

SC-Database

Software version = 5.81 Data version = 4.62

Experiment list contains 13 experiments for
(no ligands specified)

Metal : Co+

(no references specified)

(no experimental details specified)

e- HL Electron (442)
Electron;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co+	EMF	oth/un	20°C	dil	U				1953HHa	(411) 1

K=-6.9(-400 mV)

K: 0.5Co₂(CO)₈(s)+e=Co(CO)₄- (Co(0) to Co(-1))

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co+	kin	NaClO ₄	24°C	0.50M	U				1971LAb	(2617) 2

K(Co((CN)₅H+OH=Co(CN)₅H₂O)=-6

CO₂ L Carbon dioxide CAS 124-38-9 (1759)
Carbon dioxide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co+	vlt	non-aq	25°C	100%	U	M			1991FCa	(2829) 3

K(CoA+L)=1.40

Medium: MeCN. A:5,7,7,12,12,14-hexamethyl-1,4,8,11-tetraazacyclotetradeca-4,14-diene. Method: cyclic voltammetry. Data also for other N-macrocyclics

C₂H₃N L Cyanomethane CAS 75-05-8 (1399)
Acetonitrile; CH₃CN

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co+	sp	non-aq	25°C	100%	U	T HM			1991FCa	(19182) 4

K(CoAB+L)=-0.959

Medium: MeCN. -40 to 40 C. A:5,7,7,12,14,14-hexamethyl-1,4,8,11-tetraaza-cyclotetradeca-4,11-diene. B:CO₂. DH=-29.3 kJ mol⁻¹; DS=-117

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
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Co+      sp  oth/un 25°C 0.10M U    M    1976NFb (26759)    5
                                         K(CoA+L)=5.34
                                         K(CoA+HL)=6.15
                                         K(CoA(OH)+L=CoAL+OH)=-1.58
                                         K(CoA(OH)+HL=CoAHL+OH)=-2.18
CoA(H2O)=aquocobalamin
*****
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
-----
Co+      sp  oth/un 22°C 0.0 U    M    1991AFa (29576)    6
                                         K(CoA+L)=1.95
A=a-(2-oxo-1,3-dioxolan-4-yl)cobalamin. With 1,5,6-trimethylbenzimidazole
K=0.6
*****
C4H7N      L    Butyronitrile   CAS 109-74-0 (2992)
Butyronitrile; CH3.CH2.CH2.CN
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co+      sp  non-aq 25°C 100% U T HM  1991FCa (31435)    7
                                         K(CoAB+L)=-1.10
Medium: C3H7CN. -110 to 40 C. A:5,7,7,12,14,14-hexamethyl-1,4,8,11-tetraaza-
cyclotetradeca-4,11-diene. B:CO2. DH=-25.9 kJ mol-1; DS=-109
*****
C5H5N      L    Pyridine         CAS 110-86-1 (31)
Pyridine, Azine;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co+      sp  oth/un 22°C 0.0 U    M    1991AFa (36598)    8
                                         K(CoA+L)=1.37
A=a-(2-oxo-1,3-dioxolan-4-yl)cobalamin.
*****
C5H9O3P      L    (6872)
4-Methyl-2,6,7-trioxa-1-phosphabicyclo[2.2.2]octane
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co+      oth non-aq 101°C 100% U    M    1993STa (39617)    9
                                         K(CoAB3+L=CoAB2L+B(g))=1.85
Metal:Co(0). Method unknown. Medium:Toluene. A:C3(t-Bu)3. B:CO.
Data formany other substituted phosphine ligands
*****
C6H9N3O2      HL   Histidine         CAS 71-00-1 (1)
2-Amino-3-(4'-imidazolyl)propanoic acid; H2N.CH(CH2.C3H3N2)COOH
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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co+	sp	oth/un	22°C	0.0	U	M		1991AFa (47537)	10
							K(CoA+L)=1.1		

A=a-(2-oxo-1,3-dioxolan-4-yl)cobalamin.

C10H8N2	L	2,2'-Bipyridyl	CAS 366-18-7	(25)
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2,2'-Bipyridine; (C5H4N)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co+	dis	KCl	23°C	0.20M	C		K2=7.6 K3=6.9	1985SCa (69534)	11

Method: spectrophotometry with partition into n-hexane

C12H12N2	L		CAS 1134-35-6	(3375)
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4,4'-Dimethyl-2,2'-bipyridyl; CH3.C5H3N.C5H3N.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co+	dis	KCl	23°C	0.20M	C		K2=8.0 K3=7.0	1985SCa (81008)	12

Method: spectrophotometry with partition into n-hexane

C16H32N4	L	[14]-Dien-N4	CAS 81001-74-3	(2462)
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5,7,7,12,14,14-Hexamethyl-1,4,8,11-tetraazacyclotetradecane-4,11-diene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co+	nmr	non-aq	rt	100%	U			1991FCa (95309)	13
							K(N-meso-CoL=N-rac-CoL)=0.78 ?		

Medium: MeCN. By spectrophotometry K=ca.2

REFERENCES

- 1993STa J Shen,D Tucker et al; J.Am.Chem.Soc.,115,11312 (1993)
- 1991AFa Y Alelyunas,P Fleming et al; J.Am.Chem.Soc.,113,3781 (1991)
- 1991FCa E Fujita,C Creutz et al; J.Am.Chem.Soc.,113,343 (1991)
- 1985SCa H Schwarz,C Creutz,N Sutin; Inorg.Chem.,24,433 (1985)
- 1976NFb F Nome,J Fendler; J.Chem.Soc.,Dalton Trans.,1212 (1976)
- 1971LAB H Lim,F Anson; Inorg.Chem.,10,103 (1971)
- 1953HHA W Hieber,W Hubel; Z.Elektrochem.,57,331 (1953)

EXPLANATORY NOTES

DATA Flags are :-

- T Data at other TEMPERATURES
- H Data for THERMOCHEMICAL quantities
- M Data for TERNARY Complexes

END

SC-Database

Software version = 5.81 Data version = 4.62

Experiment list contains 4649 experiments for
(no ligands specified)

Metal : Co++

(no references specified)

(no experimental details specified)

e- HL Electron (442)
Electron;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	sp	KCl	25°C	0.10M	U			K=2.50	1970HPb	(280) 1

K: $\text{Co}(\text{CN})_5^{3-} + 1/2\text{H}_2(\text{aq}) = \text{HCo}(\text{CN})_5^{2-}$

Co++	oth	NaClO4	20°C	0.50M	U	H		K(Co+2e=Co(s))=-7.05, -205 mV	1968ZKb	(281) 2
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In SO_4^{2-} corr 0: K=-9.80, -285 mV. In I- corr 0: K=-8.15, -237 mV

Co++	oth	KNO3	20°C	var	U	H		K'=-4.5, -131 mV	1968ZKb	(282) 3
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K': $\text{CoNO}_3^+ + 2e = \text{Co(s)} + \text{NO}_3^-$.

Co++	cal	none	25°C	0.0	M			K(Co+2e=Co(s))=-9.8, -290 mV	1966GRa	(283) 4
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Co++	oth	none	25°C	0.0	M	H		K(Co+2e=Co(s))=-9.70, -287 mV	1966LCa	(284) 5
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DH=58.5 kJ mol⁻¹

Co++	EMF	none	25°C	0.0	U			K=-18.20, -269.1 mV	1966MDa	(285) 6
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K: $\text{Co}_2\text{Fe}(\text{CN})_6(\text{s}) + 4e = 2\text{Co(s)} + \text{Fe}(\text{CN})_6^{4-}$.

Co++	EMF	alc/w	25°C	100%	U			K(Co+2e=Co(s))=-7.88(-233 mV)	1961TAa	(286) 7
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Medium: MeOH

Co++	oth	none	25°C	0.0	U			K(Co+2e=Co(s))=-9.37(-277 mV) K'=-24.8(-730 mV)	1952LAb	(287) 8
------	-----	------	------	-----	---	--	--	--	---------	---------

K': $\text{Co}(\text{OH})_2(\text{s}) + 2e = \text{Co(s)} + 2\text{OH}^-$. From thermodynamic data

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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 Co++ sol oth/un 20°C var U 1956CHc (1126) 9
 Kso(Co3L2)=-28.12

 AsW11039----- H7L (2468)
 alpha-Heteromonoarseno-polytungstate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	NaNO3	25°C	1.00M	U		K1=3.31	1984COa (1174)	10
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As2W17H2061----- H8L (2469)
 alpha-Heteropolydiarseno-polytungstate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	NaNO3	25°C	1.00M	U		K1=7.82 K1=4.92 (alpha2 isomer)	1984COa (1185)	11
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BF4- HL (2497)
 Tetrafluoroborate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	con	non-aq	25°C	100%	U		B2=1.18	1977KUa (1192)	12
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B04H4- HL Borate CAS 10043-35-3 (991)
 Borate; B(OH)4-

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	sol	none	22°C	0.0	U		Kso=-8.5 (solid phase?) B4=10.03	1961SHd (1295)	13
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Br- HL Bromide CAS 10035-10-6 (19)
 Bromide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	EMF	non-aq	25°C	100%	C T H		K1=2.69 B2= 4.75 K3=1.80	2001JMb (1684)	14
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Medium: acetic acid, 0.1% H2O, 0.1 M NaBr. Method: Ag/AgBr/Br- electrode
 Data for 25-60 C. DH(K1)=-14.0 kJ mol-1, DH(K2)=-12.7, DH(K3)=-27.9.

Co++	sp	non-aq	25°C	100%	U H		K1=1.60 B3=5.61 B4=6.3	19900Ia (1685)	15
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Medium: DMF, 0.16 M R4NC104. DH(K1)=19 kJ mol-1, DH(B3)=73 by calorimetry

Co++ sp non-aq 25°C 100% U H K1=5.55 B2=8.74 1989A0a (1686) 16
K3=0.79

In hexamethylphosphoric triamide; 0.1 M (n-Bu)₄NClO₄. DH(K1)=-2.7 kJ mol⁻¹;
DS=97. DH(K2)=0.3; DS=62, DH(K3)=2.1; DS=22

Co++ sp none 25°C 0.0 M T H K1=-0.03 B2=-1.18 1989PSb (1687) 17
B3=-3.28
B4=-6.45

Data for 25-90 C. Values calc from data for LiCl media to 15.0 m. DH(K1)=
0.7 kJ mol⁻¹, DS(K1)=1.9 J K⁻¹ mol⁻¹; DH(B2)=0.8, DH(B3)=0.7, DH(B4)=0.77

Co++ dis non-aq 25°C 100% U 1987GRa (1688) 18
K(CoS6+L=CoS5L+S)=3.23
K(CoS5L+L=CoS2L2+3S)=3.64
K(CoS2L2+L=CoSL3+S)=2.64

Solvent(S)=acetonitrile

Co++ sol oth/un 25°C 0.0 U 1987KPb (1689) 19
Kout(Co(phen)₃+Br)=2.02
Kout(Co(phen)₃+2Br)=2.84

Values extrapolated (Davies equation) from data for 0.1 M NaF.

Co++ cal KNO3 25°C 0.50M U H 1985BPb (1690) 20
B4=-7.8

DH(B4)=43.1 kJ mol⁻¹; TDS(B4)=-1.7 kJ mol⁻¹

Co++ sp non-aq 25°C 100% U 1985Lda (1691) 21
K(CoAS+L=CoAL+S)=1.72

Medium (S): DMF. A=N(CH₂CH₂NMe₂)₃

Co++ ISE non-aq 25°C 100% C 1983S0b (1692) 22
B(CoS6+2L=CoS2L2+4S)=9.2
K(CoS2L2+L=CoSL3)=5.30
K(CoSL3+L=CoL4+S)=1.89

Medium: acetone

Co++ sp non-aq 25°C 100% U M 1982SMb (1693) 23
K(CoA2L2+2A)=0.67
K(CoA2L2+XL=X(CoA2L3))=2.23

Medium: dichloromethane. A=4-methylpyridine and X=tetrabutylammonium

Co++ EMF oth/un 25°C 1.50M U I K1=-1.1 1978LKd (1694) 24
K1 defined in molality (Moles per kg) terms: K1=m(CoBr)/m(Co).m(Br), ionic
strength in m(Co(ClO₄)₂). K1 (m): -1.2 (2.0), -1.15 (2.5), -1.05 (3.0)

Co++ EMF non-aq 25°C 100% U 1977STa (1695) 25
K(CoA2+LiL=CoLA+LiA)=2.93
K(CoA2+2LiL=CoL2+2LiA)=5.40
K(CoL2+LiL=LiCoL3)=2.83
K(LiCoL3+LiL=Li2CoL4)=0.4

Medium: LiClO₄/Acetic acid : A = ClO₄

Co++ cal NaClO₄ 25°C 3.0M U H 1974BRa (1696) 26
Medium: Li(ClO₄). DH(K₁)=9.2 kJ mol⁻¹, DS=14.6 J K⁻¹ mol⁻¹

Co++ sp non-aq 23°C 100% U I B₂=7.3 1974IHa (1697) 27
K₃=2.8
in acetone at 1000 kg/cm². B₂=6.7, K₃=2.9(2000); B₂=6.4, K₃=3.0(3000);
B₂=6.15, K₃=3.0(4000); B₂=6.1, K₃=3.1(5000); B₂=5.9, K₃=3.3(8000)

Co++ kin NaClO₄ 25°C 1.0M U K₁=-0.20 1973HHb (1698) 28

Co++ ISE non-aq 161°C 100% U T K₁=2.13 B₂=2.83 1971PSa (1699) 29
Medium: (Li,Na,K)NO₃ eutectic. K₁=2.03, K₂=0.7(180 C)(x units)

Co++ sp oth/un 25°C 0.0 U 1970LGa (1700) 30
K=-0.3
Medium: MeCN. K: 3CoL₂A₂+2A=CoA₆+2CoL₃A, A=MeCN

Co++ sp NaClO₄ 25°C 3.0M U K₁=-0.72 1970MMj (1701) 31
Medium: LiClO₄

Co++ sp mixed 23°C 0.10M U T H B₂=8.3 1970SFC (1702) 32
K₃=3.66(23-45 C)
K₄=2.30(23-45 C)
Medium: MeCN, 0.1 M Et₄NClO₄. DH(B₂)=79 kJ mol⁻¹. B₂=8.9(35 C), 9.2(45 C)

Co++ sp alc/w 25°C 100% U I B₂=5.74 1969OKa (1703) 33
Medium: EtOH, 1 atm. B₂=2.98(1000 atm), 2.07(2000), 1.43(3000), 1.16(4000).
Also in PrOH, i-PrOH, BuOH, etc.

Co++ sp oth/un ? var U I 1967BPd (1704) 34
K(CoA₂+L)=0.60
K(CoA₂L+L)=0.60
A=dimethylglyoxime. Medium: LiBr. InKBr: K(CoA₂+2L)=0.60; in RbBr:0.36

Co++ cal NaClO₄ 40°C 2.0M U T H K₁=-0.11 1966KLb (1705) 35
DH(K₁)=0.58(25 C), 0.63(40 C) kJ mol⁻¹, DS=0.29(25 C) J K⁻¹ mol⁻¹

Co++ ix NaClO₄ 20°C 0.69M U K₁=-0.13 B₂=-0.42 1965FMa (1706) 36
Method:cation exchange. Medium: HClO₄

Co++ sp non-aq 100% U 1963CHa (1707) 37
K₃ > 5.7
K₄=4
Medium:Et₂O

Co++ sp non-aq 26°C 100% U B₂=9.3 1962FIa (1708) 38
K₃>5
K₄=1.62

Co++ EMF NaClO4 25°C 2.0M U T K1=-0.12 1961LWa (1709) 39
Method: Ag electrode. K1=-0.40(5 C), -0.08(50 C). Also intermediate temps.

Medium: CH₃CO₂H

Medium: EtOH. At 30 °C: K1=2.75, K2=1.73, K3=1.36, K4=1.11, K5=0.6; at 40 °C: K1=2.87, K2=2.05, K3=1.76, K4=1.32, K5=0.9, K6=0.3

Medium: HBr.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	kin	non-aq	180°C	100%	U		K1=1.65	1961DLa	(2406) 44
Medium:	liquid	(K,Na)NO3,	m	units					

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K	values	Reference	ExptNo
Co++	ISE	NaCl04	25°C	1.00M	U					1987ABd	(2599) 45
									B3=13.7 B5=23.0		

Medium: LiClO4

Co++ cal oth/un 25°C 0.0 U H 1968Iwa (2602) 48
DH(B5)=-257.1 kJ mol⁻¹

Co++ cal oth/un 25°C 0.0 U H 1968IWa (2603) 49
DH(2CoL5 + H3O=CoL5H2O + HCoL5)=-133.8 kJ mol-1. Co(II) to Co(III) + Co(I)

Co++ sp KCl 25°C 0.51M U M 1967BCa (2604) 50
K(CoL5+1/2H2(aq)=HCoL5)=2.59
Co(II) to Co(I) ?

Co++ sp NaNO3 20°C 3.0M U 1967PWc (2605) 51
K(Rb+CoL5)=0.57

Co++ cal oth/un 25°C var U H 1964GHc (2606) 52
DH(B5?)=-311.0 kJ mol-1

Co++ cal oth/un 25°C ? U H 1961GUa (2607) 53
DH(B6) or DH(B5)=-325.1 kJ mol-1

Co++ vlt oth/un ??? 5 MM U 1936SAa (2608) 54
B6=19.09

Medium: CaCl2.

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

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

Co++ oth non-aq 25°C 100% U 1970BCb (2783) 55
K(Co(PEt3)2Cl2+CO)=3.09

Method:chemical analysis, partial pressure of CO; Medium:C2H4Cl2.

K=3.39(Br); With Co(PPr3)2Cl2, K=2.90, 3.36(Br). Also other data

CO3-- H2L Carbonate CAS 465-79-6 (268)
Carbonate;

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

Co++ sol KNO3 25°C 0.10M U K1=4.70 1997SSa (3094) 56
K(Co+HL)=1.85

Co++ sp none 25°C 0.0 C I 1987EFa (3095) 57
K(Co+HCO3)=1.39

K extrapolated from data for 0.001-0.05 M NaCl solutions.

At I=0.05 M, K(Co+HCO3)=1.05. Also data for 5% and 10% MeOH/H2O.

Co++ oth oth/un 25°C 0.0 C H K1=4.41 1984FCa (3096) 58
K(Co+HCO3)=2.20

K(Co+HCO3) calc using electrostatic model. K1 from assessment of lit data.

DH(K1)=-0.92 kJ mol-1, DH(Co+HCO3)=4.3 (from DS calc by electrostat model)

Co++ vlt NaCl 25°C 0.56M C K1=3.15 1982CDa (3097) 59
Method: polarography.

 Co++ sol oth/un 25°C 0.0 U 1967BUb (3098) 60
 Kso=-9.98

Co++ oth oth/un 25°C 0.0 U 1935KAa (3099) 61
 Kso(CoCO3(s))=-12.84
 +Kpso=-10.35

From thermodynamic data. +Kpso: CoCO3(s)+CO2(g)+H2O=Co+2HCO3

 CS3-- H2L CAS 549-08-1 (936)
 Trithiocarbonate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	oth/un	25°C	?	U		B2=8.1	1957BIa (3464)	62

C6N6Fe----		H4L					(2191)		
Hexacyanoferrate (II); Fe(II)(CN)6----									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	con	oth/un	20°C		U T			1972BMe (3548)	63
							K(K2Co3L2(s)=2K+3Co+2L)=-27.8		
							K's(K4Co4L3)=-45.7		
30 C: Ks=-26.9; K's=-43.8									

Co++ ISE oth/un 25°C 0.0 U 1966MDa (3549) 64
 Kso(Co2L)=-37.32

Co++ vlt oth/un 20°C dil U 1959BSc (3550) 65
 Kso(Co2L)=-15.97

Co++ con oth/un 25°C dil U 1959BSd (3551) 66
 Kso(Co2L)=-16.18

Co++ sol oth/un 25°C var U 1956TGb (3552) 67
 Kso(Co2L)=-14.74

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	oth	alc/w	25°C	61%	C		K1=20.80	1996CHF (4345)	68
							Kso(CoCl2.6H2O)=2.52		
Method: application of Pitzer theory to literature data.									

Co++ sp non-aq 25°C 100% C K1=1.2 B2= 1.70 1996KMb (4346) 69
 B3=1.4
 Medium: MeOH, 1.0 M LiClO4.

Co++	sp	non-aq	25°C	100%	U	I	K1=1.3 B3=4.1	B2=2.8	1993LKa	(4347)	70
Data also for propan-2-ol: B1=1.7, B2=3.3, B3=4.7											
Co++	cal	non-aq	25°C	100%	U	H	K1=5.42 B3=16.3 B4=18.3	B2=11.83	1993SKb	(4348)	71
Medium: N,N-dimethylacetamide 0.1 M R4NX; also by spectroscopy. DH(K1)=25 kJ mol ⁻¹ , DH(B2)=22, DH(B3)=9.2, DH(B4)=1.0											
Co++	sp	non-aq	25°C	100%	U	H	K1=1.6 B3=7.1 B4=8.3	B2=4.0	1990SIa	(4349)	72
Medium: DMSO, 0.4 M Et4NBF4. By calorimetry: DH(K1)=11 kJ mol ⁻¹ , DH(B2)=40, DH(B3)=47.7, DH(B4)=41.9											
Co++	sp	non-aq	25°C	100%	U	H	K1=6.7 K3=2.7 K4= 0.8 approx.	B2=10.90	1989A0a	(4350)	73
In hexamethylphosphoric triamide; 0.1 M (n-Bu)4NClO4. DH(K1)=-15.2 kJ mol ⁻¹ ; DS=78. DH(K2)=-12.6; DS=38. DH(K3)=-12.8; DS=9. DH(K4)=(-8); DS=(-10)											
Co++	sp	none	25°C	0.0	M	T H	K1=0.60 B3=-1.71 B4=-4.51	B2= 0.02	1989PSb	(4351)	74
Data for 25-90 C. Values calc from data for LiCl media to 15.0 m. DH(K1)=2.1 kJ mol ⁻¹ , DS(K1)=18.7 J K ⁻¹ mol ⁻¹ ; DH(B2)=2.2, DH(B3)=2.33, DH(B4)=2.2											
Co++	sp	non-aq	25°C	100%	U	H	K1=3.43 B3=11.84 B4=14.13	B2=6.85	1988I0a	(4352)	75
In N,N-dimethylformamide. Bn values also by calorimetry. DH(K1)=8.5 kJ mol ⁻¹ DH(B2)=36.4; DH(B3)=33.9; DH(B4)=27.6											
Co++	sp	non-aq	25°C	100%	U		K1=9.0 K3=3.05 K4=-1.42	B2=15.50	1988PGa	(4353)	76
Medium: Hexamethylphosphoramide											
Co++	ISE	non-aq	25°C	100%	U		K1=2.60		1988SGa	(4354)	77
Medium: DMSO, 0.1 M Et4NCl											
Co++	sp	non-aq	25°C	100%	U				1988SSa	(4355)	78
K4=10.15 Medium: 1,2-dichloroethane. K4: (NBu4)2(Co2Cl6)+2NBu4Cl=2(NBu4)2(CoCl4)											
Co++	sp	oth/un	23°C	6.00M	U		K1=-0.28 B3=-1.9 B4=-1.5		1987CCb	(4356)	79

Co++	sol	oth/un	25°C	0.0	U			1987KPb	(4357)	80
								Kout(Co(phen)3+Cl)=3.26		
								Kout(Co(phen)3+2Cl)=2.67		
Values extrapolated (Davies equation) from data for 0.1 M NaF.										
Co++	sp	non-aq	25°C	100%	U		K1=4.03	1986GPb	(4358)	81
Medium: N,N-dimethylformamide										
Co++	sp	non-aq	25°C	100%	U		K1=3.50 B3=11.0	B2=1.50	1986GPb	(4359) 82
Medium: N,N-dimethylformamide										
Co++	nmr	mixed	25°C	40%	U		K1=0.13	1985SCb	(4360)	83
Medium: 40% v/v CH3CN in H2O										
Co++	vlt	NaClO4	25°C	2.0M	C		K1=-0.11	1982CDa	(4361)	84
Method: polarography. At I=3.5 M NaClO4, K1=-0.30. In seawater medium, K1=-0.009										
Co++	ISE	alc/w	25°C	100%	U		K1=3.01	B2=4.01	1982DKa	(4362) 85
Co++	sp	non-aq	25°C	100%	U	I	K1=2.79 B3=8.8		1982LPa	(4363) 86
Medium: DMSO, 0.2 M M(ClO4)2										
Co++	sp	non-aq	25°C	100%	U		K1=2.78 K3=3.67	B2=5.26	1982LPb	(4364) 87
Medium: DMSO										
Co++	gl	NaClO4	25°C	3.00M	C	M	K1=2.73 B3=6.53 B4=7.45	B2=4.92	1981FGa	(4365) 88
Co++	ISE	non-aq	25°C	100%	U			1981SOa	(4366)	89
								K(CoCl2+LiCl=LiCoCl3)=5.97		
								K(CoCl(ClO4)+LiCl=CoCl2)=6.2		
								K(LiCoCl3+LiCl=Li2CoCl4)=2.64		
Medium: Acetone, 0.1 M LiClO4. K(Co(ClO4)2+LiCl=CoCl(ClO4)3Cl+LiClO4)=5.0										
Co++	dis	oth/un	25°C	0.50M	U	I	K1=-1.44 B3=-4.89	B2=-3.25	1979BPb	(4367) 90
Co++	dis	oth/un	25°C	0.10M	U		K1=-1.19 B3=-5.64 B4=-7.38	B2=-3.26	1978BIa	(4368) 91
Co++	sp	KCl	25°C	10.0M	U		K1=1.34 B4=2.57		1978SBa	(4369) 92
Data from 10M H(Cl,ClO4)-medium.										

Co++	sp	oth/un	25°C	5.0M	U	I	K1=-1.05 K3=-1.54 K4=-1.34 Medium: 5-13 M LiCl	B2=-3.74	1975BHa	(4370)	93
Co++	gl	none	25°C	0.0	U		K1=-0.35		1975LTa	(4371)	94
Co++	ISE	NaClO4	25°C	1.0M	U		K1=-0.05		1974BLb	(4372)	95
Co++	ISE	non-aq	25°C	100%	U	I	K1=6.4 B3=18.2 B4=23.7 Medium: 0.1 M LiCl in tributylphosphate, sat. with H2O; AgCl/Cl-electrode	B2=12.4	1974BMa	(4373)	96
Co++	cal	NaClO4	25°C	3.0M	U	H	K1=-0.41 Medium: LiClO4. DH(K1)=3.8 kJ mol ⁻¹ , DS=4 J K ⁻¹ mol ⁻¹		1974BRa	(4374)	97
Co++	sp	non-aq	23°C	100%	U		B2=8.83 Medium: acetone at 1 atm. B2=7.43, K3=3.15(p=1000); 6.96, 2.70(p=2000); 6.68, 3.049(P=3000); 6.08, 3.23(p=5000); 5.72, 3.20(p=8000); p=kg cm ⁻²		1974IHb	(4375)	98
Co++	sol	none	25°C	0.0	U		Ks(Co(OH)1.5Cl0.5)=-11.7		1974MSd	(4376)	99
Co++	sp	non-aq	25°C	100%	U	M	K(CoCl2+LiCl=LiCoCl3)=2.08 K(LiCoCl3+LiCl=Li2CoCl4)=0.8 K(CoA2+LiCl=CoClA)=3.46 K(CoA2+2LiCl=CoCl2)=5.68 Medium: anhydrous CH3COOH; method: glass elect.+spect. A=ClO4		1974STa	(4377)	100
Co++	EMF	non-aq	25°C	100%	U		K1=4.53 B3=11.78 B4=14.1 Medium: TBP	B2=8.34	1973BKd	(4378)	101
Co++	sp	alc/w	25°C	100%	U		K1=1.66 Medium: MeOH	B2=3.65	1973CCb	(4379)	102
Co++	kin	NaClO4	25°C	1.0M	U		K1=0.07		1973HHb	(4380)	103
Co++	sp	non-aq	25°C	100%	U		B3=7.20 Medium: DMSO, 0.5 M MClO4(M=Li,Na,(C2H5)4N)		1973SCa	(4381)	104
Co++	sp	NaClO4	25°C	5.0M	U	I	K1=0.04 B3=-1.40 B4=0.00 Medium: HClO4; K1=0.23, B2=-0.15, B3=-0.70, B4=-1.7(I=7); K1=0.40, B2=0.30,	B2=-0.62	1972BBf	(4382)	105

B3=0.02, B4=-0.9(I=8); 0.64, 0.78, 0.8, 0.2(I=9); 0.82, 1.26, 1.60, 1.4(I=10)

Co++ sp non-aq 25°C 100% U 1972CCa (4383) 106
 K3=7.65
 K4=2.78

Medium: acetone

Co++ sp non-aq 25°C 100% U 1972MRa (4384) 107
 B3=8.62
 B4=9.05

Medium: DMSO, 1 M LiClO₄

Co++ sp non-aq ? 100% U 1972PBb (4385) 108
 K3=3.07
 K4=2.77

Medium: n-decanol

Co++ sp oth/un rt var U B2=-0.2 1971KGa (4386) 109
 K(CoCl₂+2H+2Cl=CoH₂Cl₄)=-3.31

Co++ sp non-aq 20°C 100% U 1971LKa (4387) 110
 K(CoCl₂A₄=CoCl₂A₂+2A)=0.45
 K(CoCl₂B₄=CoCl₂B₂+2B)=-0.84

Medium: A or B. A=butanol. B-C₆H₅Cl. K: octahedral=tetrahedral

Co++ ISE oth/un 161°C 100% U T K1=2.34 B2=3.84 1971PSa (4388) 111
 Medium: molten (Li,Na,K)NO₃ eutectic. At 180 C: K1=2.31, K2=1.5

Co++ sp NaClO₄ 20°C 7.0M U K1=-0.4 1971WBa (4389) 112
 Medium: HClO₄

Co++ sp NaClO₄ 25°C 3.0M U K1=-0.24 1970MMj (4390) 113
 Medium: LiClO₄

Co++ sp non-aq 23°C 100% U T H B2=11.2 1970SFc (4391) 114
 Medium: MeCN, 0.1 M Et₄NClO₄. DH(B₂)=109.6 kJ mol⁻¹. B2=11.9(35 C), 12.6(45 C)
 23-45 C: K3=5.41, K4=3.51

Co++ dis oth/un 160°C 100% U K1=0.9 B2=1.7 1970VPa (4392) 115
 B3=2.1
 B4=2.9

Medium: molten (Li,K)NO₃

Co++ con alc/w rt 100% U I B2=6.70 1969KIa (4393) 116
 In EtOH. B2=8.43(propanol), 9.47(butanol), 11.22(i-propanol), 12.38(2-butanol),
 10.55(2-methyl-1-propanol), >11.9(2-methyl-2-propanol)

Co++ sp alc/w rt 100% U B2=5.93 1969KIa (4394) 117
 In EtOH at p=1 atm. B2=4.70(p=500), 4.01(p=1000), 3.55(p=1500), 3.12(p=2000).
 2.84(p=2500). Data also for many other solvent mixtures

Co++ sp alc/w 25°C 100% U I B2=6.27 1969OKa (4395) 118
 Medium: EtOH. By conductivity: B2=6.70. In PrOH: B2=8.96 and 8.43.
 Data also in other solvents

Co++ vlt non-aq 135°C 100% U K1=1.2 B2=2.0 1968BGb (4396) 119
 B3=1.0
 B4=3.14
 Medium: molten (Li,Na,K)NO3

Co++ sp non-aq 25°C 100% U 1968LPb (4397) 120
 $K(3\text{CoCl}_2(\text{MeCN})_2 + 2\text{MeCN}) = -1.8$
 Medium: MeCN. reaction products: $\text{Co}(\text{MeCN})_6 + 2\text{CoCl}_3(\text{MeCN})$

Co++ sp non-aq 80°C 100% U T HM 1968MSe (4398) 121
 $K(\text{CoCl}_2(\text{MeCN})_2 + \text{HgCl}_2) = 0.6$
 Medium: MeCN. 40-80 C. Reaction products: $\text{CoCl}(\text{MeCN})_5 + \text{HgCl}_3$. $K = -0.7(40\text{ C})$,
 $-0.3(50\text{ C})$, $0.0(60\text{ C})$, $0.3(70\text{ C})$. $\text{DH} = 71\text{ kJ mol}^{-1}$, $\text{DS} = 209\text{ J K}^{-1}\text{ mol}^{-1}$

Co++ nmr KCl 27°C var U H K1=-0.8 B2=-3.60 1968ZMb (4399) 122
 K3=-2.5
 K4=-2.06
 Medium: HCl var. $\text{DH}(K1) = 12.1\text{ kJ mol}^{-1}$, $\text{DS} = 25.1\text{ J K}^{-1}\text{ mol}^{-1}$;
 $\text{DH}(K2) = 8.78$, $\text{DS} = 25.1$; $\text{DH}(K3) = 47.2$, $\text{DS} = 108.9$; $\text{DH}(K4) = 3.3$, $\text{DS} = -28$

Co++ sp NaCl ? var U 1967BPd (4400) 123
 $K(\text{Co}(\text{DMG})_2 + \text{L}) = 0.2$
 $K(\text{Co}(\text{DMG})_2\text{L} + \text{L}) = 0.2$
 DMG=dimethylglyoxime. In LiCl, $K(\text{Co}(\text{DMG})_2 + 2\text{L}) = 0.9$, in RbCl: 0.12

Co++ sp NaClO4 25°C 3.0M U I K1=-0.28 1967MSg (4401) 124
 B4=-2.15
 At I=6: $K1 = -0.43$, $B4 = -2.82$; I=7.3: $K1 = -1$, $B4 < -3$

Co++ sp oth/un 44°C ? U IH 1967SWa (4402) 125
 25-63 C, $\text{DH}(\text{CoCl}_2(\text{H}_2\text{O})_4 + \text{Cl} = \text{CoCl}_3(\text{H}_2\text{O}) + 3\text{H}_2\text{O}) = 48.9\text{ kJ mol}^{-1}$. $\text{DH}(\text{CoCl}_2(\text{MeOH})_4 +$
 $\text{Cl} = \text{CoCl}_3(\text{MeOH}) + 3\text{MeOH}) = 56.8$ in MeOH

Co++ oth non-aq 260°C 100% U K1=-0.9 1966IWa (4403) 126
 Method: freezing point. Medium: molten LiNO3

Co++ cal NaClO4 40°C 2.0M U T H K1=-0.12 1966KLb (4404) 127
 $K1 = -0.14(25\text{ C})$. $\text{DH}(K1) = 2.17(25\text{C})$, $2.09(40\text{C})\text{ kJ mol}^{-1}$. $\text{DS} = 4.64\text{ J K}^{-1}\text{ mol}^{-1}(25\text{C})$

Co++ sp non-aq 300°C 100% U M 19650Gb (4405) 128
 $K = -1.45$
 Medium: molten (K,Al)Cl. $K: \text{Co}(\text{Al}_2\text{Cl}_7)_2 + \text{AlCl}_4 = \text{Co}(\text{Al}_2\text{Cl}_7)\text{AlCl}_4 + \text{Al}_2\text{Cl}_7$

Co++ oth oth/un 0.0 U 1964VGa (4406) 129
 $K_2K_3 = -6.72$

Method:electrical migration or transference number

Co++ oth non-aq 160°C 100% U K1=1.11 B2=2.02 1963LRa (4407) 130
B3=2.40

Method:adsorption equil with Al2O3(s). Medium: (Li,K)NO3 eutectic

Co++ sp oth/un 0.0 U 1963VVb (4408) 131
K(CoCl4(H2O)2=CoCl4)=-0.36

Octahedral-tetrahedral equilibrium

Co++ sp non-aq 26°C 100% U B2=9.5 1962FIa (4409) 132
K3>5
K4=2.73

Medium: acetone

Co++ sp non-aq 20°C 100% U M 1962LIa (4410) 133
Medium: MeCN(S). K(3CoCl2S2+2S=CoS6+2CoCl3S)=-2.3

Co++ ix oth/un 25°C 10.0M U 1962MIa (4411) 134
K(H+CoCl4)=0.2
K(H+HCoCl4)=0.5

Medium: LiCl

Co++ ix NaCl04 20°C 0.69M U K1=0.69 B2=0.51 1962MSb (4412) 135

Co++ ix NaCl04 20°C 0.69M U K1=0.69 B2=0.51 1962MSe (4413) 136

Co++ vlt NaCl04 ? 1.50M U K1=-0.3 1962TCa (4414) 137
K1=0.4 by spectrophotometry

Co++ sp non-aq 25°C 100% U 1961PSc (4415) 138
K3=4.40
K4=3.08

Medium: CH3COOH

Co++ EMF NaCl04 25°C 2.30M U T H K1=-0.18 1960LRa (4416) 139
K1=-0.21(12 C), -0.15(40 C). DH(K1)=4.2 kJ mol-1

Co++ sp non-aq ? 100% U K1=3.05 1960SHb (4417) 140
Medium: i-BuOH, I=0.06

Co++ con alc/w 25°C 50% U K1=1.63 1958DTa (4418) 141
Medium: 50% EtOH/H2O

Co++ ix none 0°C 0.0 U B2=-1.28 1958HIb (4419) 142

Co++ sp NaCl04 20°C 7.0M U I K1=-0.43 1958SWb (4420) 143
In 1.5 M NiNO3 K1=-0.60

Co++ sp none ? 0.0 U B2=-3.95 1948Rba (4421) 144

 Co++ sp KCl 18°C var U K1=-2.40 1936J0a (4422) 145
 K2*K3=-3.52

 ClO3- HL Chlorate CAS 7790-93-4 (971)
 Chlorate;

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

Co++ cal oth/un 25°C 1.00M U H 1975ARa (6028) 146
 DH(K1)=-2.73 kJ mol⁻¹. DS = -5.1 J K⁻¹ mol⁻¹. Medium: 1.0 M NaClO3

 Co++ kin NaClO4 25°C 1.0M U K1=0.21 1973HHb (6029) 147

 ClO4- HL Perchlorate CAS 7001-90-3 (287)
 Perchlorate;

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

Co++ sol oth/un 25°C 0.0 U 1987KPb (6138) 148
 Kout(Co(phen)3+ClO4)=2.58
 Kout(Co(phen)3+2ClO4)=3.71

Values extrapolated (Davies equation) from data for 0.1 M NaF.

 Co++ con non-aq 25°C 100% U K1=1.62 1981LGa (6139) 149
 Medium: DMSO; K1 in DMSO/benzene (mole fraction 0.3)=1.86

 Co++ sp NaClO4 25°C ? U H 1975BWb (6140) 150
 Kout(Co(H2O)6ClO4)=-1.51
 DH=4.2 kJ mol⁻¹, DS=-12 J K⁻¹ mol⁻¹ when T=25.
 HClO4 from 0 to 17.3M.

 Co++ sp non-aq 25°C 100% U K1=1.3 1972MRa (6141) 151
 Medium: DMSO, 1 M LiClO4(?)

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

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

Co++ ISE R4N.X 25°C 0.05M U I K1=1.28 1983SBa (6671) 152
 Medium: 0.05 M Et4NF. In MeOH, 0.05 Et4NF, K1=3.04

 Co++ ISE NaClO4 25°C 1.00M U I K1=1.1 1981KBb (6672) 153

 Co++ ISE NaClO4 25°C 3.00M U K1=0.64 1976KBa (6673) 154

 Co++ cal oth/un 25°C 0.50M U H K1=0.37 1974ARc (6674) 155
 DH(K1)=10.3 kJ mol⁻¹, DS=41 J K⁻¹ mol⁻¹

Co++ ISE NaClO4 25°C 1.0M U K1=0.40 1972BHc (6675) 156

GeW11039----- H8L CAS 37369-86-1 (2466)
alpha-Heteromonogermanium-polytungstate;

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

Co++ gl NaNO3 25°C 1.00M U K1=6.27 1984C0a (7466) 157

HP03-- H2L Phosphite CAS 13598-36-2 (6305)
Phosphite;

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

Co++ gl NaClO4 25°C 0.20M U K1=4.0 1969EEa (7501) 158
K(Co+HL)=1.6

K1 on the basis of K(HL)=6.5, K(H2L)=1.6

H2O L Water CAS 7732-18-5 (6115)
Water

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

Co++ sp non-aq 0°C 100% U I 1972ARa (7578) 159
K3=1.9, K4=1.4(PrOH), K5=1.1, K6=0.7(i-PrOH), K5=1.1, K6=0.8(t-BuOH)

Co++ cal non-aq 25°C 100% U K1=1.68 B2=3.26 1969VAa (7579) 160
B4=5.18
B6=7.04

Medium: BuOH

Co++ cal non-aq 25°C 100% U H K1=1.76 B2=3.08 1968HMc (7580) 161
B3=4.10
B4=4.64
B5=5.6?

Medium: C4H9OH. DH(K1)=-11.9 kJ mol⁻¹, DH(B2)=-19.6, DH(B3)=-22.4
DH(B4)=-23.4, DH(B5)=-24.2?

Co++ sp non-aq 25°C 100% U I K1=0.56 B2=-1.26 1965PPa (7581) 162
Medium: acetone. In EtOH: K1=0.46, K2=-2.22

Co++ sp non-aq ? 100% U 1960SHb (7582) 163
B3=1.6

Medium: iso-BuOH

Co++ sp oth/un ? conc U M 1959LIa (7583) 164
K(CoCl4+2L=CoCl4L2)=0.3
K(CoBr4+2L=CoBr4L2)=0.4

Medium: LiCl

Co++ sp alc/w 25°C 100% U 1955JBa (7584) 165

Kav=-0.30

Medium: EtOH, CH3C6H4SO3

Co++ sp alc/w 25°C 100% U 1954J0a (7585) 166

Kav=0.03

Medium: EtOH, NO3. N=6

I- HL Iodide CAS 10034-85-2 (20)

Iodide;

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

Co++ sp non-aq 25°C 100% U H K1=2.69 B2=3.58 1989A0a (7877) 167

In hexamethylphosphoric triamide; 0.1 M (n-Bu)4NClO4. DH(K1)=13.0 kJ mol⁻¹; DS=95. DH(K2)=6.9; DS=40

Co++ sp diox/w 25°C 10% U I 1974GBa (7878) 168

K(Co(DMG)2+I)=1.60

In 50% dioxan/H2O, K=1.97

Co++ sp oth/un ? var U I 1967BPd (7879) 169

K(CoA2+L)=2.04

K(CoA2L+L)=2.04

Medium: CsI. A=dimethylglyoxime. In KI: K(CoA2+2L)=4.0, in LiI or NaI: 3.8

Co++ sp non-aq 26°C 100% U B2=>9 1962FIa (7880) 170

K3=4.34

K4=1.20

Medium: Me2CO

Co++ kin NaClO4 45°C 1.0M U M 1962YAA (7881) 171

K(Co(NH3)5+L)=-0.68

IO3- HL Iodate CAS 7782-68-5 (1257)

Iodate;

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

Co++ gl NaClO4 25°C 3.0M M I K1=-0.04 1995P0a (8487) 172

Kso=-4.739

At I=0: K=0.51

Co++ sol NaClO4 25°C 0.50M U I 1973FSc (8488) 173

Kso(CoL2(H2O)2)=-4.77

Medium: LiClO4. Kso=-5.64(I=0), -4.71(I=1), -4.78(I=2), -4.93(I=3), -5.36(I=4)

MoO4-- H2L Molybdate (443)

Molybdate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	sp	NaClO4	25°C	0.40M	U				1969TTa (8707)	174
									K(Co + GeMo11039(8-))=3.65	

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	R4N.X	25°C	0.10M	U	M			1995KBb (9074)	175
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K(CoA+L)=2.00

K(CoAL+L)=0.53

Medium: 0.1 M NH4NO3. H3A=NTA

Co++	kin	NaClO4	25°C	1.00M	C				1994BCb (9075)	176
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K(CoL4CO3+H=CoL4HCO3)=0.0

K(CoLOH2OCO2H+H=CoL(OH2)2+CO2)=0.0

Co++	gl	alc/w	25°C	2.0M	U	I	K1=3.83	B2= 7.22	1992MPb (9076)	177
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K3=2.84

for 100% H2O K1=2.06

for 100% H2O K2=1.10

for 100% H2O K3=1.65

Medium: 2.0 M NH4NO3 in 50% v/v EtOH in H2O

Co++	gl	diox/w	25°C	2.0M	U		K1=2.40	B2= 4.38	1992MSc (9077)	178
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K3=1.41

K1=2.06(100%H2O)

K2=1.65 (100% H2O)

K3=1.10 (100%H2O)

Medium: NH4NO3 in 50% v/v dioxane/H2O; for 20% K1=2.24; K2=1.85, K3=1.27

For 2 M NH4NO3 in50%v/v acetone/H2O K1=2.40; K2=2.00; K3=1.43

Co++	vlt	R4N.X	20°C	0.50M	U		K1=1.9	B2=3.2	1990URa (9078)	179
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B3=4.3

B4=4.6

B5=4.4

B6=6.0

Medium: 0.5 M NH4ClO4

Co++	gl	NaNO3	25°C	0.10M	A	M			1982SSa (9079)	180
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K(CoA+L) < 1.9

A=uridine-5'-triphosphate

Co++	kin	NaCl	25°C	<.01	U				1977MUa (9080)	181
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K(CoL5(OH)+HL=CoL6+H2O)=1.4

Co++	gl	NaClO4	25°C	1.0M	U		B2=3.7		1970GHa (9081)	182
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B3=5.1

B4=5.9

Solubility also used. $B(\text{Co}(\text{OH})_2\text{L}_2)=11.0$

Co++	gl	R4N.X	20°C	1.0M	U	M	K1=2.18	B2=3.98	1966FLb	(9082)	183
							B3=5.08				
							B4=5.98				

Medium: NH_4NO_3 . Also values for many Co- NH_3 -py complexes

Co++	ISE	R4N.X	30°C	2.0M	U		K1=2.08	B2=3.60	1966LMd	(9083)	184
							K3=1.17				
							K4=0.74				
							K5=0.25				
							K6=-0.59				

Medium: NH_4NO_3

Co++	gl	R4N.X	30°C	2.0M	U	TIH	K1=2.11	B2=3.74	1941BJa	(9084)	185
							K3=1.05				
							K4=0.76				
							K5=0.18				
							K6=-0.62				

Medium: NH_4NO_3 . $B_6=5.11$. At $I=0$ corr. $K_1=1.99$, $K_2=1.51$, $K_3=0.93$, $K_4=0.64$, $K_5=0.18$, $K_6=-0.74$, $B_6=4.39$. $\text{DH}(B_6)=-54 \text{ kJ mol}^{-1}$

Co++	cal	oth/un	18°C	var	U	H	K1=-0.52		1936CHa	(9085)	186
							K2.K3=1.98				

$\text{DH}(K_1)=-6.95 \text{ kJ mol}^{-1}$; $\text{DH}(K_2)+\text{DH}(K_3)=-15.1$.

Co++	ISE	oth/un	25°C	dil	U				1920LLa	(9086)	187
							B6=4.90				

NH30 L Hydroxylamine; CAS 5470-11-1 (1808)

Hydroxylamine; NH_2OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo	
Co++	EMF	KNO_3	25°C	1.0M	U			K1=4.46	B2=8.46	1974ISa	(9257) 188
							K3=3.76				
							K4=3.62				

Co++	gl	NaNO_3	20°C	0.50M	U			K1=0.9	1963SZa	(9258)	189
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NO L Nitric oxide CAS 10102-43-9 (850)

Nitric oxide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo	
Co++	oth	oth/un	25°C	0.0	U				1961TAb	(9291)	190
							Kp(Co+NO(g))=-1.5				

Method: Chemical analysis

NO2- HL Nitrite CAS 7782-77-6 (635)
Nitrite;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO4	25°C	1.0M	U		K1=0.44	1990ERb (9355)	191

NO3- HL Nitrate CAS 7697-37-2 (288)
Nitrate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	con	non-aq	25°C	100%	U		K1=1.49	1980GPa (9555)	192
Medium: DMSO									
Co++	sp	non-aq	25°C	100%	M	H	K1=4.02	1978LFa (9556)	193
Medium: acetonitrile. By calorimetry, DH=9.88 kJ mol ⁻¹ , DS=110 J K ⁻¹ mol ⁻¹									
Co++	cal	NaNO3	25°C	1.00M	U	H		1975ARa (9557)	194
DH(K1)=-4.86 kJ mol ⁻¹ . DS = -19.2 J K ⁻¹ mol ⁻¹ .									
Co++	sol	NaClO4	25°C	0.50M	U	I	K1=-0.46 B2=-0.30	1973FSc (9558)	195
K1=-0.46, B2=-0.43(I=1). K1=-0.48, B2=-0.60(I=2). K1=-0.60, B2=-0.62(I=3). K1=-0.38, B2=-0.43(I=4). K1=0.22(I=0)									
Co++	kin	NaClO4	25°C	1.0M	U		K1=-0.15	1973HHb (9559)	196
Co++	sp	non-aq	?	100%	U			1957TSb (9560)	197
							K3=3.43 B3=8.65		

Medium: acetone

Co++	sp	alc/w	25°C	100%	U		K1=>2.3	1955KGb (9561)	198
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Medium: EtOH

N2 L Nitrogen CAS 7727-37-9 (5686)
Dinitrogen, also Nitrous oxide; N2O

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sol	oth/un	25°C	?	U			1985VGb (10023)	199
							K(CoA2+L)=1.87 K(CoB2+L)=1.18		

A=Histamine, B=Histidine.

N2H4 L Hydrazine CAS 302-01-2 (2117)
Hydrazine; H2N.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	R4N.X	25°C	0.10M	U	M			1995KBb (10071)	200
								K(CoA+L)=1.81 K(CoAL+L)=0.61		
Medium: 0.1 M (NH3NH3)(NO3)2. H3A=NTA										
Co++	sp	NaCl	25°C	1.00M	U		K1=2.54	B2=5.02	1978TAa (10072)	201
Co++	sp	oth/un	25°C	1.0M	U		K1=1.6 B3=3.4	B2=2.3	1973SSd (10073)	202
Medium: N2H5ClO4. Using EMF: K1=1.6, B2=2.2, B3=3.1										
Co++	gl	oth/un	25°C	var	U		K1=1.4 K3=1.4 K4=1.4	B2=2.80	1972AKa (10074)	203
Co++	sp	oth/un	23°C	0.0	U				1967BEc (10075)	204
							K(Co(CN)5L+H)=4.35			
By glass electrode: K=4.32										
Co++	gl	NaClO4	30°C	1.0M	U		K1=1.78	B2=3.34	1967BSb (10076)	205

N3-		HL	Azide				CAS 7782-79-8	(441)		
Azide;										
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	sp	KNO3	25°C	0.50M	U				1991BKa (10173)	206
							K(CoA+N3)=2.57			
A=1,4,8,11-tetramethyl-1,4,8,11-tetraazacyclotetradecane.By kinetics K1=2.44										
Co++	sp	non-aq	25°C	100%	U				1985LDa (10174)	207
							K(CoAS+L=CoAL+S)=2.67			
Medium (S): DMF. A=N(CH2CH2NMe2)3										
Co++	con	NaClO4	25°C	1.0M	U		K1=0.74	B2=1.08	1980AVb (10175)	208
Co++	gl	NaClO4	25°C	1.0M	C		K1=0.76		1978GSb (10176)	209
Co++	sp	oth/un	20°C	var	U	T H	K1=1.26		1973AAc (10177)	210
K1=1.28(25 C), 1.28(31 C), 1.32(36 C). DH(K1)=5.9 kJ mol-1. In MeOH: B4=3.68(23 C), 3.74(27 C), 3.78(33 C). DH(B4)=17										
Co++	sp	oth/un	0°C	var	U		K1=1.7		1970AAAa (10178)	211
Co++	sp	NaClO4	25°C	1.0M	U		K1=0.72		1970SGa (10179)	212

OCN-		HL	Cyanate				CAS 661-20-1	(6165)		
Cyanate, Fulminate;										
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo

A=1,4,8,11-tetramethyl-1,4,8,11-tetraazacyclotetradecane. By kinetics $K_1=3.62$

Co++ sp oth/un var U K1=1.80 B2=3.06 1966L0a (10294) 215
K3=1.04
K4=0.90(0.84?)

OH- HL Hydroxide (57)
Hydroxide;

Co++ gl NaN03 25°C 0.10M C 2000MSa (10819) 216

Co++	sol	none	25°C	0.0	C T H	1999ZGa (10820)	217
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*K1=-10.21
*B2=-20.99
*K3=-11.9
K(Co(OH)+NH3=Co(OH)NH3)=1.84

$$K(\text{beta-Co(OH)}_2(\text{s})+2\text{H}=\text{Co}+2\text{H}_2\text{O})=13.37$$

Co++ gl NaNO3 25°C 0.10M U 1998MSe (10821) 218

*K1=-8.23
*B2=-17.83

Co++	gl	alc/w	25°C	50%	C	1997MGb	(10822)	219
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*K1=-7.36
*B2=-15.51

Medium: 50% v/v EtOH/H₂O, 0.2 M NaNO₃.

Co++	gl	NaCl04	30°C	0.10M	C	K1=6.35	1995STa	(10823)	220
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Co++ sp NaClO4 25°C 1.00M U I 1992FLa (10824) 221

*K1=-1.92

Medium: LiClO4. At 2.0 M: *K1=-2.05; at 3.0 M: *K1=-1.82.

Co++ g1 KN03 25°C 0.50M M H 1991BKa (10825) 222

$$K(\text{CoA}+\text{OH})=5.28$$

A=1,4,8,11-tetramethyl-1,4,8,11-tetraazacyclotetradecane. DH=-34 kJ mol⁻¹; DS=47 J K⁻¹ mol⁻¹.

Co++	gl	alc/w	30°C	50%	C	1991MCb (10826)	223
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*K1=-7.05

Medium: 50% v/v EtOH/H₂O, 0.2 M NaNO₃.

*K1=-8.21

*K1=-8.22

Medium: 50% v/v dioxane/H₂O, 0.2 M NaNO₃.

*K1=-7.36

Medium: 50% v/v EtOH/H₂O, 0.2 M NaNO₃.

*K1=-7.36

Medium: 50% v/v dioxane/H₂O, 0.2 M NaNO₃.

$$K(\text{CoO}(s) + \text{H}_2\text{O} = \text{Co} + 2\text{OH}) = -14.7$$

In 0.56 M NaClO₄, $K(\text{CoO}(\text{s}) + \text{H}_2\text{O} = \text{Co} + 2\text{OH}) = -15.1$

*K1=-9.82

$$K_{so}(\text{Co(OH)}_2(s) = \text{Co} + 2\text{OH}) = -14.5$$
$$*B(2,1)=-10.5$$

B3=9.9

$$K_{so}(\text{Co}(\text{OH})_2) = -14.8$$

*K1=-9.75

$$*B(2,1) = -9.44$$

Medium: 3 M BaClO4. Alternative model: *K1=-10.20, *B(2,1)=-9.37, *B(4,4)=-29.3

*K1=-9.96

*K1=-9.85(35 C), -9.62(35 C), -9.50(40 C). DH=34.2 kJ mol⁻¹

Co++	gl	none	25°C	0.0	U		1963BPa (10838) 235
						*K2=-8.9	

Co++	gl	none	?	0.0	U		1963FSa (10839) 236
						Kso=-14.2 (blue)	
						Kso=-14.8 (pink,fresh)	
						Kso=-15.7 (pink,aged)	

Co++	gl	NaCl04	28°C	1.00M	U		1963SSa (10840) 237
						*K1=-9.82	

Co++	gl	NaCl04	25°C	0.25M	U TI		1962BAc (10841) 238
						*K1=-9.85	

*K1=-9.96(15 C), -9.62(35 C), -9.50(40 C), same values for I=0.25 and 0.75

Co++	gl	none	25°C	0.0	U		1959ACb (10842) 239
						*K1=-11.20	

Co++	gl	NaCl04	25°C	0.25M	U I		1957POa (10843) 240
						*K1=-7.6	

For I=0 corr?: *K1=-6.96

Co++	gl	oth/un	25°C	var	U		1954BSa (10844) 241
						*K1(cis-Co(en)2NO2H2O)=-6.34	
						*K1(trans)=-6.44	

Co++	gl	none	75°C	0.0	U		1954DOa (10845) 242
						Kso(Co(OH)2)=-15.5	

Co++	gl	KCl	30°C	0.10M	U		1952CCa (10846) 243
						*K1=-8.9	

Co++	gl	none	25°C	0.0	U		1952GWA (10847) 244
						*K1=-12.20	

Co++	sol	none	25°C	0.0	U	B2=9.2	1950GGA (10848) 245
						K3=1.3	
						*Kso=12.40	
						K(Co(OH)2(s)=Co(OH)2)=-6.40	
						K(Co(OH)2(s)+OH=Co(OH)3)=-5.10	

Co++	EMF	none	25°C	0.0	C		1942NAa (10849) 246
						Kso(Co(OH)2)=-14.89	

Co++	gl	oth/un	25°C	dil	U		1938OKa (10850) 247
						Kso(Co(OH)2)=-14.0	

Co++	dis	oth/un	20°C	var	U	K1=4.05	1933JEa (10851) 248
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Co++	kin non-aq 25°C 100%	U	1998RMa (12574)	268
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$$K(\text{CoA(py)} + \text{O}_2) = -3.77$$

A is a bridged cyclidiene ligand. MeIm: 1-methylimidazole.

$$K(\text{CoA} + \text{O}_2) = -1.64$$
$$K(\text{CoA}_2 + \text{L}) = 3.21$$

Data also for O₂ binding by other Co(II) Schiff base complexes.

$$K(2\text{CoA}_2 + \text{O}_2 = \text{Co}_2\text{A}_4\text{O}_2) = 7.87$$

Method: manometry.

$K(2\text{CoH-1A} + \text{O}_2 = \text{Co}_2(\text{H-1A})_2\text{O}_2) = 9.24$. Method: manometry.

$$K(2\text{CoA}_2 + \text{O}_2 = \text{Co}_2\text{A}_4\text{O}_2) = 5.35$$
$$K(2\text{CoA}_2 + \text{O}_2 + \text{OH} = \text{Co}_2\text{A}_4(\text{OH})\text{O}_2) = -1.87, \quad K(2\text{CoH-1A} + \text{O}_2 = \text{Co}_2(\text{H-1A})_2\text{O}_2) = 5.12.$$

Alternative model: $K(2Co(H-A1)_2+L+OH=Co_2(AH-1)_4(OH)L)=5.21.$

Alternative model: $K(2\text{Co}(\text{H}-1\text{A})_2 + \text{L} + \text{OH} = \text{Co}_2(\text{H}-1\text{A})_4(\text{OH})\text{L}) = 5.35$.

Alternative model: $K(2\text{Co}(\text{H}-1\text{A})_2 + \text{L} + \text{OH} = \text{Co}_2(\text{H}-1\text{A})_4(\text{OH})\text{L}) = 4.80$.

Alternative model: $K(2\text{Co}(\text{H}-1\text{A})_2 + \text{L} + \text{OH} = \text{Co}_2(\text{H}-1\text{A})_4(\text{OH})\text{L}) = 2.53$.

Alternative model: $K(2\text{Co}(\text{H}-1\text{A})_2 + \text{L} + \text{OH} = \text{Co}_2(\text{H}-1\text{A})_4(\text{OH})\text{L}) = 5.47$.

Co++ oth KNO3 0°C 0.10M C M 1992KUa (12585) 279

Method: manometry. $K(2\text{Co}(\text{H}-1\text{A})_2 + \text{L} = \text{Co}_2(\text{H}-1\text{A})_4\text{L}) = 12.57$. HA is Val-phe.

Alternative model: $K(2\text{Co}(\text{H}-1\text{A})_2 + \text{L} + \text{OH} = \text{Co}_2(\text{H}-1\text{A})_4(\text{OH})\text{L}) = 4.08$.

Co++ sp non-aq -20°C 100% U I 1991SDa (12586) 280

$K(\text{CoA}(\text{py})_2 + \text{O}_2) = -4.45$

Medium: pyridine. A=4,4'-oxalyldinitrilodi(pent-2-one). In toluene:

$K(\text{CoAB}_2 + \text{O}_2) = -4.45$, B=1-methylimidazole

Co++ sp NaCl 25°C 0.10M U M 1991YBa (12587) 281

$K(\text{CoA} + \text{O}_2 = \text{CoAO}_2) = -1.12$

A=2,9,10,17,19,25,33,34-Octamethyl-3,6,13,16,20,24,27,31-octaazapentacyclo-octatriaconta-1,8,10,17,19,24,26,31,33-nonaene

Co++ sp non-aq 0°C 100% U T H 1990LGa (12588) 282

$K(\text{CoAB} + \text{L} = \text{CoABL}) = -2.74$

$K(\text{CoAC} + \text{L} = \text{CoACL}) = -1.60$

Medium: MeCN. A=BF₂-bridged bis-dimethylglyoximate; B=pyridine;

C=N-methylimidazole. For B=py, DH=-57.3 kJ mol⁻¹: DS=-257 J K⁻¹ mol⁻¹.

Co++ oth oth/un 20°C ? U M 1989CMA (12589) 283

$K(\text{CoA} + \text{O}_2) = 0.98$

A=Bis(3-fluorosalicylaldehyde)ethylenediamine. Data also for several similar Co(II) Schiff bases.

Co++ oth non-aq 25°C 100% U M 1989UKa (12590) 284

$K(\text{FeAB} + \text{L}) = -2.58$

A=5,15-Diphenyl-10a,20a-bis(nonanediamidodi-o-phenylene)porphyrin

B=1,2-Dimethylimidazole. Medium: toluene. Data for other similar porphyrins

Co++ cal KNO₃ 25°C 0.10M U H 1988CCa (12591) 285

L=tris(2-aminoethyl)amine. DH(Co+L+OH=CoL(OH))=-56.9 kJ mol⁻¹. DH(CoL)=-41.8

DH(2Co+2L+OH+O₂=Co₂L₂(O₂)(OH))=-251.0

Co++ cal KNO₃ 25°C 0.10M U H 1988CCa (12592) 286

L=3,7-diazanonane-1,9-diamine. DH(Co+L=CoL)=-50.2 kJ mol⁻¹. DH(2Co+2L+O₂=

Co₂L₂(O₂))=-240.6. DH(2Co+2L+OH+O₂=Co₂L₂(OH)(O₂))=-260.2

Co++ gl diox/w 25°C 70% C M 1988MMd (12593) 287

B(Co₂A₂L)=33.08

Medium: 70% v/v dioxan/H₂O. A=N,N-Bis(2-((2-hydroxybenzyl)amino)phenyl)-methylaniline, 0.1 M KCl

Co++ sp non-aq 20°C 100% U M 1988TFa (12594) 288

$K(\text{CoA} + \text{L} = \text{CoAL}) = -2.03$

A=2,3,9,12,18-Hexamethyl-3,9,13,17,20,23-hexaazabicyclo[9.7.6]-tetracosa-

1,10,12,17,19,23-hexaene. And others. Medium: 1.5 M Methylimidazole in CH₃CN

Co++ oth non-aq 25°C 100% U T M 1987CMb (12595) 289

$K(\text{CoA} + \text{L}) = 2.3$

A=bis(salicylaldehyde) o-phenylenediiminato pyridyl, in 2-methoxyethyl ether

Data also for several other similar Co Schiff base complexes

Co++ sp non-aq -30°C 100% U T H 1987FGd (12596) 290
 $K(\text{CoP}+\text{L}=\text{CoPL})=-3.58$

In toluene. At -42 C, $K=-2.48$; at -54 C, $K=-1.28$. $\text{DH}=-42.2 \text{ kJ mol}^{-1}$;
 $\text{DS}=-205$. CoP = meso-tetraphenylporphinatocobalt(II)pyridine complex.

Co++ sp none 20°C 0.0 U H 1987Lda (12597) 291
 A=N,N'-Bis(4,6-dimethoxysalicylidine)-4-(trifluoromethyl)-o-phenylenediamine
 For CoAB+L=CoABL $\text{DH}=-45.6$ (B=py); -48.5 (1-Me-imidazole); -18.5 (B=C₄H₈S)

Co++ sp non-aq 25°C 100% U 1986CHb (12598) 292
 $K(\text{Co2PH2O}+\text{O2}=\text{Co2P}(\text{O2})+\text{H2O})=1.3$
 In benzonitrile 0.1 M in H₂O. Co2P=Co(II)Co(III)-cofacial porphyrin complex

Co++ gl oth/un 25°C 0.10M U H 1984CCb (12599) 293
 $K(2\text{CoA}+\text{O2}=\text{Co2}(\text{O2})\text{A2})=8.30$
 Medium not stated. $K'(2\text{CoA}+2\text{OH}+\text{O2}=\text{Co2}(\text{OH})2(\text{O2})\text{A2})=23.0$.
 A is cyclam. By calorimetry, $\text{DH}(K)=-86.1 \text{ kJ mol}^{-1}$, $\text{DH}(K')=-132.1$.

Co++ sol oth/un 25°C ? U 1984VGa (12600) 294
 $K(\text{Co}(\text{histamine})2+\text{O2})=3.09$

Co++ vlt KCl 25°C 1.00M U H 1983CCa (12601) 295
 $K(2\text{Co}(\text{en})2+\text{O2}+\text{H2O})=4.76$
 $B(2\text{Co}+4\text{en}+\text{O2}+\text{H2O})=26.08$
 Full equations are $K(2\text{Co}(\text{en})2+\text{O2}+\text{H2O}=\text{Co2}(\text{en})4(\text{O2})(\text{H2O})+\text{H})$ and
 $B(2\text{Co}+4\text{en}+\text{O2}+\text{H2O}=\text{Co2}(\text{en})4(\text{O2})(\text{H2O})+\text{H})$. $\text{DH}(K)=-116.3$; $\text{DH}(B)=-233.0 \text{ kJ mol}^{-1}$.

Co++ vlt mixed 25°C 0.10M U M 1981PCa (12602) 296
 $K(\text{CoA}+\text{O2}=\text{Co}(\text{O2})\text{A})=3.62$
 A=N,N'-propane-1,2-diylbis(salicylideneimine); Also A=N,N'-butane-2,3- or
 meso-butane-2,3-derivatives

Co++ sp NaClO₄ 25°C 1.0M U M 1980WSa (12603) 297
 $K(\text{CoA}+\text{L})=3.9$
 Medium: LiClO₄. A=1,4,8,11-tetraazacyclotetradecane

Co++ sp NaClO₄ 25°C 1.0M U M 1980WSa (12604) 298
 $K(\text{CoA}+\text{L})=3.6$
 Medium: LiClO₄. A=1,4,8,11-tetraazacyclotetra-1,(14),11-diene-13-one

Co++ sp NaClO₄ 25°C 1.0M U M 1980WSa (12605) 299
 $K(\text{CoA}+\text{L})=4.6$
 $K(\text{CoA}+\text{CoAL})=4.3$
 Medium: LiClO₄. A=1,4,8,12-tetraazacyclopentadecane

Co++ sp non-aq 20°C 100% U HM 1977CGa (12606) 300
 $K(\text{CoA}+\text{O2})=2.81$
 Medium: dimethylformamide. $\text{DH}=-60$ (approx) kJ mol^{-1} . A=salicylidene compound

 Co++ vlt KNO3 25°C 0.10M C M 1976Bmd (12607) 301
 $K(2Co(bpy)_2+O_2)=4.2$
 $K(2Co(bpy)_2+O_2+H_2O=CoX+H)=-2.6$

Co++ cal oth/un 25°C 0.02M U HM 1972PNa (12608) 302
 $K(Co(His)_2+O_2)=6.63$

DH=-126 kJ mol⁻¹. In 1 M KCl, $K(Co(en)_2(H_2O)_2+O_2)=10.84$; DH=-123.

In 0.13 M KCl, $K(Co(histamine)_2(H_2O)_2+O_2)=8.47$. Polarography also used

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

Phosphate;

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

Co++ gl NaNO3 25°C 0.10M M 1996SSa (13052) 303
 $K(Co+HL)=2.22$

Co++ gl NaClO4 25°C 0 M I K1=0.96 B2=1.89 1995P0a (13053) 304
 In 3.0 M NaClO4: K1=0.51, B2=1.03

Co++ gl NaNO3 25°C 0.10M C 1981BKb (13054) 305
 $K(Co+HPO_4)=2.18$

Co++ gl NaClO4 25°C 0.10M U I M 1967SBc (13055) 306
 $K(Co+HL)=2.18$

In 10% dioxan, 0.1 M NaClO4: $K(Co+HL)=2.26$, $K(Co+bpy+HL)=2.26$

I=0.1(NaClO4)

Co++ gl oth/un 20°C dil U 1961CAa (13056) 307
 $K_{so}(Co_3L_2)=-34.7$
 $K_s(CoHL=Co+HL)=-6.7$

PW11039----- H7L (2467)

alpha-Heteromonophospho-polytungstate;

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

Co++ gl NaNO3 25°C 1.00M U K1=4.58 1984C0a (13398) 308

P207---- H4L Pyrophosphate CAS 2466-09-3 (198)

Diphosphate; from (HO)2PO.O.PO(OH)2

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

Co++ gl R4N.X 25°C 0.50M C K1=1.75 B2= 4.17 1979DHa (13545) 309

$K(Co+HL=CoL+H)=-6.70$

$K(Co+2HL=CoL_2+2H)=-12.75$

$K(CoL+HL=CoL_2+H)=-6.05$

Medium: 0.50 M Me4NCl. $K_{so}(Co_2P_2O_7.6H_2O)=-15.3$.


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-----
Co++      gl  KCl    25°C 0.10M U      K1=6.89      1964EMb (13818) 319
              K(Co+HL)=3.81
              K(CoL+H)=4.98
-----
Co++      gl  R4N.X  25°C 0.10M U      K1=8.16      1964HMb (13819) 320
              K(Co+HL)=5.17
Medium: Me4NC1
-----
Co++      sp  KNO3   30°C 1.0M U      K(Co+HL)=4.03 1964SSc (13820) 321
-----
Co++      gl  NaNO3  25°C 0.10M U      K1=6.6       1963JWa (13821) 322
              K(CoL+H)=5.4
-----
Co++      vlt oth/un rt 0.25M U      K1=7         1957K0a (13822) 323
*****
P4012---- H4L                      CAS 13598-74-8 (234)
Cyclotetrametaphosphate;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++      ix  NaCl04 20°C 0.23M U      K1=2.62      1974K0a (13993) 324
*****
P6018----- H6L                      (233)
Cyclohexametaphosphate;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++      ix  NaCl04 20°C 0.23M U      K1=3.65      1974K0a (14069) 325
*****
P8024----- H8L                      (232)
Cyclooctametaphosphate;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++      ix  NaCl04 20°C 0.23M U      K1=4.80      1974K0a (14081) 326
*****
S--      H2L      Sulfide          CAS 7783-06-4 (705)
Sulfide;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++      vlt oth/un 25°C 0.72M C      K(Co+HL)=6.8 1999AVb (14292) 327
              K(Co+2HL)=10.4
Method: determination of Co by cathodic stripping voltammetry using oxine
as competitive ligand. Medium: seawater, pH 9.0, S=35.
-----
Co++      vlt NaCl04 24°C 0.50M C I      K1=5.52      1999CRb (14293) 328

```

$B(\text{Co}_2(\text{S}_5))=11.53$

Ligand is S_5^{--} . Method: polarography. Also data for 0.55 M NaCl.

Co++ vlt oth/un 25°C 0.70M C I 1996LRb (14294) 329

$K(\text{Co}+\text{HS})=4.68$
 $K(2\text{Co}+\text{HS})=9.52$
 $K(3\text{Co}+\text{HS})=15.50$

Method: voltammetry at Hg/HgS electrode. Medium: seawater. Also data for 0.1 and 0.5 strength seawater

Co++ vlt NaCl 25°C ? U 1994ZMa (14295) 330

$K_{\text{leff}}=5.3$

Medium: sea water, pH=8. Method: cathodic stripping square wave voltammetry

Co++ oth none ? 0 U 1990DKa (14296) 331

$*K_s(\text{CoS}+\text{H}=\text{Co}+\text{HS})=-7.44$ (LS)
 $*K_s(\text{CoS}+\text{H}=\text{Co}+\text{HS})=-11.07$ (HS)

Low spin (LS) and high spin (HS) Co++. Recalculation of literature data.

Co++ oth none 25°C 0.0 C 1989DYa (14297) 332

$K(\text{Co}+\text{HS}=\text{CoS}+\text{H})=3.1$

Calculated from literature data, based on $K(\text{H}+\text{S})=17.0$.
FeS is troilite.

Co++ oth none 25°C 0 U 1988LIa (14298) 333

$K_{\text{so}}(\text{CoS}, \alpha)=-24.6$
 $*K_{\text{so}}(\text{CoS}, \alpha)=-7.2$
 $K_{\text{so}}(\text{CoS}, \beta)=-30.3$
 $*K_{\text{so}}(\text{CoS}, \beta)=-13.0$

Derived from thermodynamic data and $K(\text{H}+\text{S}=\text{HS})=17.3$.

Co++ dis oth/un 25°C 0.69M U 1985DYa (14299) 334

$K(\text{Co}+2\text{H}_2\text{S}=\text{CoHS}_2+3\text{H})=-6.18$
 $K(\text{Co}+2\text{H}_2\text{S}=\text{Co}(\text{HS})_2+2\text{H})=0.08$

Co++ vlt oth/un 25°C 0.05M U 1970CLa (14300) 335

$K_{\text{so}}=-17.5$

Co++ oth none 25°C 0.0 U 1952GGc (14301) 336

$K_{\text{so}}(\text{CoL})=-22.10$

From thermodynamic data

Co++ oth none 25°C 0.0 U 1952LAb (14302) 337

$K_{\text{so}}(\text{CoL}(\alpha))=-21.3$
 $K_{\text{so}}(\text{CoL}(\beta))=-26.72$

From thermodynamic data. alpha and beta ambiguous

Co++ oth none 25°C 0.0 U 1940KAa (14303) 338

$K_{\text{so}}(\text{CoL})=-22.51$

From thermodynamic data

 Co++ sol oth/un 20°C 1.0M U 1931K0a (14304) 339
 $K_{so}(CoL) = -26.72$
 $K(CoL(s) + 2H = Co + H_2S(g)) = -3.77$

Medium: H₂SO₄

 Co++ oth oth/un 18°C var U 1909BZa (14305) 340
 $K_{so}(CoL) = -25.5$

From thermodynamic data

SCN- HL Thiocyanate CAS 463-56-9 (106)

Thiocyanate;

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

 Co++ oth NaClO₄ 25°C 3.0M U I R K₁=1.01 1997BPa (14748) 341
 IUPAC evaluation

 Co++ sp KNO₃ 25°C 0.50M U 1991BKa (14749) 342
 $K(CoA + SCN) = 3.07$

A=1,4,8,11-tetramethyl-1,4,8,11-tetraazacyclotetradecane. By kinetics K₁=3.09

 Co++ cal non-aq 25°C 100% U H T K₁=2.4 B₂=4.2 1990IOa (14750) 343
 $K_3 = 2.4$
 $K_4 = 3.3$

Medium: N,N-Dimethylformamide, 0.4 M Et₄NClO₄. DH(K₁)=-0.9, DH(K₂)=-15,
 DH(K₃)=50, DH(K₄)=-29 kJ mol⁻¹. DS(K₁)=43 J K⁻¹ mol⁻¹.

 Co++ sp oth/un 25°C 0.50M U I K₁=5.3 1989WMa (14751) 344
 Medium: HCl. K₁(I=1.7)=5.3, K₁(I=2.0)=5.2, K₁(I=3.4)=6.0

 Co++ cal NaClO₄ 25°C 0.50M U H T K₁=1.20 B₂=1.57 1988ISb (14752) 345
 DH(K₁)=-8.10 kJ mol⁻¹, DH(B₂)=-22.5. DS(K₁)=-4 J K⁻¹ mol⁻¹, DS(B₂)=-45
 Data also for media containing 1.0, 2.5, and 5.0 %w/w Triton X-100

 Co++ sp non-aq 25°C 100% U K₁=4.5 1987PGb (14753) 346
 $B_4 = 12.2$

Medium: N,N-dimethylformamide

 Co++ EMF non-aq 25°C 100% U K₁=5.01 B₂=9.81 1985CCc (14754) 347
 $B_4 = 19.36$

Medium: propylene carbonate, 0.5 M NaClO₄

 Co++ sp non-aq 25°C 100% U 1985LDA (14755) 348
 $K(CoAS + L = CoAL + S) = 2.24$

Medium (S): DMF. A=N(CH₂CH₂NMe₂)₃

 Co++ sp NaClO₄ 25°C 2.0M U K₁=0.84 B₂=1.46 1985VNa (14756) 349
 $B_3 = 1.08$
 $B_4 = 0.11$

Co++	sp	NaClO4	25°C	0.45M	U	M			1979ZKa (14757)	350
K(CoA+SCN)=3.10 A=1,4,8,11-tetramethyl-1,4,8,11-tetraazacyclotetradecane										
Co++	sp	non-aq	130°C	100%	U				1974HNa (14758)	351
B4=7.94 Medium: dimethylsulfone. B4=5.7 using iE studies										
Co++	sp	non-aq	25°C	100%	U				1974MAa (14759)	352
B4=15.5 Medium: acetonitrile, 0.1 M Et4NClO4										
Co++	sp	non-aq	?	100%	U		K1=4.22 B4=14.5		1974SIb (14760)	353
Medium: acetone;(error in abstract(?))										
Co++	kin	NaClO4	25°C	1.0M	U	T	K1=0.95		1973HHb (14761)	354
Co++	sp	oth/un	?	var	U				1973KKe (14762)	355
B3=3.29										
Co++	oth	non-aq	?	100%	U	I	K1=2.9		1973MIa (14763)	356
Medium: acetonitrile; K1=2.7 in trimethylphosphate; 2.7 in MeCONMe2; 2.2 in dimethylsulphoxide. Method: infrared spectroscopy										
Co++	sp	non-aq	25°C	100%	U		K1=1.64 B4=3.45	B2=2.51	1973SCa (14764)	357
Medium: DMSO, 0.5 M MClO4(M=Li,Na,Et4N)										
Co++	sp	non-aq	25°C	100%	U		K1=2.67 B4=6.76	B2=4.71	1972MRa (14765)	358
Medium: DMSO										
Co++	sp	non-aq	?	100%	U		K2=2.9 K3=2.7 K4=2.5 K6=2.4		1972PBa (14766)	359
Medium: N,N-dimethylformamide										
Co++	EMF	none	25°C	0.0	U	T H	K1=1.87		1971DDb (14767)	360
DH(K1)=-20 kJ mol ⁻¹ . K1=1.78(35 C), 1.66(45 C)										
Co++	sp	none	27°C	0.0	U		K1=1.88		1971DDb (14768)	361
Co++	dis	NaClO4	25°C	1.0M	U	T	K1=1.00	B2=1.32	1971SMa (14769)	362
Co++	sp	NaClO4	25°C	3.0M	U	T	K1=1.27		1970MMj (14770)	363
medium:LiClO4										

Co++	ix	oth/un	rt	var	U	K1=2.5 B3=4.0 B4=3.9	B2=1.8	1970SLa (14771)	364		

Co++	nmr	NaClO4	27°C	1.50M	U	H	T	K1=1.2 K3=-0.62 K4=-1.30	B2=1.65	1970ZMa (14772)	365
DH(K1)=16.7 kJ mol ⁻¹ , DH(K2)=-25.1, DH(K3)=8.4, DH(K4)=6.3											

Co++	EMF	oth/un	25°C	0.0	U			K1=1.77		1968PRd (14773)	366

Co++	sp	oth/un	?	var	U	M				1967BPc (14774)	367
K(CoA2+L)=4.9 K(CoA2L+L)=2.9											
HA=dimethylglyoxime. Medium: KL											

Co++	cal	oth/un	25°C	0.0	U	H		K1=1.72		1967NTa (14775)	368
Medium: 0 corr. DH(K1)=-6.8 kJ mol ⁻¹ , DS=9.2 J K ⁻¹ mol ⁻¹											

Co++	sol	KN03		?	0.50M	U	I			1965PDa (14776)	369
Kso(CoL2(C5H5N)4)=-12.67 Kso=-12.87(I=0.2), -13.08(I=0.05), -13.11(I=0). Kso: K(CoL2py2(s)=Co+2L+2py)											

Co++	sp	NaClO4	20°C	0.60M	U	I	T	K1=1.10		1964KSe (14777)	370
Medium: HClO4. K1=1.18(I=0.3), 1.28(I=0.15)											

Co++	sp	KN03	23°C	3.0M	U			K1=0.63 B3=-0.38		1964KUb (14778)	371

Co++	dis	NaClO4	25°C	3.0M	U			K1=-0.45 Kd(CoL2=CoL2(org A))=3.51	B2=-1.07	1963DCa (14779)	372
Kd(CoL2+2S(org B)=CoL2S2(org B))=1.12. A=i-BuCOMe, B=i-BuCHOHMe											

Co++	vlt	NaClO4	25°C	1.80M	U		T	K1=0.98		1963TCb (14780)	373

Co++	sp	oth/un		?	0.0	U				1963WVb (14781)	374
Medium: 0 corr K(CoL4(H2O)2(octahedral)=CoL4(tetrahedral)+2H2O)=-0.33											

Co++	oth	oth/un		?	var	U		K1=0.95		1962FLa (14782)	375
Method: ir											

Co++	sp	NaClO4		?	1.50M	U		K1=1.00		1962TCa (14783)	376

Co++	dis	R4N.X	20°C	1.50M	U			K1=0.95 B3=1.8 B4=-0.3	B2=1.6	1962TZa (14784)	377
Medium: NH4ClO4. Also Kd values into Me-i-Bu-ketone											

Co++	sp	none	25°C	0.0	U			K1=1.72		1962WIa (14785)	378

Co++	sp	oth/un	1°C	0.50M	U		K1=1.2		1961DSd (14786)	379

Co++	sp	non-aq	25°C	100%	U				1961PSc (14787)	380
							K3/K4=2.72			
Medium: CH3COOH										

Co++	vlt	NaClO4	?	0.50M	U		K1=1.06		1960TRa (14788)	381

Co++	sp	NaClO4	25°C	1.0M	U	T	K1=1.01		1958SPc (14789)	382

Co++	sp	NaClO4	20°C	1.0M	U	I	T	K1=0.40	1958SWb (14790)	383
K1=1.7? (I=0 corr)										

Co++	sp	none	23°C	0.0	U		K1=1.51		1958YKa (14791)	384

Co++	sp	mixed	?	40%	U	I	K1=1.28		1951KTa (14792)	385
							B4=4.11			
Medium 40% w/w acetone/H2O; K1=1.32(0%), 1.55(50%), 1.78(60%); B4=5.38(50%) 6.59(60%), 13.72(100%).										

Co++	sp	oth/un	20°C	var	U		K1=3	K2=0	1951LEa (14793)	386
							K3=-0.7			
							K4=-0.04			

Co++	sp	NaClO4	25°C	0.60M	U	T	K1=1.15		1951SSa (14794)	387

Co++	sp	mixed	?	50%	U				1950BDa (14795)	388
							K2*K3*K4=3.82			
Medium: 50% w/w acetone/H2O.										

Co++	sp	oth/un	?	var	U	I			1950BDb (14796)	389
							B4=-0.5			
Also data for EtOH, HCO2H, CH3CO2H, dioxan.										

S02		L		Sulfur dioxide					(6336)	
Sulfur dioxide;										

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

Co++	sp	oth/un	20°C	dil	C				2002TNa (15351)	390
							K(CoP+S02)=1.94			
Medium: pH 11 buffer. At pH 7.4, K(CoP+S02)=2.11.										
CoP is Co(II) tetrasulfophthalocyanine.										

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

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

Co++	EMF NaCl	25°C	0.00	U	I	K1=3.08	1991RZb (15432)	391
Co++	gl NaClO4	25°C	2.00M	C		K1=2.63 K3=2.15	B2=4.34 1987CPa (15433)	392

S04--	H2L Sulfate					CAS 7664-93-9	(15)	
Sulfate;								
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference ExptNo
Co++	con	mixed	20°C	50%	C	I	K1=3.16	2001MTa (15880) 393
Medium: 50 % w/w DMF/H2O. Data for 0-80 % w/w DMF/H2O. At 0% DMF/H2O, K1=2.44								
Co++	con	none	25°C	0.0	C		K1=2.25	1985SGd (15881) 394
Co++	vlt	NaCl	25°C	0.56M	C		K1=1.50	1982CDa (15882) 395
Method: polarography. Medium pH 8.0								
Co++	cal	KNO3	35°C	2.0M	U	H		1981ARc (15883) 396
DH(K1)=-0.7 kJ mol ⁻¹ , DS=20 K J mol ⁻¹								
Co++	oth	none	25°C	0.0	C	H	K1=2.21	1981YYa (15884) 397
Calculated from published conductivity data. DH(K1)=5.33 kJ mol ⁻¹ , DS(K1)=60.2 J K ⁻¹ mol ⁻¹ .								
Co++	con	none	25°C	0.0	C	T	K1=2.27	1979FFc (15885) 398
Also data for 15 C. Also data at 1000 and 2000 atm. K expressed on molal scale.								
Co++	con	mixed	25°C	?	U	T H	K1=2.25	1976KAa (15886) 399
K1=2.19 (0 C); 2.24 (20 C); 2.26 (30 C); 2.30 (40 C); 2.32 (45 C) Medium: Water-ethylene glycol mixture								
Co++	con	diox/w	25°C	100%	U	I M		1976MBa (15887) 400
K(Co(NH3)5NO2+L)=4.61 In H2O: K(Co(NH3)5NO2+L)=2.58								
Co++	cal	NaClO4	25°C	3.0M	U	H		1974BRa (15888) 401
Medium: LiClO4. DH(K1)=2.6 kJ mol ⁻¹ , DS(K1)=12.5 J K ⁻¹ mol ⁻¹								
Co++	cal	none	25°C	0.0	U	H		1973HPa (15889) 402
DH(K1)=6.1 kJ mol ⁻¹								
Co++	cal	none	25°C	0.0	U	H		1973POa (15890) 403
DH(K1)=5.7 to 6.3 kJ mol ⁻¹								
Co++	oth	none	25°C	0.0	C		K1=2.31 B2= 1.66	1972PIa (15891) 404
Calculated from published osmotic coefficient data.								

Co++	dis	NaClO4	25°C	1.0M	U		K1=0.74	B2=1.48	1971MSd (15892)	405

Co++	sp	NaClO4	25°C	3.0M	U		K1=0.23		1970MMj (15893)	406
Medium: LiClO4										

Co++	cal	none	25°C	0.0	U	H	K1=2.69		1969IEa (15894)	407
DH(K1)=2.1 kJ mol ⁻¹ , DS(K1)=58.2 J K ⁻¹ mol ⁻¹										

Co++	ISE	oth/un	35°C	0.0	U		K1=1.93		1968PRd (15895)	408

Co++	sol	oth/un	300°C	0.0	U	T H			1967GNd (15896)	409
Kso(CoLH2O)=-6.58										
Kso=-3.84(160 C), -4.15(180 C), -4.47(200 C), -4.78(220 C), -5.11(240 C), -5.51(260 C), -5.98(280 C). At 25 C:DHso=-54.3 kJ mol ⁻¹ ,DS=-200.6 J K ⁻¹ mol ⁻¹										

Co++	oth	oth/un	25°C	0.0	U	H	K1=2.36		1967HEb (15897)	410
From thermodynamic data. DH(K1)=7.5 kJ mol ⁻¹ , DS=70.2 J K ⁻¹ mol ⁻¹										

Co++	oth	non-aq	260°C	100%	U		K1=-0.4		1966IWa (15898)	411
Method:freezing point. Medium: molten LiNO3, m units										

Co++	ix	alc/w	25°C	20.0M	U	I	K1=2.6		1965SMf (15899)	412
In H2O: K1=2.41										

Co++	EMF	NaClO4	20°C	2.72M	U	M	K1=2.9		1963KVa (15900)	413
K(Co(en)2+L)=0.8										
K(Co(en)3+L)=-0.7										

Co++	EMF	oth/un	25°C	0.0	U	T H	K1=2.36		1959NNa (15901)	414
Method: H electrode. K1=2.24(0 C), 2.27(5 C), 2.30(15 C), 2.40(35 C), 2.44 (45 C). DH(K1)=7 kJ mol ⁻¹ , DS=70 J K ⁻¹ mol ⁻¹										

Co++	con	alc/w	25°C	10%	U	I	K1=2.58		1958DTa (15902)	415
Medium: EtOH. K1=3.245(30%), 3.98(50%)										

Co++	oth	oth/un	25°C	0.0	U		K1=2.2		1955BPb (15903)	416
Method: freezing point. K1=2.00 to 2.36										

Co++	sol	oth/un	75°C	0.0	U				1954DOa (15904)	417
Kso(Co(OH)1.5L0.25)=-12.93										

Co++	con	oth/un	25°C	0.0	U		K1=2.47		1932MDa (15905)	418

S2O3-- H2L Thiosulfate CAS 73686-28-7 (177)										
Thiosulfate;										

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

Co++	cal	R4N.X	25°C	0.50M	U	H	K1=0.77		1974ARa (16794)	419
DH=2.09 kJ mol ⁻¹ .										

```

-----
Co++      dis NaClO4 25°C 1.0M U      K1=0.84  B2=0.88  1971MSd (16795) 420
-----
Co++      sp  NaClO4 20°C 1.00M U      K1=0.37          1958SWb (16796) 421
-----
Co++      sp  NaCl    ?  0.30M U  I      K1=0.64          1956ANc (16797) 422
At I=0 corr. K1=2.05
-----
Co++      sol none   25°C 0.0  U    M    K1=2.05          1951DMb (16798) 423
                                   K(Co(NH3)6+L)=4.62
*****
S2O8--      H2L    Peroxodisulfate    (7860)
Peroxodisulfate;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++      cal KNO3  35°C 2.0M U  H      K1=1.40          1981ARc (16920) 424
DH(K1)=-+4.3 kJ mol-1, DS=41 K J mol-1
*****
Se--      H2L    Selenide              (6335)
Selenide;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++      oth none   25°C 0.0  U              1964BUe (16937) 425
                                   Kso=-31.2
*****
SeCN-      HL    Selenocyanate    CAS 73102-11-2 (440)
Selenocyanate;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++      ISE none   25°C 0.0  U  H      K1=1.49          1975SSa (16975) 426
DH = -6.35 kJ mol-1. DS = 7.21 J K-1 mol-1.
-----
Co++      con non-aq 20°C 100% U  I      K1=3.0    B2=4.91  1968SBa (16976) 427
                                   B3=5.70
                                   B4=6.79
Medium: Me2NCHO. In MeCN: K1=3.93, B2=6.45, B3=9.67, B4=12.81
-----
Co++      sp  oth/un  ?  var  U    M          1967BPd (16977) 428
                                   K(CoA2+L)=5.1
                                   K(CoA2L+L)=3.1
A=dimethylglyoxime. Medium: KL
-----
Co++      EMF oth/un  ?  var  U          K1=1.20          1962GSc (16978) 429
-----
Co++      sp  mixed   ?  50% U  I      K1=1.5          1962GSc (16979) 430
Medium: 50% w/w acetone/H2O. In acetone K1=6.1, B4=13.15
-----

```

Co++ sp alc/w ? 100% U K1=3.68 B2=4.38 1962GSc (16980) 431
 B3=4.74
 B4=5.07
 B5=5.34
 B6=5.55

Medium: MeOH

SeO3-- H2L Selenite CAS 7783-00-8 (2391)
 Selenite;

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

Co++ con oth/un 18°C dil U 1968RVa (17033) 432
 Kso=-6.93

Co++ sol KNO3 ? 0.30M U I B2=3.25 1966PDa (17034) 433
 Kso=-7.93

Kso=-7.94(I=0.01), solid=CoSeO3(H2O)2

Co++ sol oth/un 20°C 0.0 U 1964SLa (17035) 434
 Kso=-7.08

Co++ sol oth/un 20°C var U 1957CTa (17036) 435
 Kso(CoL)=-6.8

SeO4-- H2L Selenate CAS 7783-08-6 (459)
 Selenate;

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

Co++ EMF oth/un 0°C ? U T H K1=2.50 1970GNc (17097) 436
 Method: H electrode. K1=2.58(10 C), 2.66(20 C), 2.70(25 C), 2.76(35 C);
 2.83(45 C). DH(K1)=12.2 kJ mol-1, DS=92.9 J K-1 mol-1 (25 C)

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

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

Co++ gl NaNO3 25°C 1.00M U K1=7.24 1984COa (17232) 437
 K(beta1 isomer)=6.88
 K(beta2 isomer)=6.75
 K(beta3 isomer)=6.82

WO4-- H2L Tungstate CAS 13783-36-3 (445)
 Tungstate;

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

Co++ sp NaCl ? 1.00M U M 1973TSa (17429) 438

A=SiW11039(8-)

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

CH305P	H3L	Phosphonoformic	CAS 4428-95-9	(5654)
Phosphonoformic Acid; O:P(OH)2.COOH				

CH4N2S L Thiourea CAS 62-56-6 (51)
Thiocarbamide, Thiourea; (H2N)2CS

K1=>3, K2=>3, K3=2.6 and K4=2.0 in Propylene carbonate. K1=2.6, K2=2.1, K3=1.9 and K4=1.8 in n-Propanol. K1=2.5, K2=2.3, K3=K4=2.2 in Ethyl acetate

Co++	nmr non-aq 27°C 100% U	M	1971EzA (17803) 447
			K(CoL2C12=CoLC12+L)=4.16
			K(CoL2Br2=CoLBr2+L)=4.45
			K(CoL4(NO3)2=CoL3(NO3)2+L)=5.2

Data for other ternary complexes also available

 Co++ sp mixed 20°C 50% U I 1967LSa (17804) 448
 B4=2.26

Medium: acetone. In 100%, B4=9.95

 Co++ dis oth/un 25°C 0.20M U K1=0.74 B2=1.16 1966IGa (17805) 449
 K3=0.33

Medium: LiNO3

 Co++ sp alc/w 20°C 95% U B2=1.7 1966SIc (17806) 450
 B6=4.5

Medium: 95% EtOH, 0.1 M NaClO4; 18-22 C

 Co++ EMF mixed 25°C 90% U K1=1.05 B2=1.75 1966SLb (17807) 451
 Medium: 90% Me2CO, 2 M NaClO4

 Co++ EMF mixed 25°C 90% U K1=1.05 B2=1.75 1966SLc (17808) 452
 Medium: 90% acetone

CH403ClP H2L CAS 2565-58-4 (1973)
 Chloromethylphosphonic acid; Cl.CH2.PO3H2

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

 Co++ EMF NaNO3 25°C 0.10M U K1=1.89 1970TNa (17926) 453

CH5N3S L CAS 79-19-6 (372)
 Thiosemicarbazide; H2N.CS.NH.NH2

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

 Co++ gl KNO3 25°C 0.50M U K1=1.14 B2=2.86 1979LGa (18077) 454
 B3=4.17

CH503P H2L CAS 13590-71-1 (1752)
 Methylphosphonic acid; CH3.PO3H2

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

 Co++ gl NaNO3 25°C 0.10M M K1=2.24 1992SCa (18118) 455

CH504P H2L CAS 86703-09-5 (1751)
 Methylphosphoric acid; CH3OP(O)(OH)2

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

 Co++ gl NaNO3 25°C 0.10M M K1=1.99 1996SSa (18168) 456

Co++ sp oth/un 20°C 0.10M U T K1=2.00 1965BRb (18169) 457

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

Co++ gl KNO3 25°C 0.10M C K1=2.96 1996RLa (18179) 458
B(CoH-1L)=-5.64

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

Co++ gl KNO3 25°C 0.10M C I R K1=4.5 2001PRa (18216) 459
K(Co+HL)=1.6

IUPAC Recommended values

Co++ gl NaNO3 25°C 0.10M C K1=4.58 1994SCa (18217) 460
K(Co+HL)=1.52
K(CoL+H)=7.02

Co++ gl KNO3 25°C 0.10M U K1=4.45 B2=8.09 1979WNb (18218) 461
B(CoHL)=11.79
B(CoHL2)=16.75
B(CoH2L2)=22.9

Co++ gl NaClO4 25°C 0.10M U K1=4.78 B2=8.79 1976SOa (18219) 462
B(CoHL)=12.73

Co++ gl oth/un 25°C 0.10M U K1=4.5 B2=7.50 1972AUa (18220) 463

Co++ gl KNO3 25°C 0.10M U K1=4.18 B2=8.1 1971WNC (18221) 464
B(CoHL)=11.71
B(CoH2L2)=23.3
B(CoHL2)=16.7

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

Co++ gl NaClO4 20°C 0.10M U K1=2.83 B2=5.38 1964COd (18239) 465

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

Co++ gl KCl 25°C 0.50M U K1=2.97 B2=5.66 1969BDa (18243) 466

CH606P2 H4L Medronic acid CAS 1984-15-2 (2384)
Methanediphosphonic acid; CH₂(PO₃H₂)₂

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

Co++ gl KCl 25°C 0.10M U K1=12.03 B2=18.99 1967KLa (18268) 467
K(Co+HL)=6.11
K(Co+2HL)=10.67
K(2Co+L)=14.98
K(2Co+HL)=8.65

CH607P2 H3L CAS 56399-35-0 (7664)
Methyldiphosphoric acid;

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

Co++ gl NaNO₃ 25°C 0.10M M K1=3.73 1999SSa (18307) 468

C2H2O2Cl₂ HL CAS 79-43-6 (1282)
Dichloroethanoic acid; Cl₂CH.COOH

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

Co++ gl NaClO₄ 20°C 1.00M U K1=1.3 B2=2.6 1969PJc (18390) 469

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

Co++ gl KNO₃ 35°C 0.10M C M K1=4.35 1997PSb (18730) 470
K(CoL+A)=6.07

H2A is thiamine orthophosphoric acid.

Co++ gl KNO₃ 30°C 0.10M U K1=4.99 1994RSa (18731) 471

Co++ gl NaCl 25°C 0.50M C K1=3.21 B2=5.93 1989FRa (18732) 472

Co++ gl KNO₃ 35°C 0.10M C M K1=4.97 1985RRc (18733) 473
B(CoL(cytidine))=9.17

Co++ gl KNO₃ 35°C 0.10M C K1=4.97 1985RRh (18734) 474

Co++ oth NaClO₄ 40°C 0.10M C M B2=5.13 1984SIa (18735) 475
B(CoL(NTA))=7.49

Method: Paper electrophoresis, pH 10.0.

Co++ vlt NaClO₄ 20°C 0.50M C K1=3.51 B2= 6.38 1981UBa (18736) 476

B(Co2L5)=18.40

Method: polarography.

Co++ sp R4N.X 25°C 1.50M U M 1973BDd (18737) 477
B(CoCuL3A)=30.62
B(CoNiL4A)=32.02

Medium: NH4NO3. H4A=EDTA

Co++ sp R4N.X 25°C 1.50M U M 1973BDd (18738) 478
K((CoL2)2A+(NiL2)2A)=1.11
K((CoL2)2A+(CuL2)2A)=0.58

Medium : NH4NO3. H4A=EDTA

Co++ sp R4N.X 25°C 1.50M U M 1973BFd (18739) 479
K(CoAL+CoL3=(CoL2)2A)=3.76
K(CoA+L=CoAL)=1.97

Medium : NH4NO3. H4A=EDTA

Co++ dis NaClO4 25°C 1.00M U K1=3.33 B2=6.20 1971MSd (18740) 480

Co++ EMF NaClO4 25°C 1.00M U K1=3.25 B2=5.60 1970CGa (18741) 481

Co++ gl oth/un 25°C 0.0 U K1=4.69 B2=7.15 1965MOb (18742) 482

Co++ ix oth/un 25°C 0.0 U K1=4.75 B2=6.91 1965SMf (18743) 483

Co++ dis NaClO4 20°C 0.10M U B2=6.79 1963STc (18744) 484

Co++ dis NaCl 25°C 0.20M U I K1=3.63 1961MMa (18745) 485
K1=4.64(I=0 corr), 4.174(I=0.2), 4.027(I=0.04), 3.858(I=0.08),
3.809(I=0.10), 3.688(I=0.16), K2=2.14(I=0.16)

Co++ EMF oth/un 45°C 0.0 U H 1961MNa (18746) 486
K1=6.81-0.015T+0.0000276T^2

Method: H electrode. DH(K1)=2.5 kJ mol⁻¹, DS=100 J K⁻¹ mol⁻¹

Co++ gl oth/un 0°C 0.0 U T K1=4.77 1961MNb (18747) 487
K1=4.78(15 C); 4.79(25 C); 4.81(35 C); 4.83(45 C)

Co++ ix oth/un ? ? U 1960SFa (18748) 488
K(Co+HL)=1.66
K(Co+2HL)=1.28

Co++ sp oth/un 25°C ? U K1=0.96 1958AOa (18749) 489

Co++ gl oth/un 25°C 0.10M U K1=4.7 1958GHc (18750) 490

Co++ ix NaCl 25°C 0.16M U K1=3.72 B2=6.03 1958SLb (18751) 491
K(Co+HL)=1.66
K(Co+2HL)=2.91

Co++	ix	oth/un	?	?	U	K1=4.49 K3=8.13	B2=11.15	1956FSb (18752)	492
Co++	ix	oth/un	?	?	U	K1=4.49	B2=11.13	1956KFa (18753)	493
Co++	sol	oth/un	25°C	0.0	U	B2=6.7		1951BAa (18754)	494
Co++	vlt	oth/un	18°C	?	U	B3=9.7		1934SAa (18755)	495
Co++	con	oth/un	18°C	0.0	U	K1=4.7		1932MDa (18756)	496

C2H3NO4		HL		CAS 625-75-2		(2968)			
Nitroacetic acid; O2N.CH2.COOH									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	kin	oth/un	18°C	0.20M	U		K1=0.0	1949PEa (19204)	497
Medium: Ba(NO3)2									

C2H3N3		HL		1,2,4-Triazole		CAS 288-88-0		(381)	
1,2,4-Triazole; cyclo(-NH.N:CH.N:CH-) C2H3N3									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	C		K1=6.10	2002BMa (19229)	498
Co++	cal	NaNO3	25°C	1.00M	U	H	K1=1.32 B2=2.74	1986ARa (19230)	499
DH(K1)=-17.1, DH(K2)=-26 kJ mol-1									
Co++	gl	KNO3	25°C	0.50M	U		K(Co+HL)=1.32 K(Co+2HL)=2.74 K(Co+3HL)=3.07	1980LKb (19231)	500

C2H3N3O2		HL		Urazole		CAS 3232-84-6		(3540)	
1,2,4-Triazolidin-3,5-dione;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO4	20°C	0.10M	U		K1=2.07	1963COb (19239)	501

C2H3N3S		L		CAS 3179-31-5		(4221)			
1,2,4-Triazoline-3-thione;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	C		K1=3.02	2002BMa (19242)	502

C2H3N3S L CAS 4005-51-0 (1426)
2-Amino-1,3,4-thiadiazole; C2HN2S.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.50M	U		K1=0.69 B2=1.09 B3=1.21	1982GLa (19252)	503

C2H3O2Cl HL Chloroacetic CAS 79-11-8 (34)
Chloroethanoic acid; ClCH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaNO3	30°C	0.40M	U		K1=0.23	1970BTa (19350)	504
Co++	EMF	NaClO4	18°C	2.00M	U		K1=0.38	1970FMa (19351)	505
Co++	sp	NaClO4	10°C	2.00M	U		K1=0.00	1970GFa (19352)	506
Co++	EMF	NaClO4	20°C	1.00M	U		K1=1.3 B2=2.6	1969PJc (19353)	507

C2H4N4 L CAS 16682-77-9 (3539)
1-Methyltetrazole; CHN4-CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	non-aq	25°C	100%	U		K1=2.13 B2=3.52	1963GBa (19459)	508

Medium: tetrahydrofuran

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
Co++	gl	KNO3	25°C	0.10M	C		K1=5.54	2002BMa (19475)	509
Co++	gl	KNO3	25°C	0.10M	U	I	K(Co+HL)=1.37 K(Co+2HL)=2.52	1997DBa (19476)	510

Data also for I=0.5 and 1.0 M

Co++	gl	KNO3	25°C	0.50M	U		K(Co+HL)=1.40 K(Co+2HL)=3.40 K(Co+3HL)=4.54	1980LKb (19477)	511
------	----	------	------	-------	---	--	---	-----------------	-----

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
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-----
Co++      gl  NaClO4 20°C 0.10M U      K1=2.34      1963COb (19491) 512
*****
C2H4N4S          HL                      CAS 16691-43-3 (9032)
3-Amino-5-mercapto-1,2,4-triazole;
-----

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++      gl  KNO3   25°C 0.10M C      K1=2.77      2003AHa (19496) 513
*****
C2H4OS          HL      Thioacetic acid CAS 507-09-5 (4223)
Thiolethanoic acid; CH3.CO.SH
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++      gl  diox/w 30°C 60% U      K1=4.0      B2=7.50      19720Tc (19506) 514
Medium: 60% dioxan, 1 M (K,Na)NO3
*****
C2H4O2          HL      Acetic acid      CAS 64-19-7 (36)
Ethanoic acid; CH3.COOH
-----

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++      oth NaClO4 25°C 2.0M U      K1=0.64      1990FTa (19849) 515
Methods: averaged results from potentiometric, polarographic and
spectrophotometric measurements.
-----
Co++      gl  KCl     25°C 0.10M U      K1=0.82      1983LTa (19850) 516
-----
Co++      gl  NaNO3   25°C 0.10M C      K1=0.60      1981BKb (19851) 517
-----
Co++      gl  NaClO4 25°C 1.00M U T      K1=0.69      1981BPa (19852) 518
K1=0.71 (35 C); 0.75 (50 C)
-----
Co++      kin NaClO4 25°C 1.00M U      K1=0.81      1973HHb (19853) 519
-----
Co++      vlt NaClO4 25°C 1.00M U T      K1=-0.40      B2=0.38      1971TRd (19854) 520
50 C: K1=-0.22, B2=0.51
-----
Co++      gl  NaNO3   30°C 0.40M U      K1=0.71      1970BTa (19855) 521
-----
Co++      EMF NaClO4 25°C 2.00M U      K1=0.66      B2=0.79      1970FMa (19856) 522
B3=0.87
-----
Co++      sp  NaClO4   rt  2.00M U      K1=0.61      B2=0.61      1970GFa (19857) 523
-----
Co++      ix  oth/un 25°C 0.0 U      K1=1.29      1965SMf (19858) 524
-----
Co++      gl  oth/un 25°C 0.0 U      K1=1.46      1964AMa (19859) 525
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Co++	gl	non-aq	25°C	100%	U	K2=7.56	1964KLa (19860)	526
Medium: ethanoic acid								
Co++	vlt	oth/un	15°C	0.20M	U T	K1=0.32	1960TKb (19861)	527
K1=-0.22(25 C)								
Co++	gl	oth/un	29°C	0.0	U	K1=1.52 B2=1.93	1958SBb (19862)	528
Co++	sol	oth/un	35°C	0.0	U	K1=1.36	1955BAa (19863)	529

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
Co++	gl	alc/w	30°C	5%	U		K1=5.95	1995RRb (20295) 530
Medium: 5% v/v EtOH/H2O, 0.10 M KNO3.								
Co++	gl	NaCl04	30°C	0.10M	U		K1=8.25 B2=14.33	1988NDa (20296) 531
Co++	vlt	KCl	25°C	0.10M	U	M		1971TAb (20297) 532
K(CoBO2+2HL=CoBO2(HL)2)=7.23								
Co++	gl	KCl	0°C	0.10M	U T		K1=6.0 B2=12.48	1964PCa (20298) 533
15 C: K1=5.3, B2=12.0; 35 C: K1=5.9, B2=11.9; 40 C: K1=5.6, B2=11.6								
Co++	gl	oth/un	25°C	0.10M	U		K1=5.84 B2=12.15	1958LEa (20299) 534

C2H4O3 HL Glycolic acid CAS 79-14-1 (33)								
2-Hydroxyethanoic acid; HO.CH2.COOH								

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference ExptNo
Co++	ix	none	23°C	0.0	U		K1=1.09 B2=1.38	1980PSb (20481) 535
Co++	EMF	NaCl04	25°C	2.00M	U		K1=1.48 B2=2.29	1970FMa (20482) 536
B3=2.52								
Co++	sp	NaCl04	25°C	2.00M	U		K1=1.30 B2=2.08	1970GFa (20483) 537
Co++	ix	oth/un	25°C	0.0	U		K1=1.96 B2=3.01	1965SMf (20484) 538
Co++	ix	oth/un	25°C	0.05M	U		K1=1.76	1958SLb (20485) 539
Co++	ix	oth/un	25°C	0.16M	U		K1=1.60	1958SLb (20486) 540
Co++	ix	oth/un	25°C	0.23M	U		K1=1.51	1958SLb (20487) 541
Co++	con	oth/un	25°C	->0	U		K1=1.975	1954EMa (20488) 542

C2H5NO2 HL Glycine CAS 56-40-6 (85)
 2-Aminoethanoic acid; H2N.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	NaNO3	25°C	0.10M	C	M	K1=4.90 B2= 8.69 K(CoA+L)=3.10	2000KAb (21421)	543
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H2A=Dipicolinic acid.

Co++	gl	KNO3	25°C	0.10M	C	M	K1=4.60 K(CoL+A)=3.76 B(CoLA)=8.36 K(CoHL+B)=3.82 K(CoL+C)=3.43	1999AAa (21422)	544
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B(CoLC)=8.03. HA=MOPSO, HB=MOPS, HC=DIPSO.

Co++	gl	NaNO3	25°C	0.10M	U		K1=5.20	1997ISd (21423)	545
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Co++	gl	alc/w	25°C	50%	C		K1=6.19	1997MGb (21424)	546
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Co++	gl	KNO3	35°C	0.10M	C	M	K1=5.21 K(CoL+A)=4.20	1997PSb (21425)	547
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H2A is thiamine orthophosphoric acid.

Co++	gl	alc/w	20°C	50%	M	M	K1=5.33 K(CoA+L)=5.15	1995AMb (21426)	548
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Medium: 50% v/v EtOH/H2O, 0.20 M NaClO4. A is 2,2',2''-terpyridine.

Co++	gl	none	25°C	0.0	C	TIH	K1=5.04 B2= 9.16 B3=11.58	1995CDc (21427)	549
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Data for 0-0.09 M and 5-45 C. DH(K1)=-11.2 kJ mol⁻¹, DH(B2)=-26.9,
 DH(B3)=-40.5

Co++	kin	NaClO4	25°C	1.00M	C			1994BCb (21428)	550
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K(CoLCO3+H=CoLHCO3)=0.14
 K(CoLOH2OCO2H+H=CoL(OH2)2+CO2)=0.14

Co++	gl	NaNO3	37°C	0.10M	U	M	K1=4.94	1994MGc (21429)	551
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Data for ternary complexes with 6-aminopenicillanic acid

Co++	gl	NaClO4	25°C	0.20M	C		K1=5.20	1993BAb (21430)	552
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Co++	gl	KCl	25°C	0.10M	C	M	K1=4.67 B2=8.48 K3=2.36 *K(CoL)=-10.09 B(CoH-1AL)=4.33 B(Co2AL2)=21.58	1992MMb (21431)	553
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B(Co2AL)=16.57, K(CoHA+L)=4.8

A=1,4,7,13,16,19-Hexaaza-10,22-dioxacyclotetracosane

Co++ nmr KNO3 25°C 1.0M U K1=4.86 B2= 8.69 1992SZb (21432) 554
 B3=11.11
 K(Co+HL)=0.36

 Co++ gl NaCl 25°C 0.15M C TI R K1=4.66 B2=8.51 1991KSa (21433) 555
 B3=10.83

IUPAC evaluated. Tentative values

 Co++ gl KNO3 37°C 0.15M C M K1=4.642 B2= 8.32 1989KKd (21434) 556
 B3=10.748
 B(CoH-1L)=-4.380
 B(Co(imidazole)L)=6.802

 Co++ gl KNO3 25°C 0.10M U M K1=5.36 1989MAc (21435) 557
 K(CoA+L)=4.40

H4A is adenosine-5'-triphosphoric acid.

 Co++ gl KNO3 35°C 0.20M U M K1=4.62 B2=8.73 1989RVa (21436) 558
 K(CoA+L)=4.22

A=bis(imidazol-2-yl)methane

 Co++ gl KNO3 25°C 0.15M U K1=4.64 B2=8.46 1987FZa (21437) 559

 Co++ nmr none 27°C 0.0 U K1=4.96 B2=9.18 1987GFb (21438) 560
 B3=10.43
 K(Co+HL)=0.76
 K(CoL+HL)=1.04
 K(CoL2+HL)=-0.45

K(Co+2HL)=1.02

 Co++ gl diox/w 30°C 50% C K1=5.70 B2= 9.87 1987MSd (21439) 561
 Medium: 50% v/v dioxane/H2O, 0.2 M NaNO3.

 Co++ gl KNO3 35°C 0.10M C M K1=5.50 1985RRc (21440) 562
 K(Co+HL+cytidine)=8.03
 K(CoL(cytidine)+H)=5.10

 Co++ gl KNO3 35°C 0.10M C K1=5.50 1985RRh (21441) 563

 Co++ gl KCl 25°C 0.20M C M T K1=4.56 B2=8.30 1983HSa (21442) 564
 B(CoLA)=12.84

H2A=D-penicillamine

 Co++ oth NaClO4 35°C 0.10M C K1=4.82 B2= 7.85 1983PYa (21443) 565
 Method: paper electrophoresis.

 Co++ gl NaNO3 37°C 0.15M U M 1982ESa (21444) 566
 B(CoLA)=7.889
 B(CoLHAB)=21.958
 B(CoLH2AB)=29.321

A= Imidazole and B= Pyridoxamine.

Co++ EMF mixed 30°C 80% U 1979EHa (21445) 567

B(CoH-1L)=-4.23

B(CoH-2L2)=-10.61

Medium: 80% Dimethylsulfoxide / 0.1M NaNO3.

Co++ oth NaClO4 25°C 2.00M U K1=3.90 B2=7.74 1979NL a (21446) 568

Method: Chronopotentiometry

Co++ gl NaNO3 20°C 0.10M U K1=4.64 B2=8.46 1978LEb (21447) 569

Co++ gl KNO3 25°C 0.10M C T K1=4.71 B2=8.76 1975IPb (21448) 570

Co++ gl NaNO3 25°C 0.20M U K1=4.91 B2=8.71 1974FSa (21449) 571

B(CoLA)=6.58

B(CoLB)=6.47

B(CoLC)=6.45

B(CoLD)=6.42

A=succinyl dihydrazide; B=1,6-hexanedioic acid dihydrazide;

C=acetylhydrazide; D=Benzoyl hydrazide

Co++ oth oth/un 25°C 0.67M U K1=4.31 B2=7.67 1974KNa (21450) 572

Method - magnetic spectropolarimetry

[L]=0,333 M; room temp.

Co++ sp R4N.X 25°C 1.50M U M 1973BDd (21451) 573

K(((CoL2)2A+(NiL2)2=2(CoL2)A(NiL2)))=0.96, K(((CoL2)2A+(CuL)2A=2(CoL2)A(CuL)))=0.92. B(CoCuL3A)=35.45, B(CoNiL4A)=36.66, H4A=EDTA. Medium: NH4NO3

Co++ sp R4N.X 25°C 1.50M U M T 1973BDd (21452) 574

K(CoA+L)=1.97

K(CoAL+CoL3=(CoL2)2A)=3.00

Medium: NH4NO3. H4A=EDTA

Co++ gl KCl 25°C 0.05M U M T K1=4.70 B2=8.58 1972GSc (21453) 575

B(CoLA)=8.51

B(CoL(Phe))=8.35

K(CoHL(Tyr))=8.30

HA=norvaline

Co++ gl none 25°C 0.00 U T T K1=5.07 B2=9.09 1972IJb (21454) 576

K3=2.54

10 C: K1=5.16, K2=4.07, K3=2.67; 40 C: K1=4.98, K2=3.91, K3=2.45

Co++ gl KNO3 25°C 0.10M U T M 1972IVc (21455) 577

K(CoA+L)=4.03

H2A=methyliminodicetic acid. 15 C, K=4.14; 50 C, K=3.74; 70 C, K=3.63

Co++ cal KCl 25°C 0.05M U H T K1=4.66 B2=8.64 1971GNa (21456) 578

DH(K1)=-12.6 kJ mol⁻¹, DS=46 J K⁻¹ mol⁻¹; DH(B2)=-18.8, DS=13

Co++ gl NaClO4 25°C 0.10M U T K1=4.63 B2=8.50 1971GSb (21457) 579

Co++ gl KNO3 25°C 0.10M U T K1=4.75 B2=8.63 1969GEb (21458) 580
B3=11.03

Co++ gl KCl 25°C 0.50M U M T K1=4.51 B2=8.16 1969HLA (21459) 581
B3=10.43
B(CoLA2)=5.32

A=salicylaldehyde

Co++ cal KCl 25°C 0.10M U H 1967BBd (21460) 582
DH(K1)=-10.4 kJ mol⁻¹, DS=53.5 J K⁻¹ mol⁻¹. DH(K2)=-10.7, DS=40.1

Co++ cal KNO3 20°C 0.10M U HM 1967SSl (21461) 583
DH(B2)=-27.6 kJ mol⁻¹, DS=67.3 J K⁻¹ mol⁻¹. Ternary complexes with NTA

Co++ gl KCl 40°C 0.20M U T H K1=4.64 B2=7.98 1965SMb (21462) 584
At 15 C: K1=4.76, K2=3.56. DH(K1)=-8.4 kJ mol⁻¹, DS=62.7 J K⁻¹ mol⁻¹;
DH(K2)=-15.0, DS=16.7

Co++ EMF oth/un 25°C 0.0 U T H K1=5.072 B2=10.04 1964BDa (21463) 585
Method: H electrode. K1=5.276(0 C), 5.143(15 C), 5.009(35 C), 4.953(45 C);
K2=4.23(0 C), 4.07(15 C), 4.90(35 C), 4.82(45 C). DH(K1)=-11.7 kJ, DH(K2)=-15.0

Co++ oth KNO3 20°C 0.10M U K1=5.5 B2=9.00 1964JOa (21464) 586
K3=2.3

Method: paper electrophoresis.

Co++ EMF oth/un 25°C ->0 U T K1=5.02 B2=8.99 1955EMa (21465) 587
Method: H electrode

Co++ gl oth/un 26°C 0.15M U T K1=4.65 B2=8.43 1955GOa (21466) 588
K3=3.33

Co++ gl oth/un 20°C 0.01M U K1=5.1 B2=8.9 1953ALa (21467) 589

Co++ gl KNO3 25°C 0.15M U T K1=4.65 B2=8.43 1953TSa (21468) 590
K3=2.38

Co++ gl oth/un 22°C 0.01M U B2=8.8 1952PEa (21469) 591
Medium: CoCl2.

Co++ gl oth/un 25°C ->0 U T K1=5.23 B2=9.25 1951MOa (21470) 592

Co++ gl oth/un 25°C 0.01M U K1=4.95 B2=8.94 1950MMA (21471) 593

Co++ gl KNO3 20°C 0.50M U K1=4.61 B2=8.36 1945FLa (21472) 594
K3=2.56

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
Co++	gl	KCl	25°C	0.10M	C	M	K1=4.99 K3=2.66 K(CoA+L)=4.93	1992MMb (21799)	595

A=1,4,7,13,16,19-Hexaaza-10,22-dioxacyclotetracosane

Co++	gl	NaCl	31°C	0.15M	U	I	K1=5.70	1992SKa (21800)	596
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Also data for 25 and 50% v/v EtOH/H2O.

Co++	gl	KNO3	25°C	0.10M	C	M	K1=5.42 K(Co(ida)+L)=3.80 K(Co(bpy)+L)=5.25 K(CoA+L)=5.27 K(Co(phen)+L)=5.43	1991DAc (21801)	597
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K(CoB+L)=5.68, K(CoC+L)=5.20. A: 2,2'-dipyridylamine;
B: 5-nitro-1,10-phenanthroline; C: 5-methyl-1,10-phenanthroline.

Co++	gl	KNO3	25°C	0.10M	C	M	K1=5.42 B(Co(ida)L)=10.74 B(Co(mida)L)=11.34 B(Co(nta)L)=13.93 B(Co(bpy)L)=11.05	1989DAb (21802)	598
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B(Co(phen)L)=12.51, B(CoAL)=11.90 where H3A is N-(2-carboxyphenyl)-iminodiethanoic acid

C2H5NO3 HL CAS 2921-14-4 (1892)
Aminooxyethanoic acid; H2N.O.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.50M	U		K1=3.04	1985WTa (21828)	599

C2H5N3O2 L Biuret CAS 108-19-0 (1126)
Carbomoylurea (Allophanic acid); H2N.CO.NH.CO.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO4	25°C	0.01M	U	T H	K1=10.38 B2=17.93	1979SBa (21848)	600
Co++	gl	NaClO4	25°C	0.01M	U		K1=10.38 B2=17.93	1975SSb (21849)	601

C2H5N5 L (6902)
5-Aminomethyl-1H-tetrazole; NH2CH2.CHN4

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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 Co++ gl NaNO3 20°C 0.10M U K1=5.36 B2=8.36 1978LEb (21860) 602

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

Co++ gl oth/un 25°C 0.02M U K1=2.71 B2=4.95 1956DRb (21949) 603

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

Co++ gl NaNO3 25°C 0.20M U K1=1.85 B2=3.09 1974FSa (21964) 604

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

Co++ gl NaClO4 25°C 0.10M C K1=5.60 B2=10.03 1987PCa (21988) 605
 B(CoHL)=11.90
 B(CoH-1L)=-1.90
 B3=12.45

 Co++ gl KCl 25°C 0.50M C K1=6.493 B2=11.14 1986LEb (21989) 606
 B(CoH-1L2)=1.708

 C2H6N2S L Methyl-Thiourea CAS 598-52-7 (1077)
 N-Methylthiourea; CH3.NH.CS.NH2

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

Co++ nmr non-aq 27°C 100% U M 1971Eza (22006) 607
 K(CoL2Cl2=CoLC12+L)=4.08
 K(CoL2Br2=CoLBr2+L)=4.11
 K(CoL2I2=CoLI2+L)=4.61
 K(CoL4(ClO4)2=...)=5.50

 Co++ nmr oth/un 27°C ? U M 1971Eza (22007) 608
 K(CoL4A2=CoL3A2+L)=5.50

Medium: acetone. A=perchlorate ion

 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

Co++ gl oth/un ? 0.0 U 1961AMa (22061) 609
B3=13.08

C2H6OS L DMSO CAS 67-68-5 (329)
Dimethylsulfoxide; (CH3)2.SO

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

Co++ nmr none 20°C 0.0 U T H 1987Lda (22088) 610

K(CoA+L=CoAL)=0.37

Data at -13.3 to 19.7 C. A=Schiff base from 4,6-dimethoxysalicylaldehyde and 4-(trifluoromethyl)-o-phenylenediamine. DH=-10.9 kJ mol-1.

C2H6O2 L Ethyleneglycol CAS 107-21-1 (924)
1,2-Dihydroxyethane (Ethane-1,2-diol); HO.CH2.CH2.OH

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

Co++ sp non-aq 20°C 100% U 1978Cma (22133) 611

K'=-0.4

K"=-2.4

Medium: DMSO, K': Co(DMSO)2L2 + L = CoL3 + 2 DMSO

K": Co(DMSO)2L2 + 4DMSO = Co(DMSO)6 + 2L

C2H6O6P2 H4L CAS 34169-22-7 (2582)
trans-1,2-Vinylidenediphosphonic acid; (HO)2P(O)CH:CHP(O)(OH)2

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

Co++ gl KCl 25°C 0.10M U K1=3.87 B2=6.14 1977YKb (22182) 612

K(Co+HL)=3.33

K(CoL+H)=6.99

C2H7NO L Ethanolamine CAS 141-43-5 (1057)
2-Aminoethanol; H2N.CH2.CH2.OH

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

Co++ sp R4N.X 25°C 2.00M C I K1=2.43 B2=4.23 1983DBa (22396) 613

Co++ gl oth/un 25°C 0.10M U K1=2.20 B2=3.53 1981HAa (22397) 614

Medium: 0.1 M HOCH2CH2NH2.HNO3

Co++ gl oth/un 25°C 0.43M U K1=2.42 B2=4.10 1966SKe (22398) 615

K3=1.27

Medium: 0.43 M L.HNO3

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
Co++	gl	oth/un	20°C	0.01M	U		B2=4	1950ALa (22439)	616

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
Co++	sp	NaCl04	20°C	1.00M	U	M		1972GSh (22483)	617
							K(Co+NiL2)=6.15		

Co++	vlt	oth/un	25°C	0.26M	U			1961KPb (22484)	618
							B4=12.89		

Medium: 0.264 M phosphate buffer

Co++	gl	KNO3	30°C	1.0M	U		K1=7.68 B2=14.71	1951G0a (22485)	619

C2H70PS2			HL				CAS 993-44-2	(4228)	
Dimethyldithiophosphonic acid; (CH3S)2PO.H									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	ISE	alc/w	25°C	90%	U		K1=2.19 B2=3.93	1972TCa (22527)	620
Medium: 90% EtOH, 0.3 M NaCl04									

C2H703P			H2L				CAS 71778-99-9	(1978)	
Ethylphosphonic acid; CH3.CH2.PO3H2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaNO3	25°C	0.10M	M		K1=2.27	1992SCa (22564)	621

C2H8N02P			HL				(7266)		
Aminomethyl(methylphosphinic acid); H2NCH2PO(OH)CH3									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	C		K1=2.62	1996RLa (22584)	622
							B(CoH-1L)=-6.66		

C2H8N03P			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
Co++	gl	KCl	25°C	0.20M	C		K1=4.55 B2=7.70	1987KBb (22609)	623

Co++	gl	KNO3	25°C	0.20M	C		K1=4.58 B2=7.95	1978MAb (22610)	624
							K(Co+HL)=1.45		

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
Co++	gl	KCl	25°C	0.20M	C		K1=5.16 B2=8.82 B(CoHL)=13.14	1987KBb (22630)	625
Co++	gl	KNO3	25°C	0.10M	U		K1=4.67 B(CoHL)=12.74 K(Co+L=Co(OH)L+H)=-4.70	1979WNb (22631)	626
Co++	gl	KNO3	25°C	0.20M	C		K(Co+HL)=1.70	1978MAb (22632)	627

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
Co++	gl	KCl	20°C	0.10M	U		K1=4.90 K(Co+HL)=2.72	1987BPb (22663)	628
Co++	gl	KNO3	25°C	0.20M	C		K(Co+HL)=1.69	1978MAb (22664)	629
Co++	gl	KNO3	25°C	0.20M	C		K(Co+HL)=1.69	1978MAc (22665)	630

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
Co++	sp	non-aq	25°C	100%	C	H	K1=6.41 B2=12.20 B3=15.8	2002CMA (23100)	631
Medium: DMSO, 0.10 M Et4NClO4. By calorimetry: DH(K1)=-53.5 kJ mol ⁻¹ , DS(K1)=-57 mol ⁻¹ ; DH(B2)=-106.2, DS(B2)=-121; DH(B3)=-172.0, DS(B3)=-275.									
Co++	gl	alc/w	25°C	50%	C		K1=6.54	1997MGb (23101)	632
Co++	gl	KNO3	30°C	0.10M	U		K1=6.32	1994RSa (23102)	633
Co++	cal	oth/un	25°C	dil	C	H	K1=5.63 B2=10.44 B3=13.81	19890Fa (23103)	634
Medium: NH4Cl/NH3 buffer, pH 10. DH(K1)=-39.79 kJ mol ⁻¹ , DH(B2)=-66.15, DH(B3)=-97.61.									
Co++	gl	KNO3	35°C	0.10M	U	M	K1=5.64	1989RSb (23104)	635

K(Co(thiodipropanoate)+L)=5.88									
Co++	gl	KNO3	35°C	0.20M	U	M	K1=5.81	B2=10.50	1989RVa (23105) 636
							K(CoA+L)=4.92		
A=bis(imidazol-2-yl)methane									
Co++	gl	diox/w	25°C	70%	C	M	K1=7.36	B2=14.27	1988MMd (23106) 637
							K3=3.55		
							K(CoL2OH+H)=9.44		
							K(Co+LA)=14.21		
							K(Co+HLA)=9.05		
Medium: 70% dioxan/H2O, 0.1M KCl. K(Co+LA2)=14.56, K(CoLA2=CoLA2OH+H)=-9.93, K(2CoLA2+2B+O2=(CoLA2B)2O2)=11.06. A=Salicylaldehyde, B=4-Methylpyridine									
Co++	gl	NaClO4	25°C	0.10M	U	M	1984MSb (23107) 638		
							K(Co(thiolactate)+en)=4.06		
Co++	gl	KCl	25°C	0.20M	C	M	K1=5.60	B2=10.24	1983HSa (23108) 639
							B(CoLA)=14.09		
H2A=D-penicillamine									
Co++	sp	KNO3	25°C	0.10M	U	H	1982CCd (23109) 640		
							K(2Co+4L+O2=Co2L4O2OH+H)=26.1		
DH(K)=-224 kJ mol-1; DS=-251 J K-1 mol-1									
Co++	gl	NaNO3	30°C	0.50M	M		K1=5.89	B2=11.33	1982MAd (23110) 641
Co++	sp	R4N.X	25°C	1.50M	U	M	1973BDd (23111) 642		
B(Co+Ni+4L+A=(CoL2)A(NiL2))=41.75, K((CoL2)2A+(NiL2)2A=2(CoL2)A(NiL2))=0.88									
H4A=EDTA Data for other complexes also given									
Co++	sp	R4N.X	25°C	1.50M	U	M	1972BFd (23112) 643		
							K(CoA+L)=4.24		
							K(CoAL+CoL3=Co2AL4)=2.72		
Medium: NH4NO3. H4A=EDTA									
Co++	gl	KNO3	25°C	0.10M	U	M	K1=5.89	B2=10.76	1972NMb (23113) 644
K(2Co+4L+O2=CoL2(O2)(OH)ML2+H)=24.9, where (O2) is in atmospheres									
Co++	gl	NaClO4	25°C	0.10M	U		K1=5.38	B2=10.24	1971GSb (23114) 645
							K3=3.55		
Co++	gl	KNO3	25°C	0.10M	U		K2=4.73	1970DNa (23115) 646	
Co++	oth	oth/un	?	?	U		K1=6.05	B2=10.88	1969MMb (23116) 647
							K3=3.16		
Data from survey of literature data									
Co++	gl	KNO3	37°C	0.15M	U	M	K1=5.30	B2=9.57	1969PSb (23117) 648
							B3=11.99		

B(CoLA)=9.31
B(CoL(Ser))=9.04
B(CoL(Ser)2)=11.18

A=histamine. Data for other ternary complexes also

Co++ vlt oth/un 0.5°C 1.0M U M 1968FDa (23118) 649

K3=3.51

Medium: 1 M L(HCl)2. In 1 M L(HClO4)2): K3=4.17. Ternary complexes with EDTA

Co++ gl diox/w 30°C 50% U K1=6.91 B2=13.59 1968H0a (23119) 650

K3=5.04

Constants corrected to zero ionic strength

Co++ vlt oth/un 20°C 2.70M U K1=6.26 B2=11.33 1963KV a (23120) 651

K3=3.57

Co++ cal KCl 25°C 1.0M U H 1960CPa (23121) 652

DH(K1)=-28.9, DH(B2)=-58.4, DH(B3)=-92.7, S1=17, S(B2)=8.4, S(B3)=-49.4

DG(K1)=-33.86, DG(B2)=-60.82, DG(B3)=-7.96 kJ mol⁻¹

Co++ gl KCl 25°C 1.0M U K1=5.93 B2=10.66 1950EDa (23122) 653

K3=3.30

Co++ EMF KCl 30°C 1.0M U K1=5.89 B2=10.72 1941BJa (23123) 654

K3=3.10

Method: H electrode

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

Co++ gl KCl 25°C 0.50M U K1=4.81 B2=9.25 1972BMc (23252) 655

C2H8O6P2 H4L CAS 6145-31-9 (2579)

1,2-Ethylenediphosphonic acid; H2O3P.CH2.CH2.PO3H2

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

Co++ gl KCl 25°C 0.10M U K1=3.87 1977YKb (23258) 656

B(Co2L)=6.14

K(Co+HL)=3.33

K(CoL+H)=6.99

K(Co+CoL)=1.72

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

Co++	gl	KN03	25°C 0.10M U	K1=4.83	1980ZRC (23343) 657
				K(Co+HL)=3.53	
				K(Co+H2L)=2.78	

C2H9N06P2 H4L IDPA CAS 32545-63-4 (1335)
Imino-N,N-bis(methylenephosphonic acid); HN(CH2P03H2)2

Co++ gl KN03 25°C 1.00M M K1=7.16 1982BGb (23447) 660
K(Co+HL)=2.77

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	M			K1=7.87 K(Co+HL)=6.37	1978GMf (23463)	662

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	NaCl04	28°C	0.30M	U		K1=1.68	1974NDa (23471)	663

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KN03	25°C	0.50M	U			K1=-0.05 B2=-0.16	1978KLa	(23497

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO4	25°C	2.0M	U		K1=0.39	1981MFa (23510)	665

C3H3NS		L						CAS 288-16-4 (383)	
Isothiazole; cyclo(-S.N:CH.CH:CH-) C3H3NS									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.50M	U		K1=0.34 B2=1.01	1978KLa (23519)	666

C3H3NS		L						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
Co++	gl	KNO3	25°C	0.50M	U		K1=1.43 B2=2.43 B3=2.98	1974LKb (23527)	667

C3H4N2		L						CAS 288-13-1 (367)	
1,2-Diazole, pyrazole; cyclo(-NH.N:CH.CH:CH-)									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	cal	NaNO3	25°C	1.0M	U	H	K1=0.25	1981ARd (23566)	668
DH(K1)=-21.3 kJ mol-1									
Co++	gl	KNO3	25°C	0.50M	U		K1=1.23 B2=2.08 B3=2.32	1977BBb (23567)	669
Co++	gl	KNO3	25°C	0.50M	U		K1=1.38 B2=2.38 B3=3.02 B4=3.32	1977LNa (23568)	670
Co++	vlt	NaNO3	25°C	0.10M	U		K1=1.50 B2=1.78 B3=2.23 B4=1.78	1968Cwa (23569)	671

C3H4N2		L						CAS 288-32-4 (90)	
1,3-Diazole, imidazole; C3H4N2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	NaClO4	25°C	1.0M	C	M		2001LHa (23831)	672
K(CoA+L)=0.87									
Medium pH 7.9 (0.05 M Tris). A is tris(2-(dimethylamino)ethylamine).									
Co++	gl	KNO3	35°C	0.10M	C	M	K1=2.42 B(CoAL)=2.90	1999DSb (23832)	673
A is thiamine hydrochloride.									

Co++	gl	NaNO3	25°C	0.50M	M	K1=2.48	1998KSa (23833)	674
Co++	gl	NaNO3	25°C	0.10M	U	M	K1=2.70	1998MSe (23834)
Co++	gl	NaNO3	37°C	0.10M	U		K1=2.29	1997MGa (23835)
Co++	gl	KNO3	35°C	0.10M	C	M	K1=2.54 K(CoL+A)=5.62	1997PSb (23836)

H2A is thiamine orthophosphoric acid.

Co++	gl	KCl	25°C	0.10M	C	IH	R	K1=2.47 K3=1.50 K4=1.0	B2=4.44	1997SJa (23837)	678
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IUPAC evaluation. I=0 M: K1=2.46, K2=1.96, K3=1.50, K4=1.0.

I=3.0: K1=2.70, K2=2.17, K3=1.59, K4=1.0

Co++	gl	NaClO4	25°C	0.10M	C	M	K1=2.44	1994MGb (23838)	679
							K(Co(succinate)+L)=3.30 K(Co(malate)+L)=3.28 K(Co(tartrate)+L)=3.08		

Co++	gl	NaNO3	37°C	0.10M	U		K1=2.29	1994MGc (23839)	680
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Data for ternary complexes with 6-aminopenicillanic acid

Co++	gl	NaNO3	25°C	0.10M	M	M	K1=2.43 K(CoA+L)=2.38	1993JCa (23840)	681
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HA=N,N-bis(2-hydroxyethyl)glycine (bicine)

Co++	gl	KNO3	37°C	0.15M	C		K1=2.324	B2= 4.27	1989KKd (23841)	682
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Co++	gl	NaNO3	37°C	0.15M	U		K1=3.027	B2=5.601	1983ERa (23842)	683
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Co++	gl	NaNO3	37°C	0.10M	U	M		1983ERa (23843)	684
							B(CoL(Gly))=7.889 B(CoL4(Gly))=15.514		

Co++	gl	KNO3	25°C	0.50M	U		K1=2.70 B3=6.13 B4=7.62 B5=7.70	B2=4.78	1983LWa (23844)	685
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Co++	gl	NaNO3	25°C	0.10M	A	M		1982SSa (23845)	686
							K(Co(ATP)+L)=1.85		

Co++	gl	NaNO3	25°C	0.10M	A	M	K1=2.40 K(Co(ATP)+L)=1.85 K(CoA+L)=2.04	1982SSa (23846)	687
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A=uridine-5'-triphosphate

Co++ gl NaClO4 25°C 3.00M C M 1981FGa (23847) 688

B(-1,1,1)=-5.18
B(-2,1,2)=-10.91
B(-3,1,3)=-17.21
B(-4,1,4)=-24.20

B(p,q,r): pH+qCo+rHL=HpCoq(HL)r; Data also for ternary CoClm(HL)n complexes

Co++ gl NaClO4 25°C 0.50M C TIH K1=2.484 1974LVa (23848) 689
B3=6.523

Co++ ISE R4N.X 25°C 0.50M U K1=2.23 B2=4.09 1971BLb (23849) 690
B3=5.00
B4=6.01
B5=6.70
B6=7.27

Medium: NH4NO3

Co++ gl NaClO4 25°C 0.10M U M K1=2.43 1968ISa (23850) 691
K(Co(EDTA)+L)=1.66
K(Co(NTA)+L)=2.35

Co++ sp oth/un 25°C 0.11M U T HM 1966HIa (23851) 692
K(CoA+L)=4.09
K=4.25(15 C), 4.04(28 C), 3.95(34.2 C), CoA+=cobalamin Factor B
At 25 C, I=0 corr: DH=-26.3 kJ mol⁻¹, DS=-8

Co++ sp oth/un 25°C 0.0 U HM 1966HIa (23852) 693
K(CoA(H-1L)+H)=4.49
K'(CoA(H-2L)+H)=11.00
Medium:0 corr. CoA+=cobalamin Factor B. DH(K)=-19 kJ mol⁻¹, DS=21 J K⁻¹ mol⁻¹; DH(K')=-50, DS=46

Co++ gl KNO3 25°C 0.16M U H K1=2.47 B2=4.40 1966SKc (23853) 694
K3=1.45
K4=1.00
K5=0.5
K6=0
DH(K1)=-17.6 kJ mol⁻¹, DS=-10.7 J K⁻¹ mol⁻¹; DH(K2)=16.3, DS=-20, DH3=14.6
DS=-21, DH(K4)=-16, DS=-33, DH(K5)=-12, DS=-29, DH(K6)=-17, DS=-50. 10-50 C

Co++ sp oth/un 25°C 0.04M U T HM 1964HIa (23854) 695
K(CoA+L)=4.59
K=4.88(10.7 C), 4.75(18.5 C), 4.53(29.8 C). CoA+=aquocobalamin. At I=0 corr, 25 C:DH=-30 kJ mol⁻¹, DS=-12 J K⁻¹ mol⁻¹. K(CoAH-1L+H)=10.25. DH=-46, DS=50

Co++ gl oth/un 25°C 0.16M U K1=2.42 B2=4.37 1958MEb (23855) 696
K3=1.58
K4=1.2

Co++ dis oth/un 25°C 0.15M U K1=2.23 1958SLb (23856) 697

C3H4N2O2	HL	Hydantoin	CAS 461-72-3	(389)
2,4-Imidazolidinedione;				

By calorimetry: $\Delta H(K1) = -9.66 \text{ kJ mol}^{-1}$, $\Delta S(K1) = 24 \text{ J K}^{-1} \text{ mol}^{-1}$;
 $\Delta H(B2) = -18.4$, $\Delta S(B2) = 19$; $\Delta H(B3) = -30$.

C3H4N2S L CAS 95-50-4 (821)
2-Aminothiazole; C3H2NS.NH2

Co++ gl KNO3 25°C 0.10M U T H K1=1.99 1978BBd (23962) 700
Data for 30, 35 and 40 C. DH(K1)=-41.8 kJ mol⁻¹, DS(K1)=-102 J K⁻¹ mol⁻¹.

C3H4N2S	HL	Imidazolethiol	CAS 872-35-5	(1823)
2-Mercaptoimidazole; C3H3N2.SH				

C3H4O3 HL Pyruvic acid CAS 127-17-3 (1152)
2-Oxopropanoic acid; CH₃.CO.CO₂H

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

Co++ gl KN03 35°C 0.10M C M K1=3.08 1997PSb (24353) 703
K(CoL+A)=5.46

H2A is thiamine orthophosphoric acid.

Co++	g1	KCl	25°C	0.10M	C	M	K1=2.92	B2=4.60	1992MMb (24354)	704
							K3=0.7			
							K(CoHA+L=CoHAL)=3.15			
							K(CoH2A+L=CoH2AL)=3.39			
							K(CoH2A+HL=CoH3AL)=4.7			

K(Co2H-1A+L=Co2H-1AL)=3.1, K(Co2H-1A+L=Co2AL+OH)=-2.2
A=1,4,7,13,16,19-Hexaaza-10,22-dioxacyclotetracosane

Co++	gl	NaCl	25°C	0.50M	C		K1=2.37 B(CoHL)=5.86	1989FRa (24355)	705
Co++	ix	none	23°C	0.0	U		K1=2.50 B2=3.93	1980PSb (24356)	706
Co++	gl	KNO3	25°C	0.10M	C	M	K1=2.87 B(Co(bpy)2L)=14.05	1975DOc (24357)	707
Co++	vlt	NaClO4	25°C	1.00M	U		K(Co+HL)=0.54	1975TQa (24358)	708
Co++	gl	NaClO4	25°C	0.10M	U		K1=2.97	19700Va (24359)	709
Co++	gl	KNO3	25°C	0.10M	U		K1=2.95 B2=4.43	1969PJb (24360)	710
Co++	gl	NaClO4	25°C	0.10M	U		K1=2.97 K(Co+HL)=0.82	19680Va (24361)	711
Co++ At 7 C: K1=2.78	kin	NaClO4	12°C	0.10M	U	T	K1=2.80	1965CAB (24362)	712
Co++	gl	oth/un	25°C	0.0	U		K1=3.74 B2=5.14	1965MOb (24363)	713
Co++	ix	oth/un	25°C	0.0	U		K1=3.77 B2=5.12	1965SMf (24364)	714
Co++	gl	NaClO4	20°C	0.10M	U		K1=2.98 K(Co+HL)=2.21	1963CAa (24365)	715
Co++ Medium: 0 corr. DH(K1)=12.1 kJ mol ⁻¹ , DS=112.4 J K ⁻¹ mol ⁻¹	cal	oth/un	25°C	0.0	U	H		1963MNd (24366)	716
Co++ K1=3.60(I=0), 3.135(I=0.02), 2.981(I=0.04), 2.820(I=0.08)	dis	NaCl	25°C	0.16M	U	I	K1=2.658	1961MMA (24367)	717
Co++ DH(K1)=10.4 kJ mol ⁻¹ , DS=106 J K ⁻¹ mol ⁻¹ . K1=3.71(15 C), 3.73(25 C), 3.85(35 C), 3.88(45 C)	gl	oth/un	0°C	->0	U	T H	K1=3.62	1961NNA (24368)	718
Co++ METHOD:spJ, TEMP.:18-25	oth	oth/un	18°C	0.40M	U		B2=3.14	1953BBb (24369)	719
Co++ ***** C3H4O5 H2L Tartronic acid CAS 80-69-3 (839) Hydroxypropanedioic acid; HO.CH(COOH)2	EMF	oth/un	25°C	0.04M	U		K1=3.72	1949SDa (24370)	720

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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D-4-Amino-1,2-oxazolidine-3-one;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KN03	25°C	0.50M	U			K1=1.95 B3=4.58 B4=5.51	1983Gwa (24792)	728

Co++	gl	KCl	25°C	0.10M	U			K1=1.86 K(Co+H-1L)=3.38 K(Co+2H-1L)=5.59	1981BDb (24793)	729
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Co++	gl	oth/un	25°C	0.01M	U			B2=5.7	1956NEb (24794)	730

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
Co++	gl	diox/w	25°C	50%	U			K1=9.5 B2=18.6	1958BP a (24800)	731

C3H6O5S2		HL						Xanthic acid	CAS 151-01-9	(590)
(Ethoxy)dithiomethanoic acid; CH3.CH2O.CSSH										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	sp	alc/w	25°C	75%	U			B2=7.20 B3=11.25	1970BPd (24872)	732

Medium: 75% MeOH, 0.3 M NaClO4

C3H6O2		HL						Propionic acid	CAS 79-09-4	(35)
Propanoic acid; CH3.CH2.COOH										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	oth	NaClO4	25°C	2.0M	U			K1=0.74	1990FTa (24971)	733
Methods: averaged results from potentiometric, polarographic and spectrophotometric measurements.										
Co++	sp	NaClO4	25°C	2.00M	U			K1=1.3 B2=1.9	1974J0a (24972)	734
Co++	vlt	NaClO4	25°C	1.00M	U T			K1=0.04 B2=0.40	1971TRd (24973)	735
50 C: K1=0.34, K2=0.72										
Co++	EMF	NaClO4	25°C	2.00M	U			K1=0.70 B2=0.62 B3=1.18	1970FMa (24974)	736

Co++	sp	NaClO4	25°C	2.00M	U			K1=0.78 B2=0.11	1970GFa (24975)	737

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
Co++	gl	NaCl04	30°C	0.10M	U		K1=7.26 B2=12.34	1988NDa (25127)	738
Co++	gl	NaCl04	25°C	0.10M	U	M	K(CoL+dientriamine)=5.98	1985MSa (25128)	739
Co++	gl	NaCl04	25°C	0.10M	U	M	K1=6.25 B2=13.50 K(CoL+en)=4.06	1984MSb (25129)	740

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
Co++	gl	NaCl04	25°C	2.00M	U		K1=0.86 B2=1.18 B3=1.23	1976KGa (25257)	741
Co++	sp	NaCl04	25°C	2.00M	U		K1=0.49	1972SSa (25258)	742

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
Co++	gl	NaCl04	25°C	2.00M	U		K1=1.48 B2=2.42 B3=2.74	1976KGa (25376)	743
Co++	gl	NaCl04	20°C	2.00M	U		K1=1.39 B2=2.36 B3=2.74	1972LNa (25377)	744
Co++	oth	NaCl04	20°C	2.00M	U		K1=1.38 B2=2.30 B3=2.3	1972LNa (25378)	745

Method: polarimetry

Co++	sp	NaCl04	25°C	2.00M	U		K1=1.28 B2=2.53	1972SSa (25379)	746
Co++	oth	oth/un	25°C	0.50M	U	I	B2=1.63	1968BVa (25380)	747

Method: circular dichroism. B2=3.33(I=0.05), 2.61(I=0.1), 2.15(I=0.2)

Co++	EMF	NaCl04	25°C	1.0M	U		K1=1.37 B2=2.32 K3=0.2	1967TGa (25381)	748
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Method: quinhydrone electrode

Co++	con	oth/un	25°C	?	U		K1=1.896	1954EMa (25382)	749
Co++	sp	oth/un	18°C	0.04M	U		B2=1.68	1953BBa (25383)	750

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
Co++	sp	NaClO4	25°C	2.00M	U		K1=1.18 B2=1.52 B3=2.54	1975PGa (25628)	751

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
Co++	gl	NaNO3	25°C	0.10M	U		K1=4.85	1997ISd (26110)	752
Co++	gl	KNO3	35°C	0.10M	C	M	K1=4.51 K(CoL+A)=4.01	1997PSb (26111)	753

H2A is thiamine orthophosphoric acid.

Co++	gl	KNO3	25°C	0.20M	U	T HM	K1=4.69 K(Co(bpy)+L)=4.31	1996JLd (26112)	754
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Data for 25-45 C. DH(K1)=-10.5 kJ mol⁻¹, DS(K1)=3.4 J K⁻¹ mol⁻¹;
 DH(Co(bpy)L)=-7.1, DS(Co(bpy)L)=60.2.

Co++	gl	alc/w	20°C	50%	M	M	K1=4.78 K(CoA+L)=4.64	1995AMb (26113)	755
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Medium: 50% v/v EtOH/H2O, 0.20 M NaClO4. A is 2,2',2''-terpyridine.

Co++	gl	KNO3	30°C	0.10M	U		K1=4.53	1994RSa (26114)	756
Co++	gl	KNO3	0°C	0.10M	U	M	K1=4.17 B2=7.81 K3=2.46 B3=10.27	1994VKb (26115)	757

Ternary complexes in Co-Asp-02 system: K(CoL3+O2=Co2L6O2)=6.45 - 8.46,
 K(CoL3+OH+O2=Co2L6O2OH)=-0.99 - -2.35

Co++	gl	NaClO4	25°C	0.20M	C		K1=5.10	1993BAb (26116)	758
Co++	gl	KCl	25°C	0.10M	C	IH T	K1=4.33 B2=7.73	1993SKa (26117)	759
Co++	gl	KNO3	35°C	0.10M	U		K1=4.59	1990RSe (26118)	760
Co++	gl	KNO3	25°C	0.10M	C	M	K1=4.85 K(CoA+L)=4.19 B(CoAL)=11.24	1989MAd (26119)	761

H2A is N-(2-acetamido)imino diethanoic acid.

Co++	gl	KNO3	35°C	0.20M	U	M	K1=4.35 B2=7.77 K(CoA+L)=3.89	1989RVa (26120)	762
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A=bis(imidazol-2-yl)methane

Co++	gl	KNO3	25°C	0.20M	U	M	K1=4.71 K(Co(bpy)+L)=4.39	1988BSc (26121)	763
Co++	gl	KNO3	25°C	0.15M	U		K1=4.31 B2=7.8	1987FZa (26122)	764
Co++	gl	KCl	25°C	0.20M	C	M	K(Co(DOPA)+L)=3.39 B(CoHL(DOPA))=22.49 K(Co(Dopamine)+L)=3.60 B(CoHL(Dopamine))=22.70 K(CoA+L)=3.26, B(CoHLA)=21.44; K(CoB+L)=3.44, B(CoHLB)=22.04 A=Noradrenaline, B=Adrenaline, H3DOPA=3,4-dihydroxyphenylalanine	1984KDb (26123)	765
Co++	gl	KCl	25°C	0.20M	C		K1=4.24 B2= 7.65 B3=9.91	1983KGb (26124)	766
Co++	gl	none	25°C	0.00	U T	T	K1=4.718 B2=8.41 K1(30 C)=4.669; K2(30 C)=3.640; K1(35 C)=4.667; K2(35 C)=3.654	1971GKa (26125)	767
Co++	gl	KCl	25°C	0.05M	U T H	T	K1=4.354 B2=7.86 K1(30 C)=4.303; K2(30 C)=3.456; K1(35 C)=4.303, K2(35 C)=3.470 DH(K1)=-8.4 kJ mol ⁻¹ , DH(K2)=-9.6, DS(K1)=54 J K ⁻¹ mol ⁻¹ , DS(K2)=33 (at 25C)	1971GKa (26126)	768
Co++	gl	NaClO4	25°C	0.10M	U	T	K1=4.44	1970GPa (26127)	769
Co++	cal	KNO3	22°C	0.10M	U	H	DH(B2)=-24.7 kJ mol ⁻¹ , DS=83.6 J K ⁻¹ mol ⁻¹	1967SSl (26128)	770
Co++	gl	KCl	40°C	0.20M	U T H	T	K1=4.25 B2=7.33 K1=4.41(15 C),4.36(25 C); K2=3.27(15 C),3.20(25 C). DH(K1)=-10.9 kJ mol ⁻¹ , DS=46 J K ⁻¹ mol ⁻¹ ; DH(K2)=-13.0, DS=16.7	1965SMb (26129)	771
Co++	oth	KNO3	20°C	0.10M	U		K1=5.0 B2=8.20 K3=2.4	1964JOa (26130)	772
Method: paper electrophoresis									
Co++	gl	KCl	20°C	0.10M	U	T	K1=4.32 B2=7.92	1963IPa (26131)	773
Co++	gl	KNO3	25°C	0.15M	U	T	K1=4.27 B2=7.72 K3=1.75	1953TSa (26132)	774
Co++	gl	oth/un	25°C	->0	U		K1=4.82 B2=8.48	1951MOa (26133)	775
Co++	gl	oth/un	25°C	0.01M	U		B2=8.4	1950ALa (26134)	776
Co++	gl	oth/un	25°C	0.01M	U		K1=4.83 B2=8.78	1950MMA (26135)	777

C3H7NO2		HL		B-Alanine			CAS 107-95-9 (575)		

3-Aminopropanoic acid; H₂N.CH₂.CH₂.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	oth	NaNO ₃	35°C	0.10M	U	M			1985V _{Sa} (26440)	778
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K(Co(NTA)+L)=3.60

By electrophoresis

Co++	gl	NaNO ₃	20°C	0.10M	U			K ₁ =3.58 B ₂ =6.64	1978LE _b (26441)	779
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Co++	oth	oth/un	45°C	0.0	U	T H T		K ₁ =4.06	1967BB _d (26442)	780
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Method: H electrode. K₁=4.47(0 C),4.31(15 C),4.21(25 C),4.13(35 C). DH(K₁)=-15.0 kJ mol⁻¹. By calorimetry, 25 C: DH(K₁)=-13.8, DS=33.9

Co++	gl	KCl	40°C	0.20M	U	T H T		K ₁ =3.53 B ₂ =5.98	1965SM _b (26443)	781
------	----	-----	------	-------	---	-------	--	---	-----------------------------	-----

K₁=3.69(15 C),3.58(25 C); K₂=2.59(15 C),2.56(25 C). DH(K₁)=-10.9 kJ mol⁻¹, DS=33 J K⁻¹ mol⁻¹, DH(K₂)=-9.6, DS=16. By ion exchange, 40 C: K₁=3.56

Co++	gl	oth/un	20°C	0.01M	U	T		B ₂ =7	1950AL _a (26444)	782
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C₃H₇N₂O₂ 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
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Co++	gl	KNO ₃	37°C	0.15M	C	M		K ₁ =4.325 B ₂ = 7.76 B ₃ =10.161	1989KK _d (26538)	783
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B(CoH-2L)=-14.434
B(Co(imidazole)L)=6.419

C₃H₇N₂O₂ HL Sarcosine CAS 107-97-1 (87)
N-Methyl-2-aminoethanoic acid; CH₃.NH.CH₂.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	KNO ₃	25°C	0.10M	U	M			1972IV _c (26597)	784
------	----	------------------	------	-------	---	---	--	--	-----------------------------	-----

K(CoA+L)=3.72

H₂A=methyliminodiethanoic acid

Co++	gl	oth/un	25°C	0.01M	U			K ₁ =4.34 B ₂ =7.82	1959DL _b (26598)	785
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C₃H₇N₂O₂S 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
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Co++	gl	KCl	25°C	0.50M	M	T H		K ₁ =11.20	1988MA _a (26745)	786
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Data for 25-40 C. DH(K₁)=48.12 kJ mol⁻¹, DS(K₁)=-54.1 J K⁻¹ mol⁻¹.

Co++	gl	NaClO ₄	25°C	0.10M	U	M			1984KP _b (26746)	787
------	----	--------------------	------	-------	---	---	--	--	-----------------------------	-----

K=(total concentration of bound oxygen (measured by gasometry))/(CoL2)2(O2),
reaction: 2CoL+O2=CoL2.O2.CoL2

Co++ gl NaCl 25°C 3.00M M K1=4.32 B2=7.90 1988BFa (27102) 798
B3=10.6

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-----
Co++      gl  KNO3    25°C 0.15M U      K1=4.36   B2=8.00   1987FZa (27103) 799
-----
Co++      gl  NaCl     25°C 3.00M C      K1=4.32   B2=7.90   1985PBb (27104) 800
                        B3=10.2

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D-, L- and DL-serine studied.

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-----
Co++      gl  NaCl04  25°C 3.00M U      K1=4.58   B2=8.57   1973WIa (27105) 801
                        B3=11.55
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Co++      gl  KCl      25°C 0.05M U T      K1=4.38   B2=8.00   1972GMb (27106) 802
K1(20 C)=4.42, K2=3.66; K1(30 C)=4.34, K2=3.58; K1(35 C)=4.30, K2=3.54
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Co++      gl  KNO3     37°C 0.15M U      M      K1=4.20   B2=7.56   1969PSb (27107) 803
                        B3=9.81
                        B(CoLA)=8.61
                        B(CoLA2)=11.01

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A=histamine

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-----
Co++      gl  KNO3     40°C 0.20M U T H      K1=4.25   B2=7.51   1968Rmb (27108) 804
K1=4.37(15 C),4.33(25 C); K2=3.38(15 C),3.33(25 C)
DH(B2)=-16.7 kJ mol-1, DS=92.0 J K-1 mol-1
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Co++      gl  oth/un  25°C 0.05M U I      K1=4.47   B2=8.25   1964SYa (27109) 805
I=0 M: K1=4.90, K2=4.20; I=0.1: K1=4.84, K2=4.41; I=0.02: K1=4.74, K2=4.11
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Co++      gl  oth/un  20°C 0.01M U      B2=8.0     1950ALa (27110) 806
*****
C3H7NO3          HL          CAS 2786-22-3 (1893)
2-Aminooxypropanoic acid;CH3.CH(O.NH2).COOH
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++      gl  KNO3     25°C 0.50M U      K1=2.43     1985WTa (27211) 807
*****
C3H7NO3          HL      iso-Serine      CAS 632-12-2 (351)
DL-3-Amino-2-hydroxypropanoic acid; H2N.CH2.CH(OH).COOH
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++      gl  KNO3     25°C 0.10M C      M          1988ACa (27229) 808
                        B(CoHL)=10.4
                        B(Co2H-2L2)=-5.61
Also B(CoZnH-2L2)=-3.74; B(CoCdH-2L2)=-4.97.
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Co++      gl  KCl      25°C 0.10M U      B2=13.478   1976BMe (27230) 809
                        B(CoH2L)=23.959
                        B(Co2L2)=20.803
*****
C3H7NO5S          H2L      Cysteic acid      CAS 23537-25-9 (2603)

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2-Amino-3-sulfonatopropanoic acid; H₃S.CH₂.CH(NH₂).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO ₃	25°C	0.50M	U		K1=5.76 B2=9.93	1979DZb (27253)	810

C ₃ H ₇ N ₅		L					(6903)		
5-(2-Aminoethyl)-1H-tetrazole; NH ₂ .CH ₂ .CH ₂ .CHN ₄									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaNO ₃	20°C	0.10M	U		K1=6.82 B2=11.07	1978LEb (27291)	811

C ₃ H ₇ O ₅ P		H ₃ L					CAS 5926-41-4	(3549)	
2-Phosphonopropanoic acid; CH ₃ .CH(P ₃ H ₂).COOH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	R ₄ N.X	25°C	0.25M	U		K1=2.54	1957WBa (27299)	812
Medium: 0.1-0.4 M (C ₃ H ₇) ₄ NI									

C ₃ H ₇ O ₆ P		H ₂ L					(6830)		
3-Hydroxy-2-oxopropylphosphoric acid; CH ₂ (OH).CO.CH ₂ .OP ₃ H ₂									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaNO ₃	25°C	0.10M	U		K1=1.84	1992LCb (27320)	813

C ₃ H ₇ O ₇ P		H ₃ L					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
Co++	gl	R ₄ N.X	25°C	0.25M	U		K1=2.97	1957WBa (27329)	814
Medium: 0.1-0.4 M (C ₃ H ₇) ₄ NI									

C ₃ H ₈ N ₅ P		H ₃ L					3-Phosphono-Ala CAS 20263-06-3	(1509)	
2-Amino-3-phosphonatopropanoic acid; (H ₂ O ₃ P)CH ₂ .CH(NH ₂).COOH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.20M	C		K1=6.22 B2=10.30	1989KFb (27347)	815
Co++	gl	KNO ₃	25°C	0.20M	C		K1=6.52 B2=10.81	1978MAb (27348)	816
							K(Co+HL)=2.56		
							K(CoL+HL)=2.24		

C ₃ H ₈ N ₅ P		H ₃ L					CAS 23052-80-4	(1508)	
3-Amino-3-phosphonatopropanoic acid; (H ₂ O ₃ P)(NH ₂)CH.CH ₂ .COOH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.20M	C		K1=6.56 B2=10.69 B(CoH2L)=18.06 B(CoHL)=13.18	1989KFb (27360)	817

C3H8N05P 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
Co++	gl	KNO3	25°C	0.1M	C		K1=7.23 B2=11.12 B(CoHL)=12.59	1985MMa (27396)	818

C3H8N06P H3L Phosphoserine CAS 17885-08-4 (1865)
Serine dihydrogenphosphate, O-Phosphoserine; NH2.CH(CH2.OP03H2).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	15°C	0.15M	C		K1=5.41 B2= 9.21 K(Co+HL)=1.88	1983MBa (27453)	819

Data for LL. For DL: K1=5.44, K2=3.72, K(Co+HL)=1.86

Co++	gl	KNO3	25°C	0.20M	C	M	K1=5.31 B2=9.16 K(Co+HL)=1.94 K(CoL+HL)=2.32 B(CoH(histamine)L)=17.48 K(Co(histamine)+L)=4.70	1979MBa (27454)	820
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K(Co(phen)+L)=4.85, K(Co(bpy)+L)=4.90

Co++	gl	KNO3	25°C	0.20M	C		K1=5.37 B2=9.02 K(Co+HL)=2.21 K(CoL+HL)=1.95	1978MAb (27455)	821
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Co++	gl	KNO3	25°C	0.20M	C		K1=5.37 B2=9.02 K3=1.95 K(Co+HL)=2.21 K(CoHL+L)=1.95 K(CoL+H)=6.56	1978MAc (27456)	822
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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
Co++	gl	oth/un	25°C	0.01M	U		K1=2.35 B2=4.09	1959DLb (27490)	823

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
Co++	gl	KNO3	25°C	0.10M	C		K1=6.28 B2=11.36 B(CoHL)=12.30 B(CoHL2)=17.96	1976BPb (27547)	824

Co++	gl	NaCl	25°C	0.10M	C		K1=6.55 B2=11.73 K(Co+HL)=2.91	1975KPa (27548)	825
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K(2CoL2+O2=(CoL2)2O2) = 8.90 at pH=8.0

Co++	gl	oth/un	20°C	0.01M	U		B2=11.8	1952ALa (27549)	826
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 C3H8N2O2 HL Ala-hydroxamic CAS 16707-85-0 (1582)
 2-Amino-N-hydroxypropanamide, Alanine hydroxamic acid; CH3.CH(NH2).CO.NH.OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.20M	C		K1=4.74 B2=9.39 B(CoHL)=12.12 B(CoH-1L)=-2.64 B(Co2L3)=17.69	1989FSa (27574)	827

Co++	gl	KCl	25°C	0.50M	C		K1=6.08 B2=10.69 B(CoH-1L2)=1.59 B(Co2L)=8.91	1989LEa (27575)	828
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 C3H8N2O3 H2L CAS 55779-32-3 (5500)
 Serinehydroxamic acid, 2-Amino-N,3-dihydroxypropionamide; HO.CH2.CH(NH2).CO.NH.OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.50M	C		K1=5.81 B2=10.54 B(CoH-1L2)=1.17 B(Co2L)=8.76	1989LEd (27617)	829

 C3H8N2S L DiMe-Thiourea CAS 61805-96-7 (1078)
 1,3-Dimethylthiourea; CH3.NH.CS.NH.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	nmr	non-aq	27°C	100%	U	M		1971EZa (27625)	830

K(CoLBr2+L)=-4.31
 K(CoLI2+L)=-4.56
 K(CoL3(ClO4)2+L)=-5.47

Medium: acetone

 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
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 Co++ gl NaClO4 20°C 0.10M U TI K1=9.50 1986NDb (27708) 831

 C3H8O3S3 H3L Unithiol CAS 74-61-3 (1271)
 2,3-Dimercaptopropanesulfonic acid; HS.CH2.CH(SH).CH2.SO3H

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	NaCl	25°C	0.1M	U		K1=16.67 B2=24.80	1999PAa (27779)	832

Also published in Zh. Neorg.Khim. (1999) 44, 590

Co++ sp oth/un ? 0.20M U B2=11.61 19720Fa (27780) 833

 C3H9N L n-Propylamine CAS 107-10-8 (2356)
 1-Aminopropane; H2N.CH2.CH2.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	non-aq	22°C	100%	U T HM			1984JCa (27826)	834

K(CoA2+L)=0.86
 In toluene, A=N-Propylsalicylalimine, DH=-23.3 KJ mol-1, DS=-62.9 J K-1 m-1
 At 2 C, K=1.12; 43 C, K=0.54

Co++ sp non-aq 2°C 100% U M 1984JCa (27827) 835
 K(CoA2+L)=0.67
 In DMF, A=N-Propylsalicylalimine

Co++	ISE	R4N.X	25°C	2.00M	U		K1=2.12 B2=3.65 K3=1.24 K4=1.18	1969PMc (27828)	836
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Medium: H4NO3

 C3H9N L iso-Propylamine CAS 75-31-0 (157)
 2-Propylamine; CH3.CH(CH3).NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	ISE	R4N.X	25°C	2.00M	U		K1=2.14 B2=3.62 K3=1.19 K4=0.87	1970PMA (27843)	837

Medium: NH4NO3

 C3H9N2O4P H2L CAS 30211-73-5 (7117)
 Glycylaminomethylphosphonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	C		K1=3.458 B2=6.16 B(CoHL)=9.2 B(CoH-1L)=-5.41	1995HLA (27966)	838

C3H10N2 L Propanediamine CAS 109-76-2 (123)
 1,3-Diaminopropane; H2N.CH2.CH2.CH2.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	KNO3	25°C	0.50M	M				1974KPa (28297)	846
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K(2CoL+O2+OH)=15.7

C3H10N2 L CAS 109-81-9 (1308)
 N-Methyl-1,2-diaminoethane; CH3.NH.CH2.CH2.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	KNO3	25°C	1.00M	C			K1=5.50 K3=1.77	B2=9.76	1982ABc (28360) 847
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Co++	gl	KCl	25°C	1.0M	U			K1=5.96 K3=1.58	B2=10.42	1950EDa (28361) 848
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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
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Co++	gl	KNO3	30°C	1.0M	U			K1=3.90	B2=7.14	1955GFa (28383) 849
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C3H11N06P2 H4L (6772)
 (Dimethylamino)-N-methylenediphosphonic acid; (CH3)2N.CH(PO3H2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	KCl	25°C	0.10M	M			K1=7.29 K(Co+HL)=6.09	1978GMf (28409)	850
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C3H11N06P2 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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Co++	gl	KCl	25°C	0.20M	C			K1=8.77 B(CoHL)=15.05 B(CoH2L)=19.42 B(CoH-1L)=-2.39	2000KKa (28439)	851
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Co++	gl	KNO3	25°C	0.10M	C			K1=9.27 K(CoL+H)=6.59 K(CoHL+H)=4.42 *K(CoL)=-11.3	1993SKc (28440)	852
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Co++	gl	NaClO4	25°C	0.10M	U			K1=9.47	B2=13.96	1988LDa (28441) 853
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B(CoHL)=15.94
B(CoH2L2)=30.71

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
Co++	gl	oth/un	25°C	0.10M	U		K1=8.0 B2=13.40 K(Co+HL)=3.15	1972AUa (28464)	854

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
Co++	gl	NaCl	25°C	0.15M	C		K1=7.18 B(CoHL)=14.024	1997CSa (28485)	855

Co++	gl	KCl	20°C	0.10M	U		K1=6.8 K(Co+HL)=4.1	1950PSa (28486)	856
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C3H12NO9P3 H6L NTPA CAS 6419-19-8 (2920)
Nitrilotris(methylenephosphonic acid); N(CH2PO3H2)3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	C		K1=14.0 K(CoL+H)=6.18 K(CoHL+H)=5.09 K(CoH2L+H)=3.6	1989SAa (28545)	857

Co++	gl	KCl	25°C	0.1M	M		K1=14.37 K(Co+HL)=8.53 K(Co+H2L)=6.39 K(Co+H3L)=4.79	1975MNa (28546)	858
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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
Co++	oth	NaClO4	25°C	0.50M	U		K1=1.62	1969TWa (28634)	859

Method: paper chromatography

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
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Also data for ternary complexes. $K(\text{CoLOH}+\text{OH})=4.25$.

C4H3N2O2F HL 5-Fluorouracil CAS 51-21-8 (4277)
5-Fluoro-2,4(1H,3H)-pyrimidinedione;

Co++ gl NaNO₃ 25°C 0.10M U M K₁=5.00 1996SGa (28692) 861
K(CoA+L)=5.17

C4H3N2O2I H2L 5-Iodouracil CAS 696-07-1 (8652)
5-Iodo-2,4-dihydroxypyrimidine;

Co++	gl	NaNO3	25°C	0.10M	C	M	K1=9.60	2000SSd (28700)	862
							K(Co+HL)=5.91		
							K(Co+HL+OH)=12.90		
							K(CoHL+OH)=6.25		
							K(Co+L+20H)=18.52		

C4H3N3O3S	H3L	Thiovioluric	CAS 23036-77-3	(2000)
2-Thio-4,5,6(H)-pyrimidinetetrone 5-oxime				

$$\begin{aligned} K(\text{Co}+\text{H}_2\text{L}) &= 2.61 \\ K(\text{Co}+2\text{H}_2\text{L}) &= 4.77 \end{aligned}$$

C4H3N3O4 H3L Violuric acid CAS 26351-19-9 (1208)
2,4,5,6-(1H,3H)Pyrimidinetetrone-5-oxime, 5-isonitrosobarbituric acid;

C4H3N3O4 H3L Oxonic acid CAS 937-13-3 (1296)
4,6-Dihydroxy-1,3,5-triazine-2-carboxylic acid; C3N3(OH)2.COOH

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       sp  NaClO4 20°C 0.20M U      K1=5.56      1981LDa (28757) 867
*****
C4H3N3O5      H3L  Dilituric acid  CAS 480-68-2 (8715)
5-Nitrobarbituric acid, 5-Nitro-2,4,6-pyrimidinetrione;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  KCl    25°C 0.05M C      K(Co+HL)=3.68
*****
C4H4N2       L    Pyridazine      CAS 289-80-5 (1484)
1,2-Diazine, Pyridazine; cyclo(-N:N.CH:CH:CH-)
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  KNO3   25°C 0.50M U      K1=0.70  B2=1.20  1988KLa (28771) 869
*****
C4H4N2       L    Pyrazine      CAS 290-37-9 (620)
1,4-Diazine, Pyrazine;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       sp  non-aq 30°C 100% U      M      K(CoA2+L)=2.2
Medium: CHCl3. HA=O,O'-diethyldithiophosphoric acid
*****
C4H4N2O2      HL   Uracil      CAS 66-22-8 (412)
2,4-Dihydroxypyrimidone, 2,4-Pyrimidinedione;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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Co++       gl  NaNO3  37°C 0.10M U      M      K1=3.82
B(CoAL)=7.27
*K(CoAL)=-7.45
*K(Co(OH)AL)=-10.32
HA is 6-aminopenicillanic acid.
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Co++       gl  KNO3   35°C 0.10M U      M      K1=3.83
K(Co(thiamine)+L)=3.17
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Co++       gl  KNO3   25°C 0.10M U T H      K1=3.76      1983KSa (28853) 873
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Co++       gl  KNO3   35°C 0.10M U      K1=3.93  B2=7.77  1981TSa (28854) 874
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Co++       gl  KNO3   45°C 0.10M U      K1=3.2      1974KKa (28855) 875
*****
C4H4N2O2      H2L      CAS 123-33-1 (8346)
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3,6-Dihydroxypyridazine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	vlt	mixed	25°C	30%	C T H		K1=10.93	1992SBb (28875)	876

Method: polarography. Medium: 30% DMSO/H2O, 0.10 M LiClO4.
Data for 15 and 35 C. DH(K1)=-53.4 kJ mol-1, DS(K1)=-44 J K-1 mol-1.

C4H4N2O2S	H2L	Thiobarbituric	CAS 504-17-6	(4279)
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4,6-Dihydroxy-2-mercaptopyrimidine, 2-thiobarbituric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO4	31°C	0.10M	U T H		K1=6.14 B2=11.08	1984SJa (28883)	877

Also data for 18 and 42 C. DH(K1)=-66.7 kJ mol-1, DS(K1)=-102 J K-1 mol-1
DH(K2)=-47.7, DS(K2)=-62.8.

C4H4N2S	HL		CAS 1450-85-7	(1521)
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2-Mercapto-1,3-diazine, 2-Mercaptopyrimidine; C4H3N2.SH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	35°C	0.10M	C		K1=3.21	1996RRa (28934)	878

Co++	gl	KNO3	45°C	0.10M	C		K1=3.61	1986KZa (28935)	879
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C4H4N6	L	8-Azaadenine	CAS 1123-54-2	(1884)
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8-Aza-6-aminopurine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	30°C	0.10M	U		K1=5.3	1983SKa (28950)	880

Co++	gl	KNO3	45°C	0.10M	U		K1=4.0	1973TKa (28951)	881
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C4H4N6O	L	8-Azaguanine	CAS 134-58-7	(114)
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2-Amino-6-hydroxy-8-azapurine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	25°C	50%	U	M	K1=8.07 K(Co(bpy)+L)=7.45 K(Co(phen)+L)=7.57 K(Co(NTA)+L)=4.55	1978MCb (28962)	882

C4H4O5	H2L	Oxobutanedioic	CAS 328-42-7	(1733)
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2-Oxosuccinic acid, Oxalacetic acid; HOOC.CH2.CO.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++ gl NaClO4 25°C 0.50M U TI K1=1.82 1990MOF (29257) 883
At 0.1 M, K1=2.23. At 30 C and 0.5 M, K1=1.85.

Co++ gl oth/un 25°C 0.10M U K1=3.1 1958GHc (29258) 884
K(CoL+Co)=2.3

C4H5NO L Methylisoxazole CAS 5765-44-6 (2045)
5-Methylisoxazole; C3H2NO.CH3

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

Co++ EMF KNO3 25°C 0.50M U K1=0.20 B2=-0.15 1977LKa (29290) 885
Ag/Ag+ concentration cell, competitive method

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

Co++ gl oth/un 25°C 0.10M U B2=7.88 1977Cwa (29294) 886

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

Co++ sp oth/un ? ? U K1=5.38 1968MSb (29310) 887

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

Co++ gl KNO3 25°C 0.50M U K1=0.54 B2=0.77 1976LKb (29325) 888
K1 by spectrophotometry = 0.61

C4H5N2Cl L CAS 872-49-1 (7589)
5-Chloro-1-methylimidazole;

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

Co++ gl NaNO3 25°C 0.50M M K1=2.03 1998Ksa (29333) 889

C4H5N3 L CAS 109-12-6 (1480)
2-Amino-1,3-diazine; C4H3N2.NH2

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

Co++ gl KNO3 25°C 0.50M U K1=0.25 B2=0.51 1988KLa (29344) 890

C4H5N3O HL Cytosine CAS 71-30-7 (1096)
2-Oxy-6-aminopyrimidine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaCl04	25°C	0.10M	M		K(Co+HL)=1.12 K(Co(atp)+HL)=1.54	1995LWa (29399)	891

Co++	gl	NaNO3	37°C	0.10M	U	M	K1=1.60 B(CoAL)=5.04 *K(CoAL)=-7.53	1994MGd (29400)	892
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HA is 6-aminopenicillanic acid.

Co++	gl	KNO3	35°C	0.10M	U	M	K1=2.31 B(CoHLAsp)=8.19 B(CoLAsp)=6.41 K(CoL+Gly)=5.07	1989SRe (29401)	893
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Co++	gl	KNO3	35°C	0.10M	U	M	K(Co+HL+HA)=8.53 K(Co(HL)A+H)=5.23 K(Co+HL+D)=9.15 K(Co+HL+C)=11.13	1986RRe (29402)	894
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HA is glycine; H2D is oxalic acid; C is histamine.

Co++	gl	KNO3	35°C	0.10M	U	T H	K(Co+HL)=2.31 K(Co+2HL)=3.05	1983KSa (29403)	895
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Co++	gl	KNO3	30°C	0.10M	U		K1=5.2	1983SKa (29404)	896
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Co++	gl	KNO3	45°C	0.10M	U		K(Co+HL)=2.8	1974KKa (29405)	897
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C4H5N3O2 HL (1327)
4-Oximino-3-methyl-2-pyrazolin-5-one;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	20°C	50%	U	T	K1=3.57 B2=5.65	1981SSc (29428)	898

At 30 C: K1=3.53, B2=5.53

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
Co++	sp	non-aq	20°C	100%	C	H	K(CoP+L)=2.34	1997SZa (29472)	899

Medium: CH₂Cl₂. Data for 15-30 C. H₂P is 5,10,15,20-tetra(4-methylphenyl)-porphyrin. DH= -13.2 kJ mol⁻¹, DS=-9.7 J K⁻¹ mol⁻¹.

 Co++ gl NaClO₄ 25°C 0.10M C M 1994MGB (29473) 900
 K(Co(malate)+L)=2.72

Co++ gl KNO₃ 25°C 0.50M U K1=1.73 B2=3.05 1974LKa (29474) 901
 B3=3.84
 B4=6.16

 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
Co++	gl	KNO ₃	25°C	0.50M	U		K1=1.43 B2=2.51 B3=3.30	1975LWc (29502)	902

 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
Co++	gl	KNO ₃	25°C	0.50M	U		K1=1.54 B2=2.75 B3=3.63 B4=4.19 B5=4.43	1978LKc (29511)	903

 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
Co++	gl	KNO ₃	25°C	0.50M	U		K1=2.34 B2=4.09 B3=5.33 B4=6.67	1977LOa (29526)	904

 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
Co++	sp	non-aq	19°C	100%	U T			2000WJa (29561)	905

K(CoA₂+L)=3.58
 K(CoA₂L+L)=0.71

Medium: acetonitrile. Also data at 0 and 35 C. HA: (difluoroboryl)-dimethylgloxime. DH(CoA₂+L)=-26.0, DH(CoA₂L+L)=-18.7 k J mol⁻¹.

 Co++ gl NaNO₃ 25°C 0.50M M K1=2.46 1998KSa (29562) 906

Co++ sp non-aq 20°C 100% C H 1997SZa (29563) 907

K(CoP+L)=3.10

Medium: CH₂Cl₂. Data for 15-30 C. H₂P is 5,10,15,20-tetra(4-methylphenyl)-porphyrin. DH= -29.8 kJ mol⁻¹, DS=-42.3 J K⁻¹ mol⁻¹.

Co++ sp none 30°C 0.0 U T H 1987Lda (29564) 908

K(CoA+L=CoAL)=2.64

Data at 30.1 to 51.4 C. A=Schiff base from 4,6-dimethoxysalicylaldehyde and 4-(trifluoromethyl)-o-phenylenediamine. DH=-33.9 kJ mol⁻¹.

Co++ cal NaNO₃ 25°C 1.0M C 1983ARa (29565) 909

DH(K₁)=-16.94 kJ mol⁻¹, DS(K₁)=-10.9 J K⁻¹ mol⁻¹.

Co++ sp non-aq 23°C 100% U TIHM 1982RWb (29566) 910

K(CoA+L)=2.16

Medium: CH₃Cl. A=Tetra(4-methoxyphenyl)porphyrin. In ClCH₂.CH₂Cl: K=2.90; in DMF: K=2.56. Also DH and DS values and other solvents

Co++ sp non-aq 23°C 100% U HM 1980ELa (29567) 911

K(CoA+L)=2.32

Medium: toluene. A= "Capped" porphyrin. DH=-13 kJ mol⁻¹.

Co++ sp non-aq 25°C 100% U M 1980ELa (29568) 912

K(CoA+L)=2.28

Medium: toluene. A="Homologous capped" porphyrin

Co++ sp non-aq 23°C 100% U 1979BEa (29569) 913

K(CoA+L)=2.32

Medium: toluene. CoA=a substituted porphyrinato-Co(II)
K(CoAL+O₂)=4.77

Co++ sp non-aq 20°C 100% U M 1978CBa (29570) 914

K(CoP+L=CoPL)=4.23

P=meso-tetra(alpha,alpha,alpha,alpha-ortho-pivalamidophenyl)-porphin.
Medium: toluene.

Co++ sp non-aq 21°C 100% U T M 1978DBa (29571) 915

K(CoA+L)=3.82

Medium: toluene. A= Protoporphyrin IX dimethyl-ester. Also enthalpy data for O₂ adduct. At 30 C: K(CoA+L)=3.53; 39 C: 3.33; 49 C: 3.13

Co++ gl KNO₃ 25°C 0.16M M K₁=2.29 B₂=4.25 1977ASe (29572) 916

B₃=5.32

B₄=6.70

Co++ gl KNO₃ 25°C 0.50M M K₁=2.40 B₂= 4.40 1977LBb (29573) 917

B₃=5.85

B₄=6.95

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
Co++	ISE	KNO3	25°C	0.50M	U		K1=0.26 B2=0.56	1977LGa (29614)	918

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
Co++	gl	KCl	30°C	0.10M	U		K1=1.4	1957TBb (29630)	919

 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
Co++	gl	KCl	30°C	0.10M	U		K1=1.6	1957TBb (29636)	920

 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
Co++	gl	KNO3	25°C	0.50M	U		K1=-0.13	1985GLa (29643)	921

Competitive potentiometric method using Ag(I) as an auxiliary cation
 Using spectrophotometry, K1=-0.27

 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
Co++	gl	KNO3	25°C	0.50M	U		K1=0.83	1982GKa (29649)	922

 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
Co++	gl	NaClO4	25°C	0.10M	U		K1=5.69 B2=10.99	1977STc (29661)	923

 C4H6N4O L CAS 1672-50-0 (5993)
 4,5-Diamino-6-hydroxypyrimidine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	45°C	0.10M	C		K1=4.06	1986KZa (29681)	924

C4H6N4O3S2 L (6481)
2-Acetylamino-1,3,4-thiadiazole-5-sulphonamide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	25°C	50%	U		B2=8.044	1990FBb (29690)	925

C4H6O4 H2L Succinic acid CAS 110-15-6 (112)
1,4-Butanedioic acid; H00C.CH2.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	C	M		2002BMa (29912)	926
							K(CoL+A)=5.61 K(CoL+B)=7.76 K(CoL+C)=2.95		

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)

Co++	gl	KNO3	25°C	0.10M	U		K1=1.71	1998VAa (29913)	927
Co++	gl	KNO3	25°C	0.1M	C		K1=1.71	1998VZb (29914)	928
Co++	gl	NaNO3	25°C	0.10M	U	M	K1=6.10 K(CoL+gly)=4.80 K(CoL+ala)=4.75 K(CoL+leu)=4.35 K(CoL+asp)=6.86	1997ISd (29915)	929

Co++	gl	NaCl	25°C	0.50M	C		K1=1.26 B(CoHL)=5.57	1989FRa (29916)	930
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Co++	cal	KCl	25°C	0.10M	U	H		1967MNC (29917)	931
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DH(K1)=13.4 kJ mol⁻¹, DS=87.8 J K⁻¹ mol⁻¹

Co++	gl	oth/un	25°C	0.0	U		K1=2.37	1965MOb (29918)	932
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Co++	ix	oth/un	25°C	0.0	U		K1=2.41	1965SMf (29919)	933
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Co++	gl	NaClO4	20°C	0.10M	U		K1=1.70 K(Co+HL)=0.99	1963CAa (29920)	934
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Co++	dis	oth/un	25°C	0.16M	U	I	K1=1.916	1961MMA (29921)	935
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K1=2.80(I=0), 2.207(I=0.04), 2.111(I=0.06), 2.034(I=0.08)

Co++	gl	oth/un	25°C	->0	U T H		K1=2.22	1961MNC (29922)	936
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DH(K1)=10.0 kJ mol⁻¹ DS=82.0. K1=2.08(0 C), 2.12(15 C), 2.29(35 C), 2.38(45 C)

Co++	sp	oth/un	20°C	0.40M	U		K1=0.14	1953BBb (29923)	937
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C4H6O4 HL Acetoxyacetic a CAS 13831-30-6 (4249)
Acetoxyethanoic acid; CH3.CO2.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaNO3	30°C	0.40M	U		K1=0.39	1970BTa (30085)	938

C4H6O4 H2L Me-Malonic Acid CAS 516-15-2 (816)
Methylpropanedioic acid; HOOCH(CH3).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO4	25°C	0.10M	U		K1=2.45	19680Va (30112)	939

C4H6O4S H2L Thiodiacetic CAS 123-93-3 (140)
2,2'-Thiodiglycolic acid, Thiodiethanoic acid; HOOCH2SCH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	35°C	0.10M	C	M	K1=3.60 B(CoAL)=6.00	1999DSb (30204)	940

A is thiamine hydrochloride.

Co++	gl	KNO3	35°C	0.10M	U	M		1990RSd (30205)	941
							B(Co(asp)L)=5.56 K(CoL+en)=5.54 K(CoL+his)=6.83 K(CoL+A)=2.06		

K(CoL+met)=3.88, K(CoL+B)=4.14, K(CoL+trp)=4.14,
K(CoL+HC)=4.00. A is imidazole, HB is phenylalanine, H2C is tyrosine.

Co++	gl	NaClO4	25°C	0.10M	U	TIH	K1=3.72 B2=6.41	1983DBb (30206)	942
Co++	gl	NaClO4	25°C	0.10M	U		K1=3.51 B2=6.19 K(Co+HL)=1.72	1970PPa (30207)	943

Co++	EMF	NaClO4	25°C	0.10M	U		K1=3.3	1966SYa (30208)	944
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Co++	gl	KCl	30°C	0.10M	U		K1=3.4 B2=5.5	1957TBb (30209)	945
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C4H6O4S H3L Thiomalic acid CAS 70-49-5 (109)
2-Mercaptosuccinic acid, 2-Sulfanyl-1,4-butanedioic acid; HOOCH(SH).CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO4	30°C	0.10M	U		K1=6.56 B2=12.06	1988NDa (30313)	946
Co++	gl	KCl	25°C	0.20M	C		K1=6.71 B2=11.15 B(Co3L4)=28.91	1983HSa (30314)	947

$$B(\text{Co}_2\text{L}_3)=19.61$$

Co++	gl	KN03	20°C	0.10M U	K ₁ =6.53	1977CAd (30315)	948
					K(Co+HL)=0.00		

Co++ g1 KNO3 25°C 0.10M U K1=6.88 1965LMa (30316) 949

Co++	gl	oth/un	25°C	?	U	K1=6.31	1959CFa	(30317)	950
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C4H6O4S2 H2L CAS 505-73-7 (3585)

Dithiodiethanoic acid; $\text{HOOC} \cdot \text{CH}_2 \cdot \text{S} \cdot \text{S} \cdot \text{CH}_2 \cdot \text{COOH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++ gl NaCl04 25°C 0.10M U K1=1.5 1968SKd (30411) 951

C4H6O4Se H2L CAS 6228-62-2 (984)

Selenodiethanoic acid; $\text{HOOC} \cdot \text{CH}_2 \cdot \text{Se} \cdot \text{CH}_2 \cdot \text{COOH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++ g/l KNO3 25°C 0.10M C K1=2.47 1975LPa (30448) 952

$$K(\text{Co}+\text{HL})=1.37$$

Co++ gl NaClO4 25°C 0.10M U K1=2.3 1966SYa (30449) 953

C4H6O5	H2L	Malic acid	CAS 617-48-1	(393)
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2-Hydroxybutane-1,4-dioic acid, Hydroxy-succinic acid; $\text{HOOC} \cdot \text{CH}_2 \cdot \text{CH}(\text{OH}) \cdot \text{COOH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++ g1 KNO3 25°C 0.10M C M K1=3.10 2002BMa (30571) 954

$$K(\text{CoL}+\text{A})=5.17$$
$$K(\text{CoL}+\text{B})=7.26$$
$$K(CoL+C)=2.83$$

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)

Co++ g1 NaNO3 25°C 0.10M U M K1=5.65 1997ISd (30572) 955

$$K(\text{CoL+gly})=4.40$$
$$K(\text{CoL+ala})=4.65$$
$$K(\text{CoL+leu})=4.11$$
$$K(\text{CoL+asp})=6.10$$

Co++ gl NaCl04 20°C 0.10M U 1963CAa (30573) 956

$$K(Co+H_2L)=1.64$$
$$K(\text{Co}+\text{HL})=2.86$$

Co++ dis oth/un 25°C 0.16M U I K1=2.012 1961MMa (30574) 957

$$K1=3.00(I=0), 2.373(I=0.04), 2.281(I=0.06), 2.198(I=0.08)$$

C4H6O5 H2L Diglycolic acid CAS 110-99-6 (243)
Di(carboxy)methyl ether, 2,2'-Oxydiethanoic acid; H00C.CH2.O.CH2.C00H

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaCl04	25°C	0.10M	M	M	K1=3.24 B(Co(ida)L)=6.69	1987NDb (30840)	958
Co++	gl	KCl	25°C	0.10M	C		K1=2.74 K(CoL+H)=2.28	1984MMg (30841)	959
Co++	gl	NaCl04	25°C	0.10M	U	TIH	K1=3.07	1983DBb (30842)	960
Co++	gl	KNO3	25°C	0.10M	U		K1=2.65	1975MTc (30843)	961
Co++	gl	KCl	30°C	0.10M	U		K1=2.7	1957TBb (30844)	962

C4H6O6 H2L D-Tartaric acid CAS 147-71-7 (93)
D-Tartaric acid, D-2,3-Dihydroxybutanedioic acid; H00C.CH(OH).CH(OH).C00H

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	C	M	K1=2.88 K(CoL+A)=5.03 K(CoL+B)=7.02 K(CoL+C)=2.78	2002BMa (30972)	963

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)

C4H6O6 H2L DL-Tartaric acid CAS 133-37-9 (94)
DL-Tartaric acid,DL-2,3-Dihydroxybutanedioic acid; H00C.CH(OH).CH(OH).C00H

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaNO3	25°C	0.10M	U	M	K1=5.22 K(CoL+gly)=4.45 K(CoL+ala)=4.15 K(CoL+leu)=3.79 K(CoL+asp)=5.95	1997ISd (31005)	964

Co++ oth oth/un 25°C dil C K1=3.225 1982HKa (31006) 965
Method: isotachophoresis. Medium: 0.006-0.019 M tartrate buffer, pH 5.1.

C4H6O6 H2L L-Tartaric acid CAS 87-69-4 (92)
L-Tartaric acid, L-2,3-Dihydroxybutanedioic acid; H00C.CH(OH).CH(OH).C00H

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	ix	oth/un	30°C	dil	C	T	K1=2.48	1992LHb (31171)	966

Medium: 0.2-5.0 mM tartaric acid eluent. At 40 C, K1=2.47

Co++ oth NaClO4 40°C 0.10M C B2=4.84 1982SYb (31172) 967
Method: paper electrophoresis. Medium: 0.10 M HClO4.

Co++ oth oth/un 40°C 0.10M U M 1981YSa (31173) 968
B(CoL(NTA))=5.33
Method: paper electrophoresis

Co++ gl NaClO4 32°C 0.01M U 1970TPa (31174) 969
K(Co+H2L=CoL+2H)=-5.08
K(CoL=Co(H-1)L+H)=-7.46
K(Co(H-1)L=Co(H-2)L+H)=-9.88
K(Co+L=Co(H-1)L+H)=-5.45

K(Co+HL=CoL+H)=-1.38

Co++ gl oth/un 25°C 0.0 U K1=3.08 B2=3.78 1965MOb (31175) 970

Co++ ix oth/un 25°C 0.0 U K1=3.02 B2=4.21 1965SMf (31176) 971

Co++ dis NaClO4 20°C 0.10M U K1=2.8 1963STc (31177) 972

Co++ dis oth/un 25°C .155M U I K1=2.098 1961MMa (31178) 973
K1=3.08(I=0), 2.50(I=0.035), 2.377(I=0.055), 2.288(I=0.075)

C4H7NO2 HL (8137)
(S)-Azetidine-2-carboxylic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
Co++ gl KNO3 25°C 0.10M C K1=5.4 B2= 9.90 1989ARa (31440) 974
K3=3.4

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
Co++ gl alc/w 25°C 75% U K1=6.8 B2=11.70 1986BTa (31453) 975
Medium: 75% MeOH/H2O, 0.1 M NaClO4

C4H7NO2 HL CAS 5687-86-5 (8042)
Cyclopropanecarbohydroxamic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
Co++ sp NaNO3 25°C 0.10M C B2=9.11 1997Nwa (31458) 976

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
Co++	gl	NaClO4	25°C	0.15M	U		K1=3.025 B2=5.354	1976FJa (31471)	977

C4H7NO3		HL					CAS 543-24-8	(3586)	
N-Acetylglycine; CH3.CO.NH.CH2.COOH									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaNO3	30°C	0.40M	U		K1=0.54	1970BTa (31497)	978

C4H7NO4		H2L					CAS 56-84-8	(21)	
Aminobutanedioic acid; H2N.CH(CH2.COOH).COOH									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	C	M	K1=6.74 K(CoL+A)=3.75	2003AHa (31784)	979
HA is 3-amino-5-mercapto-1,2,4-triazole.									
Co++	gl	NaNO3	25°C	0.10M	C	M	K1=5.81 B2=10.12 K(CoA+L)=6.06	2000KAb (31785)	980
H2A=Dipicolinic acid.									
Co++	gl	NaNO3	25°C	0.10M	C		K1=5.90 B2= 9.82 B(CoH-1L)=-3.33	2000MSa (31786)	981
Co++	gl	KNO3	25°C	0.10M	C	M	K1=6.57 K(CoL+A)=3.85 B(CoLA)=10.42 K(CoL+B)=3.68 B(CoLB)=10.25	1999AAa (31787)	982
K(CoHL+C)=2.81. HA=MOPSO, HB=MOPS, HC=DIPSO.									
Co++	gl	KNO3	25°C	0.10M	C		K1=6.14	1999BIa (31788)	983
Co++	gl	alc/w	25°C	20%	M	M	K1=6.65 K(CoL+oxine)=8.38	1998ABa (31789)	984
Medium: 20% w/w EtOH/H2O, 0.1 M KNO3.									
Co++	gl	NaNO3	25°C	0.10M	U	M	K1=5.90 B2= 9.82 B(CoH-1L)=-3.33 B(CoAL)=8.68 B(CoH-1AL)=-1.33 B(Co2AL2)=18.08	1998MSe (31790)	985
B(Co2(H-1A)L2)=10.28. A is imidazole.									
Co++	gl	NaNO3	25°C	0.10M	U		K1=7.00	1997ISd (31791)	986

Co++	gl	KNO3	25°C	0.10M	M	M	K1=6.74	1996AEa (31792)	987
Data for ternary complexes with dipicolinic acid.									
Co++	gl	KNO3	20°C	0.01M	U		K1=5.27 B2=8.21	1996EMa (31793)	988
Co++	gl	alc/w	20°C	50%	M	M	K1=6.47 K(CoA+L)=7.69	1995AMb (31794)	989
Medium: 50% v/v EtOH/H2O, 0.20 M NaClO4. A is 2,2',2"-terpyridine.									
Co++	gl	NaClO4	25°C	0.20M	C		K1=6.07	1993BAb (31795)	990
Co++	nmr	KNO3	25°C	1.0M	U		K1=5.86 B2=16.03 K3=11.35 K(Co+HL)=0.97	1992SZb (31796)	991
Co++	gl	KNO3	30°C	0.10M	U		K(Co+H2L=CoL+2H)=-7.34 *K(CoL)=-8.83 K(Co+2H2L=CoL2+4H)=-16.47 K(Co+HL=CoL+H)=-3.83	1990APa (31797)	992
Co++	gl	KNO3	25°C	0.10M	U	M	K1=6.30 K(CoA+L)=8.50	1989MAc (31798)	993
H4A is adenosine-5'-triphosphoric acid.									
Co++	gl	KNO3	25°C	0.10M	C	M	K1=6.20 K(CoA+L)=9.28 B(CoAL)=16.33	1989MAd (31799)	994
H2A is N-(2-acetamido)imino diethanoic acid.									
Co++	gl	KNO3	35°C	0.20M	U	M	K1=5.78 B2=10.50 K(CoA+L)=5.10	1989RVa (31800)	995
A=bis(imidazol-2-yl)methane									
Co++	gl	KNO3	25°C	0.10M	M		K1=5.81 B2= 9.89	1981GVa (31801)	996
Co++	vlt	KNO3	25°C	1.00M	U		K1eff=7.60	1977HDa (31802)	997
Keff at pH 7									
Co++	gl	KNO3	25°C	0.10M	U		K1=5.96 B2=10.23	1965RWa (31803)	998
Co++	gl	oth/un	20°C	0.01M	U		B2=10.7	1952ALa (31804)	999
Co++	gl	KCl	30°C	0.10M	U		K1=5.90 B2=10.18	1952CMB (31805)	1000

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
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4(5)-Aminomethylimidazole; C3H3N2.CH2.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	oth/un	25°C	0.01M	U			K1=4.8	1960HJa (32437)	1014

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
Co++	gl	KNO3	25°C	0.50M	U			K1=0.92	1985GLa (32445)	1015

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
Co++	gl	KNO3	25°C	0.50M	U			K1=0.80 B2=1.13 B3=0.99	1982GLa (32451)	1016

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
Co++	gl	NaClO4	25°C	0.30M	U	I			1982PNa (32520)	1017
K(Co+2HL)=9.98										
In 50% dioxan/H2O: K(Co+2HL)=11.88										

Co++	vlt	non-aq	20°C	100%	U	M			1980KTa (32521)	1018
K(CoL2+A)=2.9										
K(CoL2+2A)=2.5										
K(CoL2A(DMSO)+A)=-0.3										
Medium: DMSO, 0.1 M NaClO4. A=pyrrolidine. Other ligands also studied										

Co++	vlt	non-aq	20°C	100%	U	M			1980KTa (32522)	1019
K(CoL2+A)=2.5										
K(CoL2+2A)=2.2										
K(CoL2A(DMSO)+A)=-0.3										
Medium: DMSO, 0.1 M NaClO4. A=piperidine. Other ligands also studied										

Co++	vlt	non-aq	20°C	100%	U	M			1980KTa (32523)	1020
K(CoL2+A)=2.3										
K(CoL2+2A)=2.2										
K(CoL2A(DMSO)+A)=-0.1										
Medium: DMSO, 0.1 M NaClO4. A=butylamine. Other ligands also studied										

Co++	vlt	alc/w	25°C	10%	U			K1=9.14 B2=17.79	1974ANb (32524)	1021
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Co++ sp NaClO4 ? 6.0M U I 1968BP a (32525)1022

K(CoHL2+I)=3.86

K(CoHL2+2I)=6.3

K(CoHL2+I)=1.38(I=1),1.54(I=2),1.80(I=3),2.40(I=4),3.04(I=5); K(CoHL2+2I)=
K=3.4(1),3.7(2),4.2(3),4.8(4),5.5(5). Also in 1-6 M NaNO3 and LiNO3

Co++ gl diox/w 25°C 75% U I K1=12.20 B2=22.44 1963BAb (32526)1023
Medium: 75% dioxan. K1=8.35(0%),11.01(50%); B2=16.98(0%),20.68(50%)

Co++ gl diox/w 25°C 50% U K1=11.75 B2=21.25 1958BP a (32527)1024

Co++ gl diox/w 25°C 50% U K1=9.80 B2=18.94 1952FRb (32528)1025

C4H8N2O3 HL Asparagine CAS 70-47-3 (17)

2-Aminobutanedioic acid 4-amide; H2N.CH(CH2.CO.NH2).COOH

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

Co++ gl KNO3 25°C 0.10M C T H K1=4.37 2001BTa (32667)1026
Data for 15-45 C. DH(K1)=-11.73 kJ mol-1, DS(K1)=-44.3 J K-1 mol-1.

Co++ gl KNO3 25°C 0.10M C K1=4.37 1999BIa (32668)1027

Co++ gl KNO3 25°C 0.10M M M K1=4.38 1996AEa (32669)1028
Data for ternary complexes with dipicolinic acid.

Co++ gl NaCl 25°C 1.00M C K1=4.88 B2=8.77 1996BFb (32670)1029

Co++ gl KNO3 0°C 0.10M U M K1=4.79 B2=8.78 1994VKb (32671)1030
K3=2.72

Ternary complexes in Co-Asp-02 system : K(2CoL3+02=Co2L6O2)=4.74-6.29,
K(2CoL3+0H+02=Co2L6O2OH)= -4.04 - -4.42

Co++ gl NaClO4 25°C 0.20M C K1=4.50 1993BAb (32672)1031

Co++ gl KNO3 25°C 0.15M U K1=4.51 B2=8.01 1987FZa (32673)1032

Co++ gl KNO3 25°C 0.10M U T H K1=4.48 B2=8.12 1980ZYb (32674)1033

Co++ gl NaClO4 25°C 3.00M C K1=4.903 B2=9.029 1974BWa (32675)1034
B3=11.855

Co++ gl KNO3 25°C 0.10M U K1=4.51 B2=8.01 1965RWa (32676)1035

Co++ gl KNO3 25°C 0.15M U K1=4.55 B2=8.13 1953TSa (32677)1036
K3=1.83

Co++ gl oth/un 20°C 0.01M U B2=8.40 1950ALa (32678)1037

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
Co++	gl	KNO3	25°C	0.1M	U			K(Co+HL)=3.49 K(CoL+H)=11.25 K(CoHL+HL)=2.39 K(CoHL2+H)=10.95 K(CoL2+H)=11.14; K(CoL+HL)=2.69	2003PGa (32996)	1038
Co++	gl	NaCl04	20°C	0.10M	U	M		K1=3.41 B2=5.98 K(CoL2=CoH-1L2+H)=6.0 K1(O2)=10.0 K2(O2)=-10.6 K1(O2) = K(2CoH-1L2 + O2 = Co2H-2L4O2) (reversible O2 binding) K2(O2) = K(2CoH-1L2 + O2 = Co2H-4L4O2 + 2H)	1988KUa (32997)	1039
Co++	gl	NaNO3	37°C	0.15M	M	M		K1=2.97 B2=6.45 B(CoH-1L)=-7.32 B(CoLA)=8.46 B(CoHLA)=17.05 A=pyridoxamine. Also, B(CoLB3)=13.93, B(CoL2B2)=12.12; B=imidazole. Also ternary CoHLAB complexes.	1987MOb (32998)	1040
Co++	oth	NaCl04	35°C	0.10M	C	M		K1=3.30 B2= 5.50 K(Co(nta)+L)=2.69 Method: paper electrophoresis. Medium pH 8.5.	1986SYa (32999)	1041
Co++	gl	NaNO3	35°C	0.10M	U	M		K1=3.10 K(CoL+CMP)=1.59 H2CMP=cytidine-5'-monophosphoric acid	1985KSc (33000)	1042
Co++	gl	KCl	25°C	0.20M	C	M		K(Co(DOPA)+L)=3.17 B(CoHL(DOPA))=22.27 Ternary data also with Dopamine, Adrenaline and Noradrenaline H3DOPA=3,4-dihydroxyphenylalanine	1984KDb (33001)	1043
Co++	gl	NaNO3	30°C	0.10M	U			B(CoH-1L)=-5.68	1979EHa (33002)	1044
Co++	gl	KNO3	25°C	0.10M	C			K1=3.07 K[Co(H-1L)+H]=9.35	1977HMd (33003)	1045
Co++	gl	NaCl	25°C	0.12M	U			K1=3.18 B2=5.92	1977PNa (33004)	1046
Co++	gl	NaCl	25°C	0.12M	U			K1=3.18 B2= 5.92	1976PNa (33005)	1047
Co++	gl	NaCl	25°C	0.10M	U			K1=2.94 B2=5.42	1959BRb (33006)	1048


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Co++      ix  oth/un 25°C 0.15M U      K1=3.00  B2=5.28  1957LDa (33007)1049
-----
Co++      gl  oth/un 25°C 0.15M U      K1=3.08  B2=5.30  1957LDa (33008)1050
-----
Co++      gl  KCl    25°C .058M U T    K1=6.28          1957LYa (33009)1051
0 C: B2=6.96
-----
Co++      gl  oth/un 25°C 0.02M U T    K1=3.23  B2=5.79  1956DRb (33010)1052
40 C: K1=3.08, K2=2.37
-----
Co++      gl  oth/un 26°C 0.03M U      K1=3.04  B2=5.30  1955G0a (33011)1053
-----
Co++      gl  KNO3   25°C 1.0M U      K1=2.73  B2=5.02  1954TKb (33012)1054
-----
Co++      gl  oth/un 21°C 0.01M U      B2=5.8          1952PEa (33013)1055
Medium: CoCl2.
-----
Co++      gl  oth/un 25°C ->0 U      K1=3.49  B2=5.88  1951M0a (33014)1056
*****
C4H8N2O4      H2L    HDA          CAS 19247-05-3 (1025)
Hydrazine-N,N'-diethanoic acid; HOOC.CH2.NH.NH.CH2.COOH
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++      gl  KCl    30°C 0.10M U      K1=6.0    B2=10.9  1957TBb (33079)1057
*****
C4H8N2O4      H2L          (6369)
N(1)-Hydroxyasparagine, aspartyl-beta-hydroxamic acid; H2N.CH(CH2.CO.NHOH).COOH
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++      gl  KCl    25°C 0.20M C      K1=7.10  B2=12.00  1990FBa (33131)1058
B(CoHL)=13.71
B(CoHL2)=19.92
B(CoH-1L2)=1.87
*****
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
-----
Co++      gl  KCl    25°C 0.50M C      K1=7.56  B2=12.86  1988LEb (33147)1059
B(CoHL)=13.91
B(Co2L3)=23.43
B(CoH-1L2)=2.46
*****
C4H8O2      HL          CAS 107-92-6 (1118)
n-Butanoic acid; CH3.CH2.CH2.COOH
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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	oth	NaCl04	25°C	2.0M	U		K1=0.62	1990FTa (33320)	1060
Methods: averaged results from potentiometric, polarographic and spectrophotometric measurements.									
Co++	sp	NaCl04	25°C	2.00M	U	I	K1=0.59 B2=0.76	1974GMb (33321)	1061
Co++	EMF	NaCl04	25°C	2.00M	U		K1=0.66 B2=0.88	1970FMa (33322)	1062
Co++	sp	NaCl04	25°C	2.00M	U		K1=0.61	1970GFa (33323)	1063

C4H8O2S		H2L					CAS 26473-48-3	(3018)	
2-Mercaptobutanoic acid; CH3.CH2.CH(SH)COOH									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	30°C	0.10M	U		K(Co+HL)=2.15	1964PCa (33361)	1064

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
Co++	gl	diox/w	30°C	50%	U		K1=3.06	1956IFa (33402)	1065

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
Co++	con	oth/un	25°C	0.10M	U		K1=1.68	1971KHb (33440)	1066
Co++	EMF	NaCl04	25°C	1.0M	U		K1=1.45 B2=2.43 K3=0.3	1967TGa (33441)	1067
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
Co++	oth	NaCl04	25°C	2.0M	U		K1=1.46	1990FTa (33574)	1068
Methods: averaged results from potentiometric, polarographic and spectrophotometric measurements.									
Co++	EMF	NaCl04	25°C	2.00M	U		K1=1.49 B2=2.38 B3=3.04	1978MMg (33575)	1069

Co++ sp NaCl04 25°C 2.00M U I K1=1.43 B2=1.83 1974GMb (33576)1070

Co++ gl KCl 30°C 0.10M U K1=1.95 1938CKa (33577)1071

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

Co++ oth NaCl04 25°C 2.0M U K1=0.83 1990FTa (33616)1072

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

Co++ EMF NaCl04 25°C 2.00M U K1=0.91 B2=1.08 1978MMg (33617)1073

B3=1.26

Co++ sp NaCl04 25°C 2.00M U I K1=0.75 B2=1.15 1974GMb (33618)1074

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

Co++ EMF NaCl04 25°C 2.00M U K1=0.45 1978MMg (33653)1075

Co++ sp NaCl04 25°C 2.00M U I K1=0.48 B2=1.04 1974GMb (33654)1076

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

Co++ sp none 20°C 0.0 U T H 1987LDa (33733)1077

K(CoA+L=CoAL)=0.33

Data at -1.7 to 19.7 C. A=Schiff base from 4,6-dimethoxysalicylaldehyde and 4-(trifluoromethyl)-o-phenylenediamine. DH=-23.4 kJ mol⁻¹.

Co++ sp non-aq 21°C 100% U T M 1978DBa (33734)1078

K(CoA+L)=1.50

Medium: toluene. A=Protoporphyrin IX dimethyl-ester. Also enthalpy data for O2 adduct. At 30 C: K(CoA+L)=1.36; 39 C: 1.20; 49 C: 1.10

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

Co++ sp oth/un 25°C ? U M 1981CKb (33791)1079

K(Co(C6H5)4porphin+L)=2.09

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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 Co++ gl KNO3 25°C 0.10M U M 1972IVc (34029)1089
 K(CoA+L)=3.40

H2A=iminodiethanoic acid

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

Co++ oth NaCl04 35°C 0.10M C K1=4.25 B2= 7.80 1998TEa (34092)1090
 Method: paper electrophoresis.

 Co++ gl KNO3 25°C 0.10M U K1=4.12 B2=7.61 1964LMa (34093)1091

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

Co++ gl KNO3 20°C 0.01M U K1=4.32 B2=7.21 1996EMa (34274)1092

Co++ gl KNO3 25°C 0.1M U M K1=4.54 B2= 8.23 1992SPb (34275)1093
 K3=2.53

 Co++ gl KNO3 25°C 0.10M U M K1=4.38 1989MAc (34276)1094
 K(CoA+L)=4.00

H4A is adenosine-5'-triphosphoric acid.

 Co++ gl KNO3 25°C 0.10M C M K1=4.38 1989MAd (34277)1095

K(CoA+L)=4.20

B(CoAL)=11.25

H2A is N-(2-acetamido)imino diethanoic acid.

 Co++ gl KNO3 35°C 0.20M U M K1=4.13 B2=7.91 1989RVa (34278)1096

K(CoA+L)=3.64

A=bis(imidazol-2-yl)methane

 Co++ gl oth/un 20°C 0.10M U K1=4.31 B2=7.16 1987MTa (34279)1097

 Co++ gl KNO3 25°C 0.10M U K1=4.32 1987MTb (34280)1098

 Co++ gl NaNO3 25°C 0.10M C K1=4.298 B2= 7.76 1982KPc (34281)1099

B(CoH-1L2)=-1.94

 Co++ gl NaNO3 25°C 0.10M U K1=4.25 B2=8.18 1981ISb (34282)1100

K values for D, L and DL isomers. For the allo isomer, K1=4.00, K2=3.21

 Co++ cal NaNO3 25°C 0.10M C H 1978ISc (34283)1101

For L-Thr and DL-Thr: DH(K1)=-10.8 kJ mol⁻¹, DS=45 J K⁻¹ mol⁻¹; DH(K2)=

-8.1, DS=48. For L-allo-Thr: DH(K1)=-8.2, DS=49; DH(K2)=-4.8, DS=45.

Co++ gl KCl 25°C 0.05M U T K1=4.38 B2=8.01 1972GMb (34284)1102
K1(20 C)=4.39, K1(35 C)=4.33, K2(20 C)=3.64, K2(35 C)=3.50

Co++ gl KNO3 40°C 0.20M U T H K1=4.37 B2=7.72 1968Rmb (34285)1103
K1=4.50(15 C),4.43(25 C); K2=3.48(15 C),3.41(25 C)
DH(B2)=-18.0 kJ mol⁻¹, DS=92 J K⁻¹ mol⁻¹

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

Co++ gl KCl 25°C 0.10M U K1=4.30 B2=7.81 1971BDc (34355)1104

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

Co++ gl KNO3 25°C 0.50M U K1=2.36 1985WTa (34364)1105

C4H9N3O2 HL CAS 57-00-1 (8275)
Methylguanidoethanoic acid;

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

Co++ gl NaClO4 20°C 0.10M U T H K1=2.99 B2= 5.33 1983SSg (34418)1106
Also data for 30 and 40 C. DH(B2)=-5.61 kJ mol⁻¹, DS(B2)=219 J K⁻¹ mol⁻¹.

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

Co++ gl KCl 20°C 0.10M U K1=7.77 1987BDc (34449)1107
K(Co+HL)=2.82

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

Co++ gl KCl 25°C 0.20M C K1=5.44 B2=8.69 1989KFb (34461)1108

Co++ gl KCl 20°C 0.10M U K1=5.16 1987BDc (34462)1109
K(Co+HL)=3.00

C4H10NO6P H2L CAS 6401-59-8 (2399)

O-Phospho-2-methylserine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.20M	C			K1=5.28 B2=8.96 K(Co+HL)=1.71 K(CoHL+L)=1.71 K(CoL+H)=6.50	1978Mac	(34474)1110

 C4H10NO6P H2L CAS 1114-81-4 (2400)
 O-Phospho-threonine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.20M	C			K1=5.47 B2=9.05 K(Co+HL)=2.03 K(CoL+H)=6.23	1978Mac	(34482)1111

 C4H10N2 L CAS 56123-06-9 (8023)
 1,3-Diamino-2-methylenepropene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.50M	U			K1=4.45 B2= 8.04	1975HSb	(34489)1112

 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
Co++	gl	oth/un	25°C	0.01M	U			K1=2.10 B2=4.20	1959DLb	(34513)1113

 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
Co++	gl	NaClO4	25°C	1.00M	U			K1=7.51 B2=14.05	198000b	(34564)1114
Co++	gl	KNO3	25°C	0.10M	C			K1=6.75 B2=12.00 B(CoHL)=13.60 B(CoHL2)=19.92	1976BPb	(34565)1115
Co++	gl	NaCl	25°C	0.10M	U			K1=7.07 B2=12.46 K(Co+HL)=3.46 K(CoHL+L)=6.40 K(2CoL2+O2=CoL2(O2)CoL2)=7.77	1976GPb	(34566)1116

 Co++ gl oth/un 20°C 0.01M U B2=12.8 1952ALa (34567)1117

C4H10N2O2 HL EDMA (2784)
Diaminoethane-N-ethanoic acid; H2N.CH2.CH2.NH.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.50M	C			K1=8.123 B2=13.050	1985LEa	(34591)1118

C4H10N2O3 HL CAS 4475-93-8 (5892)
Threoninehydroxamic acid;
2-Amino-N,3-dihydroxybutanamide;CH3.CH(OH).CH(NH2).CO.NHOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.50M	C		K1=5.787 B2=10.299 B(Co2L)=8.807 B(CoH-1L2)=1.429	1989LEc	(34601)1119

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
Co++	gl	KNO ₃	25°C	0.10M	C	M	K ₁ =3.78	2001AAa	(34620)1120
Also data for ternary complexes with 5'-GMP, 5'-IMP and 5'-CMP.									

Co++ g1 KN03 25°C 0.10M C K1=3.52 2000ADa (34621)1121

C₄H₁₀N₄O₂ L CAS 4146-43-4 (2564)
1,4-Butanedioic acid dihydrazide; H₂N.NH.CO.CH₂.CH₂.CO.NH.NH₂

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	NaNO3	25°C	0.20M	U			K1=1.86 B2=4.02	1974FSa	(34647)1122

C4H10O2S L CAS 111-48-8 (4275)
3-Thiapentane-1,5-diol; HO.CH2.CH2.S.CH2.CH2.OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	NaClO4	25°C	1.0M	C			K1=-0.20	1979SRa	(34681)1123

C4H11N L iso-Butylamine CAS 78-81-9 (2355)
1-Amino-2-methylpropane; H2N.CH2.CH(CH3).CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	sp	non-aq	20°C	100%	U	T	HM	K(CoA2+L)=0.68	1984JCa (34728)	1124

In toluene, A=N-(2-Methylpropyl)salicylaldimine, DH=-18.6KJ mol⁻¹, DS=-49.9 J K⁻¹ mol⁻¹. At 2 C, K=0.93; 32 C, K=0.56

 Co++ sp non-aq 2°C 100% U M 1984JCa (34729)1125
 K(CoA2+L)=0.60

DMF,A=N-(2-Methylpropyl)salicylaldimine

C4H11N L Butylamine CAS 109-73-9 (159)

1-Aminobutane; CH3.CH2.CH2.CH2.NH2

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

 Co++ ISE non-aq 25°C 100% C H K1=1.91 B2= 3.20 2001CGc (34757)1126
 B3=4.1

Method: Cd ion selective electrode. Medium: DMSO, 0.10 M Et4NClO4.

By calorimetry: DH(K1)=-23 kJ mol⁻¹, DH(B2)=-62, DH(B3)=-88.

 Co++ sp non-aq 23°C 100% U T HM 1984JCa (34758)1127
 K(CoA2+L)=0.79

In toluene.HA=N-Butylsalicylaldimine,DH=-24.6 kJ mol⁻¹,DS=-67.5 J K⁻¹ mol⁻¹

At -2 C, K=1.17; 43 C, K=0.53

 Co++ sp non-aq 25°C 100% U T HM 1984JCa (34759)1128
 K(CoA2+L)=0.30

In DMF. HA=N-Butylsalicylaldimine,DH=-19.3 kJ mol⁻¹,DS=-58.7 J K⁻¹ mol⁻¹

At -17 C, K=0.85; -11 C, K=0.76; -6 C, K=0.69; 2 C, K=0.58

C4H11N L Diethylamine CAS 109-89-7 (1331)

Diethylamine, 3-azapentane; (C2H5)2NH

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

 Co++ ISE R4N.X 25°C 2.0M U K1=2.10 B2=3.52 1967PMc (34816)1129
 K3=1.25
 K4=1.07

Medium: NH4NO3

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

 Co++ sp R4N.X 25°C 2.00M C I K1=2.24 B2=3.66 1983DBa (34953)1130

 Co++ gl oth/un 25°C 0.43M U K1=2.72 B2=4.47 1966SKe (34954)1131

Medium: CH2OHCH2NH3NO3

C4H11NO3 L Tris buffer CAS 77-86-1 (550)

2-Amino-2-(hydroxymethyl)-propan-1,3-diol; (HO.CH2)3C.NH2

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

Co++ gl NaClO4 25°C 2.0M U K1=2.22 B2= 3.85 2000LMb (35050)1132
B3=4.38

Co++ gl KNO3 25°C 0.10M C M K1=1.73 1979FHa (35051)1133
K(Co(ATP)+L)=1.57

C4H11N08P2 H5L CAS 2439-99-8 (2129)
N-Carboxymethyl-N,N-bis(methylenephosphonic acid); H00C.CH2.N(CH2.P03H2)2

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

Co++ gl KNO3 25°C 0.10M C K1=13.0 2000SDa (35100)1134
K(CoL+H)=5.52
K(CoHL+H)=4.49
K(CoL+OH)=2.7

Co++ sp KNO3 20°C 0.50M U K1=12.48 1974NKa (35101)1135
K(Co+HL)=6.60
K(Co+H2L)=4.58

C4H11N204P H2L CAS 53626-52-1 (9088)
2[(Aminoacetyl)amino]ethylphosphonic acid;

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

Co++ gl KNO3 25°C 0.10M U K1=3.53 1975HMc (35147)1136
K(CoL+H)=6.87

C4H11N204P H2L (7118)
Alanylaminomethylphosphonic acid;

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

Co++ gl KNO3 25°C 0.10M C K1=2.837 B2=4.3 1995HLA (35152)1137
B(CoH-1L)=-6.11

C4H11N204P H2L (7121)
Glycyl-1-aminoethylphosphonic acid;

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

Co++ gl KCl 25°C 0.10M U K1=3.633 B2=6.11 1995HLA (35156)1138
B(CoHL)=9.91
B(CoH-1L)=-5.38

C4H11N302 HL CAS 471915-94-3 (8550)
2,4-Diamino-N-hydroxybutanamide;

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

C4H11N2O3P HL (7917)
(Glycylamino)methyl(methylphosphinic acid);

Co++ g1 KN03 25°C 0.10M C K1=3.20 B2= 5.79 2001LKa (35199)1140
B(ZnHL)=9.61

Co++ ISE alc/w 25°C 90% U K1=1.97 B2=3.60 1972TCa (35228)1141
Medium: 90% EtOH, 0.3 M NaClO4

Co++ ISE alc/w 25°C 90% U K1=1.96 B2=3.44 1971TCa (35229)1142
Medium: 90% EtOH, 0.3 M NaClO4

C4H11O4P H2L (5867)
n-Butyl phosphoric acid; C4H9.0.PO(OH)2

Co++ g1 NaNO3 25°C 0.10M C K1=2.08 1988MSa (35284)1143

C4H12NO3P	H2L	AMPPH	CAS 18108-24-2 (222)
1-Amino-2-methylpropylphosphonic acid; (CH3)2.CH.CH(NH2).PO3H2			

Co++ g1 KN03 24°C 0.10M U K1=5.60 1989YKa (35307)1144

C4H12N2	L	Putrescine	CAS 110-60-1	(360)
1,4-Diaminobutane; H2N.(CH2)4.NH2				

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++ cal alc/w 25°C 100% U H K1=2.36 1985BUd (35362)1145
Medium: MeOH, 0.05 M Et4N.NO3. DH=-18.5 kJ mol⁻¹

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
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Co++ gl KNO3 25°C 0.10M U K1=5.58 B2=10.08 1977PSb (35378)1146

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

Co++ sp non-aq 25°C 100% C H K1=5.70 B2= 9.90 2002Cma (35420)1147
Medium: DMSO, 0.10 M Et4NClO4. By calorimetry: DH(K1)=-48.3 kJ mol⁻¹,
DS(K1)=-53 J K⁻¹mol⁻¹; DH(B2)=-99.0, DS(B2)=-143.

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

Co++ gl KCl 25°C 1.0M U K1=5.83 B2=10.19 1950EDa (35472)1148
K3=1.40

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

Co++ gl NaClO4 25°C 0.10M C K1=4.06 19800Tb (35476)1149

C4H12N2 L Butanediamine 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

Co++ gl KNO3 25°C 0.10M U K1=4.84 B2=8.88 1977PSb (35488)1150

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

Co++ sp non-aq 25°C 100% C H K1=6.3 B2=11.20 2004DMb (35504)1151
Medium: dmso, 0.1 M Et4NClO4. DH(K1)=-43 kJ mol⁻¹, DS(K1)=-23 J K⁻¹ mol⁻¹
DH(B2)=-88, DS(B2)=-81

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

Co++ sp non-aq 25°C 100% U H K1=6.08 B2=11.74 2004DMb (35545)1152
B3=14.1

Medium: dmsO, 0.1 M Et4NClO4. DH(K1)=-46 kJ mol⁻¹, DS(K1)=-38 J K⁻¹ mol⁻¹
 DH(B2)=-92, DS(B2)=-84.6, DH(B3)=-133, DS(B3)=-178.

Co++	gl	oth/un	25°C	0.50M	U		K1=4.87	B2=9.87	1960HDa (35546)	1153
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Co++	gl	KCl	25°C	1.0M	U		K1=6.58	B2=11.83	1950EDa (35547)	1154
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C4H12N2S	L		CAS 871-76-1	(1854)
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1,5-Diamino-3-thiapentane; H2N.CH2.CH2.S.CH2.CH2.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	KNO3	30°C	1.0M	U	T H	K1=5.09	B2=9.01	1954GFa (35566)	1155
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DH(K1)=-29 kJ mol⁻¹, DS=0; DH(K2)=-33, DS=-38. 0 C: K1=5.56, K2=4.63;

50 C: K1=4.70, K2=3.58

C4H12O7P2	H3L		CAS 52811-47-9	(7665)
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N-Butyldiphosphoric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	NaNO3	25°C	0.10M	M		K1=3.89		1999SSa (35583)	1156
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C4H13NO6P2	H4L		CAS 5995-26-6	(1336)
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N-Ethyliminobis(methylenephosphonic) acid; C2H5N(CH2PO3H2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	KCl	25°C	0.20M	C		K1=7.95		2000KKa (35603)	1157
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B(CoHL)=15.10

B(CoH2L)=19.86

B(CoH-1L)=-3.05

Co++	gl	KNO3	25°C	1.00M	M		K1=7.86		1982BGb (35604)	1158
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K(Co+HL)=2.86

C4H13N3	L		CAS 14478-63-8	(3000)
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1,3-Diamino-2-aminomethylpropane; H2N.CH2.CH(CH2.NH2).CH2.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	KNO3	20°C	0.10M	U		K1=6.25		1962ANb (35632)	1159
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K(Co+HL)=3.75

K(Co+H2L)=1.60

C4H13N3	L	Dien	CAS 111-40-0	(584)
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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
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 Co++ ISE non-aq 25°C 100% C H K1=9.49 B2=18.50 2001CGc (35754)1160
 Method: Cd ion selective electrode. Medium: DMSO, 0.10 M Et4NClO4.
 By calorimetry: DH(K1)=-75.4 kJ mol⁻¹, DH(B2)=-157.

Co++ gl KNO3 25°C 0.10M C M K1=8.05 B2=13.92 1986BMa (35755)1161
 B(CuL(Amp))=12.40
 K(2CoL(Amp)+O2=Co2L2(Amp)2O2)=10.59
 Amp=Adenosine-5'-monophosphoric acid

Co++ gl NaClO4 25°C 0.10M U M K1=8.11 B2=14.13 1985MSa (35756)1162
 K(Co(thiolactate)+L)=5.98

Co++ gl NaClO4 25°C 1.00M U K1=9.34 B2=16.89 198000b (35757)1163

Co++ gl KNO3 25°C 0.10M U K1=8.4 B2=14.50 1973AHc (35758)1164

Co++ gl KNO3 25°C 0.10M U M K1=8.24 1972NMb (35759)1165
 K(2Co+2L+O2=CoL(O2)(OH)ML+H)=14.6, where (O2) is in atmospheres

Co++ cal KCl 25°C 0.10M U H 1961CPa (35760)1166
 DG(K1)=-45.56 kJ mol⁻¹, DH=-34.1, DS=38; DG(K2)=-33.44, DH=-42.9, DS=-31

Co++ gl oth/un 35°C 1.0M U H 1952JHa (35761)1167
 DH(K1)=-37.6 kJ mol⁻¹, DH(K2)=-41.8

Co++ gl KCl 30°C 1.0M U T K1=8.47 B2=14.54 1952JHa (35762)1168
 40 C: K1=8.26, K2=5.83

Co++ gl KCl 20°C 0.10M U K1=8.10 B2=14.10 1950PSa (35763)1169

 C4H14N2O4P2 H2L CAS 37107-07-6 (4287)
 Ethylenebis(iminomethylenephosphonous acid)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	KNO3	25°C	0.10M	U		K1=5.95	1971MMh (35827)	1170
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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
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Co++	gl	KCl	25°C	0.10M	C		K1=9.72	2001MNa (35861)	1171
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B(CoHL)=19.09
 B(CoH4L2)=49.96
 B(CoH2L2)=34.0
 B(CoH6L2)=63.52

B(Co2L)=14.64

Co++ gl KNO3 25°C 0.10M U K1=10.79 1976Tia (35862)1172
K(Co+H2L)=3.47

Co++ gl KNO3 25°C 0.10M U M K1=10.79 1975ITa (35863)1173

Co++ gl oth/un 25°C 0.10M U K1=10.4 1972AUa (35864)1174
K(Co+HL)=5.4
K(Co+H2L)=2.9

Co++ gl KNO3 25°C 0.10M U K1=10.23 1971MMh (35865)1175
K(CoL+H)=5.98
K(CoHL+H)=5.33

Co++ gl KCl 25°C 0.10M U K1=10.80 1965DKb (35866)1176
K(Co+HL)=3.84

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

Co++ dis NaClO4 25°C 1.0M C M K1=1.56 B2= 2.32 1977SMe (35918)1177
K(CoL2(org)+A(org))=5.19
K(CoL2(org)+2A(org))=10.58

Method: distribution from 1.0 M NaClO4 into CCl4/HL/tri-octylphosphine
oxide (A). K(Co+2HL(org)=CoL2(org)+2H)=-3.90.

Co++ dis NaClO4 25°C 1.00M U K1=1.56 B2=2.32 1971MSe (35919)1178

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

Co++ gl R4N.X 25°C 0.10M U K1=3.27 1964TTa (35960)1179
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

Co++ gl R4N.X 25°C 0.10M U K1=3.78 1964TTa (35967)1180
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

Co++ ix NaCl04 25°C 0.10M U K1=2.44 1966DTa (35975)1181

Co++ gl KCl 25°C 0.10M U K1=2.42 1961TDa (35976)1182

C5H3N4Cl L 6-Chloropurine CAS 87-42-3 (3032)
6-Chloropurine;

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

Co++ gl KNO3 45°C 0.10M U K1=6.3 1971TKc (35987)1183

C5H4NBr L CAS 36511-33-8 (4306)
2-Bromopyridine; C5H4N.Br

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

Co++ sp non-aq 25°C 100% U I M 1973DZa (35990)1184

K(CoCl2+L)=4.28
Medium: cyclohexanone. In acetone: K=4.10

C5H4NBr L CAS 626-55-1 (3617)
3-Bromopyridine; C5H4N.Br

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

Co++ sp non-aq 25°C 100% U I M 1973DZa (35994)1185

K(CoCl2+L)=2.45
K(CoCl2+2L)=3.77
Medium: cyclohexanone. In acetone values are 2.19, 2.66

C5H4NBr L CAS 1120-87-2 (8780)
4-Bromopyridine;

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

Co++ gl NaNO3 25°C 0.50M C K1=1.03 2002KSb (36001)1186

C5H4NCl L CAS 109-09-1 (5891)
2-Chloropyridine; C5H4N.Cl

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

Co++ sp non-aq 25°C 100% C M 1989ANb (36006)1187

K(Co(OAc)2+L)=-0.7
Medium: CCl4 + 10% acetic acid

C5H4NCl L CAS 626-60-8 (322)
3-Chloropyridine; C5H4N.Cl

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

DH(K1)=-42.2 kJ mol⁻¹, DS(K1)=-71 J K⁻¹ mol⁻¹; DH(K2)=-107.2, DS(K2)=-294

Co++ gl KNO3 45°C 0.10M U K1=7.08 1971TKc (36186)1197

Co++ gl oth/un 20°C 0.01M U K1=3.8 1953ALa (36187)1198

C5H4N4O2 HL Xanthine CAS 69-89-6 (4305)
Xanthine;

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

Co++ gl NaNO3 25°C 0.10M U K1=2.10 1991KMa (36205)1199

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

Co++ gl KNO3 45°C 0.10M U K1=6.5 1971TKc (36223)1200

Co++ gl diox/w 25°C 50% U K1=5.44 1959CFb (36224)1201

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

Co++ gl KNO3 25°C 0.10M U T M K1=2.53 1988NSc (36251)1202
B(CoAL)=7.66

HA is pyridine-2-carboxylic acid. At 40 C, K1=2.44, B(CoAL)=7.52.

Co++ gl diox/w 25°C 50% U K1=1.82 1968EGb (36252)1203

Medium: 50% dioxan, 0.1 M NaClO4

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

Co++ cal NaNO3 25°C 1.0M C 1987ARb (36291)1204
DH(K1)=1.17 kJ mol⁻¹, DS(K1)=13.6 J K⁻¹ mol⁻¹.

Co++ cal NaNO3 25°C 1.0M C 1982ARb (36292)1205
DH(K1)=1.17 kJ mol⁻¹, DS(K1)=13.6 J K⁻¹ mol⁻¹.

Co++ EMF NaClO4 25°C 1.00M U K1=1.22 1972LPb (36293)1206

C5H5N L Pyridine CAS 110-86-1 (31)
Pyridine, Azine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K	values	Reference	ExptNo
Co++	gl	NaNO3	25°C	0.50M	C			K1=1.34		2002KSb (36554)	1207
Co++	sp	NaClO4	25°C	1.0M	C	M			K(CoA+L)=0.0	2001LHa (36555)	1208
Medium pH 7.9 (0.05 M Tris). A is tris(2-(dimethylamino)ethylamine).											
Co++	cal	non-aq	25°C	100%	C	H		K1=3.67	B2= 6.59	2000KKb (36556)	1209
1.94											
1.25											
Medium: MeCN, 0.10 M Et4NClO4. DH(K1)=-32.4 kJ mol-1, DS=-39 J K-1 mol-1; DH(K2)=-29.0, DS=-41; DH(K3)=-30, DS=-63; DH(K4)=-22; DS=-51.											
Co++	sp	non-aq	25°C	100%	U	H				1997EPa (36557)	1210
K(CoCl2+L)=4.63											
K(CoCl2L+L)=3.76											
Medium: cyclohexane. In CH3CN: K(CoCl2+L)=3.59, K(CoCl2L+L)=2.80.											
Calorimetry: cyclohexane DH(CoCl2+2L)=-51.6 kJ m-1. In CH3CN DH=-49.0.											
Co++	vlt	non-aq	25°C	100%	U	M				1997ERa (36558)	1211
K(CoA2B2+L=CoA2BL+B)=1.76											
K(CoA2BL+L=CoA2L2+B)=-0.07											
Medium: DMF; 0.1 M (CH2(CH2)3)4NPF6. A=salicylideneethylenediamine, B=DMF											
Co++	sp	non-aq	25°C	100%	U	M				1993BEa (36559)	1212
K(CoA+L)=-0.824											
K(CoB+L)=0.223											
Medium: acetone. A=N,N'-bis(3-tert-butyl-5-methylsalicylidene)-2,3-diamino-2,3-dimethylbutane, B=chlorosalicylidene derivative of A.											
Co++	sp	non-aq	25°C	100%	U	HM				1993SSc (36560)	1213
K(CoA+L)=2.691											
K(CoB+L)=2.998											
Medium: Toluene. T: 15-65 C. H2A:Octaethylporphyrin. DH=-40.4 kJ mol-1; DS=-84.5. H2B=t-Octaethylchlorin; DH=-42.7 kJ mol-1, DS=-85.5.											
Co++	cal	non-aq	25°C	100%	C	H		K1=4.919	B2= 8.41	1989JVb (36561)	1214
Medium: acetone. DH(K1)=-37.5 kJ mol-1, DS(K1)=-31.5 J K-1 mol-1; DH(B2)=-79.8, DS(B2)=-106.7. Reaction is CoCl2+nL.											
Co++	nmr	none	19°C	0.0	U	T H				1987LDa (36562)	1215
K(CoA+L=CoAL)=2.20											
Data at 18.7 to 47.0 C. A=Schiff base from 4,6-dimethoxysalicylaldehyde and 4-(trifluoromethyl)-o-phenylenediamine. DH=-32.6 kJ mol-1.											
Co++	sp	non-aq	20°C	100%	U	M				1984KIa (36563)	1216
K(CoA2+L)=1.25											
In benzene.A=1,3,8,10-Tetramethyl-4,7-diazadecane-1,3,7,9-tetraene-1,10-diol											

Co++	nmr	alc/w	-44°C	100%	U			1984VF	a	(36564)	1217		
								Kout	(Co(CD3OD)+L)	=-0.22			
Medium: MeOD													
Co++	vlt	NaClO4	20°C	0.50M	C	TI		K1=1.95	B2= 3.15	1982KN	d	(36565)	1218
								B3=3.90					
								B4=3.78					
								B5=4.56					
Method: polarography. Data for 20 and 30 C. Also data for 10 and 20% DMF/H2O and formamide/H2O.													
Co++	sp	non-aq	25°C	100%	U	TIHM				1982RW	b	(36566)	1219
								K(CoA+L)	=2.43				
Medium: CHCl3. A=Tetra(4-Methoxyphenyl)porphyrin. In ClCH2.CH2Cl: K=2.70; in C6H5Cl: K=2.71; in DMF: 2.30. Also DH and DS values													
Co++	gl	NaNO3	25°C	0.10M	C			K1=1.25		1981BK	b	(36567)	1220
Co++	sp	non-aq	25°C	100%	U	M				1980MA	b	(36568)	1221
								K(CoA(ClO4)+L)	=3.4				
Medium: CH2Cl2. A= 1,19-Dimethyl-AD-didehydrocorrin. In H2O, K(CoA(CN)+L)=2.17													
Co++	sp	non-aq	21°C	100%	U	T	M			1978DB	a	(36569)	1222
								K(CoA+L)	=3.27				
Medium: toluene. A=Protoporphyrin IX dimethyl-ester. At 30 C: K(CoA+L)=3.04; 39 C: 2.86; 49 C: 2.66													
Co++	sp	mixed	20°C	0.0	U	TI	M			1976LK	a	(36570)	1223
								K(CoCl2L2+2L)	=2.12				
Medium: L+benzene; also data for L+Clbenzene & L+o-diClbenzene at 30 C													
Co++	gl	KNO3	25°C	0.10M	U			K1=1.20		1974IL	a	(36571)	1224
Co++	gl	KNO3	25°C	0.50M	U			K1=1.15	B2=1.70	1973BJ	a	(36572)	1225
								K3=-0.3					
Co++	gl	NaClO4	25°C	0.10M	U			K1=1.16	B2=1.77	1973JV	a	(36573)	1226
Co++	dis	NaClO4	25°C	0.10M	U			K1=1.30	B2=2.00	1973JV	a	(36574)	1227
								K3=0.58					
Co++	sp	non-aq	?	100%	U	M				1972AD	c	(36575)	1228
								B(CoCl2L2)	=4.17				
Medium: HCON(CH3)2													
Co++	sp	mixed	?	75%	U	I	M			1972MA	e	(36576)	1229
								B(CoCl2L)	=0.78				

$B(\text{CoCl}_2\text{L}_2)=2.18$
 Medium: 25-100% v/v $\text{HCON}(\text{CH}_3)_2$. In 100%, $B(\text{CoCl}_2\text{L})=0.41$

 Co++ sp non-aq 25°C 100% U I M 1972MAe (36577)1230
 $B(\text{CoCl}_2\text{L})=0.85$
 $B(\text{CoCl}_2\text{L}_2)=2.03$
 Medium: 50% v/v $\text{HCON}(\text{CH}_3)_2$, 50% benzene. In 0% benzene, $B(\text{CoCl}_2\text{L})=0.41$

 Co++ sp non-aq ? 100% U I M 1971AMc (36578)1231
 $K(\text{CoCl}_2+\text{L})=2.05$
 $K(\text{CoCl}_2+2\text{L})=4.41$
 Medium: 50% benzene, 50% 3-methylbutanol. In 25% benzene, $K(\text{CoCl}_2+\text{L})=1.91$,
 $K(\text{CoCl}_2+2\text{L})=4.33$. In 75% benzene, 2.45 and 4.70

 Co++ sp non-aq ? 100% U I M 1971AMc (36579)1232
 $K(\text{CoCl}_2+\text{L})=2.20$
 $K(\text{CoCl}_2+2\text{L})=4.60$
 Medium: 50% CCl_4 , 50% 3-methylbutanol. With 0% CCl_4 , $K(\text{CoCl}_2+\text{L})=1.85$,
 $K(\text{CoCl}_2+2\text{L})=4.01$; 25% CCl_4 , K values: 2.06, 4.30; 75% CCl_4 : 2.29, 4.88

 Co++ nmr non-aq 38°C 100% U M 1970HMB (36580)1233
 $K(\text{CoL}_4\text{Cl}_2=\text{CoL}_2\text{Cl}_2+2\text{L})=0.36$

 Co++ sp non-aq ? 100% U M 1970LDA (36581)1234
 $K(\text{CoCl}_2+\text{L})=3.2$
 $K(\text{CoCl}_2+2\text{L})=5.77$
 $K(\text{CoBr}_2+\text{L})=3.44$
 $K(\text{CoBr}_2+2\text{L})=5.81$
 Medium: cyclohexanone. Data also for CH_3CN , 2-chloroethanol, $\text{HO.CH}_2.\text{CH}_2.\text{OH}$

 Co++ ISE alc/w 25°C 50% U I $K_1=1.66$ $B_2=2.46$ 1970NBa (36582)1235
 Medium: 0-96% EtOH, 0.5 M LiNO_3 . Data also for 25-90% propanol, 25-90% acetone

 Co++ EMF oth/un 25°C 0.50M U $K_1=1.23$ $B_2=1.70$ 1969NSb (36583)1236
 $K_3=0.24$
 $K_4=-0.16$
 Medium: LiNO_3

 Co++ dis R4N.X 20°C 1.0M U M $K_1=1.35$ $B_2=1.95$ 1966FLc (36584)1237
 $B_3=2.25$
 $B_4=2.35$
 $B(\text{Co}(\text{NH}_3)\text{L})=3.22$
 $B(\text{Co}(\text{NH}_3)\text{L}_2)=3.50$
 Medium: NH_4NO_3 . $B(\text{Co}(\text{NH}_3)\text{L}_3)=3.85$; $B(\text{Co}(\text{NH}_3)2\text{L})=4.2$; $B(\text{Co}(\text{NH}_3)2\text{L}_2)=4.50$;
 $B(\text{Co}(\text{NH}_3)2\text{L}_3)=5.40$; $B(\text{Co}(\text{NH}_3)2\text{L}_4)=5.35$ plus others and ternary with EDTA

 Co++ sp non-aq 20°C 100% U H 1965NSb (36585)1238
 $K(\text{CoL}_2\text{I}_2+2\text{L})=0.37$
 Medium: CH_3Cl_3 . By calorimetry: $\text{DH}=-69.4$ kJ mol⁻¹, $\text{DS}=-230$ J K⁻¹ mol⁻¹

Co++ sp non-aq 20°C 100% U HM 1963KKa (36586)1239

K(CoL2Cl2+2L)=1.10
K'(CoL2Br2+2L)=0.956
K''(CoL2I2+2L)=0.365
K'''(CoL2A2+2L)=4.92

Medium: CHCl3. By calorimetry: DH(K)=-63.5 kJ mol⁻¹, DS=-195.6 J K⁻¹ mol⁻¹
DH(K')=-65.2, DS=-204; DH(K'')=-69.4, DS=-229; DH(K'''), A=NCS, =-69.4, DS=-143

Co++ sp non-aq 20°C 100% U M 1963KKa (36587)1240

K(CoL2Cl2+2L)=-0.40
K(CoL2(NCS)2+2L)=3.55
K(CoL2(NCSe)2+2L)=4.44

Medium: CH3NO2. In CHCl3: K(CoL2(NCSe)2+2L) > 5; K(CoL2(NCO)2+2L)=1.37

Co++ sp mixed ? 100% U I K1=3.49 1959ANb (36588)1241

Medium: 100% acetone. K1=1.26(0%), 1.34(50%), 1.47(85%). In 100% MeOH: K1=1.49
In EtOH: K1=1.43(85%), 2.36(100%). In n-propanol: K1=1.28(50%) 2.75(100%)

Co++ gl oth/un 25°C 0.50M U K1=1.14 B2=1.54 1950BJa (36589)1242

Medium: 0.5 M C5H5N.HNO3

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

Co++ gl KNO3 25°C 0.50M U K1=0.98 B2=1.58 1978LRa (36706)1243

B3=1.88

C5H5NOS L CAS 1121-31-9 (3052)

3-Mercaptopyridine 1-oxide; C5H4N(-O)(SH)

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

Co++ gl oth/un 20°C 0.01M U K1=5.5 B2=10.0 1956ARb (36730)1244

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

Co++ gl KCl 25°C 0.10M U K1=4.85 B2=8.83 1993LMc (36748)1245

K3=2.74

Co++ gl oth/un 20°C 0.01M U K1=5.3 B2=9.6 1956ARb (36749)1246

C5H5NO2 HL CAS 16867-04-2 (2316)

2,3-Dihydroxypyridine, 3-Hydroxypyridin-2(1H)-one; C5H3N(OH)2

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

Co++ gl diox/w 25°C 50% U K1=6.61 B2=11.53 1970GDa (36776)1247
Medium: 50% dioxan, 0.1 M NaClO4

Co++ gl NaClO4 25°C 0.10M U K1=5.24 B2=9.42 1970GDa (36777)1248

C5H5N02 HL CAS 35940-93-3 (3618)
3-Furancarboxaldehyde oxime (3-Furfuraldoxime); C4H3O.CH(:N.OH)

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

Co++ gl diox/w 20°C 60% U I K1=5.68 B2=11.78 1979GBd (36811)1249
B(CoHL2)=22.76

C5H5N02 HL CAS 634-97-9 (2877)
Pyrrole-2-carboxylic acid; C4H4N.CO0H

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

Co++ cal NaNO3 25°C 1.00M U H 1981ARb (36837)1250
DH(K1)=-0.04 kJ mol-1; DS(K1)=31.2.

Co++ gl none 25°C 0.00 U K1=2.45 1972LUc (36838)1251

C5H5N2Br L CAS 1072-97-5 (2630)
5-Bromo-2-aminopyridine; C5H3N(Br)(NH2)

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

Co++ gl NaNO3 25°C 0.50M C K1=0.09 2002KSb (36857)1252

C5H5N304 H2L 5-Aminoorotic CAS 7164-43-4 (3619)
1,2,3,6-Tetrahydro-2,6-dioxo-5-amino-4-pyrimidinecarboxylic acid;

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

Co++ gl R4N.X 25°C 0.10M U K1=5.23 1967TKc (36865)1253
Medium: Me4NBr

C5H5N304 H2L CAS 59048-06-5 (6096)
N-Methylvioluric acid;

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

Co++ gl NaNO3 25°C 0.50M C K1=2.00 B2= 5.03 1984HNb (36875)1254

Co++ gl NaNO3 25°C 0.50M C K1=2.08 B2=5.0 1978VNa (36876)1255

C5H5N5 L Adenine CAS 73-24-5 (237)
6-Aminopurine; H2N.C5H3N4

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaNO3	25°C	0.10M	C	M	K1=8.28 K(Co+HL)=3.05 K(Co+HL+OH)=12.02 K(CoHL+OH)=8.03	2000SSd (36956)	1256

Also data for ternary complexes.

Co++	gl	NaNO3	25°C	0.10M	U		K1=4.52	1996SGa (36957)	1257
Co++	gl	NaClO4	25°C	0.10M	M		K(Co+HL)=1.18 K(Co(atp)+HL)=1.61	1995LWa (36958)	1258

Co++	gl	NaNO3	37°C	0.10M	U	M	K1=8.26 B(CoAL)=11.72 *K(CoAL)=-7.55 *K(Co(OH)AL)=-8.96	1994MGd (36959)	1259
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HA is 6-aminopenicillanic acid.

Co++	gl	KNO3	35°C	0.10M	U	M	K1=1.90 B(CoHLAsp)=8.02 B(CoLAsp)=6.45 K(CoL+Gly)=5.15	1989SRe (36960)	1260
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Co++	gl	KNO3	35°C	0.10M	U	T H	K(Co+HL)=1.90 K(Co+2HL)=3.15	1983KSa (36961)	1261
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Co++	gl	KNO3	30°C	0.10M	U		K1=6.8	1983SKa (36962)	1262
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Co++	gl	NaCl	37°C	0.15M	C		K(Co+HL)=1.38	1974MWa (36963)	1263
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Co++	gl	KNO3	45°C	0.10M	U		K1=8.14	1971TKc (36964)	1264
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C5H5N5O HL Guanine CAS 73-40-5 (5387)
2-Amino-6-hydroxypurine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaNO3	37°C	0.10M	U	M	K1=8.48 B(CoAL)=11.98 *K(CoAL)=-7.45 *K(Co(OH)AL)=-8.82	1994MGd (36996)	1265

HA is 6-aminopenicillanic acid.

C5H5N5O L CAS 700-02-7 (3033)
Adenine N-Oxide;


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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  oth/un 25°C    ?  U          K1=3.13      1960PEb (37002)1266
*****
C5H5N5S                    H3L      6-Thioguanine      CAS 3647-48-1 (4307)
2-Amino-6-mercaptopurine;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  KNO3   45°C 0.10M U          K(Co+H2L)=3.1  1973TKa (37010)1267
*****
C5H5N5S                    H3L                      CAS 154-42-7 (4308)
2-Mercapto-6-aminopurine;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  KNO3   45°C 0.10M U          K(Co+H2L)=3.2  1973TKa (37018)1268
*****
C5H5O2F3                    HL                      CAS 367-57-7 (163)
1,1,1-Trifluoropentane-2,4-dione; CF3.CO.CH2.CO.CH3
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  NaClO4 25°C 0.50M C          K(Co+HL=CoL+H)=-2.55  1983HOb (37046)1269
-----
Co++       dis NaClO4 25°C 1.0M C      M      K1=3.50   B2= 5.60  1977SMe (37047)1270
          K(CoL2(org)+A(org))=5.36
          K(CoL2(org)+2A(org))=7.76
Method: distribution from 1.0 M NaClO4 into CCl4/HL/tri-octylphosphine
oxide (A). K(Co+2HL(org)=CoL2(org)+2H)=-8.34.
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Co++       dis NaClO4 25°C 1.00M U          K1=3.50   B2=5.60  1971MSb (37048)1271
*****
C5H6                    HL      Cyclopentadiene      CAS 542-92-7 (4288)
Cyclopentadiene; cyclo(-CH:CH.CH2.CH:CH-)
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       sp  NaClO4 25°C 0.10M U          B2=12.5      1972BSf (37072)1272
*****
C5H6N2                    L                      CAS 1072-63-5 (8709)
1-Vinylimidazole;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  KNO3   25°C 0.50M U          K1=2.25   B2= 4.00  1989LKc (37086)1273

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B3=5.25

B4=6.17

B5=6.37

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
Co++	gl	NaNO3	25°C	0.50M	C		K1=0.25	2002KSb (37120)	1274
Co++	gl	KNO3	25°C	0.10M	U	TIH	K1=3.06 B2=4.87	1976BBE (37121)	1275

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
Co++	gl	KNO3	25°C	0.50M	U		K1=1.23 B2=2.07 B3=2.51	1978LRa (37161)	1276

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
Co++	sp	non-aq	25°C	100%	U	M		1980MAb (37175)	1277

K(CoA(ClO4)+L)=3.8

Medium: CH2Cl2. A= 1,19-Dimethyl-AD-didehydrocorrin.
In H2O, K(CoA(CN)+L)=3.38

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
Co++	gl	KNO3	20°C	0.10M	U	TIH	K1=3.26 B2= 6.13	1982KMe (37190)	1278

Data for 0.05-0.20 M KNO3. At I=0, K1=3.58, K2=3.12.
Data for 30 and 40 C. DH(B2)=-35.1 kJ mol⁻¹, DS(B2)=-2.3 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
Co++	sp	NaClO4	25°C	0.50M	U			1963SBd (37201)	1279

K(Co+HL)=0.93

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
Co++	sp	NaClO4	25°C	0.10M	U		K1=3.31	1981BPc (37209)	1280
Co++	sp	oth/un	20°C	0.10M	U		K(Co+HL)=2.64 K(Co+3HL)=7.00	1980BBb (37210)	1281

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
Co++	gl	NaNO3	37°C	0.10M	U	M	K1=3.79 B(CoAL)=7.22 *K(CoAL)=-7.49	1994MGd (37268)	1282

HA is 6-aminopenicillanic acid.

Co++	gl	KNO3	35°C	0.10M	U	M	K1=4.10 K(Co(thiamine)+L)=3.17	1989SRc (37269)	1283
Co++	gl	KNO3	25°C	0.10M	U	T H	K1=4.30	1983KSa (37270)	1284
Co++	gl	KNO3	35°C	0.10M	U		K1=4.17 B2=7.87	1982TSa (37271)	1285
Co++	gl	KNO3	45°C	0.10M	U		K1=3.7	1974KKa (37272)	1286

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
Co++	gl	diox/w	RT	50%	C	I	K1=3.094	1993BKe (37301)	1287
Medium: 50% v/v dioxane/H2O. Data for 10-60% v/v dioxane/H2O and DMF/H2O. Temperature not stated.									
Co++	gl	KNO3	25°C	0.10M	U	M	K1=3.92 B2=7.63 KCo(Oxine)+L)=4.18	1990NAa (37302)	1288

Co++	sp	NaClO4	25°C	0.10M	U		K1=3.39	1981BPc (37303)	1289
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C5H6N2O2 HL CAS 645-65-8 (3620)
4(or 5)-Imidazolylethanoic acid; C3H3N2.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	40°C	0.25M	U	T H	K1=3.68 B2=6.31 K1=3.94(0 C),4.00(15 C),3.83(25 C); K2=3.04(0 C),3.03(15 C),2.98(25 C) At 15 C: DH(K1)=-9.6 kJ mol ⁻¹ , DH(K2)=-14.2	1965AZa (37317)	1290

C5H6N2O2S HL CAS 15112-09-1 (8298)
N-Methyl-2-thiobarbituric acid;

$$K(COI+H)=2.81$$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++ gl alc/w 45°C 50% C K1=5.95 1996MMc (37508)1297
Medium: 50% v/v MeOH/H2O, 0.10 M KNO3.

C5H7NO3 HL (4313)
Isonitrosoacetylacetone; HO.N:CH.CO.CH2.CO.CH3

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

Co++ gl NaClO4 25°C 0.10M U I K1=1.36 B2=4.28 1985CFa (37521)1298

C5H7NS L CAS 541-58-2 (1421)
2,4-Dimethylthiazole; C3HNS(CH3)2

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

Co++ gl KNO3 25°C 0.50M U K1=-0.70 B2=0.72 1982GKa (37569)1299

C5H7N3 L CAS 42166-50-7 (4291)
2-Pyridylhydrazine; C5H4N.NH.NH2

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

Co++ EMF NaNO3 20°C 0.10M U K1=5.89 B2=10.86 1971ANa (37582)1300
K3=4.02

C5H7N3O2 L (6254)
1-Carbamido-3-methyl-pyrazol-5-one; CH3.C3H2N2(:O).CO.NH2

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

Co++ gl diox/w 25°C 50% U K1=6.35 B2=12.00 1979PDa (37596)1301

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

Co++ gl KNO3 25°C 0.50M U K1=1.17 1981LKa (37615)1302

Co++ sp non-aq 23°C 100% U M 1980ELa (37616)1303
K(CoA+L)=1.84
Medium: toluene. A= "Capped" porphyrin.

Co++ sp non-aq 23°C 100% U M 1980ELa (37617)1304

K(CoA+L)=1.93
Medium: toluene. A= "Homologous capped" porphyrin.

Co++ sp non-aq 25°C 100% U M 1980ELa (37618)1305

K(CoA+L)=1.93

Co++	g1	KN03	25°C	0.50M U	K1=1.13 B3=3.81 B4=4.32	B2=2.39	1980LBa (37619)1306
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Medium: toluene. CoA=a substituted porphyrinato-Co(II)

P=meso-tetra(alpha,alpha,alpha,alpha-ortho-pivalamidophenyl)-porphin.
Medium: toluene.

C5H8N2 L CAS 7098-07-9 (2053)
1-Ethylimidazole; C3H3N2.C2H5

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KN03	25°C	0.50M	U			K1=2.32 B3=5.42 B4=7.02 B5=7.42	B2=4.17	1979LBa (37638)1309

C5H8N2 L CAS 1072-62-4 (929)
2-Ethylimidazole; C3H3N2.C2H5

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K	values	Reference	ExptNo
Co++	gl	KN03	25°C	0.50M	U			K1=1.48	B2=1.78	1982LKb	(37661)1310
								B3=3.30			

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
Co++	g1	KN03	25°C	0.50M	U			K1=0.62 B3=1.10	B2=0.99	1977LGb (37676)1311

Co++ vlt alc/w 25°C 100% U T K1=-0.22 B2=0.43 1966CRb (37677)1312
Medium: MeOH(?), 0.1 M 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
Co++	ISE	KN03	25°C	0.50M	U			K1=0.83	1983Gwa	(37686)1313

Constant determined by means of the competitive potentiometric method using Ag(I) as the auxilliary cation, silver electrode applied.

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
Co++	gl	KCl	25°C	0.10M	C		K1=2.62 B(CoH-1L)=-4.83 B(CoH-2L2)=-11.58	1994JBa (37697)	1314

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
Co++	gl	oth/un	25°C	.02M	U		K1=4.1	1960HJa (37723)	1315

C5H8O2 HL Acetylacetone CAS 123-54-6 (164)
Pentane-2,4-dione; CH₃.CO.CH₂.CO.CH₃

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	dis	oth/un	30°C	0.26M	U	I		1990SBa (37887)	1316

Keff=4.74

In NH₄ acetate, pH 7.24 using HPLC. Data also given for 20% MeOH/water

Co++	dis	NaClO ₄	25°C	0.10M	C		K1=5.3	1986SNa (37888)	1317
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Method: rate of distribution of volatile ligand between aqueous phase and inert gas phase. K(H+L)=9.17 assumed.

Co++	oth	NaClO ₄	25°C	0.10M	C	I	R	K1=5.10 B2=9.08	1982SLc (37889)	1318
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IUPAC evaluation. I=0 corr.: K1=5.4, B2=9.4

Co++	gl	diox/w	24°C	50%	U		K1=6.3	1979ACa (37890)	1319
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Co++	EMF	diox/w	25°C	50%	U		K1=7.10 B2=12.43	1977AHd (37891)	1320
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Co++	dis	NaClO ₄	25°C	1.0M	C	M		1977SMe (37892)	1321
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K(CoL₂(org)+A(org))=1.46

Method: distribution from 1.0 M NaClO₄ into CCl₄/HL/tri-octylphosphine oxide (A).

Co++	dis	NaClO ₄	25°C	1.00M	U		K2=3	1971MSe (37893)	1322
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Co++	gl	diox/w	25°C	21%	U	I	K1=5.44 B2=9.82	1969SYa (37894)	1323
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Medium: 0-32% dioxan, 0.1 M LiClO₄. K1(0%)=5.18, K1(9.5%)=5.32, K1(32%)=5.56
B2(0%)=9.42, B2(9.5%)=9.64, B2(32%)=10.0

Co++ EMF oth/un 25°C 0.10M U K1=6.80 B2=12.60 1968BDb (37895)1324

Co++ gl alc/w 25°C var U I K1=7.27 B2=12.69 1968GDc (37896)1325
Medium: 0.61 mol fraction MeOH, 0.0172 NaCl. 0 MF: K1=5.51, K2=4.23; 0.295MF:
K1=6.29, K2=4.60; 0.485: K1=6.84, K2=5.20. Data also in PrOH/H2O

Co++ gl oth/un 20°C 0.0 U T H K1=5.40 B2=9.57 1955IFb (37897)1326
DH(K1)=-5.0 kJ mol⁻¹, DS=88; DH(K2)=-21, DS=10. 10 C: K1=5.58, K2=4.34;
30 C: K1=5.40, K2=4.11; 40 C: K1=5.34, K2=3.96

Co++ gl diox/w 30°C 75% U K1=9.22 B2=17.08 1953UFb (37898)1327

Co++ gl diox/w 25°C 50% U K1=6.30 B2=11.18 1949MMa (37899)1328

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
Co++ gl KCl 25°C 0.10M U K1=0.80 B2=1.89 1983LTa (38169)1329

C5H8O4 H2L CAS 595-46-0 (1144)
Dimethylmalonic acid; HOOC.C(CH₃)₂.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
Co++ gl NaCl04 25°C 0.10M U K1=1.90 19700Va (38206)1330

C5H8O4 H2L CAS 601-75-2 (479)
Ethylpropanedioic acid; HOOC.CH(C₂H₅).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
Co++ gl NaCl04 25°C 0.10M U K1=2.51 19680Va (38233)1331

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
Co++ gl NaCl04 20°C 1.00M M K1=4.13 B2=6.93 1989MKa (38304)1332
K(Co+HL)=2.74
K(Co+2HL)=3.05

Co++ gl oth/un 25°C 0.0 U K1=2.21 1965MOb (38305)1333

Co++ ix oth/un 25°C 0.0 U K1=2.35 1965SMf (38306)1334

C5H8O4S H2L CAS 36303-63-6 (988)
3-Thiahexane-1,6-dioic acid; HOOC.CH₂.S.CH₂.CH₂.COOH


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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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Co++       gl  KNO3   25°C 0.10M C          K1=2.11      1975LPa (38381)1335
*****
C5H9NOS2          HL                      (4338)
Morpholinodithiocarbamic acid; C4H8NO.CSSH
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       sp  oth/un 20°C 0.10M U          B3=15.80     1971GKd (38460)1336
*****
C5H9NO2          H2L                      CAS 69651-97-4 (1164)
2-Amino-(2-allyl)ethanoic acid; H2N.CH(CH2.CH:CH2)COOH
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  KNO3   25°C 0.10M C          K1=4.21  B2=7.65  1975IPb (38467)1337
*****
C5H9NO2          HL                      CAS 14401-90-2 (6205)
Pent-2,4-dione monoxime; CH3.CO.CH2.C(:NOH).CH3
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  alc/w  25°C 75% U          K1=6.6   B2=10.10  1986BTa (38470)1338
Medium: 75% MeOH/H2O, 0.1 M NaClO4
*****
C5H9NO2          HL   Proline          CAS 147-85-3 (44)
Pyrrolidine-2-carboxylic acid; C4H8N.COOH
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  KNO3   25°C 0.10M C          K1=5.13      1999BIa (38595)1339
-----
Co++       nmr none  27°C 0.0 U          K1=5.05  B2=9.30  1987GFb (38596)1340
                        B3=10.75
                        K(Co+HL)=1.01
                        K(Co+2HL)=1.62
                        K(CoL+HL)=1.41
K(CoL2+HL)=0.11.
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Co++       gl  KNO3   25°C 0.10M U          K1=5.05  B2=9.27  1973KLa (38597)1341
-----
Co++       gl  KCl    20°C 0.10M U          K1=4.89      1970GVa (38598)1342
-----
Co++       gl  oth/un 20°C 0.03M U          B2=9.3       1950ALa (38599)1343
*****
C5H9NO3          HL   Hydroxyproline  CAS 51-35-4 (416)
4-Hydroxy-2-pyrrolidinecarboxylic acid; C4H7N(OH)(COOH)
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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	vlt	NaClO4	25°C	0.10M	C		B2=9.62	1983KVb (38716)	1344
Method: polarography. pH 8.0									
Co++	gl	KNO3	30°C	0.10M	C		K1=4.58 B2=8.61	1979HAa (38717)	1345
Co++	gl	KNO3	25°C	0.10M	U		K1=4.81 B2=8.62	1973KLa (38718)	1346

C5H9NO3S H2L Thiopronin CAS 1953-02-2 (2162)									
N-2-Mercaptopropanoyl-glycine; CH3.CH(SH).CO.NH.CH2.COOH									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.20M	C		K1=2.93 B2=7.03	1983HSa (38783)	1347
							B3=9.47		
							B(CoH-1L)=-5.3		
							B(CoH-1L2)=-2.11		
Co++	gl	KNO3	22°C	0.10M	U		K1=4.37 B2= 8.12	1975SHa (38784)	1348

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
Co++	gl	KNO3	25°C	0.10M	C	M	K1=4.56	2003AHa (39031)	1349
							K(CoL+A)=3.54		
HA is 3-amino-5-mercapto-1,2,4-triazole.									
Co++	gl	KCl	30°C	0.16M	U	I	K1=4.62 B2= 8.06	2001BRa (39032)	1350
Data for 5.8-36.8% w/w urea/H2O, 0.16 M KCl. At 36.8%, K1=4.15, B2=7.39.									
Co++	gl	NaNO3	25°C	0.10M	C	M	K1=4.96 B2= 8.58	2000KAb (39033)	1351
							K(CoA+L)=5.19		
H2A=Dipicolinic acid.									
Co++	gl	KNO3	25°C	0.10M	C	M	K1=4.30	1999AAa (39034)	1352
							K(CoL+A)=3.84		
							B(CoLA)=8.14		
							K(CoL+B)=3.65		
							B(CoLB)=7.95		
K(CoL+C)=3.46, B(CoLC)=7.76. HA=MOPSO, HB=MOPS, HC=DIPSO.									
Co++	gl	KNO3	25°C	0.10M	C		K1=4.50	1999BIa (39035)	1353
Co++	gl	alc/w	25°C	20%	M	M	K1=4.68	1998ABa (39036)	1354
							K(CoL+oxine)=7.98		
Medium: 20% w/w EtOH/H2O, 0.1 M KNO3.									

Co++	gl	alc/w	20°C	50%	M	M	K1=4.96 K(CoA+L)=6.85	1995AMb (39037)	1355
Medium: 50% v/v EtOH/H2O, 0.20 M NaClO4. A is 2,2',2''-terpyridine.									
Co++	gl	NaClO4	25°C	0.20M	C		K1=4.70	1993BAb (39038)	1356
Co++	gl	NaClO4	25°C	1.0M	M		B2=5.09 K(Co+2HL)=1.25	1991MKa (39039)	1357
Co++	gl	KNO3	25°C	0.10M	U	M	K1=4.72 K(CoA+L)=7.30	1989MAc (39040)	1358
H4A is adenosine-5'-triphosphoric acid.									
Co++	gl	KNO3	25°C	0.10M	C	M	K1=4.65 K(CoA+L)=8.42 B(CoAL)=15.47	1989MAd (39041)	1359
H2A is N-(2-acetamido)imino diethanoic acid.									
Co++	gl	NaClO4	25°C	0.10M	U	M	K(CoL+uracil)=3.68 K(CoL+thymine)=4.12	1985NSd (39042)	1360
Co++	gl	KNO3	25°C	0.10M	M		K1=4.56 B2= 7.67	1981GVa (39043)	1361
Co++	vlt	KNO3	25°C	1.00M	U		K1eff=5.27	1977HDa (39044)	1362
Keff at pH 7									
Co++	gl	KNO3	25°C	0.10M	U		K1=4.67 B2=8.41	1976GPd (39045)	1363
Co++	EMF	oth/un	18°C	0.20M	U		K1=4.49 B2=7.36	1969KAd (39046)	1364
Co++	gl	NaNO3	20°C	0.10M	U		K1=4.6 B2=7.40	1965DRa (39047)	1365
Co++	gl	KNO3	25°C	0.10M	U		K1=4.56 B2=7.85	1965RWa (39048)	1366
Co++	oth	KNO3	20°C	0.10M	U		K1=4.9 B2=8.00	1964JOa (39049)	1367
Method: paper electrophoresis									
Co++	gl	oth/un	30°C	0.10M	U		K1=4.49	1959NCa (39050)	1368
Co++	gl	oth/un	25°C	0.02M	U		K1=5.06 B2=8.46	1954REa (39051)	1369
Co++	gl	oth/un	20°C	0.01M	U		B2=8.1	1952ALa (39052)	1370

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
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Co++ gl KCl 30°C 0.10M U K1=6.17 B2=10.46 1952Cmb (39156)1371

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

Co++ gl KNO3 25°C 0.10M C M K1=7.60 1990DAb (39224)1372
K(CoL+A)=4.54
B(CoLA)=12.14

H2A: salicylaldehyde

Co++ gl KNO3 25°C 0.10M C M K1=7.60 1990DAc (39225)1373
K(CoL+A)=3.57
B(CoAL)=11.17

HL: benzohydroxamic acid

Co++ gl KNO3 25°C 0.10M U K1=7.62 1977TIa (39226)1374

Co++ gl KNO3 25°C 0.10M U T M 1973IVa (39227)1375
K(CoL+Pro)=4.26
K(15 C)=4.37, K(37 C)=4.13, K(55 C)=3.90

Co++ gl KNO3 25°C 0.10M U T M 1972IVa (39228)1376
K(CoL+A)=3.60
K(15 C)=3.68, K(37 C)=3.51, K(55 C)=3.41. HA=cycloserine

Co++ cal KNO3 20°C 0.10M U H 1965ANa (39229)1377
DH(K1)=-7.7 kJ mol⁻¹, DS=119.5 J K⁻¹ mol⁻¹, DH(K2)=-22.9, DS=188.1

Co++ gl KCl 20°C 0.10M U K1=7.62 B2=13.91 1955SAa (39230)1378

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

Co++ gl NaClO4 25°C 2.00M U K1=5.05 B2=9.11 1980MAc (39309)1379

Co++ gl KNO3 25°C 0.10M C K1=4.90 B2=8.52 1974NBb (39310)1380

C5H9NS2 HL CAS 25769-03-3 (3623)
Pyrrolidine-N-carboxydithioic acid; C4H8N-CSSH

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

Co++ sp alc/w 25°C 75% U 1970PNa (39331)1381
B3=15.90

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
Co++	gl	oth/un	25°C	0.10M	U		K1=5.56 B2=9.58 B3=12.3	1969EHc	(39342)1382

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
Co++	gl	NaCl04	25°C	0.10M	C	M	K1=5.08 B2=8.83 B(1,1,1,0)=11.19 B(2,4,-1,1)=19.17 B(2,4,-2,1)=9.37 B(2,4,-3,1)=-1.69	1997GHa	(39514)1383

B(p,q,r,s): pCo+qL+rH+sO2=CopLqHr(O2)s

Co++	gl	KCl	25°C	0.10M	C		R K1=5.16 B2=8.81	1997SJa	(39515)1384
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IUPAC evaluation

Co++	gl	NaNO3	25°C	0.10M	U		K1=5.55 B2=10.35	1993GAa	(39516)1385
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Co++	gl	KNO3	35°C	0.10M	C	M	K1=5.98 B(CoL(cytidine))=11.87	1985RRc	(39517)1386
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Co++	gl	KCl	25°C	0.10M	U	M	K1=5.07 B2=9.34 B(CoL(ATP))=7.37 B(CoL(AMP))=6.41	1984DMc	(39518)1387
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Co++	gl	KNO3	25°C	0.50M	U		K1=5.30	1983LWa	(39519)1388
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Co++	gl	KNO3	25°C	0.20M	U T		K1=5.16 B2=8.80	1971Rmd	(39520)1389
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K1(15 C)=5.25, K1(40 C)=4.98, K2(15 C)=3.74, K2(40 C)=3.46

Co++	gl	oth/un	25°C	0.10M	U		K1=5.03 B2=8.77	1969EHc	(39521)1390
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Co++	gl	KNO3	37°C	0.15M	U		K1=4.89 B2=8.43	1969PSb	(39522)1391
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Co++	gl	oth/un	25°C	.02M	U		K1=5.2	1960HJa	(39523)1392
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Co++	gl	oth/un	20°C	0.0	U T H		K1=5.16 B2=8.93	1960NFa	(39524)1393
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10 C: K1=5.52, K2=4.01; 30 C: 5.08, 3.76; 40 C: 5.01, 3.63
DH(K1)=-28.6 kJ mol⁻¹, DS=4.2; DH(K2)=-20.1, DS=4

Co++	gl	KNO3	30°C	1.0M	U T H		K1=5.34 B2=9.09 K3=1.88	1956HFb	(39525)1394
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DH(K1)=20.9 kJ mol⁻¹, DS=33.5; DH(K2)=-41.8, DS=-67; DH(K3)=-29.3, DS=-63
50 C: K1=5.10, K2=3.32, K3=1.56

Co++ gl KCl 25°C .135M U T K1=5.27 B2=8.95 1955MAb (39526)1395
K3=2.03

0 C: K1=5.37, K2=3.81, K3=2.07

Co++ gl oth/un 20°C .015M U B2=8.7 1952ALa (39527)1396

Co++ gl KNO3 30°C 1.0M U T K1=5.34 B2=9.10 1952HAa (39528)1397
K3=1.88

50 C: K1=5.10, K2=3.32, K3=1.56

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

Co++ gl KCl 30°C 0.10M U K1=5.4 1967GNb (39562)1398
K(Co+HL)=4.1

Co++ cal KNO3 30°C 0.10M U H 1967Gnc (39563)1399

DH(K1)=10.9 kJ mol⁻¹, DS=138 J K⁻¹ mol⁻¹

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

Co++ gl KCl 30°C 0.10M U K1=5.9 1967GNb (39592)1400
K(Co+HL)=4.6

Co++ cal KNO3 30°C 0.10M U H 1967Gnc (39593)1401

DH(K1)=2.9 kJ mol⁻¹, DS=121

C5H9N3S HL (1822)

2-Mercaptohistamine;

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

Co++ gl NaClO4 25°C 0.10M U K1=6.14 B2=12.20 1977STc (39606)1402

C5H10N07P H4L PMID A CAS 5994-61-6 (2433)

N-(Phosphonomethyl)iminodiethanoic acid; H2O3P.CH2.N(CH2.COOH)2

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

Co++ gl KNO3 25°C 0.10M C K1=11.9 2000SDa (39659)1403
K(CoL+H)=5.24
K(CoHL+H)=2.9

$$K(\text{Co}+\text{HL})=5.7$$
$$K(Co+HL)=5.7$$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++ gl diox/w 25°C 50% U K1=10.00 B2=17.1 1952FRb (39707)1406

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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Co++ gl NaCl04 25°C 0.20M C K1=4.05 1993BAb (39807)1410

Co++ g1 NaClO4 25°C 3.00M U T K1=4.52 B2=8.36 1973WJa (39809)1412
B3=11.41

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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$$K(2\text{Co}(\text{H}-1\text{L})_2 + \text{O}_2 = \text{Co}_2(\text{H}-1\text{L})_4\text{O}_2) = 13.4$$

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
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Co++ gl NaCl 25°C 0.12M U K1=3.05 B2=5.92 1977PNa (39909)1415

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
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Co++ gl NaCl 25°C 0.12M U K1=3.28 B2=5.92 1977PNa (39934)1416

Co++ gl oth/un 26°C 0.05M U K1=3.23 B2=5.59 1955G0a (39935)1417

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
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Co++ g1 KNO3 25°C 0.1M U 2003PGa (40001)1418

$$\begin{aligned} K(\text{Co}+\text{HL}) &= 3.23 \\ K(\text{CoL}+\text{H}) &= 11.39 \\ K(\text{CoHL}+\text{HL}) &= 2.13 \\ K(\text{CoHL}_2+\text{H}) &= 10.78 \end{aligned}$$
$$K(\text{CoL}_2 + \text{H}) = 11.03; \quad K(\text{CoL} + \text{HL}) = 2.74$$

Co++ gl NaClO4 20°C 0.10M U M K1=3.35 B2= 5.36 1991KUb (40002)1419

$$\begin{aligned} K(\text{CoH}-1\text{L}+\text{H}) &= 9 \\ K(\text{CoH}-1\text{L}^2+\text{H}) &= 8 \end{aligned}$$
$$K(2\text{Co}(\text{H}-1\text{L})_2 + \text{O}_2 = \text{Co}_2(\text{H}-1\text{L})_4\text{O}_2) = 7.6$$

Co++ gl NaCl 25°C 0.12M U K1=3.28 B2= 5.92 1976PNa (40003)1420

Co++ gl NaCl 25°C 0.10M U K1=3.10 B2=5.68 1959BRb (40004)1421

C5H10N2O3	HL	Gly-Sar	CAS 29816-01-1	(2331)
Glycyl-sarcosine; H2N.CH2.CO.N(CH3).CH2.CO.OH				

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++ gl oth/un 25°C 0.02M U K1=3.91 B2=7.41 1956DRb (40027)1422

C5H10N2O3 HL Sar-Gly (2332)
Sarcosyl-glycine; CH3.NH.CH2.CO.NH.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	oth/un	25°C	0.02M	U		K1=2.93 B2=5.30	1956DRb (40038)	1423

C5H10N2O3S H2L Cys-Gly CAS 19246-18-5 (2006)
CysteinyI-glycine; H2N.CH(CH2.SH)CO.NH.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.20M	C		K1=6.65 B2=13.29	1988SKc (40062)	1424

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
Co++	gl	KCl	25°C	0.20M	C		B2=10.03 B(CoHL2)=18.47 B(CoH2L2)=25.78	1988SKc (40067)	1425

C5H10N2O4 HL Gly-Ser CAS 7361-43-5 (281)
Glycyl-serine; H2N.CH2.CO.NH.CH(CH2.OH).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	C		K1=3.08 K[Co(H-1L)+H]=8.77	1977Hmd (40100)	1426

C5H10N4O5 HL (2817)
Biacetylmonoxime-thiosemicarbazone; CH3.C(:N.NH.CS.NH2).C(:N.OH).CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	30°C	50%	U T H		K1=8.45	1992HRa (40130)	1427

Medium: 50% v/v EtOH/H2O, 0.1 M NaClO4. Data for 40 and 50 C.
DH(K1)=-32.5 kJ mol⁻¹, DS(K1)=-53.6 J K⁻¹ mol⁻¹.

C5H10N4O3 L CAS 54376-69-1 (8335)
N,N'-Carbonylbis(2-aminoacetamide);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO4	25°C	0.10M	U TIH		K1=9.90 B2=16.05	1980SAc (40136)	1428

Data for 0.075-0.15 M. At I=0, K1=10.30, K2=6.40. Also data for 30 C.
DH and DS values.

C5H10O2S HL CAS 7244-82-8 (3042)

3-Ethylthiopropionic acid; CH₃.CH₂.S.CH₂.CH₂.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	diox/w	30°C	50%	U			K1=2.8 B2=4.8	1956IFa (40241)	1429

C5H10O6		HL							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
Co++	gl	NaNO3	20°C	0.10M	C			K1=3.07 B(CoH-1L)=-1.72	1994ESa (40378)	1430

C5H11N		L							CAS 1003-03-8 (304)	
Cyclopentylamine;										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	NaClO4	37°C	0.15M	C			K1=5.7	1974MWb (40392)	1431

C5H11N		L							CAS 110-89-4 (105)	
Perhydropyridine; cyclo(-CH ₂ .CH ₂ .CH ₂ .NH.CH ₂ .CH ₂ -) C5H11N										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	sp	non-aq	25°C	100%	U	M			1993SSc (40440)	1432
K(CoA+L)=3.211 K(CoB+L)=3.500 K(CoC+L)=3.773										
Medium:Toluene. H2A:Octaethylporphyrin. H2B: t-Octaethylchlorin. H2C: a mixture of tct- and ttt-octaethylisobacteriochlorin.										

Co++	sp	non-aq	25°C	100%	U	TIHM			1982RWb (40441)	1433
K(CoA+L)=2.83										
Medium: CH ₃ Cl. A=Tetra(4-Methoxyphenyl)porphyrin, In ClCH ₂ .CH ₂ Cl: K=3.42; in CH ₂ Cl ₂ : K=2.83; in DMF: 2.80. Also DH and DS										

Co++	sp	non-aq	21°C	100%	U	T M			1978DBa (40442)	1434
K(CoA+L)=3.70										
Medium: toluene. A=Protoporphyrin IX dimethyl-ester. Also enthalpy data for O ₂ adduct. At 30 C: K(CoA+L)=3.47; 39 C: 3.26; 49 C: 3.04										

Co++	sp	diox/w	?	95%	U	I M			1973MRa (40443)	1435
K(CoBr ₂ +L)=2.00 K(CoBr ₂ +2L)=4.52 K(CoBr ₂ +3L)=7.02										
Medium: 5% HCON(CH ₃) ₂ , 95% dioxan, 0.005 M CoBr ₂ . Conductivity also used In 100% HCON(CH ₃) ₂ , values are 1.85, 4.44 and 6.51										

Co++ sp non-aq ? 100% U I M 1971MAe (40444)1436

K(CoCl₂+L)=1.27

K(CoCl₂+2L)=3.43

Medium: 50% benzene/50% HCON(CH₃)₂. In 0% benzene, K(CoCl₂+L)=1.82;

25%: K(CoCl₂+L)=1.35, K(CoCl₂+2L)=3.20; 75%: 0.80 and 3.45

C₅H₁₁N₂O₂ HL Valine CAS 72-18-4 (43)

2-Amino-3-methylbutanoic acid; H₂N.CH(CH(CH₃)₂)COOH

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

Co++ gl KNO₃ 25°C 0.20M U T HM K₁=4.24 1996JLd (40679)1437

K(Co(bpy)+L)=3.54

Data for 25-45 C. DH(K₁)=-87.9 kJ mol⁻¹, DS(K₁)=214 J K⁻¹ mol⁻¹;

DH(Co(bpy)L)=-80.8, DS(Co(bpy)L)=203.

Co++ gl alc/w 20°C 50% M K₁=4.67 1995AMb (40680)1438

Medium: 50% v/v EtOH/H₂O, 0.20 M NaClO₄.

Co++ gl KNO₃ 30°C 0.10M U K₁=4.34 1994RSa (40681)1439

Co++ gl NaClO₄ 25°C 0.20M C K₁=5.03 1993BAb (40682)1440

Co++ gl KNO₃ 25°C 0.10M U M K₁=4.67 1989MAc (40683)1441

K(CoA+L)=3.90

H₄A is adenosine-5'-triphosphoric acid.

Co++ gl KNO₃ 25°C 0.10M C M K₁=4.67 1989MAd (40684)1442

K(CoA+L)=4.09

B(CoAL)=11.14

H₂A is N-(2-acetamido)imino diethanoic acid.

Co++ gl KNO₃ 35°C 0.20M U M K₁=4.24 B₂=7.80 1989RVa (40685)1443

K(CoA+L)=3.81

A=bis(imidazol-2-yl)methane

Co++ oth NaClO₄ 35°C 0.10M U M K₁=4.60 B₂=8.01 1984SYa (40686)1444

B(Co(NTA)+L)=3.25

Method: paper electrophoresis

C₅H₁₁N₂O₂ 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

Co++ gl NaNO₃ 25°C 0.10M C M K₁=4.80 B₂= 8.45 2000KAb (40827)1445

K(CoA+L)=3.05

H₂A=Dipicolinic acid.

Co++ gl KNO₃ 25°C 0.20M U T HM K₁=4.44 1996JLd (40828)1446

K(Co(bpy)+L)=4.11

Data for 25-45 C. DH(K1)=-107 kJ mol⁻¹, DS(K1)=275 J K⁻¹ mol⁻¹;
 DH(Co(bpy)L)=-113, DS(Co(bpy)L)=299.

```
-----
Co++      gl  KNO3   25°C 0.15M U      K1=4.22   B2=7.7    1987FZa (40829)1447
-----
Co++      gl  KNO3   25°C 0.10M C      T K1=4.15   B2=7.62   1975IPb (40830)1448
-----
Co++      gl  KCl    25°C 0.05M U      M T K1=4.29   B2=7.81   1972GSc (40831)1449
                                   B(CoL(Phe))=8.02
                                   B(CuHL(Tyr))=8.03
-----
```

```
Co++      gl  oth/un 25°C 0.02M U      K1=4.80   B2=8.38   1954REa (40832)1450
*****
C5H11NO2          HL    DL-Valine          CAS 516-06-3 (186)
DL-2-Amino-3-methylbutanoic acid; H2N.CH(CH(CH3)2).COOH
-----
```

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	37°C	0.15M	C	M	K1=4.243 B2= 7.56	1989KKd (40892)	1451
							B(CoH-2L)=-14.20		
							B(Co(imidazole)L)=6.50		

```
*****
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
Co++	gl	KNO3	25°C	0.10M	C	M	K1=5.25	1999AAa (41066)	1452
							K(CoL+A)=3.71		
							B(CoLA)=8.95		
							K(CoHL+B)=1.89		
							K(CoL+C)=1.20		

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

```
-----
Co++      gl  KNO3   25°C 0.10M C   I   R K1=4.14   B2=7.28   1995BEa (41067)1453
IUPAC evaluation
-----
```

```
Co++      gl  KNO3   25°C 0.10M U      M   K1=4.50          1989MAc (41068)1454
                                   K(CoA+L)=4.05
```

H4A is adenosine-5'-triphosphoric acid.

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-----
Co++      gl  KNO3   35°C 0.20M U      M   K1=3.98   B2=7.50   1989RVa (41069)1455
                                   K(CoA+L)=3.57
```

A=bis(imidazol-2-yl)methane

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-----
Co++      gl  KCl    25°C 0.50M M T H   K1=6.00   B2=10.56  1988MAa (41070)1456
Data for 25-40 C. DH(K1)=-82.47 kJ mol-1, DS(K1)=-392 J K-1 mol-1.
DH(K2)=35.0, DS(K2)=-29.6.
-----
```

Co++	gl	KNO3	25°C	0.15M	U	K1=4.16	B2=7.62	1987FZa (41071)	1457
Co++	gl	KCl	25°C	0.20M	U	K1=4.20	B2=7.75	1982FGa (41072)	1458
Co++	gl	KNO3	25°C	0.10M	C	T K1=4.16	B2=7.60	1975IPb (41073)	1459
Co++	oth	KNO3	20°C	0.10M	U	K1=4.5 K3=1.9	B2=7.60	1964JOa (41074)	1460

Method: paper electrophoresis

Co++	gl	KNO3	25°C	0.10M	U	K1=4.12	B2=7.56	1964LMa (41075)	1461
Co++	gl	oth/un	20°C	0.01M	U	B2=7.9		1950ALa (41076)	1462

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
Co++	oth	NaClO4	35°C	0.10M	U		K1=9.20	B2=18.18	1998GAc (41249)	1463

Method: electrophoresis. Medium: 0.10 M HClO4, 0.01 M H2L

Co++	gl	KNO3	32°C	0.0	U				1992BKf (41250)	1464
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K(Co+H2L=CoL+2H)=-9.93
K(Co+2H2L=CoL2+4H)=-22.77

Medium: 0.005 M KNO3

Co++	gl	KCl	25°C	0.20M	C	M	K1=8.98	B2=16.88	1983HSa (41251)	1465
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B(CoHL2)=23.32
B(Co2L3)=28.35
B(CoL(Gly))=12.84
B(CoL(en))=14.09

B(CoL(His))=15.05. Spectrophotometry also used.

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
Co++	oth	NaClO4	25°C	1.0M	U		K1=3.97	B2= 7.92	1982CSc (41293)	1466

B(CoH-1L2)=-2.35

Method: recalculation of literature data.

Co++	gl	NaClO4	25°C	1.00M	C	I	K1=3.97	B2=7.92	1981CPb (41294)	1467
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B(CoH-1L)=-2.35

In 2 M NaClO4: K1=4.25, B2=7.93

C5H11NO3 HL CAS 93715-84-5 (3626)
N-(2'-Hydroxyethyl)-3-aminopropanoic acid; H2N.CH2.CH(CH2.CH2.OH).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	20°C	0.10M	U		K1=3.80 B2=5.80	1964ULa (41309)	1468

C5H11NS2 HL CAS 147-84-2 (2126)
 Diethyldithiocarbamic acid; (CH3.CH2)2N.CSSH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	ISE	non-aq	25°C	100%	U		K1=10.2 B2=20.7	1984LSb (41344)	1469

Medium: DMSO, 0.1 M NaClO4; Ag-electrode. In MeOH: K1=10.6, B2=21.1

Co++	sp	alc/w	25°C	75%	U		B3=14.40	1970PNa (41345)	1470
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Medium: 75% MeOH, 0.3 M NaClO4

 C5H11O8P 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
Co++	gl	NaNO3	25°C	0.10M	C		K1=2.00	1988MSa (41417)	1471

 C5H12NO3P H2L PYPH (223)
 Piperidine-2-phosphonic acid; C5H10N.PO3H2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	24°C	0.10M	U		K1=5.10 K(Co+HL)=1.70	1989YKa (41433)	1472

 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
Co++	gl	NaClO4	23°C	0.10M	U		K1=4.58	1990YTa (41442)	1473

 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
Co++	gl	NaClO4	25°C	0.02M	U		K(Co+HL)=8.99	1982PNa (41469)	1474

 C5H12N2O L (3046)
 Sarcosine dimethylamide; CH3.NH.CH2.CO.N(CH3)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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 Co++ gl oth/un 25°C 0.01M U K1=2.80 B2=5.08 1959DLb (41474)1475

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
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Co++	gl	KCl	30°C	0.16M	U	I	K1=5.89 B2= 8.70 B(CoHL)=14.07 B(CoH2L2)=27.55	1997BSb (41564)	1476
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Also data for 5.8-36.8% w/w urea/H2O.

Co++	gl	KNO3	25°C	0.10M	C		K1=5.01 B2=8.49 B(CoHL)=14.17 B(CoH2L2)=27.78 B(CoHL2)=18.65	1976BPb (41565)	1477
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Co++	gl	NaCl	25°C	0.02M	C		K(Co+HL)=3.48 K(CoHL+HL)=2.96 K(CoHL+L)=3.42	1975KPa (41566)	1478
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K(2CoHL2+O2 = (CoHL2)2O2) = 7.17.

Co++	gl	KNO3	25°C	0.10M	U	I	K(Co+HL)=3.54 K(CoHL+HL)=3.33	1970CMc (41567)	1479
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I=1.0 M, K(Co+HL)=3.52, K(CoHL+HL)=2.80

Co++	gl	KNO3	25°C	0.10M	U		K1=5.6 K(CoL+H)=9.0	1970CMc (41568)	1480
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Co++	gl	oth/un	25°C	0.02M	U		K(Co+HL)=4.02 K(Co+2HL)=6.92	1954REa (41569)	1481
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Co++	gl	oth/un	20°C	0.01M	U		K(Co+2HL)=6.3	1952ALa (41570)	1482
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C5H12N2O2 HL CAS 36207-49-5 (834)
 2-Amino-N-hydroxypentanimide; CH3.CH2.CH2.CH(NH2).CO.NH.OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	KCl	25°C	0.50M	C		K1=6.185 B2=10.59 B(CoH-1L2)=1.266	1986LEb (41590)	1483
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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
Co++	gl	KNO3	25°C	0.10M	C				1974NBb (41614)	1484
								K(Co+HL)=3.46 K(CoL+HL)=2.61 K(CoHL=CoL+H)=-6.94 K(CoHL2=CoL2+H)=-9.09		

C5H13NO7P2 H4L CAS 32545-75-8 (6890)
N-Methylenedi(phosphonic acid)tetrahydrooxazine; OC4H8N.CH(P03H2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	M			K1=7.12 K(Co+HL)=6.10	1978GMF (41764)	1485

C5H13N2O4P H2L (7122)
(S,S)-Alanyl-1-aminoethylphosphonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	U			K1=3.013 B(CoH-1L)=-5.92	1995HLA (41786)	1486

For the (S,R) isomer, K1=2.566, B(CoH-1L)=-6.23.

C5H13N3 L (1866)
cis-3,5-Diaminopiperidine; C5H9N(NH2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	C			K1=8.44 B2=15.51	2000PSb (41794)	1487

C5H13OPS2 HL CAS 1000-64-2 (4339)
O-Butyl hydrogen-P-methylphosphonodithioate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	ISE	alc/w	25°C	90%	U			K1=2.30 B2=4.06	1972TCa (41809)	1488

Medium: 90% EtOH, 0.3 M NaClO4

C5H14NO2P HL (7265)
Aminomethyl(butylphosphinic acid); H2NCH2PO(OH)C4H9

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	C			K1=3.17	1996RLA (41817)	1489

C5H14N2 L CAS 462-94-2 (359)
1,5-Diaminopentane; H2N.(CH2)5.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	cal	alc/w	25°C	100%	U	H	K1=2.49	1985BUd (41863)	1490
Medium: MeOH, 0.05 M Et4N.NO3. DH=-25.7 kJ mol-1									

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
Co++	gl	KNO3	0°C	1.0M	U	T	K1=5.41 B2=8.93	1956HFb (41874)	1491
30 C: K1=4.88, K2=3.07; 50 C: K1=4.38. DH(K1)=-29 kJ mol-1, DS=0; DH(K2)=-25									

Co++	gl	KNO3	0°C	1.0M	U	T	K1=5.41 B2=8.93	1952HAa (41875)	1492
50 C: K1=5.41. In 1 M KCl, 30 C: K1=4.88, K2=3.07									

C5H14N2	(4303)
N,N,N'-Trimethyl-1,2-diaminoethane; L	

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	sp	non-aq	25°C	100%	C	H	K1=4.28	2002CMA (41889)	1493
Medium: DMSO, 0.10 M Et4NClO4. By calorimetry: DH(K1)=-45.7 kJ mol-1, DS(K1)=-71.5 J K-1mol-1.									

C5H14N2O	L	CAS 52319-87-1	(3628)
N-(2'-Hydroxyethyl)-1,3-diaminopropane; H2N.CH2.CH2.CH2.NH.CH2.CH2.OH			

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	EMF	KNO3	25°C	0.50M	U		K1=5.21 B2=9.56	1971KPa (41908)	1494
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Co++	gl	KNO3	25°C	0.50M	U		K1=4.76 B2=7.98	1970MLb (41909)	1495
K3=1.93									

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
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Co++	gl	KCl	25°C	1.0M	U		K1=6.11 B2=10.84	1950EDa (41914)	1496
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C5H14N2O	L	CAS 36753-45-4	(3051)
N-(3-Hydroxypropyl)ethylenediamine; H2N.CH2.CH2.NH.CH2.CH2.CH2.OH			

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	KCl	25°C	1.0M	U		K1=7.15 B2=12.42	1953EDa (41917)	1497
B3=15.13									

C5H15N07P2 H4L AMOK CAS 63132-39-8 (1350)
1-Hydroxy-3-N,N-dimethylaminopropane-1,1-diphosphonic acid;
Me2N.CH2.CH2.C(OH)(PO3H2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	M			K1=9.01 K(Co+HL)=7.89 K(Co+H2L)=4.74	1978KMa	(41953)1498

C5H15N07P2 H4L (1348)
1-Hydroxy-3-N-ethylaminopropyllydenediphosphonic acid;
CH3.CH2.NH.CH2.CH2.C(OH)(PO3H2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	M			K1=10.15 K(Co+HL)=8.88 K(Co+H2L)=5.23	1978KMa	(41962)1499

C5H15N3 L CAS 13531-52-7 (738)
1,4,8-triazaoctane, N-(2-Aminoethyl)propane-1,3-diamine; H2NCH2CH2NHCH2CH2CH2NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	U			K1=8.5 B2=13.2	1973AHc	(42003)1500

C5H16N4 L (3614)
Tetrakis(aminomethyl)methane; C(CH2.NH2)4

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	U			K1=7.6 K(CoL+H)=7.8 K(CoHL+H)=5.5	1968ZBa	(42013)1501

C5H17N013P4 H5L ADOPPH CAS 82372-37-0 (228)
1-Hydroxy-3-(N,N-bis(methylenephosphonic)-aminopropyllydene-1,1-diphosphonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KNO3	25°C	1.0M	U			K1=12.7 K(Co+HL)=10.7 K(Co+H2L)=7.6 K(Co+H3L)=5.7 K(Co+H4L)=4.9	1982SBa	(42018)1502

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
Co++	sp	oth/un	21°C	0.40M	U		B2=2.85	1955BKa (42087)	1503
Medium:0.2-0.6(some EtOH)									

C6H4N2		L					CAS 100-48-1	(321)	
4-Cyanopyridine; C5H4N.CN									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	non-aq	25°C	100%	U	M		1993SSc (42194)	1504
							K(CoA+L)=2.734		
							K(CoB+L)=3.079		
							K(CoD+L)=3.288		
Medium:Toluene. H2A:Octaethylporphyrin. H2B:t-Octaethylchlorin.									
H2D:tct-Octaethylisobacteriochlorin.									

Co++	sp	non-aq	25°C	100%	U	M		1980MAb (42195)	1505
							K(CoA(ClO4)+L)=2.3		
Medium: CH2Cl2. A= 1,19-Dimethyl-AD-didehydrocorrin.									
In H2O K(CoA(CN)+L)=1.04									

C6H4N2O6		H2L					CAS 7659-29-2	(2694)	
1,2-Dihydroxy-3,5-dinitrobenzene; (HO)2.C6H2(NO2)2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	M		K1=6.43 B2=11.21 B3=14.49	1986HAd (42261)	1506

C6H4N4O		HL					CAS 900-47-0	(3083)	
4-Hydroxypteridine;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	oth/un	20°C	0.01M	U		K1=3.8 B2=6.6	1953ALa (42276)	1507

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
Co++	gl	oth/un	20°C	0.01M	U		K1=3.2	1953ALa (42285)	1508

C6H5ClS		HL		Cl-Thiophenol			CAS 106-54-7	(6177)	
4-Chlorothiophenol;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	none	25°C	0.0	U		K1=8.3 B2=7.77	1988KDb (42338)	1509

B3=11.78

B4=16.32

C6H5NO L Picolinaldehyde CAS 1121-60-4 (1186)

2-Pyridinecarboxaldehyde; C5H4N.CHO

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	U	M	K1=1.75 B2= 3.45	1999NDa (42383)	1510

Data for ternary complexes with histidine.

Co++	gl	KNO3	25°C	0.10M	U	M		1999NMb (42384)	1511
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B(Co(val)L)=10.21

B(Co(val)L2)=12.22

B(Co(val)2L2)=15.96

K(CoL+val)=8.46

K(Co(val)+L)=5.77, K(Co(val)L+L)=2.01.

Co++	gl	KNO3	25°C	0.10M	U	M		1999NMb (42385)	1512
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B(Co(phe)L)=10.11

B(Co(phe)L2)=12.09

B(Co(phe)2L2)=15.87

K(CoL+phe)=8.36

K(Co(phe)+L)=5.66, K(Co(phe)L+L)=1.98.

Co++	gl	KNO3	25°C	0.10M	U	M		1999NMb (42386)	1513
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B(Co(trp)L)=10.09

B(Co(trp)L2)=12.32

B(Co(trp)2L2)=15.93

K(CoL+trp)=8.34

K(Co(trp)+L)=5.63, K(Co(trp)L+L)=2.23.

Co++	sp	KCl	30°C	0.50M	U			1977EEa (42387)	1514
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B(CoH-1L)=-6.02

B(CoH-2L)=-17.42

B(CoH-2L2)=-14.28

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
Co++	gl	KNO3	25°C	0.10M	U	T	K1=4.34	1988NSc (42483)	1515

At 40 C, K1=4.19.

Co++	sp	oth/un	25°C	0.10M	U	T HM		1981HKA (42484)	1516
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K(CoA+L)=2.79

Phosphate medium, A= Bovine carbonic anhydrase protein

Co++	gl	NaClO4	25°C	0.10M	U		K1=6.60 B2=10.58	1974BGa (42485)	1517
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B3=14.55

In 50% dioxan K1=5.91, B2=11.00, B3=15.57, in 75% acetone K1=5.68, B2=11.00
B3=15.65 and in 75% acetonitrile K1=5.54, B2=10.45 and B3=15.20.

Co++ sp non-aq ? 100% U I K1=2.79 B2=6.17 1971AMd (42486)1518
Medium: 3-methylbutanol.

Co++ sp non-aq ? 100% U I K1=2.28 B2=6.33 1971AMd (42487)1519
Medium: 50% benzene, 50% 3-methylbutanol. With 25% benzene, K1=2.44, B2=6.27;
75% benzene: K1=1.90, B2=6.34. Data also for CCl4-methylbutanol mixtures

Co++ gl NaNO3 20°C 0.10M U K1=5.74 B2=10.44 1960ANb (42488)1520
K3=3.65

Co++ gl oth/un 25°C 0.0 U K1=4.69 B2=10.53 1957LUa (42489)1521

Co++ gl oth/un 25°C 0.02M U I K1=6.0 B2=10.8 1955HCa (42490)1522
In 50% dioxan: K1=5.9, K2=5.4

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

Co++ gl NaCl 25°C 0.10M U K1=2.29 2001DSb (42661)1523

Co++ sp oth/un 25°C 0.10M U T HM 1981HKa (42662)1524
K(CoA+L)=0.96
Phosphate medium, A= Bovine carbonic anhydrase protein

C6H5NO2S HL CAS 1849-36-1 (4397)
4-Nitrothiophenol; NO2.C6H4.SH

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

Co++ sp none 25°C 0.0 U K1=5.22 B2=9.45 1988KDb (42709)1525
B3=13.53
B4=17.81

C6H5NO3 HHL CAS 824-40-8 (878)
Pyridine-2-carboxylic acid N-oxide (Picolinic acid N-oxide); C5H4N(O)COO

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

Co++ gl NaClO4 25°C 0.10M U T K1=3.48 B2=6.36 1981RRb (42829)1526
Temp range 25-50. K1 at 50 C = 3.30; K2 at 50 C = 2.76

C6H5NO4 H2L 3-Nitrocatechol CAS 6665-98-1 (2685)
1,2-Dihydroxy-3-nitrobenzene; O2N.C6H3(OH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	M		K1=7.84 B2=13.58 B3=16.6	1986HAb	(42853)1527

C6H5NO4 H2L 4-Nitrocatechol CAS 3316-09-4 (890)
1,2-Dihydroxy-4-nitrobenzene; O2N.C6H3(OH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	C	M	K1=7.35 B2=12.51 K(CoA+L)=6.10 B(CoAL)=14.21	1989DAa	(42905)1528

H2A: 8-hydroxyquinoline-5-sulfonic acid.

Co++	gl	KNO3	35°C	0.20M	U	M	K1=6.25 B2=11.27 K(CoA+L)=5.81	1989RVa	(42906)1529
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A=bis(imidazol-2-yl)methane

Co++	gl	NaClO4	30°C	0.05M	U	TIH	K1=8.26 B2=15.40	1986NDa	(42907)1530
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I=0.1, 40 C: K1=7.53, B2=13.38; 50 C: K1=7.17, B2=12.90
I=0.1, 30 C:K1= 7.78, B2=14.05; I=0.2, 30 C:K1=7.67, B2=13.49

Co++	gl	KCl	25°C	0.10M	M		K1=7.48 B2=12.72	1984HAc	(42908)1531
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Co++	gl	KNO3	30°C	0.10M	U		K1=7.48 B2=12.79 K3=3.14	1964MTb	(42909)1532
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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
Co++	gl	NaClO4	30°C	0.10M	U	T	K1=3.82 B2=6.35	1982RRa	(42968)1533

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
Co++	gl	KNO3	25°C	0.50M	U		K1=1.60 B2=2.76 B3=3.49	1981LMb	(42988)1534

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
Co++	gl	KNO3	30°C	0.10M	U		K1=7.64 B2=14.01 K3=4.23	1964MTb	(43081)1535

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

Co++ gl diox/w 30°C 75% U K1=8.87 B2=16.01 1960KFc (43127)1536

C6H6NBr L (8782)
5-Bromo-2-methylpyridine;

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

Co++ gl NaNO3 25°C 0.50M C K1=-0.01 2002KSb (43192)1537

C6H6NCl L CAS 10445-91-7 (8781)
4-(Chloromethyl)pyridine;

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

Co++ gl NaNO3 25°C 0.50M C K1=1.23 2002KSb (43208)1538

C6H6NCl L p-Chloroaniline CAS 106-47-8 (3090)
4-Chloroaminobenzene; Cl.C6H4.NH2

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

Co++ sp non-aq ? 100% U I M 1971ZDa (43215)1539
K(CoCl2+L)=2.21
K(CoCl2+2L)=3.72

Medium: CH3CN. In DMF, values are 2.05, 3.60

C6H6NO6P H2L CAS 330-13-2 (5865)
4-Nitrophenylphosphoric acid; NO2.C6H4.O.PO.(OH)2

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

Co++ gl NaNO3 25°C 0.10M C K1=1.65 1988MSa (43243)1540

C6H6N2O L Isonicotinamide CAS 1453-82-3 (1949)
Isonicotinamide, Pyridine-4-carboxylic acid amide; C5H4N.CO.NH2

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

Co++ gl KNO3 25°C 0.50M U K1=1.04 B2=1.60 1974WAb (43258)1541

C6H6N2O HL CAS 873-69-8 (1258)
Pyridine-2-aldoxime; C5H4N.CH:NOH

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

Co++ gl NaClO4 25°C 0.30M U K1=8.8 B2=17.60 1966BEa (43288)1542
By spectrophotometry: K1=8.6, K2=8.6

Co++ gl KNO3 24°C 0.10M U K1=9.6 B2=18.30 1962BEa (43289)1543

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
Co++	gl	KNO3	25°C	0.50M	U		K1=2.00 B2=3.1	1976WAa (43315)	1544

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
Co++	gl	KNO3	25°C	0.50M	U		K1=0.87 B2=1.28	1981LRa (43339)	1545

Co++	EMF	NaNO3	25°C	0.50M	U		K1=0.72	1977BNb (43340)	1546

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
Co++	gl	KNO3	35°C	0.15M	U T H		K1=2.86	1980SKb (43352)	1547
Temperature range is 25-45C. At 35C, DH1=-12.68 kJ mol-1; DS1=13.47 J mol-1 K-1									

Co++ gl diox/w 35°C 50% U K1=3.37 1980SKb (43353)1548

C6H6N2O2 HL (8281)
3-Hydroxy-2-amidocarboxypyridine, Hydroxypicolinamide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	C		K1=5.68 B2=11.09	1990ARa (43371)	1549

C6H6N2O2	L	m-Nitroaniline					CAS 99-09-2 (464)		
3-Nitroaminobenzene; H2N.C6H4.NO2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	non-aq	25°C	100%	U	M		1971ZDa (43386)	1550
K(CoCl2+L)=2.03 K(CoCl2+2L)=3.72									

Medium: CH3CN. In DMF, values are 3.79, 4.66

C6H6N2O2 L p-Nitroaniline CAS 100-01-6 (465)
4-Nitroaminobenzene; H2N.C6H4.NO2

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

Co++ sp non-aq ? 100% U I 1971ZDa (43403)1551

K(CoCl2+L)=2.78

K(CoCl2+2L)=3.80

Medium: CH3CN. In DMF, K(CoCl2+L)=3.44, K(CoCl2+2L)=4.92

C6H6N2O2 HL CAS 5657-61-4 (1430)

Nicotinylhydroxamic acid; C5H4N.CO.NH.OH

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

Co++ gl NaClO4 35°C 0.10M U K1=4.06 B2=7.75 1983ABa (43435)1552

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

Co++ gl diox/w 30°C 50% U K1=4.77 B2=8.40 1966VMa (43445)1553

Medium: 50% dioxan, 0.1 M NaClO4

C6H6N2O4 L Methyl orotate CAS 6153-44-2 (2612)

2,4-Dihydroxypyrimidine-6-carboxylic acid methyl ether

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

Co++ gl NaCl 19°C 0.15M U K1=3.88 1979DZc (43458)1554

C6H6N2O4 HL Methylorotic CAS 706-36-2 (2611)

3N-Methyl-2,4-dihydroxypyrimidine-6-carboxylic acid, methylorotic acid;

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

Co++ sp oth/un 20°C 0.10M C K1=6.70 1981LGc (43468)1555

Medium: acetate (0.1 M) or phosphate (0.1 M) buffers.

Co++ gl NaCl 20°C 0.15M U K1=6.16 1979DZc (43469)1556

K(Co+HL)=2.33

C6H6N4 L 9-Methylpurine CAS 20427-22-9 (2480)

9-Methylpurine;

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

Co++ gl NaClO4 25°C 1.00M U K1=1.04 1983ALa (43491)1557

Co++ sp NaClO4 25°C 0.18M U H K1=0.9 1983ALb (43492)1558
DH(K1)=-20.4 kJ mol-1

C6H6N4O L CAS 2503-56-2 (3682)

5-Methyl-7-hydroxy-[1,2,4]-triazolo[1,5-a)pyrimidine;

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

Co++ gl KNO3 20°C 0.10M U K1=2.15 19660Ca (43497)1559

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

Co++ gl KNO3 30°C 0.10M U K1=7.47 1994RSa (43702)1560

Co++ gl KNO3 25°C 0.10M C M K1=8.25 B2=14.75 1989DAa (43703)1561
K(CoA+L)=7.60
B(CoAL)=15.71

H2A: 8-hydroxyquinoline-5-sulfonic acid.

Co++ gl KNO3 35°C 0.20M U M K1=7.69 B2=14.17 1989RVa (43704)1562
K(CoA+L)=7.49

A=bis(imidazol-2-yl)methane

Co++ gl KNO3 35°C 0.10M U M K1=4.46 1989SRe (43705)1563
K(CoL+Cytosine)=4.48

Co++ gl NaClO4 30°C 0.10M M TIH K1=7.81 B2=13.99 1986DNa (43706)1564
Data for 0.05-0.20 M NaClO4. Extrap. to I=0.0, K1=8.45, B2=15.05.
Data for 30-50 C. DH(K1)=-15.3 kJ mol-1.

Co++ gl KNO3 35°C 0.10M C 1985RRh (43707)1565
K(Co+HL)=4.40

Co++ gl KCl 25°C 0.20M C M K1=8.60 B2=14.94 1983KGb (43708)1566
B(Co(ala)L)=11.98

Co++ gl NaClO4 25°C 0.10M U K1=8.61 B2=15.33 1971GSb (43709)1567

Co++ gl KNO3 25°C 1.0M U 1968TMa (43710)1568
K(Co+H2L=CoL+2H)=-13.959
K(CoL+H2L=CoL2+2H)=-15.856

Co++ gl KCl 25°C 0.10M U K1=8.40 B2=14.20 1966JNa (43711)1569

C6H6O2S HL (3683)

2-Acetyl-3-hydroxythiophene; C4H2S(CO.CH3)OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	25°C	50%	U	M	K1=5.13 K(Co(bpy)+L)=5.20	1967SIb (43907)	1570

Medium: 50% dioxan, 0.1 M NaClO4

Co++	sp	diox/w	25°C	10%	U		K1=3.98	1966PSb (43908)	1571
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Medium: 10% dioxan, 0.1 M NaClO4. By glass electrode, K1=3.92

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
Co++	gl	NaClO4	30°C	0.10M	M	TIH	K(Co+HL)=8.10 K(Co+2HL)=13.86	1986DNa (43945)	1572

Data for 0.05-0.20 M NaClO4. Extrapolation to I=0.0, K(Co+HL)=8.55, K(Co+2HL)=15.10. Data for 30-50°C. DH(Co+HL)=-14.2 kJ mol⁻¹.

C6H6O3 H3L Phloroglucinol CAS 6099-90-7 (2525)

1,3,5-Trihydroxybenzene; C6H3(OH)3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	none	25°C	0.0	C		K(Co+H2L)=6.67	1983EEa (44011)	1573

Medium pH 6.5. Extrapolated from data for I=0.15-0.25 M. K(H2L+H)=8.45.

C6H6O3 HL Maltol CAS 118-71-8 (2442)

3-Hydroxy-2-methyl-4H-pyran-4-one;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO4	25°C	2.00M	U	H	K1=5.12 B2=9.19 K3=2.40	1978GHa (44071)	1574

DH(K1)=-14.51 kJ mol⁻¹, DH(K2)=-14.71, DH(K3)=-23.03

Co++	gl	diox/w	30°C	50%	U		K1=7.67 B2=13.29	1957Cwa (44072)	1575
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C6H6O4 HL Kojic acid CAS 501-30-4 (1800)

5-Hydroxy-2-(hydroxymethyl)-4H-pyran-4-one;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	25°C	40%	C		K1=4.51 B2= 8.02	1990SHb (44185)	1576

Medium: 40% v/v dioxane/H2O, 0.03 M KCl.

Co++	sp	NaCl	25°C	0.10M	C		K1=4.72 B2= 9.91	1976KIc (44186)	1577
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Co++ gl NaClO4 25°C 2.00M C T H K1=4.55 B2=8.26 1975GHa (44187)1578
B3=10.70

DH(K1)=-11.7 kJ mol⁻¹; DS(K1)=47.7 J K⁻¹ mol⁻¹; DH(K2)=-9.6, DS(K2)=38.5
DH(K3)=-15.5; DS(K3)=-4.2. 20 C, K1=4.64, B2=8.35, B3=10.92; 40 C, K1=4.49

Co++ gl diox/w 30°C 75v% U K1=9.46 B2=16.95 1960KFc (44188)1579

Co++ gl diox/w 30°C 50% U K1=7.11 B2=12.18 1957Cwa (44189)1580

Co++ gl diox/w 30°C 50% U K1=6.8 B2=12.0 1954BFa (44190)1581

C6H6O5S H2L (8129)

2,3-Dihydroxybenzenesulfonic acid;

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

Co++ gl KNO3 25°C 0.10M C M K1=8.00 B2=13.92 1989DAa (44271)1582

K(CoA+L)=6.85

B(CoAL)=14.96

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

Co++ gl KNO3 30°C 0.10M U K1=8.54 B2=14.40 1963Mnc (44278)1583

K3=3.08

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

Co++ gl KNO3 25°C 0.10M C M K1=7.72 B2=13.18 1989DAa (44391)1584

K(CoA+L)=6.20

B(CoAL)=14.31

H2A: 8-hydroxyquinoline-5-sulfonic acid.

Co++ gl NaClO4 30°C 0.05M U TIH K1=9.49 B2=16.91 1986NDa (44392)1585

I=0.1, 40 C: K1= 8.73, B2=15.96; 50 C: K1= 8.54, B2=15.67

I=0.1, 30 C:K1= 8.91, B2=16.22; I=0.2, 30 C:K1= 8.73, B2=15.94

Co++ gl KNO3 25°C 0.10M C M K1=9.37 B2=13.74 1983Oza (44393)1586

B(CoHL)=15.74

B(CoH-1L)=4.88

B(CoL(bpy))=17.33

B(CoH-1L(bpy))=5.99

Co++ gl KCl 20°C 0.10M U K1=9.49 1964PCa (44394)1587

$$K(\text{Co}+\text{HL})=3.08$$

Co++ gl NaClO4 25°C 1.0M U K1=8.19 B2=14.41 1960NAf (44395)1588

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

Co++ gl KCl 25°C 0.10M C K1=4.55 1984MMg (44534)1589

$$K(\text{CoL}+\text{H})=3.20$$

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

Co++ sp none 25°C 0.0 U K1=4.99 B2=4.7 1988KDb (44545)1590

$$B3=13.93$$

$$B4=18.46$$

C6H7N L Picoline CAS 109-06-8 (320)

2-Methylpyridine; C5H4N.CH3

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

Co++ gl NaNO3 25°C 0.50M C K1=0.05 2002KSb (44594)1591

Co++ cal non-aq 25°C 100% C H K1=0.68 2000KKb (44595)1592

Medium: MeCN, 0.10 M Et4NClO4. DH(K1)=-41.2 kJ mol⁻¹, DS=-125 J K⁻¹ mol⁻¹.

Co++ sp non-aq 25°C 100% U M 1993SSc (44596)1593

$$K(\text{CoA}+\text{L})=0.289$$

$$K(\text{CoB}+\text{L})=0.702$$

Medium:Toluene. H2A:Octaethylporphyrin. H2B:t-Octaethylchlorin. Data for other porphyrin ligands

Co++ sp non-aq 25°C 100% U M 1980MAb (44597)1594

$$K(\text{CoA}(\text{ClO4})+\text{L})=0.96$$

Medium: CH2Cl2. A= 1,19-Dimethyl-AD-didehydrocorrin.

Co++ sp non-aq ? 100% U I M 1972ADc (44598)1595

$$K(\text{CoCl2}+2\text{L})=4.83$$

Medium: acetone. In acetonitrile: K(CoCl2+2L)=4.19;

In cyclohexanone: K(CoCl2+2L)=5.14; In HCON(CH3): K(CoCl2+2L)=3.79

Co++ sp non-aq ? 100% U I M 1971ADb (44599)1596

$$K(\text{CoCl2}+\text{L})=1.57$$

$$K(\text{CoCl2}+2\text{L})=3.75$$

Medium: n-butanol. In t-butanol: K(CoCl2+L)=1.76, K(CoCl2+2L)=3.80

Medium: cyclohexanone: $K(\text{CoCl}_2+\text{L})=2.53$, $K(\text{CoCl}_2+2\text{L})=5.13$

C6H7N L beta-Picoline CAS 108-99-6 (324)
3-Methylpyridine; C5H4N.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	NaNO3	25°C	0.50M	C			K1=1.38	2002KSb (44683)	1597
Co++	cal	non-aq	25°C	100%	C	H		K1=3.87 2.11 1.38	B2= 6.89 2000KKb (44684)	1598

Medium: MeCN, 0.10 M Et4NClO4. $\text{DH}(\text{K}_1)=-33.1$ kJ mol⁻¹, $\text{DS}=-37$ J K⁻¹ mol⁻¹;
 $\text{DH}(\text{K}_2)=-29.6$, $\text{DS}=-42$; $\text{DH}(\text{K}_3)=-27$, $\text{DS}=-49$; $\text{DH}(\text{K}_4)=-22$; $\text{DS}=-49$.

Co++	gl	KNO3	25°C	0.50M	U			K1=1.40 B3=2.54	B2=2.22 1978LRb (44685)	1599
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Co++	sp	non-aq	?	100%	U	I	M		1972ADc (44686)	1600
K(CoCl2+2L)=4.90										

Medium: acetone. In acetonitrile: $K(\text{CoCl}_2+2\text{L})=4.62$; In HCON(CH)₂
 $K(\text{CoCl}_2+2\text{L})=4.06$; In cyclohexanone: $K(\text{CoCl}_2+2\text{L})=5.14$

Co++	sp	non-aq	?	100%	U	I	M		1971ADb (44687)	1601
K(CoCl2+L)=2.14										

Medium: s n-butanol. In t-butanol: $K(\text{CoCl}_2+\text{L})=2.24$, $K(\text{CoCl}_2+2\text{L})=4.47$;
In cyclohexanone: $K(\text{CoCl}_2+\text{L})=3.00$, $K(\text{CoCl}_2+2\text{L})=5.60$

Co++	sp	non-aq	20°C	100%	U	HM	1966CKb (44688)	1602
K(CoL2Cl2+2L)=0.35								
K'(CoL2(NCO)2+2L)=0.79								
K''(CoL2(NCS)2+2L)=4.20								

Medium: CHCl₃. $\text{DH}(\text{K})=-56.0$ kJ mol⁻¹, $\text{DS}=-184$ J K⁻¹ mol⁻¹
 $\text{DH}(\text{K}')=-43.5$, $\text{DS}=-133$; $\text{DH}(\text{K}'')=-63.5$, $\text{DS}=-138$

C6H7N L gamma-Picoline CAS 108-89-4 (325)
4-Methylpyridine; C5H4N.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	sp	NaClO4	25°C	1.0M	C	M		K(CoA+L)=0.26	2001LHa (44800)	1603
Medium pH 7.9 (0.05 M Tris). A is tris(2-(dimethylamino)ethylamine).										
Co++	cal	non-aq	25°C	100%	C	H		K1=3.96 2.39 1.65	B2= 7.24 2000KKb (44801)	1604

Medium: MeCN, 0.10 M Et4NClO4. $\text{DH}(\text{K}_1)=-34.4$ kJ mol⁻¹, $\text{DS}=-40$ J K⁻¹ mol⁻¹;
 $\text{DH}(\text{K}_2)=-29$, $\text{DS}=-36$, $\text{DH}(\text{K}_3)=-29$, $\text{DS}=-51$; $\text{DH}(\text{K}_4)=-27$, $\text{DS}=-60$.

Co++ sp non-aq 25°C 100% U M 1993SSc (44802)1605

K(CoA+L)=2.870

K(CoB+L)=3.280

K(CoC+L)=3.482

K(CoD+L)=3.461

Medium: Toluene. H2A:Octaethylporphyrin. H2B:t-Octaethylchlorin. H2C: tct-Octaethylisobacteriochlorin. H2D:ttt-Octaethylisobacteriochlorin.

Co++ sp non-aq 25°C 100% U M 1980MAb (44803)1606

K(CoA(C104)+L)=3.7

Medium: CH2Cl2. A= 1,19-Dimethyl-AD-didehydrocorrin.

In H2O, K(CoA(CN)+L)=2.57

Co++ sp non-aq ? 100% U I K1=3.13 B2=5.70 1973ADb (44804)1607

Medium: cyclohexanone. In acetone: K1=3.36, B2=5.14;

In acetonitrile: K1=2.91, B2=4.98; In HCON(CH3)2: K1=2.20, B2=4.13

Co++ sp non-aq ? 100% U I M 1973ADd (44805)1608

K(CoCl2+L)=2.46

K(CoCl2+2L)=4.51

Medium: t-butanol. Similar data available for the following solvents:

n-butanol, ethanol, ClCH2CH2OH, ethylene glycol

Co++ ISE alc/w 25°C 50% U I K1=1.44 B2=2.15 1973NBa (44806)1609

B3=2.63

Medium: 0-96% (v/v) ethanol, 0.5 M LiNO3

K1(0%)=1.56, K1(96%)=1.56, B2(0%)=2.51, B2(96%)=2.50, B3(0%)=2.94, B4(0%)=3.17

Co++ ISE mixed 25°C 50% U I K1=1.16 B2=1.18 1973NBa (44807)1610

Medium: 0-90% (v/v) propanol, 0.5 M LiNO3

K1(0%)=1.56, K1(90%)=1.48, B2(0%)=2.51, B2(90%)=2.25, B3(0%)=2.94, B4(0%)=3.17

Co++ ISE mixed 25°C 50% U I K1=1.36 B2=2.23 1973NBa (44808)1611

B3=2.69

B4=2.79

Medium: 0-90% (v/v) acetone, 0.5 M LiNO3

K1(0%)=1.56, K1(90%)=1.91, B2(0%)=2.51, B2(90%)=3.07, B3(0%)=2.94, B4(0%)=3.17

Co++ gl KNO3 25°C 1.00M U K1=1.59 B2=2.58 1969LWc (44809)1612

Co++ gl diox/w 25°C 50% U M K1=1.53 1967SIb (44810)1613

K(Co(bpy)+L)=1.3

Medium: 50% dioxan, 0.1 M NaClO4

Co++ sp non-aq 20°C 100% U HM 1966CKb (44811)1614

K(CoL2Cl2+2L)=1.05

K'(CoL2(NCO)2+2L)=1.18

K''(CoL2(NCS)2+2L)=4.89

Medium: CHCl3. DH(K)=-65.6 kJ mol⁻¹, DS=-202 J K⁻¹ mol⁻¹;

DH(K')=-55.6, DS=-167; DH(K'')=-69.8, DS=-142

C6H7N L Aniline CAS 62-53-3 (583)
Aminobenzene, aniline; C6H5.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	sp	non-aq	?	100%	U	M			1972ZDa (44865)	1615
								K(CoCl2+L)=0.21		
								K(CoCl2+2L)=1.74		

Medium: t-butanol

Co++	sp	non-aq	25°C	100%	U	I M			1971ZDb (44866)	1616
								K(CoCl2+2L)=4.17		

Medium: acetone. Similar data available for the following solvents:
cyclohexanone, n-butanol, CH3CN, HCON(CH3)2, CH3OH

C6H7NO HL 2-Aminophenol CAS 95-55-6 (2868)
2-Amino-1-hydroxybenzene; HO.C6H4.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	diox/w	30°C	50%	U	M			1990DSc (44921)	1617
								B(CoL(NTA))=5.92		
								B(CoL(IMDA))=5.47		

Co++	gl	none	20°C	0.0	U			K1=4.7	1959SIb (44922)	1618
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Co++	gl	diox/w	25°C	50%	U			K1=5.81 B2=10.50	1952CFa (44923)	1619
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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
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Co++	sp	NaCl	25°C	0.10M	U	M			1991YBa (44964)	1620
								K(CoA+L=CoAL)=1.06		
								K(CoA02+L=CoA02L)=3.03		
								K(CoAL+02=CoAL02)=0.85		

A=2,9,10,17,19,25,33,34-Octamethyl-3,6,13,16,20,24,27,31-octaazapentacyclo-octatriaconta-1,8,10,17,19,24,26,31,33-nonaene

Co++	gl	KNO3	25°C	0.10M	U			K1=2.1	1965MTa (44965)	1621
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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
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Co++	gl	KNO3	25°C	0.50M	U			K1=1.25 B2=1.93	1981LRa (44983)	1622
								B3=2.03		

C6H7NO L CAS 586-95-8 (1476)
4-(Hydroxymethyl)pyridine; C5H4N.CH2OH

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

Co++ gl KNO3 25°C 0.50M U K1=1.41 B2=2.42 1987KLb (45008)1623

C6H7NO2 HL (4362)
3-Cyanoacetylacetone; CH3.CO.CH(CN).CO.CH3

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

Co++ gl diox/w 25°C 75% U I K1=3.67 B2=6.87 1968CSa (45033)1624
K3=2.86

Medium: 75% dioxan, 0.08 M KCl
I=0.04: K1=3.80, K2=3.30, K3=2.90; I=0.15: K1=3.55, K2=3.08, K3=2.81

C6H7NO4S 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

Co++ gl NaClO4 25°C 0.10M U K1=4.92 B2=8.45 1964BGa (45076)1625

C6H7NO4S 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

Co++ gl NaClO4 25°C 0.10M U K1=7.54 B2=14.51 1964BGa (45081)1626

C6H7N3O 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

Co++ gl oth/un 20°C 0.01M U K1=9.6 B2=17.4 1956ARd (45099)1627

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

Co++ gl oth/un 20°C 0.01M U K1=5.4 1956ARd (45106)1628

C6H7N3O L Isonicotinic hy 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

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-----
Co++      gl  oth/un 20°C 0.01M U      K1=4.8      1956ARd (45123)1629
*****
C6H7N3O2I2      HL      (7181)
2,5-Diiodo-histidine;
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++      gl  NaNO3  25°C 0.50M C      K1=3.76      1994WCa (45139)1630
                        B(CoH-1L)=-2.59
                        B(CoH-1L2)=1.25
                        B(CoH-2L2)=-6.39
                        B(CoH-3L2)=-18.16)
*****
C6H7N3O4      H2L      CAS 54784-33-7 (6082)
1,3-Dimethyl-5-nitroso-barbituric acid; 1,3-Dimethylvioluric acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++      gl  KNO3   25°C 0.10M C      M      1993FJa (45148)1631
                        B(Co(phen)L)=9.91
                        B(Co(phen)L2)=13.65
                        B(Co(phen)2L)=17.10
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-----
Co++      gl  NaNO3  25°C 0.50M C      K1=2.34      B2= 5.52      1984HNb (45149)1632
-----
Co++      gl  NaNO3  25°C 0.50M C      K1=2.34      B2=5.50      1977VNa (45150)1633
*****
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
-----
Co++      gl  NaNO3  25°C 0.10M C      K1=1.94      1988MSa (45228)1634
*****
C6H8NO4P      H2L      (3713)
2-Pyridylmethanephosphoric acid (1'-picolyl phosphate)
-----

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++      gl  KNO3   25°C 0.10M U      K1=2.27      1968MTd (45245)1635
*****
C6H8N2      L      CAS 95-54-5 (2899)
1,2-Diaminobenzene, 1,2-Phenylenediamine; C6H4(NH2)2
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++      gl  diox/w 25°C 70% C      M      K1=1.95      1988MMd (45268)1636
                        K(Co+LA2)=14.91
                        K(CoLA2+H)=6.94
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Medium: 70% v/v dioxan/H₂O, 0.1 M KCl. B(2Co+2L+4A+2B+O₂=(CoLA₂B)₂O₂)=38.68
A=3-Fluorosalicyladehyde, B=4-Methylpyridine

Co++ gl KNO₃ 20°C 0.10M C T H K1=3.08 1980Ma (45269)1637
DH(K1)=-20.5 kJ mol⁻¹; DS=-10.8 J K⁻¹ mol⁻¹. 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

Co++ gl KNO₃ 20°C 0.10M C T H K1=3.11 1980Ma (45275)1638
DH(K1)=-19.6 kJ mol⁻¹; DS=-7.4 J K⁻¹ mol⁻¹. 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

Co++ gl KNO₃ 20°C 0.10M C T H K1=3.22 1980Ma (45279)1639
DH(K1)=-38.5 kJ mol⁻¹; DS=-70.8 J K⁻¹ mol⁻¹. 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

Co++ gl KNO₃ 25°C 0.50M C K1=2.45 B2= 4.30 2000KGc (45283)1640
B3=5.70
B4=7.20

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

Co++ cal NaCl 25°C 0.15M C H K1=5.469 B2=10.109 1987ENa (45341)1641
B3=13.563
DH(K1)=-29.1 kJ mol⁻¹, DS=7 J K⁻¹ mol⁻¹; DH(B2)=-60.6, DS=-10; DH(B3)=-91.9,
DS=-4.9

Co++ sp none 25°C 0.0 C K1=5.62 B2=10.64 1979SSd (45342)1642
K3=4.26

Co++ EMF NaNO₃ 20°C 0.10M U K1=5.68 B2=10.38 1971ANa (45343)1643
K3=3.60

Co++ gl KNO₃ 25°C 0.50M U K1=5.54 B2=10.33 1971GEa (45344)1644
K3=3.50

Co++ vlt diox/w 25°C 50% U H B2=10.39 1966WRb (45345)1645
 Medium: 50% dioxan, 0.1 M KNO3. By calorimetry, DH(B2)=-69.8 kJ mol-1,
 DS=-35.1 J K-1 mol-1

 Co++ gl KNO3 25°C 0.10M U K1=5.3 1964LMb (45346)1646

Co++ gl KNO3 25°C 0.10M U K1=5.3 1964LMb (45347)1647

Co++ gl oth/un 25°C .015M U K1=5.8 1960HJa (45348)1648

Co++ gl oth/un 20°C ->0 U T H K1=5.51 B2=10.21 1959GFa (45349)1649
 K3=3.45

DH(K1)=-28.3 kJ mol-1,DS=8.4 J K-1 mol-1; DH(K2)=-29.8,DS=-13; DH(K3)=-25.7
 10 C: K1=5.75, K2=4.92, K3=3.63; 30 C: 5.41, 4.52, 3.33; 40 C:5.28,4.39,3.17

C6H8N2 L CAS 2851-95-8 (4349)
 2-Methyl-1-vinylimidazole;

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

Co++ gl KNO3 25°C 0.50M C K1=1.30 B2= 2.40 2000KGa (45375)1650

C6H8N2O4 H2L (3100)
 Cyanomethyliminodiethanoic acid; NC.CH2.N(CH2.COOH)2

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

Co++ gl KCl 20°C 0.10M U K1=5.38 B2=9.96 1955SAa (45414)1651

C6H8N2S HL CAS 22325-27-5 (8521)
 4,6-Dimethyl-2-mercaptopyrimidine;

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

Co++ gl KNO3 35°C 0.10M C M K1=4.46 1996RRa (45426)1652

B(CoAL)=7.30

B(CoBL)=7.17

B(Co(bpy)L)=9.22

B(Co(phen)L)=9.48

B(Co(en)L)=7.30. H2A is oxalic acid, H2B is malonic acid.

C6H8N3O2I HL (7180)
 5-Monoiodo-histidine;

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

Co++ gl NaNO3 25°C 0.50M C I K1=5.75 B2=10.4 1994WCa (45432)1653

B(CoH-1L2)=0.83

B(CoH-2L2)=-9.62

In 0.5 M NaCl: K1=5.70; B2=10.35; B(CoH-1L2)=0.81, B(CoH-2L2)=-9.85

C6H8N4B- L (7237)
Bis(pyrazol-1-yl)borate; (C3H3N2)2BH2-

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

Co++ dis non-aq 25°C 100% U 1996KSa (45437)1654
K(Co+2HL=CoL2(org)+2H)=-1.09

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

Co++ gl alc/w 30°C 5% U M 1995RRb (45451)1655

K(CoA+L)=6.71

B(CoAL)=12.66

Medium: 5% v/v EtOH/H2O, 0.10 M KNO3. H2A is thioglycolic acid.

Co++ gl KNO3 30°C 0.10M U HM K1=3.76 B2= 7.16 1994RSa (45452)1656

B(Co(ala)L)=7.80

B(Co(val)L)=7.59

B(Co(en)L)=9.62

B(Co(bpy)L)=9.35

DH(K1)=-15.6 kJ mol⁻¹, DS(K1)=20.5 J K⁻¹ mol⁻¹. B(CoAL)=8.09, B(CoBL)=
10.65, K(Co(bpy)+L)=3.37, K(CoA+L)=3.10. H2A=oxalic acid, H2B=catechol.

C6H8O4 H2L CAS 2583-25-7 (958)
2-Allylpropanedioic acid; HOOC.CH(CH2.CH:CH2).COOH

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

Co++ gl KNO3 25°C 0.10M C K1=2.29 1975IPa (45463)1657

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

Co++ gl KNO3 25°C 0.10M U K1=2.20 B2=3.20 1969PJb (45502)1658

Co++ gl NaClO4 25°C 0.10M U K1=2.23 1966OCb (45503)1659

C6H8O6 H3L Tricarballic CAS 99-14-9 (1620)
1,2,3-Propanetricarboxylic acid; HOOC.CH2.CH(COOH).CH2.COOH

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

Co++ gl NaClO4 20°C 0.10M U K1=2.44 1964COb (45557)1660

K(Co+HL)=1.60
K(Co+H2L)=0.95

C6H8O6 H2L Ascorbic acid CAS 50-81-7 (285)
Ascorbic acid (Vitamin C);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KNO3	30°C	0.10M	C	M			1984BPc (45618)	1661

K(Co(phen)+L)=5.30
K(Co(bpy)+L)=6.10
K(Co(en)+L)=5.70
K(Co(baea)+L)=5.68

K(Co(dipropylenetriamine)+L) = 5.56; baea=bis(aminoethyl)amine

Co++	EMF	NaClO4	20°C	1.00M	U		K1=3.42	B2=6.53	1981MOc (45619)	1662
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Ascorbic acid treated as HL. Antimony electrode used

Co++	gl	mixed	25°C	80%	U				1980KKd (45620)	1663
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K(Ni+HL)=2.0

Medium: 80% DMF

C6H8O6S H3L CAS 99-68-3 (3692)
(Carboxymethylthio)butanedioic acid; HOOCH(S.CH2.COOH).CH2.COOH

Co++	gl	KNO3	20°C	0.10M	U		K1=3.45		1977CAd (45685)	1664
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K(Co+HL)=2.63

Co++	gl	KNO3	25°C	0.05M	M		K1=3.55		1975DPb (45686)	1665
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C6H8O7 H3L Isocitric acid CAS 1637-73-6 (2527)
2-Hydroxy-3-carboxypentanedioic acid; HOOCH(OH).CH(COOH).CH2.COOH

Co++	gl	NaClO4	25°C	1.0M	U				1976PCb (45728)	1666
------	----	--------	------	------	---	--	--	--	-----------------	------

K(Co+H-1L)=7.25
K(Co+H-1L+H)=14.915
K(Co+H-1L+2H)=18.27
K(Co+H-1L-H)=-2.25

Data are for DL isomeric mixture. K(Co+2H-1L+2H)=29.08.

C6H8O7 H3L Citric acid CAS 77-92-9 (95)
2-Hydroxypropane-1,2,3-tricarboxylic acid; HOOCH2.CH(OH)(COOH).CH2COOH

Co++	dis	NaCl	25°C	0.30M	C	I			2000BCc (45980)	1667
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Medium: 0.3 M NaCl, pH=6.0. Also data for 1.0-5.0 M NaCl.

Co++ oth KNO3 ? 0.70M U 1970BCa (45982)1669
 $K(\text{Co}+\text{H3L}=\text{CoH2L}+\text{H})=-1.44$
 $K(\text{CoH2L}=\text{CoH}-1\text{L}+3\text{H})=-12.9$

Co++ g1 KN03 25°C 1.0M U K1=8.21 B2=11.54 2004GKc (46372)1679
B(CoHL)=12.76

$$K(\text{Co}(\text{OH})+\text{L})=8.98$$

For 0.5 mol/L KNO_3 $K_1=8.34$; $B_2=11.66$; $B(\text{CoHL})=13.03$; $K(\text{Co}(\text{OH})+\text{L})=9.17$

For 0.1 mol/L KNO_3 $K_1=8.70$; $B_2=12.34$; $B(\text{CoHL})=13.45$; $K(\text{Co}(\text{OH})+\text{L})=9.60$

C6H9NO6 H3L NTA CAS 139-13-9 (191)

Nitrilotriethanoic acid; $\text{N}(\text{CH}_2\text{COOH})_3$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	oth	NaClO4	35°C	0.10M	U	M	$K_1=10.60$ $K(\text{CoL}+\text{A})=5.16$	1998GAc (46644)	1680
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Method: electrophoresis. Medium: 0.10 M HClO_4 , 0.01 M H_2L

H2A: penicillamine.

Co++	gl	NaNO_3	25°C	0.10M	M		$K_1=7.91$	1996KSc (46645)	1681
------	----	-----------------	------	-------	---	--	------------	-----------------	------

Co++	kin	NaClO_4	25°C	1.00M	C			1994BCb (46646)	1682
------	-----	------------------	------	-------	---	--	--	-----------------	------

$$K(\text{CoLCO}_3+\text{H}=\text{CoLHCO}_3)=0.07$$

$$K(\text{CoLOH}_2\text{CO}_2\text{H}+\text{H}=\text{CoL}(\text{OH}_2)_2+\text{CO}_2)=0.08$$

Co++	gl	KNO_3	25°C	1.0M	C	T M	$K(\text{CoL}+\text{H})=3.49$ $K(\text{CoL}+\text{bpy})=2.28$ $K(\text{CoL}+\text{phen})=2.54$	1994CBa (46647)	1683
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Data for 20-35 C.

Co++	cal	KNO_3	25°C	0.50M	U	H		1991V0a (46648)	1684
------	-----	----------------	------	-------	---	---	--	-----------------	------

$\text{DH}(K_1)=-2.3$ kJ mol⁻¹, $\text{DS}=181$ J K⁻¹ mol⁻¹; $\text{DH}(B_2)=-18.9$, $\text{DS}=206$

Co++	gl	KNO_3	25°C	0.10M	C	M	$K_1=10.38$ $K(\text{CoL}+\text{A})=4.24$ $B(\text{CoLA})=14.62$	1990DAb (46649)	1685
------	----	----------------	------	-------	---	---	--	-----------------	------

H2A: salicylaldehyde

Co++	gl	KNO_3	25°C	0.10M	C	M	$K_1=10.38$ $K(\text{CoL}+\text{A})=3.40$ $B(\text{CoAL})=13.78$	1990DAc (46650)	1686
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HL: benzohydroxamic acid

Co++	oth	NaClO_4	35°C	0.10M	C		$K_1=10.38$	1986SYa (46651)	1687
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Method: paper electrophoresis. Medium pH 8.5.

Co++	oth	NaClO_4	35°C	0.10M	C	M	$K_1=10.38$ $K(\text{CoL}+\text{his})=3.77$	1985SGc (46652)	1688
------	-----	------------------	------	-------	---	---	--	-----------------	------

Method: paper electrophoresis. Medium pH 8.5.

Co++	oth	NaClO_4	35°C	0.10M	U		$K_1=10.38$	1984SYa (46653)	1689
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Method: paper electrophoresis

Co++	gl	NaNO_3	25°C	0.10M	C	M		1981BKb (46654)	1690
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$K(\text{CoL+py})=1.29$
 $K(\text{CoL+A})=2.41$
 $K(\text{CoL+NH}_3)=1.82$
 $K(\text{CoL+CH}_3\text{COO}) < 0.3$

A=1,3-diazole. $K(\text{CoL+HB})=<0.4$, $\text{H}_3\text{B}=\text{H}_3\text{PO}_4$

Co++ gl KNO₃ 25°C 0.10M U T M 1981SVa (46655)1691

$K(\text{CoL+Gly})=3.55$

At 20 C: $K(\text{CoL+Gly})=3.61$; 30 C: 3.49; 40 C: 3.37

Co++ sp KCl 25°C 0.10M U K₁=10.05 B₂=14.32 1978KVa (46656)1692

Co++ vlt KNO₃ 25°C 1.00M U 1977HDa (46657)1693

$K_{\text{eff}}=11.68$

K_{eff} at pH 7

Co++ gl KNO₃ 25°C 0.10M U T M 1971ICa (46658)1694

$K(\text{CoL+Pro})=3.85$

$K(\text{CoL+Gly})=3.38$

15 C, $K(\text{CoL+Pro})=3.95$; 70 C, $K=3.23$

Co++ gl KNO₃ 25°C 0.10M U T M 1971ICb (46659)1695

$K(\text{CoL+A})=3.30$

HA=piperidine-2-carboxylic acid. 15 C, $K(\text{CoL+A})=3.09$; 70 C, $K=2.69$

Co++ gl KNO₃ 25°C 0.10M U T M 1971ICc (46660)1696

$K(\text{Co(OH)L+H})=10.80$

$K(\text{CoL+A})=3.10$

HA=1-aminocyclopentanecarboxylic acid. 70 C, $K(\text{Co(OH)L+H})=9.80$, $K(\text{CoL+A})=2.68$

Co++ gl KNO₃ 25°C 0.10M U T M 1971IVb (46661)1697

$K(\text{CoL+Sar})=3.13$

$K(\text{CoL+A})=3.30$

HA=dimethylglycine. 15 C, $K(\text{CoL+Sar})=3.26$, $K(\text{CoL+A})=3.42$.

70 C, $K(\text{CoL+Sar})=2.74$, $K(\text{CoK+A})=2.83$

Co++ gl NaClO₄ 25°C 0.10M U M 1969AIa (46662)1698

$K(\text{CoL+Trp})=3.08$

Co++ gl NaClO₄ 25°C 0.10M U M 1969BIa (46663)1699

$K(\text{CoL+histamine})=3.76$

$K(\text{CoL(histamine)+H})=7.93$

Co++ gl KNO₃ 25°C 0.05M U M 1968HAa (46664)1700

$K(\text{CoL+Gly})=3.65$

$K(\text{CoL+A})=1.88$

A=ethyl valinate

Co++ gl KNO₃ 25°C 0.08M U M 1968HAa (46665)1701

$K(\text{CoL+A})=1.88$

K(CoL+Gly)=3.65

I=0.0-0.08 M, A=ethyl valinate

Co++	gl	NaCl04	25°C	0.10M	U	M		1968ICa (46666)1702
							K(CoL+Arg)=3.13 K(CoL+Ser)=3.18	

Co++	gl	NaCl04	25°C	0.10M	U	M		1968ICa (46667)1703
							K(CoL+A)=2.08 K(CoLA=CoLA(OH)+H)=-10.80 K(CoL=CoL(OH)+H)=-10.80	

HA=glycylglycine

Co++	gl	NaCl04	25°C	0.10M	U	M		1968ICb (46668)1704
							K(CoL+Asp)=3.21 K(CoL+Glu)=2.96	

Co++	sp	NaCl04	25°C	0.20M	U		K1=10.44	1967BDb (46669)1705
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Co++	cal	KN03	20°C	0.10M	U	H		1964HDa (46670)1706
							DH(K1)=-0.6 kJ mol ⁻¹ , DS=196.9 J K ⁻¹ mol ⁻¹	

Co++	oth	KN03	20°C	0.10M	U		K1=10.0 B2=13.90	1964J0a (46671)1707
							Method: paper electrophoresis	

Co++	dis	NaCl04	20°C	0.10M	U		K1=10.81 B2=14.28	1963STc (46672)1708
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Co++	vlt	KN03	20°C	0.10M	U	T	K1=10.4	1956SGa (46673)1709
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Co++	vlt	KN03	20°C	0.10M	U	T	K1=10.38	1955SAa (46674)1710
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Co++	gl	KCl	20°C	0.10M	U		K1=10.6	1951SFa (46675)1711
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Co++	gl	KCl	20°C	0.10M	U		K1=10.7 B2=14.6 K(CoLOH+H)=12	1948SBa (46676)1712
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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
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Co++	gl	KN03	25°C	0.10M	C	M	K1=6.40 K(CoL+A)=3.60 B(CoLA)=10.00 K(CoL+B)=3.68 B(CoLB)=10.08	1999AAa (47487)1713
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K(CoHL+C)=1.60, K(CoL+D)=3.66, B(CoLD)=10.06.
 HA=MOPSO, HB=MOPS, HC=DIPSO, HD=TAPSO.

Co++	gl	KN03	25°C	0.10M	C		K1=7.06	1999BIa (47488)1714
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Co++	gl	KNO3	25°C	0.10M	U		B2=11.96 K(Co+2HL)=2.78 K(Co+HL+L)=8.95	1997POa (47489)	1715
Co++	gl	NaNO3	25°C	0.50M	C	I	K1=6.73 B2=12.05 B(CoH-1L2)=0.61	1994WCa (47490)	1716
In 0.5 M NaCl: K1=6.66; B2=12.12; B(CoH-1L2)=0.94									
Co++	gl	KNO3	0°C	0.10M	C		K1=7.60 B2=13.87	1993KSa (47491)	1717
Co++	nmr	KNO3	25°C	1.0M	U		K1=6.86 B2=12.44 B3=13.59 K(Co+HL)=2.50 K(CoL+HL)=9.14	1992SZb (47492)	1718
Co++	gl	KNO3	35°C	0.10M	U	M	K1=6.93 B(CoL(thiodipropionate))=17.89 K(Co(TDPA)+L)=6.75	1989RSb (47493)	1719
Co++	gl	KNO3	35°C	0.20M	U	M	K1=8.11 K(CoA+L)=7.32	1989RVa (47494)	1720
A=bis(imidazol-2-yl)methane									
Co++	oth	none	25°C	0.0	U	M	K(CoL2+N2)=1.51	1987VZb (47495)	1721
Method: gas pressure measurements under gaseous N2.									
Co++	gl	KNO3	35°C	0.10M	C	M	K1=7.00 B(CoL(cytidine))=12.69	1985RRc (47496)	1722
Co++	gl	KNO3	35°C	0.10M	C		K1=7.00	1985RRh (47497)	1723
Co++	oth	NaCl04	35°C	0.10M	C		K1=6.50 B2=12.89	1985SGc (47498)	1724
Method: paper electrophoresis. Medium pH 8.5.									
Co++	gl	KCl	25°C	0.20M	C	M	K(Co(DOPA)+L)=5.86 B(CoHL(DOPA))=24.96 K(Co(Dopamine)+L)=5.91 B(CoHL(Dopamine))=25.01 K(CoA+L)=5.89, B(CoHLA)=23.87; K(CoB+L)=5.86, B(CoHLB)=24.46 A=Noradrenaline, B=Adrenaline, H3DOPA=3,4-dihydroxyphenylalanine	1984KDb (47499)	1725
Co++	gl	KCl	25°C	0.10M	C	TIH	R K1=6.88 B2=12.35	1984PEa (47500)	1726
IUPAC evaluation. DH(B2)=-49.0 kJ mol ⁻¹ 37 C and 0.15 mol dm ⁻³ : K1(tentative)=6.71, B2=12.06									
Co++	gl	KCl	25°C	0.20M	C	M	K1=6.76 B2=12.18 B(CoHL)=10.98	1983HSa (47501)	1727

B(CoHL2)=17.36

B(CoLA)=15.05

H2A=D-penicillamine

Co++ gl KNO3 35°C 0.10M C M K1=7.21 1983KSc (47502)1728

K(Co+HA+L)=10.48

K(Co+HB+L)=10.97

A is adenine; HB is cytosine.

Co++ gl NaNO3 37°C 0.15M U K1=6.518 B2=12.053 1982ESa (47503)1729

B(CoHL)=12.056

B(CoHL2)=19.042

Co++ gl NaNO3 37°C 0.15M U M 1982ESa (47504)1730

B(CoHL(pyridoxamine))=21.089

B(CoH2L(pyridoxamine))=29.743

B(CoH3L(pyridoxamine))=37.027

B(CoH4L(pyridoxamine))=43.028

B(CoH3L2(pyridoxamine))=43.489, B(CoH4L2(pyridoxamine))=49.963

Co++ gl KCl 25°C 0.10M U K1=6.82 B2=12.18 1980DMa (47505)1731

Co++ gl KCl 25°C 0.10M U M K1=6.82 B2=12.18 1980DMc (47506)1732

Co++ gl NaCl 25°C 0.20M U TIH K1=6.85 B2=12.30 1979KKc (47507)1733

B3=14.3

Co++ vlt KNO3 25°C 1.00M U 1977HDa (47508)1734

K1eff=10.20

Keff at pH 7

Co++ gl KNO3 25°C 0.10M C K1=6.82 B2=12.35 1976PSb (47509)1735

B(CoHL)=11.44

B(CoHL2)=18.36

Calorimetry: DH(B2)=-48.92 kJ mol⁻¹

Co++ gl KNO3 25°C 0.10M C K1=6.83 B2=12.34 1976PSb (47510)1736

B(CoHL)=11.43

B(CoHL2)=18.29

Ligand: D-His. by calorimetry: DH(B2)=-49.14 kJ mol⁻¹

Co++ gl KCl 25°C 0.10M C T K1=6.899 B2=12.394 1976RIa (47511)1737

K(Co+D/L-His)=6.887

B(Co(DL-His)2)=12.514

Co++ gl KNO3 37°C 0.15M U K1=6.56 B2=11.82 1975APb (47512)1738

Co++ gl none 21°C 0.0 M K1=6.88 B2=12.71 1974YAa (47513)1739

Co++ gl KNO3 25°C 0.10M U K1=6.92 B2=12.42 1970MMF (47514)1740

DL-histidine: K1=6.94, K2=5.62

Co++ gl NaClO4 25°C 3.00M U K1=7.44 B2=13.48 1970WIa (47515)1741

Co++ gl KNO3 25°C 0.10M U T K1=6.86 B2=12.25 1969RGc (47516)1742
DL-histidine: K1=6.87, K2=5.52

Co++ gl KNO3 25°C 0.20M U T K1=7.20 B2=12.84 1969RMB (47517)1743
K1(15 C)=7.31, K1(40 C)=7.04, K2(15 C)=5.77, K2(40 C)=5.46

Co++ gl KNO3 37°C 0.15M U K1=6.71 B2=12.06 1967PSd (47518)1744

Co++ EMF oth/un 25°C ? U K1=6.9 B2=12.60 1966PAa (47519)1745

Co++ gl KCl 40°C 0.25M U T HM K1=6.56 B2=11.50 1965AZa (47520)1746
K1=7.30(0 C), 7.10(15 C), 6.77(25 C); K2=6.07(0 C), 5.62(15 C), 5.13(25 C).
At 15 C: DH(K1)=-33.4 kJ mol⁻¹, DH(K2)=-52.7

Co++ gl KCl 15°C 0.25M U HM 1965AZa (47521)1747
DH(CoA+L=CoL+A)=33.4 kJ mol⁻¹, TDS=45.1 kJ mol⁻¹. A=histidine methyl ester

Co++ gl oth/un 25°C 0.01 U K1=6.92 B2=12.45 1959LRa (47522)1748

Co++ gl oth/un 25°C 0.01 U B2=13.86 1950MMA (47523)1749

Co++ gl oth/un 25°C ? U K1=7.30 B2=14.63 1949HBa (47524)1750

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

Co++ gl NaClO4 25°C 0.10M U K1=7.64 B2=12.43 1982TSb (47638)1751

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

Co++ gl KNO3 25°C 0.50M U K1=0.60 1983LWa (47648)1752

C6H9O6P H3L CAS 4408-72-4 (7015)
Phosphotriethanoic acid; P(CH2.COOH)3

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

Co++ gl NaClO4 25°C 0.10M U I K1=3.14 B2=5.32 1979POa (47657)1753
B(CoHL)=5.32

In 50% v/v dioxan/H2O: K1=5.27

C6H10N2 L CAS 35203-44-2 (2054)
1-Propylimidazole; C3H3N2.CH2.CH2.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.50M	U		K1=2.38 B3=5.44 B4=6.90 B5=7.88 B6=8.40	1979LBa (47678)	1754

C6H10N2 L CAS 931-36-2 (1419)
2-Ethyl-4-methyl-1,3-diazole; C3H2N2(CH3)(C2H5)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.50M	U		K1=0.54 B3=2.07 B4=4.60	1982LKb (47684)	1755

C6H10N2O2 HL Nioxime CAS 492-99-9 (1098)
Cyclohexane-1,2-dione-dioxime; C6H8(:NOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	vlt	alc/w	25°C	10%	U		K1=10.00 B2=19.43	1974ANb (47701)	1756
Co++	sp	NaClO4	?	6.0M	U	I M	K(CoHL2+I)=4.00 K(CoHL2+2I)=6.00 K(CoHL2+I)=2.66(I=1), 2.80(I=2), 2.92(I=3), 3.07(I=4), 3.52(I=5) K(CoHL2+2I)=4.7(I=1), 5.00(I=2), 5.24(I=3), 5.5(I=4), 5.6(I=5)	1968BPb (47702)	1757

Co++	gl	diox/w	25°C	50%	U		K1=13.0 B2=25.5	1958PBa (47703)	1758
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C6H10N2O4 H2L CAS 96705-91-8 (3103)
Piperazine-2,5-dicarboxylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	22°C	0.10M	U		K1=4.9	1964PCa (47726)	1759

C6H10N2O4 H2L (3104)
Piperazine-2,6-dicarboxylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	22°C	0.10M	U		K1=4.8 B2=7.06	1964PCa (47734)	1760

C6H10N2O4 H2L CAS 89601-09-2 (3102)

trans-Piperazine-2,3-dicarboxylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	22°C	0.10M	U		K1=7.0 B2=11.9	1964PCa (47746)	1761

C6H10N2O5		H2L		Asp-Gly			CAS 3790-51-0	(6521)	
Aspartyl-glycine; H2N.CH(CH2.COOH)CO.NH.CH2.COOH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	C		K1=4.10	1977HMd (47758)	1762
Oxygenation constant: $K\{2CoL+O2=[Co2(H-1L)2(O2)(OH)]+3H\} = -20.7$									

C6H10N2O5		H2L		Gly-Asp			CAS 4685-12-5	(282)	
Glycyl-aspartic acid; H2N.CH2.CO.NH.CH(CH2.COOH).COOH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	C		K1=3.57	1977HMd (47778)	1763
$K[Co(H-1L)+H]=9.26$									
Oxygenation constant: $K\{2CoL+O2=[Co2(H-1L)2(O2)(OH)]+3H\} = -20.1$									

C6H10N2O5		H2L		ADA			CAS 26239-55-4	(2747)	
N-(2-Acetamido)iminodiethanoic acid; H2N.CO.CH2.N(CH2.COOH)2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	C	M	K1=6.50	2003AHa (47826)	1764
$K(CoL+A)=3.60$									
HA is 3-amino-5-mercapto-1,2,4-triazole.									

Co++	gl	NaNO3	25°C	0.10M	C		K1=6.90	2000KHb (47827)	1765
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Co++	gl	alc/w	25°C	20%	M	M	K1=6.48	1998ABa (47828)	1766
$K(CoL+oxine)=8.22$									

Medium: 20% w/w EtOH/H2O, 0.1 M KNO3.

Co++	gl	KNO3	25°C	0.10M	M	M	K1=6.50	1996AEa (47829)	1767
Data for ternary complexes with dipicolinic acid									

Co++	gl	NaNO3	25°C	0.10M	M		K1=9.26	1996KSc (47830)	1768
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Co++	gl	alc/w	25°C	20%	C			1994IMa (47831)	1769
$K(CoL+bpy)=3.90$									
$K(CoL+phen)=4.45$									

Medium: 20% w/w MeOH/H2O, 0.10 M KNO3.

Co++	gl	KNO3	25°C	0.10M	C		K1=7.05	1989MAd (47832)	1770
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Co++ gl KNO3 25°C 0.10M C K1=6.72 B2= 9.34 1983LRc (47833)1771
*K(CoL2)=-10.03
*K(CoH-1L2)=-11.34

Co++ gl KNO3 25°C 0.10M U K1=6.72 B2=9.34 1981LRb (47834)1772
K(CoL2=CoH-1L2+H)=-10.03
K(CoH-1L2=CoH-2L2+H)=-11.34

Co++ gl KNO3 25°C 0.10M C K1=6.72 1979NAb (47835)1773

Co++ gl KCl 20°C 0.10M U K1=6.91 B2=10.21 1955SAa (47836)1774

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

Co++ gl KNO3 25°C 0.10M U K1=9.11 1990GKa (47870)1775
K(Co+HL)=7.71
K(Co+H2L)=4.86

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

Co++ EMF KNO3 25°C 0.50M U K1=1.06 1976LWa (47879)1776
Ag(Hg)/Ag+ cell, competitive measurement. K1 by spectrophotometry=1.07

C6H10N4OS 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

Co++ gl KNO3 25°C 0.10M U K1=4.65 1986KKa (47889)1777

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

Co++ gl KCl 25°C 0.50M C B2=12.784 1987LEa (47905)1778
B(CoHL)=14.036
B(CoH2L2)=26.633
B(CoHL2)=20.861

C6H10N8O L (8205)
Bis(5-tetrazolyethylene)oxide;

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


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-----
Co++      gl  NaNO3  20°C  0.1M U      K1=5.5      1979ESa (47915)1779
*****
C6H10N8S          L                      (8206)
Bis(5-tetrazolyethane)sulphide;
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++      gl  NaNO3  20°C  0.1M U      K1=5.14      1979ESa (47920)1780
*****
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
-----
Co++      gl  diox/w 30°C  75% U      K1=9.35      1962MMb (47945)1781
*****
C6H10O3          HL                      CAS 16841-19-3 (3649)
1-Hydroxycyclopentanecarboxylic acid; HO.C5H8.COOH
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++      gl  NaClO4 25°C  0.10M U      K1=1.57  B2=2.57  1967PRb (47984)1782
*****
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
-----
Co++      gl  diox/w 30°C  75% U      K1=9.32      1973AAa (48009)1783
*****
C6H10O4          H2L  Adipic acid      CAS 124-04-9 (401)
1,6-Hexanedioic acid; HOOC.(CH2)4.COOH
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++      oth NaClO4 40°C  0.10M U      K1=2.8      1981SSe (48058)1784
Method: Paper electrophoresis.
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-----
Co++      vlt NaClO4 38°C  0.50M U T H      B2=4.15      1968GGd (48059)1785
B2=4.07(30.5 C); DH(B2)=8.5 kJ mol-1
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-----
Co++      gl  oth/un 25°C  0.0 U      K1=2.15      1965MOb (48060)1786
-----
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-----
Co++      ix  oth/un 25°C  0.0 U      K1=2.23      1965SMf (48061)1787
-----
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-----
Co++      dis NaCl  25°C  0.08M U I      K1=1.60      1961MMa (48062)1788
K1=2.40(I=0), 1.78(I=0.04)
*****
C6H10O4S          H2L                      CAS 42715-54-8 (986)
-----
```

2,2'-Thiodipropanoic acid; $\text{HOOC.CH(CH}_3\text{).S.CH(CH}_3\text{).COOH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KN03	25°C	0.10M	C		K1=3.14 K(Co+HL)=2.21	1975LPa (48125)	1789

C6H1004S H2L CAS 111-17-1 (139)
3,3'-Thiodipropanoic acid; $\text{HOOC.CH}_2\text{.CH}_2\text{.S.CH}_2\text{.CH}_2\text{.COOH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KN03	35°C	0.10M	C	M	K1=2.46 B(CoAL)=4.60	1999DSb (48175)	1790

A is thiamine hydrochloride.

Co++	gl	NaCl04	25°C	0.10M	U	TIH	K1=2.97	1983DBb (48176)	1791
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Co++	gl	KN03	25°C	0.05M	M		K1=3.17	1975DPb (48177)	1792
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Co++	gl	KN03	25°C	0.10M	C		K1=2.25 K(Co+HL)=1.87	1975LPa (48178)	1793
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Co++	gl	NaCl04	25°C	0.10M	U		K1=1.6	1968SKd (48179)	1794
------	----	--------	------	-------	---	--	--------	-----------------	------

C6H1004S2 H2L CAS 7244-02-2 (438)
1,2-Bis(carboxymethylthio)ethane; $\text{HOOC.CH}_2\text{.S.CH}_2\text{.CH}_2\text{.S.CH}_2\text{.COOH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaCl04	25°C	0.10M	U		K1=3.13 K(Co+HL)=1.95	1971FPa (48233)	1795

C6H1004S2 H2L CAS 1119-62-6 (3697)
3,3'-Di(thiopropoic acid); $\text{HOOC.CH}_2\text{.CH}_2\text{.S.S.CH}_2\text{.CH}_2\text{.COOH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaCl04	20°C	0.10M	U	T H	K1=3.34 B2= 6.33	1984SGd (48267)	1796

K values by Bjerrum's method. By least squares, K1=3.31, K2=2.96.
Also data for 30 and 40 C. DH(B2)=-74.6 kJ mol⁻¹, DS(B2)=-110 J K⁻¹ mol⁻¹.

C6H1004Se H2L CAS 80030-00-8 (987)
2,2'-Selenodipropanoic acid; $\text{HOOC.CH(CH}_3\text{).Se.CH(CH}_3\text{).COOH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KN03	25°C	0.10M	C		K1=2.20 K(Co+HL)=1.1	1975LPa (48282)	1797

C6H1004Se H2L CAS 2168-88-9 (982)
3,3'-Selenodipropanoic acid; HOOC.CH2.CH2.Se.CH2.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	KNO3	25°C	0.10M	C		K1=1.82 K(Co+HL)=1.43	1975LPa (48293)	1798
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C6H1004Te H2L CAS 2168-91-4 (983)
3,3'-Tellurodipropanoic acid; HOOC.CH2.CH2.Te.CH2.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	KNO3	25°C	0.10M	C		K1=2.36 K(Co+HL)=1.9	1975LPa (48304)	1799
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C6H1005 H2L CAS 5961-83-1 (981)
3,3'-Oxodipropionic acid; HOOC.CH2.CH2.O.CH2.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	KNO3	25°C	0.10M	C		K1=1.69	1975LPa (48313)	1800
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C6H1006 H2L CAS 23243-68-7 (242)
1,2-Bis(carboxymethoxy)ethane; HOOC.CH2.O.CH2.CH2.O.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	KNO3	25°C	0.10M	U		K1=1.69	1975MTc (48328)	1801
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C6H1007 HL Galacturonic CAS 685-73-4 (290)
D-Galacturonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	NaNO3	20°C	0.10M	C		B(CoH-2L)=-15.1	1994ESa (48386)	1802
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C6H1007 HL Glucuronic acid CAS 6556-12-3 (599)
D-Glucuronic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	NaNO3	20°C	0.10M	C		B(CoH-2L)=-15.0	1994ESa (48415)	1803
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C6H1008 H2L Mucic acid CAS 526-99-8 (3650)
2,3,4,5-Tetrahydroxyhexanedioic acid, Galactaric acid; HOOC.(CHOH)4.COOH

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
-----
Co++       gl  KNO3   25°C 0.10M C          K1=6.4   B2=11.30  1987AKa (48576)1812
*****
C6H11N04   H2L                               (3106)
Iminodipropionic acid; HN(CH2.CH2.COOH)2
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  KCl    30°C 0.10M U          K1=4.92   B2=8.18  1952CMA (48590)1813
*****
C6H11N04S   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
-----
Co++       gl  KCl    20°C 0.10M U          K1=14.67   B2=8.18  1955SAa (48608)1814
                        K(Co+HL)=7.42
*****
C6H11N04S   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
-----
Co++       gl  NaClO4 25°C 2.00M U          K1=4.46   B2=8.04  1980MAc (48621)1815
*****
C6H11N05   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
-----
Co++       cal KNO3   25°C 0.3M U T H          1986VRa (48677)1816
                        DH(K1)=-8.85 kJ mol-1
                        DH(B2)=-16.65
Also for 0.5 M KNO3 DH(K1)=-9.92 kJ mol-1; DH(B2)=-17.33
for 1.0 M KNO3 DH(K1)=-9.9 kJ mol-1; DH(B2)=-18.05
-----
Co++       gl  KCl    20°C 0.1M U          K1=8.05   B2=12.13  1979KVa (48678)1817
-----
Co++       oth KNO3   20°C 0.10M U          K1=9.0    B2=13.40  1965JMa (48679)1818
Method: electrophoresis
-----
Co++       gl  KCl    20°C 0.10M U          K1=7.90   B2=12.09  1955SAa (48680)1819
                        K(CoLOH+H)=9.81
-----
Co++       gl  KCl    30°C 0.10M U          K1=8.27   B2=12.71  1952CCa (48681)1820
*****
C6H11N05   H2L                               (1233)
N-Hydroxyimino-2,2'-dipropionic acid; HO.N(CH(CH3)COOH)2

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  KNO3   25°C 0.10M C          K1=4.72   B2=8.72   1987AKa (48838)1821
*****
C6H11N3    L                      CAS 34392-54-6 (4350)
4-(2-Methylaminoethyl)imidazole;
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  KCl    25°C 0.10M U          K1=4.45   B2=7.25   1973BDb (48864)1822
*****
C6H11N3    L                      CAS 16227-10-4 (8351)
4-Butyl-4H-1,2,4-triazole;
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  NaClO4 25°C 0.10M U TIH   K1=2.68   B2= 5.21  1981RPb (48869)1823
Medium: KClO4. Also data for 35 C and for 0.05 M KClO4.
Also DH and DS values.
*****
C6H11N3O4  HL   Gly-Gly-Gly      CAS 556-33-2 (415)
Glycyl-glycyl-glycine; H2N.CH2.CO.NH.CH2.CO.NH.CH2.COOH
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  oth/un 25°C 0.15M U          K1=3.14   B2=5.44   1957LDb (48968)1824
-----
Co++       ix  oth/un 25°C 0.15M U          K1=2.95   B2=5.46   1957LDb (48969)1825
-----
Co++       gl  KCl    25°C .058M U          B2=5.96           1957LYa (48970)1826
-----
Co++       EMF none 25°C 0.0 U          K1=2.98   B2=4.59   1955EMa (48971)1827
*****
C6H11N9    L                      (7008)
Di(2-(5-tetrazolyl)ethyl)amine; ((CHN4)CH2.CH2)2NH
-----

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  NaNO3   20°C 0.10M U          K1=5.80           1981ESa (49004)1828
-----
Co++       gl  NaNO3   20°C 0.1M U          K1=5.8           1979ESa (49005)1829
*****
C6H12N2O3  HL   B-Ala-B-Ala      CAS 34322-87-7 (2118)
3-Alany1-3-alanine; H2N.CH2.CH2.CO.NH.CH2.CH2.COOH
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  NaCl    25°C 0.12M U          K1=3.00           1977PNa (49060)1830
*****

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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
Co++	gl	KNO3	25°C	0.10M	C T		K1=3.28	2000RNb (49102)	1831
Data for 35 and 45 C.									
Co++	gl	NaCl04	20°C	0.10M	U	M	K1=3.11 B2= 5.72 K(CoH-1L+H)=9 K(CoH-1L2+H)=7.9	1991KUb (49103)	1832
K(2Co(H-1L)2+O2=Co2(H-1L)4O2)=9.8									
Co++	gl	NaCl	25°C	0.12M	U		K1=2.53 B2=4.42	1977PNa (49104)	1833
Co++	gl	NaCl	25°C	0.12M	U		K1=3.00	1976PNa (49105)	1834
L=beta-alanyl-beta-alanine									
Co++	gl	NaCl	25°C	0.12M	U		K1=2.53 B2= 4.42	1976PNa (49106)	1835
L=L-alpha-alanyl-L-alpha-alanine									

Co++ gl oth/un 25°C 0.15M U K1=2.63 1960LMa (49107)1836

C6H12N2O3 HL D-Ala-Ala CAS 1115-78-2 (2138)
 D-Alanyl-L-alanine; H2N.CH(CH3).CO.NH.CH(CH3).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	oth/un	25°C	0.15M	U		K1=2.83	1960LMa (49116)	1837

C6H12N2O3 HL DL-Ala-DL-Ala CAS 2867-20-1 (67)
 DL-Alanyl-DL-alanine; H2N.CH(CH3).CO.NH.CH(CH3).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaCl	25°C	0.12M	U		K1=2.65 B2=4.75	1977PNa (49128)	1838

C6H12N2O3 HL CAS 627-74-7 (3110)
 Glycylglycine ethyl ester; H2N.CH2.CO.NH.CH2.CO.OCH2.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	oth/un	25°C	0.02M	U		K1=2.22 B2=4.0	1956DRb (49141)	1839

C6H12N2O3 HL CAS 3544-43-2 (3109)
 N,N-Dimethylglycylglycine; (CH3)2N.CH2.CO.NH.CH2.CO.OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	oth/un	25°C	0.02M	U		K1=2.08 B2=4.24	1956DRb (49146)	1840

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
Co++	gl	oth/un	25°C	0.01M	U		K1=3.38 B2=6.23	1959DLb (49151)	1841

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
Co++	gl	KCl	25°C	0.20M	U		B2=8.73 B(CoH2L2)=24.4 B(CoHL2)=17.44	1990CRa (49158)	1842

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
Co++	gl	KNO3	25°C	0.50M	U		K1=10.79 B(CoHL)=14.0 *B(CoL(H2O))=0.2	1990ASd (49216)	1843

Protonation constants used : K1=9.54, B2=16.09, B3=18.55

Co++	gl	KNO3	25°C	0.10M	U	M	K1=11.78	1975ITa (49217)	1844
Co++	gl	KNO3	25°C	0.10M	C		K1=11.20 K(CoL+H)=4.20 K(CoLOH+H)=10.60 K(2CoL+O2=Co2L2(O2)OH+H)=-4.24	1975MMd (49218)	1845

Co++	gl	KNO3	25°C	0.10M	U	M	K(CoL+Gly)=3.35	1972IVb (49219)	1846
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Co++	gl	KNO3	25°C	0.10M	U	M	K1=11.25 K(CoL+en)=4.36	1970DNa (49220)	1847
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Co++	gl	KCl	30°C	0.10M	U		K1=11.2	1952CMc (49221)	1848
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C6H12N2O4 H2L N,N-EDDA CAS 5835-29-0 (2333)
1,2-Diaminoethane-N,N-diethanoic acid; H2N.CH2.CH2.N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	C		K1=11.59 K(CoL+H)=4.95 K(CoLOH+H)=10.75	1975MMd (49296)	1849

$$K(2\text{CoL}+\text{O}_2=\text{Co}_2\text{L}_2(\text{O}_2)\text{OH}+\text{H})=-5.3$$

 Co++ gl KCl 20°C 0.10M U K1=11.78 B2=15.91 1955SAa (49297)1850
 K(Co+HL)=4.95

C6H12N2O4 H2L CAS 4726-83-4 (5911)
 N,N-Dihydroxyhexanediamide; HN(OH).CO.(CH2)4.CO.NH(OH)

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

Co++ gl NaNO3 25°C 0.10M C K1=7.35 1989EHa (49330)1851
 B(CoHL)=14.37

C6H12N2O4S2 H2L Cystine CAS 923-32-0 (1404)
 DL-Dithio-bis(2-amino-3-propanoic acid); (HOOC.CH(NH2).CH2.S)2

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

Co++ gl KCl 25°C 0.50M M T H K1=5.18 B2=10.32 1988MAa (49363)1852
 Data for 25-40 C. DH(K1)=-12.9 kJ mol⁻¹, DS(K1)=-143 J K⁻¹ mol⁻¹.
 DH(K2)=22.0, DS(K2)=-27.2.

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

Co++ sp none 25°C 0.0 U K1=5.22 1976AMc (49375)1853

C6H12N4 L Methenamine CAS 100-97-0 (619)
 Hexamethylenetetramine;

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

Co++ sp non-aq 30°C 100% U M 1982SOa (49385)1854
 K(CoA2+L)=3.4

Medium: CCL4. HA=0,0'-diethyldithiophosphoric acid

C6H12N4O6 H3L (2677)
 Nitrilotriacetohydroxamic acid; N(CH2.CO.NH.OH)3

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

Co++ gl KCl 25°C 0.10M M K1=13.01 B2=19.90 1979LSd (49400)1855
 B(CoH3L)=30.79
 B(CoH2L)=23.93
 B(CoHL)=19.21
 B(CoH2L2)=36.30

C6H12O7 HL Galactonic acid (6942)

2R,3S,4S,5R,6-Pentahydroxo-hexanoic acid, D-Galactonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	NaNO3	20°C	0.10M	C				1994ESa (49645)	1856
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B(CoH-1L)=-6.00

C6H12O7 HL Gluconic acid CAS 526-95-4 (904)
D-Gluconic acid, 2,3,4,5,6-Pentahydroxyhexanoic acid; HO.CH2(CHOH)4.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	NaNO3	20°C	0.10M	C				1994ESa (49692)	1857
------	----	-------	------	-------	---	--	--	--	-----------------	------

B(CoH-1L)=-4.95
B(CoH-2L)=-8.33
B(CoH-1L3)=-1.27
B(CoH-2L3)=-7.94

B(Co2H-3L2)=-17.89

Co++	gl	KCl	25°C	0.20M	U			K1=2.34	1981FD b (49693)	1858
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C6H13N L CAS 108-91-8 (314)
Cyclohexylamine; C6H11.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	NaClO4	37°C	0.15M	C			K1=5.28	1974MWb (49801)	1859
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C6H13NO2 HL Isoleucine CAS 73-32-5 (424)
2-Amino-3-methylpentanoic acid; CH3.CH2.CH(CH3).CH(NH2).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	KNO3	25°C	0.20M	U T HM			K1=4.51 K(Co(bpy)+L)=4.16	1996JLd (49893)	1860
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Data for 25-45 C. DH(K1)=-21 kJ mol⁻¹, DS(K1)=16 J K⁻¹ mol⁻¹;
DH(Co(bpy)L)=-8.8, DS(Co(bpy)L)=8.8.

Co++	gl	alc/w	20°C	50%	M			K1=4.59	1995AMb (49894)	1861
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Medium: 50% v/v EtOH/H2O, 0.20 M NaClO4.

Co++	gl	NaNO3	25°C	0.10M	U	T	K1=4.59	B2=8.93	1981ISb (49895)	1862
------	----	-------	------	-------	---	---	---------	---------	-----------------	------

K values for D, L and DL isomers. For the allo isomer, K1=4.10, K2=3.36

Co++	cal	NaNO3	25°C	0.10M	C	H			1978ISc (49896)	1863
------	-----	-------	------	-------	---	---	--	--	-----------------	------

For L-Ile: DH(K1)=-18.5 kJ mol⁻¹, DS(K1)=26 J K⁻¹ mol⁻¹; DH(K2)=-3.5,
DS(K2)=71. For D-allo-Ile: DH(K1)=-12.6, DS(K1)=36; DH(K2)=-4.2, DS=50

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
Co++	gl	NaNO3	25°C	0.10M	U		K1=4.80	1997ISd (50048)	1864
Co++	gl	KNO3	25°C	0.20M	U T HM		K1=5.11 K(Co(bpy)+L)=4.60	1996JLd (50049)	1865
Data for 25-45 C. DH(K1)=-29.7 kJ mol ⁻¹ , DS(K1)=2.5 J K ⁻¹ mol ⁻¹ ; DH(Co(bpy)L)=-66.9, DS(Co(bpy)L)=134.									
Co++	gl	KNO3	25°C	0.10M	U I		K1=4.52 B2=8.35	1990RAb (50050)	1866
Data also for 10% w/w EtOH/H2O (B1=4.68; B2=9.03) and 25% (4.99; 9.50)									
Co++	gl	KNO3	25°C	0.10M	U M		K1=5.07 K(CoA+L)=4.40	1989MAc (50051)	1867
H4A is adenosine-5'-triphosphoric acid.									
Co++	gl	KNO3	35°C	0.20M	U M		K1=4.27 B2=7.93 K(CoA+L)=3.86	1989RVa (50052)	1868
A=bis(imidazol-2-yl)methane									
Co++	oth	KNO3	20°C	0.10M	U		K1=5.2 B2=8.40 K3=2.3	1964JOa (50053)	1869
Method: paper electrophoresis									
Co++	gl	oth/un	25°C	0.01M	U	T	K1=4.49 B2=8.07	1959DLb (50054)	1870
Co++	gl	oth/un	25°C	0.01M	U	T	K1=4.55 B2=8.26	1949MMa (50055)	1871

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
Co++	gl	KNO3	25°C	0.10M	C	T	K1=4.26 B2=7.79	1975IPb (50166)	1872
Co++	gl	oth/un	20°C	0.01M	U		B2=9.4	1950ALa (50167)	1873

C6H13NO2S HL Ethionine 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
Co++	gl	KNO3	25°C	0.10M	U		K1=5.13 B2=9.47	1964LMa (50262)	1874

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

Co++ gl KNO3 25°C 0.50M U K1=1.71 1985WTa (50272)1875

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

Co++ gl KNO3 25°C 0.50M U K1=1.73 1985WTa (50278)1876

C6H13NO4 HL Bicine 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

Co++ gl KNO3 25°C 0.10M C K1=3.51 1995AEb (50330)1877

Co++ sp KNO3 25°C 1.00M U M K1=5.08 1992CSb (50331)1878
K(Co(ATP)+L)=4.53

Co++ gl KNO3 25°C 0.10M C K1=5.30 B2=8.68 1991KNa (50332)1879

Co++ gl KNO3 30°C 0.10M U M K1=5.11 1984GHb (50333)1880
K(CoH-1L+H)=5.19
K(Co(phen)+L)=4.49

Co++ sp NaClO4 20°C 0.10M U K1=5.5 1967SKb (50334)1881
K(CoH-2L+L+2H=CoL2)=11.9

By paper electrophoresis

Co++ oth KNO3 20°C 0.10M U K1=6.1 B2=9.60 1964JMa (50335)1882
Method: paper electrophoresis

Co++ gl KCl 30°C 0.10M U K1=5.25 B2=8.77 1957FCa (50336)1883

Co++ gl KCl 30°C 0.10M U K1=5.26 B2=8.78 1953CCa (50337)1884

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

Co++ gl KNO3 25°C 0.10M C 1990KBa (50439)1885
B(CoH-2L2)=-11.06

Co++ vlt NaClO4 25°C 0.15M C K1=2.50 B2= 5.70 1990UKb (50440)1886
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
Co++	vlt	NaClO4	25°C	0.15M	C		K1=2.30 B2= 4.95	1988UKa (50458)	1887

Method: d.c. polarography.

Co++	gl	NaCl	25°C	0.15M	U			1986LDc (50459)	1888
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B(CoH-2L2)=-12.20

Co++	gl	NaNO3	25°C	0.10M	U	I	K1=1.71 B2=4.76	1984GMa (50460)	1889
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 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
Co++	gl	NaCl	25°C	0.15M	U		B2=6.50	1988RKB (50473)	1890

B(CoH-2L2)=-12.01

 C6H13NO5 HL Tricine CAS 5704-04-1 (1239)
 N-(Tris(hydroxymethyl)methyl)glycine; (HO.CH2)3C.NH.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	U	TIH	K1=4.51	2004EAa (50497)	1891

Data for 5-45 C. DH(K1)=-32.34 kJ mol⁻¹, DS=-22.2 J K⁻¹ mol⁻¹. Values for 0.02-0.15 M KNO3 and 60-75% v/v acetone, 75% EtOH and 75% dioxane/H2O

Co++	gl	KNO3	25°C	0.10M	C	M	K1=4.49	2003AHa (50498)	1892
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K(CoL+A)=3.45
 HA is 3-amino-5-mercapto-1,2,4-triazole.

Co++	gl	KNO3	30°C	0.10M	U	M	K1=4.71	1987TGB (50499)	1893
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K(Co(phen)+L)=4.65

Co++	gl	KNO3	30°C	0.10M	U	M	K1=4.71	1985TGA (50500)	1894
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K(Co+L)=5.38
 K(Co(bpy)+L)=4.31

 C6H13NO6 HL CAS 84518-56-9 (4387)
 2-Amino-2-deoxy-D-gluconic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	30°C	0.10M	U		K1=4.5 B2=8.40	1966MSa (50529)	1895

 C6H13N3O3 HL Citrulline (579)
 2-Amino-5-ureidovaleric acid; H2N.CO.NH.CH2.CH2.CH(NH2).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++ gl KNO3 25°C 0.10M U K1=3.94 B2=6.48 1970CMc (50570)1896

C6H13O3N HL (7070)
NN-Dimethylthreonine; (CH3)2N.CH(CH(OH)CH3)COOH

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

Co++ gl KCl 25°C 0.10M C K1=2.65 1994BPb (50596)1897

C6H13O9P H2L CAS 59-56-3 (3049)
alpha-D-Glucose-1-phosphoric acid; Glucopyranose-1-phosphoric acid;

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

Co++ ix NaClO4 25°C 0.10M U K1=2.18 1966DTa (50618)1898
Medium: KClO4. By glass electrode K1=2.12

C6H14NO2P HL (6465)
Piperidinemethylphosphinic acid; C5H10N.CH2.PO2H2

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

Co++ gl NaClO4 25°C 0.10M C K1=4.231 B2=8.30 1992LBa (50634)1899
B3=11.87

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

Co++ gl KCl 25°C 0.20M U K1=3.75 B2=6.87 1982FGa (50642)1900
K[Co+2(H-1L)]=12.63

C6H14N2 L CAS 20439-47-8 (3077)
cis-1,2-Diaminocyclohexane; C6H10(NH2)2

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

Co++ gl KCl 20°C 0.10M U K1=5.79 B2=10.34 1956SBa (50672)1901
K3=2.84

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

Co++ gl KCl 20°C 0.10M U K1=6.37 B2=11.74 1956BFd (50692)1902
K3=3.48

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
Co++	gl	NaCl04	25°C	1.0M	C		K1=6.15 B2=11.28	1999UGa	(50710)1903
Co++	gl	KN03	25°C	0.10M	U		K1=6.33 B2=11.63	1990CCa	(50711)1904

C6H14N2O		L					CAS 10466-61-2		(3116)
L-Leucine amide; H ₂ N.CH(CH ₂ .CH(CH ₃) ₂).CO.NH ₂									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	oth/un	25°C	0.01M	U		K1=1.97 B2=3.67	1959DLb	(50725)1905

C6H14N2O2		HL		Lysine			CAS 56-87-1		(41)
2,6-Diaminohexanoic acid; H ₂ N.(CH ₂) ₄ .CH(NH ₂).COOH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KN03	25°C	0.10M	C		K1=4.80	1999BIa	(50811)1906
Co++	gl	NaCl04	25°C	0.10M	C		B2=8.45 B(CoHL)=14.53 B(CoH ₂ L ₂)=28.38 B(CoH ₃ L ₃)=40.84 B(CoHL ₂)=19.08	1987LMa	(50812)1907

Co++	gl	KN03	25°C	0.10M	C		B2=8.46 B(CoHL)=14.50 B(CoH ₂ L ₂)=28.41 B(CoH ₃ L ₃)=41.43 B(CoH ₂ L ₃)=31.6	1976BPb	(50813)1908
B(CoHL ₂)=18.50									

Co++	gl	KN03	25°C	1.00M	U		K(Co+HL)=3.62 K(Co+2HL)=6.68	1971SLa	(50814)1909
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Co++	gl	oth/un	20°C	0.01M	U		B2=6.8	1952ALa	(50815)1910

C6H14N2O2		HL					(7229)		
2-Amino-N-hydroxy-3-methylpentanamide; CH ₃ CH ₂ CH(CH ₃).CH(NH ₂).CONHOH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.50M	C		K1=5.50 B2=9.46 B(CoHL)=12.26 B(CoH-1L)=-1.71	1993LEb	(50844)1911

C6H14N2O2 HL CAS 69749-17-3 (1546)
2-Amino-N-hydroxyhexanamide; CH3.(CH2)3.CH(NH2).CO.NH.OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.50M	C			K1=6.423 B2=10.96 B(CoH-1L2)=1.77	1988LEa (50850)	1912

C6H14N2O3 HL 5-Hydroxylysine CAS 13204-98-3 (1585)
2,6-Diamino-5-hydroxyhexanoic acid; H2N.CH2.CH(OH).CH2.CH2.CH(NH2).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	NaClO4	25°C	0.10M	U			K1=3.73 B2=6.94	1965Nca (50870)	1913

C6H14N2S L (5635)
1-Thia-4,7-diazacyclononane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	C			K1=8.06 B2=15.40	1992WLb (50887)	1914
Co++	gl	NaNO3	25°C	0.10M	U			K1=7.85	1987Hda (50888)	1915

C6H14N4O2 L CAS 1071-93-8 (2563)
1,6-Hexanedioic acid dihydrazide; H2N.NH.CO.CH2.CH2.CH2.CH2.CO.NH.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	diox/w	RT	50%	C	I		K1=3.039 B2= 5.69 B(CoHL)=5.912	1993BKe (50904)	1916

Medium: 50% v/v dioxane/H2O. Data for 10-60% v/v dioxane/H2O and DMF/H2O.
Temperature not stated.

Co++	gl	NaNO3	25°C	0.20M	U			K1=1.79 B2=3.44	1974FSa (50905)	1917
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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
Co++	gl	KNO3	25°C	0.10M	U			K1=3.30	1969BMc (50927)	1918

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
Co++	gl	KNO3	25°C	0.10M	C				1976BPb (50994)	1919

B(CoHL)=15.93

B(CoH2L2)=31.05

B(CoH3L3)=45.53

Co++ gl KNO3 25°C 0.10M U K1=4.02 B2=7.24 1970CMc (50995)1920

Co++ gl oth/un 17°C ? U T K1=3.79 B2=6.89 1960PEd (50996)1921
K3=2.10
30 C: K1=3.73; 40 C: K1=3.68, K2=2.95, K3=2.00

Co++ gl KNO3 25°C 0.15M U K1=3.87 B2=7.07 1953TSa (50997)1922
K3=2.08

Co++ gl oth/un 20°C 0.01M U B2=7.40 1952ALa (50998)1923

C6H14N4O4S2 H2L (6642)
Cystine dihydroxamic acid; HONH.CO.CH(NH2).CH2.SS.CH2.CH(NH2).CO.HNOH

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

Co++ gl KCl 25°C 0.50M C K1=6.96 B2=11.69 1990LEa (51033)1924
B(Co2HL)=27.32

C6H15N L CAS 37007-11-7 (4353)
Diisopropylamine; ((CH3)2.CH)2.NH

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

Co++ ISE R4N.X 25°C 2.00M U K1=2.17 B2=3.71 1969MPd (51149)1925
K3=1.29
K4=1.43

Medium: NH4NO3

C6H15NO3 Triethanolamine CAS 102-71-6 (447)
Tris-(2-hydroxyethyl)amine; L

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

Co++ gl NaNO3 25°C 0.10M U K1=2.25 1984HNa (51279)1926

Co++ gl oth/un 25°C 0.43M U K1=2.70 B2=4.35 1966SKe (51280)1927
Medium: CH2OHCH2.NH3NO3

Co++ gl KNO3 25°C 0.50M U K1=1.73 1947BRa (51281)1928

C6H15NO5S HL BES CAS 10191-18-1 (2788)
N,N-Bis(2-hydroxyethyl)-2-aminoethanesulfonic acid;

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

Co++ gl KNO3 25°C 0.10M C K1=3.03 1995AEb (51315)1929

C6H15NO6P2 H4L (6891)
Piperidine-N-Methylenedi(phosphonic acid); C5H10N.CH(P03H2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	KCl	25°C	0.10M	M		K1=7.64 K(Co+HL)=5.72	1978GMF (51321)	1930
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C6H15NO6S HL TES CAS 7365-44-8 (2787)
N-Tris(hydroxymethyl)methyl-2-aminoethanesulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	KNO3	25°C	0.10M	C		K1=3.06	1995AEb (51336)	1931
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Co++	gl	KNO3	20°C	0.05M	U		K1=2.43	1986VGa (51337)	1932
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Co++	gl	KNO3	20°C	0.05M	U		K1=2.43	1986VGB (51338)	1933
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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
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Co++	gl	NaClO4	20°C	0.10M	U TI		K1=5.05	1986NDb (51351)	1934
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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
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Co++	gl	NaClO4	25°C	1.0M	C		K1=12.47 B2=20.62	1999UGa (51400)	1935
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Co++	gl	KNO3	20°C	0.10M	U T H		K1=14.63 B2=21.66	1997BAa (51401)	1936
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At 32 C, K1=14.01. DH(K1)=-85.5 kJ mol-1, DS(K1)=281 J K-1 mol-1.

Co++	gl	KNO3	25°C	0.10M	U		K1=11.2 B2=19.00	1973AHc (51402)	1937
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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
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Co++	gl	KCl	25°C	0.20M	C		B2=10.13	2002ECa (51422)	1938
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B(CoHL)=15.38
B(CoH2L2)=29.83
B(CoHL2)=20.41
B(CoH-1L2)=-2.2

Protonation constants used : K1=10.72, B2=20.40 B3=23.60

[illegible]

Co++ ISE alc/w 25°C 90% U K1=2.23 B2=3.98 1972TCa (51499)1946
Medium: 90% EtOH, 0.3 M NaClO4

C6H15O3P L CAS 122-52-1 (1723)
Triethylphosphite; (C2H5O)3P

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

Co++ sp non-aq 23°C 100% U M 1980ELa (51509)1947
K(CoA+L)=1.25

Medium: toluene. A= "Capped" porphyrin.

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

Co++ ISE alc/w 25°C 90% U K1=2.58 B2=4.73 1972TCa (51554)1948
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

Co++ gl NaNO3 25°C 0.10M M K1=1.80 2002FGb (51571)1949

C6H16N2 L CAS 124-09-4 (358)
1,6-Diaminohexane; H2N.(CH2)6.NH2

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

Co++ cal alc/w 25°C 100% U H K1=2.48 1985BUd (51583)1950
Medium: MeOH, 0.05 M Et4N.NO3. DH=-26.7 kJ mol-1

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

Co++ sp non-aq 25°C 100% C H K1=3.07 2002CMa (51644)1951
Medium: DMSO, 0.10 M Et4NClO4. By calorimetry: DH(K1)=-36 kJ mol-1,
DS(K1)=-62.1 J K-1 mol-1.

C6H16N2O2 L CAS 93798-65-3 (3119)
3,6-Diaza-1,8-dihydroxyoctane; HO.CH2.CH2.NH.CH2.CH2.NH.CH2.CH2.OH

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

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
Co++	gl	KNO ₃	25°C	0.10M	C		K ₁ =7.91 K(CoL+H)=4.2 K(CoL+OH)=3.4	2001DSa (51822)	1960
Co++	gl	KNO ₃	25°C	0.10M	C		K ₁ =7.91 K(CoL+H)=4.2 K(CoL+OH)=3.4	2001DSa (51823)	1961

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
Co++	gl	KNO ₃	25°C	0.10M	U		K ₁ =6.6 B ₂ =9.80	1973AHc (51895)	1962
Co++	cal	KCl	25°C	0.10M	U	H		1966PNa (51896)	1963
DH(K ₁)=-32.6 kJ mol ⁻¹ , DS=23.4 J K ⁻¹ mol ⁻¹									
Co++	gl	KCl	25°C	0.10M	U		K ₁ =6.92	1966VAa (51897)	1964
Co++	gl	KNO ₃	30°C	1.0M	U T H		K ₁ =6.63	1956HFb (51898)	1965
DH(K ₁)=-37.7 kJ mol ⁻¹ , DS=4 J K ⁻¹ mol ⁻¹ . K ₁ =7.51(0 C), 6.36(50 C)									

C₆H₁₇N₃ L CAS 4432-89-7 (7982)
2,5,8-Triazanonane, N,N''-Dimethyl-diethylenetriamine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	ISE	non-aq	25°C	100%	C	H	K ₁ =8.30 B ₂ =14.10	2001CGc (51905)	1966
Method: Cd ion selective electrode. Medium: DMSO, 0.10 M Et ₄ NClO ₄ . By calorimetry: DH(K ₁)=-66.0 kJ mol ⁻¹ , DH(B ₂)=-127.									

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
Co++	gl	KNO ₃	25°C	0.10M	C		K ₁ =12.80 K(CoL+H)=5.60 K(CoL+OH)=2.1 K(CoHL+H)=4.7	2001DSa (51946)	1967
Co++	gl	KNO ₃	25°C	0.10M	C		K ₁ =12.80 K(CoL+H)=5.60	2001DSa (51947)	1968

$$K(\text{CoL}+\text{OH})=2.1$$

C6H18N2O6P2 H4L (7487)

1,4,7,10-Tetraazadecane; $\text{H}_2\text{N} \cdot \text{CH}_2 \cdot \text{CH}_2 \cdot \text{NH} \cdot \text{CH}_2 \cdot \text{CH}_2 \cdot \text{NH} \cdot \text{CH}_2 \cdot \text{CH}_2 \cdot \text{NH}_2$

$K(\text{CoLOH2OCO2H}+\text{H}=\text{CoL}(\text{OH2})_2+\text{CO2})=-0.15$. Data for alpha isomer. Data also for beta isomer

Also values at 10, 30 and 40 C. Medium: phosphate-citrate buffer.

By calorimetry: $\Delta H_1 = -44.3 \text{ kJ mol}^{-1}$, $\Delta S_1 = 67.4$

$$\Delta H(K) = -201 \text{ kJ mol}^{-1}; \Delta S = -138 \text{ J K}^{-1} \text{ mol}^{-1}$$

$$K(\text{Co}+\text{H}_2\text{L})=3.6$$

 Co++ cal KCl 25°C 0.10M U H 1961SPb (52086)1978
 DG(K1)=-59.31 kJ mol⁻¹, DH=-44.56, DS=60.7 J K⁻¹ mol⁻¹

Co++ gl KNO3 40°C 1.0M U T H 1952JHa (52087)1979
 B(Co3L2)=3.07
 Medium: 1 M (KNO3+KCl). B(Co3L2)=3.19(30C), DH=-16.7 kJ mol⁻¹

Co++ gl oth/un 30°C 1.0M U T K1=11.21 1952JHa (52088)1980
 K1=10.79(40 C)

Co++ gl KCl 20°C 0.10M U K1=11.0 1950SCa (52089)1981
 K(Co+HL)=6.8

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
Co++	gl	NaCl04	25°C	1.00M	C		K1=13.08 K(Co+HL)=8.47	1994AGa (52181)	1982
Co++	kin	NaCl04	25°C	1.00M	C		K(CoLC03+H=CoLHC03)=-0.21	1994BCb (52182)	1983
Co++	gl	oth/un	20°C	????	M T H		K(CoL(H2O)+H=CoL(H3O))=3.70 K(CoHL(H2O)+H=CoHL(H3O))=2.23	1993GEa (52183)	1984
Co++	gl	KNO3	25°C	0.50M	U		K1=12.42 B(CoHL)=18.80 *B(CoL(H2O))=2.10	1990ASd (52184)	1985
Co++	oth	KCl	25°C	0.10M	U M		K(2CoL+02=CoL(OH)(02)CoL+H)=4.4. Method: amperometric 02 electrode.	1985BMd (52185)	1986
Co++	gl	diox/w	25°C	70%	U		K1=14.74	1984MMe (52186)	1987
Co++	gl	oth/un	25°C	0.10M	C		K1=12.7 K(CoLOH+H)=9.9	1982MMb (52187)	1988
Co++	gl	R4N.X	25°C	0.10M	C		K1=12.42	1975JTa (52188)	1989
Co++	gl	KNO3	25°C	0.10M	C		K1=12.69	1975MMb (52189)	1990
Co++	cal	KCl	25°C	0.10M	U H			1960PCa (52190)	1991

DH(K1)=-72.11 kJ mol⁻¹, DH=-44.6, DS=92 J K⁻¹ mol⁻¹

Co++ gl KCl 20°C 0.10M U K1=12.8 1950PSa (52191)1992

C6H19N2O9P3 H6L (8063)
N-Methylethylenediamine-N,N',N'-trimethylenetris(phosphonic acid);

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

Co++ gl KNO3 25°C 0.10M C K1=16.27 2001DSa (52237)1993
K(CoL+H)=6.02
K(CoH2L+H)=3.90
K(CoHL+H)=5.30
K(CoH3L+H)=3.7

K(CoL+OH)=2.0

Co++ gl KNO3 25°C 0.10M C K1=16.27 2001DSa (52238)1994
K(CoL+H)=6.02
K(CoHL+H)=5.30
K(CoH2L+H)=3.90
K(CoH3L+H)=3.7

K(CoL+OH)=2.0

C6H20N2O8P4 H4L CAS 938-16-3 (4402)
Ethylenediaminetetra(methylenephosphonous acid);

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

Co++ gl KNO3 25°C 0.10M U K1=7.29 1971MMh (52246)1995

C6H20N2O12P4 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

Co++ gl KNO3 25°C 0.10M C K1=17.27 2001DSa (52307)1996
K(CoL+H)=8.28
K(CoH2L+H)=5.23
K(CoHL+H)=6.45
K(CoH3L+H)=4.3

K(CoL+OH)=1.5

Co++ gl KNO3 25°C 0.10M C K1=17.27 2001DSa (52308)1997
K(CoL+H)=8.28
K(CoHL+H)=6.45
K(CoH2L+H)=5.23
K(CoH3L+H)=4.3

K(CoL+OH)=1.5

Co++ gl NaCl 37°C 0.15M C K1=13.95 1995JWa (52309)1998

Co++	gl	KN03	25°C	0.10M C	K1=17.11	1976MMa (52310)1999
					K(CoL+H)=8.31	
					K(CoHL+H)=6.49	
					K(CoH2L+H)=5.29	
					K(CoH3L+H)=4.30	

Co++ gl oth/un 25°C 0.10M U 1971MMb (52311)2000

K(CoL+H)=8.48
K(CoHL+H)=6.61
K(CoH2L+H)=5.27
K(CoH3L+H)=4.86

Co++	gl	KCl	25°C 0.10M U	K1=15.49	1967KDa (52312)2001
				K(Co+HL)=11.79	
				K(Co+H2L)=8.51	
				K(Co+H3L)=6.09	
				K(Co+H4L)=4.75	

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
Co++	gl	KCl	25°C	0.20M	U	M	K1=3.40 K(CoL+ser)=4.30 K(CoL+thr)=4.20 K(CoL+asp)=8.60 K(CoL+A)=4.50	1992ASa	(52452)2002

$K(\text{CoL}+\text{gln})=4.30$, $K(\text{CoL}+\text{HB})=4.70$. HA is asparagine, HB is lysine.

Co++ sp none 25°C 0.0 C K1=3.82 1983SGd (52453)2003

Co++ sp NaCl04 25°C 0.10M C K1=3.82 1975CTb (52454)2004

Co++ gl KCl 25°C 0.0 C T H K1=4.89 1975Dnd (52455)2005
DH(K1)=-15.85 kJ mol⁻¹, DS=146.8 J mol⁻¹ K⁻¹. Calculated from 0.1 M KCl by
the Davies equation. Values also at 35 and 45 C

Co++ g1 NaCl04 30°C 0.10M U K1=3.63 1975JKa (52456)2006

Co++ EMF NaCl04 30°C 0.10M U K1=3.63 1972JKa (52457)2007

Co++ gl KNO3 35°C 0.10M U K1=3.88 1970DDa (52458)2008

C7H4N4O4 L CAS 50365-37-2 (7762)
 5,6-Dinitrobenzimidazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaNO3	25°C	0.50M	M		K1=0.84 K(Co+H-1L)=2.73 *K(CoL)=-7.03	1999KSa (52515)	2009

 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
Co++	gl	NaClO4	30°C	0.10M	U	T	K1=5.63	1975JKa (52540)	2010

 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
Co++	gl	NaClO4	30°C	0.10M	U	T	K1=5.40	1975JKa (52553)	2011

 C7H5NOS HL CAS 7405-23-4 (3177)
 4-Hydroxybenzothiazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	25°C	50%	U		K1=6.88 B2=13.48	1960FFa (52589)	2012

 C7H5N04 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
Co++	gl	KNO3	25°C	0.10M	U		K1=5.2 B2=9.20	1978HKa (52618)	2013

 C7H5N04 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
Co++	gl	KNO3	25°C	0.10M	U		K1=5.5 B2=9.90	1978HKa (52647)	2014

 C7H5N04 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
Co++	gl	KNO3	20°C	0.10M	U T H		K1=4.35 B2=7.84	1983PSd (52663)	2015

$$= \frac{1}{2} \left(\frac{1}{2} + \frac{1}{2} \right) = \frac{1}{2}$$

A is thiamine hydrochloride.

Data for ternary complexes with aspartic acid, serine, asparagine and N-(2-acetamido)iminodiacetic acid

[illegible]

[illegible]

Medium: 25% dioxan, 0.1 M NaClO₄

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	kin	NaNO3	25°C	0.30M	U T M		K1=4.79 K(Co(IDA)+L)=3.73 K(Co(NTA)+L)=2.83 K(Co(dien)+L)=4.20 K(Co(trien)+L)=3.41 Also K1 at 15-31C. By spectrophotometry, K1=4.84 at 25C. K(Co(N,N'-EDDA)+L)=3.15, K(Co(N,N-EDDA)+L)=3.00, K(Co(tripolyphosphate)+L)=3.00	1994HWa (53029)	2026
Co++	gl	NaClO4	35°C	0.10M	U M		K1=4.98 B2=8.06 K(Co(bpy)+L)=5.11 K(Co(phen)+L)=5.25	1983ABa (53030)	2027
Co++	gl	KCl	25°C	0.10M	U T H		K1=5.57 DH(K1)=-19.9 kJ mol ⁻¹ and DS(K1)=189.6 J mol ⁻¹ K ⁻¹ . Values also available at 35 and 45 C	1975DNb (53031)	2028
Co++	gl	NaClO4	30°C	0.10M	U		K1=5.18	1975JKa (53032)	2029
Co++	oth	diox/w	30°C	75%	U		K1=5.38 B2=10.42	1973KAc (53033)	2030
Co++	EMF	NaClO4	30°C	0.10M	U		K1=5.18	1972JKa (53034)	2031

C7H5N05		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
Co++	gl	oth/un	20°C	0.10M	U		K1=8.4 B2=16.2 K(CoL+H)=5.74 K(CoL2+H)=6.0 K(CoHL2+H)=5.3	1963AND (53070)	2032

C7H5NS		L					CAS 95-16-9 (618)		
Benzothiazole;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	nmr	non-aq	30°C	100%	U M		K(CoA2+L)=2.2	1982SOa (53081)	2033
Medium: CHCl3. HA=0,0'-diethyldithiophosphoric acid									

C7H5N3O2		L					CAS 94-52-0 (7761)		
5-Nitrobenzimidazole;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaNO3	25°C	0.50M	M		K1=1.25	1999KSa (53099)	2034

K(Co+H-1L)=3.67

*K(CoL)=-8.16

C7H5O2Cl HL (3747)
2-Hydroxy-6-chlorobenzaldehyde (6-chlorosalicylaldehyde)

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

Co++ gl diox/w 30°C 75% U K1=4.52 1978RJa (53156)2035

C7H5O2Cl HL CAS 1927-94-2 (3143)
3-Chlorosalicylaldehyde; HO.C6H3(Cl).CHO

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

Co++ gl diox/w 30°C 75% U K1=7.09 B2=11.80 1978RJa (53188)2036

C7H5O2F HL CAS 455-38-9 (3147)
3-Fluorosalicylaldehyde; HO.C6H3(F).CHO

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

Co++ gl diox/w 25°C 70% C K1=3.77 B2=8.74 1988MMd (53248)2037

C7H5O2I HL CAS 60032-63-5 (6282)
5-Iodo-salicylaldehyde; I(OH)C6H3.CHO

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

Co++ gl diox/w 30°C 75% U K1=3.55 1978RJa (53269)2038

C7H5O3As HL CAS 50722-40-2 (8008)
2-Arsenosobenzoic acid;

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

Co++ gl alc/w 35°C 20% U K1=3.19 1973SPf (53277)2039

Medium: 20% EtOH/H2O, 0.1 M KNO3.

C7H5O3Br H2L CAS 3883-95-2 (1111)
3-Bromosalicylic acid; Br.C6H3(OH).COOH

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

Co++ gl NaClO4 30°C 0.10M U T K1=5.38 1975JKa (53288)2040

C7H5O3Br HL CAS 85-55-4 (1194)
5-Bromosalicylic acid; Br.C6H3(OH).COOH

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

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Co++      sp  none   25°C  0.0  C      K1=6.43      1983SGd (53306)2041
*****
C7H5O3Cl      H2L      CAS 321-14-2 (1113)
5-Chlorosalicylic acid; Cl.C6H3(OH).COOH
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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Co++      sp  none   25°C  0.0  C      K1=6.43      1983SGd (53334)2042
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Co++      gl  NaClO4 30°C  0.10M U      T K1=6.21      1975JKa (53335)2043
*****
C7H6NO2Cl      HL      CAS 7120-43-6 (3782)
5-Chloro-2-hydroxybenzaldehyde oxime (5-chlorosalicylaldoxime)
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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Co++      gl  diox/w 20°C  75%  U      K1=6.3      B2=13.30  1965BEb (53386)2044
Medium: 75% dioxan, 0.1 M NaClO4
*****
C7H6NO3Br      H2L      CAS 87353-69-3 (207)
4-Bromosalicylhydroxamic acid; Br.C6H3(OH).CO.NH.OH
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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Co++      EMF diox/w 30°C  50%  U      K1=4.05      1977DJa (53394)2045
Medium: 50% dioxan, 0.1 M NaClO4
*****
C7H6NO3Br      H2L      CAS 5798-94-7 (206)
5-Bromosalicylhydroxamic acid; Br.C6H3(OH).CO.NH.OH
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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Co++      EMF diox/w 30°C  50%  U      K1=3.98      1977DJa (53405)2046
Medium: 50% dioxan, 0.1 M NaClO4
*****
C7H6NO3Cl      H2L      (205)
3-Chlorosalicylhydroxamic acid; Cl.C6H3(OH).CO.NH.OH
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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Co++      EMF diox/w 30°C  50%  U      K1=3.54      1977DJa (53414)2047
Medium: 50% dioxan, 0.1 M NaClO4
*****
C7H6N2      L      Benzimidazole  CAS 51-17-2 (52)
Benzimidazole; C7H6N2
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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Co++      gl  NaNO3  25°C  0.10M C      M      K1=2.98      2000MSa (53465)2048
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B(CoAL)=8.94
B(CoH-1AL)=0.46
B(Co2A2L)=19.33
B(Co2H-1A2L)=12.34

H2A is aspartic acid.

Co++ gl KNO3 35°C 0.10M C M K1=2.10 1997PSb (53466)2049
K(CoL+A)=5.46

H2A is thiamine orthophosphoric acid.

Co++ sp non-aq 25°C 100% U B2=2.16 1984DPa (53467)2050
Medium: DMSO

Co++ gl KNO3 25°C 0.50M U K1=1.68 B2=3.00 1981LMb (53468)2051
B3=3.93

C7H6N2O HL (1926)

8-Hydroxyimidazo[1,2-a]-pyridine;

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

Co++ gl diox/w 25°C 50% C K1=5.88 B2=10.88 1993YDa (53481)2052
In 50% v/v dioxan/water. Electrolyte: 0.1M KNO3.

C7H6N2OS HL CAS 26278-79-5 (3179)

2-Amino-4-hydroxybenzothiazole;

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

Co++ gl diox/w 25°C 50% U K1=7.8 B2=14.6 1962FFa (53486)2053

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

Co++ gl diox/w 20°C 75% U K1=6.3 B2=12.90 1965BEb (53491)2054
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

Co++ gl KNO3 20°C 0.10M U K1=7.36 B2=14.33 1965ABa (53502)2055

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

 Co++ EMF diox/w 30°C 50% U K1=2.86 1977DJa (53521)2056
 Medium: 50% dioxan, 0.1 M NaClO4

 C7H6OS HL Thiobenzoic CAS 98-91-9 (6294)
 Thiobenzoic acid; C6H5.COSH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	60%	U		K1=4.3 B2=8.2	19720Tc (53554)	2057

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
Co++	gl	diox/w	30°C	75%	U		K1=5.46	1978RJa (53611)	2058
Co++	gl	KCl	25°C	0.50M	U		K1=3.22	1969HLA (53612)	2059
Co++	gl	alc/w	?	50%	U		B2=8.21	1957HSa (53613)	2060

Co++	gl	diox/w	25°C	50%	U		K1=4.67 B2=8.30	1949MMa (53614)	2061
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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
Co++	gl	diox/w	30°C	50%	U	M	K1=11.30 B2=17.60 B(Co(bpy)+L)=6.27	1980KSa (53660)	2062
Co++	sp	NaClO4	25°C	0.10M	U		K1=5.59	19680Wa (53661)	2063
Co++	gl	diox/w	30°C	50%	U		K1=7.0 B2=12.9 k3=3.8	1953BFa (53662)	2064

 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
Co++	gl	NaClO4	25°C	1.00M	U	T H	K1=0.54	1991BAa (53815)	2065

K1 also at 30, 35 and 40C. DH=14.2 kJ mol⁻¹, DS=58 J K⁻¹ mol⁻¹.

Co++	gl	NaClO4	25°C	0.00	U	I	K1=1.69	1979TPa (53816)	2066
Co++	gl	KNO3	30°C	0.40M	U		K1=0.55	1970BTa (53817)	2067

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
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Co++	gl	alc/w	25°C	50%	M T H		K1=5.81 B(Co(en)L)=11.09	1992MSf (53899)	2068
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Medium: 50% v/v MeOH/H2O, 0.10 M NaClO4. Data for 40 and 55 C.
DH(K1)=29.8 kJ mol-1, DS(K1)=211 J K-1 mol-1.

Co++	sp	NaClO4	20°C	0.10M	U		K1=4.3 B2=7.7	1977LSb (53900)	2069
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Co++	gl	alc/w	50°C	45%	U T H		K1=6.35 B2=11.05	1968RSh (53901)	2070
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Medium: 45% EtOH, 0.15 M. K1=6.03(30 C),6.20(40 C); K2=4.44(30 C),4.55(40C)
DH(K1)=30.5 kJ mol-1, DS=217 J K-1 mol-1; DH(K2)=20.9, DS=160

Co++	sp	alc/w	30°C	40%	U			1966KNa (53902)	2071
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B3=11.76

Medium: 40% EtOH

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
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Co++	gl	diox/w	25°C	0.10M	U		K1=9.22 B2=16.70	1977WVa (53929)	2072
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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
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Co++	gl	diox/w	30°C	75%	U		K1=10.47 B2=18.94	1978RJa (53939)	2073
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Co++	gl	diox/w	30°C	50%	U			1969VMa (53940)	2074
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K(Co+HL)=3.70
K(CoHL+HL)=2.30

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
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Co++	gl	diox/w	30°C	50%	U			1969VMa (53947)	2075
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K(Co+HL)=4.25
K(CoHL+HL)=3.05

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
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Co++	gl	alc/w	24°C	20%	C	M			1996MIa (54122)	2076
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K(Co(ada)+L)=2.90

Medium: 20% w/w EtOH/H2O, 0.10 M KNO3.
ada: N-(acetamido)-iminodiethanoic acid.

Co++	cal	alc/w	25°C	100%	U	H			1990PJa (54123)	2077
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Medium: MeOH. DG(K1)=-26.9 kJ mol⁻¹, DH=21.8; DG(B2)=-41.7; DH=29.9

Co++	gl	alc/w	25°C	100%	M				1988LTa (54124)	2078
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K(Co+HL)=4.7
K(Co+2HL)=7.3

Medium: MeOH

Co++	gl	NaNO3	35°C	0.10M	U	M T	K1=6.83		1985KSc (54125)	2079
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K(CoL+CMP)=0.84

H2CMP=cytidine-5'-monophosphoric acid

Co++	sp	none	25°C	0.0	C		K1=8.09		1983SGd (54126)	2080
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Co++	gl	NaCl04	25°C	0.10M	U	T	K1=6.15		1980MSa (54127)	2081
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Co++	gl	NaCl04	30°C	0.10M	U		K1=8.68		1975JKa (54128)	2082
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Co++	gl	KCl	20°C	0.10M	U		K1=6.72	B2=11.42	1958PEe (54129)	2083
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Co++	gl	KCl	20°C	0.10M	U				1953BBb (54130)	2084
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K(2Co+HL)=10.4

C7H6O3S H2L CAS 55927-33-8 (5445)

3-Furyl-2-mercaptopropenoic acid; C4H3O.CH:C(SH).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	alc/w	30°C	10%	C		K1=8.12	B2=14.65	1986IGc (54445)	2085
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Medium: 10% v/v EtOH/H2O, 0.1 M KNO3

C7H6O4 H3L Resorcylic acid CAS 89-86-1 (876)

2,4-Dihydroxybenzoic acid, b-Resorcylic acid; C6H3(OH)2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	NaCl04	30°C	0.10M	U		K1=10.48		1975JKa (54512)	2086
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B(CoHL)=10.48

Co++	gl	diox/w	30°C	50%	U				1971VMa (54513)	2087
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K(Co+HL)=9.30

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100

$$K(Co+HL)=8.90$$

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[illegible]

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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 1040 1

$$K(\text{CoL}+\text{ser})=4.00$$
$$K(\text{CoL}+\text{thr})=3.70$$
$$K(\text{CoL+asp})=9.35$$
$$K(\text{CoL}+\text{A})=4.20$$

$$K(\text{CoL}+\text{H})=6.7$$

$$K(\text{CoL}+2\text{H}) < 7$$

Co++	ix	oth/un	80°C	0.50M	U	K1=6.3	B2=11.1	1968GIa (54925)2097
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Co++ gl KCl 25°C 0.10M U K1=6.47 B2=10.77 1962NAa (54926)2098

Co++ gl NaCl04 25°C 0.10M U K1=6.13 B2=9.82 1960BSb (54927)2099

Co++ gl KCl 20°C 0.10M U K1=6.00 B2=9.60 1958PEe (54928)2100

[illegible]

2-Vinylpyridine; $C_5H_4N.CH:CH_2$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++ gl KNO3 25°C 0.10M U K1=0.8 1974ILa (55116)2101

C7H7N L CAS 100-43-6 (294)

4-Vinylpyridine; C₅H₄N.CH:CH₂

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++ gl KNO3 25°C 0.10M U K1=1.6 1974ILa (55124)2102

[illegible]

3-Acetylpyridine; C₅H₄N.CO.CH₃

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++ gl KN03 25°C 0.50M U K1=0.86 B2=1.51 1986BLa (55139)2103

C7H7NO L CAS 1122-54-9 (494)

4-Acetylpyridine; C₅H₄N.CO.CH₃

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++ gl KNO3 25°C 0.50M U K1=0.97 B2=1.38 1983LRa (55148)2104

C7H7NO2	HL	Anthranilic	CAS 118-92-3	(1589)
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2-Aminobenzoic acid, Anthranilic acid; $\text{H}_2\text{N.C}_6\text{H}_4.\text{COOH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++ gl alc/w 24°C 20% C M 1996MIa (55203)2105

$$K(\text{Co(ada)}+L)=2.93$$

Medium: 20% w/w EtOH/H₂O, 0.10 M KNO₃.

ada: N-(acetamido)-iminodiethanoic acid.

Co++ sol none 25°C 0.0 C T 1982SSh (55204)2106

$$K_{so}(CoL2) = -14.87$$

Method: 57Co radiometry. Data for 0-55 C.

Co++ gl oth/un 25°C 0.0 U 1960LUa (55205)2107
Kso=-10.97

Co++ gl oth/un 25°C ->0 U K1=1.56 1958LUa (55206)2108

Co++ gl diox/w 35°C 50% U K1=2.8 1958YSa (55207)2109

C7H7NO2 H2L Salicylaldehyde CAS 94-67-7 (1486)
2-Hydroxybenzaldehyde oxime; HO.C6H4.CH:N.OH

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

Co++ gl KNO3 25°C 0.10M C M K1=6.15 B2=10.76 1990DAb (55301)2110
Also ternary complexes with bpy, ida, mida, ada and nta.

Co++ gl KNO3 25°C 0.10M C K1=6.15 B2=10.76 1990DAb (55302)2111

Co++ gl diox/w 20°C 75% U 1965BEb (55303)2112
K(Co+HL)=6.4
K(CoHL+HL)=7.1(?)
Medium: 75% dioxan, 0.1 M NaClO4

Co++ gl oth/un 25°C ->0 U 1956BJa (55304)2113
K(Co+2HL)=8.13

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

Co++ sp oth/un 25°C 0.10M U T HM 1981HKa (55346)2114
K(CoA+L)=1.90
Phosphate medium, A= Bovine carbonic anhydrase protein

Co++ gl NaClO4 25°C 0.50M U K1=2.74 B2=5.17 1971FLa (55347)2115

Co++ gl diox/w 35°C 50% U T K2=3.77 1966WRb (55348)2116
Medium: 50% dioxan, 0.1 M KNO3. K2=6.25(15 C), 5.55(25 C)

C7H7NO2 HL CAS 99-05-8 (1374)
3-Aminobenzoic acid; H2N.C6H4.COOH

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

Co++ EMF KNO3 25°C 1.0M U K1=3.0 B2=6.60 1961GKa (55358)2117

C7H7NO2 HL 3-Pyridylacetic CAS 6419-36-9 (2212)
3-Pyridylethanoic acid; C5H4N.CH2.COOH

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       sp  oth/un 25°C 0.10M U T HM                    1981HKa (55361)2118
                                     K(CoA+L)=1.60
Phosphate medium, A= Bovine carbonic anhydrase protein
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C7H7NO2    HL                                CAS 150-13-0 (1376)
4-Aminobenzoic acid; H2N.C6H4.COOH
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       EMF KNO3  25°C 1.0M U                K1=3.4   B2=6.30  1961GKa (55372)2119
*****
C7H7NO2    HL                                CAS 3222-47-7 (3154)
6-Methylpyridine-2-carboxylic acid; CH3.C5H3N.COOH
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  NaNO3  20°C 0.10M U                K1=4.65   B2=8.45  1960ANb (55423)2120
-----
Co++       gl  oth/un 25°C 0.02M U                K1=4.5    B2=7.8   1955HCa (55424)2121
-----
Co++       gl  diox/w 25°C 50% U                K1=6.6    B2=12.1  1955HCb (55425)2122
*****
C7H7NO2    HL                                CAS 495-18-1 (184)
Benzohydroxamic acid; C6H5.CO.NH.OH
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  NaNO3  25°C 0.10M M      M      K1=4.66   B2= 8.47  1996KSc (55488)2123
                                     K(Co(nta)+L)=3.32
                                     K(Co(ida)+L)=3.93
                                     K(Co(ada)+L)=3.89
H2ada: N-(2-acetamido)iminodiethanoic acid.
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Co++       gl  KNO3  25°C 0.10M C      M      K1=5.02   B2= 8.70  1990DAc (55489)2124
Also ternary complexes with bpy, ida, mida, ada and nta.
-----
Co++       gl  KNO3  25°C 0.10M C                K1=5.02   B2= 8.70  1990DAc (55490)2125
-----
Co++       gl  KNO3  25°C 0.10M C      M                1989DAc (55491)2126
                                     B(CoA+L)=4.84
                                     B(CoB+L)=5.21
                                     B(CoC+L)=4.78
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A: 2,2'-dipyridylamine; B: 5-nitro-1,10-phenanthroline;
C: 5-methyl-1,10-phenanthroline.

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Co++       gl  NaClO4 35°C 0.10M U                K1=4.35   B2=8.30  1983ABa (55492)2127
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C7H7NO3 H2L CAS 89-57-6 (2675)
2-Hydroxy-5-aminobenzoic acid, 5-Aminosalicylic acid; H2N.C6H3(OH).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++ gl KCl 37°C 0.15M C K1=4.44 1993Wwa (55546)2128
B(CoH-1L)=-2.15

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
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Co++ gl NaNO3 25°C 0.10M C K1=6.62 2000KHa (55583)2129

Co++	g1	NaNO3	25°C	0.10M	M	M	K1=6.60	B2=10.78	1996KSc	(55584)2130
							K(Co(nta)+L)=3.62			
							K(Co(nta)+H+L)=11.72			
							K(Co(ida)+L)=5.48			
							K(Co(ida)+H+L)=12.64			

$$K(\text{Co(ada)}+\text{L})=4.74, \quad K(\text{Co(ada)}+\text{H}+\text{L})=12.39$$

H2ada: N-(2-acetamido)iminodiethanoic acid.

Co++ EMF diox/w 30°C 50% U K1=6.10 1977DJa (55585)2131

Medium: 50% dioxan, 0.1 M NaCl₀₄

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
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Co++ gl oth/un 20°C ? U K1=4.4 1959SIb (55625)2132

C7H7NO3 H2L (1112)
4-Aminosalicylic acid; H2N.C6H3(OH).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++ g1 KNO3 25°C 1.0M U K1=4.2 B2=7.90 1961GKa (55635)2133

C7H7N03 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
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Co++ gl oth/un 25°C ? U K1=4.28 B2=8.51 1962G0a (55649)2134

C7H7N04 HL CAS 17209-50-6 (886)
4-Methoxypyridine-2-carboxylic acid N-oxide; C5H3N(O)(OCH3).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaCl04	30°C	0.10M	U T		K1=3.86 B2=6.40	1982RRa (55661)	2135

C7H7N05S		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
Co++	gl	oth/un	35°C	0.01M	U		K1=2.82 B2=5.14	1956HSb (55675)	2136

C7H7N202F3S		HL					CAS 73255-69-3	(559)	
2-(Trifluoromethanesulfonamidomethyl)pyridine; C5H4NCH2S(:O)2NHCF3									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	45%	U		K1=5.95 B2=10.69	1982MYb (55713)	2137
Medium: 45% v/v dioxan/H2O, 0.01 M KN03									

C7H7N3		L					(6358)		
7-Methyl-4-azabenzimidazole;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaCl04	25°C	0.10M	C		K1=1.77	1992RKa (55731)	2138
Data also by spectrophotometry: B1=1.97									

C7H7N303		L					CAS 606-26-8	(2643)	
2-Nitrobenzoic acid hydrazide; O2N.C6H4.CO.NH.NH2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	NaCl04	25°C	0.10M	U		K1=3.30	1981BPc (55746)	2139

C7H7N303		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
Co++	sp	NaCl04	25°C	0.10M	U		K1=3.09	1981BPc (55751)	2140

C7H7N303		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
Co++	sp	NaCl04	25°C	0.10M	U		K1=3.01	1981BPc (55756)	2141

C7H8N20		L					CAS 3724-16-1	(1948)	
3-Acetamidopyridine; C5H4N.CH2.CO.NH2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.50M	U		K1=1.22 B2=1.56	1974WAb (55804)	2142

C7H8N2O			L				(2035)		
3-N-Acetylaminoazine; C5H4N.NH.CO.CH3									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.50M	U		K1=1.10 B2=1.22 B3=2.46	1981LRa (55810)	2143

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
Co++	gl	mixed	22°C	70%	U		B2=15.81	1978MGd (55820)	2144
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
Co++	gl	NaNO3	25°C	0.20M	U		K1=1.86 B2=2.75	1974FSa (55834)	2145

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
Co++	gl	KNO3	25°C	0.50M	U		K1=0.92 B2=1.41	1987KLb (55838)	2146

C7H8N2O			HL				Salicylaldazone 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
Co++	gl	mixed	28°C	20%	U	I	K1=4.010 B2=6.97 B(CoHL)=10.382	1987RRa (55847)	2147
In 20% DMF. In 40% DMF, K1=4.505, K2=3.210, B(MCoHL)=10.957; in 60% DMF, K1=5.180, K2=3.462, B(CoHL)=11.382									

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

Co++ gl KNO3 30°C 0.10M U M K1=3.77 1993RDa (55868)2148

Also data for ternary complexes with alanine, phenylalanine, bipyridyl, catechol, oxalate and 1,2-diaminoethane.

Co++ sp NaClO4 25°C 0.10M U K1=8.74 B2=16.34 1981BPc (55869)2149
B3=22.78

Co++ gl diox/w 25°C 25% U K1=5.02 B2=9.80 1975GSb (55870)2150

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

Co++ gl KNO3 25°C 0.50M U K1=0.98 B2=1.49 1974WAb (55925)2151

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

Co++ gl KCl 25°C 0.10M U 1961TDb (55933)2152

K(Co+HL)=2.47

C7H8N4 L CAS 85180-62-7 (2481)

2,9-Dimethylpurine;

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

Co++ gl NaClO4 25°C 1.00M U K1=0.80 1983ALa (55957)2153

C7H8N4 L (2641)

4,4'-(5,5')-Bisimidazolylmethane; C3H3N2.CH2.C3H3N2

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

Co++ gl KNO3 30°C 0.16M U K1=5.72 B2=10.53 1965DFa (55964)2154

C7H8N4 L CAS 14675-46-8 (2484)

6,9-Dimethylpurine;

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

Co++ gl NaClO4 25°C 1.00M U K1=<0.2 1983ALa (55970)2155

C7H8N4 L CAS 85180-61-6 (2482)

8,9-Dimethylpurine;

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

Co++ gl NaClO4 25°C 1.00M U K1=0.78 1983ALa (55978)2156

 C7H8N4 L (1928)
 Bis(imidazol-2-yl)methane; C3H3N2.CH2.C3H3N2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++ gl KNO3 35°C 0.20M U M 1990RMA (55993)2157
 K(CoL2+Gly)=3.53
 K(CoL2+Ala)=3.33
 K(CoL2+Val)=3.20
 K(CoL2+nor-Val)=3.26
 K(CoL2+Leu)=3.28, K(CoL2+nor-Leu)=3.12, K(CoL2+Phe)=3.11
 K(CoL2+Trp)=3.74, K(CoL2+Ser)=3.12, K(CoL2+Thr)=3.07

Co++ gl KNO3 35°C 0.20M U M K1=5.40 B2=9.88 1989RVa (55994)2158

 C7H8N4S L CAS 3608-75-1 (1799)
 2-Pyridinecarboxaldehyde thiosemicarbazone; C5H4N.CH:N.NH.CS.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++ sp oth/un 25°C 0.10M U 1975LMb (56021)2159
 B(CoH3L2)=32.7
 B(CoH4L2)=36.9

 C7H8O3S H2L FMPA (6145)
 3-(2-Furyl)-2-mercaptopropanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++ gl alc/w 25°C 10% C K1=5.48 B2=11.01 1986IGc (56108)2160
 Medium: 10% v/v EtOH/H2O, 0.1 M KNO3

 C7H8O3S L CAS 55832-65-0 (3763)
 3-Hydroxythiophene-2-carboxylic acid ethyl ester

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++ sp diox/w 25°C 10% U K1=4.17 1965CSa (56114)2161
 Medium: 10% dioxan, 0.1 M NaClO4

 C7H8O3S HL CAS 6192-52-5 (561)
 4-Toluenesulfonic acid; CH3.C6H4.SO3H

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++ sol oth/un 20°C ? U B2=7.7 1986YAa (56118)2162

 C7H8O8P2 H4L (6892)

1,2-((Phenylenedioxy)methylene)diphosphonic acid); C₆H₄O₂C(P₃H₂)₂

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	R4N.X	25°C	0.50M	U			K1=6.93 K(Co+HL)=3.70	1985GMb (56164)	2163
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Medium: 0.5 M Me₄NCI

C₇H₈S HL p-Thiocresol CAS 106-45-6 (884)
4-Mercaptotoluene; CH₃.C₆H₄.SH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	sp	none	25°C	0.0	U			K1=5.23 B2=9.88 B3=14.13 B4=18.44	1988KDb (56175)	2164
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C₇H₉N L 2,4-Lutidine CAS 108-37-4 (319)
2,4-Dimethylpyridine; C₅H₃N.(CH₃)₂

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	sp	non-aq	25°C	100%	U	M		K(CoA+L)=0.841 K(CoB+L)=1.097 K(CoC+L)=1.409	1993SSc (56197)	2165
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Medium:Toluene. H₂A:Octaethylporphyrin. H₂B:t-Octaethylchlorin.
H₂C:a mixture of tct- and ttt-Octaethylisobacteriochlorin.

Co++	oth	KNO ₃	?	0.50M	U			K1=3.19	1971LWb (56198)	2166
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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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Co++	sp	non-aq	?	100%	U	I M		K(CoCl ₂ +L)=1.70 K(CoCl ₂ +2L)=4.99	1971ADb (56218)	2167
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Medium: n-butanol. K(CoCl₂+nL): in t-butanol(n=1)=1.87,(n=2)=3.20
Data also for cyclohexanone, etc.

Co++	sp	non-aq	?	100%	U	I M		K(CoCl ₂ +2L)=4.73	1970DAa (56219)	2168
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Medium: acetone. In HCON(CH₃)₂: K(CoCl₂+2L)=3.46;
In CH₃CN: K(CoCl₂+2L)=4.10; In cyclohexanone: K(CoCl₂+2L)=4.83

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
Co++	gl	KNO3	25°C	0.50M	U		K1=1.43 B2=2.45 B3=3.11	1979LRa	(56256)2169

Co++	sp	non-aq	20°C	100%	U	H	K(CoL2Cl2+2L)=0.20 K(CoL2(NCS)2+2L)=4.26	1966CKb	(56257)2170
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Medium: CHCl3. By calorimetry: DH=-70.2 kJ mol⁻¹, DS=-158.8 J K⁻¹ mol⁻¹

C7H9N L 3,5-Lutidine (323)

3,5-Dimethylpyridine; C5H3N.(CH3)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaNO3	25°C	0.50M	C		K1=1.51	2002KSb	(56281)2171
Co++	gl	KNO3	25°C	1.00M	U		K1=1.25 B2=2.04 B3=2.35	1978LRb	(56282)2172

Co++	sp	non-aq	20°C	100%	U	H	K(CoL2Cl2+2L)=-0.46 K(CoL2(NCS)2+2L)=3.70	1966CKb	(56283)2173
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Medium: CHCl3. By calorimetry: DH=-61.0 kJ mol⁻¹, DS=-137.9 J K⁻¹ mol⁻¹

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
Co++	sp	non-aq	20°C	100%	U	HM	K(CoL2Cl2+2L)=0.36 K(CoL2(NCS)2+2L)=4.34	1966CKb	(56297)2174

Medium: CHCl3. By calorimetry: DH(CoL2Cl2+2L)=-55.5 kJ mol⁻¹, DS=-180 J K⁻¹ mol⁻¹; DH(Co(CNS)2L2+2L)=-64.0, DS=-135

C7H9N L 3-Methylaniline CAS 108-44-1 (755)

3-Methylaniline (3-Toluidine); CH3.C6H4.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	non-aq	?	100%	U	M	K(CoCl2+L)=2.28 K(CoCl2+2L)=3.75	1971ZDa	(56306)2175

Medium: CH3CN

Co++	sp	non-aq	?	100%	U	M	K(CoCl2+L)=2.17 K(CoCl2+2L)=3.58	1971ZDa	(56307)2176
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Medium: dimethylformamide

 Co++ sp non-aq ? 100% U M 1971ZDa (56308)2177
 K(CoCl2+L)=2.25
 K(CoCl2+2L)=3.32

Medium: t-butanol

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
Co++	sp	KN03	25°C	1.00M	U		K1=1.22 B2=2.02	1971LWa (56324)	2178
Co++	EMF	KN03	25°C	1.00M	U		K1=1.23 B2=2.06	1971LWa (56325)	2179

 Co++ sp non-aq 20°C 100% U H 1966CKb (56326)2180
 K(CoL2Cl2+2L)=1.05
 K(CoL2(NCS)2+2L)=4.89

Medium: CHCl3. By calorimetry: DH(CoL2Cl2+2L)=-66.9 kJ mol⁻¹, DS=-209 J K⁻¹ mol⁻¹; DH(CoL2(CNS)2+2L)=-69.0, DS=-142.1

C7H9N L 4-Methylaniline CAS 106-49-0 (754)
 4-Methylaniline (4-Toluidine); CH3.C6H4.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	non-aq	?	100%	U	M		1971ZDa (56341)	2181

K(CoCl2+L)=2.36
 K(CoCl2+2L)=4.02

Medium: CH3CN. In DMF, values are 2.10, 3.53

 Co++ sp non-aq ? 100% U M 1971ZDa (56342)2182
 K(CoCl2+L)=1.44
 K(CoCl2+2L)=2.44

Medium: t-butanol

C7H9N L Benzylamine CAS 100-46-9 (3132)
 Benzylamine; C6H5.CH2.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	non-aq	20°C	100%	U	T HM		1984JCa (56358)	2183

K(CoA2+L)=1.22
 In toluene.HA=N-Benzylsalicylalimine, DH=-30.2 kJ mol⁻¹, DS=-76.7 J K⁻¹ m⁻¹
 At 2 C, K=1.57; 32 C, K=1.03

 Co++ sp non-aq 10°C 100% U T HM 1984JCa (56359)2184
 K(CoA2+L)=0.66
 In DMF, A=N-Benzylsalicylalimine, DH=-24.9 kJ mol⁻¹, DS=-75.0 J K⁻¹ mol⁻¹
 At -14 C, K=1.08; -7 C, K=0.95; 2 C, K=0.79

 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

Co++ gl diox/w 25°C 85% C K1=<1.30 1983HBa (56387)2185

C7H9NO L p-Anisidine CAS 104-94-7 (3764)
 4-Methoxyaniline; CH3O.C6H4.NH2

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

Co++ sp non-aq ? 100% U M 1971ZDa (56395)2186

K(CoCl2+L)=2.10

K(CoCl2+2L)=4.00

Medium: CH3CN. In DMF, values are: 3.90, 3.32.

 Co++ sp non-aq ? 100% U M 1971ZDa (56396)2187

K(CoCl2+L)=1.85

K(CoCl2+2L)=3.50

Medium: t-butanol

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

Co++ gl NaClO4 25°C 0.10M U K1=4.96 B2=8.80 1982MSa (56455)2188

C7H9NO4S H2L (3784)

Hydroxy(6-methyl-2-pyridyl)methanesulfonic acid;

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

Co++ gl NaClO4 25°C 0.10M U K1=4.25 B2=7.83 1964BGa (56463)2189

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

Co++ gl diox/w 25°C 50% U M K1=1.1 1967SIb (56484)2190

K(Co(bpy)+L)=1.1

Medium: 50% dioxan, 0.1 M NaClO4

C7H9N3O2S2 L (6945)
 1-Ethoxycarbonyl-3-thiazole-2-ylthiourea; C3H2NS.NHCSNHCOOC2H5

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

 Co++ gl alc/w 25°C 60% U K1=4.27 1994KEa (56500)2191
 Medium: 60 % EtOH/H2O, 0.1 M NaNO3

 C7H10N02P HL (7267)
 Aminomethyl(phenylphosphinic acid); H2NCH2PO(OH)C6H5

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	KNO3	25°C	0.10M	C		K1=2.39 B(CoH-1L)=-6.5	1996RLa (56538)	2192
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 C7H10N06ClP2 H4L (6895)
 N-(4-Chlorophenyl)aminomethylenedi(phosphonic acid); ClC6H4.NH.CH(P(O3H)2)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	KNO3	25°C	0.10M	U		K1=9.4 K(Co+HL)=5.1	1990GKa (56554)	2193
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 C7H10N2 L CAS 13173-22-3 (8012)
 1-Allyl-2-methylimidazole ;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	KNO3	25°C	0.50M	C		K1=1.20 B2= 2.30 B3=3.80 B4=4.30	2001KGa (56562)	2194
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 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
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Co++	gl	oth/un	25°C	.015M	U		K1=3.8	1960HJa (56591)	2195
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 C7H10N2 L CAS 42088-91-5 (3134)
 2-(Methylaminomethyl)pyridine (2-Picolylmethylamine)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	KNO3	25°C	0.50M	U		K1=5.22 B2=9.20	1971GEa (56608)	2196
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 Co++ cal diox/w 25°C 50% U H 1966WRb (56609)2197
 Medium: 50% dioxan, 0.1 M KNO3. DH(B2)=-70.6 kJ mol-1

Co++	gl	oth/un	20°C	->0	U T H		K1=5.26 B2=9.10 K3=2.53	1959GFa (56610)	2198
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DH(K1)=-27.6 kJ mol-1, DS=4 J K-1 mol-1; DH(K2)=-23.5,DS=-4; DH(K3)=-11,DS=8
 10 C: K1=5.35,K2=4.05,K3=2.49; 30 C: 5.10,3.84,2.63; 40 C: 4.86,2.59,2.23

C7H10N2 L CAS 20173-04-0 (2039)

3-(N,N-Dimethylamino)pyridine; C5H4N.N(CH3)2

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

Co++ gl KNO3 25°C 0.50M U K1=1.23 B2=2.28 1981LRa (56622)2199

C7H10N2 L CAS 1122-58-3 (492)

4-(N,N-Dimethylamino)pyridine; C5H4N.N(CH3)2

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

Co++ sp non-aq 25°C 100% U HM 1993SSc (56628)2200

K(CoA+L)=3.309

K(CoB+L)=3.667

Medium:Toluene. T: 15-65 C. H2A:Octaethylporphyrin. DH=-43.2 kJ mol⁻¹;

DS=-81.2. H2B:t-Octaethylchlorin. Data for other porphyrins

C7H10N2 L CAS 496-72-0 (4419)

4-Methyl-1,2-diaminobenzene; CH3.C6H3(NH2)2

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

Co++ gl KCl 25°C 0.10M C 1999RNa (56639)2201

K(Co2A+L)=14.80

*K(Co2AL)=-7.23

*K(Co2(OH)AL)=-8.58

A: 1,4,7,13,16,19-Hexaaza-10,22-dioxacyclotetracosane

Co++ gl KNO3 20°C 0.10M C T H K1=3.25 19800Ma (56640)2202

DH(K1)=-27.4 kJ mol⁻¹; DS=-30.4 J K⁻¹ mol⁻¹. 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

Co++ gl KNO3 20°C 0.10M C T H K1=3.50 19800Ma (56643)2203

DH(K1)=-38.3 kJ mol⁻¹; DS=-63.9 J K⁻¹ mol⁻¹. 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

Co++ EMF NaNO3 20°C 0.10M U K1=3.82 1971ANa (56654)2204

Co++ vlt diox/w 25°C 50% U H B2=7.00 1966WRb (56655)2205

Medium: 50% dioxan, 0.1 M KNO3. By calorimetry: DH(B2)=-44.3 kJ mol⁻¹,

DS=-14.2 J K⁻¹ mol⁻¹

C7H10N2O L (7890)

1-Propyl-2-imidazolecarboxaldehyde;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.5M	C		K1=1.23 B2= 1.59 B3=3.03	1999BKa (56661)	2206

C7H10N2O L CAS 102-51-2 (4444)

4-Methoxy-1,2-diaminobenzene; CH3O.C6H3(NH2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	C	M	K1=2.82 K(Co2A+L)=4.76 K(Co2A(OH)+L)=1.86 K(Co2A(OH)2+L)=3.83	2003AZa (56669)	2207

A is 3,6,9,17,20,23-hexaazatricyclo[23.3.1.1]triaconta-1(29),11(30),12,14,25,26,27-hexaene (C24H38N6).

Co++	gl	KCl	25°C	0.10M	C		K(Co2A+L)=13.72 *K(Co2AL)=-7.66 *K(Co2(OH)AL)=-8.88	1999RNa (56670)	2208
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A: 1,4,7,13,16,19-Hexaaza-10,22-dioxacyclotetracosane

C7H10N2O2S HL (560)

2-(Methanesulfonyl)pyridine; C5H4N.CH2S(:O)2NHCH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	30°C	0.1M	U		K1=6.09 B2=11.14 K1=7.49, B2=14.10	1982MYb (56683)	2209

C7H10N2O3S HL CAS 71691-06-0 (1247)

2-(N-Pyrrolideneimino)ethane sulfonic acid; C4H4N.CH:N.CH2.CH2.SO3H

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO4	25°C	0.10M	U	T	K1=9.15 B2=15.35	1979GSa (56692)	2210

C7H10O3 H2L (793)

Heptane-2,4,6-trione; CH3.CO.CH2.CO.CH2.CO.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	25°C	70%	C		B(CoHL)=18.46	1985HWa (56716)	2211

$$B(\text{Co2L2})=22.97$$

Medium: 70% v/v MeOH/H2O

C7H10O4 H2L CAS 5802-62-3 (71)

Cyclopentane-1,1-dicarboxylic acid; C5H8.(COOH)2

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

Co++ gl NaClO4 25°C 0.10M U K1=1.92 1972RVh (56728)2212

C7H10O4 H2L CAS 5164-76-1 (959)

Pent-1-ene-5-dioic acid; CH2:CH.CH2.CH2.CH(COOH)2

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

Co++ gl KNO3 25°C 0.10M C K1=2.32 1975IPa (56745)2213

C7H10O6 H3L CAS 57056-39-0 (5947)

2-(Carboxymethyl)glutaric acid; HOOC.CH2.CH(CH2.COOH)2

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

Co++ gl KNO3 25°C 0.50M U K1=1.89 1983Wka (56754)2214

$$B(\text{CoHL})=6.32$$

$$B(\text{CoH2L})=9.98$$

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

Co++ sp NaClO4 25°C 0.50M C K1=4.34 1996HPa (56775)2215

$$K(\text{CoL+H})=2.42$$

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

Co++ gl KNO3 25°C 0.10M C K1=7.52 B2=13.45 1975IPa (56786)2216

Co++ gl KCl 25°C 0.10M U K1=7.20 B2=12.75 1966SIb (56787)2217

C7H11NO4 H2L CAS 5626-40-4 (2803)

N-Carboxymethylpyrrolidine-2-carboxylic acid; HOOC.C4H7N-CH2COOH

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

Co++ gl KNO3 25°C 1.00M U K1=8 B2=14 1974MIb (56794)2218

C7H11N04 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
Co++	gl	KCl	30°C	0.10M	U		K1=5.4 B2=9.5	1957TBb (56801)	2219

C7H11N05 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
Co++	gl	KNO3	25°C	0.10M	U		K1=6.37 B2=10.87	1965AUa (56827)	2220

Previously published as K1=6.40, K2=4.52

Co++	gl	KNO3	25°C	0.10M	U		K1=6.2 B2=10.7	1963ANa (56828)	2221
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C7H11N06 H3L CAS 40199-58-4 (3165)
N-(2'-Carboxyethyl)iminodiethanoic acid; HOOC.CH2.CH2.N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	U		K1=10.00	1967UKa (56873)	2222

Co++	gl	KCl	30°C	0.10M	U		K1=10.1	1953CMA (56874)	2223
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C7H11N06 H3L MNTA (1026)
Nitrilo(2-propanoic)-diethanoic acid; HOOC.CH(CH3).N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	20°C	0.10M	U		K1=11.05	1974RMf (56901)	2224

C7H11N06P2 H4L DPHP (226)
2,6-bis(Dioxyphosphorylmethyl)pyridine; C5H3N.(CH2.PO3H2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	U		K1=7.58 K(Co+HL)=4.13 K(Co+H2L)=2.07	1988KPa (56928)	2225

C7H11N06P2 H4L CAS 4712-06-5 (4470)
Amino(phenyl)methylenediphosphonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	U		K1=10.63 K(Co+HL)=7.36 B(Co2L)=15.72	1969DMd (56936)	2226

C7H11N3O2 L CAS 7389-87-9 (3162)
Histidine methyl ester

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	EMF	oth/un	25°C	?	U		K1=5.9 B2=11.40	1966PAa	(57000)2227

Co++	gl	KCl	0°C	0.25M	U T HM		K1=5.68 B2=10.18	1965AZa	(57001)2228
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K3=2.67
K1=5.00(15 C),4.24(25 C),4.10(40 C); K2=3.57(15 C),3.12(25 C),2.96(40 C);
K3=2.18(15 C). DH(K1)=DH(K2)=-66.9 kJ mol⁻¹. Ternary complexes with histidine

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
Co++	gl	KCl	25°C	0.10M	C		K1=6.816 B2=12.101	1976RIa	(57015)2229

K(Co(DL-N-Me-His))=6.814
B(Co(DL-N-Me-His)₂)=12.422

C7H12N2 L CAS 4316-42-1 (8409)
1-Butyl-1H-imidazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.50M	M		K1=2.75 B2= 4.75	1977LBc	(57038)2230

B3=6.00
B4=6.54

C7H12N2 L (7888)
1-Propyl-2-methylimidazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.5M	C		K1=1.61 B2= 2.00	1999BKa	(57042)2231

B3=3.08
B4=5.40

C7H12N2 L (1420)
4,5-Diethyl-1,3-diazole; C3H2N2.(C2H5)₂

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.50M	U		K1=1.37	1982LKB	(57046)2232

C7H12N2O L (7889)
1-Propyl-2-Hydroxymethylimidazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.5M	C		K1=1.99 B2= 3.85 B3=4.56 B4=6.23	1999BKa (57050)	2233

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
Co++	gl	diox/w	20°C	75%	U		K1=13.03 B2=24.23	1981HFa (57065)	2234
Co++	gl	NaClO4	20°C	0.10M	C		K(Co+HL)=10.18 K(Co+2HL)=19.70	1980MHa (57066)	2235

C7H12N2O2 HL (6181)
2-(N-2-Pyrrolidimino)propanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO4	25°C	0.10M	U	TIH	B2=17.40	1988GRb (57073)	2236

35 C:B2=17.56, 45 C:17.72. DH(B2)=29.0 kJ mol⁻¹, DS=431 J K⁻¹ mol⁻¹

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
Co++	gl	oth/un	25°C	0.02M	U		K1=3.90 B2=6.85	1956DRb (57115)	2237

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
Co++	gl	KNO3	20°C	0.10M	U		K1=8.13 B2=12.18	1980BBc (57172)	2238

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
Co++	gl	NaNO3	25°C	0.10M	M		K1=2.30 K(Co+HL)=0.5 K(CoL+H)=5.15	1999BHb (57198)	2239

C7H12N4 L CAS 18102-76-6 (3732)
1-Cyclohexyltetrazole;

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       sp  non-aq 25°C 100% U          K1=2.16   B2=3.50   1963GBa (57205)2240
Medium: THF
*****
C7H12N4O          L                      (6725)
Glycyl-histamine
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  NaCl04 25°C 0.10M C    M    K1=3.13   B2=5.65   1997GHa (57212)2241
                                     B(1,1,1,0)=10.10
                                     B(1,1,-1,0)=-5.18
                                     B(1,1,-2,0)=-15.41
                                     B(1,2,-1,0)=-2.26
B(2,2,-3,1)=-8.00, B(2,2,-4,1)=-17.28, B(2,4,-3,1)=-1.50
B(p,q,r,s): pCo+qL+rH=S02=CopLqHr(02)s
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Co++       gl  NaCl04 25°C 0.10M C          K1=3.13   B2=5.65   1995GHa (57213)2242
                                     B(CoHL)=10.10
                                     B(CoH-1L)=-5.18
                                     B(CoH-2L)=-15.41
                                     B(CoH-1L2)=-2.26
*****
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
-----
Co++       gl  NaCl04 25°C 0.5M C          K1=5.22          1989BHc (57239)2243
-----
Co++       gl  diox/w 25°C 50% U T          K1=7.31   B2=13.12  1973AHb (57240)2244
Temp.range 5-45 C. K1(5 C)=7.34, K1(45 C)=7.24, K2(5 C)=5.85, K2(45 C)=5.70
*****
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
-----
Co++       gl  diox/w 24°C 50% U          K1=6.2          1979ACa (57287)2245
*****
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
-----
Co++       gl  KNO3   25°C 0.10M C          K1=1.50          1975LPa (57304)2246
*****
C7H12O4          H2L                      CAS 534-59-8 (480)
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Butylpropanedioic acid (Butylmalonic acid); HOOC.CH(C4H9).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	C			K1=2.57	1975IPa (57332)	2247

C7H12O4			H2L					CAS 510-20-3	(482)	
Diethylpropanedioic acid (Diethylmalonic acid); <chem>HOOC.C(C2H5)2.COOH</chem>										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	NaClO4	25°C	0.10M	U			K1=2.25	19700Va (57355)	2248

C7H13NO2			HL					(3170)		
1-Aminocyclohexanecarboxylic acid; <chem>H2N.C6H10.COOH</chem>										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KCl	20°C	0.10M	U			K1=4.47 B2=8.17	1963IPa (57430)	2249

C7H13NO2			HL					CAS 103067-99-4	(1127)	
2-Amino-hept-6-enoic acid; <chem>CH2:CH.CH2.CH2.CH2.CH(NH2).COOH</chem>										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	U			K1=4.22 B2=7.68	1975IPb (57437)	2250

C7H13NO2			HL					CAS 99571-58-1	(6223)	
6-Methylpiperidine-2-carboxylic acid; <chem>CH3.C5H9N.COOH</chem>										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	oth/un	30°C	0.10M	U	H		K1=4.65	1985RRe (57450)	2251
DH(K1)=-29 kJ mol ⁻¹ , DS= 5 J K ⁻¹ mol ⁻¹										

C7H13NO2S			HL					(6377)		
2-Propylthiazolidine-4-carboxylic acid;										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KNO3	30°C	0.10M	U	TIH		K1=3.01 B2= 5.22	1983RKb (57464)	2252
At I=0.0, K1=3.10, K2=2.32. Data for 25-50 C. DH(K1)=-14.4 kJ mol ⁻¹ , DS(K1)=10.5 J K ⁻¹ mol ⁻¹ ; DH(K2)=-12.4, DS(K2)=1.4.										

C7H13NO3			HL					(7175)		
3,3'-Dimethylglutaramide; <chem>HOOCCH2C(CH3)2CH2CONH2</chem>										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	U			B2=4.40	1995MWb (57471)	2253

C7H13NO3S H2L CAS 59-53-0 (1269)
N-Acetyl-penicillamine; CH3.CO.NH.CH(COOH)C(CH3)2SH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.20M	C		K1=4.63 B2=10.10	1988SKc (57488)	2254

Co++	gl	KCl	25°C	0.20M	U		K1=4.63 B2=10.10	1983HSa (57489)	2255
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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
Co++	gl	KNO3	25°C	0.10M	C		K1=7.40 B2=13.81	1975IPa (57526)	2256

Co++	gl	KCl	25°C	0.10M	U		K1=7.55 B2=13.40	1966SIb (57527)	2257
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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
Co++	gl	diox/w	25°C	50%	U T H		K1=8.20	19760Ma (57535)	2258

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
Co++	gl	KCl	20°C	0.10M	U		K1=8.51 B2=12.87	1955SAa (57543)	2259

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
Co++	EMF	KCl	20°C	0.10M	U		K1=7.96 B2=12.90	1955SAa (57571)	2260

Method: H electrode

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
Co++	gl	KCl	30°C	0.10M	U		K1=7.8 B2=13.2	1954Cma (57587)	2261

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
Co++	EMF	KNO3	20°C	0.10M	U			K1=8.03 B2=12.21	1968MRb (57595)	2262

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
Co++	gl	KNO3	20°C	0.10M	U			K1=7.70 B2=11.41	1980MRc (57606)	2263

C7H13N3		L						CAS 673-46-1	(4424)	
4-(2-Dimethylaminoethyl)imidazole;										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	U			K1=2.82	1973BD b (57638)	2264

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
Co++	gl	NaCl	20°C	0.15M	U			K1=2.56	1989DKa (57647)	2265
D/L-Ala-D/L-Asn stereoisomer										

C7H14N2O3		HL			Gly-norVal			CAS 2325-17-9	(3776)	
Glycyl-DL-norvaline; H2N.CH2.CO.NH.CH(CH2.CH2.CH3).COOH										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.1M	U				2003PGa (57718)	2266
K(Co+HL)=3.18										
K(CoL+H)=11.19										
K(CoHL+HL)=2.09										
K(CoHL2+H)=10.61										
K(CoL2+H)=10.83; K(CoL+HL)=2.67										

C7H14N2O3		HL			Gly-Val			CAS 7963-21-9	(973)	
Glycyl-valine; H2N.CH2.CO.NH.CH(CH(CH3)2).COOH										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.1M	U				2003PGa (57750)	2267
K(Co+HL)=3.32										
K(CoL+H)=11.14										
K(CoHL+HL)=2.49										
K(CoHL2+H)=10.84										

K(CoL2+H)=10.62; K(CoL+HL)=2.76

Co++ gl NaCl 25°C 0.12M U K1=3.32 B2=5.81 1977PNa (57751)2268

Co++ gl NaCl 25°C 0.12M U K1=3.32 B2= 5.81 1976PNa (57752)2269

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

Co++ gl KNO3 25°C 0.15M C K1=3.03 B2= 5.69 1981AEa (57792)2270

Co++ gl NaCl 25°C 0.12M U K1=3.13 B2=5.83 1977PNa (57793)2271

Co++ gl NaCl 25°C 0.12M U K1=3.13 B2= 5.83 1976PNa (57794)2272

Co++ gl KCl 25°C .058M U T B2=6.00 1957LYa (57795)2273
B2=6.60(0 C)

C7H14N2O4S2 H2L CAS 28052-93-7 (526)

S,S'-Methylenebis(L-cysteine); H2N(HOOC)CH.CH2.S.CH2.S.CH2.CH(COOH)NH2

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

Co++ gl KCl 25°C 0.10M U K1=6.28 B2=8.90 1981BLa (57827)2274
B(CoHL)=12.85

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

Co++ gl NaNO3 25°C 0.10M M K1=1.86 2003FHa (57840)2275

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

Co++ gl NaNO3 20°C 0.10M C 1994ESa (57895)2276

B(CoH-1L)=-4.95

B(CoH-2L)=-8.60

B(CoH-1L2)=-2.24

B(CoH-2L2)=-8.98

C7H15NO4 HL CAS 41244-51-3 (4459)

N,N-Bis(2'-hydroxyethyl)alanine; (HO.CH2.CH2)2.N.CH(CH3)COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	EMF	KNO3	20°C	0.10M	U		K1=4.93	1968MRb (57931)	2277

C7H15N04S		HL		MOPS			CAS 1132-61-2	(2792)	
3-(N-Morpholino)propanesulfonic acid; C4H8ON-CH2.CH2.CH2.SO3H									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	C		K1=3.39	2001A0a (57960)	2278
Co++	gl	KNO3	25°C	0.10M	C	M	K1=3.41 K(Co(Ser)+2L)=6.30 K(Co(Asp)+2L)=6.69 K(Co(Glu)+2L)=6.47 K(Co(His)+2L)=6.54	1999AAa (57961)	2279

C7H15N05		L					(6007)		
1-Methoxy-D-glucosamine;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaCl	25°C	0.15M	U		K1=2.93 B(CoH-1L2)=-1.945 B(CoH-2L2)=-10.77	1987PDa (57967)	2280

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
Co++	gl	KNO3	25°C	0.10M	C	M	K(Co(Gly)+2L)=7.01 K(Co(Ser)+2L)=7.14 K(Co(Met)+2L)=6.91 K(Co(Asp)+2L)=7.64 K(Co(Glu)+2L)=7.51, K(Co(His)+2L)=7.41.	1999AAa (57991)	2281

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
Co++	gl	NaClO4	25°C	0.10M	U		K1=4.20 B2=12.05 B(CoH2L2)=21.70	1992DGa (58003)	2282

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
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B(CoHL2)=24.40

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

Co++ gl KNO3 25°C 0.10M C M K1=3.45 2001AAa (58172)2291
Also data for ternary complexes with 5'-GMP, 5'-IMP and 5'-CMP.

Co++ gl KNO3 25°C 0.10M C K1=3.53 2000ADa (58173)2292

Co++ gl KNO3 25°C 0.10M C K1=3.42 1999AAa (58174)2293

C7H17N203P HL (7919)
(Glycylamino)methyl(t-butylphosphinic acid);

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

Co++ gl KNO3 25°C 0.10M C K1=3.09 B2= 5.40 2001LKa (58188)2294
B(CoHL)=9.4

C7H17N204P H2L Leu-Gly(P) CAS 60668-11-3 (7119)
Leucylaminomethylphosphonic acid;

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

Co++ gl KNO3 25°C 0.10M C K1=2.739 1995HLA (58195)2295
B(CoH-1L)=-5.71

C7H17N204PS H2L CAS 82611-22-1 (7392)
Methionyl-1-aminoethylphosphonic acid; H2L

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

Co++ gl KNO3 25°C 0.10M C K1=3.152 B2=5.49 1997LBa (58200)2296
B(CuHL)=9.88
B(CuH-1L)=-5.477

Data are for (S,S)-isomer. For (S,R)-isomer K1=2.73, B(CoHL)=9.36
B(CoH-1L)=-5.78

C7H17N3 L (101)
1,4,7-Triazacyclodecane; cyclo(.NHCH2CH2NHCH2CH2NHCH2CH2CH2.)

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

Co++ gl NaClO4 25°C 1.0M C K1=10.73 B2=19.12 1999UGa (58223)2297

C7H19N06P2 H4L (7464)
N-(3-Methylbutyl)imino-bis(methylenephosphonic acid);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.20M	C		K1=8.08 B(CoHL)=15.42 B(CoH2L)=19.98 B(CoH-1L)=-3.02	2000KKa (58270)	2298

C7H19NO7P2 H4L CAS 63161-30-8 (1349)

1-Hydroxy-3-N,N-diethylaminopropylphosphonic acid;
(C2H5)2N.CH2.CH2.C(OH)(PO3H2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	M		K1=7.71 K(Co+HL)=6.94 K(Co+H2L)=4.20	1978KMa (58278)	2299

C7H19N3 L CAS 1985-81-5 (969)

4-Aza-4-methylheptane-1,7-diamine; H2N.(CH2)3.N(CH3).(CH2)3.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	none	10°C	0.0	U		K1=5.95 B2=9.83	1959GFb (58320)	2300

C7H20N4 L CAS 4741-99-5 (12)

1,4,8,11-Tetraazaundecane; H2N.CH2.CH2.NH.CH2.CH2.CH2.NH.CH2.CH2.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO4	35°C	0.20M	U	M	K1=13.51	1983MKb (58353)	2301

Ternary complex with dioxygen: B(Co2L2(O2))=31.04

Co++	gl	oth/un	25°C	?	U		K1=12.36 B2=15.70	1976NGa (58354)	2302
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Co++	gl	NaClO4	25°C	?	U		K1=12.36 B2=15.70	1976NGe (58355)	2303
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C7H20N4 L (3012)

N,N-Bis(2-aminoethyl)-1,3-diaminopropane; N(CH2CH2NH)2CH2CH2CH2NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	C		K1=12.15 B(CoH-1L)=1.14	2003KDa (58367)	2304

C7H22N2O13P4 H8L DPPH CAS 54622-43-4 (2651)

2-Hydroxy-1,3-diaminopropane-N,N,N',N'-tetramethylphosphonic acid;
HO.CH(CH2.N(CH2.PO3H2)2)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
-----
Co++       gl  oth/un 25°C 0.03M U          K1=2.87      1971NPc (58444)2311
*****
C8H5N5O6      H3L      Murexide          (453)
Purpuric acid (Murexide is ammonium salt);
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       sp  non-aq 25°C 100% U TIH      K1=5.28      B2=9.70      1995GSa (58482)2312
Medium: 10% w/w MeCN/DMSO. DH(K1)=4.5 kJ mol-1, DS=116 J K-1 mol-1;
DH(K2)=-25.5, DS=-1
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Co++       sp  KNO3    25°C 0.10M U          K1=5.81      1984OWa (58483)2313
                        B(CoHL)=11.81
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Co++       sp  KNO3    12°C 0.10M U          K(Co+H2L)=2.46
                        K(Co+H2L)=2.46
*****
C8H5O2F3S      HL      TTA          CAS 326-91-0 (165)
4,4,4-Trifluoro-1-(2-thienyl)butane-1,3-dione; F3C.CO.CH2.CO.C4H3S
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       dis NaNO3 25°C 0.10M C          K1=3.5      1994SDc (58593)2315
Method: solvent extraction into CHCl3
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-----
Co++       dis non-aq 25°C 100% U      M          K(CoL2+bpy)=5.34
                        K(CoL2+bpy)=5.34
Medium: benzene
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Co++       EMF oth/un 25°C 1.0M U          K(Co+HL=CoL+H)=-2.85
                        K(Co+HL=CoL+H)=-2.85
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-----
Co++       gl  diox/w 30°C 75% U          K1=7.81      B2=14.91      1965RGa (58596)2318
*****
C8H6N2OF6      L          CAS 64139-77-1 (5452)
N-(2-Pyridyl)-bis(trifluoromethyl)aminomethanol; C5H4N.NH.C(CF3)2.OH
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  oth/un 25°C 0.10M U          B2=7.95      1977Cwa (58783)2319
*****
C8H6N2O2      HL          (6681)
9-Hydroxy-pyrido(1,2-a)pyrimidin-4-one;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  KNO3    25°C 0.10M C          K1=6.54      B2=12.75      1993YDa (58788)2320
-----

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Data also in 50% v/v dioxan/water. Electrolyte: 0.1M KNO₃.

B₁= 6.97, B₂= 12.94.

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
Co++	gl	oth/un	25°C	0.10M	U			K ₁ =5.00 B ₂ =9.35 B ₃ =13.10	1968EHa (58801)	2321

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
Co++	gl	alc/w	24°C	20%	C	M		K(Co(ada)+L)=4.72	1996MIa (58933)	2322

Medium: 20% w/w EtOH/H₂O, 0.10 M KNO₃.

ada: N-(acetamido)-iminodiethanoic acid.

Co++	gl	oth/un	25°C	0.10M	U			K ₁ =2.29	1989SCa (58934)	2323
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In 60% v/v EtOH/H₂O: K₁ = 3.20

Co++	gl	NaCl04	25°C	0.50M	C	TIH		K ₁ =1.492	1975LKB (58935)	2324
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Co++	gl	oth/un	25°C	0.0	U			K ₁ =2.86	1965MOb (58936)	2325
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Co++	ix	oth/un	25°C	0.0	U			K ₁ =2.76 B ₂ =3.66	1965SMF (58937)	2326
------	----	--------	------	-----	---	--	--	---	-----------------	------

Co++	EMF	oth/un	25°C	0.0	U	T H		K ₁ =2.831	1962DNa (58938)	2327
------	-----	--------	------	-----	---	-----	--	-----------------------	-----------------	------

Method: H electrode. 0-45 C. DH(K₁)=7.8 kJ mol⁻¹, DS=80.3 J K⁻¹ mol⁻¹
K₁=5.690-0.02374T+0.00004752T²

Co++	sp	oth/un	20°C	0.40M	U			K ₁ =1.81	1953BBa (58939)	2328
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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
Co++	sp	alc/w	?	100%	U	M		K(Co(NO ₃) ₂ +2L)=2.23 K(CoCl ₂ +2L)=2.70 K(Co(CNS) ₂ +2L)=1.61	1973SKc (59090)	2329

Medium: MeOH

C₈H₇N₂O₂Cl₂ HL CAS 13538-26-6 (6286)

3,5-Dichloro-2-hydroxyacetophenone oxime; Cl₂(HO)C₆H₂.C(CH₃):NOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	27°C	75%	U	I	K1=7.20 B2=13.05	1976LGa (59116)	2330

Data in 75% EtOH. Data also in 75% acetone and 75% dioxan

C8H7NO4 HL CAS 1450-76-7 (1143)
 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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Co++	sp	diox/w	40°C	50%	U		K1=3.31	1975PSa (59141)	2331
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C8H7NS L CAS 120-75-2 (4501)
 2-Methylbenzothiazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	sp	alc/w	?	100%	U	M		1973ASb (59168)	2332
------	----	-------	---	------	---	---	--	-----------------	------

K(Co(CNS)2+2L)=3.39

Medium: MeOH

C8H7N3 L CAS 18653-75-3 (3792)
 2-(2'-Pyridyl)imidazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	KNO3	25°C	0.10M	C		K1=5.43 B2=10.27 B3=14.55 B4=16.40	1992RKa (59181)	2333
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Co++	EMF	KNO3	25°C	0.10M	U		K1=5.263 B2=10.048 B3=13.871	1967EHc (59182)	2334
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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
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Co++	gl	KNO3	25°C	0.10M	U		K1=5.811 B2=11.321 B3=15.71	1967EHb (59189)	2335
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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
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Co++	gl	diox/w	40°C	50%	U		K1=5.25	1975PPa (59212)	2336
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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
Co++	gl	NaClO4	25°C	0.10M	U	M	K(Co(phen)+L)=3.39	1984Cma (59275)	2337

C8H8N2		L					CAS 615-15-6	(5668)	
1-Methylbenzimidazole;									
C8H8N2		L					CAS 615-15-6	(5668)	

Co++	sp	non-aq	25°C	100%	U		B2=2.18	1984DPa (59294)	2338
Medium: DMSO									
Co++	gl	alc/w	35°C	60%	U	I	K1=3.11	1984MLa (59295)	2339
value at I=0.1 M KNO3; I=0.04, K=3.02, I=0.18, K=3.20, I=0.26, K=3.27									

C8H8N2O2		HL					Phenylglyoxime	(3222)	
Phenylglyoxime; C6H5.C(:N.OH).CH:N.OH									
C8H8N2O2		HL					Phenylglyoxime	(3222)	

Co++	gl	diox/w	25°C	50%	U		K1=10.3 B2=19.3	1958PBa (59331)	2340

C8H8N2O6S		H2L					CAS 15054-42-9	(3843)	
N-(2'-Nitrobenzenesulfonyl)aminoethanoic acid; O2N.C6H4.SO2.NH.CH2.COOH									
C8H8N2O6S		H2L					CAS 15054-42-9	(3843)	

Co++	gl	NaNO3	25°C	0.10M	C	M	K1=5.75	2000SIa (59374)	2341
B(CoHL)=12.81									
B(CoH2L2)=25.8									
B(CoHL(bpy))=19.36									
B(CoL(bpy))=12.34									
B(CoHL(bpy)2)=24.49, B(CoL(bpy)2)=17.50.									

C8H8N2S		HL					CAS 7152-24-1	(6200)	
2-(Methylmercapto)benzimidazole;									
C8H8N2S		HL					CAS 7152-24-1	(6200)	

Co++	gl	NaClO4	30°C	0.10M	M	M	K(Co(bpy)+L)=8.64	1995Rma (59391)	2342
K(Co(phen)+L)=8.44									
K(CoA+L)=6.72									
A is 1,2-diaminobenzene.									
Co++	gl	NaClO4	30°C	0.10M	M		K1=10.31	1995Rma (59392)	2343

C8H8N2S		L					CAS 2941-62-0	(4511)	

6-Amino-2-methylbenzothiazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	sp	non-aq	?	100%	U	M			1973ASb (59394)	2344
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K(CoCl₂+L)=2.61

K(CoBr₂+2L)=2.76

K(Co(NO₃)₂+2L)=2.23

Medium: MeOH

C8H8N4	L	Hydralazine	CAS 86-54-4	(3197)
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1-Hydrazinophthalazine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	oth/un	22°C	0.10M	U			K1=5.8 B2=10.8	1957FEa (59401)	2345
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B3=15.0

C8H8O2	HL	2-Acetylphenol	CAS 118-93-4	(1888)
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2-Hydroxyacetophenone; HO.C₆H₄.CO.CH₃

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	diox/w	40°C	50%	U			K1=5.25	1975PPa (59453)	2346
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Co++	gl	diox/w	27°C	75%	U			K1=11.33 B2=21.39	1973KDC (59454)	2347
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Medium: 75% dioxan, 0.1 M NaClO₄

C8H8O2	HL		CAS 613-84-3	(3189)
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5-Methylsalicylaldehyde (5-Methyl-2-hydroxybenzaldehyde)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	diox/w	30°C	75%	U			K1=8.46 B2=14.70	1978RJa (59508)	2348
------	----	--------	------	-----	---	--	--	------------------	-----------------	------

C8H8O2	HL	Phenylacetic	CAS 103-82-2	(1361)
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Phenylethanoic acid; C₆H₅.CH₂.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	EMF	NaClO ₄	25°C	2.00M	U			K1=0.623 B2=0.522	1979NTa (59538)	2349
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C8H8O2	HL		CAS 1004-72-4	(3190)
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alpha-Methyltropolone;

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

Co++	gl	diox/w	30°C	50%	U			K1=8.0 B2=14.3	1954BFb (59579)	2350
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C8H8O2	HL		CAS 583-80-2	(3191)
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beta-Methyltropolone;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	50%	U		K1=7.9 B2=14.1	1954BFb (59590)	2351

C8H8O2S		HL						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
Co++	gl	diox/w	30°C	75%	U		K1=10.29 B2=18.39	1965RGa (59645)	2352

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
Co++	ISE	KN03	25°C	0.10M	C		K1=0.76	1972FGb (59653)	2353
By competition with Ag+ using Ag ISE									

C8H8O2Se		HL						CAS 17893-46-8	(4507)
(Phenylseleno)ethanoic acid; C6H5.Se.CH2.COOH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	ISE	KN03	25°C	0.10M	C		K1=0.63	1972FGb (59661)	2354
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
Co++	gl	diox/w	40°C	50%	U		K1=4.38	1975PPa (59673)	2355

C8H8O3		HL						CAS 611-72-3	(80)
2-Phenyl-2-hydroxyethanoic acid; C6H5.CH(OH).COOH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO4	25°C	2.0M	U		K1=1.19 B2= 2.07	1985MFa (59804)	2356
By quinhydrone electrode, K1=1.26, B2=1.95.									
Co++	gl	KN03	25°C	0.10M	U T		K1=1.75	1984JSa (59805)	2357
Co++	sp	oth/un	?	?	U		K1=7.0	1976SCb (59806)	2358
Co++	sp	NaClO4	30°C	0.10M	U		K1=2.36 B2=4.26	1975KAd (59807)	2359

Co++ vlt NaClO4 20°C 2.0M U K1=1.23 B2=1.15 1968FLa (59808)2360
B3=2.76

By EMF K1=1.22, B2=1.74, B3=2.67

Co++ oth oth/un ? 0.04M U I B2=3.30 1968VBa (59809)2361
I=0.01: B2=2.61. Measured using circular dichroism.

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

Co++ gl diox/w 30°C 75% U K1=4.97 B2=7.55 1967KBb (59977)2362
Medium: 75% dioxan, 0.1 M NaClO4

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

Co++ gl diox/w 35°C 50% U K1=3.32 B2=6.06 1971MAa (60080)2363
Medium: 50% dioxan, 0.1 M NaClO4

C8H9N L CAS 17618-94-9 (300)
2-Allylpyridine; C5H4N.CH2.CH:CH2

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

Co++ gl KNO3 25°C 0.10M U K1=1.5 1974ILa (60146)2364

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

Co++ gl KNO3 25°C 0.10M M K1=3.89 B2=7.04 1990SMa (60173)2365

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

Co++ gl diox/w 35°C 50% U K1=4.4 B2=8.6 1958YSa (60180)2366

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

Co++ gl diox/w 40°C 50% U K1=6.20 1975PPa (60187)2367

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

Co++ gl NaClO4 20°C 0.10M U K1=6.8 B2=14.30 1965BEb (60194)2368

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

Co++ gl diox/w 30°C 50% U K1=7.37 1982UVa (60211)2369

Co++ gl diox/w 30°C 75% U K1=11.43 B2=20.86 1976IKa (60212)2370

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)

Co++ gl diox/w 30°C 75% U K1=11.20 B2=20.68 1958KV a (60213)2371
K3=7.65

Medium: 75% dioxan, 0.1 M NaClO4

C8H9NO2 L CAS 1849-49-6 (5907)

5'-Deoxyipyridoxal

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

Co++ gl KNO3 25°C 0.10M M K1=2.90 1990SMa (60245)2372

K(CoL+H)=6.26

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

Co++ gl diox/w 35°C 50% U K1=3.0 B2=5.6 1958YSa (60263)2373

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

Co++ gl NaClO4 25°C 0.10M U M 1984CMa (60313)2374

K(Co(phen)+L)=3.61

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
Co++	gl	NaClO4	30°C	0.10M	U T H		K1=4.26	1981RSc (60334)	2375
Data for 30-50 C. DH(K1)=-16.3 kJ mol ⁻¹ , DS(K1)=28 J K ⁻¹ mol ⁻¹ . K(Co(bpy)+L)=4.12, DH=-14.7, DS=30. K(Co(phen)+L)=4.07, DH=-15.3, DS=27.									
Co++	gl	NaClO4	30°C	0.10M	U	M	K1=4.26 B2=7.92	1980RSb (60335)	2376
K(Co(phen)+L)=4.07									
Co++	gl	KN03	30°C	0.10M	U	M	K1=4.26	1980RSc (60336)	2377
K(Co(His)+L)=3.80									
Co++	gl	NaClO4	30°C	0.10M	U T H			1980RSe (60337)	2378
DH(K1)=-16.3 kJ mol ⁻¹ , DS(K1)=28 J K ⁻¹ mol ⁻¹ ; DH(K2)=-16.7, DS(K2)=15. *****									
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
Co++	gl	KN03	25°C	0.05M	M		K1=3.27	1975DPb (60370)	2379

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
Co++	oth alc/w		20°C	50%	U		K1=8.74 B2=15.12	1972KPc (60381)	2380
Medium: 50% 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
Co++	gl	diox/w	27°C	60%	U I		K1=7.65 B2=14.00	1974SRa (60396)	2381
In 60% acetone: K1=7.20, B2=10.60; 60% 2-EtOEtOH: 4.80, 6.90									
Co++	gl	diox/w	30°C	60%	U		B2=10.50	1967SRa (60397)	2382

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
Co++	gl	KCl	25°C	0.50M	U		K1=1.68	1976EEa (60423)	2383

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
Co++	EMF	diox/w	30°C	50%	U		K1=5.10	1977DJa (60436)	2384
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
Co++	gl	KN03	20°C	0.10M	U		K1=4.25 B2= 7.65	1989SMc (60444)	2385

C8H9NO3		HL					CAS 676256-92-1	(9133)	
N-(2-Furanylmethylene)alanine;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	1.0M	U		K1=4.27	2003SGa (60451)	2386

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
Co++	gl	KN03	30°C	0.10M	U	TIH	K1=7.62 B2=14.18	1983Rkb (60457)	2387
At I=0.0, K1=7.79, K2=6.71. Data for 25-50 C. DH(K1)=-44.5 kJ mol ⁻¹ , DS(K1)=42.5 J K ⁻¹ mol ⁻¹ ; DH(K2)=-38.4, DS(K2)=25.6.									

C8H9NO4		HL					CAS 78257-51-9	(887)	
4-Ethoxyppyridine-2-carboxylic acid N-oxide; C2H5O.C5H3N-O(COOH)									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO4	30°C	0.10M	U	T	K1=3.84 B2=6.38	1982RRa (60477)	2388

C8H9NO4		H2L					(4520)		
Dehydroethanoic acid oxime;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	35°C	50%	U			1971MAa (60486)	2389
							K(Co+HL)=8.35		
							K(Co+2HL)=15.94		
Medium: 50% dioxan, 0.01 M NaClO4									

C8H9NO5S		H2L					(6513)		
2-Amino-4-sulfo benzeneethanoic acid; NH2.CH(C6H4HSO3)COOH									

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

Co++ gl KNO3 25°C 0.10M M K1=4.01 B2=6.78 1990Sma (60522)2390

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

Co++ gl diox/w 30°C 45% M K1=7.4(5) B2=8.8(4) 1984MYa (60530)2391

C8H9N2O2SF3 L CAS 507483-51-4 (9291)
2-(Trifluoromethylsulfonylaminomethyl)-6-methylpyridine;

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

Co++ gl alc/w 25°C 80% C K1=5.11 B2=10.30 2003CKa (60534)2392
Medium: 80% MeOH/H2O, 0.1 M Me4NNO3.

C8H9N3 L CAS 7471-05-8 (3198)
2,2'-Pyridylimidazoline;

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

Co++ gl diox/w 25°C 50% U K1=6.4 B2=12.0 1956HFa (60542)2393
B3=16.8

C8H9N3O5 L (4573)
1-Benzoylthiosemicarbazide; C6H5.CO.NH.NH.CS.NH2

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

Co++ gl alc/w 25°C 80% U TIH K1=8.67 1985BAb (60551)2394
In 0.067 M KCl. When I=0.133, K=8.83; I=0.200, K=8.99. DH=-41.5 kJ mol⁻¹,
DS=23 J K⁻¹ mol⁻¹

Co++ sp mixed rt 50% U K1=1.80 1969CFb (60552)2395
Medium: 50% acetone

C8H9N3O2 L (4519)
N-(2-Picolyl)oxamide; C5H4N.CH2.NH.CO.CO.NH2

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

Co++ gl KNO3 20°C 0.25M U 1970DGa (60575)2396
K(CoH-1L+H)=6.01
K(CoH-2L2+H)=4.84

C8H9N3O7 H2L Uramildiacetic CAS 13055-06-5 (185)
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

Co++ cal KNO3 25°C 0.1M C H 1981CSb (60610)2397
DH(K1)=-17.6 kJ mol⁻¹, DS=167 K J mol⁻¹

Co++ gl KNO3 25°C 0.10M U T M 1981SVa (60611)2398
K(CoL+Gly)=3.51
At 20 C: K(CoL+Gly)=3.55; 30 C: 3.47; 40 C: 3.33

Co++ oth KNO3 25°C 0.10M U K1=11.84 1972FVa (60612)2399

Co++ gl oth/un 20°C 0.0 U K2=3.2 1948SBa (60613)2400

C8H9O3P H2L CAS 1707-08-0 (1969)
2-Styrylphosphonic acid; C6H5.CH:CH.PO3H2

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

Co++ gl KNO3 25°C 0.12M U K1=2.56 1979RZb (60670)2401

C8H10N06P H3L Codecarboxylase CAS 41468-25-1 (2555)
Pyridoxal-5-phosphoric acid;

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

Co++ gl KNO3 25°C 0.10M M K1=3.88 1990SMa (60700)2402
K(CoL+H)=6.96
K(CoHL+H)=5.2

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

Co++ sp alc/w 25°C 40% U K1=4.61 B2=4.22 1969MKf (60718)2403
Medium: 40% EtOH, I=1.0 M KBr

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

Co++ sp alc/w 25°C 60% U B2=4.15 1971MVb (60721)2404
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

Co++ sp oth/un 25°C 0.02M U K1=5.47 B2=6.81 1969MKg (60723)2405

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
Co++	gl	KNO3	25°C	0.10M	M		K1=5.30 B2=9.80	1976RNa (60733)	2406

B2=10.61 (racemic ligand)

C8H10N2O2 HL CAS 75345-75-5 (4525)

3-Dimethylamino-6-nitrosophenol; (CH3)2N.C6H2(OH).N:O

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	KCl	25°C	0.10M	U			1971MOb (60735)	2407

B3=26.77

C8H10N2O2 HL (3227)

N-(2'-Pyridylmethyl)glycine; C5H4N.CH2.NH.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	U		K1=8.1	1965LCa (60744)	2408

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
Co++	gl	KNO3	20°C	0.10M	U		K1=2.40	19660Ca (60793)	2409

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
Co++	gl	KNO3	20°C	0.10M	U		K1=2.39	19660Ca (60797)	2410

C8H10N6 L Dihydralazine CAS 484-23-1 (713)

1,4-Dihydrazinophthalazine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	none	25°C	0.0	U		K1=4.68	1988XGa (60811)	2411

In the presence cationic surfactant CTMAB, PH=7-8

C8H10O5 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
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Co++ gl KNO3 30°C 0.10M U K1=4.95 1995KFa (60863)2412

C8H10O7 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

Co++ gl KNO3 30°C 0.10M U K1=4.32 1995KFa (60884)2413

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

Co++ sp non-aq 25°C 100% U M 1980MAb (60943)2414
K(CoA+L)=0.92

Medium: CH2Cl2. A= 1,19-Dimethyl-AD-didehydrocorrin perchlorate

C8H11N L 2,6-Xylidine CAS 87-62-7 (3200)
2,6-Dimethylaniline; H2N.C6H3(CH3)2

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

Co++ sp non-aq ? 100% U M 1972ZDa (60951)2415
K(CoCl2+L)=1.10
K(CoCl2+2L)=2.40

Medium: t-butanol

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

Co++ gl KNO3 25°C 0.10M U K1=1.4 1974ILa (60959)2416

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

Co++ gl KNO3 25°C 0.50M U K1=1.28 B2=2.14 1975LPc (60973)2417

C8H11N L CAS 1122-81-2 (3802)
4-Propylpyridine; C5H4N.CH2.CH2.CH3

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

Co++ sp non-aq 20°C 100% U HM 1966CKb (60979)2418
K(CoL2Cl2+2L)=1.07

$$K(\text{CoL2}(\text{NCS})_2+2\text{L})=4.90$$

Medium: CHCl_3 . $\text{DH}(\text{CoL2Cl}_2+2\text{L})=-66.0 \text{ kJ mol}^{-1}$, $\text{DS}=-205 \text{ J K}^{-1} \text{ mol}^{-1}$

$\text{DH}(\text{CoL2}(\text{CNS})_2+2\text{L})=-68.6$, $\text{DS}=-142$

C8H11N L CAS 104-90-5 (4480)

5-Ethyl-2-methylpyridine; $\text{CH}_3.\text{C}_5\text{H}_3\text{N}.\text{CH}_2.\text{CH}_3$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	sp	non-aq	?	100%	U	M		1971ADb (60983)	2419
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$$K(\text{CoCl}_2+\text{L})=1.76$$

$$K(\text{CoCl}_2+2\text{L})=3.91$$

Medium: n-butanol. In t-butanol, values are 2.06, 3.97. In cyclohexanone, 2.64, 5.10. In ethanol, 1.22, 2.80. In ethylene chlorohydrin, 0.73, 2.34

C8H11N L DiMethylaniline CAS 121-69-7 (1343)

N-Phenyl-N,N-dimethylamine; $\text{C}_6\text{H}_5.\text{N}(\text{CH}_3)_2$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	sp	non-aq	?	100%	U	M		1972ZDa (60988)	2420
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$$K(\text{CoCl}_2+\text{L})=2.30$$

$$K(\text{CoCl}_2+2\text{L})=3.52$$

Medium: t-butanol

C8H11NO L CAS 20609-07-8 (298)

2-(2'-Hydroxypropyl)pyridine; $\text{C}_5\text{H}_4\text{N}.\text{CH}_2.\text{CH}(\text{OH}).\text{CH}_3$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	KNO_3	25°C	0.10M	U		$K_1=1.55$	1974ILa (60997)	2421
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C8H11NO L (5433)

2-(2-Pyridyl)-2-propanol; $\text{CH}_3.\text{C}(\text{OH})(\text{C}_5\text{H}_4\text{N}).\text{CH}_3$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	diox/w	25°C	50%	U		$K_1=1.99$	1981CBa (61002)	2422
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C8H11NO HL CAS 6623-41-2 (3229)

2-Amino-4,5-dimethylphenol; $\text{H}_2\text{N}.\text{C}_6\text{H}_2(\text{CH}_3)_2.\text{OH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	none	20°C	0.0	U		$K_1=5.3$	1959SIb (61018)	2423
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C8H11NO L CAS 2859-67-8 (2037)

3-(3-Pyridyl)-1-propanol; $\text{C}_5\text{H}_4\text{N}.\text{CH}_2.\text{CH}_2.\text{CH}_2\text{OH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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 C8H11N08 H4L CAS 7408-20-0 (2608)
 Amino-di(butanedioic acid);HN(CH(COOH)CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	U		K1=9.96 K(Co+HL)=4.35	1998VKa (61198)	2433

 C8H11N08P2 H5L (6894)
 N-(4-Carboxyphenyl)aminomethylenedi(phosphonic acid); H0OC.C6H4.NH.CH(P03H2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	U		K1=9.63 K(Co+HL)=4.48	1990GKa (61227)	2434

 C8H11N303 HL CAS 2497-02-1 (3230)
 Acetyl-L-histidine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	oth/un	25°C	0.16M	U		K1=2.35 B2=4.15	1960MEa (61274)	2435

 C8H11N503 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
Co++	cal	NaNO3	25°C	0.10M	C	HM		2001HCa (61291)	2436

K(Co+HL)=0.96
 DH(Co+HL)=-19.7 kJ mol⁻¹, DS(Co+HL)=-50 J K⁻¹ mol⁻¹.

C8H1102F3 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
Co++	gl	diox/w	30°C	75%	U		K1=7.25 B2=13.95	1972UDa (61299)	2437

Medium: 75% v/v dioxan, 0.01 M Me4NClO4

 C8H12N03P H2L Phosphono-Phe CAS 6324-00-1 (6008)
 1-Amino-2-phenylethanephosphonic acid; C6H5.CH2.CH(NH2)P03H2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.20M	C		K1=4.70 B2=8.02	1987KBb (61339)	2438

 C8H12N04P H3L Phosphono-Tyr CAS 16802-71-4 (6009)
 1-Amino-2-(4-hydroxyphenyl)ethanephosphonic acid; H0.C6H4.CH2.CH(NH2)P03H2

Co++ gl NaNO3 37°C 0.15M U M 1983ERa (61413)2446

B(CoHLA)=16.947
B(CoLA3)=14.502
B(CoL2A2)=16.517
B(CoH2L2A2)=33.93

A=imidazole

Co++ gl NaNO3 37°C 0.15M U M 1983ERa (61414)2447

B(CoL(Gly)A)=13.174
B(CoHL(Gly)A)=21.958
B(CoH2L(Gly)A)=29.321
B(CoHL(Gly)A2)=24.644

B(CoH2L(Gly)A2)=32.589. A=imidazole

Co++ gl NaNO3 37°C 0.15M U K1=5.591 B2=10.255 1982ESa (61415)2448

B(CoHL)=13.330
B(CoH2L2)=27.435

Co++ gl NaNO3 30°C 0.50M M M B2=9.91 1982MAd (61416)2449

B(CoHL)=14.09
B(CoH-1L)=5.06
B(CoH2L2)=26.94
B(Co(en)L)=11.23

B(CoH(en)L)=19.78, B(CoH2(en)L)=26.63, B(CoH2(en)2L)=33.37,
B(CoH6(en)L3)=70.08

Co++ gl KNO3 30°C 0.50M M M K1=5.06 B2=9.91 1979EMa (61417)2450

B(CoHL)=14.09
B(CoH2L2)=26.94

Data for ternary complexes with Gly, DL-Val, DL-Ala and Phe

Co++ gl KCl 25°C 0.50M U K1=5.55 B2=9.21 1976EEa (61418)2451

Co++ gl KNO3 25°C 0.10M U K1=5.09 B2=9.60 1957GMa (61419)2452

C8H12N2O3S HL CAS 551-16-6 (6858)
6-Aminopenicillanic acid;

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

Co++ gl NaNO3 37°C 0.10M U M K1=3.13 1994MGc (61462)2453

B(Co(gly)L)=8.57
*K(Co(gly)L)=-7.62
*K(Co(OH)(gly)L)=-10.52
B(Co(bpy)L)=9.45

*K(Co(bpy)L)=-7.40, *K(Co(OH)(bpy)L)=-10.10. B(CoAL)=5.94,
*K(CoAL)=-7.83, *K(Co(OH)AL)=-8.55. A is imidazole

Co++ gl NaNO3 37°C 0.10M U K1=3.13 1991MGb (61463)2454

*K(CoL(H2O)2)=-9.93

C8H12N2O7 H3L CAS 43101-36-6 (669)
Glycylglycine-N,N-diethanoic acid; (H₂OC.CH₂)₂N.CH₂.CO.NH.CH₂.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO ₃	25°C	0.10M	C		K ₁ =7.44 K(CoL+H)=3.03 K(CoH-1L+H)=9.35	1974MMb (61476)	2455

C8H12N2O8 H4L CAS 35039-85-1 (4537)
1,2-Diaminoethane-N,N'-dimalonic acid; (H₂OC)₂.CH.NH.CH₂.CH₂.NH.CH(COOH)₂

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	vlt	KNO ₃	25°C	0.10M	U		K ₁ =11.90	1973SGa (61487)	2456
Co++	EMF	KNO ₃	25°C	0.10M	U		K ₁ =12.32	1973SGa (61488)	2457
Co++	ISE	KNO ₃	25°C	0.10M	U		K ₁ =12.53	1973SGa (61489)	2458

Constant obtained with Hg electrode. With Cu/Hg electrode, K₁=12.10

C8H12N4B- L (7238)
(Pyrazol-1-yl) dihydro(3,5-dimethylpyrazol-1-yl) borate; C₃H₃N₂.BH₂.C₃H₃N₂(CH₃)₂-

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	dis	non-aq	25°C	100%	U		K(Co+2HL=CoL ₂ (org)+2H)=0.86	1996KSa (61543)	2459

By solvent extraction into CHCl₃

C8H12N4O3 HL Gly-His CAS 3486-76-8 (273)
Glycyl-histidine; H₂N.CH₂.CO.NH.CH(CH₂.C₃H₃N₂).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO ₃	0°C	0.10M	C		K ₁ =3.71 B(CoH-1L)=-4.56	1993KSa (61589)	2460
Co++	gl	KCl	25°C	0.20M	C	M	K ₁ =3.44 B ₂ =6.57 B(CoHL)=10.61 B(CoH-1L)=-3.96 B(CoH-1L ₂)=-1.49 B(CoH-2L)=-15.45 B(CoHL(His))=16.95; B(CoL(His))=9.63; B(CoH-1L(His))=0.90	1983FSc (61590)	2461
Co++	gl	KNO ₃	25°C	0.10M	C		K ₁ =3.32 K[Co(H-1L)+H]=7.24	1977HMD (61591)	2462

Oxygenation constant: K{2CoL+O₂=[Co₂(H-1L)₂(O₂)(OH)]+3H}= -13.5

Co++ gl KNO3 37°C 0.15M U K1=3.37 B2=6.28 1975APb (61592)2463
 K(Co+HL)=2.23
 K(CoH-1L+H)=7.19

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
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Co++	gl	KNO3	0°C	0.10M	C		K1=5.82 B(CoH-1L)=-0.17	1993KSa (61624)	2464
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Alternative model: K1=6.11, B2=10.95.

Co++	gl	KCl	25°C	0.20M	C		K1=5.22 B2=9.28	1983FSc (61625)	2465
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Co++	gl	KNO3	25°C	0.10M	C		K1=5.19 K[Co(H-1L)+H]=7.15	1977Hmd (61626)	2466
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Oxygenation constant: K{2CoL+O2=[Co2(H-1L)2(O2)(OH)]+3H}= -16.6

Co++	gl	KNO3	37°C	0.15M	U		K1=4.54 B2=8.16 K(Co+HL)=2.17	1975APb (61627)	2467
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Co++	gl	none	21°C	0.0	M		K1=5.52 B2=9.75	1974YAa (61628)	2468
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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
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Co++	gl	NaNO3	25°C	0.10M	M	M	K1=1.61 K(PtLA+Co)=1.61	2000KLb (61647)	2469
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A=diethylenetriamine

Co++	gl	NaNO3	25°C	0.10M	M		K1=2.37 B(CoHL)=7.49 K(Co+HL)=0.59	1992SCa (61648)	2470
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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
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Co++	gl	NaClO4	25°C	0.10M	U		K1=1.96	1972RVh (61702)	2471
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C8H12O4 H2L CAS 6018-58-3 (960)
 Hex-1-ene-6-dioic acid; CH2:CH.CH2.CH2.CH2.CH(COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	KNO3	25°C	0.10M	C		K1=2.54	1975IPa (61727)	2472
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C8H13NO3 H3L (4539)
(1-Acetyl)ethylideneiminopropanoic acid;

C8H13N06 H3L (3835)
2-Amino-2-carboxypropane-N,N-diethanoic acid; $\text{HOOCC}(\text{CH}_3)_2\text{N}(\text{CH}_2\text{COOH})_2$

C8H13NO6 H3L (5681)
2-Aminobutanoic-N,N-diethanoic acid; CH₃CH₂CH(COOH)N(CH₂COOH)₂

C8H13N06 H3L (3232)
N-(Carboxymethyl)iminodipropionic acid; $\text{HOOC.CH}_2\text{.N(CH}_2\text{.CH}_2\text{.COOH)}_2$

C8H13NO6S H3L (5675)
2-Mercapto-1-aminoethane-N,N,S-triethanoic acid; $\text{HOOC} \cdot \text{CH}_2 \cdot \text{S} \cdot \text{CH}_2 \cdot \text{CH}_2 \cdot \text{N}(\text{CH}_2\text{COOH})_2$

C8H13N3 L CAS 20947-95-7 (3205)
N-2'-Pyridylmethylethylenediamine; C5H4N.CH2.NH.CH2.CH2.NH2

C8H13N3O2 HL DiMe-Histidine (1193)
N-Dimethylhistidine; (CH3)2N.CH(CH2.C3H3N2).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	C			K1=6.885 B2=10.300	1976RIa	(61861)2479

K(Co(DL-L))=6.874
B(Co(DL-L)2)=10.830

C8H13N3O6 H4L 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

Co++ gl KNO3 25°C 0.10M C 1981UMa (61866)2480

K(Co+H2L)=8.00

C8H13N6O4P H2L (7462)

9-[2-(Phosphonomethoxy)ethyl]-2,6-diaminopurine;

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

Co++ gl NaNO3 25°C 0.10M M K1=2.43 1999BSa (61873)2481

K(Co+HL)=0.96

C8H14N2 L (6727)

1-Butyl-2-methylimidazole

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

Co++ gl KNO3 25°C 0.50M C K1=1.73 B2=2.08 1993BKc (61887)2482

B3=2.76

B4=5.65

C8H14N2O L (6728)

1-Butyl-2-hydroxymethylimidazole

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

Co++ gl KNO3 25°C 0.50M C K1=2.18 B2=4.03 1993BKc (61892)2483

B3=4.67

B4=6.65

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

Co++ gl diox/w 20°C 75% U K1=12.80 B2=24.03 1981HFa (61896)2484

Co++ gl NaClO4 20°C 0.10M C 1980MHa (61897)2485

K(Co+HL)=9.87

K(Co+2HL)=19.09

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
Co++	gl	KCl	25°C	0.10M	C		K1=2.94 B2=5.28 B(CoH-1L)=-6.02	1994JBa (61904)	2486

C8H14N2O3 HL (6601)
2,3-Dehydro-N-valyl-alanine; NH2.CH(CH(CH3)2)CO.NH.C(COOH):CH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	C		K1=1.84 B(CoH-1L)=-5.54 B(CoH-1L2)=-3.34 B(CoH-2L2)=-12.13	1994JBa (61909)	2487

C8H14N2O6P2 HL (7465)
N-(3-Pyridylmethyl)imino-bis(methylphosphonic acid);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.20M	C		K1=7.75 B(CoHL)=13.78 B(CoH2L)=18.73 B(CoH3L)=22.86 B(CoH-1L)=-3.22	2000KKa (61966)	2488

C8H14N4O L Carcinine (260)
B-Alanyl-histamine; NH2.CH2.CH2.CO.NH.CH2CH2.C3H3N2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaCl04	25°C	0.10M	C		K1=2.81 B2= 5.31 B(CoHL)=11.06	1992GHb (61976)	2489

C8H14N4O L (6726)
Sarcosyl-histamine

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaCl04	25°C	0.10M	C	M	K1=2.84 B2=4.78 B(1,1,1,0)=10.17 B(1,1,-1,0)=-5.19 B(1,1,-2,0)=-15.66 B(1,2,-1,0)=-3.07 B(2,2,-3,1)=-9.99, B(2,2,-4,1)=-19.38, B(2,4,-3,1)=-3.76 B(p,q,r,s): pCo+qL+rH+sO2=CopLqHr(O2)s	1997GHa (61983)	2490

Co++	gl	NaCl04	25°C	0.10M	C		K1=2.84 B2=4.78 B(CoHL)=10.17	1995GHa (61984)	2491
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B(CoH-1L)=-5.19
B(CoH-2L)=-15.66
B(CoH-1L2)=-3.07

C8H14N4O5 HL Tetraglycine CAS 637-84-3 (1849)
Glycyl-Glycyl-Glycyl-Glycine; H2N.CH2.CO.NH.CH2.CO.NH.CH2.CO.NH.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.15M	U		K1=3.00 B2=5.50	1957LDa (62020)	2492

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
Co++	gl	diox/w	30°C	75%	U		K1=9.04 B2=17.57	1972UDa (62042)	2493

Medium: 75% v/v dioxan, 0.01 M Me4NC104

C8H14O4S3 H2L (2526)
3,6,9-Trithiaundecanedioic acid; HOOCH2.S.C2H4.S.C2H4.S.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO4	25°C	0.10M	U		K1=2.28 K(Co+HL)=1.58	1971PPc (62120)	2494

C8H14O5S2 H2L CAS 4408-66-6 (8332)
Oxybis(ethylenethio)diethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	20°C	0.10M	U		K1=2.60	1977CAc (62134)	2495

C8H14O7 H2L (241)
Di(carboxymethoxy)ethyl ether; (HOOCH2.O.CH2.CH2)2O

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	U		K1=2.29	1975MTc (62145)	2496

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
Co++	gl	KCl	20°C	0.10M	U		K1=4.17 B2=7.9	1963IPa (62157)	2497

C8H15NO2 HL CAS 6051-21-4 (8043)
Cyclohexylacetohydroxamic acid;

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       sp  NaNO3   25°C 0.10M C          B2=9.91      1997NWa (62164)2498
*****
C8H15N04           H2L                      CAS 33994-68-7 (347)
N-Butyliminodiethanoic acid; C4H9.N(CH2.COOH)2
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  KNO3    25°C 0.10M C          K1=7.71  B2=13.78  1975IPa (62189)2499
*****
C8H15N05           H2L                      (3234)
N-(2-Hydroxyethyl)iminodipropanoic acid; HO.CH2.CH2.N(CH2.CH2.COOH)2
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  KCl     30°C 0.10M U          K1=4.4      1954CMa (62201)2500
*****
C8H15N06           H2L                      CAS 92511-22-3 (6074)
N-(1,1-Di(hydroxymethyl)ethyl)iminoethanoic acid; (HO.CH2)2C(CH3).N(CH2.COOH)2
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  NaClO4  25°C 1.0M C          K1=7.54  B2= 9.91  1981ASb (62215)2501
                        B(CoH-1L)=-0.57
*****
C8H15N304           HL    Gly-Ala-Ala      CAS 6491-25-4 (6783)
Glycyl-alanyl-alanine;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  KNO3    25°C 0.10M C          K1=9.95      1983IMb (62248)2502
                        K(CoL+H)=8.95
                        K(CoHL+H)=5.20
*****
C8H16N203           HL                      CAS 83874-82-2 (3838)
6-Acetylamino-2-aminohexanoic acid; CH3.CO.NH.(CH2)4.CH(NH2).COOH
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  NaClO4  25°C 0.10M U          K1=4.27      1970GPa (62291)2503
*****
C8H16N203           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
-----
Co++       gl  NaCl    25°C 0.12M U          K1=2.66  B2=4.68  1977PNa (62302)2504
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Co++ gl NaCl 25°C 0.12M U K1=2.66 B2= 4.68 1976PNa (62303)2505
L=DL-alpha-alanyl-DL-leucine

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

Co++ gl KNO3 25°C 0.1M U 2003PGa (62314)2506

K(Co+HL)=3.15

K(CoL+H)=11.09

K(CoHL+HL)=2.14

K(CoHL2+H)=10.66

K(CoL2+H)=10.84; K(CoL+HL)=2.63

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

Co++ gl KNO3 25°C 0.1M U 2003PGa (62381)2507

K(Co+HL)=3.25

K(CoL+H)=11.02

K(CoL2+H)=10.51; K(CoL+HL)=2.91

Co++ gl KNO3 20°C 0.10M U K1=3.15 B2= 6.08 1991KUa (62382)2508

K(CoH-1L+H)=8.72

K(CoH-1L2+H)=7.81

K(Co(H-1L)2+H)=9.17

Co++ gl NaCl 25°C 0.12M U K1=3.34 B2=5.99 1977PNa (62383)2509

Co++ gl NaCl 25°C 0.12M U K1=3.34 B2= 5.99 1976PNa (62384)2510

Co++ gl NaCl04 20°C 0.10M U K1=3.25 B2=6.02 1972PGb (62385)2511

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

Co++ gl KNO3 20°C 0.10M U M K1=2.62 B2= 4.89 1991KUa (62428)2512

K(CoH-1L+H)=10.26

K(CoH-1L2+H)=9.31

K(Co(H-1L)2+H)=10.36

By manometry at 0 C: K(2Co(H-1L)2+O2+OH=Co2(H-1L)4(O2)OH)=4.13.

Co++ gl NaCl04 20°C 0.10M U K1=2.42 B2=4.42 1972PGb (62429)2513

Co++ gl oth/un 25°C 0.01M U K1=2.50 B2=4.83 1959DLb (62430)2514

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

Co++ gl KCl 20°C 0.10M U K1=10.2 1958ISa (62467)2515

C8H16N2O4 H2L CAS 13288-40-9 (3237)
1,2-Diaminoethane-N,N'-di(3-propanoic acid); (H00CCH2CH2NHCH2.)2

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

Co++ gl NaCl 25°C 0.10M C K1=7.16 1999DFa (62495)2516

B(CoH-1L)=-0.83

B(CoH-2L)=-10.54

B(Co2H-2L)=0.73

Additional method: spectrophotometry.

Co++ gl KNO3 25°C 0.10M U M 1970DNa (62496)2517

K(CoL+en)=3.95

Co++ gl KCl 20°C 0.10M U K1=10.2 1958ISa (62497)2518

Co++ gl KCl 30°C 0.10M U K1=7.3 1953CCb (62498)2519

C8H16N2O4 H2L (266)
N,N'-Dimethylethylenediamine-N,N'-diethanoic acid;

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

Co++ gl KNO3 25°C 0.10M C K1=12.79 1993WLa (62523)2520

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

Co++ gl KCl 25°C 0.10M C K1=16.84 1996LMa (62547)2521

B(CoHL)=27.59

B(CoH2L)=32.58

C8H16N2O4S2 H2L CAS 462-10-2 (527)
DL-4,4'-Dithiobis(2-aminobutanoic acid); (H00C.CH(NH2).CH2.CH2.S.)2

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

Co++ gl KCl 25°C 0.10M U K1=5.77 B2=9.41 1981BLb (62561)2522

B(CoHL)=13.53

 C8H16N2O5 H2L CAS 20811-97-6 (5461)
 1,9-Dicarboxy-2,8-diaza-5-oxanonane (HOOC.CH2.NH.CH2.CH2)2O

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	KNO3	25°C	0.10M	C		K1=9.46	1982BTb (62567)	2523
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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
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Co++		EMF	oth/un	20°C	0.10M	U	K1=10.02	1972DKa (62580)	2524
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Co++	gl	KNO3	20°C	0.10M	U		K1=10.12	1970DKa (62581)	2525
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C8H16N10 L (7005)
 N,N'-Di(2-(5-tetraazolyl)ethyl)-1,2-diaminoethane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	NaNO3	20°C	0.10M	U		K1=14.39	1981ESa (62613)	2526
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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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Co++		nmr	non-aq	27°C	100%	C	K1=2.64	2000SMg (62656)	2527
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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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Co++	gl		oth/un	30°C	0.10M	U	K1=5.16 B2=8.51	1957FCa (62782)	2528
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C8H18N2O L (6585)
 4,7-Dimethyl-1-oxa-4,7-diazacyclononane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	NaClO4	25°C	1.0M	C		K1=5.48	1999UGa (62819)	2529
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Co++	gl	KNO3	25°C	0.10M	U		K1=5.76	1990CCa (62820)	2530
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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
Co++	gl	R4N.X	25°C	0.10M	U		K1=6.01 B(CoH-1L)=-4.3	1985NSb (62841)	2531

Co++	gl	R4N.X	25°C	0.10M	C		K1=5.76	1983LCa (62842)	2532

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
Co++	gl	KNO3	25°C	0.10M	C		K1=3.30	2001AOa (62886)	2533

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
Co++	gl	KNO3	25°C	0.10M	U		K(Co+H2L)=3.70	1976TIa (62915)	2534

Co++	gl	KNO3	25°C	0.10M	U	M	K1=16.03	1975ITa (62916)	2535

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
Co++	gl	KNO3	25°C	0.10M	U		K1=5.39	1983LIa (62957)	2536

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
Co++	gl	NaNO3	25°C	0.10M	C	M	B(CoCuL)=24.3 B(CoCu2L2)=47.8 B(CoCu3L3)=70.7	1992LJb (62966)	2537

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
Co++	gl	oth/un	25°C	0.43M	U		K1=2.50 B2=4.07 K3=1.23	1966SKe (63032)	2538

Medium: CH₂OHCH₂NH₂.HNO₃

C8H₁₉N₅ 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

Co++ gl KNO₃ 25°C 1.0M C K₁=1.78 1980SAb (63051)2539
K(Co(ATP)+L)=1.33

C8H₁₉N₆P₂ 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

Co++ gl KCl 25°C 0.20M C 2000KKa (63081)2540
B(CoHL)=15.97
B(CoH₂L)=21.03
B(CoH-1L)=-2.42

Co++ gl KNO₃ 25°C 1.00M M 1982BGb (63082)2541
K(Co+HL)=2.80

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

Co++ gl KCl 25°C 0.10M U K₁=2.834 1995HLA (63095)2542
B(CoH-1L)=-5.68

For the (S,R) isomer, K₁=2.736, B(CoH-1L)=-5.801.

C8H₁₉N₃ L (5967)

1,4,7-Triazacycloundecane;

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

Co++ gl NaClO₄ 25°C 1.0M C K₁=9.30 1999UGa (63100)2543

C8H₁₉N₃O L (4430)

1-Oxa-4,7,10-triazacyclododecane;

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

Co++ gl KNO₃ 25°C 0.10M U K₁=10.541 1991ACa (63134)2544
B(CoH-1L)=2.84
K(CoL+OH)=6.12

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
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Co++	gl	NaCl04	35°C	0.20M	C	M	K1=11.11	1984KKa (63143)	2545
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K(2CoL+O2)=(CoL)2O2) = 5.7

C8H19O2PS2	HL	CAS 2253-44-3	(2060)
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O,O'-Dibutyl dithiophosphoric acid; (C4H9O)2P(S)SH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	ISE alc/w	25°C	90%	U			K1=2.18 B2=3.73	1972TCa (63154)	2546
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Medium: 90% EtOH, 0.3 M NaCl04

C8H19O2PS2	HL	CAS 2253-52-3	(4584)
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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
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Co++	ISE alc/w	25°C	90%	U			K1=1.94 B2=3.45	1972TCa (63166)	2547
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Medium: 90% EtOH, 0.3 M NaCl04

C8H19PS2	HL	CAS 32435-51-5	(4552)
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Di-n-butyl phosphinedithioic acid; (C4H9)2PSSH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	ISE alc/w	25°C	90%	U			K1=2.62 B2=4.88	1972TCa (63206)	2548
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Medium: 90% EtOH, 0.3 M NaCl04

C8H20N2	L	CAS 373-44-4	(5746)
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1,8-Diaminooctane; NH2.(CH2)8.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	cal alc/w	25°C	100%	U	H		K1=2.47	1985BUd (63213)	2549
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Medium: MeOH, 0.05 M Et4N.NO3. DH=-26.4 kJ mol-1

C8H20N2O2	L	CAS 82502-45-2	(3239)
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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
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Co++	gl	oth/un	25°C	0.50M	U		K1=5.02 B2=9.5	1960HDA (63225)	2550
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C8H20N2O3	L	(5747)
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1,11-Diamino-3,6,9-trioxaundecane; NH2.C2H4.0.C2H4.0.C2H4.0.C2H4.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++ cal alc/w 25°C 100% U H K1=2.25 1985BUd (63229)2551
Medium: MeOH, 0.05 M Et4N.NO3. DH=-16.2 kJ 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

Co++ cal NaCl04 25°C 0.15M U H 1999CCa (63281)2552
By calorimetry, DH(Co+L=CoL)=-46.3 kJ mol-1.

Co++ kin NaCl04 25°C 1.00M C 1994BCb (63282)2553
K(CoLC03+H=CoLHC03)=0.15
K(CoLOH20CO2H+H=CoL(OH2)2+CO2)=0.15

Co++ gl NaCl04 35°C 0.20M U K1=13.79 1980KKa (63283)2554
B(Co2H-1L4(O2))=28.45

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

Co++ gl KCl 25°C 0.10M U K1=11.39 1965DKb (63332)2555
K(Co+HL)=3.84

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

Co++ gl KNO3 25°C 0.10M U K(Co+HL)=7.07 1977Tia (63361)2556

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

Co++ gl KNO3 25°C 1.00M C H K1=12.20 1982ABc (63381)2557
By calorimetry: DH1=-56.5 kJ mol-1, DS1=43.1

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

Co++ gl KNO3 25°C 0.10M C H K1=11.04 1994CCc (63400)2558
DH(K1)=-51.3 kJ mol-1; TdS(K1)=11.7

C8H22N4O L CAS 80042-24-6 (5464)
 1,4,10,13-Tetraaza-7-oxatridecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	C	M	K1=9.47 K(CoL+H)=6.20	1982BTb (63409)	2559

Ternary complex with O2

C8H22N4S L CAS 80042-28-0 (5465)
 1,4,10,13-Tetraaza-7-thiatridecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	C	M	K1=11.46 K(CoL+H)=4.29	1982BTb (63414)	2560

Ternary complex with O2

C8H23N5 L Tetren CAS 112-57-2 (715)
 1,4,7,10,13-Pentaazatridecane (Tetraethylenepentamine);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	cal	KNO3	25°C	0.10M	U	HM		1984CCa (63459)	2561
DH(K1)=-59.6 kJ mol ⁻¹ ; DH(Co2L2O2)=-290.3 kJ mol ⁻¹									
Co++	cal	KNO3	25°C	0.10M	C			1982TMD (63460)	2562
DH1=-75.8 kJ/mol									
Co++	gl	NaClO4	25°C	0.50M	C	M		1978KPa (63461)	2563
K(CoL+H)=6.4 K(CoHL+H)=5.9									

Oxygen-bound species: K(Co2L2(O2)+2H)=12.9

K(2(CoHL)+O2)=8.1; K(2CoL+O2)=8.0

Co++	gl	KNO3	25°C	0.10M	U	M	K1=13.20 K(Co+HL)=8.93 B(Co2L2(O2))=38.7	1972NMB (63462)	2564
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[O2] is in atmospheres

Co++	cal	KCl	25°C	0.10M	U	H		1964PVa (63463)	2565
DH(K1)=-57.9 kJ mol ⁻¹ , DS=60.6 J K ⁻¹ mol ⁻¹									

Co++	gl	KCl	25°C	0.10M	U		K1=13.30 K(Co+H2L)=4.9	1963PVa (63464)	2566
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Co++	gl	none	25°C	0.0	U	T	K1=15.07	1958JSa (63465)	2567
K1=14.97(35 C), 14.87(45 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
Co++	gl	NaNO3	25°C	0.50M	M		K1=1.83	1998KSa (63503)	2568

C9H5NOBr2		HL					CAS 521-74-4	(3279)	
5,7-Dibromo-8-hydroxyquinoline;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	35°C	75%	U		K1=8.82 B2=16.55	1970GMh (63515)	2569
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
Co++	gl	diox/w	35°C	75%	U		K1=8.63 B2=16.22	1970GMh (63539)	2570
Medium: 75% 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
Co++	gl	diox/w	35°C	75%	U		K1=8.75 B2=16.45	1971MAb (63555)	2571
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
Co++	gl	diox/w	35°C	75%	U		K1=6.05 B2=11.48	1970GMh (63581)	2572
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
Co++	gl	diox/w	35°C	75%	U		K1=5.89 B2=11.21	1970GMh (63591)	2573
Medium: 75% v/v dioxan, 0.1 M NaClO4									

C9H5N3O5		HL					CAS 1084-32-8	(4608)	
5,7-Dinitro-8-hydroxyquinoline;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++ gl diox/w 35°C 75% U K1=6.13 B2=10.94 1970GMh (63626)2574
Medium: 75% dioxan, 0.2 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

Co++ gl NaClO4 35°C 0.10M U K1=7.24 B2=14.48 1983ABb (63769)2575

Co++ gl oth/un 20°C 0.03M U K1=7.85 1977KCb (63770)2576
K1=7.80 by solubility

Co++ gl KNO3 28°C 0.10M U K1=6.70 B2=10.87 1967LMb (63771)2577

Co++ gl KCl 25°C 0.10M U K1=7.3 B2=13.6 1963STa (63772)2578
K3=5.0

C9H6N2Br2 L CAS 36107-02-5 (4611)
8-Amino-5,7-dibromoquinoline;

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

Co++ sp diox/w 25°C 50% U K1=2.2 1972YTa (63846)2579

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

Co++ sp KCl 20°C 0.50M C K1=3.7 1977MOb (63870)2580

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

Co++ sp KCl 20°C 0.50M C K1=6.2 1977MOb (63883)2581

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

Co++ gl NaClO4 35°C 0.10M U K1=6.18 B2=11.79 1983ABb (63906)2582

Co++ sp KCl 20°C 0.50M C K1=6.0 1977MOb (63907)2583

Co++ gl NaClO4 25°C .005M U K2=5.41 1963FFa (63908)2584

K3 < 3.8

Co++ ISE oth/un 25°C 0.0 U K1=6.06 1955NUa (63909)2585

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

Co++ sp diox/w 20°C 10% U 1970KIa (63920)2586
K(Co+HL=CoL+H)=5.7

C9H6N3O2BrS H2L CAS 24598-15-0 (4686)
4-(5'-Bromo-2'-thiazolylazo)-1,3-dihydroxybenzene;

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

Co++ sp NaCl04 ? 0.10M U B2=17.52 1969BNb (63933)2587

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

Co++ gl alc/w 30°C 5% U M 1995RRb (63949)2588
K(CoA+L)=6.54
B(CoAL)=12.49
Medium: 5% v/v EtOH/H2O, 0.10 M KNO3. H2A is thioglycolic acid.

C9H7N L CAS 119-65-3 (487)
Isoquinoline;

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

Co++ sp mixed 27°C ? U T 1976USa (64024)2589
K(CoCl2+2L)=-1.65
Also data at 36.8 C. Medium: isoquinoline + chlbenzene

Co++ sp non-aq 20°C 100% U M 1964KKb (64025)2590
K(CoCl2+2L)=0.99
K(CoBr2+2L)=0.862
K(CoI2+2L)=0.36
K(Co(NCO)2+2L)=1.03
Medium: CHCl3. K(Co(NCS)2+2L)=4.38

C9H7N L CAS 91-22-5 (1538)
Quinoline;

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

Co++ gl NaClO4 25°C 0.20M C M K1=2.60 1993BAb (64050)2591
 K(Co(gly)+L)=5.13
 K(Co(ala)+L)=5.00
 K(Co(val)+L)=4.62
 K(CoA+L)=4.62

K(Co(gln)+L)=4.25, K(Co(glu)+L)=8.15, K(Co(asp)+L)=8.65. HA is asparagine.

Co++ cal non-aq 25°C 100% C H K1=4.255 B2= 8.57 1989JVa (64051)2592
 Medium: acetone. DH(K1)=-30.2 kJ mol⁻¹, DS(K1)=-19.9 J K⁻¹ mol⁻¹;
 DH(B2)=-41.5, DS(B2)=24.8. Reaction is CoCl₂+nL.

Co++ sp oth/un ? 100% U I M 1971AMc (64052)2593
 K(CoCl₂+L)=1.18
 K(CoCl₂+2L)=3.93

Medium: 3-methylbutanol. Data also in mixed solvents with benzene and CHCl₃

Co++ sp non-aq ? 100% U I M 1971MAe (64053)2594
 K(CoCl₂+L)=0.92
 K(CoCl₂+L)=1.00, x=25
 K(CoCl₂+L)=1.15, x=50
 K(CoCl₂+2L)=1.89, x=50

K(CoCl₂+L)=1.35, K(CoCl₂+2L)=3.0 at x=75.

Medium : dimethylformamide with x% benzene.

Co++ sp mixed ? 75% U 1971TMb (64054)2595
 K(Co(CNS)₃+2HL)=2.10
 K(Co(CNS)₄+2HL)=1.90

Medium: 75% acetone

Co++ sp oth/un ? 100% U I M 1970Lda (64055)2596
 K(CoCl₂+L)=2.64
 K(CoCl₂+2L)=4.60

Medium: cyclohexanone. In 2-chloroethanol, K(CoCl₂+L)=0.90, K(CoCl₂+2L)=2.28
 In CH₃CN, K(CoCl₂+L)=2.38, K(CoCl₂+2L)=4.1

Co++ sp oth/un ? 100% U 1970Lda (64056)2597
 K(CoBr₂+L)=2.72
 K(CoBr₂+2L)=4.60

Medium: cyclohexanone. In 2-chloroethanol, K(CoBr₂+L)=0.90, K(CoBr₂+2L)=2.33

C9H7NO HL CAS 70254-42-1 (4612)

2-Hydroxyquinoline;

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

Co++ sp oth/un 16°C 0.01M U B2=19.38 1972LUd (64070)2598

C9H7NO HL Oxine CAS 148-24-3 (504)

8-Hydroxyquinoline (8-quinolinol);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	25°C	20%	M	M	K1=8.16	1998ABa (64203)	2599
Medium: 20% w/w EtOH/H2O, 0.1 M KNO3.									
Co++	gl	KNO3	25°C	0.10M	U	M	K1=11.52 B2=22.82 K(CoL+furoic acid)=4.18	1990NAa (64204)	2600
Co++	kin	alc/w	20°C	100%	U		K1=10.4 B2=21.0 K(Co+HL=CoL+H)=-3.6 K(Co+2HL=CoL2+2H)=-7.0	1988BTb (64205)	2601
Medium: MeOH, 0.1 M NaClO4.									
Co++	gl	KCl	25°C	0.1M	U	T	K1=9.15 B2=17.23	1986MLb (64206)	2602
Co++	gl	diox/w	30°C	75%	U		K1=10.9 B2=21.2	1984NYa (64207)	2603
Co++	gl	KNO3	25°C	0.2M	U	I	K1=8.98	1984VZa (64208)	2604
in 0.5 M KNO3 K1=8.97; in 1.0 M KNO3 K1=8.63;									
Co++	gl	diox/w	25°C	50%	U		K1=9.68 B2=18.53	1984YAa (64209)	2605
Co++	sp	NaClO4	25°C	0.10M	U		K1eff=2.87 at pH 3.01 B2eff=4.83 at pH 3.01 B(2,2)eff=6.72 at pH 3.01	1975BUb (64210)	2606
Co++	dis	oth/un	20°C	0.10M	U		K1=9.06 B2=17.52 B3=24.35	19700Ka (64211)	2607
Co++	cal	diox/w	25°C	50%	U	H		1968GFa (64212)	2608
Medium: 50% dioxan, 0.1 M NaClO4. DH(K1)=-30.1 kJ mol ⁻¹ , DS=83.6 J K ⁻¹ mol ⁻¹ DH(B2)=-64.4, DS=130									
Co++	gl	diox/w	25°C	50%	U		K1=9.65 B2=18.05	1967SFa (64213)	2609
Co++	gl	diox/w	40°C	50%	U	T H	B2=19.17	1959FFa (64214)	2610
B2=19.8(15 C),19.50(25 C). DH(B2)=-46.4 kJ mol ⁻¹ , DS=217 J K ⁻¹ mol ⁻¹ . By calorimetry, 25 C: B2=19.20; DH(B2)=-85.3, DS=88									
Co++	gl	oth/un	20°C	0.01M	U		K1=9.1 B2=17.2	1953ALa (64215)	2611
Co++	gl	oth/un	25°C	0.0	U		K1=8.65	1953NAb (64216)	2612
Co++	gl	diox/w	25°C	50%	U		K1=10.55 B2=19.66	1952JFa (64217)	2613
Co++	gl	diox/w	25°C	70%	U		K1=10.85 B2=20.55	1949MMA (64218)	2614

C9H7NO2		HL					CAS 10285-97-9	(3257)	

2-Hydroxyquinoline 1-oxide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	oth/un	20°C	0.10M	U		K1=5.1	1956ARb (64386)	2615

C9H7N02		HL					CAS 1477-50-5	(4610)	
2-Indolecarboxylic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	oth/un	25°C	0.0	U		K1=1.25	1972LPa (64392)	2616

C9H7N02		HL					CAS 1127-45-3	(4614)	
8-Hydroxyquinoline-N-oxide;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	25°C	50%	U		B2=9.50	1970GMb (64398)	2617
Medium: 50% dioxan, 0.3 M NaCl04									

C9H7N04S		H2L			Sulfoxine		CAS 84-88-8	(448)	
8-Hydroxyquinoline-5-sulfonic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaCl04	35°C	0.10M	U		K1=8.44 B2=15.45	1983ABa (64513)	2618
Co++	gl	diox/w	25°C	50%	U	H	K1=7.38 B2=17.55	1968GFa (64514)	2619
Medium: 50% dioxan, 0.1 M NaCl04. By calorimetry: DH(K1)=-26.3 kJ mol-1 (?), DS=92 J K-1 mol-1(?); DH(B2)=-60.6, DS=134									
Co++	gl	NaCl04	25°C	.005M	U		K1=8.54 B2=15.76 K3=5.39	1963FFa (64515)	2620
Co++	gl	KNO3	25°C	0.10M	U		K1=8.11 B2=15.06 K3=5.36	1959RGa (64516)	2621
Co++	sp	oth/un	25°C	0.0	U		K1=8.82 B2=15.92	1954NUa (64517)	2622
Co++	gl	oth/un	20°C	0.01M	U		K1=9.2 B2=16.8	1953ALa (64518)	2623
Co++	gl	oth/un	25°C	0.01M	U		K1=9.25 B2=16.70	1949MMa (64519)	2624

C9H7NS		HL			Quinolinethiol		CAS 491-33-8	(1028)	
8-Mercaptoquinoline;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	cal	diox/w	25°C	50%	U	H		1968GFa (64644)	2625

Medium: 50% dioxan, 0.1 M NaCl04. DH(K1)=-64.4 kJ mol⁻¹, DS=-63 J K⁻¹ mol⁻¹

Co++ gl diox/w 25°C 50% U K1=7.9 1966KFb (64645)2626

Medium: 50% dioxan, 0.1 M NaCl04

C9H7N3O2 HL (1328)

4-Oximino-3-phenyl-2-pyrazolin-5-one;

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

Co++ gl alc/w 20°C 50% U T K1=3.83 B2=6.76 1981SSc (64662)2627

At 30 C: K1=4.08, B2=6.70

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

Co++ sp NaCl04 ? 0.10M U B2=16.11 1969BId (64692)2628

Co++ gl diox/w 25°C 50% U 1966SCd (64693)2629

K(Co+HL)=12.05

K(CoHL+HL)=11.23

C9H8N04P H2L CAS 7220-39-5 (1930)

8-Quinolyl-phosphoric acid;

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

Co++ gl NaCl 25°C 0.15M U K1=1.78 1989AKa (64755)2630

C9H8N2 L CAS 578-66-5 (503)

8-Aminoquinoline;

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

Co++ gl KCl 20°C 0.10M U K1=2.66 1957WSa (64780)2631

C9H8N2O2S HL (8279)

Dehydroxydemethyl-desferrithiocin;

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

Co++ gl KNO3 25°C 0.10M C B2=7.6 1990ARa (64802)2632

C9H8N2O4S2 HL CAS 219931-32-5 (8394)

3-Phenylsulfonamidorhodanine;

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

Co++ sp alc/w 30°C 20% C T H K1=4.60 B2= 8.95 1998EGa (64828)2633
Medium: 20% v/v EtOH/H2O, 0.10 M KCl. Also data for 35 and 45 C.
DH and DS values reported

C9H8N4 L CAS 34938-47-1 (8045)
(2-Imidazoleazo)benzene;

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

Co++ sp NaCl04 25°C 0.30M C T H K1=2.09 1998DAa (64845)2634
Data for 25-40 C. DH(K1)=14.4 kJ mol⁻¹, DS(K1)=88 J K⁻¹ mol⁻¹.
K(H+L)=4.00.

C9H8N4O5 L CAS 487-16-1 (8470)
Isatin 3-thiosemicarbazone; Indole-2,3-dione 3-(thiosemicarbazone);

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

Co++ gl alc/w 30°C 60% M K1=5.95 B2=11.50 1996HTb (64849)2635
Medium: 60% v/v EtOH/H2O, 0.04 M KCl.

C9H8N4O3S HL ABS CAS 847943-99-1 (9223)
4-Acrylamidobenzenesulfonylazide;

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

Co++ gl alc/w 25°C 50% C T H K1=8.22 B2=14.61 2004JEa (64858)2636
Medium: 50% v/v EtOH/H2O, 0.10 M KCl. DH(K1)=-28.7 kJ mol⁻¹, DS(K1)=
-254 J K⁻¹ mol⁻¹; DH(K2)=-26.8, DS(K2)=-212. Also data for 35 and 45 C

C9H8O3 H2L o-Coumaric acid CAS 501-98-4 (6327)
4-Hydroxycinnamic acid; HO.C6H4.CH:CH.COOH

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

Co++ gl NaCl04 25°C 0.10M U K1=7.70 B2=12.10 1975TBb (64883)2637

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

Co++ gl NaCl 25°C 0.10M U 1992CLa (64916)2638
B(CoH-1L)=-4.12
B(Co2H-1L)=-1.75

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
Co++	sp	NaClO4	?	0.20M	U		K1=6.07	1967GDb (64931)	2639
By glass electrode: K1=6.30,K2=4.82,K3=2.82									

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
Co++	gl	oth/un	25°C	0.04M	U		K1=2.88	1971NPc (64969)	2640

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
Co++	gl	diox/w	35°C	50%	U		K1=5.8	1958YSa (65020)	2641

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
Co++	gl	alc/w	25°C	75%	U		K1=6.7 B2=10.80	1986BTa (65034)	2642

Medium: 75% MeOH/H2O, 0.1 M NaClO4

C9H9NO3		HL					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
Co++	EMF	diox/w	?	32%	U	I	K1=3.08	1970STg (65054)	2643

In 43% dioxan, K1=3.21; 48% K1=3.30; 60% K1=3.45

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
Co++	sp	diox/w	40°C	50%	U		K1=3.57	1975PSb (65076)	2644

C9H9NO4		H2L					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
Co++	gl	alc/w	25°C	50%	U		K1=3.13 B2= 7.11	1989MSi (65093)	2645

B(CoH-1L)=-4.19
K(Co+OH+L)=9.81

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
Co++	gl	KNO3	25°C	0.10M	U		K1=3.20	1973UWb (65106)	2646
Co++	gl	diox/w	35°C	50%	U		K1=5.6 B2=8.6	1958YSa (65107)	2647

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
Co++	gl	alc/w	30°C	50%	C	M		1999MBc (65130)	2648
							B(Co(gly)L)=9.97		
							B(CoAL)=9.24		
							B(Co(met)L)=8.63		
							B(CoH-1(gly)L)=0.70		
In 50% v/v EtOH/H2O, 0.10 M NaNO3. B(CoH-2(gly)L)=-8.47; B(CoH-1AL)=0.94, B(CoH-2AL)=-8.46; B(CoH-1(met)L)=1.88, B(CoH-2(met)L)=-7.20. A: Beta-ala									

Co++	gl	diox/w	30°C	50%	U		K1=3.44 B2= 6.51	1993MBc (65131)	2649
							*K(CoL)=-8.26		
							*K(CoL2)=-6.14		
							*K(Co(OH)L2)=-8.14		

Medium: 50% v/v dioxane/H2O, 0.10 M NaNO3.

C9H10N2 L CAS 7035-68-9 (5669)

1-Ethylbenzimidazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	non-aq	25°C	100%	U		B2=2.14	1984DPa (65189)	2650

Medium: DMSO

C9H10N2 L CAS 582-60-5 (8433)

5,6-Dimethylbenzimidazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	35°C	0.10M	C	M	K1=2.35	1997PSb (65194)	2651
							K(CoL+A)=6.33		

H2A is thiamine orthophosphoric acid.

C9H10N2O HL (3264)

2,2'-Hydroxyphenylimidazoline;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	oth/un	20°C	0.01M	U		K1=7.5 B2=14.0	1956ARb (65201)	2652

C9H10N2O2 HL CAS 52829-64-8 (4627)
 2-Acetoacetamidopyridine; C5H4N.NH.CO.CH2.CO.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	U		K1=4.52 B2=8.27	1967HAb (65225)	2653

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
Co++	gl	diox/w	25°C	50%	U		K1=9.3 B2=17.9	1958PBa (65254)	2654

C9H10N2O3 HL CAS 62134-49-0 (9110)
 N-(2-Pyridyl)-3-carboxypropanamide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO4	25°C	0.10M	U		K1=2.95 B2= 5.12	2002GSa (65260)	2655

C9H10N2O5 H3L (4645)
 4,5,6,7-Tetrahydroindazol-3-one-5,5-dicarboxylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	25°C	50%	U			1969ZSa (65274)	2656

K(Co+H2L)=2.59
 K(Co+HL)=5.41

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
Co++	gl	NaClO4	25°C	0.10M	C		K1=7.46	1983CHa (65286)	2657

K(Co+HL)=3.86
 K(CoL+H)=6.0
 K(Co+OH+L)=11.48
 *K(CoL)=-9.98

Co++	gl	NaClO4	25°C	0.10M	U		K1=7.43 B2=13.08	1983CHb (65287)	2658
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C9H10N2S L CAS 14610-11-8 (8494)
 2-Mercaptoethylbenzimidazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO4	30°C	0.10M	M	M		1995RMa (65293)	2659
							K(Co(bpy)+L)=6.83		
							K(Co(phen)+L)=6.58		
							K(CoA+L)=6.46		

A is 1,2-diaminobenzene.

Co++	gl	NaClO4	30°C	0.10M	M		K1=8.05	1995RMa (65294)	2660

C9H10N6			L				CAS 3656-02-8	(8053)	

4-Phenylazo-3,5-diaminopyrazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	25°C	40%	U		K1=6.62	1994AAb (65302)	2661
							B(Co2L)=17.5		

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)	
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Hydrotris(pyrazolyl)borate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	dis	non-aq	25°C	100%	C			2001KSb (65309)	2662
							K(Co+2HL=CoL2(org)+2H)=6.3		

Method: solvent extraction into chloroform.

K: Co+2HL(org)=CoL2(org)+2H.

C9H10O2			HL				CAS 699-91-2	(4594)	
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2-Hydroxy-3-methylacetophenone; HO(CH3).C6H3.CO.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	27°C	75%	U		K1=10.53 B2=18.76	1973KDc (65319)	2663

Medium: 50% v/v dioxan, 0.5 M NaClO4

C9H10O2			HL				CAS 6921-64-8	(4595)	
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2-Hydroxy-4-methylacetophenone; HO(CH3).C6H3.CO.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	27°C	75%	U		K1=9.63 B2=17.54	1973KDc (65325)	2664

Medium: 50% v/v dioxan, 0.5 M NaClO4

C9H10O2			HL				CAS 1450-72-2	(4596)	
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2-Hydroxy-5-methylacetophenone; HO(CH3).C6H3.CO.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++ gl diox/w 27°C 75% U K1=8.03 B2=14.94 1973KDc (65332)2665
Medium: 50% v/v dioxan, 0.5 M NaCl04

C9H1002 HL CAS 610-99-1 (4597)
2-Hydroxypropioiphenone;

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

Co++ gl diox/w 27°C 75% U K1=8.88 B2=15.31 1973KDc (65342)2666
K3=4.40

Medium: 75% dioxan, 0.1 M NaCl04

C9H1002S HL CAS 21101-79-1 (3267)
2-Ethylthiobenzoic acid; CH3.CH2.S.C6H4.CO0H

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

Co++ gl diox/w 30°C 50% U K1=3.1 1956IFa (65406)2667

C9H1003 H2L CAS 1643-34-0 (4598)
2,6-Dihydroxy-4-methylacetophenone; (HO)2(CH3).C6H2.CO.CH3

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

Co++ gl diox/w 27°C 75% U 1973KDc (65428)2668
K(Co+HL)=7.85

Medium: 75% dioxan, 0.1 M NaCl04

C9H1003 HL Phenyllactic CAS 828-01-3 (1190)
2-Hydroxy-3-phenylpropanoic acid, b-Phenyllactic acid; C6H5.CH2.CH(OH).CO0H

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

Co++ sp oth/un ? ? U K1=7.0 1976SCb (65448)2669

C9H1003S HL CAS 18619-21-2 (4637)
(2-Methoxyphenylthio)ethanoic acid; CH3O.C6H4.S.CH2.CO0H

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

Co++ ISE KNO3 25°C 0.10M C K1=0.74 1972FGb (65499)2670
By competition with Ag+ using Ag ISE

C9H1003S HL CAS 3996-32-5 (4638)
(3-Methoxyphenylthio)ethanoic acid; CH3O.C6H4.S.CH2.CO0H

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

Co++ ISE KNO3 25°C 0.10M C K1=0.70 1972FGb (65508)2671

By competition with Ag⁺ using Ag ISE

C9H10O3Se HL (4640)
(2-Methoxyphenylseleno)ethanoic acid; CH3O.C6H4.Se.CH2.COOH

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

Co++ ISE KNO3 25°C 0.10M C K1=0.65 1972FGb (65521)2672

By competition with Ag⁺ using Ag ISE

C9H10O8 H4L CAS 3724-52-5 (1264)
cis-1,2,3,4-Cyclopentanetetra-carboxylic acid; C5H6.(COOH)4

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

Co++ gl NaClO4 30°C 0.19M U K1=5.83 B2=9.67 1985MSb (65636)2673

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

Co++ gl KNO3 25°C 0.10M U K1=1.2 1974ILa (65661)2674

C9H11NO2 HL Phenylalanine 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

Co++ gl KNO3 35°C 0.10M C M K1=4.20 1999DSb (65909)2675

B(CoAL)=4.33

A is thiamine hydrochloride.

Co++ gl KNO3 35°C 0.10M C M K1=4.20 1997PSb (65910)2676

K(CoL+A)=3.90

H2A is thiamine orthophosphoric acid.

Co++ gl KNO3 25°C 0.10M M M 1996ABb (65911)2677

K(CoL+bipy)=4.19

K(CoL+phen)=4.28

K(CoL+imidazole)=3.58

Co++ gl KNO3 35°C 0.10M U K1=4.06 1990RSe (65912)2678

Co++ gl KNO3 25°C 0.10M U M K1=4.34 1989MAc (65913)2679

K(CoA+L)=4.20

H4A is adenosine-5'-triphosphoric acid.

Co++ gl KNO3 25°C 0.10M C M K1=4.34 1989MAd (65914)2680

K(CoA+L)=4.14

B(CoAL)=11.19

H2A is N-(2-acetamido)imino diethanoic acid.

Co++ gl KNO3 35°C 0.20M U M K1=3.90 B2=7.55 1989RVa (65915)2681
K(CoA+L)=3.76

A=bis(imidazol-2-yl)methane

Co++ gl KNO3 25°C 0.15M U K1=4.05 B2=7.56 1987FZa (65916)2682

Co++ gl NaCl 25°C 1.0M C H B2=8.18 1984GDa (65917)2683

By calorimetry: DH(K1)=-4.48 kJ mol⁻¹, DS(K1)=61.0 J K⁻¹ mol⁻¹;

DH(K2)=-6.83, DS(K2)=57.7.

Co++ gl KCl 25°C 0.05M U M T K1=4.05 B2=7.56 1972GSc (65918)2684
K(Co+L+HA)=7.84, H2A=tyrosine

Co++ gl NaClO4 25°C 3.0M U T K1=4.45 B2=8.44 1972WYa (65919)2685

Co++ gl oth/un 20°C 0.01M U B2=7.9 1950ALa (65920)2686

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

Co++ gl KNO3 25°C 0.20M U M K1=3.89 1988BSc (66008)2687
K(Co(bpy)+L)=3.63

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

Co++ gl NaClO4 25°C 0.10M U M 1984CMA (66045)2688
K(Co(phen)+L)=4.34

C9H11NO3 HL (6512)

2-Amino-2-(4'-methoxyphenyl)ethanoic acid; NH2.CH(C6H4OCH3)COOH

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

Co++ gl KNO3 25°C 0.10M M K1=3.96 B2=7.11 1990SMA (66055)2689

C9H11NO3 H2L o-Tyrosine CAS 7432-92-9 (735)

2-Amino-3-(2-hydroxyphenyl)propanoic acid; HO.C6H4.CH2.CH(NH2).COOH

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

Co++ gl KCl 25°C 0.20M U H B2=10.5 1984KGa (66063)2690
B(CoHL)=14.73

B(CoH2L2)=29.0

B(CoHL2)=20.4

DH(CoHL)=-26 kJ mol⁻¹; DH(CoHL2)=-29; DH(CoL2)=-5

C9H11NO3 H2L m-Tyrosine CAS 587-33-7 (736)
2-Amino-3-(3-hydroxyphenyl)propanoic acid; HO.C6H4.CH2.CH(NH2).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.20M	U	H	B2=8.2 B(CoHL)=13.89 B(CoH2L2)=27.2 B(CoHL2)=18.2	1984KGa (66074)	2691

DH(CoHL)=-28 kJ mol⁻¹; DH(CoH2L2)=-57; DH(CoHL2)=-33; DH(CoL2)=4 kJ mol⁻¹

C9H11NO3 H2L Tyrosine CAS 60-18-4 (4)
2-Amino-3-(4-hydroxyphenyl)propanoic acid; HO.C6H4.CH2.CH(NH2).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	35°C	0.10M	C	M	K(Co+HL)=4.05 K(CoHL+A)=3.78	1997PSb (66201)	2692

H2A is thiamine orthophosphoric acid.

Co++	gl	KCl	25°C	0.20M	U	H	B2=9.1 B(CoHL)=14.18 B(CoH2L2)=28.1 B(CoHL2)=19.1	1984KGa (66202)	2693
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DH(CoHL)=-27 kJ mol⁻¹; DH(CoH2L2)=-56; DH(CoHL2)=-31; DH(CoL2)=-11

Co++	gl	KCl	25°C	0.10M	C	TIH	R	1984PEa (66203)	2694
							K(Co+HL)=4.0 K(Co+2HL)=7.3		

IUPAC evaluation

Co++	gl	KCl	25°C	0.10M	U	M		1983MDc (66204)	2695
							K(Co+HL)=3.87 K(Co+2HL)=7.45		

Co++	gl	KNO3	25°C	0.10M	C	T	K1=4.88 B2=8.31 B3=11.0, B(CoHL)=14.17 B(CoHL2)=18.10 B(CoH2L2)=29.52 K(Co+3HL)=10.4	1982PSa (66205)	2696
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Co++	gl	KNO3	25°C	0.10M	U	T		1973BBe (66206)	2697
							K(Co+HL)=4.05 K(CoHL+HL)=3.78		

B(CoH2L2)=36.14

B(CoH3L2)=45.10.

Co++ gl KNO3 25°C 0.10M U 1973BKb (66389)2706

K(Co+H2L)=3.75

K(CoH2L+H2L)=3.50

C9H11NO4S 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

Co++ gl diox/w 30°C 45% U K1=12.17 1984MYa (66420)2707

K(Co+2HL)=6.79

K(Co+HL+L)=8.91

C9H11NO4S2 H3L CAS 97512-83-9 (1330)

N-Benzenesulfonyl-L-cysteine;

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

Co++ gl alc/w 25°C 50% C M 1997MGb (66441)2708

K(Co+HL)=6.11

B(Co(en)(HL))=13.25

B(Co(gly)(HL))=11.10

*K(Co(bpy)(HL))=-11.49

Medium: 50% v/v EtOH/H2O, 0.2 M NaNO3. *K(Co(en)HL)=-11.50, *K(Co(gly)HL)=-11.60, *K(CoLbpy)=-11.50, *K(CoLen)=-12.60, *K(CoLgly)=-12.70

Co++ gl diox/w 30°C 50% M 1980MDc (66442)2709

K(Co+HL)=6.03

K(CoHL+HL)=5.60

*K(CoH2L2)=-11.55

*K(CoHL2)=-13.30

Medium: 50% v/v dioxane/H2O, 0.50 M NaClO4.

C9H11NO5S H2L CAS 85828-29-1 (8747)

N-(Phenylsulfonyl)-L-serine;

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

Co++ gl alc/w 25°C 50% C T H 1987MDe (66457)2710

K(Co+HL=CoL+H)=5.40

K(Co+2HL=CoL2+2H)=11.32

*K(CoL2)=-11.46

*K(CoH-1L2)=-11.90

Medium: 50% v/v EtOH/H2O, 0.2 M NaNO3. Data for 35, 45 C.

Enthalpy and entropy data.

C9H11N3 L CAS 29518-68-1 (8048)

2-(2-Aminoethyl)benzimidazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	sp	NaClO4	25°C	0.30M	C T H			K1=2.65	1998DAa (66468)	2711
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Data for 25-40 C. DH(K1)=20.6 kJ mol⁻¹, DS(K1)=120 J K⁻¹ mol⁻¹.
K(H+L)=7.49, K(H+HL)=4.60.

C9H11N3O2		HL						(7179)		
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2-Hydroxy-acetophenone semicarbazone; HOC6H4C(CH3):NNHCONH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	sp	non-aq	?	100%	U			K1=7.13 B2=10.84	1991SKc (66486)	2712
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Medium: EtOH

Co++	sp	alc/w	?	100%	U			K1=7.13 B2=10.84	1991SKd (66487)	2713
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Medium: EtOH

C9H11N3O2		L						(6246)		
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3-(2-Acetophenyl)-1-methyltriazene N-oxide; CH3.CO.C6H4.N:NO.NH.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	sp	alc/w	27°C	50%	U			K1=5.12 B2=9.67	1980BRc (66490)	2714
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C9H11N3O2S		HL						(1273)		
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1-Ethoxycarbonyl-3-pyridin-2-ylthiourea; C5H4N.NH.CS.NH.CO.OC2H5

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	alc/w	25°C	75%	U			K1=5.52 B2=10.96	1980SMb (66495)	2715
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C9H11N3O2S		HL						CAS 51146-75-9 (6170)		
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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
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Co++	gl	diox/w	35°C	50%	U I			K1=7.94 B2=14.22	1993GJa (66503)	2716
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Medium: 50% v/v dioxane/H2O, 0.10 M NaClO4.
Also data for 50% dioxane/H2O, 0.0200.2 M NaClO4. At I=0, K1=8.73.

C9H12N2O2		HL						CAS 19254-08-1 (5893)		
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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
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Co++	gl	KCl	25°C	0.20M	C			K1=5.05 B2=9.75	1991FKa (66579)	2717
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B(CoHL)=14.41

C9H12N2O2 HL CAS 66315-20-6 (3272)
N-2'-Aminoethylanthranilic acid; HOOCC6H4.NH.CH2.CH2.NH2

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

Co++ gl diox/w 35°C 50% U K1=6.0 B2=11.4 1958YSa (66588)2718

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

Co++ gl KNO3 25°C 0.10M M K1=3.98 B2=7.10 1976RNa (66598)2719
B2=7.69 (racemic ligand)

C9H12N2O3 H3L Tyr hydroxamic CAS 51344-01-5 (864)
2-Amino-N-hydroxy-3-(4-hydroxyphenyl)propanamide; H0.C6H4.CH2.CH(NH2)CO.NHOH

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

Co++ gl KCl 25°C 0.20M C 1991FKa (66606)2720
B(CoHL)=14.41
B(CoH2L2)=28.55

C9H12N2O4 H3L (6664)
3,4-Dihydroxyphenylalanine hydroxamic acid, DOPA hydroxamic acid;
H2N.CH(CH2.C6H3(OH)2CO.NHOH

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

Co++ gl KCl 25°C 0.20M C 1991FKa (66620)2721
B(CoH2L)=20.97
B(CoHL)=14.51
B(CoH2L2)=28.76

C9H12N2O6 HL Uridine CAS 58-96-8 (828)
Uracil-1-beta-D-ribofuranoside;

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

Co++ gl KNO3 25°C 0.10M U T HM 1995RSb (66684)2722
B(Co(ala)L)=7.73
B(Co(phe)L)=7.31
B(Co(trp)L)=7.80

Data for 35 and 45 C. DH(Co(ala)L)=-20.0 kJ mol⁻¹, DS(Co(ala)L)=81 J K⁻¹ mol⁻¹; DH(Co(phe)L)=-20.0, DS(Co(phe)L)=73; DH(Co(trp)L)=-17.3, DS=91.

Co++ gl KNO3 35°C 0.10M U M K1=3.33 1990RSc (66685)2723
K(CoA+L)=2.68

K(CoB+L)=2.58
 K(CoC+L)=2.04
 H2A=Iminodiethanoic acid, H3B=NTA, H4C=EDTA

Co++	gl	KNO3	35°C	0.10M	U	M	K1=2.13	1990RSc (66686)	2724
							K(CoL+Ala)=1.87		
							K(CoL+Phe)=1.84		
							K(CoL+Trp)=1.83		

Co++	gl	KNO3	25°C	0.10M	C	T	HM	K1=3.79	B2=7.43	1987KR a (66687)	2725
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Co++	gl	KNO3	35°C	0.10M	U	M	K1=3.43	1986RR a (66688)	2726
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Ternary complexes with glycine, oxalate and histidine

C9H12N4O	L	CAS 78105-09-6	(8186)
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9-(1-Ethoxyethyl)purine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	kin	oth/un	40°C	0.20M	C			K1=0.57	1980LO a (66757)	2727
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Medium: 0.20 M Mg(ClO4)2.

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
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Co++	gl	KNO3	25°C	0.50M	U			K1=1.68	1983WK a (66771)	2728
								B(CoHL)=6.29		
								B(CoH2L)=10.16		

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
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Co++	gl	KNO3	25°C	0.50M	U			K1=1.20	1983LR a (66782)	2729
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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
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Co++	gl	KCl	25°C	0.06M	U	T	H	K1=5.76	B2=10.05	1962AL a (66817)	2730
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At 0 C:K1=5.68, K2=4.07, B2=9.60(?); DH(B2)=28.8 kJ mol⁻¹, DS=288 J K⁻¹ mol⁻¹

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
Co++	gl	KCl	25°C	0.20M	C		K1=9.23 B2=15.15 B(CoHL)=18.60 B(CoH2L2)=35.07 B(CoHL2)=25.25	1981GKb (66851)	2731

Co++	gl	KCl	25°C	0.10M	U		K1=9.61 B2=16.71	1966JNa (66852)	2732
K1 adjusted to give hypothetical microscopic constant									

Co++	gl	KCl	25°C	0.06M	U T H		K1=5.42 B2=9.22	1962ALa (66853)	2733
At 0 C: K1=6.09, K2=4.19, B2=10.30?; DH(B2)=-84.4 kJ mol ⁻¹ , DS=-113 J K ⁻¹ m ⁻¹									

Co++	gl	KCl	25°C	.058M	U T		B2=10.06	1957LYa (66854)	2734
B2=9.60(0 C)									

C9H13NO6	H3L	(3881)
2,6-Dicarboxypiperidyl-N-ethanoic acid;		

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	KNO3	25°C	0.10M	U		K1=9.64	1968KTd (66878)	2735
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C9H13N2O3P	HL	(7918)
(Glycylamino)methyl(phenylphosphinic acid);		

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	KNO3	25°C	0.10M	C		K1=3.28 B2= 5.43 B(CoHL)=9.94 B(CoH-1L2)=-3.64	2001LKa (66917)	2736
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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
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Co++	gl	R4N.X	25°C	0.1M	U H		K1=1.87	1998HTa (66958)	2737
Medium: 0.10 M Me4NBr. By calorimetry: DH(K1)=10.0 kJ mol ⁻¹ , DS=69 J K ⁻¹ mol ⁻¹ .									

Co++	gl	KNO3	35°C	0.10M	U M			1992RAd (66959)	2738
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K(Co+HL)=2.06
K(Co+HL+Gly)=11.32
K(Co+HL+His)=11.66
K(Co+HL+histamine)=10.94

Co++	gl	R4N.X	25°C	0.10M	C T			1991SMa (66960)	2739
K(Co+HL)=2.29									

Co++	gl	NaN03	25°C	0.10M	C	1988MSa (66961)2740
K(Co+HL)=1.87						

C9H13N3O5 L Cytidine CAS 65-46-3 (2152)
Cytidine, Cytosine-1-beta-D-ribofuranoside;

Co++ gl KN03 25°C 0.10M U T HM 1995RSb (67041)2741

$$K(\text{CoL+phe})=4.75$$
$$K(\text{CoL}+\text{trp})=5.35$$

Data for 35 and 45 C. $\Delta H(\text{Co(ala)L}) = -16.3 \text{ kJ mol}^{-1}$, $\Delta S(\text{Co(ala)L}) = 32 \text{ J K}^{-1} \text{ mol}^{-1}$; $\Delta H(\text{Co(phe)L}) = 18.2$, $\Delta S(\text{Co(phe)L}) = 30$; $\Delta H(\text{Co(trp)L}) = -21.7$, $\Delta S = 30$.

Co++ gl NaNO3 25°C 0.50M C K1=0.03 1992KJa (67042)2742

Co++ gl KNO3 35°C 0.10M U M K1=0.88 1990RSc (67043)2743

$$B(\text{CoL}(\text{Ala}))=5.52$$
$$B(\text{CoL}(\text{Phe})) = 5.05$$
$$B(\text{CoL}(\text{Trp})) = 5.62$$

Co++ g/l KNO3 35°C 0.10M C M K1=2.74 1985RRc (67044)2744

$$B(\text{CoHL}(\text{Gly})) = 13.13$$
$$B(\text{CoL(oxalate)}) = 9.17$$
$$B(\text{CoL}(\text{His})) = 12.69$$
$$B(\text{CoL}(\text{histamine})) = 11.87$$

Co++ gl KNO3 45°C 0.10M U K1=2.69 1981TKa (67045)2745

C9H14N2 L CAS 14088-79-0 (3252)

N-Benzylethylenediamine; $\text{C}_6\text{H}_5\cdot\text{CH}_2\cdot\text{NH}\cdot\text{CH}_2\cdot\text{CH}_2\cdot\text{NH}_2$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K	values	Reference	ExptNo
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Co++ gl diox/w 30°C 50% U K1=6.93 1972GPb (67119)2746

C9H14N2O12P2 H4L UDP CAS 58-98-0 (3288)

Uridine-5'-diphosphoric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K	values	Reference	ExptNo
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Co++ gl NaNO3 25°C 0.10M M K1=3.68 1999SSa (67153)2747

$$K(Co+H_2L)=2.0$$
$$K(\text{CoHL} + \text{H}) = 4.7$$

Co++ gl KNO3 25°C 0.10M U K1=3.68 1995SBa (67154)2748

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
Co++	gl	KNO3	25°C	0.10M	C	M	K1=2.85	2001AAa (67234)	2749
Also data for ternary complexes with MOPSO, TAPSO and ACES.									
Co++	gl	KNO3	20°C	0.10M	U		K1=2.78	1999GLa (67235)	2750
Co++	gl	R4N.X	25°C	0.1M	U	H	K1=1.86	1998HTa (67236)	2751
Medium: 0.10 M Me4NBr. By calorimetry: DH(K1)=10.3 kJ mol-1, DS=70 J K-1 mol-1.									
Co++	gl	R4N.X	25°C	0.10M	C	T	K1=2.28	1991SMa (67237)	2752
IUPAC evaluation									
Co++	gl	NaNO3	25°C	0.10M	C		K1=1.86	1988MSa (67238)	2753
Co++	gl	KNO3	35°C	0.10M	U	M		1986RRe (67239)	2754
							K(Co+HL+HA)=6.12		
							K(CoLA+2H)=8.49		
							K(Co+HL+E)=7.10		
							K(CoLE+H)=3.70		
B(CoLC)=14.08; B(CoLD)=14.27. HA is glycine; H2E is oxalic acid; C is histamine; HD is histidine.									

Co++	gl	NaNO3	35°C	0.10M	U	M	K1=3.50	1985KSc (67240)	2755
							K(Co(phen)+L)=3.74		
							K(Co(GlyGly)+L)=1.59		
							B(Co(salicylate)+L)=0.84		

Co++	gl	KCl	25°C	0.10M	U		K1=2.30	1984MDb (67241)	2756
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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
Co++	gl	KCl	25°C	0.20M	C	M	K1=2.85 B(CoHL)=11.48 B(CoH-1L)=-6.10 B(CoH2L2)=21.91 B(CoHL(Gly))=16.10 B(CoL(Gly))=7.3; B(CoH-1L(Gly))=-2.0; B(CoHL(GlyGly))=14.50; B(CoL(GlyGly))=6.2; B(CoHL(His))=18.23; B(CoL(His))=9.23	1983FSc (67310)	2757
Co++	gl	KNO3	37°C	0.15M	U		K1=3.22 K(Co+HL)=1.98	1975APb (67311)	2758

Co++	gl	KN03	25°C	0.10M	U				1964LMa (67312)2759
									K(Co+HL)=3.69

Co++	gl	oth/un	25°C	0.16M	U	K1=2.25	B2=3.85	1960MEa (67313)2760	

C9H14N5O3P		H2L				CAS	121149-93-7	(2512)	
9-(4-Phosphonobutyl)adenine;									

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

Co++	gl	NaN03	25°C	0.10M	M			K1=2.31	2000GKa (67355)2761
									K(Co+HL)=0.7
									*K(CoHL)=-6.1

C9H15N06		H3L						(7177)	
2-Aminopentanoic-N,N-diethanoic acid; C3H7C(COOH)N(CH2COOH)2									

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

Co++	gl	KN03	20°C	0.10M	U			K1=10.33	1974RMf (67401)2762

C9H15N06		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

Co++	gl	KCl	30°C	0.10M	U			K1=4.8	1953Cma (67429)2763

C9H15N06		H3L						CAS 95482-53-4	(3270)
N-(2-Carboxyethyl)-3,3-iminodipropoic acid;									

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

Co++	gl	KCl	30°C	0.10M	U			K1=7.9	1953Cma (67440)2764

C9H15N06P2		H4L						(6888)	
N-Benzyl-N-methylaminomethylenedi(phosphonic acid); C6H5.CH2.N(CH3)CH(P03H2)2									

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

Co++	gl	KCl	25°C	0.10M	M			K1=7.04	1978GMf (67446)2765
									K(Co+HL)=5.89

C9H15N06P2		H4L						CAS 6056-53-7	(1337)
N-Benzyliminobis(methylenephosphonic) acid; C6H5CH2N(CH2P03H2)2									

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

Co++	gl	KCl	25°C	0.20M	C			K1=8.31	2000KKa (67458)2766
									B(CoHL)=14.90

Co++ g1 KN03 25°C 1.00M M K1=7.75 1982Bgb (67459)2767
K(Co+HL)=2.97

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Additional methods: conductivity, spectrophotometry

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

Co++ gl KNO3 25°C 0.10M U T H K1=6.94 1983RRe (67516)2771
Also data for 35 and 45 C. At 45 C: K1=6.01.
DH(K1)=-20.1 kJ mol⁻¹, DS(K1)=66 J K⁻¹ mol⁻¹.

Co++ gl NaClO₄ 25°C 0.1M C M 1978FMa (67517)2772
K(Co+HL)=4.53
B(Co(HL)(bpy))=10.69

Co++ gl KNO3 35°C 0.10M U 1976KRa (67518)2773
K(Co+HL)=6.84

Co++ ix NaCl 23°C 0.10M U K(Co+HL)=4.55 1958WAa (67519)2774

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++ gl oth/un 25°C 0.10M U K1=7.0 1964LMb (67548)2775

C9H15N3O4 HL Gly-Gly-Pro (6982)
Glycyl-glycyl-proline;

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

Co++ gl KNO3 20°C 0.5M U K1=2.87 1974KHb (67562)2776

C9H15N3O11P2 H3L CDP CAS 63-38-7 (2187)
Cytidine-5'-diphosphoric acid;

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

Co++ gl NaNO3 25°C 0.10M M K1=3.65 1999SSa (67581)2777
K(Co+HL)=2.1
K(CoL+H)=4.84

Co++ gl KCl 25°C 0.10M U K1=3.87 1984MDb (67582)2778
B(CoHL)=8.59

C9H15N5O2 L (7098)
Glycyl-glycyl-histamine;

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

Co++ gl NaClO4 25°C 0.10M C K1=3.15 1996GHa (67595)2779
B(1,1,1)=9.96
B(1,-1,1)=-5.97
B(1,-2,1)=-14.98
B(1,-3,1)=-27.38

B(p,q,r): pM+qH=rL=MpHqLr

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

Co++ gl KCl 20°C 0.10M U K1=6.71 B2=12.15 1955SAa (67625)2780

C9H16N3O14P3 H4L CTP CAS 65-47-4 (406)
Cytidine-5'-triphosphoric acid;

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

Co++ gl R4N.X 25°C 0.10M C TI R K1=4.95 1991SMa (67691)2781
K(Co+HL)=2.8

IUPAC evaluation

Co++ gl NaNO3 25°C 0.10M C K1=4.78 1987STb (67692)2782

$$K(\text{CoL}+\text{H})=4.72$$

DH(K1)=-20.1 kJ mol⁻¹; DH(Co+HL)=-18.4, DS=30

2,6-Dimethyl-3,5-heptanedione; $(\text{CH}_3)_2\text{CH}.\text{CO}.\text{CH}_2.\text{CO}.\text{CH}(\text{CH}_3)_2$

Dipropylpropanedioic acid (Di-n-propylmalonic acid);

N-(2,4-Dihydroxy-3,3-dimethylbutyryl)-3-aminopropanoic acid;

$$(\text{HO} \cdot \text{CH}_2)_2\text{C}(\text{CH}_2 \cdot \text{CH}_3) \cdot \text{N}(\text{CH}_2 \cdot \text{COOH})_2$$

Alanyl-alanyl-cysteine

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.20M	U		B2=8.07 B(CoHL2)=16.83 B(CoH-1L2)=-0.75	1990CRa (67866)	2791

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
Co++	gl	NaCl	25°C	0.12M	U		K1=2.57 B2=4.58	1977PNa (67903)	2792
Co++	gl	NaCl	25°C	0.12M	U		K1=2.57 B2= 4.58	1976PNa (67904)	2793
L=DL-alpha-alanyl-DL-leucine									
Co++	gl	NaCl	25°C	0.12M	U		K1=2.57 B2= 4.58	1976PNa (67905)	2794
L=DL-alpha-alanyl-DL-leucine									

Co++	gl	KNO3	20°C	0.5M	U		K1=2.89	1974KHb (67906)	2795
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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
Co++	gl	oth/un	25°C	0.01M	U		K1=2.61 B2=5.37	1959DLb (67917)	2796

C9H18N4O2 L CAS 71248-02-7 (540)
1,4,7,10-Tetraazacyclotridecane-11,13-dione;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaCl04	35°C	0.20M	U		B(CoH-2L)=-9.64	1983MKb (67954)	2797

C9H19N2O4+ H2L (3277)
2-Di(carboxymethyl)aminoethyltrimethylammonium cation
+

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	20°C	0.10M	U		K1=5.51 B2=10.49	1955SAa (67999)	2798

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
Co++	gl	KNO3	25°C	0.10M	C		K1=3.50	2001A0a (68052)	2799

C9H20O6Cl2P2 L CAS 19928-93-7 (2633)
Dichloromethylenedi(phosphonic acid diethyl ester); Cl2C(P(O)(OC2H5)2)2

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

Co++ con non-aq 22°C 100% U M 1981SKd (68120)2800
K(CoCl2+L)=1.54
K(CoCl2+2L)=2.80

Medium: acetone

C9H21N3 L (6993)
1,4,7-Trimethyl-1,4,7-triazacyclononane;

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

Co++ gl NaCl04 25°C 1.0M C K1=8.10 B2=13.04 1999UGa (68165)2801

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

Co++ gl KNO3 25°C 0.10M U K1=9.29 1991ACa (68202)2802
B(CoH-1L)=-0.53
K(CoL+OH)=4.0

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

Co++ gl KNO3 25°C 0.10M C K1=11.50 B2=20.59 1999WKA (68212)2803

C9H22N2 L Nonanediamine CAS 646-24-2 (5800)
1,9-Diaminononane; NH2.(CH2)9.NH2

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

Co++ cal alc/w 25°C 100% U H K1=2.48 1985BUd (68229)2804

Medium: MeOH, 0.05 M Et4N.NO3. DH=-28.2 kJ mol-1

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

Co++ cal NaCl04 25°C 0.15M U H 1999CCa (68245)2805
DH(Co+L=CoL)=-57.2 kJ mol-1.

Co++ gl NaClO4 35°C 0.20M U M K1=14.28 1983MKb (68246)2806
Ternary complex with dioxygen: B(Co2H-1L2(O2))=29.83

Co++ gl NaClO4 35°C 0.20M U K1=14.28 1980KKa (68247)2807
B(Co2H-1L4(O2))=29.83

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

Co++ gl NaClO4 25°C 0.10M U K1=8.37 1977PBb (68258)2808

C9H22O6P2 L CAS 1660-94-2 (2632)
Methylenedi(phosphonic acid diethyl ester) CH2(P(O.(OC2H5)2)2

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

Co++ con non-aq 22°C 100% U M 1981SKd (68259)2809
K(CoCl2+L)=1.90
K(CoCl2+2L)=2.99

Medium: acetone

C9H23N3 L CAS 3030-47-5 (4605)
N,N,N',N'',N''-Pentamethyl-diethylenetriamine; (CH3)2NCH2CH2N(CH3)CH2CH2N(CH3)2

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

Co++ ISE non-aq 25°C 100% C H K1=4.19 2001CGc (68278)2810

Method: Cd ion selective electrode. Medium: DMSO, 0.10 M Et4NClO4.

By calorimetry: DH(K1)=-29.8.

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

Co++ gl KNO3 25°C 0.10M C K1=12.97 1995BLa (68290)2811

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

Co++ gl KNO3 25°C 1.00M U K1=19.7 1990BSd (68304)2812
K(Co+HL)=13.9
K(Co+H2L)=10.4
K(Co+H3L)=7.7

Co++ gl KNO3 25°C 1.00M U M 1988MKb (68305)2813

B(Co2L)=23.1
 K(2Co+HL)=16.1
 K(Co+CoL)=3.40
 K(Co+CoHL)=2.51
 B(CoNiL)=23.0; K(Co+Ni+HL)=16.4; K(Ni+CoL)=3.34; K(Ni+CoHL)=2.49

Co++	gl	KCl	25°C	1.0M	U	K1=19.7	1984KMa (68306)2814
						K(Co+HL)=13.9	

 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
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Co++	gl	KNO3	25°C	1.00M	C	H	K1=9.01	1982ABc (68334)2815
							B(CoH2L)=22.9	

By calorimetry: DH1=-40.6 kJ mol⁻¹, DS1=36.8

 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
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Co++	gl	KNO3	20°C	0.10M	C	M	K1=7.36	2002GLc (68359)2816
							K(CoA+H4L)=5.01	

H2A is adenosine-5'-monophosphoric acid.

Co++	gl	KNO3	20°C	0.10M	C	M	K1=7.88	2002GLc (68360)2817
							B(CoAH4L)=44.12	

H2A is adenosine-5'-monophosphoric acid.

Co++	gl	KNO3	25°C	0.10M	C	H	K1=7.69	1994CCc (68361)2818
							DH(K1)=-40.0 kJ mol ⁻¹ ; TdS(K1)=3.4	

Co++	gl	oth/un	25°C	?	U	K1=7.42	B2=10.16	1976NGa (68362)2819
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Co++	gl	NaClO4	25°C	?	U	K1=7.42	B2=10.16	1976NGe (68363)2820
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 C9H24N4 L CAS 4963-47-7 (546)
 Tris-(3-aminopropyl)amine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	KCl	25°C	0.10M	U	K1=6.360	1968DPa (68387)2821
						K(CoL+OH)=2.99	

Co++	gl	NaNO3	20°C	0.10M	U	K1=7.81	1962TAb (68388)2822
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 C9H28N3O15P5 10L DTPPH CAS 15827-60-8 (2921)
 Diethylenetriamine-N,N,N',N'',N''-penta(methylphosphonic acid);

H2O3PCH2.N(CH2CH2.N(CH2PO3H2)2)2 H

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	KCl	25°C	0.10M	U		K1=15.73 K(Co+HL)=12.07 K(Co+H2L)=9.17 K(Co+H3L)=7.35 K(Co+H4L)=5.74	1967KDa (68403)	2823
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K(Co+H5L)=4.30, K(Co+H6L)=3.10

C10H6O3 HL CAS 83-72-7 (3294)

2-Hydroxy-1,4-naphthoquinone;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	diox/w	30°C	75%	U		K1=5.71 B2=10.78	1960KFc (68458)	2824
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C10H6O3 HL CAS 481-39-0 (3295)

5-Hydroxy-1,4-naphthoquinone;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	diox/w	30°C	75%	U		K1=8.66 B2=16.21	1960KFb (68472)	2825
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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
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Co++	gl	alc/w	RT	40%	M		K1=7.88 B2=15.34	1993RAb (68567)	2826
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Medium: 40% v/v EtOH/H2O, 0.1 M NaClO4.

Co++	sol	oth/un	20°C	var	U		B3=46.9	1964ASb (68568)	2827
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Co++	gl	diox/w	30°C	75%	U		K1=10.67 B2=22.81	1957CFa (68569)	2828
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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
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Co++	gl	alc/w	RT	40%	M		K1=7.61 B2=14.44	1993RAb (68636)	2829
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Medium: 40% v/v EtOH/H2O, 0.1 M NaClO4.

Co++	sp	non-aq	25°C	100%	U		K(CoCl2+HL)=3.08 K(CoCl2+2HL)=4.38	1971CBd (68637)	2830
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Medium: 96% benzene, 4% EtOH

Co++ oth oth/un 16°C 0.01M U B2=19.05 1971LGb (68638)2831
Method: chemiluminescence

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

Co++ sp oth/un 25°C 0.10M U T HM 1981HKa (68694)2832
K(CoA+L)=1.90
Phosphate medium, A= Bovine carbonic anhydrase protein

Co++ gl oth/un 25°C 0.02M U K1=4.3 B2=7.6 1955HCa (68695)2833

Co++ gl diox/w 25°C 50% U K1=5.3 B2=10.6 1955HCb (68696)2834

Co++ gl oth/un 25°C 0.0 U K1=4.49 B2=8.23 1955LUa (68697)2835

C10H7NO2 HL CAS 6480-68-8 (2210)
Quinoline-3-carboxylic acid;

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

Co++ sp oth/un 25°C 0.10M U T HM 1981HKa (68727)2836
K(CoA+L)=1.34
Phosphate medium, A= Bovine carbonic anhydrase protein

C10H7NO2 HL CAS 86-59-9 (873)
Quinoline-8-carboxylic acid;

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

Co++ sp oth/un 25°C 0.10M U T HM 1981HKa (68749)2837
K(CoA+L)=2.70
Phosphate medium, A= Bovine carbonic anhydrase protein

Co++ gl alc/w 30°C 50% U K1=4.40 B2=7.90 1981RRa (68750)2838
Medium: 50% v/v EtOH, 0.1 M KNO3

Co++ gl oth/un 25°C 0.02M U K1=3.5 1955HCa (68751)2839

Co++ gl diox/w 25°C 50% U K1=5.3 B2=9.6 1955HCb (68752)2840

Co++ gl oth/un 25°C 0.0 U K1=3.61 B2=6.78 1955LUa (68753)2841

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

Co++ gl diox/w 25°C 50% U K1=1.73 1968EGb (68779)2842
Medium: 50% dioxan, 0.1 M NaClO4

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

Co++ gl diox/w 25°C 50% U K1=3.3 B2=6.20 1964BFa (68786)2843
K(Co(OH)L+H)=7.3
K(Co(OH)2L+H)=9.0

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

Co++ gl diox/w 25°C 50% U K1=6.7 B2=12.30 1964BFa (68793)2844
K(Co(OH)L+H)=9.9
K(Co(OH)2L+H)=11.7

C10H7NO5S H2L CAS 3682-32-4 (1812)
2-Nitroso-1-hydroxynaphthalene-4-sulfonic acid;

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

Co++ gl oth/un RT 0.10M M K1=4.04 B2= 8.19 1993RAB (68877)2845
Medium not stated.

Co++ sp oth/un 25°C 0.10M U TI 1972BTd (68878)2846
K(Co+HL=CoL+H)=-1.75

14-35 C. I= 0.05-0.1, K(14.75 C,0.05)=-1.61, K(14.75 C,0.1)=-1.76
K(25.2 C,0.05)=-1.60, K(35.05 C,0.05)=-1.62, K(35.05 C,0.1)=-1.75

Co++ sp none ? 0.0 U 1958TPa (68879)2847
B3=34.1

C10H7NO8S2 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

Co++ ISE oth/un 25°C 0.10M C K1=6.87 B2=12.26 1981LCa (68996)2848
Method: heterogeneous Co ion selective electrode.

Co++ oth oth/un 30°C 0.0 U K1=6.65 B2=12.43 1973GBa (68997)2849

Co++ ix NaNO3 30°C 1.0M U K1=6.92 B2=13.36 1973MDa (68998)2850

Co++ sp oth/un 25°C 0.20M U TI 1972BTd (68999)2851

K(Co+HL=CoL+H)=-1.73

10-35 C. I=0.025-0.2. K(I=0.025)=-1.19, K(I=0.1)=-1.48,
(24.64 C):K(0.05)=-1.3, K(0.1)=-1.47, (35.1 C):K(0.025)=-1.2, K(0.1)=-1.48

Co++ sp oth/un 16°C 0.01M U B2=21.0 1972LUd (69000)2852

Co++ sp oth/un 25°C ? U 1966MSd (69001)2853

K(?)=13.3

C10H7N2O2F3S HL CAS 23375-18-0 (1680)

8-(Trifluoromethanesulfonamido)quinoline;

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

Co++ gl diox/w 30°C 75% U K1=7.7 B2=14.1 1984NYa (69069)2854

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

Co++ gl alc/w 30°C 60% M K1=4.93 1996HTb (69073)2855

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

Co++ gl alc/w 18°C 50% U T K1=8.25 B2=14.27 1982SGa (69083)2856

At 42 C, K1=6.60, K2=5.40. Data also at 31 C

C10H7N5O5 HL CAS 102964-51-2 (6212)

5-(2'-Nitrophenylazo)barbituric acid;

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

Co++ gl diox/w 25°C 75% U K1=4.28 B2=8.18 1986MIa (69092)2857

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

Co++ dis NaNO3 25°C 0.10M C K1=4.1 1994SDc (69128)2858

Method: solvent extraction into CHCl3

Co++ dis NaCl 25°C 0.10M U K1=4.0 B2=6.5 1984KSb (69129)2859

Method: distribution from 1.0 M NaClO₄ into CCl₄/HL/tri-octylphosphine oxide (A). $K(\text{Co}+2\text{HL}(\text{org})=\text{CoL}_2(\text{org})+2\text{H})=-9.66$.

7-Bromo-8-hydroxy-2-methylquinoline-5-sulfonic acid;

Medium: HC104

2,2'-Bipyridine; (C₅H₄N)₂

$$\begin{aligned} K(\text{CoL}+\text{HA}) &= 7.37 \\ K(\text{CoL}_2+\text{HA}) &= 12.73 \\ K(\text{CoL}+\text{A}) &= 12.28 \\ K(\text{CoL}_2+\text{A}) &= 17.50 \end{aligned}$$

Data for ternary complexes with 6-aminopenicillanic acid

Data for ternary complexes with acetohydroxamic acid

$$\begin{aligned} K(\text{CoL}+\text{A}) &= 4.85 \\ B(\text{CoAL}) &= 10.65 \end{aligned}$$

HL: benzohydroxamic acid

Co++ sp non-aq 25°C 100% C K1=4.06 B2=7.15 1987AWa (69505)2872
K3=1.15

Medium: DMSO, 0.06 M NaClO4

Co++ dis KCl 23°C 0.10M C K1=5.95 B2=11.22 1985SCa (69506)2873
K3=4.60

Method: spectrophotometry with partition into n-hexane

Co++ gl diox/w 25°C 50% U M K1=6.79 B2=13.17 1984ABb (69507)2874
B(CoL(PFHA))=12.56
B(CoL(PTHA))=12.74

PFHA=N-phenyl-2-furylhydroxamate, PTHA=N-phenyl-2-thenohydroxamate

Co++ gl NaClO4 35°C 0.10M U M K1=5.70 B2=11.09 1983ABa (69508)2875
K(CoL(NSA))=5.11

NSA = 5-nitrosalicylic acid

Co++ sp non-aq 25°C 100% U K1=5.84 B2=9.43 1981AWa (69509)2876
Medium: hexamethylphosphoric triamide

Co++ gl KNO3 25°C 0.20M C K2=5.59 1979MBa (69510)2877

Co++ cal non-aq 30°C 100% U H 1976AGb (69511)2878
K(CoA2+L)=2.19
K(CoB2+L)=2.73
K(CoC2+L)=1.57
K(CoD2+L)=1.56

In Benzene. HA=N-phenyl-2-hydroxybenzaldimine. HB=N-4-fluorophenyl-;
HC=N-para-methylphenyl-; HD=N-para-methoxyphenyl-; Also DH and DS.

Co++ gl KNO3 25°C 0.10M C K1=5.72 B2=11.40 1975D0c (69512)2879
B3=16.15

Co++ gl NaClO4 25°C 0.10M U M K1=6.06 B2=11.42 1971GSb (69513)2880
B(CoL(Gly))=10.52
B(CoL(en))=11.17
B(CoLA)=15.43

H2A=catechol

Co++ gl KNO3 30°C 1.0M U HM K1=5.72 B2=11.13 1965DDa (69514)2881
K3=4.80

By calorimetry:DH(K1)=-30.1 kJ mol⁻¹, DS=10.5 J K⁻¹ mol⁻¹; DH(B2)=-60.2,
DS=14.6; DH(B3)=-82.2,DS=34. Ternary complexes with ATP, AMP-5 etc.

Co++ cal NaNO3 20°C 0.10M U H 1963ANb (69515)2882
DH(K1)=-34.3 kJ mol⁻¹, DS=-1.46 J K⁻¹ mol⁻¹; DH(B2)=-63.5, DS=-1.5;
DH(B3)=-89.0, DS=5.9

Co++ gl NaNO3 20°C 0.10M U K1=6.06 B2=11.42 1963Ang (69516)2883
B3=16.02

Co++ dis KCl 25°C 0.10M U K1=5.65 B2=11.25 1962IMa (69517)2884
K3=4.80

Co++ sp oth/un 25°C 0.00 U K1=5.73 B2=11.57 1955LFb (69518)2885
B3=17.59

C10H8N2O2 HL CAS 80690-06-8 (874)
5-Aminoquinoline-8-carboxylic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
Co++ gl alc/w 30°C 50% U K1=5.29 B2=9.90 1981RRa (69674)2886
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
Co++ gl diox/w 25°C 50% U K1=7.83 B2=15.54 1967SFa (69681)2887

C10H8N2O2S HL CAS 15112-10-4 (8299)
N-Phenyl-2-thiobarbituric acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
Co++ gl NaClO4 31°C 0.10M U T H K1=6.65 B2=12.10 1984SJa (69690)2888
Also data for 18 and 42 C. DH(K1)=-87.7 kJ mol⁻¹, DS(K1)=-162 J K⁻¹ mol⁻¹
DH(K2)=-52.5, DS(K2)=-69.0. Also data for N-tolyl- derivatives.

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
Co++ gl diox/w 25°C 50% U K1=9.7 B2=18.2 1958PBa (69701)2889

C10H8N2O5 HL CAS 36874-89-9 (6226)
4-Nitromaleanilic acid; HOOC.CH:CH.CO.NH.C6H4.NO2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
Co++ gl alc/w 22°C 80% U T H K1=7.65 B2=13.30 1985SAb (69707)2890
30 C: K1= 7.55, K2=5.60; 40 C: K1= 7.45, K2=5.58
DH(K1)=-17.1 kJ mol⁻¹, DS=87 J K⁻¹ mol⁻¹; DH(K2)=-10.5, DS=73

C10H8N2O6S H2L CAS 37226-33-8 (3923)

2-Methyl-7-nitro-8-hydroxyquinoline-5-sulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	NaCl04	25°C	.005M	U			K1=5.50 K3 < 3.5	B2=9.84	1963FFa (69713)2891

C10H8N3O2Cl HL CAS 1947-41-7 (4777)

3-Methyl-4-(4'-chlorophenylazo)isoxazol-5-one;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U			K1=4.20	B2=8.29	1971SYa (69723)2892

C10H8N4O3 HL CAS 43168-60-1 (6209)

5-Phenylazobarbituric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	diox/w	25°C	75%	U			K1=4.39	B2=8.25	1986MIa (69726)2893

C10H8O4S HL (1038)

1-Hydroxynaphthalene-2-sulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KN03	25°C	0.10M	U			K1=3.27	B2=6.30	1989SSe (69798)2894

C10H8O4S HL (4148)

1-Hydroxynaphthalene-5-sulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KN03	25°C	0.10M	U			K1=3.12	B2=6.20	1989SSe (69800)2895

C10H8O5S H3L DHNSA (877)

2,3-Dihydroxynaphthalene-6-sulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	NaN03	25°C	0.10M	U			K1=9.44	B2=15.77	1984NHa (69832)2896

C10H8O7S2 H3L (6341)

2-Hydroxynaphthalene-6,8-disulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KN03	25°C	0.10M	U			K1=2.64	B2=5.51	1989SSe (69884)2897

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
Co++	gl	KN03	27°C	0.10M	U		K1=5.52 B2= 9.05	1988AIa (69918)	2898
Co++	sp	oth/un	22°C	?	U		B3=12.97(?)	1966MCb (69919)	2899

C10H9N L CAS 91-62-3 (8354)
6-Methylquinoline;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaCl04	25°C	0.20M	C	M	K1=2.70 K(Co(gly)+L)=5.73 K(Co(ala)+L)=5.73 K(Co(val)+L)=5.15 K(CoA+L)=4.73	1993BAb (69994)	2900

K(Co(gln)+L)=4.68, K(Co(glu)+L)=8.15, K(Co(asp)+L)=9.10. 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
Co++	gl	diox/w	25°C	50%	U		K1=8.95 B2=17.95	1984YAa (70034)	2901
Co++	cal	diox/w	25°C	50%	U	H		1968GFa (70035)	2902
DH(K1)=-17.5 kJ mol ⁻¹ , DS=104.5 J K ⁻¹ mol ⁻¹ ; DH(B2)=-57.7, DS=138									
Co++	gl	diox/w	25°C	50%	U		K1=8.59 B2=17.38	1967SFa (70036)	2903
Co++	cal	diox/w	25°C	50%	U	H		1959FFa (70037)	2904
DH(K1)=-19.2 kJ mol ⁻¹ ; DH(B2)=-48.5, DS=188 J K ⁻¹ mol ⁻¹									

Co++	gl	diox/w	40°C	50%	U	T H	K1=9.37 B2=18.11	1954JFa (70038)	2905
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K1=9.97(0.7 C),9.63(25 C); K2=9.17(0.7 C),8.87(25 C).
DH(B2)=-43.0 kJ mol⁻¹, DS=209 J K⁻¹ mol⁻¹

C10H9NO L CAS 5263-87-6 (8353)
6-Methoxyquinoline;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaCl04	25°C	0.20M	C	M	K1=2.65 K(Co(gly)+L)=5.54 K(Co(ala)+L)=5.25 K(Co(val)+L)=5.10 K(CoA+L)=4.70	1993BAb (70071)	2906

K(Co(gln)+L)=4.65, K(Co(glu)+L)=8.10, K(Co(asp)+L)=8.80. 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

Co++ gl diox/w 25°C 50% U H K1=9.95 B2=18.92 1968GFa (70091)2907
Medium: 50% dioxan, 0.1 M NaClO4. By calorimetry: DH(K1)=-28.4 kJ mol⁻¹,
DS=96 J K⁻¹ mol⁻¹. DH(B2)=-74.4, DS=113

Co++ cal diox/w 25°C 50% U H 1959FFa (70092)2908
DH(B2)=-104.5 kJ mol⁻¹, DS=33 J K⁻¹ mol⁻¹

Co++ gl diox/w 25°C 50% U T H K1=10.55 B2=20.00 1954JFa (70093)2909
K1=11.29(0.7 C),10.22(40 C); K2=10.08(0.7 C). DH(B2)=-84.8 kJ mol⁻¹,
DS=96 J K⁻¹ mol⁻¹

C10H9NOS L CAS 13444-13-8 (4779)

2-Acetylbenzothiazole;

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

Co++ sp alc/w ? 100% U M 1973SKc (70109)2910
K(Co(NO3)2+2L)=0.51
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

Co++ gl diox/w 25°C 50% U K1=8.68 B2=17.08 1967SFa (70116)2911

C10H9NO2 HL CAS 87-51-4 (891)

Indole-3-ethanoic acid;

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

Co++ gl diox/w 25°C 50% U K1=3.50 B2=5.77 1981SKc (70134)2912
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

Co++ gl diox/w 25°C 50% U I K1=3.15 1969HSc (70143)2913
Medium: 50% dioxan, 0.1 M KClO4. In 75% dioxan: K1=9.16, K2=8.08

C10H9NO3 L (5685)
Isonitrosobenzoylacetone; C6H5.CO.CH2.CO.CH:NOH

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

Co++ gl alc/w 25°C 50% U I B2=4.27 1985CFa (70151)2914
B3=6.03

C10H9NO3 HL Maleanilic acid CAS 37902-58-2 (6225)
Maleanilic acid; HOOCH:CH:CO.NH.C6H5

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

Co++ gl alc/w 22°C 80% U T H K1=6.80 B2=12.40 1985SAb (70156)2915
30 C: K1= 6.70, K2=5.55; 40 C: K1= 6.60, K2=5.45
DH(K1)=-18.6 kJ mol⁻¹, DS=66 J K⁻¹ mol⁻¹; DH(K2)=-13.2, DS=65

C10H9NO3S H2L CAS 49608-51-7 (8280)
4,5-Dihydro-2-(2-hydroxyphenyl)-4-thiazolecarboxylic acid,
Deazademethyldesferrithiocin;

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

Co++ gl KNO3 25°C 0.10M C K1=8.75 B2=15.55 1990ARa (70166)2916

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

Co++ gl NaClO4 25°C .005M U K1=7.54 B2=14.06 1963FFa (70195)2917
K3 < 3.5

Medium: HClO4

C10H9NO7S2 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

Co++ gl oth/un 20°C 0.0 U K1=2.84 B2=4.4 1961PEb (70219)2918

C10H9NO8 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

Co++ gl oth/un 30°C ? U K1=3.41 1985TZa (70232)2919

C10H9NS HL CAS 10222-10-3 (1029)
2-Methyl-8-mercaptoquinoline;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	dis	NaClO4	25°C	0.10M	C				1987YSb (70260)	2920
Method: extraction from 0.10 M NaClO4 solution into CHCl3/HL. K(Zn+2HL(org)=ZnL2(org)+2H)=0.41.										
Co++	sp	non-aq	25°C	100%	C	M			1987YSb (70261)	2921
K(CoL2+phen)=<0 Medium: CHCl3.										
Co++	cal	diox/w	25°C	50%	U	H			1968GFa (70262)	2922
Medium: 50% dioxan, 0.1 M NaClO4. DH(K1)=-23.8 kJ mol ⁻¹ , DS=105 J K ⁻¹ mol ⁻¹										
Co++	gl	diox/w	25°C	50%	U			K1=9.6	1966KFb (70263)	2923
Medium: 50% dioxan, 0.1 M NaClO4 *****										
C10H9N3 L Dipyrindylamine CAS 1202-34-2 (2428) (2,2'-Dipyrindyl)amine; C5H4N.NH.C5H4N										
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KN03	25°C	0.10M	C	M		K1=4.98 B2= 8.90	1991DAc (70334)	2924
Data for ternary complexes with acetohydroxamic acid										
Co++	gl	NaClO4	25°C	0.10M	C	M			1979FSa (70335)	2925
B(CoL(pyrocatecholate))=14.02 K(CoL+pyrocatecholate)=9.30 K(Co(pyrocatecholate)+L)=5.41										
Co++	gl	KN03	25°C	0.10M	U	TIH		K1=4.98 B2=8.90	1976BBc (70336)	2926
Co++	EMF	KN03	20°C	0.10M	U			K1=4.72 B2=8.92	1971ANa (70337)	2927

C10H9N3O5 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
Co++	gl	alc/w	25°C	50%	U			B2=14.5	1967NPb (70373)	2928
Medium: 50% MeOH, 0.1 M NaClO4 *****										
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
Co++	gl	diox/w	30°C	75%	U			K1=4.17 B2=8.70	1971SYa (70384)	2929

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
Co++	gl	alc/w	20°C	50%	U T		K1=3.20 B2=5.84	1981SSc (70389)	2930

At 30 C: K1=3.18, B2=5.73

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
Co++	sp	alc/w	25°C	4%	U		K1=7.48 B2=16.41 B(CoHL)=12.77	1987STc (70411)	2931

In 4% ethanol/H2O, 0.1 M NaClO4.

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
Co++	gl	diox/w	30°C	75%	U		K1=10.17 B2=17.94	1976GRa (70432)	2932

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
Co++	gl	diox/w	30°C	75%	U		B2=18.67	1976BRd (70446)	2933

C10H9O4P H2L CAS 1136-89-6 (1931)
 1-Naphthyl-phosphoric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaCl	25°C	0.15M	U		K1=1.68	1989AKa (70461)	2934

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
Co++	gl	diox/w	25°C	50%	U		K1=3.51	1969HSc (70488)	2935

Medium: 50% dioxan, 0.1 M KClO4

C10H10NO4P HL (1932)
 8-Quinolyl-methyl-phosphoric acid; (C9H7N)CH2PO4H

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++ gl NaCl 25°C 0.15M U K1=1.23 1989AKa (70521)2936
B(CoH-1L)=-5.26

C10H10N2O HL CAS 70125-17-6 (3906)

2-Aminomethyl-8-hydroxyquinoline;

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

Co++ gl diox/w 25°C 50% U K1=11.7 B2=22.50 1967SFa (70533)2937

C10H10N2O2S L CAS 4939-30-4 (1676)

8-(Methanesulfonylamino)quinoline;

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

Co++ gl diox/w 30°C 75% U K1=10.0 B2=18.6 1984NYa (70548)2938

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

Co++ gl KNO3 25°C 0.10M C K1=9.13 B2=16.93 1990ARa (70556)2939

C10H10N3OCl L CAS 135471-86-2 (8750)

2-(Chloroacetylaminomethyl)benzimidazole;

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

Co++ gl diox/w 30°C 50% U 1990MCb (70585)2940

B(CoH-1L)=-4.60

K(CoH-1L+L=CoH-2L2+H)=-11.00

*K(CoH-1L)=-7.70

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

Co++ gl alc/w 30°C 50% C M 1999MBc (70605)2941

B(Co(gly)L)=9.46

B(CoAL)=9.91

B(Co(met)L)=8.42

B(CoH-1(gly)L)=1.41

In 50% v/v EtOH/H2O, 0.10 M NaNO3. B(CoH-2(gly)L)=-7.64; B(CoH-1AL)=1.76,
B(CoH-2AL)=-7.34; B(CoH-1(met)L)=-0.08, B(CoH-2(met)L)=-8.08. A: Beta-ala

Co++ gl diox/w 30°C 50% U K1=2.61 B2= 5.90 1993MBc (70606)2942

*K(CoL)=-7.95
 *K(CoL2)=-6.70
 *K(Co(OH)L2)=-9.34

Medium: 50% v/v dioxane/H2O, 0.10 M NaNO3.

 Co++ gl alc/w 25°C 50% U M K1=2.99 B2=4.37 1986SKe (70607)2943
 K(CoA+L)=2.23

Medium: 50% v/v EtOH/H2O, 0.1 M NaCl. H3A=nitrolotrientanoic acid

 Co++ gl mixed 25°C 65% U T K1=2.99 B2=4.37 1982KNc (70608)2944
 Medium: 65% DMSO/H2O, 0.1 KNO3

C10H1002 HL Benzoylacetone CAS 93-91-4 (197)
 1-Phenylbutane-1,3-dione; C6H5.CO.CH2.CO.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	dis	NaCl04	25°C	1.0M	C	M	K1=4.55 B2= 8.14	1977SMe (70698)	2945

 K(CoL2(org))+A(org))=3.40

Method: distribution from 1.0 M NaCl04 into CCl4/HL/tri-octylposphine oxide (A). K(Co+2HL(org)=CoL2(org)+2H)=-13.05.

 Co++ gl diox/w 25°C 50% U K1=6.09 B2=11.65 1974DHa (70699)2946

 Co++ dis NaCl04 25°C 1.0M U K1=4.55 B2=8.14 1971MSe (70700)2947
 B3=11.0

 Co++ gl diox/w 30°C 75% U K1=9.74 B2=18.02 1955H0a (70701)2948

 Co++ gl diox/w 30°C 75% U K1=9.42 B2=17.83 1953UFa (70702)2949

C10H1003 HL CAS 16636-62-7 (3298)
 2-Hydroxybenzoylacetone; HO.C6H4.CO.CH2.CO.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U		K1=8.84 B2=16.50	1955H0a (70797)	2950

C10H1004 H2L CAS 616-75-1 (4700)
 Benzylmalonic acid; H00C.CH(CH2.C6H5).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	none	25°C	0.0	U		K1=3.35	1970NPb (70819)	2951

C10H1006 H2L CAS 5411-14-3 (2394)
 1,2-Phenylenedioxodiethanoic acid; C6H4(O.CH2.CO0H)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++ gl NaClO4 25°C 0.10M U K1=1.1 1968SMb (70843)2952

 C10H11NOS L (2831)
 Acetothioacetanilide; CH3.CO.CH2.CS.NH.C6H5

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

 Co++ sp diox/w 25°C 50% U K1=4.93 1985NBa (70877)2953

 C10H11NO2 L CAS 102-01-2 (250)
 Acetoacetanilide; CH3.CO.CH2.CO.NH.C6H5

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

 Co++ gl diox/w 25°C 50% U K1=4.49 1969HSc (70903)2954
 Medium: 50% dioxan, 0.1 M KClO4

 C10H11NO2S HL CAS 42607-21-6 (8331)
 2-Phenylthiazolidine-4-carboxylic acid;

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

 Co++ gl KNO3 30°C 0.10M U TIH K1=7.30 B2=13.59 1983RKb (70926)2955
 At I=0.0, K1=7.45, K2=6.44. Data for 25-50 C. DH(K1)=-42.6 kJ mol⁻¹,
 DS(K1)=26.9 J K⁻¹ mol⁻¹; DH(K2)=-36.7, DS(K2)=20.0.

 C10H11NO4 H2L CAS 1137-73-1 (2567)
 N-Phenyliminodiethanoic acid; C6H5.N(CH2.COOH)2

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

 Co++ cal KNO3 25°C 0.1M C H 1991ANa (70993)2956
 DH(K1)=20.9 kJ mol⁻¹

 Co++ cal KNO3 25°C 0.10M U K1=2.96 1991Aa (70994)2957
 DH(K1)=20.92 kJ mol⁻¹, DS(K1)=125.52 J K⁻¹ mol⁻¹

 Co++ gl KCl 30°C 0.10M U K1=3.3 B2=5.9 1957TBc (70995)2958

 Co++ gl KCl 20°C 0.10M U K1=2.90 1955SAa (70996)2959

 C10H11NO4 H2L Salicylalanine CAS 5853-90-7 (6174)
 N-Salicylyl-2-aminopropanoic acid; HO.C6H4.CO.NH.CH(CH3)COOH

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

 Co++ gl alc/w 25°C 50% U K1=3.07 B2= 5.99 1989MSi (71015)2960
 B(CoH-1L)=-4.23
 K(Co+OH+L)=9.77
 Medium: 50% v/v EtOH/H2O, 0.2 M NaNO3.

 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
Co++	EMF	oth/un	?	?	U		K1=11.0 K(Co+HL)=4.60	1968TRc (71035)	2961

 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
Co++	gl	KNO3	25°C	0.10M	U		K1=7.66 K(Co+HL)=6.63	1980TAa (71053)	2962

 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
Co++	gl	KNO3	25°C	0.10M	U		K1=6.93 B2=11.90	1965AUa (71060)	2963

 C10H11N3 L CAS 49612-00-2 (3301)
 2-Hydrazino-4-methylquinoline;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	oth/un	22°C	0.10M	U		K1=5.3 B2=9.6 B3=13.0	1957FEa (71078)	2964

 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
Co++	gl	NaNO3	25°C	0.10M	M	M	K1=2.13 B(Co(phen)L)=2.31	1995SKa (71084)	2965

 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
Co++	gl	diox/w	40°C	75%	U		K1=7.02 B2=13.46	1974PSc (71103)	2966

Medium: 75% dioxan/H2O, 0.1 M NaClO4

 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
-----
Co++       gl  NaClO4 25°C 0.10M U I      K1=2.71      1979POa (71137)2967
In 50% v/v dioxan/H2O: K1=4.52; B2=8.01
*****
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
-----
Co++       gl  KNO3   25°C 0.50M U      K1=2.11  B2=4.04  1983LWa (71155)2968
                                     B3=5.88
                                     B4=7.65
*****
C10H12N2O   HL      CAS 155055-22-4 (8339)
3-(Phenylimino)-2-butanone oxime;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  alc/w  30°C 50% U T      K1=8.38  B2=15.67 1993HMd (71163)2969
Medium: 50% v/v MeOH/H2O, 0.1 M NaClO4. Data for 40 and 50 C.
For 2-OH deriv., K1=7.20, for 3-OH, K1=7.08, for 4-OH, K1=7.40.
*****
C10H12N2O2   HL      CAS 70263-59-1 (8479)
2-(Phenylhydrazono)butanoic acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  alc/w  30°C 40% C TI      K1=3.12  B2= 5.67 1997RRd (71174)2970
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.
*****
C10H12N2O3S   HL      CAS 93100-65-3 (6199)
2-(2-Pyrrolideneamino)benzene sulfonic acid; C4H7N:N.C6H4.HSO3
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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Co++       gl  NaClO4 25°C 0.10M U T H      K1=12.52      1987RDb (71210)2971
35 C:K=12.94, 45 C:13.30. DH=70.77 kJ mol-1, DS=480 J K-1 mol-1
*****
C10H12N2O4   H2L      CAS 16598-05-3 (967)
2-Pyridylmethyliminodiethanoic acid; C5H4N.CH2.N(CH2.COOH)2
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  NaNO3  20°C 0.10M C H      K1=10.60  B2=13.50 1981ANb (71243)2972
DH1=-14.6 kJ mol-1 DS1=152.7 J K-1 mol-1
additional method: exchange equilibria and ion selective electrode
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Co++ gl KNO3 25°C 0.10M C K1=8.86 B2=15.42 1975IPa (71244)2973

Co++ gl KCl 25°C 0.10M U K1=10.39 B2=13.59 1966SIb (71245)2974

Co++ gl KNO3 20°C 0.10M U K1=10.16 B2=13.34 1963IFc (71246)2975

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

Co++ gl NaCl 25°C 0.50M C K1=2.21 1984RFb (71290)2976

C10H12N2O4 HL (6004)

N-Benzyloxycarbonylglycyl hydroxamic acid; C6H5.CH2.O.CO.NH.CH2.CO.NHOH

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

Co++ gl KNO3 25°C 0.10M U K1=4.2 1987CSb (71300)2977

C10H12N2O5S HL (6278)

2-Benzenesulfonamidossuccinamic acid; C6H5.SO2.NH.CH(CO.NH2).CH2.COOH

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

Co++ gl alc/w 25°C 50% U K1=5.46 1978GMc (71313)2978

C10H12N4O L CAS 16347-32-3 (2483)

9-(Tetrahydro-2-pyranyl)purine;

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

Co++ gl NaClO4 25°C 1.00M U K1=0.84 1983ALa (71322)2979

C10H12N4O4 L Nebularine CAS 550-33-4 (2172)

Purine-9-beta-D-ribofuranoside;

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

Co++ gl NaClO4 25°C 1.00M U K1=1.00 1981LAc (71329)2980

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

Co++ gl KNO3 35°C 0.10M U M K1=2.01 1991RRa (71380)2981

B(CoL(Ala))=6.39

B(CoLA)=6.25

B(CoL(norVal))=6.38

HA=2-aminobutanoic acid

HA=2-aminobutanoic acid

$K(\text{Co}+\text{HL}+\text{B})=9.33$. H2A is catechol, H2B is oxalic acid.

Co++ gl KNO3 35°C 0.10M U M 1983RRb (71471)2991
 K(Co+HL)=2.51
 K(Co+2HL)=5.38
 K(CoGly+H2L=CoHLGly+H)=3.0

Co++ gl KNO3 25°C 0.10M U T H 1983RRc (71472)2992
 K(Co+2HL)=5.32
 DH=-9.2 kJ mol⁻¹. At 5 C: K=6.03; 35 C: 5.38; 45 C: 5.53

Co++ gl KNO3 45°C 0.10M U M 1979RRb (71473)2993
 K(Co+HL+TetraMeen)=5.23
 K(Co+HL+Sulphosalicylate)=2.45

Co++ gl KNO3 45°C 0.10M U M 1979RRb (71474)2994
 K(Co+HL+bpy)=6.82
 K(Co+HL+phen)=7.02

Co++ gl KNO3 25°C 0.10M U T 1978RRa (71475)2995
 K(Co+HL)=2.23

Co++ gl oth/un 20°C 0.01M U K1=2.8 1953ALa (71476)2996

 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

Co++ sp NaClO4 25°C 0.10M U K1=3.46 1965SIa (71507)2997

 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

Co++ gl diox/w 27°C 75% U K1=8.78 B2=15.12 1973KDc (71525)2998
 Medium: 75% dioxan, 0.1 M NaClO4

 C10H12O2 HL CAS 1946-74-3 (202)
 3-Isopropyltropolone;

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

Co++ gl diox/w 30°C 50% U M K1=11.91 B2=18.62 1980KSa (71565)2999
 B(Co(bpy)+L)=6.58

Co++ dis NaClO4 25°C 0.10M U K1=5.8 B2=10.80 1962DYa (71566)3000

Co++ gl diox/w 30°C 50% U K1=8.1 B2=14.8 1954BFb (71567)3001

Co++ gl diox/w 30°C 50% U K1=7.9 B2=14.2 1954BFb (71568)3002

B3=18.0

C10H12O2 HL CAS 499-44-5 (3303)
4-Isopropyltropolone;

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

Co++ dis non-aq 25°C 100% C M K1=5.7 1997SNa (71629)3003
K(2Co+4L=Co2L4(org))=29.5

Method: solvent extraction from 0.10 M NaNO3 into CHCl3.

K is for: 2Co(aq)+4L(aq)=Co2L4(org). K1 refers to 0.10 M NaNO3.

C10H12O4 HL CAS 90-24-4 (4704)
2-Hydroxy-4,6-dimethoxyacetophenone; (HO)(CH3O)2.C6H2.CO.CH3

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

Co++ gl diox/w 27°C 75% U K1=10.76 B2=21.23 1973KDc (71662)3004
Medium: 75% dioxan, 0.1 M NaClO4

C10H13N L CAS 100190-73-6 (302)
2-(Pent-4-enyl)pyridine; C5H4N.CH2.CH2.CH2.CH:CH2

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

Co++ gl KNO3 25°C 0.10M U K1=1.2 1974ILa (71692)3005

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

Co++ gl KCl 25°C 0.10M U K1=8.15 B2=13.53 1975RIa (71735)3006
B(CoHL2)=21.55

Data are for L-ligand. For rac-ligand, K1=8.15, B2=13.34,
B(CoHL2)=21.49.

C10H13NO3 HL CAS 676256-93-2 (9134)
N-(2-Furanylmethylene)valine;

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

Co++ gl KCl 25°C 1.0M U K1=4.55 2003SGa (71747)3007

C10H13NO5S H2L CAS 93474-55-6 (8748)
N-(Phenylsulfonyl)-L-threonine;

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

Co++ gl alc/w 25°C 50% C T H 1987MDe (71778)3008

$$K(\text{Co}+\text{HL}=\text{CoL}+\text{H})=6.07$$

$$K(\text{Co}+2\text{HL}=\text{CoL}_2+2\text{H})=12.37$$

Medium: 50% v/v EtOH/H₂O, 0.2 M NaNO₃. 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
Co++	gl	NaNO ₃	25°C	0.10M	M		K ₁ =2.37 K(CoH-1L+H)=8.40	1991BSc (71789)	3009

C10H13N4O8P H3L IMP CAS 131-99-7 (843)
Inosine-5'-monophosphoric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO ₃	25°C	0.10M	C	M	K ₁ =2.65	2001AAa (71849)	3010

Also data for ternary complexes with MOPSO, TAPSO and ACES.

Co++	gl	KNO ₃	25°C	0.10M	C	TIHM	K(Co+HL)=2.85 K(CoL+H)=3.92 K(CoHL+HA=CoLA+2H)=7.38 K(CoHL+HC=CoLC+2H)=7.45	2000RNb (71850)	3011
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Data for 35 and 45 C. HA is DL-ala-ala, HC is DL-ala-phe. DH(CoLA)=-19.9 kJ mol⁻¹, DS(CoLA)=75 J K⁻¹ mol⁻¹; DH(CoLB)=-18.1, DS(CoLC)=82.

Co++	gl	R4N.X	25°C	0.1M	U	H	K ₁ =2.55 K(Co+HL)=1.08	1998HTa (71851)	3012
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Medium: 0.10 M Me₄NBr. By calorimetry: DH(K₁)=-12.2 kJ mol⁻¹, DS=1.9 J K⁻¹ mol⁻¹. DH(K₂)=-18.2, DS=44.

Co++	gl	KNO ₃	35°C	0.10M	U	M	K(Co+H ₂ L=CoHL+H)=2.51 K(CoHL+HA=CoLA+2H)=8.36 K(CoHL+HC=CoLC+2H)=8.73 K(CoHL+HD=CoLD+2H)=9.00	1998RVb (71852)	3013
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HA is alanine, HC is phenylalanine, HD is tryptophan.

Co++	gl	NaNO ₃	25°C	0.10M	M		K(Co+HL)=2.59 *K(CoHL)=-7.69	1994SMb (71853)	3014
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C10H13N4O9P H3L (3930)
Inosine-5'-monophosphoric acid N(1)-oxide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++ sp NaClO4 25°C 0.10M U 1965SIa (71882)3015
K(Co+HL)=3.73

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

Co++ gl NaClO4 25°C 1.00M U K1=0.2 1981LAc (71938)3016

Co++ sp oth/un 20°C var U K1=-0.30 1964SBb (71939)3017

Medium: 1-3 M Co(ClO4)2

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

Co++ gl KNO3 25°C 0.10M C T HM 1988KR a (72002)3018

K(Co+HL)=3.47

K(CoHL+HL)=4.27

Also data at 15, 35 and 45 C. DH(CoHL)=-12; DS=25. DH(CoH2L2)=-15.6; DS=29.

Also ternary complexes with bpy, phen and 5-sulfosalicylic acid

Co++ gl NaClO4 25°C 1.0M U 1981LVa (72003)3019

K(Co+HL=CoHL)=1.0

Co++ gl oth/un 20°C 0.01M U K1=3.2 1953ALa (72004)3020

C10H13N5O5 L CAS 116-92-9 (2174)

Adenosine-N'-oxide;

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

Co++ gl none 25°C 0.0 U K1=7.01 1960PEb (72030)3021

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

Co++ gl KNO3 25°C 0.50M U K1=0.85 B2=1.15 1974WAa (72065)3022

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

Co++ gl NaNO3 20°C 1.0M M K1=7.85 B2=15.04 1997WYa (72102)3023

K3=3.62

K4=3.28

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

Co++ cal KNO3 25°C 0.25M U T 1991LKb (72119)3024
DH(K1)=-3.1 kJ mol⁻¹

Co++ EMF KNO3 25°C 0.10M U K1=3.00 1991VZa (72120)3025

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

Co++ dis non-aq 25°C 100% U 1996KSA (72127)3026
K(Co+2HL=CoL2(org)+2H)=0.59

By solvent extraction into CHCl₃

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

Co++ gl NaNO3 25°C 0.10M M K1=2.03 1997SSg (72149)3027
K(Co+HL)=1.0
K(CoL+H)=3.8

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

Co++ gl R4N.X 25°C 0.10M C TIH R K1=2.32 1991SMa (72177)3028
IUPAC evaluation. DH(K1)=-2.5 kJ mol⁻¹ (tentative)

Co++ gl NaNO3 25°C 0.10M U K1=1.93 1989MSf (72178)3029

Co++ gl KNO3 40°C 0.10M U T H K1=2.28 1967TMf (72179)3030
K1=2.15(0.4 C), 2.19(12 C), 2.24(25 C). At 25 C: DH(K1)=-2.9? kJ mol⁻¹, DS=36?

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

Co++ gl R4N.X 25°C 0.10M C TIH R K1=2.22 1991SMa (72225)3031
IUPAC evaluation. DH(K1)=-2.5 kJ mol⁻¹ (tentative)

Co++	gl	NaNO3	25°C	0.10M	U		K1=1.80	1989MSf (72226)3032
Co++	gl	KN03	40°C	0.10M	U T H		K1=2.24	1967TMf (72227)3033
K1=2.11(0.4 C),2.15(12 C),2.20(25 C). At 25 C: DH(K1)=-2.5? kJ mol-1,DS=35 ?								
Co++	ix	NaClO4	25°C	0.10M	U		K1=2.08	1966DTa (72228)3034
Co++	gl	KN03	25°C	0.10M	U I		K1=2.10	1966DTa (72229)3035
In 0.1 M Me4NBr: K1=2.19								
Co++	gl	KN03	25°C	0.10M	U		K1=2.24	1962TMA (72230)3036

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
Co++	gl	NaNO3	25°C	0.10M	M		K1=2.30 K(CoL+H)=4.79 K(Co+HL)=0.88	2003BSa (72388)3037
Co++	gl	KN03	20°C	0.10M	C		B(CoHL)=11.87 B(CoH2L)=17.14	2002GLc (72389)3038
Co++	gl	KN03	25°C	0.10M	C	M	K1=2.53 K(CoL+A)=2.61 B(CoLA)=5.14 K(CoL+B)=3.84 B(CoLB)=6.37	2001A0a (72390)3039
HA=POPSO, HB=HEPPSO.								
Co++	gl	KN03	25°C	0.10M	C	M	K1=2.53 K(CoL+A)=6.11 B(CoLA)=8.64 K(CoL+B)=3.93 B(CoLB)=6.46	2000ADa (72391)3040
HA=ACES, HB=MOPSO. Also data for CHES, TAPSO and DIPSO.								
Co++	gl	NaNO3	25°C	0.10M	C	M	K1=2.57 K(CoL+A)=2.64 B(CoLA)=5.21	2000KHa (72392)3041
H2A=salicylhydroxamic acid.								
Co++	gl	NaNO3	25°C	0.10M	C	M	K1=2.57 K(CoA+L)=2.82 B(CoAL)=9.72	2000KHb (72393)3042
H2A=N-(2-acetamido)iminodiacetic acid.								

Co++	gl	KNO3	20°C	0.10M	U		K1=2.72	1999GLa (72394)3043
Co++	gl	R4N.X	25°C	0.1M	U	H	K1=2.24 K(Co+HL)=0.78	1998HTa (72395)3044
Medium: 0.10 M Me4NBr. By calorimetry: DH(K1)=-3.6 kJ mol ⁻¹ , DS=31 J K ⁻¹ mol ⁻¹ . DH(K2)=-18.2, DS=-20.								
Co++	gl	NaNO3	25°C	0.10M	M		K1=2.30	1996SSd (72396)3045
Co++	gl	KNO3	25°C	0.10M	C	M	K1=2.61 K(CuL+BES)=3.19 K(Co+L+BES)=5.80 K(CoL+Bicine)=3.86 K(Co+L+Bicine)=6.47	1995AEb (72397)3046
BES: N,N-bis(2-hydroxyethyl)-2-aminoethanesulfonic acid. K(Co+L+TAPS)=6.76 K(CoL+TAPS)=4.2. TAPS:N-[Tris(hydroxymethyl)methyl]-3-aminopropanesulfonic								
Co++	gl	R4N.X	25°C	0.10M	C	TIH R	K1=2.62	1991SMa (72398)3047
IUPAC evaluation. DH(K1)=-0.4 kJ mol ⁻¹ (tentative). 37 C, I=0.15 M: K1=2.48								
Co++	gl	NaNO3	25°C	0.10M	U		K1=2.23	1989MSf (72399)3048
Co++	cal	R4N.X	25°C	0.10M	C	H		19890Ca (72400)3049
Medium: 0.10 M triethanolamine/HCl buffer, pH 7.5. DH(K1)=-4.39 kJ m ⁻¹ , DS(K1)=34.3 J K ⁻¹ mol ⁻¹ .								
Co++	gl	NaNO3	25°C	0.10M	C		K1=2.23	1988SMb (72401)3050
Co++	gl	KNO3	25°C	0.10M	C	M	K1=5.44 B2=10.08 B(CuL(Dien))=12.40	1986BMa (72402)3051
K(2CoL(Dien)+02=Co2L2(Dien)202)=10.59								
Co++	gl	KCl	25°C	0.10M	U	M	K1=2.77	1984DMc (72403)3052
Co++	gl	KCl	25°C	0.10M	U	M		1983MDd (72404)3053
B(CoL(Gly))=6.24								
Co++	gl	KCl	25°C	0.10M	U		K1=2.30	1980DMa (72405)3054
Co++	gl	KCl	25°C	0.10M	U	M	K1=2.30	1980DMc (72406)3055
K(Co+L+his)=9.30, Hhis=histidine								
Co++	gl	R4N.X	25°C	0.20M	U	T H	K1=2.33	1980MGb (72407)3056
Medium: Me4NBr. By calorimetry DH(K1)=-0.4 kJ mol ⁻¹ at 25 C. At 5 C: K1=2.45 15 C: 2.37; 37 C: 2.35								
Co++	gl	NaClO4	8°C	0.20M	U		K1=2.352 K(Co+HL)=1.322	1977PDa (72408)3057
Co++	ix	NaClO4	20°C	0.05M	U		K1=3.86 B2=6.60	1975KOb (72409)3058

Medium: 10% dioxan, 0.1 M NaClO₄

Co++ g1 KNO3 25°C 0.10M U K1=2.57 1966DTa (72412)3061

Co++ gl NaCl04 25°C 0.10M U K1=2.19 1964SBa (72413)3062

Co++ g1 KNO3 25°C 0.10M U K1=2.64 1962TMa (72414)3063

Co++ ix NaCl 23°C 0.10M U K1=2.58 1958WAa (72415)3064

C10H14N5O8P H2L CAS 4061-78-3 (3931)

Adenosine-5'-monophosphoric acid N(1)-oxide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++ gl NaCl04 25°C 0.10M U 1964SBa (72520)3065

$$K(\text{Co}+\text{HL})=2.11$$
$$K(\text{CoL}+\text{H})=7.77$$

By spectrophotometry: $K_1=6.8$

C10H14N5O8P H3L GMP-5 CAS 85-32-5 (2947)

Guanosine-5'-monophosphoric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K	values	Reference	ExptNo
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Co++ gl KN03 25°C 0.10M C M K1=2.75 2001AAa (72574)3066

Also data for ternary complexes with MOPSO, TAPSO and ACES.

Co++ gl KNO3 25°C 0.10M C T HM 2000Rb (72575)3067

$$K(Co+HL)=3.04$$
$$K(\text{CoL}+\text{H})=4.08$$
$$K(\text{CoHL} + \text{HA} = \text{CoLA} + 2\text{H}) = 7.50$$
$$K(\text{CoHL} + \text{HC} = \text{CoLC} + 2\text{H}) = 7.68$$

Data for 35 and 45 C. HA is DL-ala-ala, HC is DL-ala-phe. DH(CoLA)=-17.5

kJ mol^{-1} , $\text{DS}(\text{CoLA})=85 \text{ J K}^{-1} \text{ mol}^{-1}$; $\text{DH}(\text{CoLB})=-17.2$, $\text{DS}(\text{CoLC})=89$.

Co++ gl R4N.X 25°C 0.1M U H K1=2.68 1998HTa (72576)3068

$$K(\text{Co}+\text{HL})=1.26$$

Medium: 0.10 M Me₄NBr. By calorimetry: DH(K1)=-14 kJ mol⁻¹.

DS=4 J K⁻¹ mol⁻¹. DH(K2)=-6.1, DS=20.

Co++ gl KNO3 35°C 0.10M U M 1998RVb (72577)3069

$$K(\text{Co} + \text{H}_2\text{L} = \text{CoHL} + \text{H}) = 2.65$$
$$K(\text{CoHL} + \text{HA} = \text{CoLA} + 2\text{H}) = 8.50$$

K(CoHL+HC=CoLC+2H)=8.87

K(CoHL+HD=CoLD+2H)=9.15

HA is alanine, HC is phenylalanine, HD is tryptophan.

Co++ gl NaNO3 25°C 0.10M M 1994SMb (72578)3070

K(Co+HL)=2.72

*K(CoHL)=-8.16

Co++ gl KNO3 35°C 0.10M U M 1990RAc (72579)3071

B(CoHL)=1.94

K(Co+H2L+Gly)=8.88

K(Co+HL+His)=11.13

K(Co+HL+histamine)=10.70

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

Co++ gl NaClO4 25°C 0.10M U K1=2.86 1973PPc (72624)3072

B(CoHL)=6.77

B(CoH2L)=10.23

B(Co2L)=4.12

Co++ gl oth/un 25°C 0.10M U K1=2.2 1972PPb (72625)3073

C10H15N L CAS 91-66-7 (3897)

N,N-Diethylaniline; C6H5.N(CH2.CH3)2

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

Co++ sp non-aq ? 100% U 1972ZDa (72631)3074

K(CoCl2+L)=2.70

K(CoCl2+2L)=5.37

Medium: t-butanol

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

Co++ gl diox/w 25°C 50% U K1=1.21 1981CBa (72653)3075

C10H15N2O4P H2L (7120)

Phenylalanylaminoethylphosphonic acid;

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

Co++ gl KNO3 25°C 0.10M C K1=2.651 B2=4.33 1995HLA (72674)3076

B(CoHL)=9.09

B(CoH-1L)=-5.874

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

Co++ gl R4N.X 25°C 0.10M C T K1=2.31 1991SMa (72694)3077
K(Co+HL)=2.31

IUPAC evaluation

Co++ gl NaNO3 25°C 0.10M C 1988MSa (72695)3078
K(Co+HL)=1.89

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

Co++ gl KNO3 25°C 0.10M C K1=6.84 1974MMb (72716)3079
K(CoL+H)=3.33
K(CoH-1L+H)=10.10

C10H15N4O14P3 H5L ITP CAS 35908-31-7 (2148)

Inosine 5'-triphosphoric acid;

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

Co++ gl NaNO3 25°C 0.10M C 2001SBc (72750)3080
K(Co+HL)=5.08
K(CoHL+H)=4.4
K(Co+H2L)=3.0

Co++ gl R4N.X 25°C 0.10M C R 1991SMa (72751)3081
K(Co+HL)=5.13

IUPAC evaluation

Co++ gl NaClO4 25°C 0.10M U M 1977CSa (72752)3082
K(Co+HL)=4.81
K(Co(bpy)+HL)=4.73
B(Co(bpy)(HL))=10.79

Co++ sp NaClO4 25°C 0.10M U M 1977CSa (72753)3083
Kefff(Co(bpy)+HL)=2.78, pH 2.5
K(CoL(bpy)+H)=4.50

Co++ gl KNO3 25°C 0.10M U T 1973TRb (72754)3084
K(Co+HL)=4.97

K(35 C)=5.02, K(45 C)=4.92

Co++ ix NaCl 23°C 0.10M U 1958WAa (72755)3085

K(Co+HL)=4.74

C10H15N5O4 HL Gly-His-Gly CAS 7758-33-0 (716)

Glycyl-histidyl-glycine; NH₂.CH₂.CO.NH.CH(CH₂.C₃N₂H₃)CO.NH.CH₂.COOH

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

Co++ gl KNO₃ 37°C 0.15M U K1=3.17 1975APb (72816)3086

K(CoH-1L+H)=6.09

K(CoH-1L+L)=2.54

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

Co++ gl none 21°C 0.0 M K1=5.09 B2=9.20 1974YAa (72824)3087

C10H15N5O10P2 H3L ADP CAS 20398-34-9 (2181)

Adenosine-5'-diphosphoric acid;

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

Co++ gl NaNO₃ 25°C 0.10M M K1=3.92 2003BSa (72928)3088

K(CoL+H)=4.55

K(Co+HL)=2.07

Co++ gl KNO₃ 25°C 0.10M C M K1=4.20 2001A0a (72929)3089

K(CoL+A)=1.57

B(CoLA)=5.77

K(CoL+B)=2.83

B(CoLB)=7.03

K(CoL+C)=3.91, B(CoLC)=8.11, K(CoL+D)=3.02, B(CoLD)=7.22.

HA=MOPS, HB=POPSO, HC=HEPPSO and HD=AMPSO.

Co++ gl KNO₃ 25°C 0.10M C M K1=4.20 2000ADa (72930)3090

K(CoL+A)=4.32

B(CoLA)=8.52

K(CoL+B)=3.84

B(CoLB)=8.05

HA=ACES, HB=MOPSO. Also data for CHES, TAPSO and DIPSO.

Co++ gl NaNO₃ 25°C 0.10M C M K1=4.10 2000KHa (72931)3091

K(CoL+A)=4.22

B(CoLA)=8.32

H2A=salicylhydroxamic acid.

Co++ gl NaNO₃ 25°C 0.10M C M K1=4.10 2000KHb (72932)3092

K(CoA+L)=4.42

H2A=N-(2-acetamido)iminodiacetic acid.

BES: N,N-bis(2-hydroxyethyl)-2-aminoethanesulfonic acid. K(Co+L+TAPS)=8.88
K(CoL+TAPS)=4.5. TAPS: N-[Tris(hydroxymethyl)methyl]-3-aminopropanesulfonic

Co++ gl R4N.X 25°C 0.10M C T K1=4.40 1991SMa (72935)3095
K(Co+HL)=2.01

Co++ gl KCl 25°C 0.10M U M K1=3.51 1980DMc (72938)3098
K(Co+H+L)=8.38

Co++ gl R4N.X 25°C 0.20M U T H K1=3.90 1980Mgb (72939)3099
Medium: Me4NBr. At 5 C: K1=3.84; 15 C: 3.84; 37 C: 4.00

K1=4.63(0.4 C), 4.27(12 C), 4.20(25 C); K=2.12(0.4 C), 2.07(12 C), 2.01(25 C).
At 25 C: DH(K1)=-8.4 kJ mol⁻¹, DS=54 J K⁻¹ mol⁻¹; DH(Co+HL)=-7.9, DS=13

C10H16N2O6 H2L CAS 23873-27-0 (9120)
N,N'-Bis-(3-carboxy-1-oxopropanyl)-1,2-diaminoethane;

Co++ gl NaClO4 25°C 0.10M M K1=5.24 B2= 9.10 2003GSa (73067)3104

Co++ gl NaClO4 25°C 0.10M U K1=5.43 B2= 9.34 2003GSc (73068)3105

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	KNO3	25°C	0.50M	U	T H	K1=13.54	1993VKa (73101)	3106
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Co++	EMF	KNO3	25°C	0.10M	U		K1=13.70 K(Co+HL)=7.30	1991VZa (73102)	3107
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Co++	ISE	KNO3	25°C	0.10M	U		K1=13.55	1973SGa (73103)	3108
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Method: Cu/Hg. Reference gives 2 values: K1=13.55 and 14.55

Co++	gl	KNO3	30°C	1.0M	U		K1=10.05	1972TSf (73104)	3109
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Co++	gl	KNO3	20°C	0.10M	U		K1=14.11	1968MJa (73105)	3110
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By paper electrophoresis: K1=13.8

Co++	sp	KNO3	20°C	0.10M	U		K1=14.02	1966MSg (73106)	3111
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C10H16N2O8 H4L EDTA CAS 60-00-4 (120)
 1,2-Diaminoethane-N,N,N',N'-tetraethanoic acid, Sequestric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	cal	NaNO3	25°C	0.50M	U	HM		1998KKb (73518)	3112
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K(CoL+OH)=0.95
 K(CoL+NH3)=0.87
 K(CoL+en)=1.49

DH(CoL+OH)=-23.9 kJ mol⁻¹, DH(CoL+NH3)=-25.6, DH(CoL+en)=-43.6

Co++	cal	NaNO3	25°C	0.5M	C			1998KNa (73519)	3113
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K(CoL+OH)=0.95
 K(CoL+en)=1.44
 K(CoL+NH3)=0.87

DH(CoL+OH)=-23.92 kJ/mol; DH(CoL+NH3)=-25.63

DH(CoL+en)=-43.58

Co++	cal	KNO3	25°C	0.50M	U	H		1984PTb (73520)	3114
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DH(K1)=-20.1 kJ mol⁻¹, DH(CoL+OH)=-12.1

Co++	sp	none	25°C	0.0	U	M	K1=16.3	1983KPa (73521)	3115
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K(CoL+CN)=3.30

Co++	EMF	KCl	20°C	0.10M	C		K1=16.1	1981SFa (73522)	3116
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Method: Pt/H2 electrode.

Co++	sol	KNO3	25°C	1.00M	U			1979JPb (73523)	3117
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Co++	gl	KCl	20°C	0.10M	C	R K1=16.49 K(CoL+H)=3.0	1978ANa (73524)	3118
IUPAC evaluation. K(CoL+H) Tentative								
Co++	vlt	KNO3	20°C	0.10M	U	K1=16.47	1978NLb (73525)	3119
Co++	oth	none	25°C	0.0	U	K1=16.31	1977DFa (73526)	3120
Calculated from a model. Constants also for other related Co++ complexes								
Co++	vlt	KNO3	25°C	1.00M	U	K1eff=13.20	1977HDa (73527)	3121
Keff at pH 7								
Co++	cal	KNO3	25°C	0.5M	U IH	K1=15.55 DH1=-21.0 kJ/mol	1976VBb (73528)	3122
For15 C: K1=15.69, DH1=-21.72; 35 C: K1=15.45, DH1=-20.04 for 25 C and I=0.3 M K1=15.77; for 25 C and I=1.0 M K1=15.36								
Co++	oth	NaClO4	25°C	1.0M	U	K(CoLCl+Co)=0.94	1973HHb (73529)	3123
Co++	sp	NaClO4	25°C	1.0M	U M	K(CoL+H)=2.79 K(CoL+N3)=-0.39 K(CoL+SCN)=0.13 K(CoL+py)=0.29	1970HSc (73530)	3124
K(CoL+NH3)=0.85, K(CoL+A)=-0.16 A=hydroxylamine, K(CoHL+SCN)=0.49								
Co++	cal	KNO3	25°C	0.10M	U	K1=16.31 K(CoL+H)=3.0 K(Co+HL)=9.15	1969BNa (73531)	3125
Co++	sp	oth/un	25°C	0.20M	U	K(CoL+CN)=3.30	1969JMb (73532)	3126
Co++	sp	NaClO4	25°C	0.20M	U	K1=16.14	1967BDb (73533)	3127
Co++	sp	NaClO4	25°C	1.0M	U M	K(CoL+A)=1.40 K(CoL+B)=1.56 K(CoL+en)=1.68 K(CoL+py)=1.64	1965BRe (73534)	3128
K(CoL+diaminopropane)=1.68. A=hydroxylamine, B=hydrazine								
Co++	oth	KNO3	20°C	0.10M	U	K1=16.5	1965JMb (73535)	3129
Method: electrophoresis								

Co++ vlt KNO3 25°C 0.20M U K1=15.71 19650Ga (73536)3130

Co++ gl KNO3 20°C 0.10M U K1=16.31 1964ANa (73537)3131
K(Co+HL)=9.15

Co++ cal KNO3 20°C 0.10M U H 1963ANf (73538)3132
DH(K1)=-17.6 kJ mol⁻¹, DS=251 J K⁻¹ mol⁻¹

Co++ sp NaClO4 ? 1.0M U 1963BKb (73539)3133
K(Co+HL)=8.66
K(CoL+OH)=0.83

Co++ dis NaClO4 20°C 0.10M U K1=16.55 1963STc (73540)3134
Medium: KClO4

Co++ EMF oth/un 25°C 0.0 U H 1956MAa (73541)3135
Method: H electrode. DS(K1)=245 J K⁻¹ mol⁻¹

Co++ cal oth/un 25°C 0.05M U H 1954CHa (73542)3136
Medium: Co(NO3)2. DH(K1)=-17.1 kJ mol⁻¹, DS=242 J K⁻¹ mol⁻¹

Co++ gl KCl 20°C 0.10M U I T K1=16.21 1954SGa (73543)3137
K(CoL+H)=3.09
By polarography K1=16.31. In 0.1 M KNO3 K(Co+HL)=9.15

Co++ sp KNO3 30°C 0.10M U K1=15.4 1953HMa (73544)3138

Co++ sp oth/un ? 0.10M U K1=16.1 1952MPa (73545)3139

C10H16N2O9 H4L CAS 616-90-0 (2615)
Bis-(2-aminoethylether)-N,N'di(1,3-propanedioic acid); ((HOOCH2)2CH.NH.CH2.CH2)2O

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

Co++ EMF KNO3 25°C 0.10M U K1=10.18 1979KBe (74373)3140

C10H16N2O11P2 H4L CAS 491-97-4 (7674)
Thymidine-5'-diphosphoric acid;

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

Co++ gl NaNO3 25°C 0.10M M 1999SSa (74386)3141
K(Co+HL)=3.77

C10H16N5O13P3 H4L ATP CAS 56-65-5 (403)
Adenosine-5'-triphosphoric acid;

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

Co++ gl KNO3 25°C 0.10M C M K1=4.66 2001AOa (74615)3142

K(CoL+A)=1.60

B(CoLA)=6.26

K(CoL+B)=1.88

B(CoLB)=6.54

K(CoL+C)=3.07, B(CoLC)=7.73, K(CoL+D)=4.72, B(CoLD)=9.38, K(CoL+E)=3.50,

B(CoLE)=8.16. HA=PIPES, HB=MOPS, HC=POPSO, HD=HEPPSO and HE=AMPSO.

Co++ gl KNO3 25°C 0.10M C T HM K1=4.40 2001BTa (74616)3143

K(CoL+A)=4.09

Data for 15-45 C. DH(K1)=-10.39 kJ mol⁻¹, DS(K1)=-49.4 J K⁻¹ mol⁻¹.

HA=asparagine.

Co++ gl KNO3 25°C 0.10M C M K1=4.66 2000ADa (74617)3144

K(CoL+A)=3.69

B(CoLA)=8.35

K(CoL+B)=4.09

B(CoLB)=8.75

HA=ACES, HB=MOPSO. Also data for CHES, TAPSO and DIPSO.

Co++ gl NaNO3 25°C 0.10M C M K1=4.65 2000KHa (74618)3145

K(CoL+A)=6.89

B(CoLA)=11.54

H2A=salicylhydroxamic acid.

Co++ gl NaNO3 25°C 0.10M C M K1=5.00 2000KHb (74619)3146

K(CoA+L)=5.08

B(CoAL)=11.98

H2A=N-(2-acetamido)iminodiacetic acid.

Co++ gl KNO3 25°C 0.10M C M K1=4.40 1999BIa (74620)3147

K(CoL+His)=6.90

K(CoL+Lys)=4.47

K(CoL+Asn)=4.09

K(CoL+Gln)=3.96

K(CoL+Asp)=8.68, K(CoL+Glu)=7.62.

Co++ gl KNO3 25°C 0.10M C M K1=5.11 1995AEb (74621)3148

K(CuL+BES)=4.17

K(CoL+BES)=9.28

K(CoL+Bicine)=4.52

K(CoL+Bicine)=9.63

BES: N,N-bis(2-hydroxyethyl)-2-aminoethanesulfonic acid. K(CoL+TAPS)=9.89

K(CoL+TAPS)=4.8. TAPS:N-[Tris(hydroxymethyl)methyl]-3-aminopropanesulfonic

Co++ gl R4N.X 25°C 0.10M C TIH R K1=5.1 B2=7.76 1991SMa (74622)3149

IUPAC evaluation. DH(K1)=18.8 kJ mol⁻¹. 37 C, I=0.15 M: K1=4.8

Co++ gl KNO3 25°C 0.10M U K1=4.26 1989MAc (74623)3150

Co++	gl	NaNO3	25°C	0.10M	C	K1=4.97 K(Co+HL)=2.82 K(CoL+H)=4.32	1987STb (74624)3151
Co++	gl	NaCl04	25°C	0.10M	U	M K1=5.056 B(CoHL)=9.23 B(CoH2L2)=18.53	1986CCc (74625)3152
Ternary complexes with 2,2'-dipyridylamine							
Co++	ix	oth/un	25°C	0.06M	C	K1eff=3.04	1985JEa (74626)3153
Medium: 0.06 M N-tris(hydroxymethyl)methyl-2-aminoethane sulfonic acid buffer, pH 7.45. In 0.06 M imidazole/HCl buffer, pH 7.45, K1eff=3.46.							
Co++	gl	KCl	25°C	0.10M	U	M K1=4.01	1984DMc (74627)3154
Co++	gl	KCl	25°C	0.20M	C	M B(CoL(DOPA))=12.90	1984KDb (74628)3155
H3DOPA=3,4-dihydroxyphenylalanine							
Co++	gl	KCl	25°C	0.10M	U	M B(CoL(Gly))=8.05	1983MDd (74629)3156
Co++	gl	KCl	25°C	0.10M	U	K1=4.36 B(CoHL)=9.45	1980DMa (74630)3157
Co++	gl	KCl	25°C	0.10M	U	M K1=4.36 K(Co+H+L)=9.45	1980DMc (74631)3158
K(Co+L+his)=10.65, Hhis=histidine							
Co++	gl	R4N.X	5°C	0.20M	U T H	K1=5.59	1978GFb (74632)3159
15 C: K1=5.74; 26 C: 5.92; 30 C: 6.104, 36 C: 6.248. DH(K1)=5.9 kJ mol ⁻¹							
Co++	gl	NaCl	25°C	0.12M	U	K1=4.54	1978RMc (74633)3160
Co++	sp	NaCl04	25°C	0.10M	U	M K(Co(bpy)+L)=4.93	1977CSa (74634)3161
Co++	gl	NaCl04	25°C	0.10M	U	M K1=4.86 K(Co(bpy)+L)=4.79	1977CSa (74635)3162
Co++	ix	NaCl04	20°C	0.05M	U	B2=2.17 B3=4.60 B4=6.53	1975KOb (74636)3163
Co++	gl	NaCl04	25°C	0.10M	U	M K1=4.86 K(Co(bpy)+L)=4.79	1967SBc (74637)3164
Co++	gl	R4N.X	30°C	0.10M	U	K1=5.21 K(Co+HL)=2.65	1966PSa (74638)3165

Medium: Me4NBr

Co++ gl KNO3 40°C 0.10M U T H K1=4.55 1966TMb (74639)3166
K(Co+HL)=2.24

K1=4.80(0.4 C),4.69(12 C),4.66(25 C); K=2.45(0.4 C),2.39(12 C),2.32(25 C).
At 25 C:DH(K1)=-9.2 kJ mol⁻¹, DS=59 J K⁻¹ mol⁻¹; DH(Co+HL)=8.8, DS=17

Co++ gl KNO3 25°C 0.10M U K1=4.66 1962TMb (74640)3167
K(Co+HL)=2.32

Co++ gl KCl 22°C 0.10M U K1=4.71 1961BRb (74641)3168
K(Co(OH)L+H)=9.4

Co++ ix NaCl 23°C 0.10M U K1=4.62 1958WAa (74642)3169

C10H16N5O14P3 H5L GTP CAS 86-01-1 (404)
Guanosine-5'-triphosphoric acid;

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

Co++ gl NaNO3 25°C 0.10M C 2001SBc (74871)3170
K(Co+HL)=5.34
K(CoHL+H)=4.66
K(Co+H2L)=3.50

Co++ gl R4N.X 25°C 0.10M C T 1991SMa (74872)3171
K(Co+HL)=5.11

IUPAC evaluation

Co++ gl KNO3 25°C 0.10M U T 1973TRb (74873)3172
K(Co+HL)=5.57
K(35 C)=5.65, K(45 C)=5.50

Co++ ix NaCl 23°C 0.10M U 1958WAa (74874)3173
K(Co+HL)=4.63

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

Co++ gl none 0.0 U K1=10.98 1971ZKa (74895)3174
K(CoLOH=CoL+OH)=-2.2
K(Co2L2O2OH=2CoL+O2+OH)=-17.9

By O2-sensor: K(Co2L2O2OH=2CoL+O2+OH)=-18.3

Co++ gl KCl 25°C 0.10M U K1=11.43 1968GRa (74896)3175

C10H16O8P2 H4L (6907)
1,2-Diphosphinoethane-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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Co++	gl	NaCl04	25°C	0.10M	C		B2=22.54 B(CoH2L2)=32.71 B(CoH4L2)=40.15 B(CoH6L2)=45.72	1992PPb (74943)	3176
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Co++	gl	NaCl04	25°C	0.10M	C		B(CoH2L2)=32.71	1982PPc (74944)	3177
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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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Co++	gl	NaCl04	25°C	0.50M	U		K1=7.19 B2=12.87	1967FMb (74972)	3178
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C10H17N05 H2L (3917)
N-(Tetrahydropyran-2-ylmethyl)iminodiethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	KNO3	20°C	0.10M	U		K1=8.51 B2=13.01 K(Co+HL)=2.60	1963IFa (74998)	3179
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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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Co++	gl	NaCl04	25°C	0.10M	C		K1=4.10 B2=6.65 B(CoHL)=7.12	1992GNa (75012)	3180
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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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Co++	gl	NaCl	25°C	0.10M	C	T	K1=4.91 K(Co+HL)=4.91	1991SMa (75048)	3181
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IUPAC evaluation

Co++	gl	NaN03	25°C	0.10M	C		K(Co+HL)=4.78	1987STb (75049)	3182
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C10H17N306S H3L Glutathione CAS 70-18-8 (333)
Glutamyl-cysteinyglycine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	NaClO4	25°C	0.10M	U	TIH	K1=6.910	2001SGd (75107)	3183
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Data for 0.05-0.2 M NaClO4 and 15-45 C. DH(K1)=-29.4 kJ mol⁻¹, DS(K1)=-38 J K⁻¹ mol⁻¹. At I=0, K1=7.150. Also data for MeOH/H2O, EtOH/H2O, DMF/H2O.

Co++	gl	KNO3	30°C	0.10M	U	T M	K1=6.910	1995SSc (75108)	3184
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K(CoA+L)=6.05
K(CoB+L)=6.48
K(CoC+L)=5.98
K(CoD+L)=7.60

Also data for 40 and 50 C. HA is anthranilic acid, H2B is ascorbic acid, HC is nicotinic acid, HD is sulfanilic acid.

Co++	gl	KCl	25°C	0.20M	C		B2=9.55	1983HSa (75109)	3185
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B(CoHL)=13.20
B(CoHL2)=18.52
B(Co2L3)=18.93
B(Co2HL3)=26.97

B(Co2L2)=14.05. Alternative method: Spectrophotometry

Co++	gl	KNO3	37°C	0.15M	C		K1=6.3	1981AEa (75110)	3186
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B(CoHL)=13.4
B(CoH2L2)=25.85
B(Co2L)=9.3

Co++	gl	KNO3	25°C	0.16M	U		K1=4.2	1959MEa (75111)	3187
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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
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Co++	gl	R4N.X	20°C	0.10M	M		K1=5.63	1976PSe (75168)	3188
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K(Co+HL)=3.15

C10H18N2O4 H2L CAS 17423-86-4 (8122)
1,4-Piperazine-N,N'-dipropionic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	KNO3	30°C	0.10M	U	TIH	K1=4.27 B2= 6.55	1991KEa (75188)	3189
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DH(K1)=-22.1 kJ mol⁻¹, DS(K1)=9.8 J K⁻¹ mol⁻¹; DH(K2)=-20.2, DS(K2)=20.6. Data for 0.02-0.10 M KNO3 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
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Co++	gl	NaClO4	25°C	0.10M	U		K1=8.55	1975BIb (75200)3190
Co++	gl	KNO3	25°C	0.50M	U		K1=10.9 K(CoL(OH)+H)=10.55	1975CKa (75201)3191

C10H18N2O4S		H2L					(6638)	
1-Thia-4,7-diazacyclononane-N,N'-diethanoic acid;								
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference ExptNo
Co++	gl	KNO3	25°C	0.10M	C		K1=13.0	1993WLa (75214)3192

C10H18N2O5		H2L					(5608)	
1-Oxa-4,7-diazacyclononane-N,N'-diethanoic acid;								
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference ExptNo
Co++	gl	KNO3	25°C	0.10M	U		K1=11.48	1990CCa (75229)3193

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
Co++	gl	NaCl	25°C	0.10M	U			1985KLb (75316)3194
							K(CoL+H)=2.2 K(CoH-1L+H)=2.14	
Co++	gl	KCl	25°C	0.10M	U		K1=14.4 K1=16.2 by spectrophotometry	1975AZa (75317)3195
Co++	oth	oth/un	?	?	U		K1=14.4	1970DTc (75318)3196
Co++	sp	NaClO4	25°C	1.0M	U	M		1970HSc (75319)3197
							K(CoL+N3)=0.33 K(CoL+SCN)=0.54 K(CoL+py)=0.94 K(CoL+NH3)=1.38	
K(CoL+A)=0.80, K(CoL+B)=0.38. A=hydrazine, B=hydroxylamine								
Co++	gl	KNO3	25°C	0.10M	U		K1=14.42	1969BNa (75320)3198
2nd method: calorimetry								
Co++	sp	NaClO4	25°C	0.20M	U		K1=14.12	1967BDb (75321)3199
Co++	cal	KNO3	25°C	0.10M	U	H		1965WHa (75322)3200
DH(K1)=-27.2 kJ mol ⁻¹ , DS=184 J K ⁻¹ mol ⁻¹								
Co++	gl	KCl	30°C	0.10M	U		K1=14.4	1955CMa (75323)3201

C10H18N4O6 H2L (4504)
Hexanoic acid bis(3-hydroxycarbamoyl-methyl)amide; HONHCOCH2NHCOC(CH2)4CONHCH2CONHOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.20M	C		K1=6.87 B(Co2L3)=19.0 B(CoHL)=13.61	1999FEa (75566)	3202

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
Co++	gl	KCl	25°C	0.20M	C		K1=2.93 B(CoHL)=9.47	1988VSb (75576)	3203

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
Co++	gl	KNO3	25°C	0.10M	U		K(Co+H2L)=9.69 K(CoL+H)=7.31 K(CoHL+H)=5.77	1971MMe (75581)	3204

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
Co++	gl	diox/w	30°C	75%	U		K1=9.73 B2=18.97	1972UDa (75596)	3205

Medium: 75% v/v dioxan, 0.01 M Me4NC104

C10H18O8 H2L CAS 32775-08-9 (240)
1,12-Dicarboxy-2,5,8,11-tetraoxadodecane; (HOOOC.CH2.O.CH2.CH2.O.CH2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	U		K1=1.92	1975MTc (75616)	3206

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
Co++	gl	KCl	20°C	0.10M	U		K1=7.78 B2=14.07	1955SAa (75636)	3207

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
Co++	gl	KCl	25°C	0.20M	U			K1=2.39	1981FD	(75650)3208

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.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	oth/un	25°C	0.01M	U			K1=2.16 B2=4.34	1959DL	(75685)3209

C10H20N203 HL Val-Val CAS 3918-94-3 (724)
 L-Valyl-L-valine; H2N.CH(CH(CH3)2).CO.NH.CH(CH(CH3)2).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	NaCl	25°C	0.12M	U			K1=2.21	1977PNa	(75739)3210

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	NaCl	25°C	0.12M	U			K1=2.21	1976PNa	(75740)3211

C10H20N203 HL NIBL (6057)
 N-(Isobutyryl)-lysine; (CH3)2CH.CO.NH.(CH2)4.CH(NH2)COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	NaCl04	25°C	0.10M	C			K1=4.26 B2=7.38	1987LMa	(75749)3212

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	cal	NaCl04	25°C	0.10M	C	H			1987LMc	(75750)3213

DH(K1)=-13.54 kJ mol⁻¹, DS(K1)=36.6 J K⁻¹ mol⁻¹.
 DH(K2)=-11.70, DS(K2)=20.8.

C10H20N203 HL (8624)
 N-Hydroxy-4-amino-4-carboxy-2,2,6,6-tetramethylpiperidine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	NaNO3	25°C		U			K1=3.08 B2= 5.00	1976TCb	(75752)3214

Ionic strength not stated.

C10H20N204 H2L CAS 58534-57-9 (2113)
 Hexamethylenediamine-N,N-diethanoic acid; H2N(CH2)6.N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KN03	25°C	0.10M	U				1977Tia	(75774)3215

K(Co+HL)=7.43

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
Co++	gl	NaNO3	25°C	0.10M	C		K1=7.40	1989EHa (75796)	3216

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
Co++	gl	KCl	25°C	0.20M	C			1988VSb (75825)	3217
							B(CoHL)=11.85		
							B(Co2L2)=12.29		

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
Co++	gl	KNO3	20°C	0.10M	U		K1=9.62	1970DKa (75832)	3218

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
Co++	sp	oth/un	20°C	0.10M	U		K1=9.62	1972DKa (75843)	3219

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
Co++	sp	none	25°C	0.0	U		K1=4.62	1976AMc (75863)	3220

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
Co++	gl	NaClO4	35°C	0.20M	U	M		1983MKb (75887)	3221
							B(CoH-2L)=-11.11		
Ternary complex with dioxygen: B(Co2H-4L2(O2))=-8.62									

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

 Co++ con mixed 25°C 90% C K1=1.98 2003ISa (75960)3222
 Medium: 90% v/v DMSO/H2O.

Co++ con alc/w 25°C 40% C K1=1.66 2002ISa (75961)3223
 Medium: 40% EtOH/H2O.

Co++ con alc/w 25°C 40% C K1=1.90 2001ISa (75962)3224
 Medium: 40% v/v EtOH/H2O.

Co++ nmr non-aq 27°C 100% C K1=3.56 2000SMg (75963)3225
 Medium: acetonitrile. Method: competitive 7Li nmr technique.

Co++ cal non-aq 25°C 100% C H K1=4.24 1999SBe (75964)3226
 Medium: acetonitrile. DH(K1)=-12.9 kJ mol⁻¹.

Co++ vlt alc/w 25°C 100% C K1=3.62 1987CBd (75965)3227
 Medium: methanol, 0.10 M Et4NI or Bu4NClO4. Method: polarography.

 C10H21N11 L (7006)
 1,7-Di(2-(5-tetraazoly)ethyl)-1,4,7-triazaheptane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	NaNO3	20°C	0.10M	U		K1=21.35	1981ESa (76210)3228	
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C10H22N20S2 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
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Co++	gl	NaClO4	25°C	0.10M	U	H	K1=5.42	1979ASb (76237)3229	
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Also DH values

Co++	gl	NaClO4	25°C	0.10M	U		K1=5.22	1977LAa (76238)3230	
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Co++	gl	NaClO4	25°C	0.10M	U		K1=5.42	1975ASc (76239)3231	
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C10H22N20S2 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
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Co++	gl	NaClO4	25°C	0.10M	U	H	K1=5.22	1979ASb (76251)3232	
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Also DH values

 C10H22N203 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
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 Co++ gl R4N.X 25°C 0.10M C K1=4.90 1983LCa (76260)3233

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

Co++ sp non-aq 25°C 100% U H K1=3.7 2004DMb (76300)3234
 Medium: dmsO, 0.1 M Et4NClO4. DH(K1)=-14.8 kJ mol⁻¹, DS(K1)=20 J K⁻¹ mol⁻¹

 Co++ cal non-aq 25°C 100% C H K1=4.81 1999SBe (76301)3235
 Medium: acetonitrile. DH(K1)=-63.9 kJ mol⁻¹.

 Co++ gl R4N.X 25°C 0.05M C K1=3.8 1997BCc (76302)3236
 Medium: 0.05 M Me4NClO4

 Co++ cal alc/w 25°C 100% U H K1=6.9 1985BUd (76303)3237
 Medium: MeOH, 0.05 M Et4N.NO3. DH=+5.5 kJ mol⁻¹

 Co++ gl R4N.X 25°C 0.10M C K1=5.22 1983LCa (76304)3238

Co++ gl R4N.X 25°C 0.10M C K1=5.05 1977ASc (76305)3239

C10H22N2S2 CAS 65113-46-4 (5985)
 N,N'-Dimethyl-1,7-diaza-4,10-dithiacyclododecane;

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

Co++ gl NaClO4 25°C 0.10M U K1=4.24 1985SLa (76372)3240
 B(CoLOH)=-3.16

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

Co++ gl NaClO4 35°C 0.20M U M 1983MKb (76403)3241
 B(CoH-1L)=1.49

Ternary complex with dioxygen: B(Co2H-2L2(O2))=16.52

C10H23N3O L (6453)
 1-Oxa-4,8,12-triazacyclotetradecane;

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

Co++ gl KCl 25°C 0.10M C K1=9.63 1996JLb (76507)3242

Co++ gl KNO3 25°C 0.10M U K1=8.87 1991ACa (76508)3243
 B(CoHL)=14.6

B(CoH-2L)=-6.43
K(CoL+20H)=12.34

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

Co++ gl KNO3 25°C 0.10M C K1=8.49 1994CDa (76522)3244

C10H24N2O5 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

Co++ gl NaClO4 25°C 0.10M U H K1=<1.5 1979ASb (76558)3245

B(CoHL)=8.22

Also DH values

Co++ gl NaClO4 25°C 0.10M U K1=1.50 B2=8.70 1975ASb (76559)3246

C10H24N2O2 L Ethambutol CAS 36697-71-9 (1403)

R-2,2'-(1,2-Ethandyl-diimino)-bis-1-butanol;

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

Co++ gl NaClO4 25°C 0.10M U T H K1=5.72 1990BPb (76572)3247

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

Co++ gl NaClO4 25°C 0.10M U K1=5.13 1970RMA (76585)3248

By Kinetics : K1=4.9

Co++ gl NaNO3 ? 0.50M U K1=5.30 1965ISa (76586)3249

Co++ gl oth/un 25°C 0.50M U K1=5.04 1960HDA (76587)3250

C10H24N4 L CAS 70072-63-8 (286)

1,4,7,10-Tetraazacyclotetradecane;

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

Co++ gl NaClO4 35°C 0.20M U M K1=11.67 1983MKb (76605)3251

Ternary complex with dioxygen: B(Co2H-1L2(O2))=27.63

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
Co++	gl	NaClO4	35°C	0.20M	U		K1=10.91	1980KKa (76616)	3252

C10H24N4		L	Cyclam				CAS 295-37-4	(8)	
1,4,8,11-Tetraazacyclotetradecane; cyclo(-(HN.CH2.CH2.NH.(CH2)3)2-)									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	oth/un	25°C	0.10M	U		K1=14.30	1984CCb (76658)	3253
							K(Co+OH+L)=17.08		
Medium not stated.									
Co++	gl	NaClO4	35°C	0.20M	U		K1=12.71	1980KKa (76659)	3254
							B(Co2L4(O2))=27.08		

C10H24N4O		L					(7051)		
1-Oxa-4,7,10,13-tetraazacyclopentadecane;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	C		K1=12.72	1994CDa (76708)	3255

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
Co++	gl	NaClO4	35°C	0.2M	C		K1=16.76	1980KKe (76730)	3256

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
Co++	sp	oth/un	25°C	0.10M	U		K1=3.31	1959BYa (76755)	3257

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
Co++	gl	KNO3	20°C	0.10M	C	M	K1=7.36	2002GLc (76792)	3258
							K(Co+H4L)=4.65		
H2A is adenosine-5'-monophosphoric acid.									
Co++	gl	KNO3	20°C	0.10M	C	M	K1=7.36	2002GLc (76793)	3259
							B(CoH2L)=25.39		
							B(CoH-1L)=-2.38		

$$B(\text{CoAH4L})=46.04$$

H2A is adenosine-5'-monophosphoric acid.

C10H26N4S4 L CAS 55677-43-5 (1178)

1,1,2,2-Tetramercaptoethylamine-ethane; $(\text{CH}(\text{S}.\text{CH}_2.\text{CH}_2.\text{NH}_2)_2)_2$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	NaClO4	25°C	0.10M	U			1976CJa (76816)	3260
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$$K(\text{Co}+\text{H}_2\text{L})=3.90$$

C10H27N5 L CAS 58214-71-4 (5539)

4,7,10-Triazatridecane-1,13-diamine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	NaClO4	25°C	0.15M	C		K1=16.26	2002AGa (76828)	3261
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C10H28N2O12P4 H8L CAS 23605-74-5 (435)

(Hexamethylenedinitrilo)tetra(methylenephosphonic acid);

$(\text{CH}_2.\text{CH}_2.\text{CH}_2.\text{N}(\text{CH}_2.\text{PO}_3\text{H}_2)_2)_2$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	KNO3	25°C	0.10M	U		K1=5.90	1980ZRB (76837)	3262
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$$K(\text{CoL}+\text{H})=10.18$$

$$K(\text{CoHL}+\text{H})=7.26$$

$$K(\text{CoH}_2\text{L}+\text{H})=6.28$$

$$K(\text{CoH}_3\text{L}+\text{H})=5.59$$

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
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Co++	gl	NaNO3	25°C	1.0M	C		K1=15.79	2001GLb (76867)	3263
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$$B(\text{CoHL})=23.22$$

$$B(\text{CoH}_2\text{L})=29.07$$

Co++	cal	KNO3	25°C	0.10M	U	H	K1=15.55	1971PWA (76868)	3264
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DH(K1)=-61.7 kJ mol⁻¹, DS=89.9 J K⁻¹ mol⁻¹

Co++	cal	KCl	25°C	0.10M	U	H	K1=11.55?	1964SPb (76869)	3265
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$$B(\text{CoHL})=12.40$$

K calculated. By calorimetry:DH(K1)=-61.6 kJ mol⁻¹, DS=89.9 J K⁻¹ mol⁻¹;

DH(CoHL)=-58.5, DS=41.8

Co++	gl	KCl	20°C	0.10M	U		K1=15.75	1953SMA (76870)	3266
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$$K(\text{Co}+\text{HL})=12.50$$

$$K(\text{CoL}+\text{H})=6.95$$

C11H5N3O2Br4 H2L (4862)
4-(3',5'-Dibromo-2'-pyridylazo)-2,6-dibromo-1,3-dihydroxybenzene;

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

Co++ sp NaClO4 ? 0.10M U B2=27.53 1969BNb (76883)3267

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

Co++ gl alc/w RT 40% M K1=5.06 B2= 9.03 1993Rab (76891)3268

Medium: 40% v/v EtOH/H2O, 0.1 M NaClO4.

C11H7NO4 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

Co++ gl alc/w RT 40% M K1=3.61 B2= 7.71 1993Rab (76899)3269

Medium: 40% v/v EtOH/H2O, 0.1 M NaClO4.

C11H7N3O2Br2 H2L (4863)
2,6-Dibromo-1,3-dihydroxy-4-(2'-pyridylazo)benzene;

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

Co++ sp NaClO4 ? 0.10M U B2=26.84 1969BNb (76905)3270

C11H7N3O2Br2 H2L (4864)
4-(3',5'-Dibromo-2'-pyridylazo)-1,3-dihydroxybenzene;

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

Co++ sp NaClO4 ? 0.10M U B2=26.64 1969BNb (76907)3271

C11H8N2O L Dipyridylketone CAS 19437-26-4 (1151)
2,2'-Carbonyldipyridine; C5H4N.CO.C5H4N

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

Co++ gl NaClO4 25°C 0.10M U K1=2.56 1975FSb (76917)3272

K(CoH-1L+H)=5.7

C11H8N3O2Br H2L CAS 17091-08-6 (4865)
4-(5'-Bromo-2'-pyridylazo)-1,3-dihydroxybenzene;

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

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Co++      sp  NaClO4  ?  0.10M U      B2=22.54      1969BNb (76920)3273
*****
C11H802S2      HL      CAS 1138-14-3 (3352)
Di-2-thenoylmethane; C4H3S.CO.CH2.CO.C4H3S
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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Co++      sp  mixed  25°C  30%  U      B2=11.1      1965CAa (76984)3274
Medium: 30% THF, 1 M NaClO4
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C11H803      H2L      CAS 86-48-6 (1129)
1-Hydroxy-2-naphthoic acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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Co++      gl  alc/w   RT   40%  M      K1=4.03  B2= 8.00  1993Rab (77004)3275
Medium: 40% v/v EtOH/H2O, 0.1 M NaClO4.
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Co++      gl  alc/w   25°C  50%  U      M      K1=6.86  B2=12.24  1980DCa (77005)3276
K(Co(phen)+L)=6.48
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C11H803      H2L      CAS 2083-08-1 (1131)
2-Hydroxy-1-naphthoic acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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Co++      gl  alc/w   25°C  50%  U      M      K1=6.77      1980DCa (77058)3277
K(Co(phen)+L)=5.99
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C11H803      H2L      CAS 92-70-6 (1130)
2-Hydroxy-3-naphthoic acid (3-Hydroxy-2-naphthoic acid);
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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Co++      gl  alc/w   RT   40%  M      K1=4.89  B2=11.86  1993Rab (77108)3278
Medium: 40% v/v EtOH/H2O, 0.1 M NaClO4.
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Co++      gl  diox/w  25°C  50%  C      K1=7.9      1987CFb (77109)3279
In 50% dioxan/H2O; 0.2 M KNO3.
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Co++      gl  diox/w  20°C  50%  M TIH  K1=7.70  B2=14.92  1978SKk (77110)3280
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=7.49, K2=8.14.
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C11H803      HL      Plumbagin      CAS 81402-06-4 (882)
6-Hydroxy-2-methyl-1,4-naphthoquinone;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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Co++ gl alc/w 30°C 50% U K1=5.76 B2=10.46 1981RRc (77146)3281

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

Co++ gl diox/w 30°C 75% U K1=9.79 B2=18.72 1953UFe (77154)3282

C11H8O4 HL CAS 7555-37-5 (4812)
3-Acetyl-4-hydroxycoumarin

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

Co++ gl diox/w 35°C 50% U K1=2.46 B2=4.49 1971MAa (77168)3283
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

Co++ gl alc/w 35°C 70% U M K1=4.66 B2=7.80 1984CEa (77195)3284
K(Co(bpy)+L)=4.50
K(Co(phen)+L)=4.32

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

Co++ gl diox/w 25°C 50% U K1=7.38 B2=16.63 1984YAa (77313)3285

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

Co++ gl diox/w 25°C 50% U M K1=4.73 B2=10.54 1984ABb (77345)3286
B(CoL(bpy))=12.74
B(CoL(phen))=14.40

Co++ gl NaClO4 25°C 0.10M U K1=5.63 B2=10.27 1975BLa (77346)3287

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

Co++ gl diox/w 30°C 0.10M U B2=12.08 1981KSa (77361)3288

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

Co++ kin NaClO4 25°C 0.10M U K1=5.53 1977HCa (77370)3289

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

Co++ gl diox/w 25°C 50% U M K1=5.82 B2=10.40 1984ABb (77387)3290
B(CoL(bpy))=12.56
B(CoL(phen))=14.23

Co++ gl NaClO4 25°C 0.10M U K1=5.48 B2=9.59 1975BLa (77388)3291

C11H9NO3S2 HL (939)
2-(Thiophene-2'-alldimino)benzene sulfonic acid; C4H3S.CH:N.C6H4.SO3H

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

Co++ gl NaClO4 25°C 0.10M U K1=4.32 B2=7.42 1982MSa (77398)3292

C11H9NO4 H2L CAS 4321-82-7 (4829)
3-Acetyl-4-hydroxycoumarin oxime;

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

Co++ gl diox/w 35°C 50% U 1971MAa (77410)3293
K(Co+HL)=7.62
K(Co+2HL)=14.33

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

Co++ gl alc/w 35°C 70% U K1=6.77 B2=11.86 1984CEa (77436)3294

C11H9N2O2F3S HL CAS 33354-16-4 (1681)
2-Methyl-8-(Trifluoromethanesulfonamido)quinoline;

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

Co++ gl diox/w 30°C 75% U K1=6.3 B2=13.1 1984NYa (77443)3295

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
Co++	gl	alc/w	25°C	50%	U		K1=8.9 B2=18.20	1967ANa (77455)	3296

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
Co++	sp	alc/w	24°C	5%	U		B2=7.88 K(CoL2+OH)=5.17	1973BJb (77470)	3297

Medium: 5% EtOH, 0.1 M NaClO4

Co++	gl	alc/w	25°C	50%	U		K1=3.5 B2=7.30	1967ANa (77471)	3298
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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
Co++	sp	oth/un	25°C	0.10M	U		K(Co+HL+L)=17.3 K(CoHL+HL)=7.0 K(Co+2HL=CoHL2+H)=0.7 K(CoHL+H2L=Co(HL)2+H)=0.18	1970ENa (77522)	3299

Co++	sp	NaClO4	?	0.10M	U		B2=21.08	1968BIc (77523)	3300
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Co++	gl	diox/w	25°C	50%	U		K(Co+HL) > 12 K(CoL+H)=4.7 K(CoOHL+H)=6.0	1962CYa (77524)	3301
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Co++	gl	diox/w	25°C	50%	U	I	K1=14.8 B2=23.00	1962GNa (77525)	3302
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Medium: 50% dioxan, 0.1 M. In 0% dioxan: K1=10.0, K2=7.1

C11H9N3O4 H2L CAS 82628-26-0 (1379)
1-(2-Tolyl)violuric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	18°C	50%	U	T	K1=8.02 B2=13.97	1982SGa (77620)	3303

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

Co++ gl alc/w 18°C 50% U T K1=8.18 B2=14.15 1982SGa (77627)3304
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

Co++ gl alc/w 18°C 50% U T K1=8.38 B2=14.56 1982SGa (77634)3305
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

Co++ gl NaClO4 28°C 0.10M U T H K1=4.62 B2=9.09 1980MGd (77640)3306

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

Co++ gl NaClO4 25°C 0.10M C M 1979FSa (77657)3307
B(CoL(pyrocatecholate))=13.20
K(Co(pyrocatecholate)+L)=9.74
K(CoL+pyrocatecholate)=4.59

Co++ gl KNO3 20°C 0.10M U K1=3.46 B2=6.28 1970BAa (77658)3308
K(Co+HL)=1.9
K(Co+CoL)=1.9

C11H10N2O L (7591)
4'-(Imidazol-1-yl)acetophenone;

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

Co++ gl NaNO3 25°C 0.50M M K1=2.02 1998KSa (77666)3309

C11H10N2O2 HL CAS 75793-37-6 (1669)
N-(8-Quinolyl)aminoethanoic acid;

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

Co++ sp alc/w 25°C 12% U H K1=4.82 B2=9.51 1984HOa (77678)3310

Medium: 12% v/v EtOH/H2O, 0.1 M NaCl

Co++ gl NaCl04 25°C 0.10M U K1=3.7 B2=7.50 1969TKa (77679)3311

C11H10N3OClS HL (1294)

2-(4',5'-Dimethyl-2'-thiazolylazo)-4-chlorophenol;

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

Co++ gl diox/w 25°C 60% U K1=7.48 B2=15.78 1981KTa (77689)3312

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

Co++ gl alc/w 25°C 50% U K1=10.4 B2=19.00 1967AND (77715)3313

Medium: 50% MeOH, 0.1 M NaCl04

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

Co++ gl alc/w 25°C 70% C K1=10.73 B2=16.00 1982SDa (77721)3314

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

Co++ gl diox/w 25°C 75% U K1=4.36 B2=8.34 1986MIa (77725)3315

C11H10N4O4 HL CAS 92265-26-4 (6210)

5-(2'-Methoxyphenylazo)barbituric acid;

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

Co++ gl diox/w 25°C 75% U K1=5.60 B2=10.56 1986MIa (77739)3316

C11H11NO2 HL CAS 830-96-6 (892)

Indole-3-propanoic acid;

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

Co++ gl diox/w 25°C 50% U K1=3.55 B2=5.88 1981SKc (77779)3317

Medium: 50% dioxan/H2O, 0.1 M KNO3

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
Co++	gl	alc/w	22°C	80%	U T H			K1=7.40 B2=13.65	1985SAb (77786)	3318
30 C: K1= 7.30, K2=6.20; 40 C: K1= 7.15, K2=6.15										
DH(K1)=-23.0 kJ mol ⁻¹ , DS=62 J K ⁻¹ mol ⁻¹ ; DH(K2)= -9.9, DS=88										

C11H11NO6 H3L CAS 1147-65-5 (425)										
N-(2'-Carboxyphenyl)iminodiethanoic acid; <chem>HOOC.C6H4.N(CH2.COOH)2</chem>										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KN03	25°C	0.10M	C	M		K1=8.42 K(CoL+A)=4.13 B(CoLA)=12.55	1990DAb (77815)	3319

H2A: salicylaldehyde

Co++	gl	KN03	25°C	0.10M	C	M		K1=8.42 K(CoL+A)=3.30 B(CoAL)=11.72	1990DAc (77816)	3320
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HL: benzohydroxamic acid

Co++	gl	KN03	25°C	0.10M	U			K1=8.42	1967UKa (77817)	3321
Co++	sp	NaN03	20°C	0.10M	U			K(?)=5.45	1961DSa (77818)	3322

Co++	gl	KCl	22°C	0.10M	U			K1=8.17	1961UHa (77819)	3323
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C11H11N2O2Br HL (9228)

3-[4-Bromophenylazo]penta-2,4-dione;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	alc/w	25°C	0.1M	U			K1=7.75	2004GMc (77873)	3324

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
Co++	gl	alc/w	25°C	0.1M	U			K1=7.83	2004GMc (77886)	3325

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
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Co++ gl alc/w 25°C 0.1M U K1=7.70 2004GMc (77897)3326
Medium: 0.1 mol/L KCl in 3:7 EtOH/H2O mixture

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

Co++ gl diox/w 30°C 75% U K1=4.20 B2=8.44 1971SYa (77911)3327

C11H11N3O2S HL (4866)
3-Methyl-4-(4'-methylthiophenylazo)isoxazol-5-one;

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

Co++ gl diox/w 30°C 75% U K1=4.5 B2=8.74 1971SYa (77915)3328

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

Co++ gl alc/w 30°C 50% C M 1999MBc (77928)3329

B(Co(gly)L)=10.18
B(CoAL)=9.04
B(Co(met)L)=9.37
B(CoH-1(gly)L)=2.99

In 50% v/v EtOH/H2O, 0.10 M NaNO3. B(CoH-2(gly)L)=-6.38; B(CoH-1AL)=0.93,
B(CoH-2AL)=-7.47; B(CoH-1(met)L)=1.59, B(CoH-2(met)L)=-6.51. A: Beta-ala

Co++ gl diox/w 30°C 50% U K1=3.83 B2= 7.53 1993MBc (77929)3330

*K(CoL)=-7.76
*K(CoL2)=-6.00
*K(Co(OH)L2)=-11.29

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

Co++ gl diox/w 30°C 75% U K1=5.39 B2=10.17 1971SYa (77940)3331

C11H11N3O3 HL CAS 51451-04-8 (4835)
3-Methyl-4-(4'-methoxyphenylazo)isoxazol-5-one;

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

Co++ gl diox/w 30°C 75% U K1=4.16 B2=8.44 1971SYa (77944)3332

C11H11N3O4 HL (9230)
3-[4-Nitrophenylazo]penta-2,4-dione;

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

Co++ gl alc/w 25°C 0.1M U K1=6.72 2004Gmc (77957)3333
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

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

Co++ gl alc/w 25°C 70% U K1=6.27 1992CGd (77979)3334
Medium: 70% EtOH/H2O. For 4-fluoro K1=4.88; 4-bromo 6.38; 4-iodo 6.80

C11H12N2O L Antipyrine CAS 60-80-0 (2026)
2,3-Dimethyl-1-phenyl-3-pyrazolin-5-one, Phenazone;

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

Co++ gl KNO3 25°C 0.50M U K1=0.48 B2=0.78 1980LWa (78002)3335
B3=0.88

Co++ sp mixed ? 75% U M 1969KSb (78003)3336
K(Co(CNS)3+2HL)=2.1
K(Co(CNS)4+2HL)=1.9

Medium: 75% acetone

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

Co++ gl NaClO4 25°C 0.10M U TIH B2=19.25 1988GRb (78014)3337
35 C:B2=19.32, 45 C:19.45. DH(B2)=20.0 kJ mol⁻¹, DS=434.7 J K⁻¹ mol⁻¹

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

Co++ gl KNO3 35°C 0.10M C M K1=4.39 1999DSb (78174)3338
B(CoAL)=4.46

A is thiamine hydrochloride.

Co++ gl KNO3 35°C 0.10M C M K1=4.35 1997PSb (78175)3339
K(CoL+A)=4.31

H2A is thiamine orthophosphoric acid.

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Co++      gl  KNO3   35°C 0.10M U      K1=4.55      1990RSe (78176)3340
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Co++      gl  KNO3   35°C 0.10M U      M  K1=4.52      1989RSb (78177)3341
                        K(Co(thiodipropoate)+L)=4.34
-----
Co++      gl  KNO3   35°C 0.20M U      M  K1=4.10      B2=8.01      1989RVa (78178)3342
                        K(CoA+L)=4.22
A=bis(imidazol-2-yl)methane
-----
Co++      gl  KNO3   25°C 0.20M U      M  K1=4.10      1988BSc (78179)3343
                        K(Co(bpy)+L)=4.63
-----
Co++      gl  KNO3   25°C 0.10M U      M  K1=4.62      B2=8.62      1988MBa (78180)3344
-----
Co++      gl  KNO3   35°C 0.10M C      M  K1=4.39      1983KSc (78181)3345
                        K(CoHA+L)=4.40
                        K(CoHB+L)=4.24

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A is adenine; HB is cytosine.

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Co++      vlt NaCl04 25°C 0.10M C      K1=4.72      1981KV a (78182)3346
Method: polarography. Medium pH 7.0
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Co++      vlt KNO3   25°C 1.00M U      K1eff=2.25    1977HDa (78183)3347
-----
Co++      gl  NaCl04 25°C 3.0M U      T  K1=4.58      B2=8.90      B3=12.25      1970WIa (78184)3348
-----
Co++      gl  oth/un 20°C 0.01M U      K2=8.5        1950ALa (78185)3349

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*****
C11H12N2O2      HL      (9226)
3-[Diphenylazo]penta-2,4-dione;
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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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-----
Co++      gl  alc/w  25°C 0.1M U      K1=8.18      2004GMc (78248)3350
Medium: 0.1 mol/L KCl in 3:7 EtOH/H2O mixture
*****
C11H12N2O2S      HL      CAS 51925-00-9 (1677)
2-Methyl-8-(methanesulfonamido)quinoline;
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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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-----
Co++      gl  diox/w 30°C 75% U      K1=8.6      B2=19.3      1984NYa (78257)3351
*****
C11H12N2O3      HL      (6598)
2,3-Dehydro-N-glycyl-phenylalanine; NH2.CH2.CO.NH.C(COOH):CH.C6H5
-----

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	C		K1=3.00 B2=5.04 B(CoH-1L)=-5.59 B(CoH-2L)=-15.08 B(CoH-1L2)=-3.07 B(CoH-2L2)=-12.36	1994JBa	(78266)3352

C11H12N2O3 H2L CAS 121565-72-8 (8344)
2-[[2-(Hydroxyimino)-1-methylpropylidene]amino]benzoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	30°C	50%	C T H		K1=10.28	1993HCb	(78271)3353

Medium: 50% v/v EtOH/H2O, 0.10 M NaClO4. For meta-COOH, K1=10.82;
for para-COOH, K1=10.28. Data for 40 and 50 C and DH and DS values.

C11H12N2O3 HL CAS 20771-72-6 (3359)
4-(4-Nitrophenylimino)pentan-2-one; CH3.CO.CH2.C(:N.C6H4.NO2).CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	50%	U		K1=9.64 B2=17.23	1961MJa	(78276)3354

C11H12N2O5 H2L CAS 5853-99-6 (8739)
N-[N-(2-Hydroxybenzoyl)glycyl]glycine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	30°C	50%	C		K(Co+HL=CoH-2L+3H)=-19.93	1991MCb	(78304)3355

Medium: 50% v/v EtOH/H2O, 0.2 M NaNO3.

C11H12N2O5S HL CAS 56475-09-3 (8410)
3-(4'-Sulfophenylhydrazo)-pentane-2,4-dione;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	U T		K1=7.74	2005ACa	(78314)3356

For 35 C K1=7.57; for 45 C K1=7.41

C11H12N4O2 HL (4837)
2-(5-Methyl-4-imidazolylazo)-4-methoxyphenol;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	25°C	50%	U		K1=11.2 B2=21.40	1968YTa	(78354)3357

Medium: 50% dioxan, 0.1 M KNO3

C11H12O9 H3L CAS 69065-58-3 (2714)

1,2,4-Trihydroxy-3,4,5-trimethoxycarbonylcyclopentadiene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	NaClO4	25°C	0.10M	C	T			1978MSh (78426)	3358
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DH(Co+HL)=-6.27 kJ/mol

Data obtained from three lgK values at 15, 25 and 35 C.

Co++	gl	NaClO4	25°C	0.10M	U				1975MSb (78427)	3359
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K(Co+HL)=5.42

K(CoHL+HL)=4.27

C11H13NO HL CAS 880-12-6 (3361)

4-(Phenylimino)pentan-2-one; CH3.CO.CH2.C(:N.C6H5).CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	alc/w	25°C	70%	U			K1=8.39	1992CGd (78437)	3360
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Medium: 70% EtOH/H2O

Co++	gl	diox/w	30°C	50%	U			K1=9.08 B2=15.76	1961MJa (78438)	3361
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C11H13NO2 HL CAS 3026-99-1 (249)

Acetoacet-2-toluidide; CH3.CO.CH2.CO.NH.C6H4.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	diox/w	25°C	50%	U			K1=4.20	1969HSc (78461)	3362
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Medium: 50% dioxan, 0.1 M KClO4

C11H13NO3 HL CAS 91099-10-4 (246)

Acetoacet-2-anisidide; CH3.CO.CH2.CO.NH.C6H4.OCH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	diox/w	25°C	50%	U			K1=4.30	1969HSc (78517)	3363
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Medium: 50% dioxan, 0.1 M KClO4

C11H13NO4 H2L (3364)

N-2-Tolyliminodiethanoic acid; CH3.C6H4.N(CH2COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	KCl	30°C	0.10M	U			K1=2.0	1957TBb (78546)	3364
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C11H13NO4 H2L CAS 300042-63-8 (7950)

N-4-Tolyliminodiethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++ cal NaCl04 25°C 0.10M C H 1997ZLa (78550)3365
 DH(K1)=17.3, DH(K2)=5.00 kJ mol⁻¹. DH(B(CoL(nta)))=15.1

C11H13N04 H2L CAS 3987-53-9 (966)

N-Benzyliminodiethanoic acid; C6H5.CH2.N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	oth/un	?	?	U		K1=7.0	1975DTa (78580)	3366
Co++	gl	KNO3	25°C	0.10M	C		K1=6.78 B2=12.10	1975IPa (78581)	3367
Co++	gl	KCl	40°C	0.10M	U T		K1=6.65 B2=11.92	1968EAb (78582)	3368
K1=7.01(10 C),6.87(25 C); K2=5.75(10 C),5.46(25 C)									

Co++ gl KCl 25°C 0.10M U K1=6.78 B2=12.13 1966SIb (78583)3369

C11H13N05 H3L HBIDA CAS 7372-13-6 (1603)

N-(2-Hydroxybenzyl)iminodiethanoic acid; HO.C6H4.CH2.N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	C		K1=12.87 K(CoL+H)=5.81 K(Co+HL)=6.97	1975HMb (78613)	3370

C11H13N05 H2L CAS 65489-73-8 (3946)

N-(Carboxymethyl)-N-(2'-hydroxyethyl)-2-aminobenzoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	22°C	0.10M	U		K1=6.40	1963UHa (78651)	3371

C11H13N06 H4L CAS 1911-59-2 (4852)

2,3-Dihydroxybenzyliminodiethanoic acid; (HO)2.C6H3.CH2.N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	EMF	oth/un	?	?	U		K(Co+HL)=12.7 K(Co+H2L)=7.7	1975DTa (78658)	3372

C11H13N06 H4L CAS 59036-09-8 (2111)

2,5-Dihydroxybenzyliminodiethanoic acid; (HO)2.C6H3.CH2.N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	oth/un	25°C	0.0	U		K(Co+HL)=13.0 K(Co+H2L)=7.6	1970TTb (78673)	3373

C11H13NO6 H4L CAS 31477-66-7 (4853)
2,6-Dihydroxybenzyliminodiethanoic acid; (HO)2.C6H3.CH2.N(CH2.COOH)2

Co++ EMF oth/un ? ? U 1975DTa (78689)3374
K(Co+HL)=10.3
K(Co+H2L)=7.8

C11H13N3O L Ampyrone CAS 83-07-8 (2027)
4-Amino-2,3-dimethyl-1-phenyl-3-pyrazolin-5-one, 4-Aminoantipyrine;

Co++ g1 KN03 25°C 0.50M U K1=1.17 B2=2.06 1980Lwa (78706)3375

C11H13N3OS L CAS 7420-45-3 (4869)
1-Benzoyl-4-allylthiosemicarbazide;

Co++ sp mixed 25°C 50% U B2=2.11 1969CFb (78712)3376
Medium: acetone/H2O

C11H13O4AsS H2L CAS 36198-36-4 (4870)
Bis(carboxymethyl)-2-(methylthiophenyl)arsine; (HOOC.CH2)2.As.C6H4.S.CH3

Co++ gl oth/un 25°C 0.10M U K1=2.93 1971FPa (78743)3377
K(Co+HL)=2.37

C11H14N2 L CAS 4886-30-0 (5670)
1-Butylbenzimidazole;

Co++ sp non-aq 25°C 100% U B2=2.15 1984DPa (78764)3378
Medium: DMSO

C11H14N2O3 HL Gly-Phe CAS 3321-03-7 (829)
Glycyl-phenylalanine; H2N.CH2.CO.NH.CH(CH2.C6H5).COOH

Co++	g1	KN03	0°C 0.10M C	K1=3.52	B2= 6.27	1992KUa (78809)3379
				B(CoH-1L)= -5.34		
				B(CoH-1L2)= -1.84		
				B(CoH-2L2)= -11.72		

Co++ gl KCl 25°C 0.10M U K1=2.96 B2=5.27 1959BRb (78810)3380
For Gly-D-Phe: K1=2.91, B2=5.35

C11H14N2O3 HL Phe-Gly CAS 721-90-4 (830)
Phenylalanyl-glycine; H2N.CH(CH2.C6H5).CO.NH.CH2.COOH

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

Co++ gl KNO3 0°C 0.10M C K1=2.48 B2= 4.72 1992KUa (78826)3381
B(CoH-1L)=-7
B(CoH-1L2)=-3.33
B(CoH-2L2)=-15

Co++ gl KCl 25°C 0.10M U K1=2.12 B2=6.26 1959BRb (78827)3382

C11H14N2O4 H2L Gly-Tyr CAS 658-79-5 (533)
Glycyl-tyrosine; H2N.CH2.CO.NH.CH(CH2.C6H4.OH).COOH

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

Co++ gl KNO3 25°C 0.16M M B2=6.94 1979AKa (78856)3383
B(CoH2L2)=25.48
B(CoHL2)=16.44
B(CoHL)=13.07
B(CoH-1L2)=-3.04

C11H14N2O4 H2L (1880)
N-(6-Methyl-2-pyridylmethyl)iminodiethanoic acid; CH3C5H3NCH2N(CH2COOH)2

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

Co++ ISE NaNO3 20°C 0.10M C H K1=9.80 1981ANb (78875)3384
DH(K1)=-9.2 kJ mol⁻¹, DS=156.1 J K⁻¹ mol⁻¹
additional method: exchange equilibria

C11H14N4O5 HL CAS 56566-64-4 (2816)
Biacetylmonoxime-4-phenyl-3-thiosemicarbazone;

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

Co++ gl alc/w 30°C 50% U T H K1=8.45 1992HRa (78936)3385
Medium: 50% v/v EtOH/H2O, 0.1 M NaClO4. Data for 40 and 50 C.
DH(K1)=-39.7 kJ mol⁻¹, DS(K1)=-29.8 J K⁻¹ mol⁻¹.

Co++ sp none 25°C 0.0 U K1=11.76 1975CJb (78937)3386

C11H14N4O4 L Tubercidin CAS 69-33-0 (6412)
7-Deazaadenosine, Tubercidin;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaN03	25°C	0.50M	C		K1=0.13	2002KSb (78954)	3387

Co++	gl	NaN03	25°C	0.50M	M		K1=0.22	1991JCa (78955)	3388
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Also by spectrophotometry in 0.5 M NaCl04: K1=0.24

C11H14N4O5 HL 1-Methylinosine CAS 2140-73-0 (8133)
1-Methylhypoxanthine-9-beta-D-ribofuranoside;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaCl04	25°C	1.0M	U			1981LVa (78972)	3389

K(Co+HL=CoHL)=0.4

C11H14O2S HL (4857)
2-Thenoylpivaloylmethane; C4H3S.CO.CH2.CO.C(CH3)3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U		K1=9.61 B2=18.75	1972UDa (79004)	3390

Medium: 75% v/v dioxan, 0.01 M Me4NC104

C11H14O3 HL (4819)
2-Furoyl pivaloyl methane; C4H3O.CO.CH2.CO.C(CH3)3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U		K1=9.38 B2=17.73	1972UDa (79010)	3391

Medium: 75% v/v dioxan, 0.01 M Me4NC104

C11H15N03 L (6281)
Benzaldehyde:tris-buffer Schiff's base; C6H5.CH:N.C(CH2.OH)3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	26°C	60%	U		K1=1.44 B2=3.92	1978TPb (79031)	3392

C11H15N04 HL CAS 18212-81-2 (6280)
Salicylaldehyde:tris-buffer Schiffs base;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	26°C	60%	U		K1=4.63	1978TPb (79043)	3393

C11H15N04S2 H2L CAS 51786-15-3 (8749)
N-(Phenylsulfonyl)-L-methionine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++ gl alc/w 25°C 50% C T H 1987MDe (79049)3394

$K(\text{Co+HL}=\text{CoL}+\text{H})=4.08$

$K(\text{Co+2HL}=\text{CoL}_2+2\text{H})=12.37$

Medium: 50% v/v EtOH/H₂O, 0.2 M NaNO₃. Data for 35, 45 C.

Enthalpy and entropy data.

C11H15N4O7P H2L CAS 16719-46-3 (6026)

Tubercidin-5'-monophosphoric acid, 7-Deazaadenosine-5-monophosphoric acid;

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

Co++ gl NaNO₃ 25°C 0.10M C K1=1.94 1988SMb (79067)3395

$K(\text{Co+HL})=0.96$

C11H16N2O2 L Pilocarpine CAS 54-71-7 (1431)

(3S;4R)-3-Ethylidihydro-4-((1-methyl-1H-imidazol-5-yl)methyl)-2-furanone;

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

Co++ gl KNO₃ 25°C 0.50M U K1=2.15 B2=4.00 1983LWa (79090)3396

B3=5.61

B4=6.95

B5=8.05

C11H16N2O10 H5L CEDTA CAS 62394-58-5 (1080)

1-Carboxy-1,2-diaminoethane-N,N,N',N'-tetraethanoic acid;

(HOOCCH₂)₂NCH(COOH)CH₂N(CH₂COOH)₂

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

Co++ gl KNO₃ 20°C 0.10M U 1982GSg (79107)3397

$K(\text{Co+HL})=12.40$

Co++ gl KNO₃ 20°C 0.10M U K1=12.40 1982GSh (79108)3398

C11H16N4O5 HL 7-Methylinosine CAS 20245-33-4 (8134)

7-Methylhypoxanthine-9-beta-D-ribofuranoside;

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

Co++ gl NaClO₄ 25°C 1.0M U 1981LVa (79135)3399

$K(\text{Co+HL}=\text{CoL}+\text{H})=-5.7$

C11H17NO8S H3L CAS 91649-51-3 (8438)

N,N,S-Tris(carboxymethyl)methionine;

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

Co++ gl KCl 25°C 0.10M C K1=8.70 1984RFd (79173)3400

$K(\text{Co+HL})=8.36$

*K(CoHL)=-10.65

C11H17N2O4P H2L (7123)
(S,S)-Phenylalanyl-1-aminoethylphosphonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	U		K1=2.843 B2=4.92 B(CoH-1L)=-5.832 B(CoHL)=9.26	1995HLA (79181)	3401

For the (S,R) isomer, K1=2.525, B(CoHL)=9.23, B(CoH-1L)=-6.084

C11H18N2O8 H4L PDTA CAS 4408-81-5 (1655)
1,2-Diaminopropane-N,N,N',N'-tetraethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	vlt	KN03	20°C	0.10M	U		K1=15.70	1981NSc (79251)	3402
Co++	vlt	KN03	20°C	0.10M	U		K1=17.59	1978NLb (79252)	3403
Co++	vlt	KN03	25°C	1.00M	U		K1eff=13.31	1977HDA (79253)	3404

Keff at pH 7

Co++	cal	KN03	25°C	0.20M	C	H		1975CGf (79254)	3405
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DH(K1)=-20.4 kJ mol⁻¹.

Co++	sp	NaClO4	25°C	1.0M	U	M		1970HSc (79255)	3406
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K(CoL+H)=2.46

K(CoL+SCN)=-0.42; K(CoHL+SCN)=0.51

Co++	vlt	KN03	25°C	0.20M	U		K1=17.07	19650Ga (79256)	3407
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C11H18N2O8 H4L CAS 4408-81-5 (923)
1,3-Diaminopropane-N,N,N',N'-tetraethanoic acid; ((HOOCH₂)₂NCH₂)₂CH₂

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	vlt	KN03	25°C	0.20M	U		K1=14.48	19650Ga (79414)	3408
Co++	gl	KN03	20°C	0.10M	U	H		1964ANA (79415)	3409

K(Co+HL)=7.4

By calorimetry: DH(K1)=-10.9 kJ mol⁻¹, DS=260 J K⁻¹ mol⁻¹

Co++	gl	KN03	20°C	0.10M	U		K1=15.54	1964LAa (79416)	3410
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K(CoL+H)=2.4

By polarography: K1=15.56

C11H18N2O9 H4L HDPTA CAS 3148-72-9 (431)

1,3-Diamino-2-hydroxypropane-N,N,N',N'-tetraethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	NaCl	25°C	0.1M	C	I	K1=14.48 K(CoL+H)=3.03	2002GKb (79528)	3411
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For 0.5 M KNO3 K1=14.07; K(CoL+H)=3.01, by spectr. K1=14.15

For 1.0 M KNO3 K1=14.14; K(CoL+H)=3.02

Co++	vlt	KNO3	25°C	1.00M	U		K1eff=11.15	1977HDa (79529)	3412
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Keff at pH 7

Co++	sp	KNO3	20°C	0.10M	U		K1=14.23	1967SMf (79530)	3413
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Co++	EMF	KCl	20°C	0.10M	U		K1=12.95	1966PIa (79531)	3414
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Method: H electrode

Co++	gl	KNO3	25°C	0.10M	U		K1=13.92 K(CoL+H)=3.33	1966TKa (79532)	3415
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Co++	oth	KNO3	20°C	0.10M	U		K1=14.5	1965JMb (79533)	3416
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Method: electrophoresis

C11H18N6O3 HL Gly-Gly-His-NMe CAS 59681-15-1 (2222)
Glycyl-glycyl-L-histidyl-N-methylamide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	KNO3	25°C	0.16M	U		K1=5.01 B(CoHL)=11.22 B(CoH-1L)=-1.38 B(CoH-2L)=-9.52	1979LSa (79648)	3417
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C11H19NO9 HL CAS 131-48-6 (8730)
5-Amino-3,5-dideoxy-D-glycero-D-galactononulosic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	NaNO3	25°C	0.10M	C	M	K1=3.84 B2= 6.70 B(CoH-1L2)=-1.3 B(Co(bpy)L)=10.3 B(Co(bpy)L2)=13.1 B(CoH-1(bpy)L2)=4.1	2002SMc (79682)	3418
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K(Co(bpy)+L)=4.24, K(Co(bpy)+2L)=7.04.

C11H19N3 L CAS 23539-10-8 (5556)
4-Benzyl-diethylenetriamine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++ gl diox/w 25°C 70% U K1=7.14 1984MMe (79685)3419

C11H20N2O4S H2L (6639)

1-Thia-4,8-diazacyclodecane-N,N'-diethanoic acid;

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

Co++ gl KNO3 25°C 0.10M C K1=12.0 1993WLa (79715)3420

C11H20O2 HL Dipivaloylmeth. CAS 1118-71-4 (363)

2,2,6,6-Tetramethyl-3,5-heptanedione; (CH3)3C.CO.CH2.CO.C(CH3)3

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

Co++ gl diox/w 30°C 75% U I K1=9.97 1972UDa (79742)3421

Medium: 75% v/v dioxan, 0.01 M Me4NC104

C11H20O4 H2L CAS 2283-16-1 (2854)

2,2-Dibutylpropanedioic acid; HOOC.C(C4H9)2.COOH

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

Co++ gl NaClO4 25°C 0.10M U K1=2.26 19700Va (79764)3422

C11H21N3O6 H3L CAS 65439-22-7 (1857)

1,1,1-Tris(aminomethyl)ethane-N,N',N''-triethanoic acid;

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

Co++ gl KNO3 25°C 0.10M U K1=12.56 1977HZa (79813)3423

K(Co+HL)=7.64

C11H22N2O3 HL Val-Leu CAS 3989-97-7 (2119)

DL-Valyl-DL-leucine; H2N.CH(CH(CH3)2).CO.NH.CH(CH2.CH(CH3)2).COOH

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

Co++ gl NaCl 25°C 0.12M U K1=2.33 1977PNa (79825)3424

Co++ gl NaCl 25°C 0.12M U K1=2.33 1976PNa (79826)3425

C11H22N4O2 L CAS 85828-22-4 (5493)

6-Methyl-1,4,8,11-tetraazacyclotetradecane-5,7-dione;

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

Co++ gl NaClO4 35°C 0.20M U M 1983MKb (79836)3426

B(CoH-2L)=-11.89

Ternary complex with dioxygen: B(Co2H-4L2(O2))=-8.72

C11H23N5O2 L CAS 76201-28-0 (1606)
1,4,8,11,14-Pentaazacyclohexadecane-5,7-dione;

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

Co++ gl KCl 25°C 0.10M C T HM K1=4.62 1991Cma (79895)3427
K(CoL+H)=7.89
K(CoH-1L+H)=7.57
K(CoH-2L+H)=8.33
Keff(2CoH-2L+O2)=0.56

Keff(2CoH-2L+O2) at 5 C in 0.05M KCl/0.05M borate, pH 9.0;DH=-62.7 kJ mol⁻¹,
DS=-209 J K⁻¹ mol⁻¹. Keff(2CoH-2L+O2) at 10C = 0.33, at 15 C = 0.14

C11H25N3O L (6392)
4,7,10-Trimethyl-1-oxa-4,7,10-triazacyclododecane;

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

Co++ gl KNO3 25°C 0.10M U K1=10.30 1991ACa (79931)3428
B(CoH-1L)=2.69
K(CoL+OH)=6.21

C11H25N3O2 L (7052)
1,4-Dioxa-7,11,14-triazacyclohexadecane;

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

Co++ gl KNO3 25°C 0.10M C K1=7.85 1994CDa (79938)3429

C11H26N4 L CAS 83616-30-2 (868)
1,4,7,10-Tetraazacyclopentadecane; cyclo(-(NH.CH2.CH2)4.CH2.CH2.CH2-)

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

Co++ gl NaClO4 35°C 0.20M U M K1=9.85 1983MKb (79974)3430
Ternary complex with dioxygen: B(Co2L2(O2))=26.34

C11H26N4 L CAS 83118-60-1 (5483)
1,4,8,11-Tetraazacyclopentadecane;

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

Co++ gl NaClO4 35°C 0.20M U M K1=12.41 1983MKb (79978)3431

C11H26N4 L CAS 85828-18-8 (5488)
6-Methyl-1,4,8,11-tetraazacyclotetradecane;

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

Co++ gl NaClO4 35°C 0.20M U M K1=12.04 1983MKb (79998)3432
Ternary complex with dioxygen: B(Co2L2(O2))=29.26

C11H26N4O L CAS 252191-58-5 (7607)

1-(3-Hydroxypropyl)-1,4,7,10-tetraazacyclododecane;

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

Co++ gl R4N.X 25°C 0.10M C K1=10.5 1999DWa (80009)3433
K(CoL=CoH-1L+H)=-8.1

Medium: 0.1 M NEt4ClO4

C11H26N4O L CAS 73396-34-6 (7856)

1-Oxa-4,7,11,14-tetraazacyclohexadecane;

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

Co++ gl NaClO4 35°C 0.2M C K1=11.42 1980KKe (80016)3434
K(2Co+2L+O2=(CoL)2O2)=27.48

C11H26N4S L CAS 80846-36-2 (720)

1-Thia-4,7,11,14-tetraazacyclohexadecane;

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

Co++ gl NaClO4 35°C 0.20M C M K1=13.39 1984KKa (80021)3435
K(2CoL+O2=(CoL)2O2) = 7.3

C11H27N5 L CAS 29783-72-0 (98)

1,4,7,10,13-Pentaazacyclohexadecane; cyclo(-(NH.CH2.CH2)5.CH2-)

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

Co++ gl NaClO4 35°C 0.20M U M K1=15.95 1983MKb (80029)3436

Co++ gl NaClO4 35°C 0.2M C K1=15.95 1980KKe (80030)3437
K(2Co+2L+O2=(CoL)2O2)=39.77

C11H30N6 L CAS 65845-29-6 (4822)

2,2',2'',2'''-(Trimethylenedinitrilo)tetrakis(ethylamine);

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

Co++ EMF KNO3 25°C 0.10M U H K1=13.29 1971PWa (80051)3438
By calorimetry. DH(K1)=-51.9 kJ mol⁻¹, DS=79.8 J K⁻¹ mol⁻¹

Co++ EMF KNO3 20°C 0.10M U K1=13.45 1971PWa (80052)3439
K(CoL+Co)=2.5
K(Co+HL)=10.33
K(CoL+H)=7.26

C11H30N6 L (6595)
5-(4'-Amino-2'-azabutane)-5-methyl-3,7-diazanonane-1,9-diamine;
CH3.C(CH2.NH.CH2.CH2.NH2)3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.50M	M		K1=18.0 K(CoL+H)=5.9 K(CoHL+H)=5.6	1991HLA (80058)	3440

C12H602Cl4S H2L CAS 97-18-7 (4944)
Bithionol; Cl2.C6H2(OH).S.C6H2(OH).Cl2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	25°C	75%	U		K1=7.80 B2=14.36	1970FGa (80097)	3441
Medium: 75% EtOH, 1.0 M NaCl04									

C12H7N3O2 L CAS 4199-88-6 (449)
5-Nitro-1,10-phenanthroline;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	C	M	K1=6.30 B2=11.80	1991DAc (80168)	3442
Data for ternary complexes with acetohydroxamic acid									
Co++	gl	oth/un	25°C	0.10M	U		K1=6.44 B2=12.04 K3=4.82	1959BBa (80169)	3443

By distribution K1=6.25, K2=5.41, K3=4.63

C12H8N2 L Phenanthroline CAS 66-71-7 (144)
1,10-Phenanthroline;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	C	M	K1=7.08 B2=13.72	1991DAc (80397)	3444
Data for ternary complexes with acetohydroxamic acid									
Co++	gl	KNO3	25°C	0.10M	C	M	K1=7.08 K(CoL+A)=4.92 B(CoAL)=12.00	1990DAc (80398)	3445

HL: benzohydroxamic acid

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaNO3	35°C	0.10M	U	M	K1=6.75 K(CoL+CMF)=3.74	1985KSc (80399)	3446

H2CMP=cytidine-5'-monophosphoric acid

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	25°C	50%	U	M	K1=8.31 B2=16.03 B(CoL(PFHA))=14.23	1984ABb (80400)	3447

PFHA=N-phenyl-2-furylhydroxamate, PTHA=N-phenyl-2-thenohydroxamate

NSA = 5-nitrosalicylic acid

Co++ cal NaNO3 20°C 0.10M U H 1963ANb (80403)3450
DH(K1)=-38.0 kJ mol⁻¹, DS=8.8 J K⁻¹ mol⁻¹, DH(B2)=-66.0, DS=41.4;
DH(B3)=-99.5, DS=41.4

Co++ dis KCl 25°C 0.10M U K1=7.02 B2=13.72 1962IMa (80405)3452
K3=6.38

1,5-Phenanthroline;

4,6-Phenanthroline;

Fentichlor; $\text{Cl.C}_6\text{H}_3(\text{OH}).\text{S}.\text{C}_6\text{H}_3(\text{OH}).\text{Cl}$

Medium: 75% EtOH, 1.0 M NaClO₄

2-(N-2'-Furfuralideneimino)benzoic acid; C₄H₃O.CH:N.C₆H₄.COOH

Co++ gl NaCl04 25°C 0.10M U TI K1=3.68 B2=6.71 1978SKg (80581)3457

C12H9N3 L CAS 65591-51-7 (2673)
1-(2-Imidazolin-2-yl)isoquinoline;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	NaClO4	25°C	1.00M	M			K1=5.40 B2=10.17	1978KOb (80618)	3458

C12H9N3O5 HL Nifuroxazide CAS 965-52-6 (8729)
5-Nitro-4-furfurylidene benzydrazide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	sp	non-aq	25°C	100%	C I			K1=1.23	2002KAc (80640)	3459

Medium: MeOH, 0.10 M NaClO4. In PrOH, 0.10 M NaClO4, K1=1.38.

C12H10N2O HL CAS 1823-47-8 (3969)
2-Salicylideneaminopyridine; (2-OH).C6H4.CH:N.C5H4N

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	alc/w	30°C	50%	U M			K1=4.53 B2= 8.01 K(Co(dpy)+L)=4.11 K(Co(phen)+L)=4.11	1988SGb (80670)	3460

Medium: 50% v/v EtOH/H2O, 0.10 M KNO3.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	diox/w	25°C	50%	U			K1=5.3 B2=10.3	1962GNb (80671)	3461

C12H10N6O4S H2L CAS 77327-19-6 (8343)
2-[4-Amino-3-(1,2,4-triazolylazo)]naphthol-4-sulphonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	NaClO4	30°C	0.10M	U T			K1=5.99 B2=10.00	1981GMi (80779)	3462

Also data for 40-50 C.

C12H10O3 H2L CAS 60548-85-8 (5983)
2-Aceto-1,8-dihydroxy-naphthalene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	alc/w	25°C	70%	U			B(CoHL)=15.77 B(Co2L2)=16.13	1987Hwa (80800)	3463

C12H11NOS HL Thionalide CAS 93-42-5 (4002)
2-Mercapto-N-(2'-naphthyl)acetamide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	diox/w	20°C	75%	U			K1=7.3 B2=14.1	1968BKb (80816)	3464

B3=20.1

Medium: 75% dioxan, 0.1 M NaClO4

C12H11N09 H5L (3975)
N-(2',5'-Dicarboxy-4'-hydroxyphenyl)iminodiethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	U		K(Co+HL)=9.18 K(Co+H2L)=3.24	1967UKa (80850)	3465

Co++	gl	KCl	22°C	0.10M	U		K(Co+HL)=9.0 K(Co+H2L)=3.2	1961UHa (80851)	3466
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C12H11N30 HL CAS 2824-60-4 (3972)
1-Pyridyl-3-(2'-hydroxyphenyl)-1,2-diazaprop-2-ene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	25°C	50%	U		K1=12.1	1967AND (80868)	3467

Medium: 50% MeOH, 0.1 M NaClO4

C12H11N30S HL (6787)
2-Hydroxy-1-naphthaldehyde thiosemicarbazone;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	20°C	75%	U		K1=9.00 B2=16.08	1992SSc (80884)	3468

Medium: 75% v/v dioxan/H2O and other mixtures, 0.1 M NaClO4

C12H11N302 HL CAS 50536-09-5 (6323)
2-Hydroxy-1-naphthaldehyde-semicarbazone; HO.C10H6.CH:N.NH.CO.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	20°C	75%	U		K1=8.60 B2=16.18	1992SSc (80911)	3469

Medium: 75% v/v dioxan/H2O and other mixtures, 0.1 M NaClO4

Co++	gl	diox/w	30°C	75%	U		K1=9.27 B2=16.01	1975MKa (80912)	3470
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C12H11N304S H2L (4003)
3-Hydroxy-3-phenyl-1-(4'-sulfonyl)triazene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	oth/un	25°C	?	U		K(?)=12.59	1963DPa (80938)	3471

C12H12NO3Cl HL (1055)
2-Chloro-4-dimethylamino-benzylidenepyruvic acid; (CH3)2N.C6H3Cl.CH:CH.CO.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	NaClO4	25°C	0.50M	C		K1=0.977	1984MTa (80960)	3472

C12H12N2 L CAS 4916-40-9 (4895)
1,2-Bis(2-pyridyl)-ethane; C5H4N.CH2.CH2.C5H4N

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	20°C	0.10M	U		K1=1.3 K(Co+HL)=1.0	1970BAa (80991)	3473

C12H12N2 HL CAS 4329-81-1 (1939)
2-(Phenyliminomethyl)pyridine; C5H4N.CH2.NH.C6H5

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	EMF	KNO3	20°C	0.10M	U		K1=6.24	1978CSa (80998)	3474

C12H12N2 L CAS 1134-35-6 (3375)
4,4'-Dimethyl-2,2'-bipyridyl; CH3.C5H3N.C5H3N.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	dis	KCl	23°C	0.10M	C		K1=6.38 B2=12.30 K3=5.25	1985SCa (81007)	3475

Method: spectrophotometry with partition into n-hexane

C12H12N2O HL CAS 70301-52-9 (1940)
2-(Hydroxyphenyliminomethyl)pyridine; C5H4N.CH2.NH.C6H4.OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	EMF	KNO3	20°C	0.10M	U		K1=7.81	1978CSa (81025)	3476

Co++	gl	diox/w	25°C	50%	U		K1=12.2 B2=19.0	1962GNb (81026)	3477
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C12H12N2O3 HL Nalidixic acid CAS 389-08-2 (1401)
1-Ethyl-1,4-dihydro-7-methyl-4-oxo-1,8-naphthyridine-3-carboxylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	mixed	25°C	75%	U		K1=4.65	1998Sjb (81063)	3478

Medium: 75% DMSO/H2O, 0.10 M NaClO4.

Co++	sp	KCl	25°C	0.10M	U		K1=4.4	1978TSb (81064)	3479
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C12H12N2O4 H2L CAS 63409-56-3 (8441)
3-(2-Carboxyphenylazo)pentane-2,4-dione;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	25°C	25%	M		K1=8.76 B2=15.86	1985EEa (81093)	3480

C12H12N2O4Cl2 L CAS 53-85-0 (8151)
5,6-Dichloro-1-(beta-D-ribofuranosyl)benzimidazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaNO3	25°C	0.50M	M		K1=1.14	1998KSd (81100)	3481

C12H12N2O8 H4L CAS 10362-08-0 (4916)
2,5-Bis(carboxymethylamino)-1,4-dibenzoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	U		K1=5.80 K(Co+HL)=3.0 K(Co+H2L)=2.05 B(Co2L)=8.30	1973UWb (81109)	3482

C12H12N4O2 HL AHMP CAS 62201-49-4 (7697)
4-(4-Acetophenyl)hydrazono-3-methyl-2-pyrazolin-5-one;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	25°C	50%	U T H		K1=6.15 B2=11.40	1999EEa (81125)	3483

Medium: 50%(v/v) EtOH/H2O, 0.10 M KCl. DH(K1)=15.3 kJ mol⁻¹,
DS(K1)=169 J K⁻¹ mol⁻¹; DH(K2)=47.9 kJ mol⁻¹, DS(K2)=261 J K⁻¹mol⁻¹.

C12H12N5Cl L (708)
5-(5-Chloro-2-pyridylazo)-2,4-diaminotoluene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	none	25°C	0.0	U		B2=7.98	1985ZWa (81137)	3484

C12H12N8B HL CAS 40250-95-1 (7937)
Tetrakis(pyrazolyl)borate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	dis	non-aq	25°C	100%	C			2001KSb (81143)	3485

K(Co+2HL=CoL2(org)+2H)=6.0

Method: solvent extraction into chloroform.

K: Co+2HL(org)=CoL2(org)+2H.

C12H12O3 H2L CAS 39113-56-9 (794)
1-Phenylhexane-1,3,5-trione; C6H5.CO.CH2.CO.CH2.CO.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++ gl alc/w 25°C 70% C 1985HWa (81154)3486

$$B(\text{CoHL}) = 16.35$$
$$B(\text{Co}_2\text{L}_2) = 18.14$$

Medium: 70% v/v MeOH/H₂O

Co++ gl diox/w 30°C 75% U K1=9.37 B2=17.25 1960KFc (81155)3487

C12H1203 HL (6844)

3-Benzoylpenta-2,4-dione; $\text{CH}_3\text{COCH}(\text{CO}\cdot\text{C}_6\text{H}_5)\text{CO}\cdot\text{CH}_3$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++ g1 KCl 25°C 0.20M U K1=4.56 1992CMd (81163)3488

C12H13NO2 HL CAS 4346-15-0 (893)

Indole-3-butanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++ gl diox/w 25°C 50% U K1=3.60 B2=5.90 1981SKc (81181)3489

Medium: 50% dioxan/H₂O, 0.1 M KNO₃

C₁₂H₁₃N₀O₂S L (6236)

Diacetophenylthioamide; $(\text{CH}_3.\text{CO})_2\text{CH}.\text{CS}.\text{NH}.\text{C}_6\text{H}_5$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++ sp alc/w 25°C 60% U 1984FNa (81183)3490

B3=12.46

Data also for 4-Cl-, 4-Br- and 3-Me- analogues

C12H13N03 HL (1054)

4-Dimethylamino-benzylidenepyruvic acid; $(\text{CH}_3)_2\text{N}.\text{C}_6\text{H}_4.\text{CH}:\text{CH}.\text{CO}.\text{COOH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++ sp NaCl04 25°C 0.50M C K1=1.082 1984MTa (81190)3491

C12H13N03 H2L (5384)

Acetylacetone-anthranilic acid Schiff base

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++ gl diox/w 30°C 50% U K1=5.92 B2=9.87 1971MGa (81217)3492

C12H13NO3 HL (6219)
Diacetylacetanilide; C6H5.NH.CO.CH(CO.CH3)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	alc/w	30°C	50%	U		B2=10.74	1986BNa (81222)	3493

C12H13NO5 H2L CAS 90274-75-2 (3979)
N-(2'-Acetylphenyl)iminodiethanoic acid; CH3.CO.C6H4.N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	U		K1=6.99 B2=11.84	1965AUa (81232)	3494

C12H13NO8 H5L (7001)
3-Bis-(carboxymethyl)iminomethyl-2,4-dihydroxybenzoic acid;
HOOC.C6H2(OH)2CH2.N(CH2COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	U		K(Co+H2L)=7.7	1977RTb (81249)	3495

C12H13N3 L CAS 1539-42-0 (932)
bis-((2-Pyridyl)methyl)-amine (Di-2-picolylamine); C5H4N.CH2NHCH2.C5H4N

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	20°C	0.10M	C H		K1=8.05 B2=13.85	1977AHc (81281)	3496

Calorimetry: DH1=-36.2 kJ mol-1, DS1=33.6; DH(B2)=-68.2, DS(B2)=35.6

Co++	gl	KCl	25°C	0.10M	U		K1=5.2	1968GRa (81282)	3497
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Co++	gl	KNO3	25°C	0.10M	U		K1=7.74 B2=13.05	1968RBa (81283)	3498
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C12H13N3O5 HL CAS 76877-48-0 (1289)
2-(4',5'-Dimethyl-2-thiazolylazo)-4-methylphenol;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	25°C	60%	U		K1=8.67 B2=17.98	1981KTa (81300)	3499

C12H13N3O2S H2L (1911)
4-(4',5'-Dimethyl-2'-thiazolylazo)-2-methyl-1,3-dihydroxybenzene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	mixed	25°C	20%	U		K1=12.30 B2=14.83	1988SSb (81306)	3500

B(CoHL)=9.90

in 20% (v/v) acetone/water, 0.25 NaCl04

 C12H13N5O4 L Ethenoadenosine CAS 39007-51-7 (6331)
 N6-Ethenoadenosine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	none	22°C	0.0	C			1979VWa (81317)	3501

K1eff=2.18

Method: fluorescence spectroscopy. Medium pH ca. 6.

 C12H13O10S H5L (8082)
 3-Bis(N,N-carboxymethyl)aminomethyl-2-hydroxy-5-sulphobenzoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.1M	U		K1=13.4 K(Co+HL)=7.8	1978TZa (81324)	3502

 C12H14N2O3 HL (6602)
 2,3-Dehydro-N-phenylalanyl-alanine; NH2.CH(CH2.C6H5)CO.NH.C(COOH):CH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	C		K1=2.37 B(CoH-1L)=-5.27 B(CoH-1L2)=-2.76 B(CoH-2L2)=-11.29	1994JBa (81341)	3503

 C12H14N4 L (7104)
 6,6'-Bis(aminomethyl)-2,2'-bipyridyl;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	C		K1=10.16 B2=15.82 K(CoL+H)=4.85 *K(CoL)=-8.68	1995WRa (81350)	3504

 C12H14N4O2S L Sulfadimidine CAS 57-68-1 (6167)
 2-(4-Aminobenzolsulfamido)-4,6-dimethylpyrimidine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaNO3	25°C	0.10M	U	M		1988SSg (81365)	3505

K(Co(NTA)+L)=1.41

 C12H14N5O7P H2L e-AMP CAS 361-99-9 (6334)
 1,N6-Ethenoadenosine-5'-monophosphoric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++ sp none 22°C 0.0 C 1979VWa (81382)3506

K1eff=3.76

Method: fluorescence spectroscopy. Medium pH ca. 6.

C12H14O3 HL CAS 543-05-8 (4900)

Ethyl 2-phenylacetoacetate; CH3.CO.CH(C6H5).CO.O.CH2.CH3

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

Co++ gl diox/w 30°C 75% U K1=9.72 1973AAa (81400)3507

C12H15NO HL CAS 13074-74-3 (3383)

4-(4-Methylphenylimino)pentan-2-one; CH3.CO.CH2.C(:N.C6H4.CH3).CH3

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

Co++ gl diox/w 30°C 50% U K1=8.71 B2=15.99 1961MJa (81422)3508

C12H15NO2 HL (4924)

2-Pyridoyl pivaloyl methane; C5H4N.CO.CH2.CO.C(CH3)3

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

Co++ gl diox/w 30°C 75% U K1=10.22 B2=19.31 1972UDa (81427)3509

Medium: 75% v/v dioxan, 0.01 M Me4NC104

C12H15NO2 HL (4925)

3-Pyridoyl pivaloyl methane; C5H4N.CO.CH2.CO.C(CH3)3

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

Co++ gl diox/w 30°C 75% U K1=9.75 1972UDa (81432)3510

Medium: 75% v/v dioxan, 0.01 M Me4NC104

C12H15NO2 HL (4926)

4-Pyridoyl pivaloyl methane; C5H4N.CO.CH2.CO.C(CH3)3

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

Co++ gl diox/w 30°C 75% U K1=9.53 1972UDa (81438)3511

Medium: 75% v/v dioxan, 0.01 M Me4NC104

C12H15NO4S H2L Salicyl-Met CAS 65055-24-5 (6176)

N-Salicyl-methionine; HO.C6H4.CO.NH.CH(CH2.CH2.S.CH3)COOH

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

Co++ gl alc/w 25°C 50% U K1=2.92 B2= 5.61 1989MSi (81484)3512

B(CoH-1L)=-4.37

K(Co+OH+L)=9.63

Medium: 50% v/v EtOH/H2O, 0.2 M NaNO3.

C12H15N05 H3L (4930)

1-Hydroxy-4-methylphenyl-2-methyleneiminodiethanoic acid;

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

Co++ gl KCl 25°C 0.10M U K1=12.6 1977RTb (81493)3513
K(Co+HL)=7.7

Co++ gl oth/un 25°C 0.0 U K1=12.65 1970TTb (81494)3514

C12H15N06 H2L (4931)

2-(Bis(2-hydroxyethyl)amino)-1,4-dibenzoic acid;

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

Co++ gl oth/un 25°C 0.10M U K1=2.35 1973WUa (81515)3515

C12H15N5 L (4902)

4-(5-Methyl-4-imidazolylazo)dimethylaminobenzene; Me.C3H2N2.NN.C6H4N(Me)2

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

Co++ gl diox/w 25°C 50% U K1=4.2 B2=8.50 1968YTa (81529)3516
K3=4.2

Medium: 50% dioxan, 0.1 M KNO3

C12H15N50 HL (4920)

2-(5-Methyl-4-imidazolylazo)-4-dimethylaminophenol;

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

Co++ gl diox/w 25°C 50% U K1=12.8 B2=24.30 1968YTa (81535)3517

Medium: 50% dioxan, 0.1 M KNO3

C12H15N5010P2 H3L EthenoADP CAS 38806-39-2 (8857)

1,N6-Ethenoadenosine-5'-diphosphoric acid;

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

Co++ sp none 22°C 0.0 C 1979VWa (81537)3518
K1eff=4.46

Method: fluorescence spectroscopy. Medium pH ca. 6.

C12H16N202 HL (7068)

2-Hydroxyacetophenone isobutroylhydrazone; HO.C6H4.C(CH3):N.NH.CO.CH(CH3)2

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

Co++ sp alc/w 25°C 20% U T H B2=9.10 1994BIa (81558)3519
Medium: 20% v/v EtOH/H2O, pH 8.5. DH(B2)=-12 kJ mol⁻¹, DS=220 J K⁻¹ mol⁻¹

C12H16N2O3 HL Ala-Phe CAS 3061-90-3 (6981)

Alanyl-phenylalanine; H2N.CH(CH3)CO.NH.CH(CH2.C6H5)COOH

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

Co++ gl KNO3 25°C 0.10M C T K1=2.67 2000RNB (81573)3520

Data for 35 and 45 C.

Co++ gl KNO3 0°C 0.10M C K1=2.44 B2= 4.56 1992KUa (81574)3521

B(CoH-1L)=-9

B(CoH-1L2)=-4.40

B(CoH-2L2)=-14.8

Co++ gl KNO3 20°C 0.5M U K1=2.51 1974KHb (81575)3522

C12H16N2O3 HL Phe-Ala CAS 3918-87-4 (8232)

Phenylalanylalanine;

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

Co++ gl KNO3 0°C 0.10M C K1=2.64 B2= 4.45 1992KUa (81579)3523

B(CoH-1L)=-9

B(CoH-1L2)=-2.83

B(CoH-2L2)=-13.4

C12H16N2O4 HL Phe-Ser CAS 16053-39-7 (8233)

Phenylalanyl-serine;

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

Co++ gl KNO3 0°C 0.10M C K1=2.77 B2= 5.41 1992KUa (81585)3524

B(CoH-1L)=-10

B(CoH-1L2)=-3.60

B(CoH-2L2)=-14

C12H16N2O8 H4L CAS 51067-47-1 (4933)

Bis-(glyoxalimine)-N,N'-diglutaric acid;

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

Co++ gl NaClO4 30°C 0.10M U K1=6.08 1973MMb (81609)3525

C12H16N2O8S4 H6L (7852)

N,N'-Bis(dithiocarboxy)-N,N'-bis-1,1'-(1,2-dicarboxyethyl)ethylenediamine;

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

Co++ gl KNO3 20°C 0.1M U K1=15.8 1999SAa (81615)3526

C12H16N5O13P3 H4L e-ATP CAS 37482-17-0 (5714)
1,N6-Ethenoadenosine 5'-triphosphoric acid;

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

Co++ sp none 22°C 0.0 C K1eff=4.61 1979VWa (81628)3527

Method: fluorescence spectroscopy. Medium pH ca. 6.

C12H16N6O3 HL His-His CAS 306-14-9 (846)
Histidyl-histidine; H2N.CH(CH2.C3H3N2).CO.NH.CH(CH2.C3H3N2).COOH

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

Co++ gl KNO3 25°C 0.10M C K1=5.49 1977HMd (81655)3528
K[Co(H-1L)+H]=7.8

Oxygenation constant: $K\{2\text{CoL}+\text{O}_2=[\text{Co}_2(\text{H}-1\text{L})_2(\text{O}_2)(\text{OH})]+3\text{H}\} = -8.2$

Co++ gl KCl 25°C .135M U T B2=12.00 1957LYa (81656)3529
At 0 C: B2=8.96 ?

C12H16O4S6 L CAS 66785-63-5 (7805)
1,4,7,10,13,16-Hexathiacyclooctadecane-2,3,11,12-tetraone;

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

Co++ con none 25°C 0.0 C T H K1=4.86 1998GRa (81689)3530
DH(K1)=-41.9 kJ mol⁻¹, DS(K1)=-47.6 J K⁻¹ mol⁻¹.

Also data for 15-45 C.

C12H17N4OClS HL Vitamin B1 CAS 59-43-8 (2777)
Thiamine, Aneurine;

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

Co++ gl KNO3 35°C 0.10M C K1=2.36 1999DSb (81745)3531

Co++ gl KNO3 35°C 0.10M U M K1=2.36 B2=4.19 1989SRc (81746)3532
K(CoL+thymine)=3.68
K(CoL+uracil)=3.17

Co++ gl KNO3 25°C 1.0M U K1=2.71 1961GKa (81747)3533

C12H17N4O4PS H2L CAS 495-23-8 (895)
Thiamine orthophosphoric acid, Aneurine monophosphoric acid;

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

Co++ gl KNO3 35°C 0.10M C K1=3.06 1997PSb (81766)3534

Co++ gl NaCl 23°C 0.15M U K1=2.05 1989DBb (81767)3535

Co++ gl KNO3 45°C 0.10M U T K1=3.09 1981TTa (81768)3536
K(CoL+H)=2.29

5 C: K1 = 3.20

Co++ gl KNO3 35°C 0.10M U K1=3.07 1978KBa (81769)3537
K(Co+HL)=2.54

C12H18N2O5S H2L CAS 80459-15-0 (1595)
2-Nitroso-5-(N-propyl-3-sulfopropylamino)phenol;

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

Co++ gl KNO3 25°C 0.10M C K1=9.08 B2=18.97 1988YSc (81803)3538
B3=26.56

C12H18N2O10 H5L CAS 105147-09-9 (1081)
1-Carboxy-1,3-diaminopropane-N,N,N',N'-tetraethanoic acid;
(HOOCCH2)2NCH(COOH)(CH2)2N(CH2COOH)2

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

Co++ gl KNO3 25°C 0.10M U K1=18.47 1988MGa (81908)3539
K(Co+H2L)=4.27
K(Co+HL)=10.24
B(Co2L)=19.56
K(CoL+H)=4.19

K(CoHL+H)=2.93

C12H18N4O7P2S H3L Cocarboxylase T CAS 136-09-4 (894)
Thiamine pyrophosphoric acid, Aneurine pyrophosphoric acid;

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

Co++ gl KNO3 35°C 0.10M C M K1=3.20 1999PSb (81935)3540
Ternary complexes with many aminoacids.

Co++ gl NaCl 23°C 0.15M U K1=3.86 1989DBb (81936)3541

Co++ gl KNO3 45°C 0.10M U T K1=3.83 1981TTa (81937)3542
K(CoL+H)=2.67

5 C: K1 = 3.39

Co++ gl KNO3 35°C 0.10M U K1=4.52 1978KBa (81938)3543
K(Co+HL)=3.10

C12H18N4O9 H3L CAS 43101-37-7 (2935)

Tetraglycine-N,N-diethanoic acid; (HOOC.CH₂)₂N.CH₂.CO.Gly-Gly-Gly-OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO ₃	25°C	0.10M	C		K ₁ =6.45 K(CoL+H)=3.47 K(CoH-1L+H)=9.14 K(CoH-2L+H)=9.79	1974MMb (81950)	3544

C₁₂H₁₉NOS₂ L (5424)
2-(2-Pyridyl)-1,3-dithioethyl-2-propanol; C₂H₅.S.CH₂.C(OH)(C₅H₄N).CH₂.S.C₂H₅

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	25°C	50%	U		K ₁ =1.17	1981CBa (81974)	3545

C₁₂H₂₀N₂O₂ H₂L CAS 6310-76-5 (3387)
4,4'-Ethylenedi-iminodi(pentan-2-one);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	25°C	0.2M	U		K ₁ =7.79	1999MTc (82005)	3546

Medium: 0.2 M KCl in 3:7 v/v H₂O/EtOH

C₁₂H₂₀N₂O₈ H₄L CAS 1798-13-6 (4935)
1,2-Diaminobutane-N,N,N',N'-tetraethanoic acid;
(HOOC.CH₂)₂N.CH₂.CH(C₂H₅).N(CH₂.COOH)₂

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	vlt	KNO ₃	20°C	0.10M	U		K ₁ =18.05	1968NLa (82018)	3547

C₁₂H₂₀N₂O₈ H₄L CAS 40623-42-5 (1101)
1,2-Diaminoethane-N,N'-di(2-pentane-1,5-dioic acid); (CH₂NHCH(COOH)CH₂CH₂COOH)₂

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	ISE	KNO ₃	25°C	0.10M	U		K ₁ =10.59	1973SGa (82053)	3548

By glass electrode: K₁=10.22 , By ion-selective electrode (Cu/Hg): K₁=10.43
By polarography: K₁=10.64

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO ₃	30°C	1.0M	U		K ₁ =9.10	1972TSf (82054)	3549

C₁₂H₂₀N₂O₈ H₄L CAS 61368-60-3 (3389)
1,2-Diaminoethane-N,N'-diethanoic-N,N'-di-2-propanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	vlt	KNO ₃	20°C	0.10M	U		K ₁ =16.16	1976NKa (82123)	3550

C12H20N2O8 H4L CAS 40623-42-5 (3388)
1,2-Diaminoethane-N,N'-diethanoic-N,N'-dipropanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	30°C	0.10M	U		K1=14.9	1952CMc (82156)	3551

C12H20N2O8 H4L CAS 2458-58-4 (922)
1,4-Diaminobutane-N,N,N',N'-tetraethanoic acid; (HOOC.CH2)2N.(CH2)4.N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	cal	KNO3	20°C	0.10M	U	H		1964ANa (82207)	3552

DH(K1)=-6.7 kJ mol-1, DS=177 J K-1 mol-1

Co++	gl	KNO3	20°C	0.10M	U		K1=15.69	1964LAa (82208)	3553
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C12H20N2O8 H4L BDTA CAS 868-43-9 (1742)
DL-2,3-Diaminobutane-N,N,N',N'-tetraethanoic acid;
(HOOC.CH2)2N.CH(CH3).CH(CH3).N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	KNO3	20°C	0.10M	U		K1=18.81	1968SKb (82276)	3554
Co++	oth	KNO3	20°C	0.10M	U		K1=19	1965JMb (82277)	3555

Method: electrophoresis

Co++	vlt	KNO3	20°C	0.10M	U		K1=18.89	1964MNa (82278)	3556
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C12H20N2O8 H4L CAS 22968-57-6 (3992)
meso-2,3-Diaminobutane-N,N,N',N'-tetraethanoic acid;
(HOOC.CH2)2N.CH(CH3).CH(CH3).N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	KNO3	20°C	0.10M	U		K1=17.2	1968SKb (82377)	3557
Co++	oth	KNO3	20°C	0.10M	U		K1=17.5	1965JMb (82378)	3558

Method: electrophoresis

Co++	vlt	KNO3	20°C	0.10M	U		K1=17.09	1964MNa (82379)	3559
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C12H20N2O8S H4L TEDTA CAS 923-74-0 (3394)
2,2'-Thiobis(ethyliminodiethanoic acid); S(CH2.CH2.N(CH2.COOH)2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	20°C	0.10M	U	H	K1=13.99 K(Co+HL)=8.37	1964ANa (82445)	3560

By calorimetry: $\text{DH}(\text{K1}) = -19.4 \text{ kJ mol}^{-1}$, $\text{DS} = 202 \text{ J K}^{-1} \text{ mol}^{-1}$

C12H20N2O9 H4L EEDTA CAS 923-73-9 (2112)

Oxa-bis(ethyleneimino)diethanoic acid; $((\text{HOOC.CH}_2)_2\text{N.CH}_2.\text{CH}_2)_2\text{O}$

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

Co++ cal KNO3 25°C 0.10M U H 1965WHa (82517)3561

$\text{DH}(\text{K1}) = -27.5 \text{ kJ mol}^{-1}$, $\text{DS} = 188 \text{ J K}^{-1} \text{ mol}^{-1}$

Co++ gl KNO3 20°C 0.10M U H K1=15.27 1964ANa (82518)3562

K(Co+HL)=8.55

By calorimetry: $\text{DH}(\text{K1}) = -26.5 \text{ kJ mol}^{-1}$, $\text{DS} = 201.5 \text{ J K}^{-1} \text{ mol}^{-1}$

Co++ EMF KNO3 25°C 0.10M U K1=14.7 1960HRa (82519)3563

C12H20N2O10 H4L CAS 10258-50-1 (3993)

(2,3-Dihydroxytetramethylenedinitrilo)tetraethanoic acid;

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

Co++ oth oth/un ? ? U 1967Lda (82582)3564

B(Co2L)=21.15

Method: high-frequency titration

C12H20N4O6 H2L (7078)

1,4,7,10-Tetraazacyclododeca-2,9-dione-4,7-diethanoic acid;

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

Co++ gl KCl 25°C 0.10M C K1=8.79 1995IOb (82623)3565

K(CoL+H)=2.15

K(CoL=CoH-1L+H)=-9.52

K(CoH-1L=CoH-2L+H)=-12.23

C12H20N6O L (5462)

1,9-Bis(4-imidazolyl)-2,8-diaza-5-oxanonane;

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

Co++ gl KNO3 25°C 0.10M C K1=9.64 1982BTb (82634)3566

C12H20O8N2 H4L (6908)

2-Methyl-1,2-diaminopropane-N,N,N',N'-tetraethanoic acid;

$(\text{HOOC.CH}_2)_2\text{N.CH}_2.\text{C}(\text{CH}_3)_2.\text{N}(\text{CH}_2.\text{COOH})_2$

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

Co++ vlt KNO3 20°C 0.10M C K1=17.20 1978NLa (82667)3567

C12H21N3O6 H3L NOTA (5589)
1,4,7-Triazacyclononane-N,N',N''-triethanoic acid;

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

Co++	gl	KNO3	25°C	0.10M	U		K1=17.5	1975HTa (82726)	3568
------	----	------	------	-------	---	--	---------	-----------------	------

By competition with Cd ion.

C12H21N3O6 H3L CAS 111769-28-9 (8145)
Azetidine-2-carboxy-1-(4-azaheptane-1-amino-1,5-dicarboxylic acid);

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

Co++	gl	oth/un	25°C	0.10M	M		K1=14.8	1983BSd (82748)	3569
------	----	--------	------	-------	---	--	---------	-----------------	------

Medium: 0.10 M KClO4.

C12H21N3O6 H3L CAS 31824-09-6 (4936)
cis,cis-1,3,5-Tris(carboxymethylamino)cyclohexane;

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

Co++	gl	KCl	25°C	0.10M	U		K1=13.81 K(Co+HL)=8.34	1971Z0a (82757)	3570
------	----	-----	------	-------	---	--	---------------------------	-----------------	------

C12H21N7 L (1870)
1,9-Bis(4-imidazolyl)-2,5,8-triazanonane;

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

Co++	cal	KNO3	25°C	0.1M	C	H	K1=13.84	1982TMc (82776)	3571
------	-----	------	------	------	---	---	----------	-----------------	------

DH(K1)=-55.1 kJ mol⁻¹

Co++	cal	KNO3	25°C	0.10M	C			1982TMd (82777)	3572
------	-----	------	------	-------	---	--	--	-----------------	------

DH1=-55.2 kJ/mol

Co++	gl	KNO3	25°C	1.00M	U	M	K1=13.84 K(2CoL+O2=CoL.O2.CoL)=12.6	1979HTa (82778)	3573
------	----	------	------	-------	---	---	--	-----------------	------

Co++	gl	KNO3	25°C	0.10M	C		K1=13.84 K(CoL+H)=3.3 K(2CoL+O2=CoL.O2.CoL)=12.6	1978THb (82779)	3574
------	----	------	------	-------	---	--	--	-----------------	------

C12H22N2O6 H2L (6394)
1,7-Dioxa-4,10-diazacyclododecan-4,10-diethanoic acid;

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

Co++	gl	R4N.X	25°C	0.10M	C		K1=13.12	1992ADa (82789)	3575
------	----	-------	------	-------	---	--	----------	-----------------	------

Medium: 0.1 M Me4NNO3

C12H22N2O6 H2L (6641)
7,10-Diaza-1,4-Dioxacyclododecane-7,10-diethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++ gl R4N.X 25°C 0.10M C K1=12.89 1992ADa (82803)3576
Medium: 0.1 M Me4NNO3

C12H22O12 HL Lactobionic acid CAS 96-82-2 (2487)
4-O-Beta-D-Galactopyranosyl-D-gluconic acid;

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

Co++ gl NaNO3 20°C 0.10M C 1997Feb (82926)3577
B(CoH-2L)=-15.64

C12H23N3O5 H2L (6393)
1-0xa-4,7,10-triazacyclododecan-4,10-diethanoic acid;

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

Co++ gl R4N.X 25°C 0.10M C K1=16.80 1992ADa (82970)3578
Medium: 0.1 M Me4NN03

C12H24N2 L CAS 67483-65-2 (3962)
1,1'-Diaminobicyclohexyl;

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

[illegible]

C12H24N2O3 HL Leu-Leu CAS 36077-41-5 (974)
Leucyl-leucine; $\text{H}_2\text{N}.\text{CH}(\text{CH}_2.\text{CH}(\text{CH}_3)_2).\text{CO}.\text{NH}.\text{CH}(\text{CH}_2.\text{CH}(\text{CH}_3)_2).\text{COOH}$

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

Co++ gl KNO3 20°C 0.5M U K1=2.64 1974KHb (83040)3580

C12H24N2O12P4 H8L (1351)
1,3-Diaminomethylbenzene-N,N,N',N'-tetra(methylenephosphonic) acid;
C6H4(CH2.N(CH2.PO3H2)2)2

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

Co++	gl	KCl	25°C 0.10M M	K1=10.31	1982PBa (83058)3581
				K(Co+HL)=9.01	
				K(Co+H2L)=5.11	
				K(Co+H3L)=4.21	
				K(Co+H4L)=3.26	

C12H24N4O2 L CAS 85828-23-5 (5494)
6-Ethyl-1,4,8,11-tetraazacyclotetradecane-5,7-dione;

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

Co++	gl	NaClO4	35°C	0.20M	U	M		1983MKb (83067)	3582
------	----	--------	------	-------	---	---	--	-----------------	------

B(CoH-2L)=-12.19

Ternary complex with dioxygen: B(Co2H-4L2(O2))=-9.10

C12H24O6 L 18-Crown-6 CAS 17455-13-9 (577)
1,4,7,10,13,16-Hexaoxacyclooctadecane;

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

Co++	con	mixed	25°C	90%	C		K1=1.83	2003ISa (83246)	3583
------	-----	-------	------	-----	---	--	---------	-----------------	------

Medium: 90% v/v DMSO/H2O.

Co++	con	alc/w	25°C	40%	C		K1=1.42	2002ISa (83247)	3584
------	-----	-------	------	-----	---	--	---------	-----------------	------

Medium: 40% EtOH/H2O.

Co++	con	alc/w	25°C	40%	C		K1=1.80	2001ISa (83248)	3585
------	-----	-------	------	-----	---	--	---------	-----------------	------

Medium: 40% v/v EtOH/H2O.

Co++	nmr	non-aq	27°C	100%	U	I	K1=2.15	2000SMd (83249)	3586
------	-----	--------	------	------	---	---	---------	-----------------	------

Competitive method by 7Li nmr. Medium: acetonitrile (AN). Also data for 50% w/w AN/nitrobenzene (K1=2.38) and 50% w/w AN/nitromethane (K1=2.59).

Co++	vlt	alc/w	25°C	100%	C		K1=3.41	1987CBd (83250)	3587
------	-----	-------	------	------	---	--	---------	-----------------	------

Medium: methanol, 0.10 M Et4NI or Bu4NClO4. Method: polarography.

C12H26N2O4 L CAS 41775-36-4 (2470)
1,4,7,13-Tetraoxa-10,16-diazacyclooctadecane;

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

Co++	gl	R4N.X	25°C	0.10M	C		K1=3.26	1983LCa (83729)	3588
------	----	-------	------	-------	---	--	---------	-----------------	------

C12H26N2O4 L Cryptand 2,2 CAS 23978-55-4 (925)
4,7,13,16-Tetraoxa-1,10-diazacyclooctadecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	cal	non-aq	25°C	100%	C	H	K1=>5	1999SBe (83803)	3589
------	-----	--------	------	------	---	---	-------	-----------------	------

Medium: acetonitrile. DH(K1)=-26.5 kJ mol-1.

Co++	gl	R4N.X	25°C	0.05M	C		K1=3.7	1997BCc (83804)	3590
------	----	-------	------	-------	---	--	--------	-----------------	------

Medium: 0.05 M Me4NClO4

Co++	cal	alc/w	25°C	100%	U	H	K1=3.56	1985BUd (83805)	3591
------	-----	-------	------	------	---	---	---------	-----------------	------

Medium: MeOH, 0.05 M Et4N.NO3. DH=+11.4 kJ mol-1

Co++ gl R4N.X 25°C 0.10M C K1=4.42 1985CSb (83806)3592
Medium: 0.10 M Et4NClO4.

Co++ gl R4N.X 25°C 0.10M C K1=3.25 1983LCa (83807)3593

Co++ gl alc/w 25°C 95% C K1=3.5 1981ANa (83808)3594
Medium: 95% MeOH, 0.1 M Me4NCl

Co++ gl R4N.X 25°C 0.10M C K1=<2.5 1977ASc (83809)3595

C12H26N2O10P2 H6L CAS 58534-59-1 (2115)
Hexamethylenediamine-N,N-dimethylphosphonic-N'N'-diethanoic acid;

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

Co++ gl KNO3 25°C 0.10M U K(Co+H4L)=3.69 1977TIa (83924)3596

C12H26N12 L (7007)
1,10-Di(2-(5-tetraazolyl)ethyl)-1,4,7,10-tetraazadecane;

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

Co++ gl NaNO3 20°C 0.10M U K1=20.90 1981ESa (83969)3597

C12H27N3O2 L (7053)
1,4-Dioxa-7,11,15-triazacycloheptadecane;

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

Co++ gl KNO3 25°C 0.10M C K1=5.40 1994CDa (84058)3598
K(CoLOH+H)=9.30

C12H27P L CAS 998-40-3 (170)
Tri-n-butylphosphine; (CH3.(CH2)3)3P

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

Co++ sp non-aq 25°C 100% U M K(CoA+L)=3.48 1980ELa (84132)3599

Medium: toluene. A="capped" porphyrin

C12H28N2 L CAS 2783-17-7 (357)
1,12-Diaminododecane; H2N.(CH2)12.NH2

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

Co++ cal alc/w 25°C 100% U H K1=2.49 1985BUd (84142)3600

Medium: MeOH, 0.05 M Et4N.NO3. DH=-26.6 kJ mol-1

C12H28N4 L CAS 76025-63-3 (5481)

1,4,7,10-Tetraazacyclohexadecane;

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

Co++ gl NaClO4 35°C 0.20M U M K1=9.04 1983MKb (84171)3601

C12H28N4 L CAS 85828-16-6 (5484)

1,4,8,11-Tetraazacyclohexadecane;

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

Co++ gl NaClO4 35°C 0.20M U M K1=11.70 1983MKb (84180)3602

C12H28N4 L CAS 85828-19-9 (5489)

6-Ethyl-1,4,8,11-tetraazacyclotetradecane;

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

Co++ gl NaClO4 35°C 0.20M U M K1=11.00 1983MKb (84202)3603

Ternary complex with dioxygen: B(Co2L2(O2))=28.59

C12H28N4O L (7305)

1-(2-Hydroxyethyl)-1,4,8,11-tetraazacyclotetradecane;

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

Co++ gl R4N.X 25°C 0.10M C K1=7.6 1997RWa (84207)3604

B(CoH-1L)=0.4

Medium: Et4NClO4

C12H28N4O2 L CAS 296-36-6 (2472)

1,10-Dioxa-4,7,13,16-tetraazacyclooctadecane;

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

Co++ dis non-aq 25°C 100% C I 2004CCa (84229)3605

K(Co+A+L(org))=CoAL(org))=11.37

Distribution of CoA2 from H2O into CH2Cl2. A is nitrate. For the N-tetra-benzyl- derivative, K'=12.56. Distribution into CHCl3, K=12.58; K'=13.71.

Co++ gl R4N.X 25°C 0.10M C K1=9.68 1983LCa (84230)3606

C12H29N5 L CAS 79569-23-6 (5485)

1,4,7,10,13-Pentaazacycloheptadecane;

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

Co++ gl NaClO4 35°C 0.20M U M K1=15.38 1983MKb (84253)3607
Ternary complex with dioxygen: B(Co2L2(O2))=39.87

C12H30N3O9P3 H6L DOPHET CAS 123325-12-2 (227)

1,4,7-Tris(beta-dioxyphosphorylethyl)-1,4,7-triazacyclononane;

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

Co++ gl KNO3 25°C 1.0M U K1=13.38 1988MKa (84276)3608

K(Co+HL)=9.38

K(Co+H2L)=7.60

K(Co+H3L)=6.50

C12H30N4 L (6740)

Tris(2-(dimethylamino)ethyl)amine; N(CH2CH2.N(CH3)2)3

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

Co++ gl KNO3 25°C 1.00M C K1=8.53 1994AGa (84302)3609

K(Co+HL)=4.28

C12H30N6 L CAS 296-35-5 (143)

1,4,7,10,13,16-Hexaazacyclooctadecane; cyclo(-(NH.CH2.CH2)6-)

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

Co++ gl NaClO4 35°C 0.20M U T K1=18.9 1980KKb (84322)3610

K(Co+HL)=11.8

C12H32N4O8P4 H4L (7111)

1,4,7,10-Tetraazacyclododecane-1,4,7,10-tetrayltetramethylenetetakis(phosphinic acid);

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

Co++ gl KNO3 25°C 0.10M C K1=15.55 1995BLa (84387)3611

B(CoHL)=16.9

B(CoH-1L)=3.16

C12H32N4O12P4 H8L DOTPH CAS 91987-74-5 (229)

1,4,7,10-Tetraazacyclododecane-N,N',N'',N'''-tetramethylenephosphonic acid;

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

Co++ gl KNO3 25°C 1.00M U M 1988MKb (84401)3612

B(Co2L)=27.2

K(2Co+HL)=22.3

K(Co+CoL)=6.39

K(Co+CoHL)=5.79

B(CoCuL)=30.0; K(Co+Cu+HL)=24.9; K(Co+CuL)=4.61;

K(Co+CuHL)=4.20; B(CoNiL)=26.9; K(Co+NiL)=6.10

Co++	gl	KNO3	25°C	1.0M	U	K1=20.8	1984KMb (84402)	3613
						K(Co+HL)=16.5		
						K(Co+H2L)=11.8		
						K(Co+H3L)=9.2		
						K(Co+H4L)=6.8		

C12H32N6 L (6455)
2,5,8,11,14,17-Hexaazaooctadecane;
CH3.NH.(CH2)2.NH.(CH2)2.NH.(CH2)2.NH.(CH2)2.NH.C(CH2)2.NH.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO4	25°C	0.15M	C		K1=14.756	1993BBe (84428)	3614
							B(CoHL)=20.63		
							B(CoH2L)=26.21		

C12H32N6 L CAS 62497-72-7 (8838)
4,7,10,13-Tetraazahexadecane-1,16-diamine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO4	25°C	0.15M	C		K1=14.10	2002AGa (84440)	3615
							K(CoL+H)=9.99		
							K(CoHL+H)=5.47		
							B(CoH-2L)=0.41		

C12H32N6 L (3377)
5-Ethyl-5-(4-amino-2-azabutyl)-1,9-diamino-3,7-diazanonane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO4	25°C	0.10M	U		K1=17.3	1963GCb (84446)	3616
							K(Co+HL)=12.3		

C13H8N3O2BrS H2L CAS 102390-19-2 (5025)
4-(6-Bromo-2-benzothiazolylazo)-1,3-dihydroxybenzene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	NaClO4	?	0.10M	U			1969IBb (84479)	3617
							K(Co+2HL)=21.57		

C13H8O3 HL CAS 719-41-5 (3397)
1-Hydroxyxanthone (1-Hydroxy-9-xanthenone)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	U		K1=5.26 B2=8.81	1986DDa (84491)	3618

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Co++      sp  alc/w  25°C  50%  U      K1=5.88      1968GDb (84492)3619
Medium: 50% EtOH, 0.1 M NaClO4
*****
C13H9N          L      Acridine          CAS 260-94-6 (3398)
Acridine;

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++      sp  non-aq  ?   100%  U                      1970LDa (84526)3620
                      K(CoCl2+L)=1.50
                      K(CoBr2+L)=1.68
Medium: cyclohexanone.  In CH3CN: K(CoCl2+L)=1.39
In 2-chloroethanol: K(CoCl2+L)=0.3, K(CoBr2+L)=0.88
*****
C13H9NOBrCl      HL                      (6173)
N-(2-Hydroxy-5-bromobenzylidene)-4-chloroaniline; Cl.C6H4.N:CH.C6H3(OH)Br

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++      gl  mixed  28°C  75%  U      K1=5.15      1988MNb (84532)3621
*****
C13H9NOS          HL                      (4945)
2-(2'-Thienyl)-8-hydroxyquinoline; HO.C9H5N.C4H3S

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++      gl  diox/w  25°C  50%  U      K1=5.83      B2=12.91  1969CBa (84539)3622
Medium: 50% dioxan, 0.1 M NaClO4
*****
C13H9NOS          HL                      CAS 3411-95-8 (1683)
2-(2-Hydroxyphenyl)benzothiazole;

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++      gl  diox/w  25°C  50%  U      K1=9.76      B2=18.15  1954CFa (84548)3623
*****
C13H9NO2BrCl      HL                      CAS 104614-71-3 (9109)
4-Bromo-N-(3-chlorophenyl)-N-hydroxybenzamide;

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++      gl  diox/w  25°C  50%  C      M      K1=7.71      2001AMc (84575)3624
                      B(Co(gly)L)=13.68
Medium: 50% v/v dioxane/H2O
*****
C13H9NO2ClF      HL                      CAS 104614-72-4 (9107)
N-(3-Chlorophenyl)-4-fluoro-N-hydroxybenzamide;

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

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Co++ sp KCl 25°C 0.10M U K1=6.03 1982GSb (84658)3631

C13H10NOBr HL (6171)
N-(2-Hydroxy-5-bromobenzylidene)aniline; C6H5.N:CH.C6H3(OH)Br

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

Co++ gl diox/w 28°C 75% U K1=5.73 1988MNB (84673)3632

C13H10NO2Br H2L (1385)
2'-Hydroxy-5'-bromobenzophenone oxime; Br(HO)C6H3.C(:NOH)C6H5

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

Co++ gl diox/w 30°C 50% U K1=6.64 1982UVa (84690)3633

C13H10NO2Cl HL CAS 78154-49-1 (5649)
N-3-Chlorophenylbenzohydroxamic acid;

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

Co++ gl diox/w 25°C 50% C M K1=8.09 2001AMc (84734)3634
B(Co(gly)L)=14.39

Medium: 50% v/v dioxane/H2O

Co++ gl diox/w 25°C 50% U K1=7.21 B2=12.66 1989PMb (84735)3635

C13H10N2 L CAS 3002-77-5 (3400)
2-Methyl-1,10-phenanthroline;

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

Co++ dis KCl 25°C 0.10M U K1=5.1 B2=10.0 1962IMa (84778)3636
K3=3.9

C13H10N2 L CAS 3003-78-6 (2752)
5-Methyl-1,10-phenanthroline;

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

Co++ gl KNO3 25°C 0.10M C M K1=7.14 B2=14.00 1991DAc (84806)3637
Data for ternary complexes with acetohydroxamic acid

Co++ dis KCl 25°C 0.10M U K1=7.14 B2=14.00 1962MBa (84807)3638
K3=6.60

C13H10N2O HL CAS 5496-07-1 (3404)
2-(2'-Hydroxyphenyl)benzimidazole;

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

Co++ gl alc/w 35°C 60% U K1=5.70 B2=10.60 1984MLa (84824)3639

C13H10N2O HL CAS 65782-79-8 (4978)

4-Amino-5-hydroxyacridine;

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

Co++ gl diox/w 25°C 50% U K1=6.97 B2=13.52 1970CBc (84833)3640

Medium: 50% dioxan, 0.1 M NaClO4

C13H10N2O2 HL CAS 27147-03-1 (6307)

2-Hydroxy-5-(phenylazo)benzaldehyde; C6H5.N:N.C6H3(CHO)(OH)

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

Co++ gl diox/w 28°C 50% U K1=4.90 B2=8.90 1975JTb (84847)3641

C13H10N2O3 HL CAS 788-25-0 (8488)

N-(2-Hydroxybenzylidene)-4-nitroaniline;

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

Co++ gl alc/w 25°C 50% U K1=3.77 1988BDa (84854)3642

Medium: 50% v/v EtOH/H2O, 0.10 M NaNO3.

C13H10N2O3 HL CAS 19357-10-9 (9111)

N-(2-Pyridyl)-2-carboxybenzamide;

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

Co++ gl mixed 25°C 40% U K1=5.77 B2=10.46 2002GSa (84860)3643

Medium: 40% v/v DMF/H2O, 0.1 M NaClO4.

C13H10N2O4 H2L CAS 15766-65-6 (1384)

2-Hydroxy-5-nitrobenzophenone oxime; HO(NO2)C6H3.C(:NOH)C6H5

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

Co++ gl diox/w 30°C 50% U K1=5.58 1982UVa (84871)3644

C13H10N2O5 H3L (1389)

2,4-Dihydroxy-5-nitrobenzophenone oxime; (HO)2(NO2)C6H2.C(:NOH)C6H5

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

Co++ gl diox/w 30°C 50% U K1=8.86 B2=16.44 1982UVa (84917)3645

C13H10N2O6S H2L MordentYellow10 CAS 21542-82-5 (1390)

5-(4'-Sulfophenylazo)salicylic acid; HO3S.C6H4.N:N.C6H3(OH).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	KCl	25°C	0.10M	U		K1=6.01	1982GSb (84934)	3646
Co++	gl	KNO3	25°C	0.10M	U		K1=5.84 B2=9.77	1964MTc (84935)	3647

C13H10N4Br2S HL CAS 104654-49-1 (5015)									
Di-4-bromophenylthiocarbazon; Br.C6H4.N:N.CS.NH.NH.C6H4.Br									

Co++	gl	diox/w	25°C	50%	U		K1=5.39	1970AFb (84947)	3648
Medium: 50% dioxan, 0.1 M									

C13H10N4Cl2S HL CAS 19403-31-7 (5014)									
Di-4-chlorophenylthiocarbazon; Cl.C6H4.N:N.CS.NH.NH.C6H4.Cl									

Co++	gl	diox/w	25°C	50%	U		K1=5.63	1970AFb (84951)	3649
Medium: 50% dioxan, 0.1 M									

C13H10N4F2S HL CAS 2805-80-3 (5017)									
Di-4-fluorophenylthiocarbazon; F.C6H4.N:N.CS.NH.NH.C6H4.F									

Co++	sp	diox/w	25°C	50%	U		K1=5.94	1970AFb (84955)	3650
Medium: 50% dioxan, 0.1 M									

C13H10N4I2S HL CAS 2059-77-0 (5016)									
Di-4-iodophenylthiocarbazon; I.C6H4.N:N.CS.NH.NH.C6H4.I									

Co++	gl	diox/w	25°C	50%	U		K1=4.84	1970AFb (84959)	3651
Medium: 50% dioxan, 0.1 M									

C13H10O3 H2L CAS 835-11-0 (796)									
2,2'-Dihydroxybenzophenone; HO.C6H4.CO.C6H4.OH									

Co++	gl	alc/w	25°C	70%	C		B(CoHL)=14.41 B(Co2L2)=15.88	1985HWa (84990)	3652
Medium: 70% v/v MeOH/H2O									

C13H10O3 HL CAS 5910-23-6 (3399)									

Benzoyl-2-furoylmethane; C6H5.CO.CH2.CO.C4H3O

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U			K1=10.03 B2=19.21	1953UFe (84998)	3653

C13H11NO			HL					CAS 779-84-0	(3406)	
N-Salicylideneaniline; HO.C6H4.CH:N.C6H5										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	alc/w	25°C	50%	U			K1=4.01	1988BDa (85031)	3654
Medium: 50% v/v EtOH/H2O, 0.10 M NaNO3.										
Co++	gl	diox/w	27°C	50%	U			K1=4.70 B2=8.51	1972SDb (85032)	3655
Medium: 50% dioxan, 0.1 M NaClO4										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	sp	alc/w	30°C	10%	U				1969DNa (85033)	3656
									K(Co+HL=CoL+H)=-3.96	
Medium: 10% EtOH, 0.2 M NaClO4										

C13H11NO2			H2L						(1383)	
2-Hydroxybenzophenone oxime; HO.C6H4.C(:NOH)C6H5										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	diox/w	30°C	50%	U			K1=7.07	1982UVa (85075)	3657

C13H11NO2			H2L					CAS 78-75-2	(6258)	
3-(Salicylideneamino)phenol; HO.C6H4.CH:N.C6H4.OH										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	alc/w	25°C	50%	U			K1=6.15 B2=10.95	1977DWA (85081)	3658

C13H11NO2			HL					CAS 304-88-1	(181)	
N-Phenylbenzohydroxamic acid; C6H5.CO.N(C6H5).OH										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	diox/w	25°C	50%	U			K1=5.68 B2=10.56	1976BLa (85135)	3659

C13H11NO3			H3L					CAS 3147-44-2	(1388)	
2,4-Dihydroxy-benzophenone oxime; (HO)2C6H3.C(:NOH)C6H5										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	diox/w	30°C	50%	U			K1=7.89	1982UVa (85193)	3660

C13H11N3OS			L						(1274)	

1-Benzoyl-3-pyridin-2-ylthiourea; C5H4N.NH.CS.NH.CO.C6H5

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	alc/w	25°C	75%	U			K1=4.83 B2=9.04	1980SMb (85265)	3661

C13H11N3O2		H2L						CAS 62031-25-8	(1119)	
4-Hydroxy-3-oximinomethylazobenzene; (HO)(HO.N:CH)C6H3.N:N.C6H5										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	alc/w	28°C	60%	U			K1=7.40 B2=13.75	1978WPa (85279)	3662
Co++	gl	alc/w	25°C	42%	U			K1=5.45 B2=10.58	1974MSb (85280)	3663

C13H11N3O5S		H3L						(5019)		
4-Hydroxy-3-oximinomethylazobenzene-4'-sulfonic acid;										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	alc/w	25°C	42%	U			K1=3.41 B2=6.46	1973DSa (85296)	3664
Medium: 42% EtOH, 0.2 M NaClO4										

C13H11N5O		HL						CAS 70805-39-9	(3407)	
6-Anilinomethyl-4-hydroxypteridine;										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	oth/un	20°C	=.01	U			K1=3.5	1953ALa (85307)	3665

C13H11N5O2		L						CAS 4453-80-9	(8115)	
3-Nitro-1,5-diphenylformazan;										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	diox/w	30°C	50%	C T H			K1=6.80 B2=12.41	2001SKb (85312)	3666
Medium: 50% v/v dioxane/water, 0.1 M KCl. Data for 20-40 C.										
DH(K1)=-31.6 kJ mol ⁻¹ , DH(K2)=-25.5.										

C13H11N5O4S		H2L						(3417)		
4-Hydroxy-6-p-sulfoanilinomethylpteridine;										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	oth/un	20°C	0.01M	U			K1=3.7 B2=6.50	1953ALa (85318)	3667

C13H12N2O		HL						CAS 952-47-6	(1110)	
2-Hydroxy-5-methylazobenzene; C6H5.N:N.C6H3(CH3).OH										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++ gl diox/w 30°C 75% U K1=6.23 B2=11.93 1952SNa (85331)3668

C13H12N2O4S H2L CAS 19980-54-2 (1394)
2-Hydroxy-5-methyl-4'-sulfonato-azobenzene;

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

Co++ sp alc/w 25°C 0.10M U K1=11.1 B2=14.35 1981MOB (85374)3669

C13H12N2O6S2 H2L (1333)
4-Sulfono-salicylidene sulfanilamide; HO3S.C6H3(OH).CH:N.SO2.C6H4.NH2

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

Co++ gl KNO3 32°C 0.10M U T K1=7.10 1981SBb (85384)3670

C13H12N4S L Dithizone CAS 60-10-6 (1801)
Diphenylthiocarbazone; C6H5.NH.NH.CS.N:N.C6H5

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

Co++ sp non-aq 25°C 100% U I K1=6.68 B2=12.32 1976CCb (85448)3671
Medium: acetone and EtOH-acetone mixtures

Co++ sp NaClO4 25°C 0.10M U K1=7.52 B2=13.97 1973BSe (85449)3672

Co++ sp diox/w 25°C 50% U K1=6.43 1970AFb (85450)3673
Medium: 50% dioxan, 0.1 M

Co++ dis oth/un 25°C ? U 1960DTa (85451)3674
K(Co+2HL)=13
Distribution into CCl4

C13H12O5 HL CAS 17426-76-5 (3401)
O,O-Dimethylpurpurogallin

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

Co++ gl diox/w 30°C 50% U K1=6.6 B2=11.8 1954BFc (85484)3675
K3=3.1

C13H13NO L CAS 35854-45-6 (297)
2-(2-Phenyl-2-hydroxy)ethylpyridine; (C6H5)(OH)CHCH2C5H4N

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

Co++ gl KNO3 25°C 0.10M U K1=1.40 1974ILa (85498)3676

C13H13N3 L CAS 102-06-7 (994)

sym-N,N'-Diphenylguanidine; C₆H₅.NH.C(NH).NH(C₆H₅)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	sp	mixed	?	75%	U				1971TMb (85501)	3677
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K(Co(CNS)₃+2HL)=8.13

K(Co(CNS)₄+2HL)=1.35

Medium: 75% acetone

C13H13N5OS	HL	CAS 220035-45-0	(8639)
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alpha-Pyridoin thiosemicarbazone;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	diox/w	30°C	50%	U	TIH	K1=9.16	B2=17.45	19980Fa (85528)	3678
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Medium: 50% H₂O/dioxane, 0.10 M KNO₃. Data for 50% v/v H₂O/dioxane, I = 0.05-0.20 M, and for 40 and 50 C at I=0.10. DH and DS values.

C13H13O2Br	HL	(6846)
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3-Benzoyl-5-bromohexa-5-ene-2-one; CH₂=CBr.CH₂.CH(CO.CH₃)CO.C₆H₅

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	KCl	25°C	0.20M	U		K1=4.52		1992CMd (85535)	3679
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C13H13O2Cl	HL	(6842)
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3-Benzoyl-5-chlorohex-5-ene-2-one; CH₂=CCl.CH₂.CH(CO.CH₃)CO.C₆H₅

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	KCl	25°C	0.20M	U		K1=4.55		1992CMd (85543)	3680
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C13H14NO3P	H2L	CAS 19316-85-7	(1466)
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2-Hydroxyphenyl-N-phenylaminomethylphosphinic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	NaClO ₄	20°C	0.10M	U		K1=6.00		1985SIb (85560)	3681
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C13H14N2	L	CAS 104986-55-2	(4972)
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1,3-Bis(2'-pyridyl)-propane; C₅H₄N.CH₂.CH₂.CH₂.C₅H₄N

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	KNO ₃	20°C	0.10M	U		K1=1.3		1970BAa (85573)	3682
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K(Co+HL)=1.0

C13H14N2O2S	HL	CAS 4384-37-1	(4032)
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2-(4'-Methylphenylsulfonamido)aniline; CH₃.C₆H₄.SO₂.NH.C₆H₄.NH₂

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	?	50%	U		K1=9.57 B2=18.73	1968BRa	(85592)3683
Medium: 50% dioxan, 0.01 M									

C13H14N2O3		HL					(4940)		
3-(2-Acetylphenylhydrazone)pentane-2,4-dione; (CH3.CO)2C:N.NH.C6H4(CO.CH3)									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	25°C	75%	U		K1=9.82 B2=19.02	1990ASb	(85603)3684

C13H14N2O3		HL					Antineoplaston CAS 91531-30-5		(8098)
3-(N-Phenylacetyl-amino)-2,6-piperidinedione;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	45°C	50%	C		K1=5.87	1996MMc	(85626)3685
Medium: 50% v/v MeOH/H2O, 0.10 M KNO3.									

C13H14N3O5P		H2L					CAS 80767-75-5		(1467)
2-Hydroxy-4-nitrophenyl-N-(2-pyridylmethyl)aminomethylphosphinic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO4	20°C	0.10M	U		K1=6.50	1985SIb	(85637)3686
							K(Co+HL)=3.00		

C13H14N3O5P		H2L					CAS 80767-76-6		(1468)
2-Hydroxy-4-nitrophenyl-N-(3-pyridylmethyl)aminomethylphosphinic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO4	20°C	0.10M	U		K1=6.55	1985SIb	(85650)3687
							K(Co+HL)=3.10		

C13H14N4		L					CAS 13103-75-8		(473)
4-(2-Pyridylazo)-N,N-dimethylaniline; C5H4N.N:N.C6H4.N(CH3)2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	kin	NaNO3	25°C	0.30M	U	M		1994CHc	(85677)3688
							K(Co(MIDA)+L=Co(MIDA)L)=3.34		
							K(Co(N,N'-EDDA)+L)=2.18		
							K(Co(N,N-EDDA)+L)=1.91		
							K(Co(dien)+L)=2.84		
K(Co(tren)+L=Co(tren)L)=1.75.									

Co++	kin	NaNO3	25°C	0.30M	U	M	K1=3.32	1971CHd	(85678)3689
							K(CoA+L)=3.61		

K(CoB+L)=2.86
K(CoC+L)=3.03
H2A=iminodiethanoic acid; H3B=nitrilotriethanoic acid;
H5C=tripolyphosphoric acid.

Co++ sp NaNO3 25°C 0.30M U M K1=3.36 1971CHd (85679)3690
K(CoA+L)=3.26
K(CoB+L)=2.73
K(CoC+L)=3.10

H2A=iminodiethanoic acid; H3B=nitrilotriethanoic acid;
H5A=tripolyphosphoric acid.

Co++ kin KNO3 16°C 0.10M U K1=3.8 1964WIa (85680)3691

Co++ sp NaNO3 25°C 0.15M U K1=3.33 1953KMa (85681)3692

C13H15NO4 HL CAS 35104-87-2 (4997)
2-Nitrobenzoyl pivaloyl methane; O2N.C6H4.CO.CH2.CO.C(CH3)3

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

Co++ gl diox/w 30°C 75% U K1=8.90 B2=17.44 1972UDa (85713)3693
Medium: 75% v/v dioxan, 0.01 M Me4NC104

C13H15NO4 HL CAS 18362-53-3 (4998)
4-Nitrobenzoyl pivaloyl methane; O2N.C6H4.CO.CH2.CO.C(CH3)3

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

Co++ gl diox/w 30°C 75% U K1=9.20 B2=17.82 1972UDa (85720)3694
Medium: 75% v/v dioxan, 0.01 M Me4NC104

C13H15NO6 H3L (4999)
2-Benzyl nitrilotriethanoic acid;

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

Co++ oth oth/un 25°C 0.10M U K1=10.27 1962HKa (85732)3695

C13H15N2O3P H2L CAS 80767-72-2 (1460)
2-Hydroxyphenyl-(N-2-pyridylmethylamino)methylphosphinic acid;

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

Co++ gl NaClO4 20°C 0.10M U K1=6.70 1985SIa (85777)3696

C13H15N2O3P H2L CAS 80767-73-3 (1461)
2-Hydroxyphenyl-(N-3-pyridylmethylamino)methylphosphinic acid;

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

Co++ gl NaCl04 20°C 0.10M U K1=6.80 1985SIa (85790)3697

C13H15N2O3P H2L CAS 80767-74-4 (1462)
2-Hydroxyphenyl-(N-4-pyridylmethylamino)methylphosphinic acid;

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

Co++ gl NaCl04 20°C 0.10M U K1=6.90 1985SIa (85803)3698

C13H15N2O4P H3L CAS 80767-78-8 (1463)
2-Hydroxyphenyl-(N-2-pyridylmethylamino)methylphosphonic acid;
C6H4(OH)CH(PO3H2).NH.CH2.C5H4N

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

Co++ gl NaCl04 20°C 0.10M U K1=9.60 1985SIa (85816)3699

C13H15N2O4P H3L CAS 85946-85-6 (1464)
2-Hydroxyphenyl-(N-3-pyridylmethylamino)methylphosphonic acid;
C6H4(OH)CH(PO3H2).NH.CH2.C5H4N

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

Co++ gl NaCl04 20°C 0.10M U K1=9.80 1985SIa (85829)3700

C13H15N2O4P H3L CAS 85946-86-7 (1465)
2-Hydroxyphenyl-(N-4-pyridylmethylamino)methylphosphonic acid;
C6H4(OH)CH(PO3H2).NH.CH2.C5H4N

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

Co++ gl NaCl04 20°C 0.10M U K1=10.00 1985SIa (85842)3701

C13H15N3 L (5860)
N,N-Bis(2-aminophenyl)methylamine;

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

Co++ gl diox/w 25°C 70% C M K1=2.84 1988MMd (85851)3702
B(CoA2L)=14.12
K(2CoA2L+O2=(CoA2L)2O2)=8.30

Medium: 70% v/v dioxan/H2O, 0.1 M KCl. A=Salicylaldehyde

C13H15N3O5 HL CAS 76877-50-4 (1291)
2-(4',5'-Dimethyl-2-thiazolylazo)-4,6-dimethylphenol;

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

Co++ gl diox/w 25°C 60% U K1=9.11 B2=18.99 1981KTa (85858)3703

C13H15N3OS HL CAS 76877-45-7 (1295)
2-(4',5'-Dimethyl-2-thiazolylazo)-4-ethylphenol;

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

Co++ gl diox/w 25°C 60% U K1=8.61 B2=17.87 1981KTa (85867)3704

C13H15N3O2 HL CAS 16832-24-9 (6)
N3-Benzyl-L-histidine; H2N.CH(CH2.C3H2N2(CH2.C6H5))COOH

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

Co++ gl KCl 25°C 0.10M C K1=6.242 B2=11.885 1976RIa (85883)3705
K(Co(DL-Benzyl-His))=6.236
B(Co(DL-Benzyl-His)2)=11.993

Co++ gl none 21°C 0.0 M K1=6.87 B2=13.04 1974YAA (85884)3706

C13H15N3O2S HL CAS 76877-49-1 (1293)
2-(4',5'-Dimethyl-2-thiazolylazo)-4-methyl-6-methoxyphenol;

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

Co++ gl diox/w 25°C 60% U K1=8.67 B2=18.00 1981KTa (85891)3707

C13H15O2Br HL CAS 41070-38-6 (4994)
2-Bromobenzoyl pivaloyl methane; Br.C6H4.CO.CH2.CO.C(CH3)3

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

Co++ gl diox/w 30°C 75% U K1=9.22 B2=18.10 1972UDa (85917)3708
Medium: 75% v/v dioxan, 0.01 M Me4NClO4

C13H15O2Br HL CAS 41070-33-1 (4995)
4-Bromobenzoyl pivaloyl methane; Br.C6H4.CO.CH2.CO.C(CH3)3

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

Co++ gl diox/w 30°C 75% U K1=9.47 B2=18.44 1972UDa (85922)3709
Medium: 75% v/v dioxan, 0.01 M Me4NClO4

C13H15O2Cl HL CAS 41070-37-5 (4992)
2-Chlorobenzoyl pivaloyl methane; Cl.C6H4.CO.CH2.CO.C(CH3)3

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

Co++ gl diox/w 30°C 75% U K1=9.19 B2=18.04 1972UDa (85927)3710
Medium: 75% v/v dioxan, 0.01 M Me4NClO4

C13H15O2Cl HL CAS 41070-30-8 (4993)
4-Chlorobenzoyl pivaloyl methane; Cl.C6H4.CO.CH2.CO.C(CH3)3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U		K1=9.60 B2=18.80	1972UDa (85932)	3711
Medium: 75% v/v dioxan, 0.01 M Me4NClO4									

C13H16N4OS HL CAS 76877-51-5 (1290)
2-(4',5'-Dimethyl-2-thiazolylazo)-5-dimethylaminophenol;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	25°C	60%	U		K1=11.20 B2=21.65	1981KTa (85943)	3712

C13H16O2 HL CAS 13988-67-5 (4973)
Benzoyl pivaloyl methane; C6H5.CO.CH2.CO.C(CH3)3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U		K1=9.70 B2=19.02	1972UDa (85963)	3713
Medium: 75% v/v dioxan, 0.01 M Me4NClO4									

C13H17NO HL (5000)
Salicylidene-N-cyclohexylamine; HO.C6H4.CH:N.C6H11

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	diox/w	25°C	80%	U		K1=14.95	1972RGd (85972)	3714
Medium: 80% v/v dioxan, 0.1 M NaClO4									

C13H17NO6 H2L CAS 77553-78-7 (6078)
N-(2-Hydroxy-1-(hydroxybenzyl)-iminodiethanoic acid;
HO.CH2.CH(CH(OH)(C6H5)).N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO4	25°C	1.0M	C		K1=6.76 B2= 9.51	1981ASb (85990)	3715
							B(CoH-1L)=-1.50		

C13H17N3O L Aminopyrine (2030)
1-Phenyl-2,3-dimethyl-4-dimethylamino-5-pyrazolone, Dimethylaminoantipyrine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.50M	U		K1=0.78 B2=0.82	1978LWa (85997)	3716

Co++	sp	mixed	?	75%	U			1971TMb (85998)	3717
							K(Co(CNS)3+2HL)=2.33		
							K(Co(CNS)4+2HL)=2.15		

Medium: 75% acetone

C13H18N2O4 L (6005)
N-Benzyloxycarbonyl-valyl hydroxamic acid; C6H5.CH2.O.CO.NH.CH(CH(CH3)2).CO.NHOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	U		K1=4.6 B2=6.8	1987CSb (86032)	3718

C13H19N3 L (6739)
2,6-Bis(pyrrolidin-2-yl)pyridine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.12M	U	H	K1=9.10 B(rac-CoL2)=13.45 B(meso-CoL2)=14.31 B(Co(OH)L)=18.87	1993BGb (86068)	3719

C13H19N3O4 H2L (6689)
N,N'-((Pyridine-2,6-diyl)bis-methylene)bis-sarcosine; C5H3N(CH2.N(CH3)CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaNO3	25°C	0.10M	U		K1=12.27	1992BSb (86070)	3720

C13H20N04P H3L (1471)
2-Hydroxyphenyl-N-(cyclohexylamino)methylphosphonic acid;
C6H4(OH)CH(PO3H2).NH.C6H11

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO4	20°C	0.10M	U		K1=8.90 K(Co+HL)=4.40	1985SIb (86087)	3721

C13H20N2O2 L Procaine CAS 59-46-1 (4029)
2-(Diethylamino)ethyl 4-aminobenzoate; H2N.C6H4.CO2.CH2.CH2.N(C2H5)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	1.0M	U		K1=7.21 B2=13.39 K3=5.90 K4=5.80	1961GKa (86096)	3722

C13H20N2O8 H4L CAS 22991-70-4 (3413)
trans-1,2-Cyclopentane-iminodiethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	EMF	NaNO3	20°C	0.10M	U		K1=12.0	1971PSc (86108)	3723

K1=12.14 (D or L isomer)
B(CoHL)=15.41 (DL isomer)
B(CoHL)=15.47 (D or L isomer)

C13H21N3O L CAS 473793-88-3 (8976)
7-Oxa-3,11,17-triazabicyclo[11.3.1]heptadeca-1(17),13,15-triene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	C		K1=7.15 *K(CoL)=-10.02	2001CDb (86165)	3724

C13H22N2O8 H4L CAS 1798-14-7 (921)
(Pentamethylenedinitrilo)tetraethanoic acid; ((HOOC.CH2)2N.CH2.CH2)2CH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	20°C	0.10M	U	H	K1=13.38 K(Co+HL)=7.94	1964ANa (86186)	3725

By calorimetry: DH(K1)=-12.9 kJ mol⁻¹, DS=212 J K⁻¹ mol⁻¹

C13H22N2O8 H4L CAS 1198-14-7 (5004)
1,2-Diaminopentane-N,N,N',N'-tetraethanoic acid; (HOOCCH2)2NCH2CH(C3H7)N(CH2COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	vlt	KNO3	20°C	0.10M	U		K1=17.99	1974NLa (86220)	3726

C13H22N2O8 H4L (7164)
2,4-Diaminopentane-N,N,N',N'-tetraethanoic acid;
(HOOCCH2)2NCH(CH3)CH2CH(CH3)N(CH2COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	20°C	0.10M	U		K1=17.40	1981NSc (86247)	3727

C13H22N2O8 H4L (5003)
3-Methyl-1,2-diaminobutane-N,N,N',N'-tetraethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	vlt	KNO3	20°C	0.10M	U		K1=18.28	1968NLb (86275)	3728

C13H22N4O6 H2L CAS 93031-56-2 (7079)
1,4,7,10-Tetraazacyclotrideca-2,9-dione-4,7-diethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	C		K1=8.79 K(CoL+H)=2.52	1995IOb (86347)	3729

K(CoL=CoH-1L+H)=-10.62
K(CoH-1L=CoH-2L+H)=-10.26

C13H22O2 HL CAS 41070-22-8 (4974)

Hexahydrobenzoyl pivaloyl methane; C6H11.CO.CH2.CO.C(CH3)3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	diox/w	30°C	75%	U		K1=9.92	1972UDa (86373)	3730
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Medium: 75% v/v dioxan, 0.01 M Me4NC104

C13H23N3 L CAS 1555-71-1 (5557)

5-Benzylidipropylenetriamine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	diox/w	25°C	70%	U		K1=9.03	1984MMe (86386)	3731
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K(CoL+H)=5.65

C13H24N2O6 H2L (5610)

1,11-Dioxa-4,8-diazacyclotridecane-N,N'-diethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	R4N.X	25°C	0.10M	C		K1=9.94	1998CCd (86407)	3732
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*K(CoL)=ca.-9.7

Medium: 0.10 M Me4NN03.

C13H25N5 L (2943)

2,6-Bis-(5-(1,4-diazaheptyl)pyridine; (H2N.C2H4.NH.CH(CH3))2.C5H3N

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	cal	KN03	25°C	0.1M	C	H	K1=13.99	1982TMc (86446)	3733
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DH(K1)=-50.2 kJ mol-1

Co++	cal	KN03	25°C	0.10M	C			1982Tmd (86447)	3734
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DH1=-50.6 kJ/mol

Co++	gl	KN03	25°C	0.10M	C		K1=13.99	1978HMa (86448)	3735
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K(CoL+H)=4.35

C13H26N4O2 L CAS 85828-24-6 (5495)

6-Propyl-1,4,8,11-tetraazacyclotetradecane-5,7-dione;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	NaCl04	35°C	0.20M	U	M		1983MKb (86455)	3736
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B(CoH-2L)=-12.22

Ternary complex with dioxygen: B(Co2H-4L2(O2))=-8.85

C13H27N5O2 L (6541)
15-Ethyl-1,4,7,10,13-pentaazacyclohexadecane-14,16-dione;

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

Co++ gl KCl 25°C 0.10M C T HM K1=4.66 1991Cma (86513)3737
K(CoL+H)=7.12
K(CoH-1L+H)=8.36
K(CoH-2L+H)=8.28
Keff(2CoH-2L+O2)=0.98

Keff(2CoH-2L+O2) at 5 C in 0.05M KCl/0.05M borate, pH 9.0;DH=-70.7 kJ mol⁻¹,
DS=-234.2 J K⁻¹ mol⁻¹; Keff at 10 C=0.70, at 15 C=0.48

C13H29N3O L (6454)
4,8,12-Trimethyl-1-oxa-4,8,12-triazacyclotetradecane;

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

Co++ gl KNO3 25°C 0.10M U K1=5.8 1991ACa (86548)3738
B(CoH-2L)=-9.67
K(CoL+2OH)=12.17

C13H30N2O4 L CAS 139-90-2 (3415)
N-(2-Hydroxyethyl)-N,N',N'-tri(2-hydroxypropyl)ethylenediamine;

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

Co++ gl KNO3 25°C 0.50M U K1=5.96 1960Hda (86558)3739

C13H30N4 L CAS 95929-20-2 (5490)
6-Propyl-1,4,8,11-tetraazacyclotetradecane;

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

Co++ gl NaClO4 35°C 0.20M U M K1=10.64 1983MKb (86562)3740
Ternary complex with dioxygen: B(Co2L2(O2))=28.54

C13H30N4O L CAS 252191-62-1 (7610)
1-(3-Hydroxypropyl)-1,4,8,11-tetraazacyclotetradecane;

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

Co++ gl R4N.X 25°C 0.10M C K1=10.0 1999DWa (86567)3741
K(CoL=CoH-1L+H)=-9.7

Medium: 0.1 M NEt4ClO4

C13H31N5 L CAS 85828-17-7 (5486)
1,4,7,10,13-Pentaazacyclooctadecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	NaCl04	35°C	0.20M	U	M	K1=11.54	1983MKb (86572)	3742
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Ternary complex with dioxygen: B(Co2L2(O2))=30.43

C14H8N3OCl	HL	CAS	25732-23-4	(5079)
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7-Chloro-10-hydroxyindolo(2,3-b)quinoxaline;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	sp	alc/w	?	50%	U		K1=5.98	1970KMc (86601)	3743
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C14H8N3O8S2F3	HL	(9231)
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1-(2-Thenoyl),4-trifluoro,2-[2-hydroxy-2-sulpho-5-nitrophenylazo]butadi-1,3-one;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	KCl	25°C	0.1M	U		K1=7.55 B2=14.11	2004ACa (86608)	3744
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C14H8O4	H2L	CAS	117-10-8	(3425)
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1,8-Dihydroxyanthraquinone;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	diox/w	30°C	75%	U		K1=8.52 B2=16.38	1960KFc (86674)	3745
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C14H8O7S	H3L	DASA	CAS	83-61-4 (950)
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1,2-Dihydroxyanthraquinone-3-sulfonic acid, Alizarin Red S;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	sp	oth/un	25°C	0.50M	U			1973VCa (86708)	3746
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K1eff=5.85

K2eff=4.45

Medium: Borax buffers, pH 9 to 11.5

C14H9NO2	HL	CAS	641-63-4	(4038)
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2-(2'-Pyridyl)indan-1,3-dione;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	diox/w	30°C	75%	U		K1=9.8 B2=19.4	1964Cmb (86786)	3747
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C14H9NO4	H2L	Alizarin Maroon	CAS	3963-78-8 (1052)
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3-Amino-1,2-dihydroxyanthraquinone;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	NaCl04	25°C	0.10M	U	M	K1=5.95	1982ISc (86811)	3748
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K(Co+H3L=CoH2L+H)=5.95

$$K(\text{Co}+2\text{H3L}=\text{Co}(\text{H2L})_2+2\text{H})=6.80$$

Ternary complexes with eosin and rosebengal.

C14H9N3O HL CAS 25732-18-7 (5042)

1-Hydroxyindolo(2,3-b)quinoxaline;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	?	50%	U		K1=6.42 B2=14.21	1970KMc	(86829)3749

Co++	gl	diox/w	25°C	50%	U		K1=7.36 B2=14.36	1970MKg	(86830)3750
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Medium: 50% v/v dioxan, 0.01 M (H,K)NO3

C14H9N3O HL CAS 25732-19-8 (5043)

4-Hydroxyindolo(2,3-b)quinoxaline;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	?	50%	U		K1=5.99 B2=15.04	1970KMc	(86841)3751

Co++	gl	diox/w	25°C	50%	U		K1=7.74 B2=15.63	1970MKg	(86842)3752
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Medium: 50% v/v dioxan, 0.01 M (H,K)NO3

C14H10N2O5 H3L CAS 85545-78-4 (6309)

3,2'-Dicarboxy-4-hydroxyazobenzene; (HO)(COOH)C6H3.N:N.C6H4.CO0H

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	25°C	75%	U		K1=9.22 B2=16.11	1976RKa	(86905)3753

C14H10N4O2S HL (6854)

3-Phenyl-5-mercapto-4-(2-nitrophenyl)-1,2,4-triazole; C6H5.C2N3(SH)(C6H4.NO2)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	mixed	30°C	70%	U		K1=4.18 B2=7.50	1991SMc	(86919)3754

Medium: 70% DMF. Data also for 4-chlorophenyl, 2-nitrophenyl, 4-nitrophenyl, 3,5-dinitrophenyl analogues

C14H10N6O2 H2L CAS 481635-45-4 (8531)

1,10-Phenanthrolino-(5,6-b)-2,3-dihydroxyimino-1,4-diazine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	25°C	60%	M		K1=9.99	2002DEa	(86923)3755

$$B(\text{CoHL})=16.32$$

$$B(\text{CoH-2L})=-5.00$$

Medium: 60% v/v EtOH/H2O, 0.20 M KN03.

C14H10O4 H2L CAS 482-05-3 (8247)

Diphenyl-2,2'-dicarboxylic acid; diphenic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	diox/w	30°C	50%	U	T H		K1=5.88 B2= 8.27	1978SJc (86931)	3756
Medium: 50% dioxane/H2O, 0.10 M NaClO4. At 40 C, K1=5.65, K2=2.17. DH and DS values reported.										

C14H11NO3 H2L CAS 67707-86-2 (8476)
Salicylideneaniline-3-carboxylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	diox/w	25°C	30%	U			K1=5.15	1978CPb (86956)	3757
Medium: 30% v/v dioxane/H2O, 0.20 M NaClO4.										

C14H11NO4 H2L CAS 279-92-0 (3430)
2,2'-Iminodibenzoic acid; HOOC.C6H4.NH.C6H4.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	alc/w	25°C	50%	U			K1=3.98 B2=7.22	1973DSb (86970)	3758
Medium: 50% EtOH, 0.2 M NaClO4										

Co++ gl diox/w 35°C 50% U K1=5.1 1958YSa (86971) 3759

C14H11N3O HL CAS 24854-76-0 (1380)
2-(1H-Benzimidazol-2-yl-methylene-amino) phenol;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	diox/w	30°C	60%	U			K1=8.38	1984ORa (86992)	3760
Data also for 4-Cl- and 4-NO2- analogues										

C14H12NOBr HL CAS 20772-74-1 (6172)
N-(2-Hydroxy-5-bromobenzylidene)-4-methylaniline; HO(Br)C6H3.CH:N.C6H4.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	mixed	28°C	75%	U			K1=6.02	1988MNB (87040)	3761

C14H12NO2Cl	HL							CAS 67055-92-9 (6301)		
N-(3-Chlorophenyl)-4-methylbenzohydroxamic acid; CH3.C6H4.CO.N(C6H4Cl)OH										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	diox/w	25°C	50%	C	M		K1=8.26 B(Co(gly)L)=14.66	2001AMc (87060)	3762

Medium: 50% v/v dioxane/H2O

Co++ gl diox/w 25°C 50% U K1=7.38 B2=13.03 1989PMb (87061)3763

Data also for 4-fluoro, 4-chloro, 4-bromo, 4-nitro and 4-methoxy analogues

C14H12NO3Cl HL CAS 67135-47-1 (9106)

N-(3-Chlorophenyl)-N-hydroxy-4-methoxybenzamide;

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

Co++ gl diox/w 25°C 50% C M K1=8.30 2001AMc (87094)3764

B(Co(gly)L)=14.87

Medium: 50% v/v dioxane/H2O

C14H12N2 L CAS 484-11-7 (450)

2,9-Dimethyl-1,10-phenanthroline;

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

Co++ gl alc/w 25°C 50% M I M 1990BDb (87125)3765

K(CoL+thr)=4.76

Medium: 50% v/v EtOH/H2O, 0.10 M NaNO3. Also data for 0.05 and 0.20 M

NaNO3 in EtOH/H2O. At I=0, K(CoL+thr)=5.15.

Co++ dis KCl 25°C 0.10M U K1=4.2 B2=7.0 1962IMa (87126)3766

C14H12N2 L CAS 2963-64-6 (5027)

2-Benzylbenzimidazole; C6H5.CH2.C7H5N2

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

Co++ sp alc/w ? 100% U M 1972ASc (87134)3767

K(Co(NO3)2+2L)=2.40

K(CoCl2+2L)=3.16

K(CoBr2+2L)=2.77

K(Co(SCN)2+2L)=2.69

Medium: MeOH

C14H12N2 L CAS 3248-05-3 (3427)

4,7-Dimethyl-1,10-phenanthroline;

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

Co++ dis oth/un 25°C 0.10M U K1=8.08 B2=16.08 1963BMb (87144)3768

K3=8.43

C14H12N2 L CAS 3002-81-1 (451)

5,6-Dimethyl-1,10-phenanthroline;

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

Co++ dis oth/un 25°C 0.10M U K1=7.47 B2=15.47 1963BMb (87157)3769

K3=8.14

C14H12N2O2 HL (6311)
4-Hydroxy-3-formyl-2'-methylazobenzene; (H0)(CH0)C6H3.N:N.C6H4.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	diox/w	28°C	50%	U			K1=4.92 B2=9.16	1975JTb (87174)	3770

C14H12N2O2 HL (6328)
4-Hydroxy-3-formyl-4'-methylazobenzene; (H0)(CH0)C6H3.N:N.C6H4.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	diox/w	28°C	50%	U			K1=4.92 B2=9.06	1975JTb (87184)	3771

C14H12N2O2 HL Benzil dioxime CAS 23873-81-6 (3431)
Diphenylglyoxime; (C6H5.C:NOH.)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	diox/w	25°C	50%	U			K1=11.2 B2=19.5	1958PBa (87187)	3772

C14H12N2O3 H2L CAS 4870-46-6 (3432)
2-Hydroxy-5-methyl-2'-carboxy-azobenzene; H0.C6H3(CH3).N:N.C6H4.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	sp	none	25°C	0.0	U			K1=9.02	1984MSc (87207)	3773
Co++	gl	diox/w	30°C	75%	U				1957SFb (87208)	3774

K(Co+H2L=CoL+2H)=-7.3

C14H12N2O3 H2L CAS 28547-20-8 (1395)
2-Hydroxy-5-methyl-4'-carboxy-azobenzene; (H0)(CH3)C6H3.N:N.C6H4.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	sp	alc/w	25°C	0.10M	U			K1=10.60 B2=14.11	1981MOb (87230)	3775

C14H12N2O4 H2L (3433)
2,2'-Hydrazodibenzoic acid; H0OC.C6H4.NH.NH.C6H4.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	diox/w	35°C	50%	U			K1=3.8	1958YSa (87239)	3776

C14H12N2O6S H2L MordentYellow 7 (1391)
5-(4'-Sulfophenylazo)-4-methylsalicylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	KCl	25°C	0.10M	U		K1=5.54	1982GSb (87297)	3777

C14H12N3OBrS		L					CAS 39643-68-0	(5097)	
1-Benzoyl-4-bromophenylthiosemicarbazide;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	mixed	25°C	50%	U		B2=5.25	1969CFb (87301)	3778
Medium: 50% acetone									

C14H12N4O		HL					CAS 66751-18-6	(5048)	
1-(5-Methyl-4-imidazolylazo)-2-naphthol;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	25°C	50%	U		K1=13.0	1968YTb (87308)	3779
Medium: 50% dioxan, 0.1 M KNO3									

C14H12N4O		L					CAS 74126-83-3	(5438)	
Di(2-pyridyl)-imidazol-2-yl-methanol;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.20M	U		K1=8.67 B2=16.77	1980BHa (87312)	3780

C14H12O2		HL					CAS 119-53-9	(2739)	
2-Hydroxydeoxybenzoin, 2-hydroxyphenylacetophenone; HO.C6H5.CH2.CO.C6H5									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	30°C	50%	U		K1=5.15	1986SBa (87329)	3781

C14H12O3		H2L					CAS 3669-41-8	(2740)	
2,4-Dihydroxydeoxybenzoin, 2,4-dihydroxyphenylacetophenone;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	30°C	50%	U		K1=3.20	1986SBa (87340)	3782

C14H12O3		HL					CAS 76-93-7	(710)	
Diphenylglycolic acid, (benzilic acid); (C6H5)2C(OH).COOH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	oth/un	?	?	U		K1=6.03	1976SCb (87348)	3783

C14H12O4		H3L					(2741)		
2,4,6-Trihydroxydeoxybenzoin, 2,4,6-trihydroxyphenylacetophenone;									

Co++ gl alc/w 20°C 50% U T H K1=5.39 B2=9.35 1985RSd (87425)3791
30 C:K1=5.24, K2=3.82; 40 C, K1=5.10, K2=3.69; 50 C, K1=4.96, K2=3.52
DH(K1)=-23.5 kJ mol⁻¹, DS=15 J K⁻¹ mol⁻¹; DH(K2)=-23.8, DS=3.2

Co++ gl alc/w 30°C 50% C M K1=5.24 1982RSa (87426)3792
K(Co(bpy)+L)=4.90
K(Co(his)+L)=4.21

Medium: 50% v/v EtOH/H₂O, 0.10 M KNO₃.

Co++ gl alc/w 30°C 50% U T K1=5.24 B2=9.06 1981RSa (87427)3793
Medium: 50% v/v EtOH, 0.1 M KNO₃

C14H13NO2 HL CAS 19064-76-7 (5061)
N-2'-Hydroxybenzylidene-4-methoxyaniline; HO.C6H4.CH:N.C6H4.OCH₃

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	alc/w	25°C	50%	U		K1=4.68	1988BDa (87460)3794	
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Medium: 50% v/v EtOH/H₂O, 0.10 M NaNO₃.

C14H13NO2 HL CAS 889-29-2 (6259)
N-Salicylidene-3-methoxyaniline; HO.C6H4.CH:N.C6H4.OCH₃

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	alc/w	25°C	50%	U		K1=3.90 B2=7.15	1977DWa (87524)3795	
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C14H13NO3 H2L (1386)
2-Hydroxy-5-methoxybenzophenone oxime; HO(CH₃)C6H3.C(:NOH)C6H₅

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	diox/w	30°C	50%	U		K1=6.97	1982UVa (87537)3796	
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C14H13NO3 HL CAS 676256-94-3 (9135)
N-(2-Furanylmethylene)phenylalanine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	KCl	25°C	1.0M	U		K1=3.70	2003SGa (87546)3797	
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C14H13NO3 H2L CAS 51931-02-1 (5063)
N-(2-Hydroxy-1-naphthalidene)-beta-alanine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	oth	NaClO ₄	30°C	0.10M	U		K1=5.60	1972MSe (87551)3798	
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C14H13NO₄S H2L (3660)
2-Aminobenzenesulfonic acid 2-hydroxyacetophenone Schiff base;

HSO3.C6H4.N:C(CH3).C6H4.OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	NaClO4	25°C	0.10M	U	T H	K1=4.121 B2=7.74	1977SMd (87572)	3799
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C14H13N08S		H4L					CAS 22531-44-8	(5091)	
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2-Hydroxy-4-sulfonaphthalene-1-iminodiethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	EMF	oth/un	?	?	U		K1=12.4	1971TTb (87585)	3800
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K(Co+HL)=9.3

C14H13N30S		L					CAS 14938-70-6	(5090)	
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1-Benzoyl-4-phenylthiosemicarbazide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	sp	mixed	25°C	50%	U		B2=5.50	1969CFb (87586)	3801
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Medium: 50% acetone

Co++	sp	alc/w	25°C	100%	U		B2=7.31	1968CFb (87587)	3802
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C14H13N302S		HL					CAS 40788-59-8	(6178)	
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2-Benzenesufonamidomethylbenzimidazole; C6H5SO2NHCH2C7H5N2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	mixed	20°C	50%	M		K1=6.57 B2=12.12	1988NRA (87605)	3803
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Medium: 0.25 M NaClO4 in 50% acetone

Co++	gl	diox/w	30°C	50%	C	M	K1=5.01 B2= 9.94	1987MSd (87606)	3804
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K(Co(gly)+L)=4.83

B(Co(gly)L)=10.53

Medium: 50% v/v dioxane/H2O, 0.2 M NaNO3.

C14H13N50S		HL					(5394)		
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1-(2-Pyridylmethylideneamino)-3-(salicylideneamino)thiourea;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	sp	mixed	25°C	40%	U			1985RGa (87612)	3805
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K1eff=5.23

Medium: 40% DMF, pH 4.5

C14H13N502		HL					(5393)		
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1-(2-Pyridylmethylideneamino)-3-(salicylideneamino)urea;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++ sp mixed 25°C 32% U 1985RGa (87622)3806

K1eff=4.22
B2eff=11.27

Medium: 32% DMF, pH 4.5

C14H13O2P HL CAS 3064-56-0 (7013)
2-(Diphenylphosphino)-ethanoic acid; (C6H5)2P.CH2.COOH

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

Co++ gl NaClO4 25°C 0.10M U I K1=1.7 1979POa (87632)3807
In 50% v/v dioxan/H2O: K1=2.35

C14H14N2O10 H5L CAS 41379-95-7 (5070)
2-Carboxymethylamino-5-(bis(carboxymethyl)amino)-1,4-dibenzoic acid;

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

Co++ gl KNO3 25°C 0.10M U K1=9.80 1973UWb (87669)3808
K(Co+HL)=4.85
K(Co+H2L)=3.50
B(Co2L)=12.40

C14H14N4 L CAS 98240-13-2 (4033)
N,N'-Bis(2'-picolinylidene)-1,2-diaminoethane;

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

Co++ dis non-aq 25°C 100% C M 20010Hb (87679)3809
Method: distribution from buffered 0.10 M NaCl into nitrobenzene.
K(Co+3L(org))+2A=CoL3A2(org))=15.2. HA is picric acid.

C14H14N4OBr2 HL CAS 35601-32-2 (5092)
5-(3,5-Dibromo-2-pyridylazo)-2-ethylamino-4-hydroxy-1-methylbenzene;

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

Co++ sp oth/un ? ? U 1968GKc (87684)3810
K(?)=7.12

C14H15N2O8Cl H4L (1903)
4-Chloro-1,2-diaminobenzene-N,N,N',N'-tetraethanoic acid;

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

Co++ gl KCl 25°C 0.10M C 1999RNa (87742)3811
K(Co2A+L)=11.72
*K(Co2AL)=-7.45
*K(Co2(OH)AL)=-9.00

Co++	gl	KCl	25°C 0.10M C	K1=12.75	1988BMe (87743)3812
				K(Co+HL)=9.57	
				K(CoL+H)=2.72	

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	sp	oth/un	rt	?	U				1968GKc (87763)	3813

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KN03	25°C	0.20M	U			K1=5.2 B2=9.70	1980BHa	(87777

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	diox/w	30°C	50%	U	TIH		K1=9.02 B2=17.16	19980Fa	(87782)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	diox/w	30°C	50%	U	TIH		K1=9.15 B2=17.44	19980Fa	(87788)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	NaClO4	20°C	0.10M	U			K1=7.10	1985SIb (87806)	3817

C14H16NO4P H3L CAS 61146-25-6 (1470)
2-Hydroxyphenyl-N-(benzylamino)methylphosphonic acid; C6H4(OH)CH(PO3H2).NH.CH2.C6H5

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO4	20°C	0.10M	U		K1=8.00 K(Co+HL)=4.10	1985SIb (87819)	3818

C14H16N2 L CAS 1620-43-7 (5033)
1,4-Bis(2'-pyridyl)butane; C5H4N.CH2.CH2.CH2.CH2.C5H4N

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	20°C	0.10M	U		K1=1.2 K(Co+HL) < 1	1970BAa (87836)	3819

C14H16N2O2 L CAS 52411-34-4 (2475)
2,2'(1,2-Ethanediylobis(oxy))bisaminobenzene; H2N.C6H4.OCH2CH2O.C6H4.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	25°C	85%	C T		K1 < 1 30	1983HBa (87858)	3820

C14H16N2O6 H2L CAS 307340-23-4 (9121)
N,N'-Bis-(3-carboxy-1-oxopropanyl)-1,2-phenylenediamine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO4	25°C	0.10M	M		K1=3.72 B2= 7.01	2003GSa (87911)	3821
Co++	gl	NaClO4	25°C	0.10M	U		K1=3.27 B2= 6.35	2003GSc (87912)	3822

C14H16N2O8 H4L CAS 40774-59-2 (1901)
1,2-Diaminobenzene-N,N,N',N'-tetraethanoic acid; C6H4(N(CH2.COOH)2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	cal	NaClO4	25°C	1.00M	U	H	K1=13.18	1987MNa (87937)	3823

DH(K1)=-3.9 kJ mol⁻¹; DS(K1)=265 J K⁻¹ mol⁻¹

Co++	gl	NaClO4	25°C	1.00M	C		K1=13.18 K(CoL+H)=2.52 K(CoHL+H)=1.2 K(CoH-1L+H)=12	1985NKa (87938)	3824
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C14H16N2O8 H4L CAS 103012-22-2 (1904)
1,3-Diaminobenzene-N,N,N',N'-tetraethanoic acid; C6H4(N(CH2.COOH)2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	U		K1=5.03 B(CoH2L)=12.81	1988BMa (87981)	3825

Co++	gl	KCl	25°C	0.10M	U	K1=5.18 K(Co+H2L)=1.5 K(Co+HL)=3.26 B(Co2L)=6.29	1968UHa (87982)3826
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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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Co++	gl	KCl	25°C 0.10M U	K1=6.70 K(Co+H2L)=2.27 K(Co+HL)=4.27 K(Co2L)=8.84	1968UHa (88004)3829
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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	g1	NaCl	25°C	0.50M	C	K1=5.85	B2= 9.57	1984RFe (88010)	3830
						B(CoH2L)=12.80			
						B(CoHL)=9.86			
						K(Co+H2L)=1.55			
						K(Co+HL)=3.23			

C14H16N4O HL PAAC CAS 13059-69-3 (5067)
5-Ethylamino-4-methyl-2-(2'-pyridylazo)phenol;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	sol	oth/un	?	?	U		K(?)=7.48 pH 6	1968GKc (88016)	3831
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C14H17N2O4P H3L (1472)
2-Hydroxyphenyl-N-(2-(2'-pyridyl)ethylamino)methylphosphonic
acid;C6H4(OH)CH(PO3H2)NHCH2CH2C5H4N

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	NaCl04	20°C	0.10M	U		K1=8.95 K(Co+HL)=4.40	1985SIb (88039)	3832
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C14H18N2O2 HL (7898)
1-(2-Hydroxyphenyl)-2,5-diaza-8-oxonona-1,5-diene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	alc/w	25°C	0.2M	U		K1=5.32	1999MTc (88063)	3833
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Medium: 0.2 M KCl in 3:7 v/v H2O/EtOH

C14H18N4 L DPEN CAS 4608-34-3 (1850)
N,N'-Bis-(2-pyridylmethyl)-1,2-diaminoethane; (C5H4N.CH2.NH.CH2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	KNO3	25°C	0.10M	C	M	K1=12.51 K(Co(H-1)L+H)=10.61	1988BMf (88107)	3834
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K(2(CoL)+O2=Co2H-1L2(O2)+H)=1.37

Co++	gl	KCl	25°C	0.10M	U	M	K1=12.48	1985BMd (88108)	3835
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K(2CoL+O2=CoL(OH)(O2)CoL+H)=3.8. Method: amperometric O2 electrode.

Co++	gl	KNO3	25°C	0.10M	U	H	K1=11.96	1975APc (88109)	3836
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DH(K1)=-59.4 kJ mol⁻¹, DS=29.3 J K⁻¹ mol⁻¹

Co++	gl	KCl	25°C	0.10M	U		K1=12.0	1968GRa (88110)	3837
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Co++	gl	oth/un	25°C	0.10M	U		K1=12.8	1964PCa (88111)	3838
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C14H18O2 HL CAS 41070-28-4 (5035)
2-Toluoyl pivaloyl methane; CH3.C6H4.CO.CH2.CO.C(CH3)3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	diox/w	30°C	75%	U		K1=9.73 B2=19.06	1972UDa (88124)	3839
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Medium: 75% v/v dioxan, 0.01 M Me4NC104

C14H1802 HL CAS 41070-24-0 (5036)

4-Toluoyl pivaloyl methane; CH3.C6H4.CO.CH2.CO.C(CH3)3

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

Co++ gl diox/w 30°C 75% U K1=10.0 B2=19.36 1972UDa (88129)3840

Medium: 75% v/v dioxan, 0.01 M Me4NC104

C14H1803 HL CAS 41070-25-1 (5037)

2-Anisoyl pivaloyl methane; CH3O.C6H4.CO.CH2.CO.C(CH3)3

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

Co++ gl diox/w 30°C 75% U K1=9.90 B2=18.87 1972UDa (88134)3841

Medium: 75% v/v dioxan, 0.01 M Me4NC104

C14H1803 HL CAS 41070-23-9 (5038)

4-Anisoyl pivaloyl methane; CH3O.C6H4.CO.CH2.CO.C(CH3)3

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

Co++ gl diox/w 30°C 75% U K1=9.89 B2=19.21 1972UDa (88139)3842

Medium: 75% v/v dioxan, 0.01 M Me4NC104

C14H20N203 HL Val-Phe CAS 3918-92-1 (8058)

Valyl-phenylalanine;

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

Co++ gl KNO3 0°C 0.10M C K1=2.53 B2= 3.60 1992KUa (88163)3843

B(CoH-1L)=-11

B(CoH-1L2)=-4.09

B(CoH-2L2)=-15.0

C14H20N203S HL Met-Phe CAS 14492-14-9 (6368)

Methionyl-phenylalanine;

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

Co++ gl KNO3 25°C 0.20M U K1=1.91 B2=3.57 1990XJa (88166)3844

C14H20N203S HL Phe-Met CAS 15080-84-9 (6367)

Phenylalanyl-methionine;

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

Co++ gl KNO3 25°C 0.20M U K1=2.43 B2=3.82 1990XJa (88169)3845

C14H20N2O6 HL (4048)
Ethyl hydrogen-2,5-bis-(N-(2'-hydroxyethyl)amino)benz-1,4-dicarboxylate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	22°C	0.10M	U		K1=2.3 B2=5.35	1960UHb (88176)	3846

C14H20O5 L Benzo15-crown-5 CAS 14098-44-3 (608)
2,3-Benzo-1,4,7,10,13-pentaoxacyclopentadeca-2-ene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	con	mixed	25°C	90%	C		K1=2.17	2003ISa (88231)	3847

Medium: 90% v/v DMSO/H2O.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	con	alc/w	25°C	40%	C		K1=1.86	2002ISa (88232)	3848

Medium: 40% EtOH/H2O.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	con	alc/w	25°C	40%	C		K1=2.01	2001ISa (88233)	3849

Medium: 40% v/v EtOH/H2O.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	nmr	non-aq	27°C	100%	C		K1=3.09	2000SMg (88234)	3850

Medium: acetonitrile. Method: competitive 7Li nmr technique.

C14H21N07 HL CAS 85906-10-1 (6635)
2-(Benzylamino)-2-deoxy-D-glycero-D-gulo-heptonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaCl04	25°C	0.10M	U		K1=3.73 B2=6.70 B(CoH-1L)=-4.57 B(CoH2L2)=20.8	1992VDA (88408)	3851

C14H22N2O8 H4L CDTA CAS 482-54-2 (200)
trans-1,2-Diaminocyclohexane-N,N,N',N'-tetraethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	none	25°C	0.0	U	M	K1=19.6 K(CoL+CN)=1.59	1983KPa (88554)	3852

at pH 11.5

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	NaCl04	25°C	1.0M	U	M	K(CoL+H)=1.68 K(CoL+SCN) < -1 K(CoHL+SCN)=0.30	1970HSc (88555)	3853

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	oth/un	25°C	0.10M	U		K(CoL+CN)=1.59	1969JMb (88556)	3854

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	NaCl04	25°C	0.20M	U		K1=18.78	1967BDb (88557)	3855

 Co++ vlt KNO3 25°C 1.0M U I K1=18.3 1967JGb (88558)3856
 K1=18.6(I=0.1)

Co++ cal KNO3 25°C 0.10M U H 1965WHa (88559)3857
 DH(K1)=-22.6 kJ mol⁻¹, DS=284 J K⁻¹ mol⁻¹

Co++ cal KNO3 20°C 0.10M U T H 1963ANb (88560)3858
 DH(K1)=-11.7 kJ mol⁻¹, DS=334 J K⁻¹ mol⁻¹

Co++ gl KNO3 20°C 0.10M U H K1=19.57 1963ANf (88561)3859
 By calorimetry, DH(K1)=-11.7 kJ mol⁻¹, DS=335 J K⁻¹ mol⁻¹

Co++ dis NaClO4 20°C 0.10M U K1=18.92 1963STc (88562)3860

Co++ sp oth/un 20°C 0.08M U K1=21.9 1961JSa (88563)3861

Co++ vlt KNO3 20°C 0.10M U K1=18.92 1954SGa (88564)3862
 K(CoL+H)=4.32

C14H22N2O10 H5L (1083)
 1-Carboxy-1,5-diaminopentane-N,N,N',N'-tetraethanoic acid;
 (HOOCCH2)2NCH(COOH)(CH2)4N(CH2COOH)2

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

Co++ gl KNO3 25°C 0.10M U K1=14.39 1988TGe (88897)3863
 K(Co+H2L)=3.87
 K(Co+HL)=10.44
 B(Co2L)=19.04
 B(Co2L2)=31.60

*K(CoH2L)=-3.20, *K(CoHL)=-5.30.

C14H22N4Br2 L CAS 221635-46-7 (8396)
 3,4-(3',4'-Dibromobenzo)-1,6,9,12-tetraazacyclotetradecane-3,4-ene;

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

Co++ gl KCl 25°C 0.30M C K1=15.76 1999ABb (88905)3864
 B(CoHL)=25.39
 B(CoH2L)=34.01
 B(CoH3L)=40.46
 B(CoH-1L)=5.49

B(CoH-2L)=-4.86. Also data for related tetra(macrocylic)-substituted
 phthalocyanine.

C14H22N4O10 H3L CAS 29725-87-9 (5074)
 Ethylenedinitrilo-N,N'-bis(methylenecarbonyliminoethanoic)-N,N'-diethanoic acid;

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

B(CoH-1L)=-5.27
 B(CoH-1L2)=-1.52
 B(CoH-2L2)=-10.55

C14H22O5 H2L CAS 85785-29-1 (2250)
 Di(hepta-4,6-dione)ether, (CH3.CO.CH2.CO.(CH2)3)2O

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

Co++ gl diox/w 24°C 50% U K1=9.2 1979ACa (88990)3872

C14H23N3O10 H5L DTPA CAS 67-43-6 (238)
 Diethylenetriamine-pentaethanoic acid; HOOCH2.N(CH2.CH2.N(CH2.COOH)2)2

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

Co++ sp oth/un 25°C 0.10M U 1974MBa (89130)3873

B(CoH4L)=30.18

 Co++ sp oth/un 20°C 0.0 U K1=19.72 1968KAb (89131)3874

K(Co+HL)=11.89

 Co++ cal KNO3 20°C 0.10M U T H 1965ANa (89132)3875
 DH(K1)=-39.3 kJ mol-1, DS=235 J K-1 mol-1

 Co++ cal KNO3 25°C 0.10M U H 1965WHa (89133)3876
 DH(K1)=-39.7 kJ mol-1, DS=234 J K-1 mol-1

 Co++ EMF oth/un 20°C 0.10M U K1=19.27 1959AND (89134)3877

K(CoL+Co)=3.51

K(Co+HL)=13.43

 Co++ gl KNO3 25°C 0.10M U K1=18.4 B2=22.14 1959CFc (89135)3878

 Co++ gl oth/un 20°C 0.10M U K1=19.00 1958DRa (89136)3879

C14H24N2O8 H4L (5075)
 1,2-Diaminoethane-N,N'-diethanoic-N,N'-di-2-butyric acid;

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

Co++ vlt KNO3 20°C 0.10M U K1=15.93 1969NDc (89502)3880

C14H24N2O8 H4L (7165)
 1,2-Diaminohexane-N,N,N',N'-tetraethanoic acid; (HOOCH2)NCH2CH(C4H9)N(CH2COOH)2

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

Co++ vlt KNO3 20°C 0.10M U K1=18.03 1974NLa (89525)3881

C14H24N2O8 H4L HMDTA CAS 1633-00-7 (920)
 1,6-Diaminohexane-N,N,N',N'-tetraethanoic acid; ((HOOC.CH2)2N.CH2.CH2.CH2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	sp	NaClO4	20°C	0.01M	U			1980KVb (89560)	3882
							K(Co+HL)=6.24		

Co++	gl	KNO3	20°C	0.10M	U	H	K1=13.05 K(Co+HL)=7.92 K(CoL+Co)=2.9	1964ANa (89561)	3883
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By calorimetry: DH(K1)=-19.1 kJ mol⁻¹, DS=184 J K⁻¹ mol⁻¹

Co++	gl	NaNO3	20°C	0.10M	U		K1=12.85 K(Co+HL)=7.88	1957SSa (89562)	3884
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C14H24N2O8 H4L CAS 1633-00-7 (5076)
 4-Methyl-1,2-diaminopentane-N,N,N',N'-tetraethanoic acid;
 (HOOCCH2)2NCH2CH(N(CH2COOH)2CH2CH(CH3)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	KNO3	20°C	0.10M	U		K1=17.88	1968NLb (89626)	3885
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C14H24N2O8 H4L EDTP (2936)
 Diaminoethane-N,N,N',N'-tetrapropanoic acid; (HOOC.CH2CH2)2N.CH2CH2.N(CH2CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	NaClO4	25°C	0.10M	C	I	K1=8.68 B(CoHL)=13.61	1989LKa (89674)	3886
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Co++	gl	KCl	30°C	0.10M	U		K1=7.6	1953CCb (89675)	3887
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C14H24N2O10 EGTA CAS 67-42-5 (349)
 Ethyleneglycol-0,0'-bis(2-aminoethyl ether)-N,N,N',N'-tetraethanoic acid; H4L

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	vlt	NaClO4	25°C	0.30M	U		K2=3.86	1973K0a (89819)	3888
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Co++	gl	alc/w	25°C	99%	U		K1=13.5	1972RBa (89820)	3889
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Medium: 99% MeOH, 0.1 M NaClO4

Co++	gl	NaClO4	25°C	0.10M	U		K1=12.3 K(CoL+H)=4.9 K(CoHL+H)=3.3	1970FTa (89821)	3890
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Co++	sp	NaClO4	25°C	0.20M	U		K1=15.6 K(Co+HL)=8.64	1967BDb (89822)	3891
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Co++ cal KNO3 25°C 0.10M U H 1965WHa (89823)3892
DH(K1)=-14.2 kJ mol-1, DS=188 J K-1 mol-1

Co++ gl KNO3 20°C 0.10M U H K1=12.28 1964ANa (89824)3893
K(Co+HL)=7.98
K(Co+CoL)=3.3
By calorimetry: DH(K1)=-11.8 kJ mol-1, DS=194 J K-1 mol-1

Co++ gl KNO3 20°C 0.10M U K1=12.50 1963FCa (89825)3894
K(Co+HL)=7.99

Co++ EMF KNO3 25°C 0.10M U K1=12.3 1960HRa (89826)3895

C14H25N3O7 H3L (5397)
1-0xa-4,7,10-triazacyclododecane-4,7,10-triethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	R4N.X	25°C	0.10M	U			K1=19.54 K(Co+HL)=10.57	1988ADa (90077)3896	
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C14H25N5 L CAS 80251-43-0 (5459)
3,6,10,13,19-Pentaazabicyclo[13.3.1]nonadecane-1(19),15,17-triene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	NaClO4	35°C	0.20M	U	M		K1=13.96	1982KKb (90128)3897	
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Ternary complex with O2

C14H25N7 L (1872)
1,11-Bis(2-imidazolyl)-2,6,10-triazaundecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	KNO3	25°C	1.00M	U	M		K1=11.55 K(2CoL+O2=CoL.O2.CoL)=8.6	1979HTa (90135)3898	
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Co++	gl	KNO3	25°C	0.10M	C			K1=11.55 K(2CoL+O2=CoL.O2.CoL)=8.63	1978THb (90136)3899	
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By polarography: K(CoL+O2)=8.3

C14H25N7 L (1871)
1,11-Bis(4-imidazolyl)-2,6,10-triazaundecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	cal	KNO3	25°C	0.1M	C	H		K1=11.36	1982TMc (90148)3900	
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DH(K1)=-38.5 kJ mol-1

Co++ cal KNO3 25°C 0.10M C 1982Tmd (90149)3901
DH1=-38.6 kJ/mol

Co++ gl KNO3 25°C 1.00M U M K1=11.36 1979HTa (90150)3902
K(2CoL+O2=CoL.O2.CoL)=9.5

Co++ gl KNO3 25°C 0.10M C K1=11.36 1978THb (90151)3903
K(CoL+H)=3.99
K(2CoL+O2=CoL.O2.CoL)=9.49

By polarography: K(CoL+O2)=9.4

C14H26N2O7 H2L (1567)
1,4,10-Trioxa-7,13-diazacyclopentadecane-N,N'-diethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	cal	R4N.X	25°C	0.10M	U	H		1989DSa (90169)3904	
DH(CoL)=-15.1 kJ mol ⁻¹ ; DS=213.									

Co++ gl R4N.X 25°C 0.10M C K1=13.72 1987DDb (90170)3905
B(Co2L)=16.37

C14H26N4O6 H2L (4690)
Hexanoic acid bis(3-hydroxycarbamoyl-propyl)amide;
HONHCO(CH2)3NHCO(CH2)4CONH(CH2)3COHNOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.20M	C		K1=7.89 B(CoHL)=14.43 B(Co2L3)=21.91	1999FEa (90262)3906	

C14H27N3O5 H2L (6473)
1-Oxa-4,8,12-triazacyclotetradecane-4,12-diethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	R4N.X	25°C	0.10M	U		K1=11.81 B(CoHL)=15.7	1992CDa (90286)3907	

Medium: 0.10 M (NMe4)NO3.

C14H28N2O4 L Cryptand 2,1,1 CAS 31250-06-3 (836)
1,10-Diaza-4,7,13,18-tetraoxabicyclo[8,5,5]eicosane (2,1,1);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	R4N.X	25°C	0.05M	C		K1=4.5	1997BCc (90342)3908	
Medium: 0.05 M Me4NClO4									

Co++ gl alc/w 25°C 100% U K1=6.38 1985BUd (90343)3909

Medium: MeOH, water content approx. 0.1 M. Without supporting electrolyte.

C14H28N4O2 L CAS 63972-22-5 (5496)
 6-Butyl-1,4,8,11-tetraazacyclotetradecane-5,7-dione;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO4	35°C	0.20M	U	M	B(CoH-2L)=-12.32	1983MKb (90500)	3910

Ternary complex with dioxygen: B(Co2H-4L2(O2))=-9.03

C14H30N2O5 L CAS 23978-10-1 (2955)
 1,10-Diaza-4,7,13,16,19-pentaoxacycloheneicosane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	cal	alc/w	25°C	100%	U	H	K1=3.59	1985BUd (90608)	3911

Medium: MeOH, 0.05 M Et4N.NO3. DH=+8.4 kJ mol-1

C14H30N2O5 L (6722)
 7,13-Bis(2-hydroxyethyl)-1,4,10-trioxa-7,13-diazacyclopentadecane

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	R4N.X	25°C	0.10M	C		K1=6.62	1995LLa (90624)	3912

Medium: Et4NClO4

C14H30N4O2 H2L (316)
 4,4,9,9-Tetramethyl-5,8-diazadodecane-2,11-dione dioxime;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaCl	25°C	0.10M	C		K(Co+H2L=CoHL+H)=-0.58 K(Co+HL)=11.7 K(CoHL+OH)=3.32	1976KPa (90671)	3913

C14H32N2O4 L CAS 102-60-3 (2678)
 Tetra(2-hydroxypropyl)-N,N,N',N'-diaminoethane; (-CH2.N(CH2.CH(OH).CH3)2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO4	25°C	0.50M	C		K1=6.22 B(CoH-1L)=-2.94 B(CoH-2L)=-13.05	1979OSb (90738)	3914

Co++	sp	NaClO4	25°C	0.10M	U		K1=6.1	1970RMa (90739)	3915
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Co++	gl	oth/un	25°C	0.50M	U		K1=6.33	1960HDa (90740)	3916
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Co++ gl oth/un 27°C 0.05M U K1=5.7 1959KEc (90741)3917

C14H32N4 L 4-Mecyclam-14 CAS 41203-22-9 (935)
1,4,8,11-Tetramethyl-1,4,8,11-tetraazacyclotetradecane;

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

Co++ gl NaNO3 25°C 0.10M U M K1=7.58 1983Nwa (90799)3918
K(CoL+OH)=6.75

Co++ sp oth/un 25°C 0.50M U HM 1982MPb (90800)3919
K(CoL+A)=2.57

A=N3, DH=-5.6, DS=30.1. When: A=OCN, K=3.82, DH=-10.0, DS=39.9;
A=SCN, K=3.07, DH=-13.7, DS=13.0; A=OH, K=5.28, DH=-23.8 kJ mol⁻¹, DS=20.9

Co++ kin KNO3 25°C 0.50M U K1=10.9 1974HKb (90801)3920

C14H32N4 L CAS 63972-27-0 (5491)
6-Butyl-1,4,8,11-tetraazacyclotetradecane;

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

Co++ gl NaClO4 35°C 0.20M U M K1=10.15 1983MKb (90812)3921
Ternary complex with dioxygen: B(Co2L2(O2))=27.86

C14H32N4O2 L CAS 252191-60-9 (7608)
1,4-Bis(3-hydroxypropyl)-1,4,7,10-tetraazacyclododecane;

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

Co++ gl R4N.X 25°C 0.10M C K1=9.7 1999Dwa (90817)3922
K(CoL=CoH-1L+H)=-8.7

Medium: 0.1 M NEt4ClO4

C14H33N5 L CAS 34391-14-5 (5487)
1,4,7,10,13-Pentaazacyclononadecane;

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

Co++ gl NaClO4 35°C 0.20M U M 1983MKb (90826)3923
K(Co+HL)=7.36

C14H36N4O12P4 H8L CAS 107446-90-2 (2015)
1,4,7,11-Tetraazacyclotetradecane-N,N',N'',N'''-tetramethylphosphonic acid;

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

Co++ gl KNO3 25°C 1.00M U 1988MKb (90867)3924
B(2Co+L)=22.4
K(2Co+HL)=19.5

Co++	gl	KN03	25°C	1.00M U	K1=15.3 K(Co+HL)=13.6 K(Co+H2L)=10.9 K(Co+H3L)=7.1	1987PBa (90868)3925
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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO4	25°C	0.15M	C		K1=10.30 K(CoL+H)=9.58 K(CoHL+H)=8.00 B(Co2H-2L)=-3.43	1994ABd (90896)	3926

Co++	g1	KN03	25°C	0.50M	M	K1=10.96	1986GMa	(90897)3927
						B(CoHL)=20.29		
						B(CoH2L)=27.95		
						B(CoH3L)=35.61		

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO4	25°C	0.15M	C		K1=14.69 B(CoHL)=19.96 K(CoL+H)=5.27	1989BBd (90910)	3928

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO4	25°C	0.15M	C		K1=13.99 B(CoHL)=22.39 B(CoH2L)=27.60	1993BBe (90924)	3929

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	25°C	50%	U		K1=3.48	1970AFb (90960)	3930
Medium: 50% dioxan, 0.1 M.									

C15H10N6O3S3 L SPT CAS 748815-23-8 (9213)

5-(4'-Sulfonylazidophenylazo)-3-phenyl-2-thioxothiazolidin-4-one;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	35°C	40%	C T H		K1=7.29 B2=12.75	2004MUa (90967)	3931
Medium: 40% v/v EtOH/H2O, 0.1 M KCl. Data for 25 and 45 C. DH(K1)=32.55 kJ mol ⁻¹ , DS(K1)=245 J K ⁻¹ mol ⁻¹ ; DH(K2)=30.63, DS(K2)=204.									

C15H10O3		HL					CAS 577-85-5	(3443)	
3-Hydroxyflavone;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	20°C	75%	U		K1=9.91 B2=19.70	1960KFc (90976)	3932

C15H10O7		H5L		Morin			CAS 104363-16-8	(5100)	
2',3,4',5,7-Pentahydroxyflavone;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	25°C	50%	U			1983NGa (91005)	3933
							K(Co+H3L)=3.83		
Medium 0.1 M NaClO4 in 50% v/v EtOH/w									

C15H10O7		H5L		Quercetin			CAS 117-39-5	(5101)	
3,5,7-Trihydroxy-2-(3',4'-dihydroxyphenyl)-1-benzopyran-4-one;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaNO3	20°C	0.10M	C		K1=8.37	1991ESa (91018)	3934
							K(CoL+H)=9.22		
							K(CoHL+H)=7.93		

Co++	gl	alc/w	25°C	50%	U			1983NGa (91019)	3935
							K(Co+H4L)=4.36		
Medium 0.1 M NaClO4 in 50% v/v EtOH/w									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
C15H11NO		HL					CAS 6961-25-7	(4059)	
8-Hydroxy-2-phenylquinoline;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	25°C	50%	U		K1=7.75	1954JFa (91046)	3936

C15H11NO2		H2L					(430)		
2-(2'-Hydroxyphenyl)-8-hydroxyquinoline; HO.C6H4.C9H5N.OH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	25°C	50%	U		K1=15.42	1974CCb (91055)	3937

C15H11NO2 HL (5109)
2-Benzofuran phenyl ketoxime; C8H5O.C(:N.OH).C6H5

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	oth	alc/w	30°C	80%	U			K1=5.08 B2=9.92	1972SMb (91067)	3938

C15H11NO4 HL CAS 1776-18-7 (955)
3-Phenyl-1-(2'-hydroxy-5'-nitrophenyl)-2-propen-1-one;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	alc/w	35°C	70%	U			K1=5.46 B2=9.64	1982SLb (91074)	3939

C15H11N2OCl HL CAS 38371-80-1 (8337)
3(5)-(2-Hydroxyphenyl)-5(3)-(4-chlorophenyl)pyrazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	alc/w	35°C	60%	U	H		K1=5.20 B2= 9.94	1993ALb (91102)	3940

Medium: 60% v/v MeOH/H2O, 0.1 M KNO3. DH(K1)=-134 kJ mol⁻¹, DS(K1)=-335 J K⁻¹ mol⁻¹; DH(K2)=-86, DS(K2)=-189.

C15H11N3 L CAS 1148-79-4 (488)
2,2':6'2"-Terpyridine; C5H4N.C5H3N.C5H4N

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	alc/w	20°C	50%	M			K1=4.38	1995AMb (91145)	3941

Medium: 50% v/v EtOH/H2O, 0.20 M NaClO4.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	sp	non-aq	25°C	100%	U			K1=4.87 B2=8.22	1981AWa (91146)	3942

Medium: hexamethylphosphoric triamide

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	cal	KNO3	25°C	0.10M	C	H			1977KNa (91147)	3943

DH(K1)=-44.6 kJ mol⁻¹, DS(K1)=32 J K⁻¹ mol⁻¹; DH(K2)=-49.0, DS(K2)=10.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	sp	NaCl	25°C	0.24M	U	H			1969PPc (91148)	3944

K(Co+H2L=CoL+2H)=1.49
K(CoL+H2L=CoL2+2H)=1.09
DH(CoL)=-60.6 kJ mol⁻¹, DS=-176 J K⁻¹ mol⁻¹; DH(CoL2)=-19.7, DS=-46

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	kin	oth/un	25°C	var	U			K1=8.4 B2=18.3	1966HHa (91149)	3945

C15H11N3O HL PAN CAS 85-85-8 (572)
1-(2-Pyridylazo)-2-naphthol; C5H4N.N:N.C10H6.OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	sol	oth/un	20°C	?	U	B2=>5	1986YAa (91201)3946
Co++	sp	oth/un	20°C	?	U	B2=>5.0	1982YAa (91202)3947
Co++	sp	NaCl04	19°C	0.10M	U	B2=25.77	1972BEb (91203)3948
Co++	sp	oth/un	20°C	0.05M	U	K1=12.15 B2=24.16	1967NAa (91204)3949

Co++	gl	diox/w	25°C	50%	U	K1=>12	1962CYa (91205)3950
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C15H11N3O HL CAS 4312-09-8 (989)

5-Phenylazo-8-hydroxyquinoline; C6H5.N:N.C9H5N.OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	diox/w	25°C	50%	U		K1=8.8 B2=16.74	1965TFa (91265)3951
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Medium: 50% dioxan, 0.1 M NaCl04

C15H11N3O2 H2L (5110)

1,3-Dihydroxy-4-(8'-quinolinylazo)benzene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	sp	NaCl04	?	0.10M	U		1969IBb (91274)3952
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K(Co+2H2L=Co(HL)2+2H)(?)-2.10

C15H11N3O2 H2L (4062)

8-Hydroxy-5-(2'-hydroxyphenylazo)quinoline;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	diox/w	25°C	50%	U		K1=8.3 B2=16.12	1965TFa (91279)3953
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Medium: 50% dioxan, 0.1 M NaCl04

C15H11N3O2 H2L CAS 4563-87-5 (4063)

8-Hydroxy-5-(3'-hydroxyphenylazo)quinoline;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	diox/w	25°C	50%	U		K1=8.8 B2=16.98	1965TFa (91286)3954
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Medium: 50% dioxan, 0.1 M NaCl04

C15H11N3O2 H2L CAS 5087-35-4 (4064)

8-Hydroxy-5-(4'-hydroxyphenylazo)quinoline;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	diox/w	25°C	50%	U		K1=9.1 B2=17.19	1965TFa (91293)3955
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Medium: 50% dioxan, 0.1 M NaCl04

C15H11N3O2 L CAS 74378-23-7 (2745)
Phenanthrenequinone monosemicarbazone; C14H8(:O)(:N.NH.CO.NH2)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	NaCl04	25°C	0.10M	C	TIH		K1=6.48 B2=12.36	1985Sma	(91302)3956

C15H11N3O2S2 HL (5083)
3-Phenyl-5-(2-hydroxyphenylazo)-2-thioxo-4-thiazolidinone;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	sp	alc/w	25°C	50%	U			B2=11.37	1972TBa	(91313)3957

Medium: 50% MeOH, 0.04 M KCl

C15H11O2Cl HL CAS 1218-24-2 (953)
3-Phenyl-1-(2'-hydroxy-5'-chlorophenyl)-2-propen-1-one;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	alc/w	35°C	70%	U			K1=4.7 B2=9.10	1978SLb	(91384)3958

C15H12N2O HL CAS 19726-12-6 (8336)
3-(2'-Hydroxyphenyl)-5-phenylpyrazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	alc/w	35°C	60%	U	H		K1=5.68 B2=11.12	1993ALb	(91432)3959

Medium: 60% v/v MeOH/H2O, 0.1 M KNO3. DH(K1)=-153 kJ mol⁻¹, DS(K1)=-389 J K⁻¹ mol⁻¹; DH(K2)=-102, DS(K2)=-227.

C15H12O5 HL (1261)
mono-Thiodibenzoylmethane; C6H5.CO.CH2.CS.C6H5

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	diox/w	25°C	75%	U			B2=16.0	1968MSa	(91485)3960

Medium: 75% dioxan, 0.05 M NaClO4

C15H12O2 HL Diphenylacac CAS 120-46-7 (362)
1,3-Diphenylpropane-1,3-dione, Dibenzoylmethane; C6H5.CO.CH2.CO.C6H5

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U			K1=10.35 B2=20.05	1953UFe	(91534)3961

C15H12O2 HL CAS 1214-47-7 (951)
3-Phenyl-1-(2'-hydroxyphenyl)-2-propen-1-one, 2'-hydroxychalkone;
C6H5.CH:CH.CO.C6H4.OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	60%	U		K1=7.72 B2=14.20	1975KKc	(91575)3962

C15H12O3 H2L CAS 1469-94-9 (3445)
 2-Hydroxydibenzoylmethane; HO.C6H4.CO.CH2.CO.C6H5

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	70%	U			1996SNa	(91602)3963

K(Co+HL)=8.65
 K(CoHL+HL)=7.75

Medium: 70% v/v dioxane/H2O, 1.0 M NaClO4.

Co++	gl	diox/w	30°C	75%	U		K1=9.65 B2=18.74	1955HOa	(91603)3964
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C15H13NO5 L CAS 13196-40-2 (2832)
 Benzoylthioacetanilide; C6H5.CO.CH2.CS.NH.C6H5

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	vlt	KCl	25°C	1.0M	U		B2=9.04	1982LUa	(91619)3965

C15H13NO2S H2L (6851)
 Benzoylacet-2-thioanilide; C6H5.CO.CH2.CO.NH.C6H4.SH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	oth/un	25°C	0.10M	U		K1=7.70	1990AIa	(91649)3966

Data also for analogues with OH and COOH in place of SH

 C15H13N3O HL CAS 104992-04-3 (6852)
 2-((1H-Benzimidazo-2-yl-methyl)-iminomethyl)phenol;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	30°C	60%	U	M	K1=8.55 B2=15.60	1990DOc	(91661)3967

K(Co(bpy)+L)=8.19
 K(Co(phen)+L)=8.14
 K(CoA+L)=7.97

A=2-phenylenediamine

Co++	gl	NaClO4	30°C	0.10M	U	M		1990DPa	(91662)3968
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K(CoL+catechol)=6.72
 K(CoL+Salicylate)=6.14
 K(CoL+Gly)=4.09
 K(CoL+Ala)=4.11

K(CoL+en)=4.83, K(CoL+diminopropane)=4.62

 C15H13N5O2 HL BIAAP CAS 385824-97-5 (8021)

2-(2-Benzimidazolylazo)-4-acetamidophenol;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	none	25°C	0.0	C		K1=6.45	2001MEa (91677)	3969

C15H14NOCl		HL					CAS 268214-29-5	(8398)	
4-Chloro-3,5-dimethyl-2-[(phenylimino)methyl]phenol;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	M		K1=5.34	2000ANa (91686)	3970
Medium: 75% v/v dioxan/H2O, 0.10 M NaCl04. Data for an extensive series of 4'-substituted phenylimino derivatives.									

C15H14NO3Cl		HL					CAS 113581-14-9	(9105)	
N-(3-Chlorophenyl)-4-ethoxy-N-hydroxybenzamide;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	25°C	50%	C	M	K1=8.45 B(Co(gly)L)=15.10	2001AMc (91703)	3971

Medium: 50% v/v dioxane/H2O

C15H14N2O2		HL					(1393)		
2-Hydroxy-5-methyl-4'-acetyl-azo-benzene; (HO)(CH3).C6H3.N:N.C6H4.CO.CH3									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	alc/w	25°C	0.10M	U		K1=10.3 B2=14.01	1981MOb (91712)	3972

C15H14N2O4		H2L					CAS 61908-02-0	(3450)	
N,N'-Methylenedi(anthranilic acid); HOOC.C6H4.NH.CH2.NH.C6H4.COOH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	35°C	50%	U		K1=3.5	1958YSa (91722)	3973

C15H14N2O5S		HL					(9232)		
3-(5-Sulphonylnaphthylazo)penta-2,4-dione;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.1M	U	H	K1=7.39	2004ACb (91733)	3974
for 35 C K1=7.24; for 45 C K1=7.06									

C15H14N4O		L					CAS 74126-81-1	(5435)	
Di-(2-pyridyl)-N-methylimidazol-2-yl-methanol;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++ gl KNO3 25°C 0.20M U K1=6.6 B2=12.80 1980BHa (91746)3975

C15H14O3 HL CAS 84-79-7 (3446)
2-Hydroxy-3-(3-methylbut-2-enyl)-1,4-naphthoquinone;

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

Co++ gl diox/w 30°C 75% U K1=6.57 B2=12.11 1960KFc (91772)3976

C15H14O3 HL (5102)
2-Hydroxy-4-benzyloxy acetophenone; C6H5.CH2.O.C6H3(OH).CO.CH3

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

Co++ gl diox/w 27°C 75% U K1=8.07 B2=14.04 1973KDc (91778)3977
Medium: 75% dioxan, 0.1 M NaClO4

C15H15NO5 H3L (5121)
(2-Hydroxy-1-naphthyl)methyl iminodiethanoic acid;

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

Co++ EMF oth/un ? ? U K1=7.3 1971TTb (91879)3978

C15H15N3O5 L (5134)
1-Benzoyl-4-methylphenylthiosemicarbazide; C6H5.CO.NH.NH.CS.NH.C6H4.CH3

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

Co++ sp mixed 25°C 50% U B2=5.84 1969CFb (91880)3979
Medium: 50% acetone

C15H15N3O2S L (5135)
1-Benzoyl-4-methoxyphenylthiosemicarbazide; C6H5.CO.NH.NH.CS.NH.C6H4.OCH3

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

Co++ sp mixed 25°C 50% U B2=6.13 1969CFb (91888)3980
Medium: 50% acetone

C15H15N3O2S HL CAS 54270-74-5 (6179)
2-(2-Benzenesufonamido)ethylbenzimidazole; C6H5SO2NHCH(CH3)C7H5N2

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

Co++ gl mixed 20°C 50% M K1=6.05 B2=10.80 1988NRa (91894)3981
Medium: 0.25 M NaClO4 in 50% acetone

C15H15N3O2S HL CAS 54220-74-5 (6180)

2-(3-Benzenesufonamido)ethylbenzimidazole; C₆H₅SO₂NHCH₂CH₂C₇H₅N₂

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	mixed	20°C	50%	M		K1=7.72 B2=13.47	1988NRa	(91903)3982
Medium: 0.25 M NaClO ₄ in 50% acetone									

Co++	gl	diox/w	30°C	50%	C	M	K1=6.31 B2=11.79 K(Co(gly)+L)=6.15 B(Co(gly)L)=11.85	1987MSd	(91904)3983
Medium: 50% v/v dioxane/H ₂ O, 0.2 M NaNO ₃ .									

C15H16N2O2 HL CAS 7397-15-1 (6853)
Peonolphenylhydrazone;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	20°C	75%	U T		K1=12.78 B2=23.96	1991NNa	(91924)3984
30 C: K1=12.54, K2=10.97; 40 C: K1=12.32, K2=10.69									

C15H16N4O2 L CAS 219673-66-2 (7757)
N,N'-Bis[(2-pyridylmethyl)]-1,3-diamidopropane ;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.20M	C		K1=1.75	1998CGa	(91949)3985

C15H18N2		L					CAS 25382-73-6 (5106)		
1,5-Bis(2-pyridyl)-pentane; C ₅ H ₄ N.(CH ₂) ₅ .C ₅ H ₄ N									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO ₃	20°C	0.10M	U		K1=1 K(Co+HL) < 1	1970BAa	(92002)3986

C15H18N2O3		HL					CAS 116822-13-0 (6743)		
5,5-Dimethylcyclohexane-2-(2-hydroxy-4'-methylphenyl)-hydrazono-1,3-dione;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	20°C	75%	U T H		K1=14.22	1993RAa	(92015)3987
Medium: 75% v/v MeOH/H ₂ O; 0.10 M KNO ₃ . Data also for 4-Cl and 4-Me analogues									

C15H18N2O8		H4L					CAS 1099-02-2 (1906)		
1-Methyl-2,4-diaminobenzene-N,N,N',N'-tetraethanoic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	C		K1=4.71 K(Co+HL)=2.65	1997DMA	(92051)3988

K(2Co+HL)=4.55
K(2Co+HL+L)=10.07
B(Co2L2)=12.16

C15H18N2O8 H4L (1934)
1-Methyl-2,5-diaminobenzene-N,N,N',N'-tetraethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	oth	oth/un	25°C	0.10M	U		K1=4.5 K(CoL+H)=5.8 K(CoHL+H)=3.9	1969RMa (92060)	3989

C15H18N2O8 H4L CAS 95478-42-5 (1907)
1-Methyl-2,6-diaminobenzene-N,N,N',N'-tetraethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	U		K1=2.27 B(CoHL)=8.24 B(Co2H2L)=14.82 B(Co2HL)=11.22 B(Co2HL2)=14.61	1992DRb (92069)	3990

B(Co2L2)=8.92

C15H18N2O8 H4L (6114)
2,5-Toluenediamine-N,N'-disuccinic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaCl	25°C	0.50M	C		K1=5.231 B(CoHL)=9.195 B(CoH2L)=12.687 B(Co2L)=6.395	1989FRa (92092)	3991

C15H18N4O3 HL His-Phe CAS 16874-81-0 (8702)
Histidyl-phenylalanine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.20M	C		K1=5.25 B2= 9.47	1987RKa (92103)	3992

C15H18N4O4 H2L His-Tyr CAS 35979-00-1 (8703)
Histidyl-tyrosine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.20M	C		B2=8.54 B(CoHL)=14.72 B(CoH2L2)=28.32	1987RKa (92108)	3993

B(CoHL2)=18.64

C15H20N2O7 H4L HBET (6954)
N-(Hydroxobenzyl)diaminoethane-N,N',N'-triethanoic acid;
HO.C6H4.CH2.N(CH2COOH)CH2CH2.N(CH2COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	C		K1=16.97 B(CoHL)=24.28 B(CoH2L)=26.56	1995MMa (92166)	3994

C15H20N4 L DPTN CAS 63671-70-5 (1851)
N,N'-Bis-(2-pyridylmethyl)-1,3-diaminopropane; (C5H4N.CH2.NH.CH2)2CH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	U	H	K1=11.96	1975APc (92181)	3995

DH(K1)=-55.2 kJ mol⁻¹, DS=29.3 J K⁻¹ mol⁻¹

C15H22N2O3 HL Leu-Phe CAS 3063-05-6 (6366)
Leucyl-phenylalanine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.20M	U		K1=2.10 B2=3.93	1990XJa (92212)	3996

C15H22N2O3 HL Phe-Leu CAS 3303-55-7 (6365)
Phenylalanyl-leucine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.20M	U		K1=2.37 B2=3.28	1990XJa (92217)	3997

C15H22N2O4 H2L D-Leu-Tyr CAS 3303-29-5 (2166)
D-Leucyl-L-tyrosine; H2N.CH(CH2.CH(CH3)2).CO.NH.CH(CH2.C6H4.OH).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	oth/un	25°C	0.15M	U		K(Co+HL)=2.81 K(Co+2HL)=5.07	1960LMa (92226)	3998

C15H22N2O4 H2L Leu-Tyr CAS 968-21-8 (530)
Leucyl-tyrosine; H2N.CH(CH2.CH(CH3)2).CO.NH.CH(CH2.C6H4.OH).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	oth/un	25°C	0.15M	U		K(Co+HL)=2.42	1960LMa (92240)	3999

K(Co+2HL)=4.48

C15H23N3O4 HL (5972)
2,6-Bis(3-carboxy-1,2-dimethyl-2-azapropyl)pyridine;

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

Co++ oth oth/un 25°C 0.10M U K1=13.72 1988BPa (92295)4000
Data also for 3-carboxy-azabutyl and 3-carboxy-4-methyl-2-azapentyl ligands.

C15H23N3O4 H2L (6690)
N,N'-((Pyridine-2,6-diyl)bis-methylene)bis-N-methylalanine;
C5H3N(CH2.N(CH3)CH(CH3)COOH)2

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

Co++ gl NaNO3 25°C 0.10M U K1=12.34 1992BSb (92300)4001

C15H23N3O12 H6L CAS 21979-64-6 (4069)
1,2,3-Tris(N,N-bis(carboxymethyl)amino)propane;

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

Co++ gl KNO3 25°C 0.10M U M K1=13.8 1968MMb (92317)4002

K(Co+HL)=10.5

K(CoL+Ca)=2.05

C15H24N4O10 H4L BAMTA CAS 95193-06-9 (5585)
N,N'-Bis(2-aminoethyl)malonamide-N'',N''N'',N''-tetraethanoic acid;

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

Co++ gl KNO3 25°C 0.10M C K1=10.05 1985SMc (92338)4003

K(CoL+H)=5.46

K(CoL+Co)=3.41

C15H25N3O HL CAS 104197-25-3 (8061)
2-(1,5,9-Triazacyclododec-2-yl)-phenol;

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

Co++ gl NaClO4 25°C 0.10M C K1=11.4 1986KMb (92358)4004

B(CoH-1L)=-1.65

C15H26N4O L (7722)
1,4,7,10-Tetraaza[12]-(2,6)anisolephane;

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

Co++ gl R4N.X 25°C 0.15M C K1=6.34 2000FFa (92423)4005

K(CoL+H)=7.86
K(CoHL+H)=7.37
K(CoL+OH)=3.66

Medium: 0.15 M Me4NCl.

C15H27N3O7 H3L (7396)
4,7,11-Tris(carboxymethyl)-1-oxa-4,7,11-triazacyclotridecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	R4N.X	25°C	0.10M	C		K1=17.393 K(CoL+H)=3.52	1997CCa (92477)	4006

Medium: Me4NN03

C15H30N2O3 L CAS 72640-82-5 (6040)
4,7,13-Trioxa-1,10-diazabicyclo[8.5.5]eicosane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	R4N.X	25°C	0.10M	C	I	K1=4.4	1991DLA (92515)	4007
In	95% v/v	MeOH/H2O:					K1=6.14		

C15H32N4O2 HL (2307)
4,4,9,9-Tetramethyl-5,8-diazadodecane-2,11-dione dioxime O-methyl ether

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaCl	25°C	0.10M	C		K1=5.73 K(CoHL=CoL+H)=-8.73 K(CoHL+OH)=4.41	1978PRa (92550)	4008

C15H36N09P3 L CAS 37909-50-5 (2634)
(N,N-Dimethylamine)methylenetris(phosphonic acid diethyl ester);
(CH3)2N.C(CH2.PO(OC2H5)2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	con	non-aq	22°C	100%	U		K(CoCl2+L)=2.53	1981SKd (92601)	4009

Medium: acetone

C16H9N2OBr3 HL CAS 84317-74-8 (5169)
1-(2,4,6-Tribromophenylazo)-2-hydroxynaphthalene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	mixed	25°C	75%	U		K1=7.24 B2=12.57	1972MCb (92645)	4010

Medium: 75% acetone, 0.1 M KNO3

C16H11N2OBr HL CAS 7150-24-5 (5172)

1-(4-Bromophenylazo)-2-hydroxynaphthalene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	mixed	25°C	75%	U		K1=7.84 B2=14.48	1972Mcb (92695)	4011

Medium: 75% acetone, 0.1 M KNO3

C16H11N2OCl HL CAS 24390-65-6 (5170)

1-(2-Chlorophenylazo)-2-hydroxynaphthalene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	mixed	25°C	75%	U		K1=7.48 B2=13.88	1972Mcb (92710)	4012

Medium: 75% acetone, 0.1 M KNO3

C16H11N2OCl HL CAS 10149-93-6 (5171)

1-(4-Chlorophenylazo)-2-hydroxynaphthalene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	mixed	25°C	75%	U		K1=7.76 B2=14.42	1972Mcb (92725)	4013

Medium: 75% acetone, 0.1 M KNO3

C16H11N2OI HL CAS 25023-35-2 (5173)

1-(4-Iodophenylazo)-2-hydroxynaphthalene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	mixed	25°C	75%	U		K1=7.97 B2=14.76	1972Mcb (92740)	4014

Medium: 75% acetone, 0.1 M KNO3

C16H11N2O2Cl H2L CAS 3566-94-7 (3474)

1-(5-Chloro-2-hydroxyphenylazo)-2-hydroxynaphthalene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U		K1=21.82	1952SNa (92757)	4015

C16H11N3O3 HL CAS 6410-09-9 (5151)

1-(2-Nitrophenylazo)-2-hydroxynaphthalene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	mixed	25°C	75%	U		K1=4.46 B2=7.77	1972Mcb (92794)	4016

Medium: 75% acetone, 0.1 M KNO3

C16H11N3O3 HL CAS 6410-46-1 (5152)

1-(4-Nitrophenylazo)-2-hydroxynaphthalene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++ gl mixed 25°C 75% U K1=5.02 B2=9.34 1972Mcb (92809)4017
Medium: 75% acetone, 0.1 M KNO3

C16H11N3O4 HL (2910)
1,3-Diphenyl-5-hydroxyimino-hexahydropyrimidine-2,4,6-trione;

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

Co++ gl diox/w 30°C 75% C K1=5.34 B2=10.53 1978Mgb (92833)4018

C16H11N3O10S2 H4L (5174)
2-Hydroxy-1-(2'-hydroxy-4'-nitro)phenylazo-3,6-disulfonaphthalene;

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

Co++ sp oth/un 25°C ? U 1971RCd (92880)4019
K(?)=4.72

C16H11N5O HL (6785)
5-(4-Benzimidazolylazo)-8-hydroxyquinoline;

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

Co++ gl NaCl 25°C 0.10M M K1=7.70 B2=12.91 19910Ea (92888)4020

C16H12N2O HL CAS 842-07-9 (5156)
1-Phenylazo-2-hydroxynaphthalene;

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

Co++ gl mixed 25°C 75% U K1=8.76 B2=16.20 1972Mcb (92915)4021
Medium: 75% acetone, 0.1 M KNO3

C16H12N2O2 H2L CAS 9486-98-2 (3462)
1-(2-Hydroxyphenylazo)-2-hydroxynaphthalene;

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

Co++ gl mixed 25°C 75% U 1972Mcb (92946)4022
K(Co+HL)=9.04
K(CoHL+HL)=8.24

Medium: 75% acetone, 0.1 M KNO3

C16H12N2O2 H2L CAS 14934-27-1 (5157)
1-(4-Hydroxyphenylazo)-2-hydroxynaphthalene;

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

Co++ gl mixed 25°C 75% U 1972Mcb (92967)4023

K(Co+HL)=8.57
K(CoHL+HL)=7.02

Medium: 75% acetone, 0.1 M KNO₃

C16H12N2O4S H2L CAS 13964-82-4 (3475)
1-(4-Sulfophenylazo)-2-hydroxynaphthalene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	NaNO ₃	20°C	0.1M	C				1998IEa (92993)	4024
								K(Co+HL=CoL+H)=-5.08 K(Co+HL=CoH-1L+2H)=-13.75		

Additional method: spectrophotometry.

Co++	gl	mixed	25°C	75%	U		K1=4.73	B2=8.72	1972MCb (92994)	4025
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Medium: 75% acetone, 0.1 M KNO₃

C16H12N2O7S2 H3L CAS 14245-98-8 (3477)
6-Hydroxy-5-phenylazonaphthalene-1,3-disulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	oth/un	20°C	0.01M	U		K1=5.38	B2=9.93	1952SNa (93035)	4026

C16H12N2O8S2 H4L Chromotrope 2R CAS 4197-07-3 (2604)
2-(Benzeneazo)-chromotropic acid, Acid Red 29

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	sp	oth/un	25°C	?	U				1967PMB (93056)	4027
								K(?)=9.2		

C16H12O2 HL CAS 56461-08-6 (3453)
2-Benzoylindan-1-one;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U		K1=9.46	B2=17.26	1959MFa (93143)	4028

C16H13N2OCl HL CAS 36458-49-8 (5181)
2-(4-Chlorophenylaminomethyl)-8-hydroxyquinoline;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	diox/w	25°C	50%	U		K1=8.6		1972HUb (93166)	4029

Medium: 50% v/v dioxan, 0.1 M KCl

C16H13N2O10AsS2 H5L Thorin I CAS 3688-92-4 (2609)
1-((2-Arsonophenyl)azo)-2-hydroxy-3,6-naphthalylidylsulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	oth/un	30°C	?	U		K1=12.48	1964PCa (93181)	4030

C16H13N3O		HL					(4077)		
3-(2'-Hydroxyphenyl)-1-quinolyl-1,2-diazaprop-2-ene;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	25°C	50%	U		K1=6.3 B2=11.7	1967And (93276)	4031
Medium: 50% MeOH, 0.1 M NaClO4									

C16H13N3O		L					(5417)		
Tri-(2-pyridyl)-methanol; (C5H4N)3C.OH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.20M	U		K1=6.4 B2=11.50	1980BHa (93281)	4032

C16H13N4OBr		HL					CAS 25779-60-6 (4100)		
4-(2'-Bromophenylazo)-1-phenyl-5-methylpyrazol-3(2H)-one;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U		K1=5.6 B2=11.45	1967SSg (93299)	4033

C16H13N4OBr		HL					(3480)		
4-(3-Bromophenylazo)-3-methyl-1-phenyl-5-pyrazolone;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U		K1=6.1 B2=13.5	1959SKc (93306)	4034

C16H13N4OBr		HL					CAS 17040-97-0 (3481)		
4-(4-Bromophenylazo)-3-methyl-1-phenyl-5-pyrazolone;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U		K1=6.4 B2=13.3	1959SKc (93313)	4035

C16H13N4OCl		HL					CAS 6407-74-5 (4097)		
4-(2'-Chlorophenylazo)-1-phenyl-5-methylpyrazol-3(2H)-one;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U		K1=5.9 B2=12.07	1967SSg (93319)	4036

C16H13N4OCl		HL					(3478)		
4-(3-Chlorophenylazo)-3-methyl-1-phenyl-5-pyrazolone;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U		K1=6.1 B2=13.3	1959SKc	(93326)4037

C16H13N4OCl		HL					CAS 15095-25-7	(3479)	
4-(4-Chlorophenylazo)-3-methyl-1-phenyl-5-pyrazolone;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U		K1=6 B2=13	1957SFa	(93332)4038

C16H13N4OF		HL					CAS 125910-81-8	(4105)	
4-(2'-Fluorophenylazo)-1-phenyl-5-methylpyrazol-3(2H)-one;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U		K1=6.1 B2=13.09	1967SSg	(93338)4039

C16H13N4OI		HL					(4103)		
4-(2'-Iodophenylazo)-1-phenyl-5-methylpyrazol-3(2H)-one;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U		K1=5.2 B2=10.87	1967SSg	(93348)4040

C16H13N4OI		HL					(3482)		
4-(4-Iodophenylazo)-3-methyl-1-phenyl-5-pyrazolone;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U		K1=6.0 B2=13.6	1959SKc	(93356)4041

C16H13N5O3		HL					CAS 42939-98-0	(3464)	
3-Methyl-4-(3-nitrophenylazo)-1-phenyl-5-pyrazolone;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U		K1=5.8 B2=13.2	1959SKc	(93362)4042
K3=5.3									

C16H13N5O3		HL					CAS 4702-91-4	(3465)	
3-Methyl-4-(4-nitrophenylazo)-1-phenyl-5-pyrazolone;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U		K1=5.3 B2=11.8	1957SFa	(93367)4043
K3=5.3									

C16H13N5O3		HL					CAS 61550-69-0	(4078)	
5-Methyl-4-(2'-nitrophenylazo)-1-phenyl-pyrazol-3(2H)-one;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U		K1=6.1 B2=12.57	1967SSg (93373)	4044

C16H13N5O3		HL					CAS 17041-01-9	(4079)	
5-Methyl-4-(3'-nitrophenylazo)-1-phenyl-pyrazol-3(2H)-one;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U		K1=7.0 B2=14.08	1967SSg (93379)	4045

C16H13N5O3		HL					CAS 17041-02-0	(4080)	
5-Methyl-4-(4'-nitrophenylazo)-1-phenyl-pyrazol-3(2H)-one;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U		K1=6.5 B2=13.35	1967SSg (93385)	4046

C16H13N5O4		HL					CAS 75272-98-9	(8459)	
2,4-Dihydro-4-[(2-hydroxyphenyl)azo]-5-methyl-2-(4-nitrophenyl)-3H-pyrazol-3-one;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	25°C	70%	U		K1=12.11 B2=21.22	1994RAb (93390)	4047
Medium: 70% v/v EtOH/H2O, 0.1 M NaCl.									

C16H14N2O		HL					(1318)		
2-(2-Hydroxynaphthyliminomethyl)pyridine;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	25°C	50%	A		K1=8.03	1981RUa (93411)	4048
Medium: 50% dioxan, 0.1 M NaCl04									

C16H14N2O2		H2L					CAS 36458-47-6	(5158)	
2-(2-Hydroxyphenylaminomethyl)-8-hydroxyquinoline;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	25°C	50%	U			1972HUa (93425)	4049
							K(Co+HL)=8.06		
							K(CoHL+HL)=8.02		
Medium: 50% v/v dioxan, 0.1 M KCl									

C16H14N2O2S		HL					CAS 98809-36-0	(1682)	
8-(4-Toluenesulfonamido)quinoline; CH3C6H4SO2NHC9H6N									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo

Co++ gl diox/w 30°C 75% U K1=9.9 B2=18.6 1984NYa (93433)4050

C16H14N4O HL CAS 53847-70-4 (3466)
3-Methyl-4-phenylazo-1-phenyl-5-pyrazolone;

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

Co++ gl diox/w 30°C 75% U K1=6.7 B2=14.25 1957SFa (93453)4051

C16H14N4O HL CAS 98809-14-1 (4081)
5-Methyl-4-phenylazo-1-phenyl-pyrazol-3(2H)-one;

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

Co++ gl diox/w 30°C 75% U K1=6.90 B2=14.00 1967SSg (93459)4052

C16H14N4O2 H2L (3467)
5-Hydroxy-4-(2-hydroxyphenylazo)-3-methyl-1-phenylpyrazole;

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

Co++ sp alc/w 25°C 100% U K1=4.87 B2=8.85 1991EHa (93469)4053
Medium: EtOH. Data also for other analogues

Co++ gl diox/w 30°C 75% U K1=16.62 1952SNa (93470)4054
K(Co+H2L=CoL+2H)=-7.1

C16H14N4O4S HL (5183)
3-Methyl-1-phenyl-4-(2-sulfophenylazo)-5-pyrazolone;

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

Co++ gl diox/w 30°C 75% U K1=9.08 1969SSc (93492)4055

C16H14N4O4S HL (5185)
3-Methyl-1-phenyl-4-(4-sulfophenylazo)-5-pyrazolone;

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

Co++ gl diox/w 30°C 75% U K1=6.36 B2=12.36 1969SSc (93497)4056

C16H14N4O4S HL (5184)
5-Methyl-1-phenyl-4-(2-sulfophenylazo)-3-pyrazolone;

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

Co++ gl diox/w 30°C 75% U K1=9.11 1969SSc (93504)4057

C16H14N4O4S HL (5186)
5-Methyl-1-phenyl-4-(3-sulfophenylazo)-3-pyrazolone;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U		K1=7.36 B2=13.15	1969SSc (93514)	4058

C16H14N4O4S		HL					(5187)		
5-Methyl-1-phenyl-4-(4-sulfophenylazo)-3-pyrazolone;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U		K1=6.95 B2=12.61	1969SSc (93520)	4059

C16H14N4S		HL					CAS 83177-19-9	(674)	
3-Methyl-1-phenyl-4-(phenylazo)-pyrazol-5(2H)-thione;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U		K1=7.09 B2=16.39	1964STc (93526)	4060

C16H14O3		H2L					CAS 29976-82-7	(8522)	
1-(2-Hydroxy-5-methylphenyl)-3-phenyl-1,3-propanedione;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	70%	U			1996SNa (93538)	4061
							K(Co+HL)=8.00		
							K(CoHL+HL)=7.10		
Medium: 70% v/v dioxane/H2O, 1.0 M NaClO4.									

C16H14O3		HL					CAS 41126-22-1	(3457)	
2-Methoxydibenzoylmethane; CH3.O.C6H4.CO.CH2.CO.C6H5									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U		K1=10.60 B2=20.04	1955H0a (93549)	4062

C16H14O3		HL					CAS 3327-24-0	(956)	
3-(4''-Methoxyphenyl)-1-(2'-hydroxyphenyl)-2-propen-1-one;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	35°C	70%	U		K1=5.6 B2=10.80	1978SLb (93562)	4063

C16H15NO7		H4L					(4082)		
N-(3-Carboxy-2-hydroxynaphthyl-1-ylmethyl)iminodiethanoic acid;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	EMF	oth/un	?	?	U		K1=14.2	1975DTa (93627)	4064

Co++ gl KCl 25°C 0.10M U K1=14.2 1975TRb (93628)4065
K(Co+HL)=8.9

C16H16N2O2 H2L CAS 94-93-9 (2101)

N,N'-Bis(salicylidene)ethylenediamine; (HO(C6H4)CH:NCH2-)2

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

Co++ gl alc/w 25°C 0.2M U 1999MTc (93675)4066

K(Co+HL)=4.70

Medium: 0.2 M KCl in 3:7 v/v H2O/EtOH

Co++ gl mixed 35°C 0.10M M K1=9.17 1998RJa (93676)4067

Medium: 80% (v/v) DMSO/H2O, 0.2 M KNO3.

Co++ sp non-aq 14°C 100% U HM 1977SSd (93677)4068

K(CoL+pyridine)=12.7

DH=-33 kJ mol⁻¹. Data also for several substituted Salicylidine-imines

C16H16N2O2S2 H2L (5188)

N,N'-Ethylene-bis(2-mercaptobenzamide); (HS.C6H4.CO.NH.CH2.)2

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

Co++ sp oth/un ? ? U 1966BVa (93686)4069

K(Co+H2L=CoL+2H)=5.92

C16H16N2O4 H2L (3469)

N,N'-Ethylene(dianthranilic acid); HOOC.C6H4.NH.CH2.CH2.NH.C6H4.COOH

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

Co++ gl diox/w 35°C 50% U K1=6.4 1958YSa (93698)4070

C16H16N2O6S2 HL Cephalothin CAS 153-61-7 (9104)

3-(Acetoxymethyl)-8-oxo-7-(2-thienylacetyl amino)-5-thia-1-azabicyclo[4.2.0]oct-2-ene-carboxylic

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

Co++ gl NaClO4 25°C 0.10M C K1=5.782 B2= 9.41 2001SGe (93710)4071

C16H17N3O2S L CAS 40027-93-8 (5189)

1-Benzoyl-4-ethoxyphenylthiosemicarbazide; C6H5.CO.NH.NH.CS.NH.C6H4.O.CH2.CH3

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

Co++ sp mixed 25°C 50% U B2=7.34 1969CFb (93745)4072

Medium: 50% acetone

C16H17N3O4S HL Cephalexin CAS 15686-71-2 (7748)
7-(2-Aminophenylacetyl-amino)-3-methyl-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic ac.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	NaClO4	25°C	0.10M	U T	M		K1=5.90 K(CoL+ala)=5.56 B2=10.10	2000CCd	(93757)4073

Also data for 35 C. DH and DS values reported.

Co++ vlt KNO3 22°C 0.20M C K1=3.09 1990KSb (93758)4074
Method: differential pulse polarography. Medium: 0.2 M KNO3, pH 7.3.

C16H18N2O4S	HL	Penicillin G	CAS 69-57-8	(942)
Benzylpenicillin;				

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	mixed	30°C	50%	U		K1=5.20	B2=9.78	1980Tsa	(93805)4075
Medium: 50% v/v acetone/H2O										

C16H18N2O5S HL Penicillin V CAS 87-08-1 (943)
Phoxymethylpenicillanic acid, 4-Thia-1-azabicyclo[3.2.0]heptane-2-carboxylic
acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	mixed	30°C	50%	U		K1=4.51 B2=8.70	1980Tsa	(93813)4076
Medium: 50% v/v acetone/H2O									

C16H18N4 L trans-BPIC (9055)
N,N'-Bis[1-(2-pyridyl)ethylidene]-1,2-diiminoethane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	dis	non-aq	25°C	100%	C	M			20010Hb (93833)	4077
Method: distribution from buffered 0.10 M NaCl into nitrobenzene.										

$$K(Co+3I(org))+2\Delta=CoI_3\Delta^2(org))-15.1 \quad HA \text{ is picric acid}$$

C16H18N4 L CAS 172665-46-2 (7699)
N,N'-Dimethyl-1,10-phenanthroline-2,9-dimethanamine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	NaNO3	25°C	0.10M	U			K1=8.87 B(CoHL)=15.47	1999Sza	(93838)4078

Also data for the N-ethyl-, N-i-propyl- and N-t-butyl- derivatives.

C16H18N4O L Prodipa CAS 219654-53-2 (7575)
Prolineamido-bis(pyridin-2-yl)methane; C4H8NCONHCH(C5H4N)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.20M	C		K1=3.48 B(CoH-1L)=-3.15 B(CoH-1L2)=-0.47 B(CoH-2L2)=-8.02	1998VSa (93853)	4079

Additional method: esr.

 C16H18N4O3 HL (5162)
 3-(4-Antipyrinylazo)-pentane-2,4-dione;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	NaClO4	?	0.10M	U		B(CoH2L2)=22.20 B(CoH4L2)=26.53	1970BSa (93855)	4080

 C16H18O8S4 H4L CAS 51865-21-5 (239)
 1,2-Dimethylbenzene-tetrathioethanoic acid; C6H4(CH(S.CH2.COOH)2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO4	25°C	0.10M	U		K1=6	1974JBa (93885)	4081

 C16H19NO HL (6251)
 4-(2-Methyl-2'-hydroxy-5'-methylbenzalamino)toluene;
 CH3.C6H4.NH.CH(CH3).C6H3(OH).CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	60%	U		K1=6.50 B2=10.95	1979PJa (93908)	4082

 C16H19N3O4S HL Cephadrine CAS 38821-53-3 (8402)
 7-[D-a-Amino-(1,4-cyclohexadienyl)acetamide]-3-desacetoxycephalosporanic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaNO3	25°C	0.10M	M	M	K1=2.55 K(Co(bpy)+L)=2.89	1995SSb (93922)	4083

 C16H19N3O4S HL Ampicillin CAS 69-53-4 (6637)
 D-alpha-Aminobenzylpenicillin;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaNO3	37°C	0.10M	U	M	K1=3.12 B(Co(bpy)L)=9.39 B(CoAL)=5.69 *K(Co(bpy)L)=-9.63	1997MGa (93940)	4084

*K(Co(bpy)H-1L)=-10.74

A is imidazole.

Co++ gl NaN03 37°C 0.10M U K1=3.12 B2= 5.68 1994MGe (93941)4085
*K(CoL)=-9.40
B(CoH-1L)=-6.28

Co++ gl NaN03 25°C 0.2M U M K1=3.12 1993SHb (93942)4086
B(CoH-1L)=-3.90

K(Co(bpy)+L)=3.09, K(Co(phen)+L)=3.01

C16H190P L CAS 4233-13-0 (5163)

Butyldiphenylphosphine oxide; (C4H9)(C6H5)2P:O

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

Co++ sp non-aq 20°C 100% U M 1969SAc (93943)4087
K(CoCl2+L)=3.37
K(CoCl2+2L)=5.58

Medium: acetone

C16H20N2 L (5146)

1,6-Bis(2-pyridyl)-hexane; C5H4N.(CH2)6.C5H4N

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

Co++ gl KNO3 20°C 0.10M U K1=1.6 1970BAa (93956)4088
K(Co+HL)=1.3

C16H20N2 L CAS 60508-97-6 (3458)

N,N'-Dibenzylethylenediamine; C6H5.CH2.NH.CH2.CH2.NH.CH2.C6H5

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

Co++ gl diox/w 30°C 50% U K1=5.22 1972GPb (93980)4089

C16H20N202 H2L (4087)

1,2-Bis(2'-hydroxybenzylamino)ethane; (HO.C6H4.CH2.NH.CH2.)2

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

Co++ gl KCl 25°C 0.10M U K1=12.78 1968GRa (93985)4090

C16H20N202 L (2476)

2,2'-(1,4-Butanediylbis(oxy))bisaminobenzene; H2N.C6H4.O(CH2)4O.C6H4.NH2

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

Co++ gl diox/w 25°C 85% C T 1983HBa (93994)4091

K1 < 1.3

C16H20N2O3 L (2477)
1,4,7-Trioxaheptane-1,7-di(2-aminobenzene); (H2N.C6H4.OCH2CH2)2O

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

Co++ gl diox/w 25°C 85% C T H K1=2.15 1983HBa (94002)4092
DH(K1)=-31 kJ mol⁻¹. At 20 C: K1=2.28; 30 C: 2.11

C16H20N2O8 H4L CAS 6411-02-5 (1919)
1-Phenyl-ethylenediamine-N,N,N',N'-tetraethanoic acid (DL)

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

Co++ gl KNO3 20°C 0.10M U K1=16.91 1989SLa (94025)4093

Co++ vlt KNO3 20°C 0.10M U K1=16.91 1969NDb (94026)4094

Co++ gl KCl 25°C 0.10M U K1=15.6 19670Tb (94027)4095

C16H20N2O10 H6L (704)
1,2-Dihydroxy-3,6-di-(methyleneiminodiethanoic acid)-benzene;

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

Co++ gl KNO3 25°C 0.10M C K1=15.07 1988ZHa (94062)4096
K(Co+H2L)=10.83
K(Co+HL)=13.38
K(CoHL+H)=8.58
K(CoL+H)=10.18

B(Co2L)=25.7

C16H20N2O10 H6L CAS 28021-27-4 (5166)
1,4-Dihydroxyphenyl-2,5-bis(methyleneimino)-N,N,N',N'-tetraethanoic acid;

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

Co++ gl oth/un 25°C 0.0 U 1970TTb (94074)4097
K(Co+HL)=13.8
K(Co+H2L)=10.1
K(Co+H3L)=7.1
K(2Co+HL)=22.4

C16H20N2O10 H4L (4088)
2,5-Bis(N-carboxymethyl-N-(2-hydroxyethyl)amino)benzene-1,4-dicarboxylic acid;

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

Co++ gl KCl 22°C 0.10M U K1=7.85 1963UHa (94079)4098
K(2Co+L)=13.00

K(Co+HL)=5.20
K(Co+H2L)=2.30

C16H21N3 L Pyribenzamine (3460)
2-(N-Benzyl-N-(2-dimethylaminoethyl)amino)pyridine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.06M	U T H			K1=3.42 B2=6.49	1962ALa	(94111)4099
At 0 C: K1=3.17, K2=2.87. DH(B2)=33 kJ mol ⁻¹ , DS=226 J K ⁻¹ mol ⁻¹										

Co++ gl diox/w 25°C 50% U T B2=6.34 1957LYa (94112)4100
B2=5.84(0 C)

C16H22N2O6P2 H4L CAS 85425-45-2 (5193)
2,2'-(Ethylenedi-imino)bis(2-hydroxybenzylphosphinic acid);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	NaCl04	25°C	0.50M	U			K1=10.5 K(Co+HL)=5.6 K(Co+H2L)=3.1	1972GTa	(94140)4101

C16H22N2O6P2 H4L CAS 86857-07-0 (5192)
2,2'-(Ethylenedi-imino)bis(benzylphosphonic acid);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	NaCl04	25°C	0.50M	U			K1=10.5 K(Co+HL)=5.6 K(Co+H2L)=3.1	1972GTa	(94150)4102

C16H22N2O7 HL (5385)
7-((Bis-2-hydroxyethyl)amino)-6-carboxy-4-2(-hydroxyethyl)-9-oxotetrahydro-8-benzo-1,6-oxazapine

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	oth/un	25°C	0.10M	U			K1=2.05	1973WUa	(94155)4103

C16H22N4 L CAS 28798-60-9 (4076)
1,2-Bis(2'-aminobenzylamino)ethane; (H2N.C6H4.CH2.NH.CH2.)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	U			K1=7.0	1968GRa	(94169)4104

C16H22N4 L DPTE CAS 81747-99-1 (1852)
N,N-Bis-(2-pyridyl-methyl)-1,4-diaminobutane; (C5H4N.CH2.NH.CH2.CH2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	U	H	K1=7.95	1975APc (94180)	4105
DH(K1)=-35.2 kJ mol ⁻¹ DS=35.1 J K ⁻¹ mol ⁻¹									

C16H22N4O L (5463)

1,9-Bis(2-pyridyl)-2,8-diaza-5-oxanonane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	KNO3	25°C	0.10M	C		K1=9.84 K(CoL+H)=3.80	1982BTb (94188)	4106
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C16H22N4O L (3471)

2-(N-(2-Dimethylaminoethyl)-N-(4-methoxybenzyl)amino)pyrimidine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	KCl	25°C	0.06M	U	T H	K1=3.15 B2=6.30	1962ALa (94195)	4107
At 0 C: K1=3.46, K2=3.25. DH(B2)=-16 kJ mol ⁻¹ , DS=59 J K ⁻¹ mol ⁻¹									

Co++	gl	KCl	25°C	0.14M	U	T	B2=6.30	1957LYa (94196)	4108
B2=6.60(0 C)									

C16H22N4S L (1665)

Bis(2-(2-pyridylmethylamino)ethyl) sulfide; (C5H4N.CH2.NH.CH2.CH2.)2S

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	KNO3	25°C	0.10M	C	M	K1=11.75 K(CoL+H)=2.92	1982BTb (94211)	4109
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Ternary complex with O2

C16H22N6O L (5439)

Tri-(4,5-dimethylimidazol-2-yl)-methanol;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	KNO3	25°C	0.20M	U		K1=9.46	1980BHa (94218)	4110
in 1:1 acetone-water, K1=9.65, K2=8.93									

C16H22O2 HL CAS 41070-31-9 (5147)

2,4,6-Trimethylbenzoyl pivaloyl methane; (CH3)3.C6H2.CO.CH2.CO.C(CH3)3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	diox/w	30°C	75%	U		K1=9.57 B2=18.63	1972UDa (94238)	4111
Medium: 75% v/v dioxan, 0.01 M Me4NClO4									

C16H23N5 L CAS 58214-73-6 (2941)

1,9-Bis-(2-pyridyl)-2,5,8-triazanonane; (C₅H₄N.CH₂.NH.C₂H₄)₂NH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	cal	KNO ₃	25°C	0.1M	C	H	K ₁ =14.73	1982TMc (94290)	4112
DH(K ₁)=-58.7 kJ mol ⁻¹									
Co++	cal	KNO ₃	25°C	0.10M	C		DH ₁ =-64.4 kJ/mol	1982TMD (94291)	4113
Co++	gl	KNO ₃	25°C	0.10M	C		K ₁ =14.73 K(CoL+H)=2.28	1978HMa (94292)	4114
Co++	gl	KNO ₃	25°C	0.20M	U		K ₁ =14.84 *K(CoL)=-11.51	1977EMa (94293)	4115

C16H₂₃N₅O₄ L (6969)
12-(4-Nitrobenzyl)-1,4,7,10-tetraazacyclotridecane-11,13-dione;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO ₄	30°C	0.10M	M		K ₁ =5.66 B(CoH-1L)=-4.08 B(CuH-2L)=-11.90	1994LZa (94298)	4116

C16H₂₆N₂O₂ HL CAS 67224-31-1 (8358)
4-Nonyloxybenzylamide oxime, N-Hydroxy-4-(nonyloxy)benzenecarboximidamide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	mixed	22°C	70%	U		B ₂ =15.90	1978MGd (94551)	4117
Medium: 0.1 M KNO ₃ in 70% (v/v) dioxane in H ₂ O									

C16H₂₆N₄O₁₀ H₄L DGBNTA CAS 95193-07-0 (5587)
N,N'-Diglycyl-1,4-diaminobutane-N'',N'',N''',N'''-tetraethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO ₃	25°C	0.10M	C		K ₁ =8.58 K(CoL+H)=5.42 K(CoL+Co)=5.17	1985SMc (94619)	4118

C16H₂₇N₅O₈ H₃L (6621)
1,4,7-Tris(carboxymethyl)-1,4,7,10,13-pentaazacyclopentadecan-9,14-dione;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	C		K ₁ =12.3 B(CoHL)=16.8 B(CoH ₂ L)=18.6	1996IOb (94662)	4119

B(CoH-1L)=0.9
B(CoH-2L)=-9.7

C16H28N2O8 H4L (5168)
1,2-Diaminoethane-N,N'-diethanoic-N,N'-di-2-pentanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	vlt	KNO3	20°C	0.10M	U		K1=16.0	1969NDc (94730)	4120

C16H28N2O8 H4L (5138)
1,2-Diaminooctane-N,N,N',N'-tetraethanoic acid;
(HOOCCCH2)2N.CH2.CH(C6H13)N(CH2COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	vlt	KNO3	20°C	0.10M	U		K1=17.90	1979MBd (94756)	4121

C16H28N2O8 H4L (2850)
1,8-Diaminooctane-N,N,N',N'-tetraethanoic acid; ((HOOCCCH2)2N(CH2)4)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	20°C	0.10M	U	H	K1=12.91 K(Co+HL)=7.99 K(Co+CoL)=3.4	1964ANa (94789)	4122

By calorimetry: DH(K1)=-19.9 kJ mol⁻¹, DS=179 J K⁻¹ mol⁻¹

C16H28N4O4S HL d-Biocytyl CAS 576-19-2 (5195)
N(6)-d-Biotinyl-L-lysine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO4	25°C	0.10M	U		K1=4.10	1970GPd (94809)	4123

C16H28N4O8 H4L DOTA CAS 60239-18-1 (1017)
1,4,7,10-Tetraazacyclododecane-1,4,7,10-tetraethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.01M	C	M	K1=14.93	2003GRa (94863)	4124

K(CoL+H)=6.14
K(CoL+2H)=4.10
B(CoH-1L)=4.46
B(CoH-2L)=-3.16

B(CoLA)=19.69, K(CoLA+H)=6.43, B (CoH-1LA)=-10.25.

A is 2,2':6',2"-terpyridine.

Co++	gl	R4N.X	25°C	0.10M	C		K1=20.27 B(CoHL)=24.35	1992CDd (94864)	4125
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Medium: 0.10 M Me₄NNO₃.

Co++	gl	KCl	25°C 0.10M C	K1=19.3 K(CoL+H)=5.35 K(CoHL+H)=3.8 *K(CoL)=-10.46	1991CMb (94865)4126
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Method: batch potentiometry

Co++ cal R4N.X 25°C 0.10M C H 1984DFa (94866)4127
Medium: 0.10 M Me4NNO3. DH(K1)=-55.6 kJ mol⁻¹, DS(K1)=201 J K⁻¹ mol⁻¹.

Co++ gl R4N.X 25°C 0.10M C K1=20.17 1982DSa (94867)4128
K(Co+HL)=12.08
K(Co+H2L)=6.05

Co++ EMF KCl 20°C 0.10M C K1=18.4 1981SFa (94868)4129
Method: Pt/H2 electrode.

Co++ gl KCl 20°C 0.10M U K1=18.42 1976SFb (94869)4130

 C16H29N3O7 H3L (7395)
 4,8,12-Tris(carboxymethyl)-1-oxa-4,8,12-triazacyclotetradecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	R4N.X	25°C	0.10M	C			K1=12.94	1997CCa (94950)	4131
Medium: Me4NNO3										

C16H29N3O8 H3L CAS 259211-79-5 (7775)
1,4-Dioxa-7,10,13-triazacyclopentadecane-7,10,13-triethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	R4N.X	25°C	0.10M	C			K1=16.47 K(CoL+H)=3.99 K(CoL+Co)=3.30 K(Co2L+H)=3.95	2000CDd (94960)	4132

Medium: 0.10 M (Me₄N)NO₃. *K(CoL)=-8.9

C16H29N3O8 H3L (6699)
1,7-Dioxa-4,10,13-triazacyclopentadecane-N,N',N"-triethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	C			K1=16.38 K(CoL+H)=3.73 B(Co2L)=18.11 K(Co(OH)L+H)=11.20	1993DSa (94971)	4133

C16H30N2O8 H2L CAS 72912-01-7 (1568)
 1,4,10,13-Tetraoxa-7,16-diazacyclooctadecane-N,N'-diethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	R4N.X	25°C	0.10M	C	H	K1=7.983 B(Co2L)=10.28	1989DSa (95024)	4134

By calorimetry: DH(K1)=10.9 kJ mol⁻¹; DS=188.

C16H32N2O5 L Cryptand 2,2,1 CAS 31364-42-8 (837)
 1,10-Diaza-4,7,13,16,21-pentaoxabicyclo[8,8,5]tricosane (2,2,1);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	R4N.X	25°C	0.05M	C		K1=4.6	1997BCc (95170)	4135

Medium: 0.05 M Me4NClO4

Co++	gl	alc/w	25°C	100%	U		K1=13.40	1985BUd (95171)	4136
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Medium: MeOH, water content approx. 0.1 M. Without supporting electrolyte.

Co++	gl	alc/w	25°C	95%	C		K1=5.92	1981ANa (95172)	4137
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Medium: 95% MeOH, 0.1 M Me4NCl

Co++	gl	R4N.X	25°C	0.10M	C		K1=5.40	1977ASc (95173)	4138
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C16H32N6 L CAS 145883-53-0 (8899)
 2,6-Bis[[bis-(2-Aminoethyl)amino]methyl]benzene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	R4N.X	25°C	0.15M	C		K1=9.65 B(CoHL)=18.32 B(CoH2L)=26.93 B(CoH-1L)=-1.09 B(Co2L)=15.28	2002FGc (95342)	4139

Medium: 0.15 M Me4NCl. B(Co2H-1L)=4.45, B(Co2H-2L)=-6.33.

C16H32N6 L CAS 71277-17-3 (1874)
 Tetrakis(2-aminoethyl)-a,a'-diamino-4-xylene; C6H4.(CH2.N(CH2.CH2.NH2)2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	U	M	K(Co+H2L)=6.84 B(Co2L)=14.58	1979CMA (95348)	4140

Ternary complexes with ethylenediamine or glycine and dioxygen

Co++	gl	KNO3	25°C	0.10M	C	M	B(CoHL)=18.88 B(CoH2L)=26.6	1979NMA (95349)	4141
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B(Co2L)=14.59
B(Co2L(Gly))=23.38

B(Co2L(en))=23.32

C16H32N6O HL CAS 303962-27-8 (7706)
2,6-Bis[(bis(2-aminoethyl)amino)methyl]phenol;

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

Co++ gl R4N.X 25°C 0.15M C 2002FGc (95361)4142

B(CoHL)=22.46
B(CoH2L)=27.52
B(CoH-1L)=4.24
B(Co2H-1L)=14.25

Medium: 0.15 M Me4NCl. B(Co2H-2L)=5.68, B(Co2H-3L)=-5.27.

Co++ gl R4N.X 25°C 0.15M C 2001CFa (95362)4143

K(Co+HL)=13.81
K(CoHL+H)=8.65
K(CoH2L+H)=5.06
K(CoL+H)=9.57

K(CoL+Co=Co2L)=10.01, K(Co2L+OH)=5.16, K(Co2(OH)L+OH)=2.78.

Medium: 0.15 M NMe4Cl.

C16H34N2O5 L (6953)
7,13-Bis(2-methoxyethyl)-1,4,10-trioxa-7,13-diazacyclopentadecane;

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

Co++ gl R4N.X 25°C 0.10M C K1=3.76 1995LLa (95410)4144

Medium: Et4NClO4

C16H34N2O6 L CAS 69930-74-1 (1321)
N,N'-Bis(2-hydroxyethyl)-1,7,10,16-tetraoxa-4,13-diazacyclooctadecane;

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

Co++ gl R4N.X 25°C 0.10M C K1=2.80 1995LLa (95443)4145

Medium: Et4NClO4

C16H34N4O2 L CAS 60598-04-1 (1530)
4,7-Dimethyl-1,4,7,10-tetraaza-13,18-dioxabicyclo[8,5,5]eicosane;

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

Co++ gl R4N.X 25°C 0.10M U K1=9.9 1978LMa (95468)4146

C16H36NCl L (1306)
Tetrabutylammonium chloride; (C4H9)4N+Cl-

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	oth/un	25°C	?	U	M		1981SSb (95521)	4147
							K(CoCl ₂ (pyridine) ₂ +LC1)=4.10		
							K(LCoCl ₃ (pyridine)+LC1)=0.48		
							K(LCoCl ₃ (2-Me-Py)+LC1)=1.18		
							K(CoCl ₂ (3-Me-Py) ₂ +LC1)=3.70		
							K(LCoCl ₃ (3-Me-Py)+LC1)=0.27, K(CoCl ₂ (4-Me-Py) ₂ +LC1)=3.48,		
							K(LCoCl ₃ (4-Me-Py)+LC1)=0.08. Data available for 4-Acetyl and 4-Cyanopyridine		

C16H36N4		L						CAS 54622-44-5	(147)
5,5,7,12,12,14-Hexamethyl-1,4,8,11-tetraazacyclotetradecane;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	oth/un	25°C	0.10M	U	M		1990BEa (95534)	4148
							K(CoCl+O ₂)=2.75		
							K(CoSCN+O ₂) > 4.18		
							K(CoL+Cl)=0.58		
							K(CoL+SCN)=2.24		
							Electrolytes: K(CoCl+O ₂) in 1.0M NaCl, K(CoL+SCN) and K(CoLSCN+O ₂) in		
							0.1M (LiClO ₄ +LiSCN), K(CoL+Cl) in 0.50M (LiClO ₄ +NaCl)		

C16H36N4O2		L						(7297)	
1,11-Bis(2-hydroxyethyl)-4,8-dimethyl-1,4,8,11-tetraazacyclotetradecane;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	R4N.X	25°C	0.10M	C		K1=8.19	1996BCc (95548)	4149
							B(CoH-1L)=1.86		
Medium: Et4ClO4									

C16H36N4O2		L						(7296)	
1,4-Bis(2-hydroxyethyl)-8,11-dimethyl-1,4,8,11-tetraazacyclotetradecane;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	R4N.X	25°C	0.10M	C		K1=8.3	1996BCc (95556)	4150
							B(CoH-1L)=2.1		
Medium: Et4ClO4									

C16H36N4O4		L						(6703)	
1,4,7,10-Tetrakis(2-hydroxyethyl)-1,4,7,10-tetraazacyclododecane;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaNO3	25°C	0.10M	C		K1=6.0	1995TDa (95567)	4151
							K(Co+HL)=5.8		
							B(CoH-1L)=-2.5		

C16H38N6 L (6697)
1,4,7,13-Tetramethyl-1,4,7,10,13,16-hexaazacyclooctadecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaCl04	25°C	0.15M	C		K1=13.14	1993BBa (95604)	4152

C16H38N6O2 L O-BisDien CAS 43090-52-4 (5479)
1,4,7,13,16,19-Hexaaza-10,22-dioxacyclotetracosane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	C	M	K1=2.93 B(CoHL)=6.09 B(Co2HLA)=23.00 B(Co2LA)=15.39 B(CoHLA)=20.33	1994MMa (95619)	4153

B(CoH2LA)=27.47, B(CoH3LA)=33.55, B(Co2HLB)=27.74, B(CoH2LB)=31.49,
B(CoH3LB)=38.79, B(CoH4LB)=44.75, B(CoH5LB)=51.67. H2A=H3PO3, H3B=H3PO4

Co++	gl	KCl	25°C	0.10M	C	M	K1=9.81 *K(Co2L)=-4.50 K(CoL+H)=7.37 K(CoHL+H)=6.27	1992MMb (95620)	4154
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Data also for mixed complexes with malonic acid, phosphoric acid, glycine and acetohydroxamic acid.

Co++	gl	KCl	25°C	0.10M	C	M	B(CoLA)=15.01 B(CoHLA)=23.76 B(CoH2LA)=29.79 B(CoH3LA)=35.08	1991MMa (95621)	4155
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B(CoH-1LA)=4.74, B(Co2LA)=20.03, B(Co2H-1LA)=8.9, K(CoL+A)=5.28
K(Co2LA+O2=Co2L(OH)A02+H)=-7.01. H2A=Dihydroxy malonic acid.

Co++	gl	KCl	25°C	0.10M	C	M	K1=10.35 K(Co+HL)=8.74 K(Co+H2L)=5.28 K(Co+H3L)=4.74 B(Co2L)=13.45	1990SMb (95622)	4156
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B(Co2LA)=25.75, B(Co2LB)=26.42. H2A=1,2-Dihydroxybenzene, H4B=1,2-dihydroxybenzene-3,5-disulfonic acid. Other constants and O2 binding data also

Co++	gl	KCl	25°C	0.10M	C	M	B(Co2L)=12.4 K(Co2L(O2)(OH)2+H)=8.25 K(Co2L(O2)(OH)3+H)=9.36 (Co2L(O2)OH)(H)/(Co2L)pO2=-3.3	1988MMf (95623)	4157
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K(CoHL+oxalate)=4.36; K(CoH2L+oxalate)=6.50; K(Co2L+oxalate)=9.06

 C16H40N4O12P4 H8L CAS 41007-47-0 (2070)
 1,4,7,10-Tetraethylphosphonic acid-1,4,7,10-tetraazacyclododecane;
 C8H16N4(CH2CH2.PO(OH)2)4

Co++	gl	KN03	25°C	1.00M	U	K1=14.8	1989PBb (95636)4159
						K(Co+HL)=10.7	
						K(Co+H2L)=7.41	
						K(Co+H3L)=5.6	

Co++ gl NaCl04 25°C 0.15M C M 1992ABa (95656)4160
 K(CoA+4H+L)=38.56
 K(CoA+5H+L)=43.66
 K(CoA+6H+L)=47.45
 K(CoA+H4L)=2.9
K(CoA+H5L)=3.5, K(CoA+H6L)=3.9, K(CoA+H7L)=4.1, B(CoA+7H+L)=50.41,
CoA=Co(CN)₆---.

Co++	gl	NaClO4	25°C	0.15M	C	K1=13.20	1989BBd (95657)4161
						B(CoHL)=21.53	
						B(CoH2L)=28.93	
						K(CoL+H)=8.33	
						K(CoHL+H)=5.40	

Co++	gl	NaClO4	25°C	0.15M	C	K1=14.05	1993BBe (95676)4162
						B(CoHL)=23.84	
						B(CoH2L)=30.45	
						B(CoH3L)=35.92	

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++ gl NaCl04 25°C 0.01M U K1=8.43 1981GMe (95700)4163

C17H12N4O7S2 H3L (6784)
2-(4-Benzimidazolylazo)-2-hydroxynaphthalene-3,6-disulfonic acid;

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

Co++ gl NaCl 25°C 0.10M M K1=7.43 B2=12.24 19910Ea (95728)4164

C17H13NO3S H2L CAS 119516-70-0 (6185)
7-Hydroxy-8((2-mercaptophenyl)iminomethyl)-4-methyl-2H-1-benzopyran-2-one;

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

Co++ gl diox/w 20°C 70% U T H K1=21.70 1988KOb (95747)4165
25 C:K=20.56; 32 C: K=19.06; 45 C:K=16.32. DH=-382 kJ mol⁻¹, DS=-888

C17H13N5O5 HL CAS 158728-44-0 (8460)
2-[[4,5-Dihydro-3-methyl-1-(4-nitrophenyl)-5-oxo-1H-pyrazol-4-yl]azo]benzoic acid;

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

Co++ gl alc/w 25°C 70% U K1=11.95 B2=21.95 1994RAb (95781)4166
Medium: 70% v/v EtOH/H₂O, 0.1 M NaCl.

C17H14N2O HL CAS 2046-17-5 (5214)
1-(2-Methylphenylazo)-2-hydroxynaphthalene;

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

Co++ gl mixed 25°C 75% U K1=9.45 B2=17.71 1972MCb (95792)4167
Medium: 75% acetone, 0.1 M KNO₃

C17H14N2O HL CAS 6756-41-8 (5215)
1-(4-Methylphenylazo)-2-hydroxynaphthalene;

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

Co++ gl mixed 25°C 75% U K1=9.82 B2=17.73 1972MCb (95807)4168
Medium: 75% acetone, 0.1 M KNO₃

C17H14N2O2 HL CAS 1229-55-6 (5216)
1-(2-Methoxyphenylazo)-2-hydroxynaphthalene;

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

Co++ gl mixed 25°C 75% U K1=9.94 B2=18.98 1972MCb (95826)4169
Medium: 75% acetone, 0.1 M KNO₃

C17H14N2O2 HL CAS 13441-91-1 (5217)

1-(4-Methoxyphenylazo)-2-hydroxynaphthalene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	mixed	25°C	75%	U		K1=9.32 B2=17.09	1972Mcb (95841)	4170
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Medium: 75% acetone, 0.1 M KNO3

C17H14N2O2 L CAS 4551-69-3 (698)

4-Benzoyl-3-methyl-1-phenyl-2-pyrazolin-5-one;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	dis	non-aq	25°C	100%	U	M		1973AAb (95869)	4171
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K(CoL2+py)=3.48
K(CoL2+2py)=6.60
K(CoL2+A)=2.69
K(CoL2+2A)=4.23

Medium: benzene. K(CoL2+B)=3.52, K(CoL2+2B)=6.71; K(CoL2+C)=3.57, K(CoL2+2C)=6.79. A=2-methylpyridine, B=3-methylpyridine, C=4-methylpyridine

Co++	dis	non-aq	25°C	100%	U	M		1973AAb (95870)	4172
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K(CoL2+A)=2.77
K(CoL2+2A)=4.46
K(CoL2+B)=2.23
K(CoL2+2B)=3.93

Medium: benzene. K(CoL2+C)=4.12, K(CoL2+2C)=8.1. A=2,4-dimethylpyridine, B=2,6-dimethylpyridine, C=pyridine N-oxide

Co++	dis	non-aq	25°C	100%	U	M		1973AAb (95871)	4173
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K(CoL2+A)=3.74
K(CoL2+B)=3.85
K(CoL2+C)=3.74
K(CoL2+D)=3.44

Medium: benzene. A=2-methylpyridine N-oxide, B=3-methylpyridine N-oxide, C=4-methylpyridine N-oxide, D=2,6-dimethylpyridine N-oxide.

C17H14N2O5S H3L Calmagite CAS 3147-14-6 (2875)

1-(1-Hydroxy-4-methyl-2-phenylazo)-2-naphthol-4-sulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	sp	NaClO4	25°C	0.30M	U		K1=21.03	1969Kmb (95927)	4174
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C17H14N4O L CAS 313254-53-4 (9127)

N-(Bis(2-pyridyl)methyl)pyridine-2-carboxamide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	KNO3	25°C	0.10M	U		K1=5.15 B(Co2H-2L2)=-3.61	2004GLb (95954)	4175
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B(Co2H-3L2)=-14.43

C17H1402 HL CAS 6271-22-3 (8518)
1,5-Diphenyl-4-pentene-1,3-dione;

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

Co++ gl diox/w 28°C 0.10M M K1=7.40 B2=14.22 1998VKc (95959)4176
Medium: 50% v/v dioxane/H2O, 0.2 M KCl. Data for 3',4'-substituted
(HO-, CH3O-) derivatives.

C17H1403 HL (6843)
1,1-Dibenzoylpropan-2-one; CH3.CO.CH(CO.C6H5)2

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

Co++ gl KCl 25°C 0.20M U K1=4.57 1992CMd (95964)4177

C17H1403 H2L CAS 1467-40-9 (795)
1,5-Diphenylpentane-1,3,5-trione; C6H5.CO.CH2.CO.CH2.CO.C6H5

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

Co++ gl alc/w 25°C 70% C 1985HWa (95975)4178
B(CoHL)=16.29

Medium: 70% v/v MeOH/H2O

Co++ gl diox/w 30°C 75% U K1=9.62 B2=18.13 1960KFc (95976)4179

C17H15N03 HL (6321)
Benzoylacetoneanthranilic acid; C6H5.CO.CH2.C(CH3):N.C6H4.CO0H

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

Co++ gl diox/w 30°C 50% U K1=6.82 B2=11.37 1975PNa (95985)4180

C17H15N30S HL (1292)
2-(4',5'-Dimethyl-2-thiazolylazo)-4-phenylphenol;

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

Co++ gl diox/w 25°C 60% U K1=8.22 B2=17.07 1981KTa (95993)4181

C17H16N20 HL CAS 36458-48-7 (5219)
2-(4-Tolylaminomethyl)-8-hydroxyquinoline;

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

Co++ gl diox/w 25°C 50% U K1=8.78 B2=16.84 1972HUb (96023)4182
Medium: 50% v/v dioxan, 0.1 M KCl

C17H16N4O HL (3487)

3-Methyl-1-phenyl-4-(2-tolylazo)-5-pyrazolone;

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

Co++ gl diox/w 30°C 75% U K1=8.2 B2=16.2 1959SKb (96051)4183

C17H16N4O HL (3488)

3-Methyl-1-phenyl-4-(3-tolylazo)-5-pyrazolone;

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

Co++ gl diox/w 30°C 75% U K1=6.3 B2=13.8 1959SKc (96055)4184

C17H16N4O HL (3489)

3-Methyl-1-phenyl-4-(4-tolylazo)-5-pyrazolone;

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

Co++ gl diox/w 30°C 75% U K1=6.5 B2=14.1 1957SFa (96059)4185

C17H16N4O HL (4112)

4-(2'-Tolylazo)-1-phenyl-5-methylpyrazol-3(2H)-one;

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

Co++ gl diox/w 30°C 75% U K1=6.15 B2=12.34? 1967SSg (96065)4186

C17H16N4O5 HL (4121)

3-Methyl-4-(2'-methoxyphenylazo)-1-phenylpyrazol-5(2H)-thione;

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

Co++ gl diox/w 30°C 75% U K1=11.3 B2=21.5 1964STc (96075)4187

C17H16N4O5 HL (3494)

3-Methyl-4-(2-methylthiophenylazo)-1-phenyl-5-pyrazolone;

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

Co++ gl diox/w 30°C 75% U K1=8.6 B2=17.9 1959SKb (96081)4188

C17H16N4O5 HL (4122)

5-Methyl-4-(2'-methylthiophenylazo)-1-phenylpyrazol-3(2H)-one;

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

Co++ gl diox/w 30°C 75% U K1=8.7 B2=16.02 1967SSg (96087)4189

C17H16N4O2 HL CAS 15095-98-5 (4115)

4-(2'-Methoxyphenylazo)-1-phenyl-5-methylpyrazol-3(2H)-one;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U			K1=8.8 B2=16.16	1967SSg (96095)	4190

C17H16N4O2 HL CAS 37613-32-4 (3490)

4-(4-Methoxybenzylazo-3-methyl-1-phenyl-5-pyrazolone;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U			K1=6.4 B2=13.7 K3=3.6	1959SKb (96104)	4191

C17H16N4O2S HL CAS 202867-34-3 (7313)

2-[2-(5-Methylbenzothiazolyl)azo]-5-dimethylaminobenzoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	sp	alc/w	RT	16%	C			B2eff=11.06	1998FZa (96108)	4192

Medium: 16% EtOH/H2O, 0.5% sodium dodecyl sulfate.

C17H16O4 H2L CAS 29976-84-9 (8523)

1-(2-Hydroxy-5-methylphenyl)-3-(4-methoxyphenyl)-1,3-propanedione;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	diox/w	30°C	70%	U			K(Co+HL)=5.30 K(CoHL+HL)=5.00	1996SNa (96125)	4193

Medium: 70% v/v dioxane/H2O, 1.0 M NaClO4.

C17H16O4 H2L CAS 58134-82-0 (6193)

Benzoyl-2-hydroxy-4-methoxy-3-methylacetophenone;

C6H5.CO.CH2.CO.C6H2(OH)(OCH3)(CH3)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	mixed	30°C	60%	M	I		K1=6.23 B2=12.36	1991GDb (96142)	4194

Medium: 60%v/v acetone/water; 0.1M NaClO4; data also for 65% and 75%; for 75% v/v dioxane/water and EtOH/water.

Co++	gl	mixed	30°C	60%	M	I		K1=6.23 B2=12.36	1991GDc (96143)	4195
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Medium: 60%v/v acetone/water; 0.1M NaClO4; data also for 65% and 75%; for 75% v/v dioxane/water and EtOH/water

Co++	gl	alc/w	30°C	75%	M	TI		K1=6.30 B2=11.38	1990DGc (96144)	4196
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Medium: 75% v/v EtOH/H2O

C17H16O4 HL CAS 18362-51-1 (3485)
Di-2-methoxybenzoylmethane; CH3.O.C6H4.CO.CH2.CO.C6H4.O.CH3

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

Co++ gl diox/w 30°C 75% U K1=10.32 B2=19.32 1955H0a (96170)4197

C17H16O6 HL (4111)
2-Hydroxy-2',4',4-trimethoxydibenzoyl; HO.C6H4.CO.CO.C6H2(OCH3)3

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

Co++ gl NaClO4 ? 0.10M U K1=5.15 B2=10.00 1963DSa (96180)4198

C17H17NO3 HL CAS 58434-59-6 (1213)
2'-Hydroxy-4-methoxy-5'-methylbenzylidene acetophenone oxime

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

Co++ gl diox/w 25°C 50% U K1=7.41 1983BSc (96189)4199
Medium: 50% v/v dioxan/H2O, 0.2 M KNO3.

C17H18N2O2 H2L (6774)
1,3-Bis(salicylaldimino)propane; CH2(CH2.N:CH.C6H4.OH)2

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

Co++ gl mixed 35°C 0.10M M K1=9.10 1998RJa (96201)4200
Medium: 80% (v/v) DMSO/H2O, 0.2 M KNO3.

C17H18N2O4 H2L CAS 59400-11-2 (3491)
N,N'Trimethylenedianthranilic acid; HOOC.C6H4.NH.(CH2)3.NH.C6H4.COOH

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

Co++ gl diox/w 35°C 50% U K1=5.0 1958YSa (96208)4201

C17H18N3O3F HL Ciprofloxacin CAS 189257-90-7 (7142)
1-Cyclopropyl-6-fluoro-1,4-dihydro-4-oxo-7[1-piperazinyl]-3-quinoline carboxylic acid;

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

Co++ gl KCl 25°C 0.20M C 1996TBc (96222)4202
B(CoHL)=12.40
B(CoH2L2)=24.96
B(CoHL2)=17.65

C17H18O2 HL (5207)

alpha-Naphthoyl pivaloyl methane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	diox/w	30°C	75%	U		K1=9.71 B2=19.03	1972UDa (96234)	4203
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Medium: 75% v/v dioxan, 0.01 M Me4NC104

C17H18O2 HL (5208)

beta-Naphthoyl pivaloyl methane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	diox/w	30°C	75%	U		K1=9.95 B2=19.33	1972UDa (96239)	4204
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Medium: 75% v/v dioxan, 0.01 M Me4NC104

C17H19N3 L Antazoline CAS 91-75-8 (3486)

2-(N-(Benzyl)-N-phenylaminomethyl)-1,4,5H-1,3-diazole, antistine;

C3H5N2.CH2.N(C6H5)CH2.C6H5

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	KCl	25°C	0.06M	U T H		K1=3.96 B2=7.65	1962ALa (96262)	4205
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At 0 C: K1=3.69, K2=3.41. DH(B2)=46 kJ mol⁻¹, DS=301 J K⁻¹ mol⁻¹

C17H19N3O2S2 HL BMPBzH CAS 93341-39-0 (6239)

2-(1'-Benzenesulfonylamino-3-methylmercapto)propylbenzimidazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	diox/w	30°C	50%	C	M	K1=5.10	1987MSd (96275)	4206
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*K(CoL2)=-9.03

K(Co(gly)+L)=4.92

B(Co(gly)L)=10.62

Medium: 50% v/v dioxane/H2O, 0.2 M NaNO3.

Co++	gl	diox/w	20°C	50%	C T H		K1=6.12 B2=11.20	1984MSd (96276)	4207
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30 C: K1= 6.05, K2=5.10; 40 C:K1=6.00, K2=5.12

DH(K1)=2.2 kJ mol⁻¹, DS=150 J K⁻¹ mol⁻¹; DH(K2)=-10.4, DS=92

C17H20N4O L CAS 192878-10-7 (8495)

Di(2-ethylphenyl)carbazone;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	diox/w	25°C	50%	U		K1=5.26 B2=10.09	1996SKb (96302)	4208
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Medium: 50% v/v dioxane/H2O, 0.10 M NaClO4.

C17H20N4O6 HL Riboflavin CAS 83-88-5 (1438)

7,8-Dimethyl-10(D-1'-ribityl)isoalloxazine, Vitamin B2, Vitamin H

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO4	30°C	0.20M	M		K1=4.13	1987MMc (96331)	4209
Co++	sol	mixed	25°C	95%	U		K1=0.95	1986Lda (96332)	4210
Medium: CH3CN, 1 M LiClO4.3H2O									
Co++	gl	KNO3	35°C	0.10M	U		K1=4.09 K(Co+HL)=3.54	1973TMa (96333)	4211
Co++	gl	oth/un	20°C	0.01M	U		K1=3.9	1953ALa (96334)	4212

C17H20O2Fe		HL		(5222)					
Ferrocenoyl pivaloyl methane;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U		K1=9.98 B2=19.58	1972UDa (96357)	4213
Medium: 75% v/v dioxan, 0.01 M									

C17H21NO		L	Benadryl		CAS 58-73-1		(3492)		
N,N-Dimethyl-2-(diphenylmethoxy)ethylamine;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.06M	U T H		K1=3.32 B2=6.55	1962ALa (96369)	4214
At 0 C: K1=3.47, K2=3.30. DH(B2)=-8 kJ mol ⁻¹ , DS=100 J K ⁻¹ mol ⁻¹									

C17H21N4O9P		H3L		CAS 130-40-5		(3495)			
Flavin mononucleotide, Riboflavin-5'-phosphoric acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	35°C	0.10M	U		K1=5.80	1973TMa (96384)	4215
Co++	ix	NaCl	23°C	0.10M	U		K1=2.41	1958WAa (96385)	4216

C17H23N3O4		H2L		(6691)					
N,N'-((Pyridine-2,6-diyl)bis-methylene)bis-proline;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaNO3	25°C	0.10M	U		K1=15.01	1992BSb (96410)	4217

C17H24N4O6		H3L		(7349)					
3,6,9,15-Tetraazabicyclo[9.3.1]pentadeca-1(15),11,13-triene-3,6,9-triethanoic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	R4N.X	25°C	0.10M	C		K1=18.92	1997DQa (96449)	4218

K(CoL+H)=2.95
K(Co(OH)L+H)=9.45

Medium:Me4NNO3

Co++ EMF KCl 20°C 0.10M C K1=13.3 1981SFa (96450)4219
Method: Pt/H2 electrode.

C17H26N4O2 L CAS 63972-20-3 (5497)
6-Benzyl-1,4,8,11-tetraazacyclotetradecane-5,7-dione;

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

Co++ gl NaClO4 35°C 0.20M U M 1983MKb (96491)4220
B(CoH-2L)=-11.43

Ternary complex with dioxygen: B(Co2H-4L2(O2))=-9.03

C17H26N4O4 H2L CAS 205595-08-0 (8972)
3,11-Bis(carboxymethyl)-3,7,11,17-tetraazabicyclo[11.3.1]heptadeca-1(17),13,15-triene;

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

Co++ gl R4N.X 25°C 0.10M C K1=15.58 1998CDa (96502)4221
Medium: 0.10 M Me4NNO3.

C17H29N5O8 H3L (6622)
1,4,7-Tris(carboxymethyl)-1,4,7,10,14-pentaazacyclohexadecane-9,15-dione;

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

Co++ gl KCl 25°C 0.10M C K1=13.1 1996IOb (96589)4222
B(CoHL)=17.2
B(CoH-1L)=1.3
B(CoH-2L)=-7.2

C17H30N4 L CAS 63972-25-8 (5492)
6-Benzyl-1,4,8,11-tetraazacyclotetradecane;

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

Co++ gl NaClO4 35°C 0.20M U M K1=9.28 1983MKb (96596)4223
Ternary complex with dioxygen: B(Co2L2(O2))=27.38

C17H30N4O8 H4L TRITA CAS 60239-20-5 (1018)
1,4,7,10-Tetraazacyclotridecane-1,4,7,10-tetraethanoic acid;

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

Co++ gl KNO3 25°C 0.10M C K1=19.84 1992CDd (96631)4224
B(CoHL)=24.04

$$B(\text{CoH}_2\text{L}) = 27.02$$

Co++	gl	KCl	25°C 0.10M C	K1=17.5	1991CMb (96632)4225
				K(CoL+H)=4.83	
				K(CoHL+H)=3.57	
				K(CoH-1L+H)=13.06	

Method: batch potentiometry

Co++ cal KN03 25°C 0.10M C H 1984DFa (96633)4226
DH(K1)=-34.3 kJ mol⁻¹, DS(K1)=268 J K⁻¹ mol⁻¹.

Co++	gl	KN03	25°C 0.10M C	K1=20.10	1982DSa (96634)4227
				K(Co+HL)=12.73	
				K(Co+H2L)=6.17	

Co++ EMF KCl 20°C 0.10M C K1=15.0 1981SFa (96635)4228
Method: Pt/H2 electrode.

Co++ gl KCl 20°C 0.10M U K1=14.98 1976SFb (96636)4229

C17H31N3O8 H3L CAS 282717-18-4 (7776)
1,4-Dioxa-7,10,14-triazacyclohexadecane-7,10,14-triethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K	values	Reference	ExptNo
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Co++	gl	R4N.X	25°C	0.10M C	K1=12.31	2000CDd (96679)4230
					K(CoL+H)=5.66	
					K(CoHL+H)=3.44	
					K(CoL+Co)=3.71	
					K(Co2L+H)=4.67	

Medium: 0.10 M (Me₄N)NO₃. K(Co2H-1L+H)=7.11, K(Co2H-2L+2H)=15.61, *K(CoL)=-10.49.

C17H38N4O3 L (7318)
1,4,8-Tris(2-hydroxyethyl)-11-methyl-1,4,8,11-tetraazacyclotetradecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++ gl R4N.X 25°C 0.10M C K1=7.6 1997Rwa (96796)4231
B(CoH-1L)=0.6

Medium: Et4NC104

C17H38N6 L CAS 191231-50-2 (7348)
1,5-Bis(1,4,7-triaza-1-cyclononyl)pentane;

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

Medium: NEt4ClO4

 C17H39N5 L (5933)
 1-(2-(Dimethylamino)ethyl)-4,8,11-trimethyl-1,4,8,11-tetraazacyclotetradecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	KN03	25°C	0.50M	M			1983BKa (96822)	4233
							K(CoL+SCN)=2.67		
							K(CoL+N3)=2.19		

 C18H11N02 HL CAS 83-08-9 (4126)
 2-(2'-Quinolyl)indan-1,3-dione;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U		K1=9.8	1964CMb (96839)	4234

 C18H12N6 L CAS 3682-35-7 (1891)
 2,4,6-Tris(2-pyridyl)-1,3,5-triazine; C3N3(C5H4N)3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	NaCl	25°C	0.23M	U			1971PPa (96878)	4235
							K(CoL2+2H=CoL+H2L)=0.42		
							K(CoL+2H=Co+H2L)=-0.22		

 C18H13N03 H2L (5238)
 N-(2-Hydroxy-1-naphthalidene)anthranilic acid Schiff base;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	50%	U		K1=7.47 B2=11.90	1971MSh (96893)	4236

Medium: 50% dioxan, 0.1 M NaCl04

 C18H14N2O4 H2L (3499)
 2-(2-Hydroxy-1-naphthylazo)phenoxyethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U		K1=11.97	1964PCa (96929)	4237

 C18H14N4 L BPIB CAS 18653-73-1 (9054)
 N,N'-Bis(2-pyridinylmethylene)-1,2-benzenediamine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	dis	non-aq	25°C	100%	C	M		20030Ha (96961)	4238

Method: Distribution from buffered 0.10 M KN03 into nitrobenzene.
 K(Co+3L(org)+2A=CoL3A2(org))=15.4. HA is picric acid.

C18H15N3OS L (5254)

1-Benzoyl-4-(1-naphthyl)thiosemicarbazide;

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

Co++ sp mixed 25°C 50% U B2=5.75 1969CFb (96999)4239

Medium: 50% acetone

C18H15N3O3S HL CAS 61625-17-0 (4139)

Di-4-tolylthiovioluric acid;

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

Co++ gl diox/w 30°C 25% M T H K1=4.58 B2= 8.66 1978MGe (97011)4240

Medium: 25% dioxane/H2O, 0.10 M NaClO4. Data for 40, 45 and 50 C. DH(K1)=

-47.7 kJ mol⁻¹, DS(K1)=-69.9 J K⁻¹ mol⁻¹; DH(K2)=-47.7, DS(K2)=-78.7.

C18H15N4O3Br HL (5257)

1-Phenyl-3-carbethoxy-5-(2-bromobenzeneazo)-4-pyrazolone;

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

Co++ gl diox/w 30°C 75% U K1=5.57 B2=12.39 1971SRa (97024)4241

C18H15N4O3Br HL (5258)

1-Phenyl-3-carbethoxy-5-(4-bromobenzeneazo)-4-pyrazolone;

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

Co++ gl diox/w 30°C 75% U K1=6.47 B2=14.02 1971SRa (97030)4242

C18H15N4O3Cl HL (5255)

1-Phenyl-3-carbethoxy-5-(2-chlorobenzeneazo)-4-pyrazolone;

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

Co++ gl diox/w 30°C 75% U K1=5.65 B2=12.67 1971SRa (97036)4243

C18H15N4O3Cl HL (5256)

1-Phenyl-3-carbethoxy-5-(4-chlorobenzeneazo)-4-pyrazolone;

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

Co++ gl diox/w 30°C 75% U K1=6.74 B2=14.06 1971SRa (97042)4244

C18H15N4O3F HL (5261)

1-Phenyl-3-carbethoxy-5-(2-fluorobenzeneazo)-4-pyrazolone;

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

Co++ gl diox/w 30°C 75% U K1=6.14 B2=12.88 1971SRa (97048)4245

C18H15N4O3F HL (5262)
1-Phenyl-3-carbethoxy-5-(4-fluorobenzeneazo)-4-pyrazolone;

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

Co++ gl diox/w 30°C 75% U K1=6.61 B2=14.07 1971SRa (97054)4246

C18H15N4O3I HL (5259)
1-Phenyl-3-carbethoxy-5-(2-iodobenzeneazo)-4-pyrazolone;

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

Co++ gl diox/w 30°C 75% U K1=5.74 B2=11.86 1971SRa (97060)4247

C18H15N4O3I HL (5260)
1-Phenyl-3-carbethoxy-5-(4-iodobenzeneazo)-4-pyrazolone;

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

Co++ gl diox/w 30°C 75% U K1=6.66 B2=13.97 1971SRa (97066)4248

C18H15N5O3S H2L (5263)
N-(2-Pyridyl)-N'-(4-phenylsulfonic acid)-C-phenyl-formazan;

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

Co++ sp KCl 30°C 0.10M U K1=14.7 1971MKa (97071)4249
By glass electrode: K1=10.4, K2=6.8

C18H15N5O5 HL (5239)
1-Phenyl-3-carbethoxy-5-(2-nitrobenzeneazo)-4-pyrazolone;

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

Co++ gl diox/w 30°C 75% U K1=5.27 B2=12.06 1971SRa (97077)4250

C18H15N5O5 HL (5240)
1-Phenyl-3-carbethoxy-5-(4-nitrobenzeneazo)-4-pyrazolone;

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

Co++ gl diox/w 30°C 75% U K1=5.89 B2=13.31 1971SRa (97083)4251

C18H15OP L CAS 791-28-6 (32)
Triphenylphosphine oxide; (C6H5)3PO

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

Co++ sp non-aq 25°C 100% U M 1978MMc (97091)4252
 $K(\text{CoCl}_2+\text{L})=4.15$
 $K(\text{CoCl}_2+2\text{L})=6.83$
 $K(\text{CoCl}_2+3\text{L})=9.25$

Medium: acetone

Co++ oth non-aq 25°C 100% U M 1973RHa (97092)4253
 $K(\text{CoI}_2\text{A}_2+\text{L}=\text{CoI}_2\text{AL}+\text{A})=1.57$
 $K(\text{CoI}_2\text{AL}+\text{L}=\text{CoI}_2\text{L}_2+\text{A})=0.16$

Medium: benzene. A=triphenylphosphine

Co++ sp non-aq 20°C 100% U 1969SSi (97093)4254
 $K(\text{CoCl}_2+\text{L})=2.64$
 $K(\text{CoCl}_2+2\text{L})=4.25$

Medium: acetone. In THF, $K(\text{CoCl}_2+\text{L})=2.69$, $K(\text{CoCl}_2+2\text{L})=4.66$

C18H15P L CAS 603-35-0 (621)

Triphenylphosphine; (C₆H₅)₃P

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

Co++ sp non-aq 30°C 100% U T M 1982SOa (97128)4255
 $K(\text{CoA}_2+\text{L})=1.6$

Medium: CHCl₃. HA=0,0'-diethyldithiophosphoric acid

C18H16N4O3 HL (5241)

1-Phenyl-3-carbethoxy-5-benzeneazo-4-pyrazolone;

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

Co++ gl diox/w 30°C 75% U K1=6.57 B2=14.21 1971SRa (97191)4256

C18H16N4O3S HL (3505)

(2-(4,5-Dihydro-3-methyl-5-oxo-1-phenyl-1H-pyrazol-4-yl)azophenylthio)ethanoic acid;

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

Co++ gl diox/w 30°C 75% U K1=13.50 1962SCc (97197)4257

C18H16N4O4 H2L (3500)

2-(4,5-Dihydro-3-methyl-5-oxo-1-phenyl-1H-pyrazol-4-ylazo)phenoxyethanoic acid;

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

Co++ gl diox/w 30°C 75% U K1=10.66 1962SCc (97208)4258

C18H16N4O6S HL (5267)

3-Ethoxycarbonyl-1-phenyl-4-(4-sulfophenylazo)-5-pyrazolone;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U		K1=5.81 B2=11.25	1969SSc (97218)	4259

C18H18N2O2S HL CAS 16082-60-3 (1678)
8-(2,4,6-Trimethylbenzenesulfonamido)quinoline;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U		K1=9.3 B2=17.5	1984NYa (97227)	4260

C18H18N4 L CAS 16858-01-8 (1528)
Tris(2-pyridylmethyl)amine; (C5H4NCH2)3N

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	20°C	0.10M	C	H	K1=11.38 K(CoL(OH)+H)=8.54	1977AHc (97251)	4261

DH1=-46.8 kJ mol⁻¹, DS1=58.2

Co++	gl	KNO3	20°C	0.10M	U	H	K1=11.4	1970WAa (97252)	4262
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By calorimetry, DH(K1)=-46.8 kJ mol⁻¹, DS=58.1 J K⁻¹ mol⁻¹

C18H18N4O HL (4128)
4-(2'-Ethylphenylazo)-5-methyl-1-phenylpyrazol-3(2H)-one;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U		K1=5.98 B2=12.01	1967SSg (97282)	4263

C18H18O3 HL (5233)
Ethyl-2,4-diphenyl acetoacetate; C6H5.CH2.CO.CH(C6H5).CO.O.CH2.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	C		K1=9.83	1973AAa (97297)	4264

C18H19N5O HL CAS 58858-65-5 (4130)
4-(2'-Dimethylaminophenylazo)-3-methyl-1-phenylpyrazol-5(2H)-one;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U		K1=11.02 B2=20.90	1963SYa (97315)	4265

C18H20N2O2 H2L CAS 5464-60-8 (8519)
2,2'-[1,2-Ethanediy]bis(nitriloethylidyne)]bisphenol;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	mixed	35°C	0.10M	M		K1=8.62	1998RJa (97328)	4266

Medium: 80% (v/v) DMSO/H₂O, 0.2 M KNO₃.

C18H₂₀N₂O₄ HL Bzl-Tyr-Gly CAS 80014-09-1 (2494)
(O-Benzyl)tyrosyl-glycine; H₂N.CH(CH₂.C₆H₄.O.CH₂.C₆H₅).CO.NH.CH₂.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	EMF	NaNO ₃	30°C	0.10M	U			1979EHa (97334)	4267

B(CoH-1L)=-4.15

B(CoH-2L)=-12.79

Plus other O-benzyl protected peptides involving tyrosine.

C18H₂₀N₂O₄ HL Gly-(Bzl-Tyr) CAS 69817-73-8 (2495)
Glycyl-(O-benzyl)tyrosine; H₂N.CH₂.CO.NH.CH(CH₂.C₆H₄.O.CH₂.C₆H₅).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	EMF	NaNO ₃	30°C	0.10M	U			1979EHa (97340)	4268

B(CoH-1L)=-5.44

B(CoH-2L)=-16.01

Plus other O-benzyl protected peptides involving tyrosine.

C18H₂₀N₂O₆ H₄L CAS 10328-28-6 (3501)
Ethylenedinitrilo-N,N'-bis(2'-hydroxyphenyl)-N,N'-diethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	C		K ₁ =20.11 K(CoL+H)=6.23 K(CoHL+H)=4.18	1993MMa (97388)	4269

Co++	gl	KNO ₃	25°C	0.10M	C		K ₁ =19.9 K(Co+HL)=15.7 K(Co+H ₂ L)=10.0 *K(CoH ₂ L)=-5.8 *K(CoHL)=-9.4	1992GVa (97389)	4270
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Co++	EMF	oth/un	?	?	U		K ₁ =11.0 K(Co+HL)=7.48 K(Co+H ₂ L)=4.83	1968TRc (97390)	4271
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C18H₂₀N₂O₁₂S₂ H₆L (5478)
1,6-Bis(2,3-dihydroxy-5-sulfobenzoyl)-1,6-diazaheptane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO ₃	25°C	0.10M	C		K ₁ =13.6	1982KRb (97449)	4272

C18H₂₀N₄ L CAS 284497-48-9 (9056)
(1R,2R)-N,N'-Bis(2-pyridylmethylidene)-trans-1,2-diiminocyclohexane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	dis	non-aq	25°C	100%	C	M		20010Hb (97459)	4273
Method: distribution from buffered 0.10 M NaCl into nitrobenzene. K(Co+3L(org)+2A=CoL3A2(org))=15.5. HA is picric acid.									

C18H20N4		L				cis-BPIC	CAS 90605-88-2	(9053)	
(1R,2S)-N,N'-Bis(2-pyridinylmethylene)-1,2-cyclohexanediamine;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	dis	non-aq	25°C	100%	C	M		20030Ha (97466)	4274
Method: Distribution from buffered 0.10 M KNO3 into nitrobenzene. K(Co+3L(org)+2A=CoL3A2(org))=15.3. HA is picric acid.									

C18H21NO2		HL					(683)		
trans-5-(3-Methylbutyl)-2-hydroxy-diphenylketoxime;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	35°C	0.10M	C		K1=12.10	1978JIa (97488)	4275

C18H22N2O2		L					(1563)		
1,4-Diaza-6,7:12,13-dibenzo-8,11-dioxacyclotetradecan-6,12-diene;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	25°C	65%	C	I	K1=3	1988ALa (97522)	4276
Medium: 65% EtOH/H2O, 0.1 M Me4NNO3									
Co++	gl	alc/w	25°C	65%	U		K1=5.68	1982WCa (97523)	4277
Medium: 65% EtOH, 0.1 M Me4NNO3									

C18H22N4O		HL					(5243)		
N-Methylanabasine-alpha'-azo-4-cresol;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	oth/un	?	?	U		B2=21.4	1972KTb (97528)	4278

C18H22N4O4		H2L					CAS 2444-14-6	(3502)	
N,N'-Bis(2-pyridylmethyl)diaminoethane-N,N'-diethanoic acid;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	oth/un	25°C	0.10M	U		K1=14.0	1965LCa (97537)	4279

C18H22O4		H2L				B(CH2AcAcH)2	(2252)		
1,3-Di(hexa-3,5-dione)-benzene; C6H4((CH2)2.CO.CH2.CO.CH3)2									

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl   diox/w 24°C  50%  U           K1=8.8          1979ACa (97558)4280
*****
C18H24N2O4                L                      (2478)
1,4,7,10-Tetraoxadecane-1,10-di(2-aminobenzene)
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl   diox/w 25°C  85%  C T H       K1=2.00          1983HBa (97590)4281
DH(K1)=-10 kJ mol-1. At 20 C: K1=2.00; 30 C: 1.80
*****
C18H24N6O2                L                      (5247)
N,N'-Bis(2-(2-pyridylmethyl-amino)-ethyl)-oxamide;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl   KCl      25°C  0.10M U           K1=4.8          1973BZa (97618)4282
                                K(Co+HL)=4.2
                                K(Co+L=CoH-1L+H)=-1.33
                                K(CoH-1L=CoH-2L+H)=-9.31
*****
C18H24N10                L                      CAS 85264-42-2 (7796)
N,N,N',N'-Tetrakis(1'-pyrazolylmethyl)-1,2-diaminoethane;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       dis non-aq 25°C 100%  U           K(M+3L+2ClO4=ML3.2ClO4)=15.06
                                1997HIb (97633)4283
Method: extraction form 0.1 M NaClO4 into nitrobenzene.
Reaction is: Co(aq)+3L(org)+2ClO4(aq)=CoL3.2ClO4(org)
*****
C18H25N3                L                      CAS 17327-80-9 (7651)
1,9-Diphenyl-2,5,8-triazanonane;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl   NaClO4 25°C  0.15M C           K1=6.03          1998PGc (97638)4284
                                K(CoL+OH)=4.76
*****
C18H26O8N2P2            H6L                      CAS 53431-87-1 (2325)
N,N'-Bis(2-hydroxybenzyl)ethylenediamine-N,N'-bis(methylenephosphonic)
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl   KNO3    25°C  0.10M C           K1=18.0          1975MMc (97739)4285
                                K(Co+H2L)=9.58
                                K(CoL+H)=9.88
                                K(CoHL+H)=6.70
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$$K(\text{CoH}_2\text{L}+\text{H})=5.09$$

C18H27N5 L (2942)
1,11-Bis-(2-pyridyl)-2,6,10-triazaundecane; (C5H4N.CH2.NH.C3H6)2NH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	cal	KNO3	25°C	0.1M	C	H	K1=11.47	1982Tmc	(97764)4286
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DH(K1)=-54.7 kJ mol⁻¹

Co++	cal	KNO3	25°C	0.10M	C			1982Tmd	(97765)4287
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DH1=-54.8 kJ/mol

Co++	gl	KNO3	25°C	0.10M	C		K1=11.47	1978HMa	(97766)4288
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K(CoL+H)=4.42

C18H28N4O4 H2L (7378)
7-Methyl-3,7,11,17-tetraazabicyclo[11.3.1]heptadeca-1(17),13,15-triene-3,11-diethan
oic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	R4N.X	25°C	0.10M	C		K1=14.4	1997CDb	(97782)4289
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K(CoL+H)=4.1

Medium: NMe4NO3

C18H28O6 H2L O(EAcAcE)20 CAS 73199-63-0 (2251)
1,11-Dioxacycloeicosane-5,7,15,17-tetraone;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	diox/w	24°C	50%	U		K1=9.7	1979ACa	(97828)4290
------	----	--------	------	-----	---	--	--------	---------	-------------

C18H28O10 H2L (OE0AcAcOE)2 CAS 62950-36-1 (2254)
1,4,10,13,16,22-Hexaoxacyclotetracosane-6,8,18,20-tetraone;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	diox/w	24°C	50%	U		K1=9.9	1979ACa	(97866)4291
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C18H29N5O2 L (6542)
15-Benzyl-1,4,7,10,13-pentaazacyclohexadecane-14,16-dione;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	oth	KCl	20°C	0.10M	C	T HM		1991Cma	(97888)4292
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$$\text{Keff}(2\text{CoH}-2\text{L}+\text{O}_2)=0.60$$

Keff in 0.05M KCl/0.05M borate, pH 9.0. DH=-77.8 kJ mol⁻¹,1

DS=-255.1 J K⁻¹ mol⁻¹. Keff at 25 C=0.43. Method, volumetric gas uptake

C18H30N4O12 H6L TTHA CAS 869-52-3 (694)
 Triethylenetetraaminehexaethanoic acid;((HOOCH2)2NCH2CH2N(CH2COOH)CH2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	vlt	oth/un	25°C	?	U	M			1981MNa (97998)	4293
								K(Cd+CoHL=CdLCo+H)=8.10		

Co++	gl	KNO3	25°C	0.10M	U			K1=17.1	1970HAa (97999)	4294
								K(CoL+H)=8.12		
								K(CoL+Co)=11.7		
								K(Co2L+H)=3.0		
								K(Co2HL+H)=2.6		

By ion-selective electrode (Hg): B(Co2L)=28.8

Co++	gl	KNO3	25°C	0.10M	U			K1=20.4	1968SCa (98000)	4295
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Co++	gl	KNO3	25°C	0.10M	U			K1=20.6	1967BMd (98001)	4296
								K(CoH3L+H)=1.57		
								K(CoH2L+H)=2.63		
								K(CoHL+H)=4.03		
								K(CoL+H)=7.97		

Co++	gl	KNO3	25°C	0.10M	U				1965BMf (98002)	4297
								K(2Co+L)=28.0		

C18H31N5O8 H3L (7300)
 1,4,7-Tris(carboxymethyl)-1,4,7,10,14-pentaazacycloheptadeca-9,15-dione;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	KCl	25°C	0.10M	C			K1=13.2	1996IOb (98125)	4298
								B(CoHL)=17.3		
								B(CoH2L)=19.4		
								B(CoH-1L)=1.7		
								B(CoH-2L)=-11.8		

C18H32N4O8 H4L TETA CAS 60239-22-7 (1019)
 1,4,8,11-Tetraazacyclotetradecane-1,4,8,11-tetraethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	R4N.X	25°C	0.1M	C	I	R	K1=16.6	2005AAa (98176)	4299
								K(CoL+H)=4.2		
								K(CoHL+H)=2.84		

IUPAC recommended values.

Co++	gl	KNO3	25°C	0.10M	C			K1=16.38	1992CDd (98177)	4300
								B(CoHL)=20.42		
								B(Co2L)=19.25		

B(Co2HL)=23.07

Co++ gl KCl 25°C 0.10M C K1=16.70 1991CMb (98178)4301
K(CoL+H)=4.44

K1 by direct potentiometry, K(CoL+H) by batch potentiometry

Co++ cal KNO3 25°C 0.10M C H 1984DFa (98179)4302
DH(K1)=-19.2 kJ mol⁻¹, DS(K1)=255 J K⁻¹ mol⁻¹.

Co++ gl KNO3 25°C 0.10M C K1=16.557 1982DSa (98180)4303
K(Co+HL)=9.949
K(Co+H2L)=2.63

Co++ EMF KCl 20°C 0.10M C K1=15.0 1981SFa (98181)4304
Method: Pt/H2 electrode.

Co++ gl KCl 20°C 0.10M U K1=15.00 1976SFb (98182)4305

C18H32N4O8 H4L (8192)
3-Methyl-1,5,8,11-tetraazacyclotridecane-1,5,8,11-tetraethanoic acid;

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

Co++ EMF KCl 20°C 0.10M C K1=17.4 1981SFa (98243)4306
Method: Pt/H2 electrode. For the 3-ethyl- derivative, K1=13.5;
for the 3,3-dimethyl- derivative, K1=7.3

C18H32N4O9 H4L CAS 189282-31-3 (8974)
4,7,10,13-Tetrakis-(carboxymethyl)-1-oxa-4,7,10,13-tetraazacyclopentadecane;

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

Co++ gl R4N.X 25°C 0.10M C K1=15.38 1999CDb (98253)4307
K(CoL+H)=5.77
K(CoL+Co)=4.57
K(Co2L+H)=4.72

Medium: 0.10 M NMe4NO3.

C18H33N3O9 H3L (6700)
1,7,13-Trioxa-4,10,16-triazacyclooctadecane-N,N',N''-triethanoic acid;

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

Co++ gl KCl 25°C 0.10M C K1=9.33 1993DSa (98295)4308
K(CoL+H)=7.53
B(Co2L)=12.10
K(Co2L+H)=6.57
K(Co(OH)L+H)=10.38

C18H33N3O9 H3L CAS 241486-67-9 (8509)

N,N',N''-Tris[2(S)-hydroxybutanoic acid]-1,4,7-triazacyclononane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	C			K1=15.78 K(CoL+H)=3.65 *K(CoL)=-8.90	2000DDc (98304)	4309

C18H36N2O6 L Cryptand 2,2,2 CAS 23978-09-8 (514)
1,10-Diaza-4,7,13,16,21,24-hexaoxabicyclo[8.8.8]hexacosane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	cal	non-aq	25°C	100%	C	H		K1=3.22	1999SBe (98506)	4310
Medium: acetonitrile. DH(K1)=-47.7 kJ mol ⁻¹ .										

Co++	gl	R4N.X	25°C	0.05M	C			K1=2.8	1997BCc (98507)	4311
Medium: 0.05 M Me4NClO4										

Co++	cal	alc/w	25°C	100%	U	H		K1=2.47	1985BUd (98508)	4312
Medium: MeOH, 0.05 M Et4NN03. DH=8.1 kJ mol ⁻¹										

Co++	gl	alc/w	25°C	95%	C			K1=<4	1981ANa (98509)	4313
Medium: 95% MeOH, 0.1 M Me4NCl										

Co++	gl	R4N.X	25°C	0.10M	C			K1=<2.5	1977ASc (98510)	4314
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C18H36N6 L CAS 450416-34-9 (8878)
1,3,5-Tri(n-2',5'-diazahexane)benzene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	M			K1=9.32 B(CoHL)=17.62 B(CoH2L)=26.74 B(CoH3L)=35.45 B(CoH4L)=42.91	2004GGa (98797)	4315

B(Co3H-1L)=22.77, B(Co3L)=30.79, B(Co2H2L)=40.12.

C18H38N2O6 L CAS 72911-99-0 (649)
4,13-Bis(2-methoxyethyl)-1,7,10,16-tetraoxo-4,13-diazacyclooctadecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	R4N.X	25°C	0.10M	C			K1=2.68	1995LLa (98835)	4316
Medium: Et4NClO4										

C18H40N4O4 L CAS 89066-60-2 (867)
N,N',N'',N'''-Tetrakis(2-hydroxyethyl)-1,4,8,11-tetraazacyclotetradecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaNO3	25°C	1.50M	C		K1=5.87 K(CoH-1L+H)=6.82	1993DCa (98919)	4317
Co++	gl	NaNO3	25°C	0.10M	U		K1=6.10 K(CoL+OH)=6.85	1984MMc (98920)	4318

C18H42N6O2 L (7321) 1,13-Dioxa-4,7,10,16,20,24-hexaazacyclohexacosane									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	C		K1=8.04 K(CoL+H)=9.50 K(CoHL+H)=7.41 K(CoH2L+H)=5.9 *K(CoL)=-10.77	1996MLa (98943)	4319
K(CoL+Co)=3.1									

C18H44N8 L (6737) N,N',N'',N'''-Tetrakis(2-aminoethyl)-1,4,8,11-tetraazacyclotetradecane;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	R4N.X	25°C	0.10M	C		B(Co2L)=13.9 B(Co2H-1L)=6.6 *K(Co2L)=-7.3	1993TTa (98963)	4320
Medium: 0.1 M Et4NClO4.									

C18H45N9 L (5838) 1,4,7,10,13,16,19,22,25-Nonaazacycloheptacosane;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	NaClO4	25°C	0.15M	C	M	B(Co2L(O2))=24.63 B(Co2H-1L(O2))=16.64 K(Co2L+O2)=5.8 K(Co2L(O2)+OH)=5.7	2000BBb (98969)	4321
K(Co2H-1L+O2)=6.8. By kinetics, K(Co2L+OH)=5.1 [Polyhedron,19,2447]									

Co++	gl	NaClO4	25°C	0.15M	C		K1=11.84 B(CoHL)=21.46 B(CoH2L)=28.91 B(Co2L)=18.85 B(Co2H2L)=31.32	1989BBd (98970)	4322
K(2Co+L+H2O=Co2LOH+H)=9.88, K(CoL+H)=9.62, K(CoHL+H)=7.45, K(Co2L+OH)=4.76									

C18H47N9 L CAS 133128-72-0 (6458)
2,5,8,11,14,17,20,23,26-Nonaaza-heptacosane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	sp	NaCl04	25°C	0.15M	C	M		2000BBb (98981)	4323
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B(Co2L(O2))=29.23

B(Co2H-1L(O2))=20.71

K(Co2L+O2)=7.5

K(Co2L(O2)+OH)=5.2

K(Co2H-1L+O2)=7.4. By kinetics, K(Co2L+OH)=4.8 [Polyhedron,19,2447]

Co++	gl	NaCl04	25°C	0.15M	C		K1=15.68	1993BBE (98982)	4324
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B(CoHL)=25.08

B(CoH2L)=32.15

B(CoH3L)=37.99

B(Co2L)=21.69

B(Co2H-1L)=13.31; B(Co2H-2L)=3.80

C19H1209Br2S H6L Bromo Pyrog.Red CAS 16574-43-9 (706)
5',5''-Dibromopyrogallolsulfonephthalein;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	sp	oth/un	25°C	?	U	I	B2=10.0	1985XZa (99009)	4325
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B(Co+2L+surfactant=CoL2)=11.58

C19H13N3O4S H2L CAS 85413-91-9 (4144)
1-Hydroxy-2-(8'-quinolylazo)naphthalene-4-sulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	alc/w	25°C	50%	U		K1=10.5	1967AND (99028)	4326
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Medium: 50% MeOH, 0.1 M NaCl04

C19H13N3O7S2 H3L SNAZOXS CAS 117-87-3 (995)
8-Hydroxy-7-(4'-sulfo-1'-naphthylazo)-quinoline-5-sulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	sp	NaCl04	25°C	0.10M	U		K1=6.97 B2=14.82	1978MCC (99045)	4327
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C19H15N08 H4L Alizarin Comp. CAS 3952-78-1 (671)
(3,4-Dihydroxy-2-anthraquinonyl-methyl)iminodiethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	sp	NaNO3	20°C	0.10M	U			1982WIA (99127)	4328
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K(Co+HL)=12.25

C19H16N2O2 HL CAS 29126-31-6 (8348)
N-[4-[[(2-Hydroxy-1-naphthalenyl)methylene]amino]phenyl] acetamide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	diox/w	25°C	75%	U			K1=5.93	1981MGB (99156)	4329
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Medium: 75% dioxane/H2O, 0.10 M NaClO4.

C19H16N2O2BrPS2 HL CAS 51040-14-3 (5286)
1-(4-Bromophenyl)-3-(diphenoxyphosphinothioyl)thiourea;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	sp	non-aq	20°C	100%	U				1973ADc (99159)	4330
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K(CoCl2+L=CoClL+Cl)=2.14
K(CoCl2+2L=CoL2+2Cl)=4.59

Medium: acetone

C19H16N2O2IPS2 HL CAS 51040-15-4 (5287)
1-(4-Iodophenyl)-3-(diphenoxyphosphinothioyl)thiourea;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	sp	non-aq	20°C	100%	U				1973ADc (99161)	4331
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K(CoCl2+L=CoClL+Cl)=2.14
K(CoCl2+2L=CoL2+2Cl)=4.57

Medium: acetone

C19H16O3 HL CAS 29632-57-3 (5270)
alpha-(1-Oxo-3-phenyl-2-propynyl)-benzeneethanoic acid ethyl ester;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	diox/w	30°C	75%	U			K1=8.83 B2=16.28	1973AAA (99176)	4332
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C19H17N2O2PS2 HL CAS 51040-09-6 (5285)
1-Phenyl-3-(diphenoxyphosphinothioyl)thiourea; PhNH.CS.NH.PS(OC6H5)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	sp	non-aq	20°C	100%	U				1973ADc (99180)	4333
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K(CoCl2+L=CoClL+Cl)=2.53
K(CoCl2+2L=CoL2+2Cl)=5.09

Medium: acetone

C19H17N3O4S2 HL Cephaloridine CAS 50-59-9 (8404)
7-[a-(2-Thienyl)acetamido]-3-(1-pyridylmethyl)-3-cephem-4-carboxylic acid betaine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++ gl NaClO4 25°C 0.10M U T M K1=5.60 B2= 9.20 2000CCe (99190)4334
K(CoL+ala)=4.87

Also data at 35 C.

C19H17N5O5 HL CAS 220035-54-1 (8655)
alpha-Pyridoin 4-phenylthiosemicarbazide;

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

Co++ gl diox/w 30°C 50% U TIH K1=10.07 B2=18.79 19980Fa (99199)4335
Medium: 50% H2O/dioxane, 0.10 M KNO3. Data for 50% v/v H2O/dioxane, I =
0.05-0.20 M, and for 40 and 50 C at I=0.10. DH and DS values.

C19H18N2O4S HL (7397)
2-Methyl-8-(toluene-4-sulfonamide)-6-quinolyethanoic acid;

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

Co++ gl alc/w 25°C 0.10M C K1=8.12 B2=17.06 1997HRa (99209)4336
B3=25.56

Medium: 50% v/v EtOH/H2O; 0.1 M NaClO4.

C19H18N4O3 HL (5276)
1-Phenyl-3-carbethoxy-5-(2-methylbenzeneazo)-4-pyrazolone;

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

Co++ gl diox/w 30°C 75% U K1=5.91 B2=12.81 1971SRa (99215)4337

C19H18N4O3 HL (5277)
1-Phenyl-3-carbethoxy-5-(4-methylbenzeneazo)-4-pyrazolone;

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

Co++ gl diox/w 30°C 75% U K1=6.58 B2=14.46 1971SRa (99221)4338

C19H18N4O3S H2L (4145)
4-(2'-(2''-Carboxyethylthio)Phe-azo)-3-Me-1-Phe-pyrazole-5(2H)-one;

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

Co++ gl diox/w 30°C 75% U K1=11.41 1965SMh (99227)4339

C19H18N4O3S HL CAS 16182-36-8 (1204)
Sulfamethazine-salicylaldimine;

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

Co++ gl NaClO4 25°C 0.20M U K1=4.68 B2=6.07 1976JCa (99234)4340

C19H18N4O4 HL (5278)
1-Phenyl-3-carbethoxy-5-(4-methoxybenzeneazo)-4-pyrazolone;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U			K1=6.62 B2=14.28	1971SRa (99240)	4341

C19H18N4O4 H2L (4142)
4-(2'-(2''-Carboxyethoxy)phenylazo)-3-methyl-1-Phe-pyrazol-5(2H)-one;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U			K1=10.67	1965SMh (99247)	4342

C19H19N3O2 L (6370)
2,6-Bis(2'-aminophenoxymethyl)pyridine; H2N.C6H4.O.CH2.C5H3N.CH2.O.C6H4.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	alc/w	25°C	95%	U			K1=<3	1990ADa (99265)	4343

In 95% ethanol/H2O, 0.1 M Et4NC104.

C19H19N7O6 H3L Folic acid CAS 75708-92-8 (194)
Pteroylglutamic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	sp	KNO3	25°C	0.20M	C				1996TFa (99281)	4344

K(Co+HL)=0.90
*K(CoHL)=-5.70

Co++	gl	oth/un	20°C	0.01M	U			B2=8.1	1953ALa (99282)	4345
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C19H20N2O2S L (1679)
2-Methyl-8-(2,4,6-trimethylbenzenesulfonamido)quinoline;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U			K1=8.7 B2=18.3	1984NYa (99298)	4346

C19H21N5 L CAS 90719-79-2 (4141)
2,6-Bis(N-(2'-pyridylmethyl)aminomethyl)pyridine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	U			K1=14.8	1968GRa (99311)	4347

C19H22N2O2 H2L CAS 54216-01-2 (8520)
2,2'-[1,3-Propanediylbis(nitriloethylidene)]bisphenol;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	mixed	35°C	0.10M	M			K1=8.27	1998RJa (99318)	4348

Medium: 80% (v/v) DMSO/H2O, 0.2 M KNO3.

C19H24N2O2 L (1564)
1,5-Diaza-7,8:13,14-dibenzo-9,12-dioxacyclopentadecan-7,13-diene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	alc/w	25°C	65%	C			K1=3	1988ALa (99361)	4349

Medium: 65% EtOH/H2O, 0.1 M Me4NNO3

C19H24N2O3 L (6471)
3,4:8,9-Dibenzo-1,11-diaza-5,7,14-trioxacyclohexadeca-3,8-diene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	alc/w	25°C	95%	C			K1=<3.5	1992AAa (99372)	4350

Medium: 95% MeOH/H2O, 0.10 M Et4NClO4. Data also for many analogous ligands with varying ring size and N,O,S donors

C19H25N3O2 L (6469)
3,4:8,9-Dibenzo-1,11,14-triaza-5,7-dioxacyclohexadeca-3,8-diene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	alc/w	25°C	95%	C			K1=6.1	1992AAa (99384)	4351

Medium: 95% MeOH/H2O, 0.10 M Et4NClO4. Data also for many analogous ligands with varying ring size and N,O,S donors

C19H28N4O6 H3L CAS 106967-44-6 (8973)
3,7,11-Tris(carboxymethyl)-3,7,11,17-tetraazabicyclo[11.3.1]heptadeca-1(17),13,15-triene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	R4N.X	25°C	0.10M	C			K1=15.07 K(CoL+H)=4.24	1998CDa (99405)	4352

Medium: 0.10 M Me4NNO3.

C19H30N6 L (7509)
1,13-Bis(2-pyridyl)-2,5,9,12-tetraazatridecane;
C5H4N.CH2NHC2H4NHC3H6NHC2H4NHCH2.C5H5N

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	U			K1=20.75	1998KKd (99428)	4353

C19H31N3O4 H2L (6692)

N,N'-(Pyridine-2,6-diyl)bis-methylene)bis-N-methylvaline;
 C5H3N(CH2.N(CH3)CH(CH(CH3)2)COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaN03	25°C	0.10M	M		K1=11.80	1992BSb (99449)	4354

C19H34N4O8		H4L		cPenta			CAS 98515-24-3	(8328)	
1,4,8,12-Tetrazacyclopentadecane-N,N',N'',N'''-tetraethanoic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	R4N.X	25°C	0.10M	C		K1=15.93 K(Co+HL)=10.32 K(Co+H2L)=4.57 K(Co+H3L)=3.86 B(Co2L)=20.69	1988DDa (99463)	4355

Medium: 0.10 M Me4NN03.

C19H39N3O5		L					CAS 60598-00-7	(1537)	
4-Methyl-1,4,10-triaza-7,13,16,21,24-pentaoxa-bicyclo[8,8,8]hexacosane;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	R4N.X	25°C	0.10M	U		K1=5.2	1978LMa (99487)	4356

C19H42N4O4		L		THEC-15			(6950)		
N,N',N'',N'''-Tetrakis(2-hydroxyethyl)-1,4,8,12-tetraazacyclopentadecane;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaN03	25°C	0.10M	C		K1=4.2 K(Co+HL)=8.0 B(CoH-1L)=-4.6	1995TDa (99514)	4357

C20H13N3O7S		H3L		Eriochrome Bl T			CAS 1787-61-7	(997)	
1-(1-Hydroxy-2-naphthylazo)-6-nitro-2-naphthol-4-sulfonic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	oth/un	20°C	0.30M	U		K1=20.0	1967K0a (99556)	4358

C20H14N2O		HL					(5291)		
1-(1-Naphthylazo)-2-hydroxynaphthalene;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	mixed	25°C	75%	U		K1=8.05 B2=15.30	1972MCb (99596)	4359
Medium: 75% acetone, 0.1 M KN03									

C20H14N2O HL CAS 2653-64-7 (5292)

1-(2-Naphthylazo)-2-hydroxynaphthalene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	mixed	25°C	75%	U		K1=8.52 B2=16.38	1972MCb (99611)	4360

Medium: 75% acetone, 0.1 M KNO3

C20H14N2O4S H2L (7499)
4-(9-Hydroxy-10-phenanthrylazo)-benzene-4-sulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	NaNO3	20°C	0.1M	C			1998IEa (99632)	4361

K(Co+HL=CoH-1L+H)=-13.8

C20H15NO3 H2L (2120)
2-(alpha-Phenyl-2-hydroxybenzylideneimino)benzoic acid; HO.C6H4.C(C6H5):N.C6H4.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO4	25°C	0.10M	U	TIH	K1=8.60 B2=15.40	1986SGb (99748)	4362

35 C: K1= 8.90, K2=7.07; 45 C:K1= 9.30, K2= 7.20
DH(K1)=-69.9 kJ mol⁻¹, DS=113 J K⁻¹ mol⁻¹

C20H16N2O HL CAS 36458-50-1 (5293)
2-(Naphthylaminomethyl)-8-hydroxyquinoline;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	25°C	50%	U		K1=8.6	1972HUb (99761)	4363

Medium: 50% v/v dioxan, 0.1 M KCl

C20H16N2O2 H2L CAS 3946-91-6 (2733)
N,N'-Bis(2'-hydroxybenzylidene)-1,2-diaminobenzene; (HOC6H4CH:N)2.C6H4

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	mixed	25°C	80%	C		K1=14.64 B(CoHL)=20.75	1997HMc (99771)	4364

Medium: 80% w/w DMSO/H2O, 0.5 M NaClO4.

C20H16N2O2 H2L (7405)
N,N'-Bis(salicylidene)-1,3-phenylenediamine; (HO.C6H4.CH:N)2C6H4

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	mixed	25°C	80%	C		K1=7.13 B2=11.06 K(Co+H2L)=2.63 K(Co+HL)=5.11	1997HMb (99783)	4365

K(Co+2HL)=8.96
B(Co2L)=10.82

Medium: 80% (w/w) DMSO/H2O, 0.1 M NaClO4. K(2Co+HL+L)=15.36, B(Co2L2)=17.75, K(Co+HL+L)=10.20, K(2Co+HL)=7.64.

C20H16N4O5S H2L EriochromeRed B CAS 14954-75-7 (3510)
4-(4,5-Dihydro-3-Me-5-oxo-1-Phe-1H-pyrazol-4-ylazo)-3-naphthol-1-sulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U			1957SFb (99793)	4366
							K(Co+H2L=CoL+2H)=-5.8		

C20H17NO HL (6215)
N-(2-Hydroxy-5-phenylbenzylidene)-2-methylaniline; C6H5.C6H3(OH).CH:N.C6H4.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U		K1=5.279 B2=9.42	1986MBd (99809)	4367

C20H17NOCl2S2 L CAS 77915-63-0 (5428)
2-(2-Pyridyl)-1,3-dithio-(4'-chlorophenyl)-2-propanol;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	25°C	50%	U		K1=0.66	1981CBa (99816)	4368

C20H18N4O2 HL (5917)
Pyruvic monohydrazone-3-hydrazino-4-benzyl-6-phenylpyridazine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U		B2=17.59 K(Co+HL)=4.74 K(Co+2HL)=10.55 K(Co+L+HL)=14.58	1985RSb (99828)	4369

C20H19NOS2 L CAS 77915-62-9 (5427)
2-(2-Pyridyl)-1,3-dithiophenyl-2-propanol;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	25°C	50%	U		K1=0.81	1981CBa (99849)	4370

C20H19N2O2PS2 HL CAS 51040-10-9 (5303)
1-(3-Methylphenyl)-3-(diphenoxyphosphinothioyl)thiourea;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	non-aq	20°C	100%	U			1973ADc (99855)	4371

K(CoCl₂+L=CoClL+Cl)=2.49
K(CoCl₂+2L=CoL₂+2Cl)=5.12

C20H19N202PS2 HL CAS 51040-11-0 (5304)

1-(4-Methylphenyl)-3-(diphenoxyphosphinothioyl)thiourea;

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

Co++ sp non-aq 20°C 100% U 1973ADc (99857)4372

K(CoCl₂+L=CoClL+Cl)=2.62
K(CoCl₂+2L=CoL₂+2Cl)=5.21

Medium: acetone

C20H19N203PS2 HL CAS 51040-12-1 (5305)

1-(4-Methoxyphenyl)-3-(diphenoxyphosphinothioyl)thiourea;

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

Co++ sp non-aq 20°C 100% U 1973ADc (99859)4373

K(CoCl₂+L=CoClL+Cl)=2.73
K(CoCl₂+2L=CoL₂+2Cl)=5.40

Medium: acetone

C20H19N303S HL CAS 380496-11-7 (9099)

1,3-Di(2-ethylphenyl)-4,5,6-pyrimidinetrione-2-thioxo-5-oxime;

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

Co++ gl diox/w 25°C 75% U T H K1=4.62 B2= 8.97 2001SSd (99865)4374

Medium: 75% v/v dioxan/H₂O, 0.10 NaCl04. Data for 30 and 35 C.

DH(B2)=-0.46 kJ mol⁻¹.

C20H19N303S HL CAS 380496-12-8 (9100)

1,3-Di(3-ethylphenyl)-4,5,6-pyrimidinetrione-2-thio-5-oxime;

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

Co++ gl diox/w 25°C 75% U T H K1=4.54 B2= 8.53 2001SSd (99872)4375

Medium: 75% v/v dioxan/H₂O, 0.10 NaCl04. Data for 30 and 35 C.

DH(B2)=-0.08 kJ mol⁻¹.

C20H19N303S HL CAS 380496-13-9 (9101)

1,3-Di(4-ethylphenyl)-4,5,6-pyrimidinetrione-2-thio-5-oxime;

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

Co++ gl diox/w 25°C 75% U T H K1=4.67 B2= 8.32 2001SSd (99882)4376

Medium: 75% v/v dioxan/H₂O, 0.10 NaCl04. Data for 30 and 35 C.

DH(B2)=-0.46 kJ mol⁻¹.

C20H20N4O2S L CAS 90012-52-5 (8482)
3-(4-Tolyl)-1-phenylpyrazol-5-ylthiourea;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	25°C	70%	U		K1=6.78 B2=13.44	1995EEa (99894)	4377
Medium: 70% v/v EtOH/H2O, 0.10 M NaCl.									

C20H20N4O3 HL (5294)
1-Phenyl-3-carbethoxy-5-(2-ethylbenzeneazo)-4-pyrazolone;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U		K1=5.92 B2=12.44	1971SRa (99900)	4378

C20H22N4O2 L CAS 253799-42-7 (7627)
6-(9-Fluorenyl)-1,4,8,11-tetraazaundecane-5,7-dione;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KN03	25°C	0.10M	M		K1=2.50 B(CoH-1L)=-5.53 B(CoH-2L)=-14.13	1999JLa (99923)	4379

C20H24N2O6 H4L HBED CAS 3625-89-6 (2208)
N,N'-Di-(2-hydroxybenzyl)-diaminoethane-N,N'-diethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	U		K1=19.43 K(CoL+H)=8.00 K(CoHL+H)=5.72	1994MMe (99984)	4380
Co++	gl	KN03	25°C	0.10M	U		K1=19.89 K(Co+HL)=15.20 K(Co+H2L)=9.76	1967LMd (99985)	4381

C20H24N2O12S2 H6L CAS 3625-85-3 (5755)
N,N'-Bis(2-hydroxy-5-sulfobenzyl)-diaminoethane-N,N'-diethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	C		K1=20.66 K(CoL+H)=6.51 K(CoHL+H)=4.97	1984TMb (100025)	4382

C20H24N6O6 H2L EDTAPA CAS 41314-78-7 (7801)
Ethylenedinitrilo-N,N'-diethanoic-N,N'-bis(2-pyridylacetamido) acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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 Co++ gl NaClO4 25°C 0.10M M H K1=7.96 1998DTa (100043)4383
 Medium: 0.10 M KClO4. By calorimetry, DH(K1)=-17.42 kJ mol⁻¹,
 DS(K1)=94.0 J K⁻¹ mol⁻¹.

C20H24O6 L DiBz-18-Crown-6 CAS 14187-32-7 (604)
 2,3:11,12-Dibenzo-1,4,7,10,13,16-hexaoxacyclooctadeca-2,11-diene

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	con	mixed	25°C	90%	C		K1=1.89	2003ISa (100076)	4384

Medium: 90% v/v DMSO/H2O.

Co++ vlt alc/w 25°C 100% C K1=3.60 1987CBd (100077)4385
 Medium: methanol, 0.10 M Et4NI or Bu4NClO4. Method: polarography.

C20H26N2O2 L (270)
 3,4:10,11-Dibenzo-1,13-diaza-5,9-dioxacyclohexadecane-3,10-diene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	25°C	65%	C		K1=3.1	1988ALa (100301)	4386

Medium: 65% EtOH/H2O, 0.1 M Me4NNO3

Co++ gl alc/w 25°C 65% U K1=5.23 1982WCa (100302)4387
 Medium: 65% EtOH, 0.1 M Me4NNO3

C20H26N2O3 L OdienNtnH4 CAS 85735-84-8 (5943)
 1,15-Diaza-3,4:12,13-dibenzo-5,8,11-trioxacycloheptadecan-3,12-diene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	25°C	95%	C		K1=4.6	1998DDb (100318)	4388

Medium: 95% MeOH/H2O, 0.1 M Et4NClO4.

C20H27N3O2 L CAS 168279-86-5 (7556)
 1,8,15-Triaza-3,4:12,13-dibenzo-5,11-dioxacycloheptadecan-3,12-diene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	25°C	95%	C		K1=5.8	1998DDb (100379)	4389

Medium: 95% MeOH/H2O, 0.1 M Et4NClO4.

C20H29NO HL CAS 13545-11-6 (6098)
 7-(4-Ethyl-1-methyloctyl)-8-hydroxyquinoline;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	kin	alc/w	20°C	100%	U		K1=12.4 B2=21.7 K(Co+HL=CoL+H)=-2.0	1988BTb (100403)	4390

$$K(\text{Co}+2\text{HL}=\text{CoL}_2+2\text{H})=-7.1$$

C20H30N2O8P2 H4L CAS 112827-88-0 (8105)
N,N'-Bis(2-hydroxybenzyl)diaminoethane-N,N'-bis(methylenephosphonic acid monomethyl ester);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	C		K1=19.11 K(CoL+H)=6.92 K(CoHL+H)=5.93 K(Co+H2L)=8.09	1984Tmd (100412)	4391

C20H30N4 L CAS 140840-03-5 (7652)
1,12-Diphenyl-2,5,8,11-tetraazadodecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO4	25°C	0.15M	C		K1=9.33 K(CoL+H)=6.03 K(CoL+OH)=3.99	1998PGc (100420)	4392

C20H32N6 L (7510)
1,14-Bis(2-pyridyl)-2,6,9,13-tetraazatetradecane;
C5H4N.CH2NHC3H6NHC2H4NHC3H6NHCH2.C5H5N

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KN03	25°C	0.10M	U		K1=17.75	1998KKd (100465)	4393

C20H32N6O12S2 H4L GSSG CAS 27025-41-8 (1241)
Glutathione oxidized; (HOOC.CH(NH2)C2H4.CO.NH.CH(CO.NH.CH2.COOH)CH2.S)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaN03	25°C	0.10M	M		K1=7.17	1990SHa (100485)	4394
Co++	gl	KCl	25°C	0.20M	C		K1=7.12 B(CoHL)=13.81 B(Co2L)=8.7	1988VSb (100486)	4395

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KN03	25°C	0.15M	C		K1=7.21 B2=10.17 B(Co2L)=10.03	1981AEa (100487)	4396

C20H36N4O8 H4L (8193)
3,3-Dimethyl-1,5,8,12-tetraazacyclotetradecane-1,5,8,12-tetraethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	EMF	KCl	20°C	0.10M	C		K1=6.9	1981SFa (100573)	4397

Method: Pt/H2 electrode. For the 3,3,10,10-tetramethyl- homologue, K1=7.0

C20H36O6 L DiCy-18-crown-6 CAS 16069-36-6 (1653)
 2,3:11,12-Dicyclohexyl-1,4,7,10,13,16-hexaoxacyclooctadecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	con	mixed	25°C	90%	C		K1=1.95	2003ISa (100618)	4398

Medium: 90% v/v DMSO/H2O.

Co++	con	alc/w	25°C	40%	C		K1=1.53	2002ISa (100619)	4399
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Medium: 40% EtOH/H2O.

Co++	con	alc/w	25°C	40%	C		K1=1.82	2001ISa (100620)	4400
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Medium: 40% v/v EtOH/H2O.

 C20H39N5O2 HL CAS 333309-52-7 (8662)
 16-Aminodocosahydro-16-methyl-dibenzo[b,i][1,4,8,11]tetraazacyclotetradecine-7-carb
 oxylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.5M	U		K1=14.6 K(CoL+H)=4.95 K(CoHL+H)=10.2	2002WHa (100767)	4401

Data for the trans isomer. For the cis-isomer K1=12.45, K(CoL+H)=6.25

C20H40N6 L CAS 66128-37-8 (8641)
 N,N,N',N'-Tetrakis(3-aminopropyl)-1,3-benzenedimethanamine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	U		B(CoHL)=16.63 B(CoH2L)=23.12 B(Co2L)=12.74	1998KSe (100830)	4402

 C20H40N6 HL CAS 189076-31-1 (8642)
 N,N,N',N'-Tetrakis(3-aminopropyl)-1,4-benzenedimethanamine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	U		B(CoHL)=14.08 B(CoH2L)=21.00 B(Co2L)=11.07	1998KSe (100834)	4403

 C20H40N8O4 L (1003)
 1,4,7,10-Tetrakis(2-carbamoylethyl)-1,4,7,10-tetraazacyclododecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	C		K1=17.11 *K(CoL)=-7.67 *K(CoH-1L)=-6.59	2000KXa (100839)	4404

C20H42N4O4 L CAS 39678-14-3 (1543)
4,7-Dimethyl-1,4,7,10-tetraaza-13,16,21,24-tetraoxa-bicyclohexacosane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	R4N.X	25°C	0.10M	U		K1=4.9	1978LMa (100883)	4405

C20H42N8 L (5871)
1,3-Bis(2,5,8,11-tetraazaundecyl)benzene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	C	M	K1=10.53 K(CoL+Co)=8.82 K(CoL+H)=9.26 K(CoHL+H)=8.49 K(CoH2L+H)=6.20 K(CoH3L+H)=5.37, K(Co2L+H)=5.69, K(CoL=CoLOH+H)=-11.16, K(Co2L=Co2LOH+H)=-9.76, K(Co2LOH=Co2L(OH)2+H)=-10.95, K(Co2L+O2=Co2LOH02+H)=0.60	1989MMc (100899)	4406

C20H46N6O2 L CAS 177840-90-3 (8099)
1,15-Dioxa-4,8,12,18,22,26-hexaazacyclooctacosane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	C		K1=5.98 K(CoL+H)=8.26 K(CoHL+H)=8.68 K(CoH2L+H)=8.35 *K(CoL)=-10.00 K(CoL+Co)=3.40	1996MLa (100974)	4407

C20H46N6O4 L (355)
1,4,7,16,19,22-Hexaaza-10,13,25,28-tetraoxacyclotriacontane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaCl	25°C	0.15M	C		K1=7.17 B(CoHL)=15.80 B(CoH2L)=23.45 B(CoH3L)=29.75 B(Co2L)=12.46 K(Co2L+OH)=4.91, K(Co2LOH+OH)=4.01	1996BBh (100983)	4408

C20H50N10 L CAS 862-28-2 (5839)
1,4,7,10,13,16,19,22,25,28-Decaazacyclotriacontane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	sp	NaCl04	25°C	0.15M	C	M			2000BBb (101001)	4409
								B(Co2L(O2))=26.51		
								B(Co2H-1L(O2))=18.48		
								K(Co2L+O2)=4.7		
								K(Co2L(O2)+OH)=5.7		
								K(Co2H-1L+O2)=6.5. By kinetics, K(Co2L+OH)=4.5 [Polyhedron,19,2447]		

Co++	gl	NaCl04	25°C	0.15M	C				1989BBd (101002)	4410
								B(Co2L)=21.85		
								B(Co2H3L)=39.79		
								B(Co2H2L)=34.67		
								B(Co2H-1L)=11.94		

K(Co2H2L+H)=5.12, K(Co2L+OH)=3.82

C21H13N3O HL (6256)
1-(2'-Quinolylazo)-acenaphthylen-2-ol; C9H6N.N:N.C12H6.OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	diox/w	30°C	75%	U	IH		K1=6.29 B2=11.81	1979SGd (101012)	4411
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C21H15N5O2 L CAS 91022-00-3 (5923)
2-Nitro-benzylazo-4,5-diphenylimidazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	sp	alc/w	25°C	100%	U			K1=6.95	1986MHa (101053)	4412
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C21H15N5O2 L CAS 31993-08-5 (5922)
4-Nitro-benzylazo-4,5-diphenyl imidazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	sp	alc/w	25°C	100%	U			K1=6.96	1986MHa (101056)	4413
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C21H16N2O HL CAS 19726-10-4 (8338)
3-(2-Hydroxyphenyl)-1,5-diphenylpyrazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	alc/w	35°C	60%	U	H		K1=8.18 B2=14.42	1993ALb (101060)	4414
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Medium: 60% v/v MeOH/H2O, 0.1 M KNO3. DH(K1)=-109 kJ mol⁻¹, DS(K1)=-198 J K⁻¹ mol⁻¹; DH(K2)=-84, DS(K2)=-154.

C21H18N2O2 H2L (7406)

N,N'-2,4-Toluenebis(salicylidenimine); CH₃.C₆H₃(N:CH.C₆H₄OH)₂

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	mixed	25°C	80%	C			K1=7.85 B2=12.12 K(Co+H2L)=3.10 K(Co+HL)=5.57 K(Co+2HL)=10.64 B(Co2L)=11.73	1997HMB (101103)	4415

Medium: 80% (w/w) DMSO/H₂O, 0.1 M NaClO₄. K(2Co+HL+L)=16.83, B(Co₂L₂)=19.19, K(Co+HL+L)=11.13, K(2Co+HL)=8.43.

C21H18N2O2 H2L (7407)
N,N'-2,6-Toluenebis(salicylidenimine); CH₃.C₆H₃(N:CH.C₆H₄OH)₂

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	mixed	25°C	80%	C			K1=6.90 B2=11.1 K(Co+H2L)=2.38 K(Co+HL)=5.01 K(Co+2HL)=10.05 B(Co2L)=10.74	1997HMB (101108)	4416

Medium: 80% (w/w) DMSO/H₂O, 0.1 M NaClO₄. K(2Co+HL+L)=14.63, B(Co₂L₂)=16.80, K(Co+HL+L)=9.67, K(2Co+HL)=7.63.

C21H18N2O2 H2L (7319)
N,N'-3,4-Toluenebis(salicylideneimine); CH₃.C₆H₃(N:CH.C₆H₄OH)₂

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	mixed	25°C	80%	C			K1=15.77 B(CoHL)=21.53	1997HMa (101114)	4417

In 80 % (wt/wt) DMSO-H₂O, I= 0.5 M NaClO₄

C21H18N4O6S H2L CAS 86170-15-2 (8412)
2-[5-(2-Methoxy-5-sulfophenyl)-3-phenyl-1-formazano]-benzoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	sp	NaClO ₄	26°C	0.10M	C			K1=11.25	1983UCa (101118)	4418

For the ligand, K1=14.4, K2=3.6.

C21H19NO HL (6216)
N-(2-Hydroxy-5-phenylbenzylidene)-2,6-dimethylaniline;
C₆H₅.C₆H₃(OH).CH:N.C₆H₃(CH₃)₂

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U			K1=5.232	1986MBd (101136)	4419

C21H20N4O HL (1408)
2,3-Butanedione-3-(4-benzyl-6-phenyl)-pyridazinyI hydrazone;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U		K1=10.62 B2=20.24	1983RRa (101153)	4420

C21H21N2O3PS2 HL (5315)
1-(4-Ethoxyphenyl)-3-(diphenoxyphosphinothioyl)thiourea;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	non-aq	20°C	100%	U			1973ADc (101165)	4421
							K(CoCl2+L=CoClL+Cl)=2.72		
							K(CoCl2+2L=CoL2+2Cl)=5.38		

Medium: acetone

C21H21N2O8Cl H2L Demeclocycline CAS 64-73-3 (5759)
7-Chloro-6-demethyltetracycline;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	C		K1=8.49	1979DDd (101180)	4422
							K(Mg+HL)=5.02		

Also data for other tetracycline analogues.

C21H23NO6 HL Colchicine (7054)
Colchicine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	20°C	75%	U I		K1=7.28 B2=13.58	1994SHc (101220)	4423

C21H24N3O4SF HL CAS 215190-91-3 (9102)
6-Fluoro-7-(5-nonyl-1,3,4-oxadiazol-2-ylsulphonyl)-4-quinolone-3-carboxylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	mixed	25°C	20%	C		K1=5.73	2001SCc (101235)	4424

Medium: 20% DMF/H2O, 0.1 M NaClO4.

C21H24N4 L (931)
Tris((6-methyl-2-pyridyl)methyl)-amine; (CH3.C5H3N.CH2)3N

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	20°C	0.10M	C H		K1=5.55	1977AHc (101244)	4425

Calorimetry: DH1=-11.0 kJ mol⁻¹, DS1=68.6

C21H26N4O4Br2 H2L CAS 354154-84-0 (8978)

N,N'-Bis-(2-(N"-2-hydroxy-5-bromobenzyl)aminoethyl)malondiamide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	diox/w	25°C	13%	C			K1=7.05 B(CoH-1L)=-2.96 B(CoH-2L)=-13.33 B(CoHL)=15.48	2001CLa (101283)	4426

Medium: 13% v/v dioxane/H2O, 0.10 M KNO3.

C21H28N2O2 L (2318)
5,9-Diaza-2,3:11,12-dibenzo-1,13-dioxo-cycloheptadecan-2,11-diene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	EMF	alc/w	25°C	95%	U			K1=<4	1994ACb (101316)	4427

Medium: 95% MeOH/H2O, 0.1 M NEt4ClO4.

C21H28N2O3 L OdienNtnH4 CAS 85735-85-9 (5944)
1,15-Diaza-3,4:12,13-dibenzo-5,8,11-trioxacyclooctadecan-3,12-diene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	alc/w	25°C	95%	C			K1=<4.2	1998DDb (101325)	4428

Medium: 95% MeOH/H2O, 0.1 M Et4NClO4.

C21H28N2O3 L (6971)
2,3:10,11-Dibenzo-5,8-diaza-5-(2-hydroxyethyl)-1,12-dioxacyclopentadeca-2,10-diene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	EMF	alc/w	25°C	95%	U I			K1=< 4	1994ACb (101332)	4429

Medium: 95% MeOH/H2O, 0.1 M NEt4ClO4

C21H30O2 HL Delta-THC CAS 5957-75-5 (1206)
D'-6a,10a-Tetrahydrocannabinol;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	non-aq	30°C	100%	U			K1=12.407 B2=23.655	1976WPa (101382)	4430

Medium: t-BuOH, 0.15 M Bu4NNO3

C21H31N5O8 H4L (8194)
3,6,9,12,18-Pentaazabicyclo[12.3.1]heptadeca-1(18),14,16-triene-3,6,9,12-tetraethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	EMF	KCl	20°C	0.10M	C			K1=9.5	1981SFa (101414)	4431

Method: Pt/H2 electrode.

C21H42N6 L CAS 450416-35-0 (8879)
1,3,5-Tri(n-2',5'-diazahptane)benzene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KN03	25°C	0.10M	M			K1=4.16 B(CoHL)=14.19 B(CoH2L)=23.77 B(CoH3L)=33.05 B(CoH4L)=41.02	2004GGa (101473)	4432

B(Co3H-1L)=20.85, B(Co3L)=28.57, B(Co2H2L)=37.79.

C22H15N3O HL (6255)
1-(4'-Methyl-2'-quinolyazo)-acenaphthylen-2-ol; CH3.C9H5N.N:N.C12H6.OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U	IH		K1=7.30 B2=13.82	1979SGd (101520)	4433

C22H16N2O6 H2L CAS 66532-88-5 (9138)
N,N'-Bis-(2-carboxy-1-oxophenyl)-1,2-phenylenediamine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	NaClO4	25°C	0.10M	U			K1=3.45 B2= 4.62	2003GSc (101529)	4434

C22H16N4O8S2 H4L (7496)
1,4-Bis-p-sulfonylazo-2,3-dihydroxynaphthalene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	NaNO3	20°C	0.1M	C			K(Co+H2L=CoL+2H)=-12.88 K(Co+H2L=CoH-1L+3H)=-23.69 K(2Co+H2L=Co2L+2H)=-9.32 K(2Co+H2L=Co2H-2L+4H)=-27.11	1998IEa (101533)	4435

Additional method: spectrophotometry.

C22H17N2Cl L CAS 23593-75-1 (8609)
1-[(2-Chlorophenyl)diphenylmethyl]-1H-imidazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	sp	non-aq	20°C	100%	C	H		K(CoP+L)=3.43	1997SZa (101561)	4436

Medium: CH2Cl2. Data for 15-30 C. H2P is 5,10,15,20-tetra(4-methylphenyl)-porphyrin. DH= -40.6 kJ mol⁻¹, DS=-73.0 J K⁻¹ mol⁻¹.

C22H18N4 L CAS 22902-77-8 (5919)

4-Methyl-benzylazo-4,5-diphenyl imidazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	alc/w	25°C	100%	U		B2=10.29	1986MHa (101593)	4437

C22H18N4O			L				CAS 51124-76-6	(5921)	

2-Methoxy-benzylazo-4,5-diphenyl imidazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	alc/w	25°C	100%	U		K1=6.32	1986MHa (101596)	4438

C22H18N4O			L				CAS 91021-97-5	(5920)	

4-Methoxy-benzylazo-4,5-diphenyl imidazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	alc/w	25°C	100%	U		K1=6.03	1986MHa (101599)	4439

C22H21N7O3S			H2L				CAS 76313-93-4	(9224)	

4-Sulfamethazineazo-3-methyl-1-phenyl-2-pyrazolin-5-one;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	35°C	40%	C T H		K1=9.31 B2=16.42	2004MUb (101714)	4440
Medium: 40% v/v EtOH/H2O, 0.10 M KCl. DH(K1)=28.3 kJ mol ⁻¹ , DS(K1)=270 J K ⁻¹ mol ⁻¹ ; DH(K2)=29.2, DS(K2)=231. Also data for 25 and 45 C.									

C22H22N4O2			H2L				CAS 75651-32-0	(5318)	

N,N'-Bis(8-hydroxy-2-quinolylmethyl)ethylenediamine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	25°C	50%	U		K1=22.5 K(CoHL+H)=3.59 K(CoL+H)=5.99 K(Co+H2L)=12.49 K(Co+HL)=19.0	1972HUa (101731)	4441

Medium: 50% v/v dioxan, 0.1 M KCl

C22H23NOS2			L				(5426)		
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2-(2-Pyridyl)-1,3-dithio-(4'-methylphenyl)-2-propanol;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	25°C	50%	U		K1=0.86	1981CBa (101738)	4442

C22H23NOS2			L				(5425)		

2-(2-Pyridyl)-1,3-dithio-(4'-methoxyphenyl)-2-propanol;

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  diox/w 25°C 50% U          K1=0.84          1981CBa (101742)4443
*****
C22H23N2O8Cl      H2L      Aureomycin      CAS 56235-18-8 (3515)
Chlorotetracycline;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  oth/un 20°C 0.01M U          K1=4.8          1956ARd (101756)4444
*****
C22H24N2O8      H2L      Tetracycline      CAS 60-54-8 (2201)
Tetracycline;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  NaCl04 25°C 0.10M C                B(CoHL)=6.56
                                         B(CoH2L)=10.01
1996SJa (101800)4445
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Co++       gl  NaNO3 25°C 0.10M C          K1=10.4          1992GAa (101801)4446
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Co++       gl  oth/un 20°C 0.01M U          K1=5.4    B2=9.80    1956ARd (101802)4447
*****
C22H24N2O8      H4L                        CAS 91044-24-5 (1920)
meso-1,2-Diphenyl-1,2-diaminoethane-N,N,N',N'-tetraethanoic acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  KNO3 20°C 0.10M U          K1=11.70        1989SLa (101837)4448
*****
C22H24N2O8      H4L                        CAS 91044-25-6 (1921)
rac-1,2-Diphenyl-1,2-diaminoethane-N,N,N',N'-tetraethanoic acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  KNO3 20°C 0.10M U          K1=17.30        1989SLa (101851)4449
-----
Co++       gl  KCl 25°C 0.10M U          K1=17.9          19670Tb (101852)4450
*****
C22H24N2O9      H2L      Oxotetracycline CAS 79-57-2 (2202)
Oxytetracycline, 5-Hydroxy-tetracycline;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  oth/un 20°C .005M U          K1=5.1          1956ARd (101878)4451
*****
C22H26N4O8      H4L                        (5526)
N,N'-Dipyridoxylethylenediamine-N,N'-diethanoic acid;
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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	C		K1=17.29 K(CoL+H)=8.85 K(CoHL+H)=8.14 K(CoH2L+H)=1.93	1989MSc (101946)	4452
Co++	nmr	none	15°C	0.0	U		K1=16.82 K(CoL+H)=9.29 K(CoHL+H)=8.46	1985TMa (101947)	4453
Co++	gl	KCl	25°C	0.10M	C		K1=16.87 K(CoL+H)=9.29 K(CoHL+H)=8.46	1984TMb (101948)	4454
Co++	gl	KCl	25°C	0.10M	C		K1=16.87 K(CoL+H)=9.29 K(CoHL+H)=8.46	1984TMc (101949)	4455

C22H26N4O10 H4L BAPTA (7230)
 1,2-Bis(o-aminophenoxy)ethane-N,N,N',N'-tetraethanoic acid;
 ((HOOCCH2)2NCH(OC6H4NH2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	R4N.X	25°C	0.10M	C		K1=8.67	1993YTa (101971)	4456

C22H30N2O4 L CAS 173547-24-5 (7560)
 1,15-Diaza-3,4:12,13-dibenzo-5,8,11,18-tetraoxacycloeicosan-3,12-diene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	25°C	95%	C		K1=<4.5	1998DDb (102108)	4457

Medium: 95% MeOH/H2O, 0.1 M Et4NC104.

C22H31N3O2 L CAS 218931-85-2 (7841)
 1,12,15-Triaza-3,4:9,10-dibenzo-5,8-dioxa-2,11-dimethylcycloheptadecan-3,9-diene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	25°C	95%	U		K1=5.6	1998ABf (102157)	4458

Medium: 95% MeOH/H2O, 0.1 M Et4NC104.

C22H31N3O3 L CAS 12859-24-4 (7557)
 1,15,18-Triaza-3,4:12,13-dibenzo-5,8,11-trioxacycloeicosan-3,12-diene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	25°C	95%	C	I	K1=8.7	1998DDb (102175)	4459

Medium: 95% MeOH/H₂O, 0.1 M Et₄NClO₄.
In 95% MeOH/H₂O, 0.1 M Me₄NCl, K₁=9.1.

C₂₂H₃₄N₂O₈P₂ H₄L CAS 92278-41-6 (8106)
N,N'-Bis(2-hydroxybenzyl)diaminoethane-N,N'-bis(methylenephosphonic acid monoethyl ester);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	C		K ₁ =19.05 K(CoL+H)=6.97 K(CoHL+H)=5.98 K(Co+H ₂ L)=8.22	1984Tmd (102215)	4460

C₂₂H₃₄N₄ L CAS 140840-10-4 (7654)
1,14-Diphenyl-2,6,9,13-tetraazatetradecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaCl	25°C	0.15M	C		K ₁ =6.09 K(CoL+H)=8.71 K(CoL+OH)=3.34	1998PGc (102223)	4461

C₂₂H₃₄N₆ [22]-Py₂N₄ (5952)
Di-(2,6-pyridyl)-1,4,9,12,15,20-hexaazacyclodocosane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO ₄	25°C	0.01M	U		K ₁ =7.36 B(CoH-1L)=-0.74	1985NSc (102233)	4462

C₂₂H₃₄N₆O₂ L BISBAMP (5868)
3,9,17,23,29,30-Hexaaza-6,20-dioxatricyclo[23.3.1.1]triaconta-1(20),11,13,15(30),25,27-hexaene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO ₃	25°C	0.10M	C T		K ₁ =9.05 K(CoL+H)=7.12 K(CoLOH+H)=9.97 K(CoL+M)=3.00 K(Co ₂ LOH+H)=7.90	1988BMc (102240)	4463

C₂₂H₃₅N₅ L CAS 185558-39-8 (7653)
1,15-Diphenyl-2,5,8,11,14-pentaazapentadecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO ₄	25°C	0.15M	C		K ₁ =12.67 K(CoHL+H)=5.96	1998PGc (102257)	4464

K(CoL+H)=6.19
K(CoL+OH)=3.75

C22H37N5O14 H7L CAS 3234-59-1 (2425)

Tetraethylenepentamineheptaethanoic acid;

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

Co++ gl KNO3 25°C 0.10M C K1=17.9 1999LLa (102317)4465

K(CoL+H)=9.6
K(CoH2L+H)=4.1
K(CoHL+H)=5.3
K(CoH3L+H)=2.6

K(CoL+Co)=14.6; K(Co2L+H)=4.1; K(Co2HL+H)=2.2

C22H40N4O11 H4L (6529)

1,4,7-Trioxa-10,13,16,19-tetraazacyclohexeicosane-10,13,16,19-tetraethanoicacid

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

Co++ gl R4N.X 25°C 0.10M C K1=17.0 1990SBc (102364)4466

K(Co+HL)=12.6
K(Co+H2L)=6.9

C22H48N4O4 L (7292)

N,N',N'',N'''-Tetrakis(3-hydroxypropyl)-1,4,8,11-tetraazacyclotetradecane;

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

Co++ gl R4N.X 25°C 0.10M C K1=4.1 1996DTa (102468)4467

B(CoHL)=12.2
B(CoH-1L)=-3.0

Medium: Et4NC1O4

C22H48N6O2 L CAS 39678-22-3 (1542)

4,7,13,16-Tetramethyl-1,4,7,10,13,16-hexaaza-21,24-dioxabicyclohexacosane;

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

Co++ gl R4N.X 25°C 0.10M U K1=5.2 1978LMa (102483)4468

C22H51N7O4 L (5349)

1,4,19,22-Tetraoxa-7,10,13,16,25,28,31-Heptaazacyclotritriacontane;

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

Co++ gl NaCl 25°C 0.15M C M K1=9.3 2004BBc (102500)4469

B(CoHL)=18.0
B(CoH2L)=25.6
B(Co2L)=14.95

K(Co2L+OH)=6.31
 K(Co2H-1L+OH)=5.29. Ternary complexes with dioxygen also reported.
 K(Co2H-1L+O2)=6.4, K(Co2H-2L+O2)=6.3, K(Co2H-1L(O2)+OH)=5.27.

 C22H55N11 L CAS 60464-68-8 (5836)
 1,4,7,10,13,16,19,22,25,28,31-Undecaazacyclotritriacontane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO4	25°C	0.15M	C		B(Co2L)=22.90 B(Co2H3L)=40.91 B(Co2H2L)=35.83 K(Co2LOH+H)=12.72	1989BBd (102509)	4470

K(Co2H2L+H)=5.08, K(Co2L+OH)=3.55

 C23H16O9Cl2S H4L Chrome azuro1 S CAS 1667-99-8 (711)
 Chromazuro1 S;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	oth/un	?	?	U		B2=8.00	1968MPb (102538)	4471
pH=10.5-11.5									

 C23H18O3 L CAS 29549-01-7 (5321)
 Ethyl alpha-(alpha-naphthyl)phenylpropiolylethanoate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U		K1=8.86 B2=16.58	1973AAa (102615)	4472

 C23H25N3O2 L CAS 132097-05-3 (6407)
 4,5:12,13-Dibenzo-7,10,20-triaza-3,14-dioxabicyclo[14.3.1]eicosa-1(20),16,18-triene
 ;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	25°C	95%	U		K1=4.51	1991BFa (102698)	4473
Medium: 95% MeOH/H2O, 0.1 M Et4NClO4									

 C23H25N2+ (5323)
 Malachite green
 L+

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	non-aq	?	100%	U		K(Co(SCN)3+L)=4.32	1973KKd (102701)	4474

Medium: 7:1 CHCl3:cyclohexanone

C23H27NO7 HL CAS 203302-24-3 (8395)
4'-(omega-Salicylaldiminoacetyl)benzo-15-crown-5;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	M		K1=8.49 B(CoH-1L)=0.56 B(CoH-2L)=-8.82 B(CoH-3L)=-17.34	1998ADb (102711)	4475

C23H28N2O6 H2L CAS 119673-46-0 (1922)
Dibenz[b,k]-1,13-dioxa-5,9-diazacyclopentadecane-N,N'-diethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	U		K1=7.6	1988ALb (102735)	4476

C23H29N5 L (5558)
Bis(2-pyridylmethyl)-4-benzyl-diethylenetriamine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	25°C	70%	U		K1=11.09 K(CoL+H)=6.64 K(CoH-1L+H)=10.00	1984MMe (102741)	4477

C23H30N4O4Br2 H2L CAS 354154-85-1 (8979)
N,N'-Bis-(3-N"-2-hydroxy-5-bromobenzyl)aminopropyl malondiamide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	25°C	13%	C		K1=7.20 B(CoHL)=16.06 B(CoH-1L)=-2.47 B(CoH-2L)=-12.56	2001CLa (102763)	4478

Medium: 13% v/v dioxane/H2O, 0.10 M KNO3.

C23H33N3O3 L CAS 173547-19-8 (7558)
1,15,19-Triaza-3,4:12,13-dibenzo-5,8,11-trioxacycloheptacosan-3,12-diene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	25°C	95%	C I		K1=7.0	1998DDb (102814)	4479

Medium: 95% MeOH/H2O, 0.1 M Et4NC1O4.
In 95% MeOH/H2O, 0.1 M Me4NCl, K1=6.8.

C24H20N2P L CAS 76032-64-9 (5329)
Triphenylphosphazobenzene; (C6H5)3.P.N:N.C6H5

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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 Co++ sp non-aq ? 100% U 1970YSa (102911)4480
 K(CoCl2+L)=4.0
 K(CoCl2+2L)=7.3

Medium: tetrahydrofuran

C24H23N07S H3L (1980)
 3-(N-Carboxymethyl)aminomethyl-o-cresolsulfonephthalein;

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

Co++ gl KNO3 25°C 0.10M U K1=7.6 B2=13.00 1979Ymb (102928)4481

C24H27N3O2 L CAS 132097-06-4 (6408)
 4,5:13,14-Dibenzo-7,11,21-triaza-3,15-dioxabicyclo[15.3.1]heneicosa-1(21),4,13,17,19-pentaene;

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

Co++ gl alc/w 25°C 95% U K1=4.36 1991BFa (102995)4482

Medium: 95% MeOH/H2O, 0.1 M Et4NClO4

C24H30N2O6 H2L (1923)
 Dibenz[b,k]-1,13-dioxa-5,9-diazacyclohexadecane-N,N'-diethanoic acid;

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

Co++ gl KNO3 25°C 0.10M U K1=8.3 1988ALb (103026)4483

C24H31N3O8 H3L CAS 35369-55-2 (6972)
 N,N"-Bis(2-hydroxybenzyl)-2,5,8-triazanonane-N,N',N"-triethanoic acid;

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

Co++ gl KCl 25°C 0.10M C K1=18.16 1994MMF (103054)4484

K(CoL+H)=10.26

K(CoHL+H)=7.76

K(CoH2L+H)=5.79

K(CoH3L+H)=2.9

C24H32O8 L DiBz-24-Crown-8 CAS 14174-09-5 (580)
 2,3:14,15-Dibenzo-1,4,7,10,13,16,19,22-octaioxacyclotetracos-2,14-diene;

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

Co++ con mixed 25°C 90% C K1=1.54 2003ISa (103105)4485

Medium: 90% v/v DMSO/H2O.

 Co++ vlt alc/w 25°C 100% C K1=2.79 1987CBd (103106)4486

Medium: methanol, 0.10 M Et4NI or Bu4NClO4. Method: polarography.

Additional method conductivity in methanol: K1=2.71.

C24H34N4O12 H6L (5480)
1,4-Bis(2,5,5-tris(carboxymethyl)-2,5-diazapentyl)benzene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	C			K1=15.88 K(CoL+H)=9.80 K(CoHL+H)=4.98 K(CoH2L+H)=2.49 K(CoH3L+H)=2.05	1983NMa (103224)	4487

C24H35N3O3 L CAS 173547-21-2 (7559)
1,15,19-Triaza-3,4:12,13-dibenzo-5,8,11-trioxacyclodocosan-3,12-diene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	alc/w	25°C	95%	C			K1=4.9	1998DDb (103252)	4488

Medium: 95% MeOH/H2O, 0.1 M Et4NClO4.

C24H36N4S2 CAS 638211-87-7 (9252)
Eicosahydro-7,10:19,22-diepthiodibenzo[1,4,11,14]tetraazacycloeicosine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	C			K1=18.50	2003GMb (103278)	4489

C24H36N6 L CAS 240410-16-6 (8656)
N,N'-Bis[2-[(1-methylethyl)amino]ethyl]-1,10-phenanthroline-2,9-dimethanamine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	NaNO3	25°C	0.10M	C			K1=12.22 B(CoHL)=19.26 B(CoH2L)=25.76	1999SLa (103284)	4490

C24H38N6 L CAS 130433-51-1 (6536)
3,6,9,17,20,23-Hexaazatricyclo[23.3.1.1(11,15)]triaconta-1(29),11(30),12,14,25,27-h
exaene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	C	M		K1=5.40 K(CoL+H)=9.26 K(CoHL+H)=7.26 *K(CoL)=-9.30 K(CoL+Co)=3.76	2003AZa (103343)	4491

K(Co2L+H)=9.00, *K(Co2L)=-7.72, *K(Co2H-1L)=-9.49, K(Co2L+A)=4.76,
K(Co2L(OH)+A)=1.86, K(Co2L(OH)2+A)=3.83. A: 4-methoxy-1,2-phenylenediamine

C24H42N6O12 H6L (6546)
1,4,7,10,13,16-Hexaazacyclooctadecane-N,N',N'',N''',N''''-hexaethanoic acid;

C24H44N4O12 H4L (6530)
1,4,7,10-Tetraoxa-13,16,19,22-tetraazacyclotetracosane-13,16-19,22-tetraethanoic
acid;

C24H44O8 L Dicy-24-crown-8 CAS 17455-23-1 (2401)
2,3,14,15-Dicyclohexyl-1,4,7,10,13,16,19,22-octaoxacyclotetracosane;

C24H48N4O6 L CAS 56698-26-1 (1536)
4,10,16,22,27,32-Hexaoxa-1,7,13,19-tetraazatricyclo-tetratetracontane;

C24H48N6	L	CAS 450416-36-1	(8880)
1,3,5-Tri(n-2',5'-diazaoctane)benzene;			

$$B(\text{CoH}_3\text{L})=34.87, \quad B(\text{CoH}_2\text{L})=26.83, \quad B(\text{CoHL})=18.16.$$

C24H51OP L CAS 78-50-2 (4162)
 Trioctylphosphine oxide; (C8H17)3P:O

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	dis	non-aq	25°C	100%	U		K(CoA2+L)=5.28 K(CoA2+2L)=7.23	1990UKa (103540)	4497
Medium: benzene. HA=1-phenyl-3-methyl-4-benzoyl-5-pyrazolone									
Co++	dis	non-aq	20°C	100%	U	M	K(CoA2+L)=4.18 K(CoA2+2L)=7.40	1974HHc (103541)	4498
A=thenoyltrifluoroacetone, (4,4,4-trifluoro-1-(2-thienyl)-1,3-butanedione) Medium: cyclohexane									

C24H54N8O3		L		O-BisTren			CAS 64819-97-2 (5473)		
7,19,30-Trioxa-1,4,10,13,16,22,27,33-octaazabicyclo[11.11.11]pentatriacontane;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaCl04	25°C	0.10M	C	M	B(Co2L)=16.8 (Co2L(O2)OH)(H)/(Co2L)pO2=-6.0	1988MMf (103570)	4499
Co++	gl	KCl	25°C	0.10M	C	M	K1=11.20 B(Co2L)=16.80 K(CoLOH+H)=9.13 K(Co2LOH+H)=7.20 K(Co2L(OH)2+H)=8.80 K(Co2(OH)L+O2)=4.57 at 25 C; 3.94 at 45 C; 3.44 at 65 C; 3.22 at 75 C.	1988MMg (103571)	4500
Co++	gl	oth/un	25°C	0.10M	C		K1=11.20 B(Co2L)=16.80 B(CoH3L)=33.73 K(CoL+H)=8.52 K(CoHL+H)=7.16	1982MMb (103572)	4501

C24H56N8O4		L					CAS 255366-90-6 (63)		
1,4,19,22-Tetraoxa-7,10,13,16,25,28,31,34-octaazacyclohexatriacontane;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaCl	25°C	0.15M	C	M	K1=8.40 B(CoHL)=17.61 B(CoH2L)=25.87 B(Co2L)=16.24 K(Co2L+OH)=3.8	2004BBc (103577)	4502
K(Co2H-1L+OH)=3.2. Ternary complexes with dioxygen also reported. K(Co2H-1L+O2)=10.4, K(Co2H-2L+O2)=11.4, K(Co2H-2L(O2)+OH)=3.9.									

C24H60N12		L					CAS 24904-24-3 (5837)		
1,4,7,10,13,16,19,22,25,28,31,34-Dodecaazacyclohexatriacontane;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO4	25°C	0.15M	C			1989BBd (103585)	4503

B(Co2L)=24.55
 B(Co2H4L)=48.76
 B(Co2H3L)=43.45
 B(Co2H2L)=37.62

B(Co2HL)=31.29, B(2Co+L+H2O=Co2LOH+H)=13.87, K(Co2L+H)=6.73,
 K(Co2HL+H)=6.34, K(Co2H2L+H)=5.83, K(Co2L+OH)=3.05

C25H22O2P2 L CAS 207-21-8 (2099)

Methylenebis(diphenylphosphine oxide); Ph2P(O)CH2P(O)Ph2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	dis	non-aq	25°C	100%	U			1990UKa (103625)	4504

K(CoA2+L)=6.82

Medium: benzene. HA=1-phenyl-3-methyl-4-benzoyl-5-pyrazolone

C25H28N4O10 L CAS 752-13-6 (2940)

Tetraacetylriboflavine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	nmr	non-aq	38°C	100%	U		K1=3.1 B2=5.68	1975LHa (103673)	4505

In acetone. B2 measured by ESR at 38 C, K1 by spectrophotometry at 25 C

C25H30N4O2 L CAS 336181-87-4 (8558)

Octahydro-12H-7,11-nitrilo-6H,18H-dibenzo[b,m][1,15,5,8,11]dioxatriazacyclodocosine ;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	25°C	95%	U		K1=9.2	2002FGa (103698)	4506

Medium:95% MeOH/H2O, 0.10 M Et4NClO4. For the 2,16-t-butyl derivative, K1=9.1.

C25H31N3O2 H2L (5559)

Bis(2-hydroxybenzyl)-4-benzyl-diethylenetriamine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	25°C	70%	U		K1=22.0	1984MMe (103718)	4507

K(CoH2L+H)=10.96

K(CoHL+H)=6.86

K(CoL+H)=2.00

C25H32N2O6 H2L (1924)

Dibenz[b,k]-1,13-dioxo-5,9-diazacycloheptadecane-N,N'-diethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	U			K1=6.8	1988ALb (103723)	4508

C25H32N6 L CAS 132177-84-5 (536)										
3,11-Bis(2-pyridylmethyl)-3,7,11,17-tetraazabicyclo[11.3.1]heptadeca-1(17),13,15-triene;										
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	C			K1=13.5	1999CDa (103743)	4509

C25H36N2O4 L (6970)										
2,3:11,12-Dibenzo-5,9-diaza-5,9-(2-hydroxyethyl)-1,13-dioxacycloheptadeca-2,11-diene;										
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	EMF	alc/w	25°C	95%	U I			K1=4	1994ACb (103755)	4510
Medium: 95% MeOH/H2O, 0.1 M NEt4ClO4. Also data for analogous ligands with smaller rings and for 95% MeOH/H2O, 0.1 M NMe4Cl.										

C25H48N6O8 H3L Desferrioxamine CAS 70-51-9 (2488)										
Desferrioxamine B; NH2.((CH2)5.NOH.CO.C2H4.CO.NH)2.(CH2)5.NOH.CO.CH3										
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	NaNO3	20°C	0.1M	U				1963AEa (103797)	4511
K(Co+HL)=10.31										
K(Co+H2L)=7.36										
K(Co+H3L)=4.18										

C26H22N4O HL (1410)										
1-Phenyl-1-propanone-3-(4-benzyl-6-phenyl)-pyridazinyl hydrazone;										
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U			K1=10.13	1983RRa (103866)	4512

C26H23N5O2 HL (5918)										
Hippuric monohydrazone-3-hydrazino-4-benzyl-6-phenylpyridazine;										
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	diox/w	30°C	75%	U			K1=9.96 B2=18.14	1985RSb (103875)	4513

C26H24O2P2 L (6648)										
Bis(diphenylphosphinyl)ethane; (C6H5)2PO.CH2CH2.PO(C6H5)2										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	dis	non-aq	25°C	100%	U		K(CoA2+L)=5.06	1990UKa (103909)	4514
Medium: benzene. HA=1-phenyl-3-methyl-4-benzoyl-5-pyrazolone									

C26H25N09S		H4L		Semi-Xylenol	0		(426)		
3-(N,N-Di(carboxymethyl)aminomethyl)-2-cresolsulfonephthalein;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	U		K1=12.4 K(CoL+H)=6.0	1981MUa (103940)	4515

C26H27N3O10		H4L					(7231)		
2-((2-Amino-5-methylphenoxy)-methyl)-6-methoxy-8-aminoquinoline-N,N,N',N'-tetraetha noic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	R4N.X	25°C	0.10M	C		K1=10.27	1993YTa (103957)	4516

C26H28N6		L					CAS 16858-02-9	(933)	
N,N,N',N'-Tetrakis-(2-pyridylmethyl)-diaminoethane;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	20°C	0.10M	C	H	K1=16.59	1977AHc (103997)	4517
Calorimetry: DH1=-72.1 kJ mol-1, DS1=69.5									

Co++	cal	KNO3	20°C	0.10M	U	H		1970WAa (103998)	4518
DH=-71.89 kJ mol-1									

C26H28O4		H2L		B(CH2AcAcCH2)2B			(2253)		
3,5,16,18-Tetraoxo[7.7]metacyclophane ;Cyclo-(-C6H4.(CH2)2.CO.CH2.CO.(CH2)2-)2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	24°C	50%	U		K1=8.6	1979ACa (104018)	4519

C26H30N2O2		L					CAS 268727-12-4	(8553)	
6,7,8,9,10,11,17,18-Octahydro-6-(phenylmethyl)-5H-dibenzo[e,n][1,4,8,12]dioxadiazac yclopentadecin									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	25°C	95%	C		K1=<4	2002KAb (104030)	4520
Medium: 95% MeHO/H2O, 0.10 M Et4NClO4.									

C26H33N3O8		H3L					CAS 119673-43-7	(1925)	

Dibenz[b,m]-1,15-dioxa-5,8,11-triazacycloheptadecane-N,N',N''-triethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	KNO3	25°C	0.10M	U			K1=14.2	1988ALb (104054)	4521
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C26H34N4O6 H2L EDTAMBA CAS 144150-09-4 (7802)

Ethylenedinitrilo-N,N'-diethanoic-N,N'-bis(1-phenylethylacetamido) acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	NaClO4	25°C	0.10M	M	H		K1=8.93	1998DTa (104084)	4522
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Medium: 0.10 M KClO4. By calorimetry, DH(K1)=-19.14 kJ mol⁻¹,

DS(K1)=106.8 J K⁻¹ mol⁻¹.

C26H36N2O6Cl2 H2L (7215)

7,16-Bis((5-chloro-2-hydroxybenzyl)-1,4,10,13-tetraoxa-7,16-diazacyclooctadecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	cal	alc/w	25°C	100%	U	H			1996BBf (104154)	4523
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K(Cu+HL)=2.27

Medium: MeOH; 0.1 M Me4NCl. DH(K)=-14.4 kJ mol⁻¹. Data also for similar
ariat ligands

C26H40N6 L CAS 240410-17-7 (8657)

N,N'-Bis[2-(diethylamino)ethyl]-1,10-phenanthroline-2,9-dimethanamine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	NaNO3	25°C	0.10M	C			K1=8.52	1999SLa (104231)	4524
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B(CoHL)=17.02

B(CoH2L)=24.88

C26H40N10 L CAS 85264-43-3 (7797)

N,N,N',N'-Tetrakis(3',5'-dimethylpyrazol-1'-ylmethyl)-1,2-diaminoethane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	dis	non-aq	25°C	100%	U				1997HIb (104239)	4525
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K(M+3L+2ClO4=ML3.2ClO4)=16.79

Method: extraction form 0.1 M NaClO4 into nitrobenzene.

Reaction is: Co(aq)+3L(org)+2ClO4(aq)=CoL3.2ClO4(org)

C26H42N6O4 L O2-BISBAMP CAS 75620-07-4 (5909)

3,12,20,29,35,36-Hexaaza-6,9,23,26-tetraoxatricyclo[29.3.1.1]-hexatrica-hexaene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	KNO3	25°C	0.10M	C			K1=8.86	1989Mca (104268)	4526
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K(CoL+H)=6.89
 K(CoHL+H)=6.43, K(CoL+Co)=4.1
 K(CoL=CoLOH+H)=-11.2
 K(Co2L=Co2LOH+H)=-8.4

C26H48N4O13 H4L (6531)
 1,4,7,10,13-Pentaoxa-16,19,22,25-tetraazacycloheptacosane-16,19,22,25-tetraethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	R4N.X	25°C	0.10M	C		K1=16.6 K(Co+HL)=12.4 K(Co+H2L)=7.2	1990SBc (104301)	4527

C26H56N8 L TCOA-14 (7430)
 1,5,9,12,16,20,24,27-Octaazatricyclo[18.10.2.2(5,16)]tetratriacontane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	R4N.X	25°C	0.10M	C		K1=10.01 K(Co+H3L)=2.9 K(Co+CoL)<2.9 *K1(Co2L)<-6.6 *K1(Co2H-1L)=-10.22	1998DDa (104371)	4528

Medium: 0.1 M NEt4ClO4.

C27H27N3O2 H2L (5859)
 N,N-Bis(2-((2-hydroxybenzyl)amino)phenyl)methylamine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	diox/w	25°C	70%	C		K1=14.21 K(CoL+2H=CoH2L)=16.20	1988MMd (104414)	4529

C27H27N3O3 H3L CAS 444311-20-0 (8670)
 2,2',2''-[1,3,5-Benzenetriyltris(methyleneimino)]trisphenol;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	mixed	25°C	20%	C		B(CoH4L)=39.06 B(Co3L)=12.14 B(Co3H-1L)=3.67 B(Co3H-2L)=-4.70	2002LWa (104419)	4530

Medium: 80% v/v DMSO/H2O, 0.10 M KNO3.

C27H30N6 L CAS 444311-21-1 (8671)
 N,N',N''-Tris(2-pyridinylmethyl)-1,3,5-benzenetrimethanamine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	U		K1=8.25 B(Co2H2L)=31.25 B(Co3L)=16.97 B(Co3H-1L)=7.82 B(CoH4L)=41.39 B(CoH3L)=34.54, B(CoH2L)=25.72, B(CoHL)=17.23.	2003GGa (104489)	4531

Co++	gl	KNO3	25°C	0.10M	C		B(Co2H2L)=31.25 B(Co3L)=16.97 B(Co3H-1L)=7.82	2002LWa (104490)	4532
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C27H30O16		H4L		Rutin			CAS 153-18-4 (4169)		
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3,3',4',5,7-Pentahydroxyflavone-3-beta-rutinoside;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaNO3	20°C	0.10M	C		K1=8.23 K(CoL+H)=9.14 K(CoHL+H)=7.66	1991ESa (104504)	4533

C27H33N3O2		L					CAS 540522-39-2 (9154)		
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1,12,15-Triaza-3,4:9,10-dibenzo-5,8-dioxacycloheptadecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	25°C	95%	U		K1=5.7	2004FRa (104532)	4534

Medium: 95% methanol/water, 0.1 M Et4NC104.

C27H33N9O15P2		H2L		FAD			CAS 146-14-5 (3521)		
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Flavin adenine dinucleotide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	ix	NaCl	23°C	0.1M	U		K1=2.36	1958WAa (104544)	4535

C27H44O		L		Vitamin D3			CAS 67-97-0 (6103)		
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7-Dehydrocholesterol, Cholecalciferol

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	25°C	70%	U		K1=7.6 B2=14.10	1998MSc (104612)	4536

Medium: 70% v/v EtOH/H2O, 0.1 M KNO3

C27H44O2		L					CAS 19356-17-3 (8052)		
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25-Hydroxycholecalciferol;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++ sp none 25°C 0.0 C K1=4.7 1994GKb (104616)4537
For 1,25-dihydroxycholecalciferol, K1=6.1

C27H48N6O10 H3L Nocardamin (3519)
Desferri-ferrioxamin E;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaNO3	20°C	0.1M	U		K1=11.88 K(Co+HL)=8.42 K(Co+H2L)=4.76	1963AEa (104635)	4538

C27H54N6 L CAS 450416-37-2 (8881)
1,3,5-Tri(n-2',5'-diazanonane)benzene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	U		K1=7.52 B(CoH4L)=41.18 B(Co2H2L)=35.64 B(Co3L)=25.59 B(Co3H-1L)=18.31	2003GGa (104648)	4539

B(CoH3L)=34.12, B(CoH2L)=25.91, B(CoHL)=16.70.

C28H22N2O8S2 H2L CAS 4403-90-1 (2911)
1,4-Di(4-methylanilino)anthraquinone; (Alizarin cyanin green)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	oth/un	25°C	?	U		K1=5.5 B2=9.8	1978ISb (104662)	4540

C28H30N2O7 L CAS 105169-83-3 (7173)
4,'5-Bis(salicylideneimino)-1,4,7,10,13-pentaoxa[13]orthocyclophan;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	1.00M	C		K1=4.11 B(CoHL)=11.00 B(CoH-1L=Co(OH)L)=-4.00	1995ABb (104732)	4541

C28H44N2O2 HL CAS 84356-27-4 (8397)
1-Phenyl-3-methyl-4-stearoyl-5-hydroxypyrazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	dis	non-aq	25°C	100%	C			1998SGc (104934)	4542

Method: extraction from 0.33 M SO4 medium into toluene.
K(Co+2HL(org)=CoL2(org)+2H)=-8.40. For 1 M ClO4 medium, K=-7.40.

C28H46N6O L CAS 74126-85-5 (5440)

Tri-(4,5-diisopropylimidazol-2-yl)-methanol;

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

Co++ gl KNO3 25°C 0.20M U K1=<7.0 1980BHa (104954)4543

C28H46N6O2 L CAS 402562-58-7 (8007)

3,6,10,18,21,25-Hexaaza-31,32-dihydroxy-14,29-dimethyltricyclo[25,3,1,1]dotriaconta-1,12,14,16,27

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

Co++ gl KCl 25°C 0.10M C K1=18.02 2002KMa (104961)4544

K(CoL+H)=10.99

K(CoHL+H)=9.54

K(CoH2L+H)=7.99

K(CoH3L+H)=6.17

K(CoL+Co)=9.23, K(Co2(OH)L+H)=11.38.

K(Co2L+O2)=3.19, K(Co2(OH)L+O2)=0.9, K(Co2(OH)L(O2)+H)=9.09.

C28H52N4O14 H4L (6532)

1,4,7,10,13,16-Hexaoxa-19,22,25,28-tetraazacyclotriacontane-19,22,25,28-tetraethanoic acid;

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

Co++ gl R4N.X 25°C 0.10M C K1=16.5 1990SBc (104995)4545

K(Co+HL)=12.1

K(Co+H2L)=6.8

C29H37N3O4S2 L CAS 173547-29-0 (7564)

1,8,15-Triaza-3,4:12,13-dibenzo-8-tosyl-5,11-dioxa-18-thiacycloeicosan-3,12-diene;

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

Co++ gl alc/w 25°C 95% C K1=3.4 1998DDb (105114)4546

Medium: 95% MeOH/H2O, 0.1 M Et4NClO4.

C29H37N3O5S L CAS 173547-28-9 (7563)

1,8,15-Triaza-3,4:12,13-dibenzo-8-tosyl-5,11,18-trioxacycloeicosan-3,12-diene;

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

Co++ gl alc/w 25°C 95% C K1=3.9 1998DDb (105122)4547

Medium: 95% MeOH/H2O, 0.1 M Et4NClO4.

C29H38N4O4S L CAS 168279-83-2 (7561)

1,8,15,18-Tetraaza-3,4:12,13-dibenzo-8-tosyl-5,11-dioxacycloeicosan-3,12-diene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	25°C	95%	C		K1=8.0 B(CoHL)=14.2	1998DDb (105131)	4548

Medium: 95% MeOH/H2O, 0.1 M Et4NClO4.

C30H26N2O13 H6L Calcein CAS 1461-15-0 (2873)
bis(N,N-Bis(carboxymethyl)aminomethyl)fluorescein

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	oth/un	20°C	0.10M	U		Keff=5.5 (pH=5.05) Keff=8.2 (pH=7.05)	1984SSa (105182)	4549

By fluorescence.

C30H27N3O18S3 H9L TRIMCAMS CAS 77069-63-7 (5468)
1,3,5-Tris(2,3-dihydroxy-5-sulfobenzoyl)carbamido)benzene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	C		B(CoHL)=26.3 B(CoH2L)=33.9	1982KRb (105202)	4550

C30H36N8O3 Furan-cryptand CAS 121954-37-8 (7451)
39,40,41-Trioxa-1,4,11,14,17,24,29,36-octaazapentacyclo[12.12.12.1.1.1]henLetetraco
ntadodecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	non-aq	25°C	100%	U		K1=6.2	1996AAb (105249)	4551

Medium: MeCN

tacyclo[12.12.12.1(6,9).1(19,22).1(31,34)]hentetetraconta-4,6,8.....dodecaene

C30H40N4O4S L CAS 173547-27-8 (7562)
1,8,15,19-Tetraaza-3,4:12,13-dibenzo-8-tosyl-5,11-dioxacycloheneicosan-3,12-diene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	25°C	95%	C		K1=7.0 B(CoHL)=14.1	1998DDb (105289)	4552

Medium: 95% MeOH/H2O, 0.1 M Et4NClO4.

C30H48N8O3 L CAS 137447-39-3 (7704)
39,40,41-Tetraoxa-1,4,11,14,17,24,29,36-octazapentacyclo[12.12.12.1.1.1]henetetraco
nta-hexaene;

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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Co++ gl NaClO₄ 30°C 0.10M C 1995STa (105446)4558
K(Co+H2L)=6.94
K(Co+HL)=10.19

Co++	ISE NaCl04 25°C 0.10M U	K1=12.63	1980M0a (105447)4559
		K(Co+HL)=10.58	
		K(Co+H2L)=4.64	
		K(CoL+H)=10.18	
		K(CoHL+H)=4.62	

$$K(\text{Co}+\text{CoL})=11.61, \quad K(\text{Co}+\text{CoHL})=5.43, \quad K(\text{Co}_2\text{L}+\text{H})=4.4$$

C31H34N4O2 L (6979)
3,4:9,10-Dibenzo-1,12-diaza-1,12-di(pyridylmethyl)-5,8-dioxacyclopentadeca-3,9-diene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K	values	Reference	ExptNo
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Co++ gl alc/w 25°C 95% U K1=7.17 1994ALb (105522)4560
Medium: 95% MeOH/H2O, 0.01 NEt4ClO4. Data for homologous macrocycles

C31H52N6O L CAS 74126-86-6 (5441)
Tri-(4,5-diisopropyl-N-methylimidazol-2-yl)-methanol;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K	values	Reference	ExptNo
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Co++ g1 KNO3 25°C 0.20M U K1=4.0 1980BHa (105557)4561

C32H32N2O12 H6L Cresolphthalexo CAS 2411-89-4 (1997)
o-Cresolphthalein-3,3'-bis(methyliminodiethanoic acid)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K	values	Reference	ExptNo
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Co++ gl NaClO4 30°C 0.1M U TIH K1=14.13 1996STa (105606)4562
K(Co+HL)=12.90
K(Co+H2L)=9.44

*K1=-7.53.

C32H34N4O4S2 L CAS 463304-27-0 (8534)
N,N'-[1,2-Ethanediylobis(nitriloethylidyne-2,1-phenylene)]bis-4-methylbenzenesulfonamide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++ dis non-aq 25°C 100% C Kex=-13.03 2002HTa (105642)4563

Method: extraction from 0.1 M KNO₃ into CHCl₃/H₂L solution.

$$K_{ex}: Co + H_2L(o) = CoL(o) + 2H^+$$

C32H37N09S H4L SemiMeThymolBlu (427)
3-(N,N-Di(carboxymethyl)-aminomethyl)thymolsulfonephthalein;

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       sp  KNO3    25°C 0.10M M          K1=12.75      1974YMb (105661)4564
                               B(CoHL)=19.28
                               B(CoH2L)=22.24
*****
C32H38N4O6Cl2      H2L                      (7214)
7,16-Bis((5-chloro-8-hydroxy-7-quinolinyl)methyl)-1,4,10,13-tetraoxa-7,16-diazacyclooctadecane;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       cal alc/w  25°C 100% U   H          K(Co+H2L)=5.14  1996BBf (105687)4565
Medium: MeOH; 0.1 M Me4NCl. DH(K)=-91.1 kJ mol-1. Data also for similar
lariat ligands with substituted oxine side chains
*****
C32H39N7          L                      CAS 265987-10-8 (7764)
1-[4'-p-Tolyl-(2,2':6',2''-terpyridyl)]-1,4,8,11-tetraazacyclotetradecane;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  mixed  25°C 70% C          K1=12.76      2001PMb (105701)4566
                               B(CoH-1L)=0.83
                               B(CoHL)=18.82
                               B(CoH3L2)=42.81
                               B(CoH4L2)=47.20
Medium: 70% v/v acetonitrile/H2O, 0.10 M Bu4NClO4. Also data for P04
complexes: B(CoH5L2(P04))=68.12, B(CoH2L2(P04))=46.00.
*****
C32H40N2O8P4      H4L                      CAS 78558-60-8 (1334)
N,N'-Di(diphenylphosphorylethyl)ethylenediamine-bismethylphosphonic acid;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  KCl    25°C 0.10M M          K1=10.5      1981MGa (105706)4567
                               K(Co+HL)=6.7
*****
C32H40N4O4          L                      CAS 340963-90-8 (8926)
8,8'-[1,4,10,13-Tetraoxa-7,16-diazacyclooctadecane-7,16-diylbis(methylene)bisquinoline;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       cal alc/w  25°C 100% C   H          K1=3.21      2001DXa (105711)4568
Medium: MeOH. DH(K1)=14.4 kJ mol-1, DS(K1)=110 J K-1 mol-1.
*****
C32H40N4O6      H2L                      CAS 254900-30-6 (8916)
7,16-Bis(8-hydroxyquinoline-7-ylmethyl)-1,4,10,13-tetraoxa-7,16-diazacyclooctadecane

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	cal	alc/w	25°C	100%	C	H			1999SBg (105721)	4569
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K(Co+H2L)=3.91

Medium: MeOH. DH(K)=-91.2 kJ mol⁻¹, DS(K)=-231 J K⁻¹ mol⁻¹.

C32H42N6O2S	H2L	CAS	226211-88-7	(7999)
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2,2'-(7,10-DiMe-1-thia-4,7,10,13-tetraazacyclopentadeca-4,13-diyl)bis(methylene)bis-quinolinol;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	R4N.X	25°C	0.10M	C			K1=12.00	2001LIa (105740)	4570
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B(CoHL)=15.30

B(CoH-1L)=6.41

Medium: 0.10 M Me4NCl.

C32H42N6O3	H2L	CAS	226211-86-5	(7997)
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2,2'-(7,10-DiMe-1-oxa-4,7,10,13-tetraazacyclopentadecan-4,13-diyl)bis(methylene)-bis-quinolinol;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	R4N.X	25°C	0.10M	C			K1=12.34 B2=20.19	2001LIa (105747)	4571
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B(CoH-1L)=6.44

Medium: 0.10 M Me4NCl.

C32H44N10O4	L	CAS	702699-42-1	(9126)
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2,9-Di[4-(1,4,7,10-tetraazacyclotridecane-11,13,-dione)methyl]-1,10-phenanthroline;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	gl	KN03	25°C	0.10M	U				2004GLa (105772)	4572
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B(CoH3L)=25.88

B(CoH2L)=19.87

B(Co2L)=11.90

B(Co3H-2L)=5.56

B(Co3H-3L)=-7.62, B(Co3H-4L)=-16.20.

C32H66N2O4	L	22DD Kryptofix	CAS	79495-97-9	(6655)
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1,10-Didecyl-1,10-diaza-4,7,13,16-tetraoxacyclooctadecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	cal	alc/w	25°C	100%	U	H		K1=2.36	1985BUd (105859)	4573
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Medium: MeOH, 0.05 M Et4N.NO3. DH=+2.8 kJ mol⁻¹

C33H36N2O2	L	CAS	225918-78-5	(8554)
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6,7,8,9,10,11,17,18-Octahydro-6,10-bis(phenylmethyl)-5H-dibenzo[1,4,8,12]dioxadiazacyclopentadeci

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	alc/w	25°C	95%	C		K1=<4	2002KAb (105885)	4574
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Medium: 95% MeHO/H2O, 0.10 M Et4NClO4.

C33H36N4O4S2 L CAS 463304-29-2 (8536)

N,N'-[1,3-Propanediylbis(nitriloethylidyne-2,1-phenylene)]bis-4-methylbenzenesulfonamide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	dis	non-aq	25°C	100%	C		Kex=-12.97	2002HTa (105894)	4575
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Method: extraction from 0.1 M KNO3 into CHCl3/H2L solution.

Kex: Co+H2L(o)=CoL(o)+2H

C33H38N2O6P2 H2L CAS 361523-72-0 (7842)

1,12-Diaza-3,4:9,10-dibenzo-5,8-dioxacyclopentadecan-1,2-bis(methylenephosphoric acid);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	alc/w	25°C	95%	C		K1=10.5	2001FLa (105905)	4576
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Medium: 95% MeOH/H2O, 0.10 M Et4NClO4.

C33H39N11 L Pyr-cryptand CAS 141258-00-6 (7452)

1,4,12,15,18,26,31,39,42,43,44-Undecaazapentacyclo[13.13.13.1.1.1]tetratetracontapentadecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	sp	non-aq	25°C	100%	U		K1=7.2	1996AAb (105914)	4577
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Medium: CH3CN

.13.1(6,10).1(20,24).1(33,37)]tetratetraconta-4-6-8-10(44),11...pentadecaene

C33H44N6O2S H2L CAS 226211-89-8 (8000)

2,2'-(7,11-DiMe-1-thia-4,7,11,14-tetraazacyclohexadecan-4,14-diyl)bis(methylene)bis-quinolinol;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co++	gl	R4N.X	25°C	0.10M	C		K1=9.68 B(CoHL)=15.32 B(CoH-1L)=2.16	2001LIa (105944)	4578
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Medium: 0.10 M Me4NCl.

C33H44N6O3 H2L CAS 226211-87-6 (7998)

2,2'-(7,11-DiMe-1-oxa-4,7,11,14-tetraazacyclohexadecan-4,14-diyl)bis(methylene)bis-8-quinolinol;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	R4N.X	25°C	0.10M	C		K1=10.03 B(CoH-1L)=3.68 B(CoH-2L)=-3.47	2001LIa (105951)	4579

Medium: 0.10 M Me4NCl.

C33H51N11 L CAS 137447-41-7 (7705)
1,4,12,15,18,26,31,39,42,43,44-Undecaazapentacyclo[13.13.13.1.1.1]tetratetraconta-nonaene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	R4N.X	25°C	0.10M	C		K1=12.02 B(CoHL)=20.63 B(CoH2L)=27.89 B(CoH3L)=33.94 B(Co2L)=17.70	2000AFa (105991)	4580

Medium: 0.1 M Et4NClO4. B(Co2HL)=24.0, B(Co2H-1L)=9.70.

C34H36N6O4 L (7514)
1,2-Diaminoethane-N,N,N',N'-tetraacetanilide; ((C6H5NH.CO.CH2)2NCH2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	cal	non-aq	25°C	100%	U	H	K1=4.18	1997DGa (106017)	4581

Medium: water-saturated butanol. DH(K1)=-22.16 kJ mol⁻¹, DS=5.7 J K⁻¹ mol⁻¹.

C34H38N2O3 L CAS 268727-13-5 (8555)
Decahydro-17,20-bis(phenylmethyl)dibenzo[h,p][1,4,7,11,14]trioxadiazacycloheptadecine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	25°C	95%	C		K1=<4	2002KAb (106024)	4582

Medium: 95% MeOH/H2O, 0.10 M Et4NClO4.

C34H44N4O6 H2L CAS 254900-31-7 (8917)
7,16-Bis(5-methyl-8-hydroxyquinoline-7-ylmethyl)-1,4,10,13-tetraoxa-7,16-diazacyclooctadecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	cal	alc/w	25°C	100%	C	H	K(Co+H2L)=3.96	1999SBg (106071)	4583

Medium: MeOH. DH(K)=-84.5 kJ mol⁻¹, DS(K)=-208 J K⁻¹ mol⁻¹.

C34H46N4O14 H2L CAS 226947-33-7 (8530)
N,N'-Bis[(benzo-15-crown-5)-o-ylmethyl]diaminoglyoxime;

Medium: 60% v/v acetone/H₂O, 0.20 M KNO₃.

C34H52N6O H2L Hydroxy-8H-HDP (5950)
1-Hydroxy-hexadecamethyl-octahydro-diazaporphine;

Medium: MeOH. In dimethylacetamide, $K(\text{CuL}+\text{Pyridine})=1.3$, $K(\text{CuL}+\text{Br})=1.9$

C34H54O8	H2L	Lasalocid	CAS 25999-20-6 (2335)
Lasalocid acid;			

C35H40N2O3 L CAS 268727-14-6 (8556)
Decahydro-17,21-bis(phenylmethyl)-16H-dibenzo[h,q][1,4,7,11,15]trioxadiazacyclooctadecine;

C36H36N24O12	L	Cucurbituril	CAS 283175-97-3	(6744)
Cucurbit[6]uril;				

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	sol	none	25°C	0.0	C			K1=1.98	2001BCe (106252)	4589
Method: total organic carbon analysis of dissolved species.										
For the homologous cucurbit[5]uril, K1=1.82										

C36H44N4 L CAS 18084-64-5 (8777)
1,4,7,10-Tetrakis(phenylmethyl)-1,4,7,10-tetraazacyclododecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KCl	25°C	0.10M	C		K1=19.79 *K(CoL)=-9.04 *K(CoH-1L)=-10.52	2002KHa (106321)	4590

C36H44N4O2 L CAS 446875-57-6 (8559)
3,17-Bis(1,1-dimethylethyl)-tetrahydro-dinitrilodibenzodioxadiazacyclotetracosine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	25°C	95%	U		K1=9.4	2002FGa (106327)	4591

Medium: 95% MeOH/H2O, 0.10 M Et4NC104.

C36H46N4 L (9018)
2,3,6,7,11,12,17,18-Octaethylcorphycene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	non-aq	RT	100%	C	M	K(CoL+py)=3.00 K(Co(py)+py)=3.30	2002FSa (106350)	4592

Medium: toluene.

C36H46N4 L CAS 130351-26-7 (9017)
2,3,6,7,12,13,16,17-Octaethylporphycene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	non-aq	RT	100%	C	M	K(CoL+py)=1.04 K(CoL(py)+py)=1.85	2002FSa (106354)	4593

Medium: toluene.

C36H46N4 L (9019)
2,3,7,8,11,12,17,18-Octaethylhemiporphycene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	non-aq	RT	100%	C	M	K(CoL+py)=2.71 K(CoL(py)+py)=3.00	2002FSa (106358)	4594

Medium: toluene.

C36H46N4 H2L Octaethylporph. CAS 2683-82-1 (1794)
2,3,7,8,12,13,17,18-Octaethyl-21H,23H-porphine;

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       sp  non-aq  RT   100%  C      M                      2002FSa (106365)4595
                                     K(CoL+py)=2.54
                                     K(Co(py)+py)=<0

```

Medium: toluene.

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*****
C36H54N8          L                      CAS 119142-71-1 (7703)
1,4,11,14,17,24,29,36-Octaazapentacyclo[12.12.12.2.2.2]tetratetraconta-nonaene;
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  R4N.X  25°C 0.10M C          K1=6.9          2000AFa (106405)4596
                                     B(CoHL)=15.8
                                     B(CoH2L)=24.1
                                     B(CoH3L)=31.60

```

Medium: 0.1 M Et4NClO4.

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*****
C36H54N8          L                      CAS 135469-17-9 (6574)
1,4,12,15,18,26,31,39-Octaazapentacyclo[13.13.13.1.1.1]tetratetraconta-nonaene;
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  R4N.X  25°C 0.10M C          K1=7.53          2000AFa (106415)4597
                                     B(CoHL)=16.41

```

Medium: 0.1 M Et4NClO4.

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Co++       gl  KNO3   25°C 0.10M C          K1=9.81          1991MRa (106416)4598
                                     B(Co2L)=13.56
                                     K(CoLOH+H)=11.01
                                     K(Co2LOH+H)=7.81
                                     K(CoL+H)=9.10

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*****
C36H56N8O8S2      L      L-Allothreonine CAS 108312-45-4 (4586)
Cyclo(-L-allothreonyl-2-[(1R)-1-amino-2-methylpropyl]-4-thiazolecarbonyl-L-isoleucyl-)-2;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       gl  NaNO3   25°C 0.10M C          K1=4.13  B2= 7.17  1982KPc (106434)4599
                                     B(CoH-1L2)=-2.28

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*****
C36H60N8O8        L                      CAS 121925-84-6 (7152)
Cyclo(Gly-eLL-Gly)2 (eLL=N,N'-ethylene-bridged (S)-leucyl-(S)-leucine
-----

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co++       sp  non-aq  25°C 100%  U          K1=2.20          1994MKa (106452)4600
Medium: MeCN

```

C37H44N2O13S H6L MeThymol Blue (428)
3,3'-Bis(N,N-di(carboxymethyl)aminomethyl)thymolsulfonephthalein;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	NaNO3	25°C	0.10M	C	I	K1=4.50 K(CoL+Co)=3.57	1997GAc (106576)	4601

Medium pH 4.45 (acetate buffer). Also data for 15-45% w/w MeOH/H2O, 0.10 M NaNO3.

Co++	gl	KN03	30°C	0.0	U	T H	K1=12.28	1978SSj (106577)	4602
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Extrapolated from data for I=0.1-1.0 M KN03. Data for 40 C.
DH(K1)=-24 kJ mol⁻¹, DS(K1)=154 J K⁻¹ mol⁻¹.

Co++	sp	KN03	25°C	0.10M	U		K1=12.69 B(CoHL)=23.53 B(CoH2L)=34.67 B(CoH3L)=32.71 K(Co+CoL)=11.0	1974YIa (106578)	4603
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C38H42N4O24S4 H9L (5477)
1,5,10,14-Tetrakis(2,3-dihydroxy-5-sulfobenzoyl)-1,5,10,14-tetraazatetradecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KN03	25°C	0.10M	C		B(CoH4L)=53.24 B(CoH3L)=45.2 B(CoH2L)=37.7 B(Co2L)=27.9	1982KRb (106668)	4604

C40H47N3O10 H7L CAS 86728-01-0 (5503)
Bis(3-(((2-hydroxy-5-methylbenzyl)amino)methyl)-2-hydroxy-5-methylbenzyl)amine-triethanoic acid

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	oth/un	25°C	0.10M	U		K1=9.80 K(CoL+H)=5.86 K(CoHL+H)=4.39 K(CoH-1L+H)=7.95 K(CoH-2L+H)=10.16	1983YMa (106784)	4605

C40H48O4S4 H4L CAS 182496-55-5 (7816)
Tetra(4-tert-butyl)tetrathiacalix[4]arene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	dis	non-aq	20°C	none	C			1998IMa (106792)	4606

$$K(\text{Co}+\text{H4L}=\text{CoH2L}+2\text{H})=-8.58$$

Method: solvent extraction from 0.05 M PIPES/NH3 buffer into CHCl3.

Reaction is: $\text{Co}+\text{H4L}(\text{org})=\text{CoH2L}(\text{org})+2\text{H}$.

C40H50O4S3 H4L CAS 56857-30-8 (9028)
2,2'-Thiobis[4-(1,1-dimethylethyl)-6-[[5-(1,1-dimethylethyl)-2-hydroxyphenyl]thio]-phenol ;

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

Co++ dis non-aq 20°C 100% M 2003IMa (106816)4607

$K(\text{Co}+\text{H4L}(\text{org})=\text{CoH2L}(\text{org})+2\text{H})=-8.78$. Method: extraction into CHCl3 from 0.05 M buffer solutions (pH 2.0-10.0).

C41H45N3O2 L CAS 129508-47-0 (8557)
Decahydro-6,9,12-tris(phenylmethyl)-5H-dibenzo[e,p][1,4,8,11,14]dioxatriazacycloheptadecine;

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

Co++ gl alc/w 25°C 95% C K1=<4 2002KAb (106880)4608

Medium: 95% MeHO/H2O, 0.10 M Et4NClO4.

C41H67N7O4 L CAS 357333-45-0 (8036)
9-Methyl-3,6,9,12,15,22,31-heptaaza-25,28,38,41-tetraoxahexacyclohepta-tetracontaxaene;

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

Co++ gl NaCl 25°C 0.15M C K1=2.9 2001BFa (106902)4609

C42H38N4O4S2 L CAS 114407-61-3 (8533)
N,N'-[1,2-Ethanediybis[nitrilo(phenylmethylidyne)-2,1-phenylene]]bis-4-methylbenzenesulfonamide;

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

Co++ dis non-aq 25°C 100% C 2002HTa (106907)4610

$$\text{Kex}=-13.05$$

Method: extraction from 0.1 M KNO3 into CHCl3/H2L solution.

Kex: $\text{Co}+\text{H2L}(\text{o})=\text{CoL}(\text{o})+2\text{H}$

C43H40N4O4S2 L CAS 463304-28-1 (8535)
N,N'-[1,3-Propanediybis[nitrilo(phenylmethylidyne)-2,1-phenylene]]bis-4-methylbenzenesulfonamide

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

Co++ dis non-aq 25°C 100% C 2002HTa (106997)4611

$$\text{Kex}=-12.88$$

Method: extraction from 0.1 M KNO₃ into CHCl₃/H₂L solution.

Kex: Co+H₂L(o)=CoL(o)+2H

C43H₅₈N₄O₁₂ H₃L Rifampicin CAS 13292-46-1 (8977)

3-[[[(4-Methyl-1-piperazinyl)imino]methyl]rifamycin;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	alc/w	30°C	50%	C T H			2001SKd (107018)	4612

K(Co+H₂L)=7.09

K(CoH₂L+H₂L)=5.44

Medium: 50% v/v MeOH/H₂O, 0.05 M KCl. DH(Co+H₂L)=-50.11 kJ mol⁻¹, DS=-30.8

J K-1 mol⁻¹; DH(CoH₂L+H₂L)=-40.86, DS=-31.0. Also data for 35 and 40 C.

C44H₂₆N₄Cl₄ H₂L CAS 22112-77-2 (1783)

5,10,15,20-4-Tetra-(4-chlorophenyl)porphine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	non-aq	25°C	100%	U T M			1976WBa (107040)	4613

K(CoL+piperidine)=3.70

K(CoL+pyridone)=3.00

Medium: toluene. At -72 C: K(CoLpy+O₂)=2.90; -38 C: 1.45

C44H₂₆N₄F₄ H₂L CAS 37095-43-5 (1782)

5,10,15,20-Tetra-(4-fluorophenyl)porphine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	non-aq	25°C	100%	U T M			1976WBa (107045)	4614

K(CoL+piperidine)=2.972

Medium: toluene. At -72 C: K(CoLpy+O₂)=3.0; -38 C: 1.53

C44H₂₆N₄O₈ H₂L CAS 24843-73-8 (1779)

5,10,15,20-Tetra-(4-nitrophenyl)porphine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	non-aq	25°C	100%	U T M			1976WBa (107047)	4615

K(CoL+piperidine)=4.036

K(CoL+py)=3.39

Medium: toluene. At -70 C: K(CoLpy+O₂)=2.66

C44H₃₀N₄ H₂L Tetraphenylpor. CAS 917-23-7 (1781)

5,10,15,20-Tetraphenyl-21H,23H-porphine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	non-aq	25°C	100%	U T M			1976WBa (107060)	4616

K(CoL+piperidine)=3.62

Medium: toluene. At -70 C: K(CoLpy+O2)=2.98; -38 C: 1.48

C44H76N2O34 L CAS 60984-63-6 (7835)

6A-(2-Aminoethylamino)-6A-deoxy-beta-cyclodextrin;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	NaClO4	25°C	0.10M	U	M		K1=12.00 B2=18.22 K(CoL+(R)-Trp)=8.71 K(CoL+(S)-Trp)=8.54	1999SEc	(107201)4617

C45H32N4O12S4 CAS 144513-76-8 (7172)

N-Methyl-tetra(4-sulfonatophenyl)porphin;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K	values	Reference	ExptNo
Co++	sp	oth/un	25°C	0.10M	U					1995RSa (107209)	4618
									K(Co+HL=CoL+H)=1.2		

C45H48N3O3P3 L CAS 90179-28-5 (5682)

N,N',N''-tris(Diphenylphosphinylmethyl)-1,4,7-triazacyclononane:

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	con	non-aq	25°C	100%	U				1985KSa (107222)	4619
								K(Co(CNS)+L)=4.67		
								K(2CoCNS+L=(CoCNS)2L)=7.28		

Medium: acetone+CHCl₃ 1:1 (vol)

C46H48N4O2 HL CAS 688348-38-1 (9161)

Octahydro-19,22,25-tris(phenylmethyl)-12H-7,11-nitrilo-6H,18H-dibenzo[1,15,5,8,11]dioxatriazac;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	gl	alc/w	25°C	95%	U		K1=<	4	2004PFa (107267)	4620
Medium: 95 % methanol/H2O, 0.1 M Et4NClO4.										

C46H75NO38 H2L CAS 280122-72-7 (7836)

6A-[Bis(carboxymethyl)amino]-6A-deoxy-beta-cyclodextrin;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	NaClO4	25°C	0.10M	U	M	K1=7.29 K(CoL+(R)-Trp)=5.49 K(CoL+(S)-Trp)=5.16	2000SMf (107313)	4621

C48H26N8 H2L CAS 64397-83-7 (1778)

5,10,15,20-Tetrakis-(4-cyanophenyl)-21H,23H-porphine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	non-aq	25°C	100%	U T M		1976WBa (107342)4622 K(CoL+piperidine)=3.937 K(CoL+py)=3.27		
Medium: toluene. At -70 C: K(CoLpy+O2)=2.76; -38 C: 1.44									

C48H38N4		H2L					CAS 14527-51-6 (1780)		
5,10,15,20-Tetrakis-(4-methylphenyl)-21H,23H-porphine;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	non-aq	25°C	100%	U T M		1976WBa (107348)4623 K(CoL+piperidine)=3.517 K(CoL+py)=2.74		
Medium: toluene. At -70 C: K(CoLpy+O2)=3.07; -38 C: 1.61									

C52H69N3O6		H2L					CAS 136158-03-7 (9132)		
Tetra-t-butyl-calix[4]azacrown dione;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	non-aq	20°C	100%	C		B2=10.30	20030Aa (107520)4624	
Medium: 100% acetonitrile, 0.01 M Et4NClO4.									

C54H62N8O14S4		H2L					CAS 187828-35-9 (8875)		
Bis[(4,10-Diaza-4,10-ditosyl-benzo-12-crown-4)4'-yl]diaminoglyoxime;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	mixed	25°C	70%	U		1996ADc (107538)4625 K(Co+HL)=5.40 K(Co+H+HL)=15.02 K(Co+HL=CoH-1L+2H)=-5.52		
Medium: 70% v/v acetone/H2O, 1.0 M NaNO3.									

C69H102N4O9		L					CAS 116352-85-3 (9286)		
para-t-Butyldihomooxacalix[4]arene tetra(diethyl)amide;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	alc/w	25°C	100%	C		K1=3.40	2004MFa (107829)4626	
Medium: MeOH, 0.01 M Et4NCl.									

Polymer							(1877)		
4-Bis(carboxymethyl)-iminomethylene-oligostyrene; (C13H15NO4)n									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo

Co++ gl KNO3 25°C 0.10M U K1=7.45 B2=13.45 1980YTb (108044)4627
(H2L)n: (.CH2.CH.C6H4.CH2.N(CH2.COOH)2)n where n=6-8

Polymer (5383)

4-Polyvinyl-N-benzyliminodiethanoic acid;

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

Co++ EMF oth/un ? ? U K1=6.11 1966HEa (108050)4628

Polymer HL Bleomycin (2324)

Bleomycin A2, B2 etc.

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

Co++ gl oth/un 25°C ? U K1=9.74 1980SUB (108084)4629

Polymer CPA CAS 11075-17-5 (1758)

Carboxypeptidase A

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

Co++ oth NaCl 4°C 1.0M U 1961VWa (108112)4630

K(Co+HxL=CoHyL+(x-y)H)=7.0

Medium: 0.05 M tris buffer pH 8

Polymer DNA (4185)

Deoxyribonucleic acid;

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

Co++ sp NaCl 27°C dil C T H 2004ASa (108134)4631

K(CoP+L)=5.0

Calf thymus DNA. Medium: 0.005 M NaCl. Data for 7-37 C. P is N,N',N'',
tetramethyltetra-3,4-pyridinoporphyrzine. DH(K)=39.6 kJ mol⁻¹, DS(K)=227.

Co++ sp none 20°C dil C 2003SYa (108135)4632

K(Co(H4A)2+L)=3.3

Ligand is calf thymus DNA. H5A is morin.

Co++ vlt NaCl 25°C 0.01M C M 2000AIa (108136)4633

K(Co(bipy)3+L)=6.30

Method: differential pulse voltammetry.

Medium: 0.01 M NaCl, 0.01 M Tris, pH 7.

Co++ nmr NaCl 25°C 0.01M C 2000CCb (108137)4634

K1eff=4.74

Method: 23 Na nmr, using calf thymus Na-DNA. K1eff at pH 6.0.

Co++ sp NaCl04 25°C 0.01M C 1994SDB (108138)4635

K1eff=5.0

At pH 7.0.

Polymer (5379)

Dextran derivative of N-propyliminodiethanoic acid;

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

Co++ gl oth/un 20°C 0.10M U K1=6.86 1968VGa (108160)4636

Polymer Fulvic acid (1523)

Fulvic acid;

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

Co++ ix oth/un 25°C 0.01M U I K1=7.30 1989EMa (108175)4637

I=0.1, K=6.46

Polymer Gelatin (4187)

Gelatin

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

Co++ oth none 24°C 0.0 C T 2001THa (108195)4638

K1eff=3.36

Method: fluorescence quenching. Medium: pH 10.0.

At 32 C, K1eff=3.45.

Polymer Humic acid (1524)

Humic acid;

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

Co++ oth NaCl04 RT 0.10M U I 1992VGa (108236)4639

K1eff=4.40 (pH=5.11)

Method: combination of ligand exchange and equilibrium dialysis (EDLE), using

60Co++ and a reference ligand. Constants at several pH values

Polymer Dowex A-1 (4193)

Poly-N-benzyliminodiethanoic acid;

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

Co++ gl oth/un 40°C 0.10M U T 1968EMb (108286)4640

K'=7.02

K'=7.36(10 C), 7.24(25 C). See reference for definition

Polymer (5382)

Polyacroleinoxime;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	KNO3	25°C	0.10M	U		B2=13.6	1971MKb (108298)	4641

Polymer (4195)
Polyethylene and maleic anhydridecopolymer (1:1)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	oth/un	25°C	0.0	U		K'=8.63	1968BHd (108333)	4642

Polymer Pectin (7149)
Polygalacturonic acid; (C6H8O6)n

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	gl	oth/un	20°C	0.10M	U	I	K1=3.14	1994DMa (108343)	4643

At I=0.5: K1=3.49; I=1.0: K1=3.40; I=1.5: K1=3.31; I=2.0: K1=3.15

Polymer (1642)
Polymethacrylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	vlt	KNO3	25°C	0.01M	U	I	K1eff=4.50	1996CAa (108372)	4644

Method: differential pulse polarography. Also K1eff=3.81 (I=0.02 M), 3.53 (I=0.03) and 3.26 (I=0.05).

Co++	gl	oth/un	25°C	0.05M	U		K1eff=1.1	1975AMb (108373)	4645
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Polarography also used

Co++	gl	NaNO3	20°C	0.05M	U		*K'=-5.7	1964MLa (108374)	4646
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See reference for definitions

Polymer H5L (6715)
ProTyrLysCysProGluCysGlyLysSerPheSerGlnLysSerAspLeuValLysHisGlnArgThrHisThr

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co++	sp	NaCl	25°C	0.05M	U		Keff(Co+L)=7.20	1993KMa (108390)	4647

Keff at pH 7.0, HEPES buffer

Polymer (4203)
Procarboxypeptidase;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co++	oth	NaCl	4°C	1.0M	U			K1=5.4	1967PVa (108396)	4648

Method: dialysis

Polymer L Penicillinase CAS 9001-75-4 (2216)
 beta-Lactamase II, penicillinase;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co++	sp	NaCl	4°C	1.00M	U				1980BGa (108423)	4649
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K1eff=0.89 at pH 6

K2eff=-0.42 at pH 6

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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

END

SC-Database

Software version = 5.81 Data version = 4.62

Experiment list contains 794 experiments for

(no ligands specified)

Metal : Co+++

(no references specified)

(no experimental details specified)

e- HL Electron (442)

Electron;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co+++	EMF	NaClO4	-5°C	6.50M	C	H		1986B0a E(e + Co+++)=1.841 V	(412)	1
Medium: 6.5 molal HClO4										
Co+++	EMF	none	25°C	0.00	U			1974RBA K(Co+++ + e)=24.5(1.45V)	(413)	2
Co+++	EMF	NaClO4	23°C	3.00M	U	T		1970WAb K(Co+++ e)=31.7(1.86V)	(414)	3
K=33.4(1.83V, 3 C)										
Co+++	EMF	none	25°C	0.00	U			1969KRa K=3.04(180mV)	(415)	4
K: Co(en)3+++ + e=Co(en)3++; (dEo/dT=-1.07mV/K)										
Co+++	EMF	oth/un	25°C	5.60M	U	T		1967BRc K(Co+e)=23.3, 1380 mV	(416)	5
Medium: 5.6 M HClO4. At 2 C: K=24.7										
Co+++	cal	oth/un	15°C	4.0MM	U	H		1964JSa K(Co+e)=33, 1.95 V	(417)	6
DH(Co+++ + Fe++ = Co++ + Fe+++)= -109.9 kJ mol-1.										
Co+++	sp	R4N.X	25°C	1.0M	U			1962YAA K=5.6(330 mV)	(418)	7
Medium: NH4ClO4. K: Co(NH3)5(H2O)+e=Co(II)(NH3)5(H2O). From thermodynamic data K=6.3(370 mV)										
Co+++	sol	none	25°C	0.0	U			1961RKA K(Co+e=Co(II))=22.0(1300 mV)	(419)	8
Co+++	sol	oth/un	?	var	U			1959KRe K=2	(420)	9
K: CoOOH(s)+2H=Co(II)+1.5H2O+0.25O2(g))										
Co+++	oth	none	25°C	0.0	U			1952LAB	(421)	10

$$K(\text{Co}(\text{NH}_3)_6 + e) = 1.8 \text{ (100 mV)}$$

Co+++ EMF oth/un 25°C 4.0M U TI 1937NDa (422) 11
K(Co+e=Co(II))=31.28(1850 mV)

Medium: HNO₃. At 0 °C: K=33.52(1816 mV). In 3 M, 25 °C: K=31.15(1842 mV), 0 °C: K=33.37(1808 mV). In 1 M, 0 °C: K=33.23(1800 mV)

Co+++ EMF oth/un 25°C 8.0M U T 1920LLa (423) 12
K(Co+e=Co(II))=30.73(1817 mV)

Arsenate;

Co+++	EMF	NaClO4	22°C	1.0M U	1973BLb	(1133)	13
					K(Co(NH3)5H2L+H)=0.5		
					K(Co(NH3)5HL+H)=3.30		
					K(Co(NH3)5L+H)=8.05		

Co+++ EMF NaClO4 4.8°C 1.0M U 1971BLa (1134) 14

$K(\text{Co}(\text{NH}_3)_5\text{HL}+\text{H})=3.90$
 $K_a(\text{Co}(\text{NH}_3)_5\text{L}+\text{H})=8.20$

Bromide;

Co+++ con alc/w 25°C 10% C TIH 2002PAa (1821) 15
Kout(Co(NH3)6+Br)=2.108

Medium: 10% w/w EtOH/H₂O. Also data for 30-70% w/w EtOH/H₂O and 10-50 °C. $\Delta H = 3.7 \text{ kJ mol}^{-1}$, $\Delta S = 51.7 \text{ J K}^{-1} \text{ mol}^{-1}$.

Co+++ con oth/un 25°C ? C T 1992Y0b (1822) 16
Kout(Co(en)3+L)=1.76

K=1.78 (0 C), 1.78 (5 C), 1.77 (10 C), 1.77 (15 C), 1.76 (20 C)
1.76 (30 C), 1.77 (35 C), 1.77 (40 C), 1.78 (45 C), 1.78 (50 C)

Co+++	EMF none	25°C	0.0	U T H	1991YKa	(1823)	17
Kout(Co(NH3)6+Br)=1.67							

Data for T=0-50 C. At 25 C, DH=0.9 kJ mol⁻¹.

$K_{out}(\text{Co}(\text{bpy})_3 + \text{Br}) = 1.06$
 $K_{out}(\text{Co}(\text{bpy})_3 + 2\text{Br}) = 1.90$

Medium: 0.1 M NaF.

Co+++	sol	oth/un	25°C	0.50M	U	H	1985ISC (1825)	19
Kout(Co(NH3)3(NO3)3+Br)=1.9								
Medium: 0.50 M NaF. DH(Kout)=-13.4 kJ mol-1, DS(Kout)=-51 J K-1 mol-1.								
Co+++	sol	oth/un	25°C	0.1M	C	T	1984ISd (1826)	20
Kout(Co(NH3)3(NO2)3+L)=-0.36								
Medium: NaF;for I=0.2M K1out=-0.37; I=0.3 K1out=-0.35; I=0.4 K1out=-0.36 I=0.5 K1out=-0.34								
Co+++	con	oth/un	25°C	?	U	M	1978KWb (1827)	21
Kout(Co(en)3+L)=1.45								
Co+++	vlt	NaClO4	25°C	0.16M	U	M	1977IGa (1828)	22
Kout(Co(NH3)6+Br)=1.43								
Co+++	con	non-aq	25°C	100%	U	I M	1976THa (1829)	23
Kout(Co(en)3+L)=3.32								
Medium: DMSO. In DMF: Kout(Co(en)3+L) > 5								
Co+++	sp	NaClO4	25°C	1.00M	U	M	1975ABc (1830)	24
K(CoA+L)=-0.85								
A=Tetra(4-N-methylpyridyl)porphine								
Co+++	kin	NaClO4	25°C	2.0M	U	M	1974FSb (1831)	25
K=0.1								
K: (NH3)4Co(NH2)(OH)Co(NH3)4+H+L=(NH3)4Co(NH2)(Br)Co(NH3)4+H2O) in which NH2 and OH,NH2 and Br bridge two Co ions. 25-40 C. K=0 by spec. Also other cpx								
Co+++	sp	NaClO4	25°C	1.0M	U		1974RMe (1832)	26
K(Co(NH3)5+L)=-0.6 ?								
Co+++	sol	NaClO4	25°C	1.0M	U	I	1973JOa (1833)	27
K(Co(NH3)6+L)=-0.40								
K(Co(NH3)6+2L)=-1.4								
Kso(Co(NH3)6L3)=-2.87								
Kso(Co(NH3)6L(ClO4))=-3.88								
At I=4: values: -0.36, -1.3, -2.48, -3.35 respectively								
Co+++	EMF	NaClO4	25°C	3.0M	U	I M	1973MKd (1834)	28
K(Co(NH3)5F+L)=0.04								
K(Co(NH3)5F+2L)=-0.26								
K(Co(NH3)5NO2+L)=0.11								
K(Co(NH3)5NO2+2L)=-0.36								
Data also in 3 M LiClO4 and with many other Co(NH3)5x complexes								
Co+++	vlt	NaClO4	25°C	0.1M	C		1973MSh (1835)	29
Kout(Co(dipy)3+L)=0.30								
Co+++	sp	oth/un	25°C	0.01M	U	I	1972HEb (1836)	30

K(Co(NH3)6+L)=1.55										
At I=0.012. K1=1.58(I=0.0048), 1.61(I=0.0024), 1.78(I=0)										
Co+++	cal	none	25°C	0.0	U	H		1972POa	(1837)	31
DH(Co(NH3)5+L)=5.0 kJ mol-1										
Co+++	sp	NaClO4	19°C	0.20M	U			1971BBd	(1838)	32
K=-0.46										
Medium: HClO4. K: cis-Co(en)2(OH)2Br=trans-Co(en)2(OH)2Br). 19.6 to 48.7 C										
Co+++	con	none	25°C	0.0	U			1971KUb	(1839)	33
K(Co(en)2C2O4+L)=0.5										
Co+++	con	non-aq	25°C	100%	U			1971PWb	(1840)	34
K(cis-Co(NH3)4(NO2)2+L)=1										
Medium: DMSO										
Co+++	kin	NaClO4	25°C	0.50M	U	M		1970GSc	(1841)	35
K=1.58										
K: (NH3)5CoO2Co(NH3)5+L)										
Co+++	sol	NaClO4	25°C	0.20M	U	TI		1970MLc	(1842)	36
K(Co(NH3)6+L)=-0.10										
Medium: 0.2 M LiClO4. K=0.04(35 C), 1.34(45 C); At I=0: K=1.98(25 C), 1.85(35 C), 1.90(45 C)										
Co+++	sp	non-aq	30°C	100%	U	T		1968FWa	(1843)	37
K(cis-Co(en)2L2+L)=3.71										
Medium:sulpholan(C4H8SO2). K(cis)=3.70(40C)										
By kinetics: K(Co(en)2L2cis-trans)=1.08, K(Co(en)2L2+L)=3.3(cis),0.6(trans)										
Co+++	con	oth/un	25°C	0.0	U			1968KTa	(1844)	38
K(Co(NH3)6+L)=1.65										
Co+++	sp	NaClO4	15°C	5.0M	U			1968WMb	(1845)	39
B(Co2Br2)=2.46										
Co+++	oth	oth/un	37°C	0.0	U			1967MAf	(1846)	40
K(Co(en)2NCSCl+L)=0.44										
Co+++	oth	oth/un	37°C	0.0	U			1967MMd	(1847)	41
K(cis-Co(en)2NH3NO2+L)=1.36										
K(trans)=1.26										
Co+++	con	non-aq	25°C	100%	U	I		1967MWc	(1848)	42
K(cis-Co(en)2Cl2+L)=2.26										
K(trans-Co(en)2Cl2+L)=1.34										
K(cis-Co(en)2L2+L)=1.86										
K(cis-Co(en)2ClL+L)=2.10										
Medium: DMSO. Also in DMF and Me2NCOMe										

Co+++ sp none 25°C 0.0 U HM 1955NAa (1861) 55
 $K(\text{Cu}(\text{NH}_3)_6 + \text{L}) = 2.38$
 $I = 0$ corr. $\text{DH}(\text{K}) = 11.8 \text{ kJ mol}^{-1}$, $\text{DS} = 84 \text{ J K}^{-1} \text{ mol}^{-1}$

Co+++ sp NaCl04 25°C .054M U TIHM 1953ENa (1862) 56
 $K(\text{Co}(\text{NH}_3)_6 + \text{L}) = 1.66$
 $K = 1.72(35 \text{ C})$; $\text{DH}(\text{K}) = 8.7 \text{ kJ mol}^{-1}$, $\text{DS} = 63 \text{ J K}^{-1} \text{ mol}^{-1}$. At $I = 0.3 \text{ M}$: $K(\text{Co}(\text{en})_3 + \text{L}) = 1.32(25 \text{ C})$, $1.37(35 \text{ C})$; $\text{DH}(\text{K}) = 8.2$, $\text{DS} = 54$

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co+++	sp	KCl	25°C	1.0M	C				2004Rba (2618)	57
$K(\text{RCo}(\text{AH})_{20} + \text{L}) = 10.01$ R- is trifluoroethyl-. H2A is dimethylglyoxime. Medium pH 10.0.										
Co+++	sp	NaCl04	25°C	0.50M	C	M			2001HZa (2619)	58
$K(\text{CoA} + \text{CN}) = -0.42$ $K(\text{CoB} + \text{CN}) = 2.09$ CoA=methylcobalamin, CoB=trifluoromethylcobalamin. Data for other halo-cobalamin derivatives.										
Co+++	sp	non-aq	RT	100%	U				2000HSa (2620)	59
$K(\text{Co}(\text{CN})\text{P} + 3\text{CN} = \text{Co}(\text{CN})_4\text{P}) = 12.3$ Medium: methanol. Reaction is: $\text{Co}(\text{CH}_3\text{OH})(\text{CN})\text{P} + 3\text{CN} = \text{Co}(\text{CN})_4\text{P} + \text{CH}_3\text{OH}$. P: 5,10,15,20-tetraphenylporphyrin.										
Co+++	sp	non-aq	25°C	100%	U	TIHM			1993GIa (2621)	60
$K(\text{MeCoA} + \text{L}) = 6.32$ Medium: Dimethylacetamide, 0.1 M 1,8-diazabicyclo[5.4.0]undec-7-ene, 25-50 C A:Phthalocyanine. $K = 5.30(50\text{C})$. $\text{DH} = -71 \text{ kJ mol}^{-1}$; $\text{DS} = -67$										
Co+++	sp	NaCl04	25°C	0.20M	U				1983BBe (2622)	61
$K(\text{CoA}(\text{H}_2\text{O}) + \text{L}) = 6.8$ CoA(H2O)=ethynylaquocobinamide										
Co+++	gl	NaCl04	25°C	1.0M	U				1982BCb (2623)	62
$*K(\text{CoL}_5(\text{H}_2\text{O})) = -10.15$										
Co+++	kin	NaCl04	40°C	1.0M	U				1965HGa (2624)	63
$K(\text{CoL}_5\text{OH} + \text{H}) = 9.7$										
Co+++	gl	oth/un	rt	var	U				1961Hwa (2625)	64
$K(\text{Co}_{20}\text{L}_{10} + \text{H}) = 10.5$										
Co+++	con	oth/un	2°C	var	U				1950BJa (2626)	65
$\text{B}_6 = 64$ *****										

C03--	H2L	Carbonate	CAS 465-79-6 (268)
Carbonate;			

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co+++	kin	NaClO4	25°C	2.0M	C				2000KYb (3168)	66
*K(Co(NH3)5HCO3)=-6.12 *K(Co(NH3)4(H2O)HCO3)=-0.28 *K(Co(en)2(H2O)HCO3)=-0.62 *K(Co(tren)(H2O)HCO3)=-1.0 *K is for loss of proton from HCO3-. *K(a-Co(trien)(H2O)HCO3)=-1.40, *K(b-Co(trien)(H2O)HCO3)=-0.20, *K(Co(нта)(H2O)HCO3)=-1.30.										
Co+++	sp	NaCl	25°C	1.00M	U				1978TAa (3169)	67
K(CoL3+H)=9.34										
Co+++	kin	NaClO4	25°C	1.0M	M				1976DHa (3170)	68
K(Co(CO3)3+H)=9.12										
Co+++	vlt	NaClO4	25°C	0.1M	C				1975PKa (3171)	69
Kout(cisCo(en)2NH3Cl+L)=0.23										
Also for I=0.5 M K1out=-0.03										
Co+++	vlt	NaClO4	25°C	0.1M	C				1975PKa (3172)	70
Kout(transCo(en)2NH3Cl+L)=0.19										
Also for I=0.5 M K1out=-0.01										
Co+++	vlt	NaClO4	25°C	0.1M	C				1975PKa (3173)	71
Kout(Co(NH3)5Cl+L)=0.32										
Also for I=0.5 M K1out=0.06										
Co+++	EMF	NaClO4	25°C	0.10M	U	I M	K1=1.4	B2=2.6	1974KPe (3174)	72
B3=3.5										
Metal ion: Co(NH3)CO3. When I=0.3: K1=1.2, B2=2.0, B3=2.5. I=0.5:1.1,1.2,1.5										
Co+++	EMF	none	25°C	0.0	U	I M	K1=1.8	B2=2.9	1974KPe (3175)	73
B3=2.6										
Metal ion: Co(NH3)4CO3. Data also for I=0.2, 0.4, 3.0										
Co+++	cal	oth/un	25°C	3.00M	U	HM			1974MKh (3176)	74
Metal:Co(NH3)5NO2;Medium:Na2CO3. DH(K1)=4.0 kJ mol-1, DS=21; DH(B2)=5.9, DS=29; DH(B3)=10, DS=33; DH(B5)=4.8, DH=33; DH(B5)=8.4, DS=46										
Co+++	EMF	oth/un	25°C	0.0	U	I M	K1=3.47	B2=3.3	1974PKb (3177)	75
Medium:KF. Metal ion: (Co(NH3)6). K1=2.19(I=0.1); K1=2.40, B2=1.85(I=0.5)										
With: (Coen3): K1=2.06, B2=3.06(I=0.1); 1.34, 2.08(I=0.5); 3.33, 5.1(I=0)										
Co+++	EMF	oth/un	25°C	0.0	U	I M	K1=3.27	B2=4.9	1974PKb (3178)	76
B3=4.3										
Medium:KF. Metal ion: (Co(pn)3); K1=2.00(I=0.1), K1=1.24, B2=1.57, B3=2.26,										

B4=3.3(I=0.5). Data also for I=0.2, 0.3, 0.4

Co+++	EMF NaCl	25°C 0.50M U	M	1973CDa (3179)	77
				K(Co(NH ₃) ₅ CO ₃ +H)=6.7	

Co+++	EMF NaCl04	25°C 3.00M U	M	K1=0.46 B2=0.53 1973MKd (3180)	78
				B3=0.65	
				B4=0.78	

Metal ion: (Co(NH₃)₅X), X=F. When X=Cl, K1=0.34, B2=0.57, B3=0.78.

X=Br: K1=0.36, B2=0.59, B3=0.48, B4=0.89. Data also for X=NO₂, HCOO, MeCOO

Co+++	vlt NaCl04	25°C 0.1M C		1973MKf (3181)	79
				Kout(Co(pren) ₃ +L)= 0.30	

Also for I=0.5 M K1out=0.09

pren=propylenediamine

Co+++	vlt NaCl04	25°C 0.1M C		1973MKf (3182)	80
				Kout(Co(en) ₃ +L)= 0.17	

Also for I=0.5 M K1out=-0.12

pren=propylenediamine

Co+++	vlt oth/un	25°C 0.1M C		1973MKf (3183)	81
				Kout(Co(en) ₃ +L)= 2.07	

Medium: NaF;

Co+++	vlt oth/un	25°C 0.1M C		1973MKf (3184)	82
				Kout(Co(pren) ₃ +L)= 2.0	

pren=propylenediamine

Medium: NaF;

Co+++	vlt NaCl04	25°C 0.1M C		1973MSh (3185)	83
				Kout(Co(dipy) ₃ +L)=1.38	

For I=3.0 M K1out=-0.05

Co+++	kin NaCl04	20°C 0.50M U		1968DHa (3186)	84
				K(H+Co(NH ₃) ₅ L)=6.41	

By glass electrode: K=6.7?

Co+++	kin NaCl04	25°C 1.0M U		1967FJa (3187)	85
				K(H+Co(NH ₃) ₅)=8.23	

By spectrophotometry: K(Co(NH₃)₅OH+HL=Co(NH₃)₅HL+OH)=-3.53

Co+++	kin oth/un	25°C 0? U		1967JFa (3188)	86
				K((NH ₃) ₅ CoL+H)=8.22	

Co+++	kin oth/un	20°C dil U		1965SSb (3189)	87
				K(trans-(en) ₂ CoL(OH)+H)=7.2	
				K(cis=trans(en) ₂ CoL(H ₂ O))=1.23	
				K(cis=trans(en) ₂ CoL(OH))=-0.32	
				K(cis-(en) ₂ CoL(H ₂ O)+H)=-8.75	

K(cis-(en)2CoHL(H2O))=-5.32

Co+++ sp oth/un 20°C var U M 1956C0a (3190) 88

K(Co(NH3)6+L)=1.73

K(Co(en)3+L)=1.95

C2N3- HL Dicyanamide CAS 504-66-5 (2917)

Dicyanamide; (NC.N.CN)-

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

Co+++ EMF NaCl04 25°C 1.0M U T H 1971BJb (3471) 89

K(Co(NH3)5HL+H)=5.18

Medium: 1M LiCl04. K=4.95(34.8 C), 4.74(43.8 C). DH(K)=-41.8 kJ mol-1,

DS=-41.8 J K-1 mol-1

C6N6Co--- H3L Cyanocobaltate (5470)

Hexacyanocobaltate; [Co(CN)6]---

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

Co+++ con non-aq 25°C 100% U 1965JTb (3488) 90

K(Co(en)3+L)=2.78

Medium: H2NCHO

C6N6Fe---- H4L (2191)

Hexacyanoferrate (II); Fe(II)(CN)6----

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

Co+++ oth NaCl04 20°C 2.0M U I 1967LAa (3561) 91

K(Co(en)3+L)=0.4

K(Co(en)3+2L)=1.62

Method:polarimetry. By circular dichroism, I=0.21: K(Co(en)3+L)=2.0, +2L=3.8

C6N6Fe--- H3L Ferricyanide (2491)

Hexacyanoferrate (III); Fe(III)(CN)6---

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

Co+++ kin NaCl04 35°C 1.00M U 1994MPa (3636) 92

Kout(Co(NH3)5(H2O)+L)=1.88

Kout(Co(NH3)5(OH)+L)=1.88(45C)

Kout(Co(MeNH2)5(H2O)+L)=1.56

Also Kout(Co(EtNH2)5(H2O)+L)=1.36 (45 C); Kout(Co(EtNH2)5(OH)+L)=1.26 (45 C)

Co+++ con non-aq 25°C 100% U M 1965JTb (3637) 93

K(Co(NH3)6+L)=2.63

K(Co(en)3+L)=2.66

Medium: H2NCHO

Cl- Chloride;	HL	Chloride	CAS 7647-01-0 (50)
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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co+++	con	alc/w	25°C	10%	C	TIH		2002PAa Kout(Co(NH3)6+Cl)=2.043	(4612)	94
Medium: 10% w/w EtOH/H2O. Also data for 30-70% w/w EtOH/H2O and 10-50 C. DH=5.4 kJ mol-1, DS=57.2 J K-1 mol-1.										
Co+++	kin	NaCl04	25°C	1.00M	U			1995PBa K(CoA+L)=-0.08	(4613)	95
Co+++	con	oth/un	25°C	?	C	T		1992YOb Kout(Co(en)3+L)=1.73	(4614)	96
K=1.73 (0.0 C), 1.72 (5 C), 1.72 (10 C), 1.73 (15 C), 1.73 (20 C) 1.74 (30 C), 1.74 (35 C), 1.75 (40 C), 1.76 (45 C), 1.77 (50 C)										
Co+++	EMF	none	25°C	0.0	U	T H		1991YKa Kout(Co(NH3)6+Cl)=1.70	(4615)	97
Data for T=0-50 C. DH=2.7 kJ mol-1 at 25 C.										
Co+++	con	NaCl	25°C	0.01M	C			1990IIa Kout(Co(NH3)6+L)=1.40 Kout(Co(bpy)3+L)=1.26 Kout(Co(phen)3+L)=1.26	(4616)	98
Co+++	sol	oth/un	25°C	0.1M	U			1986KPb Kout(Co(bpy)3+Cl)=0.99 Kout(Co(bpy)3+2Cl)=1.38	(4617)	99
Medium: 0.1 M NaF.										
Co+++	sol	oth/un	25°C	0.50M	U	H		1985ISc Kout(Co(NH3)3(NO3)3+Cl)=3.1	(4618)	100
Medium: 0.50 M NaF. DH(Kout)=-10.9 kJ mol-1, DS(Kout)=-47 J K-1 mol-1.										
Co+++	sol	oth/un	25°C	0.1M	C	T		1984ISd Kout(Co(NH3)3(NO2)3+L)=-0.54	(4619)	101
Medium: NaF;for I=0.2M K1out=-0.57; I=0.3 K1out=-0.55; I=0.4 K1out=-0.54 I=0.5 K1out=-0.54.										
Co+++	con	none	25°C	0.0	U			1984TWa Kout(Co(NH3)6+L)=1.85	(4620)	102
Co+++	nmr	non-aq	25°C	100%	U	M		1982NSc Kout(cis(Co(en)2(CN)2)+L)=1.83 Kout(cis(Co(en)2(NO2)2)+L)=1.6 Kout(cis(Co(en)2(N3)2)+L)=2.10 Kout(cis(Co(en)2Cl2)+L)=1.66	(4621)	103

K values also by difference circular dichroism, but values depend on wave-length used. Medium: 0.12 M Et4N.ClO4 in DMSO

Co+++ con oth/un 25°C ? U M 1978KWb (4622) 104
Kout(Co(en)3+L)=1.45

Co+++ con non-aq 25°C 100% U 1976THa (4623) 105
Kout(Co(en)3+L)=5.22

Medium: DMSO

Co+++ sp NaClO4 25°C 1.00M U M 1975ABc (4624) 106
K(CoA+L)=-1.10

A=Tetra(4-N-methylpyridyl)porphine

Co+++ kin NaClO4 25°C 1.0M U 1974BMd (4625) 107
K((NH3)5Co(OH)Co(NH3)5+L)=0.46

Co+++ sp NaClO4 45°C 1.0M U 1973BRc (4626) 108
K(Co(NH3)6+L)=0.41
Kout(Co(NH3)6+L)=0.13

In 1 M Al(ClO4)3: K(Co(HN3)6+Cl)=0.39, Kout=0.09

Co+++ EMF NaClO4 25°C 3.0M U M 1973MKd (4627) 109
K(Co(NH3)5F+L)=0.11
K(Co(NH3)5F+2L)=-0.14
K(Co(NH3)5NO2+L)=0.08
K(Co(NH3)5NO2+2L)=-0.22

Data also with HCOO (0.04, -0.10), Br(0.04, -0.33) and many other ions

Co+++ vlt NaClO4 25°C 0.1M C 1973MSh (4628) 110
Kout(Co(dipy)3+L)=0.34

Co+++ sp NaClO4 25°C 0.16M U 1973SPa (4629) 111
K(Co(CH3NH2)5(H2O)+L)=0.89

Co+++ sp mixed 50°C 2.5% U I M 1973SSk (4630) 112
K(Co(NH3)6+L)=1.06
in 2.5% glycerol/H2O. K=0.95(0%), 1.19(5%), 1.28(7.5%), 1.41(10%), 1.65(19.5%);
Also at 60, 70 C. In ethyleneglycol/H2O: K=1.28(2.5%), 1.60(12.5%), 1.69(20%)

Co+++ cal none 25°C 0.0 U H 1972POa (4631) 113
DH(Co(NH3)3+L)=6.7 kJ mol-1

Co+++ kin NaClO4 25°C 1.0M U 1971FKa (4632) 114
K(cis-Co(en)2L2+Hg)=2.7

Co+++ kin NaClO4 25°C 2.0M U T H 1971FMa (4633) 115
K=1.03

K: ((NH3)4Co(NH2)(OH)Co(NH3)4+H+L)=(NH3)4H2OCo-NH2-CoL(NH3)4) in which NH2 & OH bridge two Co's. K=1.12(30 C)

Co+++	oth	oth/un	37°C	0.0	U	M	1967MMd	(4646)	128
							K(cis-Co(en)2(NH3)NO2+L)=1.15		
							K(tr-Co(en)2(NH3)NO2+L)=1.12		
							K(Co-(en)2(NCS)L+L)=0.26		
Method: partial pressure of H2O									
Co+++	con	non-aq	25°C	100%	U	I M	1967MWc	(4647)	129
							K(cis-Co(en)2L2+L)=2.60		
							K(trans-Co(en)2L2+L)=2.0		
							K(cis-Co(en)2BrL+L)=2.49		
							K(Co(trien)L2+L)=2.53 and 2.71		
Medium: DMSO. In DMF: K(cis-Co(en)2L2+L)=3.91; in Me2NCOME: 4.31									
Co+++	con	oth/un	25°C	0.0	U		1967Tia	(4648)	130
							K(Co(NH3)6+L)=1.5		
							K(Co(NH3)5NO2+L)=1.3		
Co+++	sp	NaCl04	25°C	0.07M	U		1967TKb	(4649)	131
							K(Co(NH3)6+L)=0.34		
							K(Co(en)3+L)=0.46		
Co+++	kin	NaCl04	25°C	3.0M	U		K1=1.42	1966CNa	(4650) 132
Co+++	sp	non-aq	60°C	100%	U	M	1966LWa	(4651)	133
							K(Co(en)2L(H2O)+L)=4.22		
							K(Co(en)2L(H2O)L+L)=1.85		
							K(cis-Co(en)2L2+L)=3.34		
							K(Co(en)2L2)cis-trans=1.04		
Medium: DMF									
Co+++	sp	non-aq	30°C	100%	U	H	1966LWa	(4652)	134
							Kout(Co(en)2L(H2O)+L)=4.18		
							Kout(Co(en)2L(H2O)+2L)=6.08		
Medium: DMF. 1-21 C. DH(K1)=3.9 kJ mol-1, DS=92 J K-1 mol-1. DH(B2)=-16, DS=64									
Co+++	sp	non-aq	30°C	100%	U	TI	1966MWa	(4653)	135
							K(cis-Co(en)2L2+L)=3.72		
							K(trans-Co(en)2L2+L)=2.25		
Medium: DMF. In Me2COME: K(cis)=4.31. In DMSO: K(cis)=2.50(20 C), 2.44(25 C), 2.42(30 C)									
Co+++	sol	oth/un	25°C	0.0	U		1965AEa	(4654)	136
							K(Co(NH3)5L+L)=1.0		
Co+++	kin	alc/w	35°C	100%	U		1965BIa	(4655)	137
							K(Co(en)2L2+L)=2.40		
Medium: MeOH									
Co+++	sp	oth/un	25°C	0.01M	U	I	1965CHa	(4656)	138

$K(\text{Co}(\text{en})_2\text{L}(\text{H}_2\text{O})_{\text{cis-trans}} = -0.43$

Medium: HNO_3 . In D_2O : $K = -0.40$

Co+++ sp non-aq 60°C 100% U 1964TWa (4657) 139

$K(\text{Co}(\text{en})_2\text{L}_2)_{\text{cis-trans}} = 0.60$

$K_{\text{out}}(\text{cis-Co}(\text{en})_2\text{L}_2 + \text{L}) = 2.60$

$K_{\text{out}}(\text{trans-Co}(\text{en})_2\text{L}_2 + \text{L}) = 1.43$

Medium: Me_2SO . Equilib. constants for $\text{Co}(\text{en})_2(\text{Me}_2\text{SO})\text{Cl}$ and in MeOH also given

Co+++ con oth/un 25°C dil U T 1963STd (4658) 140

$K'(\text{Co}(\text{NH}_3)_6 + \text{L}) = 0.30$

K' : $K_{\text{out}}(100 \text{ atm})/K_{\text{out}}(1 \text{ atm})$. At 200 atm: $K = 0.34$; 300 atm: $K = 0.42$;

400 atm: 0.44; 500 atm: 0.42; 600 atm: 0.41

Co+++ kin NaClO_4 25°C 2.0M U M 1963SYb (4659) 141

$K((\text{NH}_3)_5\text{CoO}_2\text{Co}(\text{NH}_3)_5 + \text{L}) = 0.10$

Co+++ sol NaCl 25°C var U TIH B2=0.08 1962FMa (4660) 142

$K_{\text{out}}(\text{Co}(\text{NH}_3)_6 + \text{Cl}) = 1.18$

10 C: $K_{\text{out}} = 1.38$, B2=0.30; 45 C: $K_{\text{out}} = 0.88$, B2=-0.09. By calorimetry $\text{DH}(K_1) = 2.5 \text{ kJ mol}^{-1}$. At $I=0$ corr.: $K_1 = 2.45$, B2=0.0

Co+++ sol NaClO_4 25°C 1.0M U TIH 1962MFC (4661) 143

$K_{\text{out}}(\text{Co}(\text{NH}_3)_6 + \text{Cl}) = -0.31$

$K_{\text{out}} = -0.54(10 \text{ C})$, $-0.06(45 \text{ C})$, $\text{DH} = 23 \text{ kJ mol}^{-1}$, $\text{DS} = 75 \text{ J K}^{-1} \text{ mol}^{-1}$.

At $I=0$ corr.: $K_{\text{out}} = 0.6$

Co+++ sp non-aq 60°C 100% U I 1962TWa (4662) 144

$K(\text{Co}(\text{en})_2\text{L}_2)_{\text{cis-trans}} = 0.85$

$K_{\text{out}}(\text{cis-Co}(\text{en})_2\text{L}_2 + \text{L}) = 3.26$

$K_{\text{out}}(\text{trans-Co}(\text{en})_2\text{L}_2 + \text{L}) = 1.48$

Medium: DMF . Also data for MeCONMe_2

Co+++ sp oth/un 45°C 1.0M U 1962YAA (4663) 145

$K(\text{Co}(\text{NH}_3)_5 + \text{L}) = 0.10$

Co+++ sp oth/un 20°C dil U 1961BCa (4664) 146

$K(\text{Co}(\text{en})_2\text{L}(\text{H}_2\text{O})_{\text{cis-trans}} = -0.43$

Co+++ oth none 25°C 0.0 U 1960MTb (4665) 147

$K(\text{Co}(\text{NH}_3)_5 + \text{L}) = -2.80$

From thermodynamic data

Co+++ sp NaCl 25°C 0.30M U TI 1960TAA (4666) 148

$K(\text{Co}(\text{NH}_3)_5 + \text{L}) = 0.17$

$K = 0.35(51 \text{ C})$, $0.56(80 \text{ C})$. At $I=0$ corr.: $K = 0.99$. In 87% D_2O , 0.3 NaCl : $K = 0.30$

Co+++ sp alc/w 25°C 100% U 1957PHA (4667) 149

$K(\text{cis-Co}(\text{en})_2\text{L}_2 + \text{L}) = 2.13$

Medium: MeOH

 Co+++ sp NaClO4 25°C .054M U TIH 1953ENa (4668) 150
 $K(\text{Co}(\text{NH}_3)_6+\text{L})=1.87$
 $K=1.96(35\text{ C})$, $\text{DH}(K)=15.6\text{ kJ mol}^{-1}$, $\text{DS}=88\text{ J K}^{-1}\text{ mol}^{-1}$. At $I=0$ corr. $K=2.59$,
 $\text{DH}=18.1$, $\text{DS}=109(25\text{ C})$

Co+++ sp NaClO4 25°C 5.0M U T H 1953YLa (4669) 151
 $K_1(\text{Co}(\text{NH}_3)_3+\text{L})=-0.52$
 $K_2(\text{Co}(\text{NH}_3)_3\text{L}+\text{L})=-1.47$
 $\text{DH}(K_1)=32\text{ kJ mol}^{-1}$, $\text{DS}=107\text{ J K}^{-1}\text{ mol}^{-1}$; $\text{DH}(K_2)=29$, $\text{DS}=79$.
 At 0 C: $K_1=-0.52$, $K_2=-1.47$

Co+++ con none 25°C 0.0 U M 1951JMa (4670) 152
 $K(\text{Co}(\text{NH}_3)_6+\text{L})=1.49$
 $K(\text{Co}(\text{en})_3+\text{L})=1.72$
 $K(\text{Co}(\text{pn})_3+\text{L})=1.60$

Co+++ con none 25°C 0.0 U 1949MOa (4671) 153
 $K(\text{Co}(\text{NH}_3)_6+\text{L})=1.52$

Co+++ con none 25°C 0.0 U M 1947JAa (4672) 154
 $K(\text{Co}(\text{NH}_3)_6+\text{L})=1.57$

Co+++ sp oth/un 25°C .057M U I 1941ADa (4673) 155
 $K(\text{Co}(\text{NH}_3)_5+\text{L})=0.64$
 $K=0.92(I=0.028)$

Co+++ cal none 20°C 0.0 U H 19360Ta (4674) 156
 $\text{DH}(\text{Co}(\text{NH}_3)_4\text{Cl}_2, \text{cis-trans})=-7.7\text{ kJ mol}^{-1}$, $\text{DH}(\text{Co}(\text{en})_2\text{Cl}_2, \text{cis-trans})=-7.4$

 ClO4- HL Perchlorate CAS 7001-90-3 (287)
 Perchlorate;

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

 Co+++ con alc/w 25°C 10% C TIH 2002PAa (6177) 157
 $K_{\text{out}}(\text{Co}(\text{NH}_3)_6+\text{ClO}_4)=2.089$
 Medium: 10% w/w EtOH/H2O. Also data for 30-70% w/w EtOH/H2O and
 10-50 C. $\text{DH}=-6.5\text{ kJ mol}^{-1}$, $\text{DS}=17.6\text{ J K}^{-1}\text{ mol}^{-1}$.

Co+++ con oth/un 25°C ? C T 1992YOb (6178) 158
 $K_{\text{out}}(\text{Co}(\text{en})_3+\text{L})=1.57$
 $K=1.63(0\text{ C})$, $1.61(5\text{ C})$, $1.60(10\text{ C})$, $1.59(15\text{ C})$, $1.58(20\text{ C})$
 $1.67(30\text{ C})$, $1.56(35\text{ C})$, $1.56(40\text{ C})$, $1.56(45\text{ C})$, $1.57(50\text{ C})$

Co+++ EMF none 25°C 0.0 U T H 1991YKa (6179) 159
 $K_{\text{out}}(\text{Co}(\text{NH}_3)_6+\text{L})=1.59$
 Data for $T=0-50\text{ C}$. At 25 C, $\text{DH}=-3.6\text{ kJ mol}^{-1}$.

Co+++ sp NaClO4 25°C 1.00M U I M 1988ROa (6180) 160

Kout(Co(NH3)5NO3+L)=0.03									
Co+++	con oth/un	25°C	?	U	M	1978KWb	(6181)	161	Kout(Co(en)3+L)=1.18
Co+++	con non-aq	25°C 100%	U	I	M	1977THa	(6182)	162	Kout(Co(pn)3+L)=3.77
Medium: MeCN. In DMF: Kout(Co(en)3+L)=2.21									
Co+++	con non-aq	25°C 100%	U	I	M	1976THa	(6183)	163	Kout(Co(en)3+L)=1.72
Medium: DMSO. In DMF: Kout(Co(en)3+L)=2.39; in MeCN: 3.64									
Co+++	con non-aq	-40°C 100%	U	T		1975BPe	(6184)	164	Kout(Co(NH3)6L2+L)=2.24
Medium: liquid ammonia. At -49 C: Kout=2.22; -71 C: 2.30									
Co+++	con none	25°C	0.0	U	M	1974PKa	(6185)	165	K(Co(NH3)6+L)=1.40 K(Co(en)3+L)=1.14 K(Co(pn)3+L)=1.08 K(Co(bpy)3+L)=0.90
K(Co((phen)3+L)=0.78									
Co+++	sol NaClO4	25°C	1.0M	U	I	1973JOa	(6186)	166	Kso(Co(NH3)6L3)=-3.71
Kso: Co(NH3)6L3(s)=Co(NH3)6+3L. Kso=-2.88(I=4)									
Co+++	sol none	25°C	0.0	U		1971HEb	(6187)	167	K(Co(NH3)6+L)=1.34 Kso(Co(NH3)6L3)=-6.82
Co+++	sol NaClO4	25°C	4.0M	U		1971JOb	(6188)	168	K(Co(en)3+L) < -0.25 Kso(Co(en)3L3=Co(en)3+3L)=0.17
Co+++	kin oth/un	31°C	var	U		1970BUa	(6189)	169	Kout(Co(NH3)5H2OSO4+ClO4)=0.80
Co+++	sol alc/w	25°C 100%	U			1968FPb	(6190)	170	Kso(cis-Co(en)2Cl2)=-5.76 Kso(trans-Co(en)2Cl2)=-5.59
Medium: MeOH. At I=0 corr: Kso=-2.75(cis), -3.88(trans)									
Co+++	ISE none	25°C	0.0	U	T	1968HRb	(6191)	171	Kso(Co(NH3)6L3)=-5.47
Kso: Co(NH3)6L3(s)=Co(NH3)6+3L. Kso=-6.04(15 C), -5.03(35 C)									
Co+++	con oth/un	25°C	0.0	U		1968KTa	(6192)	172	K(Co(NH3)6+L)=1.40

 Co+++ sol oth/un 35°C 0.0 U T 1965AEa (6193) 173
 $K(\text{Co}(\text{NH}_3)_5\text{Cl}+\text{L})=1.05$

$K=1.15(25\text{ }^\circ\text{C})$

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co+++ kin NaClO4 25°C 0.25M U 1973WSb (6481) 174
 $*K(\text{Co}(\text{NH}_3)_5(\text{H}_2\text{O})+\text{L})=-2.01$

 Co+++ sp oth/un 25°C 0.0 U TI M 1964SFa (6482) 175
 $K(\text{CoA}_5+\text{HL}=\text{CoA}_5\text{L}+\text{H})=-1.01$

A=NH3. Data for I=0.0025-0.488 and 10-35 C

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co+++ EMF NaClO4 25°C 3.0M U M 1973MKd (6812) 176
 $K(\text{Co}(\text{NH}_3)_5\text{CO}_3+\text{F})=0.46$
 $B(\text{Co}(\text{NH}_3)_5\text{CO}_3+2\text{F})=0.53$
 $B(\text{Co}(\text{NH}_3)_5\text{CO}_3+3\text{F})=0.65$
 $B(\text{Co}(\text{NH}_3)_5\text{CO}_3+4\text{F})=0.78$

Data also for SO4 complex: 0.40, 0.46, 0.48; S2O3: 0.53, 0.70, 0.77, 0.98;
 SeO3: 0.53, 0.60, 0.73, 1.07

 Co+++ vlt NaClO4 25°C 0.1M C 1973MSh (6813) 177
 $K_{\text{out}}(\text{Co}(\text{dipy})_3+\text{L})=0.66$

 Co+++ sp oth/un 40°C dil U 1966CPa (6814) 178
 $K(\text{cis-Co(en)}_2\text{H}_2\text{O}_2+\text{trans})=-0.79$

FCIBrI HL (541)
 Halides, comparative (for book data under ligand 80)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co+++ sp NaClO4 1.0M U M 1968TWb (7390) 179
 $K(\text{CoA}_2+\text{SCN})=2.36$
 $K(\text{CoA}_2+\text{I})=0.40$
 $K(\text{CoA}_2+\text{Br}) < 0$
 $K(\text{CoA}_2+\text{OH})=3.46$

CoA2=Co(dimethylglyoximate)2(SO3)(H2O)

 Co+++ sp NaClO4 40°C 1.0M U M 1967GHa (7391) 180
 $K(\text{Co}(\text{CN})_5+\text{L}=\text{Cl})=-0.6$

Co+++	oth	oth/un	37°C	0.0	U	M	1966BMb	(7392)	181
K(Co(NH3)5(CH3COO)+Cl)=1.15									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K	values	Reference	ExptNo
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$I=0.5$ $K_{1out}=-0.20$

Co+++ sp NaClO4 25°C 0.10M U 1976AAb (7940) 190
 $K(\text{CoTPPS4}(\text{H}_2\text{O})_2+\text{L})=1.06$
 Constants also determined in 1.0 M NaClO4. CoTPPS4(H2O)2= A,B,C,D-tetra(p-sulfonatophenyl)porphinatodiaquocobaltate(III)

Co+++ con non-aq 25°C 100% U I M 1976THa (7941) 191
 $K_{\text{out}}(\text{Co}(\text{en})_3+\text{L})=2.53$
 Medium: DMSO. In DMF: $K_{\text{out}}(\text{Co}(\text{en})_3+\text{L})=3.41$

Co+++ sp NaClO4 25°C 1.00M U HM 1975ABc (7942) 192
 $K(\text{CoA}+\text{L})=1.53$
 A=Tetra(4-N-methylpyridyl)porphine
 DH=84 kJ mol⁻¹.

Co+++ sp non-aq 25°C 100% U M 1974BGb (7943) 193
 $K(\text{Co}(\text{furyldioximato})_2+\text{L})=5.54$
 $K(\text{Co}(\text{furyldioximato})_2+2\text{L})=8.41$
 Medium: DMF. In DMSO: B2=1.16. In acetonitrile: K1=5.48, K2=3.97.
 Data also for Co(nioximato)2+L, K1=5.10, B2=8.58 etc.

Co+++ sp NaClO4 25°C 1.0M U I 1974JOc (7944) 194
 $K(\text{Co}(\text{pn})_3+\text{I})=0.23$
 pn=diaminopropane. K=0.28, $K(\text{Co}(\text{pn})_3+3\text{L})=-0.21(\text{I}=4)$

Co+++ sol NaClO4 25°C 1.0M U I 1973JOa (7945) 195
 $K(\text{Co}(\text{NH}_3)_6+\text{L})=-0.4$
 $K'(\text{Co}(\text{NH}_3)_6+2\text{L})=-1.4$
 $K_{\text{so}}(\text{Co}(\text{NH}_3)_6\text{L}_3)=-4.12$
 $K=-0.3$, $K'=-0.8$, $K_{\text{so}}=-4.00(\text{I}=2)$. $K=-0.4$, $K'=-0.7$, $K_{\text{so}}=-4.15(\text{I}=4)$

Co+++ vlt NaClO4 25°C 0.1M C 1973MSh (7946) 196
 $K_{\text{out}}(\text{Co}(\text{dipy})_3+\text{L})=0.23$

Co+++ cal none 25°C 0.0 U H 1972POa (7947) 197
 DH(Co(NH3)5+L)=-3.8 kJ mol⁻¹

Co+++ EMF NaClO4 25°C 0.40M U I M 1971DUb (7948) 198
 $K(\text{CoA}_2+\text{L})=5.69$
 $K(\text{CoA}_2+2\text{L})=8.14$
 $K(\text{CoACl}+\text{L})=5.58$
 $K(\text{CoA}(\text{SCN})+\text{L})=2.85$
 $K(\text{CoA}_2\text{Br}+\text{L})=5.35$. HA=dimethylglyoxime

Co+++ sp NaClO4 25°C var U 1971HEb (7949) 199
 $K(\text{Co}(\text{NH}_3)_6+\text{I})=0.97$ to 1.11

Co+++ sol NaClO4 25°C 1.0M U I 1971JOa (7950) 200
 $K(\text{Co}(\text{en})_3+\text{I})=0.15$
 $K(\text{Co}(\text{en})_3+3\text{L})=-0.29$

Kso=-2.91									
K1=0.24(spec), 0.33(I=0.5, spec), At I=4: K1=0.04, B3=-0.36, Kso(-2.78)									

Co+++	con	none	25°C	0.0	U			1971KUb (7951)	201
								K(Co(C2O4)(en)2+I)=1.3	

Co+++	sp	NaClO4	25°C	0.06M	U			1971YYa (7952)	202
								K(Co(NH3)6+I)=0.95	
								Kout(Co(NH3)6+I)=0.73	

Co+++	sol	NaClO4	25°C	0.20M	U	T		1970MLc (7953)	203
								K(Co(NH3)6+I)=-0.30	
Medium: LiClO4. K=0.30(45 C),(I=0.2). At I=0 corr: K1=1.78(25 C), 1.86(45 C)									

Co+++	con	oth/un	25°C	0.0	U			1968KTa (7954)	204
								K(Co(NH3)6+L)=1.38	

Co+++	oth	oth/un	37°C	0.0	U	M		1967MMc (7955)	205
								K(cis-Co(en)2(NH3)NO2+L)=1.27	
								K(trans-Co(en)2NH3NO2+L)=1.15	
								K(Co(en)2(NCS)Cl+L)=0.54	
Method:partial pressure of H2O.									

Co+++	sp	NaClO4	25°C	0.07M	U			1967TKb (7956)	206
								K(Co(NH3)6+L)=-0.15	

Co+++	sp	non-aq	30°C	100%	U	M		1966Mwa (7957)	207
								K(cis-Co(en)2Cl2+L)=2.93	
Medium: DMF									

Co+++	sp	none	25°C	0.0	U	HM		1955NAa (7958)	208
								K(Co(NH3)6+L)=1.95	
I=0 corr. DH(K1)=8.9 kJ mol-1, DS=67 J K-1 mol-1									

Co+++	sp	NaClO4	25°C	.054M	U	HM		1953ENa (7959)	209
								K(Co(NH3)6+L)=1.23	
								K(Co(en)3+L)=0.93	
DH(Co(NH3)6L)=6.8 kJ mol-1, DS=46 J K-1 mol-1. K=1.27(35 C)									
DH(Co(en)3+L)=5.1, DS=33. K=0.95(35 C)									

Co+++	sp	oth/un	0°C	var	U	M		1951LWb (7960)	210
								Kout(Co(NH3)5F+L)=1.04	

Co+++	sp	oth/un	20°C	var	U	M		1944LIb (7961)	211
								K(Co(NH3)6)+L)=1.58	

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

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

 Co+++ sp NaClO4 25°C 1.0M U M 1975WTa (8504) 212
 $K(\text{Co}(\text{NH}_3)_5(\text{H}_2\text{O})+\text{L})=1.04$
 $K(\text{Co}(\text{en})_2(\text{H}_2\text{O})_2+\text{L})=0.36$

Co+++ sol none 25°C 0.0 U 1963LMb (8505) 213
 $K_{\text{so}}(\text{Co}(\text{NH}_3)_6\text{L}_3)=-8.56$

 IO4- HL Periodate CAS 13444-71-8 (6063)
 Periodate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co+++ kin oth/un 60°C 0.10M U 1961LIa (8598) 214

$B_{2\text{eff}}=15.77$ in 0.1 M NaOH
 Successive $K_a(\text{H}_6\text{Co}(\text{IO}_6)_2)=-1.95, -7.1, -8.0, -12.1$. Also in 1.4 M NaClO

MoO4-- H2L Molybdate (443)
 Molybdate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co+++ EMF NaClO4 25°C 0.10M U 1977MPd (8718) 215

$K_{1\text{out}}[\text{Co}(\text{NH}_3)_6+\text{L}]=0.26$
 $B_{2\text{out}}[\text{Co}(\text{NH}_3)_6+2\text{L}]=0.54$
 for I=0.5 M $K_{1\text{out}}=-0.05$; $B_{2\text{out}}=0.18$

Co+++ EMF NaClO4 25°C 0.10M U 1977MPd (8719) 216

$K_{1\text{out}}[\text{Co}(\text{en})_3+\text{L}]=0.25$
 $B_{2\text{out}}[\text{Co}(\text{en})_3+2\text{L}]=0.47$
 for I=0.5 M $K_{1\text{out}}=-0.30$; $B_{2\text{out}}=-0.22$

Co+++ EMF NaClO4 25°C 0.10M U 1977MPd (8720) 217

$K_{1\text{out}}[\text{Co}(\text{NH}_3)_5\text{Cl}+\text{L}]=0.27$
 $B_{2\text{out}}[\text{Co}(\text{NH}_3)_5\text{Cl}+2\text{L}]=0.57$
 for I=0.5 M $K_{1\text{out}}=0.03$; $B_{2\text{out}}=0.28$

Co+++ sp NaClO4 25°C 1.0M C M 1977TAa (8721) 218

$K(\text{Co}(\text{NH}_3)_5(\text{H}_2\text{O})+\text{L})=2.68$

Co+++ vlt NaCl 25°C 0.10M U I 1973LHa (8722) 219

$K(\text{Co}(\text{NH}_3)_6 + \text{L})=1.34$
 $K=2.60$ (0 corr)

NH2SO3- H2L Sulfamate CAS 5329-14-6 (452)
 Sulfamate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co+++ gl oth/un 25°C .004M U T 1968PJa (8799) 220

$K=6.40(0\text{ }^{\circ}\text{C}), 6.03(13\text{ }^{\circ}\text{C})$. In 1 M NaClO₄: $K=5.70(25\text{ }^{\circ}\text{C})$

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co+++ sol R4N.X 25°C 1.00M U 1995MPa (9099) 221

$$K_{out}(\text{Co}(\text{NH}_3)_6 + \text{L}) = 0.79$$

Medium: NH4ClO4

Co+++ sp oth/un 25°C 0.10M U 1994HPa (9100) 222

$$K(\text{CoA}(\text{H}_2\text{O}) + \text{L} = \text{CoAL} + \text{H}_2\text{O}) = 3.15$$

CoA(H₂O): Co(III)aquacyanocobinamide. Medium: phosphate buffer.

Co+++ sol oth/un 25°C 3.0M C T 1984ISc (9101) 223

$$K_{out}(\text{Co}(\text{bipy})_3 + \text{L}) = -0.77$$

Medium: LiClO_4 ;

Co+++ gl NaCl04 25°C 1.0M U 1982BCb (9102) 224

$$*K(\text{trans-CoL4}(\text{NO}_2)\text{H}_2\text{O}) = -7.16$$

Co+++ sol NaClO4 25°C 1.0M C 1982MSg (9103) 225

$$K_{out}(\text{Co}(\text{NH}_3)_6 + \text{L}) = -0.32$$

Also for I=2 M K1out=-0.38; for 3 M K1out= - 0.44;for 4 M K1out=-0.49

```
for 5 M K1out= -0.55;
```

Co+++ sol NaClO4 25°C 1.0M C 1982MSg (9104) 226

$$K_{out}(Co(en)_3^{3+}) = -0.66$$

Also for I=2 M K1out=-0.69; for 3 M K1out= - 0.73;for 4 M K1out=-0.78

```
for 5 M K1out= -0.82;
```

Co+++ sol NaClO4 25°C 1.0M C 1982MSg (9105) 227

$$K_{out}(\text{Co}(\text{NH}_3)_5\text{F}+\text{L}) = -0.23$$

Also for I=2 M K1out=-0.27; for 3 M K1out= - 0.30;for 4 M K1out=-0.34

```
for 5 M K1out= -0.37;
```

Co+++ sol NaClO4 25°C 1.0M C 1982MSg (9106) 228

$$K_{out}(\text{Co}(\text{NH}_3)_5\text{Cl} + \text{L}) = -0.28$$

Also for I=2 M K1out=-0.32; for 3 M K1out= - 0.35;for 4 M K1out=-0.40

```
for 5 M K1out= -0.43;
```

Co+++ sol NaClO4 25°C 1.0M C 1982MSg (9107) 229

$$K_{out}(\text{Co}(\text{NH}_3)_5\text{Br} + \text{L}) = -0.32$$

Also for I=2 M K1out=-0.36; for 3 M K1out= - 0.40;for 4 M K1out=-0.44

```
for 5 M K1out= -0.48;
```

Co+++ vlt NaCl04 25°C 3.0M C 1976KMc (9108) 230

$$K_{out}(Co(en)_3^{3+}) = -1.10$$

Co+++	oth none	25°C	0.0	U	K1=7.00 B3=19.16 B4=24.44	B2=13.35	1975DDb	(9109)	231

Co+++	kin NaClO4	25°C	1.0M	U			1974EWb	(9110)	232
Medium:LiClO4. K((Co)2(NH3)8(OH)2NH2+H)=0.18, DH=-40.6 kJ mol-1, DS=-129.6									

Co+++	kin NaClO4	21°C	1.0M	U I			1972BKa	(9111)	233
K(Co(NH3)4OH(H2O)+H)=8.5									
I=0.3: K=8.2; I=2, K=8.3									

Co+++	kin NaClO4	26°C	1.0M	U			1972SRb	(9112)	234
K((NH3)5CoOSO2NH2+OH=(NH3)5CoOSO2NH+H2O)=0.7									

Co+++	sp NaClO4	25°C	1.0M	U			1971BLa	(9113)	235
K(Cr(NH3)5OH+H)=5.7									
By EMF measurements, K=5.75									

Co+++	sol alc/w	25°C	75%	U I			1971KBi	(9114)	236
K(Co(en)3+L)=-0.34									
K(Co(en)3+2L)=-1.70									
K(Co(en)3+3L)=-1.46									
Medium:w% EtOH, 3 M LiClO4.K1=-0.77(w=0), -0.52(w=25), -0.38(w=50), -0.2(w=100), B2=-0.57, B3=-0.66(w=100)									

Co+++	kin NaClO4	20°C	0.10M	U M			1971SBc	(9115)	237
K(cisCo(NH3)4(OH)(H2O)+H)=5.69									
K(cis-Co(NH3)4(OH)2+H)=7.99									
K(Co(NH3)2(NO2)2OH(H2O)+H)=6.93. K(Co(NH3)2(NO2)2(OH)2+H)=8.78									

Co+++	sp NaClO4	25°C	2.0M	U T H			1971TSd	(9116)	238
Medium:LiClO4. K((Co)2(NH3)6(OH)2NH2+H+H2O)=1.8(25C), 1.5(50C), DH=-25.08 kJ mol-1									

Co+++	kin oth/un	62°C	0.0	U			1970TJa	(9117)	239
K(Cr(NH3)5(NH2)+H)=12.1									

Co+++	sp NaClO4	20°C	1.0M	U			1969LSc	(9118)	240
K(H2O(NH3)3Co(OH)2Co(NH3)3OH)=1.7 to 1.8									

Co+++	gl KNO3	25°C	0.10M	A I			1969SMg	(9119)	241
K(Cr(NH3)5OH+H)=6.4									
Medium:MX. K=6.31(M=Na,X=ClO4), 6.15(M=Li,X=ClO4)									

Co+++	EMF NaClO4	25°C	0.10M	U			1969SMg	(9120)	242
Medium:LiClO4. K(Co2(NH3)8(OH)NH(X)+H)=6.4(X=Cl), 5.9(X=Br), 6.3(X=H2O)									

Co+++	oth none	25°C	0.0	U M			1961KYa	(9121)	243
B(CoL5Cl)=34.7									

Co+++ oth none 25°C 0.0 U H 1961KYa (9122) 244
B5=32.82
B6=29.70

Co+++ oth none 25°C 0.0 U K6=0.23 1960MTb (9123) 245

Co+++ gl oth/un ? 1.12M U M 1958JBa (9124) 246
K(CoL4(OH)2+HL=CoL5OH+H2O)=2.6
K(CoL5OH+HL=CoL6+H2O)=1.0

Co+++ sol R4N.X 20°C 1.0M U I 1958Lab (9125) 247
K7=-0.62
K7.K8=-1.3

Co+++	sol	R4N.X	20°C	1.0M U	M	1957LAa	(9126)	248
						$K(\text{CoL6}+\text{H2O}=\text{CoL5OH}+\text{HL})=-1.4$		
						$K(\text{CoL6}+\text{NO2}=\text{CoL5NO2}+\text{L})=1.63$		
						$K(\text{CoL6}+\text{SCN}=\text{CoL5SCN}+\text{L})=-0.5$		
						$K(\text{CoL5SCN}+\text{SCN}=\text{CoL4}(\text{SCN})_2+\text{L})=0$		

Co+++ cal oth/un 25°C dil U HM 1950YAa (9127) 249
K: CoL5+X=CoL5X. DH(K)=8.8 kJ mol⁻¹(X=CO3--), -28.9(X=L), -33.9(X=NO2-),
0.4(X=NO3-), 15.1(X=SO4--), 13.8(X=Cl-), 6.7(X=Br-), and additional DH(K).

Co+++ EMF R4N.X 30°C 2.0M U I 1941BJa (9129) 251

K5=5.05
K6=4.41
B6=35.21

Co+++ EMF oth/un 25°C dil U 1920LLa (9130) 252
B6=33.66

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co+++ kin KCl 24°C 1.00M U T HM 1992MBa (9260) 253

K(CoA+L)=-0.60

CoA=aquacobalamin. DH=45 kJ mol⁻¹, DS=139 J K⁻¹ mol⁻¹. Also K at 5C: -1.18
15C: -0.85, 36C: -0.21.

Co+++ kin oth/un 5°C 2.0M U K1=1.2 1969JSc (9261) 254

Medium:H2SO4

NO2- HL Nitrite CAS 7782-77-6 (635)

Nitrite;

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

Co+++ kin KCl 25°C 2.20M U T H 1994MMc (9357) 255

Kout(CoA+L)=-0.46

CoA=aquacobalamin. Also data at 5C: K=-0.49, 15C: K=-0.51, 35C: K=-0.30.

Co+++ EMF NaCl04 25°C 3.0M U K1=0.40 B2=0.52 1973MKd (9358) 256

B3=0.59

B4=0.84

B5=0.97

Reaction: Co(NH3)5CO3+nL. For Co(NH3)5SO4+L: K1=0.32, B2=0.45, B3=0.54.

For Co(NH3)5SeO3, K1=0.48, B2=0.48, B3=0.57, B4=0.88. Also Co(NH3)5TeO3

Co+++ kin NaCl04 25°C 2.50M U 1966MGa (9359) 257

K(Co(NH3)4(HL)LC1+H)=-0.22

Kout(Co(NH3)4L2+Cl)=0.40

Co+++ sol oth/un 25°C 0.0 U T M 1960MTa (9360) 258

Ks(KCo(NH3)2L4(s))=-3.51

Ks=-3.13(0 C), -3.26(15 C), -3.51(25 C), -3.91(30 C). Data also for cis- and
trans-Co(NH3)4L2.Co(NH3)2L4) and others

Co+++ oth oth/un 25°C 0.0 U 1960MTb (9361) 259

K(Co(NH3)5+L)=38.5

From thermodynamic data

Co+++ sol oth/un 20°C 0.0 U M 1958KSa (9362) 260

Ks(Tl3CoL6(s)=3Tl+CoL6)=-14.94

Ks(Cs3CoL6(s)=3Cs+CoL6)=-15.46

Co+++ kin oth/un 75°C ? U HM 1956BSa (9363) 261

Medium: solid Co(NH3)5LC12. K(Co(NH3)5ONO=Co(NH3)5NO2)=0.21. K=0.34(45.5 C)

-0.28(58 C). DH=7.8 kJ mol⁻¹

NO3- HL Nitrate CAS 7697-37-2 (288)

Nitrate;

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

Co+++ con alc/w 25°C 10% C TIH 2002PAa (9626) 262

Kout(Co(NH3)6+NO3)=2.158

Medium: 10% w/w EtOH/H2O. Also data for 30-70% w/w EtOH/H2O and 10-50 C. DH=-4.1 kJ mol⁻¹, DS=24.8 J K⁻¹ mol⁻¹.

Co+++ con oth/un 25°C ? C T 1992YOb (9627) 263

Kout(Co(en)3+L)=1.67

K=1.72 (0 C), 1.71 (5 C), 1.70 (10 C), 1.69 (15 C), 1.68 (20 C)

1.67 (30 C), 1.67 (35 C), 1.67 (40 C), 1.66 (45 C), 1.68 (50 C)

Co+++ EMF none 25°C 0.0 U T H 1991YKa (9628) 264

Kout(Co(NH3)6+L)=1.70

Data for T=0-50 C. At 25 C, DH=-2.2 kJ mol⁻¹.

Co+++ con oth/un 25°C ? U M 1978KWb (9629) 265

Kout(Co(en)3+L)=1.28

Co+++ sp NaNO3 25°C 2.0M U 1970STc (9630) 266

K(Co2(NH3)8(OH)(NH2)+H+L=CO2(NH3)8(OH2)L)=-1.7

Co+++ con oth/un 25°C 0.0 U 1968KTa (9631) 267

K(Co(NH3)6+L)=1.63

Co+++ oth oth/un 37°C 0.0 U M 1967MAf (9632) 268

K(Co(en)2(SCN)Cl+L)=0.3

Co+++ oth oth/un 37°C 0.0 U M 1967MMd (9633) 269

K(cis-Co(en)2(NH3)NO2+L)=2.3

K(tr-Co(en)2(NH3)NO2+L)=2.3

Method: partial pressure of H2O

Co+++ sol oth/un 25°C 0.0 U 1965AEa (9634) 270

K(Co(NH3)5Cl+L)=1.15

Co+++ sp oth/un 25°C 1.0M U M 1963HTa (9635) 271

K(Co(NH3)5+L)=-0.19

Co+++ oth oth/un 25°C 0.0 U 1960MTb (9636) 272

K(Co(NH3)6+L)=-1.30

Method: From thermodynamic data

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

Hydrazine; H2N.NH2

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

Co+++ kin oth/un 5°C 2.0M U T K1=1.44 1969JSc (10078) 273

Medium: H2SO4. K1=1.44(5 C), 1.74(10 C)

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

Azide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co+++	sp	NaNO3	25°C	0.50M	U	T H		K(CoA+L)=1.08 K(CoB+L)=1.04 CoA: beta-trifluoromethylcobinamide, CoB: beta-cyanomethylcobinamide. Data at 5, 15, 35 and 45 C. DH(CoA+L)=-16.4 kJ mol ⁻¹ , DS=-34.9 J K ⁻¹ mol ⁻¹	1998HBb (10183)	274
Co+++	kin	KCl	25°C	2.20M	U	T H		Kout(CoA+L)=-0.52 CoA=aquacobalamin. Also data at 5C: K=-0.21, 10C: K=-0.39, 15C: K=-0.28, 20C: K=-0.48.	1994MMc (10184)	275
Co+++	EMF	NaClO4	25°C	2.00M	U			K1=8.477 B2=15.00 B3=19.85 B4=23.18 B5=23.11 B6=24.00	1989CNb (10185)	276
Co+++	sp	oth/un	25°C	1.00M	U	I M		Kout(Co(NH3)5NO3+L)=-0.05 Medium: NaN3	1988ROa (10186)	277
Co+++	sp	oth/un	35°C	0.0	U	M		K1out(Co(NH3)6+L)=1.15	1969IBa (10187)	278
Co+++	kin	NaClO4	25°C	0.51M	U			K(Co(NH3)5+L)=2.92	1969SGb (10188)	279
Co+++	kin	oth/un	25°C	var	U	M		K(Co(NH3)5L+H)=2.78	1968STb (10189)	280
Co+++	sol	oth/un	25°C	0.0	U	T		K1=0.96(35 C) K(Cr(NH3)5Cl+L)=-1.07	1965AEa (10190)	281
Co+++	sp	NaClO4	25°C	0.50M	U			K(cis=trans)=-0.66 Complex: Co(NH3)4(H2O)L	1964HAb (10191)	282
Co+++	sp	NaClO4	40°C	1.0M	U	M		K(Co(CN)6+L)=3.18 K(Co(CN)5L+H)=0.67	1962Hwa (10192)	283
Co+++	sp	NaClO4	25°C	0.05M	U	IHM		K(Co(NH3)6+L)=1.30 K'(Co(en)3+L)=1.06 DH(K)=-16.5 kJ mol ⁻¹ , DS=-29.3 J K ⁻¹ mol ⁻¹ . At 35 C: K=1.20, K'=0.93	1953ENa (10193)	284

[illegible]
$$*K(\text{CoA}(\text{H}_2\text{O})) = -10.71$$

.....

*K(Co(tetren)(3-NO₂-sal))=-7.61

$$K_{out}(\text{Co}(\text{NH}_3)_5\text{NO}_3 + \text{L}) = -0.22$$
$$K(\text{Coen3HAaq}=\text{Coen3Aaq}+\text{H})=-1.76$$

$$*K_2(\text{CoA}) = -10.3$$

$$K(\text{CoB}(\text{H}_2\text{O})+\text{L})=1.0$$

$$K(\text{Co}(\text{CN})_5\text{aq} + \text{L} = \text{Co}(\text{CN})_5\text{L} + \text{aq}) = 3.4$$

$$K(\text{Co}_2\text{L}_3 + \text{H} = \text{Co}_2\text{L}_2(\text{H}_2\text{O})_2) = 0.37$$

Co+++ oth none 25°C 0.0 U M K1=12.36 1975DDb (11142) 294
 B6=48.16
 B(CoL(NH3))=18.49
 B(CoL4(NH3)2)=44.82

Co+++ sp NaCl 15°C 0.50M U TIHM 1975DHa (11143) 295
 *K(CoA(H2O)2)=-5.36, *K(CoA(OH)(H2O))=-8.05. A=triaminotriethylamine

Co+++ EMF NaCl04 ? 1.00M U 1973BLb (11144) 296
 K(CoA5+H2O=CoA5OH+H)=-5.75
 A=NH3. By spectrophotometry, *K1=-5.70

Co+++ nmr oth/un 25°C U 1972YKa (11145) 297
 K'=0.40
 K"=-0.28
 K'''=0.08
 K': trans-Co(en)2(NH3)(OH)=cis. K":trans-Co(en)2(OH)2=cis.
 K''': trans-Co(en)(NH3)2(OH)2=cis

Co+++ nmr oth/un 25°C 1.00M U 1971YYb (11146) 298
 K(CoA5+H2O=CoA5OH+H)=-6.36
 A=NH3. Method: nmr

Co+++ nmr oth/un 25°C 2.00M U 1971YYb (11147) 299
 *K'=-6.30
 *K"=-6.06
 Medium: NaBr. *K': cis-Co(en)2(NH3)(H2O)=cis-Co(en)2(NH3)(OH)+H.
 *K'': trans isomer. Method: nmr

Co+++ cal NaCl04 25°C 0.10M U H 1970CHb (11148) 300
 K(CoA5+H2O=CoA5OH+H)=-6.07
 A=NH3. DH(*K)=37.78 kJ mol⁻¹, DS=12.1 J K⁻¹ mol⁻¹

Co+++ kin diox/w 25°C 10% U TI 1970CHE (11149) 301
 K(Co(NH3)5F+OH)=1.08
 Medium: 10% w/w dioxan/H2O, 0.1 M NaOH. K1=0.95(10%); 1.26(20%, 15 C)

Co+++ EMF NaCl04 3°C 3.00M U 1970WAb (11150) 302
 *K1(Co(H2O)6) < -2

Co+++ sp NaCl04 26°C 1.00M U T H 1969FJa (11151) 303
 K(Co(en)2A+OH)=1.69
 A=CO3--. DH=-27.2 kJ mol⁻¹. K=1.56(34 C), 1.42(44 C)

Co+++ gl NaNO3 20°C 0.10M U I 1968CHb (11152) 304
 *K1(Co(NH3)5(H2O))=-6.18
 *K1=-6.35(D2O), -6.33(20% dioxan)

Co+++ kin oth/un 7°C 0.25M U 1968HMD (11153) 305
 *K1(Co(H2O)6)=-1.3

Co+++ sp NaClO4 25°C 1.00M U 1968LSa (11154) 306
 $K(c-t(\text{Co(en)}_2(\text{OH})(\text{H}_2\text{O}))=-0.10$
K: cis = trans

Co+++ gl NaClO4 25°C 0.30M U I 1968SHd (11155) 307
 $*K_1(\text{Co}(\text{NH}_3)_5(\text{H}_2\text{O}))=-6.22$
In D2O: $*K=-6.81$. $*K_1(\text{Co}(\text{ND}_3)_5(\text{D}_2\text{O}))=-6.70$

Co+++ sp NaCl 25°C 1.00M U M 1967BOa (11156) 308
 $*K_1(\text{Co}(\text{NH}_3)_5(\text{OCONH}_3))=-0.83$

Co+++ sp oth/un 15°C 0.01M U TI 1967CHb (11157) 309
 $K(\text{Co(en)}_3+\text{L})=1.40$
K=1.42(25 C), 1.44(35 C). At 25 C, 10% dioxan: K=1.66, 2.01(40%), 2.46(30%), 3.10(40%)

Co+++ sp oth/un 25°C 1.00M U T 1966ATa (11158) 310
 $*K_1(\text{Co}(\text{NH}_3)_5\text{C}_2\text{O}_4\text{H})=-2.06$
 $*K=-1.77(70 \text{ C})$

Co+++ gl NaClO4 25°C 1.00M U T 1966CEa (11159) 311
 $*K_1(\text{Co(en)}_2(\text{H}_2\text{O})_2)=-5.98 \text{ (cis)}$
 $*K_1(\text{trans})=-4.55$
 $*K_1(\text{Co(en)}_2\text{NH}_3\text{H}_2\text{O})=-6.05 \text{ (cis)}$
 $*K_1(\text{trans})=-5.70$
At 2 C: values respectively: -6.34(cis), -5.02(trans); -6.55(cis), -6.35(tr)
At 28 C: -5.93, -4.49; -5.95, -5.62

Co+++ kin NaClO4 0°C 0.10M U T M 1966CHa (11160) 312
 $K(\text{Co}(\text{NH}_3)_5\text{Cl}+\text{L})=0.61$
 $K(\text{Co(en)}_2(\text{NH}_3)\text{Cl}+\text{L})=0.52$
 $K(\text{Co(trien)}(\text{NH}_3)\text{Cl}+\text{L})=0.32$
 $K(\text{Co}(\text{NH}_3)_5\text{Cl}+\text{L})=0.57(25 \text{ C})$

Co+++ sp NaClO4 25°C 0.01M U 1966CLc (11161) 313
 $K(\text{Co(en)}_3+\text{L})=1.42$
By dilatometry, I=0.02 to 0.09 M: K=1.7

Co+++ sp oth/un 25°C dil? U 1966CLc (11162) 314
 $K(\text{Co(en)}_2(\text{NH}_3)_2+\text{L})=1.79$
 $K(\text{Co(en)}_2(\text{NH}_3)(\text{NH}_2\text{OH})+\text{L})=1.73$
 $K(\text{Co(en)}_2(\text{NH}_3)(\text{EtNH}_2)+\text{L})=1.70$

Co+++ kin NaClO4 25°C 3.00M U 1966CNa (11163) 315
 $*K_1(\text{Co}(\text{H}_2\text{O})_6)=-0.66$

Co+++ gl oth/un 20°C 0.10M U M 1966JSa (11164) 316
 $*K_1(\text{Co}(\text{NH}_3)_5(\text{CH}_3\text{OH}))=-5.58$

Co+++	gl	oth/un	0°C	?	U	1965BMc (11165)	317
						*K1(Co(en)2(SO4)(H2O))=-6.3	

Co+++	gl	oth/un	18°C	dil	U	1964BBf (11166)	318
						*K1(trans-Co(NH3)4CN(H2O))=-8.6	
						*K1(trans-Co(NH3)4NO2H2O)=-9.0	

Co+++	gl	NaCl04	10°C	0.10M	U T	1964HSb (11167)	319
						*K1(Co(en)2Cl(H2O))=-7.47(cis)	
						*K1(Co(en)2Cl(H2O))=-6.37(tra)	
At 20 C: *K1=-7.13(cis), -6.11(trans)							

Co+++	gl	NaCl04	10°C	0.10M	U T	1964HSb (11168)	320
						*K1(Co(trien)(H2O)2)=-5.4 cisA	
						*K1=-7.3 (cis-beta)	
						*K1(cis-Co(NH3)4Cl(H2O))=-6.6	
At 10 C: *K1(cis-alpha)=-5.8, *K1(cis-beta)=-5.6							

Co+++	kin	oth/un	25°C	dil	U	1963CHc (11169)	321
						*K1(Co(en)2Cl(H2O))=-6.7(cis)	
						*K1(Co(en)2Cl(H2O))=-5.7(tran)	

Co+++	gl	NaCl04	40°C	1.0M	U	1962Hwa (11170)	322
						*K(Co(CN)5H2O)=-9.7	

Co+++	kin	NaCl04	50°C	0.10M	U T	1962MTa (11171)	323
						*K(Co(en)2NH3H2O)=-5.1	
*K=-5.2(60 C)							

Co+++	gl	KNO3	25°C	1.0M	U	1961APb (11172)	324
						*K1(Co(phen)2(H2O)2)=-4.45	
						*K2(Co(phen)2(H2O)2)=-6.8	

Co+++	sol	none	25°C	0.0	U	1961Rka (11173)	325
						Kso(Co(OH)3)=-40.5	

Co+++	sp	none	25°C	0.0	U	1960Bhb (11174)	326
						*K(in D2O)/*K(in H2O)=-0.18	
						K(in D2O)/K(in H2O)=0.64	
K: Co(NH3)5H2O+OH). *K: Co(NH3)5H2O=Co(NH3)5OH+H							

Co+++	sol	oth/un	20°C	dil	U	1959ASa (11175)	327
						K(Co(OH)3(s)=Co(OH)3)=-4.54	
						B3=38.47	

Co+++	kin	oth/un	64°C	1	U H	1959BSe (11176)	328
						*K(Co(NH3)6)=-10.46	
DH(*K)=39.7 kJ mol-1							

Co+++	gl	oth/un	?	dil	U	1959GVa (11177)	329

$$*K(\text{Co(en)}_3) < -12$$

*K1(Co(NH3)4SO4H2O)=ca. -6

*K1(Co(NH3)5(H2O))=-6.55
*K1(cis-Co(NH3)4(H2O)2)=-5.95
*K2(cis-Co(NH3)4(H2O)2)=-8.05

$$K_{out}(\text{Co}(\text{NH}_3)_6 + \text{OH}) = 1.85$$
$$K_{out}(Coen3+OH)=1.50$$
$$K_{out}(C_{opn3}+0H)=1.27$$

*K1=-1.78
-1.5 C), -1.98(18.5 C), -1.71(28 C)

*K_{so}=-2.71
K_{so}(Co(OH)₃(s))=-44.49
=-94.1 kJ mol⁻¹; *K_{so}=-5.65(81 C),

*K1(cis-Coen2(H2O)2)=-6.06
*K2=-8.19 (cis)
*K1=(trans-Coen2(H2O)2)=-4.45
*K2=-7.94 (trans)

*K(Co(NH₃)₅H₂O)=-6.16
-6.25(I=0.5). Redox also used

$$K_{so}(\text{Co}(\text{OH})_3) = -25.55$$

*K1(Co(NH3)4(H2O)2)=-5.32
*K2(Co(NH3)4(H2O)2)=-7.30

*K1(Co(NH3)5H2O)=-5.69
*K1(Co(NH3)4(H2O)2)=-5.21

*K1(Co(NH3)3(H2O)3)=-4.7

*K1(Co(NH3)2(H2O)4)=-3.4

Kinetics also used

O2 L Oxygen CAS 7782-44-7 (83)

Dioxygen, also oxide; O²⁻, and superoxide, O₂⁻

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

Co+++ sp non-aq 25°C 100% U M 1988UMa (12610) 342

K(CoA(py)+L=CoA(py)L)=-1.90

Medium: toluene. A=5a,15a-Bis(2-(2,2-dimethylpropanamido)phenyl)-10a,20a-(nonadiamidodi-o-phenylene)porphyrin. Data also for other similar porphyrins

Co+++ sp non-aq 25°C 100% U M 1988UMa (12611) 343

K(CoA(MeIm)+L=CoA(MeIm)L)=-0.9

Medium: toluene. A=5a,15a-Bis(2-(2,2-dimethylpropanamido)phenyl)-10a,20a-(nonadiamidodi-o-phenylene)porphyrin. Data also for other similar porphyrins

O₂⁻ H₂L Peroxide CAS 7772-84-1 (2813)

Peroxide; -O₂⁻

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

Co+++ sp NaClO₄ 25°C 0.25M U T HM 1967MWb (12653) 344

K(H+Coen₂(L,NH₂)Coen₂)=0.85

Constant: brown to orange. K=0.84(kinetics). At 10 C: K=1.05(spec),0.99(kin)
15 C: 0.98(kin and spec); 20 C: 0.91(kin) 0.90(spec). Other constants also

Co+++ sp oth/un 30°C 0.14M U T M 1963BFc (12654) 345

K(2Co(dien)+O₂)=6.40

K=7.50(15 C); 7.15(20 C); 6.80(25 C)

Co+++ kin NaClO₄ 13°C var U T H 1957BWb (12655) 346

K(Co+HL)=13.95

Medium: HClO₄. K(Co+HL)=14.15(0 C). DH(K)=-21 kJ mol⁻¹; DS=192 J K⁻¹ mol⁻¹

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

Phosphate;

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

Co+++ sol oth/un 25°C 0.10M C I M 2003ZPa (13133) 347

Kout[Co(dipy)₃+HL]=2.04

Kout[Co(bipy)₃+H₂L]=1.27

in NaF; for 0.3 M NaF Kout[Co(dipy)₃+HL]=1.63; Kout[Co(dipy)₃+H₂L]=1.16

for 0.5 M NaF Kout[Co(dipy)₃+HL]=1.12; Kout[Co(dipy)₃+H₂L]=0.95

Co+++ sp NaClO₄ 25°C 0 C 2000ZSa (13134) 348

Kout([Co(NH₃)₅(SO₄)]+H₂L)=0.96

$K_{out}([Co(NH_3)_5(SO_4)]+HL)=1.92$
 $K_{out}([Co(NH_3)_5(SO_4)]+L)=2.90$
 Extrapolation from 0.1-1.0 M NaClO₄ to I=0.

Co+++ sp NaClO₄ 25°C 0 C 2000ZSa (13135) 349
 $K_{out}([Co(NH_3)_5C_2O_4]+H_2L)=1.01$
 $K_{out}([Co(NH_3)_5C_2O_4]+HL)=1.97$
 $K_{out}([Co(NH_3)_5C_2O_4]+L)=2.93$
 Extrapolation from 0.1-1.0 M NaClO₄ to I=0.

Co+++ sp NaClO₄ 25°C 0 C 2000ZSa (13136) 350
 $K_{out}([Co(NH_3)_5(OH)]+H_2L)=1.54$
 $K_{out}([Co(NH_3)_5(OH)]+HL)=2.45$
 $K_{out}([Co(NH_3)_5(OH)]+L)=3.67$
 Extrapolation from 0.1-1.0 M NaClO₄ to I=0.

Co+++ sp NaClO₄ 25°C 0 C 2000ZSa (13137) 351
 $K_{out}([Co(NH_3)_5(NO_2)]+H_2L)=1.25$
 $K_{out}([Co(NH_3)_5(NO_2)]+HL)=2.50$
 $K_{out}([Co(NH_3)_5(NO_2)]+L)=3.79$
 Extrapolation from 0.1-1.0 M NaClO₄ to I=0.

Co+++ sp NaClO₄ 25°C 0 C 2000ZSa (13138) 352
 $K_{out}([Co(NH_3)_6]+H_2L)=1.57$
 $K_{out}([Co(NH_3)_6]+HL)=3.04$
 $K_{out}([Co(NH_3)_6]+L)=4.60$
 Extrapolation from 0.1-1.0 M NaClO₄ to I=0.

Co+++ sp NaClO₄ 25°C 0 C 2000ZSa (13139) 353
 $K_{out}([Co(en)_3]+H_2L)=1.52$
 $K_{out}([Co(en)_3]+HL)=2.96$
 $K_{out}([Co(en)_3]+L)=4.48$
 Extrapolation from 0.1-1.0 M NaClO₄ to I=0.

Co+++ gl NaCl 25°C 1.00M U M 1987BCa (13140) 354
 $K([Co(NH_3)_5HL+H])=3.2$
 $K([Co(NH_3)_5L+H])=8.6$

Co+++ vlt NaClO₄ 25°C 1.0M U I M 1977IGa (13141) 355
 $K_{out}(Co(en)_3+HL)=1.23$
 Values also at I=0.0

Co+++ vlt NaClO₄ 25°C 0.0 U M 1977IGa (13142) 356
 $K_{out}(Co(en)_3+HL)=3.26$
 $K_{out}(Co(en)_3L+HL)=2.79$

Co+++ EMF NaClO₄ 25°C 2.00M U M 1973EFb (13143) 357
 $K((NH_3)_4Co-(NH_2)(HL)-Co(NH_3)_4+H)=1.52$. $K((NH_3)_4Co-(NH_2)(L)-Co(NH_3)_4+H)=6.0$

Co+++ nmr oth/un 25°C var U M 1973Mfa (13144) 358

$$K_{\text{out}}(\text{Co}(\text{en})_3 + \text{L}) = 1.1$$

 Co+++ kin NaClO4 25°C 2.00M U M 1971GTb (13145) 359
 Medium:LiClO4. $K((\text{NH}_3)_4\text{Co}-(\text{NH}_2)(\text{HL})-\text{Co}(\text{NH}_3)_4 + \text{H}) = 1.48$

Co+++ gl NaClO4 25°C 1.00M U M 1971LPb (13146) 360
 $K(\text{Co}(\text{en})_2(\text{NH}_3)\text{L} + \text{H}) = 7.85$ (cis)
 $K = 7.73$ (trans)
 $K(\text{Co}(\text{en})_2(\text{NH}_3)\text{HL} + \text{H}) = 3.20$ (cis)
 $K = 3.00$ (trans)

Co+++ EMF NaClO4 21°C 1.00M U T 1969LJa (13147) 361
 $K(\text{Co}(\text{NH}_3)_5\text{HL} + \text{H}) = 3.45$
 $K(\text{Co}(\text{NH}_3)_5\text{L} + \text{H}) = 7.95$
 $K(\text{Co}(\text{NH}_3)_5\text{HL} + \text{H}) = 3.51(45^\circ\text{C}), -3.7(60^\circ\text{C})$. $K(\text{Co}(\text{NH}_3)_5\text{L} + \text{H}) = 7.91(45^\circ\text{C}), 8.00(60^\circ\text{C})$

Co+++ gl NaClO4 5°C 1.0M U TI M 1968LSb (13148) 362
 $K(\text{Co}(\text{en})_2\text{L} + \text{H}) = 4.25$
 $K(\text{Co}(\text{en})_2(\text{OH})\text{L} + \text{H}) = 9.75$
 $K(\text{Co}(\text{en})_2(\text{OH})\text{HL} + \text{H}) = 7.25$
 $K(\text{Co}(\text{en})_2(\text{H}_2\text{O})\text{HL} + \text{H}) = 3.30$
 $K((\text{NH}_3)_4\text{Co}(\text{OH})\text{L} + \text{H}) = 9.2$; $K(\text{NH}_3)_4\text{Co}(\text{OH})\text{HL} + \text{L}) = 6.7$; $K(\text{NH}_3)_4\text{Co}(\text{H}_2\text{O})\text{HL} + \text{H}) = 3.2$;
 Data also at 23 C, 30 C and at I=0 corr.

Co+++ sp NaClO4 25°C 3.00M U TI M 1963STf (13149) 363
 $K(\text{Co}(\text{NH}_3)_5\text{H}_2\text{L} + \text{H}) = -0.67$
 In 1 M NaClO4: $K(\text{Co}(\text{NH}_3)_5\text{HL} + \text{H}) = 3.60$, $K(\text{Co}(\text{NH}_3)_5\text{L} + \text{H}) = 8.50$. $K_{\text{in}}(\text{Co}(\text{NH}_3)_5 + \text{H}_2\text{L}) =$
 $0.90(25^\circ\text{C}), 1.00(37.5^\circ\text{C}), 1.11(50^\circ\text{C})$. $K_{\text{out}}/K_{\text{in}} = -0.43(25^\circ\text{C}), -0.51(37.5^\circ\text{C}), -0.60$

 P207---- H4L Pyrophosphate CAS 2466-09-3 (198)
 Diphosphate; from $(\text{HO})_2\text{P}_2\text{O}_7 \cdot \text{H}_2\text{O}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co+++	sp	NaClO4	25°C	0	C			2000ZSa (13570)	364
							$K_{\text{out}}([\text{Co}(\text{en})_3] + \text{L}) = 5.83$		
Extrapolation from 0.1-1.0 M NaClO4 to I=0.									

Co+++	sp	NaClO4	25°C	0	C			2000ZSa (13571)	365
							$K_{\text{out}}([\text{Co}(\text{NH}_3)_6] + \text{H}_2\text{L}) = 5.90$		
Extrapolation from 0.1-1.0 M NaClO4 to I=0.									

Co+++	sp	NaClO4	25°C	0	C			2000ZSa (13572)	366
							$K_{\text{out}}([\text{Co}(\text{NH}_3)_5(\text{NO}_2)] + \text{L}) = 4.79$		
Extrapolation from 0.1-1.0 M NaClO4 to I=0.									

Co+++	sp	NaClO4	25°C	0	C			2000ZSa (13573)	367
							$K_{\text{out}}([\text{Co}(\text{NH}_3)_5(\text{OH})] + \text{L}) = 4.87$		
Extrapolation from 0.1-1.0 M NaClO4 to I=0.									

Co+++ sp NaClO4 25°C 0 C 2000ZSa (13574) 368

Kout([Co(NH3)5(ox)]+L)=3.83

Extrapolation from 0.1-1.0 M NaClO4 to I=0.

H2ox=oxalic acid

Co+++ sp NaClO4 25°C 0 C 2000ZSa (13575) 369

Kout([Co(NH3)5(SO4)]+L)=3.76

Extrapolation from 0.1-1.0 M NaClO4 to I=0.

Co+++ gl oth/un 25°C 1.00M U M 1987BCa (13576) 370

K(Co(NH3)5H2L+H) > 0.1

K(Co(NH3)5HL+H)=3.3

K(Co(NH3)5L+H)=5.6

K(Co(NH3)4HL+H) > 0.1

Medium: LiCl. K(Co(NH3)4L+H)=4.0

Co+++ cal oth/un 20°C 0.10M U HM 1968ANa (13577) 371

K(Co(NH3)5Cl+L)=2.8

Medium:Me4NNO3. DH=4.8 kJ mol⁻¹, DS=70 J K⁻¹ mol⁻¹

P3010----- 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

Co+++ gl oth/un 25°C 1.00M U M 1987BCa (13847) 372

K(Co(NH3)5H3L+H)=-0.1

K(Co(NH3)5H2L+H)=2.5

K(Co(NH3)5HL+H)=3.4

K(Co(NH3)5L+H)=6.6

Medium: LiCl. Data for Gamma isomer, data also for beta isomer

For beta/gamma mix.: K(Co(NH3)4H2L+H)=> 0.1; K(Co(NH3)4HL+H)=2.3

Co+++ cal R4N.X 20°C 0.10M U H 1968ANa (13848) 373

K(Co(NH3)5Cl+L)=4.23

Medium:Me4NNO3. DH=4.4 kJ mol⁻¹, DS=102 J K⁻¹ mol⁻¹

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

Cyclotrimetaphosphate;

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

Co+++ sp NaClO4 25°C 0 C 2000ZSa (13952) 374

Kout([Co(en)3]+L)=4.43

Extrapolation from 0.1-1.0 M NaClO4 to I=0.

Co+++ sp NaClO4 25°C 0 C 2000ZSa (13953) 375

Kout([Co(NH3)6]+H2L)=4.50

Extrapolation from 0.1-1.0 M NaClO4 to I=0.

Co+++ sp NaCl04 25°C 0 C 2000ZSa (13954) 376
 Kout([Co(NH3)5(NO2)]+L)=3.70
 Extrapolation from 0.1-1.0 M NaCl04 to I=0.

Co+++ sp NaCl04 25°C 0 C 2000ZSa (13955) 377
 Kout([Co(NH3)5(OH)]+L)=3.60
 Extrapolation from 0.1-1.0 M NaCl04 to I=0.

Co+++ sp NaCl04 25°C 0 C 2000ZSa (13956) 378
 Kout([Co(NH3)5(ox)]+L)=2.80
 Extrapolation from 0.1-1.0 M NaCl04 to I=0.
 H2ox=oxalic acid

Co+++ sp NaCl04 25°C 0 C 2000ZSa (13957) 379
 Kout([Co(NH3)5(SO4)]+L)=2.84
 Extrapolation from 0.1-1.0 M NaCl04 to I=0.

Co+++ cal oth/un 25°C 0.10M C H 1983GGB (13958) 380
 K(Co(NH3)6+P309)=3.11
 Medium: 0.10 M HCl. DH(K)=2.28 kJ mol⁻¹, DS(K1)=67 J K⁻¹ mol⁻¹.

Co+++ con none 25°C 0.0 U 1952M0a (13959) 381
 K(Co(NH3)6+L)=4.44

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co+++	sp	NaCl04	25°C	0	C			2000ZSa (14000) 382		
Kout([Co(en)3]+L)=5.89										
Extrapolation from 0.1-1.0 M NaCl04 to I=0.										

Co+++	sp	NaCl04	25°C	0	C			2000ZSa (14001) 383		
Kout([Co(NH3)6]+L)=5.98										
Extrapolation from 0.1-1.0 M NaCl04 to I=0.										

Co+++	sp	NaCl04	25°C	0	C			2000ZSa (14002) 384		
Kout([Co(NH3)5(NO2)]+L)=4.97										
Extrapolation from 0.1-1.0 M NaCl04 to I=0.										

Co+++	sp	NaCl04	25°C	0	C			2000ZSa (14003) 385		
Kout([Co(NH3)5(OH)]+L)=4.93										
Extrapolation from 0.1-1.0 M NaCl04 to I=0.										

Co+++	sp	NaCl04	25°C	0	C			2000ZSa (14004) 386		
Kout([Co(NH3)5(ox)]+L)=3.97										
Extrapolation from 0.1-1.0 M NaCl04 to I=0.										
H2ox=oxalic acid										

Co+++ sp NaClO4 25°C 0 C 2000ZSa (14005) 387
 $K_{out}([Co(NH_3)_5(SO_4)]+L)=3.90$
 Extrapolation from 0.1-1.0 M NaClO4 to I=0.

Co+++ cal oth/un 25°C 0.10M C H 1983GGB (14006) 388
 $K(Co(NH_3)_6+P4012)=2.28$
 Medium: 0.10 M HCl. $DH(K)=3.79$ kJ mol⁻¹, $DS(K)=56$ J K⁻¹ mol⁻¹.

Co+++ con none 25°C 0.0 U 1952MOa (14007) 389
 $K(CoNH_3)_6+L)=5.74$

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co+++	oth	none	25°C	0	U			1988LIa (14332)	390

 $K_{so}(Co_2S_3)=-49.9$
 $*K_{so}(Co_2S_3)=2.1$

Derived from thermodynamic data and $K(H+S=HS)=17.3$.

 SCN- HL Thiocyanate CAS 463-56-9 (106)
 Thiocyanate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co+++	kin	KCl	25°C	2.20M	U T H			1994MMc (14857)	391

 $K_{out}(CoA+L)=-0.51$
 CoA=aquacobalamin. Also data at 5C: $K=-0.48$, 10C: $K=-0.37$, 15C: $K=-0.43$,
 20C: $K=-0.48$.

 Co+++ sp alc/w 25°C 100% U M 1994NSa (14858) 392
 $K(CoA_2B+L=CoA_2L+B)=-0.72$
 $K(CoA_2C+L=CoA_2L+C)=-1.32$
 Medium: MeOH. A=Benzoquinonediimine, B=Triphenylstibine, C=Triphenylarsine

Co+++	sp	NaClO4	25°C	0.50M	C T H	K1=1.077	B2=1.735	1985SMe (14859)	393
						B3=1.988			
						B4=0.079			

 $DH(K_1)=-20.33$ kJ mol⁻¹, $DH(B_2)=-25.17$, $DH(B_3)=-26.58$, $DH(B_4)=27.08$.
 $DS(K_1)=-46.79$ J mol⁻¹ K⁻¹, $DS(B_2)=-71.86$, $DS(B_3)=-83.98$, $DS(B_4)=50.136$

Co+++	sp	alc/w	25°C	95%	C T H	K1=2.504	B2=5.720	1985SMe (14860)	394
						B3=7.021			
						B4=7.797			

 Medium: 95% MeOH/H2O. $DH(K_1)=-3.51$ kJ mol⁻¹, $DH(B_2)=-5.92$, $DH(B_3)=-11.55$,
 $DH(B_4)=11.9$

 Co+++ kin NaClO4 15°C 1.00M U T 1978EHa (14861) 395
 $K(CoA_5B+L=CoA_4BL+A)=-0.92$

A=NH₃, B=SO₃ in 1.0 M LiClO₄. K=-1.10 (35 C), -1.30 (35 C)

Co+++ kin NaClO₄ 15°C 1.00M U T 1978EHa (14862) 396
K(CoA₅B+L=CoA₄BL+A)=-1.52

A=NH₃, B=C₆H₅.SO₂ in 1.0 LiClO₄. K=-1.10 (25 C), -1.00 (35 C)

Co+++ kin NaClO₄ 25°C 1.00M U 1978EHa (14863) 397
K(CoA₅B+L=CoA₄BL+A)=-0.89

A=NH₃, B=CH₃.C₆H₄.SO₂ in 1.0 LiClO₄

Co+++ sp NaClO₄ 25°C 0.10M U 1976AAb (14864) 398
K(CoTPPS₄(H₂O)₂+L)=3.42
K(CoTPPS₄(H₂O)L+L)=0.44

Constants also determined in 1.0 M NaClO₄. CoTPPS₄(H₂O)₂=
A,B,C,D-tetra(4-sulphonatophenyl)porphinatodiaquocobaltate(III)

Co+++ sp NaNO₃ 25°C 0.50M U 1976PPa (14865) 399
K(CoTCPP(H₂O)₂+L)=3.46

TCPP=tetracarboxyphenylporphine

Co+++ con non-aq 25°C 100% U I M 1976THa (14866) 400
Kout(Co(en)₃+L)=2.46

Medium: DMSO. In DMF: Kout(Co(en)₃+L)=3.28

Co+++ sp NaClO₄ 25°C 1.00M U 1975ABc (14867) 401
*K₁(CoA(H₂O)₂)=-5.5
*K₂(CoA(OH)(H₂O))=-10.7

A=tetra(4-N-methylpyridyl)porphinate

Co+++ sp NaClO₄ 25°C 1.00M U M 1975ABc (14868) 402
K(CoA+L)=3.81
K(CoAL+L)=1.14

A=Tetra(4-N-methylpyridyl)porphine

Co+++ ISE oth/un 25°C 0.10M U 1975LMa (14869) 403
K(Co(NH₃)₅NCS+Ag)=3.38

Co+++ kin NaNO₃ 25°C 0.50M U 1975PCb (14870) 404
K(CoTMpyP+L)=3.81
K(CoTMpyPL+L)=1.11

CoTMpyP=tetrakis(4-N-methylpyridyl)porphinecobalt(III)

Both NaNO₃ and NaClO₄ were used as the ionic medium

Co+++ EMF NaClO₄ 25°C 3.0M U 1973MKd (14871) 405
K(Co(NH₃)₅F+L)=-0.57
K(Co(NH₃)₅F+2L)=-1.40

With Cl, values are -0.82, -1.30. With Br, -0.57, -1.16. With NO₂, -0.50,
-1.70. With HCOO, -0.77, -1.77. With MeCOO, -0.70, -1.30

Co+++ kin NaClO₄ 88°C 0.10M U 1972JCa (14872) 406

K(Co(NH3)5H2O+L)=2.69

Medium: LiClO4

Co+++ sp oth/un 25°C 0.10M U 1971FLb (14873) 407
K(Hg+Co(NH3)5L)=4.99
K(2HgCo(NH3)5L=dimer)=4.15

Data also for other ternary complexes

Co+++ ISE KNO3 25°C 0.03M U M 1971PBa (14874) 408
K(Ag+Co(NH3)5L)=4.02
K(Ag+trans-Co(en)2L2)=3.96
K(Ag+cis-Co(en)2L2)=5.54

Co+++ oth KNO3 75°C 0.01M U T H 1970FVa (14875) 409
K2=4.84
Complex is Co(DM)2,HDM=dimethylglyoxime.DH(K2)=-36.0 kJ mol-1; K2=4.77(80 C)
4.69(85 C), 4.62(90 C). Method: chemical analysis

Co+++ sp none 35°C 0.0 U 1969IBa (14876) 410
K1out(Co(NH3)6+L)=0.90

Co+++ sp KCl 22°C 1.0M U I 1969IBa (14877) 411
K1out(Co(bpy)3+L)=-0.02

Co+++ kin non-aq 70°C 100% U M 1968APb (14878) 412
Kout(tr-Co(en)2(NO2)Cl+L)=0.91

Medium: sulfolan

Co+++ sp NaClO4 45°C 1.0M U 1967LMc (14879) 413
K1out(Co(NH3)5+L)=-0.37

Co+++ sp oth/un 25°C 0.50M U 1963HTa (14880) 414
K1out(Co(NH3)5+L)=0.65

Co+++ sol none 25°C 0.0 U 1963LMb (14881) 415
K(Co(NH3)6+L)=0.89

Co+++ sp NaClO4 40°C 1.0M U 1962Hwa (14882) 416
K(Co(CN)5+L)=3.16

Co+++ sol NaClO4 20°C 3.0M U 1960LAa (14883) 417
Kout(trans-CoL2en2+L)=-0.52

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

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

Co+++ EMF oth/un 25°C 0.0 U 1974PKb (15435) 418
K(Co(NH3)6+L)=3.59

K(Co(NH₃)₆+2L)=5.15
 With Co(en)₃: K₁=3.58, B₂=3.5; Co(pn)₃: 3.61, 3.25

 Co+++ vlt NaClO₄ 25°C 0.1M C 1973MKf (15436) 419
 Kout(Co(pren)₃+L)= 0.35
 Also for I=0.5 M K₁out=0.17
 pren=propylenediamine

 Co+++ vlt NaClO₄ 25°C 0.1M C 1973MKf (15437) 420
 Kout(Co(en)₃+L)= 0.33
 Also for I=0.5 M K₁out=0.15

 Co+++ EMF NaClO₄ 25°C 3.0M U H K₁=0.61 B₂=0.79 1973MRb (15438) 421
 K₃=-0.05
 K₄=-0.40
 Complex: Co(en)₃. For Co(pn)₃: K₁=0.30, K₂=0.15, K₃=-0.10, K₄=-0.30

 Co+++ gl NaClO₄ 25°C 1.0M U T 1970SYa (15439) 422
 K(trans-Co(en)₂LOH+H)=9.45
 At 5 C: K=9.60. K(trans-Co(en)₂LOH+L=trans-Co(en)₂L₂+OH)=-0.43; -0.45(5 C);
 -0.54(40 C)

 Co+++ sp NaClO₄ 25°C 1.0M U M 1967TGb (15440) 423
 K(Co(CN)₄LOH+NH₃)=1.99
 Products: Co(CN)₄LNH₃+OH

 Co+++ sp NaClO₄ 25°C 1.0M U I M 1966CTa (15441) 424
 K(Co(CN)₅L+H)=1.80
 K(Co(CN)₄L+H)=1.00
 K(Co(CN)₄L+OH)=2.9
 K(Co(CN)₄L₂+H)=-2.04
 K(HCo(CN)₄L₂+H)=1.35. Also at I=0.018 and I=0.0016 M

 Co+++ sp oth/un 20°C var U M 1956C0a (15442) 425
 K(Co(NH₃)₆+L)=1.08
 K(Co(en)₃+L)=1.04

 SO₄-- H₂L Sulfate CAS 7664-93-9 (15)
 Sulfate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co+++	sp	NaClO ₄	25°C	0.10M U		HM	1994MPb (16070) 426		
							Kout(Co(NH ₃) ₅ H ₂ O+L)=1.98		
Medium: 0.1-0.5 NaClO ₄ . DH=1.3 kJ mol ⁻¹ , DS=42 J K ⁻¹ mol ⁻¹									
Co+++	vlt	mixed	25°C	0.1M C			1984SPb (16071) 427		
							Kout(Co(en) ₃ +L)=1.86		
							Kout(Co(en) ₃ +2L)=3.77		
NaClO ₄ in H ₂ O (100%);also for I=0.2 M K ₁ out=1.72; for I=0.3 M Kout=1.7									

For acetonitrile/H₂O v/v: K_{out}=1.92(10%); 2.03(20%); 2.14(30%); 2.31(40%)

Co+++ vlt NaClO₄ 25°C 0.1M C 1975PKa (16072) 428
K_{out}(cisCo(en)2NH₃Cl+L)=0.25

Also for I=0.5 M K_{lout}=0.03

Co+++ vlt NaClO₄ 25°C 0.1M C 1975PKa (16073) 429
K_{out}(transCo(en)2NH₃Cl+L)=0.20

Also for I=0.5 M K_{lout}=0.03

Co+++ vlt NaClO₄ 25°C 0.1M C 1975PKa (16074) 430
K_{out}(Co(NH₃)₅Cl+L)=0.29

Also for I=0.5 M K_{lout}=0.08

Co+++ EMF NaClO₄ 25°C 0.0 U IH 1974KPe (16075) 431
K(Co(NH₃)₄(CO₃)+L)=2.1
K(Co(NH₃)₄(CO₃)+2L)=3.0
K(Co(NH₃)₄(CO₃)+3L)=2.9

At I=0.1 M values are: 1.6, 2.7, 3.5. I=0.3 M: 1.2, 1.9, 2.5. I=0.5: 0.9, 1.2, 1.3

Co+++ cal oth/un 25°C 3.0M U H 1974MKh (16076) 432
Medium: Na₂SO₄. DH(Co(NH₃)₅(NO₂)+L)=8.2 kJ mol⁻¹, DS=33 J K⁻¹ mol⁻¹.
DH(Co(NH₃)₅(NO₂)+2L)=3.6, DS=21; DH(Co(NH₃)₅(NO₂)+3L)=0, DS=-10.5

Co+++ EMF oth/un 25°C 0.10M U I 1974PKb (16077) 433
K(Co(bpy)₃+L)=2.11
K(Co(bpy)₃+2L)=2.93

At I=0.5 M KF: 1.22, 1.40, K(Co(NH₃)₆+3L)=2.40.

I=0:3.41, 4.8, 4.5. Data also for Co(en)₃, Co(pn)₃, Co(bpy)₃ at I=0 to 0.4

Co+++ con oth/un 15°C 0.0 U T 1974USa (16078) 434
K(Co(NH₃)₅(NO₂)+L)=2.71

At 25 C: K=2.69; 40 C: 2.67. 500 kg cm⁻², 15 C:2.59; 25 C:2.63; 40 C:2.61.
At 1000 kg cm⁻²:2.48, 2.52, 2.53; 2000: 2.38,2.362.38; 3000: 2.25,2.28,2.30

Co+++ EMF NaClO₄ 25°C 3.0M U M 1973MKd (16079) 435
K(Co(NH₃)₅F+L)=0.40
K(Co(NH₃)₅F+2L)=0.46
K(Co(NH₃)₅F+3L)=0.48

With Co(NH₃)₅Cl) values are: 0.19, 0.19, 0.02, K(Co(NH₃)₅Cl+4L)=0.66.

Co(NH₃)₅Br: 0.28, 0.34, 0.34, 0.20. Co(NH₃)₅NO₂: 0.32, 0.45, 0.54 plus other

Co+++ EMF NaClO₄ 25°C 0.10M U I M 1973MKe (16080) 436
K(Co(en)₃+L)=2.00
K(Co(en)₃+2L)=3.49
K(Co(en)₃+3L)=4.85

At I=0.5 values are: 1.23, 1.96, 2.88. At I=0(corr): 3.2, 5.0, 6.0. With
Co(NH₃)₆=, I=0.1: 2.11, 3.18, 5.12; I=0.5: 1.32,1.66,2.74. I=0: 3.4,5.1,6.4

Co+++ EMF NaClO4 25°C 0.10M U I M 1973MKe (16081) 437

$K(\text{Co}(\text{pn})_3+\text{L})=1.95$

$K(\text{Co}(\text{pn})_3+3\text{L})=3.22$

At I=0.5 values are 1.22, 2.83. At I=0(corr): 3.2, 5.0

Co+++ vlt oth/un 25°C 0.1M C 1973MKf (16082) 438

$K_{\text{out}}(\text{Co}(\text{NH}_3)_6+\text{L})=2.11$

Also for I=0.5 M $K_{\text{Iout}}=1.22$

Medium: NaF

Co+++ vlt oth/un 25°C 0.1M C 1973MKf (16083) 439

$K_{\text{out}}(\text{Co}(\text{en})_3+\text{L})=2.1$

Also for I=0.5 M $K_{\text{Iout}}=1.21$

Medium: NaF

Co+++ vlt oth/un 25°C 0.1M C 1973MKf (16084) 440

$K_{\text{out}}(\text{Co}(\text{pren})_3+\text{L})=2.0$

Also for I=0.5 M $K_{\text{Iout}}=1.23$

Medium: NaF; pren=propylenediamine

Co+++ vlt oth/un 25°C 0.1M C 1973MKf (16085) 441

$K_{\text{out}}(\text{Co}(\text{bipy})_3+\text{L})=1.13$

Also for I=0.5 M $K_{\text{Iout}}=0.48$

Medium: NaF;

Co+++ kin NaClO4 65°C 1.0M U M 1973M0a (16086) 442

$K_{\text{Iout}}(\text{Co}(\text{NH}_3)_5+\text{L})=1.05$

$K_{\text{Iin}}(\text{Co}(\text{NH}_3)_5+\text{L})=0.4$

Co+++ vlt NaClO4 25°C 0.1M C 1973MSh (16087) 443

$K_{\text{out}}(\text{Co}(\text{dipy})_3+\text{L})=1.40$

Co+++ vlt NaClO4 25°C 0.10M U 1973NVa (16088) 444

$K_{\text{Iout}}(\text{Co}(\text{NH}_3)_6+\text{L})=2.04$

Co+++ sol NaClO4 25°C 3.0M U H 1972MRe (16089) 445

$K(\text{Co}(\text{en})_3+\text{L})=0.56$

$K(\text{Co}(\text{en})_3\text{L}+\text{L})=0.15$

$K(\text{Co}(\text{en})_3\text{L}_2+\text{L})=-0.4$

Co+++ EMF NaClO4 25°C 3.0M U HM 1972MSj (16090) 446

$K(\text{CoA}_3+\text{L})=0.22$

$K(\text{CoA}_3\text{L}+\text{L})=0.04$

$K(\text{CoA}_3\text{L}_2+\text{L})=-0.08$

A=Trispropylene diamine

Co+++ con oth/un 25°C var U M 1971HPb (16091) 447

$K(\text{Co}(\text{NH}_3)_5(\text{NO}_2)+\text{L})=2.57$

Co+++ kin oth/un 25°C var U M 1970BAd (16092) 448

K(Co(NH₃)₆+L)=3.5 approx

Medium: (NH₄)₂SO₄

Co+++	kin	NaClO ₄	31°C	var	U	M	1970BUa (16093)	449
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K₁out(Co(NH₃)₅(H₂O)+L)=0.7
K₁in(Co(NH₃)₅(H₂O)+L)=-0.03

Co+++	oth	none	25°C	0.0	U	M	1970EPb (16094)	450
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K(Cu(en)₃+L)=3.1
K(Cu(NH₃)₆+L)=3.1

Method: ultrasonic absorption

Co+++	con	oth/un	25°C	0.0	U	I	1970KTa (16095)	451
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K(Cu(NH₃)₆+L)=3.56
K(Cu(en)₃+L)=3.60

In Na₂SO₄, I=0.003: K(Co(NH₃)₆+L)=3.26, K(Co(en)₃+L)=3.42; I=0.01: 3.03, 2.87; I=0.1: 2.23, 2.09

Co+++	con	oth/un	25°C	var	U	M	1970MBc (16096)	452
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K(Co(NH₃)₅(NO₂)+L)=2.60

Co+++	con	none	15°C	0.0	U	T	M	1970NSa (16097)	453
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K(Co(NH₃)₆+L)=3.67
At 500 atm, K=3.59; 1000 atm: 3.51; 1500 atm: 3.45; 2000 atm: 3.35;
3000 atm: 3.32. Also at 25, 40 C

Co+++	con	none	40°C	0.0	U	T	1970NSa (16098)	454
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K(Co(NH₃)₆+L)=3.69
At 500 atm: 3.65; 1000 atm: 3.62(1000), 1500 atm: 3.57; 2000 atm: 3.53;
3000 atm: 3.51; 4000 atm: 3.52; 5000 atm: 3.55

Co+++	sp	NaClO ₄	25°C	2.0M	U		1970SSd (16099)	455
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K((NH₃)₄Co(OH)(NH₂)Co(NH₃)₄+H+L)=3.35, OH and NH₂ are bridging

Co+++	sp	NaClO ₄	25°C	0.10M	U	M	19690Gb (16100)	456
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K(Co(en)₃+L)=1.69
K(Co(d-pn)₃+L)=1.8
K(Co(l-pn)₃+L)=1.6

Co+++	kin	oth/un	25°C	var	U		1968Mwa (16101)	457
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K(cis-CoCl₂(en)₂+L)=1.4

Co+++	sp	NaClO ₄	25°C	0.07M	U		1967TKb (16102)	458
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K(Co(NH₃)₆+L)=2.06

Co+++	vlt	NaClO ₄	25°C	1.0M	U		1967TYa (16103)	459
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K(Co(en)₃+L)=2.00

By spec. : K=2.01

Co+++	con	oth/un	25°C	0.0	U	T	19660Sc (16104)	460
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$K(\text{Co}(\text{NH}_3)_6+\text{L})=3.71$

At 1 atm. $K=3.74(30\text{ C})$, $3.76(40\text{ C})$. At 600 atm: $K=3.65(25\text{ C})$, $3.66(30\text{ C})$, $3.60(40\text{ C})$. Also K values for 200 & 400 atm

Co+++	vlt NaCl04 25°C 0.10M U	1966TOa (16105) 461
		$K(\text{Co}(\text{NH}_3)_6+\text{L})=1.84$

Co+++	sol oth/un 35°C 0.0 U T	1965AEa (16106) 462
		$K(\text{Co}(\text{NH}_3)_5\text{Cl}+\text{L})=2.52$

$K_1=2.46(25\text{ C})$

Co+++	kin oth/un 35°C 0.0 U	1965LMb (16107) 463
		$K(\text{Co}(\text{NH}_3)_5\text{Cl}+\text{L})=2.46$

Co+++	sol oth/un 25°C 0.0 U	1963LMb (16108) 464
		$K(\text{Co}(\text{NH}_3)_6+\text{L})=3.60$

Co+++	vlt NaCl04 25°C 0.10M U I M	1961VLd (16109) 465
		$K(\text{Co}(\text{NH}_3)_6+\text{L})=2.10$
		$K(\text{Co}(\text{NH}_3)_5\text{H}_2\text{O}+\text{L})=1.9$
		$K(\text{Co}(\text{NH}_3)_5\text{N}_3+\text{L})=1.2$
		$K(\text{Co}(\text{NH}_3)_5\text{NO}_2+\text{L})=1.7$

At $I=0.02\text{ M}$ $K(\text{Co}(\text{NH}_3)_6+\text{L})=2.71$

Co+++	oth oth/un 25°C 0.0 U	K1=4.95 1960MTb (16110) 466
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From thermodynamic data

Co+++	sol oth/un 0°C 0.0 U	1958DWa (16111) 467
		$K(\text{Co}(\text{NH}_3)_5\text{Cl}+\text{L})=2.55$

Co+++	sp NaCl04 25°C 0.34M U	1957PTa (16112) 468
		$K(\text{Co}(\text{NH}_3)_5\text{Cl}+\text{L})=0.68$

Co+++	kin NaCl04 15°C 2.72M U	K1=1.34 1956AHa (16113) 469
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Co+++	sp oth/un 25°C 0.0 U	1956BDa (16114) 470
		$K(\text{Co}(\text{NH}_3)_6+\text{L})=2.95$

Co+++	kin NaCl04 25°C 1.0M U HM	1956PTa (16115) 471
		$K_{\text{out}}(\text{Co}(\text{NH}_3)_5+\text{L})=1.05$
		$K_{\text{in}}(\text{Co}(\text{NH}_3)_5+\text{L})=-0.05$
		$K(\text{Co}(\text{NH}_3)_6+\text{L})=3.32$

Co+++	kin oth/un 31°C dil U HM	1953TPa (16116) 472
		$K_{\text{out}}(\text{Co}(\text{NH}_3)_5+\text{L})=3.04$
		$K_{\text{in}}(\text{Co}(\text{NH}_3)_5+\text{L})=0.28$

Co+++	con oth/un 25°C 0.0 U M	1951JMa (16117) 473
		$K(\text{Co}(\text{NH}_3)_6+\text{L})=3.56$
		$K(\text{Co}(\text{en})_3+\text{L})=3.45$

$$K(\text{Co}(\text{pn})_3+\text{L})=2.76$$

 Co+++ sol oth/un 25°C 0.0 U 1930DAa (16118) 474
 $K(\text{Co}(\text{NH}_3)_6+\text{L})=3.52$

S203-- H2L Thiosulfate CAS 73686-28-7 (177)

Thiosulfate;

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

 Co+++ kin KCl 25°C 2.20M U T H 1994MMc (16810) 475

$$K_{\text{out}}(\text{CoA}+\text{L})=-0.046$$

CoA=aquacobalamin. Also data at 15C: K=-0.15, 34C: K=-0.046, 45C: K=-0.045.

 Co+++ vlt NaClO4 25°C 0.1M C 1975PKa (16811) 476

$$K_{\text{out}}(\text{cisCo}(\text{en})_2\text{NH}_3\text{Cl}+\text{L})=0.25$$

Also for I=0.5 M $K_{\text{Iout}}=0.09$

 Co+++ vlt NaClO4 25°C 0.1M C 1975PKa (16812) 477

$$K_{\text{out}}(\text{transCo}(\text{en})_2\text{NH}_3\text{Cl}+\text{L})=0.29$$

Also for I=0.5 M $K_{\text{Iout}}=0.1$

 Co+++ vlt NaClO4 25°C 0.1M C 1975PKa (16813) 478

$$K_{\text{out}}(\text{Co}(\text{NH}_3)_5\text{Cl}+\text{L})=0.36$$

Also for I=0.5 M $K_{\text{Iout}}=0.15$

 Co+++ cal oth/un 25°C 3.0M U HM 1974MKh (16814) 479

Medium:Na2S2O3. Complex:Co(NH3)5NO2. DH(K1)=-1.9 kJ mol⁻¹, DH(B2)=-4.77, DH(B3)=-6.28, DH(B4)=-7.94; DS(K1)=5.43, DS(B2)=-0.42, DS(B3)=-0.836, DS(B4)=-6.7

 Co+++ EMF oth/un 25°C 0.0 U M 1974PKb (16815) 480

$$K(\text{Co}(\text{NH}_3)_6+\text{L})=3.69$$

$$K(\text{Co}(\text{en})_3+\text{L})=3.62$$

$$K(\text{Co}(\text{pn})_3+\text{L})=3.66$$

 Co+++ EMF NaClO4 25°C 3.0M U M K1=0.53 B2=0.70 1973MKd (16816) 481

$$B3=0.77$$

$$B4=0.98$$

Complex:(Co(NH3)5X),X=F. When X=Cl: K1=0.49, B2=0.64; B3=0.72; B4=0.82.

When X=Br: K1=0.59; B2=0.76; B3=0.87; B4=0.96.

 Co+++ EMF NaClO4 25°C 3.0M U M K1=0.63 B2=0.83 1973MKd (16817) 482

$$B3=1.07$$

$$B4=1.04$$

Complex:(Co(NH3)5X),X=NO2. When X=HCOO: K1=0.59; B2=0.67; B3=0.72; B4=0.95.

When X=CH3COO: K1=0.52; B2=0.58; B3=0.67; B4=0.91

 Co+++ EMF NaClO4 25°C 3.0M U H K1=0.72 B2=0.23 1973MRb (16818) 483

$$K3=0.0$$

$$K4=-0.3$$

Complex: Co(en)3. With Co(pn)3: K1=0.54; K2=0.23; K3=0.04; K4=-0.05

Co+++	ix	NaClO4	2.0M	U				1970LNb (16819)	484
								K(Co(en)3+L)=0.7	
								K(Co(en)3+2L)<0.4	

Co+++	sp	NaClO4	1.0M	U	M			1968BRc (16820)	485
								K(Co(en)3+L)=0.8	

Co+++	sp	NaClO4	?	2.88M	U	M		19670Ba (16821)	486
								K(Co(en)3+L)=0.11	

Co+++	oth	NaClO4	20°C	2.0M	U	M	K1=2.18	B2=3.88	1964LJa (16822)	487
							B3=5.18			
							B4=5.18			

Metal ion: Co(en)3. Method: polarimetry

Co+++	oth	oth/un	20°C	var	U	M		1962LAa (16823)	488
								K(Co(en)3+L)=1.8	

Medium:Na2L, Method:polarimety. K2(not defined)=2.6

Co+++	sp	oth/un	20°C	var	U	M		1956COa (16824)	489
								K(Co(NH3)6+L)=1.81	

Co+++	sp	none	25°C	0.0	U	T	HM	1955GMa (16825)	490
								K(Co(NH3)6+L)=3.24	

K=3.21(15 C), 3.26(35 C). DH(K)=4.6 kJ mol⁻¹, DS=75 J K⁻¹ mol⁻¹

S2O4-- H2L (317)
Dithionite;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co+++	vlt	NaClO4	25°C	0.1M	C			1973MKf (16915)	491
								Kout(Co(en)3+L)= 0.33	

Also for I=0.5 M K1out=0.14

Co+++	vlt	NaClO4	25°C	0.1M	C			1973MKf (16916)	492
								Kout(Co(pren)3+L)= 0.35	

Also for I=0.5 M K1out=0.16

pren=propylenediamine

SeO3-- H2L Selenite CAS 7783-00-8 (2391)
Selenite;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co+++	vlt	NaClO4	25°C	0.1M	C			1975PKa (17044)	493
								Kout(cisCo(en)2NH3Cl+L)=0.27	

Also for I=0.5 M K1out=0.06

Co+++ vlt NaCl04 25°C 0.1M C 1975PKa (17045) 494
Kout(transCo(en)2NH3Cl+L)=0.23

Also for I=0.5 M K1out=0.01

Co+++ vlt NaCl04 25°C 0.1M C 1975PKa (17046) 495
Kout(Co(NH3)5Cl+L)=0.32

Also for I=0.5 M K1out=0.09

Co+++ cal oth/un 25°C 3.0M U H 1974MKh (17047) 496
Medium:Na2L. Reaction: Co(NH3)5NO2+nL. DH(K1)=10.3 kJ mol⁻¹, DS=42 J K⁻¹ m⁻¹;
DH(B2)=6.1, DS=29; DH(B3)=10.9, DS=46.0; DH(B4)=14.0, DS=63

Co+++ EMF none 25°C 0.0 U M 1974PKb (17048) 497
K(Co(en)3+L)=3.56
K(Co(en)3+2L)=5.55

K(Co(pn)3+L)=3.55, K(Co(pn)3+2L)=5.45

Co+++ EMF NaCl04 25°C 3.0M U K1=0.53 B2=0.60 1973MKd (17049) 498
B3=0.73
B4=1.07

Reaction: Co(NH3)5F+nL. With Co(NH3)5Cl: K1=0.39, B2=0.68, B3=0.88, B4=0.61;
Co(NH3)5Br: K1=0.52, B2=0.85, B3=0.59

Co+++ EMF NaCl04 25°C 3.0M U K1=0.48 1973MKd (17050) 499
B2=0.48
B3=0.57
B4=0.88

Reaction: Co(NH3)5(NO2)+nL. With Co(NH3)5(HCOO): K1=0.40, B2=0.45, B3=0.53,
B4=0.85; Co(NH3)5(CH3COO): K1=0.51, B2=0.48, B3=0.54, B4=0.92

Co+++ vlt NaCl04 25°C 0.1M C 1973MKf (17051) 500
Kout(Co(pren)3+L)= 0.34

Also for I=0.5 M K1out=0.16
pren=propylenediamine

Co+++ vlt NaCl04 25°C 0.1M C 1973MKf (17052) 501
Kout(Co(en)3+L)= 0.34

Also for I=0.5 M K1out=0.15
en=ethylenediamine

Co+++ EMF NaCl04 25°C 3.0M U K1=0.56 B2=0.71 1973MRb (17053) 502
B3=0.56
B4=0.04

Reaction: Co(en)3+nL. With Co(pn)3: K1=0.28, B2=0.32, B3=0.22, B4=0.12

Co+++ vlt NaCl04 25°C 0.1M C 1973MSh (17054) 503
Kout(Co(dipy)3+L)=1.42

Co+++ sp NaCl04 ? 2.88M U M 19670Ba (17055) 504

$$K(\text{Co(en)}_3^{3+}/\text{L}) = 0.08$$

Co+++	oth NaCl04 20°C	2.0M U	M	K1=2.11	B2=3.92	1966LMb (17056) 505
				B3=4.46		
				B4=5.15		

Metal: Co(en)₃⁺⁺⁺. Method: circular dichroism

TeO3--	H2L	Tellurite	CAS 10049-23-7	(1165)
Tellurate(IV)				

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co+++ vlt NaClO4 25°C 0.1M C 1975PKa (17273) 506
Kout(cisCo(en)2NH3Cl+L)=0.27

Also for $I=0.5$ M $K_{1out}=-0.06$

Co+++ vlt NaClO4 25°C 0.1M C 1975PKa (17274) 507
Kout(transCo(en)2NH3Cl+L)=0.24

Also for $I=0.5$ M $K_{1out}=-0.11$

Co+++ vlt NaClO4 25°C 0.1M C 1975PKa (17275) 508
Kout(Co(NH3)5Cl+L)=0.27

Also for $I=0.5$ M $K_{1out}=0.03$

Co+++ cal oth/un 25°C 3.0M U H 1974MKh (17276) 509
Medium:Na2L. Reaction: $\text{Co}(\text{NH}_3)_5(\text{NO}_2) + \text{DH}(\text{K1}) = 8.6 \text{ kJ mol}^{-1}$, $\text{DS} = 37.7 \text{ J K}^{-1} \text{ mol}^{-1}$
 $\text{DH}(\text{B2}) = 11.5$, $\text{DS} = 46$; $\text{DH}(\text{B3}) = 12.1$, $\text{DS} = 50$; $\text{DH}(\text{B4}) = 3.6$, $\text{DS} = 29$

Co+++ EMF NaCl04 25°C 3.0M U M K1=0.29 B2=0.56 1973MKd (17277) 510
B3=0.80
B4=0.83

Reaction: $\text{Co}(\text{NH}_3)_5\text{Br} + n\text{L}$. With $\text{Co}(\text{NH}_3)_5\text{Cl}$: $K_1=0.22$, $B_2=0.36$, $B_3=1.13$;
 $\text{Co}(\text{NH}_3)_5(\text{NO}_2)$: $K_1=0.43$, $B_2=0.45$, $B_3=0.51$, $B_4=0.88$

Co+++ EMF NaClO4 25°C 3.0M U M K1=0.24 B2=0.56 1973MKd (17278) 511
B3=0.81

Reaction: $\text{Co}(\text{NH}_3)_5(\text{HCOO}) + n\text{L}$. With $\text{Co}(\text{NH}_3)_5(\text{CH}_3\text{COO})$: $K_1=0.29$, $B_2=0.48$, $B_3=0.57$

Co+++ vlt NaClO4 25°C 0.1M C 1973MKf (17279) 512
Kout(Co(en)3+L)= 0.40

Also for $I=0.5$ M $K_{1out}=0.11$
en=ethylenediamine

Co+++ vlt NaClO4 25°C 0.1M C 1973MKf (17280) 513
Kout(Co(pren)3+L)= 0.35

Also for I=0.5 M K1out=0.16
pren=propylenediamine

Co+++ EMF NaClO4 25°C 3.0M U K1=0.30 B2=0.34 1973MRb (17281) 514
B3=0.04

$$K(H7Co(TeO_6)_2 + H) = 8$$

$$B2_{out}[Co(NH_3)_6+2L]=0.51$$

$$B2out[Co(en)_{3+2L}]=0.39$$

$$B2out[Co(en)_{3+2L}] = 0.39$$

$$B2out[Co(NH_3)_5Cl+2L]=0.54$$

$$I=0 \text{ (corr)}, K=2.59$$

$$K_{out}(Co(bpy)_{3+2L}) = 2.58$$

Freeform: Over a Half-Century

 Co+++ EMF NaClO4 25°C 3.00M U M 1971KMf (17600) 522
 $K(\text{Co}(\text{NH}_3)_5\text{F}+\text{L})=-0.19$
 $K(\text{Co}(\text{NH}_3)_5\text{Cl}+\text{L})=-0.58$
 $K(\text{Co}(\text{NH}_3)_5\text{FL}+\text{L})=-0.51$
 $K(\text{Co}(\text{NH}_3)_5\text{ClL}+\text{L})=-0.74$
 $K(\text{Co}(\text{NH}_3)_5(\text{NO}_2)+\text{L})=-0.14$, $K(\text{Co}(\text{NH}_3)_5(\text{NO}_2)\text{L}+\text{L})=-0.70$; $K(\text{Co}(\text{NH}_3)_5\text{L}+\text{L})=-0.21$,
 $K(\text{Co}(\text{NH}_3)_5\text{L}_2+\text{L})=-0.54$, $K(\text{Co}(\text{NH}_3)_5\text{A}+\text{L})=-0.19$. HA=ethanoic acid

Co+++ sol NaClO4 25°C 3.00M U M 1971KMf (17601) 523
 $K(\text{Co}(\text{NH}_3)_5\text{Cl}+\text{L})=-0.68$
 $K(\text{Co}(\text{NH}_3)_5\text{Br}+\text{L})=-0.50$
 $K(\text{Co}(\text{NH}_3)_5\text{L}+\text{L})=-0.58$
 $K(\text{Co}(\text{en})_3+\text{L})=-0.40$
 $K(\text{Co}(\text{NH}_3)_5\text{A}+\text{L})=-0.38$, HA=ethanoic acid. Additional data also

Co+++ EMF NaClO4 25°C 3.00M U M 1971KMf (17602) 524
 $K(\text{Co}(\text{en})_3+\text{L})=-0.19$
 $K(\text{Co}(\text{en})_3\text{L}+\text{L})=-0.82$

 CH4O3S HL CAS 75-75-2 (595)
 Methanesulfonic acid; CH₃.SO₃H

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co+++	con	NaCl	25°C	0.01M	C			1990IIa (17937)	525
							$K_{\text{out}}(\text{Co}(\text{NH}_3)_6+\text{L})=1.30$ $K_{\text{out}}(\text{Co}(\text{bpy})_3+\text{L})=1.00$		

 CH5N L Methylamine CAS 74-89-5 (155)
 Methylamine; CH₃.NH₂

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co+++	sp	KCl	25°C	1.0M	C	M		2004BSa (18009)	526
							$K(\text{RCo}(\text{HA})_2\text{OH}+\text{L})=3.072$		

R is CH₃. H₂A is dimethylglyoxime.

Co+++ sp oth/un 25°C 0.10M U 1994HPa (18010) 527
 $K(\text{CoA}(\text{H}_2\text{O})+\text{L}=\text{CoAL}+\text{H}_2\text{O})=3.4$
 CoA(H₂O): Co(III)aquacyanocobinamide. Medium:phosphate buffer. Also data for substituted methylamines and ethylamines, hydrazine and hydroxylamine.

Co+++ sol oth/un 25°C 3.0M C T 1984ISc (18011) 528
 $K_{\text{out}}(\text{Co}(\text{bipy})_3+\text{L})=-0.31$
 Medium: LiClO₄;

Co+++ vlt NaClO4 25°C 3.0M C 1976KMc (18012) 529
 $K_{\text{out}}(\text{Co}(\text{en})_3+\text{L})=-0.89$

C2H02Cl3 HL Trichloroacetic CAS 76-03-9 (1205)
 Trichloroethanoic acid; Cl3C.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co+++	vlt	NaCl04	25°C	3.0M	C				1984PBf (18328)	530
								Kout(Cr(DMSO)6+L)=0.64		
								Kout(Cr(DMSO)6+2L)=1.30		

Medium: NaF

DMSO= dimethylsulfoxide, (CH3)2SO

C2H204 H2L Oxalic acid CAS 144-62-7 (24)
 Ethanedioic acid; (COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co+++	sp	KCl	25°C	0.35M	U				1996ADb (18836)	531
								Kout(Co(pic)+L)=0.72		
								pic: 2-aminomethylpyridine. For 0.35 M LiCl, Kout=0.91.		

Co+++	con	none	25°C	0.0	U				1984TWa (18837)	532
								Kout(Co(en)3+L)=3.4		

Co+++	con	diox/w	25°C	0	U				1982MSg (18838)	533
								Kout(Co(NH3)6+L)=3.60		
								Also for 10%mass dioxane K1out=3.75; for 20% K1out=3.85;for 30% K1out=4.00 for 40% K1out=4.08; for 50% K1out=4.21		

Co+++	con	diox/w	25°C	0	U				1982MSg (18839)	534
								Kout(Co(NH3)5Cl+L)=2.85		
								Also for 10%mass dioxane K1out=2.96; for 20% K1out=3.10;for 30% K1out=3.19 for 40% K1out=3.32; for 50% K1out=3.49		

Co+++	con	diox/w	25°C	0	U				1982MSg (18840)	535
								Kout(Co(NH3)5(SO4)+L)=2.45		
								Also for 10%mass dioxane K1out=2.64; for 20% K1out=2.74;for 30% K1out=2.82 for 40% K1out=2.95;		

Co+++	kin	KN03	50°C	1.0M	U T M				1975EHa (18841)	536
								Kout(CoA+HL)=0.26		
								Kout(CoA+L)=0.96		
								CoA=Co(NH3)5(H2O). Temperature range 50-80 C		

Co+++	con	none	25°C	0.00	U	M			1968KTa (18842)	537
								K(Co(NH3)6+L)=3.25		

Co+++	vlt	none	25°C	0.00	U	I M			1968TKb (18843)	538
								K(CoL3+Al)=3.70		
								K(CoL3+Ba)=2.95		
								K(CoL3+Ca)=2.92		

$$K(\text{CoL3}+\text{Mg})=2.89$$

Data for other tenary complexes also available. Also in 0.1 NH_4NO_3 .

Co+++ sp NaClO4 25°C var U M 1961MTa (18844) 539
Medium: I KClO4. $K(\text{Co}(\text{NH}_3)_4+\text{L})=62.24\text{I}-25.98(\text{SQRT}(\text{I}+9.69))$. R.Tsuchita, Bull.
Chem.Soc.Japan, 1962,35,666: $K(\text{Co}(\text{NH}_3)_5+\text{HL})=3.790\text{I}-3.954(\text{SQRT}(\text{I}+3.428))$

C2H3N3 HL 1,2,4-Triazole CAS 288-88-0 (381)
1,2,4-Triazole; cyclo(-NH.N:CH.N:CH-) C2H3N3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co+++	sp	NaClO4	18°C	0.10M	C			2003HAa (19232)	540
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Medium: 0.1 M NaClO4, pH 6.0 (bis-tris buffer). $K(\text{Co}(\text{en})_2(\text{CH}_3)\text{H}_2\text{O}+\text{L})=$
 $\text{Co}(\text{en})_2(\text{CH}_3)\text{L})=1.14$. For L=N-acetylimidazole, $K=0.23$.

Co+++	sp	oth/un	25°C	0.10M	U			1994HPa (19233)	541
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$K(\text{CoA}(\text{H}_2\text{O})+\text{HL}=\text{CoAHL}+\text{H}_2\text{O})=2.35$
 $K(\text{CoA}(\text{H}_2\text{O})+\text{L}=\text{CoAL})=5.7$

CoA(H2O): Co(III)aquacyanocobinamide. Medium: acetate (pH 4.5) or phosphate
(pH 8.5) buffer.

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
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Co+++	sp	none	25°C	0.0	U		K1=9.66	1976AMc (19452)	542
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C2H4N4 L CAS 16682-77-9 (3539)
1-Methyltetrazole; CHN4-CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co+++	sp	NaClO4	25°C	1.00M	U T M			1983PUa (19460)	543
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$K(\text{Co}(\text{NH}_3)_5\text{L}+\text{H})=1.52$

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co+++	sp	NaClO4	25°C	0.20M	U			1983BBe (19925)	544
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$K(\text{CoA}+\text{L})=1.12$

CoA is diaquacobinamide.

Co+++	EMF	NaClO4	25°C	3.00M	U	M		1971KMf (19926)	545
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$K(\text{Co}(\text{NH}_3)_5\text{F}+\text{L})=-0.20$
 $K(\text{Co}(\text{NH}_3)_5\text{Cl}+\text{L})=-0.66$
 $K(\text{Co}(\text{NH}_3)_5\text{F}+2\text{L})=-0.55$

$K(\text{Co}(\text{NH}_3)_5\text{Cl}+2\text{L})=-0.70$
 $K(\text{Co}(\text{NH}_3)_5\text{F}+3\text{L})=-0.82$. $K(\text{Co}(\text{NH}_3)_5(\text{NO}_2)+3\text{L})=-0.96$.
 Data also for other complexes.

Co+++ sol oth/un 25°C 0.0 U T 1965AEa (19927) 546
K(CoCl(NH3)5+L)=0.7

$$K(35\text{ }^{\circ}\text{C})=0.46$$

C2H4O3 HL Glycolic acid CAS 79-14-1 (33)
2-Hydroxyethanoic acid; HO.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co+++	sol oth/un	25°C	0.0	U	M	1965AEa (20517)	547
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$$K(\text{CoCl}(\text{NH}_3)_5 + \text{L}) = 1.5$$

C2H5NO2	HL	Glycine	CAS 56-40-6	(85)
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2-Aminoethanoic acid; $\text{H}_2\text{N}.\text{CH}_2.\text{COOH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co+++ sp NaCl04 -5°C 1.20M U 1976BCb (21516) 548

$$K(\text{Co}(\text{H}_2\text{O})_6 + 3\text{HL} = \text{CoL}_3 + 3\text{H}) = 6.08$$

Measured at pH 2.4

C2H6NBr L CAS 54280-83-0 (7598)

Bromoethylamine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co+++ sp NaNO3 25°C 0.50M U T H 1998HBb (21898) 549

$$K(\text{CoA}+\text{L})=1.59$$
$$K(\text{CoB}+\text{L})=0.79$$

CoA: beta-trifluoromethylcobinamide, CoB: beta-cyanomethylcobinamide.

Data at 5, 15, 35 and 45 C. $\Delta H(\text{CoA}+\text{L})=-27.2 \text{ kJ mol}^{-1}$, $\Delta S=-61.1 \text{ J K}^{-1} \text{ mol}^{-1}$

C2H6O2	L	Ethyleneglycol	CAS 107-21-1	(924)
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1,2-Dihydroxyethane (Ethane-1,2-diol); $\text{HO.CH}_2.\text{CH}_2.\text{OH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co+++ sp NaCl04 25°C 0.10M U M 19690Gb (22141) 550

$$K(\text{Co(en)} + \text{L}) = 0.7$$

C2H7N	L	Dimethylamine	CAS 124-40-3 (802)
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Dimethylamine; $\text{CH}_3.\text{NH}.\text{CH}_3$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co+++ sp KCl 25°C 1.0M C M 2004BSa (22224) 551

$$K(\text{RCo}(\text{HA})2\text{OH}+\text{L})=2.441$$

R is CH₃. H₂A is dimethylglyoxime.

C₂H₇N L Ethylamine CAS 75-04-7 (156)

Ethylamine; CH₃.CH₂.NH₂

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co+++	sp	KCl	25°C	1.0M	C	M		2004BSa (22267)	552
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$$K(\text{RCo}(\text{HA})2\text{OH}+\text{L})=3.097$$

R is CH₃. H₂A is dimethylglyoxime.

Co+++	sol	oth/un	25°C	3.0M	C	T		1984ISc (22268)	553
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$$K_{\text{out}}(\text{Co}(\text{bipy})_3+\text{L})=-0.20$$

Medium: LiClO₄;

Co+++	vlt	NaClO ₄	25°C	3.0M	C			1976KMc (22269)	554
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$$K_{\text{out}}(\text{Co}(\text{en})_3+\text{L})=-0.75$$

By method solubility the same K_{out}=-0.85

C₂H₇NO L Ethanolamine CAS 141-43-5 (1057)

2-Aminoethanol; H₂N.CH₂.CH₂.OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co+++	vlt	NaClO ₄	25°C	3.0M	C			1976KMc (22399)	555
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$$K_{\text{out}}(\text{Co}(\text{en})_3+\text{L})=-1.10$$

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
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Co+++	EMF	oth/un	33°C	0.25M	U		K ₁ =28.07 B ₂ =42.68	1950DGa (22523)	556
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$$K_3=11.64$$

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
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Co+++	vlt	NaClO ₄	25°C	3.0M	C			1976KMc (23130)	557
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$$K_{\text{out}}(\text{Co}(\text{en})_3+\text{L})=0.38$$

Co+++	sp	non-aq	-75°C	100%	U			1976MLa (23131)	558
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$$K(\text{CoL}_3+\text{NH}_3=\text{CoL}_3(\text{NH}_3))=-0.6$$

$$K(\text{CoL}_3(\text{NH}_3)=\text{CoH}-1\text{L}_3+\text{NH}_4)=-6.3$$

Medium: liquid ammonia

Co+++	sp	NaClO ₄	25°C	1.00M	U	M		1970LMa (23132)	559
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Co+++ gl none 25°C 0.00 U M 1969BEc (23133) 560
K (CoLA+H2O=CoLOH+H)=-5.14

Co+++ g1 NaNO3 25°C 1.0M U 1952BRa (23134) 561
K3=13.99
K(cis-CoL2(H2O)2+L)=13.28
K(trans-CoCl2(H2O)2+L)=15.24

C3H2N2	L	Malononitrile	CAS 109-77-3	(797)
Malononitrile: NC.CH2.CN				

Co+++ sp none 25°C 0.0 U 1985BCa (23481) 563
K(CoA+H-1L=CoAH-1L)=7.4
K(CoB+H-1L=CoBH-1L)=11.5

C3H4N2 L Pyrazole CAS 288-13-1 (367)
1,2-Diazole, pyrazole; cyclo(-NH.N:CH:CH:CH-)

Co+++ sp NaClO4 18°C 0.10M C 2003HAa (23570) 564
Medium: 0.1 M NaClO4, pH 6.0 (bis-tris buffer).
K(Co(en)2(CH3)H2O+L=Co(en)2(CH3)L)=-0.155.

C3H4N2	L	Imidazole	CAS 288-32-4	(90)
1,3-Diazole, imidazole; C3H4N2				

Co+++ sp KCl 25°C 1.0M C 2004R Ba (23861) 565
K(RCo(AH)20H+L)=4.92

Co+++ sp KCl 25°C 1.0M C I M 2001Sse (23862) 566
K(CoA(BH)2OH+L)=4.65

Medium buffered to pH 9.0. Data for pH 4.0-10. A is BrCH₂-; H2B is dimethylglyoxime.

$$\begin{aligned}K(\text{CoA}+\text{L}) &= 2.85 \\K(\text{CoB}+\text{L}) &= 2.48\end{aligned}$$

CoA: beta-trifluoromethylcobinamide, CoB: beta-cyanomethylcobinamide.
Data at 5, 15, 35 and 45 C. DH(CoA+L)=-13.7 kJ mol⁻¹, DS=8.3 J K⁻¹ mol⁻¹

Co+++ sp oth/un 25°C 0.10M U 1994HPa (23864) 568
K(CoA(H2O)+L=CoAL+H2O)=4.15
K(CoA(H2O)+H-1L=CoAH-1L)=7.25

CoA(H2O): Co(III)aquacyanocobinamide. Medium: acetate (pH 4.5) or phosphate (pH 8.5) buffer. Also data for L=N-MeIm (K=4.30) and 5-Cl-N-MeIm (K=3.65).

Co+++ sp alc/w 25°C 100% U M 1994NSa (23865) 569
K(CoA2B+L=CoA2L+B)=-1.62
K(CoA2C+L=CoA2L+C)=-2.32

Medium: MeOH. A=Benzoquinonediimine, B=Triphenylstibine, C=Triphenylarsine

Co+++ kin KCl 25°C 1.00M U T HM 1992MBa (23866) 570
K(CoA+L)=-0.19

CoA=aquacobalamin. DH=-14 kJ mol⁻¹, DS=-51 J K⁻¹ mol⁻¹. Also K at 6C: -0.03
16C: -0.20, 45C: -0.38.

Co+++ sp NaCl04 25°C 0.20M U 1983BBE (23867) 571
K(CoA(H2O)+L)=3.43

CoA(H2O)=ethynylaquocobinamide

Co+++ gl NaCl04 25°C 0.10M M 1982HBc (23868) 572
K(Co(NH3)5L+H)=10.02

Co+++ gl NaCl04 37°C 0.15M C K1=2.303 B2= 4.04 1979KBf (23869) 573
B3=5.305
B4=6.091

Co+++ cal oth/un 25°C 0.10M U 1976DSa (23870) 574
K(Co2(O2CCH3)4+L)=4.02
K(Co2(O2CCH3)4L+L)=2.48

Co+++ sp KNO3 25°C 0.10M C HM 1976EWa (23871) 575
K(CoB+L)=4.61

CoB=vitamin B12. By calorimetry: DH=-29.34 kJ mol⁻¹, DS=-10.22

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

Co+++ gl oth/un 25°C 0.0 U T M 1965AEa (24418) 576
K(CoCl(NH3)5+L)=2.27

Medium:0 corr. K=2.31(35C). By solubility: K=2.32(25 C), 2.30(35 C)

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
Co+++	sp	NaClO4	-5°C	1.20M	U			1976BCb (26152)	577
							K(Co(H2O)6+3HL=CoL3+3H)=8.15		

Measured at pH 2.4

C3H7NO2	L	Methylglycinate	CAS 616-34-3	(1738)
Glycine methyl ester; NH2.CH2.COOCH3				

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co+++	kin	KCl	24°C	1.00M	U T HM			1992MBa (26555)	578
							K(CoA+L)=0.23		

CoA=aquacobalamin. DH=10 kJ mol⁻¹, DS=40 J K⁻¹ mol⁻¹. Also K at 20C: 0.30

35C: 0.26, 50C: 0.46

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
Co+++	sp	oth/un	25°C	0.05M	U	M		1982DPa (26760)	579
							Keff(Co(HA)2+L)=4.81		
							Keff(Co(HA)2L+L) < 3.3		

Medium: 0.05 M phosphate buffer, pH 7.0 H2A=dimethylglyoxime

Co+++	sp	oth/un	25°C	0.05M	U	M		1982DPa (26761)	580
							Keff(Co(HA)2(NO)+L)=1.91		

Medium: 0.05 M phosphate buffer, pH 7.0 H2A=dimethylglyoxime

Co+++	gl	oth/un	20°C	0.01M	U		K1=16.2 B2=32.9	1952ALa (26762)	581
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C3H9N	L	n-Propylamine	CAS 107-10-8	(2356)
1-Aminopropane; H2N.CH2.CH2.CH3				

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co+++	sp	KCl	25°C	1.0M	C	M		2004BSa (27829)	582
							K(RCo(HA)2OH+L)=3.408		

R is CH3. H2A is dimethylglyoxime.

Co+++	vlt	NaClO4	25°C	3.0M	C			1976KMc (27830)	583
							Kout(Co(en)3+L)=-0.57		

C3H9O3P	L		CAS 121-45-9	(1786)
Trimethylphosphite; (CH3O)3.P				

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co+++	sp	non-aq	30°C	100%	C T			2001ASb (28000)	584

$$K'(\text{CoA}(\text{Me}_2\text{PhP})+\text{L})=3.03$$

1,2-Diaminopropane; $\text{CH}_3\text{CH}(\text{NH}_2)\text{CH}_2\text{NH}_2$

Co+++ sp oth/un 20°C ? U 1959DGb (28164) 585

C3H10N2	L	Propanediamine	CAS 109-76-2	(123)
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1,3-Diaminopropane; $\text{H}_2\text{N} \cdot \text{CH}_2 \cdot \text{CH}_2 \cdot \text{CH}_2 \cdot \text{NH}_2$

Co+++ gl NaCl04 25°C 0.5M C 2001MDb (28298) 586

$$*K(\text{cis-CoL2}(\text{OH})\text{H2O}) = -7.68$$
$$K(\text{cis-CoL2}(\text{OH})\text{H2O} + \text{H3BO3} = \text{CoL2}(\text{H2B04}) + 2\text{H}) = -5.88, K(\text{cis-CoL2}(\text{OH})\text{H2O} + \text{H3BO3} = \text{CoL2}(\text{B04}) + 3\text{H}) = -2.73.$$

Co+++ gl NaCl04 25°C 1.00M C 1997DJa (28299) 587

$$*K(\text{cis-CoL2(H2O)2}) = -4.53$$
$$*K(\text{cis-CoL2}(\text{OH})(\text{H}_2\text{O})) = -9.2$$
$$*K(\text{trans-CoL2(H2O)SO3}) = -9.67$$

Co+++ vlt NaCl04 25°C 3.0M C 1976KMc (28300) 588

$$K_{out}(\text{Co(en)}_3^{3+}/\text{L}) = -1.30$$

C3H11N06P2 H4L (6735)

N-Methylimino-N,N-bis(methylenephosphonic acid): $\text{CH}_3.\text{N}(\text{CH}_2\text{P}(\text{O})(\text{OH})_2)_2$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co+++	nmr KNO3	0°C 0.10M C	1996SIa (28447) 589
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$$K(\text{CoA}(\text{OH})\text{L} + \text{H} = \text{CoA}(\text{OH})\text{HL}) = 12.7$$
$$K(\text{CoA}(\text{OH})\text{HL} + \text{H} = \text{CoA}(\text{HL})) = 8.0$$
$$K(\text{CoA}(\text{HL})+\text{H}=\text{Co}(\text{H}_2\text{L}))=4.3$$
$$K(\text{CoA}(\text{H}_2\text{L}) + \text{H} \rightleftharpoons \text{CoA}(\text{H}_3\text{L})) = 2.2$$

CoA: Co(en)_2^{2+} . $K(\text{CoAL}+\text{H}=\text{CoA}(\text{HL}))=10.7$, $K(\text{CoA}(\text{HL})+\text{H}=\text{CoA}(\text{H}_2\text{L}))=2.6$.

Also data for protonation reactions of CoA(NH₃)L++

C3H12N09P3 H6L NTPA CAS 6419-19-8 (2920)

Nitrilotris(methylenephosphonic acid); $N(CH_2PO_3H_2)_3$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co+++ nmr KNO3 0°C 0.10M C 1996SIa (28554) 590
 $K(\text{CoA}(\text{OH})\text{L}+\text{H}=\text{CoA}(\text{OH})\text{HL})=13.1$
 $K(\text{CoA}(\text{OH})\text{HL}+\text{H}=\text{CoA}(\text{HL}))=7.5$
 $K(\text{CoA}(\text{L})+\text{H}=\text{Co}(\text{HL}))=11.7$

CoA: Co(en)₂++. Also data for protonation reactions of CoA(NH₃)L++

C4H4N2 L Pyrazine CAS 290-37-9 (620)
 1,4-Diazine, Pyrazine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co+++ sp oth/un 25°C 0.10M U 1994HPa (28791) 591
 $K(\text{CoA}(\text{H}_2\text{O})+\text{L}=\text{CoAL}+\text{H}_2\text{O})=0.6$

CoA(H₂O): Co(III)aquacyanocobinamide. Medium:phosphate buffer. Also data for
 L=pyrimidine (K=0.7) and pyridazine (K=2.6)

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
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Co+++ kin oth/un 25°C var U I 1978KNa (28963) 592
 $\text{Keff}(\text{CoB}+\text{L}=\text{CoBL})=5.19$ (pH 7.0)
 CoB=aquocobalamin

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
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Co+++ con none 25°C 0.0 U 1984TWa (29055) 593
 $\text{Kout}(\text{Co}(\text{en})_3+\text{L})=3.60$

Co+++ ix KCl 25°C 0.10M U I M 1982HIa (29056) 594
 $\text{Kout}(\text{Co}(\text{en})_3+\text{L})=1.82$

I=0.125,K=1.69; I=0.150,K=1.58; I=0.175,K=1.49; I=0.200,K=1.41;
 I=0.225,K=1.34; I=0.250,K=1.28

Co+++ ix KCl 25°C 0.10M U I M 1982HIa (29057) 595
 $\text{Kout}(\text{Co}(\text{NH}_3)_6+\text{L})=3.77$

I=0.125,K=1.85; I=0.150,K=1.73; I=0.175,K=1.62; I=0.200,K=1.53;
 I=0.225,K=1.45; I=0.250,K=1.37

Co+++ con oth/un 25°C 0.10M U I M 1971KTb (29058) 596
 $K(\text{Co}(\text{en})_3+\text{L})=2.43$

K(I=0.0)=3.60; K(I=0.001)=3.31; K(I=0.01)=3.32

Co+++ gl oth/un 25°C 0.0 U T M 1965AEa (29059) 597
 $K(\text{CoCl}(\text{NH}_3)_5+\text{L})=2.52$

Medium: 0 corr. At 35 C: K=2.52. By solubility: K=2.47(25 C), 2.51(35 C)

C4H4O4 H2L Fumaric acid CAS 110-17-8 (289)
trans-Butenedioic acid; HOOC.CH:CH.COOH

Co+++ ix KCl 25°C 0.10M U I M 1982H1a (29183) 599
Kout(Co(en)3+L)=0.57
I=0.125,K=0.53; I=0.150,K=0.49; I=0.175,K=0.45; I=0.200,K=0.42;
I=0.225,K=0.39; I=0.250,K=0.35

Co+++ con oth/un 25°C 0.10M U I 1971KTb (29185) 601
K(Co(en)₃+L)=2.21
K(I=0.0)=2.95; K(I=0.001)=2.85; K(I=0.01)=2.61

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co+++	oth	NaCl04	25°C	0.10M	U	M			1979TAa (29231)	602
								Kout(Delta-Co(en)3+L)=1.21		

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co+++	oth	NaCl04	25°C	0.10M	U	M			1979TAa (29232)	603
								Kout(Delta-Co(en)3+L)=1.20		
								Kout(Lambda-Co(en)3+L)=1.22		

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co+++	oth	NaClO4	25°C	0.10M	U	M			1979TAa (29233)	604
								Kout(Delta-Co(en)3+L)=0.52		

Method: circular dichroism

C4H5N3 L CAS 109-12-6 (1480)
2-Amino-1,3-diazine; C4H3N2.NH2

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

Co+++ nmr non-aq 33°C 100% U M 1977SEa (29345) 605
K(CoA+L)=1.4

Medium: DMSO-d6. A=Bis(acetylacetonato)(nitro)-.

C4H5N3O HL Cytosine CAS 71-30-7 (1096)
2-Oxy-6-aminopyrimidine;

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

Co+++ nmr non-aq 33°C 100% U M 1977SEa (29410) 606
K(CoA+L)=0.8

Medium: DMSO-d6. A=Bis(acetylacetonato)(nitro)-.

C4H5O4Br H2L CAS 923-06-8 (2231)
Bromosuccinic acid; HOOC.CH(Br).CH2.COOH

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

Co+++ oth NaCl04 25°C 0.10M U M 1979TAa (29431) 607
Kout(Delta-Co(en)3+L)=1.10
Kout(Lambda-Co(en)3+L)=1.11

Method: circular dichroism

C4H5O4Cl H2L CAS 16045-92-4 (2232)
Chlorosuccinic acid; HOOC.CH(Cl).CH2.COOH

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

Co+++ oth NaCl04 25°C 0.10M U M 1979TAa (29435) 608
Kout(Delta-Co(en)3+L)=1.00
Kout(Lambda-Co(en)3+L)=0.978

Method: circular dichroism

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

Co+++ sp KCl 25°C 1.0M C 2004RBA (29475) 609
K(RCo(AH)2OH+L)=2.99

R- is trifluoroethyl-. H2A is dimethylglyoxime.

For L=2-ethylimidazole, K=2.25. For L=1,2-dimethylimidazole, K=2.84.

Co+++ sp KCl 25°C 1.0M C I M 2001SSE (29476) 610

Medium buffered to pH 9.0. Data for pH 4.0-10. A is BrCH₂-; H₂B is dimethylglyoxime.

$$K(\text{CoA}_2\text{C} + \text{L} = \text{CoA}_2\text{L} + \text{C}) = 0.58$$

N-Methyl-1,3-diazole; C₃H₃N₂.CH₃

$$K(RCo(AH)2OH+L)=5.11$$
$$K(\text{MeCoP}+\text{L})=0.69$$
$$*K(\text{CoA}(\text{H}_2\text{O})) = -8.13$$
$$K(\text{CoA}(\text{BH})_2\text{OH}+\text{L})=4.840$$
$$K(\text{CoA} + \text{L} = \text{CoAL}) = 4.46$$
$$K(\text{CoA}+\text{L})=4.40$$

1,4-Butanedioic acid; $\text{HOOC} \cdot \text{CH}_2 \cdot \text{CH}_2 \cdot \text{COOH}$

Co+++ oth NaClO4 25°C 0.10M U M 1979TAa (29956) 618

Kout(Delta-Co(en)3+L)=1.14

Method: circular dichroism

Co+++ gl oth/un 25°C 0.0 U T M 1965AEa (29957) 619

K(CoCl(NH3)5+L)=2.00

Medium: 0 corr. At 23 C: K=2.05. By solubility: K1=1.94(25 C), 1.92(35 C)

C4H6O4S H3L Thiomalic acid CAS 70-49-5 (109)

2-Mercaptosuccinic acid, 2-Sulfanyl-1,4-butanedioic acid; HOOC.CH(SH).CH2.COOH

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

Co+++ sp oth/un 30°C ? U B2=7.7? 1965NKc (30325) 620

Medium: ammonia buffer

C4H6O5 H2L Malic acid CAS 617-48-1 (393)

2-Hydroxybutane-1,4-dioic acid, Hydroxy-succinic acid; HOOC.CH2.CH(OH).COOH

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

Co+++ gl oth/un 25°C 0.0 U T M 1965AEa (30608) 621

K(CoCl(NH3)5+L)=2.01

Medium: 0 corr. By solubility: K=1.99(25 C),1.98(35 C)

C4H6O6 H2L D-Tartaric acid CAS 147-71-7 (93)

D-Tartaric acid, D-2,3-Dihydroxybutanedioic acid; HOOC.CH(OH).CH(OH).COOH

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

Co+++ oth NaCl04 25°C 0.10M U M 1979TAa (30973) 622

Kout(Lambda-Co(en)3+L)=1.11

Kout(Delta-Co(en)3+L)=1.02

Method: circular dichroism

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

Co+++ oth NaCl04 25°C 0.10M U M 1979TAa (31016) 623

Kout(Delta-Co(en)3+L)=1.10

Method: circular dichroism

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

Co+++ oth NaCl04 25°C 0.10M U M 1978TTa (31221) 624

Kout(Lambda-CoGly(en)2+L)=4.3

Kout(Delta-CoGly(en)2+L)=3.9
Kout(Lambda-CoPhe(en)2+L)=4.3
Kout(Delta-CoPhe(en)2+L)=1.2

Co+++ sp NaCl04 25°C 0.10M U M 19690Gb (31222) 625

K(d-CoA3+L)=1.41
K(l-CoA3+L)=1.32
K(d-CoB3+L)=1.47
K(l-CoB3+L)=0.85

A=ethane-1,2-diamine; B=propane-1,2-diamine

Co+++ gl oth/un 25°C 0.0 U T M 1965AEa (31223) 626

K(CoCl(NH3)5+L)=2.00

Medium: 0 corr. K=1.98(35 C). By solubility: K=2.12(25 C), 2.09(35 C)

C4H6O6 H2L meso-Tartaric CAS 147-73-9 (91)

meso-2,3-Dihydroxybutanedioic acid; HOOC.CH(OH).CH(OH).COOH

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

Co+++ oth NaCl04 25°C 0.10M U M 1979TAa (31427) 627

Kout(Delta-Co(en)3+L)=1.61
Kout(Lambda-Co(en)3+L)=1.60

Method: circular dichroism

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

Co+++ oth NaCl04 25°C 0.10M U M 1979TAa (31837) 628

Kout(Delta-Co(en)3+L)=1.08
Kout(Lambda-Co(en)3+L)=1.04

Method: circular dichroism

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

Co+++ sp NaCl04 -5°C 1.20M U 1976BCb (32212) 629

B2eff=6.53 (pH 2.0)

Co+++ EMF KNO3 25°C 0.10M U K1=29.6 1969BHb (32213) 630

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

Co+++ gl mixed 27°C 1% U 1992DVa (32531) 631

*K(Co(HL)2(py)Cl)=-2.29
*K(Co(HL)2(py)Br)=-2.66
*K(Co(HL)2(py)I)=-2.80
*K(Co(HL)2ACl)=-2.24

Medium 1% DMSO/H2O, 0.25M LiClO4. *K(Co(HL)2ABr)=-2.62, *K(Co(HL)2AI)=-2.80;
A=nicotinamide. For Co(HL)2BX, *K= -2.17(X=Cl), -2.60(Br), -2.80(I), B=isoA

Co+++ ISE none 20°C 0.00 U M 1971BZa (32532) 632

K(CoL2+I)=3.74
K(CoL2+2I)=5.48

Co+++ sp non-aq 20°C 100% U I M 1971BZa (32533) 633

K(CoL2+I)=1.23
K(CoL2I+I)=0.63

Medium: (CH3)2SO. K=3.30 and 2.70 (Methanol), 4.35 and 2.35 (CH3CN),
3.72 and 5.12 (acetone). K(CoL2+2I)=8.76 in ethyl acetate

Co+++ sp oth/un 25°C ? U M 1969MSc (32534) 634

K(CoH-1L2(CN)2+H)=12.6
K(CoH-1L2(NH3)2+H)=10.5
K(CoH-1L2(NH3)Cl+H)=12.0
K(CoH-1L2(NO2)2+H)=12.6

K(CoH-1L2A2+H)=10.5 (A=aniline), 10.9 (A=4-methoxyaniline), 7.7 (A=py),
9.9 (A=imidazole), 8.0 (A=4-methylpyridine).

Co+++ gl none 25°C 0.00 U M 1969ZFa (32535) 635

K(CoCl2L2+H)=2.17
K(CoBr2L2+H)=2.10
K(CoI2L2+H)=2.35
K(Co(SCN)2L2+H)=2.32

K(Co(SeCN)2L2+H)=2.57; K(Co(NO2)2L2+H)=2.64; K(Co(CN)2L2+H)=2.10

C4H8N2O3 HL Gly-Gly CAS 556-50-3 (54)
Glycyl-glycine; H2N.CH2.CO.NH.CH2.COOH

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

Co+++ nmr oth/un 25°C ? U 1971RAa (33020) 636

K(CoH-2L2+H=C0H-1L2)=1.46
K(CoH-1L2+H=CoL2)=0.10

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

Co+++ sp none 25°C 0.0 U K1=10.83 1976AMc (33168) 637

C4H9N L Pyrrolidine CAS 123-75-1 (2997)

Pyrrolidine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co+++	sp	alc/w	25°C	100%	U	M		1994NSa (33755) 638 K(CoA2B+L=CoA2L+B)=-0.54 K(CoA2C+L=CoA2L+C)=-1.28		

Medium: MeOH. A=Benzoquinonediimine, B=Triphenylstibine, C=Triphenylarsine

C4H11N L Butylamine CAS 109-73-9 (159)
1-Aminobutane; CH3.CH2.CH2.CH2.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co+++	sp	KCl	25°C	1.0M	C	M		2004BSa (34760) 639 K(RCo(HA)2OH+L)=3.491		

R is CH3. H2A is dimethylglyoxime.

Co+++	vlt	NaClO4	25°C	3.0M	C			1976KMc (34761) 640 Kout(Co(en)3+L)=-0.16		
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C4H11N L Diethylamine CAS 109-89-7 (1331)
Diethylamine, 3-azapentane; (C2H5)2NH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co+++	sp	KCl	25°C	1.0M	C	M		2004BSa (34817) 641 K(RCo(HA)2OH+L)=1.390		

R is CH3. H2A is dimethylglyoxime.

Co+++	vlt	NaClO4	25°C	3.0M	C			1976KMc (34818) 642 Kout(Co(en)3+L)=-0.24		
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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
Co+++	vlt	NaClO4	25°C	3.0M	C			1976KMc (34955) 643 Kout(Co(en)3+L)=-0.70		

C5H20F6 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
Co+++	gl	NaClO4	25°C	1.0M	U	M		2002MAa (35922) 644 K(Co(NH3)4L+OH)=6.35 K(CoA4L+OH)=6.28 K(CoB4L+OH)=6.81		

$$K(\text{CoC4L}+\text{OH})=6.52$$

A is propylenediamine, B is tris(2-aminoethylamine), C is tris(3-amino-propyl)amine. $K(\text{CoC4L}+\text{OH})$ determined at $I=0.1 \text{ M NaClO}_4$.

 Co+++ nmr non-aq 25°C 100% U H 1964PCa (35923) 645
 Method:NMR, medium:CHCl₃. DG(trans-CoL₃=cis-CoL₃)=3.7 kJ mol⁻¹, DH=0, DS=-8

 C₅H₃NC1₂ L CAS 2457-47-8 (7702)
 3,5-Dichloropyridine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co+++	sp	non-aq	20°C	100%	U				2000SSa (35954)	646

$K(\text{Co}(\text{CH}_3)\text{P}+\text{L})=1.53$

Medium: toluene. P is octaethylporphyrin. For P: t-octaethylchlorin, K=2.06; for P: ttt-octaethylisobacteriochlorin, K=2.47 (by 1H nmr).

 C₅H₄N₄ HL Purine CAS 120-73-0 (2149)
 Purine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co+++	nmr	non-aq	33°C	100%	U	M			1977SEa (36145)	647

$K(\text{CoA}+\text{L})=2.52$

Medium: DMSO-d₆. A=Bis(acetylacetonato)(nitro)-.

 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
Co+++	kin	oth/un	25°C	var	U	I			1978KNa (36226)	648

$K_{\text{eff}}(\text{CoB}+\text{L}=\text{CoBL})=3.56 \text{ (pH=7.0)}$
 $\text{CoB}=\text{aquocobalamin}$

 C₅H₅N L Pyridine CAS 110-86-1 (31)
 Pyridine, Azine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co+++	sp	oth/un	25°C	0.05M	C	TIHM			2002DMa (36599)	649

$K(\text{MeCoP}+\text{L})=0.84$

Medium: 0.05 M phosphate buffer, pH 7.2. MeCoP is methylcobinamide. DH=-12 kJ mol⁻¹, DS=-29 J K⁻¹ mol⁻¹. In ethyleneglycol, K=0.79, DH=-25.9, DS=-71.

 Co+++ sp non-aq 20°C 100% U 2000SSa (36600) 650
 $K(\text{Co}(\text{CH}_3)\text{P}+\text{L})=1.76$
 Medium: toluene. P is octaethylporphyrin. For P: t-octaethylchlorin, K=2.33; for P: ttt-octaethylisobacteriochlorin, K=2.76 (by 1H nmr).

Co+++ sp NaNO3 25°C 0.50M U T H 1998HBb (36601) 651
 $K(\text{CoA}+\text{L})=2.03$
 $K(\text{CoB}+\text{L})=1.72$
 CoA: beta-trifluoromethylcobinamide, CoB: beta cyanomethylcobinamide.
 Data at 5, 15, 35 and 45 C. $\text{DH}(\text{CoA}+\text{L})=-16.6 \text{ kJ mol}^{-1}$, $\text{DS}=17.6 \text{ J K}^{-1} \text{ mol}^{-1}$

Co+++ vlt non-aq 25°C 100% U M 1997ERa (36602) 652
 $K(\text{CoA2B2}+\text{L}=\text{CoA2BL}+\text{B})=4.60$
 $K(\text{CoA2BL}+\text{L}=\text{CoA2L2}+\text{B})=4.08$
 Medium: DMF; 0.1 M $(\text{CH}_2(\text{CH}_2)_3)_4\text{NPF}_6$. A=salicylideneethylenediamine,
 B=DMF

Co+++ sp oth/un 25°C 0.10M U I M 1996HPb (36603) 653
 $K(\text{CoA}+\text{L})=1.56$
 CoA: sulfitocobyrrinic acid heptamethyl ester. Also data in MeOH ($K=0.74$),
 PrOH (0.38), MeCN (0.3), CH_2Cl_2 (-0.1), toluene (-0.4).

Co+++ sp oth/un 25°C 0.10M U 1994HPa (36604) 654
 $K(\text{CoA}(\text{H}_2\text{O})+\text{L}=\text{CoAL}+\text{H}_2\text{O})=2.3$
 CoA(H₂O): Co(III)aquacyanocobinamide. Medium:phosphate buffer. Also data for
 L=4-Methyl-pyr ($K=3.1$), 4-amino (4.6), 4-CN (0.9) and 4-dimethylamino (4.75)

Co+++ sp non-aq 25°C 100% U I M 1994NSa (36605) 655
 $K(\text{CoA2B}+\text{L}=\text{CoA2L}+\text{B})=-0.15$
 $K(\text{CoA2C}+\text{L}=\text{CoA2L}+\text{C})=-0.77$
 Medium: CH_2Cl_2 . A=Benzoquinonediimine, B=Triphenylstibine, C=Triphenylarsine
 In MeOH: $K(\text{CoA2B}+\text{L}=\text{CoA2L}+\text{B})=-1.57$, $K(\text{CoA2C}+\text{L}=\text{CoA2L}+\text{C})=-2.1$

Co+++ kin KCl 25°C 1.00M U T HM 1992MBa (36606) 656
 $K(\text{CoA}+\text{L})=0.38$
 CoA=aquacobalamin. $\text{DH}=7 \text{ kJ mol}^{-1}$, $\text{DS}=33 \text{ J K}^{-1} \text{ mol}^{-1}$. Also K at 5C: 0.40,
 15C: 0.36, 35C: 0.54.

Co+++ sp non-aq 25°C 100% U M 1988UMa (36607) 657
 $K(\text{CoA}+\text{L})=3.54$
 Medium: toluene. A=5a,15a-Bis(2-(2,2-dimethylpropanamido)phenyl)-10a,20a-
 (nonadiamidodi-o-phenylene)porphyrin. Data also for other similar porphyrins

Co+++ oth non-aq 25°C 100% U M 1982DPa (36608) 658
 $\text{Keff}(\text{Co}(\text{HA})_2(\text{NO})+\text{L})=1.4$
 Medium: acetone. H₂A=dimethylglyoxime

Co+++ sp NaNO3 25°C 0.50M U 1976PPa (36609) 659
 $K(\text{CoTCPP}(\text{H}_2\text{O})_2+\text{L})=4.98$
 TCPP=tetracarboxyphenylporphine

Co+++ kin NaNO3 25°C 0.50M U 1975PCb (36610) 660
 $K(\text{CoTMpyP}+\text{L})=6.00$
 $K(\text{CoTMpyPL}+\text{L})=4.68$
 CoTMpyP=tetrakis(4-N-methylpyridyl)porphinecobalt(III)

Both NaNO3 and NaClO4 were used as the ionic medium

C5H5NO2 HL CAS 35940-93-3 (3618)
3-Furancarboxaldehyde oxime (3-Furfuraldoxime); C4H3O.CH(:N.OH)

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

Co+++ gl diox/w 35°C 75% U T K1=7.62? 1963ASa (36812) 661
Medium: 75% dioxan, 0.104 M NaClO4. K1=7.33(15 C), 7.32(25 C)

C5H5N5 L Adenine CAS 73-24-5 (237)
6-Aminopurine; H2N.C5H3N4

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

Co+++ nmr non-aq 33°C 100% U M K(CoA+L)=2.50 1977SEa (36969) 662

Medium: DMSO-d6. A=Bis(acetylacetonato)(nitro)-.

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

Co+++ sp KCl 25°C 1.0M C I M K(CoA(BH)2OH+L)=2.31 2001SSe (37622) 663

Medium buffered to pH 9.0. Data for pH 4.0-10. A is BrCH2-; H2B is dimethylglyoxime.

C5H8N2 L CAS 1072-62-4 (929)
2-Ethylimidazole; C3H3N2.C2H5

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

Co+++ sp KCl 25°C 1.0M C I M K(CoA(BH)2OH+L)=2.09 2001SSe (37662) 664

Medium buffered to pH 9.0. Data for pH 4.0-10. A is BrCH2-; H2B is dimethylglyoxime.

C5H8O4 H2L CAS 498-21-5 (2234)
Methylsuccinic acid; HOOCH2.CH(CH3).COOH

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

Co+++ oth NaClO4 25°C 0.10M U M Kout(Delta-Co(en)3+L)=1.01 1979TAa (38257) 665

Method: circular dichroism

C5H8O4 H2L Glutaric acid CAS 110-94-1 (420)
Pentanedioic acid; HOOCH2.CH2.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co+++	con	none	25°C	0.0	U			1984TWa (38314)	666

Kout(Co(en)3+L)=3.16

C5H9N3	L	Histamine	CAS 51-45-6	(103)
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4(5)-(2'-Aminoethyl)imidazole; C3H3N2.CH2.CH2.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co+++	kin	KCl	24°C	1.00M	U T HM			1992MBa (39532)	667
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K(CoA+L)=-0.31

CoA=aquacobalamin. DH=-30 kJ mol⁻¹, DS=-106 J K⁻¹ mol⁻¹. Also K at 9C: 0.0, 16C: -0.19, 20C: -0.23, 35C: -0.48.

C5H11N	L		CAS 1003-03-8	(304)
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Cyclopentylamine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co+++	sp	KCl	25°C	1.0M	C	M		2004BSa (40393)	668
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K(RCo(HA)20H+L)=2.419

R is CH3. H2A is dimethylglyoxime.

C5H13N	L	1-Pentylamine	CAS 110-58-7	(3613)
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1-Pentylamine; CH3.CH2.CH2.CH2.CH2.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co+++	sp	KCl	25°C	1.0M	C	M		2004BSa (41712)	669
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K(RCo(HA)20H+L)=3.534

R is CH3. H2A is dimethylglyoxime.

C6H4N2	L		CAS 100-48-1	(321)
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4-Cyanopyridine; C5H4N.CN

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co+++	sp	non-aq	20°C	100%	U			2000SSa (42197)	670
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K(Co(CH3)P+L)=1.63

Medium: toluene. P is octaethylporphyrin.

Co+++	sp	oth/un	25°C	0.10M	U	I M		1996HPb (42198)	671
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K(CoA+L)=0.4

CoA: sulfitocobyrinic acid heptamethyl ester. Also data in MeOH (K=-0.4), PrOH, MeCN, CH2Cl2, and toluene.

C6H5NO2	HL	Picolinic acid	CAS 98-98-6	(391)
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2-Pyridine-carboxylic acid; C5H4N.COOH

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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Co+++      sp  NaCl04 -5°C 1.20M U                                1975CCb (42509) 672
                                         K(2Co+2HL)=8.04
                                         K(2Co+4HL)=13.7

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Glass electrode also used.

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C6H6O3S          HL          CAS 98-11-3 (3087)
Benzenesulfonic acid; C6H5.SO3H

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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Co+++      con NaCl  25°C 0.01M C                                1990IIa (44133) 673
                                         Kout(Co(NH3)6+L)=1.27
                                         Kout(Co(bpy)3+L)=1.60
                                         Kout(Co(phen)3+L)=1.70

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C6H7N          L    Picoline          CAS 109-06-8 (320)
2-Methylpyridine; C5H4N.CH3

```

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co+++      sp  non-aq 25°C 100% C    M                                2002DMa (44604) 674
                                         K(MeCoP+L)=<-1.2

```

Medium: ethyleneglycol. MeCoP is methylcobinamide.

```

*****
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
-----
Co+++      sp  non-aq 20°C 100% U                                2000SSa (44814) 675
                                         K(Co(CH3)P+L)=2.06

```

Medium: toluene. P is octaethylporphyrin.

```

-----
Co+++      kin KCl  25°C 1.00M U T HM                                1992MBa (44815) 676
                                         K(CoA+L)=0.52
CoA=aquacobalamin. DH=6 kJ mol-1, DS=31 J K-1 mol-1. Also K at 6C: 0.45,
15C: 0.46, 35C: 0.56.

```

```

*****
C6H7N5          L    Methyladenine  CAS 5142-23-4 (2151)
6-Amino-3-methylpurine, 3-Methyladenine

```

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co+++      nmr non-aq 33°C 100% U    M                                1978SEa (45158) 677
                                         K(CoA2X+L)=3.9

```

Medium: DMSO-d6. A=Acetylacetone, X=Nitrite

Co+++ nmr non-aq 33°C 100% U M 1977SEa (45159) 678
K(CoA+L)=2.16

Medium: DMSO-d6. A=Bis(acetylacetonato)(nitro)-.

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

Co+++ sp NaClO4 25°C 1.0M C 2002VPa (46751) 679

*K(CoL(H2O)2)=-6.52

*K(L(H2O)Co(OH)Co(H2O)L)=-3.09

K(CoL(H2O)2+NCS)=1.60

K(CoL(OH)(H2O)+NCS)=1.99

K(CoL(H2O)NCS+NCS)=0.95.

Co+++ gl NaClO4 25°C 1.0M U 1982BCb (46752) 680

*K(CoL(H2O))=-9.00

Co+++ vlt KNO3 25°C 1.00M U 1977Hda (46753) 681

K1eff=7.01

Keff at pH 7

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

Co+++ sp oth/un 25°C 0.05M U M 1982DPa (47538) 682

Keff(Co(HA)2+L)=4.61

Medium: 0.05 M phosphate buffer, pH 7.0 H2A=dimethylglyoxime

Co+++ sp oth/un 25°C 0.0 U HM 1966HIa (47539) 683

K(CoAL+H)=4.49

K'(CoAH-1L+H)=11.00

DH(K)=16.6 kJ mol⁻¹, DS=-21 J K⁻¹ mol⁻¹; DH(K')=48.9, DS=-46.

CoA=cobalamin factor B

C6H10N2O2 HL Nioxime CAS 492-99-9 (1098)
Cyclohexane-1,2-dione-dioxime; C6H8(:NOH)2

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

Co+++ sp alc/w 25°C 100% U M 1974BGb (47704) 684

K(Co(nioxime)2+L)=5.42

K(Co(nioxime)2+2L)=8.84

Medium: EtOH. nioxime=cyclohexane-1,2-dionedioxime. In DMSO, K1=5.10, K2=6.2.
In MeOH, K1=5.70, K2=7.4. In acetone, K2=8.58. In methylacetate, K2=6.16

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
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Co+++	sp	none	25°C	0.0	U			K1=11.14	1976AMc (49051)	685
-------	----	------	------	-----	---	--	--	----------	-----------------	-----

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
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Co+++	oth	oth/un	38°C	0.50M	U	M			1973WNa (49227)	686
-------	-----	--------	------	-------	---	---	--	--	-----------------	-----

K(a-cis-CoL+HA)=1.61
K(a-cis-CoL+A)=1.86

H2A=oxalic acid

C6H12O6 L CAS 576-63-6 (2284)

cis-Inositol, cyclohexane-1,2,3,4,5,6-hexol;

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

Co+++	gl	KNO3	25°C	0.10M	C				1994HHa (49627)	687
-------	----	------	------	-------	---	--	--	--	-----------------	-----

K(CoAL=CoAH-1L+H)=-1.69
K(CoAH-1L=CoAH-2L+H)=-4.05
K(CoAH-2L=CoAH-3L+H)=-6.67

A: cis-1,3,5-triaminocyclohexane.

C6H13N L CAS 108-91-8 (314)

Cyclohexylamine; C6H11.NH2

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

Co+++	sp	KCl	25°C	1.0M	C	M			2004BSa (49802)	688
-------	----	-----	------	------	---	---	--	--	-----------------	-----

K(RCo(HA)2OH+L)=2.504

R is CH3. H2A is dimethylglyoxime.

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
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Co+++	sp	oth/un	25°C	0.05M	U	M			1982DPa (50820)	689
-------	----	--------	------	-------	---	---	--	--	-----------------	-----

Keff(Co(HA)2+L)=5.41

Medium: 0.05 M phosphate buffer, pH 7.0 H2A=dimethylglyoxime

C6H15N L Hexylamine CAS 111-26-2 (4352)

Hexylamine; CH3.CH2.CH2.CH2.CH2.CH2.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Co+++ sp KCl 25°C 1.0M C M 2004BSa (51158) 690
K(RCo(HA)2OH+L)=3.578

R is CH3. H2A is dimethylglyoxime.

C6H15N03 Triethanolamine CAS 102-71-6 (447)
Tris-(2-hydroxyethyl)amine; L

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

Co+++ vlt NaCl04 25°C 3.0M C 1976KMc (51286) 691
Kout(Co(en)3+L)=-0.47

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

Co+++ gl KNO3 20°C 0.10M U T H K1=13.65 B2=20.06 1997BAa (51403) 692
At 32 C, K1=12.97. DH(K1)=-99.8 kJ mol-1. DS(K1)=328 J K-1 mol-1.

Co+++ sp oth/un 59°C 1.00M U M 1994LLc (51404) 693
K(2(CoL(OH)3)=Co2L2(OH)3+3OH)=1.2. Medium: 1.0 M NaOH.

C6H15O3P L CAS 122-52-1 (1723)
Triethylphosphite; (C2H5O)3P

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

Co+++ sp non-aq 30°C 100% C T 2001ASb (51510) 694
K(CoA(Bu3P)+L)=3.05

K'(CoA(Me2PhP)+L)=3.60

Medium: acetonitrile. Data for 20-40 C. H2A is Salen. DH(K)=-25.6 kJ mol-1
DS=-25.9 J K-1 mol-1. DH(K')=-34.3, DS=-44.2. Data for Salen derivatives.

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

Co+++ gl NaCl04 25°C 0.5M C 2001MDb (52092) 695
*K(cis-CoL(H2O)2)=-5.5

*K(cis-CoL(OH)H2O)=-7.9

K(cis-CoL(OH)H2O+H3BO3=CoL(H2BO4)+2H)=-5.7, K(cis-CoL(OH)H2O+
H3BO3=CoL(BO4)+3H)=-2.7.

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

Co+++ gl NaClO4 25°C 1.0M M 1998BBf (52192) 696

*K(CoL(NH3)(H2O))=-5.82

*K(CoL(H2O)2)=-5.89

*K(CoL(OH)(H2O))=-8.17

*K for dissociation at the p-site. For t-site, *K(CoL(NH3)(H2O))=-6.33,

*K(CoL(H2O)2)=-6.40, *K(CoL(OH)(H2O))=-8.68. Additional method: 170 nmr.

C6H20N2O12P4 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

Co+++ nmr KNO3 0°C 0.10M C 1997ISa (52327) 697

K(Co(en)2(NH3)L+H)=12.7

K(Co(en)2(NH3)HL+H)=8.9

K(Co(en)2(NH3)H2L+H)=6.9

K(Co(en)2(NH3)H3L+H)=3.3

Method: 31P nmr. K(Co(en)2(NH3)H4L+H)=1.8, K(Co(en)2(NH3)H5L+H)=0.3.

Complex is cis isomer. Also data for reactions cis-Co(en)2L+H.

C7H5N04 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

Co+++ sp NaClO4 -5°C 1.20M U 1976BBc (52665) 698

B(Co2H-1L2)=4.9

K(Co2H-3L2+2H)=13.4

C7H5N04 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

Co+++ sp NaClO4 -5°C 1.20M U 1976BBc (52760) 699

K(Co2H3L2+H)=3.0

K(Co2H-1L2+4H)=16.8

K(Co2H-3L2+2H)=9.8

C7H6N2 L Benzimidazole CAS 51-17-2 (52)

Benzimidazole; C7H6N2

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

Co+++ sp alc/w 25°C 100% U M 1994NSa (53469) 700

K(CoA2B+L=CoA2L+B)=-1.60

K(CoA2C+L=CoA2L+C)=-2.31

Medium: MeOH. A=Benzoquinonediimine, B=Triphenylstibine, C=Triphenylarsine

Co+++ sp NaClO4 25°C 0.30M U 1977DMa (53470) 701

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co+++	sp	NaClO4	25°C	1.00M	U	HM			1990HPa (53539)	702

$$K(\text{Co}(\text{NH}_3)_5\text{HL}+\text{H})=0.59$$

Protonation data also for other phenyl substituted 5-phenyltetrazoles

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

$$*K(\text{Co}(\text{NH}_3)(\text{en})_2\text{HL}) = -11.2$$

5-Sulfosalicylic acid, 2-Hydroxy-5-sulfobenzoic; $\text{HO}_3\text{S}.\text{C}_6\text{H}_3(\text{OH}).\text{COOH}$

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

$$*K(\text{Co}(\text{NH}_3)(\text{en})_2\text{HL}) = -10.14$$

2,6-Dimethylpyridine; C₅H₃N.(CH₃)₂

Co+++	sp	non-aq	25°C	100%	C	M	2002Dma	(56220)	705
-------	----	--------	------	------	---	---	---------	---------	-----

$$K(\text{MeCoP}+\text{L}) = < -1.2$$

4-(N,N-Dimethylamino)pyridine; $C_5H_4N.N(CH_3)_2$

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

$$K(\text{MeCoP}+\text{L})=1.26$$

-31 kJ mol⁻¹, DS=-126 J K⁻¹ mol⁻¹.

Co+++	sp	non-aq	20°C	100%	U	2000SSa (56631)	707
-------	----	--------	------	------	---	-----------------	-----

$$K(\text{Co}(\text{CH}_3)\text{P}+\text{L})=2.40$$

Medium: toluene. P is octaethylporphyrin. For P: t-octaethylchlorin, K=2.96; for P: ttt-octaethylisobacteriochlorin, K=3.42 (by ¹H nmr).

Co+++ sp oth/un 25°C 0.10M U I M 1996HPb (56632) 708

K(CoA+L)=3.20

CoA: sulfitocobyrinic acid heptamethyl ester. Also data in MeOH (K=2.10), PrOH (1.54), MeCN (1.48), CH₂Cl₂ (1.0), toluene (0.7).

C7H15N L CAS 5452-35-7 (9123)

Cycloheptylamine;

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

Co+++ sp KCl 25°C 1.0M C M 2004BSa (57901) 709

K(RCo(HA)2OH+L)=2.845

R is CH₃. H₂A is dimethylglyoxime.

C7H22N2O12P4 H8L CAS 28444-52-2 (7827)

Trimethylenediamine-N,N,N',N'-tetramethylenetetraphosphonic acid;

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

Co+++ nmr KNO₃ 0°C 0.10M C 1997ISa (58378) 710

K(Co(en)₂(NH₃)L+H)=13.1

K(Co(en)₂(NH₃)HL+H)=9.7

Method: ³¹P nmr. Complex is cis isomer.

Also data for reactions cis-Co(en)₂L+H.

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

Co+++ con none 25°C 0.0 U 1984TWa (58959) 711

Kout(Co(en)₃+L)=3.87

Co+++ gl oth/un 35°C 0.0 U T 1965AEa (58960) 712

K(CoCl(NH₃)₅+L)=2.63

Medium: 0 corr. K=2.54(25 C). By solubility: K=2.51(25 C), 2.52(35 C)

C8H11P L CAS 672-66-2 (2290)

Dimethyl-phenyl-phosphine; (CH₃)₂P.C₆H₅

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

Co+++ sp alc/w 25°C 95% A M K₂=4.88 1976SVa (61321) 713

Metal: CoA, A=N,N'-Ethylenebis(salicylideneiminato). In MeCN: K₂=5.18

C8H12O4 H2L CAS 1076-97-9 (2224)

Cyclohexane-1,4-dicarboxylic acid; C₆H₁₀.(COOH)₂


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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co+++      oth NaCl04 25°C 0.10M U      M      1979TAa (61705) 714
                                         Kout(Delta-Co(en)3+L)=0.93

```

Method: circular dichroism

```

C8H12O4      H2L      CAS 2305-32-0 (2226)
DL-trans-Cyclohexane-1,2-dicarboxylic acid; C6H10.(COOH)2

```

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co+++      oth NaCl04 25°C 0.10M U      M      1979TAa (61720) 715
                                         Kout(Delta-Co(en)3+L)=1.65

```

Method: circular dichroism

```

C8H12O4      H2L      CAS 2305-32-0 (2225)
L-trans-Cyclohexane-1,2-dicarboxylic acid; C6H10.(COOH)2

```

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co+++      oth NaCl04 25°C 0.10M U      M      1979TAa (61730) 716
                                         Kout(Lambda-Co(en)3+L)=1.66
                                         Kout(Delta-Co(en)3+L)=1.64

```

Method: circular dichroism

```

C8H12O4      H2L      CAS 610-09-3 (2227)
cis-Cyclohexane-1,2-dicarboxylic acid; C6H10.(COOH)2

```

```

-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co+++      oth NaCl04 25°C 0.10M U      M      1979TAa (61731) 717
                                         Kout(Delta-Co(en)3+L)=1.83

```

Method: circular dichroism

```

C8H13NO6S      H3L      (5675)
2-Mercapto-1-aminoethane-N,N,S-triethanoic acid; HOOC.CH2.S.CH2.CH2.N(CH2COOH)2

```

```

-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co+++      con NaCl04 25°C 0.10M U      K1=30.9      1975POa (61820) 718

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```

C8H14O4      H2L      Suberic acid      CAS 505-48-6 (517)
Octanedioic acid; HOOC.(CH2)6.COOH

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Co+++      con none      25°C 0.0 U      1984TWa (62095) 719
                                         Kout(Co(en)3+L)=3.03

```

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
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Co+++	gl	NaCl04	25°C	1.0M	M				1998BBf (63287)	720
-------	----	--------	------	------	---	--	--	--	-----------------	-----

*K(CoL(NH3)(H2O))=-6.02

*K(CoL(H2O)2)=-5.82

*K(CoL(OH)(H2O))=-8.20

*K for dissociation at the p-site. Additional method: 170nmr.

For L=N-Me-cyclen, *K(CoL(H2O)2)=-5.28, *K(CoL(OH)(H2O))=-8.03.

Co+++	sp	NaCl04	25°C	1.0M	C				1998BCb (63288)	721
-------	----	--------	------	------	---	--	--	--	-----------------	-----

K(CoLA+OH=CoH-1LA)=0.021

HA=alanine.

Co+++	kin	oth/un	40°C	0.0	U	M			1993KBa (63289)	722
-------	-----	--------	------	-----	---	---	--	--	-----------------	-----

K(CoLA2+B=CoLAB)=0.398

A:H2O. B:Acetonitrile.

Co+++	kin	oth/un	40°C	?	U	M			1993KBa (63290)	723
-------	-----	--------	------	---	---	---	--	--	-----------------	-----

*K(CoL(H2O)2)=-7.2

*K(CoL(OH)(H2O))=-5.5

Medium: D2O.

C9H10N2 L CAS 582-60-5 (8433)
5,6-Dimethylbenzimidazole;

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

Co+++	sp	none	25°C	0.0	C	HM			1997CLc (65195)	724
-------	----	------	------	-----	---	----	--	--	-----------------	-----

Self medium, pH 7.0. CoA is 1-methyl-5-deoxy-beta-D-(-)ribofuranosyl-cobalamin. DH(CoA+L)=23.0 kJ mol-1, DS(CoA+L)=47.3 J K-1 mol-1.

Co+++	sp	none	25°C	0.0	C	HM			1997CLc (65196)	725
-------	----	------	------	-----	---	----	--	--	-----------------	-----

Self medium, pH 7.0. CoA is 1-methyl-5-deoxy-2,3-isopropylidene-beta-D-(-)ribofuranosylcobalamin. DH(CoA+L)=24.3 kJ mol-1, DS(CoA+L)=57.7.

C9H13N L CAS 3987-81-2 (493)
4-t-Butylpyridine; C5H4N.(t-C4H9)

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

Co+++	nmr	non-aq	33°C	100%	U	M			1978SEa (66783)	726
-------	-----	--------	------	------	---	---	--	--	-----------------	-----

K(CoA2X+L)=3.45

Medium: DMSO-d6. A=Acetylacetone, X=Nitrite

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
Co+++	nmr	non-aq	33°C	100%	U	M		1977SEa (67050)	727

K(CoA+L)=0.0

Medium: DMSO-d6. A=Bis(acetylacetonato)(nitro)-.

C9H21O3P	L	CAS 116-17-6	(1726)
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Tri(isopropyl)phosphite; (CH3.CH(CH3)O)3P

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co+++	sp	non-aq	30°C	100%	C	T		2001ASb (68217)	728

K(CoA(Bu3P)+L)=3.20

K'(CoA(Me2PhP)+L)=3.94

Medium: acetonitrile. Data for 20-40 C. H2A is Salen. DH(K)=-22.6 kJ mol-1
DS=-13.7 J K-1 mol-1. DH(K')=-21.3, DS=-5.5. Data for Salen derivatives.

C9H24N3O9P3	H6L	NOTPH	CAS 83843-39-3	(224)
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1,4,7-Triazacyclononane-N,N',N''-tris(methylenephosphonic acid);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co+++	gl	KNO3	25°C	1.00M	U		K1=29.5	1990BSd (68315)	729

C10H6O8	H4L	Pyromellitic Ac	CAS 89-05-4	(519)
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Benzene-1,2,4,5-tetracarboxylic acid; C6H2.(COOH)4

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co+++	con	none	25°C	0.0	U			1984TWa (68509)	730

Kout(Co(en)3+L)=6.21

C10H7NO2	HL	CAS 14510-06-6	(4715)
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2-Formyl-8-hydroxyquinoline;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co+++	gl	diox/w	25°C	50%	U		K1=7.12 B2=13.55	1972HUb (68609)	731

Medium: 50% v/v dioxan, 0.1 M KCl

C10H8N2	L	2,2'-Bipyridyl	CAS 366-18-7	(25)
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2,2'-Bipyridine; (C5H4N)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co+++	gl	NaClO4	25°C	0.5M	C			2001MDb (69535)	732

*K(cis-CoL2(H2O)2)=-4.19

*K(cis-CoL2(OH)H2O)=-6.77

K(cis-CoL2(OH)H2O+H3BO3=CoL2(H2BO4)+2H)=-5.87, K(cis-CoL2(OH)H2O+
H3BO3=CoL2(BO4)+3H)=-2.99.

C10H13N5O3 L Deoxyadenosine CAS 16373-93-6 (2153)
2'-Deoxyadenosine, Adenine deoxyriboside;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co+++	nmr	non-aq	33°C	100%	U	M		1977SEa (71888)	739
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K(CoA+L)=1.9

Medium: DMSO-d6. A=Bis(acetylacetonato)(nitro)-.

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
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Co+++	nmr	non-aq	33°C	100%	U	M		1977SEa (71941)	740
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K(CoA+L)=1.97

Medium: DMSO-d6. CoA=Bis(acetylacetonate)(nitro)cobalt(III)

C10H13N5O5 L CAS 116-92-9 (2174)
Adenosine-N'-oxide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co+++	nmr	non-aq	33°C	100%	U	M		1977SEa (72031)	741
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K(CoA+L)=2.02

Medium: DMSO-d6. CoA= Bis(acetylacetonate)(nitro)deoxyadenosine-cobalt(III)

C10H16N2O8 H4L EDTA CAS 60-00-4 (120)
1,2-Diaminoethane-N,N,N',N'-tetraethanoic acid, Sequestic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Co+++	vlt	KNO3	25°C	1.00M	U			1977Hda (73668)	742
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K1eff=38.18

Keff at pH 7

Co+++	EMF	KNO3	25°C	0.10M	U		T K1=41.1	1969BHb (73669)	743
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Co+++	vlt	KNO3	25°C	0.20M	U		K1=40.6	1965TOa (73670)	744
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Co+++	EMF	KCl	20°C	0.10M	U		K1=36	1951SHa (73671)	745
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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
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Co+++	EMF	KNO3	25°C	0.10M	U		K1=43.2	1969BHb (75348)	746
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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
Co+++	kin	oth/un	40°C	?	U	M			1993KBa (76695)	747
									K(CoLA2+B=CoLAB)=0.362	

A:H2O. B:Acetonitrile.

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
Co+++	gl	NaClO4	25°C	0.10M	M				1982HBc (76732)	748
									K(Co(OH)L+H)=6.3	

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
Co+++	nmr	KNO3	0°C	0.10M	C				1997ISa (76838)	749
									K(Co(en)2(NH3)L+H)=13.6	
									K(Co(en)2(NH3)HL+H)=11.0	
									K(Co(en)2(NH3)H2L+H)=6.8	
									K(Co(en)2(NH3)H3L+H)=4.8	

Method: 31P nmr. Complex is cis isomer.

Also data for reactions cis-Co(en)2L+H and for dinuclear complexes.

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
Co+++	cal	KNO3	25°C	0.10M	U	H			1971PWa (76871)	750
									DH(Co(OH)L+H)=-44.30 kJ mol-1, DS=-1.25 J K-1 mol-1	
									DH(Co(OH)HL+H)=-26.75, DS=0	

C11H11N3O3S L CAS 67665-24-1 (8341)
Furoin thiosemicarbazone;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co+++	gl	alc/w	30°C	50%	U	T H		K1=9.67 B2=18.38	1991HRA (77949)	751
									Medium: 50% v/v EtOH/H2O, 0.1 M NaClO4. Data for 40 and 50 C.	
									DH(K1)=-110 kJ mol-1, DS(K1)=179 J K-1 mol-1; DH(K2)=-115, DS(K2)=215.	

C11H13NOS L CAS 67077-39-8 (6233)
Aceto-4-methylphenylthioamide; CH3.CO.CH2.CS.NH.C6H4.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co+++	sp	alc/w	25°C	60%	U		B3=12.83	1984FNa (78443)	752

C11H13NO2S		L					CAS 72369-82-5 (6232)		
Aceto-4-methoxyphenylthioamide; CH3.CO.CH2.CS.NH.C6H4.OCH3									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co+++	sp	alc/w	25°C	60%	U		B3=12.96	1984FNa (78478)	753

C11H15N5O4		L					CAS 15763-06-1 (2164)		
1-Methyladenosine;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co+++	nmr	non-aq	33°C	100%	U	M	K(CoA+L)=1.48	1977SEa (79072)	754
Medium: DMSO-d6. MA=Bis(acetylacetonate)(nitro)-Cobalt (III).									

C11H18N2O8		H4L					CAS 4408-81-5 (1655)		
1,2-Diaminopropane-N,N,N',N'-tetraethanoic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co+++	vlt	KN03	25°C	1.00M	U		K1eff=38.31	1977HDa (79270)	755
Keff at pH 7									

Co+++	vlt	KN03	25°C	0.20M	U	M	K1=42.1	1965TOb (79271)	756
Exchange complexes with Zn									

C11H18N2O8		H4L					CAS 4408-81-5 (923)		
1,3-Diaminopropane-N,N,N',N'-tetraethanoic acid; ((HOOC.CH2)2N.CH2.)2.CH2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co+++	vlt	KN03	20°C	0.10M	U		K1=40.7	1965TOa (79432)	757

C11H18N2O9		H4L					CAS 3148-72-9 (431)		
1,3-Diamino-2-hydroxypropane-N,N,N',N'-tetraethanoic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co+++	vlt	KN03	25°C	1.00M	U		K1eff=37.93	1977HDa (79547)	758
Keff at pH 7									

 C12H8N2 L Phenanthroline CAS 66-71-7 (144)
 1,10-Phenanthroline;

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

Co+++ gl NaCl 25°C 0.10M C H 2000KEa (80419) 759
 Kout(CoL3+L)=1.50

By calorimetry: DH(Kout)=-6.30 kJ mol⁻¹, DS=11 J K⁻¹ mol⁻¹.

C12H11N5 HL 3-Benzyladenine CAS 2280-81-1 (2188)
 3-Benzyladenine, 3-Benzylaminopurine;

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

Co+++ nmr non-aq 33°C 100% U M 1978SEa (80945) 760
 K(CoA2X+L)=3.8

Medium: DMSO-d6. A=Acetylacetone, X=Nitrite

C12H27P L CAS 998-40-3 (170)
 Tri-n-butylphosphine; (CH3.(CH2)3)3P

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

Co+++ sp alc/w 25°C 95% A M K2=3.43 1976SVa (84133) 761
 Metal: CoA, A=N,N'-Ethylenebis(salicylideneiminato). In MeCN: K2=4.11

C13H11N2O3F3 HL (5563)
 3-(2-Acetylphenylhydrazon)-1,1,1-trifluoropentane-2,4-dione;
 CF3.CO.C(CO.CH3):N.HN.C6H4.COCH3

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

Co+++ gl diox/w 25°C 75% U K1=8.00 B2=15.10 1990ASb (85241) 762

C13H13P L CAS 1486-28-8 (1731)
 Diphenyl-methyl-phosphine; CH3(C6H5)2P

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

Co+++ sp alc/w 25°C 95% A M K2=3.04 1976SVa (85549) 763
 Metal: CoA, A=N,N'-Ethylenebis(salicylideneiminato). In MeCN: K2=3.64

C13H15N2O2S L (6235)
 Diaceto-4-methylphenylthioamide; (CH3.CO)2CH.CS.NH.C6H4.CH3

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

Co+++ sp alc/w 25°C 60% U 1984FNa (85705) 764
 B3=12.64

C13H15NO3S L (6234)
Diaceto-4-methoxyphenylthioamide; (CH3.CO)2CH.CS.NH.C6H4.OCH3

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

Co+++ sp alc/w 25°C 60% U 1984FNa (85708) 765
B3=12.76

C14H12N4O2Br2 HL CAS 72833-87-5 (2533)
2-(2-(3,5-Dibromopyridyl)azo)-5-dimethylaminobenzoic acid;

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

Co+++ sp diox/w 25°C 40% C B2=19.02 1986KHa (87317) 766

C14H23N3O10 H5L DTPA CAS 67-43-6 (238)
Diethylenetriamine-pentaethanoic acid; H00C.CH2.N(CH2.CH2.N(CH2.COOH)2)2

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

Co+++ sp oth/un 25°C dil U K1=40.5 1972BCb (89197) 767

C14H24N2S2 L CAS 122-36-1 (2822)
N,N'-Dicyclohexyl-dithiooxamide; C6H11.NH.CS.CS.NH.C6H11

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

Co+++ sp none 25°C 0.0 U K1=9.87 1976AMc (89983) 768

C14H36N6 L (5578)
1,1,1-Tris(5-amino-2-azapentyl)ethane; CH3.C(CH2.NH.CH2.CH2.CH2.NH2)3

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

Co+++ oth NaCl04 25°C 0.10M U HM 1985STa (90879) 769
K(CoL+S04)=2.16

K(CoL+D-tartrate)=1.61, K(CoL+L-tartrate)=1.34,
K(CoL+Sb2(D-tartrate)2)=1.60; K(CoL+Sb2(L-tartrate)2)=1.48

C14H37N7 L CAS 298-85-5 (5606)
1,4,7,10,13,16,19-Heptaazacycloheicosane;

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

Co+++ gl NaCl04 25°C 0.15M C M 1992ABa (90911) 770

K(CoA+3H+L)=30.39
K(CoA+4H+L)=37.58
K(CoA+5H+L)=41.51
K(CoA+H3L)=2.7

K(CoA+H4L)=3.5, K(CoA+H5L)=3.7, K(CoA+H6L)=4.2, K(CoA+H7L)=4.8, K(CoA+6H+L)=44.14, K(CoA+7H+L)=46.7. CoA=Co(CN)6---.

C14H37N7 L (6456)
2,5,8,11,14,17,20-Heptaazaheneicosane; CH3.(NH.(CH2)2)6.NH.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co+++	gl	NaCl04	25°C	0.15M	C	M	K(CoA+3H+L)=31.15 K(CoA+4H+L)=39.97 K(CoA+5H+L)=44.91 K(CoA+H3L)=2.4	1992ABa (90925)	771

K(CoA+H4L)=3.0, K(CoA+H5L)=3.3, K(CoA+H6L)=3.6, K(CoA+H7L)=3.7, B(CoA+6H+L)=48.57, B(CoA+7H+L)=51.06. CoA=Co(CN)6---.

C15H11N3O HL PAN CAS 85-85-8 (572)
1-(2-Pyridylazo)-2-naphthol; C5H4N.N:N.C10H6.OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co+++	sp	NaCl04	19°C	0.10M	U		B2=28.82	1972BEb (91208)	772

C15H21N5O4 L CAS 7724-76-7 (2173)
6-(3,3-Dimethylallylamino)purine-ribose;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co+++	nmr	non-aq	33°C	100%	U	M	K(CoA+L)=1.74	1977SEa (92203)	773

Medium: DMSO-d6. CoA= Bis(acetylacetonate)(nitro)deoxyadenosine-cobalt(III)

C16H14N4O2S HL CAS 83688-78-2 (2534)
2-(2-Benzothiazolylazo)-5-dimethylaminobenzoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co+++	sp	diox/w	25°C	40%	C		B2=12.16	1986KHa (93482)	774

C16H14O6 H2L Hematoxylin CAS 517-28-2 (1381)
Hematoxylin

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Co+++	gl	KCl	25°C	0.10M	U		K1=6.34	1982MHa (93599)	775

C16H16N2S2 L CAS 122-65-6 (2823)
N,N'-Dibenzyl-dithiooxamide; C6H5CH2.NH.CS.CS.NH.CH2C6H5

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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 Co+++ sp none 25°C 0.0 U K1=7.78 1976AMc (93714) 776

C16H18N2O3 HL (5564)
 2-(2-Acetylphenylhydrazone)-5,5-dimethyl-1,3-cyclohexanedione;

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

Co+++ gl diox/w 25°C 75% U K1=8.80 B2=16.63 1990ASb (93772) 777

C16H36N4 L CAS 3713-77-7 (5391)
 1,6,11,16-Tetraazacycloeicosane;

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

Co+++ cal NaClO4 25°C 0.15M C HM 1988BMg (95526) 778

Kout(Co(CN)6+H4L)=2.38

DH(Co(CN)6+H4L)=-10.7 kJ mol⁻¹, DS(Co(CN)6+H4L)=9.6 J K⁻¹ mol⁻¹.

C16H42N8 L (6457)
 2,5,8,11,14,17,20,23-Octaaza-tetracosane;

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

Co+++ gl NaClO4 25°C 0.15M C M 1992ABa (95677) 779

K(CoA+4H+L)=40.01

K(CoA+5H+L)=47.27

K(CoA+6H+L)=52.19

K(CoA+H4L)=2.0

K(CoA+H5L)=2.5, K(CoA+H6L)=3.0, K(CoA+H7L)=3.3, B(CoA+7H+L)=55.80.

CoA=Co(CN)6---.

C17H15N3O3S L CAS 141102-86-5 (8342)

Furoin-4-phenyl-3-thiosemicarbazide;

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

Co+++ gl alc/w 30°C 50% U T H K1=10.22 B2=19.08 1991HRA (96000) 780

Medium: 50% v/v EtOH/H2O, 0.1 M NaClO4. Data for 40 and 50 C.

DH(K1)=-159 kJ mol⁻¹, DS(K1)=330 J K⁻¹ mol⁻¹; DH(K2)=-115, DS(K2)=212.

C18H15P L CAS 603-35-0 (621)

Triphenylphosphine; (C6H5)3P

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

Co+++ sp alc/w 25°C 100% U M 1994NSa (97132) 781

K(CoA2B+L=CoA2L+B)=1.48

K(CoA2C+L=CoA2L+C)=0.71

Medium: MeOH. A=Benzoquinonediimine, B=Triphenylstibine, C=Triphenylarsine

Co+++ sp alc/w 25°C 95% A M K2=1.22 1976SVa (97133) 782
Metal: CoA, A=N,N'-Ethylenebis(salicylideneiminato). In MeCN: K2=2.18

C18H16N2O3 HL (5560)

2-(2-Acetylphenylhydrazone)-1-phenyl-but-1,3-dione;

C6H5.CO.C(CO.CH3):N.NH.C6H4.COCH3

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

Co+++ gl diox/w 25°C 75% U K1=9.58 B2=18.58 1990ASb (97166) 783

C18H22N4O HL (5243)

N-Methylanabasine-alpha'-azo-4-cresol;

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

Co+++ sp oth/un ? ? U B2=24.8 1972KTb (97529) 784

C18H30N4O12 H6L TTHA CAS 869-52-3 (694)

Triethylenetetraaminehexaethanoic acid;((HOOCH2)2N.CH2.CH2.N(CH2.COOH).CH2)2

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

Co+++ EMF KNO3 25°C 0.10M U K1=49.5 1969BHb (98018) 785

C19H13N3O7S2 H3L Quinolinazo R CAS 28415-92-1 (5282)

2-Hydroxy-1-(8-quinolineazo)naphthalene-3,6-disulfonic acid;

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

Co+++ sp oth/un 20°C 0.10M U 1970BKc (99032) 786

K(Co+3HL=CoL+3H)=11.34

C20H26N6 L CAS 221350-58-9 (2790)

2,5,8,11-Tetraaza[12]-[12](2,9)[1,10]-phenanthroline;

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

Co+++ gl R4N.X 25°C 0.10M C K1=16.16 2000BPa (100337) 787

K(CoL+H)=3.28

K(CoL+OH)=3.42

B(CoHL)=19.44

B(CoH-1L)=5.75

Medium: 0.10 M Me4NCl.

C23H18N2O3 HL (5561)

2-(2-Acetylphenylhydrazone)-1,3-diphenyl-prop-1,3-dione;

C6H5.CO.C(CO.C6H5):N.NH.C6H4.COCH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co+++	gl	diox/w	25°C	75%	U			K1=9.50 B2=17.40	1990ASb (102589)	788

C24H60N12 L CAS 24904-24-3 (5837)
 1,4,7,10,13,16,19,22,25,28,31,34-Dodecaazacyclohexatriacontane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co+++	gl	NaCl04	25°C	0.15M	C	M			1992BBa (103586)	789

K(Co(CN)6+H4L)=3.22
 K(Co(CN)6+H5L)=3.61
 K(Co(CN)6+H6L)=3.83
 K(Co(CN)6+H7L)=3.92

K(Co(CN)6+H8L)=4.20, K(Co(CN)6+H9L)=4.44, K(Co(CN)6+H10L)=4.44
 K(Co(CN)6+H11L)=5.10

 C34H52N6O H2L Hydroxy-8H-HDP (5950)
 1-Hydroxy-hexadecamethyl-octahydro-diazaporphine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co+++	vlt	alc/w	21°C	100%	U	I M			1984WRc (106087)	790

K(CoL+2pyridine)=10.5
 K(CoL+2Br)=6.6
 K(CoLBr+Br)=1.6 (spectroscopy)

Medium: MeOH. In dimethylacetamide, K(CuL+Pyridine)=3.7, K(CuL+2Br)=8.0

 C36H60O30 L a-Cyclodextrin CAS 10016-20-3 (6946)
 alpha-Cyclodextrin, Cyclohexaamylose;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co+++	nmr	none	RT	0	U				1996LCa (106458)	791

K(CoA+L)=2.69

Medium: D2O; method: nmr. CoA: aquacobaloxime. Also data for alkyl-substituted cobaloximes. Host-guest complexes.

 Polymer DNA (4185)
 Deoxyribonucleic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co+++	sp	NaCl	25°C	0.05M	C				2003SEa (108143)	792

K(Co(phen)2A+L)=3.78

L is calf thymus DNA. A is naphtho[2,3-a]dipyrido[3,2-h:2',3'-f]phenazine-5,18-dione. Medium: 5 mM Tris, pH7.1, 50 mM NaCl buffer.

Co+++	sp	none	RT	0.0	C				2001SYa (108144)	793
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K(CoA+L)=4.57

Calf thymus DNA used.

A is tetrapyrido[3,2-a:2',3'-c:3'',2''-h:2''',3'''-j]phenazine

Polymer L (8692)

Haptocorrin;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Co+++	oth	none	25°C	0.0	C				1995MJa (108203)	794

K(CoA+L)=16.7

Method: equilibrium dialysis using 57Co. Ligand is chicken serum

haptocorrin. CoA is cyanocobalamin (Vitamin B12).

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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

END