2</sub>

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++	gl	KNO <sub>3</sub>	25°C	0.50M	U			K <sub>1</sub> =3.48	1981HGa (58256)	3455
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C <sub>7</sub> H <sub>18</sub> N <sub>2</sub> S		L						(1301)		
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2-Aza-2'-methyl-6-thia-8-amino-octane; CH<sub>3</sub>.N(CH<sub>3</sub>). (CH<sub>2</sub>)<sub>3</sub>.S. (CH<sub>2</sub>)<sub>2</sub>.NH<sub>2</sub>

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++	gl	KNO <sub>3</sub>	25°C	0.50M	U				1981HGa (58261)	3456
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K(Ni+HL)=2.50

K(Ni+L+HL)=5.78

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C <sub>7</sub> H <sub>19</sub> N <sub>6</sub> P <sub>2</sub>		H <sub>4</sub> L						(7464)		
--	--	------------------	--	--	--	--	--	--------	--	--

N-(3-Methylbutyl)imino-bis(methylenephosphonic acid);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++	gl	KCl	25°C	0.20M	C			K <sub>1</sub> =8.21	2000KKa (58267)	3457
------	----	-----	------	-------	---	--	--	----------------------	-----------------	------

B(NiHL)=15.27

B(NiH<sub>2</sub>L)=19.76

B(NiH-1L)=-3.10

\*\*\*\*\*

C <sub>7</sub> H <sub>19</sub> N <sub>3</sub>		L						CAS 1985-81-5 (969)		
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4-Aza-4-methylheptane-1,7-diamine; H<sub>2</sub>N. (CH<sub>2</sub>)<sub>3</sub>.N(CH<sub>3</sub>). (CH<sub>2</sub>)<sub>3</sub>.NH<sub>2</sub>

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++	gl	none	20°C	0.0	U T H			K <sub>1</sub> =7.39 B <sub>2</sub> =11.19	1959GFb (58318)	3458
------	----	------	------	-----	-------	--	--	--	-----------------	------

30 C, K<sub>1</sub>=7.05; 40 C, K<sub>1</sub>=7.04, K<sub>2</sub>=2.85

DH(K<sub>1</sub>)=-32.8 kJ mol<sup>-1</sup>, DS=30 J K<sup>-1</sup> mol<sup>-1</sup>

\*\*\*\*\*

C <sub>7</sub> H <sub>20</sub> N <sub>2</sub> O <sub>4</sub> P <sub>2</sub>		H <sub>2</sub> L						(7263)		
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1,3-Diaminopropane-N,N'-bis(methylenemethylphosphinic acid);

CH<sub>2</sub>(CH<sub>2</sub>NHCH<sub>2</sub>PO(OH)CH<sub>3</sub>)<sub>2</sub>

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ni++	gl	R <sub>4</sub> N.X	25°C	0.10M	M			K <sub>1</sub> =7.85	1996BCa (58326)	3459
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Medium: 0.1 M Me<sub>4</sub>NNO<sub>3</sub>.

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C <sub>7</sub> H <sub>20</sub> N <sub>4</sub>		L						CAS 4741-99-5 (12)		
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1,4,8,11-Tetraazaundecane; H<sub>2</sub>N.CH<sub>2</sub>.CH<sub>2</sub>.NH.CH<sub>2</sub>.CH<sub>2</sub>.CH<sub>2</sub>.NH.CH<sub>2</sub>.CH<sub>2</sub>.NH<sub>2</sub>

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ni++	sp	NaClO <sub>4</sub>	25°C	0.10M	C T H				1977AFb (58344)	3460
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K(NiL(H<sub>2</sub>O)<sub>2</sub>=NiL+2H<sub>2</sub>O)=-0.54

From data for 19-49 C, DH(K)=14 kJ mol<sup>-1</sup>, DS(K)=38 J K<sup>-1</sup> mol<sup>-1</sup>.

Ni++ gl oth/un 25°C ? U K1=16.15 1976NGa (58345)3461

Ni++ gl NaCl04 25°C ? U K1=16.15 1976NGe (58346)3462

Ni++ cal KCl 25°C 0.10M U H K1=15.4 1974HMB (58347)3463  
DH=-70.3 kJ mol<sup>-1</sup> and DS=58 J K<sup>-1</sup> mol<sup>-1</sup>.

Ni++ gl KCl 25°C 0.50M U K1=16.4 B2=20.1 1970WBA (58348)3464

C7H20N4 L (3012)  
N,N-Bis(2-aminoethyl)-1,3-diaminopropane; N(CH<sub>2</sub>CH<sub>2</sub>NH)2CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub>

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KCl 25°C 0.10M C K1=14.17 2003KDa (58364)3465  
B(NiHL)=19.78  
K(Ni+HL)=9.56

C7H22N2O13P4 H8L DPPH CAS 54622-43-4 (2651)  
2-Hydroxy-1,3-diaminopropane-N,N,N',N'-tetramethylphosphonic acid;  
HO.CH(CH<sub>2</sub>.N(CH<sub>2</sub>.PO<sub>3</sub>H<sub>2</sub>)<sub>2</sub>)<sub>2</sub>

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl NaCl 25°C 0.10M U K1=12.94 1987KMB (58381)3466  
B(NiHL)=23.80  
B(NiH<sub>2</sub>L)=32.10  
B(NiH<sub>3</sub>L)=38.74  
B(NiH<sub>4</sub>L)=44.34

B(NiH<sub>5</sub>L)=48.46; B(NiH<sub>6</sub>L)=51.91; B(Ni<sub>2</sub>L)=22.07. Calculated assuming literature values are Natural log values

C8H5NO2 HL Isatin CAS 91-56-5 (7844)  
2,3-Indolinedione;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl alc/w 30°C 5% U M K(NiA+L)=5.76 1995RRb (58403)3467  
B(NiAL)=12.04

Medium: 5% v/v EtOH/H<sub>2</sub>O, 0.10 M KNO<sub>3</sub>. H<sub>2</sub>A is thioglycolic acid.

Ni++ gl alc/w 30°C 5% M M K1=4.75 B2= 8.67 1994RRa (58404)3468

Medium: 5% v/v EtOH/H<sub>2</sub>O, 0.10 M KNO<sub>3</sub>. K(NiA+L)=4.45 (A=Gly), 4.43 (Ala), 4.40 (Val), 4.47 (en), 4.51 (bpy), 4.26 (oxalate), 4.32 (catecholate).

C8H5NO2 HL Phthalimide CAS 85-41-6 (4496)  
Phthalimide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	alc/w	?	100%	U			1971MSc (58416)	3469
							B4=6.58		

Medium: MeOH

\*\*\*\*\*  
 C8H5NO3 L CAS 524-38-9 (8323)  
 N-Hydroxyphthalimide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	alc/w	30°C	5%	U	M		1995RRb (58420)	3470
							K(NiA+L)=4.08 B(NiAL)=10.36		

Medium: 5% v/v EtOH/H2O, 0.10 M KNO3. H2A is thioglycolic acid.

\*\*\*\*\*  
 C8H5NO6 H2L CAS 603-11-2 (1171)  
 3-Nitro-phthalic acid; 02N.C6H3(COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	oth/un	35°C	dil	U		K1=3.24	1970NPb (58429)	3471
Ni++	gl	KNO3	25°C	0.10M	U		K1=1.72	1956YSa (58430)	3472

\*\*\*\*\*  
 C8H5NO6 H2L CAS 610-22-5 (1172)  
 4-Nitro-phthalic acid; 02N.C6H3(COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	oth/un	25°C	0.40M	U		K1=3.02	1971NPc (58442)	3473
Ni++	gl	KNO3	25°C	0.10M	U		K1=1.65	1956YSa (58443)	3474

\*\*\*\*\*  
 C8H5NO6 H3L Murexide (453)  
 Purpuric acid (Murexide is ammonium salt);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	non-aq	25°C	100%	U	TIH	K1=4.17 B2=9.85	1995GSa (58457)	3475

Medium: 10% w/w MeCN/DMSO. DH(K=117 kJ mol<sup>-1</sup>, DS=473 J K<sup>-1</sup> mol<sup>-1</sup>  
 DH(K2)=-59.3, DS=-90

Ni++	sp	KNO3	25°C	0.10M	U	H		1993SVa (58458)	3476
							K(Ni+HL)=3.11 K(NiL+H)=6.18		

Method: T-jump. DH calculated

Ni++	sp	KNO3	25°C	0.10M	U		K1=6.34	1984OWa (58459)	3477
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B(NiHL)=12.25

Ni++ sp none 25°C 0.0 U 1979FKa (58460)3478

K(Ni+H2L)=3.58  
\*K(NiH2L)=-5.74

Ni++ sp KNO3 12°C 0.10M U 1965GEa (58461)3479

K(Ni+H2L)=3.36

Ni++ sp oth/un rt 0.10M U 1949SGa (58462)3480

K(Ni+H2L)=4.6

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C8H5O2F3S HL TTA CAS 326-91-0 (165)

4,4,4-Trifluoro-1-(2-thienyl)butane-1,3-dione; F3C.CO.CH2.CO.C4H3S

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl diox/w 25°C 75% U K1=10.64 B2=17.28 1995UFa (58575)3481

Ni++ gl oth/un 25°C 0.20M C 1988HKb (58576)3482

K(Ni+HL=NiL+H)=-2.0

Medium: 0.20 M Na2SO4.

Ni++ gl diox/w 30°C 75% U K1=6.77 B2=12.22 1977AHb (58577)3483

Ni++ dis NaClO4 20°C 0.10M U B2=10.03 1971ADa (58578)3484

Ni++ dis non-aq 20°C 100% U M 1971ADa (58579)3485

K(NiL2+A)=3.18  
K(NiL2+B)=4.67  
K(NiL2+2C)=5.70  
K(NiL2+2D)=4.44

Temperature range: 19-21 C. Medium: CHCl3. A=piperidine, B=dihexylamine,  
C=4-Me-pyridine, D=2-Me-pyridine. K(NiL2+2E)=5.40, E=pyridine

Ni++ EMF oth/un 25°C 1.0M U 1971JFa (58580)3486

K(Ni+HL=NiL+H)=-3.08

Ni++ gl diox/w 30°C 75% U K1=7.93 B2=15.23 1965RGa (58581)3487

Ni++ gl diox/w 30°C 75% U B2=16.0 1953UFe (58582)3488

Ni++ gl diox/w 20°C 75% U B2=10.0 1951UFa (58583)3489

Medium: 75% dioxan, corr to H2O, I=0.1 M

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C8H5O3F3 HL CAS 15788-03-1 (3215)

1,1,1-Trifluoro-3-2'-furoylacetone; F3C.CO.CH2.CO.C4H3O

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl diox/w 30°C 75% U B2=14.2 1953UFe (58712)3490

Ni++ gl diox/w 20°C 75% U B2=8.6 1951UFa (58713)3491

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C8H5O4Br H2L CAS 116-69-8 (1169)

3-Bromo-phthalic acid; Br.C6H3(COOH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.10M U K1=2.10 1956YSa (58721)3492

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C8H5O4Br H2L CAS 6968-78-1 (3216)

4-Bromophthalic acid; Br.C6H3(COOH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.10M U K1=2.05 1956YSa (58725)3493

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C8H5O4Cl H2L CAS 27563-65-1 (1168)

3-Chloro-phthalic acid; Cl.C6H3(COOH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.10M U K1=2.02 1956YSa (58728)3494

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C8H6N2O HL CAS 5423-54-1 (3217)

4-Hydroxy-1,5-naphthyridine;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl oth/un 20°C 0.01M U K1=5.8 B2=10.5 1954AHb (58736)3495

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C8H6N2O HL CAS 17056-99-4 (3220)

5-Hydroxyquinoxaline;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl oth/un 20°C 0.01M U K1=7.6 1954AHb (58742)3496

Ni++ gl diox/w 20°C 50% U K1=7.79 B2=14.81 1954IRa (58743)3497

Medium: 50% dioxan, 0.3 M NaClO4

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C8H6N2O HL CAS 17057-00-0 (3218)

8-Hydroxy-1,6-naphthyridine;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl oth/un 20°C 0.01M U K1=5.9 B2=10.9 1954AHb (58751)3498

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C8H6N2O HL CAS 70730-36-8 (3219)

8-Hydroxy-1,7-naphthyridine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	oth/un	20°C	0.01M	U		K1=6.7 B2=12.4	1954AHb (58756)	3499
*****									
C8H6N2O		HL					(6290)		
8-Hydroxycinnoline, (2-Hydroxybenzo)pyrimidine;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	oth/un	20°C	0.01M	U		K1=7.8 B2=14.9	1954AHb (58763)	3500
*****									
Ni++	gl	diox/w	20°C	50%	U		K1=8.25 B2=15.48	1954IRa (58764)	3501
Medium: 50% dioxan, 0.3 M NaClO4									
*****									
C8H6N2O		HL		8-Quinazolinol			CAS 7757-02-2 (3221)		
8-Hydroxyquinazoline;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	oth/un	20°C	0.01M	U		K1=7.6 B2=14.4	1954AHb (58774)	3502
*****									
C8H6N2OF6		L					CAS 64139-77-1 (5452)		
N-(2-Pyridyl)-bis(trifluoromethyl)aminomethanol; C5H4N.NH.C(CF3)2.0H									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	oth/un	25°C	0.10M	U		B2=9.65	1977Cwa (58782)	3503
*****									
C8H6N2O2		HL					(6681)		
9-Hydroxy-pyrido(1,2-a)pyrimidin-4-one;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KN03	25°C	0.10M	C		K1=7.50 B2=14.19	1993YDa (58785)	3504
Data also in 50% v/v dioxan/water. Electrolyte: 0.1M KN03.									
B1= 8.50, B2= 14.98.									
*****									
C8H6N2S		L					(3814)		
2-(2'-Pyridyl)-1,3-thiazole;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	dis	oth/un	25°C	0.10M	U		K1=5.10 B2=9.97 B3=14.09	1968EHa (58793)	3505
*****									
C8H6N2S		L					CAS 53911-41-4 (3815)		
4-(2'-Pyridyl)-1,3-thiazole;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	ISE	oth/un	25°C	0.10M	U		K1=5.93 B2=12.19 B3=17.52	1968EHa	(58799)3506

\*\*\*\*\*

C8H6N2S L CAS 53911-40-3 (3816)  
5-(2'-Pyridyl)-1,3-thiazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	sp	NaClO4	25°C	0.10M	U		K1=1.35	1965KSc	(58806)3507
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C8H6O4 H2L Phthalic acid CAS 88-99-3 (113)  
Benzene-1,2-dicarboxylic acid; C6H4(COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	NaNO3	25°C	0.10M	C	M	K1=3.26 B2= 5.18 B(NiLA)=8.64	1998KRa	(58907)3508
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HA: Inosine

Ni++	gl	alc/w	24°C	20%	C	M	K(Ni(ada)+L)=4.77	1996MIa	(58908)3509
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Medium: 20% w/w EtOH/H2O, 0.10 M KNO3.

ada: N-(acetamido)-iminodiethanoic acid.

Ni++	gl	oth/un	25°C	0.10M	U		K1=2.32	1989SCa	(58909)3510
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In 60% v/v EtOH/H2O: K1 = 3.29

Ni++	gl	KNO3	25°C	0.10M	M		K1=3.38	1980MMF	(58910)3511
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Ni++	gl	NaClO4	25°C	0.50M	C	TIH	K1=1.719	1975LKb	(58911)3512
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Ni++	EMF	oth/un	25°C	0.0	U	T H	K1=2.952	1962DNa	(58912)3513
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Method: H electrode. 0-45 C. DH(K1)=7.4 kJ mol<sup>-1</sup>, DS=81.1 J K<sup>-1</sup> mol<sup>-1</sup>

Ni++	gl	oth/un	25°C	0.10M	U		K1=2.1	1960YYa	(58913)3514
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Ni++	gl	KNO3	25°C	0.10M	U		K1=2.14	1956YSa	(58914)3515
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C8H7NO L CAS 95-21-6 (4497)  
2-Methylbenzoxazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	sp	alc/w	?	100%	U		K(Ni(NO3)2+2L)=1.83	1972ACa	(59087)3516
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Medium: MeOH

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C8H7NOS L CAS 2942-13-4 (4553)

# 2-Hydroxymethylbenzothiazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ni++	sp	alc/w	?	100%	U	M			1971ACc (59089)	3517
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K(Ni(NO3)2+3L)=2.62

Medium: MeOH

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C8H7NO2Cl2	HL	CAS	13538-26-6	(6286)
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3,5-Dichloro-2-hydroxyacetophenone oxime; Cl2(HO)C6H2.C(CH3):NOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ni++	gl	alc/w	27°C	75%	U	I		K1=7.65 B2=13.77	1976LGa (59113)	3518
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Data in 75% EtOH. Data also in 75% acetone and 75% dioxan

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C8H7NO2S	H2L	(5450)
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3-(2-Pyridyl)-2-mercaptopropenoic acid; C5H4N.CH:C(SH).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ni++	gl	diox/w	25°C	0.10M	U			K1=12.61 B2=19.56	1977WVa (59122)	3519
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C8H7NO4	HL	CAS	1450-76-7	(1143)
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2-Hydroxy-5-nitroacetophenone; HO.C6H3(NO2).CO.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ni++	sp	diox/w	40°C	50%	U			K1=3.57	1975PSa (59139)	3520
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C8H7NSe	L	CAS	2818-88-4	(4502)
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2-Methylbenzoselenazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ni++	sp	non-aq	?	100%	U	M			1972ACa (59170)	3521
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K(Ni(NO3)2+2L)=2.41

Medium: MeOH

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C8H7N3	L	CAS	18653-75-3	(3792)
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2-(2'-Pyridyl)imidazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ni++	gl	KNO3	25°C	0.10M	C			K1=6.06 B2=12.61 B3=17.98 B4=19.63	1992RKA (59175)	3522
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Ni++	EMF	KNO3	25°C	0.10M	U			K1=6.39 B2=12.61 B3=17.80	1967EHc (59176)	3523
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C8H7N3 L CAS 16576-78-6 (3793)  
4-(2'-Pyridyl)imidazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	ISE	KN03	25°C	0.10M	U		K1=7.20 B2=13.95 B3=19.82	1967EHb (59187)	3524

\*\*\*\*\*

C8H7O2Cl HL CAS 1450-74-4 (6325)  
2-Hydroxy-5-chloro-acetophenone; Cl(HO)C6H3.CO.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	40°C	50%	U		K1=5.37	1975PPa (59210)	3525

\*\*\*\*\*

C8H7O2Cl HL CAS 7035-09-8 (3817)  
5-Chloro-2-hydroxy-4-methylbenzaldehyde, 5-chloro-4-methylsalicylaldehyde;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	EMF	diox/w	20°C	50%	U		K1=4.1	1963CCa (59226)	3526

Medium: 50% dioxan, 0.3 M NaClO4

\*\*\*\*\*

C8H8NOCl HL (4568)  
N-Methyl-5-chlorosalicylideneimine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	cal	non-aq	30°C	100%	U	M		1973DGb (59256)	3527

K(NiL2+2py)=3.37

Medium: benzene

\*\*\*\*\*

C8H8NO2Cl HL CAS 6961-49-5 (658)  
N-(2-Chlorophenyl)aminoethanoic acid; Cl.C6H4.NHCH2COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.10M	C		K1=2.84	1985CLa (59259)	3528

\*\*\*\*\*

C8H8NO2Cl HL CAS 10242-05-4 (629)  
N-(3-Chlorophenyl)aminoethanoic acid; Cl.C6H4.NHCH2COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.10M	U		K1=2.93	1983CLb (59264)	3529

Ni++	gl	NaClO4	25°C	0.10M	U	M	K1=2.93	1983CLc (59265)	3530
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K(Ni(bpy)+L)=3.46

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C8H8NO2Cl HL CAS 5465-90-7 (632)  
N-(4-Chlorophenyl)aminoethanoic acid; Cl.C6H4.NHCH2COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl NaClO4 25°C 0.10M U M 1984Cma (59271)3531  
K(Ni(phen)+L)=3.88

Ni++ gl NaClO4 25°C 0.10M U K1=2.99 1979CXa (59272)3532

\*\*\*\*\*

C8H8NO2Cl HL CAS 61756-69-2 (4569)  
N-Acetyl-N-(4-chlorophenyl)hydroxamine; Cl.C6H4.N(CO.CH3).OH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl diox/w 25°C 70% U K1=6.16 B2=11.08 1968JSb (59278)3533  
Medium: 70% dioxan, 0.1 M KCl

\*\*\*\*\*

C8H8NO2F3S HL CAS 50790-31-3 (211)  
Trifluoromethanesulfonamidomethylbenzene; C6H5.CH2.S(:O)2.NH.CF3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl diox/w 30°C 45% M K1=4.5(9) B2=7.5(7) 1984MYa (59288)3534

\*\*\*\*\*

C8H8N2 L CAS 615-15-6 (5668)  
1-Methylbenzimidazole;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ sp non-aq 25°C 100% U K2=2.35 1984DPa (59292)3535  
Medium: DMSO

Ni++ gl alc/w 35°C 60% U I K1=3.16 1984MLa (59293)3536  
value at I=0.1 M KNO3; I=0.04, K=3.06, I=0.18, K=3.31, I=0.26, K=3.41

\*\*\*\*\*

C8H8N2 L CAS 615-15-6 (8241)  
2-Methylbenzimidazole;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.50M U K1=0.78 1990LGb (59298)3537

\*\*\*\*\*

C8H8N2 L CAS 39965-81-6 (5519)  
4-Cyano-2,6-dimethylpyridine;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl NaNO3 25°C 0.50M U K1=1.2 1983BEb (59302)3538

\*\*\*\*\*

C8H8N2O L CAS 4856-97-7 (3820)  
2-(Hydroxymethyl)benzimidazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	sp	non-aq	?	100%	U			1970ACa (59308)	3539
							K(Ni+3HL)=4.32		

Medium: MeOH

\*\*\*\*\*

C8H8N2O2 H2L (3821)

1-(2'-Hydroxyphenyl)-4-oxo-2,3-diazabut-1-ene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++	sp	alc/w	19°C	40%	U		K1=11.2	1966SSe (59321)	3540
							K(Ni+HL)=6.4		
							K(Ni+H2L)=3.8		
							B(NiL(OH))=14		

Medium: 40% EtOH, 0.05 M NaClO4

\*\*\*\*\*

C8H8N2O2 HL Phenylglyoxime (3222)

Phenylglyoxime; C6H5.C(:N.OH).CH:N.OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++	gl	diox/w	25°C	50%	U		K1=9.9 B2=19.3	1958PBa (59330)	3541
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C8H8N2O4 HL CAS 10242-06-5 (630)

N-(3-Nitrophenyl)aminoethanoic acid; O2N.C6H4.NHCH2COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++	gl	NaClO4	25°C	0.10M	U	M		1983CLc (59359)	3542
							K(Ni(bpy)+L)=3.09		

\*\*\*\*\*

C8H8N2O6S H2L CAS 15054-42-9 (3843)

N-(2'-Nitrobenzenesulfonyl)aminoethanoic acid; O2N.C6H4.SO2.NH.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	NaNO3	25°C	0.10M	C	M	K1=5.99	2000SIa (59369)	3543
							B(NiHL)=12.90		
							B(NiH2L2)=25.67		
							B(NiHL(bpy))=21.02		
							B(NiL(bpy))=13.71		

B(NiHL(bpy)2)=27.49, B(NiL(bpy)2)=20.38.

\*\*\*\*\*

C8H8N2S HL CAS 7152-24-1 (6200)

2-(Methylmercapto)benzimidazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	30°C	0.10M	M	M		1995RMa (59387)	3544
							K(Ni(bpy)+L)=7.80 K(Ni(phen)+L)=7.59 K(NiA+L)=7.44		

A is 1,2-diaminobenzene.

Ni++	gl	NaClO4	30°C	0.10M	M		K1=9.39	1995RMa (59388)	3545
*****									
C8H8O2		HL		2-Acetylphenol			CAS 118-93-4	(1888)	
2-Hydroxyacetophenone; HO.C6H4.CO.CH3									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	25°C	75%	U		K1=18.39	1978SRa (59449)	3546
Ni++	gl	diox/w	40°C	50%	U		K1=5.37	1975PPa (59450)	3547
Ni++	gl	diox/w	27°C	75%	U		K1=11.26 B2=19.81	1973KDc (59451)	3548
Medium: 75% dioxan, 0.1 M NaClO4									
*****									
C8H8O2		HL					CAS 613-84-3	(3189)	
5-Methylsalicylaldehyde (5-Methyl-2-hydroxybenzaldehyde)									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	30°C	75%	U		K1=6.18 B2=10.84	1978RJ a (59507)	3549
*****									
C8H8O2		HL		Phenylacetic			CAS 103-82-2	(1361)	
Phenylethanoic acid; C6H5.CH2.COOH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	nmr	none	20°C	0.0	U			1992Mca (59533)	3550
							K(NiA+L)=2.00 K(NiAL+L)=3.08		
A=carboxypeptidase A. Measured at pH 7. At pH 8, K(NiAL)=2.18, K(NiAL2)=2.81									

Ni++	gl	NaClO4	25°C	2.00M	U		K1=0.653 B2=0.896	1979NTa (59534)	3551
*****									
C8H8O2		HL					CAS 1004-72-4	(3190)	
alpha-Methyltropolone;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	30°C	50%	U		K1=8.4 B2=15.1 B3=18.8	1954BFb (59576)	3552
*****									

C8H8O2 HL CAS 583-80-2 (3191)  
beta-Methyltropolone;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	30°C	50%	U		K1=8.4 B2=15.0 B3=19.1	1954BFb (59587)	3553

\*\*\*\*\*  
C8H8O2S HL CAS 103-04-8 (3223)  
(Phenylthio)ethanoic acid; C6H5.S.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	alc/w	25°C	50%	U		B2=16.72 B(Ni2L3)=28.82 B(Ni3L4)=40.44	1985CFd (59616)	3554

Medium: 50% EtOH, 1.0 M NaClO4

Ni++	gl	oth/un	25°C	0.10M	U		K1=0.7	1962SYa (59617)	3555
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\*\*\*\*\*  
C8H8O2S HL 2-Thenoylacetone CAS 3151-27-2 (3224)  
2-Thenoylacetone, 1-(2'-Thienyl)butane-1,3-dione; C4H3S.CO.CH2.CO.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	30°C	75%	U		K1=9.38 B2=17.60	1953UFe (59633)	3556
Ni++	gl	diox/w	20°C	75%	U		K1=6.99 B2=12.82	1951UIa (59634)	3557

Medium: 75% dioxan, corr to H2O, I=0.1

\*\*\*\*\*  
C8H8O2S HL 3-Thenoylacetone CAS 21808-13-9 (2736)  
3-Thenoylacetone, 1-(3'-Thienyl)butane-1,3-dione; C4H3S.CO.CH2.CO.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	30°C	75%	U		K1=10.73 B2=19.23	1965RGa (59643)	3558

\*\*\*\*\*  
C8H8O2S HL CAS 13205-48-6 (4506)  
4-(Methylthio)benzoic acid; CH3.S.C6H4.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	ISE	KNO3	25°C	0.10M	C		K1=0.30	1972FGb (59649)	3559

By competition with Ag+ using Ag ISE

\*\*\*\*\*  
C8H8O3 H2L CAS 490-78-8 (6324)  
2,5-Dihydroxyacetophenone; (HO)2C6H3.CO.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++ gl diox/w 40°C 50% U K1=4.72 1975PPa (59672)3560  
\*\*\*\*\*

C8H8O3 H2L o-Cresotic acid CAS 83-40-9 (2338)  
2-Hydroxy-3-methylbenzoic acid; CH<sub>3</sub>.C<sub>6</sub>H<sub>3</sub>(OH).COOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl alc/w 25°C 50% M M K1=6.82 1983ADb (59694)3561  
K(Ni(phen)+L)=6.60

Medium: 50% v/v EtOH/H<sub>2</sub>O, 0.10 M NaNO<sub>3</sub>.

\*\*\*\*\*

C8H8O3 H2L p-Cresotic acid CAS 89-56-5 (3797)  
2-Hydroxy-5-methylbenzoic acid, (5-methylsalicylic acid)

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaClO<sub>4</sub> 35°C 0.10M U M K1=7.1 B2=12.34 1978ABd (59707)3562  
K(Ni(bpy)+L)=7.65

\*\*\*\*\*

C8H8O3 HL Mandelic Acid CAS 611-72-3 (80)  
2-Phenyl-2-hydroxyethanoic acid; C<sub>6</sub>H<sub>5</sub>.CH(OH).COOH

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaClO<sub>4</sub> 25°C 2.0M U K1=1.31 B2= 2.48 1985MFa (59788)3563  
By quinhydrone electrode, K1=1.35, B2=2.40.

-----  
Ni++ gl KNO<sub>3</sub> 25°C 0.10M U T K1=1.82 1984JSa (59789)3564  
-----

Ni++ kin KNO<sub>3</sub> 25°C 0.50M U K1=1.65 1981CKc (59790)3565  
-----

Ni++ sp oth/un ? ? U K1=6.8 1976SCb (59791)3566  
-----

Ni++ sp NaClO<sub>4</sub> 30°C 0.10M U K1=2.60 B2=4.40 1975KAd (59792)3567  
-----

Ni++ EMF NaClO<sub>4</sub> 30°C 0.10M U K1=2.55 B2=4.37 1972KAF (59793)3568  
-----

Ni++ vlt NaClO<sub>4</sub> 20°C 2.0M U K1=1.38 B2=2.04 1968FLa (59794)3569  
B3=2.95  
-----

Ni++ EMF NaClO<sub>4</sub> 25°C 2.0M U K1=1.41 B2=2.26 1968FLa (59795)3570  
B3=2.90  
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C8H8O3 HL m-Anisic acid CAS 586-38-9 (2804)  
3-Methoxybenzoic acid; CH<sub>3</sub>O.C<sub>6</sub>H<sub>4</sub>.COOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl oth/un 25°C 0.10M U K1=0.8 1960YYa (59905)3571  
\*\*\*\*\*

C8H8O3 HL CAS 673-22-3 (3194)  
4-Methoxysalicylaldehyde; CH3O.C6H3(OH).CHO

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	30°C	75%	U		K1=5.05 B2=7.70	1967KBb (59974)	3572

Medium: 75% dioxan, 0.1 M NaClO4

\*\*\*\*\*  
C8H8O3 H2L m-Cresotic acid CAS 50-85-1 (1244)  
4-Methylsalicylic acid; CH3.C6H3(OH).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	alc/w	25°C	50%	M	M	K1=6.95 K(Ni(phen)+L)=6.73	1983ADb (59990)	3573

Medium: 50% v/v EtOH/H2O, 0.10 M NaNO3.

Ni++	gl	NaClO4	25°C	0.15M	U	T		1980YAA (59991)	3574
							K(Ni+HL=NiL+H)=1.22		
							K(Ni+H2L=NiL+2H)=-4.03		

\*\*\*\*\*

C8H8O3 HL Phenoxyacetic CAS 122-59-8 (1153)  
Phenoxyethanoic acid; C6H5.O.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	oth/un	25°C	0.10M	U		K1=0.3	1962SYa (60029)	3575

\*\*\*\*\*

C8H8O4 H3L CAS 102-32-9 (1826)  
3,4-Dihydroxyphenylethanoic acid; C6H3(OH)2.CH2COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	30°C	0.10M	U		K1=8.04 B2=12.39	1966APb (60065)	3576

\*\*\*\*\*

C8H8O4 HL CAS 520-45-6 (4478)  
3-Acetyl-2-hydroxy-6-methylpyran-4-one, Dehydroethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	35°C	50%	U		K1=3.53 B2=6.72	1971MAa (60075)	3577

Medium: 50% dioxan, 0.1 M NaClO4

Ni++	gl	oth/un	20°C	0.10M	U		K1=4.1	1956ARb (60076)	3578
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C8H8O4 H2L CAS 2612-02-4 (1245)  
5-Methoxysalicylic acid; CH3O.C6H3(OH)COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++ gl NaClO4 25°C 0.15M U T 1980YAa (60115)3579  
K(Ni+HL=NiL+H)=0.65  
K(Ni+H2L=NiL+2H)=-3.74

\*\*\*\*\*

C8H9N L CAS 17618-94-9 (300)  
2-Allylpyridine; C5H4N.CH2.CH:CH2

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.10M U K1=1.7 1974ILa (60142)3580

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C8H9NO HL CAS 3117-65-5 (3824)  
N-(Salicylidene)aminomethane; HO.C6H4.CH:N.CH3

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ cal non-aq 30°C 100% U M 1973DGB (60150)3581  
K(NiL2+2py)=2.85

Medium: benzene

\*\*\*\*\*

C8H9NOS HL CAS 4822-44-0 (3240)  
N-(Mercaptoacetyl)aniline (thioglycolanilide); C6H5.NH.CO.CH2.SH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ oth diox/w 30°C 70% U B2=16.08 1973BSa (60153)3582  
Medium: 0.1 M KCl

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Ni++ gl diox/w 30°C 75% U K1=8.83 B2=16.65 1961MAe (60154)3583

\*\*\*\*\*

C8H9NO2 HL C-Phenylglycine CAS 2835-06-5 (6511)  
2-Amino-2-phenylethanoic acid, 2-aminophenylethanoic acid; C6H5.CH(NH2)COOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.10M M K1=4.98 B2=9.08 1990SMA (60168)3584

\*\*\*\*\*

C8H9NO2 HL CAS 56-91-7 (3225)  
2-Aminomethylbenzoic acid; H2N.CH2.C6H4.COOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl diox/w 35°C 50% U K1=5.2 B2=9.3 1958YSa (60177)3585

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C8H9NO2 HL (6326)  
2-Hydroxy-5-amino-acetophenone; (H2N)(HO)C6H3.CO.CH3

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl diox/w 40°C 50% U K1=5.90 1975PPa (60185)3586



Data also for 5 other 5-substituted analogues

\*\*\*\*\*

C8H9NO2 HL CAS 1726-86-9 (1487)

2-Hydroxy-5-methylbenzaldehyde oxime; CH3.C6H3(OH).CH:NOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	20°C	0.10M	U		K1=7.2 B2=14.70	1965BEb	(60192)3587

\*\*\*\*\*

C8H9NO2 HL CAS 17194-82-0 (1382)

2-Hydroxyacetophenone oxime; HO.C6H4.C(CH3):NOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	30°C	50%	U		K1=6.77	1982UVa	(60203)3588

Ni++	gl	diox/w	30°C	75%	U		K1=7.80	1976IKa	(60204)3589
------	----	--------	------	-----	---	--	---------	---------	-------------

Medium: 75% Dioxan/H2O, 0.1 M KNO3. Data also for 8 phenyl substituted analogues (3-Me, 5-Me, 3-Cl, 5-Cl, 5-Br, 3-Br, 5-I, 5-NO2)

Ni++	gl	diox/w	30°C	75%	U		K1=7.55 B2=14.80	1958KV a	(60205)3590
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Medium: 75% dioxan, 0.1 M NaClO4

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C8H9NO2 L CAS 1849-49-6 (5907)

5'-Deoxypyridoxal

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	M		K1=3.39 K(NiL+H)=6.66	1990SMa	(60242)3591

\*\*\*\*\*

C8H9NO2 HL CAS 119-68-6 (1275)

N-Methyl-anthranilic acid; CH3.NH.C6H4.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	40°C	70%	U		K1=3.10	1980SSb	(60259)3592

In 70% EtOH: K1=2.59

Ni++	gl	diox/w	35°C	50%	U		K1=3.0 B2=5.6	1958YSa	(60260)3593
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C8H9NO2 HL (2591)

N-Phenyl-N-acetohydroxamic acid; CH3.CO.N(OH)C6H5

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.20M	C		K1=4.68 B2= 8.28	2000FEc	(60277)3594

B3=10.16

B(NiH-1L2)=-2.42

\*\*\*\*\*

C8H9NO2 HL Phenyl-glycine CAS 103-01-5 (626)  
N-Phenylaminoethanoic acid; C6H5.NHCH2COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaCl04	25°C	0.10M	U		K1=3.10	1985CLa (60298)	3595
Ni++	gl	NaCl04	25°C	0.10M	U	M	K(Ni(phen)+L)=4.14	1984CMa (60299)	3596
Ni++	gl	alc/w	21°C	50%	M		K1=3.02 B2=5.87 B(NiH-1L)=-4.08	1984LOc (60300)	3597
Ni++	gl	alc/w	21°C	50%	M		K1=4.68 B2=8.51	1984LOd (60301)	3598
Ni++	gl	NaCl04	25°C	0.10M	U		K1=3.10	1983CLb (60302)	3599
Ni++	gl	NaCl04	25°C	0.10M	U	M	K1=3.10 K(Ni(bpy)+L)=3.66	1983CLc (60303)	3600
Ni++	gl	oth/un	25°C	0.10M	U		K1=2.7	1959SYc (60304)	3601

C8H9NO2 HL CAS 5330-97-2 (6248)  
Phenylacetohydroxamic acid; C6H5.CH2.CO.NH.OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaCl04	30°C	0.10M	U	T H		1981RSc (60320)	3602
Data for 30-50 C. DH(K1)=-20.1 kJ mol <sup>-1</sup> , DS(K1)=37 J K <sup>-1</sup> mol <sup>-1</sup> . K(Ni(bpy)+L)=5.20, DH=-18.2, DS=40. K(Ni(phen)+L)=5.23, DH=-19.2, DS=37.									
Ni++	gl	NaCl04	30°C	0.10M	U	M	K1=5.38 B2=9.46 K(Ni(phen)+L)=5.23	1980RSb (60321)	3603
Ni++	gl	KNO3	30°C	0.10M	U	M	K1=5.38 K(Ni(His)+L)=4.53	1980RSc (60322)	3604
Ni++	gl	NaCl04	30°C	0.10M	U	T H		1980RSe (60323)	3605
DH(K1)=-20.1 kJ mol <sup>-1</sup> , DS(K1)=37 J K <sup>-1</sup> mol <sup>-1</sup> ; DH(K2)=-20.7, DS(K2)=9.7.									

C8H9NO2 L CAS 2524-52-9 (4514)  
Pyridine-2-carboxylic acid ethyl ester; C5H4N.CO.OC2H5

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	oth	oth/un	0°C	?	U		K1=1.71 B2=2.93	1971KAc (60359)	3606
Method: freezing point depression									

C8H9NO2 L Et-nicotinate CAS 614-18-6 (1590)  
Pyridine-3-carboxylic acid ethyl ester; C5H4N.COOC2H5

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	oth	oth/un	0°C	?	U		K1=1.58 B2=2.76	1971KAc (60362)	3607
Method: freezing point depression									
*****									
C8H9NO2S		HL					CAS 104-18-7	(4575)	
(4-Aminophenylthio)ethanoic acid; H2N.C6H4.S.CH2.COOH									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.05M	M		K1=3.25	1975DPb (60366)	3608
*****									
C8H9NO2S		HL					CAS 6310-11-8	(4576)	
3-Mercaptoacetamidophenol; HS.CH2.CO.NH.C6H4.OH									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	oth	alc/w	20°C	50%	U		K1=6.38 B2=11.48	1972KPc (60380)	3609
Medium: 50% v/v EtOH, 0.1 M NaClO4									
*****									
C8H9NO3		HL					CAS 5663-54-7	(1095)	
2,4-Dihydroxy-acetophenone oxime; (HO)2.C6H3.C(CH3):NOH									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	27°C	60%	U	I	K1=6.05 B2=10.40	1974SRa (60393)	3610
In 60% acetone: K1=5.90, B2=10.00; 60% 2-EtOEtOH: 3.35, 6.50									
-----									
Ni++	gl	diox/w	30°C	60%	U		B2=8.10	1967SRa (60394)	3611
-----									
Ni++	dis	oth/un	30°C	?	U			1964BRc (60395)	3612
							K(Ni+HL=NiL+H)=-10.74		
KH phthalate buffer									
*****									
C8H9NO3		HL		Pyridoxal			CAS 65-22-5	(110)	
3-Hydroxy-5-(hydroxymethyl)-2-methyl-4-pyridinecarboxaldehyde;									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaCl	25°C	0.15M	M	M		1988ESa (60418)	3613
							B(NiHLA)=22.026		
							B(NiH3LA)=31.991		
							B(NiHLA2)=30.532		
							B(NiH2LA2)=36.512		
B(Ni2H2LA2)=41.282. HA=histidine hydroxamate									
-----									
Ni++	gl	KCl	25°C	0.50M	U		K1=1.82	1976EEa (60419)	3614
-----									
Ni++	gl	KCl	25°C	0.50M	U	M	K1=1.85	1966LHa (60420)	3615

B(NiL(Gly))=10.30  
 B(NiL2(Gly)2)=19.84  
 K(NiL(Gly)+H)=7.18

\*\*\*\*\*

C8H9NO3 H2L CAS 26071-07-8 (209)  
 5-Methylsalicylhydroxamic acid; CH3.C6H3(OH).CO.NH.OH

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ EMF diox/w 30°C 50% U K1=4.63 1977DJa (60434)3616  
 Medium: 50% dioxan, 0.1 M NaClO4

\*\*\*\*\*

C8H9NO3 HL CAS 2292-53-7 (8860)  
 Mandelohydroxamic acid;

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl KNO3 20°C 0.10M U K1=3.32 B2= 6.90 1989SMc (60442)3617

\*\*\*\*\*

C8H9NO3 HL CAS 676256-92-1 (9133)  
 N-(2-Furanylmethylene)alanine;

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl KCl 25°C 1.0M U K1=4.91 2003SGa (60450)3618

\*\*\*\*\*

C8H9NO3S HL CAS 72678-98-9 (8333)  
 2-(2-Furanyl)-4-thiazolidinecarboxylic acid;

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl KNO3 30°C 0.10M U TIH K1=5.58 B2=10.46 1983RKb (60455)3619  
 At I=0.0, K1=5.72, K2=5.04. Data for 25-50 C. DH(K1)=-32.6 kJ mol<sup>-1</sup>,  
 DS(K1)=22.1 J K<sup>-1</sup> mol<sup>-1</sup>; DH(K2)=-28.5, DS(K2)=15.1.

\*\*\*\*\*

C8H9NO4 HL CAS 78257-51-9 (887)  
 4-Ethoxypyridine-2-carboxylic acid N-oxide; C2H5O.C5H3N-O(COOH)

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl KNO3 30°C 0.10M U M K1=2.98 1986KR a (60474)3620  
 K(NiA+L)=2.03  
 K(NiB+L)=6.08

HA=picolinic acid, HB=6-methylpicolinic acid

-----  
 Ni++ gl NaClO4 30°C 0.10M U T K1=3.91 B2=6.44 1982RRa (60475)3621

\*\*\*\*\*

C8H9NO4 H2L (4520)  
 Dehydroethanoic acid oxime;

-----

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	35°C	50%	U			1971MAa (60482)	3622

K(Ni+HL)=8.61  
K(Ni+2HL)=16.64

Medium: 50% dioxan, 0.1 M NaClO4

\*\*\*\*\*

C8H9NO5S                      H2L                      (6513)  
2-Amino-4-sulfobenzeneethanoic acid; NH2.CH(C6H4HSO3)COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	M		K1=5.11    B2=8.83	1990SMa (60520)	3623

\*\*\*\*\*

C8H9NS2                      HL                      (259)  
Benzylidithiocarbamic acid; C6H5CH2NH.CSSH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	oth/un	25°C	0.1M	U		K1=4.01    B2=8.64	1994Gcb (60524)	3624

K3=3.56

Medium: 0.1 M diethanolamine. With phenylidithiocarbamic acid K1=4.41, K2=4.40  
K3=3.99. With dibutylidithiocarbamic acid K1=4.31, K2=4.19, K3=3.40

\*\*\*\*\*

C8H9N2O2F3S                      HL                      CAS 58157-03-2 (212)  
2-(Trifluoromethanesulfonamidoethyl)pyridine; C5H4NCH2CH2S(:O)2NHCF3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	30°C	45%	M		K1=7.1(7)    B2=9.2(3)	1984MYa (60527)	3625

\*\*\*\*\*

C8H9N3                      L                      CAS 7471-05-8 (3198)  
2,2'-Pyridylimidazoline;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	25°C	50%	U		K1=7.5    B2=14.1	1956HFa (60540)	3626

B3=20.0

\*\*\*\*\*

C8H9N3                      L                      CAS 5805-57-2 (3800)  
2-(Aminomethyl)benzimidazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	oth/un	25°C	0.30M	U T HM		K1=6.25	1994DAa (60547)	3627

Also data at 20 C: K1=6.18; 35C: K1=6.16; 40C: K1=6.21. DH(K1)=-0.7 kJ mol<sup>-1</sup>  
K(NiL+sal)=3.04 where H2sal=salicylic acid.

\*\*\*\*\*

C8H9N3OS                      L                      (4573)  
1-Benzoylthiosemicarbazide; C6H5.CO.NH.NH.CS.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	alc/w	25°C	80%	U	TIH	K1=8.80	1985BAb (60548)	3628

In 0.067 M KCl. When I=0.133: K=8.95; I=0.200, K=9.13. DH=-45.0 kJ mol<sup>-1</sup>, DS=14 J K<sup>-1</sup> mol<sup>-1</sup>

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C8H9N3O7	H2L	Uramildiacetic	CAS 13055-06-5	(185)
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5-Amino-2,4,6-trioxo-1,3-perhydrodiazimino-N,N-diethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KN03	25°C	0.10M	U		K1=13.12	1983FSa (60590)	3629
Ni++	cal	KN03	25°C	0.1M	C	H		1981CSb (60591)	3630

DH(K1)=-26.8 kJ mol<sup>-1</sup>, DS=163 K J mol<sup>-1</sup>

Ni++	gl	KN03	25°C	0.10M	U	T M		1981SVa (60592)	3631
------	----	------	------	-------	---	-----	--	-----------------	------

K(NiL+Gly)=4.53  
At 20 C: K(NiL+Gly)=4.59; 30 C: 4.41; 40 C: 4.31

Ni++	gl	R4N.X	25°C	0.10M	C		K1=14.19 B2=17.29	1975JTa (60593)	3632
------	----	-------	------	-------	---	--	-------------------	-----------------	------

Ni++	oth	KN03	25°C	0.10M	U		K1=13.12	1972FVa (60594)	3633
------	-----	------	------	-------	---	--	----------	-----------------	------

Ni++	gl	oth/un	20°C	0.0	U		K2=3.3	1948SBa (60595)	3634
------	----	--------	------	-----	---	--	--------	-----------------	------

\*\*\*\*\*

C8H9O3P	H2L		CAS 1707-08-0	(1969)
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2-Styrylphosphonic acid; C6H5.CH:CH.PO3H2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KN03	25°C	0.12M	U		K1=3.67	1979RZb (60668)	3635

\*\*\*\*\*

C8H10N06P	H3L	Codecarboxylase	CAS 41468-25-1	(2555)
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Pyridoxal-5-phosphoric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KN03	25°C	0.10M	M		K1=3.99	1990SMa (60696)	3636

K(NiL+H)=6.64  
K(NiHL+H)=4.3

\*\*\*\*\*

C8H10N2O	HL	Mandelamidine	CAS 700-63-0	(3825)
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2-Hydroxy-2-phenylacetamidine; C6H5.CH(OH).C(:NH)NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.10M	U		K1=7.38 B2=14.40	1963GJa (60712)	3637

\*\*\*\*\*

C8H10N2O HL CAS 7658-80-2 (4522)  
2-Methyl(benzamidoxime); CH3.C6H4.C(:N.OH)NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	sp	alc/w	25°C	40%	U			K1=4.59 B2=3.45 K(Ni+HL)=1.60 K(NiHL+HL)=2.23	1970MKd (60717)	3638

Medium: 40% EtOH, I=1.0 M

C8H10N2O HL CAS 13050-47-0 (4523)  
3-Methyl(benzamidoxime); CH3.C6H4.C(:N.OH)NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	sp	alc/w	25°C	60%	U			B2=4.08	1971MVb (60720)	3639

Medium: 60% MeOH, alkaline soln

C8H10N2O HL CAS 3619-12-5 (4524)  
4-Methyl(benzamidoxime); CH3.C6H4.C(:N.OH)NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	sp	alc/w	25°C	94%	U			K1=5.60 B2=4.90 K(Ni+HL)=0.05	1969MKg (60722)	3640

Medium: 94% EtOH, 1.0 M

C8H10N2O5 HL (4577)  
N-Methylaminothioformyl-N-phenylhydroxylamine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	oth	NaClO4	30°C	0.10M	U			K1=7.30 B2=14.10	1972MBe (60726)	3641

C8H10N2O2 HL CAS 2444-13-5 (2763)  
2-(2'-Pyridyl)-2-aminopropanoic acid; C5H4N.C(CH3)(NH2)COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	M			K1=7.06 B2=12.96	1976RNa (60731)	3642

B2=13.90 (racemic ligand)

C8H10N2O2 L CAS 21203-55-4 (5518)  
3-Nitro-2,4,6-trimethylpyridine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.50M	U			K1=2.8	1983BEb (60737)	3643

C8H10N2O2 HL (3227)

N-(2'-Pyridylmethyl)glycine; C5H4N.CH2.NH.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	U			K1=10.2	1965LCa (60741)	3644
*****										
C8H10N2S2		HL						CAS 52098-85-8	(6148)	
N-Phenyl-N-methylhydrazine-dithiocarboxylic acid; CH3(C6H5)N.NH.CSSH										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	sp	oth/un	25°C	0.01M	U			K1=5.77 B2=12.61	1985IGb (60779)	3645
*****										
C8H10N3OCl		HL						CAS 5756-79-6	(4578)	
3-Ethyl-3-hydroxy-1-(2-chlorophenyl)triazene;										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	diox/w	25°C	70%	U			K1=7.32 B2=13.01	1968DSa (60781)	3646
Medium: 70% dioxan, 0.1 M KCl										
*****										
C8H10N3OCl		HL						CAS 5756-78-5	(4579)	
3-Ethyl-3-hydroxy-1-(4-chlorophenyl)triazene;										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	diox/w	25°C	70%	U			K1=7.58 B2=13.48	1968DSa (60786)	3647
Medium: 70% dioxan, 0.1 M KCl										
*****										
C8H10N4O		HL						CAS 34375-07-0	(3827)	
5-Methyl-6-ethyl-7-hydroxy[1,2,4]triazolo[1,5-a][1,3]diazine;										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KNO3	20°C	0.10M	U			K1=2.73 B2=5.60	19660Ca (60792)	3648
*****										
C8H10N4O		HL						CAS 40775-87-9	(3826)	
5-Propyl-7-hydroxy[1,2,4]triazolo[1,5-a][1,3]diazine;										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KNO3	20°C	0.10M	U			K1=2.78 B2=5.65	19660Ca (60796)	3649
*****										
C8H10N4O2		HL						Cyclo-Gly-His (1685)		
Cyclo-(glycyl-histidyl)										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.20M	U			K1=2.55 B2=4.40	1985KIb (60805)	3650
*****										



C8H1005                      H2L                      CAS 145-73-7 (138)  
7-Oxa-bicyclo[2.2.1]-heptan-2,3-dicarboxylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	30°C	0.10M	U		K1=5.95	1995KFa (60861)	3651

\*\*\*\*\*

C8H1007                      H2L                      (2958)  
5,6-Dihydroxy-7-oxa-bicyclo[2.2.1]heptan-2,3-dicarboxylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	30°C	0.10M	U		K1=4.74	1995KFa (60882)	3652

\*\*\*\*\*

C8H1009                      H4L                      CAS 137172-86-2 (6612)  
SS-Oxydisuccinic acid; O(CH(COOH)CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.10M	C		K1=6.77 K(NiL+H)=3.10 K(NiHL+H)=2.80 K(NiH2L+H)=3.06 K(Ni+HL)=3.90	1992MMa (60897)	3653

K(Ni+H2L)=1.92, K(Ni+H3L)=1.58

\*\*\*\*\*  
C8H1009                      H4L                      CAS 84852-72-2 (6611)  
meso-Oxydisuccinic acid; O(CH(COOH)CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.10M	C		K1=7.62 K(NiL+H)=3.78 K(Ni+HL)=5.44	1992MMa (60909)	3654

\*\*\*\*\*

C8H10010                      H4L                      (5894)  
1-Hydroxy-3-oxapentane-1,2,4,5-tetracarboxylic acid;  
HO.CH(COOH).CH(COOH).O.CH(COOH).CH2(COOH)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.10M	C		K1=6.06 K(NiL+H)=3.75 K(NiHL+H)=3.03	1989MMd (60921)	3655

\*\*\*\*\*

C8H11N                      L                      CAS 69376-33-6 (542)  
2,4,6-Trimethylpyridine; C5H2N.(CH3)3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++ sp non-aq 25°C 100% U T H 1984RCa (60937)3656  
K(NiA(Cl)+L=NiAL+Cl)=1.83  
K(NiA(Br)+L=NiAL+Br)=2.88

Medium: DMSO. A=methyl-2-(B-aminoisopropylamino)cyclopent-1-enedithiocarboxy  
late

Ni++ gl oth/un 35°C ? U T K1=3.56 B2=6.55 1973SBc (60938)3657  
K1(45 C)=3.43, K2(45 C)=2.88

\*\*\*\*\*  
C8H11N L CAS 622-39-9 (303)  
2-(n-Propyl)pyridine; C5H4N.CH2.CH2.CH3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.10M U K1=1.6 1974ILa (60954)3658

\*\*\*\*\*  
C8H11N L CAS 529-21-5 (2002)  
3-Ethyl-4-methylpyridine; CH3.C5H3N.C2H5

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.50M U K1=2.02 B2=3.60 1975LPc (60970)3659

\*\*\*\*\*  
C8H11N L CAS 104-90-5 (4480)  
5-Ethyl-2-methylpyridine; CH3.C5H3N.CH2.CH3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ vlt KNO3 25°C 0.10M U K1=0.80 1972TPc (60981)3660

\*\*\*\*\*  
C8H11NO L CAS 20609-07-8 (298)  
2-(2'-Hydroxypropyl)pyridine; C5H4N.CH2.CH(OH).CH3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.10M U K1=1.7 1974ILa (60994)3661

\*\*\*\*\*  
C8H11NO L (5433)  
2-(2-Pyridyl)-2-propanol; CH3.C(OH)(C5H4N).CH3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl diox/w 25°C 50% U K1=2.56 1981CBa (61000)3662

\*\*\*\*\*  
C8H11NO HL CAS 6623-41-2 (3229)  
2-Amino-4,5-dimethylphenol; H2N.C6H2(CH3)2.OH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl none 20°C 0.0 U K1=5.9 B2=10.7 1959SIb (61016)3663

\*\*\*\*\*

C8H11NO L CAS 2859-67-8 (2037)  
3-(3-Pyridyl)-1-propanol; C5H4N.CH2.CH2.CH2OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.50M	U			K1=2.00 B3=4.42 B4=4.85	1981LRa (61023)	3664

\*\*\*\*\*

C8H11NO L CAS 20819-02-5 (5524)  
4-Methoxy-2,6-dimethylpyridine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.50M	U			K1=1.4	1983BEb (61030)	3665

\*\*\*\*\*

C8H11NO2 H2L Dopamine CAS 579-59-9 (251)  
2-(3',4'-Dihydroxyphenyl)ethylamine; (HO)2.C6H3.CH2.CH2.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	1.0M	C			K(Ni+H2L=NiHL+H)=-5.39 K(Ni+H2L=NiL+2H)=-13.05 K(Ni+H2L=NiH-1L+3H)=-22.58 K(Ni+2H2L=NiH-2L2+6H)=-49.4	1997GCa (61058)	3666

Ligand defined as H2L. K(NiL=NiH-1L+H)=-9.53, K(NiHL=NiL+H)=-7.65

Ni++	gl	NaClO4	37°C	0.15M	U	M		K1=9.66 B(NiHL)=18.12 B(NiHL2)=26.07 B(NiLCu)=18.92	1995NAC (61059)	3667
------	----	--------	------	-------	---	---	--	--	-----------------	------

Ni++	gl	KCl	25°C	0.20M	C	M		B(NiHL(bpy))=26.77 B(NiL(bpy))=16.31	1985KGa (61060)	3668
------	----	-----	------	-------	---	---	--	---	-----------------	------

Ni++	gl	KCl	25°C	0.20M	C			K1=9.42 B(NiHL)=19.37 B(NiH2L2)=35.66 B(NiHL2)=25.61	1979KGa (61061)	3669
------	----	-----	------	-------	---	--	--	---	-----------------	------

Ni++	gl	NaNO3	20°C	0.50M	U			B2=13.86 B(NiHL)=18.37 B(NiH2L2)=34.05	1974GSa (61062)	3670
------	----	-------	------	-------	---	--	--	--	-----------------	------

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C8H11NO3 HL Vitamin B6 CAS 65-23-6 (254)  
5-Hydroxy-6-methyl-3,4-pyridinedimethanol, Pyridoxine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.50M	U		K1=2.02	1976EEa (61106)	3671
Ni++	sp	NaCl	27°C	0.50M	M		K(Ni+HL)=1.46 K(NiHL+HL)=0.05	1975EGa (61107)	3672

\*\*\*\*\*

C8H11NO3                      H2L              Noradrenaline              CAS 138-65-8 (253)  
 Norepinephrine, 3,4-Dihydroxyphenylethanolamine; (HO)2C6H3.CH(CH2.NH2).OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.20M	C		K1=9.07    B2=14.53 B(NiHL)=18.26	1981GKb (61143)	3673
Ni++	gl	NaNO3	20°C	0.50M	U		K1=7.6 B(NiHL)=16.88 B(NiHL2)=21.9 B(NiH2L2)=31.83	1974GSa (61144)	3674

Ni++              gl    KCl              25°C    0.10M    U              K1=10.45    B2=18.95    1966JNa (61145) 3675  
 K1 adjusted to give hypothetical microscopic constant

Ni++              gl    KCl              25°C    0.06M    U T H              K1=5.28    B2=8.00    1962ALa (61146) 3676  
 At 0 C: K1=5.76, K2=3.75, B2=9.50. DH(B2)=-93.6 kJ mol<sup>-1</sup>, DS=-159 J K<sup>-1</sup> mol<sup>-1</sup>

Ni++              gl    KCl              0°C    .058M    U T              B2=9.50              1957LYa (61147) 3677  
 At 25 C: B2=8.00

\*\*\*\*\*

C8H11NO8P2                      H5L                                      (6894)  
 N-(4-Carboxyphenyl)aminomethylenedi(phosphonic acid); HOOC.C6H4.NH.CH(PO3H2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	U		K1=9.52 K(Ni+HL)=4.29	1990GKa (61223)	3678

\*\*\*\*\*

C8H11N3O                      HL                                      CAS 5956-71-8 (4528)  
 1-(2-Tolyl)-3-methyl-3-hydroxytriazene; CH3.C6H4.N:N.N(OH).CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	EMF	diox/w	25°C	70%	U		K1=9.20    B2=16.70	1970DSb (61237)	3679

Medium: 70% dioxan, 0.1 M KCl

\*\*\*\*\*

C8H11N3O                      HL                                      CAS 5956-75-2 (4530)  
 1-Phenyl-3-ethyl-3-hydroxytriazene; C6H5.N:N.N(OH).CH2.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++ EMF diox/w 25°C 70% U K1=8.71 B2=15.93 1969DSa (61238)3680  
Medium: 70% dioxan, 0.1 M KCl

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C8H11N30 HL CAS 5956-70-7 (4529)  
3-Hydroxy-3-methyl-1-(4-tolyl)triazene; CH3.C6H4.N:N.N(OH).CH3

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ EMF diox/w 25°C 70% U K1=8.48 B2=15.67 1970DSb (61240)3681  
Medium: 70% dioxan, 0.1 M KCl

-----  
Ni++ gl diox/w 25°C 70% U K1=9.43 B2=17.39 1970DSb (61241)3682  
Medium: 70% dioxan, 0.1 M KCl

\*\*\*\*\*

C8H11N302 HL CAS 25294-95-5 (4534)  
1-(2'-Methoxyphenyl)-3-methyl-3-hydroxytriazene; CH3O.C6H4.N:N.N(OH).CH3

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ EMF diox/w 25°C 70% U K1=9.42 B2=18.10 1969DSa (61252)3683  
Medium: 70% dioxan, 0.1 M KCl

\*\*\*\*\*

C8H11N302 HL CAS 5756-72-9 (4533)  
3-Hydroxy-3-methyl-1-(4'-methoxyphenyl)triazene; CH3O.C6H4.N:N.N(OH).CH3

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl diox/w 25°C 70% U K1=9.57 B2=17.71 1970DSb (61254)3684  
Medium: 70% dioxan, 0.1 M KCl

\*\*\*\*\*

C8H11N303 HL CAS 2497-02-1 (3230)  
Acetyl-L-histidine;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaCl04 25°C 0.10M U K1=2.96 B2=5.19 1991YNa (61268)3685  
B(NiH-1L)=-5.78

-----  
Ni++ gl oth/un 25°C 0.16M U K1=2.85 B2=5.05 1960MEa (61269)3686  
K3=1.7

\*\*\*\*\*

C8H11N303S H2L CAS 62404-82-4 (2168)  
N-Mercaptoacetyl-histidine; C3H3N2.CH2.CH(COOH).NH.CO.CH2.SH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 20°C 0.10M U K1=6.57 1977SHa (61279)3687  
K(NiH-1L+H)=6.53

\*\*\*\*\*

C8H11N5 L CAS 702-02-3 (3202)  
1-Phenylbiguanide; C6H5.NH.C(:NH).NH.C(:NH).NH2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl oth/un 32°C 0.05M U B2=11.28 1956SRb (61285)3688  
\*\*\*\*\*

C8H11N5O3 HL Acyclovir CAS 59277-89-3 (8696)  
2-Amino-1,9-dihydro-9-[(2-hydroxyethoxy)methyl]-6H-purin-6-one;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ cal NaNO3 25°C 0.10M C HM 2001HCa (61289)3689  
K(Ni+HL)=1.39

DH(Ni+HL)=-21.5 kJ mol<sup>-1</sup>, DS(Ni+HL)=-48 J K<sup>-1</sup> mol<sup>-1</sup>.

\*\*\*\*\*

C8H11O2F3 HL CAS 22767-90-4 (1249)  
1,1,1-Trifluoro-5,5-dimethyl-2,4-hexanedione; F3C.CO.CH2.CO.CH(CH3)3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl diox/w 30°C 75% U K1=7.97 B2=15.40 1972UDa (61297)3690  
Medium: 75% v/v dioxan, 0.01 Me4NC104

\*\*\*\*\*

C8H11O2PS2 HL CAS 108450-90-4 (7927)  
4-Methoxyphenyl-phosphonodithioic acid-o-methylester;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ sp non-aq 25°C 100% C M 2001AAc (61307)3691

K(NiL+A)=3.20

K(NiL+B)=1.88

K(NiL+C)=3.46

K(NiL+D)=4.71

Medium: CH2Cl2. A=pyridine, B=2-aminopyridine, C=3-aminopyridine,  
D=4-aminopyridine.

\*\*\*\*\*

C8H12NO3P H2L Phosphono-Phe CAS 6324-00-1 (6008)  
1-Amino-2-phenylethanephosphonic acid; C6H5.CH2.CH(NH2)PO3H2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KCl 25°C 0.20M C K1=5.46 B2=9.36 1987KBb (61338)3692  
B(NiHL)=11.17  
B3=11.83

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C8H12NO4P H3L Phosphono-Tyr CAS 16802-71-4 (6009)  
1-Amino-2-(4-hydroxyphenyl)ethanephosphonic acid; HO.C6H4.CH2.CH(NH2)PO3H2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo



Ni++	gl	NaNO3	37°C	0.15M	U	K1=6.464	B2=10.521	1982ESa	(61394)3701
						B(NiHL)=14.203			
						B(NiH2L2)=28.137			

Ni++      gl    NaNO3    30°C   0.50M M      M      K1=6.66    B2=11.43    1982MAad (61395)3702  
B(NiHL)=14.18  
B(NiH2L2)=27.84  
B(Ni(en)L)=13.02  
B(NiH(en)L)=21.57

Ni++      gl   KNO3   30°C 0.50M M    M    K1=6.66   K2=7.52   1979EMa (61396)3703  
B(NiHL)=14.18  
B(NiH2L2)=27.84

Ni++      gl    KCl      25°C 0.50M U      K1=7.20    B2=11.26    1976EEa (61397)3704

Ni++      gl   KNO3   25°C 0.10M U      K1=6.00   B2=10.92   1957GMa (61398)3705

\*\*\*\*\*

C8H12N2O3S                      HL                      CAS 551-16-6    (6858)

6-Aminopenicillanic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ni++      gl   NaClO4 37°C 0.15M U      K1=3.27      1999NNb (61457)3706  
B(NiHL)=7.37  
B(NiHL2)=9.61

Ni++      gl    NaNO3    37°C 0.10M U      M      K1=3.30      1994MGc (61458)3707  
B(Ni(gly)L)=9.77  
\*K(Ni(gly)L)=-7.42  
\*K(Ni(OH)(gly)L)=-9.95  
B(Ni(bpy)L)=10.79

\*K(Ni(bpy)L)=-7.05, \*K(Ni(OH)(bpy)L)=-9.60. B(NiAL)=6.85,

\*K(NiAL)=-7.65, \*K(Ni(OH)AL)=-8.32. A is imidazole

Ni++      gl    NaNO3    37°C   0.10M   U      K1=3.30      1991Mgb (61459)3708  
\*K(NiL(H2O)2)=-9.62

\*\*\*\*\*

C8H12N2O7                      H3L                      CAS 43101-36-6    (669)

Glycylglycine-N,N-diethanoic acid;  $(\text{HOOC}.\text{CH}_2)_2\text{N}.\text{CH}_2.\text{CO}.\text{NH}.\text{CH}_2.\text{COOH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++	gl	KN03	25°C 0.10M C	K1=8.69	1974MMb (61474)3709
				K(NiL+H)=3.00	

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C8H12N2O8                      H4L                      CAS 35039-85-1 (4537)  
 1,2-Diaminoethane-N,N'-dimalonic acid; (HOOC)2.CH.NH.CH2.CH2.NH.CH(COOH)2

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	KNO3	25°C	0.10M	U		K1=12	1973MAb (61482)	3710
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Ni++	gl	KNO3	25°C	0.10M	U		K1=14.47	1973SGa (61483)	3711
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Using a Cu/Hg electrode, K1=14.47

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C8H12N2S                      L                      CAS 38585-75-0 (8242)

2-[(2-Pyridinylmethyl)thio]ethanamine;

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	KNO3	25°C	0.50M	M	H	K1=6.99    B2=12.95	1984HGb (61536)	3712
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K(Ni+HL)=0.8

By calorimetry: DH(K1)=-43.27 kJ mol<sup>-1</sup>, DH(K2)=-41, DH(Ni+HL)=-12.

\*\*\*\*\*

C8H12N4B-                      L                      (7238)

(Pyrazol-1-yl) dihydro(3,5-dimethylpyrazol-1-yl) borate; C3H3N2.BH2.C3HN2(CH3)2-

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	dis	non-aq	25°C	100%	U			1996KSa (61541)	3713
------	-----	--------	------	------	---	--	--	-----------------	------

K(Ni+2HL=NiL2(org)+2H)=1.35

By solvent extraction into CHCl3

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C8H12N4O3                      HL                      Gly-His                      CAS 3486-76-8 (273)

Glycyl-histidine; H2N.CH2.CO.NH.CH(CH2.C3H3N2).COOH

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	KCl	25°C	0.20M	C	M	K1=4.68    B2=9.64	1983FSc (61577)	3714
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B(NiHL)=11.34  
 B(NiH-1L)=-1.35  
 B(NiH-1L2)=2.07  
 B(NiHL(His))=19.57

B(NiL(His))=12.77;    B(NiH-1L(His))=4.52

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Ni++	gl	KNO3	25°C	0.10M	C		K1=3.9    B2=8.82	1975BPb (61578)	3715
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B3=11.57  
 B(NiHL)=11.07  
 B(NiHL2)=15.84  
 B(NiH-1L)=-1.502

B(NiH-1L2)=0.92

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Ni++	gl	NaCl	25°C	0.12M	U		K1=5.24    B2=9.59	1972IBa (61579)	3716
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Ni++	gl	KCl	25°C	0.16M	U			1966BRd (61580)	3717
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K(NiH-1L+H)=6.10  
K(NiH-1LOH+H)=6.70  
K(NiH-1L(OH)2+H)=9.25

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C8H12N4O3                      HL      His-Gly                      CAS 2578-58-7    (274)  
Histidyl-glycine; H2N.CH(CH2.C3H3N2).CO.NH.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.20M	C		K1=6.81    B2=12.30	1983FSc	(61616)3718
Ni++	gl	KNO3	25°C	0.10M	C		K1=6.844    B2=12.386	1975BPb	(61617)3719
Ni++	gl	none	21°C	0.0	M		K1=6.88    B2=12.82	1974YAa	(61618)3720

\*\*\*\*\*

C8H12N5O4P                      H2L                      CAS 106941-25-7    (6693)  
9-(2-(Phosphonylmethoxy)ethyl)adenine; H2O3P.CH2.O.CH2.CH2.adenine

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.10M	M	M	K1=1.56 K(PtLA+Ni)=1.56	2000KLb	(61640)3721

A=diethylenetriamine

Ni++	gl	NaNO3	25°C	0.10M	M		K1=2.41 B(NiHL)=7.86 K(Ni+HL)=0.96	1992SCa	(61641)3722
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C8H12O2                      HL                      CAS 874-23-7    (3203)  
2-Acetylcyclohexanone;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	30°C	75%	U		K1=9.90    B2=17.79	1959MFa	(61663)3723

\*\*\*\*\*

C8H12O2                      HL                      CAS 15506-38-8    (3204)  
3-Allylpentane-2,4-dione; CH3.CO.CH(CH2.CH:CH2)CO.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	30°C	75%	U		K1=9.41    B2=17.84	1959MFa	(61682)3724

\*\*\*\*\*

C8H12O4                      H2L                      CAS 1127-08-8    (72)  
Cyclohexane-1,1-dicarboxylic acid; C6H10.(COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.10M	U		K1=1.99	1972RVh	(61700)3725

\*\*\*\*\*

C8H12O4                      H2L                      CAS 6018-58-3    (960)

Hex-1-ene-6-dioic acid; CH<sub>2</sub>:CH.CH<sub>2</sub>.CH<sub>2</sub>.CH<sub>2</sub>.CH(COOH)<sub>2</sub>

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KNO <sub>3</sub>	25°C	0.10M	C			K <sub>1</sub> =2.48	1975IPa (61723)	3726
*****										
C <sub>8</sub> H <sub>13</sub> N <sub>3</sub> O <sub>3</sub>				H <sub>3</sub> L				(4539)		
(1-Acetyl)ethylideneiminopropanoic acid;										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	EMF	oth/un	?	?	U			K <sub>1</sub> =8.65	1972MGb (61745)	3727
*****										
C <sub>8</sub> H <sub>13</sub> N <sub>3</sub> O <sub>6</sub>				H <sub>3</sub> L				(5681)		
2-Aminobutanoic-N,N-diethanoic acid; CH <sub>3</sub> CH <sub>2</sub> CH(COOH)N(CH <sub>2</sub> COOH) <sub>2</sub>										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KNO <sub>3</sub>	20°C	0.10M	U			K <sub>1</sub> =11.24	1974RMf (61777)	3728
*****										
C <sub>8</sub> H <sub>13</sub> N <sub>3</sub> O <sub>6</sub>				H <sub>3</sub> L				(3232)		
N-(Carboxymethyl)iminodipropoic acid; H <sub>2</sub> OC.CH <sub>2</sub> .N(CH <sub>2</sub> .CH <sub>2</sub> .COOH) <sub>2</sub>										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KCl	30°C	0.10M	U			K <sub>1</sub> =9.1	1953Cma (61804)	3729
*****										
C <sub>8</sub> H <sub>13</sub> N <sub>3</sub> O <sub>6</sub> S				H <sub>3</sub> L				(5675)		
2-Mercapto-1-aminoethane-N,N,S-triethanoic acid; H <sub>2</sub> OC.CH <sub>2</sub> .S.CH <sub>2</sub> .CH <sub>2</sub> .N(CH <sub>2</sub> COOH) <sub>2</sub>										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	vlt	NaClO <sub>4</sub>	25°C	0.10M	U			K <sub>1</sub> =13.07 K(Ni+HL)=3.14	1975POa (61812)	3730
*****										
C <sub>8</sub> H <sub>13</sub> N <sub>3</sub> O <sub>2</sub>				HL	DiMe-Histidine			(1193)		
N-Dimethylhistidine; (CH <sub>3</sub> ) <sub>2</sub> N.CH(CH <sub>2</sub> .C <sub>3</sub> H <sub>3</sub> N <sub>2</sub> ).COOH										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.10M	C			K <sub>1</sub> =8.485 B <sub>2</sub> =12.138 K(Ni(DL-L))=8.476 B(Ni(DL-L) <sub>2</sub> )=13.043	1976RIa (61858)	3731
*****										
C <sub>8</sub> H <sub>13</sub> N <sub>3</sub> O <sub>6</sub>				H <sub>4</sub> L				CAS 79507-77-0 (8187)		
1-Bis(carboxymethyl)aminobutane-2,3-dione dioxime;										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KNO <sub>3</sub>	25°C	0.10M	C				1981UMa (61865)	3732

K(Ni+H2L)=9.87  
 \*K(NiH2L)=-7.38  
 K(Ni+HL)=13.0  
 K(Ni+2HL)=18.4

K(2NiHL=Ni2(HL)2)=3.2

\*\*\*\*\*

C8H13N6O4P                      H2L                      (7462)  
 9-[2-(Phosphonomethoxy)ethyl]-2,6-diaminopurine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.10M	M		K1=2.60 K(Ni+HL)=1.30	1999BSa (61869)	3733

\*\*\*\*\*

C8H14N2                      L                      (6727)  
 1-Butyl-2-methylimidazole

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.50M	C		K1=2.03    B2=3.49 B3=4.54 B4=5.00	1993BKc (61885)	3734

\*\*\*\*\*

C8H14N2O                      L                      (6728)  
 1-Butyl-2-hydroxymethylimidazole

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.50M	C		K1=2.58    B2=4.67 B3=6.44 B4=7.43	1993BKc (61890)	3735

\*\*\*\*\*

C8H14N2O2                      H2L    Octoxime                      CAS 18310-14-0    (1303)  
 1,2-Cyclooctanedione dioxime; C8H12(:NOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	20°C	75%	U		K1=12.32    B2=24.63	1981HFa (61895)	3736

\*\*\*\*\*

C8H14N2O3                      HL                      (6599)  
 2,3-Dehydro-N-glycyl-leucine; NH2.CH2.CO.NH.C(COOH):CH.CH(CH3)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.10M	C		K1=3.69    B2=7.00 B(CoH-1L)=-4.82 B(CoH-1L2)=-2.62 B(CoH-2L2)=-10.77	1994JBa (61902)	3737

\*\*\*\*\*

C8H14N2O3                      HL                      (6601)

2,3-Dehydro-N-valyl-alanine;  $\text{NH}_2\text{CH}(\text{CH}(\text{CH}_3)_2)\text{CO}\cdot\text{NH}\cdot\text{C}(\text{COOH})\cdot\text{CH}_2$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++	gl	KCl	25°C	0.10M	C			K1=2.83 B(NiH-1L)=-3.66 B(NiH-1L2)=-1.58 B(NiH-2L2)=-9.51	1994JBa (61907)	3738
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\*\*\*\*\*  
C8H14N2O3                      HL      Ala-Pro                      CAS 13485-59-1    (256)  
Alanyl-proline;  $\text{H}_2\text{N}\cdot\text{CH}(\text{CH}_3)\cdot\text{CO}\cdot\text{NC}_4\text{H}_7\cdot\text{COOH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ni++	gl	KCl	20°C	0.20M	U			K1=3.93    B2=7.12 B3=9.57	1982KRd (61913)	3739
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\*\*\*\*\*  
C8H14N2O3                      HL      Pro-Ala                      CAS 6422-36-2    (263)  
Prolyl-alanine;  $\text{C}_4\text{H}_8\text{N}\cdot\text{CO}\cdot\text{NH}\cdot\text{CH}(\text{CH}_3)\cdot\text{COOH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++	gl	KCl	20°C	0.20M	U			K1=4.46    B2=8.21 B3=10.65 B(NiH-1L2)=-0.97 B(NiH-2L2)=-11.09	1982KRd (61924)	3740
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\*\*\*\*\*  
C8H14N2O4                      H2L                      CAS 124099-98-5    (5607)  
1,4-Piperazine-N,N'-diethanoic acid;  $\text{HOOC}\cdot\text{CH}_2\cdot\text{C}_4\text{H}_8\text{N}_2\cdot\text{CH}_2\cdot\text{COOH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ni++	EMF	KCl	20°C	0.10M	U			K1=3.64 K(NiL+H)=6.35	1963IPb (61939)	3741
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Method: H electrode

\*\*\*\*\*  
C8H14N2O6P2                      HL                      (7465)  
N-(3-Pyridylmethyl)imino-bis(methylphosphonic acid);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++	gl	KCl	25°C	0.20M	C			K1=7.58 B(NiHL)=13.73 B(NiH2L)=18.61 B(NiH3L)=22.70	2000KKa (61963)	3742
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\*\*\*\*\*  
C8H14N4O                      L      Carcinine                      (260)  
B-Alanyl-histamine;  $\text{NH}_2\cdot\text{CH}_2\cdot\text{CH}_2\cdot\text{CO}\cdot\text{NH}\cdot\text{CH}_2\text{CH}_2\cdot\text{C}_3\text{H}_3\text{N}_2$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	diox/w	30°C	75%	U			K1=9.86 B2=18.89	1953UFd (62034)	3751
*****										
C8H14O2		HL						CAS 7307-04-2	(3208)	
5,5-Dimethylhexane-2,4-dione; CH3.CO.CH2.CO.C(CH3)3										
-----										
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	diox/w	30°C	75%	U	I		K1=9.31 B2=18.06	1972UDa (62039)	3752
Medium: 75% v/v dioxan, 0.01 M Me4NClO4										
I=0: K1=9.94, K2=9.19										
-----										
Ni++	gl	diox/w	30°C	75%	U			K1=9.94 B2=19.13	1953UFd (62040)	3753
*****										
C8H14O4S3		H2L						(2526)		
3,6,9-Trithiaundecanedioic acid; HOOCH2.S.C2H4.S.C2H4.S.C2H4.COOH										
-----										
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	oth/un	25°C	0.10M	U			K1=4.42	1971FPa (62115)	3754
-----										
Ni++	gl	NaClO4	25°C	0.10M	U			K1=4.70	1971PPc (62116)	3755
K(Ni+HL)=2.42										
*****										
C8H14O5S2		H2L						CAS 4408-66-6	(8332)	
Oxybis(ethylenethio)diethanoic acid;										
-----										
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KN03	20°C	0.10M	U			K1=3.61	1977CAc (62130)	3756
*****										
C8H14O7		H2L						(241)		
Di(carboxymethoxy)ethyl ether; (HOOCH2.O.CH2.CH2)2O										
-----										
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KN03	25°C	0.10M	U			K1=2.39	1975MTc (62142)	3757
*****										
C8H15NO2		HL						CAS 6949-77-5	(3235)	
1-Aminocycloheptanecarboxylic acid; C6H10(NH2).COOH										
-----										
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KCl	20°C	0.10M	U			K1=5.33 B2=9.8	1963IPa (62155)	3758
*****										
C8H15NO2		HL						CAS 6051-21-4	(8043)	
Cyclohexylacetohydroxamic acid;										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	NaNO3	25°C	0.10M	C		B2=11.70	1997Nwa	(62163)3759
*****									
C8H15NO4		H2L					CAS 56004-49-0	(343)	
N-(iso-Butyl)iminodiethanoic acid; (CH3)2.CH.CH2.N(CH2.COOH)2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.10M	U		K1=8.08 B2=14.43	1976JPa	(62174)3760
*****									
C8H15NO4		H2L					CAS 56004-50-3	(344)	
N-(tert-Butyl)iminodiethanoic acid; (CH3)3C.N(CH2.COOH)2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.10M	U		K1=8.42 B2=15.85	1976JPa	(62178)3761
*****									
C8H15NO4		H2L					CAS 33994-68-7	(347)	
N-Butyliminodiethanoic acid; C4H9.N(CH2.COOH)2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.10M	U		K1=8.82 B2=15.94	1976JPa	(62183)3762
*****									
Ni++	gl	KNO3	25°C	0.10M	C		K1=8.84 B2=15.88	1975IPa	(62184)3763
*****									
C8H15NO5		H2L					CAS 5344-77-4	(332)	
N-(2-Hydroxy-1,1-dimethylethyl)iminodiethanoic acid; HO.CH2.C(CH3)2.N(CH2.COOH)2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.10M	U		K1=8.48 B2=13.21	1976JPa	(62193)3764
K(NiH-1L+H)=10.36									
*****									
C8H15NO5		H2L					CAS 60345-64-5	(335)	
N-(2-Hydroxy-2-methylpropyl)iminodiethanoic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.10M	U		K1=8.03 B2=10.94	1976JPa	(62195)3765
K(NiH-1L+H)=11.24									
*****									
C8H15NO5		H2L					(3234)		
N-(2-Hydroxyethyl)iminodipropionic acid; HO.CH2.CH2.N(CH2.CH2.COOH)2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	30°C	0.10M	U		K1=5.7	1954Cma	(62198)3766
*****									



C8H15N05                      H2L                      CAS 62117-04-8 (337)  
N-(4-Hydroxybutyl)iminodiethanoic acid; HO.(CH2)4.N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	NaCl04	25°C	0.10M	U			K1=8.66    B2=15.65	1976JPa (62205)	3767

\*\*\*\*\*

C8H15N06                      H2L                      CAS 92511-22-3 (6074)  
N-(1,1-Di(hydroxymethyl)ethyl)iminoethanoic acid; (HO.CH2)2C(CH3).N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	NaCl04	25°C	1.0M	C			K1=9.07	1981ASb (62210)	3768

\*\*\*\*\*

C8H15N07                      HL                      CAS 60644-20-4 (6758)  
Fructose-glycine; C6H1105.NH.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	NaCl04	25°C	0.10M	C			K1=4.97    B2=8.97 B(NiH-1L2)1.37 B(NiH-2L2)=-8.25	1993GGb (62224)	3769

\*\*\*\*\*

C8H15N304                      HL                      Gly-Ala-Ala                      CAS 6491-25-4 (6783)  
Glycyl-alanyl-alanine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C			K1=10.55 K(NiL+H)=8.81 K(NiHL+H)=5.06	1983IMb (62246)	3770

\*\*\*\*\*

C8H15N304                      HL                      (1008)  
Glycyl-b-alanyl-b-alanine; H2NCH2CONH(CH2)2CONH(CH2)2COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.20M	C			K1=4.05    B2= 7.44 B(NiH-1L)=-4.98 B(NiH-2L)=-14.93	2003AMb (62254)	3771

\*\*\*\*\*

C8H15N304                      HL                      (1009)  
b-Alanyl-glycyl-b-alanine; H2N(CH2)2CONHCH2CONH(CH2)2COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.20M	C			K1=3.54 B(NiH-1L)=-4.81 B(NiH-2L)=-13.99	2003AMb (62262)	3772

\*\*\*\*\*

C8H15N5O4                      H4L      Gly4 amide                      CAS 75790-48-8    (2439)  
H-Gly-Gly-Gly-Gly-NH2; H2NCH2CONHCH2CONHCH2CONHCH2CONH2

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	kin	NaCl04	25°C	1.00M	U			1980RMa (62264)	3773
							K(NiH-3L+H)=2.4		
							K(NiH-2L+H)=1.3		
							K(NiH-1L+H) < 1.0		

\*\*\*\*\*

C8H15N7O2S3                      L      Famotidine                      CAS 76824-35-6    (6502)  
N'-(Aminosulfonyl)-3-((2-(diaminomethyleneamino)-4-thiazolyl)methylthio)propanamidine

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	KNO3	25°C	0.10M	C		K1=6.06	2002BKa (62272)	3774
							B(NiHL)=13.69		
							B(NiH-2L)=-10.06		

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Ni++	gl	KNO3	25°C	0.10M	U		K1=3.46	1992KKa (62273)	3775
							B(NiH-2L)=-13.20		

\*\*\*\*\*

C8H16N2O2                      HL                      CAS 61050-68-8    (3836)  
Octane-4,5-dione dioxime (di-n-propylglyoxime)

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	diox/w	25°C	75%	U	I	K1=13.1    B2=23.9	1963BAb (62280)	3776
							Kso=-25.14		

Medium: 75% dioxan, 0.1 M. B2=17.1(0% dioxan)

\*\*\*\*\*

C8H16N2O3                      HL                      CAS 39692-70-1    (5505)  
2-Methylalanyl-2-methylalanine; H2N.C(CH3)2CO.NH.C(CH3)2.COOH

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	NaCl04	25°C	0.10M	C		K1=3.51    B2= 6.24	1988ABe (62285)	3777
							B(NiH-1L2)=-3.5		
							B(NiH-2L2)=-13.45		

\*\*\*\*\*

C8H16N2O3                      HL      DL-Ala-DL-Val                      CAS 1999-46-8    (2122)  
DL-Alanyl-DL-valine; H2N.CH(CH3).CO.NH.CH(CH(CH3)2).COOH

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	NaCl	25°C	0.12M	U		K1=3.53    B2=6.74	1977PNa (62299)	3778
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Ni++	gl	NaCl	25°C	0.12M	U		K1=3.53    B2= 6.74	1976PNa (62300)	3779
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L=DL-alpha-alanyl-DL-leucine

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Ni++ EMF oth/un ? ? U K1=3.53 B2=6.74 1970PBb (62301)3780  
\*\*\*\*\*

C8H16N2O3 HL Gly-norLeu CAS 1504-41-2 (3837)  
Glycyl-DL-norleucine; H2N.CH2.CO.NH.CH(CH2CH2CH2CH3).COOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaCl 25°C 0.12M U K1=4.24 B2=7.78 1977PNa (62311)3781  
-----

Ni++ gl NaCl 25°C 0.12M U K1=4.24 B2= 7.78 1976PNa (62312)3782  
L=glycyl-DL-norleucine  
-----

Ni++ EMF oth/un ? ? U K1=4.24 B2=7.78 1970PBb (62313)3783  
\*\*\*\*\*

C8H16N2O3 HL Gly-Leu CAS 869-19-2 (255)  
Glycyl-leucine; H2N.CH2.CO.NH.CH(CH2.CH(CH3)2).COOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KCl 20°C 0.20M U K1=4.28 B2=7.77 1982KRd (62369)3784  
B3=10.52  
B(NiH-1L2)=-2.13  
-----

Ni++ gl NaCl 25°C 0.12M U K1=4.16 B2=7.83 1977PNa (62370)3785  
-----

Ni++ gl NaCl04 20°C 0.10M U K1=4.25 B2=7.99 1972PGb (62371)3786  
-----

Ni++ EMF oth/un ? ? U K1=4.16 B2=7.83 1970PBb (62372)3787  
glycyl-L-leucine: K1=4.28, K2=3.68  
-----

Ni++ gl KCl 0°C .058M U T B2=8.40 1957LYa (62373)3788  
At 25 C: B2=7.70  
\*\*\*\*\*

C8H16N2O3 HL Leu-Gly CAS 686-50-0 (1248)  
Leucyl-glycine; H2N.CH(CH2.CH(CH3)2).CO.NH.CH2.COOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KCl 20°C 0.20M U K1=3.39 B2=6.21 1982KRd (62417)3789  
B3=8.46  
B(NiH-1L2)=-2.41  
B(NiH-2L2)=-12.31  
-----

Ni++ gl NaCl04 20°C 0.10M U K1=3.44 B2=6.43 1972PGb (62418)3790  
-----

Ni++ gl oth/un 25°C 0.01M U K1=3.48 B2=6.62 1959DLb (62419)3791  
\*\*\*\*\*

C8H16N2O3 HL Val-Ala CAS 30806-08-7 (975)  
Valyl-alanine; H2N.CH(CH(CH3)2).CO.NH.CH(CH3).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C		K1=3.47 B2=6.28 B(NiH-1L)=-5.36 B(NiH-1L2)=-2.37	1975BPa (62441)	3792

\*\*\*\*\*

C8H16N2O4 H2L (267)  
1,2-Diaminoethane-N,N'-di(2-propanoic acid); ((CH3)(COOH).CH.NH.CH2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	U		K1=12.2	1983FSa (62458)	3793

Ni++	gl	KCl	20°C	0.10M	U		K1=12.2	1958ISa (62459)	3794
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C8H16N2O4 H2L CAS 13288-40-9 (3237)  
1,2-Diaminoethane-N,N'-di(3-propanoic acid); (HOOCH2CH2NHCH2.)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaCl	25°C	0.10M	C		K1=8.89 B(NiH-1L)=-2.15	1999DFa (62484)	3795

Additional method: spectrophotometry.

Ni++	gl	KNO3	25°C	0.10M	U	M		1970DNa (62485)	3796
							K(NiL+en)=5.51		

Ni++	gl	KCl	20°C	0.10M	U		K1=12.2	1958ISa (62486)	3797
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Ni++	gl	KCl	30°C	0.10M	U		K1=9.3	1953CCb (62487)	3798
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C8H16N2O4 H2L (7387)  
1,4-Diaminobutane-N,N'-diethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	1.00M	C		K1=9.071 B2=12.00 B(NiHL)=14.822 K(Ni+2L+H)=21.713 K(Ni+2L+2H)=29.346	1997AKa (62507)	3799

\*\*\*\*\*

C8H16N2O4 H2L (266)  
N,N'-Dimethylethylenediamine-N,N'-diethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C		K1=15.13	1993WLa (62518)	3800

\*\*\*\*\*

C8H16N2O4S2 H4L (6947)

2,7-Dicarboxy-3,6-diaza-1,8-octanedithiol;  
HS.CH2.CH(COOH)NH.CH2CH2.NH.CH(COOH)CH2.SH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.10M	C			K1=24.83 B(NiHL)=28.53 B(NiH2L)=31.84 B(Ni(OH)L)=13.44	1996Lma (62544)	3801

\*\*\*\*\*  
C8H16N2O4S2                      H2L                      CAS 462-10-2 (527)  
DL-4,4'-Dithiobis(2-aminobutanoic acid); (HOOC.CH(NH2).CH2.CH2.S.)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.10M	U			K1=7.653    B2=11.745 B(NiHL)=14.324	1981BLb (62560)	3802

\*\*\*\*\*  
C8H16N2O5                      H2L                      CAS 20811-97-6 (5461)  
1,9-Dicarboxy-2,8-diaza-5-oxanonane (HOOC.CH2.NH.CH2.CH2)20

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C			K1=11.83	1982BTb (62565)	3803

\*\*\*\*\*  
C8H16N2O6                      H2L                      CAS 50730-95-5 (4548)  
Ethylenediiminobis(3-hydroxy-2-propanoic acid);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	EMF	oth/un	20°C	0.10M	U			K1=12.28	1972DKa (62572)	3804

Ni++	gl	KNO3	20°C	0.10M	U			K1=12.23	1970DKa (62573)	3805
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By spectrophotometry: K1=12.0 in 0.1 NaCl04

\*\*\*\*\*  
C8H16N3O3P                      H2L                      CAS 501096-84-0 (8828)  
Imidazole-4-methyl(N-butylamino)phosphonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C			B2=16.01	2003SBc (62593)	3806

\*\*\*\*\*  
C8H16N4O2                      L                      CAS 99618-54-9 (539)  
1,4,7,10-Tetraazacyclododecane-2,6-dione;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C			B2=16.01 B(NiHL)=16.71 B(NiH2L2)=33.15 B(NiHL2)=24.96	2003SBc (62593)	3806

\*\*\*\*\*  
C8H16N4O2                      L                      CAS 99618-54-9 (539)  
1,4,7,10-Tetraazacyclododecane-2,6-dione;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C			B2=16.01 B(NiHL)=16.71 B(NiH2L2)=33.15 B(NiHL2)=24.96	2003SBc (62593)	3806

Ni++ gl NaClO4 25°C 0.10M U K1=4.38 1986FKa (62598)3807  
 K(Ni+HL)=2.98  
 B(NiH-2L)=-11.73  
 In 0.5 M KNO3 K1=4.38, K(Ni+HL)=2.98, B(NiH-1L)=-11.73

Ni++ gl NaClO4 35°C 0.20M U 1981KKa (62599)3808  
 B(NiH-2L)=-12.96

\*\*\*\*\*  
 C8H16N10 L (7005)  
 N,N'-Di-(2-(5-tetraazoly)ethyl)-1,2-diaminoethane;

-----  

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ni++ gl NaNO3 20°C 0.10M U K1=15.25 1981ESa (62610)3809  
 \*\*\*\*\*  
 C8H16O4 L 12-Crown-4 CAS 294-93-9 (174)  
 1,4,7,10-Tetraoxacyclododecane; cyclo(-O.(CH2.CH2.O)3.CH2.CH2-)

-----  

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ni++ nmr non-aq 27°C 100% C K1=3.05 2000SMg (62643)3810  
 Medium: acetonitrile. Method: competitive 7Li nmr technique.  
 \*\*\*\*\*  
 C8H17NO4 H2L CAS 6353-68-6 (3238)  
 N,N-Di-(2-Hydroxypropyl)glycine; (HO.CH2.CH2)2N.CH2.COOH

-----  

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ni++ gl oth/un 30°C 0.10M U K1=6.33 B2=10.15 1957FCa (62778)3811  
 \*\*\*\*\*  
 C8H17N3O2 HL (5973)  
 1,4,7-Triazacyclononane-1-ethanoic acid;

-----  

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

 -----

Ni++ gl KNO3 25°C 0.50M M K1=17.85 1993CKa (62788)3812  
 \*\*\*\*\*  
 C8H17N3O3 HL Gly-Lys CAS 31461-63-9 (5419)  
 Glycyl-lysine; NH2.CH2.CO.NH.CH(CH2.CH2.CH2.CH2.NH2)COOH

-----  

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ni++ gl KNO3 25°C 0.10M C H K1=5.9 2001CFb (62801)3813  
 B(NiHL)=14.51  
 B(NiH-1L)=-3.3  
 B(NiH2L2)=28.29  
 B(NiHL2)=19.26

B(NiH3L3)=41.3. DH(K1)=-36 kJ mol<sup>-1</sup>, DS(K1)=-7 J K<sup>-1</sup> mol<sup>-1</sup>, DH(NiHL)=-79,  
 DS(NiHL)=11, DH(NiH-1L)=0, DS(NiH-1L)=-64, DH(NiH2L2)=-148, DS(NiH2L2)=45.

\*\*\*\*\*

C8H18N2 L CAS 4441-55-8 (4491)  
1,1-Di(aminomethyl)cyclohexane; C6H10(CH2.NH2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	oth/un	25°C	dil	U			K1=6.61 B2=10.51	1972NBa (62812)	3814

C8H18N2O L (6585)  
4,7-Dimethyl-1-oxa-4,7-diazacyclononane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	NaCl04	25°C	0.10M	U			K1=8.1 B2=14.90	1995DDa (62817)	3815

C8H18N2O2 L CAS 60350-13-2 (5708)  
1,4-Dioxa-7,10-diazacyclododecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.10M	U			K1=5.0	1986TSa (62826)	3816

Believed to be unreliable due to low solubility of the ligand

C8H18N2O2 L CAS 294-92-8 (654)  
1,7-Dioxo-4,10-diazacyclododecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	R4N.X	25°C	0.10M	U			K1=6.73 B(NiH-1L)=-1.3	1985NSb (62832)	3817

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	R4N.X	25°C	0.10M	C			K1=5.91	1983LCa (62833)	3818

C8H18N2O2 L CAS 122-96-3 (5902)  
N,N-Bis(2-hydroxyethyl)piperazine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	NaCl	25°C	0.10M	C			K1=2.60 B(NiHL)=9.78	1999HLb (62854)	3819

C8H18N2O6S2 H2L PIPES CAS 5625-37-6 (2798)  
Piperazine-1,4-bis(2-ethanesulfonic acid); C4H8N2-(CH2.CH2.SO3H)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C			K1=3.39	2001AOa (62884)	3820

C8H18N2O10P2 H6L EDDADPO CAS 2310-83-0 (2436)  
1,2-Diaminoethane-N,N'-diethanoic-N,N'-dimethylphosphonic acid;  
(-CH2.N(CH2.COOH)(CH2.PO3H2))2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.10M	U		K1=15.23 K(Ni+HL)=9.49	1965DKb (62892)	3821
*****									
C8H18N2O10P2		H6L					CAS 2310-83-0	(5667)	
1,2-Diaminoethane-N,N-diethanoic-N',N'-dimethylphosphonic acid; (HOOC.CH2)2NCH2CH2N(CH2.PO3H2)2									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	U		K(Ni+H2L)=3.70	1976TIa (62913)	3822
Ni++	gl	KNO3	25°C	0.10M	U	M	K1=15.23	1975ITa (62914)	3823
*****									
C8H18N2S2		L					Cis-12aneN2S2 CAS 88439-31-0	(786)	
1,4-Diaza-7,10-dithia-cyclododecane; cyclo(-NH.C2H4.NH.C2H4.S.C2H4.S.C2H4-)									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.50M	C	H	K1=7.691 K(Ni+HL)=3.55	1980HGa (62930)	3824
By calorimetry: DH(K1)=-50.3 kJ mol-1, DS(K1)=-21 J K-1 mol-1; DH(Ni+HL)=-20, DS(Ni+HL)=-3.									
*****									
C8H18N4O2		L					CAS 3216-87-3	(2882)	
N,N'-Bis(2-carbamoylethyl)-1,2-diaminoethane;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.10M	C		K1=7.90	1985LCb (62953)	3825
Ni++	gl	NaNO3	25°C	0.10M	C		K1=7.92 K(NiH-1L+H)=8.46 K(NiH-2L+H)=9.69	1984LCa (62954)	3826
Ni++	gl	KNO3	25°C	0.10M	U		K1=7.59 K(NiH-2L+2H)=19.24	1983LIa (62955)	3827
*****									
C8H18N4O2		L					(6627)		
N,N'-Bis(3-aminopropyl)oxamide; (CO.NH.(CH2)3.NH2)2									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C		B(NiH-2L)=-10.17	1996CHe (62962)	3828
Ni++	gl	NaNO3	25°C	0.10M	C	M		1992LJb (62963)	3829



B(NiCuL)=24.9  
B(NiCu2L2)=48.7  
B(NiCu3L3)=72.3

\*\*\*\*\*

C8H18N4O2 L CAS 90267-23-5 (5956)  
N,N'-Dialanyl-1,2-diaminoethane; H2N.CH(CH3).CO.NH.CH2.CH2.NH.CO.CH(CH3).NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	U			K1=4.52 B2= 4.52 K(NiL=NiH-2L+2H)=-15.02	1984MDc (62971)	3830

Method: batch technique. Ligand is S,S stereoisomer.

\*\*\*\*\*

C8H19NO2 L CAS 102-79-4 (3841)  
N-Butyl-2,2'-iminodiethanol (butyldiethanolamine);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	oth/un	25°C	0.43M	U			K1=3.17 B2=5.20 K3=1.47	1966SKe (63031)	3831

Medium: CH2OHCH2NH2.HNO3

\*\*\*\*\*

C8H19NO5 L Bis-tris CAS 6976-37-0 (2827)  
Bis-(2-hydroxyethyl)imino-tris(hydroxymethyl)methane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	1.0M	C			K1=3.59 K(Ni(ATP)+L)=2.77	1980SAb (63046)	3832

\*\*\*\*\*

C8H19NO6P2 H4L CAS 5995-40-4 (1338)  
N-Cyclohexyliminobis(methylenephosphonic) acid; C6H11.N(CH2PO3H2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.20M	C			B(NiHL)=15.64 B(NiH2L)=20.66 B(NiH-1L)=-2.51	2000KKa (63077)	3833

Ni++	gl	KNO3	25°C	1.00M	M			K(Ni+HL)=2.53	1982BGb (63078)	3834
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\*\*\*\*\*

C8H19N2O4P H2L (1577)  
1-(N-L-Leucylamino)ethanephosphonic acid; H2NCH(CH2CH(CH3)2)CONHCH(CH3)PO3H2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.10M	U			K1=3.724 B2=7.00 B(NiH-1L)=-4.90	1995HLa (63093)	3835

For the (S,R) isomer, K1=3.599, B2=5.92, B(NiHL)=9.60, B(NiH-1L)=-5.03.

\*\*\*\*\*

C8H19N3 L CAS 36532-31-7 (2403)

1,4,8-Triazacycloundecane; cyclo(-NH.C2H4.NH.C3H6.NH.C3H6-)

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.10M M K1=12.88 1978Z0a (63108)3836

\*\*\*\*\*

C8H19N30 L (4430)

1-Oxa-4,7,10-triazacyclododecane;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.10M U K1=12.36 1991ACa (63124)3837

B(NiH-1L)=6.05

K(NiL+OH)=7.51

-----  
Ni++ gl NaNO3 25°C 0.10M U K1=12.15 1986TSa (63125)3838

\*\*\*\*\*

C8H19N3S L CAS 87071-53-2 (719)

1-Thia-4,7,10-triazacyclododecane; cyclo(-S.(C2H4.NH)3.C2H4-)

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaClO4 35°C 0.20M C K1=9.45 1984KKa (63142)3839

\*\*\*\*\*

C8H19O2PS2 HL CAS 2253-44-3 (2060)

O,O'-Dibutyl dithiophosphoric acid; (C4H9O)2P(S)SH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ ISE alc/w 25°C 90% U K1=2.40 B2=4.32 1972TCa (63148)3840

Medium: 90% EtOH, 0.3 M NaClO4

-----  
Ni++ sp non-aq 25°C 100% U M 1970NYa (63149)3841

K(NiL2+py)=1.45

K(NiL2+2py)=3.51

K(NiL2+bpy)=6.38

Medium: benzene

\*\*\*\*\*

C8H19O2PS2 HL CAS 2253-52-3 (4584)

O,O-Di-isobutyl phosphorodithioic acid; ((CH3)2.CH.CH2O)2P(S)SH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ ISE alc/w 25°C 90% U K1=2.27 B2=6.31 1972TCa (63161)3842

Medium: 90% EtOH, 0.3 M NaClO4

-----  
Ni++ sp non-aq 25°C 100% U M 1970NYa (63162)3843

K(NiL2+py)=1.55  
K(NiL2+bpy)=6.25  
K(NiL2+2py)=3.6

Medium : benzene

\*\*\*\*\*

C8H19O2PS2 HL CAS 107-55-1 (4585)  
O,O-Di-sec-butyldithiophosphoric acid; (CH3.CH2.CH(CH3)O)2P(S)SH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ sp non-aq 25°C 100% U M 1970NYa (63169)3844

K(NiL2+py)=1.09  
K(NiL2+bpy)=5.75  
K(NiL2+2py)=2.84

Medium : benzene

\*\*\*\*\*

C8H19PS2 HL CAS 32435-51-5 (4552)  
Di-n-butyl phosphinedithioic acid; (C4H9)2PSSH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ ISE alc/w 25°C 90% U K1=2.82 B2=5.15 1972TCa (63203)3845

Medium: 90% EtOH, 0.3 M NaClO4

\*\*\*\*\*

C8H20N2 L CAS 14165-22-1 (3213)  
N,N'-Di-n-propylethylenediamine; (CH3.CH2.CH2.NH.CH2.)2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 0°C 0.50M U T K1=5.87 B2=8.87 1954BMa (63217)3846

At 25 C: K1=5.52, B2=8.02

\*\*\*\*\*

C8H20N2O2 L CAS 82502-45-2 (3239)  
N,N'-Di-(2-Hydroxypropyl)ethylenediamine; (CH3.CH(OH).CH2.NH.CH2.)2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl oth/un 25°C 0.50M U K1=6.84 B2=10.9 1960HDa (63222)3847

\*\*\*\*\*

C8H20N2O5 L (7389)  
1-(2-Aminoethylamino)-1-deoxy-D-galactitol; NH2.(CH2)2.NH.CH2.(CHOH)4.CH2OH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaClO4 25°C 0.10M C K1=6.81 B2=12.57 1997GGa (63232)3848

B3=14.77  
B(NiHL)=11.79  
B(Ni2H-2L2)=-1.37  
B(Ni2H-3L2)=-11.03

B(NiH-2L)=-12.31, B(NiH-1L2)=2.97, B(NiH-2L2)=-8.40

\*\*\*\*\*

C8H20N2S L (1868)  
1,4-Diaza-7-thia-8,8-dimethylnonane; H2N.CH2.CH2.NH.CH2.CH2.S.C(CH3)3

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl KNO3 25°C 0.50M U H K1=6.516 B2=11.18 1979HGa (63236)3849  
DH1=-36.2 kJ mol-1 DS1=3 J K-1 mol-1 DH(K2)=-36.5 kJ mol-1  
DS(K2)=-33 J K-1 mol-1

\*\*\*\*\*

C8H20N4 L Cyclen CAS 294-90-6 (10)  
1,4,7,10-Tetraazacyclododecane; cyclo(-(NH.CH2.CH2.)4-)

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl KNO3 25°C 0.10M C HM 1990BBc (63266)3850  
K(NiL+oxalate)=4.10  
DH=-10.04 kJ mol-1, DS=10.74 J K-1 mol-1, DG=-23.4 kJ mol-1

-----  
Ni++ sp NaClO4 25°C 2.00M U K1=16.3 1985KKa (63267)3851  
Constant for the octahedral species: NiL(H2O)2, being > 98% of all Ni  
(equilibrium with square-planar NiL)

-----  
Ni++ sp NaNO3 25°C 0.10M U K1=16.4 1985THa (63268)3852  
\*\*\*\*\*

C8H20N4 L CAS 6531-38-0 (6515)  
1,4-Bis(2-aminoethyl)-1,4-diazacyclohexane; NH2.CH2CH2.N(CH2CH2)2N.CH2CH2.NH2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl NaNO3 25°C 0.10M U K1=4.68 1990HNa (63303)3853  
\*\*\*\*\*

C8H21N3 L (2496)  
1,1,1-Tris(N-methylaminomethyl)ethane; CH3.C(CH2.NH.CH3)3

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl KNO3 25°C 0.50M C K1=9.369 1983BMa (63315)3854  
\*\*\*\*\*

C8H22N2O6P2 H4L CAS 13516-59-1 (3850)  
2,2'-(Ethylenedi-imino)bis(propylphosphonic acid);

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl KCl 25°C 0.10M U K1=11.13 1965DKb (63329)3855  
K(Ni+HL)=3.84

\*\*\*\*\*

C8H22N2O6P2 H4L EDDIPH CAS 13516-59-1 (1355)  
Diaminoethane-N,N'-di(isopropylphosphonic)acid; (CH2.NH.C(CH3)2.PO3H2)2

-----

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	oth/un	25°C	0.10M	M		K1=11.23 K(Ni+HL)=7.35 K(Ni+H2L)=3.84	1976MDa (63349)	3856
*****									
C8H22N2O6P2		H4L					(2114)		
Hexamethylenediamine-N,N-dimethylphosphonic acid; H2N(CH2)6N(CH2PO3H2)2									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	U		K(Ni+HL)=7.07	1977TIa (63360)	3857
*****									
C8H22N2O6P2		H4L					(1365)		
N,N'-Dimethyl-diaminoethane-N,N'-diethylphosphonic acid; (CH3.N(CH2.CH2.PO3H2).CH2)2									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	oth/un	25°C	0.10M	U		K1=8.70 K(Ni+HL)=5.43 K(Ni+H2L)=3.55	1976MDa (63364)	3858
*****									
C8H22N2O8P2		H4L					CAS 55703-43-0 (1354)		
N,N'-Di-(2-hydroxyethane)ethylenediamine-N,N'-dimethylphosphonic acid;									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	oth/un	25°C	0.10M	M		K1=9.60 K(Ni+HL)=8.21 K(Ni+H2L)=4.85	1976MRa (63368)	3859
*****									
C8H22N4		L					CAS 35513-90-7 (1545)		
1,4,9,12-Tetraazadodecane; NH2.(CH2)2.NH.(CH2)4.NH.(CH2)2.NH2									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	1.00M	C	H	K1=16.00	1982ABc (63378)	3860
By calorimetry: DH1=-70.7 kJ mol-1, DS1=69.0									
*****									
C8H22N4		L					CAS 41240-14-6 (4494)		
1,5,8,12-Tetraazadodecane; NH2.(CH2)3.NH.(CH2)2.NH.(CH2)3.NH2									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	7.00M	C		K1=17.39 K(Ni+HL)=12.06	2004BBb (63395)	3861
-----									
Ni++	sp	NaClO4	25°C	0.10M	C	T H		1977AFb (63396)	3862

$$K(\text{NiL}(\text{H}_2\text{O})_2=\text{NiL}+2\text{H}_2\text{O})=-1.09$$

From data for 19-49 C,  $\text{DH}(\text{K})=19 \text{ kJ mol}^{-1}$ ,  $\text{DS}(\text{K})=63 \text{ J K}^{-1} \text{ mol}^{-1}$ .

---

Ni++	gl	KNO3	25°C	0.50M	U		K1=14.69	1973PFa (63397)3863
							K(Ni+HL)=9.75	

\*\*\*\*\*

C8H22N4O	L	CAS 80042-24-6 (5464)
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1,4,10,13-Tetraaza-7-oxatridecane;

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	KNO3	25°C	0.10M	C		K1=12.47	1982BTb (63407)3864
							K(NiL+H)=5.21	

\*\*\*\*\*

C8H22N4S	L	CAS 80042-28-0 (5465)
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1,4,10,13-Tetraaza-7-thiatridecane;

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	KNO3	25°C	0.10M	C		K1=15.45	1982BTb (63412)3865
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\*\*\*\*\*

C8H23N5	L	Tetren	CAS 112-57-2 (715)
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1,4,7,10,13-Pentaazatridecane (Tetraethylenepentamine);

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

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Ni++	cal	KNO3	25°C	0.10M	C			1982TMd (63436)3866
							DH1=-99.1 kJ/mol	

---

Ni++	sp	KCl	20°C	0.10M	U		K1=17.50	1971MAj (63437)3867
							K(Ni+HL)=11.87	
							K(Ni+H2L)=6.66	

---

Ni++	sp	NaClO4	25°C	0.50M	U	M		1967JMa (63438)3868
							K(NiL+NH3)=0.83	

---

Ni++	cal	KNO3	25°C	0.10M	U	H		1965WHa (63439)3869
							DH(K1)=-76.9 kJ mol <sup>-1</sup> , DS=83.6 J K <sup>-1</sup> mol <sup>-1</sup>	

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Ni++	cal	KCl	25°C	0.10M	U	H		1964PVa (63440)3870
							DH(K1)=-79.0 kJ mol <sup>-1</sup> , DS=69.0 J K <sup>-1</sup> mol <sup>-1</sup>	

---

Ni++	gl	KCl	25°C	0.10M	U		K1=17.43	1963PVa (63441)3871
							K(Ni+HL)=11.78	
							K(Ni+H2L)=6.7	

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Ni++	gl	KNO3	25°C	0.10M	U		K1=17.8	1958RHa (63442)3872
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Ni++	gl	NaClO4	15°C	.075M	U	T	K1=17.63	1957JWa (63443)3873
							K(Ni+HL)=13.04	

K1=17.51(25 C),17.39(35 C); K(Ni+HL)=12.66(25 C),12.20(35 C). I=0.075 KClO4

Ni++ cal none ? 0.0 U H 1957JWb (63444)3874  
DH(K1)=-43.6 kJ mol<sup>-1</sup>(25 C), DS=-189 J K<sup>-1</sup> mol<sup>-1</sup>; DG=-97.28(15 C),-99.96  
(25 C), -102.63(35 C)

\*\*\*\*\*

C9H4N2F4 L CAS 124005-68-1 (7590)  
N-(2,3,5,6-Tetrafluorophenyl)imidazole;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaNO3 25°C 0.50M M K1=2.42 1998KSa (63499)3875

\*\*\*\*\*

C9H5NOBr2 HL CAS 521-74-4 (3279)  
5,7-Dibromo-8-hydroxyquinoline;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl diox/w 35°C 75% U K1=9.92 B2=18.12 1970GMh (63511)3876  
Medium: 75% v/v dioxan, 0.2 M NaClO4

\*\*\*\*\*

C9H5NOCl2 HL CAS 773-76-2 (3278)  
5,7-Dichloro-8-hydroxyquinoline;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl diox/w 35°C 75% U K1=9.77 B2=17.84 1970GMh (63536)3877  
Medium: 75% v/v dioxan, 0.2 M NaClO4

\*\*\*\*\*

C9H5NOI2 HL CAS 83-73-8 (3280)  
5,7-Di-iodo-8-hydroxyquinoline;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl diox/w 35°C 75% U K1=9.70 B2=17.90 1971MAb (63552)3878  
Medium: 75% v/v dioxan, 0.1 M NaClO4

\*\*\*\*\*

C9H5NO2Br2 HL CAS 16846-41-1 (4666)  
5,7-Dibromo-8-hydroxyquinoline N-oxide;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl diox/w 35°C 75% U K1=7.72 B2=14.62 1970GMh (63578)3879  
Medium: 75% v/v dioxan, 0.2 M NaClO4

\*\*\*\*\*

C9H5NO2Cl2 HL CAS 21168-33-2 (4665)  
5,7-Dichloro-8-hydroxyquinoline N-oxide;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl diox/w 35°C 75% U K1=7.68 B2=14.48 1970GMh (63588)3880  
Medium: 75% v/v dioxan, 0.1 M NaClO4

\*\*\*\*\*

C9H5N04 HL CAS 22308-86-7 (4607)  
3-Nitroso-4-hydroxycoumarin (oximidobenzotetronic acid);

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl diox/w 21°C 50% U K1=4.34 B2=8.81 1970MGd (63599)3881  
Medium: 50% dioxan, 0.3 M NaClO4

-----  
Ni++ dis NaClO4 20°C 0.10M U B2=7.25 1969MBe (63600)3882  
\*\*\*\*\*

C9H5N3O5 HL CAS 1084-32-8 (4608)  
5,7-Dinitro-8-hydroxyquinoline;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl diox/w 35°C 75% U K1=6.92 B2=12.30 1970GMh (63623)3883  
Medium: 75% dioxan, 0.2 M NaClO4

\*\*\*\*\*

C9H5N3O6 HL CAS 21168-36-3 (4609)  
5,7-Dinitro-8-hydroxyquinoline-N-oxide;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl diox/w 35°C 75% U K1=3.22 B2=5.40 1970GMh (63633)3884  
Medium: 75% v/v dioxan, 0.2 M NaClO4

\*\*\*\*\*

C9H6NOCl HL CAS 130-16-5 (1268)  
5-Chloro-8-hydroxyquinoline;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ sp oth/un 25°C ? U M 1980BRa (63652)3885

K(NiL2+pyridine)=3.90

K(NiL2+(2-picoline))=1.43

K(NiL2+(4-picoline))=4.50

K(NiL2+(2,4-lutidine))=0.87

K(NiL2+(2,4,6-collidine))=2.05, K(NiL2+bpy)=6.83, K(NiL2+en)=7.47,

K(NiL2+phen)=7.07

-----  
Ni++ gl diox/w 25°C 60% U K1=10.34 B2=19.89 1973SCd (63653)3886  
Medium: 60% dioxan, 0.1 M NaClO4

\*\*\*\*\*

C9H6N04IS H2L Ferron CAS 547-91-1 (275)  
7-Iodo-8-hydroxyquinoline-5-sulfonic acid; (HO)(HO3S)C9H4NI

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----



Ni++ gl diox/w 25°C 75% C K1=11.51 B2=17.50 1989FHa (63746)3887  
 Medium: 75% v/v dioxane/H2O, 0.10 M KNO3.  
 Also data for 0-50% v/v dioxane/H2O, 0.10 M KNO3.

Ni++ gl KNO3 25°C 0.10M C K1=10.11 B2=18.82 1985ZHa (63747)3888

Ni++ gl NaClO4 35°C 0.10M U K1=8.11 B2=14.97 1983ABb (63748)3889

Ni++ gl oth/un 20°C 0.03M U K1=8.20 1977KCb (63749)3890  
 K1=8.31 by solubility

Ni++ gl KNO3 28°C 0.10M U K1=7.70 B2=13.96 1967LMb (63750)3891

Ni++ gl KCl 25°C 0.10M U K1=8.2 B2=15.20 1963STa (63751)3892  
 K3=5.6

\*\*\*\*\*  
 C9H6N2Br2 L CAS 36107-02-5 (4611)  
 8-Amino-5,7-dibromoquinoline;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ sp diox/w 25°C 50% U K1=1.8 1972YTa (63843)3893

\*\*\*\*\*  
 C9H6N2O5S H2L CAS 63347-20-6 (9087)  
 5-Nitroso-8-hydroxyquinoline-7-sulfonic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ sp KCl 20°C 0.50M C K1=4.2 1977MOb (63869)3894

\*\*\*\*\*  
 C9H6N2O5S H2L CAS 5263-74-1 (2738)  
 7-Nitroso-8-hydroxyquinoline-5-sulfonic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ sp KCl 20°C 0.50M C K1=7.0 1977MOb (63874)3895

\*\*\*\*\*  
 C9H6N2O6S H2L CAS 31568-82-8 (9086)  
 5-Nitro-8-hydroxyquinoline-7-sulfonic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ sp KCl 20°C 0.50M C K1=6.9 1977MOb (63882)3896

\*\*\*\*\*  
 C9H6N2O6S H2L CAS 15851-63-3 (1433)  
 7-Nitro-8-hydroxyquinoline-5-sulfonic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl NaClO4 35°C 0.10M U K1=7.07 B2=13.45 1983ABb (63895)3897

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-----
Ni++      sp   KCl      20°C 0.50M C      K1=6.7      1977MOb (63896)3898
-----
Ni++      gl   NaCl04  25°C .005M U      K2=6.2      1963FFa (63897)3899
                        K3=4.74
-----
Ni++      EMF oth/un 25°C 0.0 U      K1=7.05     B2=13.40    1955NUa (63898)3900
*****
C9H6N3OClS      HL      CAS 27004-41-7 (216)
2-(2'-Thiazolylazo)-4-chlorophenol; C3H2NS.N:N.C6H3(Cl).OH
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      sp   diox/w 20°C 10% U      1970KIa (63918)3901
                        K(Ni+HL=NiL+H)=6.1
                        K(NiL+HL=NiL2+H)=5.7
*****
C9H6O4      HL      Ninhydrin      CAS 485-47-2 (2536)
1,2,3-Indantrione monohydrate, Trioxohydrindene monohydrate;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl   alc/w 30°C 5% U      M      1995RRb (63947)3902
                        K(NiA+L)=6.11
                        B(NiAL)=12.39
Medium: 5% v/v EtOH/H2O, 0.10 M KNO3. H2A is thioglycolic acid.
*****
C9H6O6      H3L      Hemimellitic ac CAS 569-51-7 (1621)
1,2,3-Benzenetricarboxylic acid; C6H3.(COOH)3
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl   oth/un 25°C 0.10M U      K1=2.86     1961YAb (63962)3903
*****
C9H6O6      H3L      Trimellitic aci CAS 528-44-9 (1622)
1,2,4-Benzenetricarboxylic acid; C6H3.(COOH)3
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl   oth/un 25°C 0.10M U      K1=1.86     1961YAb (63988)3904
*****
C9H7N      L      CAS 119-65-3 (487)
Isoquinoline;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      sp   non-aq 25°C 100% U      I M      1982HYa (64014)3905
                        B(NiA2L)=1.41
Medium: benzene. HA=diphenylthiocarbazone
-----

```

Ni++ sp alc/w 25°C 100% U K1=1.7 1980CKc (64015)3906  
Medium: MeOH. In DMSO: K1=1.4; DMF: 1.96

Ni++ kin oth/un 15°C u U T H K1=1.94 1976CKa (64016)3907  
K1=1.89 (20 C); 1.83 (30 C); 1.74 (35 C); 1.65 (45 C)

Ni++ sp mixed 27°C ? U T K(NiCl2+2L)=-5.82 1976USa (64017)3908

Also data at 36.8 C. Medium: isoquinoline + chlorobenzene

\*\*\*\*\*

C9H7N L CAS 91-22-5 (1538)

Quinoline;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaClO4 25°C 0.20M C M K1=2.70 1993BAb (64040)3909  
K(Ni(gly)+L)=5.97  
K(Ni(ala)+L)=5.93  
K(Ni(val)+L)=5.90  
K(NiA+L)=5.85

K(Ni(gln)+L)=5.55, K(Ni(glu)+L)=8.20, K(Ni(asp)+L)=8.80. HA is asparagine.

Ni++ sp non-aq ? 100% U I M K(NiA2+L)=1.80 1971MAg (64041)3910  
K(NiA2+2L)=1.82

Medium: benzene, HA=benzoylactone. In DMF, K(NiA2+L)=0.26, K(NiA2+2L)=0.83  
In CHCl3, K(NiA2+L)=1.34, K(NiA2+2L)=1.48

Ni++ sp non-aq ? 100% U I K(NiCl2+L)=0.89 1971MAh (64042)3911

Medium: benzene. With 5% DMF, K=0.47, 25%, K=0.85, 40%, K=0.18, 50%, K=0.60

\*\*\*\*\*

C9H7NO HL Oxine CAS 148-24-3 (504)

8-Hydroxyquinoline (8-quinolinol);

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Ni++ gl alc/w 25°C 20% M M K1=8.45 1998ABa (64154)3912  
Medium: 20% w/w EtOH/H2O, 0.1 M KNO3.

Ni++ gl KNO3 25°C 0.10M U M K1=11.67 B2=23.05 1990NAa (64155)3913  
K(NiL+furoic acid)=4.38

Ni++ kin alc/w 20°C 100% U K1=10.5 B2=20.2 1988BTb (64156)3914  
K(Ni+HL=NiL+H)=-3.5  
K(Ni+2HL=NiL2+2H)=-7.8

Medium: MeOH, 0.1 M NaClO4.

Ni++ gl KCl 25°C 0.1M U T K1=9.49 B2=18.59 1986MLb (64157)3915  
Also for 60 C K1=9.10; B2=17.43

for 80 C K1=8.38; B2=16.33

Ni++ gl KNO3 25°C 0.2M U I K1=9.55 1984VZa (64158)3916  
in 0.5 M KNO3 K1=9.26;  
in 1.0 M KNO3 K1=9.04;

Ni++ gl diox/w 25°C 50% U K1=10.63 B2=19.68 1984YAa (64159)3917

Ni++ sp oth/un 25°C ? U M 1980BRa (64160)3918  
K(NiL2+pyridine)=4.33  
K(NiL2+(2-picoline))=1.35  
K(NiL2+(4-picoline))=5.16  
K(NiL2+(2,4-lutidine))=0.43

K(ML2+(2,4,6-collidine))=1.67

Ni++ sp oth/un 25°C ? U M 1980BRa (64161)3919  
K(NiL2+en)=9.00  
K(NiL2+bpy)=9.35  
K(NiL2+phen)=9.20  
K(NiL2+(2,9-neocurroin))=6.88

Ni++ gl NaClO4 25°C 0.10M U M K1=9.10 B2=16.86 1976ABb (64162)3920  
K(NiL+benzylhydroxamate)=4.44

Ni++ gl diox/w 25°C 60% U K1=11.08 B2=21.76 1973SCd (64163)3921  
Medium: 60% dioxan, 0.1 M NaClO4

Ni++ cal diox/w 25°C 50% U H 1968GFa (64164)3922  
Medium: 50% dioxan, 0.1 M NaClO4. DH(K1)=-38.9 kJ mol<sup>-1</sup>, DS=71 J K<sup>-1</sup> mol<sup>-1</sup>;  
DH(B2)=-80.7, DS=117

Ni++ gl diox/w 25°C 50% U K1=10.50 B2=20.27 1967SFa (64165)3923

Ni++ gl diox/w 40°C 50% U T H B2=20.68 1959FFa (64166)3924  
B2=22.0(15 C),21.54(25 C). DH(B2)=-79.4 kJ mol<sup>-1</sup>, DS=146 J K<sup>-1</sup> mol<sup>-1</sup>.  
By calorimetry(25 C): DH(B2)=-86.9, DS=121

Ni++ gl diox/w 20°C 50% U K1=10.43 B2=20.40 1954IRa (64167)3925  
Medium: 50% dioxan, 0.3 NaClO4

Ni++ gl diox/w 30°C 75% U K1=15.2 1954UFa (64168)3926  
K3=7.2

Ni++ gl oth/un 20°C 0.01M U K1=9.9 B2=18.7 1953ALa (64169)3927

Ni++ gl oth/un 25°C 0.0 U K1=9.27 1953NAb (64170)3928

Ni++ gl diox/w 25°C 50% U K1=11.44 B2=21.38 1952JFa (64171)3929

Ni++ gl diox/w 25°C 70% U K1=11.65 B2=22.00 1949MMa (64172)3930

\*\*\*\*\*

C9H7NO L CAS 1613-37-2 (4613)  
Quinoline-N-oxide;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ sp alc/w ? 100% U K1=1.17 B2=2.0 1972RMc (64380)3931  
Medium: EtOH

-----  
Ni++ sp non-aq ? 100% U K1=0.79 B2=1.34 1972RMc (64381)3932  
Medium: isopentanol

-----  
Ni++ sp non-aq ? 100% U K1=0.68 B2=1.41 1972RMc (64382)3933  
Medium: Dimethylformamide

\*\*\*\*\*

C9H7NO2 HL CAS 10285-97-9 (3257)  
2-Hydroxyquinoline 1-oxide;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl oth/un 20°C 0.10M U K1=5.5 1956ARb (64384)3934

\*\*\*\*\*

C9H7NO2 HL CAS 1477-50-5 (4610)  
2-Indolecarboxylic acid;

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl oth/un 25°C 0.0 U K1=0.70 1972LPa (64390)3935

\*\*\*\*\*

C9H7NO2 HL CAS 1127-45-3 (4614)  
8-Hydroxyquinoline-N-oxide;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl diox/w 25°C 50% U K1=5.90 B2=10.10 1970GMb (64395)3936  
Medium: 50% dioxan, 0.3 M NaClO4

\*\*\*\*\*

C9H7NO3S2 H2L CAS 58447-10-2 (4675)  
8-Mercaptoquinoline-5-sulfonic acid;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ sp oth/un ? ? U K1=8.6 1968ABa (64420)3937

\*\*\*\*\*

C9H7NO4S H2L Sulfoxine CAS 84-88-8 (448)  
8-Hydroxyquinoline-5-sulfonic acid;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl NaClO4 35°C 0.10M U K1=9.27 B2=17.52 1983ABb (64488)3938

-----  
Ni++ gl diox/w 25°C 60% U K1=10.60 B2=19.87 1973SCd (64489)3939  
Medium: 60% dioxan, 0.1 M NaClO4  
-----

Ni++ gl NaClO4 25°C 0.10M U IH K1=9.11 B2=17.34 1968GFa (64490)3940  
B3=23.23  
By calorimetry:DH(K1)=-26.7 kJ mol<sup>-1</sup>, DS=84 J K<sup>-1</sup> mol<sup>-1</sup>, DH(B2)=-61.8,DS=125  
DH(B3)=-107.0,DS=84  
-----

Ni++ gl diox/w 25°C 50% U IH K1=10.22 B2=19.25 1968GFa (64491)3941  
B3=25.55  
Medium: 50% dioxan,0.1 M NaClO4. By calorimetry: DH(K1)=-30.5 kJ mol<sup>-1</sup>,  
DS=92 J K<sup>-1</sup> mol<sup>-1</sup>; DH(B2)=-66.5,DS=146; DH(B3)=-106.1,DS=134  
-----

Ni++ gl oth/un 25°C .005M U K1=9.57 B2=18.15 1963FFa (64492)3942  
K3=7.42  
-----

Ni++ gl KNO3 25°C 0.10M U K1=9.02 B2=16.77 1959RGa (64493)3943  
K3=6.16  
-----

Ni++ sp oth/un 25°C 0.0 U K1=9.57 B2=18.5 1954NUa (64494)3944  
-----

Ni++ gl oth/un 20°C 0.01M U K1=10.0 B2=18.1 1953ALa (64495)3945  
-----

\*\*\*\*\*  
C9H7NS L CAS 3319-59-1 (3866)  
2-(2'-Pyridyl)thiophene; C4H3S.C5H4N  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaClO4 25°C 0.10M U K1=1.91 1964KSb (64603)3946  
-----

\*\*\*\*\*  
C9H7NS HL CAS 76076-35-2 (5695)  
2-Mercaptoquinoline;  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ EMF non-aq 25°C 100% U K1=6.3 B2=10.90 1986UBa (64609)3947  
-----

Medium: dimethylformamide, LiClO4  
-----

\*\*\*\*\*  
C9H7NS HL Quinolinethiol CAS 491-33-8 (1028)  
8-Mercaptoquinoline;  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ dis NaClO4 25°C 0.10M C 1987YSb (64627)3948  
-----

Method: extraction from 0.10 M NaClO4 solution into CHCl3/HL.  
-----

K(Ni+2HL(org)=NiL2(org)+2H)=4.52.  
-----

Ni++ sp non-aq 25°C 100% C M 1987YSb (64628)3949  
-----

K(NiL2+phen)=3.92

Medium: CHCl3.

Ni++ gl non-aq 25°C 100% U K1=9.5 B2=16.1 1984UBa (64629)3950  
Medium: DMF, 0.1 M LiClO4. Similar data to reference UB83a

Ni++ EMF non-aq 25°C 100% U K1=9.5 B2=16.10 1983UBa (64630)3951  
Medium: DMF, 0.1 M LiClO4

Ni++ cal diox/w 25°C 50% U H 1968GFa (64631)3952  
Medium: 50% dioxan, 0.1 M NaClO4. DH(K1)=-47.6 kJ mol<sup>-1</sup>, DS=50 J K<sup>-1</sup> mol<sup>-1</sup>

Ni++ gl diox/w 25°C 50% U K1=11.0 1966KFb (64632)3953  
Medium: 50% dioxan, 0.1 M NaClO4

Ni++ sp diox/w 27°C 50% U K1=10.95 1963CFa (64633)3954  
\*\*\*\*\*  
C9H7N3O2 HL (1328)  
4-Oximino-3-phenyl-2-pyrazolin-5-one;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl alc/w 20°C 50% U T K1=4.62 B2=8.36 1981SSc (64660)3955  
At 30 C: K1=4.48, B2=8.02  
\*\*\*\*\*  
C9H7N3O2S H2L TAR CAS 2246-46-0 (707)  
4-(2'-Thiazolylazo)-resorcinol; C3H2NS.N:N.C6H3(OH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ sp alc/w 25°C 30% U K1=11.08 1987LSb (64680)3956  
K(Ni+HL=NiHL)=10.07  
B(NiHL)=16.57  
Medium: 0.1 M KNO3 in 30% v/v EtOH/H2O

Ni++ sp NaNO3 25°C 0.10M U K1=10.21 19860Ha (64681)3957  
K(Ni+HL)=6.12

Ni++ sp NaClO4 ? 0.10M U K1=10.0 B2=17.3 1969MSd (64682)3958  
K(Ni+HL)=9.2

Ni++ gl diox/w 25°C 50% U 1966SCd (64683)3959  
K(Ni+HL)=12.94  
K(NiHL+HL)=11.82  
K(NiL+H)=6.84  
K(NiOHL+H)=8.55  
\*\*\*\*\*

C9H8NO4P H2L CAS 7220-39-5 (1930)  
8-Quinolyl-phosphoric acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo





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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       sp  alc/w  30°C  20%  C T H    K1=6.57  B2=10.01  1998EGa (64826)3968
Medium: 20% v/v EtOH/H2O, 0.10 M KCl. Also data for 35 and 45 C.
DH and DS values reported

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*****
C9H8N4          L                      CAS 34938-47-1  (8045)
(2-Imidazoleazo)benzene;

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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```

Ni++       sp  NaCl04 25°C 0.30M C T      K1=2.85      1996DAa (64844)3969
Data for 15-35 C.

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*****
C9H8N4O5          L                      CAS 487-16-1  (8470)
Isatin 3-thiosemicarbazone; Indole-2,3-dione 3-(thiosemicarbazone);

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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Ni++       gl  alc/w  30°C  60%  M I    K1=6.09  B2=12.03  1996HTb (64847)3970
Medium: 60% v/v EtOH/H2O, 0.04 M KCl. Data for 60% acetone/H2O, dioxane/
H2O, THF/H2O, DMF/H2O (0.04 M KCl).

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*****
C9H8N4O3S          HL  ABS                      CAS 847943-99-1  (9223)
4-Acrylamidobenzenesulfonylazide;

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----

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Ni++       gl  alc/w  25°C  50%  C T H    K1=8.31  B2=14.80  2004JEa (64856)3971
Medium: 50% v/v EtOH/H2O, 0.10 M KCl. DH(K1)=-27.7 kJ mol-1, DS(K1)=
-252 J K-1 mol-1; DH(K2)=-28.7, DS(K2)=-221. Also data for 35 and 45 C

```

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*****
C9H8O2S          H2L                      CAS 5740-34-1  (1065)
3-Phenyl-2-mercaptopropenoic acid; C6H5.CH:C(SH).COOH

```

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----

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```

Ni++       gl  diox/w 25°C  50%  U      K1=10.96  B2=22.36  1977WVa (64876)3972

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*****
C9H8O3          H2L  o-Coumaric acid  CAS 501-98-4  (6327)
4-Hydroxycinnamic acid; HO.C6H4.CH:CH.COOH

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----

```

```

Ni++       gl  NaCl04 25°C 0.10M U      K1=10.03  B2=17.45  1975TBb (64882)3973

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```

*****
C9H8O4          H3L  Caffeic acid    CAS 331-39-5  (6037)
3-(3,4-Dihydroxyphenyl)propenoic acid; (HO)2C6H3.CH:CH.COOH

```

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	NaCl	25°C	0.10M	U				1992CLa (64913)	3974

B(NiH-1L)=-3.62  
 B(NiH-2L)=-13.45  
 B(Ni2H-1L)=-1.56

Ligand defined as H2L

\*\*\*\*\*  
 C9H8O4                      H2L                      CAS 97652-17-0 (3855)  
 3-Carboxy-4-methyltropolone;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	sp	NaClO4	?	0.20M	U			K1=6.73	1967GDb (64927)	3975

By glass electrode: K1=6.83,K2=5.22,K3=3.11

\*\*\*\*\*  
 C9H8O4                      H2L                      CAS 4316-23-8 (4593)  
 4-Methylphthalic acid; CH3.C6H3(COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	oth/un	25°C	0.03M	U			K1=2.97	1971NPc (64965)	3976

Ni++	gl	KCl	30°C	0.10M	U			K1=2.15	1970NPb (64966)	3977
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\*\*\*\*\*  
 C9H8O4S                      H2L                      CAS 135-13-7 (4620)  
 (2-Carboxyphenylthio)ethanoic acid; H00C.C6H4.S.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	oth/un	25°C	0.10M	U			K1=1.9	1962SYa (64999)	3978

\*\*\*\*\*  
 C9H8O5                      H2L                      CAS 635-53-0 (3246)  
 2-(Carboxymethoxy)benzoic acid; H00C.CH2.O.C6H4.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	oth/un	25°C	0.10M	U			K1=2.0	1962SYa (65014)	3979

Ni++	gl	diox/w	35°C	50%	U			K1=5.8	1958YSa (65015)	3980
------	----	--------	------	-----	---	--	--	--------	-----------------	------

\*\*\*\*\*  
 C9H8O5                      H2L                      CAS 1885-13-8 (3247)  
 4-Methoxyphthalic acid; CH3O.C6H3(COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	U			K1=2.27	1956YSa (65024)	3981

\*\*\*\*\*  
 C9H9NO2                      HL                      CAS 25355-34-4 (6206)  
 1-Phenyl-prop-1,2-dione monoxime; C6H5.CO.C(:NOH).CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	alc/w	25°C	75%	U		K1=8.9 B2=14.70	1986BTa (65033)	3982
Medium: 75% MeOH/H2O, 0.1 M NaClO4									
*****									
C9H9NO3		HL						Hippuric acid CAS 495-69-2 (1184)	
Benzoylaminoethanoic acid, N-benzoylglycine; C6H5.CO.NH.CH2.COOH									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.15M	U		K1=1.25	1976FJa (65051)	3983
*****									
C9H9NO4		HL						CAS 55805-95-3 (6322)	
2-Hydroxy-5-nitropropiofenone; (HO)(NO2)C6H3.CO.CH2.CH3									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	diox/w	40°C	50%	U		K1=3.88	1975PSb (65074)	3984
*****									
C9H9NO4		H2L						Salicylglycine CAS 487-54-7 (3869)	
N-(2-Hydroxybenzoyl)glycine, 2-hydroxyhippuric acid; HO.C6H4.CO.NH.CH2.COOH									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.20M	C		K1=2.84 B(NiH-1L)=-5.89	1994BDa (65089)	3985
-----									
Ni++	gl	alc/w	25°C	50%	U		K1=3.36 B2= 6.51 B(NiH-1L)=-4.35 K(Ni+OH+L)=9.65	1989MSi (65090)	3986
Medium: 50% v/v EtOH/H2O, 0.2 M NaNO3.									
*****									
C9H9NO4		H2L						CAS 612-42-0 (3263)	
N-(Carboxymethyl)anthranilic acid; HOOC.C6H4.NH.CH2.COOH									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	U		K1=4.45	1973UWb (65101)	3987
-----									
Ni++	gl	diox/w	35°C	50%	U		K1=6.8 B2=10.9	1958YSa (65102)	3988
*****									
C9H9N2O								(3284)	
5-Hydroxy-1-methylquinoxalinium ion;									
HL+									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	oth/un	20°C	0.01M	U		B2=9.5	1954AHb (65109)	3989
*****									

C9H9N2O (3285)  
8-Hydroxy-3-methylquinazolinium ion;  
HL+

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	oth/un	20°C	0.01M	U		B2=8.4	1954AHb (65111)	3990

C9H9N2O (3286)  
8-Hydroxy-6-methyl-1,6-naphthyridinium ion;  
HL+

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	oth/un	20°C	0.01M	U		B2=11	1954AHb (65113)	3991

C9H9N3O2S2 HL Sulfathiazole CAS 72-14-0 (8357)  
4-Amino-N-2-thiazolyl-benzenesulfonamide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	alc/w	25°C	50%	C		K1=3.35	1999GAa (65123)	3992

Medium: 50% EtOH/H2O, 0.10 M NaNO3.

Ni++	gl	alc/w	30°C	50%	C	M		1999MBc (65124)	3993
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B(Ni(gly)L)=11.40  
B(NiAL)=9.43  
B(Ni(met)L)=9.68  
B(NiH-1(gly)L)=3.65

In 50% v/v EtOH/H2O, 0.10 M NaNO3. B(NiH-2(gly)L)=-5.20; B(NiH-1AL)=1.35,  
B(NiH-2AL)=-8.25; B(NiH-1(met)L)=2.78, B(NiH-2(met)L)=-6.42. A: Beta-ala

Ni++	gl	diox/w	30°C	50%	U		K1=3.57 B2= 6.51	1993MBc (65125)	3994
------	----	--------	------	-----	---	--	------------------	-----------------	------

\*K(NiL)=-7.75  
\*K(NiL2)=-6.33  
\*K(Ni(OH)L2)=-8.15

Medium: 50% v/v dioxane/H2O, 0.10 M NaNO3.

C9H9O2Cl HL CAS 81322-67-0 (3868)  
5-Chloro-2-hydroxy-4,6-dimethylbenzaldehyde; Cl(HO).C6H(CH3)2.CH0

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	EMF	diox/w	20°C	50%	U		K1=4.1	1963CCa (65167)	3995

Medium: 50% dioxan, 0.3 M NaClO4

C9H10N2 L CAS 7035-68-9 (5669)  
1-Ethylbenzimidazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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-----  
Ni++ sp non-aq 25°C 100% U B2=2.14 1984DPa (65188)3996  
Medium: DMSO

\*\*\*\*\*  
C9H10N2 L CAS 582-60-5 (8433)  
5,6-Dimethylbenzimidazole;  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 35°C 0.10M C M K1=3.05 1997PSb (65192)3997  
K(NiL+A)=6.76

H2A is thiamine orthophosphoric acid.

\*\*\*\*\*  
C9H10N2O HL (3264)  
2,2'-Hydroxyphenylimidazoline;  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl oth/un 20°C 0.01M U K1=8.1 1956ARb (65199)3998

\*\*\*\*\*  
C9H10N2O3 HL (3268)  
4-Methoxyphenylglyoxime; CH3O.C6H4.C(:N.OH).CH:N.OH  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl diox/w 25°C 50% U K1=9.1 B2=17.7 1958PBa (65253)3999

\*\*\*\*\*  
C9H10N2O3 HL CAS 62134-49-0 (9110)  
N-(2-Pyridyl)-3-carboxypropanamide;  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaClO4 25°C 0.10M U K1=3.43 B2= 5.40 2002GSa (65257)4000

\*\*\*\*\*  
C9H10N2O5 H2L CAS 130291-86-0 (8051)  
N-(2-Hydroxy-4-nitrobenzyl)glycine;  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaClO4 25°C 0.10M C K1=8.46 1983CHa (65282)4001

K(Ni+HL)=4.54  
K(NiL+H)=5.68  
K(Ni+OH+L)=12.53  
\*K(NiL)=-9.93

-----  
Ni++ gl NaClO4 25°C 0.10M U K1=8.43 B2=14.70 1983CHb (65283)4002

\*\*\*\*\*  
C9H10N2S L CAS 14610-11-8 (8494)  
2-Mercaptoethylbenzimidazole;  
-----

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	NaClO4	30°C	0.10M	M	M			1995RMa	(65289)4003

$K(\text{Ni}(\text{bpy})+\text{L})=7.85$   
 $K(\text{Ni}(\text{phen})+\text{L})=7.63$   
 $K(\text{NiA}+\text{L})=7.48$

A is 1,2-diaminobenzene.

Ni++	gl	NaClO4	30°C	0.10M	M		K1=8.91	1995RMa	(65290)4004
------	----	--------	------	-------	---	--	---------	---------	-------------

\*\*\*\*\*

C9H10N2S2 HL CAS 7487-46-0 (1209)  
 1-Benzyl-hydrazone-S-methyldithiocarboxylate; C6H5.CH:N.NH.CS.SCH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	sp	NaClO4	25°C	0.10M	U	M			1976IDa	(65295)4005

$K(\text{NiL}_2+2\text{py})=0.58$   
 $K(\text{NiL}_2+2(3\text{Me-py}))=0.95$   
 $K(\text{NiL}_2+2(4\text{Me-py}))=1.62$   
 $K(\text{NiL}_2+2(\text{isoquinoline}))=0.50$

Other methods used include gl, polarography and nmr.

\*\*\*\*\*

C9H10N6 L CAS 3656-02-8 (8053)  
 4-Phenylazo-3,5-diaminopyrazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	alc/w	25°C	40%	U		K1=6.85	1994AAb	(65301)4006	

$B(\text{Ni}_2\text{L})=18.45$

Medium: 40% EtOH/H2O, 0.10 M NaClO4. Also data for the 4'-methyl and 4'-carboxy-phenyl derivatives.

\*\*\*\*\*

C9H10N6B HL CAS 18583-60-3 (7936)  
 Hydrotris(pyrazolyl)borate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	dis	non-aq	25°C	100%	C				2001KSb	(65306)4007

$K(\text{Ni}+2\text{HL}=\text{NiL}_2(\text{org})+2\text{H})=9.2$

Method: solvent extraction into chloroform.

K:  $\text{Ni}+2\text{HL}(\text{org})=\text{NiL}_2(\text{org})+2\text{H}$ .

\*\*\*\*\*

C9H10O2 HL CAS 699-91-2 (4594)  
 2-Hydroxy-3-methylacetophenone; HO(CH3).C6H3.CO.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	diox/w	27°C	75%	U		K1=10.53	B2=19.09	1973KDC	(65318)4008

K3=6.46

Medium: 50% v/v dioxan, 0.5 M NaClO4

\*\*\*\*\*

C9H1002 HL CAS 6921-64-8 (4595)  
2-Hydroxy-4-methylacetophenone; HO(CH3).C6H3.CO.CH3

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl diox/w 27°C 75% U K1=9.37 B2=15.93 1973KDc (65324)4009  
Medium: 50% v/v dioxan, 0.5 M NaCl04

\*\*\*\*\*

C9H1002 HL CAS 1450-72-2 (4596)  
2-Hydroxy-5-methylacetophenone; HO(CH3).C6H3.CO.CH3

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl diox/w 27°C 75% U K1=8.38 B2=15.39 1970GMe (65331)4010  
Medium: 50% v/v dioxan, 0.5 M NaCl04

\*\*\*\*\*

C9H1002 HL CAS 610-99-1 (4597)  
2-Hydroxypropiophenone;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl diox/w 25°C 75% U K1=18.74 1978SRa (65340)4011  
-----  
Ni++ gl diox/w 27°C 75% U K1=9.24 B2=15.86 1973KDc (65341)4012  
K3=3.39

Medium: 75% dioxan, 0.1 M NaCl04

\*\*\*\*\*

C9H1002 HL Benzylacetic CAS 501-52-0 (1362)  
3-Phenylpropanoic acid; C6H5.CH2.CH2.COOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ nmr none 20°C 0.0 U 1992Mca (65360)4013  
K(NiA+L)=2.78  
K(NiAL+L)=3.74

A=carboxypeptidase A.

\*\*\*\*\*

C9H1002S HL CAS 21101-79-1 (3267)  
2-Ethylthiobenzoic acid; CH3.CH2.S.C6H4.COOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl diox/w 30°C 50% U K1=2.37 B2=5.99 1956IFa (65403)4014  
\*\*\*\*\*

C9H1002S H2L CAS 5219-65-8 (1062)  
3-Phenyl-2-mercaptopropanoic acid; C6H5.CH2.CH(SH).COOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

B(NiHL)=11.55  
B(NiL2L)=15.21  
B(Ni3L4)=37.20

C9H10O3	H2L	CAS 1643-34-0	(4598)
2,6-Dihydroxy-4-methylacetophenone; (HO)2(CH3).C6H2.CO.CH3			

$$K(\text{Ni}+\text{HL})=7.72$$

$$K(\text{NiHL}+\text{HL})=5.12$$

C9H10O3	HL	Phenyllactic	CAS 828-01-3 (1190)
2-Hydroxy-3-phenylpropanoic acid, b-Phenyllactic acid; C6H5.CH2.CH(OH).COOH			

C9H10O3                      HL                      CAS 118-61-6    (3858)  
Salicylic acid ethyl ester; HO.C6H4.CO.OC2H5

C9H10O3S HL CAS 18619-21-2 (4637)  
(2-Methoxyphenylthio)ethanoic acid; CH3O.C6H4.S.CH2.COOH

C9H10O3S HL CAS 3996-32-5 (4638)  
(3-Methoxyphenylthio)ethanoic acid; CH3O.C6H4.S.CH2.COOH

C9H10O4	H2L	CAS 3943-89-0	(4600)
3,4-Dihydroxybenzoic acid ethyl ester; (HO)2.C6H3.CO.OC2H5			

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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-----  
 Ni++ sp oth/un 25°C 0.10M U K1=8.05 1969HOc (65551)4021  
 \*\*\*\*\*  
 C9H10O4 H3L CAS 39223-40-0 (1825)  
 3,4-Dihydroxyphenylpropanoic acid; (HO)2.C6H3.CH2.CH2.COOH  
 -----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl NaClO4 30°C 0.10M U K1=7.45 B2=11.53 1966APb (65560)4022  
 \*\*\*\*\*  
 C9H10O5 HL Vanillylmandel. CAS 2394-20-9 (2441)  
 4-Hydroxy-3-methoxymandelic acid; (CH3O)(OH)C6H3.CH(OH)COOH  
 -----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ kin KNO3 25°C 0.50M U K1=1.52 1981CKc (65630)4023  
 \*\*\*\*\*  
 C9H10O8 H4L CAS 3724-52-5 (1264)  
 cis-1,2,3,4-Cyclopentanetetracarboxylic acid; C5H6.(COOH)4  
 -----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl NaClO4 30°C 0.19M U K1=6.06 B2=9.92 1985MSb (65633)4024  
 \*\*\*\*\*  
 C9H11N L CAS 2294-75-9 (301)  
 2-(But-3-enyl)pyridine; C5H4N.CH2.CH2.CH:CH2  
 -----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl KNO3 25°C 0.10M U K1=1.70 1974ILa (65657)4025  
 \*\*\*\*\*  
 C9H11NO HL CAS 10229-63-7 (3872)  
 N-(Salicylidene)aminoethane; HO.C6H4.CH:N.CH2.CH3  
 -----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ sp non-aq 25°C 100% C K1=2.3 2002CCc (65666)4026  
 K(NiL2+Ni)=1.16  
 K(NiL+NiL2)=3.61

Medium: acetonitrile. K1 by kinetic methods.

\*\*\*\*\*  
 C9H11NOS HL CAS 34282-30-9 (3287)  
 N-(Mercaptoacetyl)-4-methylanilide; CH3.C6H4.NH.CO.CH2.SH  
 -----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl diox/w 30°C 75% U K1=8.84 B2=17.18 1961MAe (65673)4027  
 \*\*\*\*\*  
 C9H11NOS HL CAS 36076-50-3 (4680)  
 N-Phenyl-N-methyl-2-mercaptoacetamide; HS.CH2.CO.N(CH3).C6H5

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++		oth diox/w	30°C	70%	U		K1=8.12 B2=15.89	1973BSc (65678)	4028
*****									
C9H11NO2		HL					CAS 89-50-9	(3873)	
2-(Ethylamino)benzoic acid; CH3.CH2.NH.C6H4.COOH									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	22°C	0.10M	U		K1=1.9	1960UHa (65687)	4029
*****									
C9H11NO2		HL					CAS 63-91-2	(2)	
2-Amino-3-phenylpropanoic acid; H2N.CH(CH2.C6H5)COOH									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	alc/w	25°C	40%	C		K1=11.39 B(NiHL)=6.20	2003DKa (65850)	4030
Medium: 40% v/v EtOH/H2O, 0.10 M NaCl.									
Ni++	gl	KNO3	35°C	0.10M	C	M	K1=5.10 B(NiAL)=5.20	1999DSb (65851)	4031
A is thiamine hydrochloride.									
Ni++	gl	NaClO4	25°C	0.20M	U	M	K1=5.20 B2= 9.82 K(Ni(bpy)+L)=4.49 K(Ni(phen)+L)=4.81 K(NiA+L)=4.89 K(Ni(his)+L)=4.01	1997PJa (65852)	4032
A is 2,2'-bipyridylamine. K(Ni(ida)+L)=3.95.									
Ni++	gl	KNO3	35°C	0.10M	C	M	K1=5.20 K(NiL+A)=4.78	1997PSb (65853)	4033
H2A is thiamine orthophosphoric acid.									
Ni++	gl	KNO3	25°C	0.10M	M	M	K(NiL+bipy)=5.38 K(NiL+phen)=5.46 K(NiL+imidazole)=3.60	1996ABb (65854)	4034
Ni++	gl	NaClO4	25°C	0.20M	U	T M	K1=5.20 B2= 9.82 K(NiA+L)=4.92	1993PPa (65855)	4035
A is 2,2'-bipyridylamine. Also data for 35 and 45 C.									
Ni++	gl	KNO3	25°C	0.70M	C		K1=4.81 B2= 9.15 K(Ni+OH+L)=9.08	1992AAc (65856)	4036
Ni++	gl	NaClO4	30°C	0.20M	U	M	K1=4.91 B2=8.66 B(NiL(H2Dopa))=9.88	1990MBa (65857)	4037

B(NiL(His))=12.32

Ni++ gl KNO3 35°C 0.10M U K1=5.10 1990RSe (65858)4038

Ni++ gl KNO3 25°C 0.10M U M K1=5.56 1989MAc (65859)4039  
K(NiA+L)=5.40

H4A is adenosine-5'-triphosphoric acid.

Ni++ gl KNO3 25°C 0.10M C M K1=5.00 1989MAd (65860)4040  
K(NiA+L)=4.55  
B(NiAL)=12.57

H2A is N-(2-acetamido)imino diethanoic acid.

Ni++ gl KNO3 35°C 0.20M U M K1=5.13 B2=9.15 1989RVa (65861)4041  
K(NiA+L)=4.88

A=bis(imidazol-2-yl)methane

Ni++ gl KCl 25°C 0.20M C M 1985KGa (65862)4042  
B(NiL(bpy))=11.92

Ni++ gl NaClO4 30°C 0.20M U M K1=4.69 1984PBc (65863)4043  
Ternary complexes with 2,2'-bipyridyl and 1,10-phenanthroline

Ni++ gl KNO3 30°C 0.10M M M K1=4.99 B2= 9.64 1978MSi (65864)4044  
K(Ni(his)+L)=4.01  
B(Ni(his)L)=12.70

Ni++ gl KCl 25°C 0.05M U M T K1=5.15 B2=9.59 1972GSc (65865)4045  
B(NiL(Gly))=10.43  
B(NiL(Ala))=10.11  
B(NiLA)=10.07  
B(NiLB)=10.07

B(NiLC)=10.02, B(NiL(Ser))=10.07, B(NiL(Thr))=10.09, K(Ni+L+HD)=9.86.

HA=norvaline, HB=norleucine, HC=2-aminobutanoic acid, H2D=Tyrosine

Ni++ gl NaClO4 25°C 3.0M U T K1=5.35 B2=10.49 1972WYa (65866)4046

Ni++ gl oth/un 40°C 0.0 U T H K1=5.52 B2=9.91 1967AGa (65867)4047  
K1=5.61(10 C),5.56(20 C); K2=4.95(10 C),4.66(20 C);  
DH(K1)=-5.0 kJ mol<sup>-1</sup>, DS=90.3 J K<sup>-1</sup> mol<sup>-1</sup>; DH(K2)=-31.8, DS=-18

Ni++ cal oth/un 25°C 0.0 U T H 1967AGa (65868)4048  
DH(K1)=-14.2 kJ mol<sup>-1</sup>(10 C),-13.4(25 C),-10.9(40 C); DS=58 J K<sup>-1</sup> mol<sup>-1</sup>(10 C)  
62(25 C),71(40 C); DH(K2)=-17(10 C),-13.8(25 C),-12.1(40 C);DS=43(25 C)

Ni++ gl KNO3 20°C 0.37M U T K1=5.22 B2=9.69 1966SWa (65869)4049

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C9H11NO2 HL B-Phenylalanine CAS 614-19-7 (187)

3-Amino-3-phenyl-propanoic acid; H2N.CH(C6H5).CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.20M	U	M	K1=4.83 K(Ni(bpy)+L)=4.61	1988BSc (66003)	4050

\*\*\*\*\*

C9H11NO2	HL	(4648)
3-Methyl-2-hydroxyacetophenone oxime; (CH3)(HO).C6H3.C(:N.OH).CH3		

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	diox/w	40°C	75%	U		K1=7.53 B2=14.81	1973PPa (66017)	4051
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C9H11NO2	HL	(4649)
4-Methyl-2-hydroxyacetophenone oxime; (CH3)(HO).C6H3.C(:N.OH).CH3		

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	diox/w	40°C	75%	U		K1=7.50 B2=15.32	1973PPa (66021)	4052
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C9H11NO2	HL	(4650)
5-Methyl-2-hydroxyacetophenone oxime; (CH3)(HO).C6H3.C(:N.OH).CH3		

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++	gl	diox/w	40°C	75%	U		K1=7.49 B2=16.21	1973PPa (66025)	4053
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C9H11NO2	HL	CAS 21911-75-4 (657)
N-(2-Methylphenyl)aminoethanoic acid; CH3.C6H4.NH.CH2.COOH		

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	NaClO4	25°C	0.10M	U		K1=3.08	1985CLa (66030)	4054
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C9H11NO2	HL	N-Tolylglycine CAS 21911-67-1 (627)
N-(3-Methylphenyl)aminoethanoic acid; CH3.C6H4.NH.CH2.COOH		

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	NaClO4	25°C	0.10M	U		K1=3.16	1983CLb (66035)	4055
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Ni++	gl	NaClO4	25°C	0.10M	U	M	K1=3.16	1983CLc (66036)	4056
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C9H11NO2	HL	CAS 21911-69-3 (634)
N-(4-Methylphenyl)aminoethanoic acid; CH3.C6H4.NH.CH2.COOH		

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	NaClO4	25°C	0.10M	U	M		1984CMA (66042)	4057
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K(Ni(phen)+L)=4.90

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Ni++ gl NaClO4 25°C 0.10M U K1=3.31 1979Cxa (66043)4058  
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C9H11NO3 HL CAS 30321-28-1 (3875)  
2-((2'-Hydroxyethyl)amino)benzoic acid; HO.CH2.CH2.NH.C6H4.COOH  
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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++ gl KCl 22°C 0.10M U K1=2.4 B2=4.95 1960UHa (66050)4059  
\*\*\*\*\*

C9H11NO3 HL (6512)  
2-Amino-2-(4'-methoxyphenyl)ethanoic acid; NH2.CH(C6H4OCH3)COOH  
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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++ gl KNO3 25°C 0.10M M K1=5.05 B2=9.20 1990Sma (66053)4060  
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C9H11NO3 H2L o-Tyrosine CAS 7432-92-9 (735)  
2-Amino-3-(2-hydroxyphenyl)propanoic acid; HO.C6H4.CH2.CH(NH2).COOH  
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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++ gl KCl 25°C 0.20M U H B2=11.81 1984KGa (66061)4061  
B(NiHL)=15.69  
B(NiH2L2)=30.72  
B(NiHL2)=21.81

DH(NiHL)=-35.4 kJ mol<sup>-1</sup>; DH(NiH2L2)=-74.7; DH(NiHL2)=-52.7; DH(NiL2)=-28.9

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C9H11NO3 H2L m-Tyrosine CAS 587-33-7 (736)  
2-Amino-3-(3-hydroxyphenyl)propanoic acid; HO.C6H4.CH2.CH(NH2).COOH  
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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++ gl KCl 25°C 0.20M U H B2=10.53 1984KGa (66072)4062  
B3=13.83  
B(NiHL)=15.02  
B(NiH2L2)=29.38  
B(NiHL2)=20.27

DH(NiHL)=-37.4; DH(NiH2L2)=-77.1; DH(NiHL2)=-55.1; DH(B2)=-26.1; DH(B3)=-46.1  
kJ mol<sup>-1</sup>

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C9H11NO3 H2L Tyrosine CAS 60-18-4 (4)  
2-Amino-3-(4-hydroxyphenyl)propanoic acid; HO.C6H4.CH2.CH(NH2).COOH  
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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++ gl KNO3 35°C 0.10M C M K(Ni+HL)=5.21  
K(NiHL+A)=4.11

H2A is thiamine orthophosphoric acid.

Ni++	gl	NaClO4	30°C	0.20M	U	M		1990MBa (66165)4064
							K(Ni+HL)=4.70 K(NiHL+HL)=4.21 B(NiL(H2DOPA))=9.82	
Ni++	gl	KCl	25°C	0.20M	C	M		1985KGa (66166)4065
							B(NiHL(bpy))=22.04 B(NiL(bpy))=12.60	
Ni++	gl	KCl	25°C	0.20M	U	H	B2=10.11 B3=13.67 B(NiHL)=15.00 B(NiH2L2)=29.35 B(NiHL2)=20.03	1984KGa (66167)4066
DH(NiHL)=-35.9 kJ mol <sup>-1</sup> ; DH(NiH2L2)=-74.8; DH(NiHL2)=-50.8; DH(B2)=-24.9; DH(B3)=-46.5; B(NiH3L3)=42.36; B(NiH2L3)=33.32; B(NiHL3)=23.73								
Ni++	gl	NaClO4	30°C	0.20M	U	M		1984PBc (66168)4067
							K(Ni+HL)=4.75	
Ternary complexes with 2,2'-bipyridyl and 1,10-phenanthroline								
Ni++	gl	KCl	25°C	0.10M	C	TIH	R	1984PEa (66169)4068
							K(Ni+HL)=5.0 K(Ni+2HL)=9.2	
IUPAC evaluation								
Ni++	gl	KCl	25°C	0.10M	U	M		1983MDc (66170)4069
							K(Ni+HL)=4.81 K(Ni+2HL)=8.81	
Ni++	gl	KNO3	25°C	0.10M	C	T	K1=5.79 B2=10.23 B3=13.09, B(NiHL)=15.14 B(NiHL2)=20.01 B(NiH2L2)=29.55 K(Ni+2HL)=9.27, K(Ni+3HL)=12.41	1982PSa (66171)4070
Ni++	gl	KNO3	25°C	0.10M	U	T		1973BBc (66172)4071
							K(Ni+HL)=5.14 K(NiHL+HL)=4.41	
Ni++	gl	KCl	25°C	0.05M	U	M T		1972GSc (66173)4072
							K(Ni+HL)=5.10 K(NiHL+HL)=4.36 K(Ni+Gly+HL)=10.37 K(Ni+Ala+HL)=10.10	
K(Ni+A+HL)=10.02, K(Ni+B+HL)=10.05, K(Ni+C+HL)=10.08, K(Ni+Ser+HL)=10.03, K(Ni+Thr+HL)=10.14, K(Ni+Phe+HL)=9.86. A=2-aminobutanoic, B=norVal, C=norLeu								
Ni++	gl	NaNO3	20°C	0.37M	U	T		1971WSa (66174)4073

K(Ni+HL)=4.71  
K(Ni+2HL)=8.60

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Ni++ gl oth/un 20°C 0.01M U 1952ALa (66175)4074  
K(Ni+2HL)=10.1

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C9H11NO3 HL CAS 78547-13-4 (1897)  
2-Aminooxy-3-phenyl-propanoic acid; C6H5.CH2.CH(O.NH2).COOH

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

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Ni++ gl KNO3 25°C 0.50M U K1=2.06 1985WTa (66262)4075

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C9H11NO3 HL Peonoloxime (6250)  
2-Hydroxy-4-methoxyacetophenoneoxime; CH3O.C6H3(OH).C(:NOH).CH3

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

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Ni++ gl diox/w 28°C 50% U K1=8.85 B2=15.94 1979BRb (66268)4076

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C9H11NO3 HL CAS 85676-52-4 (628)  
N-(3-Methoxyphenyl)aminoethanoic acid; CH3O.C6H4.NH.CH2.COOH

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

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Ni++ gl NaClO4 25°C 0.10M U K1=2.98 1983CLb (66279)4077

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Ni++ gl NaClO4 25°C 0.10M U M K1=2.98 1983CLc (66280)4078

K(Ni(bpy)+L)=3.53

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C9H11NO3 HL CAS 22094-69-5 (633)  
N-(4-Methoxyphenyl)aminoethanoic acid; CH3O.C6H4.NH.CH2.COOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

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Ni++ gl NaClO4 25°C 0.10M U M 1984CMA (66286)4079

K(Ni(phen)+L)=5.39

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Ni++ gl NaClO4 25°C 0.10M U K1=3.66 1979CXa (66287)4080

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C9H11NO3 H2L CAS 2233-84-3 (697)  
N-2-Hydroxybenzyl-aminoethanoic acid; HO.C6H4.CH2.NH.CH2.COOH

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

-----  
Ni++ gl diox/w 25°C 50% C M K1=8.47 B2=12.01 1995PBc (66295)4081

K(NiL+A)=11.14

K(NiL+C)=11.03

K(NiL+D)=11.03

Medium: 50% v/v dioxane/H2O, 0.20 M NaClO4. HA is indole-3-ethanoic acid,

Ni++            gl   diox/w 25°C   50% U   M   K<sub>1</sub>=8.47   B<sub>2</sub>=12.01   1993PBd (66296)4082  
B(Ni(gly)L)=13.80  
B(Ni(ala)L)=12.73  
B(Ni(phe)L)=12.17  
K(Ni+HA+L)=12.34  
  
Medium: 50% v/v dioxane/H<sub>2</sub>O, 0.2 M NaClO<sub>4</sub>. H<sub>2</sub>A is tyrosine.  
B(Ni(trp)L)=12.48.

C9H11NO4                      H3L      DOPA                      CAS 59-92-7    (5)  
2-Amino-3-(3,4-dihydroxyphenyl)propanoic acid;H2NCH(CH2C6H3(OH)2)COOH

$$B(\text{NiLZn})=15.50.$$

Ni++	gl	KCl	25°C	0.20M	C	M	1985KGa (66361)4086
							B(NiH2L(bpy))=34.98
							B(NiHL(bpy))=27.23
							B(NiL(bpy))=17.58

Ni++            gl   KCl       25°C 0.20M C       M                                  1984KDb (66362)4087

K(Ni(His)+L)=7.66  
B(NiH<sub>2</sub>L(His))=35.79  
K(Ni(ATP)+L)=4.37  
B(NiH<sub>2</sub>L(ATP))=32.50  
K(Ni(Ala)+L)=4.61, B(NiH<sub>2</sub>L(Ala))=32.74; K(Ni(GlyGly)+L)=3.48,  
B(NiH<sub>2</sub>L(GlyGly))=31.61

Ni++	sp	KCl	25°C 0.20M C	1983KGa (66364)4089
			K(NiL2+H)=11.47	
			K(NiHL2+H)=9.66	
			K(NiH2L2+H)=9.00	



Ni++	gl	KCl	25°C	0.20M	C	M	B2=17.10	1979GKa (66365)4090
							B(NiH2L)=28.13	
							B(NiHL)=19.9	
							B(NiH4L2)=55.06	
							B(NiH3L2)=47.19	
							B(NiH2L2)=38.19; B(NiHL2)=28.57	

Ni++            gl   NaCl04 25°C 0.50M U                                 1977BPc (66366)4091

B(NiH2L)=27.28  
B(NiH4L2)=53.70  
B(NiH6L3)=79.32  
B(NiH5L3)=70.40  
B(NiH4L3)=61.70, B(NiH3L3)=51.40, B(NiH2L3)=42.00.

Ni++      gl   NaNO3   20°C 0.50M U      1974GSa (66367)4092  
K(Ni+H2L)=4.0  
K(Ni+2H2L)=8.73

Ni++      gl   KNO3    25°C 0.10M U      1973BKb (66368)4093  
K(Ni+H2L)=4.85  
K(NiH2L+H2L)=4.28

Ni++      gl   KNO3   25°C   1.0M U      1972GJa (66369)4094  
K(Ni+H2L)=4.96  
K(NiH2L+H2L)=4.20

\*\*\*\*\*  
C9H11N04S                      H2L                      CAS 1080-44-0 (4682)  
N-(4-Toluenesulfonyl)glycine, N-tosylglycine; CH3.C6H4.SO2.NH.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	30°C	45%	U		B2=11.61 K(Ni+2HL)=6.06 K(Ni+HL+L)=8.73	1984MYa (66412)	4095

\*\*\*\*\*  
C9H11NO4S2                      H3L                      CAS 97512-83-9    (1330)  
N-Benzenesulfonyl-L-cysteine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	alc/w	25°C	50%	C	M		K(Ni+HL)=6.59 B(Ni(en)(HL))=14.02 B(Ni(gly)(HL))=12.72 *K(Ni(bpy)(HL))=-11.50	1997Mgb (66435)	4096
Medium: 50% v/v EtOH/H2O, 0.2 M NaNO3. *K(Ni(en)HL)=-10.60, *K(Ni(gly)HL)=-11.50, *K(NiLbpy)=-12.00, *K(NiLen)=-13.10, *K(NiLgly)=-12.40										

Ni++ sp diox/w 30°C 50% U K1=6.46 B2=13.21 1981MDa (66436)4097  
\*\*\*\*\*

C9H11NO5S H2L CAS 85828-29-1 (8747)  
N-(Phenylsulfonyl)-L-serine;

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl alc/w 25°C 50% C T H 1987MDe (66455)4098  
K(Ni+HL=NiL+H)=5.32  
K(Ni+2HL=NiL2+2H)=11.32  
\*K(NiL2)=-10.46

Medium: 50% v/v EtOH/H2O, 0.2 M NaNO3. Data for 35, 45 C.

Enthalpy and entropy data.

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C9H11N3 L CAS 29518-68-1 (8048)  
2-(2-Aminoethyl)benzimidazole;

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ sp NaCl04 25°C 0.30M C T H K1=4.47 1995DAa (66467)4099  
DH(K1)=-10.3 kJ mol-1, DS(K1)=51 J K-1 mol-1.

\*\*\*\*\*

C9H11N3O2 HL (7179)  
2-Hydroxy-acetophenone semicarbazone; HOC6H4C(CH3):NNHCONH2

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ sp non-aq ? 100% U K1=6.24 B2=10.48 1991SKc (66484)4100  
Medium: EtOH

-----  
Ni++ sp alc/w ? 100% U K1=6.24 B2=10.48 1991SKd (66485)4101  
Medium: EtOH

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C9H11N3O2S HL (1273)  
1-Ethoxycarbonyl-3-pyridin-2-ylthiourea; C5H4N.NH.CS.NH.CO.OC2H5

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Ni++ gl alc/w 25°C 75% U K1=6.58 B2=13.09 1980SMb (66493)4102  
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C9H11N3O2S HL CAS 51146-75-9 (6170)  
N-(2-Hydroxy-3-methoxybenzylidene)thiosemicarbazide; CH3O(OH)C6H3.CH:N.CS.NH.NH2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl diox/w 35°C 50% U I K1=8.37 B2=15.96 1993GJa (66500)4103  
Medium: 50% v/v dioxane/H2O, 0.10 M NaCl04.

Also data for 50% dioxane/H2O, 0.0200.2 M NaCl04. At I=0, K1=9.05.

\*\*\*\*\*

C9H11O2As HL CAS 20717-70-8 (1277)

2-Carboxyphenyl dimethylarsine; HOOC.C6H4.As(CH3)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	40°C	70%	U		K1=2.53	1980SSb (66531)	4104

In 70% EtOH: K1=2.51

\*\*\*\*\*

C9H12N2O HL Atrolactamidine CAS 27906-16-1 (3878)  
 2-Hydroxy-2-phenylpropanoylamidine; C6H5.C(OH)(CH3)C(:NH)NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.10M	U		K1=7.87 B2=15.40	1963GJb (66556)	4105

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C9H12N2O HL (6765)  
 N-(2-Aminoethyl)salicylideneimine; HO.C6H4.CH:NCH2CH2NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	mixed	25°C	80%	C		K1=16.9	1991Lma (66562)	4106

Medium: 80% w/w DMSO/H2O, 0.1 M KClO4

\*\*\*\*\*

C9H12N2O L (5974)  
 Phenylalaninamide; NH2.CH(CH2.C6H5).CO.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.10M	C		K1=2.57 B2= 4.69 B3=6.41 B(NiH-2L2)=-11.86	1997DFb (66570)	4107

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C9H12N2O2 HL CAS 19254-08-1 (5893)  
 2-Amino-N-hydroxy-3-phenylpropanamide, phenylalanine hydroxamic acid;  
C6H5.CH2.CH(NH2).CO.NHOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.20M	C		K1=6.53 B2=13.89	1991FKa (66577)	4108

\*\*\*\*\*

C9H12N2O2 HL CAS 66315-20-6 (3272)  
 N-2'-Aminoethylanthranilic acid; HOOC.C6H4.NH.CH2.CH2.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	35°C	50%	U		K1=7.8 B2=14.7	1958YSa (66585)	4109

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C9H12N2O2 HL CAS 80028-35-9 (2762)  
 beta-(6-Methyl-2-pyridyl)-alpha-alanine; CH3.C5H3N.CH2.CH(NH2).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++ gl KNO3 25°C 0.10M M K1=5.05 B2=9.07 1976RNa (66596)4110  
B2=9.68 (racemic ligand)

\*\*\*\*\*

C9H12N2O3 H3L Tyr hydroxamic CAS 51344-01-5 (864)  
2-Amino-N-hydroxy-3-(4-hydroxyphenyl)propanamide; HO.C6H4.CH2.CH(NH2)CO.NHOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KCl 25°C 0.20M C B2=15.12 1991FKa (66603)4111  
B(NiHL)=16.01  
B(NiH2L2)=33.94  
B(NiHL2)=24.69  
B(NiH-1L2)=5.15

-----  
Ni++ gl KCl 25°C 0.50M C B2=16.186 1987LEb (66604)4112  
B(NiH2L2)=33.668  
B(NiHL2)=25.700  
B(NiH-1L2)=6.646

\*\*\*\*\*

C9H12N2O4 H3L (6664)  
3,4-Dihydroxyphenylalanine hydroxamic acid, DOPA hydroxamic acid;  
H2N.CH(CH2.C6H3(OH)2CO.NHOH

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KCl 25°C 0.20M C B2=16.28 1991FKa (66618)4113  
B(NiHL)=16.25  
B(NiH2L2)=33.08  
B(NiHL2)=25.02

\*\*\*\*\*

C9H12N2O4S2 HL Dithiouridine (7417)  
2,4-Dithiouracil-1-ribofuranoside, 2,4-dithiouridine;

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Ni++ gl KCl 25°C 0.20M C K1=3.02 B2= 5.66 1997KVa (66628)4114

\*\*\*\*\*

C9H12N2O5S HL 2-Thiouridine (7416)  
2-Thiouracil-1-ribofuranoside; 2-thiouridine;

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Ni++ gl KCl 25°C 0.20M C K1=2.99 B2= 5.95 1997KVa (66631)4115

\*\*\*\*\*

C9H12N2O5S HL 4-Thiouridine CAS 13957-31-8 (7415)  
4-Thiouracil-1-ribofuranoside, 4-thiouridine;

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KCl 25°C 0.20M C K1=2.68 B2= 5.13 1997KVa (66634)4116  
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C9H12N2O6 HL Uridine CAS 58-96-8 (828)  
Uracil-1-beta-D-ribofuranoside;

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Ni++ gl KNO3 25°C 0.10M U T HM 1995RSb (66668)4117  
B(Ni(ala)L)=8.95  
B(Ni(phe)L)=8.45  
B(Cu(trp)L)=8.93

Data for 35 and 45 C. DH(Ni(ala)L)=-19.9 kJ mol<sup>-1</sup>, DS(Ni(ala)L)=107 J K<sup>-1</sup> mol<sup>-1</sup>; DH(Ni(phe)L)=-20.0, DS(Ni(phe)L)=95; DH(Ni(trp)L)=-19.0, DS=107.

-----  
Ni++ gl NaClO4 25°C 0.20M U K1=3.89 1991SPa (66669)4118  
-----

Ni++ gl KNO3 35°C 0.10M U M K1=3.49 1990RSc (66670)4119  
K(NiA+L)=2.99  
K(NiB+L)=2.35  
K(NiC+L)=2.19

H2A=Iminodiethanoic acid, H3B=NTA, H4C=EDTA

-----  
Ni++ gl KNO3 35°C 0.10M U M K1=2.77 1990RSc (66671)4120  
K(NiL+Ala)=2.51  
K(NiL+Phe)=2.49  
K(NiL+Trp)=2.48  
-----

Ni++ gl KNO3 25°C 0.10M C T HM K1=3.90 B2=7.65 1987KRa (66672)4121  
-----

Ni++ gl KNO3 35°C 0.10M U M K1=3.57 1986RRa (66673)4122

Ternary complexes with glycine, oxalate, histidine and histamine

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C9H12N2O10 H5L CAS 80921-06-8 (2924)

2,3-Diaminopropanoic-N,N'-di-1,3-propanedioic acid;  
(HOOC)2CH.NH.CH(COOH).CH2.NH.CH(COOH)2

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ EMF KNO3 25°C 0.10M U K1=12.36 1982KBb (66725)4123

\*\*\*\*\*

C9H12N3OCl HL CAS 5756-81-0 (4683)

1-(2'-Chloro)phenyl-3-propyl-3-hydroxytriazene;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ EMF diox/w 25°C 70% U K1=7.72 B2=13.66 1969DSa (66751)4124

Medium: 70% dioxan, 0.1 M KCl

\*\*\*\*\*

C9H12N4O L CAS 78105-09-6 (8186)

9-(1-Ethoxyethyl)purine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	kin	oth/un	40°C	0.20M	C		K1=0.89	1980LOa (66754)	4125
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Medium: 0.20 M Mg(ClO4)2.

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C9H12O6		H3L					CAS 16526-68-4	(5948)	
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cis, cis-1,3,5-Cyclohexanetricarboxylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++	gl	KNO3	25°C	0.50M	U		K1=1.78 B(NiHL)=6.45 B(NiH2L)=10.31	1983Wka (66769)	4126
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C9H13N		L					CAS 3987-81-2	(493)	
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4-t-Butylpyridine; C5H4N.(t-C4H9)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++	gl	KNO3	25°C	0.50M	U		K1=1.98 B2=3.94	1983LRa (66780)	4127
------	----	------	------	-------	---	--	-----------------	-----------------	------

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C9H13NO3		H2L					(+)Adrenaline CAS 51-43-4	(3879)	
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(+)-1-(3',4'-Dihydroxyphenyl)-2-(methylamino)ethanol, (+)Epinephrine;  
(HO)2C6H3.CH(OH).CH2.NHCH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++	gl	KCl	25°C	0.06M	U T H		K1=6.22 B2=9.88	1962ALa (66816)	4128
------	----	-----	------	-------	-------	--	-----------------	-----------------	------

At 0 C:K1=6.17, K2=3.58, B2=9.00(?); DH(B2)=16.3 kJ mol<sup>-1</sup>, DS=234 J K<sup>-1</sup> mol<sup>-1</sup>

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C9H13NO3		H2L					(-)Adrenaline CAS 51-43-4	(252)	
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4-(1-Hydroxy-2-(methylamino)ethyl)-1,2-dihydroxybenzene,  
Epinephrine;CH3NHCH(OH)C6H3(OH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++	gl	KCl	25°C	0.20M	C		K1=9.43 B2=14.2 B(NiHL)=18.84 B(NiH2L2)=34.5 B(NiHL2)=24.7	1981GKb (66838)	4129
------	----	-----	------	-------	---	--	---	-----------------	------

Ni++	gl	NaNO3	20°C	0.50M	U		B2=12.5 B(NiHL)=17.43 B(NiHL2)=22.9 B(NiH2L2)=32	1974GSa (66839)	4130
------	----	-------	------	-------	---	--	---	-----------------	------

Ni++		EMF diox/w	25°C	70%	U		K1=9.43 B2=17.29	1969DSa (66840)	4131
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Medium: 70% dioxan, 0.1 M KCl

Ni++ gl KCl 25°C 0.10M U K1=10.40 1966JNa (66841)4132  
K1 adjusted to give hypothetical microscopic constant

Ni++ gl KCl 25°C 0.06M U T H K1=5.65 B2=9.17 1962ALa (66842)4133  
At 0C: K1=6.17, K2=3.71, B2=8.90(?); DH(B2)=-30.9 kJ mol<sup>-1</sup>, DS=59 J K<sup>-1</sup> mol<sup>-1</sup>

Ni++ gl KCl 25°C .058M U T B2=9.26 1957LYa (66843)4134  
B2=9.00(0 C)

\*\*\*\*\*  
C9H13NO6 H3L (3881)  
2,6-Dicarboxypiperidyl-N-ethanoic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.10M U K1=10.87 1968KTd (66874)4135  
\*\*\*\*\*  
C9H13N2O3P HL (7918)  
(Glycylamino)methyl(phenylphosphinic acid);

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.10M C K1=4.29 B2= 7.43 2001LKa (66915)4136  
B(NiHL)=10.35

\*\*\*\*\*  
C9H13N2O8PS H3L CAS 29123-25-9 (9046)  
2-Thiouridine 5'-monophosphoric acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.10M C K1=3.51 B2= 6.30 2003SBb (66920)4137  
B(NiH-1L2)=-2.49  
B(NiH-2L2)=-11.27

\*\*\*\*\*  
C9H13N2O8PS H3L CAS 4145-46-4 (9047)  
4-Thiouridine 5'-monophosphoric acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.10M C K1=2.85 B2= 6.06 2003SBb (66923)4138  
B(NiH-2L2)=-11.10

\*\*\*\*\*  
C9H13N2O9P H3L UMP-5 CAS 58-97-9 (2948)  
Uridine-5'-monophosphoric acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ cal R4N.X 25°C 0.10M C H K1=2.03 1995HTa (66941)4139  
K(NiL+H)=3.0

DH(K1)=+8.7 kJ mol<sup>-1</sup>; DH(NiL+H)=3.4

Ni++ gl KNO3 35°C 0.10M U M 1992RAd (66942)4140  
 K(Ni+HL)=2.18  
 K(Ni+HL+Gly)=12.34  
 K(Ni+HL+His)=13.43  
 K(Ni+HL+histamine)=11.02

Ni++ gl R4N.X 25°C 0.10M C TI R 1991SMa (66943)4141  
 K(Ni+HL)=2.37

IUPAC evaluation

Ni++ gl NaNO3 25°C 0.10M C 1988MSa (66944)4142  
 K(Ni+HL)=1.97

Ni++ nmr oth/un 23°C 0.30M U M 1985PGa (66945)4143  
 Keff(NiA+HL)=2.83

A=Tetrakis(4-N-methylpyridyl)porphyrin. pD=7.0

\*\*\*\*\*

C9H13N3O HL CAS 50355-76-5 (4653)  
 1-Phenyl-3-propyl-3-hydroxytriazene; C6H5.N:N.N(OH)CH2CH2CH3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ EMF diox/w 25°C 70% U K1=8.92 B2=16.20 1969DSa (66984)4144  
 Medium: 70% dioxan, 0.1 M KCl

\*\*\*\*\*

C9H13N3O2 HL CAS 5756-77-4 (4654)  
 1-(2'-Methoxy)phenyl-3-ethyl-3-hydroxytriazene;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ EMF diox/w 25°C 70% U K1=9.57 B2=17.71 1969DSa (66985)4145  
 Medium: 70% dioxan, 0.1 M KCl

\*\*\*\*\*

C9H13N3O3S H2L CAS 62404-83-5 (2161)  
 3-Mercaptopropanoyl-histidine; CH2(SH).CH2.CO.NH.CH(CH2.C3H3N2).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 20°C 0.10M U K1=4.67 1977SHa (66987)4146  
 K(NiH-1L+H)=7.61

\*\*\*\*\*

C9H13N3O5 L Cytidine CAS 65-46-3 (2152)  
 Cytidine, Cytosine-1-beta-D-ribofuranoside;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.10M U T HM 1995RSb (67021)4147  
 K(NiL+ala)=5.20  
 K(NiL+phe)=5.56  
 K(NiL+trp)=6.07



Data for 35 and 45 C. DH(Ni(ala)L)=-15.4 kJ mol<sup>-1</sup>, DS(Ni(ala)L)=48 J K<sup>-1</sup> mol<sup>-1</sup>; DH(Ni(phe)L)=18.2, DS(Ni(phe)L)=46; DH(Ni(trp)L)=-22.7, DS=40.

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Ni++	gl	NaNO3	25°C	0.50M	C		K1=0.14		1992KJa (67022)4148
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Ni++	gl	KNO3	35°C	0.10M	U	M	K1=0.97		1990RSc (67023)4149
							B(NiL(Ala))=6.04		
							B(NiL(Phe))=6.18		
							B(NiL(Trp))=6.53		

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Ni++	gl	KNO3	35°C	0.10M	C	M	K1=2.94		1985RRc (67024)4150
							B(NiHL(Gly))=14.28		
							B(NiL(oxalate))=9.31		
							B(NiL(His))=13.48		
							B(NiL(histamine))=12.65		

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Ni++	gl	KNO3	45°C	0.10M	U		K1=3.03		1981TKa (67025)4151
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C9H14N2	L	CAS 14088-79-0	(3252)
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N-Benzylethylenediamine; C6H5.CH2.NH.CH2.CH2.NH2

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	diox/w	30°C	50%	U		K1=7.17 B2=12.62	1972GPb (67117)4152
							K3=3.30	

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C9H14N2O12P2	H4L	UDP	CAS 58-98-0	(3288)
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Uridine-5'-diphosphoric acid;

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	NaNO3	25°C	0.10M	M		K1=3.50	1999SSa (67146)4153
							K(Ni+H2L)=2.2	
							K(NiHL+H)=5.1	

---

Ni++	gl	KNO3	25°C	0.10M	U		K1=3.50	1995SBa (67147)4154
------	----	------	------	-------	---	--	---------	---------------------

\*\*\*\*\*

C9H14N2S	L	CAS 80191-93-1	(8262)
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2-[[2-(2-Pyridinyl)ethyl]thio]ethanamine;

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	KNO3	25°C	0.50M	M	H	K1=4.454 B2= 7.51	1984HGb (67164)4155
							K(Ni+HL)=0.6	

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By calorimetry: DH(K1)=-32.7 kJ mol<sup>-1</sup>, DH(K2)=-29.3, DH(Ni+HL)=-2.1.

\*\*\*\*\*

C9H14N2S	L	CAS 80191-92-0	(352)
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3-[(2-Pyridinylmethyl)thio]-1-propanamine;

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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By calorimetry:  $\Delta H(K_2) = -33 \text{ kJ mol}^{-1}$ .

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C9H14N3O7P                      H2L              dCMP                      CAS 1032-65-1    (5783)

Deoxycytidine-5'-monophosphoric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++            nmr oth/un 25°C 0.20M U       M                      1985PGa (67175)4157  
Keff(NiA+L)=2.30

A=Tetrakis(4-N-methylpyridyl)porphyrin. pH=6.9

\*\*\*\*\*

C9H14N3O8P                      H2L                      CMP-5                      CAS 63-37-6    (1243)

Cytidine-5'-monophosphoric acid, Cytidilic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++      gl    KNO3    25°C 0.10M C    M    K1=3.08    2001AAa (67208)4158

Also data for ternary complexes with MOPSO, TAPSO and ACES.

Ni++      gl    KNO3    20°C 0.10M U      K1=3.38      1999GLa (67209)4159

Ni++ cal R4N.X 25°C 0.10M C H K1=2.00 1995HTa (67210)4160  
K(NiL+H)=6.25

$$\Delta H(K1)=+8.3 \text{ kJ mol}^{-1}; \Delta H(NiL+H)=3.0$$

Ni++ gl R4N.X 25°C 0.10M C TI R K1=2.34 1991SMa (67211)4161  
IUPAC evaluation

Ni++      gl    NaNO3    25°C 0.10M C      K1=1.94      1988MSa (67212)4162

Ni++ gl KNO3 35°C 0.10M U M 1986RRe (67213)4163

$$K(\text{Ni}+\text{HL}+\text{HA})=6.17$$
$$K(\text{NiLA}+2\text{H})=9.25$$
$$K(Ni+HL+E)=7.09$$
$$K(\text{NiLE}+\text{H})=3.81$$

B(NiLC)=15.12; B(NiLD)=16.37. HA is glycine; H2E is oxalic acid;

C is histamine; HD is histidine.

Ni++      gl    NaNO3    35°C   0.10M   U      M    K1=2.36      1985KSc (67214)4164

$$K(\text{Ni}(\text{phen})+\text{L})=3.77$$
$$K(\text{Ni}(\text{GlyGly})+\text{L})=2.15$$
$$B(\text{Ni}(\text{salicylate})+\text{L})=0.84$$

Ni++      gl    KCl      25°C 0.10M U      K1=2.19      1984MDb (67215)4165

Ni++ con KNO3 25°C 0.10M U K1=2.00 19800Fa (67216)4166

Ni++ gl KNO3 15°C 0.10M U K1=1.90 1972FSa (67217)4167

\*\*\*\*\*

C9H14N4O3 HL Carnosine CAS 305-84-0 (272)  
3-Alanyl-histidine; H2N.CH2.CH2.CO.NH.CH(CH2.C3H3N2).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KCl 25°C 0.20M C M K1=4.61 1983FSc (67295)4168

B(NiHL)=12.11

B(NiH-1L2)=1.06

B(NiHL(Gly))=17.61

B(NiL(Gly))=9.73

B(NiH-1L(Gly))=0.88; B(NiHL(GlyGly))=16.02; B(NiL(GlyGly))=8.03;

B(NiHL(His))=20.12; B(NiL(His))=12.03; B(NiH-1L(His))=2.48

Ni++ gl KNO3 25°C 0.10M C K1=4.30 1975BPb (67296)4169

B(NiHL)=12.29

B(NiH-1L)=-3.152

B(NiH-1L2)=-1.04

Ni++ gl KNO3 25°C 0.10M U K1=5.42 1964LMa (67297)4170

K(NiH-1L+H)=9.14

Ni++ gl oth/un 25°C 0.16M U K1=2.80 B2=4.90 1960MEa (67298)4171

K3=1.6

\*\*\*\*\*

C9H14N4O3 HL His-Ala CAS 16874-75-2 (8025)  
Histidyl-Alanine;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.10M C H K1=6.73 B2=12.11 2001CFb (67347)4172

DH(K1)=-37 kJ mol<sup>-1</sup>, DS(K1)=5 J K<sup>-1</sup> mol<sup>-1</sup>, DH(B2)=-73, DS(B2)=-12.

\*\*\*\*\*

C9H14N5O3P H2L CAS 121149-93-7 (2512)  
9-(4-Phosphonobutyl)adenine;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl NaNO3 25°C 0.10M M K1=2.41 2000GKa (67351)4173

K(Ni+HL)=1.0

\*K(NiHL)=-6.3

\*\*\*\*\*

C9H14O7P2 H5L CAS 147608-61-5 (7128)  
Hydroxy-4-methylbenzene-2,6-di(methylphosphonic acid);

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 20°C 1.0M U 1995AAa (67365)4174  
K(Ni+H5L=NiHL+4H)=-14.45

\*\*\*\*\*

C9H15NO6 H3L (7177)  
2-Aminopentanoic-N,N-diethanoic acid; C3H7C(COOH)N(CH2COOH)2

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 20°C 0.10M U K1=11.11 1974RMf (67397)4175

\*\*\*\*\*

C9H15NO6 H3L CAS 817-11-8 (3271)  
3,3',3''-Nitrilotripropanoic acid; (HOOC.CH2.CH2)3N

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ cal KNO3 25°C 0.10M C H 1983GSb (67424)4176  
DH(K1)=9.01 kJ mol-1, DS(K1)=133 J K-1 mol-1

-----  
Ni++ gl KCl 30°C 0.10M U K1=5.8 1953Cma (67425)4177

\*\*\*\*\*

C9H15NO6 H3L CAS 95482-53-4 (3270)  
N-(2-Carboxyethyl)-3,3-iminodipropanoic acid;

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KCl 30°C 0.10M U K1=9.0 1953Cma (67437)4178

\*\*\*\*\*

C9H15NO6P2 H4L CAS 6056-53-7 (1337)  
N-Benzyliminobis(methylenephosphonic) acid; C6H5CH2N(CH2P(O)3H2)2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KCl 25°C 0.20M C K1=8.27 2000KKa (67453)4179  
B(NiHL)=14.79  
B(NiH2L)=19.87  
B(NiH-1L)=-3.61

-----  
Ni++ gl KNO3 25°C 1.00M M K1=7.75 1982BGb (67454)4180

K(Ni+HL)=2.85

\*\*\*\*\*

C9H15NO6S H3L DCMM CAS 72306-91-3 (8239)  
Dicarboxymethyl-N,N-methionine acid;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaCl 25°C 0.50M C 1980Mfc (67465)4181

K(Ni+HL)=7.45

K(NiHL+HL)=5.72

K(Ni(HL)2+HL)=2.75

Additional methods: conductivity, spectrophotometry

\*\*\*\*\*

C9H15N2O15P3                      H5L        UTP                      CAS 63-39-8    (407)  
 Uridine-5'-triphosphoric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	R4N.X	25°C	0.10M	C	T	K(Ni+HL)=4.82 K(Ni+H2L)=2.4	1991SMa (67494)	4182

IUPAC evaluation

Ni++	gl	NaNO3	25°C	0.10M	C		K(Ni+HL)=4.47 K(NiL+H)=4.49 K(Ni+H2L)=2.51	1987STb (67495)	4183
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Ni++	gl	KNO3	25°C	0.10M	U T H		K1=7.67	1983RRe (67496)	4184
------	----	------	------	-------	-------	--	---------	-----------------	------

Also data for 35 and 45 C. At 45 C: K1=7.44.  
 DH(K1)=-20.9 kJ mol<sup>-1</sup>, DS(K1)=76 J K<sup>-1</sup> mol<sup>-1</sup>.

Ni++	gl	NaClO4	25°C	0.10M	C	M	K(Ni+HL)=4.29 B(Ni(HL)(bpy))=11.29	1978FMa (67497)	4185
------	----	--------	------	-------	---	---	---------------------------------------	-----------------	------

Ni++	gl	KNO3	35°C	0.10M	U		K(Ni+HL)=7.56	1976KR a (67498)	4186
------	----	------	------	-------	---	--	---------------	------------------	------

Ni++	nmr	NaClO4	25°C	0.10M	U	M	K(NiL+H)=9.10 K(Ni(OH)L+H)=9.1 K(Ni(bpy)L+H)=9.24	1975SIb (67499)	4187
------	-----	--------	------	-------	---	---	---	-----------------	------

By spectrophotometry, K(NiL+H)=9.1.

\*\*\*\*\*

C9H15N3                                      L                                      CAS 60354-75-8    (6081)  
 2,6-Di(2-aminoethyl)pyridine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	20°C	1M	C		K1=8.67 B(NiH-1L)=-2.67	1992CPb (67538)	4188

\*\*\*\*\*

C9H15N3                                      L                                      CAS 72830-26-3    (3253)  
 2-(2-(2-Aminoethyl)aminoethyl)pyridine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	oth/un	25°C	0.10M	U		K1=9.4	1964LMb (67545)	4189

\*\*\*\*\*

C9H15N3O                                      L                                      CAS 96551-18-7    (6150)  
 2-Amino-3-aminomethyl-4-methoxymethyl-6-methylpyridine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.35M	M		K1=3.56 B2=5.85	1985CSa (67553)	4190
*****									
		C9H15N3O11P2		H3L	CDP		CAS 63-38-7	(2187)	
Cytidine-5'-diphosphoric acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.10M	M		K1=3.45 K(Ni+HL)=2.2 K(NiL+H)=5.14	1999SSa (67573)	4191

Ni++	gl	KCl	25°C	0.10M	U		K1=3.82 B(NiHL)=8.55	1984MDb (67574)	4192
------	----	-----	------	-------	---	--	-------------------------	-----------------	------

Ni++	kin	KNO3	15°C	0.10M	U		K1=3.48 K(Ni+HL)=1.87 K(Ni+NiL)=1.67	1978FSa (67575)	4193
------	-----	------	------	-------	---	--	--	-----------------	------

Method: temperature jump

Ni++	gl	KNO3	15°C	0.10M	U		K1=3.48 B2=5.47 K(Ni+HL)=1.87	1972FSa (67576)	4194
------	----	------	------	-------	---	--	----------------------------------	-----------------	------

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		C9H15N5O2		L			(7098)		
Glycyl-glycyl-histamine;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.10M	C		K1=4.15 B(1,1,1)=10.48 B(1,-1,1)=-2.87 B(1,-2,1)=-7.992 B(1,-3,1)=-19.56	1996GHa (67594)	4195

B(p,q,r): pM+qH=rL=MpHqLr

\*\*\*\*\*

		C9H16N2O2		HL			(3882)		
4-(2'-Propyl)cyclohexane-1,2-dione dioxime (4-isopropylinoxime)									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	25°C	75%	U	I	K1=10.1 B2=20.4 Kso=-27.84	1963BAb (67604)	4196

Medium: 75% dioxan, 0.1 M. B2=16.8(0% dioxan)

\*\*\*\*\*

		C9H16N2O4		H2L			CAS 124099-99-6	(6518)	
1,4-Diazacycloheptane-N,N'-diethanoic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++      gl    NaNO3    25°C 0.10M U      K1=6.40      1990HNa (67611)4197

Ni++ gl KNO3 25°C 0.50M C K1=6.42 1987FYb (67612)4198

\*\*\*\*\*

C9H16N2O6                      H2L                      CAS 24709-35-8    (3274)

N-(2-(2-Ethoxycarbonylamino)ethyl)iminodiethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K	values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	---	--------	-----------	--------

Ni++      gl    KCl      20°C 0.10M U      K1=7.94    B2=14.32    1955SAa (67621)4199

\*\*\*\*\*

C9H16N3O14P3                      H4L                      CTP                      CAS 65-47-4                      (406)

Cytidine-5'-triphosphoric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++      gl   R4N.X   25°C 0.10M C TI      R K1=4.84      1991SMa (67666)4200

$$K(\text{Ni}+\text{HL})=2.7$$

## IUPAC evaluation

Ni++ gl NaNO3 25°C 0.10M C K1=4.52 1987STb (67667)4201

$$K(Ni+HL)=2.70$$
$$K(NiL+H)=4.73$$

Ni++      gl    KCl      25°C 0.10M U      K1=4.51      1984MDb (67668)4202

$$B(\text{NiHL}) = 9.20$$

Ni++      gl    KNO3    25°C 0.10M U T H      K1=5.69      1983RRe (67669)4203

$$K(Ni+HL)=4.74$$

Also data for 35 and 45 C. At 45 C:  $K_1=5.51$ ,  $K(\text{Ni}+\text{HL})=4.51$

$DH(K1) = -16.3 \text{ kJ mol}^{-1}$ ,  $DS(K1) = 54 \text{ J K}^{-1} \text{ mol}^{-1}$ ;  $DH(Ni+HL) = -20.9$ ,  $DS = 21$

Ni++      kin KNO3      15°C 0.10M U      K1=4.41      1978FSa (67670)4204

$$K(Ni+NiL)=2.23$$
$$K(Ni+HL)=2.68$$

Method: temperature jump

Ni++ nmr NaClO4 25°C 0.10M U 1975SIb (67671)4205

$$K(\text{Ni}(\text{OH})\text{L}+\text{H})=9.58$$

Ni++      gl    KNO3    35°C    0.1M C    I      K1=5.58      1975TRc (67672)4206

$$K(Ni+HL)=4.61$$

Ni++ gl KN03 15°C 0.10M U K1=4.41 1972FSa (67673)4207

$$K(Ni+HL)=2.68$$

\*\*\*\*\*

C9H16N4O4                      L                      CAS 157358-29-7    (7398)

N,N'-Bis(2-hydroxyiminopropionyl)propane-1,3-diamine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaCl	25°C	0.15M	C			2004NJc (67721)	4208

B(NiHL)=15.46  
 B(NiH-1L)=2.84  
 B(NiH-2L)=-8.37

Ni++	gl	KNO3	25°C	0.10M	C			1997DKa (67722)	4209
------	----	------	------	-------	---	--	--	-----------------	------

B(NiH-1L)=1.14  
 B(NiH-2L)=-7.05

C9H16N4O5 HL (7472)  
 2-Hydroxymethylserylhistidine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.20M	C			1999MKb (67727)	4210

K1=3.57  
 B(NiH-1L)=-1.97  
 B(Ni4H-8L4)=-37.17

C9H16O2 HL CAS 18362-64-6 (1134)  
 2,6-Dimethyl-3,5-heptanedione; (CH3)2.CH.CO.CH2.CO.CH(CH3)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	NaClO4	25°C	0.5M	C			1998BLa (67741)	4211

C9H16O2 L CAS 1540-36-9 (3254)  
 3-n-Butylpentane-2,4-dione; CH3.CO.CH(CH2.CH2.CH2.CH3).CO.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	non-aq	30°C	100%	U	M		1968AGa (67751)	4212

K(2NiL2+py)=5.1  
 K(Ni2L2py+3py=2NiL2(py)2)=2.9

Medium: toluene

C9H16O4 H2L CAS 1636-27-7 (485)  
 Dipropylpropanedioic acid (Di-n-propylmalonic acid);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.10M	U			19700Va (67762)	4213

C9H17NO4 H2L CAS 60435-61-2 (342)  
 N-(2-Dimethylpropyl)iminodiethanoic acid; (CH3)3C.CH2.N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.10M	U			1976JPa (67804)	4214

K1=8.24 B2=15.37



\*\*\*\*\*

C9H17N04                      H2L                      CAS 56004-51-4    (346)  
N-Pentyliminodiethanoic acid; C5H11.N(CH2.COOH)2

-----  
Metal            Mtd Medium Temp Conc Cal Flags Lg K values            Reference ExptNo  
-----  
Ni++            gl   NaCl04 25°C 0.10M U            K1=8.87    B2=16.00    1976JPa (67806)4215  
\*\*\*\*\*

C9H17N05                      HL            Pantothenic acid CAS 63409-48-3    (2629)  
N-(2,4-Dihydroxy-3,3-dimethylbutyryl)-3-aminopropanoic acid;

-----  
Metal            Mtd Medium Temp Conc Cal Flags Lg K values            Reference ExptNo  
-----  
Ni++            gl   KCl       25°C 0.24M U            K1=1.87    B2=3.07    1980Fmd (67810)4216  
\*\*\*\*\*

C9H17N05                      H2L                      CAS 60470-38-4    (338)  
N-(5-Hydroxypentyl)iminodiethanoic acid; HO.(CH2)5.N(CH2.COOH)2

-----  
Metal            Mtd Medium Temp Conc Cal Flags Lg K values            Reference ExptNo  
-----  
Ni++            gl   NaCl04 25°C 0.10M U            K1=8.73    B2=15.74    1976JPa (67818)4217  
\*\*\*\*\*

C9H17N06                      H2L                      CAS 58144-32-4    (6077)  
N-(1,1-Di(hydroxymethyl)propyl)iminodiethanoic acid;  
(HO.CH2)2C(CH2.CH3).N(CH2.COOH)2

-----  
Metal            Mtd Medium Temp Conc Cal Flags Lg K values            Reference ExptNo  
-----  
Ni++            gl   NaCl04 25°C 1.0M C            K1=9.42            1981ASb (67823)4218  
\*\*\*\*\*

C9H17N06S                      HL                      (6381)  
2-(D-Deoxyglucosyl)thiazolidine-4-carboxylic acid;

-----  
Metal            Mtd Medium Temp Conc Cal Flags Lg K values            Reference ExptNo  
-----  
Ni++            gl   NaCl04 25°C 0.10M C            K1=5.94    B2=9.79    1992GBb (67832)4219  
B(NiH-1L2)=0.09  
\*\*\*\*\*

C9H17N07                      HL                      CAS 153626-24-5    (6757)  
Fructose-beta-alanine;

-----  
Metal            Mtd Medium Temp Conc Cal Flags Lg K values            Reference ExptNo  
-----  
Ni++            gl   NaCl04 25°C 0.10M C            K1=4.13    B2=7.92    1993Ggb (67837)4220  
B(NiH-1L)=-0.33  
B(NiH-2L2)=-10.02  
\*\*\*\*\*

C9H17N3O4S                      H2L            Ala-Ala-Cys            (6477)  
Alanyl-alanyl-cysteine

-----

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.20M	U			1990CRa (67862)	4221

B(NiHL)=13.6  
B(NiH2L)=-4.47

\*\*\*\*\*

C9H17N3O5                      H2L      2,2-DIHA                      CAS 709640-94-8 (9155)  
N-Hydroxy-N'-[3-(hydroxymethylamino)-3-oxopropyl]-N-methyl-butanediamide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++	gl	KNO3	25°C	0.20M	C		K1=8.1 B(NiHL)=13.98 B(Ni2L3)=22.3	2004FBa (67877)	4222
------	----	------	------	-------	---	--	--	-----------------	------

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C9H18N2O3                      HL      Ala-Leu                      CAS 1999-42-4 (264)  
Alanyl-leucine; H2N.CH(CH3).CO.NH.CH(CH2.CH(CH3)2).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++	gl	KCl	20°C	0.20M	U		K1=3.56    B2=6.64 B3=8.96 B(NiH-1L2)=-2.83 B(NiH-2L2)=-14.30	1982KRd (67894)	4223
------	----	-----	------	-------	---	--	--	-----------------	------

Ni++	gl	NaCl	25°C	0.12M	U		K1=3.52    B2=6.72	1977PNa (67895)	4224
------	----	------	------	-------	---	--	--------------------	-----------------	------

Ni++	gl	NaCl	25°C	0.12M	U		K1=3.52    B2= 6.72	1976PNa (67896)	4225
------	----	------	------	-------	---	--	---------------------	-----------------	------

L=DL-alpha-alanyl-DL-leucine

Ni++	gl	NaCl	25°C	0.12M	U		K1=3.52    B2= 6.72	1976PNa (67897)	4226
------	----	------	------	-------	---	--	---------------------	-----------------	------

L=DL-alpha-alanyl-DL-leucine

\*\*\*\*\*

C9H18N2O3                      HL      Sar-Leu                      CAS 98951-55-4 (3276)  
Sarcosyl-L-leucine; CH3.NH.CH2.CO.NH.CH(CH2.CH(CH3)2).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++	gl	oth/un	25°C	0.01M	U		K1=3.81    B2=7.70	1959DLb (67915)	4227
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C9H18N2O4                      H2L                      CAS 18992-11-5 (5913)  
N,N-Dihydroxynonanediamide; HN(OH).CO.(CH2)7.CO.NH(OH)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++	gl	NaNO3	25°C	0.10M	C		K1=8.92 B(NiHL)=4.89	1989EHa (67933)	4228
------	----	-------	------	-------	---	--	-------------------------	-----------------	------

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C9H18N4O2                      L                      CAS 71248-02-7 (540)  
1,4,7,10-Tetraazacyclotridecane-11,13-dione;

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       gl  NaClO4 35°C 0.20M U                      1981KKa (67953)4229
                      B(NiH-2L)=-6.05
*****
C9H18N4O2          L                      (5655)
1,4,7,11-Tetraazacyclotridecane-2,3-dione;
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       sp  NaClO4 25°C   ?  U   H                      1982HBb (67959)4230
                      K(NiH-2Laq2=NiH-2L+2aq)=0.51
K was determined for: MH-2L(OH2)2(octahedral)=MH-2L(planar)+2H2O equilibrium
DH=-17.7 kJ mol-1, DS=53.5 J K-1 mol-1
*****
C9H18O2Si          HL                      CAS 17940-02-2 (3275)
6-Trimethylsilylhexane-2,4-dione; (CH3)3.Si.CH2.CH2.CO.CH2.CO.CH3
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       gl  diox/w 30°C 75% U                      K1=9.65 B2=18.35 1953UFe (67964)4231
*****
C9H19NS2          HL                      CAS 150-11-8 (1154)
N,N-Di(n-butyl)dithiocarbamate; (C4H9)2N.CSSH
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       EMF non-aq 25°C 100% U                      B2=13.1      1987USa (67984)4232
Medium: DMF, 0.1 M LiClO4
-----
Ni++       nmr oth/un 25°C   ?  U T HM                      1975VWa (67985)4233
                      K(NiL2+2A)=-1.05
                      K(NiL2+2B)=-0.89
                      K(NiL2+2C)=-1.06
                      K(NiL2+2D)=-1.05
A=pyridine, DH=-34.9 kJ mol-1. B=4-picoline, DH=-24.4. C=3-picoline,
DH=-22.4. D=3,5-lutidine, DH=-15.7.
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-----
Ni++       ISE non-aq 25°C 100% U                      K1=4.70 B2=8.12 1974TBa (67986)4234
Medium: DMF, Ag electrode
*****
C9H19N2O4+        H2L                      (3277)
2-Di(carboxymethyl)aminoethyltrimethylammonium cation
+
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       gl  KCl    20°C 0.10M U                      K1=6 B2=11.5 1955SAa (67995)4235
*****

```

C9H19N3O3	HL	B-Ala-Lys	CAS 22467-93-2 (7718)
Beta-Alanyl-lysine;			

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++      gl   KNO3    25°C 0.10M C   H      K1=5.0                  2001CFb (68009)4236  
B(NiHL)=14.08  
B(NiH2L2)=27.45

$\Delta H(\text{NiH}_2\text{L}_2) = -147 \text{ kJ mol}^{-1}$ ,  $\Delta S(\text{NiH}_2\text{L}_2) = 34 \text{ J K}^{-1} \text{ mol}^{-1}$ .

\*\*\*\*\*

C9H19N5O3	HL	Ala-Arg	CAS 16709-12-9	(1946)
-----------	----	---------	----------------	--------

Alanyl-arginine;  $\text{H}_2\text{N}.\text{CH}(\text{CH}_3).\text{CO}.\text{NH}.\text{CH}((\text{CH}_2)_3.\text{NH}.\text{C}(:\text{NH}).\text{NH}_2).\text{COOH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++ sp NaCl04 20°C 0.20M U K1=4.66 1974WKa (68015)4237

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C9H19N5O3	HL	Arg-D-Ala	(1945)
-----------	----	-----------	--------

Arginyl-D-alanine;  $\text{H}_2\text{N}.\text{CH}((\text{CH}_2)_3.\text{NH}.\text{C}(:\text{NH}).\text{NH}_2).\text{CO}.\text{NH}.\text{CH}(\text{CH}_3).\text{COOH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++ sp NaCl04 20°C 0.20M U K1=4.80 1974WKa (68018)4238

\*\*\*\*\*

C9H19N5O3	HL	Arg-Ala	CAS 40968-45-4 (1944)
-----------	----	---------	-----------------------

Arginyl-alanine;  $\text{H}_2\text{N} \cdot \text{CH}((\text{CH}_2)_3 \cdot \text{NH} \cdot \text{C}(\text{:NH}) \cdot \text{NH}_2) \cdot \text{CO} \cdot \text{NH} \cdot \text{CH}(\text{CH}_3) \cdot \text{COOH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++ sp NaCl04 20°C 0.20M U K1=4.83 1974WKa (68021)4239

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C9H19N5O3                      HL            D-Ala-Arg                      (1947)

D-Alanyl-arginine;  $\text{H}_2\text{N}.\text{CH}(\text{CH}_3).\text{CO}.\text{NH}.\text{CH}((\text{CH}_2)_3.\text{NH}.\text{C}(:\text{NH}).\text{NH}_2).\text{COOH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++ sp NaCl04 20°C 0.20M U K1=4.68 1974WKa (68024)4240

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C<sub>9</sub>H<sub>20</sub>N<sub>2</sub>O<sub>2</sub> L 13-AneN<sub>2</sub>O<sub>2</sub> CAS 60350-15-4 (5662)

1,4-Dioxa-7,11-diazacyclotridecane:

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++ gl NaNO3 25°C 0.10M U K1=5.83 1986TSa (68033)4241

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C9H20N2O5S                      HL              HEPPSO                      CAS 68399-78-0    (2011)

N-(2-Hydroxyethyl)piperazine-N'-(2-hydroxypropanesulfonic acid);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ni++ gl KNO3 25°C 0.10M C K1=3.59 2001A0a (68050)4242  
\*\*\*\*\*

C9H20N2O6 L CAS 267643-08-3 (919)  
(2S)-2,3-Diaminopropyl-beta-D-glucopyranoside;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaCl 25°C 0.16M C K1=6.97 B2=12.94 2000Sma (68057)4243  
B3=17.25  
K(Ni+HL)=2.61  
K(Ni+HL+L)=ca.9.2

\*\*\*\*\*

C9H20N2O6 L CAS 221558-98-1 (690)  
1,3-Diamino-2-propyl-alpha-D-mannopyranoside;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaCl 25°C 0.16M C K1=5.53 B2= 9.30 2000Sma (68061)4244  
B3=12.3  
K(Ni+HL)=2.9

\*\*\*\*\*

C9H20N2O6 L CAS 220972-45-2 (622)  
1,3-Diamino-2-propyl-beta-D-glucopyranoside;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaCl 25°C 0.16M C K1=5.44 B2= 9.06 2000Sma (68065)4245  
B3=11.69

\*\*\*\*\*

C9H20N3O2 H2L (8301)  
1-(Diethylmethylammonium)-2,3-butanedione dioxime;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.10M U I 1976LUa (68072)4246  
K(Ni+HL)=4.80  
K(NiHL+HL)=6.80  
K(Ni+H2L=NiHL+H)=-4.35  
K(Ni+2H2L=Ni(HL)2+2H)=-6.75

Data for 25, 50 and 75% v/v dioxan/H2O. At 50%, K(Ni+HL)=5.70,  
K(NiHL+HL)=7.95, K(Ni+H2L=NiHL+H)=-4.55, K(Ni+2H2L=Ni(HL)2+2H)=-6.85

\*\*\*\*\*

C9H20N4O2 L BCMEN CAS 89709-74-0 (5530)  
N,N'-Bis(2-carbamoyl-ethyl)-1,2-diaminopropane;  
H2N.CO.CH2.CH2.NH.CH(CH3).CH2.NH.CH2.CH2.CO.NH2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaCl04 25°C 0.10M C K1=7.95 1985LCb (68091)4247  
-----

\*\*\*\*\*

N,N'-Bis(2-carbamoyl-ethyl)-1,3-diaminopropane;  
H<sub>2</sub>N.CO.CH<sub>2</sub>.CH<sub>2</sub>.NH.CH<sub>2</sub>.CH<sub>2</sub>.CH<sub>2</sub>.NH.CH<sub>2</sub>.CH<sub>2</sub>.CO.NH<sub>2</sub>

Ni++      gl    NaClO4 25°C 0.10M C      K1=6.82      1985LCb (68102)4249

\*\*\*\*\*

N,N'-Dialanyldiaminopropane;

Ni++      gl   KNO3    25°C 0.10M U                  K1=4.64   B2= 4.64   1984MDc (68107)4251  
K(NiL=NiH-2L+2H)=-14.76

For the S,S,S stereoisomer,  $K_1=4.66$ ,  $K_2<3$ ,  $K(\text{NiL}=\text{NiH}-2\text{L}+2\text{H})=-15.04$ .

\*\*\*\*\*

N,N'-Bis(2-carbamoyl-ethyl)-2-hydroxy-1,3-diaminopropane;  
(H<sub>2</sub>N.CO.CH<sub>2</sub>.CH<sub>2</sub>.NH.CH<sub>2</sub>)<sub>2</sub>CH(OH)

Ni++      gl    NaClO4 25°C 0.10M C      K1=6.43      1985LCb (68117)4252

\*\*\*\*\*

1-(Glycerolphosphoryl)-L-myoinositol-5-phosphate;

Ni++ gl R4N.X 20°C 0.10M U K1=2.50 1969HRa (68126)4254  
Medium: 0.1 (C3H6)4NI

\*\*\*\*\*

Tripropylamine; (C<sub>3</sub>H<sub>7</sub>)<sub>3</sub>N

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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-----  
Ni++ dis oth/un 20°C 100% U M 1971ADa (68134)4255

K(NiA2+L)=1.71

Medium: CHCl3. HA=1-phenyl-3-methyl-4-benzoylpyranol-5-one

\*\*\*\*\*

C9H21NO3 L CAS 122-20-3 (946)

Tri-isopropanolamine; (CH3.CH(OH).CH2)3N

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 30°C 1.00M U K1=3.89 B2=5.16 1982RMa (68141)4256

K3=1.39

\*\*\*\*\*

C9H21N3 L (6993)

1,4,7-Trimethyl-1,4,7-triazacyclononane;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl NaClO4 25°C 0.10M U K1=12.3 B2=22.50 1995DDa (68164)4257

\*\*\*\*\*

C9H21N3 L CAS 294-80-4 (1531)

1,5,9-Triazacyclododecane; cyclo(-NH.(CH2)3.NH.(CH2)3.NH.(CH2)3-)

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.10M M K1=10.93 1978ZOa (68180)4258

\*\*\*\*\*

C9H21N3O L (2479)

1-Oxa-4,7,11-triazacyclotridecane; cyclo(-O.(CH2.CH2.NH)2.CH2.CH2.CH2.NH.CH2.CH2-)

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.10M U K1=11.37 1991ACa (68195)4259

B(NiH-2L)=-3.89

K(NiL+2OH)=12.38

-----  
Ni++ gl NaNO3 25°C 0.10M U K1=11.90 1986TSa (68196)4260

\*\*\*\*\*

C9H21N3O3 L CAS 221233-44-9 (7658)

cis,cis,cis-2,4,6-Trimethoxycyclohexane-1,3,5-triamine;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.10M C K1=14.64 B2=25.91 1999WKa (68209)4261

\*\*\*\*\*

C9H21O3P L CAS 116-17-6 (1726)

Tri(isopropyl)phosphite; (CH3.CH(CH3)O)3P

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ sp non-aq 25°C 100% U 1974TSa (68215)4262

K4=4.6

Medium: benzene

Ni++ sp alc/w 25°C 100% U M 1973GTc (68216)4263

K(NiBr2+4L)=5.53

K(NiI2+4L)=11.83

C9H21O3P L CAS 923-99-9 (4663)

Tripropylphosphite; (CH3.CH2.CH2.O)3P

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ sp alc/w 25°C 100% U M 1973GTc (68218)4264

K(NiBr2+4L)=10.61

K(NiI2+4L)=11.85

C9H21O17P3 H5L CAS 98975-41-8 (3885)

1'-Glycerylphosphorylinositol-3,4-diphosphoric acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl R4N.X 20°C 0.10M U K1=4.45 1969HRa (68221)4265

K(Ni+HL)=2.86

Medium : 0.1 (C3H7)4NI

C9H21P L CAS 6476-36-4 (168)

Tri-isopropylphosphine; ((CH3)2CH)3P

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ sp oth/un -20°C 100% U TI 1969RGr (68226)4266

K(NiL2(CN)2+L)=1.63

K=1.27 (-10 C)

K=0.91 (0 C)

K=0.53 (10 C)

Medium: EtOH. In n-hexane: K(-30 C)=1.78), K1(-20 C)=1.39, K1(0 C)=0.64

C9H22N4 L CAS 295-14-7 (9)

1,4,7,10-Tetraazacyclotridecane; cyclo(-(NH.CH2.CH2.)4.CH2-)

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ sp KNO3 25°C 1.00M U 1986JMa (68240)4267

K(NiL+OH)=0.95

Ni++ sp NaNO3 25°C 0.10M U K1=17.98 1985THa (68241)4268

C9H22N4 L CAS 22217-18-1 (4657)

N,N'-Bis(2-aminoethyl)-1,4-diazacycloheptane;



Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.10M	U		K1=13.20	1990HNa (68254)	4269
Ni++	gl	NaClO4	25°C	0.10M	U		K1=13.5	1977PBb (68255)	4270
*****									
C9H24N3O6P3		H3L		(7110)					
1,4,7-Triazacyclononane-1,4,7-triyltrimethylenetris(phosphinic acid);									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C		K1=13.40	1995BLa (68286)	4271
*****									
C9H24N3O9P3		H6L		NOTPH		CAS 83843-39-3 (224)			
1,4,7-Triazacyclononane-N,N',N''-tris(methylenephosphonic acid);									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	1.00M	U			1988MKb (68298)	4272
							K(Ni+Cu+HL)=18.3		
							B(NiCuL)=33.21		
							K(Ni+CuHL)=1.85		
Ni++	gl	KCl	25°C	1.0M	U		K1=19.4	1984KMa (68299)	4273
							K(Ni+HL)=13.8		
							K(Ni+H2L)=10.4		
*****									
C9H24N4		L		CAS 129880-56-4 (1533)					
1,4,10,13-Tetraazatridecane; H2N.(CH2)2.NH.(CH2)5.NH.(CH2)2.NH2									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	1.00M	C	H	K1=12.38	1982ABc (68331)	4274
							B(NiH2L)=24.55		
By calorimetry: DH1=-55.2 kJ mol-1, DS1=52.3									
*****									
C9H24N4		L		CAS 4605-14-5 (1797)					
1,5,9,13-Tetraazatridecane; H2N.(CH2)3.NH.(CH2)3.NH.(CH2)3.NH2									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	20°C	0.10M	C	M		2002GLc (68349)	4275
							B(NiH2L)=27.83		
							B(NiAH4L)=44.87		
							B(NiAH2L)=27.95		
H2A is adenosine-5'-monophosphoric acid.									
Ni++	gl	KNO3	20°C	0.10M	C	M		2002GLc (68350)	4276
							K(Ni+H2L)=7.45		

K(NiA+H2L)=4.50

K(NiA+H4L)=5.41

H2A is adenosine-5'-monophosphoric acid.

Ni++ gl oth/un 25°C ? U K1=10.11 1976NGa (68351)4277

Ni++ gl NaCl04 25°C ? U K1=10.11 1976NGe (68352)4278

Ni++ gl KCl 25°C 0.10M C K1=8.702 1974GVa (68353)4279  
B(NiHL)=15.78

Ni++ cal NaNO3 25°C 0.10M U K1=10.46 1972BFb (68354)4280

\*\*\*\*\*

C9H24N4 L CAS 4963-47-7 (546)

Tris-(3-aminopropyl)amine;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KCl 25°C 0.10M U K1=8.702 1968DPa (68379)4281  
K(Ni+HL)=5.3

Ni++ sp KCl 25°C 0.10M U K1=8.70 1968VPa (68380)4282

Ni++ gl NaNO3 20°C 0.10M U K1=10.65 1962TAb (68381)4283

\*\*\*\*\*

C10H6O3 HL CAS 83-72-7 (3294)

2-Hydroxy-1,4-naphthoquinone;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl diox/w 30°C 75% U K1=5.59 B2=10.88 1960KFc (68452)4284

\*\*\*\*\*

C10H6O3 HL CAS 481-39-0 (3295)

5-Hydroxy-1,4-naphthoquinone;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl diox/w 30°C 75% U K1=8.96 B2=16.62 1960KFb (68470)4285

\*\*\*\*\*

C10H7NO2 HL CAS 131-91-9 (2668)

1-Nitroso-2-naphthol, alpha-Nitroso-beta-naphthol;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl alc/w RT 40% M K1=4.28 B2= 8.76 1993Rab (68556)4286

Medium: 40% v/v EtOH/H2O, 0.1 M NaCl04.

Ni++ sp NaCl04 25°C 0.10M U K1=6.7 1975LAd (68557)4287

Ni++ dis oth/un 25°C 0.10M U B2=14.40 1971BZb (68558)4288

-----  
Ni++ vlt diox/w 20°C 50% U K1=8.56 1967CEb (68559)4289  
Medium: 50% dioxan, 0.3 M acetate buffer  
-----

Ni++ gl diox/w 30°C 50% U I K1=8.69 B2=16.95 1957CFa (68560)4290  
B3=23.05  
In 75% dioxan K1=10.75, K2=10.54, K3=6.80  
-----

Ni++ gl diox/w 30°C 75% U K1=11.50 B2=21.60 1954UFa (68561)4291  
K3=6.60  
-----

\*\*\*\*\*  
C10H7NO2 HL CAS 14510-06-6 (4715)  
2-Formyl-8-hydroxyquinoline;  
-----

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	25°C	50%	U		K1=6.58 B2=13.20	1972HUb (68604)	4292
Medium: 50% v/v dioxan, 0.1 M KCl									

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\*\*\*\*\*  
C10H7NO2 HL CAS 132-53-6 (2524)  
2-Nitroso-1-naphthol;  
-----

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	alc/w	RT	40%	M		K1=4.43 B2= 9.07	1993RAb (68622)	4293
Medium: 40% v/v EtOH/H2O, 0.1 M NaClO4.									

-----

Ni++ sp alc/w 25°C 20% U B2=10.2 1979CEa (68623)4294  
In 100% EtOH: B2=9.9, B3=15.4  
-----

Ni++ sp NaClO4 25°C 0.10M U K1=5.98 1975LAd (68624)4295  
-----

Ni++ dis oth/un 25°C 0.10M U B2=12.85 1971BZb (68625)4296  
-----

Ni++ gl diox/w 21°C 50% U K1=7.11 B2=13.20 1970MGd (68626)4297  
Medium: 50% dioxan, 0.3 M NaClO4  
-----

Ni++ gl diox/w 30°C 50% U I K1=9.62 B2=18.50 1957CFa (68627)4298  
K3=5.12  
In 75% dioxan K1=10.07, K2=9.33  
-----

Ni++ gl diox/w 30°C 75% U K1=10.70 B2=19.90 1954UFa (68628)4299  
B3=25.8  
-----

\*\*\*\*\*  
C10H7NO2 HL CAS 2598-30-3 (3317)  
5-Formyl-8-hydroxyquinoline;  
-----

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	25°C	50%	U		K1=8.27 B2=15.83	1958JPa (68669)	4300

K3=6.70

Medium: 50% dioxan, 0.3 M NaCl

\*\*\*\*\*

C10H7NO2 HL Quinaldic acid CAS 93-10-7 (2209)

Quinoline-2-carboxylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	U		K1=4.19	1957SYa (68685)	4301
Ni++	gl	oth/un	25°C	0.0	U		K1=4.6 B2=8.6	1955HCa (68686)	4302
Ni++	gl	diox/w	25°C	50%	U		K1=5.3 B2=10.4	1955HCb (68687)	4303
Ni++	gl	oth/un	25°C	0.0	U		K1=4.95 B2=8.65	1955LUa (68688)	4304

\*\*\*\*\*

C10H7NO2 HL CAS 86-59-9 (873)

Quinoline-8-carboxylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	alc/w	30°C	50%	U		K1=5.07 B2=9.33	1981RRa (68739)	4305
Medium: 50% v/v EtOH, 0.1 M KNO3									
Ni++	gl	oth/un	25°C	0.02M	U		K1=4.4 B2=7.8	1955HCa (68740)	4306
Ni++	gl	diox/w	25°C	50%	U		K1=6.2 B2=11.4	1955HCb (68741)	4307
Ni++	gl	oth/un	25°C	0.0	U		K1=4.46 B2=8.13	1955LUa (68742)	4308

\*\*\*\*\*

C10H7NO2S HL CAS 10958-38-5 (3922)

3-Phenyl-1,2-thiazole-5-carboxylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	25°C	50%	U		K1=1.8	1968EGb (68777)	4309

Medium: 50% dioxan, 0.1 M NaCl

\*\*\*\*\*

C10H7NO3 H2L Kynurenic acid CAS 492-77-3 (1540)

4-Hydroxy-2-quinolinecarboxylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	25°C	50%	U		K1=3.5 B2=6.20	1964BFa (68784)	4310
							K(Ni(OH)L+H)=7.2		
							K(Ni(OH)2L+H)=9.5		

\*\*\*\*\*

C10H7NO4 H3L Xanthurenic aci CAS 59-00-7 (1539)

4,8-Dihydroxy-2-quinolinecarboxylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	25°C	50%	U		K1=7.1 B2=12.60 K(Ni(OH)L+H)=10.0 K(Ni(OH)2L+H)=11.8	1964BFa	(68791)4311

\*\*\*\*\*

C10H7NO5S	H2L	CAS	97573-20-5	(3332)
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1,2-Naphthoquinone-4-sulfonic acid-2-oxime

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.10M	U	I	K(Ni+HL=NiL+H)=-0.65 K(NiL+HL=NiL2+H)=-1.10 K(NiL2+HL=NiL3+H)=3.7	1961MAd	(68798)4312

By spectrophotometry, I=0.004 M: K(Ni+HL=NiL+H)=-0.28

\*\*\*\*\*

C10H7NO5S	H2L	CAS	14090-74-5	(2676)
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1-Nitroso-2-hydroxynaphthalene-7-sulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	NaCl04	25°C	0.10M	C		K1=6.90	1989BDa	(68804)4313

\*\*\*\*\*

C10H7NO5S	H2L	CAS	26276-78-8	(6111)
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1-Nitroso-2-hydroxynaphthalene-3-sulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	NaCl04	25°C	0.10M	C		K1=7.11	1989BDa	(68824)4314

Medium: LiCl04

\*\*\*\*\*

C10H7NO5S	H2L	CAS	14090-74-5	(4765)
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1-Nitroso-2-hydroxynaphthalene-4-sulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	NaCl04	25°C	0.10M	C		K1=6.56	1989BDa	(68826)4315

\*\*\*\*\*

C10H7NO5S	H2L	CAS	50332-97-3	(2660)
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1-Nitroso-2-hydroxynaphthalene-5-sulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	NaCl04	25°C	0.10M	C		K1=6.50	1989BDa	(68829)4316

\*\*\*\*\*

C10H7NO5S	H2L	CAS	3682-32-4	(1812)
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2-Nitroso-1-hydroxynaphthalene-4-sulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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-----  
Ni++ gl oth/un RT 0.10M M K1=7.99 B2=13.66 1993RAB (68868)4317  
Medium not stated.  
-----

Ni++ sp NaCl04 25°C 0.10M U K1=6.99 1975LAd (68869)4318  
-----

Ni++ sp oth/un 25°C 0.0 U K1=6.31 1966MAg (68870)4319  
-----

Ni++ sp none ? 0.0 U B3=16.8 1958TPa (68871)4320  
-----

\*\*\*\*\*  
C10H7NO5S H2L CAS 23525-13-6 (1813)  
2-Nitroso-1-hydroxynaphthalene-5-sulfonic acid;  
-----

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	NaCl04	25°C	0.10M	C		K1=5.75	1989BDa (68905)	4321
Ni++	EMF	oth/un	25°C	0.0	U		K1=6.50 B2=11.65 B3=15.30	1971SAf (68906)	4322

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\*\*\*\*\*  
C10H7NO5S H2L CAS 26276-78-8 (4763)  
2-Nitroso-1-hydroxynaphthalene-6-sulfonic acid;  
-----

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	NaCl04	25°C	0.10M	C		K1=6.01	1989BDa (68918)	4323
Ni++	EMF	oth/un	25°C	0.0	U		K1=6.41 B2=11.57 B3=15.40	1971MSf (68919)	4324
Ni++	EMF	oth/un	25°C	0.0	U		K1=7.41 B2=13.58 B3=18.26	1971SAf (68920)	4325

-----

Ni++ EMF KCl 25°C 0.10M U M 1971SAf (68921)4326  
B(NiLA)=12.06  
B(NiLA2)=16.53  
B(NiL2A)=17.72  
-----

H2A=2-nitroso-1-naphthol-5-sulphonic acid

\*\*\*\*\*  
C10H7NO5S H2L (4764)  
2-Nitroso-1-hydroxynaphthalene-7-sulfonic acid;  
-----

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	NaCl04	25°C	0.10M	C		K1=5.97	1989BDa (68926)	4327

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\*\*\*\*\*  
C10H7NO5S H2L CAS 31005-79-9 (1814)  
2-Nitroso-1-hydroxynaphthalene-8-sulfonic acid;  
-----

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	NaClO4	25°C	0.10M	C		K1=6.44	1989BDa (68935)	4328
*****									
C10H7N08S2		H3L					CAS 26276-77-7	(4767)	
1-Hydroxy-2-nitrosonaphthalene-4,8-disulfonic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	EMF	KCl	25°C	0.10M	U		K1=5.74 B2=9.51 B3=12.0	1970MMh (68959)	4329
*****									
C10H7N08S2		H3L					Nitroso-R acid CAS 525-05-3	(1811)	
1-Nitroso-2-hydroxynaphthalene-3,6-disulfonic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	NaClO4	25°C	0.10M	U		K1=7.64	1975LAd (68984)	4330
Ni++	gl	KCl	25°C	0.10M	U		K1=6.81	1974ANb (68985)	4331
Ni++	oth	oth/un	?	0.0	U		K1=6.29 B2=9.89	1973GBa (68986)	4332
Ni++	ix	oth/un	30°C	0.10M	U	I	K1=8.23 B2=13.58	1973NDa (68987)	4333
I=0: K1=8.62, B2=13.95, I=0.5: K1=7.20, B2=12.35									
I=1.0: K1=5.62, B2=10.73, Method: cation exchange									
Ni++	oth	KCl	25°C	0.10M	U	I	K1=6.9 B2=12.5 B3=17.3	1967MAi (68988)	4334
At I=0:K1=8.3, B2=13.4									

Ni++	gl	KCl	25°C	0.10M	U	I		1961MAd (68989)	4335
							K(NiL+HL=NiL2+H)=-1.28		
							K(NiL2+HL=NiL3+H)=-2.05		
By spectrophotometry, I=0.005 M: K(Ni+HL=NiL+H)=0.57									

C10H7N08S2		H3L					CAS 50332-98-4	(2656)	
1-Nitroso-2-hydroxynaphthalene-5,7-disulfonic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.10M	M	I	K1=6.94 B2=18.99	1974SRb (69043)	4336
*****									
C10H7N08S2		H3L					CAS 52664-45-6	(1627)	
2-Nitroso-1-hydroxynaphthalene-4,6-disulfonic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	NaClO4	25°C	0.10M	C		K1=5.56	1989BDa (69046)	4337
*****									

C10H7N2O2F3S HL CAS 23375-18-0 (1680)  
8-(Trifluoromethanesulfonamido)quinoline;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	30°C	75%	U		K1=8.8 B2=16.0	1984NYa (69067)	4338

\*\*\*\*\*

C10H7N3O2S L CAS 102036-43-1 (8473)  
2-(1,3-Dihydro-1,3-dioxo-2H-inden-2-ylidene)hydrazinecarbothioamide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	alc/w	30°C	60%	M		K1=5.36 B2=10.68	1996HTb (69071)	4339

Medium: 60% v/v EtOH/H2O, 0.04 M KCl.  
\*\*\*\*\*

C10H7N3O4 H2L 1-Ph-violuric (957)  
1-Phenyl-alloxan-5-oxime, (1-Phenyl-5-isonitrosobarbituric acid);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	alc/w	18°C	50%	U T		K1=6.55 B2=11.38	1982SGa (69081)	4340

Medium: 50% v/v EtOH/H2O, 0.1 M NaClO4  
\*\*\*\*\*

C10H7N5O5 HL CAS 102964-51-2 (6212)  
5-(2'-Nitrophenylazo)barbituric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	25°C	75%	U		K1=4.18 B2=8.06	1986MIa (69091)	4341

\*\*\*\*\*

C10H7O2F3 HL CAS 326-06-7 (196)  
3-Benzoyl-1,1,1-trifluoroacetone; CF3.CO.CH2.CO.C6H5

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	dis	NaNO3	25°C	0.10M	C		K1=3.1 B2=7.9	1994SDc (69119)	4342

Method: solvent extraction into CHCl3

Ni++	dis	NaClO4	25°C	1.0M	U		K1=3.60 B2=6.68	1977SIa (69120)	4343
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Ni++	dis	NaClO4	25°C	1.0M	C	M	K1=3.60 B2= 6.68	1977SMe (69121)	4344
------	-----	--------	------	------	---	---	------------------	-----------------	------

K(NiL2(org)+A(org))=5.19  
K(NiL2(org)+2A(org))=8.98  
Method: distribution from 1.0 M NaClO4 into CCl4/HL/tri-octylphosphine oxide (A). K(Ni+2HL(org)=NiL2(org)+2H)=-9.52.

Ni++	gl	diox/w	30°C	75%	U		B2=15.4	1953UFe (69122)	4345
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Ni++	gl	oth/un	?	0.0	U		B2=10.90	1951UFa (69123)	4346
------	----	--------	---	-----	---	--	----------	-----------------	------

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C10H8NO4BrS                      H2L                      CAS 37026-31-6 (3933)  
 7-Bromo-8-hydroxy-2-methylquinoline-5-sulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	.005M	U		K1=6.80    B2=12.30 K3 < 3.5	1963FFa (69188)	4347

\*\*\*\*\*

C10H8N2                      L                      2,2'-Bipyridyl                      CAS 366-18-7 (25)  
 2,2'-Bipyridine; (C5H4N)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	37°C	0.10M	U		K1=6.97	1997MGa (69365)	4348
Ni++	gl	alc/w	25°C	50%	C		K1=6.65	1997MGb (69366)	4349
Ni++	gl	NaNO3	25°C	0.10M	U	M	K(NiL+HA)=8.62 K(NiL2+HA)=15.36 K(NiL+A)=14.60 K(NiL2+A)=21.21	1996BMA (69367)	4350

H2A=N-p-tolyl-sulfonylglycine. Additional methods: spectrophotometry and polarography. Also data for H2A=tosyl-B-alanine and tosyl-N-benzoylglycine

Ni++	gl	NaNO3	37°C	0.10M	U		K1=6.97	1994MGc (69368)	4351
Data for ternary complexes with 6-aminopenicillanic acid									
Ni++	gl	KNO3	30°C	0.10M	U		K1=7.13	1994RSa (69369)	4352
Ni++	gl	KNO3	25°C	0.10M	C	M	K1=7.04    B2=13.85	1991DAc (69370)	4353
Data for ternary complexes with acetohydroxamic acid									
Ni++	gl	KNO3	25°C	0.10M	C	M	K1=7.04 K(NiL+A)=5.35 B(NiAL)=12.39	1990DAc (69371)	4354

HL: benzohydroxamic acid

Ni++	sp	non-aq	25°C	100%	U	HM	K1=5.90    B2=11.18 K3=4.25 K(NiCl+L=NiClL)=6.73 K(NiClL+L=NiClL2)=5.37 K(NiCl2L+L=NiCl2L2)=5.15	1989IOa (69372)	4355
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In N,N-dimethylformamide. DH(K1)=-31.1 kJ mol<sup>-1</sup>; DH(K2)=-32.7; DH(K3)=-28.4. DH(NiClL)=-31.3; DH(NiClL2)=-33.2; DH(NiCl2L2)=-38. Also data for NiLn+Cl.

Ni++	sp	NaClO4	25°C	0.50M	U	I	K1=6.88	1987PSa (69373)	4356
In 0.86 mol DMSO/H2O, 0.5 M NaClO4: K1=6.10									

Ni++	vlt	diox/w	25°C	var	U	I	K1=6.3	1987PSb (69374)	4357
------	-----	--------	------	-----	---	---	--------	-----------------	------

Medium: 0.18 mol dioxan/H<sub>2</sub>O, 0.1 M KNO<sub>3</sub>. In H<sub>2</sub>O: K<sub>1</sub>=6.8; in 0.14 mol: K<sub>1</sub>=6.3  
in 0.06 mol:K<sub>1</sub>=6.4; 0.04 mol:6.7; 0.02 mol:7.0

---

Ni++ gl diox/w 25°C 50% U M K<sub>1</sub>=7.84 B<sub>2</sub>=15.31 1984ABb (69375)4358  
B(NiL(PFHA))=13.84  
B(NiL(PTHA))=14.00

PFHA=N-phenyl-2-furylhydroxamate, PTHA=N-phenyl-2-thenohydroxamate

---

Ni++ sp non-aq 25°C 100% U HM 1984ISa (69376)4359  
K(NiA<sub>2</sub>+L)=3.06

In benzene, HA=S-methyl-N-(4-methoxyphenylidene)hydrazine-carbodithioic acid  
Data also for other related HA ligands

---

Ni++ gl NaClO<sub>4</sub> 35°C 0.10M U K<sub>1</sub>=6.81 B<sub>2</sub>=13.21 1983ABb (69377)4360

---

Ni++ sp NaClO<sub>4</sub> 25°C 0.20M U I K<sub>1</sub>=3.49 1983EBa (69378)4361

---

Ni++ kin NaNO<sub>3</sub> 25°C 0.30M U M 1983HMa (69379)4362  
K(NiA+L)=3.50  
K(NiB+L)=3.49  
K(NiC+L)=3.80

A=Ethylenepropylenetriamine, B=Dipropylenetriamine, C=diethylenetriamine.

Data also for ternary complexes with 5-nitrosalicylic acid and above amines

---

Ni++ sp non-aq 25°C 100% U I M 1982HYa (69380)4363  
B(NiA<sub>2</sub>L)=3.12

Medium: CCl<sub>4</sub>. HA=diphenylthiocarbazone

---

Ni++ gl KNO<sub>3</sub> 25°C 0.10M C M 1979DAa (69381)4364  
B(NiL(pn))=12.26  
B(NiL<sub>2</sub>(pn))=17.78  
B(NiL(pn)<sub>2</sub>)=15.46

pn=1,3-Diaminopropane. Data also available for Ni+L+histamine

---

Ni++ gl KNO<sub>3</sub> 25°C 0.10M C M 1978DAb (69382)4365  
B(NiLA)=11.20  
B(NiL<sub>2</sub>A)=17.83  
B(NiLA<sub>2</sub>)=16.19

HA=N,N-dimethylglycine

---

Ni++ gl KNO<sub>3</sub> 25°C 0.10M U M K<sub>1</sub>=7.04 B<sub>2</sub>=13.94 1978DOa (69383)4366  
B<sub>3</sub>=20.15

B(NiAL)=12.36, B(NiHAL)=16.14, K(NiL+HA)=3.49, K(NiL+A)=5.32. H<sub>3</sub>A=citric acid

---

Ni++ gl KNO<sub>3</sub> 30°C 0.10M M M 1977MSd (69384)4367  
K(NiL+His)=8.03

---

Ni++ gl NaClO<sub>4</sub> 25°C 0.10M U M K<sub>1</sub>=7.01 B<sub>2</sub>=13.82 1976ABb (69385)4368  
K(ZnL+benzylhydroxamate)=5.04

---

Ni++ gl KNO3 25°C 0.10M C M K1=7.04 B2=13.94 1976D0a (69386)4369  
B3=20.15

B(NiL(Gly))=12.26; B(NiL(Sar))=11.90; B(NiL(B-Ala))=10.99;  
B(NiL2(Gly))=18.61; B(NiL2(Sar))=18.30

-----  
Ni++ sp non-aq 25°C 100% U 1976GMa (69387)4370

K(NiA2+L)=6.41

In benzene. A = 0,0-diethylphosphorodithioate

-----  
Ni++ cal non-aq 30°C 100% U H 1974DGa (69388)4371

K(NiA2+L) > 6

In benzene. HA=thiobenzoyl-1,1,1-trifluoroacetone; DH=-68 kJ mol-1

-----  
Ni++ cal non-aq 30°C 100% U H 1974GPa (69389)4372

In benzene. DH(NiA2+L)=-73.7 kJ mol-1; DH(NiB2+L)=-75.5; DH(NiC2+L)=-70.2

A=0-methylxanthate, B=0-hexylxanthate, C=0-2-propylxanthate

-----  
Ni++ gl oth/un 35°C 0.20M U M 1973JPb (69390)4373

K(NiL+A)=5.22

K(NiL+B)=5.12

K(NiL+C)=5.09

K(NiL+D)=6.86

K(NiL+E)=6.87, K(NiL+F)=6.70, H2A=malic acid, H2B=lactic acid, H2C=glycollic acid, H2D=thiomalic acid, H2E=thiolactic acid, H2F=thioglycollic acid.

-----  
Ni++ oth alc/w 20°C 20% C K1=5.98 B2=11.42 1973RAc (69391)4374

B3=17.20

Method: recalculation of literature data. Medium: 20% EtOH/H2O.

-----  
Ni++ oth NaClO4 30°C 0.20M U M 1972MJa (69392)4375

B(NiLA)=7.69

B(NiLB)=8.61

K(Ni+L+HC)=6.90

H2A=pyrocatechol, H3B=protocatechuic acid, H3C=pyrogallol

-----  
Ni++ EMF KNO3 30°C 0.10M U M 1972STa (69393)4376

B(NiL(en))=6.43

B(NiL(pn))=6.69

-----  
Ni++ EMF alc/w ? 20% U K1=6.25 B2=11.80 1971DFb (69394)4377

K3=5.20

Medium: 20% EtOH. By polarography, K1=6.28, K2=5.63, K3=5.19

-----  
Ni++ gl NaClO4 25°C 0.10M U M K1=7.13 B2=14.01 1971GSb (69395)4378

B(NiLA)=16.38

B(NiL(Gly))=12.75

B(NiL(en))=13.92

H2A=catechol

-----  
Ni++ dis KNO3 30°C 1.0M U HM K1=6.95 B2=13.78 1965DDa (69396)4379

K3=6.35

By calorimetry:DH(K1)=-37.2 kJ mol<sup>-1</sup>, DS=10.5 J K<sup>-1</sup> mol<sup>-1</sup>; DH(B2)=-74.4, DS=18.4; DH(B3)=-111.6,DS=17.1. Ternary complexes with ATP etc.

-----  
Ni++ cal NaNO3 20°C 0.10M U H 1963ANb (69397)4380  
DH(K1)=-40.1 kJ mol<sup>-1</sup>, DS=0 J K<sup>-1</sup> mol<sup>-1</sup>; DH(B2)=-79.4, DS=-2.9;  
DH(B3)=-117.9, DS=-8.8  
-----

Ni++ EMF NaNO3 20°C 0.10M U K1=7.13 B2=14.01 1963ANG (69398)4381  
K3=6.53  
-----

Ni++ gl NaClO4 25°C 1.0M U H K1=6.80 B2=13.26 1962ABa (69399)4382  
K3=5.20  
DH(K1)=-33.5 kJ mol<sup>-1</sup>, DS=17; DH(K2)=-33.5, DS=8; DH(K3)=-33.5, DS=-13  
-----

Ni++ sp alc/w 20°C 42% U K1=6.9 B2=13.7 1962CLa (69400)4383  
B3=19.6  
-----

Medium: 41.5% EtOH, 0.05 M KNO3  
-----

Ni++ dis KCl 25°C 0.10M U K1=7.07 B2=13.93 1962IMa (69401)4384  
K3=6.20  
-----

\*\*\*\*\*  
C10H8N2O2 HL CAS 80690-06-8 (874)  
5-Aminoquinoline-8-carboxylic acid;  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl alc/w 30°C 50% U K1=6.00 B2=11.23 1981RRa (69672)4385  
Medium: 50% v/v EtOH, 0.1 M KNO3  
-----

\*\*\*\*\*  
C10H8N2O2 HL CAS 5603-22-5 (2753)  
8-Hydroxyquinoline-2-carboxaldehyde oxime  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl diox/w 25°C 50% U K1=8.47 B2=15.97 1967SFa (69679)4386  
-----

\*\*\*\*\*  
C10H8N2O2S HL CAS 15112-10-4 (8299)  
N-Phenyl-2-thiobarbituric acid;  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl NaClO4 31°C 0.10M U T H K1=6.08 B2=10.68 1984SJa (69688)4387  
Also data for 18 and 42 C. DH(K1)=-76.2 kJ mol<sup>-1</sup>, DS(K1)=-135 J K<sup>-1</sup> mol<sup>-1</sup>  
DH(K2)=-41.2, DS(K2)=-47.9.  
-----

\*\*\*\*\*  
C10H8N2O4 HL 2-Furil dioxime CAS 522-27-0 (3319)  
1,2-Di(2'-furyl)ethane-1,2-dione dioxime; (C4H3O.C(:N.OH))2  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

\*\*\*\*\*

C10H8N4O4                      HL                      CAS 1747-31-5 (4716)  
3-Methyl-4-(2'-nitrobenzeneazo)isoxazol-5-one;

-----  
Metal            Mtd Medium Temp Conc Cal Flags Lg K values            Reference ExptNo  
-----  
Ni++            gl   diox/w 30°C 75% U            K1=3.66    B2=7.62    1971SYa (69740)4396  
Medium: 75% dioxan

\*\*\*\*\*  
C10H8O2                      H2L                      CAS 92-44-4 (1658)  
2,3-Dihydroxynaphthalene;

-----  
Metal            Mtd Medium Temp Conc Cal Flags Lg K values            Reference ExptNo  
-----  
Ni++            gl   NaClO4 30°C 0.20M U            M                      1974MJa (69761)4397  
K(Ni(His)+L)=8.53

\*\*\*\*\*  
C10H8O4                      H2L                      CAS 38489-70-2 (3297)  
Benzoylpyruvic acid; C6H5.CO.CH2.CO.COOH

-----  
Metal            Mtd Medium Temp Conc Cal Flags Lg K values            Reference ExptNo  
-----  
Ni++            gl   diox/w 30°C 75% U            K1=14.4    B2=20.6    1954UFa (69795)4398  
\*\*\*\*\*

C10H8O4S                      HL                      (1038)  
1-Hydroxynaphthalene-2-sulfonic acid;

-----  
Metal            Mtd Medium Temp Conc Cal Flags Lg K values            Reference ExptNo  
-----  
Ni++            gl   KNO3    25°C 0.10M U            K1=3.11    B2=6.41    1989SSe (69797)4399  
\*\*\*\*\*

C10H8O4S                      HL                      (4148)  
1-Hydroxynaphthalene-5-sulfonic acid;

-----  
Metal            Mtd Medium Temp Conc Cal Flags Lg K values            Reference ExptNo  
-----  
Ni++            gl   KNO3    25°C 0.10M U            K1=3.17    B2=6.33    1989SSe (69799)4400  
\*\*\*\*\*

C10H8O5S                      H3L            DHNSA                      (877)  
2,3-Dihydroxynaphthalene-6-sulfonic acid;

-----  
Metal            Mtd Medium Temp Conc Cal Flags Lg K values            Reference ExptNo  
-----  
Ni++            gl   NaNO3    25°C 0.10M U            K1=9.88    B2=18.25    1984NHa (69826)4401  
-----  
Ni++            gl   NaClO4 25°C 0.50M C            K1=8.41    B2=14.15    1976LAe (69827)4402  
B3=17.3

\*\*\*\*\*  
C10H8O7S2                      H3L                      (6341)  
2-Hydroxynaphthalene-6,8-disulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	U		K1=2.81 B2=5.39	1989SSe (69883)	4403

\*\*\*\*\*

C10H8O8S2 H4L Chromotropic ac CAS 148-25-4 (1875)  
1,8-Dihydroxynaphthalene-3,6-disulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.10M	U		K1=9.55	1990HWa (69912)	4404
Ni++	gl	KNO3	27°C	0.10M	U		K1=5.85 B2= 9.27	1988AIa (69913)	4405
Ni++	sp	oth/un	22°C	?	U		B3=12.00(?)	1966MCb (69914)	4406

\*\*\*\*\*

C10H9N L CAS 91-62-3 (8354)  
6-Methylquinoline;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.20M	C	M	K1=2.72 K(Ni(gly)+L)=6.20 K(Ni(ala)+L)=6.15 K(Ni(val)+L)=6.10 K(NiA+L)=5.98	1993BAb (69993)	4407

K(Ni(gln)+L)=5.55, K(Ni(glu)+L)=8.30, K(Ni(asp)+L)=9.15. HA is asparagine.  
\*\*\*\*\*

C10H9NO HL 8-OH-Quinaldine CAS 826-81-3 (998)  
2-Methyl-8-hydroxyquinoline;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	25°C	50%	U		K1=8.88 B2=17.49	1984YAa (70018)	4408
Ni++	cal	diox/w	25°C	50%	U	H		1968GFa (70019)	4409
DH(K1)=-20.9 kJ mol <sup>-1</sup> , DS=100.3 J K <sup>-1</sup> mol <sup>-1</sup> ; DH(B2)=-50.6, DS=155									
Ni++	gl	diox/w	25°C	50%	U		K1=8.96 B2=16.94	1967SFa (70020)	4410
Ni++	cal	diox/w	25°C	50%	U	H		1959FFa (70021)	4411
DH(K1)=-27.2, (-21.7) kJ mol <sup>-1</sup> ; DH(B2)=-43(-44), DS=197 J K <sup>-1</sup> mol <sup>-1</sup>									
Ni++	gl	diox/w	20°C	50%	U		K1=8.52 B2=16.48	1954IRa (70022)	4412
Medium: 50% dioxan, 0.3 M NaClO4									
Ni++	gl	diox/w	40°C	50%	U	T H	K1=9.07 B2=17.29	1954JFa (70023)	4413
K1=9.67(0.7 C), 9.41(25 C); K2=8.71(0.7 C), 8.35(25 C). DH(B2)=-44.7 kJ mol <sup>-1</sup> , DS=192 J K <sup>-1</sup> mol <sup>-1</sup> *****									

C10H9NO L CAS 5263-87-6 (8353)  
6-Methoxyquinoline;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaCl04	25°C	0.20M	C	M	K1=2.70 K(Ni(gly)+L)=6.20 K(Ni(ala)+L)=6.08 K(Ni(val)+L)=6.05 K(NiA+L)=5.95	1993BAb (70070)	4414

K(Ni(gln)+L)=5.55, K(Ni(glu)+L)=8.25, K(Ni(asp)+L)=9.10. HA is asparagine.  
\*\*\*\*\*

C10H9NO HL CAS 3846-73-9 (3320)  
8-Hydroxy-4-methylquinoline;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	25°C	50%	U	H	K1=10.56 B2=20.47	1968GFa (70083)	4415

Medium: 50% dioxan, 0.1 M NaCl04. By calorimetry: DH(K1)=-39.3 kJ mol<sup>-1</sup>, DS=71 J K<sup>-1</sup> mol<sup>-1</sup>; DH(B2)=-76.5, DS=134

Ni++	cal	diox/w	25°C	50%	U	H		1959FFa (70084)	4416
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DH(B2)=-107.8 kJ mol<sup>-1</sup>, DS=63 J K<sup>-1</sup> mol<sup>-1</sup>

Ni++	gl	diox/w	40°C	50%	U	T H	K1=11.15 B2=21.32	1954JFa (70085)	4417
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K1=12.36(0.7 C),11.57(25 C); K2=10.72(25 C). DH(B2)=-108 kJ mol<sup>-1</sup>, DS=63  
\*\*\*\*\*

C10H9NO L CAS 938-33-0 (3322)  
8-Methoxyquinoline;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	oth/un	25°C	0.10M	U		K1=2.0	1964PCa (70104)	4418

\*\*\*\*\*

C10H9NOS L CAS 13444-13-8 (4779)  
2-Acetonylbenzothiazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	alc/w	?	100%	U	M		1971ACc (70108)	4419

K(Ni(NO3)2+2L)=2.87

Medium: MeOH  
\*\*\*\*\*

C10H9NO2 HL CAS 57334-35-7 (3905)  
2-Hydroxymethyl-8-hydroxyquinoline;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	25°C	50%	U		K1=9.7 B2=18.70	1967SFa (70113)	4420

\*\*\*\*\*



C10H9NO2 HL CAS 87-51-4 (891)  
Indole-3-ethanoic acid;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl diox/w 25°C 50% U K1=3.25 B2=5.68 1981SKc (70132)4421  
Medium: 50% dioxan/H2O, 0.1 M KNO3

\*\*\*\*\*  
C10H9NO2Cl2 HL (3333)  
N-2,5-Dichlorophenylacetoacetamide (Acetoacet-2,5-dichloroanilide)

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl diox/w 25°C 50% U K1=3.67 1969HSc (70142)4422  
Medium: 50% dioxan, 0.1 M KClO4

\*\*\*\*\*  
C10H9NO3 HL Maleanilic acid CAS 37902-58-2 (6225)  
Maleanilic acid; HOOC.CH:CH.CO.NH.C6H5

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl alc/w 22°C 80% U T H K1=7.15 B2=13.20 1985SAb (70154)4423  
30 C: K1= 7.00, K2=6.00; 40 C: K1= 6.90, K2=5.90  
DH(K1)=-21.0 kJ mol<sup>-1</sup>, DS=65 J K<sup>-1</sup> mol<sup>-1</sup>; DH(K2)=-15.3, DS=65

\*\*\*\*\*  
C10H9NO3S H2L CAS 49608-51-7 (8280)  
4,5-Dihydro-2-(2-hydroxyphenyl)-4-thiazolecarboxylic acid,  
Deazademethyl-desferrithiocin;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl KNO3 25°C 0.10M C K1=9.62 B2=16.72 1990ARa (70162)4424  
\*\*\*\*\*

C10H9NO3S2 HL (7206)  
6-Methyl-5-sulfo-8-mercaptoquinoline;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ sp oth/un 20°C 0.10M U K1=8.7 1985DAb (70172)4425  
\*\*\*\*\*

C10H9NO4 HL (311)  
1-(4-Nitrophenyl)butane-1,3-dione; O2N.C6H4.CO.CH2.CO.CH3

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl diox/w 25°C 50% U K1=5.63 1974DH a (70183)4426  
\*\*\*\*\*

C10H9NO4S H2L CAS 29021-67-8 (3926)  
2-Methyl-8-hydroxyquinoline-5-sulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	.005M	U		K1=7.69 B2=14.14 K3=4.48	1963FFa (70192)	4427

\*\*\*\*\*

C10H9N07S2                      H3L                      CAS 82-47-3 (6247)  
8-Amino-1-hydroxynaphthalene-3,6-disulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	oth/un	20°C	0.0	U		K1=3.47    B2=5.26	1961PEb (70217)	4428

\*\*\*\*\*

C10H9N08                      H2L                      CAS 83785-11-9 (685)  
2-Nitro-1,4-di(carboxymethoxy)benzene; O2N.C6H3.(OCH2COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	oth/un	30°C	?	U		K1=3.45                      1985TZa (70227)	4429
------	----	--------	------	---	---	--	--	------

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C10H9NS                      HL                      CAS 10222-10-3 (1029)  
2-Methyl-8-mercaptoquinoline;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	sp	non-aq	25°C	100%	C	M		1987YSb (70245)	4430
------	----	--------	------	------	---	---	--	-----------------	------

K(NiL2+phen)=1.55

Medium: CHCl3.

Ni++	gl	non-aq	25°C	100%	U		K1=8.1    B2=13.4	1984UBa (70246)	4431
------	----	--------	------	------	---	--	-------------------	-----------------	------

Medium: DMF, 0.1 M LiClO4. Similar data to reference UB83a

Ni++	EMF	non-aq	25°C	100%	U		K1=8.1    B2=13.40	1983UBa (70247)	4432
------	-----	--------	------	------	---	--	--------------------	-----------------	------

Medium: DMF, 0.1 M LiClO4

Ni++	cal	diox/w	25°C	50%	U	H		1968GFa (70248)	4433
------	-----	--------	------	-----	---	---	--	-----------------	------

Medium: 50% dioxan, 0.1 M NaClO4. DH(K1)=-33.8 kJ mol<sup>-1</sup>, DS=63 J K<sup>-1</sup> mol<sup>-1</sup>

Ni++	gl	diox/w	25°C	50%	U		K1=9.2	1966KFb (70249)	4434
------	----	--------	------	-----	---	--	--------	-----------------	------

Medium: 50% dioxan, 0.1 M NaClO4

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C10H9NS                      HL                      CAS 13982-83-7 (1030)  
4-Methyl-8-mercaptoquinoline;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	non-aq	25°C	100%	U		K1=9.7    B2=17.0	1984UBa (70268)	4435
------	----	--------	------	------	---	--	-------------------	-----------------	------

Medium: DMF, 0.1 M LiClO4. Similar data to reference UB83a

Ni++	EMF	non-aq	25°C	100%	U		K1=9.7    B2=17.00	1983UBa (70269)	4436
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Medium: DMF, 0.1 M LiClO4

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C10H9NS HL CAS 66493-38-7 (5688)  
5-Methyl-8-mercaptoquinoline;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ EMF non-aq 25°C 100% U K1=11.0 B2=19.90 1986UBa (70280)4437  
Medium: dimethylformamide, LiClO4

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C10H9NS HL CAS 15759-04-3 (1031)  
6-Methyl-8-mercaptoquinoline;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl non-aq 25°C 100% U K1=9.2 B2=16.5 1984UBa (70282)4438  
Medium: DMF, 0.1 M LiClO4. Similar data to reference UB83a

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Ni++ EMF non-aq 25°C 100% U K1=9.2 B2=16.50 1983UBa (70283)4439  
Medium: DMF, 0.1 M LiClO4

\*\*\*\*\*

C10H9NS HL CAS 15759-05-4 (1032)  
7-Methyl-8-mercaptoquinoline;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl non-aq 25°C 100% U K1=11.3 B2=19.2 1984UBa (70294)4440  
Medium: DMF, 0.1 M LiClO4. Similar data to reference UB83a

-----  
Ni++ EMF non-aq 25°C 100% U K1=11.3 B2=19.20 1983UBa (70295)4441  
Medium: DMF, 0.1 M LiClO4

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C10H9NS2 HL CAS 32433-56-0 (5691)  
5-Thiomethyl-8-mercaptoquinoline;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ EMF non-aq 25°C 100% U K1=7.9 B2=14.40 1986UBa (70306)4442  
Medium: dimethylformamide, LiClO4

\*\*\*\*\*

C10H9NS2 HL CAS 91330-90-0 (5693)  
7-Thiomethyl-8-mercaptoquinoline;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ EMF non-aq 25°C 100% U K1=9.0 B2=15.70 1986UBa (70311)4443  
Medium: dimethylformamide, LiClO4

\*\*\*\*\*

C10H9N3 L Dipyridylamine CAS 1202-34-2 (2428)  
(2,2'-Dipyridyl)amine; C5H4N.NH.C5H4N

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C	M	K1=6.76 B2=12.84	1991DAc	(70323)4444

Data for ternary complexes with acetohydroxamic acid

Ni++	gl	NaClO4	25°C	0.10M	C	M		1979FSa	(70324)4445
							B(NiL(pyrocatecholate))=15.51		
							K(NiL+pyrocatecholate)=9.26		
							K(Ni(pyrocatecholate)+L)=6.62		

Ni++	gl	KNO3	25°C	0.10M	U	TIH	K1=6.76 B2=12.84	1976BBc	(70325)4446
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Ni++	EMF	KNO3	20°C	0.10M	U		K1=6.25 B2=12.03	1971ANa	(70326)4447
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C10H9N3OS HL CAS 60321-26-8 (4671)

2-(2-Thiazolylazo)methylphenol; C3H2NS.N:N.C6H3(CH3)OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	sp	diox/w	25°C	10%	U	T	K1=11.70	1973KSd	(70353)4448
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Medium: 10% dioxan, 0.1 M KNO3. 22 C: K1=11.76; 35 C: K1=11.56

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C10H9N3OS HL CAS 54723-30-7 (3924)

3-(2'-Thiazolylazo)-4-methylphenol; CH3.C6H3(OH).N:N.C3H2N2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++	gl	alc/w	25°C	50%	U		K1=8.3 B2=16.20	1967NPb	(70371)4449
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Medium: 50% MeOH, 0.1 M NaClO4

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C10H9N3O2 HL CAS 1631-97-6 (4718)

3-Methyl-4-benzeneazo-isoxazol-5-one;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++	gl	diox/w	25°C	75%	U		K1=7.68 B2=12.44	1995UFa	(70381)4450
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Ni++	gl	diox/w	30°C	75%	U		K1=4.38 B2=9.77	1971SYa	(70382)4451
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C10H9N3O2 HL CAS 56634-85-6 (1326)

4-Oximino-3-methyl-1-phenyl-2-pyrazolin-5-one;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	alc/w	20°C	50%	U	T	K1=3.82 B2=6.95	1981SSc	(70387)4452
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At 30 C: K1=3.94, B2=6.81

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C10H9N3O3 HL (1933)

4-(5'-Methyl-3'-isoxazolylazo)-1,3-dihydroxybenzene; (HO)2C6H3.N:N.C3H2NO

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	NaCl04	25°C	0.10M	U		K1=9.32 B2=17.84 B(NiHL)=14.83	1989TSa (70410)	4453
*****									
C10H9N3O5S		H3L					CAS 94519-58-1 (5579)		
1-Cyano-2-oxypropyl-azo-4-sulfo-2-hydroxybenzene; CH3COCH(CN)N:NC6H3(OH)HSO3									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	oth/un	25°C	0.04M	C		K1=11.11 B2=19.22	1985RMa (70414)	4454
K2 measured in solution with 0.01 M Tris buffer									
*****									
C10H9OBrS		HL					CAS 87112-37-6 (8334)		
p-Bromobenzoylthioacetone;									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	30°C	75%	U		K1=9.55 B2=18.97	1991CAb (70420)	4455
Medium: 75% v/v dioxane/H2O, 0.10 M KCl.									
*****									
C10H9O2Br		HL					CAS 4023-81-8 (1182)		
4-Bromo-1-phenyl-1,3-butanedione; Br.C6H4.CO.CH2.CO.CH3									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	30°C	75%	U		K1=10.79 B2=18.64	1976GRa (70427)	4456
-----									
Ni++	gl	diox/w	25°C	50%	U		K1=6.32	1974DHa (70428)	4457
*****									
C10H9O2Cl		HL					CAS 64743-36-8 (308)		
1-(4-Chlorophenyl)butane-1,3-dione; Cl.C6H4.CO.CH2.CO.CH3									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	30°C	75%	U		B2=19.31	1976BRd (70443)	4458
*****									
C10H9O4P		H2L					CAS 1136-89-6 (1931)		
1-Naphthyl-phosphoric acid;									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaCl	25°C	0.15M	U		K1=1.56	1989AKa (70458)	4459
*****									
C10H10NO2Cl		HL					CAS 6144-11-0 (247)		
Acetoacet-2-chloroacetanilide; CH3.CO.CH2.CO.NH.C6H4.Cl									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	25°C	50%	U		K1=4.17	1969HSc (70487)	4460

Medium: 50% dioxan, 0.1 M KClO4

\*\*\*\*\*

C10H10N03Br HL CAS 61563-99-3 (1991)

4-Bromo-N-hydroxyacetoacetanilide; CH3.CO.CH2.CO.N(OH).C6H4.Br

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	none	20°C	0.0	U			K1=5.67 B2=9.70	1979KSb (70504)	4461

\*\*\*\*\*

C10H10N03Cl HL CAS 75813-79-5 (1962)

4-Chloro-N-hydroxyacetoacetanilide; CH3.CO.CH2.CO.N(OH).C6H4.Cl

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	none	20°C	0.0	U			K1=5.75 B2=10.25	1979KSb (70508)	4462

\*\*\*\*\*

C10H10N04P HL (1932)

8-Quinolyl-methyl-phosphoric acid; (C9H7N)CH2P04H

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	NaCl	25°C	0.15M	U			K1=1.72 B(NiH-1L)=-5.08	1989AKa (70519)	4463

\*\*\*\*\*

C10H10N2 L CAS 26628-04-2 (3300)

8-Aminoquinaldine (8-Amino-2-methylquinoline)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	oth/un	25°C	0.10M	U			K1=2.6	1964PCa (70524)	4464

\*\*\*\*\*

C10H10N2O HL CAS 70125-17-6 (3906)

2-Aminomethyl-8-hydroxyquinoline;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	diox/w	25°C	50%	U			K1=13.42 B2=26.12	1967SFa (70531)	4465

\*\*\*\*\*

C10H10N2O HL CAS 37920-81-3 (3323)

8-Hydroxy-2,4-dimethylquinazoline;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	diox/w	20°C	50%	U			K1=7.88 B2=14.88	1954IRa (70537)	4466

Medium: 50% dioxan, 0.3 M NaClO4

\*\*\*\*\*

C10H10N2O2 HL (6192)

Benzimidazole-2-propanoic acid; C7H5N2.CH2.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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-----  
 Ni++ gl alc/w 30°C 50% U M K1=3.31 B2=6.09 1987RGa (70542)4467  
 K(NiA+L)=4.91  
 K(NiB+L)=3.52  
 K(Ni(bpy)+L)=4.02

Medium: 50% EtOH, 0.1 M NaClO4. H2A=oxalic acid, H2B=malonic acid

\*\*\*\*\*

C10H10N2O2S L CAS 4939-30-4 (1676)  
 8-(Methanesulfonylamido)quinoline;

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl diox/w 30°C 75% U K1=10.8 B2=20.6 1984NYa (70546)4468

\*\*\*\*\*

C10H10N2O3S H2L CAS 76045-30-2 (7218)

Desferri-ferrithiocin,  
 2-(3-Hydroxypyridin-2-yl)-4-methyl-4,5-dihydrothiazole-4-carboxylic acid;

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl KNO3 25°C 0.10M C B2=17.74 1990ARa (70552)4469

\*\*\*\*\*

C10H10N3OCl L CAS 135471-86-2 (8750)

2-(Chloroacetylaminomethyl)benzimidazole;

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl diox/w 30°C 50% U 1990MCb (70584)4470

B(NiH-1L)=-5.54

K(NiH-1L+L=NiH-2L2+H)=-12.30

\*K(NiH-1L)=-7.89

Medium: 50% v/v dioxane/H2O, 0.2 M NaNO3.

\*\*\*\*\*

C10H10N4O2S HL Sulfadiazine CAS 68-35-9 (1885)

4-Amino-N-(2-pyrimidinyl)benzenesulfonamide; C4H3N2NHSO2C6H4NH2

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl alc/w 30°C 50% C M 1999MBc (70597)4471

B(Ni(gly)L)=10.97

B(NiAL)=9.54

B(Ni(met)L)=8.87

B(NiH-1(gly)L)=1.93

In 50% v/v EtOH/H2O, 0.10 M NaNO3. B(NiH-2(gly)L)=-8.08; B(NiH-1AL)=0.45,  
 B(NiH-2AL)=-9.47; B(NiH-1(met)L)=1.40, B(NiH-2(met)L)=-6.60. A: Beta-ala

-----  
 Ni++ gl diox/w 30°C 50% U K1=3.14 B2= 5.60 1993MBc (70598)4472

\*K(NiL)=-8.94

\*K(NiL2)=-6.61

\*K(Ni(OH)L2)=-8.91

Medium: 50% v/v dioxane/H<sub>2</sub>O, 0.10 M NaNO<sub>3</sub>.

Ni++ gl alc/w 25°C 50% U M K1=3.75 B2=6.42 1986SKe (70599)4473  
K(NiA+L)=2.25

Medium: 50% v/v EtOH/H<sub>2</sub>O, 0.1 M NaCl. H<sub>3</sub>A=nitrolotrientanoic acid

Ni++ gl mixed 25°C 65% U T K1=3.75 B2=6.42 1982KNc (70600)4474  
Medium: 65% DMSO/H<sub>2</sub>O, 0.1 KN<sub>3</sub>

\*\*\*\*\*  
C10H10O5 HL CAS 13522-48-0 (4722)  
3-Mercapto-1-phenylbut-2-en-1-one; C<sub>6</sub>H<sub>5</sub>.CO.CH:CH.C(SH).CH<sub>3</sub>

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
Ni++ gl diox/w 30°C 75% U I K1=9.54 B2=18.50 1969LSa (70629)4475  
Medium: 75% dioxan, 0.018 M NaCl  
In 0.017 NaClO<sub>4</sub>, 74.5% dioxan: K1=9.73, K2=9.67

\*\*\*\*\*  
C10H10O2 HL Benzoylacetone CAS 93-91-4 (197)  
1-Phenylbutane-1,3-dione; C<sub>6</sub>H<sub>5</sub>.CO.CH<sub>2</sub>.CO.CH<sub>3</sub>

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
Ni++ gl diox/w 30°C 75% U K1=8.69 B2=16.72 1977AHb (70679)4476  
Ni++ dis NaClO<sub>4</sub> 25°C 1.0M U K1=4.41 B2=9.86 1977SIa (70680)4477  
Ni++ dis NaClO<sub>4</sub> 25°C 1.0M C M K1=4.41 B2= 9.86 1977SMe (70681)4478  
K(NiL<sub>2</sub>(org)+A(org))=3.50  
Method: distribution from 1.0 M NaClO<sub>4</sub> into CCl<sub>4</sub>/HL/tri-octylphosphine  
oxide (A). K(Ni+2HL(org)=NiL<sub>2</sub>(org)+2H)=-12.84.

Ni++ gl diox/w 30°C 50% U M K1=7.05 B2=13.02 1975DBd (70682)4479  
K(Ni(bpy)+L)=6.75  
K(Ni(phen)+L)=6.59  
K(Ni(IDA)+L)=5.60  
K(Ni(NTA)+L)=5.10

Ni++ gl diox/w 25°C 50% U K1=6.51 B2=12.27 1974DHa (70683)4480

Ni++ sp non-aq ? 100% U M 1972CHd (70684)4481  
K(Ni<sub>3</sub>L<sub>6</sub>=3NiL<sub>2</sub>)=-4.7  
K(2Ni<sub>3</sub>L<sub>6</sub>+3py=3Ni<sub>2</sub>L<sub>4</sub>py)=14.48  
K(Ni<sub>2</sub>L<sub>4</sub>py+3py=2NiL<sub>2</sub>py<sub>2</sub>)=7.26

Medium: CH<sub>2</sub>Cl<sub>2</sub>

Ni++ gl diox/w 25°C 75% U T K1=9.13 B2=16.89 1971RMc (70685)4482  
Medium: 75% dioxan, 0.02 M Me<sub>4</sub>NC<sub>4</sub>. 15 C: K1=9.19, K2=7.84; 40 C: 9.03, 7.69

Ni++ gl diox/w 30°C 75% U K1=10.30 B2=18.82 1955HOa (70686)4483



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Ni++ gl diox/w 30°C 75% U K1=9.58 B2=18.0 1953UFe (70687)4484  
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C10H10O3 HL CAS 16636-62-7 (3298)  
2-Hydroxybenzoylacetone; HO.C6H4.CO.CH2.CO.CH3  
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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Ni++ gl diox/w 30°C 75% U K1=9.25 B2=17.31 1955HOa (70795)4485  
\*\*\*\*\*

C10H10O4 H2L CAS 616-75-1 (4700)  
Benzylmalonic acid; HOOC.CH(CH2.C6H5).COOH  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl none 25°C 0.0 U K1=3.48 1970NPb (70815)4486  
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Ni++ EMF oth/un ? ? U K1=2.1 1968KKa (70816)4487  
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C10H10O5 H2L Ethoxyphthalic (3299)  
4-Ethoxyphthalic acid; CH3.CH2.O.C6H2(COOH)2  
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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Ni++ gl oth/un 25°C 0.10M U K1=2.18 1956YSa (70834)4488  
\*\*\*\*\*

C10H10O6 H2L CAS 5411-14-3 (2394)  
1,2-Phenylenedioxodiethanoic acid; C6H4(O.CH2.COOH)2  
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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Ni++ gl NaClO4 25°C 0.10M U K1=1.6 1968SMb (70839)4489  
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C10H11NO5 L (2831)  
Acetothioacetanilide; CH3.CO.CH2.CS.NH.C6H5  
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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Ni++ gl NaClO4 25°C 0.10M U K1=6.17 B2=10.50 1985BNa (70874)4490  
Data also for 4-Me-, 4-MeO- and 4-Cl- analogues  
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Ni++ sp diox/w 25°C 50% U K1=6.17 1985NBa (70875)4491  
Data also for 4-methoxy, 4-methyl and 4-chloro analogues  
\*\*\*\*\*

C10H11NO2 L CAS 102-01-2 (250)  
Acetoacetanilide; CH3.CO.CH2.CO.NH.C6H5  
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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl diox/w 25°C 50% U K1=4.82 1969HSc (70902)4492

Medium: 50% dioxan, 0.1 M KClO<sub>4</sub>

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C10H11NO<sub>2</sub> HL (4730)

N-Phenyl-(trans-2-butenyl)hydroxamic acid; CH<sub>3</sub>.CH:CH.CO.N(C<sub>6</sub>H<sub>5</sub>).OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	35°C	50%	U		K1=7.50 B2=13.07	1970BTc (70920)	4493

\*\*\*\*\*

C10H11NO<sub>2</sub>S HL CAS 42607-21-6 (8331)

2-Phenylthiazolidine-4-carboxylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO <sub>3</sub>	30°C	0.10M	U	TIH	K1=5.18 B2= 9.78	1983RKb (70924)	4494

At I=0.0, K1=5.37, K2=4.76. Data for 25-50 C. DH(K1)=-30.2 kJ mol<sup>-1</sup>,

DS(K1)=20.7 J K<sup>-1</sup> mol<sup>-1</sup>; DH(K2)=-26.9, DS(K2)=12.8.

\*\*\*\*\*

C10H11NO<sub>3</sub> HL (1960)

N-Hydroxyacetoacetanilide; CH<sub>3</sub>.CO.CH<sub>2</sub>.CO.N(OH).C<sub>6</sub>H<sub>5</sub>

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	none	20°C	0.0	U		K1=6.0 B2=10.54	1979KSb (70938)	4495

\*\*\*\*\*

C10H11NO<sub>4</sub> H<sub>2</sub>L CAS 1137-73-1 (2567)

N-Phenyliminodiethanoic acid; C<sub>6</sub>H<sub>5</sub>.N(CH<sub>2</sub>.COOH)<sub>2</sub>

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	cal	KNO <sub>3</sub>	25°C	0.1M	C	H		1991ANa (70975)	4496
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DH(K1)=15.0 kJ mol<sup>-1</sup>

Ni++	cal	KNO <sub>3</sub>	25°C	0.10M	U		K1=3.58	1991Aa (70976)	4497
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DH(K1)=15.06 kJ mol<sup>-1</sup>, DS(K1)=121.34 J K<sup>-1</sup> mol<sup>-1</sup>

Ni++	gl	oth/un	25°C	0.10M	U		K1=3.6 B2=6.0	1959SYc (70977)	4498
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Ni++	gl	KCl	30°C	0.10M	U		K1=3.8 B2=6.4	1957TBc (70978)	4499
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Ni++	gl	KCl	20°C	0.10M	U		K1=3.53	1955SAa (70979)	4500
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C10H11NO<sub>4</sub> H<sub>2</sub>L Salicylalanine CAS 5853-90-7 (6174)

N-Salicylyl-2-aminopropanoic acid; HO.C<sub>6</sub>H<sub>4</sub>.CO.NH.CH(CH<sub>3</sub>).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	alc/w	25°C	50%	U		K1=3.17 B2= 6.21	1989MSi (71013)	4501
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B(NiH-1L)=-4.51  
K(Ni+OH+L)=9.49

Medium: 50% v/v EtOH/H2O, 0.2 M NaNO3.

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C10H11NO5 H2L CAS 88194-12-1 (3908)

2-N(-(2'-Hydroxyethyl)amino)benzene-1,4-dicarboxylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KCl	20°C	0.10M	U			K1=2.45 K2=<2.4 K(Ni+HL)=1.50	1964ULa (71024)	4502

\*\*\*\*\*

C10H11NO5 H3L CAS 100844-86-8 (2108)

N-(2-Hydroxyphenyl)iminodiethanoic acid; HO.C6H4.N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	U			K1=14.12 K(Ni+HL)=8.31	1980TAa (71030)	4503

Ni++	EMF	oth/un	?	?	U			K1=10.74 K(Ni+HL)=4.44	1968TRc (71031)	4504
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C10H11NO5 H3L CAS 6386-78-3 (2834)

N-(4-Hydroxyphenyl)-iminodiethanoic acid; HO.C6H4.N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	U			K1=9.02 K(Ni+HL)=7.84	1980TAa (71051)	4505

\*\*\*\*\*

C10H11NO5S H2L (3929)

N-(2-Thenoylmethyl)iminodiethanoic acid; C4H3S.CO.CH2.N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	U			K1=8.14 B2=13.92	1965AUa (71056)	4506

\*\*\*\*\*

C10H11N3O3S HL CAS 723-46-6 (8374)

4-Amino-N-(5-methyl-3-isoxazolyl)-benzenesulfonamide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.10M	M	M		K1=2.32 B(Ni(phen)L)=2.44	1995SKa (71082)	4507

\*\*\*\*\*

C10H11O2Cl HL CAS 77103-89-0 (6319)

5-Chloro-2-hydroxybutyrophenone; (HO)(Cl)C6H3.CO.CH2.CH2.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	diox/w	40°C	75%	U			K1=6.40 B2=12.48	1974PSc (71101)	4508

Medium: 75% dioxan/H2O, 0.1 M NaClO4

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C10H11O4As H2L CAS 51525-18-9 (3907)

As-Phenylarsinodiethanoic acid; C6H5.As(CH2.COOH)2

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Ni++ gl KNO3 20°C 0.10M U K1=1.5 1964PIa (71123)4509

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C10H11O4P H2L CAS 58942-13-5 (7014)

Phenylphosphino-P,P-diethanoic acid, Diphenylphosphinediethanoic acid;

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaClO4 25°C 0.10M U K1=3.68 B2=6.49 1979POa (71133)4510

Ni++ gl NaClO4 25°C 0.10M U K1=3.68 B2=6.49 1978POb (71134)4511

B(NiHL)=7.77

B(NiHL2)=13.26

In 50% v/v dioxan/H2O: K1=5.12; B2=9.67; B(NiHL)=7.77; B(NiHL2)=13.26

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C10H12NOCl HL (4790)

N-Isopropyl-5-chlorosalicylideneimine; HO.C6H3(Cl).CH:N.CH(CH3)2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ cal non-aq 30°C 100% U M 1973DGB (71148)4512

K(NiL2+2py)=3.04

Medium: benzene

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C10H12N2 L Tolazoline CAS 59-97-2 (1036)

2-Benzyl-2-imidazoline; C6H5.CH2.C3H5N2

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.50M U K1=2.81 B2=5.48 1983LWa (71152)4513

B3=7.99

B4=10.30

B5=12.51

\*\*\*\*\*

C10H12N2O HL CAS 155055-22-4 (8339)

3-(Phenylimino)-2-butanone oxime;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl alc/w 30°C 50% U T K1=9.01 B2=17.11 1993HMD (71161)4514

Medium: 50% v/v MeOH/H2O, 0.1 M NaClO4. Data for 40 and 50 C.

For 2-OH deriv., K1=8.04, for 3-OH, K1=8.28, for 4-OH, K1=8.30.

\*\*\*\*\*

C10H12N2O HL Serotonin CAS 153-98-0 (4735)

# 5-Hydroxytryptamine (5-hydroxy-3-(2-aminoethyl)indole)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaCl04	20°C	0.37M	U		K1=5.05 K(Ni+HL)=3.35	1971WSd (71167)	4515

\*\*\*\*\*

C10H12N2O2 HL CAS 70263-59-1 (8479)

2-(Phenylhydrazono)butanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	alc/w	30°C	40%	C TI		K1=3.50 B2= 6.17	1997RRd (71172)	4516

Medium: 40% v/v EtOH/H2O, 0.10 M KNO3. Also data for 50-70% v/v EtOH/H2O, 0.1 M KNO3, and for 20-50 C.

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C10H12N2O3S HL CAS 93100-65-3 (6199)

2-(2-Pyrrolideneamino)benzene sulfonic acid; C4H7N:N.C6H4.HSO3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaCl04	25°C	0.10M	U T H		K1=13.32	1987RDb (71207)	4517

35 C:K=13.90, 45 C:14.19. DH=78.93 kJ mol<sup>-1</sup>, DS=520 J K<sup>-1</sup> mol<sup>-1</sup>

\*\*\*\*\*

C10H12N2O4 H2L CAS 16598-05-3 (967)

2-Pyridylmethyliminodiethanoic acid; C5H4N.CH2.N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	U		K1=11.22	1983FSa (71226)	4518
Ni++	gl	NaNO3	20°C	0.10M	C H		K1=12.65 B2=16.35	1981ANb (71227)	4519

DH(K1)=-28.0 kJ mol<sup>-1</sup> DS=146.4 J K<sup>-1</sup> mol<sup>-1</sup>, DH(K2)=-17.2 DS=12.1

additional method: exchange equilibria and ion selective electrode

Ni++	gl	KNO3	25°C	0.10M	C		K1=9.11 B2=15.94	1975IPa (71228)	4520
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Ni++	gl	KNO3	25°C	0.10M	U M			1973NRb (71229)	4521
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K(NiL+Phe)=3.54, 3.44(D-Phe)  
K(NiL+Trp)=4.02, 3.93(D-Trp)  
K(NiL+Val)=3.67, 3.59(D-Val)  
K(NiL+Thr)=3.76, 3.72(D-Thr)  
K(NiL+Leu)=3.73, 3.74(D-Leu), K(NiL+Ala)=3.73, 3.72(D-Ala)

Ni++	gl	KCl	25°C	0.10M	U		K1=11.22 B2=14.90	1966SIb (71230)	4522
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C10H12N2O4 H2L CAS 91856-13-2 (8436)

DL-N-(4-Aminophenyl)aspartic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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 Ni++ gl NaCl 25°C 0.50M C K1=1.44 1984RFb (71287)4523  
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C10H12N2O4 HL (6004)  
 N-Benzyloxycarbonylglycyl hydroxamic acid; C6H5.CH2.O.CO.NH.CH2.CO.NHOH

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 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Ni++ gl KNO3 25°C 0.10M U K1=4.9 B2=7.9 1987CSb (71297)4524  
 B3=10.9

\*\*\*\*\*  
 C10H12N2O4 H2L (8610)  
 N-Carboxymethyl-beta-(2-pyridyl)-L-alpha-alanine;

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----

Ni++ gl KNO3 25°C 0.10M C M 1977BRa (71308)4525  
 K(NiL+D-val)=3.51  
 K(NiL+L-val)=2.95  
 K(NiL+D-phe)=2.98  
 K(NiL+L-phe)=2.72

K(NiL+D-ala)=3.09, K(NiL+L-ala)=2.84; K(NiL+D-ser)=2.92, K(NiL+L-ser)=2.71

\*\*\*\*\*

C10H12N2O5S HL (6278)  
 2-Benzenesulfonamidossuccinamic acid; C6H5.SO2.NH.CH(CO.NH2).CH2.CO0H

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 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Ni++ gl alc/w 25°C 50% U K1=5.80 1978GMc (71310)4526

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C10H12N4O L CAS 16347-32-3 (2483)  
 9-(Tetrahydro-2-pyranlyl)purine;

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 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Ni++ gl NaClO4 25°C 1.00M U K1=1.24 1983ALa (71320)4527

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C10H12N4O4 L Nebularine CAS 550-33-4 (2172)  
 Purine-9-beta-D-ribofuranoside;

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 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Ni++ gl NaClO4 25°C 1.00M U K1=1.31 1981LAc (71327)4528

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C10H12N4O4S HL 6-Thioinosine CAS 574-25-4 (7418)  
 6-Mercaptopurine-9-ribofuranoside;

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 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Ni++ gl KCl 25°C 0.20M C K1=4.18 B2= 8.38 1997KVa (71332)4529

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C10H12N4O5                      HL      Inosine                      CAS 58-63-9    (2344)  
Hypoxanthine-9-beta-D-ribofuranoside;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	35°C	0.10M	U	M	K1=2.71 B(NiL(Ala))=8.07 B(NiLA)=8.01 B(NiL(norVal))=8.22 B(NiL(norLeu))=8.29	1991RRa (71364)	4530

HA=2-aminobutanoic acid

Ni++	gl	NaClO4	25°C	0.20M	U		K1=3.42	1991SPa (71365)	4531
Also data for several t-RNA samples									
Ni++	gl	KNO3	35°C	0.10M	U	M	K1=2.71 B(Ni(Ala)L)=8.07 B(Ni(Phe)L)=8.32 B(Ni(Trp)L)=8.76	1990RRb (71366)	4532

Ni++	gl	KNO3	25°C	0.10M	C T H		K1=3.37	1983RRd (71367)	4533
Data for 25-45 C. DH(K1)=-5.52 kJ mol <sup>-1</sup> , DS(K1)=46.0 J K <sup>-1</sup> mol <sup>-1</sup> .									

Ni++	gl	NaClO4	25°C	1.0M	U		K1=2.8 K(Ni+HL)=1.1 K(Ni+HL=NiL+H)=-5.9	1981LVa (71368)	4534
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Ni++	sp	NaClO4	15°C	1.00M	U		K1=1.15	1981NDa (71369)	4535
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Ni++	gl	oth/un	20°C	0.01M	U		K1=3.3	1953ALa (71370)	4536
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C10H12N4O6                      H2L      Xanthosine                      CAS 5968-90-1    (1176)  
3,9-Dihydro-9-ribofuranosyl-1H-purine-2,6-dione;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	35°C	0.10M	U	M	K1=2.01 K(Ni(Ala)+L)=5.18 K(NiA+L)=5.32 K(Ni(norVal)+L)=5.50 K(Ni(norLeu)+L)=5.68	1991RRa (71435)	4537

HA=2-aminobutanoic acid

Ni++	gl	KNO3	25°C	0.10M	U	M	B(NiHL(His))=12.06 B(NiHL(histamine))=10.92 B(NiH2L(catechol))=10.38 B(NiHL(Gly))=11.08	1990RRa (71436)	4538
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Ni++ gl KNO3 35°C 0.10M U M K1=2.01 1990RRb (71437)4539  
 B(Ni(Ala)L)=5.18  
 B(Ni(Phe)L)=5.46  
 B(Ni(Trp)L)=5.99

Ni++ gl NaNO3 25°C 0.10M C K1=0.7 1989KTa (71438)4540  
 K(Ni+H-1L)=2.09

Ni++ gl KNO3 35°C 0.10M C M 1985RRh (71439)4541  
 K(Ni+HL)=2.92  
 K(Ni+HL+gly)=10.9  
 K(Ni+HL+his)=11.84  
 K(Ni+HL+HA)=10.13  
 K(Ni+HL+B)=9.38. H2A is catechol, H2B is oxalic acid.

Ni++ gl KNO3 35°C 0.10M U M 1983RRb (71440)4542  
 K(Ni+HL)=2.92  
 K(Ni+2HL)=5.90  
 K(Ni+H2L+HGly=NiHLA+2H)=10.9

Ni++ gl KNO3 25°C 0.10M U T H 1983RRc (71441)4543  
 K(Ni+2HL)=5.84  
 DH=-19.2kJ mol<sup>-1</sup>. At 5 C: K=6.58; 35 C: 5.90; 45 C: 5.88

Ni++ gl KNO3 45°C 0.10M U M 1979RRb (71442)4544  
 K(Ni+HL+TetraMeen)=5.53  
 K(Ni+HL+Sulphosalicylate)=2.87

Ni++ gl KNO3 45°C 0.10M U M 1979RRb (71443)4545  
 K(Ni(bpy)+HL)=2.57  
 K(Ni(phen)+HL)=2.67

Ni++ gl KNO3 25°C 0.10M U T 1978RRa (71444)4546  
 K(Ni+HL)=2.88

Ni++ gl oth/un 20°C 0.01M U K1=3.0 1953ALa (71445)4547  
 \*\*\*\*\*  
 C10H12N4O6 HL CAS 40281-74-1 (3910)  
 Purin-6-one 9-ribose N(1)-oxide (Inosine N(1)-oxide)

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ sp NaClO4 25°C 0.10M U K1=3.50 1965SIa (71504)4548  
 \*\*\*\*\*  
 C10H12N6O4 HL (6488)  
 N6(Threoninocarbonyl)adenine; C5H3N4.NH.CO.NH.CH(COOH).CH(OH).CH3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KCl 25°C 0.20M U K1=5.15 B2=9.34 1990VJa (71516)4549



B(NiH-1L)=-0.09

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C10H12O2 HL CAS 7624-24-2 (4702)  
2-Hydroxy-4-methylpropiophenone; HO.C6H3(CH3).CO.CH2.CH3

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl diox/w 27°C 75% U K1=9.41 B2=16.07 1973KDc (71524)4550  
Medium: 75% dioxan, 0.1 M NaClO4

\*\*\*\*\*

C10H12O2 HL CAS 1901-78-6 (4701)  
2-Hydroxybutyrophenone; HO.C6H4.CO.CH2.CH2.CH3

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl KNO3 40°C 0.10M U K1=5.28 1973SPc (71531)4551  
\*\*\*\*\*

C10H12O2 HL CAS 1946-74-3 (202)  
3-Isopropyltropolone;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl diox/w 30°C 50% U M K1=12.39 B2=19.28 1980KSa (71549)4552  
B(Ni(bpy)+L)=6.97

-----  
Ni++ nmr non-aq 45°C 100% U M 1976MSa (71550)4553  
K(NiL2+A)=0.17, A=a-picoline  
K(NiL2+A)=0.18, A=piperidine  
K(NiL2+EtNH2)=0.34  
K(NiL2+2py)=0.88

Medium: CHCl3

-----  
Ni++ dis NaClO4 25°C 0.10M U K1=5.90 B2=11.10 1962DYa (71551)4554

-----  
Ni++ gl alc/w 25°C 50% U K1=6.08 B2=11.38 1955PHa (71552)4555  
K3=3.60

Medium: 50% EtOH

-----  
Ni++ gl diox/w 30°C 50% U K1=8.6 B2=15.5 1954BFb (71553)4556  
B3=19.2

-----  
Ni++ gl diox/w 30°C 50% U K1=8.5 B2=15.0 1954BFb (71554)4557  
B3=19.0

\*\*\*\*\*

C10H12O2 HL CAS 499-44-5 (3303)  
4-Isopropyltropolone;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ dis non-aq 25°C 100% C M K1=6.1 B2=11.40 1997SNa (71625)4558

$$K(2Ni+4L=Ni_2L_4(org))=30.4$$

Method: solvent extraction from 0.10 M NaNO<sub>3</sub> into CHCl<sub>3</sub>.

K is for: 2Ni(aq)+4L(aq)=Ni<sub>2</sub>L<sub>4</sub>(org). K1 and B2 refer to 0.10 M NaNO<sub>3</sub>.

Ni++ gl diox/w 30°C 50% U K1=8.4 B2=14.9 1954BFb (71626)4559  
B3=18.8

C10H12O4 HL CAS 90-24-4 (4704)  
2-Hydroxy-4,6-dimethoxyacetophenone; (HO)(CH<sub>3</sub>O)<sub>2</sub>C<sub>6</sub>H<sub>2</sub>.CO.CH<sub>3</sub>

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++ gl diox/w 27°C 75% U K1=10.55 B2=16.97 1973KDc (71661)4560  
Medium: 75% dioxan, 0.1 M NaClO<sub>4</sub>

C10H12O4 HL (3305)  
6-Ethyl-2-Hydroxy-3-propionyl-4-pyrone;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++ gl oth/un 20°C 0.10M U K1=3.9 1956ARb (71669)4561

C10H13N L CAS 100190-73-6 (302)  
2-(Pent-4-enyl)pyridine; C<sub>5</sub>H<sub>4</sub>N.CH<sub>2</sub>.CH<sub>2</sub>.CH<sub>2</sub>.CH:CH<sub>2</sub>

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++ gl KNO<sub>3</sub> 25°C 0.10M U K1=1.6 1974ILa (71688)4562

C10H13NO L (5523)  
3-Acetyl-2,4,6-trimethylpyridine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++ gl NaNO<sub>3</sub> 25°C 0.50M U K1=1.8 1983BEb (71695)4563

C10H13NO HL CAS 32382-63-1 (4742)  
N-Propylsalicylideneimine; HO.C<sub>6</sub>H<sub>4</sub>.CH:N.CH<sub>2</sub>.CH<sub>2</sub>.CH<sub>3</sub>

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++ sp non-aq 25°C 100% C 2002CCc (71697)4564

$$K(NiL_2+Ni)=1.02$$

$$K(NiL+NiL_2)=3.50$$

Medium: acetonitrile. For the 5-Cl derivative, K(NiL<sub>2</sub>+Ni)=1.64,  
K(NiL+NiL<sub>2</sub>)=3.67.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

$$K(NiL_2+2py)=2.00$$

Medium: benzene. With N-isopropylsalicylideneimine K=2.18

\*\*\*\*\*

C10H13NOS HL CAS 99075-17-9 (3339)  
2-Mercapto-N-phenylbutyramide (2-Mercaptobutyranilide)

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl diox/w 30°C 75% U K1=8.74 B2=16.88 1961MAe (71700)4566  
\*\*\*\*\*

C10H13NOS HL CAS 34282-28-5 (3338)  
N-(Mercaptoacetyl)-2,6-dimethylaniline; (CH3)2.C6H3.NH.CO.CH2.SH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl diox/w 30°C 75% U K1=9.06 B2=17.58 1961MAe (71706)4567  
\*\*\*\*\*

C10H13NO2 L (5521)  
2,6-Dimethylisonicotinic acid ethyl ester;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl NaNO3 25°C 0.50M U K1=1.3 1983BEb (71711)4568  
\*\*\*\*\*

C10H13NO2 HL (4743)  
N-Phenyl-n-butyrohydroxamic acid; CH3.CH2.CH2.CO.N(C6H5).OH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl diox/w 25°C 50% U K1=7.61 B2=13.30 1972STf (71717)4569  
\*\*\*\*\*

C10H13NO3 H2L CAS 57496-55-6 (8744)  
2-(2-Hydroxybenzylamino)propanoic acid;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl diox/w 25°C 50% U M K1=8.39 B2=12.28 1993PBd (71726)4570  
B(Ni(gly)L)=13.40  
B(Ni(ala)L)=12.45  
B(Ni(phe)L)=11.89  
K(Ni+HA+L)=12.37

Medium: 50% v/v dioxane/H2O, 0.2 M NaClO4. H2A is tyrosine.  
B(Ni(trp)L)=12.70.

\*\*\*\*\*

C10H13NO3 H2L Salicyl-alanine CAS 57471-91-7 (6944)  
2-(N-(2-Hydroxybenzyl))aminopropanoic acid; HO.C6H4.CH2.NH.CH(CH3)COOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl diox/w 25°C 50% C M K1=8.39 B2=12.28 1995PBc (71732)4571  
K(NiL+A)=10.99  
K(NiL+C)=10.88

Medium: 50% v/v dioxane/H<sub>2</sub>O, 0.20 M NaClO<sub>4</sub>. HA is indole-3-ethanoic acid, HC is indole-3-propanoic acid, HD is indole-3-butanoic acid.

Ni++      gl   KCl      25°C 0.10M U      K1=9.00    B2=15.01    1975RIa (71733)4572  
B(NiHL2)=23.24  
B(NiHL)=15.19

Data are for L-ligand. For rac-ligand,  $K_1=9.00$ ,  $B_2=14.81$ ,  $B(\text{NiHL})=15.18$ ,  $B(\text{NiHL}_2)=23.10$ .

\*\*\*\*\*

C<sub>10</sub>H<sub>13</sub>N<sub>3</sub>O<sub>3</sub> HL CAS 676256-93-2 (9134)  
N-(2-Furanylmethylene)valine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++      gl    KCl      25°C    1.0M U      K1=5.46      2003SGa (71746)4573

\*\*\*\*\*

C10H13N03S                      HL                      (3340)

N-(Mercaptoacetyl)-2,5-dimethoxyaniline;  $\text{HS}\cdot\text{CH}_2\cdot\text{CO}\cdot\text{NH}\cdot\text{C}_6\text{H}_3(\text{OCH}_3)_2$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++ gl diox/w 30°C 75% U K1=8.79 B2=17.04 1961MAe (71749)4574

\*\*\*\*\*

C10H13N05S                      H2L                      CAS 93474-55-6    (8748)

N-(Phenylsulfonyl)-L-threonine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++ gl alc/w 25°C 50% C T H 1987MDe (71776)4575

$$K(\text{Ni} + \text{HL} = \text{NiL} + \text{H}) = 5.23$$
$$K(\text{Ni} + 2\text{HL} = \text{NiL}_2 + 2\text{H}) = 11.83$$

Medium: 50% v/v EtOH/H<sub>2</sub>O, 0.2 M NaNO<sub>3</sub>. Data for 35, 45 C.

Enthalpy and entropy data.

\*\*\*\*\*

C10H13N2O11P      H3L      Orotidylic acid    CAS 68244-58-6    (6665)

Orotidine-5'-monophosphoric acid, uridine-5-carboxylic acid-5-monophosphoric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++      gl    NaNO3    25°C   0.10M M      K1=2.30      1991BSc (71784)4576

$$K(NiH-1L+H)=8.24$$

\*\*\*\*\*

C10H13N4O8P                      H3L                      IMP                      CAS 131-99-7                      (843)

Inosine-5'-monophosphoric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++      gl    KNO3    25°C 0.10M C    M    K1=2.95    2001AAa (71834)4577

Also data for ternary complexes with MOPSO, TAPSO and ACES.

-----  
Ni++ gl KNO3 25°C 0.10M C T HM 2000RNa (71835)4578  
K(Ni+H2L=NiL+2H)=4.71  
K(Ni+H2L+HA=NiLA+3H)=9.05  
K(Ni+H2L+HC=NiLC+3H)=9.18

Data for 35 and 45 C. HA is ala-ala; HC is ala-phe.  
DH(NiLA)=-23.6 kJ mol<sup>-1</sup>, DS=94 J K<sup>-1</sup> mol<sup>-1</sup>; DH(NiLC)=-22.9, DS=99.

-----  
Ni++ gl KNO3 35°C 0.10M U 1998RVb (71836)4579  
K(Ni+H2L=NiL+2H)=4.42

-----  
Ni++ gl R4N.X 25°C 0.10M C H 1996HFa (71837)4580  
K(Ni+HL)=2.91  
K(Ni+2HL)=4.83  
K(Ni+H2L)=1.11

Medium: 0.1 M Me4NBr. DH(Ni+HL)=-16.2 kJ mol<sup>-1</sup>, DS=1 J K<sup>-1</sup> mol<sup>-1</sup>;  
DH(Ni+2HL)=-0.1, DS=36

-----  
Ni++ gl NaNO3 25°C 0.10M M 1994SMb (71838)4581  
K(Ni+HL)=2.91  
\*K(NiHL)=-6.95

-----  
Ni++ sp NaClO4 15°C 0.20M U 1981NDa (71839)4582  
K(Ni+HL=NiHL)=2.96  
K(Ni+H2L=NiH2L)=1.88

\*\*\*\*\*  
C10H13N4O9P H3L (3930)  
Inosine-5'-monophosphoric acid N(1)-oxide;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ sp NaClO4 25°C 0.10M U 1965SIa (71879)4583  
K(Ni+HL)=3.90

\*\*\*\*\*  
C10H13N5O4 HL Deoxyguanosine CAS 961-07-9 (3911)  
2-Aminopurin-6-one 9-deoxyriboside;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl NaNO3 25°C 0.10M M K1=3.20 1999SSb (71895)4584  
K(Ni+HL)=1.53  
\*K(NiHL)=-7.57

\*\*\*\*\*  
C10H13N5O4 L Adenosine CAS 58-61-7 (2154)  
Adenosine, Adenine-9-beta-D-ribofuranoside;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl NaClO4 25°C 1.00M U K1=0.4 1981LAc (71925)4585  
-----

Ni++ sp oth/un 20°C var U K1=-0.17 1964SBb (71926)4586

Medium: 1-3 M Ni(ClO4)2

\*\*\*\*\*

C10H13N5O4S HL Thioguanosine CAS 85-31-4 (7419)

2-Amino-6-mercaptapurine riboside, 6-mercapto-2-aminopurine riboside;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KCl 25°C 0.20M C K1=4.40 B2= 8.86 1997KVa (71960)4587

\*\*\*\*\*

C10H13N5O5 HL Guanosine CAS 118-00-3 (1402)

2-Aminopurin-6-one-9-riboside;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.10M C T HM 1988KRa (71986)4588

K(Ni+HL)=3.89

K(NiHL+HL)=4.23

Also data at 15, 35 and 45 C. DH(NiHL)=-18; DS=16. DH(NiH2L2)=-19.3; DS=16.

Also ternary complexes with bpy, phen and 5-sulfosalicylic acid

-----  
Ni++ gl NaClO4 25°C 1.0M U 1981LVa (71987)4589

K(Ni+HL=NiHL)=1.4

-----  
Ni++ gl oth/un 20°C 0.01M U K1=3.8 1953ALa (71988)4590

\*\*\*\*\*

C10H13N5O5 L CAS 116-92-9 (2174)

Adenosine-N'-oxide;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl none 25°C 0.0 U K1=7.52 1960PEb (72028)4591

\*\*\*\*\*

C10H14N2 L Nicotine CAS 54-11-5 (2631)

1-Methyl-2-(3-pyridyl)-pyrrolidine, Nicotine; C5H4N.C4H7N-CH3

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ vlt NaClO4 25°C 0.50M U 1981TMd (72041)4592

K(Ni+HL)=1.71

-----  
Ni++ gl NaClO4 23°C 0.50M U 1980TMd (72042)4593

K(Ni+HL)=1.70

\*\*\*\*\*

C10H14N2 L CAS 57404-42-9 (6274)

cis-2,3-Diamino-tetralin(1,2,3,4-tetrahydronaphthalene);

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.10M C K1=6.31 B2=11.33 1974YKa (72047)4594

\*\*\*\*\*

C10H14N2 L CAS 57404-43-0 (6273)  
trans-2,3-Diamino-tetralin(1,2,3,4-tetrahydronaphthalene);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.10M	C			K1=7.09 B2=13.16	1974YKa	(72051)4595

\*\*\*\*\*

C10H14N2O HL (3913)  
2-Hydroxy-2-phenylbutanoylamidine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.10M	U			K1=8.06 B2=15.80	1963GJb	(72055)4596

\*\*\*\*\*

C10H14N2O L CAS 59-26-7 (1358)  
N,N-Diethylnicotinamide; (C2H5)2N.CO.C5H4N

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	none	25°C	0.0	U T H			K1=1.42	1974VSa	(72062)4597
Ni++	gl	KNO3	25°C	0.50M	U			K1=1.39 B2=2.45	1974WAa	(72063)4598
Ni++	oth	oth/un	0°C	?	U			K1=1.52 B2=2.93	1971KAc	(72064)4599

Method: freezing point depression

\*\*\*\*\*

C10H14N2O L CAS 7006-13-5 (4746)  
N,N-Diethylpicolinamide; C5H4N.CO.N(CH2.CH3)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	oth	oth/un	0°C	?	U			K1=1.52 B2=2.93	1971KAc	(72067)4600

Method: freezing point depression

\*\*\*\*\*

C10H14N2O6 L alpha-Thymidine CAS 4449-43-8 (695)  
Thymine-2-desoxyribofuranosyl-5-methyluracil;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	NaNO3	20°C	1.0M	M			K1=7.40 B2=14.28	1997WYa	(72099)4601
								K3=3.61		
								K4=3.42		

\*\*\*\*\*

C10H14N2O7 H3L CAS 95175-15-8 (5705)  
2,5-Diazacyclohexanon-1-2(butane-1,4-dioic)-6-ethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.5M	U T H			K1=3.40	1992LKa	(72114)4602

-----  
Ni++ gl KNO3 25°C 0.50M U T K1=3.40 1990LKa (72115)4603  
DH(1)=-8.02 kJ mol-1  
-----

Ni++ gl KNO3 25°C 0.10M U K1=3.64 1989VZa (72116)4604  
The actual isomer (prepared by the cyclisation of EDDS) is uncertain.  
\*\*\*\*\*

C10H14N4B- L (7239)  
Bis(3,5-dimethylpyrazol-1-yl)borate; ((CH3)2C3H)2BH2-  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ dis non-aq 25°C 100% U 1996KSa (72125)4605  
K(Ni+2HL=NiL2(org)+2H)=-1.60

By solvent extraction into CHCl3

\*\*\*\*\*

C10H14N5O6P H2L dAMP CAS 653-63-4 (5782)  
Deoxyadenosine-5'-monophosphoric acid;  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ nmr oth/un 25°C 0.20M U M 1985PGa (72139)4606  
Keff(NiA+L)=3.08

A=Tetrakis(4-N-methylpyridyl)porphyrin. pH=6.9

\*\*\*\*\*

C10H14N5O6PS H2L AMPS CAS 19341-57-2 (8152)  
Adenosine-5'-monothiophosphoric acid, 5-Thioadenylic acid;  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaNO3 25°C 0.10M M K1=2.35 1997SSg (72142)4607  
K(Ni+HL)=1.1  
K(NiL+H)=3.6  
\*\*\*\*\*

C10H14N5O7P H2L AMP-2 CAS 81012-86-4 (2437)  
Adenosine-2'-monophosphoric acid, 2-Adenylic acid;  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ cal R4N.X 25°C 0.10M C H K1=1.95 B2=4.11 1995HTa (72164)4608  
K(NiL+H)=5.83  
DH(K1)=+2.4 kJ mol-1; DH(K2)=-22.3; DH(NiL+H)=0.0  
-----

Ni++ gl R4N.X 25°C 0.10M C T K1=2.34 1991SMa (72165)4609  
IUPAC evaluation  
-----

Ni++ gl NaNO3 25°C 0.10M U K1=1.94 1989MSf (72166)4610  
-----

Ni++ gl KNO3 15°C 0.10M U K1=2.18 B2=3.58 1980TFa (72167)4611  
K(Ni+HL)=0.7



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-----
Ni++      gl  KNO3   15°C 0.10M U      K1=2.08   B2=4.28   1972FSa (72168)4612
-----
Ni++      gl  KNO3   40°C 0.10M U T H   K1=2.78           1967TMf (72169)4613
K1=2.86(0.4 C),2.84(12 C),2.81(25 C). At 25 C: DH(K1)=-4.2 J K-1 mol-1,DS=40
*****
C10H14N5O7P      H2L    AMP-3      CAS 84-21-9 (2438)
Adenosine-3'-monophosphoric acid, 3-Adenylic acid;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      cal R4N.X  25°C 0.10M C   H      K1=2.00   B2=3.96   1995HTa (72207)4614
                                K(NiL+H)=6.01
DH(K1)=+4.5 kJ mol-1; DH(K2)=-10.0; DH(NiL+H)=-3.0
-----
Ni++      gl  R4N.X  25°C 0.10M C TIH   R K1=2.24           1991SMa (72208)4615
IUPAC evaluation. DH(K1)=-10.0 kJ mol-1 (tentative)
-----
Ni++      gl  NaNO3  25°C 0.10M U      K1=1.89           1989MSf (72209)4616
-----
Ni++      gl  KNO3   15°C 0.10M U      K1=2.08   B2=2.08   1980TFa (72210)4617
                                K(Ni+HL)=0.7
-----
Ni++      gl  NaClO4 25°C 0.10M M      K1=1.98           1976TDa (72211)4618
                                K(Ni+HL)=1.08
-----
Ni++      gl  KNO3   40°C 0.10M U T H   K1=2.75           1967TMf (72212)4619
K1=2.85(0.4 C),2.82(12 C),2.79(25 C). At 25 C: DH(K1)=-4.2 J K-1 mol-1,DS=40
-----
Ni++      gl  KNO3   25°C 0.10M U      K1=2.79           1962TMa (72213)4620
*****
C10H14N5O7P      H2L    AMP-5      CAS 18422-05-4 (842)
Adenosine-5'-monophosphoric acid, 5-Adenylic acid;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl  NaNO3  25°C 0.10M M      K1=2.55           2003BSa (72322)4621
                                K(NiL+H)=4.71
                                K(Ni+HL)=1.05
-----
Ni++      gl  KNO3   20°C 0.10M C      B(NiHL)=11.26
                                B(NiH2L)=16.50
-----
Ni++      gl  KNO3   25°C 0.10M C   M      K1=2.84           2001AOa (72324)4623
                                K(NiL+A)=1.69
                                B(NiLA)=6.19
                                K(NiL+B)=2.67
                                B(NiLB)=7.17
K(NiL+C)=3.73, B(NiLC)=8.23. HA=MOPS, HB=POPSO and HC=HEPPSO.

```





C10H14N5O8P                      H3L              GMP-5                      CAS 85-32-5    (2947)  
Guanosine-5'-monophosphoric acid;

Ni++      gl    KNO3    25°C 0.10M C      M    K1=3.16      2001AAa (72555)4650  
Also data for ternary complexes with MOPSO, TAPSO and ACES.

Data for 35 and 45 C. HA is ala-ala; HC is ala-phe.  
DH(NiLA)=-22.6 kJ mol<sup>-1</sup>, DS=94 J K<sup>-1</sup> mol<sup>-1</sup>; DH(NiLC)=-20.4, DS=103.

K(NiL+H)=4.19. HA is alanine, HC is phenylalanine, HD is tryptophan.

Medium: 0.1 M Me<sub>4</sub>NBr. DH(Ni+HL)=-18.4 kJ mol<sup>-1</sup>, DS=-4 J K<sup>-1</sup> mol<sup>-1</sup>; DH(Ni+2HL)=-9.0, DS=14

Data also for other deoxyribonucleotides and calf thymus DNA

Ni++	gl	KNO <sub>3</sub>	35°C	0.10M U	M	1990RAC (72561)4656
					B(NiHL)=2.77	
					K(Ni+H2L+Gly)=9.25	
					K(Ni+HL+His)=12.97	
					K(Ni+HL+histamine)=11.88	

C10H14O8S4 H4L CAS 10003-69-7 (3914)  
1,1,2,2-Tetrathioethane-S,S',S'',S'''-tetraethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++ gl NaClO4 25°C 0.10M U K1=4.8 1973PPc (72621)4657  
 B(NiHL)=7.71  
 B(Ni2L)=5.65

-----  
 Ni++ gl oth/un 25°C 0.10M U K1=4.02 1972PPb (72622)4658  
 -----

Ni++ sp NaClO4 25°C 0.10M U K1=4.17 1970GMd (72623)4659  
 K(Ni+HL)=2.88

\*\*\*\*\*  
 C10H15NOS2 L (5423)  
 2-(2-Pyridyl)-1,3-dithiomethyl-2-propanol; CH3S.CH2.C(OH)(C5H4N).CH2.SCH3  
 -----

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

-----  
 Ni++ gl diox/w 25°C 50% U K1=1.82 1981CBa (72651)4660  
 -----

\*\*\*\*\*  
 C10H15N2O4P H2L (7120)  
 Phenylalanylaminoethylphosphonic acid;  
 -----

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

-----  
 Ni++ gl KNO3 25°C 0.10M C K1=3.501 B2=6.11 1995HLA (72673)4661  
 B(NiHL)=9.37  
 B(NiH-1L)=-5.24  
 B(NiH-1L2)=-2.70

\*\*\*\*\*  
 C10H15N2O7P H2L dTMP CAS 3715-64-8 (5784)  
 Deoxythymidine-5'-monophosphoric acid;  
 -----

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

-----  
 Ni++ nmr oth/un 25°C 0.20M U M 1985PGa (72677)4662

Keff(NiA+L)=2.72  
 Keff(NiAL+L)=1.26  
 A=Tetrakis(4-N-methylpyridyl)porphyrin. pH=6.9

\*\*\*\*\*  
 C10H15N2O8P H2L TMP-5 CAS 365-07-1 (2949)  
 Thymidine-5'-monophosphoric acid, Thymidylic acid;  
 -----

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

-----  
 Ni++ gl R4N.X 25°C 0.10M C TI R 1991SMa (72686)4663

K(Ni+HL)=2.32

IUPAC evaluation

-----  
 Ni++ gl NaNO3 25°C 0.10M C 1988MSa (72687)4664

K(Ni+HL)=1.92

\*\*\*\*\*  
 C10H15N3O L (4749)  
 N, alpha-(2-Pyridylmethyl)-glycine-ethylamide; C5H4N.CH2.NH.CH2.CO.NH.CH2.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++		EMF diox/w	25°C	70%	U		K1=9.52 B2=17.40	1969DSa (72709)	4665
Medium: 70% dioxan, 0.1 M KCl									
*****									
C10H15N3O8		H3L					CAS 43068-75-3	(2463)	
Triglycine-N,N-diethanoic acid; (HOOC.CH2)2N.CH2.CO-Gly-Gly-OH									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KN03	25°C	0.10M	C		K1=8.02	1974MMb (72714)	4666
							K(NiL+H)=3.39		
							K(NiH-2L+H)=8.97		
*****									
C10H15N4O14P3		H5L		ITP			CAS 35908-31-7	(2148)	
Inosine 5'-triphosphoric acid;									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaN03	25°C	0.10M	C			2001SBc (72732)	4667
							K(Ni+HL)=5.01		
							K(NiHL+H)=4.45		
							K(Ni+H2L)=3.0		
-----									
Ni++	gl	R4N.X	25°C	0.10M	C	T		1991SMa (72733)	4668
							K(Ni+HL)=5.08		
IUPAC evaluation									
-----									
Ni++	gl	NaCl04	25°C	0.20M	U			1991SPa (72734)	4669
							K(Ni+HL)=4.27		
-----									
Ni++	gl	NaCl04	25°C	0.10M	U	M		1977CSa (72735)	4670
							K(Ni+HL)=4.73		
							K(Ni(bpy)+HL)=4.44		
							B(Ni(bpy)(HL))=11.57		
-----									
Ni++	sp	NaCl04	25°C	0.10M	U	M		1977CSa (72736)	4671
							Keff(Ni(bpy)+HL)=2.52, pH 3.5		
-----									
Ni++	nmr	NaCl04	25°C	0.10M	U	M		1975SIb (72737)	4672
							K(NiL+H)=8.39		
							K(Ni(OH)L+H)=10.6		
							K(Ni(bpy)L+H)=8.77		
By spectrophotometry, K(NiL+H)=8.2.									
-----									
Ni++	gl	KN03	25°C	0.10M	U	T		1973TRb (72738)	4673
							K(Ni+HL)=5.06		
K(35 C)=5.12, K(45 C)=5.01									
*****									

C10H15N5O4                      HL      Gly-Gly-His                      CAS 93404-95-6 (74)  
 Glycyl-glycyl-histidine; H2N.CH2.CO.NH.CH2.CO.NH.CH(CH2.C3H3N2).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.10M	C		K1=4.76 B(NiHL)=11.33 B(NiH-2L)=-6.93	1993HHa	(72795)4674

Ni++	gl	KCl	25°C	0.16M	U		K(NiH-1L+H)=6.20 K(NiH-2L+H)=6.30 K(NiH-2LOH+H)=6.35	1966BRd	(72796)4675
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C10H15N5O4                      HL      His-Gly-Gly                      CAS 32999-80-7 (6269)  
 Histidyl-glycyl-glycine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	none	21°C	0.0	M		K1=6.50    B2=12.23	1974YAa	(72822)4676

\*\*\*\*\*

C10H15N5O10P2                      H3L      ADP                      CAS 20398-34-9 (2181)  
 Adenosine-5'-diphosphoric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.10M	M		K1=3.93 K(NiL+H)=4.73 K(Ni+HL)=2.26	2003BSa	(72875)4677

Ni++	gl	KNO3	25°C	0.10M	C	M	K1=4.50 K(NiL+A)=1.80 B(NiLA)=5.51 K(NiL+B)=1.52 B(NiLB)=5.23	2001AOa	(72876)4678
------	----	------	------	-------	---	---	---	---------	-------------

K(NiL+C)=2.72, B(NiLC)=6.43, K(NiL+D)=3.40, B(NiLD)=7.11.  
 HA=PIPES, HB=MOPS, HC=POPSO and HD=HEPPSO.

Ni++	gl	KNO3	25°C	0.10M	C	M	K1=3.71 K(NiL+A)=8.60 B(NiLA)=12.31 K(NiL+B)=3.93 B(NiLB)=7.64	2000ADa	(72877)4679
------	----	------	------	-------	---	---	--	---------	-------------

HA=ACES, HB=MOPSO. Also data for CHES, TAPSO and DIPSO.

Ni++	gl	NaNO3	25°C	0.10M	C	M	K1=4.40 K(NiL+A)=4.50 B(NiLA)=8.90	2000KHa	(72878)4680
------	----	-------	------	-------	---	---	--	---------	-------------

H2A=salicylhydroxamic acid.

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Ni++ gl NaNO3 25°C 0.10M C M K1=4.40 2000KHb (72879)4681  
 K(NiA+L)=4.84  
 B(NiAL)=11.99

H2A=N-(2-acetamido)iminodiacetic acid.

Ni++ gl KNO3 25°C 0.10M U K1=3.99 1995SBa (72880)4682

Ni++ gl KNO3 25°C 0.10M M M K1=4.471 1993AHa (72881)4683  
 B(NiLA)=8.791  
 B(NiLB)=9.991  
 B(NiLC)=9.609  
 B(NiLD)=9.213

H2A=Oxalic acid, H2B=Succinic acid, H2C=Tartaric acid, H2D=Malic acid

B(NiLE)=9.844 H2E=Maleic acid, B(NiLF)=9.019 H3F=Citric acid

Ni++ gl R4N.X 25°C 0.10M C TIH R K1=4.5 1991SMa (72882)4684  
 K(Ni+HL)=2.31

IUPAC evaluation. 37 C, 0.15 NaCl: K1=4.2. DH(K1)=6.3 kJ mol<sup>-1</sup>(tentative)

Ni++ nmr oth/un 23°C 0.30M U M 1985PGa (72883)4685  
 Keff(NiA+L)=3.7  
 A=Tetrakis(4-N-methylpyridyl)porphyrin. pD=7.0

Ni++ gl KCl 25°C 0.10M U K1=3.71 1980DMa (72884)4686  
 B(NiHL)=8.61

Ni++ gl KCl 25°C 0.10M U M K1=3.71 1980DMb (72885)4687  
 K(Ni+H+L)=8.61

Ni++ gl R4N.X 25°C 0.20M U T H K1=3.90 B2= 6.15 1979MGa (72886)4688  
 K(Ni+HL)=2.28

Medium: 0.20 M Me4NBr. Data for 5-37 C.

By calorimetry: DH(K1)=6.3 kJ mol<sup>-1</sup>, DS(K1)=93.8 J K<sup>-1</sup> mol<sup>-1</sup>.

Ni++ sp KNO3 15°C 0.10M M 1978FSb (72887)4689  
 K(Ni+NiL)=1.60

Ni++ gl KNO3 15°C 0.10M U K1=4.18 B2=6.48 1972FSa (72888)4690  
 K(Ni+HL)=2.30

Ni++ gl KNO3 40°C 0.10M U T H K1=4.42 1967TMf (72889)4691  
 K(Ni+HL)=2.22

K1=4.62(0.4 C),4.57(12 C),4.50(25 C); K=2.43(0.4 C),2.37(12 C),2.30(25 C).

At 25 C:DH(K1)=-7.9 kJ mol<sup>-1</sup>,DS=59 J K<sup>-1</sup> mol<sup>-1</sup>; DH(Ni+HL)=-8.8,DS=13

Ni++ gl KNO3 25°C 0.10M U K1=4.50 1962TMa (72890)4692  
 K(Ni+HL)=2.30

\*\*\*\*\*

C10H15P L CAS 1605-53-4 (4705)

Phenyldiethylphosphine; C6H5.P(CH2.CH3)2



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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       sp  non-aq 20°C 100% U TI                      1969RGb (73023)4693
                                   K(NiL2(CN)2+L)=3.12
Medium: EtOH. K(10 C)=3.51, K(30 C)=2.69
In dichloroethane. T:20-40 C, K1(20 C)=1.97, K(30 C)=1.54, K(40 C)=1.10
*****
C10H16N2O2          L                      (7408)
N-(2-Pyridylmethyl)iminodiethanol; C5H4N.CH2.N(CH2CH2.OH)2
-----

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       gl  KNO3   25°C 0.10M C                      K1=7.34      1986DSa (73031)4694
*****
C10H16N2O6          H2L                      CAS 23873-27-0 (9120)
N,N'-Bis-(3-carboxy-1-oxopropanyl)-1,2-diaminoethane;
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       gl  NaClO4 25°C 0.10M M                      K1=6.50      B2=11.52  2003GSa (73066)4695
*****
C10H16N2O8          H4L      EDDS                      CAS 52759-67-8 (1100)
1,2-Diaminoethane-N,N'-di-1,4-butanedioic acid; (CH2.NH.CH(COOH)CH2.COOH)2
-----

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       EMF KNO3   25°C 0.10M U                      K1=16.00      1989VZa (73082)4696
                                   K(Ni+HL)=9.53
-----
Ni++       EMF KNO3   25°C 0.10M U                      K1=16.78      1972SGe (73083)4697
By Cu/Hg (indirect method): K1=16.78
-----
Ni++       gl  KNO3   30°C 1.0M U                      K1=11.30      1972TSf (73084)4698
-----
Ni++       dis KNO3   20°C 0.10M U                      K1=17.4       1968MJa (73085)4699
Method: paper electrophoresis
-----

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-----
Ni++       sp  KNO3   20°C 0.10M U                      K1=18.02      1966MSg (73086)4700
*****
C10H16N2O8          H4L      EDTA                      CAS 60-00-4 (120)
1,2-Diaminoethane-N,N,N',N'-tetraethanoic acid, Sequestic acid;
-----

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++       cal KNO3   25°C 1.50M U      HM                      1987VBd (73362)4701
                                   K(NiA+L)=0.8
H2A=Iminodiethanoic acid; DH(NiA+L)=-4.9 kJ mol-1
-----
Ni++       cal KNO3   25°C 1.50M U      H                      1985VKa (73363)4702
-----

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$$K(\text{NiL}+\text{OH})=0.93$$

$$\text{DH}(\text{NiL}+\text{OH})=-9.92 \text{ kJ mol}^{-1}$$

---

Ni++ cal KNO3 25°C 0.50M U H 1984PTb (73364)4703  
 DH(K1)=-20.1 kJ mol<sup>-1</sup>, DH(NiL+OH)=-21.3

---

Ni++ gl KNO3 25°C 0.10M U K1=18.52 1983FSa (73365)4704

---

Ni++ sp none 25°C 0.0 U M K1=18.6 1983KPa (73366)4705  
 K(NiL+en)=2.74  
 K(NiL+CN)=4.08

en: 1,2-Diaminoethane, measured at pH 11.1

---

Ni++ cal KNO3 25°C 1.50M U H 1982VBa (73367)4706  
 K(NiL+Gly)=1.17

$$\text{DH}(\text{NiL}+\text{Gly})=-21.8 \text{ kJ mol}^{-1}$$


---

Ni++ sp KNO3 25°C 1.50M U I M 1982VVa (73368)4707  
 B(NiL(oxalate))=18.20  
 B(NiL(pyrophosphate))=18.42

---

Ni++ EMF KCl 20°C 0.10M C K1=18.4 1981SFa (73369)4708  
 Method: Pt/H2 electrode.

---

Ni++ sp KNO3 25°C 1.50M U T HM 1981VVa (73370)4709  
 K(NiL+en)=2.36  
 B(NiL(en))=19.98

---

Ni++ sol KNO3 25°C 1.00M U K(NiL+H)=2.96 1979JPb (73371)4710  
 K(NiHL+H)=0.99

---

Ni++ gl NaClO4 25°C 0.10M U M K1=18.47 1979KNa (73372)4711  
 K(NiL+CN)=3.76

---

Ni++ oth none 25°C 0.0 U K1=18.67 1977DFa (73373)4712  
 Calculated from a model. Constants also for other related Ni++ complexes

---

Ni++ cal KNO3 25°C 0.5M U IH K1=17.82 1976VBb (73374)4713  
 DH1=-33.10 kJ/mol

For15 C: K1=18.04 DH1=-34.43; 35 C: K1=17.66, DH1=-32.0  
 for 25 C and I=0.3 M K1=17.91; for 25 C and I=1.0 M K1=17.63

---

Ni++ gl KNO3 25°C 0.10M U T K1=18.52 1975APc (73375)4714

---

Ni++ sol oth/un 22°C 0.10M U K1=18.79 1974TNa (73376)4715  
 K(Ni+HL)=3.4  
 K(NiHL+H)=1.4

---

Ni++ oth NaClO4 25°C 1.0M U T 1973HHb (73377)4716

---

K(CoLCl+Ni)=0.97

K(45 C)=0.33

Ni++ sp NaClO4 25°C 1.0M U M 1970HSc (73378)4717

K(NiL+H)=2.63  
K(NiL+N3)=0.02  
K(NiL+SCN)=0.02  
K(NiL+py)=0.86

K(NiL+NH3)=1.25. K(NiL+NH2.NH2)=0.54. K(NiL+NH2OH)=0.06, K(NiHL+SCN)=0.66

Ni++ gl KNO3 25°C 0.10M U K1=18.66 1969BNa (73379)4718

K(NiL+H)=3.22  
K(Ni+HL)=11.56

Ni++ gl R4N.X 25°C 1.50M U M K1=18.60 1969FDa (73380)4719

B(NiL(py))=18.93  
B(NiL(NH3))=19.90

Medium: NH4NO3

Ni++ sp KCl 25°C 0.50M U I M 1967JMa (73381)4720

K(NiL+NH3)=1.35

In 1.0 M NaClO4: K=1.39

Ni++ sp NaClO4 25°C 1.0M U M 1965BRe (73382)4721

K(NiL+A)=1.5  
K(NaL+B)=1.66  
K(NaL+en)=2.3  
K(NaL+py)=1.69

K(NaL+diaminopropane)=0.3. A=hydroxylamine, B=hydrazine

Ni++ oth KNO3 20°C 0.10M U K1=19 1965JMb (73383)4722

Method: electrophoresis

Ni++ vlt KNO3 25°C 0.20M U K1=18.12 19650Ga (73384)4723

Ni++ cal KNO3 25°C 0.10M U H 1965WHa (73385)4724

DH(K1)=-35.5 kJ mol<sup>-1</sup>, DS=238 kJ mol<sup>-1</sup>

Ni++ gl KNO3 20°C 0.10M U K1=18.62 1964ANa (73386)4725

K(Ni+HL)=11.56

Ni++ sp oth/un 25°C 0.10M U 1964NAa (73387)4726

K(NiL+CN)=4.08

Ni++ cal KNO3 20°C 0.10M U H 1963ANf (73388)4727

DH(K1)=-31.6 kJ mol<sup>-1</sup>, DS=247 J K<sup>-1</sup> mol<sup>-1</sup>

Ni++ sp NaClO4 ? 1.0M U 1963BKb (73389)4728

K(Ni+HL)=11.62  
K(NiL+OH)=0.41

Ni++ sol KNO3 25°C 2.0M U M T 1963FVa (73390)4729  
K(?)=14.06

Ternary complexes with oxalic acid

Ni++ dis NaClO4 20°C 0.10M U K1=18.36 1963STc (73391)4730  
Medium: KClO4

Ni++ cal oth/un 25°C 0.0 U K1=20.33 1959YKa (73392)4731

Ni++ gl oth/un 20°C 0.17M U H 1956CSb (73393)4732  
DH(K1)=-34.9 kJ mol<sup>-1</sup>, DG=-103.30, DS=237 J K<sup>-1</sup> mol<sup>-1</sup>; DH(NiL+OH=0

Ni++ EMF oth/un 25°C 0.0 U H 1956MAa (73394)4733  
Method: H electrode. DS(K1)=230 J K<sup>-1</sup> mol<sup>-1</sup>

Ni++ cal oth/un 25°C 0.05M U H 1954CHa (73395)4734  
Medium: Ni(NO3)2. DH(K1)=-31.8 kJ mol<sup>-1</sup>, DS=230 J K<sup>-1</sup> mol<sup>-1</sup>

Ni++ gl KCl 20°C 0.10M U I T K1=18.56 1954SGa (73396)4735  
By spectrophotometry K1=17.4. By polarography, 0.1 M KNO3: K1=18.62, K(Ni+HL)=11.56, K(NiL+H)=5.20

Ni++ sp KNO3 30°C 0.10M U K1=17.5 1953HMa (73397)4736  
\*\*\*\*\*  
C10H16N2O9 H4L CAS 616-90-0 (2615)  
Bis-(2-aminoethylether)-N,N'di(1,3-propanedioic acid); ((HOOCC)2CH.NH.CH2.CH2)20

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++ EMF KNO3 25°C 0.10M U K1=11.99 1979KBe (74369)4737  
\*\*\*\*\*  
C10H16N2O11P2 H4L CAS 491-97-4 (7674)  
Thymidine-5'-diphosphoric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++ gl NaNO3 25°C 0.10M M 1999SSa (74382)4738  
K(Ni+HL)=3.57

\*\*\*\*\*  
C10H16N2S4 L CAS 172161-19-2 (8649)  
(2Z,2'Z)-3,3'-(1,2-Ethanediyldiimino)bis-2-propene(dithioic)acid, dimethyl ester;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++ vlt non-aq 25°C 100% C K1=16.7 1999BGB (74394)4739  
Method: cyclic voltammetry. Medium: MeCN, 0.10 M Bu4NPF6.

\*\*\*\*\*  
C10H16N5O13P3 H4L ATP CAS 56-65-5 (403)  
Adenosine-5'-triphosphoric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C	M	K1=4.83 K(NiL+A)=1.59 B(NiLA)=6.42 K(NiL+B)=1.10 B(NiLB)=5.93 K(NiL+C)=3.11, B(NiLC)=7.94, K(NiL+D)=3.55, B(NiLD)=8.38, K(NiL+E)=2.66, B(NiLE)=7.49. HA=PIPES, HB=MOPS, HC=POPSO, HD=HEPPSO and HE=AMPSO.	2001A0a (74513)	4740
Ni++	gl	KNO3	25°C	0.10M	C	TIHM	K1=4.93 K(NiL+A)=4.64 Data for 20-50% w/w EtOH, DMF, dioxane, AN/H2O, 0.10 M KNO3 and 15-45 C. DH(K1)=-19.26 kJ mol <sup>-1</sup> , DS(K1)=-42.78 J K <sup>-1</sup> mol <sup>-1</sup> . HA=Asparagine.	2001BTa (74514)	4741
Ni++	gl	KNO3	25°C	0.10M	C	M	K1=4.83 K(NiL+A)=4.00 B(NiLA)=8.83 K(NiL+B)=4.38 B(NiLB)=9.21 K(NiL+C)=3.34, B(NiLC)=8.17. HA=ACES, HB=MOPSO, HC=CHES. Also data for TAPSO and DIPSO.	2000ADa (74515)	4742
Ni++	gl	NaNO3	25°C	0.10M	C	M	K1=5.00 K(NiL+A)=6.39 B(NiLA)=11.39 H2A=salicylhydroxamic acid.	2000KHa (74516)	4743
Ni++	gl	NaNO3	25°C	0.10M	C	M	K1=4.90 K(NiA+L)=5.58 B(NiAL)=12.73 H2A=N-(2-acetamido)iminodiacetic acid.	2000KHb (74517)	4744
Ni++	gl	KNO3	25°C	0.10M	C	M	K1=4.93 K(NiL+His)=8.23 K(NiL+Lys)=5.43 K(NiL+Asn)=4.66 K(NiL+Gln)=4.36 K(NiL+Asp)=8.95, K(NiL+Glu)=7.90, K(NiL+Pro)=5.95.	1999BIa (74518)	4745
Ni++	gl	KNO3	25°C	0.10M	M	M	K1=4.949 B(NiLA)=9.951 B(NiLB)=10.935 B(NiLC)=10.361 B(NiLD)=10.112 H2A=Oxalic acid, H2B=Succinic acid, H2C=Tartaric acid, H2D=Malic acid B(NiLE)=10.472 H2E=Maleic acid, B(NiLF)=10.031 H3F=Citric acid	1993AHa (74519)	4746
Ni++	gl	R4N.X	25°C	0.10M	C	TIH R	K1=5.21	1991SMa (74520)	4747

K(Ni+HL)=2,79									
IUPAC eval. DH(Ni+HL)=-14.6 kJ mol <sup>-1</sup> ,K(NiL+Ni)=18.0. 37 C,I=0.35 M: K1=4.86									
Ni++	gl	NaCl04	25°C	0.20M	U		K1=4.30	1991SPa	(74521)4748
Ni++	sp	none	25°C	0.0	U	I M		1990UBa	(74522)4749
B(NiLA)=11.88									
B(NiLB)=11.92									
in 25% Dioxan/H2O: B(NiLA)=13.15, in 50% Dioxan/H2O: K=19.22									
H2A=pyridine-2,6-dicarboxylic acid, H2B=iminodiethanoic acid									
Ni++	gl	KNO3	25°C	0.10M	U		K1=4.43	1989MAc	(74523)4750
Ni++	gl	NaNO3	25°C	0.10M	C		K1=4.86	1987STb	(74524)4751
K(Ni+HL)=2.86									
K(NiL+H)=4.47									
Ni++	gl	KCl	25°C	0.20M	C	M		1984KDb	(74525)4752
B(NiL(DOPA))=14.23									
B(NiHL(DOPA))=22.8									
B(NiHL(Dopamine))=21.8									
B(NiHL(Adrenaline))=21.3									
B(NiHL(Noradrenaline))=20.5, H3DOPA=3,4-dihydroxyphenylalanine									
Ni++	gl	KCl	25°C	0.10M	U	M		1983MDd	(74526)4753
B(NiL(Gly))=7.32									
Ni++	gl	KCl	25°C	0.10M	U		K1=4.57	1980DMa	(74527)4754
B(NiHL)=9.53									
Ni++	gl	KCl	25°C	0.10M	U	M	K1=4.57	1980DMb	(74528)4755
K(Ni+H+L)=9.33									
Ni++	sp	KNO3	15°C	0.10M	U			1978FSb	(74529)4756
K(Ni+NiL)=2.40									
Ni++	gl	NaCl	25°C	0.12M	U	M	K1=4.50	1978RMc	(74530)4757
K(NiL+DOPA)=7.30									
H3DOPA=3,4-dihydroxyphenylalanine									
Ni++	sp	NaCl04	25°C	0.10M	U	M		1977CSa	(74531)4758
K(Ni(bpy)+L)=4.47									
Ni++	gl	NaCl04	25°C	0.10M	U	M	K1=4.85	1977CSa	(74532)4759
K(Ni(bpy)+L)=4.45									
Ni++	sp	R4N.X	25°C	0.10M	U		K1=4.57	1973GSa	(74533)4760
K(Ni+NiL)=2.40									
Medium: Me4NCl. pH=6.2									

Ni++ gl KNO3 15°C 0.10M U K1=4.79 1972FSa (74534)4761  
K(Ni+HL)=2.78

Ni++ gl NaClO4 25°C 0.10M U M K1=4.85 1967SBc (74535)4762  
K(Ni(bpy)+L)=4.45

Ni++ gl R4N.X 30°C 0.10M U K1=5.32 1966PSa (74536)4763  
K(Ni+HL)=2.98

Medium: Me4NBr

Ni++ gl KNO3 40°C 0.10M U T H K1=4.90 1966TMb (74537)4764  
K(Ni+HL)=2.59

K1=5.18(0.4 C),5.05(12 C),5.02(25 C); K=2.88(0.4 C),2.80(12 C),2.72(25 C).  
At 25 C:DH(K1)=-10.5 kJ mol<sup>-1</sup>, DS=63 J K<sup>-1</sup> mol<sup>-1</sup>; DH(Ni+HL)=-10.0, DS=17

Ni++ gl KNO3 25°C 0.10M U K1=5.02 1962TMb (74538)4765  
K(Ni+HL)=2.72

Ni++ gl KCl 22°C 0.10M U K1=4.54 1961BRb (74539)4766  
K(Ni(OH)L+H)=9.3

\*\*\*\*\*

C10H16N5O14P3 H5L GTP CAS 86-01-1 (404)

Guanosine-5'-triphosphoric acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl NaNO3 25°C 0.10M C 2001SBc (74858)4767  
K(Ni+HL)=5.42  
K(NiHL+H)=4.77  
K(Ni+H2L)=3.69

Ni++ nmr NaClO4 25°C 0.10M U M 1975SIb (74859)4768  
K(NiL+H)=8.64  
K(Ni(OH)L+H)=10.57  
K(Ni(bpy)L+H)=9.16

By spectrophotometry, K(NiL+H)=8.6.

Ni++ gl KNO3 25°C 0.10M U T 1973TRb (74860)4769  
K(Ni+HL)=5.78

K1(35 C)=5.87, K1(45 C)=5.70

\*\*\*\*\*

C10H16N6 L CAS 53596-58-0 (3898)

N,N'-Bis(4'-(5')-imidazolylmethyl)-1,2-diaminoethane;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KCl 25°C 0.10M U K1=14.02 1968GRa (74893)4770

\*\*\*\*\*

C10H16O8P2 H4L (6907)

1,2-Diphosphinoethane-P,P,P'P'-tetraethanoic acid;

(HOOC.CH2)2P.CH2.CH2.P(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	NaCl04	25°C	0.10M	C		B2=22.24 B(NiH2L2)=31.22 B(NiH4L2)=38.24 B(NiH6L2)=43.60	1992PPb (74933)	4771
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Additional method: competition with 1,10-phenanthroline

Ni++	gl	NaCl04	25°C	0.10M	C		B(NiH2L2)=31.22	1982PPc (74934)	4772
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\*\*\*\*\*  
C10H17N04                      H2L                      CAS 2848-06-8 (3916)  
N-(Cyclohexyl)iminodiethanoic acid; C6H11.N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	KNO3	20°C	0.10M	U		K1=8.08	1964PIa (74965)	4773
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\*\*\*\*\*  
C10H17N08S                      HL                      (1735)  
2-(5-Carboxy-1,2,3,4-tetrahydroxypentyl)4-carboxythiazolidine,  
Galactocarboxythiazolidine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	NaCl04	25°C	0.10M	C		K1=5.41    B2=9.09 B(NiHL)=8.70	1992GNa (75009)	4774
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\*\*\*\*\*  
C10H17N2014P3                      H3L    TTP                      CAS 365-08-2 (402)  
Thymidine-5'-triphosphoric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	NaCl	25°C	0.10M	C	T	K1=4.87 K(Ni+HL)=4.87	1991SMa (75036)	4775
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IUPAC evaluation

Ni++	gl	NaNO3	25°C	0.10M	C		K(Ni+HL)=4.52	1987STb (75037)	4776
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Ni++	nmr	NaCl04	25°C	0.10M	U	M	K(NiL+H)=9.08 K(Ni(OH)L+H)=9.9 K(Ni(bpy)L+H)=9.42	1975SIb (75038)	4777
------	-----	--------	------	-------	---	---	---	-----------------	------

By spectrophotometry, K(NiL+H)=9.3.

\*\*\*\*\*  
C10H17N306S                      H3L    Glutathione                      CAS 70-18-8 (333)  
Glutamyl-cysteinyl-glycine;



Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.10M	U	TIH	K1=7.108	2001SGd (75087)	4778
Data for 0.05-0.2 M NaClO4 and 15-45 C. DH(K1)=-30.5 kJ mol-1, DS(K1)=-45 J K-1 mol-1. At I=0, K1=7.720. Also data for MeOH/H2O, EtOH/H2O, DMF/H2O.									
Ni++	gl	KN03	30°C	0.10M	U	T M		1995SSc (75088)	4779
							K(NiA+L)=6.25		
							K(NiB+L)=6.83		
							K(NiC+L)=6.25		
							K(NiD+L)=7.95		
Also data for 40 and 50 C. HA is anthranilic acid, H2B is ascorbic acid, HC is nicotinic acid, HD is sulfanilic acid.									
Ni++	gl	NaCl	37°C	0.15M	C		K1=7.37 B2=10.44	1980FMf (75089)	4780
							B(NiHL)=13.91		
							B(NiHL2)=19.34		
Ni++	gl	KN03	25°C	0.16M	U		K1=5.0	1959MEa (75090)	4781
*****									
C10H17N6O12P3		H4L				CAS 4209-30-7 (4795)			
Adenyl-5'-yl-imidodiphosphoric acid; adenosine-0.PO(OH).0.PO(OH).NH.PO(OH)2									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	R4N.X	20°C	0.10M	M		K1=5.69	1976PSe (75164)	4782
							K(Ni+HL)=3.22		
*****									
C10H18N2O4		H2L				CAS 17423-86-4 (8122)			
1,4-Piperazine-N,N'-dipropanoic acid;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KN03	30°C	0.10M	U	TIH	K1=5.27 B2= 8.23	1991KEa (75187)	4783
DH(K1)=-37.9 kJ mol-1, DS(K1)=24.3 J K-1 mol-1; DH(K2)=-17.9, DS(K2)=3.2. Data for 0.02-0.10 M KN03 and 30-60 C.									
*****									
C10H18N2O4		H2L				CAS 124125-60-6 (914)			
1,5-Diazacyclooctane-N,N'-diethanoic acid;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.10M	U		K1=10.3	1975BIb (75194)	4784
Ni++	gl	KN03	25°C	0.50M	U		K1=9.14	1975CKa (75195)	4785
							K(NiL(OH)+H)=9.48		
*****									
C10H18N2O4S		H2L				(6638)			
1-Thia-4,7-diazacyclononane-N,N'-diethanoic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C		K1=15.60	1993WLa (75210)	4786
*****									
C10H18N2O5		H2L					(5608)		
1-Oxa-4,7-diazacyclononane-N,N'-diethanoic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	U		K1=11.89	1990CCa (75224)	4787
*****									
C10H18N2O5		H2L					(6634)		
N,N-Diethylacetamidoiminodiethanoic acid; (C2H5)2N.CO.CH2.N(CH2.COOH)2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.50M	U		K1=8.80 B2=13.39 B(NiH-1L)=-2.22	1992GLa (75244)	4788
*****									
C10H18N2O7		H3L		HEDTA			CAS 150-39-0 (392)		
N-(Hydroxyethyl)diaminoethane-N,N',N'-triethanoic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaCl	25°C	0.10M	U		K(NiL+H)=1.73 K(NiH-1L+H)=1.46	1985KLb (75290)	4789
*****									
Ni++	gl	KNO3	25°C	0.10M	U		K1=17.1	1983FSa (75291)	4790
Ni++	oth	oth/un	?	?	U		K1=17.7	1970DTc (75292)	4791
Ni++	sp	NaClO4	25°C	1.0M	U	M	K(NiL+N3)=0.64 K(NiL+SCN)=0.56 K(NiL+py)=1.51 K(NiL+NH3)=1.81 K(NiL+A)=1.19, K(NiL+B)=0.71. A=hydrazine, B=hydroxylamine	1970HSc (75293)	4792

Ni++	gl	KNO3	25°C	0.10M	U		K1=16.66	1969BNa (75294)	4793
2nd method: calorimetry									
Ni++	sp	KCl	25°C	0.50M	U	M	K(NiL+NH3)=2.00	1967JMa (75295)	4794
Ni++	cal	KNO3	25°C	0.10M	U	H		1965WHa (75296)	4795
DH(K1)=-43.0 kJ mol <sup>-1</sup> , DS=188 J K <sup>-1</sup> mol <sup>-1</sup>									
Ni++	sp	NaClO4	25°C	1.25M	U	M	K(NiL+H)=2.54	1963BMc (75297)	4796

$$K(\text{CuL}+\text{Ni}=\text{NiL}+\text{Cu})=2.0$$

Ni++ gl KCl 30°C 0.10M U K1=17.0 1955Cma (75298)4797  
\*\*\*\*\*

C10H18N4O6 H2L (4504)  
Hexanoic acid bis(3-hydroxycarbamoyl-methyl)amide; HONHCOCH2NHCO(CH2)4CONHCH2CONHOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KCl 25°C 0.20M C K1=7.44 1999FEa (75563)4798  
B(Ni2L3)=20.94  
B(NiHL)=13.89  
\*\*\*\*\*

C10H18N4O6S2 H2L CAS 7729-20-6 (6021)  
Cysteinylglycine disulfide; (-S.CH2.CH(NH2)CO.NH.CH2.COOH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KCl 25°C 0.20M C K1=3.83 1988VSb (75573)4799  
B(NiHL)=9.95  
B(NiH-1L)=-4.05  
B(NiH-2L2)=10.17  
\*\*\*\*\*

C10H18N4O8 H4L CAS 35048-92-5 (4751)  
Ethylenedinitrilo-N,N'-diacetohydroxamic-N,N'-diethanoic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.10M U 1971MMe (75579)4800  
K(Ni+H2L)=11.0  
K(NiL+H)=6.81  
K(NiHL+H)=5.62  
\*\*\*\*\*

C10H18O2 HL CAS 73910-38-6 (4707)  
Isobutyryl pivaloyl methane; (CH3)2.CH.CO.CH2.CO.C(CH3)3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl diox/w 30°C 75% U K1=9.99 B2=19.53 1972UDa (75594)4801  
Medium: 75% v/v dioxan, 0.01 M Me4NClO4  
\*\*\*\*\*

C10H18O8 H2L CAS 32775-08-9 (240)  
1,12-Dicarboxy-2,5,8,11-tetraoxadodecane; (HOOC.CH2.O.CH2.CH2.O.CH2)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl KNO3 25°C 0.10M U K1=1.94 1975MTc (75613)4802  
\*\*\*\*\*

C10H19NO4 H2L (3328)  
N-(3,3-Dimethylbutyl)iminodiethanoic acid; (CH3)3C.CH2.CH2.N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	20°C	0.10M	U		K1=8.70 B2=16.11	1955SAa (75632)	4803
*****									
C10H19N08		L					Pangamic acid (2194)		
2,3,4,5,6-Pentahydroxyhexanoic acid-6-O-dimethylglycine ester									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.20M	U		K1=2.41	1981FDb (75649)	4804
*****									
C10H19N304		HL					Gly-Gly-Leu CAS 14857-82-0 (1229)		
Glycyl-glycyl-leucine; H2N.CH2.CO.NH.CH2.CO.NH.CH(CH2.CH(CH3)2).COOH									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaCl04	25°C	0.10M	U		K1=3.70 B2=7.01	1978BIb (75663)	4805
*****									
							K3=2.3		
							K(2H+NiH-2L)=16.03		
							K(H+NiH-2LOH) >14		
C10H19N304		HL					Gly-Leu-Gly CAS 2576-67-2 (1228)		
Glycyl-leucyl-glycine; H2N.CH2.CO.NH.CH(CH2.CH(CH3)2).CO.NH.CH2.CO.OH									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaCl04	25°C	0.10M	U		K1=3.7	1978BIb (75668)	4806
*****									
							K(2H+NiH-2L) 16.31		
C10H19N304		HL					Leu-Gly-Gly CAS 1187-50-4 (1230)		
Leucyl-glycyl-glycine; H2N.CH(CH2.CH(CH3)2).CO.NH.CH2.CO.NH.CH2.CO.OH									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	NaCl04	25°C	0.10M	U		K1=3.02 B2=5.42	1978BIb (75679)	4807
*****									
							K(2H+NiH-2L)=15.48		
							K(H+NiH-2LOH)=13.0		
-----									
Ni++	gl	oth/un	25°C	0.01M	U		K1=3.16	1959DLb (75680)	4808
*****									
C10H19N305		H2L					CAS 6366-86-5 (8573)		
N-6-L-alpha-Aspartyl-L-lysine;									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.20M	C			2002KVa (75702)	4809
*****									
							B(NiHL)=14.88		
							B(Ni2L2)=18.80		
*****									

C10H19N3O5                      H2L                      2,3-DIHA                      CAS 709640-93-7 (9156)  
N-Hydroxy-N'-[4-(hydroxymethylamino)-4-oxobutyl]-N-methyl-butanediamide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ni++	gl	KNO3	25°C 0.20M C	K1=7.95	2004FBa (75706)4810
				B(NiHL)=14.05	
				B(Ni2L3)=21.9	

\*\*\*\*\*

C10H20N2                      L                      CAS 42121-74-4    (6275)

2(e),3(e)-Diamino-trans-decaline(decahydronaphthalene);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ni++      gl   KN03   25°C 0.10M C      K1=8.22   B2=15.31   1974YKa (75723)4811  
K(NiL(OH)+H)=6.60

\*\*\*\*\*

C10H20N2O3      HL      Val-Val      CAS 3918-94-3    (724)

L-Valyl-L-valine;  $\text{H}_2\text{N}.\text{CH}(\text{CH}(\text{CH}_3)_2).\text{CO}.\text{NH}.\text{CH}(\text{CH}(\text{CH}_3)_2).\text{COOH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++      gl   NaCl   25°C 0.12M U      K1=2.99   B2=5.64   1977PNa (75735)4812

Ni++ g1 NaCl 25°C 0.12M U K1=2.99 B2= 5.64 1976PNa (75736)4813

Ni++	g1	KN03	25°C	0.10M	C	K1=3.12	B2=5.94	1975BPa	(75737)4814
						B(NiH-1L)=-6.04			
						B(NiH-2L2)=-12.4			
						B(NiH-1L2)=-3.08			
						B(NiH-2L)=-15.5			

\*\*\*\*\*

C10H20N2O3                      HL              NIBL                      (6057)

N-(Isobutyroyl)-lysine;  $(\text{CH}_3)_2\text{CH}.\text{CO}.\text{NH}.\text{(CH}_2)_4.\text{CH}(\text{NH}_2)\text{COOH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++      gl    NaClO4 25°C 0.10M C      K1=5.21    B2=9.50    1987LMa (75745)4815

Ni++ cal NaClO4 25°C 0.10M C H 1987LMc (75746)4816

$\Delta H(K1) = -20.90 \text{ kJ mol}^{-1}$ ,  $\Delta S(K1) = 30.2 \text{ J K}^{-1} \text{ mol}^{-1}$ .

$$DH(K2) = -18.81, \quad DS(K2) = 19.5.$$

\*\*\*\*\*

C10H20N2O4                      H2L                      CAS 7532-84-5    (1027)

1,2-Diaminoethane-N,N'-di(2-(2-methyl)propanoic acid)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++      gl    KNO3    25°C 0.10M U      K1=10.79      1983FSa (75765)4817

\*\*\*\*\*

C10H20N2O4                      H2L                      CAS 58534-57-9 (2113)  
Hexamethylenediamine-N,N-diethanoic acid;  $\text{H}_2\text{N}(\text{CH}_2)_6.\text{N}(\text{CH}_2.\text{COOH})_2$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++            gl   KNO<sub>3</sub>    25°C 0.10M U                      1977T Ia (75773)4818

$$K(Ni+HL)=8.65$$

C10H20N2O4 H2L CAS 5578-84-7 (5914)  
N,N-Dihydroxydecanediamide; HN(OH).CO.(CH2)8.CO.NH(OH)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++      gl    NaNO3    25°C 0.10M C      K1=8.78      1989EHa (75792)4819

C10H20N2O4S2                      H2L                      CAS 20902-45-8 (5411)  
Penicillamine disulfide, 3,3'-Dithiobis(2-amino-3-methylbutanoic acid);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++      gl    KCl      25°C 0.20M C      1988VSb (75823)4820

$$B(\text{NiHL}) = 12.90$$
$$B(\text{Ni}_2\text{L}_2) = 16.27$$

C10H20N2O6 H2L (7208)  
1,2-Diaminoethane-N,N'-bis(3-hydroxy-2-butanoic acid); (CH2NHCH(COOH)CH(OH)CH3)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++      gl    KNO3    20°C 0.10M U      K1=11.73      1970DKa (75828)4821

By spectrophotometry:  $K_1=11.8$  in  $0.1 \text{ M NaClO}_4$

C10H20N2O6 H2L CAS 96817-35-5 (4755)  
1,2-Diaminoethane-N,N'-bis(4-hydroxy-2-butanoic acid);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++ sp oth/un 20°C 0.10M U K1=11.71 1972DKa (75839)4822

C10H20N2S2 L CAS 13749-59-2 (2825)  
Tetraethyldithiooxamide; (C2H5)2N.CS.CS.N(C2H5)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ni++ sp none 25°C 0.0 U K1=6.36 1976AMc (75862)4823

C10H20N4O2 L CAS 63972-19-0 (137)  
1,4,8,11-Tetraazacyclotetradecane-5,7-dione;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

-----  
Ni++ gl NaClO4 35°C 0.20M U 1984KKc (75885)4824  
B(NiH-2L)=-5.15  
-----

Ni++ gl NaClO4 35°C 0.20M U 1981KKa (75886)4825  
B(NiH-2L)=-5.15  
-----

\*\*\*\*\*  
C10H20N4O4 HL (8572)  
Glycyl-lysyl-epsilon-glycine;  
-----

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KCl	25°C	0.20M	C		K1=6.07 B2= 9.14	2002KV a (75890)	4826
							B(NiHL)=12.25		
							B(NiH-1L)=-3.39		

\*\*\*\*\*  
C10H20O5 L 15-Crown-5 CAS 33100-27-5 (576)  
1,4,7,10,13-Pentaoxacyclopentadecane; cyclo(-(O.CH2.CH2)5-)  
-----

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	con	mixed	25°C	90%	C		K1=2.02	2003ISa (75922)	4827
Medium: 90% v/v DMSO/H2O.									

Ni++	con	alc/w	25°C	40%	C		K1=1.95	2001ISa (75923)	4828
Medium: 40% v/v EtOH/H2O.									

Ni++	nmr	non-aq	27°C	100%	C		K1=3.72	2000SMg (75924)	4829
Medium: acetonitrile. Method: competitive 7Li nmr technique.									

Ni++	cal	non-aq	25°C	100%	C	H	K1=2.55	1999SBe (75925)	4830
Medium: acetonitrile. DH(K1)=-16.3 kJ mol-1.									

Ni++	vlt	alc/w	25°C	100%	C		K1=2.59	1987CBd (75926)	4831
Medium: methanol, 0.10 M Et4NI or Bu4NClO4. Method: polarography.									
Additional method conductivity in methanol: K1=2.32.									

\*\*\*\*\*  
C10H20S4 L 14-Ane-S4 CAS 24194-61-4 (175)  
1,4,8,11-Tetrathiacycloclotetradecane; cyclo(-(S.CH2.CH2)2.CH2.(S.CH2.CH2)2.CH2-)  
-----

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	kin	non-aq	25°C	100%	U		K1=1.52	2000KGB (76153)	4832
Medium: acetonitrile, 0.15 M NaClO4.									

\*\*\*\*\*  
C10H21NO HL (3331)  
3-Methyl-3-n-pentylaminobutan-2-one oxime  
-----

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++ gl oth/un 24°C 0.27M U 1958MUa (76166)4833

K(NiL2+H)=8.5

\*\*\*\*\*

C10H21NO3 L (6568)

Trans-1-(bis(2-hydroxyethyl)amino)-2-hydroxycyclohexane;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaNO3 25°C 0.10M C K1=3.60 1991DCa (76170)4834

K(NiL+OH)=5.06

\*\*\*\*\*

C10H21N5O2 L CAS 76201-29-1 (1611)

1,4,7,10,13-Pentaazacyclopentadecane-2,6-dione;  
cyclo(-CO.CH2.NH.CH2.CO.NH(CH2.CH2.NH)3-)

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.10M C K1=5.4 1997SDc (76202)4835

B(NiH2L)=17.1

B(NiHL)=13.2

B(NiH-1L)=-2.1

B(NiH-2L)=-10.2

\*\*\*\*\*

C10H21N11 L (7006)

1,7-Di(2-(5-tetraazolyl)ethyl)-1,4,7-triazaheptane;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaNO3 20°C 0.10M U K1=19.00 1981ESa (76207)4836

\*\*\*\*\*

C10H22N2 L CAS 77037-98-0 (3900)

1-(Cyclohexylamino)-2-methyl-2-propylamine;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KCl 20°C 0.10M U K1=0 B2=9.60 1965TSc (76218)4837

K3=3.9

\*\*\*\*\*

C10H22N2O5S2 L CAS 40236-04-2 (2343)

1-Oxa-4,13-diaza-7,10-dithiacyclopentadecane;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaClO4 25°C 0.10M U H K1=7.98 1979ASb (76225)4838

Also DH values

-----  
Ni++ gl NaClO4 25°C 0.10M U K1=8.06 1977LAa (76226)4839  
-----

Ni++ gl NaClO4 25°C 0.10M U K1=7.98 1975ASc (76227)4840

\*\*\*\*\*



C10H22N2OS2 L CAS 40236-30-4 (5395)  
1-Oxa-4,13-dithia-7,10-diazacyclopentadecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++	gl	NaClO4	25°C	0.10M	U	H	K1=8.06	1979ASb (76247)	4841
------	----	--------	------	-------	---	---	---------	-----------------	------

Also DH values

C10H22N2O3 L CAS 60350-17-6 (2471)

1,4,7-Trioxa-10,13-diazacyclopentadecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++	gl	R4N.X	25°C	0.10M	C		K1=5.05	1983LCa (76256)	4842
------	----	-------	------	-------	---	--	---------	-----------------	------

C10H22N2O3 L Cryptand 2,1 CAS 31249-95-3 (835)

4,7,13-Trioxa-1,10-diazacyclopentadecane (Trioxa(2,1)cryptand);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++	cal	non-aq	25°C	100%	C	H	K1=>5	1999SBe (76270)	4843
------	-----	--------	------	------	---	---	-------	-----------------	------

Medium: acetonitrile. DH(K1)=-49.7 kJ mol-1.

Ni++	gl	R4N.X	25°C	0.05M	C		K1=3.3	1997BCc (76271)	4844
------	----	-------	------	-------	---	--	--------	-----------------	------

Medium: 0.05 M Me4NClO4

Ni++	cal	alc/w	25°C	100%	U	H	K1=4.90	1985BUd (76272)	4845
------	-----	-------	------	------	---	---	---------	-----------------	------

Medium: MeOH, 0.05 M Et4N.NO3. DH=+23.8 kJ mol-1

Ni++	gl	R4N.X	25°C	0.10M	C		K1=4.05	1983LCa (76273)	4846
------	----	-------	------	-------	---	--	---------	-----------------	------

Ni++	gl	R4N.X	25°C	0.10M	C		K1=3.73	1977ASc (76274)	4847
------	----	-------	------	-------	---	--	---------	-----------------	------

C10H22N4 L CAS 82413-08-9 (6153)

1,4,7,10-Tetraaza-bicyclo[8.2.2]tetradecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++	gl	NaNO3	25°C	0.10M	U		K1=14.1	1988HDa (76381)	4848
------	----	-------	------	-------	---	--	---------	-----------------	------

Ni++	gl	NaNO3	25°C	0.10M	U		K1=14.3	1987HEa (76382)	4849
------	----	-------	------	-------	---	--	---------	-----------------	------

C10H22N4O L CAS 85828-26-8 (5498)

1,4,8,11-Tetraazacyclotetradecane-5-one;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++	gl	NaClO4	25°C	0.10M	C			1985HPa (76399)	4850
------	----	--------	------	-------	---	--	--	-----------------	------

B(NiH-1L)=3.90

Ni++ gl NaClO4 25°C 0.10M C 1985HPa (76400)4851  
B(NiH-1L)=3.90

Ni++ gl NaClO4 35°C 0.20M U 1984KKc (76401)4852  
B(NiH-1L)=4.00

\*\*\*\*\*  
C10H22N4O4 H2L (1878)  
1,8-Diamino-3,6-diazaoctane-3,6-diethanoic acid;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.10M C K1=19.95 1981CDa (76424)4853  
K(Ni+H2L)=9.59  
K(Ni+HL)=15.57

\*\*\*\*\*  
C10H23N3O L (6453)  
1-Oxa-4,8,12-triazacyclotetradecane;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KCl 25°C 0.10M C K1=11.79 1996JLb (76501)4854

Ni++ gl KNO3 25°C 0.10M U K1=9.7 1991ACa (76502)4855  
B(NiHL)=16.67  
B(NiH-2L)=-5.9  
K(NiL+20H)=12.04

\*\*\*\*\*  
C10H23N3O2 L CAS 60350-18-7 (5875)  
1,4-Dioxa-7,10,13-triazacyclopentadecane;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.10M C K1=9.26 1994CDa (76515)4856

Ni++ gl NaNO3 25°C 0.10M C K1=8.93 1989HBa (76516)4857

\*\*\*\*\*  
C10H24N2 L CAS 3529-09-7 (3314)  
N,N'-Di-n-butylethylenediamine; (CH3.CH2.CH2.CH2.NH.CH2)2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.50M U K1=5.42 1954BMa (76543)4858

\*\*\*\*\*  
C10H24N2O2S2 L CAS 68704-79-0 (1787)  
8-Oxa-2,14-diaza-5,11-dithiapentadecane;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaClO4 25°C 0.10M U H K1=4.78 1979ASb (76550)4859  
B(NiHL)=7.96

Also DH values

-----  
Ni++ gl NaClO4 25°C 0.10M U K1=4.92 B2=8.43 1975ASb (76551)4860

\*\*\*\*\*

C10H24N2O2 L Ethambutol CAS 36697-71-9 (1403)

R-2,2'-(1,2-Ethandiyldiimino)-bis-1-butanol;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

-----  
Ni++ gl NaClO4 25°C 0.10M U T H K1=5.92 1990BPb (76569)4861

\*\*\*\*\*

C10H24N2O4 L CAS 140-07-8 (2669)

N,N,N',N'-Tetra(2-hydroxyethyl)diaminoethane; ((HO.CH2.CH2)2N.CH2- )2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

-----  
Ni++ gl NaClO4 25°C 0.30M C I K1=6.91 19760Aa (76579)4862

B(NiH-1L)=-2.26

B(NiH-2L)=-13.0

B(Ni2H-3L)=12.02

B(NiL(OH))=-9.15

-----  
Ni++ sp NaClO4 25°C 0.10M U K1=6.5 1969RTa (76580)4863

By Kinetics : K1=6.5

-----  
Ni++ gl KNO3 25°C 0.50M U K1=6.50 1964PGa (76581)4864

K(NiH-1L+H)=9.07

-----  
Ni++ gl oth/un 25°C 0.50M U K1=6.27 1960HDa (76582)4865

\*\*\*\*\*

C10H24N4 L CAS 70072-63-8 (286)

1,4,7,10-Tetraazacyclotetradecane;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

-----  
Ni++ gl KNO3 25°C 0.50M C H K1=14.81 1983MPb (76602)4866

B(NiHL)=19.3

K(Ni+HL)=8.32

DH(K1)=-53.5 kJ mol<sup>-1</sup>.

-----  
Ni++ sp NaClO4 25°C 0.10M U H 1983SNb (76603)4867

K(NiL+2H2O=NiL(H2O)2)=-0.19

DH= -20 kJ mol<sup>-1</sup>, DS=-71 J K<sup>-1</sup> m<sup>-1</sup>. K from the temperature dependence of the absorption spectra ; four-coordinate = six-coordinate equilibria

-----  
Ni++ cal KNO3 25°C 0.50M C H 1982MPa (76604)4868

DH(K1)=-53.6 kJ mol<sup>-1</sup> (High spin), -36.4 (Low spin)

\*\*\*\*\*

C10H24N4 L iso-Cyclam CAS 52877-36-8 (142)

1,4,7,11-Tetraazacyclotetradecane; cyclo(-(HNCH2.CH2)3.CH2.NH.CH2.CH2.CH2-)

```

-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      sp  none   15°C    0  U T H                      1995HKa (76610)4869
                                K(NiL+2H2O=NiL(OH2)2)=0.173
DH=-22.6 kJ mol-1, DS=-74 J K-1 mol-1. At 22 C: K=0.079; at 29 C: K=0.0;
at 36 C: K=-0.091; at 44 C: K=-0.215; at 51 C: K=-0.284; at 60 C: K=-0.377
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```

```

Ni++      cal KCl   25°C   1.0M C  H                      1980FMb (76611)4870
DH1=-69.0 kJ mol-1, Data also for high and low spin forms.
*****
C10H24N4      L      Cyclam      CAS 295-37-4 (8)
1,4,8,11-Tetraazacyclotetradecane; cyclo(-(HN.CH2.CH2.NH.(CH2)3)2-)
-----

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```

Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      kin NaClO4 22°C  0.10M C  M                      1995KMc (76639)4871
                                K(NiL+H)=1.8
                                K(NiL+CO2)=1.21
Metal is Ni(I). Method: pulse radiolysis and laser flash photolysis.
-----

```

```

Ni++      gl  KNO3   25°C  0.10M C  HM                      1990BBc (76640)4872
                                K(cis-NiL+oxalate)=4.47
DH=-10.9 kJ mol-1, DS=14.6 J K-1 mol-1, DG=-25.5 kJ mol-1.
Data also for trans- and square-NiL+oxalate.
-----

```

```

Ni++      sp  NaCl   25°C  0.50M U                      K1=20.1      1989EHb (76641)4873
From spectroscopic results: K1= 19.9; from potentiometric results: K1= 20.3
-----

```

```

Ni++      sp  NaClO4 25°C  0.10M C T H                      1977AFb (76642)4874
                                K(NiL(H2O)2=NiL+2H2O)=0.39
From data for 19-49 C, DH(K)=23 kJ mol-1, DS(K)=84 J K-1 mol-1.
-----

```

```

Ni++      sp  KCl    25°C  0.10M U  H      K1=22.2      1974HMb (76643)4875
DH=-129.9 kJ mol-1 and DS=-8.4 J K-1 mol-1.
-----

```

```

C10H24N4      L                      (4712)
1,4-Bis(3-aminopropyl)-1,4-diazacyclohexane, 1,4-Bis(3-aminopropyl)-piperazine;
-----

```

```

Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl  NaClO4 25°C  7.00M C                      K1=10.84     2004BBb (76682)4876
-----

```

```

Ni++      gl  NaNO3  25°C  0.10M U                      K1=5.45     1990HNa (76683)4877
*****

```

```

C10H24N4      L                      CAS 91135-29-4 (6516)
1,5-Bis(2-aminoethyl)-1,5-diazacyclooctane; NH2.CH2CH2.N(CH2CH2CH2)2N.CH2CH2.NH2
-----

```

```

Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----

```

Ni++ gl NaNO3 25°C 0.10M U K1=15.60 1990HNa (76688)4878  
\*\*\*\*\*

C10H24N4 L CAS 90281-17-7 (722)  
1,7-Dimethyl-1,4,7,10-tetraazacyclododecane;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.10M C HM 1990BBc (76694)4879  
K(NiL+oxalate)=4.17

DH=-12.13 kJ mol<sup>-1</sup>, DS=9.40 J K<sup>-1</sup> mol<sup>-1</sup>, DG=-23.8 kJ mol<sup>-1</sup>

\*\*\*\*\*

C10H24N4O L (7051)  
1-Oxa-4,7,10,13-tetraazacyclopentadecane;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.10M C K1=14.76 1994CDa (76703)4880  
K(NiLOH+H)=8.34

-----  
Ni++ gl NaNO3 25°C 0.10M U K1=13.33 1990Hwa (76704)4881  
\*\*\*\*\*

C10H25N5 L 15-Ane-N5 CAS 295-64-7 (99)  
1,4,7,10,13-Pentaazacyclopentadecane; cyclo(-(HN.CH2.CH2)5-)

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ cal oth/un 25°C ? U H 1981Fma (76726)4882  
DH(K1)=-67.4 kJ mol<sup>-1</sup>

\*\*\*\*\*

C10H26N2O12P4 H8L CAS 28698-30-8 (3342)  
N,N,N',N'-Tetra(phosphomethyl)cyclohexane-1,2-diamine;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ sp oth/un 25°C 0.10M U K1=3.94 1959BYa (76751)4883  
\*\*\*\*\*

C10H26N4 L Spermine CAS 71-44-3 (291)  
4,9-Diazadodecane-1,12-diamine; (H2N.CH2.CH2.CH2.NH.CH2.CH2.)2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 20°C 0.10M C M K1=7.42 B2=10.87 2002GLc (76786)4884  
B(NiH3L)=33.19  
B(NiH2L)=24.77  
B(NiAH4L)=45.97  
B(NiAH2L)=28.66

H2A is adenosine-5'-monophosphoric acid.

-----  
Ni++ gl KNO3 20°C 0.10M C M 2002GLc (76787)4885  
K(Ni+H2L)=3.49

K(NiA+H2L)=4.31

K(NiA+H4L)=4.23

H2A is adenosine-5'-monophosphoric acid.

\*\*\*\*\*

C10H26N4S4 L CAS 55677-43-5 (1178)

1,1,2,2-Tetramercaptoethylamine-ethane; (CH(S.CH2.CH2.NH2)2)2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaClO4 25°C 0.10M U 1976CJa (76812)4886

K(Ni+H2L)=5.18

\*\*\*\*\*

C10H28N2O12P4 H8L CAS 23605-74-5 (435)

(Hexamethylenedinitrilo)tetra(methylenephosphonic acid);

(CH2.CH2.CH2.N(CH2.PO3H2)2)2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl KNO3 25°C 0.10M U K1=5.40 1980ZRb (76835)4887

K(NiL+H)=9.52

K(NiHL+H)=7.58

K(NiH2L+H)=6.25

K(NiH3L+H)=5.61

\*\*\*\*\*

C10H28N6 L PENTEN CAS 4097-90-9 (3315)

N,N,N',N'-Tetra-(2-aminoethyl)diaminoethane;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ cal KNO3 25°C 0.10M U H K1=19.16 1971PWa (76857)4888

K(Ni+HL)=15.68

K(NiL+H)=6.62

K(NiHL+L=NiL+HL)=3.49

DH(K1)=-82.13 kJ mol-1, DS=89.87 J K-1 mol-1; DH(Ni+HL)=-76.7, DS=41.8;

DH(NiL+H)=-41.8, DS=-13.79; DH(NiHL+L=NiL+HL)=-5.43, DS=48.07

-----  
Ni++ cal KCl 25°C 0.10M U H K1=19.05 1964SPb (76858)4889

B(NiHL)=15.65

K calculated. By calorimetry: DH(K1)=-82.3 kJ mol-1, DS=92.0 J K-1 mol-1;

DH(NiHL)=-76.7, DS=41.8

-----  
Ni++ gl KCl 20°C 0.10M U K1=19.30 1953SMa (76859)4890

K(Ni+HL)=15.85

K(Ni+H2L)=10.0

K(NiL+H)=6.75

\*\*\*\*\*

C11H7NO4 H2L CAS 122844-38-6 (8293)

1-Hydroxy-4-nitroso-2-naphthalenecarboxylic acid;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

-----  
Ni++ gl alc/w RT 40% M K1=4.41 B2= 8.36 1993RAb (76890)4891  
Medium: 40% v/v EtOH/H2O, 0.1 M NaClO4.

\*\*\*\*\*

C11H7N04 H2L CAS 32446-26-7 (8294)  
3-Hydroxy-4-nitroso-2-naphthalenecarboxylic acid;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl alc/w RT 40% M K1=7.66 B2=11.93 1993RAb (76898)4892  
Medium: 40% v/v EtOH/H2O, 0.1 M NaClO4.

\*\*\*\*\*

C11H8N20 L Dipyrldylketone CAS 19437-26-4 (1151)  
2,2'-Carbonyldipyridine; C5H4N.CO.C5H4N

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl NaClO4 25°C 0.10M U K1=3.98 1975FSb (76915)4893  
K(NiH-1L+H)=6.34

\*\*\*\*\*

C11H8N60 HL (7009)  
1-(5-Tetrazolyl)azo-2-naphthol;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ sp NaClO4 20°C 0.10M U K1=10.48 B2=30.65 1978SSf (76923)4894

\*\*\*\*\*

C11H8N607S2 H4L CAS 35322-95-7 (909)  
3-Hydroxy-4-(1H-tetrazol-5-ylazo)-2,7-naphthalenedisulfonic acid;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ sp NaClO4 25°C 0.10M M K1=10.7 B2=17.40 1977FBa (76934)4895

\*\*\*\*\*

C11H8N608S2 H5L CAS 74385-48-1 (897)  
2-(1H-Tetrazol-5-ylazo)chromotropic acid;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ sp NaClO4 25°C 0.10M U 1984PSb (76946)4896

K(Ni+HL)=7.42

K(Ni+2HL)=12.20

\*\*\*\*\*

C11H802 HL CAS 3144-47-6 (3344)  
3,4-Benzotropolone;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl diox/w 30°C 50% U K1=7.8 B2=14.1 1954BFc (76971)4897  
K3=3.7

\*\*\*\*\*

C11H8O2 HL (3345)  
4,5-Benzotropolone;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl diox/w 30°C 50% U K1=7.8 B2=14.0 1954BFc (76976)4898  
\*\*\*\*\*

C11H8O2S2 HL CAS 1138-14-3 (3352)  
Di-2-thenoylmethane; C4H3S.CO.CH2.CO.C4H3S

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ sp mixed 25°C 30% U B2=11.4 1965CAa (76982)4899  
Medium: 30% THF, 1 M NaClO4

-----  
Ni++ gl diox/w 30°C 75% U K1=9.93 B2=19.16 1953UFe (76983)4900  
\*\*\*\*\*

C11H8O3 H2L CAS 86-48-6 (1129)  
1-Hydroxy-2-naphthoic acid;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl alc/w RT 40% M K1=10.65 B2=16.94 1993RAb (76998)4901  
Medium: 40% v/v EtOH/H2O, 0.1 M NaClO4.

-----  
Ni++ gl alc/w 25°C 50% U M K1=6.99 1980DCa (76999)4902  
K(Ni(phen)+L)=6.59

-----  
Ni++ gl KNO3 25°C 0.10M M K1=6.99 1980DCb (77000)4903  
K(Ni(NTA)+L)=3.68

\*\*\*\*\*

C11H8O3 H2L CAS 2083-08-1 (1131)  
2-Hydroxy-1-naphthoic acid;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl alc/w 25°C 50% U M K1=6.96 1980DCa (77055)4904  
K(Ni(phen)+L)=6.17

-----  
Ni++ gl KNO3 25°C 0.10M M K1=6.96 1980DCb (77056)4905  
K(Ni(NTA)+L)=3.40

\*\*\*\*\*

C11H8O3 HL CAS 483-35-6 (3347)  
2-Hydroxy-3-methyl-1,4-naphthoquinone;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ni++ gl diox/w 30°C 75% U K1=6.46 B2=12.07 1960KFc (77071)4906  
\*\*\*\*\*



C11H8O3                      H2L                      CAS 92-70-6 (1130)  
2-Hydroxy-3-naphthoic acid (3-Hydroxy-2-naphthoic acid);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	alc/w	RT	40%	M			K1=11.23 B2=18.21	1993RAb	(77101)4907
Medium: 40% v/v EtOH/H2O, 0.1 M NaClO4.										

Ni++	gl	diox/w	25°C	50%	C			K1=7.07	1987CFb	(77102)4908
In 50% dioxan/H2O; 0.2 M KNO3.										

Ni++	gl	diox/w	20°C	50%	M	TIH		K1=7.20 B2=13.65	1978SKk	(77103)4909
Medium: 50% v/v dioxane/H2O, 0.1 M KNO3. Data for 20-40 C and for 0.05-0.20 M KNO3. DH and DS values reported. At I=0 and 30 C, K1=7.03, K2=8.82.										

\*\*\*\*\*

C11H8O3                      HL                      Plumbagin                      CAS 81402-06-4 (882)  
6-Hydroxy-2-methyl-1,4-naphthoquinone;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	alc/w	30°C	50%	U			K1=6.02 B2=10.96	1981RRc	(77143)4910

\*\*\*\*\*

C11H8O3S                      HL                      CAS 32267-05-3 (3353)  
2-Furoyl-2-thenoylmethane; C4H3O.CO.CH2.CO.C4H3S

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	diox/w	30°C	75%	U			K1=10.20 B2=19.16	1953UFe	(77150)4911

\*\*\*\*\*

C11H8O4                      HL                      CAS 7555-37-5 (4812)  
3-Acetyl-4-hydroxycoumarin

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	diox/w	35°C	50%	U			K1=2.72 B2=4.82	1971MAa	(77164)4912
Medium: 50% dioxan, 0.01 M NaClO4										

\*\*\*\*\*

C11H8O4                      HL                      CAS 6724-42-1 (6183)  
8-Formyl-7-hydroxy-4-methyl-2H-1-benzopyran-2-one; CH0.C9H3O(:O)(CH3)(OH)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	alc/w	35°C	70%	U	M		K1=5.15 B2=8.54	1984CEa	(77193)4913
								K(Ni(bpy)+L)=4.90		
								K(Ni(phen)+L)=4.70		

\*\*\*\*\*

C11H9N                      L                      CAS 1008-89-5 (3934)  
2-Phenylpyridine; C6H5.C5H4N

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

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-----
Ni++      gl  NaClO4 25°C 0.10M U      K1=<1      1964KSb (77301)4914
*****
C11H9N          L      Phenylpyridine  CAS 939-23-1 (2794)
4-Phenylpyridine; C6H5.C5H4N
-----

```

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      sp  alc/w 25°C 100% U      K1=2.8      1980CKc (77307)4915
Medium: EtOH. In MeOH: K1=1.9; n-PrOH: 3.1; iso-PrOH: 3.9
*****
C11H9NO          HL          CAS 21783-68-0 (3354)
2-(2'-Hydroxyphenyl)pyridine; HO.C6H4.C5H4N
-----

```

```

-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl  oth/un 20°C 0.01M U      K1=6.1      1956ARb (77309)4916
*****
C11H9NO          HL      2-Vinyl-oxine  CAS 35385-32-1 (1707)
2-Vinyl-8-hydroxyquinoline;
-----

```

```

-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl  diox/w 25°C 50% U      K1=7.67  B2=16.22  1984YAa (77312)4917
*****
C11H9NO2          HL          CAS 92609-55-3 (4827)
5-Acetyl-8-hydroxyquinoline;
-----

```

```

-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl  diox/w 25°C 60% U      K1=9.91  B2=19.15  1973SCd (77322)4918
Medium: 60% dioxan, 0.1 M NaClO4
*****
C11H9NO2S          HL          CAS 29556-13-6 (1450)
N-Phenyl-2-thenoylhydroxamic acid; C4H3SCON(C6H5)OH
-----

```

```

-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl  diox/w 25°C 50% U      M  K1=5.02  B2=11.03  1984ABb (77340)4919
                                B(NiL(bpy))=14.00
                                B(NiL(phen))=15.98
-----

```

```

-----
Ni++      gl  NaClO4 25°C 0.10M U      K1=6.32  B2=11.31  1975BLa (77341)4920
*****
C11H9NO3          H2L          CAS 80690-05-7 (872)
3-Hydroxy-2-methyl-1,4-naphthoquinone monoxime;
-----

```

```

-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ni++      gl  diox/w 30°C 0.10M U      B2=13.54      1981KSa (77358)4921
-----

```

K3=6.34

\*\*\*\*\*

C11H9NO3                      H2L                      CAS 35975-56-5 (16)  
Methyl-8-hydroxyquinoline-2-carboxylic acid;

-----  
Metal            Mtd Medium Temp Conc Cal Flags Lg K values            Reference ExptNo  
-----

Ni++            sp   NaClO4 25°C 0.10M U            K1=5.77            1977HCa (77368)4922  
Using kinetic methods, K1=5.72

\*\*\*\*\*

C11H9NO3                      HL                      CAS 1137-48-0 (1449)  
N-Phenyl-2-furylhydroxamic acid; C4H3O.CO.N(C6H5).OH

-----  
Metal            Mtd Medium Temp Conc Cal Flags Lg K values            Reference ExptNo  
-----

Ni++            gl   diox/w 25°C    ?   M T HM    K1=5.92    B2=10.93    1988ABa (77381)4923  
K(Ni(phen)+L)=6.01  
K(NiL+NiA=NiLA+Ni)=0.09  
K(NiL2+NiA2=2NiLA)=1.42

Data also given for ternary complexes with many substituted furohydroxamic acids with 1,10-phenanthroline (A)

-----  
Ni++            gl   diox/w 25°C    50%   U       M    K1=5.86    B2=10.83    1984ABb (77382)4924  
B(NiL(bpy))=13.84  
B(NiL(phen))=15.83  
-----

Ni++            gl   NaClO4 25°C 0.10M U            K1=6.25    B2=11.78    1975BLa (77383)4925

\*\*\*\*\*

C11H9NO3S2                      HL                      (939)  
2-(Thiophene-2'-aldimino)benzene sulfonic acid; C4H3S.CH:N.C6H4.SO3H

-----  
Metal            Mtd Medium Temp Conc Cal Flags Lg K values            Reference ExptNo  
-----

Ni++            gl   NaClO4 25°C 0.10M U            K1=4.47    B2=7.70    1982MSa (77397)4926

\*\*\*\*\*

C11H9NO4                      H2L                      CAS 4321-82-7 (4829)  
3-Acetyl-4-hydroxycoumarin oxime;

-----  
Metal            Mtd Medium Temp Conc Cal Flags Lg K values            Reference ExptNo  
-----

Ni++            gl   diox/w 35°C    50%   U                      1971MAa (77406)4927  
K(Ni+HL)=7.89  
K(Ni+2HL)=15.94

Medium: 50% dioxan, 0.01 M NaClO4

\*\*\*\*\*

C11H9NO4                      HL                      CAS 65490-35-9 (6230)  
8-Formyl-7-hydroxy-4-methyl-2H-[1]benzopyran-2-one-oxime; (CH3)(OH)C9H3O(:O)CH:NOH

-----  
Metal            Mtd Medium Temp Conc Cal Flags Lg K values            Reference ExptNo  
-----

Ni++ gl alc/w 35°C 70% U K1=7.45 B2=13.11 1984CEa (77434)4928  
\*\*\*\*\*

C11H9N2O2F3S HL CAS 33354-16-4 (1681)  
2-Methyl-8-(Trifluoromethanesulfonamido)quinoline;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ gl diox/w 30°C 75% U K1=6.3 B2=11.8 1984NYa (77441)4929  
\*\*\*\*\*

C11H9N3O HL CAS 10335-29-2 (3937)  
2-(2'-Pyridylazo)phenol; C5H4N.N:N.C6H4.OH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ sp alc/w 20°C 50% U B2=22.8 1967ANa (77450)4930  
Medium: 50% MeOH, 0.1 M NaClO4

\*\*\*\*\*  
C11H9N3O HL CAS 7687-72-1 (3938)  
4-(2'-Pyridylazo)phenol; C5H4N.N:N.C6H4.OH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ sp alc/w 24°C 5% U B2=8.95 1973BJb (77467)4931  
K(NiL2+OH)=4.58

Medium: 5% EtOH, 0.1 M NaClO4

-----  
Ni++ gl alc/w 25°C 50% U K1=5.0 B2=9.50 1967ANa (77468)4932  
Medium: 50% MeOH, 0.1 M NaClO4

\*\*\*\*\*  
C11H9N3O2 H2L PAR CAS 1141-59-9 (636)  
4-(2'-Pyridylazo)-1,3-dihydroxybenzene; C5H4N.N:N.C6H3(OH)2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Ni++ sp alc/w 25°C 30% U K1=13.61 1987LSb (77504)4933  
B(NiHL)=20.46

Medium: 30% v/v EtOH/H2O, 0.1 M KNO3

-----  
Ni++ vlt oth/un 25°C ? U B2=9.58 1986HSa (77505)4934

-----  
Ni++ sp NaNO3 25°C 0.10M U K1=14.05 1986OHa (77506)4935  
K(Ni+HL)=7.70

-----  
Ni++ sp NaNO3 ? 0.10M U 1970NEa (77507)4936  
K(Ni+HL+2L)=25.1 at pH 8

-----  
Ni++ gl diox/w 25°C 50% U 1962CYa (77508)4937  
K(Ni+HL)=13.2  
K(NiHL+HL)=12.8  
K(NiL+H)=7.7

K(NiOHL+H)=9.2

\*\*\*\*\*

C11H9N3O4                      H2L                      CAS 82628-26-0 (1379)  
1-(2-Tolyl)violuric acid;

-----  
Metal            Mtd Medium Temp Conc Cal Flags Lg K values            Reference ExptNo  
-----  
Ni++            gl   alc/w   18°C   50%   U T            K1=6.10   B2=10.68   1982SGa (77618)4938  
Medium: 50% v/v EtOH/H2O, 0.1 M NaClO4

\*\*\*\*\*

C11H9N3O4                      H2L                      CAS 82628-27-1 (1378)  
1-(3-Tolyl)violuric acid;

-----  
Metal            Mtd Medium Temp Conc Cal Flags Lg K values            Reference ExptNo  
-----  
Ni++            gl   alc/w   18°C   50%   U T            K1=6.30   B2=11.02   1982SGa (77625)4939  
Medium: 50% v/v EtOH/H2O, 0.1 M NaClO4

\*\*\*\*\*

C11H9N3O4                      H2L                      CAS 82628-25-9 (1377)  
1-(4-Tolyl)violuric acid;

-----  
Metal            Mtd Medium Temp Conc Cal Flags Lg K values            Reference ExptNo  
-----  
Ni++            gl   alc/w   18°C   50%   U T            K1=6.64   B2=11.54   1982SGa (77632)4940  
Medium: 50% v/v EtOH/H2O, 0.1 M NaClO4

\*\*\*\*\*

C11H9N3O5S                      HL                      (6249)  
1,2-Naphthoquinone-4-sulfonic acid 2-semicarbazone; C10H5(:O)(HSO3):N.NH.CO.NH2

-----  
Metal            Mtd Medium Temp Conc Cal Flags Lg K values            Reference ExptNo  
-----  
Ni++            gl   NaClO4   28°C   0.10M   U T H            K1=4.87   B2=9.42   1980MGd (77638)4941  
\*\*\*\*\*

C11H10N2                      L                      CAS 1132-37-2 (2427)  
(2,2'-Dipyridyl)methane; C5H4N.CH2.C5H4N

-----  
Metal            Mtd Medium Temp Conc Cal Flags Lg K values            Reference ExptNo  
-----  
Ni++            gl   KCl       25°C   0.20M   C            K1=4.72   B2= 9.57   20010Va (77649)4942  
B(NiH-1L)=-3.57  
B(NiHL)=7.63

-----  
Ni++            gl   NaClO4   25°C   0.10M   C            M            1979FSa (77650)4943  
B(NiL(pyrocatecholate))=14.34  
K(NiL+pyrocatecholate)=9.32  
K(Ni(pyrocatecholate)+L)=5.45

-----  
Ni++            gl   KNO3     20°C   0.10M   U            K1=5.02   B2=9.17   1970BAa (77651)4944

\*\*\*\*\*

C11H10N2O                      L                      (7591)

4'-(Imidazol-1-yl)acetophenone;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	NaNO3	25°C	0.50M	M			K1=2.60	1998KSa (77662)	4945
*****										
C11H10N2O2		HL						CAS 75793-37-6	(1669)	
N-(8-Quinolyl)aminoethanoic acid;										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	NaClO4	25°C	0.10M	U			K1=3.8 B2=7.70	1969TKa (77675)	4946
*****										
C11H10N3OClS		HL						(1294)		
2-(4',5'-Dimethyl-2'-thiazolylazo)-4-chlorophenol;										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	diox/w	25°C	60%	U			K1=8.25 B2=17.09	1981KTa (77686)	4947
*****										
C11H10N4		L PAPHY						CAS 2215-33-0	(1305)	
Pyridine-2-aldehyde-2'-pyridyl-hydrazone; C5H4N.CH:N.NH.C5H4N										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	oth/un	25°C	0.0	U			B2=32	1964GHd (77698)	4948
K(Ni+HL)=8.3										
K(Ni+2HL)=18.5										
K(NiHL2+H)=7.37										
K(NiL2+H)=8.50										

By spectrophotometry: K(NiHL2+H)=7.42, K(NiL2+H)=8.61

\*\*\*\*\*

C11H10N4O		HL						(3939)		
3-(2'-Hydroxyphenyl)-1-(pyrimidin-2''-yl)-1,2-diazaprop-2-ene;										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	alc/w	25°C	50%	U			K1=10.7 B2=18.80	1967And (77713)	4949
Medium: 50% MeOH, 0.1 M NaClO4										
*****										
C11H10N4O2S		L						(6353)		
1-Cyanoacetyl-4-benzoylthiosemicarbazide; C6H5.CS.NH.NH.CO.NH.CO.CH2.CN										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ni++	gl	alc/w	25°C	70%	C			K1=12.16 B2=19.50	1982SDa (77719)	4950
In 70% ethanol/H2O; Electrolyte: 0.1 M KCl										
*****										
C11H10N4O3		HL						CAS 92265-24-2	(6211)	
5-(2'-Methylphenylazo)barbituric acid;										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	25°C	75%	U		K1=4.26 B2=8.17	1986MIa (77724)	4951
*****									
C11H10N4O4		HL					CAS 92265-26-4	(6210)	
5-(2'-Methoxyphenylazo)barbituric acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	25°C	75%	U		K1=6.52 B2=11.48	1986MIa (77738)	4952
*****									
C11H10N4O5S2		H2L					CAS 83767-79-7	(558)	
2-(2'-Thiazolylazo)-5-sulfomethylaminobenzoic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	sp	KNO3	25°C	0.10M	U		K1=4.8	1979IWa (77754)	4953
*****									
C11H11NO		HL					CAS 39892-35-8	(3940)	
2-Ethyl-8-hydroxyquinoline;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	oth/un	25°C	0.0	U		K1=9.35 B2=18.26	1966KUc (77762)	4954
*****									
C11H11NO2		HL					CAS 830-96-6	(892)	
Indole-3-propanoic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	25°C	50%	U		K1=3.18 B2=5.58	1981SKc (77777)	4955
*****									
C11H11NO4		HL					CAS 32345-47-4	(6227)	
4-Methoxymaleanilic acid; HOOC.CH:CH.CO.NH.C6H4.OCH3									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	alc/w	22°C	80%	U T H		K1=7.85 B2=14.30	1985SAb (77784)	4956
30 C: K1= 7.70, K2=6.35; 40 C: K1= 7.55, K2=6.30									
DH(K1)=-25.1 kJ mol <sup>-1</sup> , DS=62 J K <sup>-1</sup> mol <sup>-1</sup> ; DH(K2)=-14.2, DS=77									
*****									
C11H11NO6		H3L					CAS 1147-65-5	(425)	
N-(2'-Carboxyphenyl)iminodiethanoic acid; HOOC.C6H4.N(CH2.COOH)2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	KNO3	25°C	0.10M	C	M	K1=9.48	1990DAb (77801)	4957
							K(NiL+A)=4.39		

B(NiLA)=13.87

H2A: salicylaldehyde

Ni++ gl KNO3 25°C 0.10M C M K1=9.48 1990DAc (77802)4958  
K(NiL+A)=3.65  
B(NiAL)=13.13

HL: benzohydroxamic acid

Ni++ gl KNO3 25°C 0.10M U K1=9.48 1983FSa (77803)4959

Ni++ vlt KNO3 25°C 0.10M U K1=9.48 1967UKa (77804)4960

Ni++ gl KCl 22°C 0.10M U K1=9.6 1961UHa (77805)4961  
K(Ni+HL)=3.9

\*\*\*\*\*

C11H11NS HL CAS 54128-50-6 (1033)

2,7-Dimethyl-8-mercaptoquinoline;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
Ni++ gl non-aq 25°C 100% U K1=8.2 B2=14.2 1984UBa (77851)4962  
Medium: DMF, 0.1 M LiClO4. Similar data to reference UB83a

Ni++ EMF non-aq 25°C 100% U K1=8.2 B2=14.20 1983UBa (77852)4963  
Medium: DMF, 0.1 M LiClO4

\*\*\*\*\*

C11H11NS2 HL CAS 54487-80-8 (5694)

2-Methyl-(5-thiomethyl)-8-mercaptoquinoline;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
Ni++ EMF non-aq 25°C 100% U K1=7.3 B2=12.60 1986UBa (77863)4964  
Medium: dimethylformamide, LiClO4

\*\*\*\*\*

C11H11N2O2Br HL (9228)

3-[4-Bromophenylazo]penta-2,4-dione;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
Ni++ gl alc/w 25°C 0.1M U K1=7.67 2004GMc (77870)4965  
Medium: 0.1 mol/L KCl in 3:7 EtOH/H2O mixture

\*\*\*\*\*

C11H11N2O2Cl HL (9229)

3-[4-Chlorophenylazo]penta-2,4-dione;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
Ni++ gl alc/w 25°C 0.1M U K1=7.70 2004GMc (77882)4966  
Medium: 0.1 mol/L KCl in 3:7 EtOH/H2O mixture

\*\*\*\*\*



C11H11N2O2I HL (9227)  
3-[4-Iodophenylazo]penta-2,4-dione;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl alc/w 25°C 0.1M U K1=8.31 2004GMc (77893)4967  
Medium: 0.1 mol/L KCl in 3:7 EtOH/H2O mixture

C11H11N3O2 HL CAS 51451-00-4 (4831)  
3-Methyl-4-(2'-methylphenylazo)isoxazol-5-one;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl diox/w 30°C 75% U K1=4.07 B2=8.60 1971SYa (77907)4968  
\*\*\*\*\*

C11H11N3O2 HL CAS 16428-80-1 (4832)  
3-Methyl-4-(4'-methylphenylazo)isoxazol-5-one;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl diox/w 30°C 75% U K1=4.68 B2=9.59 1971SYa (77910)4969  
\*\*\*\*\*

C11H11N3O2S HL (4866)  
3-Methyl-4-(4'-methylthiophenylazo)isoxazol-5-one;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl diox/w 30°C 75% U K1=4.8 B2=9.74 1971SYa (77914)4970  
\*\*\*\*\*

C11H11N3O2S HL Sulfapyridine CAS 144-83-2 (8356)  
4-Amino-N-2-pyridinyl-benzenesulfonamide;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Ni++ gl alc/w 30°C 50% C M 1999MBc (77924)4971  
B(Ni(gly)L)=11.79

B(NiAL)=10.84

B(Ni(met)L)=9.70

B(NiH-1(gly)L)=3.61

In 50% v/v EtOH/H2O, 0.10 M NaNO3. B(NiH-2(gly)L)=-5.64; B(NiH-1AL)=2.84,  
B(NiH-2AL)=-6.16; B(NiH-1(met)L)=2.22, B(NiH-2(met)L)=-5.68. A: Beta-ala

Ni++ gl diox/w 30°C 50% U K1=3.96 B2= 7.48 1993MBc (77925)4972

\*K(NiL)=-8.18

\*K(NiL2)=-5.32

\*K(Ni(OH)L2)=-10.88

Medium: 50% v/v dioxane/H2O, 0.10 M NaNO3.

C11H11N3O3 HL CAS 51451-03-7 (4834)  
3-Methyl-4-(2'-methoxyphenylazo)isoxazol-5-one;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ni++	gl	diox/w	30°C	75%	U		K1=6.21 B2=11.88	1971SYa (77938)	4973
*****									
C11H11N3O3		HL					CAS 51451-04-8	(4835)	
3-Methyl-4-(4'-methoxyphenylazo)isoxazol-5-one;									
-----									
Ni++	gl	diox/w	30°C	75%	U		K1=4.55 B2=9.59	1971SYa (77943)	4974
*****									
C11H11N3O3S		L					CAS 67665-24-1	(8341)	
Furoin thiosemicarbazone;									
-----									
Ni++	gl	alc/w	30°C	50%	U T H		K1=10.11 B2=19.45	1991HRa (77947)	4975
Medium: 50% v/v EtOH/H2O, 0.1 M NaClO4. Data for 40 and 50 C.									
DH(K1)=-112 kJ mol <sup>-1</sup> , DS(K1)=177 J K <sup>-1</sup> mol <sup>-1</sup> ; DH(K2)=-137, DS(K2)=275.									
*****									
C11H11N3O4		HL					(9230)		
3-[4-Nitrophenylazo]penta-2,4-dione;									
-----									
Ni++	gl	alc/w	25°C	0.1M	U		K1=7.07	2004GMc (77953)	4976
Medium: 0.1 mol/L KCl in 3:7 EtOH/H2O mixture									
*****									
C11H12NOCl		L					CAS 50519-24-9	(3367)	
4-(4-Chlorophenylimino)pentan-2-one; CH3.CO.CH2.C(:N.C6H4.Cl).CH3									
-----									
Ni++	gl	alc/w	25°C	70%	U		K1=7.15	1992CGd (77976)	4977
Medium: 70% EtOH/H2O. For 4-fluoro K1=5.19; 4-bromo 7.18; 4-iodo 7.73									
-----									
Ni++	gl	diox/w	30°C	50%	U		K1=9.97 B2=17.10	1961MJa (77977)	4978
*****									
C11H12N2O		L			Antipyrine		CAS 60-80-0	(2026)	
2,3-Dimethyl-1-phenyl-3-pyrazolin-5-one, Phenazone;									
-----									
Ni++	gl	KNO3	25°C	0.50M	U		K1=0.72 B2=1.23	1980LWa (77999)	4979
B3=1.54									
*****									
C11H12N2O2		HL					CAS 103314-23-4	(6182)	
2-(N-2-Pyrrolidimino)benzoic acid; C4H7N:N.C6H4.COOH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ni++	gl	NaClO4	25°C	0.10M	U	TIH	B2=20.92	1988GRb (78011)	4980
------	----	--------	------	-------	---	-----	----------	-----------------	------

35 C:B2=21.05, 45 C:21.15. DH(B2)=20.9 kJ mol<sup>-1</sup>, DS=470.8 J K<sup>-1</sup> mol<sup>-1</sup>

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C11H12N2O2 HL Tryptophan CAS 73-22-3 (3)  
2-Amino-3-(3-indolyl)propanoic acid; H2N.CH(CH2.C8H6N)COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ni++	gl	KNO3	35°C	0.10M	C	M	K1=5.15 B(NiAL)=5.25	1999DSb (78119)	4981
------	----	------	------	-------	---	---	-------------------------	-----------------	------

A is thiamine hydrochloride.

Ni++	gl	KNO3	35°C	0.10M	C	M	K1=5.50 K(NiL+A)=5.21	1997PSb (78120)	4982
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H2A is thiamine orthophosphoric acid.

Ni++	gl	NaClO4	30°C	0.20M	U	M	K1=5.25 B2=9.96 B(NiL(HTyr))=10.13 B(NiL(Phe))=10.25 B(NiL(H2DOPA))=10.69	1990MBa (78121)	4983
------	----	--------	------	-------	---	---	--	-----------------	------

Ni++	gl	KNO3	35°C	0.10M	U		K1=5.37	1990RSe (78122)	4984
------	----	------	------	-------	---	--	---------	-----------------	------

Ni++	gl	KNO3	35°C	0.10M	U	M	K1=5.56 K(Ni(thiodipropoate)+L)=5.31	1989RSb (78123)	4985
------	----	------	------	-------	---	---	---	-----------------	------

Ni++	gl	KNO3	35°C	0.20M	U	M	K1=5.25 B2=9.70 K(NiA+L)=5.28	1989RVa (78124)	4986
------	----	------	------	-------	---	---	----------------------------------	-----------------	------

A=bis(imidazol-2-yl)methane

Ni++	gl	KNO3	25°C	0.20M	U	M	K1=5.50 K(Ni(bpy)+L)=5.89	1988BSc (78125)	4987
------	----	------	------	-------	---	---	------------------------------	-----------------	------

Ni++	gl	KNO3	25°C	0.10M	U	M	K1=5.47 B2=10.68	1988MBa (78126)	4988
------	----	------	------	-------	---	---	------------------	-----------------	------

Ni++	gl	KNO3	35°C	0.10M	C	M	K1=5.35 K(NiHA+L)=5.62 K(NiHB+L)=5.27	1983KSc (78127)	4989
------	----	------	------	-------	---	---	---	-----------------	------

A is adenine; HB is cytosine.

Ni++	vlt	NaClO4	25°C	0.10M	C		K1=7.2	1981KVb (78128)	4990
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Method: polarography. Medium pH 7.0

Ni++	gl	KNO3	25°C	0.10M	U	M	K1=5.48 B2=10.40 K3=3.83 B(NiL(ATP))=8.45 K(Ni(ATP)+L)=5.84 K(NiL+ATP)=2.97	19800Fa (78129)	4991
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Ni++	gl	NaNO3	25°C	1.0M	U	K1=5.47 B3=13.56	B2=10.09	1973BJd (78130)4992
-----								
Ni++	vlt	KNO3	25°C	0.10M	U	K1=3.0 B3=9.83	B2=7.18	1971LCb (78131)4993
-----								
Ni++	gl	NaNO3	20°C	0.37M	U	T K1=5.68	B2=10.95	1971WSa (78132)4994
-----								
Ni++	gl	NaClO4	25°C	3.0M	U	T K1=5.76 B3=15.46	B2=10.98	1970Wla (78133)4995
-----								
Ni++	gl	oth/un	20°C	0.01M	U	K2=10.2		1950ALa (78134)4996
*****								
C11H12N2O2		HL		(9226)				
3-[Diphenylazo]penta-2,4-dione;								
-----								
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference ExptNo
-----								
Ni++	gl	alc/w	25°C	0.1M	U	K1=8.65		2004GMc (78244)4997
Medium: 0.1 mol/L KCl in 3:7 EtOH/H2O mixture								
*****								
C11H12N2O2S		HL		CAS 51925-00-9 (1677)				
2-Methyl-8-(methanesulfonamido)quinoline;								
-----								
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference ExptNo
-----								
Ni++	gl	diox/w	30°C	75%	U	K1=8.8	B2=18.3	1984NYa (78255)4998
*****								
C11H12N2O3		HL		(6598)				
2,3-Dehydro-N-glycyl-phenylalanine; NH2.CH2.CO.NH.C(COOH):CH.C6H5								
-----								
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference ExptNo
-----								
Ni++	gl	KCl	25°C	0.10M	C	K1=3.65 B(NiH-1L)=-4.17 B(NiH-1L2)=-1.03 B(NiH-2L2)=-9.23	B2=6.89	1994JBa (78264)4999

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#### EXPLANATORY NOTES

DATA Flags are :-

T Data at other TEMPERATURES  
I Data with various BACKGROUNDS  
H Data for THERMOCHEMICAL quantities  
M Data for TERNARY Complexes

EVALUATION Flags are :-

T or IUP=T signifies EVALUATION RATING = Tentative by IUPAC  
R or IUP=R signifies EVALUATION RATING = Recommended by IUPAC

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