

SC-Database

Software version = 5.81 Data version = 4.62

Experiment list contains 2263 experiments for

(no ligands specified)

6 metals : Mn(0), Mn(VII), Mn+, Mn++, Mn+++, etc.

(no references specified)

(no experimental details specified)

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

Carbon monoxide;

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values                                | Reference      | ExptNo |
|-------|-----|--------|------|------|-----|-------|----|---|----------------|--------|
| Mn(0) | gl  | none   | 20°C | 0.0  | U   |       |    |   | 1958HWa (2811) | 1      |
|       |     |        |      |      |     |       |    | K(MnL5+H)=7.1<br>K(HMnL5(s)=HMnL5)=-3.9 |                |        |

Metal: Mn(0)

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e- HL Electron (442)

Electron;

| Metal           | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values                | Reference     | ExptNo |
|-----------------|-----|--------|------|------|-----|-------|----|-------------------------|---------------|--------|
| Mn(VII)         | EMF | none   | 10°C | 0.0  | M   |       |    |                         | 1967TLa (642) | 2      |
|                 |     |        |      |      |     |       |    | K(Mn(VI)+e)=4.6, 260 mV |               |        |
| Mn(VI) to Mn(V) |     |        |      |      |     |       |    |                         |               |        |

| Metal   | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values  | Reference     | ExptNo |
|---|-----|--------|------|------|-----|-------|----|---|---------------|--------|
| Mn(VII)   | EMF | none   | 25°C | 0.0  | U T |       |    |   | 1964BSa (643) | 3      |
|   |     |        |      |      |     |       |    | K=25.7(x=0.95,1520 mV)<br>K=17.8(x=0.75,1050 mV)<br>K=23.3(x=1,22 C)<br>K=21.3(x=0.9,22 C)<br>K=19.3(x=0.8,22 C), K=17.7(x=0.7,22 C),K=17.0(x=0.6,22 C) |               |        |
| K: MnO2(s,x) + H + e = MnO1.5(s,1-x) + 0.5 H2O. Single solid phase. |     |        |      |      |     |       |    |   |               |        |

| Metal   | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values         | Reference     | ExptNo |
|---|-----|--------|------|------|-----|-------|----|------------------|---------------|--------|
| Mn(VII)   | EMF | oth/un | 25°C | ?    | U   |       |    |                  | 1964JGb (644) | 4      |
|   |     |        |      |      |     |       |    | K=11.09 (656 mV) |               |        |
| K: Mn(CN)5NO-- +e = Mn(CN)5NO---. I=0, corr.: K=10.09,597mV |     |        |      |      |     |       |    |                  |               |        |

| Metal                      | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values                   | Reference     | ExptNo |
|----------------------------|-----|--------|------|------|-----|-------|----|----------------------------|---------------|--------|
| Mn(VII)                    | EMF | none   | 25°C | 0.0  | U   |       |    |                            | 1959GBa (645) | 5      |
|                            |     |        |      |      |     |       |    | K=85.15(beta-MnO2 1679 mV) |               |        |
| K: MnO4+4H+3e=MnO2(s)+2H2O |     |        |      |      |     |       |    |                            |               |        |

| Metal                               | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference     | ExptNo |
|-------------------------------------|-----|--------|------|------|-----|-------|----|----------|---------------|--------|
| Mn(VII)                             | sp  | none   | 25°C | 0.0  | U   |       |    |          | 1959JKa (646) | 6      |
|                                     |     |        |      |      |     |       |    | K=-0.63  |               |        |
| K: 2MnO4+MnO2(s)+40H=3MnO4(VI)+2H2O |     |        |      |      |     |       |    |          |               |        |

| Metal   | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values                       | Reference     | ExptNo |
|---------|-----|--------|------|------|-----|-------|----|--------------------------------|---------------|--------|
| Mn(VII) | EMF | none   | 25°C | 0.0  | U   |       |    |                                | 1956CSa (647) | 7      |
|         |     |        |      |      |     |       |    | K(MnO4+e=Mn(VI)O4)=9.43(558mV) |               |        |

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Mn(VII) EMF oth/un 25°C 6.0M U 1956CSa (648) 8  
K(Mn(VI)O4+e)= 4.14, 285 mV  
Medium: 6-12 M KOH (Mn(VI) to Mn(V))  
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Mn(VII) oth none 25°C 0.0 U 1952LAB (649) 9  
K=9.53(564 mV)  
K'=85.8(1695 mV)  
K''=127.4(1510 mV)  
K: MnO4+e=MnO4(VI). From thermodynamic data. Alternatively K=9.74(576 mV)  
K': MnO4+4H+3e=MnO2(s)+2H2O. K'': MnO4+8H+5e=Mn(II)+4H2O  
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Mn(VII) EMF none 25°C 0.0 U 1935ABb (650) 10  
K=29.83(588 mV)  
K: MnO4+2H2O+3e=MnO2(s)+4OH  
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Mn(VII) EMF oth/un 18°C 5.60M U I 1912STa (651) 11  
K=11.26(650 mV)  
Medium: KOH. K: MnO4+e=MnO4(VI). In 1.5 M KOH: K=10.62(613.5 mV)  
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C2H4O2S H2L Thioglycolic CAS 68-11-1 (596)  
Mercaptoethanoic acid; HS.CH2.COOH  
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| Metal  | Mtd | Medium          | Temp        | Conc  | Cal | Flags | Lg | K values       | Reference       | ExptNo |
|--|-----|-----------------|-------------|-------|-----|-------|----|----------------|-----------------|--------|
| Mn(VII)  | vlt | oth/un          | 25°C        | ? U   | H   |       |    | K(L+MnO4)=3.29 | 1990ASa (20343) | 12     |
| DH=-14 kJ mol-1. Alternative method: Spectrophotometry. At 15 C: K=3.08;<br>35 C: 2.83; 45 C: 2.42 |     |                 |             |       |     |       |    |                |                 |        |
| *****  |     |                 |             |       |     |       |    |                |                 |        |
| 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 |
|--|-----|----------------|-------------|-------|-----|-------|----|----------------|-----------------|--------|
| Mn(VII)  | vlt | oth/un         | 25°C        | ? U   | H   |       |    | K(L+MnO4)=2.97 | 1990ASa (25157) | 13     |
| DH=-20.2 kJ mol-1. Alternative method: Spectrophotometry. At 15 C: K=3.63;<br>35 C: 2.35; 45 C: 1.80 |     |                |             |       |     |       |    |                |                 |        |
| *****  |     |                |             |       |     |       |    |                |                 |        |
| 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 |
|---|-----|-----------------|--------------|-------|-----|-------|----|----------------|-----------------|--------|
| Mn(VII)                                 | vlt | oth/un          | 25°C         | ? U   |     |       |    | K(L+MnO4)=3.76 | 1990ASa (30345) | 14     |
| At 15 C: K=4.30; 35 C: 3.21; 45 C: 2.93 |     |                 |              |       |     |       |    |                |                 |        |
| *****                                   |     |                 |              |       |     |       |    |                |                 |        |
| CO                                      | L   | Carbon monoxide | CAS 630-08-0 | (551) |     |       |    |                |                 |        |

Carbon monoxide;

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| Metal  | Mtd | Medium | Temp | Conc | Cal | Flags    | Lg | K values | Reference | ExptNo    |
|--|-----|--------|------|------|-----|----------|----|----------|-----------|-----------|
| Mn+  | cal | non-aq | 25°C | 100% | U   | HM       |    |          | 1992YYa   | (2812) 15 |
| Metal:Mn+. Medium:heptane. K:MnL2AB+L=MnL3A+B. A:C5H5. B:heptane.<br>DH=-196 kJ mol <sup>-1</sup> . Data for other ligands |     |        |      |      |     |          |    |          |           |           |
| *****  |     |        |      |      |     |          |    |          |           |           |
| e-   |     | HL     |      |      |     | Electron |    | (442)    |           |           |
| Electron;  |     |        |      |      |     |          |    |          |           |           |

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| Metal  | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference | ExptNo   |
|--|-----|--------|------|------|-----|-------|----|----------|-----------|----------|
| Mn++   | vlt | oth/un | 25°C | 6.0M | U   | I     |    |          | 1968PGe   | (652) 16 |
| K(Mn + Mn++++ = 2Mn+++)=1.63   |     |        |      |      |     |       |    |          |           |          |
| Medium: c M H2SO4. K=2.67(c=12),K=2.30(c=10.5),K=2.02(c=9),K=1.86(c=7.5),<br>K=1.30(c=4.5) |     |        |      |      |     |       |    |          |           |          |

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|--------------------------------|-----|------|------|-----|---|--|--|--|---------|----------|
| Mn++                           | EMF | none | 15°C | 0.0 | U |  |  |  | 1963JKa | (653) 17 |
| K(Mn+2e=Mn(s))=-40.86(-1168mV) |     |      |      |     |   |  |  |  |         |          |

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|--|-----|--------|------|-----|---|--|--|--|---------|----------|
| Mn++   | oth | oth/un | 25°C | var | U |  |  |  | 1952LAb | (654) 18 |
| K=-12(700 mV)  |     |        |      |     |   |  |  |  |         |          |
| Medium: KCN. K: Mn(CN)6+e=Mn(I)(CN)4+2CN. At I=0: K(Mn(OH)2(s)+2e=Mn(s)+2OH)<br>=-52.6(-1550 mV) |     |        |      |     |   |  |  |  |         |          |

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|--|-----|------|------|-----|---|--|--|--|---------|----------|
| Mn++                                   | oth | none | 25°C | 0.0 | U |  |  |  | 1952RWa | (655) 19 |
| K'=59.34                               |     |      |      |     |   |  |  |  |         |          |
| K': Mn3O4(s) + 8H + 2e = 3Mn++ + 4H2O. |     |      |      |     |   |  |  |  |         |          |

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|---------------------------------------|-----|--------|------|-------|---|--|--|--|---------|----------|
| Mn++                                  | EMF | oth/un | 25°C | 1.50M | U |  |  |  | 1952TRa | (656) 20 |
| K=-17.85(-1056 mV)                    |     |        |      |       |   |  |  |  |         |          |
| Medium: NaCN. K: Mn(CN)6+e=Mn(I)(CN)6 |     |        |      |       |   |  |  |  |         |          |

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|-------------------|-----|------|------|-----|---|--|--|--|---------|----------|
| Mn++              | oth | none | 25°C | 0.0 | U |  |  |  | 1948WAb | (657) 21 |
| K=-40.0(-1182 mV) |     |      |      |     |   |  |  |  |         |          |

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K: Mn+2e=Mn(s). From thermodynamic data  
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|         |     |          |               |        |
|---------|-----|----------|---------------|--------|
| AsO4--- | H3L | Arsenate | CAS 7778-39-4 | (1557) |
|---------|-----|----------|---------------|--------|

Arsenate;

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| Metal   | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference | ExptNo    |
|---|-----|--------|------|------|-----|-------|----|----------|-----------|-----------|
| Mn++  | oth | none   | 25°C | 0.0  | M   |       |    |          | 1997SAb   | (1151) 22 |
| Ks(Mn3(AsO4)2(s)+2H=3Mn+2HAsO4)=-8.51. Calculated from thermodynamic data |     |        |      |      |     |       |    |          |           |           |

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|                                     |     |        |      |     |   |  |  |  |         |           |
|-------------------------------------|-----|--------|------|-----|---|--|--|--|---------|-----------|
| Mn++                                | oth | oth/un | 25°C | 0.0 | U |  |  |  | 1990SAa | (1152) 23 |
| *K(Mn3L2(s)+2H=3Mn+2HL)=-8.39       |     |        |      |     |   |  |  |  |         |           |
| Calculated from thermodynamic data. |     |        |      |     |   |  |  |  |         |           |

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Mn++ sol oth/un 20°C dil U 1956CHc (1153) 24  
Kso(Mn3L2)=-28.72

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

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Mn++ gl NaNO3 25°C 1.00M U K1=3.61 1984COa (1178) 25

\*\*\*\*\*  
As2W17H2061----- H8L (2469)  
alpha-Heteropolydiarseno-polytungstate;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Mn++ gl NaNO3 25°C 1.00M U K1=6.81 1984COa (1188) 26  
K1=4.51 (alpha2 isomer)

\*\*\*\*\*  
Br- HL Bromide CAS 10035-10-6 (19)  
Bromide;

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

Mn++ EMF non-aq 25°C 100% C T K1=2.85 B2= 4.81 2001JMb (2122) 27  
K3=1.26

Medium: acetic acid, 0.1 M LiBr. Method: Ag/AgBr/Br- electrode  
At 60 C: K1=2.62, K2=1.28.

-----  
Mn++ cal non-aq 25°C 100% C HM 2000KYa (2123) 28

B(Mn(phen)Br)=6.94  
B(Mn(phen)Br2)=7.87  
B(Mn(phen)2Br)=10.46  
B(Mn(phen)2Br2)=11.84

Medium: DMF, 0.16 M Et4NClO4. DH(Mn(phen)Br)=-8.0 kJ mol-1,  
DH(Mn(phen)Br2)=15.4, DH(Mn(phen)2Br)=-27.6, DH(Mn(phen)2Br2)=-19.8.

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Mn++ cal non-aq 25°C 100% U HM 1997KYb (2124) 29

B(Mn(bpy)Br)=3.89  
B(Mn(bpy)Br2)=5.24  
B(Mn(bpy)2Br)=5.06

Medium: DMF, 0.16 M Et4NClO4. DH(Mn(bpy)Br)=3.3 kJ mol-1,  
DH(Mn(bpy)Br2)=16.9, DH(Mn(bpy)2Br)=-3.6.

-----  
Mn++ sp non-aq 25°C 100% U H K1=1.91 1990Oia (2125) 30  
B3=4.15

Medium: DMF, 0.16 M R4NClO4. DH(K1)=14.1 kJ mol-1, DH(B3)=74 by calorimetry

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Mn++ cal KNO3 25°C 0.50M U H 1985BPb (2126) 31

B4=-7.2

DH(B4)=39.4 kJ mol-1; TDS(B4)=-1.7 kJ mol-1

Mn++ EMF oth/un 25°C 1.50M U I K1=-1.1 1978LKd (2127) 32  
 K1 defined in molality (Moles per kg) terms: K1=m(MnBr)/m(Mn).m(Br), ionic strength in m(Mn(ClO4)2). K1 (m): -1.05 (2.0), -0.9 (2.5), -0.7 (3.0)

Mn++ sol NaClO4 25°C 1.00M U I K1=-0.35 B2=-0.55 1975FKa (2128) 33

Mn++ kin NaClO4 25°C 1.0M U K1=0.13 1973HHb (2129) 34

Mn++ nmr non-aq 20°C 100% U 1970BMd (2130) 35

K(Li+MnL4)=1.23  
 K(Me4N+MnL4)=1.93  
 K(Et4N+MnL4)=1.30  
 K(Bu4N+MnL4)=0.90

Medium: MeCN. Method: esr

Mn++ ix NaClO4 20°C 0.69M U K1=0.27 B2=0.01 1968FMb (2131) 36  
 Method:cation exchange. Medium: HClO4

Mn++ nmr alc/w ? 100% U K1=1.0 1968LLa (2132) 37  
 Medium: MeOH, LiBr. Method: esr

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

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

Mn++ gl NaClO4 25°C 1.00M U K1=1.88 B2=3.36 1987ABd (2736) 38

Mn++ cal oth/un 25°C var U H 1964GHc (2737) 39  
 DH(B6)=-144.2 kJ mol-1

Mn++ cal oth/un 25°C ? U H 1961GUa (2738) 40  
 DH(B6)=-150.6 kJ mol-1

Mn++ EMF oth/un 25°C var U 1952TRa (2739) 41

Ks(K5(MnL6)(s))=-10.6  
 Ks(Na5(MnL6)(s))=ca.-0.3

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

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

Mn++ cal non-aq 25°C 100% U HM 1992HSb (2813) 42  
 Metal:Mn+. Medium:heptane. K:MnL2AB+L=MnL3A+B. A:C5H5. B:heptane.  
 DH=-196 kJ mol-1.

Mn++ EMF non-aq 22°C 100% U 1992PMa (2814) 43

K(Mn2L10=2Mn5L5)=-20.62

Metal:Mn(0). Medium: MeCN, 0.1 M Bu4PF6. Monomer-dimer equilibrium  
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C03-- H2L Carbonate CAS 465-79-6 (268)  
 Carbonate;

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 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----  
 Mn++ sol NaCl 25°C 0.0 C K1=4.8 2003LMa (3268) 44  
 Kso(MnCO3)=-10.3

Solubility of rhodochrosite in 0.068-5.015 m NaCl at constant p(CO2),  
 pH 6-8. Kso in terms of total C03--. At I=0.70 m, Kso=-10.31, \*Kso=-8.65.

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 Mn++ sol none 25°C 0.0 C T K1=4.97 1996Wka (3269) 45  
 K(Mn+HCO3)=2.2  
 Kso(MnCO3)=-12.19  
 K(Mn+OH+CO3=Mn(OH)CO3)=8.22  
 K(MnCO3(s)+2H=Mn+H2CO3)=4.49

Calculated from solubility of MnCO3 (rhodochrosite) in carbonate media.  
 Data for 25-200 C. K(MnCO3(s)+H)=MnHCO3)=0.36; K(MnCO3(s)=MnCO3)=-7.21.

-----  
 Mn++ sol NaCl04 25°C 3.00M C K1=3.54 1994Nna (3270) 46  
 K(Mn+HL=MnHL)=0.32  
 Kso(MnL)=-9.78

Also available: Data from EMF measurements: K(Mn+H2O+CO2(g)=MnHL+H)=-7.56

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 Mn++ oth none 50°C 0.0 M T 1990Bub (3271) 47  
 K(Mn+HCO3)=1.43

Calculated from standard state functions at 25 C using isocoulombic  
 approach. Values for 50-300 C.

-----  
 Mn++ sol oth/un RT 0.72M C H 1990WSb (3272) 48  
 Kso(MnCO3)=-11.24

Medium: seawater. Method: ETAAS. DH(Kso)=6.1 kJ mol-1.

-----  
 Mn++ sp NaCl04 25°C 0.01M C TIH 1985EFa (3273) 49  
 K(Mn+HCO3)=1.36

Data for 25-45 C and 0.0012-0.05 M NaCl04.  
 DH(Mn+HCO3)=9.2 kJ mol-1.

-----  
 Mn++ oth oth/un 25°C 0.0 C H K1=4.10 1984FCa (3274) 50  
 K(Mn+HCO3)=1.95

K(Mn+HCO3) calc using electrostatic model. K1 from oxalate correlation.  
 DH(K1)=1.9 kJ mol-1, DH(Mn+HCO3)=6.7 (from DS calc by electrostat model)

-----  
 Mn++ sol none 25°C 0.0 C 1982J0a (3275) 51  
 Kso(MnCO3)=-10.59

Method: solubility in H2O, seawater and NaCl. MnO3 is rhodochrosite.  
 In seawater, 34.27%o: at 25 , Kso=-8.49; at 3.3C, Kso=-8.64

-----  
 Mn++ kin oth/un 25°C 0.10M U K1=1.04 B2=1.74 1981SPa (3276) 52

-----  
Mn++ gl none 5°C 0.0 M T H 1978LBA (3277) 53  
K(Mn+HL)=1.261  
DH=4.10 kJ mol<sup>-1</sup>, DS=38.0 J K<sup>-1</sup> mol<sup>-1</sup>. At 10 C: K(Mn+HL)=1.242; 15 C: 1.233;  
25 C: 1.275; 40 C: 1.333; 55 C: 1.385  
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Mn++ gl NaClO4 25°C 3.00M U 1970GKa (3278) 54  
K(Mn+HL)=0.45  
\*Kpso=7.97  
\*Kpso: MnCO3(s)+2H=Mn+CO2(g)+H2O  
-----

Mn++ sol none 25°C 0.0 U 1963HEa (3279) 55  
K(Mn+HL)=1.8  
Ks(MnCO3(s)+H=Mn+HCO3)=0.0  
-----

Mn++ EMF NaCl 25°C 0.29M U 1942NAc (3280) 56  
K(Mn+HL)=3.52  
-----

Mn++ sol oth/un 25°C dil U 1935KAa (3281) 57  
Kso(MnCO3(s))=-9.41  
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Mn++ oth none 25°C 0.0 U 1935KAa (3282) 58  
Kso(MnCO3(s))=-9.30  
+Kpso=-6.80  
From thermodynamic data. +Kpso: MnCO3(s)+CO2(g)+H2O=Mn+2HCO3  
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Mn++ sol oth/un 18°C ? U 1930RAa (3283) 59  
Kso(MnCO3(s))=-10.06  
-----

Mn++ sol oth/un 25°C var U 1911AVa (3284) 60  
Kso(MnCO3(s))=-10.74  
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\*\*\*\*\*  
C6N6Fe---- H4L (2191)  
Hexacyanoferrate (II); Fe(II)(CN)6----  
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| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values   | Reference | ExptNo |
|-------|-----|--------|------|------|-----|-------|----|--|-----------|--------|
| Mn++  | con | oth/un | 25°C |      |     | U T   |    | 1972BMe (3589) 61<br>K(K2Mn3L2(s)=2K+3Mn+2L)=-29.5<br>K's(K8Mn6L5)=-64.6<br>35 C: Ks=-30.0; K's=-63.6. 45 C: Ks=-29.5; K's=-63.3 |           |        |

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Mn++ vlt oth/un 25°C dil U 1961BSb (3590) 62  
Kso(Mn2L)=-13.33 ?  
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Mn++ sol oth/un 25°C var U 1956TGb (3591) 63  
Kso(Mn2L)=-12.10  
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\*\*\*\*\*  
C6N6Fe--- H3L Ferricyanide (2491)  
Hexacyanoferrate (III); Fe(III)(CN)6---  
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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ sol NaClO4 25°C 1.00M U I 1974FRe (3677) 64  
Kso=-14.26  
Kso=-15.10(I=0.1), -14.70(I=0.2), -14.28(I=0.5), -15.25(I=2.0),  
-16.55(I=3.0), -18.55(I=4.0). I=0(corr): Kso=-18.2  
\*\*\*\*\*  
Cl- HL Chloride CAS 7647-01-0 (50)  
Chloride;  
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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ cal non-aq 25°C 100% C HM 2000KYa (5209) 65  
B(Mn(phen)Cl)=8.43  
B(Mn(phen)Cl3)=13.50  
B(Mn(phen)Cl2)=11.29  
B(Mn(phen)2Cl)=12.10  
B(Mn(phen)2Cl2)=15.11. Medium:DMF, 0.4 M Et4NClO4. DH(Mn(phen)Cl)=  
-16.2 kJ mol<sup>-1</sup>, DH(Mn(phen)Cl2)=-7.7, DH(Mn(phen)Cl3)=-4.7.  
-----

-----  
Mn++ cal non-aq 25°C 100% U HM 1997KYb (5210) 66  
B(Mn(bpy)Cl)=6.17  
B(Mn(bpy)Cl2)=9.12  
B(Mn(bpy)2Cl)=7.32  
B(Mn(bpy)2Cl2)=10.17  
Medium: DMF, 0.4 M Et4NClO4. DH(Mn(bpy)Cl)=-7.3 kJ mol<sup>-1</sup>,  
DH(Mn(bpy)Cl2)=1.9, DH(Mn(bpy)2Cl)=-18.6, DH(Mn(bpy)2Cl2)=-16.4.  
-----

-----  
Mn++ sol none 25°C 0.0 M T H K1=-0.61 1996GSb (5211) 67  
Method: solubility of AgCl in HCl (0.01-6.0 M)/MnCl2 solutions at 25-300 C  
At 25 C, DH(K1)=27 kJ mol<sup>-1</sup>, DS(K1)=79 J K<sup>-1</sup> mol<sup>-1</sup>.  
-----

-----  
Mn++ cal non-aq 25°C 100% U T H K1=4.1 B2=8.0 1993SKb (5212) 68  
B3=12.3  
B4=14.4  
Medium: N,N-dimethylacetamide 0.1 M R4NX; also by spectroscopy. DH(K1)=18.6  
kJ mol<sup>-1</sup>, DH(B2)=34, DH(B3)=21, DH(B4)=4. Constants also at 45 C  
-----

-----  
Mn++ oth none 50°C 0.0 M T K1=0.50 B2= 0.67 1990Bub (5213) 69  
B3=1.28  
Calculated from standard state functions at 25 C using isocoulombic  
approach. Values for 50-300 C.  
-----

-----  
Mn++ sp non-aq 25°C 100% U H K1=2.20 B2=3.3 1990SIa (5214) 70  
B3=5.2  
B4=6.69  
Medium: DMSO, 0.4 M Et4NBF4. By colorimetry, DH(K1)=6.2 kJ mol<sup>-1</sup>, DH(B2)=29,  
DH(B3)=44, DH(B4)=44.4  
-----



|   |            |       |       |   |     |   |                |    |
|---|------------|-------|-------|---|-----|---|----------------|----|
| Mn++  | cal non-aq | 25°C  | 100%  | U | H   | K1=3.69<br>B2=6.09<br>B3=10.02<br>B4=12.63    | 1988IOa (5215) | 71 |
| In N,N-dimethylformamide. Bn values also by calorimetry. DH(K1)=1.1 kJ mol <sup>-1</sup><br>DH(B2)=26.7; DH(B3)=31.8; DH(B4)=21.3           |            |       |       |   |     |   |                |    |
| Mn++  | ISE non-aq | 25°C  | 100%  | U |     | K1=2.83                                       | 1988SGa (5216) | 72 |
| Medium: DMSO, 0.1 M Et4NCl  |            |       |       |   |     |   |                |    |
| Mn++  | nmr none   | 0.0   |       | C | T H |   | 1988WCb (5217) | 73 |
| Method: esr. Data for 50-170C. DH(K1)=23 kJ mol <sup>-1</sup> , DS(K1)=80 J K <sup>-1</sup> mol <sup>-1</sup> .                             |            |       |       |   |     |   |                |    |
| Mn++  | sp non-aq  | 25°C  | 100%  | U |     | K1=4.53                                       | 1986GPa (5218) | 74 |
| Medium: N,N-dimethylformamide   |            |       |       |   |     |   |                |    |
| Mn++  | sp non-aq  | 25°C  | 100%  | U | I   | K1=3.24                                       | 1982LPa (5219) | 75 |
| Medium: DMSO, 0.2 M M(ClO4)2  |            |       |       |   |     |   |                |    |
| Mn++  | EMF R4N.X  | 18°C  | 1.15M | U |     | K1=-0.09<br>B2=-0.41<br>K3=-0.63              | 1977KUa (5220) | 76 |
| Mn++  | sol NaClO4 | 25°C  | 1.00M | U | I   | K1=-0.09<br>B2=-0.52                          | 1975FKa (5221) | 77 |
| Mn++  | gl none    | 25°C  | 0.0   | U |     | K1=-0.14                                      | 1975LTa (5222) | 78 |
| Mn++  | ISE NaClO4 | 25°C  | 1.0M  | U |     | K1=0.04                                       | 1974BLb (5223) | 79 |
| Mn++  | kin NaClO4 | 25°C  | 1.0M  | U |     | K1=-0.33                                      | 1973HHb (5224) | 80 |
| Mn++  | nmr alc/w  | 25°C  | 11%   | U | I   | K1=0.30                                       | 1971BWb (5225) | 81 |
| Med 11% MeOH/H2O. K1=0.20(0%), 0.49(26%), 0.92(43%), 1.20(54%), 1.34(67%),<br>1.82(x=80), 2.74(x=100). Method: esr                          |            |       |       |   |     |   |                |    |
| Mn++  | nmr alc/w  | -20°C | 100%  | U | T H | K1out=0.95<br>K1in=1.00<br>K(Et4N+MnCl4)=1.15 | 1970BMD (5226) | 82 |
| Medium: MeOH. DH(K1out)=10.0 kJ mol <sup>-1</sup> ; K1out=1.26(20 C), 1.48(60 C).<br>DH(K1in)=8.4. K1in=1.24(20 C), 1.45(60 C). Method: esr |            |       |       |   |     |   |                |    |
| Mn++  | nmr non-aq | 25°C  | 100%  | U | T H | K1=3.81                                       | 1969BHe (5227) | 83 |
| Medium: DMF. DH(K1)=-5.02. Method: esr  |            |       |       |   |     |   |                |    |
| Mn++  | nmr alc/w  | ?     | 100%  | U |     | K1 > 2.0                                      | 1968LLa (5228) | 84 |
| Medium: MeOH, LiCl  |            |       |       |   |     |   |                |    |
| Mn++  | oth oth/un | 25?°C | 0.0   | M |     | K1=0.1  | 1966MBb (5229) | 85 |
| Mn++  | vlt NaClO4 | ?     | 1.50M | U |     | K1=0.04                                       | 1962TCa (5230) | 86 |

Mn++ ix NaClO4 20°C 0.69M U K1=0.59 B2=0.26 1961MSb (5231) 87  
B3=-0.36

Mn++ con none 25°C 0.0 U K1=0 1947JAa (5232) 88  
\*\*\*\*\*  
ClO3- HL Chlorate CAS 7790-93-4 (971)  
Chlorate;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
Mn++ cal oth/un 25°C 1.00M U H 1975ARa (6047) 89  
DH(K1)=-5.21 kJ mol<sup>-1</sup>. DS = -22.6 J K<sup>-1</sup> mol<sup>-1</sup>. Medium: 1.0 M NaClO3

Mn++ kin NaClO4 25°C 1.0M U K1=-0.27 1973HHb (6048) 90  
\*\*\*\*\*  
ClO4- HL Perchlorate CAS 7001-90-3 (287)  
Perchlorate;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
Mn++ con non-aq 25°C 100% U K1=1.28 1981LGA (6322) 91  
Medium: DMSO; K1 in DMSO/benzene (mole fraction 0.3)=1.86

Mn++ nmr alc/w 20°C 100% U K1out=-0.3 1970BMD (6323) 92  
K1in=-0.4  
Medium: MeOH. Method: esr. In DMSO: K1out=-0.3, K1in=-0.5. In DMF: K1out=0.4  
K1in=-0.7. DH(K1in)=13 kJ mol<sup>-1</sup>

Mn++ nmr alc/w ? 100% U K1=0.0 1968LLa (6324) 93  
Medium: MeOH, LiClO4. Method: esr  
\*\*\*\*\*  
F- HL Fluoride CAS 7644-39-3 (201)  
Fluoride;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
Mn++ ISE R4N.X 25°C 0.05M U I K1=1.38 1983SBa (7015) 94  
Medium: 0.05 M Et4NF. In MeOH, 0.05 Et4NF, K1=3.48

Mn++ ISE NaClO4 25°C 1.00M U I K1=1.2 1981KBb (7016) 95

Mn++ ISE NaClO4 25°C 3.00M U K1=1.00 1976KBa (7017) 96

Mn++ cal oth/un 25°C 0.50M U H K1=0.59 1974ARc (7018) 97  
DH(K1)=13.6 kJ mol<sup>-1</sup>, DS=57 J K<sup>-1</sup> mol<sup>-1</sup>

Mn++ cal NaNO3 25°C 0.50M U H 1974ARE (7019) 98  
DH(K1)=13.6 kJ mol<sup>-1</sup>; DS=56.9 J K<sup>-1</sup> mol<sup>-1</sup>

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-----
Mn++      ISE NaClO4 25°C 1.0M U      K1=0.62      1972BHc (7020) 99
-----
Mn++      vlt none 25°C 0.0 U      K1=5.52      B2=9.04      1969GSf (7021) 100
                        B3=11.64
                        B4=13.4
                        B5=14.7
                        B6=15.5
-----

```

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Mn++      EMF NaClO4 25°C 1.0M U      K1=0.79      1965CGc (7022) 101
Methods: H and quinhydrone electrodes
*****
FClBrI          HL          (541)
Halides, comparative (for book data under ligand 80)
-----

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      nmr oth/un 22°C 0.0 U      K1out=0.18(F)
                        K1out=-1.05(Cl)
                        K1out=-1.35(Br)
                        K1out < -2(I)
-----

```

Method: esr

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

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl NaNO3 25°C 1.00M U      K1=5.91      1984COa (7470) 103
Alternative method: Spectrophotometry. Medium: LiNO3
*****
I-          HL      Iodide          CAS 10034-85-2 (20)
Iodide;
-----

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```

Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      vlt non-aq 25°C 100% U      K1=3.5      B2=5.6      1972MAc (8245) 104
                        B3=7.8
                        B4=10.0
                        B5=12.2
                        B6=14.4
-----

```

Medium: MeCN, 0.1 M Et4NClO4

```

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

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      cal oth/un 25°C 0.5M U      K1=1.15      2003PKa (9180) 105
-----

```

Medium: NH4NO3. DH(K1)=-6.11 kJ mol-1

Mn++ gl alc/w 25°C 2.0M U I K1=1.23 B2= 2.03 1992MPb (9181) 106  
K3=0.55  
for 100% H2O K1=0.96  
for 100% H2O K2=0.52  
for 100% H2O K3=0.25

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

Mn++ cal oth/un 25°C 2.0M C K1=1.0 B2= 1.60 1992MPc (9182) 107  
K3=0.3  
K4=-0.01  
K5=-0.3  
K6=-0.7

Medium: 2.0 M NH4NO3;

Corresponding DH: -5.2; -4.8; -5.2; -5.0; -4.8; -5.0 kJ mol-1

Mn++ gl diox/w 25°C 2.0M U K1=1.30 B2= 2.10 1992MSc (9183) 108  
K3=0.57  
K1=0.96 (100%H2O)  
K2=0.52(100% H2O)  
K3=0.25 (100%H2O)

Medium: NH4NO3 in 50% v/v dioxane/H2O; for 20% K1=1.09; K2=0.69, K3=0.43

For 2 M NH4NO3 in50%v/v acetone/H2O K1=1.25; K2=0.82; K3=0.55

Mn++ gl R4N.X 25°C 5.00M U K1=0.8 1985MMa (9184) 109

Mn++ gl NaNO3 25°C 0.10M A M K1=1.27 1982SSa (9185) 110  
K(Mn(ATP)+L)=1.01

Mn++ EMF mixed 25°C 43% U K1=1.30 B2=1.90 1973LGb (9186) 111  
K3=0.48  
K4=-0.30

Medium: w% t-BuOH, 0.4 M NH4Cl. When w=0%, values:0.90, 0.67, -0.40, 0.30.

w=8%: 1.08, 0.60, -0.30, 0.40. w=25%: 1.00, 0.81, 0.23, -0.30

Mn++ gl R4N.X 20°C 2.0M U K1=1.00 B2=1.54 1972KBc (9187) 112  
K3=0.16  
K4=-0.4

Medium:NH4NO3

Mn++ vlt oth/un ? var U B6=9(?) 1925BRb (9188) 113

\*\*\*\*\*

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

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

Mn++ EMF KNO3 25°C 1.0M U K1=4.04 B2=7.56 1974ISa (9266) 114

K3=3.28

K4=3.16

Mn++ gl NaNO3 20°C 0.50M U K1=0.5 1963SZa (9267) 115  
\*\*\*\*\*

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

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

Mn++ gl NaClO4 25°C 1.0M U K1=0.45 1990ERb (9387) 116  
\*\*\*\*\*

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

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

Mn++ sp oth/un 15°C 1.00M U T K1=-0.676 1978MMF (9766) 117  
At 20 C: K1=-0.723; 25 C: -0.772; 30 C: =0.804

-----  
Mn++ cal NaNO3 25°C 1.00M U H 1975ARa (9767) 118  
DH(K1)=-4.74 kJ mol-1. DS = -18.8 J K-1 mol-1.

-----  
Mn++ sol NaClO4 25°C 0.50M U I K1=-0.38 B2=-0.30 1974FRe (9768) 119  
K1=-0.43, B2=-0.70(I=1). K1=-0.41, B2=-0.92, B3=-1.3(I=2). K1=-0.24,  
B2=-0.77(I=3). K1=-0.14, B2=-0.72, B3=-1.2(I=4). K1=0.20, B2=0.60(I=0 corr)

-----  
Mn++ kin NaClO4 25°C 1.0M U K1=-0.15 1973HHb (9769) 120

-----  
Mn++ nmr non-aq 20°C 100% U T H 1970BMD (9770) 121

K1out=0.60

K1in=0.51

Medium:Me2NCHO. K1out=0.98(60C), 1.30(100C), DHout=17 kJ mol-1  
K1in=0.93(60C), 1.24(100C), DHin=18 kJ mol-1

-----  
Mn++ nmr alc/w ? 100% U K1=0.7 1968LLa (9771) 122  
Medium MeOH, LiNO3 var

-----  
Mn++ oth mixed 23°C 90% U K1=0.46 B2=0.36 1966WFa (9772) 123  
Medium: 90% i-PrOH, 0.5 M HL

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

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

Mn++ gl NaClO4 30°C 1.0M U K1=4.76 1967BSb (10082) 124

-----  
Mn++ vlt oth/un 25°C var U K1=1.93 1962CMc (10083) 125  
\*\*\*\*\*

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

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl NaClO4 25°C 1.00M U K1=0.63 B2=0.29 1980GAa (10241) 126  
\*\*\*\*\*

OH- Hydroxide; HL Hydroxide (57)

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ sol none 25°C 0.0 C T \*B2=-18.54 1996WKa (11727) 127

Calculated from solubility of MnCO3 (rhodocrosite) in carbonate media.  
Data for 25-200 C.  $K(\text{MnCO}_3(\text{s})+2\text{OH}=\text{Mn}(\text{OH})_2+\text{CO}_3)=-2.73$

-----  
Mn++ gl NaClO4 30°C 0.10M C K1=5.68 1995STa (11728) 128  
-----

Mn++ oth none 50°C 0.0 M T K1=3.45 B2= 5.94 1990BUb (11729) 129  
B3=7.52  
B4=8.29

Calculated from standard state functions at 25 C using isocoulombic approach. Values for 50-300 C.

-----  
Mn++ gl KNO3 25°C 0.10M U M \*K(Mn(EDDA))=-11.5 1979GMa (11730) 130  
-----

Mn++ EMF NaClO4 25°C 0.01M U H 1969WSc (11731) 131  
DH(K1)=144.3 kJ mol<sup>-1</sup>, DS=669 J K<sup>-1</sup> mol<sup>-1</sup>

-----  
Mn++ EMF oth/un 25°C 1.00M U 1968FBa (11732) 132  
\*K1=-10.5  
\*B(2,1)=-9.9  
\*B(2,3)=-25.4

Medium: 1 M Na2SO4. Method: H electrode

-----  
Mn++ gl none 25°C 0.0 U T 1962PEa (11733) 133  
\*K1=-10.59  
\*K1=-10.93(15 C), -10.76(20 C), -10.38(30 C), -10.19(36 C), -10.10(42 C)

-----  
Mn++ vlt none 22°C 0.0 U 1956K0c (11734) 134  
Kso(Mn(OH)2)=-12.35

-----  
Mn++ gl KCl 30°C 0.10M U 1952CCa (11735) 135  
\*K1=-10.6

-----  
Mn++ EMF none 25°C 0.0 C 1942NAC (11736) 136  
Kso(Mn(OH)2)=-12.72  
-----

Mn++ sol none 25°C 0.0 U 1941FSa (11737) 137  
 \*Kso=15.20  
 $K(\text{Mn}(\text{OH})_2(\text{s})+\text{OH}=\text{Mn}(\text{OH})_3)=-5.0$   
 $K_{\text{so}}(\text{Mn}(\text{OH})_2(\text{s}))=-12.80$   
 B3=7.8

Mn++ gl oth/un 25°C dil U 19380Ka (11738) 138  
 $K_{\text{so}}(\text{Mn}(\text{OH})_2)=-12.9$

Mn++ EMF oth/un 18°C var C 1925BRa (11739) 139  
 $K_{\text{so}}(\text{Mn}(\text{OH})_2)=-13.89$

Method: H electrode

Mn++ kin oth/un 100°C 0.25M U K1=2.83 1913KUa (11740) 140  
 \*K1=-9.54

Mn++ con oth/un 18°C dil U 1909SFa (11741) 141  
 $K_{\text{so}}(\text{Mn}(\text{OH})_2)=-13.40$

Mn++ sol oth/un rt var U 1900HEa (11742) 142  
 $K_{\text{so}}(\text{Mn}(\text{OH})_2)=-12.1$

\*\*\*\*\*

PO4--- H3L Phosphate CAS 7664-38-2 (176)  
 Phosphate;

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

Mn++ gl NaNO3 25°C 0.10M M 1996SSa (13243) 143  
 $K(\text{Mn}+\text{HL})=2.45$

Mn++ nmr oth/un 25°C ? U M 1985MGa (13244) 144  
 $K(\text{Mn}(\text{trien})+\text{L})=2.08$

Mn++ vlt NaClO4 25°C 0.50M U 1973NMB (13245) 145  
 $K(\text{Mn}+\text{HL})=2.9$   
 $K(\text{Mn}+2\text{HL})=4.2$

Mn++ sol oth/un 25°C 0.01M U 1966GMb (13246) 146  
 $K(\text{MnHL}(\text{s})=\text{Mn}+\text{HL})=-12.86$

Mn++ gl R4N.X 25°C 0.20M U 1956SAa (13247) 147  
 $K(\text{Mn}+\text{HL})=2.58$

Medium: Pr4NCl

\*\*\*\*\*

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

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

Mn++ gl NaNO3 25°C 1.00M U K1=4.41 1984COa (13404) 148

\*\*\*\*\*  
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  
-----  
Mn++ gl R4N.X 25°C 0.20M U T H K1=6.40 B2= 8.81 1979MFb (13620) 149  
K(Mn+HP207)=3.65

Medium: Me4NBr, 0.20 M. Data for 5-35 C.

By calorimetry: DH(K1)=46 kJ mol<sup>-1</sup>.

\*\*\*\*\*  
P2W17061----- Polytungstate (2102)  
alpha-Heterodiphospho-polytungstate (usually alpha1 isomer)

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl NaNO3 25°C 1.00M U K1=6.34 1984COa (13725) 150  
K1=5.05 (alpha2 isomer)

\*\*\*\*\*  
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  
-----  
Mn++ gl KNO3 25°C 0.10M U T H K1=6.20 1973TRa (13880) 151  
K(Mn+HL)=4.30

At 2 C:K1=7.12, K(Mn+HL)=3.90; 35 C: K1=7.11,B=4.51

DH(K1)=-25.1, DH(Mn+HL)=0 kJ mol<sup>-1</sup>(25C)

-----  
Mn++ gl KNO3 45°C 0.10M U K1=6.31 B2=8.31 1971TRa (13881) 152  
K(Mn+HL)=4.07  
K(MnL+HL)=2.9  
K(MnL2+H)=9.03

-----  
Mn++ gl R4N.X 20°C 0.10M U H K1=8.04 1965ANa (13882) 153  
K(Mn+HL)=5.08  
K(MnL+H)=5.86

Medium: Me4NNO3. By calorimetry: DH(K1)=11.7 kJ mol<sup>-1</sup>, DS=194 J K<sup>-1</sup> mol<sup>-1</sup>

-----  
Mn++ gl KCl 25°C 0.10M U K1=7.21 1964EMb (13883) 154  
K(Mn+HL)=3.77  
K(MnL+H)=4.62

\*\*\*\*\*  
P309--- H3L CAS 13566-25-1 (235)  
Cyclotrimetaphosphate;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ con none 25°C 0.0 U K1=3.57 1949JMa (13963) 155

\*\*\*\*\*



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

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----  
 Mn++ con none 25°C 0.0 U K1=5.74 1950JMb (14012) 156  
 \*\*\*\*\*

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

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----  
 Mn++ vlt oth/un 25°C 0.72M C I 1999AVb (14408) 157  
 K(Mn+HL)=4.5  
 K(Mn+2HL)=9.9

Method: determination of free S-- by cathodic stripping voltammetry.  
 Medium: seawater, pH 8.0, S=35. Also data for S=21 and 10.5.

-----  
 Mn++ vlt NaCl04 24°C 0.50M C I K1=5.60 1999CRb (14409) 158  
 B(Mn2(S5))=11.43

Ligand is S5--. Method: polarography. Also data for 0.55 M NaCl.

-----  
 Mn++ vlt NaCl 25°C ? U 1994ZMa (14410) 159  
 K1eff=6.7

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

-----  
 Mn++ oth none ? 0 U 1990DKa (14411) 160  
 \*Ks(MnS(green)+H=Mn+HS)=0.17  
 \*Ks(MnS(pink)+H=Mn+HS)=3.34

From recalculation of literature data.

-----  
 Mn++ oth none 25°C 0.0 C 1989DYa (14412) 161  
 K(Mn+HS=MnS+H)=-2.1

Calculated from literature data, based on K(H+S)=17.0.

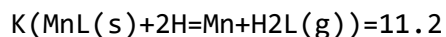
-----  
 Mn++ oth none 25°C 0 U 1988LIa (14413) 162  
 Kso(MnS,green)=-17.8  
 \*Kso(MnS,green)=0.4  
 Kso(MnS,pink)=-14.7  
 \*Kso(MnS,pink)=2.6

Derived from thermodynamic data and K(H+S=HS)=17.3.

-----  
 Mn++ dis oth/un 25°C 0.69M U 1985DYa (14414) 163  
 K(Mn+2H2S=MnHS2+3H)=-13.85  
 K(Mn+2H2S=Mn(HS)2+2H)=-7.56

-----  
 Mn++ sol NaCl04 25°C 3.0M U 1967GRa (14415) 164  
 \*Kso(a-MnS(s))=7.27

-----  
 Mn++ oth none 25°C 0.0 U 1964PCa (14416) 165



From thermodynamic data. MnL pink.  $K=8.4(\text{green})$

Mn++ nmr oth/un 25°C var U 1962CMc (14417) 166  
 $K_{\text{so}}(\text{MnL})=\text{ca.}-11.2$

Mn++ oth none 25°C 0.0 U T 1959CZa (14418) 167  
 $K_{\text{so}}(\text{MnL})=-12.64$

From thermodynamic data.  $K_{\text{so}}=-11.97(100\text{ C}), -11.32(200\text{ C}), -10.84(400\text{ C}), -10.45(600\text{ C})$

Mn++ sol oth/un 20°C var U 1931K0a (14419) 168  
 $K_{\text{so}}(\text{MnL})=-21.21(\text{green})$   
 $K(\text{MnL}(\text{s})+2\text{H}=\text{Mn}+\text{H}_2\text{L}(\text{g}))=1.8(\text{gr})$

At 18 C from thermodynamic data.  $K_{\text{iso}}=-15.16, K=7.80(\text{pink ?})$

\*\*\*\*\*

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

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

Mn++ cal non-aq 25°C 100% C HM 2000KYa (15140) 169  
 $B(\text{Mn}(\text{phen})\text{SCN})=6.04$   
 $B(\text{Mn}(\text{phen})(\text{SCN})_2)=8.16$   
 $B(\text{Mn}(\text{phen})(\text{SCN})_3)=9.42$   
 $B(\text{Mn}(\text{phen})_2\text{SCN})=9.25$

$B(\text{Mn}(\text{phen})_2(\text{SCN})_2)=11.56$ . Medium: DMF, 0.4 M Et4NClO4.  $\text{DH}(\text{Mn}(\text{phen})\text{SCN})=-15.9\text{ kJ mol}^{-1}$ ,  $\text{DH}(\text{Mn}(\text{phen})(\text{SCN})_2)=-20.2$ ,  $\text{DH}(\text{Mn}(\text{phen})(\text{NCS})_3)=-25.0$ .

Mn++ cal non-aq 25°C 100% U HM 1997KYb (15141) 170  
 $B(\text{Mn}(\text{bpy})\text{SCN})=4.07$   
 $B(\text{Mn}(\text{bpy})(\text{SCN})_2)=6.09$   
 $B(\text{Mn}(\text{bpy})(\text{SCN})_3)=6.94$   
 $B(\text{Mn}(\text{bpy})_2(\text{SCN}))=5.13$

Medium: DMF, 0.4 M Et4NClO4.  $B(\text{Mn}(\text{bpy})_2(\text{SCN})_2)=6.94$ .  $\text{DH}(\text{Mn}(\text{bpy})\text{SCN})=-7.7$ ,  $\text{DH}(\text{Mn}(\text{bpy})(\text{SCN}))=-11.7$ ,  $\text{DH}(\text{Mn}(\text{bpy})(\text{SCN})_3)=-15.5\text{ kJ m}^{-1}$ .

Mn++ cal non-aq 25°C 100% U H T  $K_1=2.3$   $B_2=3.9$  1990I0a (15142) 171  
 $K_3=0.8$   
 $K_4=1.0$

Medium: N,N-Dimethylformamide, 0.4 M Et4NClO4.  $\text{DH}(K_1)=-1.0$ ,  $\text{DH}(K_2)=-1.6$ ,  $\text{DH}(K_3)=9.3$ ,  $\text{DH}(K_4)=8.6\text{ kJ mol}^{-1}$ .  $\text{DS}(K_1)=40\text{ J K}^{-1}\text{ mol}^{-1}$ .

Mn++ kin NaClO4 25°C 1.0M U  $K_1=0.65$  1973HHb (15143) 172

Mn++ EMF none 25°C 0.0 U T H  $K_1=1.15$  1971DDb (15144) 173  
 $\text{DH}(K_1)=-13.8\text{ kJ mol}^{-1}$ ;  $K_1=1.07(35\text{ C}), 0.99(45\text{ C})$

Mn++ nmr alc/w ? 100% U  $K_1=>2.0$  1968LLa (15145) 174  
 Medium: MeOH. Method: esr

```

-----
Mn++      EMF oth/un 35°C  0.0  U      K1=1.57      1968PRd (15146) 175
-----
Mn++      cal oth/un 25°C  0.0  U  H      K1=1.23      1967NTa (15147) 176
Medium: 0 corr.  DH(K1)=-3.8 kJ mol-1, DS=10.5 J K-1 mol-1
-----
Mn++      sol oth/un 20°C   ?  U      B3=3.78      1967STb (15148) 177
-----
Mn++      dis NaClO4 20°C 1.50M U      T K1=0.73  B2=1.30  1964TCa (15149) 178
Kd(Mn+2L=MnL2(MeCOi-Bu))=-0.07
-----
Mn++      vlt NaClO4 25°C 2.30M U  I  T K1=0.72      1963TCb (15150) 179
K1=0.73(I=1.5), 0.80(I=0.7), B2=1.85(I=1.5)
-----
Mn++      oth oth/un  ?  var  U      K1=0.64      1962FLa (15151) 180
Method: ir
-----
Mn++      sp none 23°C  0.0  U      K1=1.23      1958YKa (15152) 181
*****
SO2      L      Sulfur dioxide (6336)
Sulfur dioxide;
-----
Metal     Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      nmr oth/un 24°C  var  U  T      K1out=1.20
K1in=0.60
Ligand:Dithionite(S2O4)2-. At 40 C: K1out=1.34, K1in=0.45
-----
Mn++      nmr oth/un 20°C  var  U  T  H      K1out=1.18
K1in=0.62
Ligand:Dithionite(S2O4)2-.K1out=1.34(40 C),1.49(60 C),1.62(80 C),1.74(100 C)
K1in=0.45(40 C),0.3(60 C),0.16(80 C),0.04(100 C). DH(out)=14.6, DH(in)=-15.1
*****
SO3--    H2L      Sulfite      CAS 7782-99-2 (801)
Sulfite;
-----
Metal     Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      EMF NaCl 25°C 0.00  U  I      K1=3.00      1991RZb (15466) 184
*****
SO4--    H2L      Sulfate      CAS 7664-93-9 (15)
Sulfate;
-----
Metal     Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      nmr oth/un 25°C  1.0M C  I      K1=5.92      2002ZLa (16316) 185
Method: nmr relaxation. Medium: Na2SO4. K1=5.74 (I=2.0), 5.54 (I=3.0).

```

At I=0, K1=6.10. In MgSO4, K1=5.14 (I=3), 5.06 (I=3.5), 4.78 (I=4).

Mn++ con mixed 20°C 50% C I K1=3.18 2001MTa (16317) 186  
Medium: 50 % w/w DMF/H2O. Data for 0-80 % w/w DMF/H2O. At 0% DMF/  
H2O, K1=2.36

Mn++ con none 25°C 0.0 C K1=2.26 1994NHa (16318) 187  
Also data for 0.042 - 0.28 mole fraction EtOH/H2O.

Mn++ oth none 50°C 0.0 M T K1=2.51 1990BUb (16319) 188  
Calculated from standard state functions at 25 C using isocoulombic  
approach. Values for 50-300 C.

Mn++ nmr none 0.0 C T H K1=2.29 1988WCb (16320) 189  
Method: esr. Data for 25-170C. DH(K1)=12 kJ mol-1, DS(K1)=85 J K-1 mol-1.

Mn++ con none 25°C 0.0 C K1=2.24 1985SGd (16321) 190

Mn++ oth none 25°C 0.0 C K1=2.27 1981YYa (16322) 191  
Calculated from published osmotic coefficient data. From UV  
spectrometry (competition with Cu), K1=2.11. From conductivity, K1=2.21.

Mn++ con none 25°C 0.0 C T K1=2.80 1977STd (16323) 192  
At 15 C, K1=2.70; at 40 C, K1=2.84.

Mn++ sol NaClO4 25°C 1.00M U I K1=0.57 B2=1.15 1975FKa (16324) 193  
B3=1.20

Mn++ sp none 25°C 0.0 C K1=2.03 1975YYa (16325) 194  
By vapour pressure osmometry, K1=2.18

Mn++ con oth/un 10°C 0.0 U T H K1=2.08 1974BEb (16326) 195  
K1=2.20(25 C). DH(K1)=13.4 kJ mol-1

Mn++ cal NaClO4 25°C 3.0M U H K1=-0.16 1974BRa (16327) 196  
Medium:LiClO4. DH(K1)=9.6 kJ mol-1, DS(K1)=29 J K-1 mol-1

Mn++ cal oth/un 25°C 0.0 U H 1973HPa (16328) 197  
DH(K1)=9.1 kJ mol-1

Mn++ cal oth/un 25°C 0.0 U H 1973POa (16329) 198  
DH(K1)=8.3-8.6 kJ mol-1

Mn++ nmr oth/un 25°C var U 1973RTa (16330) 199  
K1out=1.76  
K1in=0.54

Mn++ oth none 25°C 0.0 C K1=2.35 B2= 1.87 1972PIa (16331) 200  
Calculated from published osmotic coefficient data.

Mn++ nmr alc/w 25°C 11% U I K1=2.72 1971Bwb (16332) 201  
K1in=-0.47  
Method:E.S.R., medium MeOH/H2O: 0% MeOH: K1=2.19, K1in=-0.68; 26%: K1=3.20,  
K1is=0.0

---

Mn++ con oth/un 25°C 0.0 U K1=2.30 1971HPa (16333) 202

---

Mn++ sp oth/un ? U K1=0.60 B2=0.64 1971KBh (16334) 203  
In 7.5 M NH4NO3, by EMF: K1=0.6, K2=-0.3

---

Mn++ oth mixed 15°C 20% U TI K1=1.80 1970RAa (16335) 204  
Method: ultrasonic absorption, medium: glycol/H2O. At 25 C: K1=1.82,  
35 C: 1.85. In 40% glycerol, 15 C: K1=2.00; 25 C: 2.03; 35 C: 2.04

---

Mn++ oth none 50°C 0.0 U T K1=2.5 1969HEa (16336) 205  
Estimated from literature data. K1=2.6(60 C), 3.0(100 C), 3.6(150 C),  
4.3(200 C)

---

Mn++ cal none 25°C 0.0 U H K1=2.86 1969IEa (16337) 206  
DH(K1)=2.6 kJ mol<sup>-1</sup>, DS(K1)=63.5 J K<sup>-1</sup> mol<sup>-1</sup>

---

Mn++ nmr oth/un 20°C 5.0M U K1=0.09 1969Vsa (16338) 207  
Method:N.M.R.

---

Mn++ ISE oth/un 35°C 0.0 U K1=2.27 1968PRd (16339) 208

---

Mn++ oth oth/un 25°C 0.0 U K1=2.11 1967AKd (16340) 209  
Method:ultrasonic absorbtion. I=0 corr. K1=overall constant

---

Mn++ oth oth/un 30°C 0.0 U T H 1967AKd (16341) 210  
K(Mn(aq)+L(aq))=1.73  
K'(Mn(aq)+L(aq)=MnH2OL)=-0.48  
K''(Mn(H2O)L=MnL)=0.58  
Method:ultrasonic absorption. Med:0 corr. K=1.69(20 C), 1.72(25 C), DH=6.27  
kJ mol<sup>-1</sup>,DS=54.3 J K<sup>-1</sup> mol<sup>-1</sup>. K,-0.40(2 C), -0.44(25 C);DH1=-13.4,DS=-54.3

---

Mn++ oth oth/un 25°C 0.0 U H K1=2.26 1967HEb (16342) 211  
From thermodynamic data. DH(K1)=15.1 kJ mol<sup>-1</sup>, DS=93.6 J K<sup>-1</sup> mol<sup>-1</sup>

---

Mn++ con mixed 25°C var U I K1=2.13 1967PHa (16343) 212  
In C2H4(OH)2/H2O mixtures(x mol). K1=2.42(x=0.1), 2.93(x=0.3), 3.63(x=0.5)

---

Mn++ con mixed 25°C 50% U I K1=3.59 1967TAb (16344) 213  
Medium: 50% MeOH. K1=3.98(60%), 4.47(70%), 4.95(80%)

---

Mn++ con mixed ? 20% U I K1=2.72 1966ATb (16345) 214  
Medium: 20.14% CH3OC2H4OH. K1=2.12(0%), 3.14(30.13%), 3.43(39.9%),  
3.90(49.9%), 4.11(54.93%)

---

Mn++ con oth/un 25°C dil U I K1=2.36 1965FDa (16346) 215

At 1 atm. K1=2.32(500 atm), 2.23(1000 atm), 2.18(1500 atm), 2.14(2000 atm)  
 I=0.0005 M MnL, values given also for conc upto 0.02 M

Mn++ oth oth/un 25°C 0.0 U K1=2.03 1965POa (16347) 216  
 K(Mn(H2O)2L=MnH2OL)=-0.15

Mn++ con mixed 25°C 9.9% U I K1=2.44 1964APa (16348) 217  
 Medium: 9.9% w/w Me2CO/H2O. K1=2.88(19.8%), 3.24(29.9%), 3.75(40.2%)

Mn++ con alc/w 25°C 10% U I K1=2.37 1962AHb (16349) 218  
 Medium: 10% MeOH, I=0 corr. K1=2.12(0%), 2.64(20%), 2.95(30%), 3.23(40%).  
 In dioxan/H2): K1=2.38(10%), 2.91(20%), 3.06(25%)

Mn++ oth oth/un 25°C 0.0 U K1=2.4 1959KOa (16350) 219  
 Method: ultrasound

Mn++ EMF oth/un 25°C 0.0 U T H K1=2.26 1959NNa (16351) 220  
 K1=2.01(0 C), 2.11(10 C), 2.20(20 C), 2.33(35 C), 2.42(45 C). DH(K1)=14.1  
 kJ mol-1, DS=95 J K-1 mol-1

Mn++ con oth/un 25°C 0.0 U K1=2.3 1958KVb (16352) 221

Mn++ con oth/un 25°C 0.0 U K1=2.28 1947JAa (16353) 222  
 \*\*\*\*\*  
 S203-- H2L Thiosulfate CAS 73686-28-7 (177)  
 Thiosulfate;

| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg K values | Reference       | ExptNo |
|-------|-----|--------|------|-------|-----|-------|-------------|-----------------|--------|
| Mn++  | cal | R4N.X  | 25°C | 0.50M | U   | H     | K1=0.67     | 1974ARa (16873) | 223    |

DH=2.09 kJ mol-1.

|      |     |      |      |     |   |  |         |                 |     |
|------|-----|------|------|-----|---|--|---------|-----------------|-----|
| Mn++ | sol | none | 25°C | 0.0 | U |  | K1=1.95 | 1951DMb (16874) | 224 |
|------|-----|------|------|-----|---|--|---------|-----------------|-----|

\*\*\*\*\*  
 S204-- H2L (317)  
 Dithionite;

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values           | Reference       | ExptNo |
|-------|-----|--------|------|------|-----|-------|-----------------------|-----------------|--------|
| Mn++  | nmr | oth/un | ?    | var  | U   |       | K1=0.72<br>K1out=1.37 | 1966BFc (16917) | 225    |

Method: ESR  
 \*\*\*\*\*  
 Se-- H2L Selenide (6335)  
 Selenide;

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values | Reference       | ExptNo |
|-------|-----|--------|------|------|-----|-------|-------------|-----------------|--------|
| Mn++  | oth | oth/un | 25°C | 0.0  | U   |       |             | 1964BUE (16945) | 226    |

Kso=-11.5

Estimated from thermodynamic data

\*\*\*\*\*

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

---

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values | Reference       | ExptNo |
|-------|-----|--------|------|------|-----|-------|-------------|-----------------|--------|
| Mn++  | sol | oth/un | 20°C | 0.0  | U   |       |             | 1966LSb (17066) | 227    |
|       |     |        |      |      |     |       | Kso=-7.27   |                 |        |

---

|      |     |        |      |     |   |  |               |                 |     |
|------|-----|--------|------|-----|---|--|---------------|-----------------|-----|
| Mn++ | sol | oth/un | 20°C | var | U |  |               | 1957CTa (17067) | 228 |
|      |     |        |      |     |   |  | Kso(MnL)=-6.9 |                 |     |

\*\*\*\*\*

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

---

| Metal  | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values | Reference       | ExptNo |
|--|-----|--------|------|------|-----|-------|-------------|-----------------|--------|
| Mn++   | EMF | none   | 0°C  | 0.0  | U   | T H   | K1=2.21     | 1970GNc (17105) | 229    |
| Method: H electrode. K1=2.29(10 C), 2.39(20 C), 2.43(25 C); 2.52(35 C); 2.60(45 C). DH(K1)=14.7 kJ mol-1, DS=96 J K-1 mol-1 (25 C) |     |        |      |      |     |       |             |                 |        |

\*\*\*\*\*

SiO3-- H2L Silicate CAS 7699-41-4 (747)  
Silicate; SiO2(OH)2--

---

| Metal  | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values | Reference       | ExptNo |
|--|-----|--------|------|------|-----|-------|-------------|-----------------|--------|
| Mn++   | oth | none   | 25°C | 0.0  | U   |       |             | 1957BAa (17214) | 230    |
| From thermodynamic data. Ks(MnSiO3(s)+H2O=SiO2(s)+Mn+2OH)=-13.20 |     |        |      |      |     |       |             |                 |        |

\*\*\*\*\*

SiW11O39----- H8L (2464)  
alpha-Heterosilicon-polytungstate;

---

| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg K values          | Reference       | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----------------------|-----------------|--------|
| Mn++  | gl  | KNO3   | 25°C | 1.00M | U   |       |                      | 1984COa (17238) | 231    |
|       |     |        |      |       |     |       | K1=6.29              |                 |        |
|       |     |        |      |       |     |       | K(beta1 isomer)=6.11 |                 |        |
|       |     |        |      |       |     |       | K(beta2 isomer)=5.96 |                 |        |
|       |     |        |      |       |     |       | K(beta3 isomer)=6.13 |                 |        |

Alternative method: Spectrophotometry. Medium: LiNO3

\*\*\*\*\*

Te-- H2L Telluride (472)  
Telluride;

---

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values | Reference       | ExptNo |
|-------|-----|--------|------|------|-----|-------|-------------|-----------------|--------|
| Mn++  | oth | oth/un | 25°C | 0.0  | U   |       |             | 1964BUE (17256) | 232    |
|       |     |        |      |      |     |       | Kso=-15.9   |                 |        |

Estimated. Kso=-30.0(Fe++), -37.4(Co++), -38.1(Ni++), -79(Pd++), -87(Pt++)  
-62.3(Cu+), -53.8(Cu++)

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

```
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++       gl   diox/w 25°C  50%  U           K1=1.82        1969SGa (17623) 233
-----
```

```
Mn++       ix   oth/un 25°C  1.0M U           K1=0.80        1962TSa (17624) 234
*****
```

```
CH3NO              HL   Formaldoxime    CAS 62479-75-2 (4206)
Formaldoxime; CH2:N.OH
```

```
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++       oth oth/un 20°C  0.10M U           K1=20.7        1971BJa (17670) 235
Paper electrophoresis, acetate-veronal buffer
*****
```

```
CH3O5P             H3L   Phosphonoformic CAS 4428-95-9  (5654)
Phosphonoformic Acid; O:P(OH)2.COOH
```

```
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++       gl   NaNO3  25°C  0.10M C           K1=5.10        1994SCa (17701) 236
                                K(Mn+HL)=2.44
                                K(MnL+H)=4.91
-----
```

```
Mn++       nmr  R4N.X  25°C  0.05M M           K1=5.34        1982FPa (17702) 237
                                K(Mn+HL)=2.57
*****
```

```
CH4N2O             L     Urea             CAS 57-13-6  (2018)
Carbamide, Urea; (H2N)2CO
```

```
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++       sol  oth/un 25°C  ?  U           K1=0.61  B2=0.69  1970STe (17721) 238
*****
```

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

```
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++       sol  oth/un 25°C  ?  U           K1=1.48  B2=3.58  1970STe (17838) 239
                                B3=5.20
*****
```

```
CH5O3P             H2L                          CAS 13590-71-1 (1752)
Methylphosphonic acid; CH3.PO3H2
```

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



Mn++ gl NaNO3 25°C 0.10M M K1=2.48 1992SCa (18129) 240  
 \*\*\*\*\*  
 CH5O4P H2L CAS 86703-09-5 (1751)  
 Methylphosphoric acid; CH3OP(O)(OH)2

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

Mn++ gl NaNO3 25°C 0.10M M K1=2.20 1996SSa (18174) 241

Mn++ sp oth/un 20°C 0.10M U T K1=2.19 1965BRb (18175) 242  
 K1(65 C)=2.55

\*\*\*\*\*  
 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  
 -----

Mn++ gl NaNO3 25°C 0.10M C K1=3.62 1994SCa (18227) 243  
 K(Mn+HL)=1.77  
 K(MnL+H)=8.23

\*\*\*\*\*  
 CH6O6P2 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  
 -----

Mn++ gl KCl 25°C 0.10M U K1=12.95 B2=18.77 1967KLa (18286) 244  
 K(Mn+HL)=7.20  
 K(Mn+2HL)=13.26  
 K(2Mn+L)=15.85  
 K(2Mn+HL)=9.60

\*\*\*\*\*  
 CH6O7P2 H3L CAS 56399-35-0 (7664)  
 Methylidiphosphoric acid;

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

Mn++ gl NaNO3 25°C 0.10M M K1=4.10 1999SSa (18309) 245

\*\*\*\*\*  
 C2HO2F3 HL Trifluoroacetic CAS 76-05-1 (1360)  
 Trifluoroethanoic acid; F3C.COOH

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

Mn++ con non-aq 25°C 100% U K1=2.10 1979PPb (18349) 246  
 Medium: DMSO

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 C2H2O4 H2L Oxalic acid CAS 144-62-7 (24)  
 Ethanedioic acid; (COOH)2

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| Metal  | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg K values   | Reference       | ExptNo |
|--|-----|--------|------|-------|-----|-------|---|-----------------|--------|
| Mn++   | gl  | KNO3   | 35°C | 0.10M | C   | M     | K1=5.14<br>B(MnL(cytidine))=9.53  | 1985RRc (18951) | 247    |
| Mn++   | gl  | KNO3   | 35°C | 0.10M | C   |       | K1=5.14   | 1985RRh (18952) | 248    |
| Mn++   | vlt | NaClO4 | 25°C | 0.10M | U   |       | K1=3.15 B2=4.41   | 1969VPa (18953) | 249    |
| Mn++   | sp  | oth/un | 25°C | ?     | U   |       | K1=2.15 B2=4.05<br>B3=5.80  | 1968STa (18954) | 250    |
| Mn++   | vlt | NaClO4 | ?    | 0.25M | U   |       | K1=2.40 B2=5.66<br>B3=6.00  | 19670Ma (18955) | 251    |
| Mn++   | dis | NaClO4 | 20°C | 0.10M | U   |       | K1=3.75   | 1963STc (18956) | 252    |
| Mn++   | EMF | oth/un | 35°C | 0.0   | U   | H     | K1=8.141-0.03146T+0.00005857T <sup>2</sup> , DH(K1)=5.9 kJ mol <sup>-1</sup> , DS=95.7 J K <sup>-1</sup> mol <sup>-1</sup><br>0-35 C. Method: H electrode | 1961MNa (18957) | 253    |
| Mn++   | gl  | oth/un | 0°C  | 0.0   | U   | T     | K1=5.18<br>K1=3.92(15 C); 3.97(25 C); 4.02(35 C); 4.06(45 C). DH(K1)=5.9 kJ mol <sup>-1</sup>   | 1961MNb (18958) | 254    |
| Mn++   | gl  | oth/un | 25°C | 0.10M | U   |       | K1=3.9  | 1958GHc (18959) | 255    |
| Mn++   | gl  | oth/un | 25°C | >0.1  | U   |       | B2=5.80   | 1956ZOa (18960) | 256    |
| Mn++   | sol | oth/un | 25°C | 0.0   | U   |       | K1=3.96   | 1938MDa (18961) | 257    |
| Mn++   | con | oth/un | 18°C | 0.0   | U   |       | K1=3.89   | 1934MDa (18962) | 258    |
| Mn++   | sol | oth/un | 25°C | 0.0   | U   |       | K1=3.82 B2=5.25   | 1934MDa (18963) | 259    |
| *****  |     |        |      |       |     |       |   |                 |        |
| 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 |
|-------|-----|--------|------|-------|-----|-------|---------------------------------|-----------------|--------|
| Mn++  | gl  | KNO3   | 25°C | 0.50M | U   |       | K(Mn+HL)=0.74<br>K(Mn+2HL)=1.81 | 1989BAa (19235) | 260    |

\*\*\*\*\*  
C2H3O2Br HL Bromoacetic acid CAS 79-08-3 (1309)  
Bromoethanoic acid; Br.CH2.COOH

| Metal                           | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg K values | Reference       | ExptNo |
|---------------------------------|-----|--------|------|-------|-----|-------|-------------|-----------------|--------|
| Mn++                            | gl  | diox/w | 25°C | 0.10M | U   |       | K1=1.49     | 1969GPb (19279) | 261    |
| 0.1 M NaClO4 in 50% dioxane/H2O |     |        |      |       |     |       |             |                 |        |

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

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 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----  
 Mn++ gl diox/w 25°C 0.10M U K1=1.66 1969GPb (19370) 262  
 0.1 M NaClO4 in 50% dioxane/H2O

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 Mn++ gl diox/w 25°C 50% U K1=1.66 1969SGa (19371) 263  
 Medium: 50% dioxan, 0.1 M NaClO4

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 C2H3O2F HL Fluoroacetic ac CAS 144-49-0 (4222)  
 Fluoroethanoic acid; F.CH2.COOH

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----  
 Mn++ gl diox/w 25°C 0.10M U K1=1.43 1969GPb (19403) 264  
 0.1 M NaClO4 in 50% dioxane/H2O

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 C2H3O2I HL Iodoacetic acid CAS 64-69-7 (1312)  
 Iodoethanoic acid; ICH2.COOH

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----  
 Mn++ gl diox/w 25°C 0.10M U K1=1.41 1969GPb (19415) 265  
 0.1 M NaClO4 in 50% dioxane/H2O

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 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  
 -----  
 Mn++ gl KNO3 25°C 0.50M U 1989BAa (19479) 266  
 K(Mn+HL)=0.48  
 K(Mn+2HL)=0.94

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

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----  
 Mn++ gl KNO3 25°C 0.50M U K1=0.65 B2=-0.09 1989BAa (19487) 267  
 \*\*\*\*\*

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

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----  
 Mn++ gl diox/w 30°C 60% U K1=4.1 B2=7.60 19720Tc (19508) 268

Medium: 60% dioxan, 1 M (K,Na)NO3

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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 |
|-------|-----|--|------|-------|-----|-------|----|-----------------|-----------------|--------|
| Mn++  | gl  | KCl  | 25°C | 0.10M | U   |       |    | K1=0.80         | 1983LTa (20043) | 269    |
| Mn++  | kin | NaClO4                                     | 25°C | 1.00M | U   |       |    | K1=0.69         | 1973HHb (20044) | 270    |
| Mn++  | gl  | diox/w<br>0.1 M NaClO4 in 50% dioxane/H2O  | 25°C | 0.10M | U   |       |    | K1=1.97         | 1969GPb (20045) | 271    |
| Mn++  | gl  | diox/w<br>Medium: 50% dioxan, 0.1 M NaClO4 | 25°C | 50%   | U   |       |    | K1=1.97         | 1969SGa (20046) | 272    |
| Mn++  | gl  | none                                       | 25°C | 0.0   | U   |       |    | K1=1.40         | 1964AMa (20047) | 273    |
| Mn++  | gl  | non-aq<br>Medium: ethanoic acid            | 25°C | 100%  | U   |       |    | K2=7.53         | 1964KLa (20048) | 274    |
| Mn++  | sp  | non-aq<br>Medium: ethanoic acid            | 25°C | 100%  | U   |       |    | B2=10.27        | 1961PSa (20049) | 275    |
| Mn++  | gl  | oth/un                                     | 25°C | ->0   | U   |       |    | K1=1.22 B2=2.07 | 1958SBc (20050) | 276    |
| Mn++  | ix  | oth/un                                     | 25°C | 0.16M | U   |       |    | K1=0.61         | 1957LWc (20051) | 277    |
| Mn++  | oth | oth/un                                     | 25°C | ->0   | U   |       |    | K1=1.20         | 1956YFa (20052) | 278    |

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

| Metal  | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values        | Reference       | ExptNo |
|--|-----|--------|------|-------|-----|-------|----|-----------------|-----------------|--------|
| Mn++   | gl  | NaClO4 | 30°C | 0.10M | U   |       |    | K1=3.79         | 1988NDa (20344) | 279    |
| Mn++   | gl  | KCl    | 0°C  | 0.10M | U T |       |    | K1=4.3 B2=7.48  | 1964PCa (20345) | 280    |
| 15 C: K1=4.3, B2=7.3; 35 C: K1=4.48, B2=7.70; 40 C: K1=4.3, B2=7.3 |     |        |      |       |     |       |    |                 |                 |        |
| Mn++   | gl  | oth/un | 25°C | 0.10M | U   |       |    | K1=4.38 B2=7.56 | 1958LEa (20346) | 281    |

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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 |
|-------|-----|--|------|------|-----|-------|----|----------|-----------------|--------|
| Mn++  | gl  | diox/w<br>Medium: 50% dioxan, 0.1 NaClO4 | 25°C | 50%  | U   |       |    | K1=2.48  | 1969SGa (20583) | 282    |

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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 |
|-------|-----|--------|------|-------|-----|-------|----|--------------------------|-----------------|--------|
| Mn++  | gl  | NaNO3  | 25°C | 0.10M | C   | M     |    | K1=5.12<br>K(MnA+L)=3.74 | 2000KAb (21606) | 283    |

H2A=Dipicolinic acid.

|      |    |      |      |       |   |   |  |  |                 |     |
|------|----|------|------|-------|---|---|--|--|-----------------|-----|
| Mn++ | gl | KNO3 | 25°C | 0.10M | C | M |  | K1=3.00<br>K(MnL+A)=3.54<br>B(MnLA)=6.54<br>K(MnHL+B)=2.60<br>K(MnHL+C)=1.04 | 1999AAa (21607) | 284 |
|------|----|------|------|-------|---|---|--|--|-----------------|-----|

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

|      |    |      |      |     |   |     |  |                  |                 |     |
|------|----|------|------|-----|---|-----|--|------------------|-----------------|-----|
| Mn++ | gl | none | 25°C | 0.0 | C | TIH |  | K1=3.18 B2= 5.47 | 1995CDc (21608) | 285 |
|------|----|------|------|-----|---|-----|--|------------------|-----------------|-----|

Data for 0-0.09 M and 5-45 C. DH(K1)=-1.1 kJ mol-1, DH(B2)=-1.0 kJ mol-1.

|      |     |        |      |       |   |  |  |                            |                 |     |
|------|-----|--------|------|-------|---|--|--|----------------------------|-----------------|-----|
| Mn++ | vlt | NaClO4 | 25°C | 0.40M | C |  |  | K1=0.94<br>K(Mn+OH+L)=6.65 | 1991YNb (21609) | 286 |
|------|-----|--------|------|-------|---|--|--|----------------------------|-----------------|-----|

Method: polarography.

|      |     |      |      |     |   |  |  |  |                 |     |
|------|-----|------|------|-----|---|--|--|--|-----------------|-----|
| Mn++ | nmr | none | 27°C | 0.0 | U |  |  | K1=2.71 B2=4.76<br>B3=5.57<br>K(Mn+HL)=0.80<br>K(MnL+HL)=0.92<br>K(MnL2+HL)=0.08 | 1987GFb (21610) | 287 |
|------|-----|------|------|-----|---|--|--|--|-----------------|-----|

|      |    |      |      |       |   |   |  |  |                 |     |
|------|----|------|------|-------|---|---|--|--|-----------------|-----|
| Mn++ | gl | KNO3 | 35°C | 0.10M | C | M |  | K1=3.85<br>K(Mn+HL+cytidine)=8.16<br>K(MnL(cytidine)+H)=3.79 | 1985RRc (21611) | 288 |
|------|----|------|------|-------|---|---|--|--|-----------------|-----|

|      |    |      |      |       |   |  |  |         |                 |     |
|------|----|------|------|-------|---|--|--|---------|-----------------|-----|
| Mn++ | gl | KNO3 | 35°C | 0.10M | C |  |  | K1=3.85 | 1985RRh (21612) | 289 |
|------|----|------|------|-------|---|--|--|---------|-----------------|-----|

|      |    |      |      |       |   |  |  |         |                 |     |
|------|----|------|------|-------|---|--|--|---------|-----------------|-----|
| Mn++ | gl | NaCl | 20°C | 0.15M | M |  |  | K1=3.00 | 1985VDa (21613) | 290 |
|------|----|------|------|-------|---|--|--|---------|-----------------|-----|

|      |    |      |      |       |   |   |  |         |                 |     |
|------|----|------|------|-------|---|---|--|---------|-----------------|-----|
| Mn++ | gl | NaCl | 20°C | 0.15M | U | M |  | K1=3.00 | 1983VDb (21614) | 291 |
|------|----|------|------|-------|---|---|--|---------|-----------------|-----|

|      |    |       |      |     |   |   |  |                          |                 |     |
|------|----|-------|------|-----|---|---|--|--------------------------|-----------------|-----|
| Mn++ | gl | mixed | 25°C | 20% | C | I |  | K1=3.9 B2=6.90<br>K3=2.4 | 1974MMa (21615) | 292 |
|------|----|-------|------|-----|---|---|--|--------------------------|-----------------|-----|

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

|      |    |        |      |       |   |   |  |         |                 |     |
|------|----|--------|------|-------|---|---|--|---------|-----------------|-----|
| Mn++ | gl | NaClO4 | 25°C | 0.10M | C | I |  | K1=1.94 | 1974MMa (21616) | 293 |
|------|----|--------|------|-------|---|---|--|---------|-----------------|-----|

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

|      |    |      |      |      |   |   |   |         |                 |     |
|------|----|------|------|------|---|---|---|---------|-----------------|-----|
| Mn++ | gl | none | 25°C | 0.00 | U | T | T | K1=3.21 | 1972IJb (21617) | 294 |
|------|----|------|------|------|---|---|---|---------|-----------------|-----|

10 C: K1=3.23; 40 C: K1=3.15

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Mn++ gl KNO3 37°C 0.15M U T K1=2.71 B2=4.76 1969CPc (21618) 295  
 B3=5.52  
 K(Mn+HL)=0.64  
 K(MnL+HL)=0.80

Mn++ gl KNO3 25°C 0.10M U T K1=3.0 1969GEb (21619) 296

Mn++ gl KNO3 25°C 0.50M U M K1=2.56 B2=4.27 1969HLa (21620) 297  
 B3=4.87  
 B(MnLA)=7.29  
 B(MnL2A)=9.51

HA=salicylaldehyde

Mn++ gl KCl 25°C 0.50M U M T K1=2.65 B2=4.7 1968Lba (21621) 298  
 Ternary complexes with NTA and salicylaldehyde

Mn++ EMF oth/un 45°C 0.0 U T H T K1=3.161 1964BDa (21622) 299  
 Method: H electrode. K1=3.199(0 C), 3.179(15 C), 3.167(25 C), 3.161(35 C);  
 DH(K1)=-1.2 kJ mol<sup>-1</sup>, DS=56.4 J K<sup>-1</sup> mol<sup>-1</sup>

Mn++ oth KNO3 20°C 0.10M U K1=3.9 B2=5.60 1964JOa (21623) 300  
 Method: paper electrophoresis

Mn++ gl KCl 25°C 0.65M U T H T K1=2.60 B2=4.58 1964LSa (21624) 301  
 B3=5.7  
 10 C: K1=2.66, B2=4.71, B3=6.0; 25 C:DH(K1)=-5.9 kJ mol<sup>-1</sup>; DH(B2)=-13.8

Mn++ gl KCl 25°C 0.65M U T HM 1964LSa (21625) 302  
 B(MnAL)=5.36  
 B(MnAL2)=6.9  
 B(MnA2L2)=9.79  
 10 C: B(MnLA)=5.51, B(MnAL2)=7.7, B(MnA2L2)=10.25. 25 C: DH(MnLA)=-16.7 kJ mol<sup>-1</sup>; DH(MnL2A2)=-49.3. HA=pyruvic acid.

Mn++ gl KCl 0°C 0.09M U T K1=3.21 1957MMa (21626) 303  
 K1=3.12(30 C), 3.01(48.8 C). DH(K1)=-22 kJ mol<sup>-1</sup>, DS=-13 J K<sup>-1</sup> mol<sup>-1</sup>

Mn++ ix oth/un 22°C ? U K1=3.2 B2=5.7 1957Wfa (21627) 304

Mn++ gl diox/w 30°C 75% U K1=6.3 B2=11.0 1954Ufa (21628) 305

Mn++ gl oth/un 20°C 0.01M U K1=3.2 B2=5.50 1953ALa (21629) 306

Mn++ gl KCl 25°C 0.10M U T K1=2.85 1952KRa (21630) 307

Mn++ gl oth/un 25°C ->0 U T K1=3.44 1951MOa (21631) 308

Mn++ gl oth/un 25°C 0.01M U K1=3.66 B2=6.63 1949MMa (21632) 309

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C2H5NO3

HL

CAS 2921-14-4 (1892)

Aminoxyethanoic acid; H2N.O.CH2.COOH

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl KNO3 25°C 0.50M U K1=1.94 1985WTa (21829) 310  
\*\*\*\*\*  
C2H5N3O2 L Biuret CAS 108-19-0 (1126)  
Carbomoylurea (Allophanic acid); H2N.CO.NH.CO.NH2  
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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl NaClO4 25°C 0.01M U T H K1=9.10 1979SBa (21853) 311  
-----  
Mn++ gl NaClO4 25°C 0.01M U K1=9.10 1975SSb (21854) 312  
\*\*\*\*\*  
C2H5O5P H3L CAS 4408-78-0 (4225)  
Phosphonoethanoic acid; H0OC.CH2.PO3H2  
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-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ nmr R4N.X 25°C 0.05M M I K1=5.25 1982FPa (21892) 313  
K(Mn+HL)=2.95  
K1=6.30, K(Mn+HL)=3.50 extrapolated to I=0  
\*\*\*\*\*  
C2H6N2O L Glycinamide CAS 598-41-4 (60)  
2-Aminoethanoic acid amide; H2N.CH2.CO.NH2  
-----

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl oth/un 25°C 0.02M U K1=1.5 1956DRb (21950) 314  
\*\*\*\*\*  
C2H6N2O2 HL CAS 5549-80-4 (833)  
2-Amino-N-hydroxyacetamide, Glycine hydroxamic acid; H2N.CH2.CO.NH.OH  
-----

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl NaClO4 25°C 0.10M C K1=3.85 B2=6.45 1987PCa (21993) 315  
B(MnHL)=11.07  
B(MnH-1L)=-5.51  
\*\*\*\*\*  
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  
-----  
Mn++ gl oth/un ? 0.0 U B2=5.41 1961AMa (22072) 316  
\*\*\*\*\*  
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 |
|--|-----|--------|------|-------|-----|-------|----|------------------------------|-----------------|--------|
| Mn++   | gl  | oth/un | 25°C | 0.10M | U   |       |    | K1=0.81                      | 1981HAa (22408) | 317    |
| Medium: 0.1 M HOCH2CH2NH2.HNO3                             |     |        |      |       |     |       |    |                              |                 |        |
| Mn++   | oth | oth/un | 25°C | 0.43M | U   |       |    | K1=0.87 B2=1.10              | 1966SKe (22409) | 318    |
| *****  |     |        |      |       |     |       |    |                              |                 |        |
| C2H7O3P  |     | H2L    |      |       |     |       |    | CAS 71778-99-9               | (1978)          |        |
| Ethylphosphonic acid; CH3.CH2.PO3H2                        |     |        |      |       |     |       |    |                              |                 |        |
| Metal  | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values                     | Reference       | ExptNo |
| Mn++   | gl  | NaNO3  | 25°C | 0.10M | M   |       |    | K1=2.51                      | 1992SCa (22568) | 319    |
| *****  |     |        |      |       |     |       |    |                              |                 |        |
| C2H8NO3P   |     | H2L    |      |       |     |       |    | CAS 6323-97-3                | (1862)          |        |
| 1-Aminoethanephosphonic acid; CH3.CH(NH2).PO3H2            |     |        |      |       |     |       |    |                              |                 |        |
| Metal  | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values                     | Reference       | ExptNo |
| Mn++   | gl  | KNO3   | 25°C | 0.20M | C   |       |    | K1=3.50<br>K(Mn+HL)=1.97     | 1978MAb (22613) | 320    |
| *****  |     |        |      |       |     |       |    |                              |                 |        |
| 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 |
| Mn++   | gl  | KNO3   | 25°C | 0.20M | C   |       |    | K(Mn+HL)=2.12                | 1978MAb (22635) | 321    |
| *****  |     |        |      |       |     |       |    |                              |                 |        |
| 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 |
| Mn++   | gl  | KCl    | 20°C | 0.10M | U   |       |    | K1=4.72<br>K(Mn+HL)=2.74     | 1987BPb (22671) | 322    |
| Mn++   | gl  | KNO3   | 25°C | 0.20M | C   |       |    | K(Mn+HL)=1.89                | 1978MAb (22672) | 323    |
| Mn++   | gl  | KNO3   | 25°C | 0.20M | C   |       |    | K(Mn+HL)=1.89                | 1978MAc (22673) | 324    |
| Mn++   | gl  | KCl    | 25°C | 0.15M | U   |       |    | K1=2.55<br>K(Mn+HL)=1.72     | 19620Sa (22674) | 325    |
| *****  |     |        |      |       |     |       |    |                              |                 |        |
| 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 |
|--|-----|--------------------|------|-------|-----|-------|----|---|-----------------|--------|
| Mn <sup>++</sup>   | cal | oth/un             | 25°C | dil   | C   | H     |    | K1=2.76<br>B2= 4.87<br>B3=5.76  | 19890Fa (23190) | 326    |
| Medium: NH <sub>4</sub> Cl/NH <sub>3</sub> buffer, pH 10. DH(K1)=-14.48 kJ mol <sup>-1</sup> , DH(B2)=-24.69.  |     |                    |      |       |     |       |    |   |                 |        |
| Mn <sup>++</sup>   | gl  | KNO <sub>3</sub>   | 25°C | 1.0M  | C   | TIH   | R  | K1=2.77<br>B2=4.87<br>B3=5.79   | 1984PAa (23191) | 327    |
| IUPAC evaluation. DH(K1)=-11.7, DH(K2)=-13.4, DH(K3)=-21.1 kJ mol <sup>-1</sup>  |     |                    |      |       |     |       |    |   |                 |        |
| Mn <sup>++</sup>   | gl  | NaClO <sub>4</sub> | 25°C | 0.10M | C   |       | M  | K1=2.74<br>B(MnLA)=5.3<br>K(MnL+A)=2.56<br>K(MnA+L)=2.58<br>B(MnLB)=6.6 | 1977SFa (23192) | 328    |
| H <sub>2</sub> A=malonic acid, B=adenosinetriphosphate   |     |                    |      |       |     |       |    |   |                 |        |
| Mn <sup>++</sup>   | gl  | KNO <sub>3</sub>   | 25°C | 0.10M | C   | I     |    | K1=2.85<br>B2=4.75  | 1974MMa (23193) | 329    |
| Also data for 55%, 60%, 65%, 70%, 75%, 80% MeOH, 0.1M KNO <sub>3</sub>   |     |                    |      |       |     |       |    |   |                 |        |
| Mn <sup>++</sup>   | gl  | mixed              | 25°C | 20%   | C   | I     |    | K1=3.40<br>B2=5.87<br>K3=1.85   | 1974MMa (23194) | 330    |
| Medium: 60% DMF, 0.1M KNO <sub>3</sub> . Also data for 20%, 40%, 50%, 70%, 75%, 80% DMF  |     |                    |      |       |     |       |    |   |                 |        |
| Mn <sup>++</sup>   | gl  | NaClO <sub>4</sub> | 25°C | 0.10M | C   | I     |    | K1=2.79<br>B2=4.69  | 1974MMa (23195) | 331    |
| Also data for 20%, 40%, 50%, 60%, 70%, 75%, 80% Dioxan, 0.1M NaClO <sub>4</sub>  |     |                    |      |       |     |       |    |   |                 |        |
| Mn <sup>++</sup>   | sp  | R4N.X              | 25°C | 1.50M | U   |       | M  |   | 1973BDd (23196) | 332    |
| B((MnL <sub>2</sub> )A(CoL <sub>2</sub> ))=30.62, K((MnL <sub>2</sub> ) <sub>2</sub> A+(CoL <sub>2</sub> ) <sub>2</sub> A)=2(MnL <sub>2</sub> )A(CoL <sub>2</sub> ))=0.27<br>H <sub>4</sub> A=EDTA Medium: NH <sub>4</sub> NO <sub>3</sub> Data for other complexes also available |     |                    |      |       |     |       |    |   |                 |        |
| Mn <sup>++</sup>   | sp  | KCl                | 25°C | 1.50M | U   |       | M  |   | 1972BFd (23197) | 333    |
| K(MnA+L)=0.91<br>K(MnAL+MnL <sub>3</sub> =Mn <sub>2</sub> AL <sub>4</sub> )=3.62<br>Medium: HCl. H <sub>4</sub> A=EDTA   |     |                    |      |       |     |       |    |   |                 |        |
| Mn <sup>++</sup>   | gl  | KNO <sub>3</sub>   | 25°C | 0.10M | U   |       |    | K2=2.1  | 1970DNa (23198) | 334    |
| Mn <sup>++</sup>   | ISE | non-aq             | 25°C | 100%  | U   |       |    | K1=3.7<br>B2=6.9<br>B3=10.1   | 1969PSd (23199) | 335    |
| Medium: DMSO, 0.1 M KClO <sub>4</sub>  |     |                    |      |       |     |       |    |   |                 |        |
| Mn <sup>++</sup>   | gl  | KCl                | 25°C | 1.0M  | U   |       | H  |   | 1960CPa (23200) | 336    |
| DG(K1)=-15.68 kJ mol <sup>-1</sup> , DH=-11.7, DS=13.4; DG(B2)=-27.80, DH=-25.1, DS=9.2;<br>DG(B3)=-33.02, DH=-46.2, DS=-43.9  |     |                    |      |       |     |       |    |   |                 |        |
| Mn <sup>++</sup>   | gl  | oth/un             | 25°C | 1.40M | U   |       |    | K1=2.77<br>B2=4.87<br>K3=0.92   | 1957PBa (23201) | 337    |

Mn++ EMF KCl 30°C 1.0M C K1=2.73 B2=4.79 1941BJa (23202) 338  
K3=0.88

Method: H electrode

\*\*\*\*\*

C2H8N4S L CAS 35771-42-7 (4227)  
S-Methylisothiocarbohydrazide; H2N.N:C(S.CH3).NH.NH2

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

Mn++ gl KCl 25°C 0.50M U K1=2.02 1972BMc (23253) 339

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

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

Mn++ vlt NaClO4 25°C 0.40M C 1989NOc (23383) 340

K(Mn+H3L)=3.3  
K(Mn+H2L)=3.2  
K(Mn+HL)=8.1  
K(Mn+2H3L)=6.0

Method: polarography. Medium pH=4.6-6.4. K(Mn+H2L+H3L)=7.2,  
K(Mn+2H2L)=7.5, K(Mn+H2L+HL)=11.7.

-----  
Mn++ gl KNO3 25°C 0.10M U K1=6.94 1980ZRc (23384) 341

K(Mn+HL)=4.42  
K(Mn+H2L)=3.18

-----  
Mn++ gl KCl 25°C 0.10M U K1=9.16 1967KLa (23385) 342

K(Mn+HL)=5.26  
K(2Mn+H-1L)=19.64  
K(2Mn+L)=13.23  
K(2Mn+HL)=8.06

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C2H9NO6P2 H4L IDPA CAS 32545-63-4 (1335)  
Imino-N,N-bis(methylenephosphonic acid); HN(CH2PO3H2)2

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

Mn++ gl KNO3 25°C 0.1M C K1=6.26 1985MMa (23456) 343

B(MnHL)=14.42  
B(MnH2L)=19.28

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Mn++ gl KNO3 25°C 1.00M M 1982BGb (23457) 344

K(Mn+HL)=2.95

\*\*\*\*\*

C2H16N5O4Co HL (231)  
Pentaammineoxalatocobalt(III); Co(NH3)5(HC2O4)

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

Mn++ sp NaClO4 28°C 0.30M U K1=1.18 1974NDa (23476) 345  
\*\*\*\*\*

C3H4N2 L Pyrazole 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  
-----

Mn++ gl KNO3 25°C 0.50M U K1=0.60 B2=1.43 1989BAa (23573) 346  
-----

Mn++ vlt oth/un 25°C ? U K1=5.0 B2= 9.40 1980CFa (23574) 347  
-----

Mn++ vlt NaNO3 25°C 0.10M U K1=0.25 B2=0.34 1968Cwa (23575) 348  
\*\*\*\*\*

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

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

Mn++ gl NaNO3 25°C 0.50M M K1=1.42 1998Ksa (23905) 349  
-----

Mn++ gl KNO3 25°C 0.50M U K1=1.32 B2=2.30 1989BLa (23906) 350  
B3=3.23  
B3=3.23  
-----

Mn++ gl NaNO3 25°C 0.10M A M 1982SSa (23907) 351  
K(Mn(ATP)+L)=1.05  
-----

Mn++ gl NaNO3 25°C 0.10M A M K1=1.25 1982SSa (23908) 352  
K(MnA+L)=1.27  
-----

A=uridine-5'-triphosphate

-----  
Mn++ oth KNO3 30°C 0.16M U K1=1.25 B2=1.95 1966SKc (23909) 353  
-----

Mn++ gl oth/un 25°C 0.16M U K1=1.65 B2=2.90 1958MEb (23910) 354  
\*\*\*\*\*

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

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

Mn++ gl KNO3 25°C 0.10M U T H K1=1.57 1978BBd (23963) 355  
Data for 30, 35 and 40 C. DH(K1)=-58.2 kJ mol<sup>-1</sup>, DS(K1)=-165 J K<sup>-1</sup> mol<sup>-1</sup>.  
\*\*\*\*\*

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

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

Mn++ gl NaClO4 25°C 0.10M U K1=4.78 B2= 8.63 1977STc (23972) 356

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

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

Mn++        gl    KCl     25°C 0.65M U T M    K1=1.26        1964LSa (24059) 357  
 At 10 C: K1=1.20. Ternary complexes with glycine

\*\*\*\*\*  
 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  
 -----

Mn++        cal oth/un 25°C 0.0 U H        1963MNd (24496) 358  
 Medium:0 corr. DH(K1)=15.5 kJ mol<sup>-1</sup>, DS=114.5 J K<sup>-1</sup> mol<sup>-1</sup>

-----  
 Mn++        gl    oth/un 0°C ->0 U T H    K1=3.11        1961NNa (24497) 359  
 DH(K1)=15.0 kJ mol<sup>-1</sup>, DS=113 J K<sup>-1</sup> mol<sup>-1</sup>. K1=3.19(15 C), 3.27(25 C),  
 3.37(35 C), 3.48(45 C)

-----  
 Mn++        ix    oth/un 25°C 0.16M U        K1=2.30        1957LWc (24498) 360

-----  
 Mn++        EMF oth/un 25°C 0.04M U        K1=3.29        1949SDa (24499) 361

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 Mn++        sp    oth/un 0°C .205M U        K3=1.24        1940CNa (24500) 362

\*\*\*\*\*  
 C3H5N3                    HL                    CAS 1820-80-0 (1519)  
 3-Amino-1,2-diazole; C3H3N2.NH2

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

Mn++        gl    KNO3    25°C 0.50M U        K1=0.82 B2=2.33    1989BAa (24671) 363  
 \*\*\*\*\*

C3H5O2Br                    HL    3-Br-propionic    CAS 590-92-1 (1314)  
 3-Bromopropanoic acid; Br.CH2.CH2.COOH

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

Mn++        gl    diox/w 25°C 0.10M U        K1=1.69        1969GPb (24705) 364  
 0.1 M NaClO4 in 50% dioxane/H2O

\*\*\*\*\*  
 C3H5O2Cl                    HL                    CAS 107-94-8 (1436)  
 3-Chloropropanoic acid; Cl.CH2.CH2.COOH

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

Mn++        gl    diox/w 25°C 0.10M U        K1=1.88        1969GPb (24729) 365  
 0.1 M NaClO4 in 50% dioxane/H2O

-----  
Mn++ gl diox/w 25°C 50% U K1=1.88 1969SGa (24730) 366  
Medium: 50% dioxan, 1.0 NaClO4

\*\*\*\*\*  
C3H5O2F HL (6999)  
3-Fluoropropanoic acid;  
-----

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

Mn++ gl diox/w 25°C 0.10M U K1=1.65 1969GPb (24742) 367  
0.1 M NaClO4 in 50% dioxane/H2O

\*\*\*\*\*  
C3H5O2I HL 3-I-Propionic CAS 141-76-4 (1315)  
3-Iodopropanoic acid; I.CH2.CH2.COOH  
-----

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

Mn++ gl diox/w 25°C 0.10M U K1=1.68 1969GPb (24749) 368  
0.1 M NaClO4 in 50% dioxane/H2O

\*\*\*\*\*  
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  
-----

Mn++ gl diox/w 25°C 0.10M U K1=1.92 1969GPb (25021) 369  
0.1 M NaClO4 in 50% dioxane/H2O

-----  
Mn++ gl diox/w 25°C 50% U K1=1.92 1969SGa (25022) 370  
Medium: 50% dioxan/H2O, 0.1 M NaClO4

\*\*\*\*\*  
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  
-----

Mn++ gl NaClO4 30°C 0.10M U K1=2.44 1988NDa (25158) 371

\*\*\*\*\*  
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  
-----

Mn++ EMF NaClO4 25°C 1.0M U K1=0.92 B2=1.46 1967TGa (25481) 372  
K3=0.1

Method: quinhydrone electrode.  
-----

Mn++ ix oth/un 25°C 0.16M U K1=1.19 1957LWc (25482) 373  
-----

Mn++ con oth/un 25°C ? U K1=1.428 1954EMa (25483) 374

\*\*\*\*\*

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  
 -----

Mn++ gl KCl 25°C 0.10M C IH T K1=2.60 1993SKa (26204) 375  
 IUPAC evaluation

Mn++ gl KNO3 25°C 0.10M C M  
 K(MnA+L)=4.17  
 B(MnAL)=9.22

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

-----  
 Mn++ gl KCl 25°C 0.20M C K1=2.27 B2= 4.17 1983KGb (26206) 377  
 -----

Mn++ gl KNO3 20°C 0.10M U T K1=3.08 B2=6.08 1973BSf (26207) 378  
 K1(40 C)=2.94, B2(40 C)=5.87; K1(50 C)=2.89, KB2(50 C)=5.80;  
 K1(60 C)=2.85, B2(60 C)=5.74

-----  
 Mn++ gl KCl 25°C 0.05M U T K1=2.45 1971GKa (26208) 379  
 -----

Mn++ gl NaClO4 25°C 0.10M U T K1=2.67 1970GPa (26209) 380

-----  
 Mn++ ix NaNO3 ? 0.50M U K1=3.02 B2=6.74 1969BZb (26210) 381  
 -----

Mn++ sol oth/un 20°C 1.00M U T K1=3.15 1969BZb (26211) 382  
 K1(40 C)=3.07, K1(60 C)=2.94

-----  
 Mn++ gl KNO3 37°C 0.15M U T K1=2.39 B2=4.29 1969CPc (26212) 383  
 B3=5.70  
 K(MnL+HL)=0.96

-----  
 Mn++ oth KNO3 20°C 0.10M U K1=3.4 B2=5.30 1964JOa (26213) 384  
 Method: paper electrophoresis

-----  
 Mn++ gl oth/un 25°C ->0 U T K1=3.02 1951MOa (26214) 385  
 -----

Mn++ gl oth/un 25°C 0.01M U K1=3.24 B2=6.05 1950MMa (26215) 386  
 \*\*\*\*\*

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  
 -----

Mn++ gl KNO3 20°C 0.10M U T T K1=2.13 1973BSf (26464) 387  
 K1(40 C)=2.01, K1(60 C)=1.94

-----  
 Mn++ ix NaNO3 ? 0.50M U T K1=2.52 B2=6.13 1969BZb (26465) 388  
 -----

Mn++ sol oth/un 20°C 1.00M U T K1=2.53 1969BZb (26466) 389  
K1(40 C)=2.41, K1(60 C)=2.28

\*\*\*\*\*

C3H7N02S H2L Cysteine CAS 52-90-4 (96)  
2-Amino-3-mercaptopropanoic acid; H2N.CH(CH2.SH)COOH

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

Mn++ gl KNO3 25°C 0.10M U K1=4.56 1964LMa (26805) 390

-----  
Mn++ gl oth/un 20°C 0.01M U K1=4.1 1952ALa (26806) 391

\*\*\*\*\*

C3H7N03 HL Serine CAS 56-45-1 (49)  
2-Amino-3-hydroxypropanoic acid; H2N.CH(CH2.OH)COOH

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

Mn++ gl KNO3 25°C 0.10M C M K1=4.35 1999AAa (27150) 392  
K(MnL+A)=3.53  
B(MnLA)=7.88  
K(MnL+B)=3.54  
B(MnLB)=7.89

HA=MOPSO, HB=MOPS.

-----  
Mn++ gl KNO3 25°C 0.10M C M K(MnA+L)=3.86 1989MAd (27151) 393  
B(MnAL)=8.91

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

-----  
Mn++ gl NaCl 20°C 0.15M M K1=2.38 1985VDA (27152) 394

-----  
Mn++ gl KNO3 20°C 0.10M U T K1=3.91 B2=6.31 1973BSf (27153) 395  
K1(30 C)=3.87, B2=6.27; K1(40 C)=3.81, B2=6.22; K1(50 C)=3.77, B2=6.18;  
K1(60 C)=3.72, B2(60 C)=6.15

-----  
Mn++ gl NaCl04 25°C 3.00M U K1=2.89 B2=4.79 1973WIa (27154) 396

-----  
Mn++ gl KNO3 40°C 0.20M U T H K1=2.48 B2=3.95 1968RMb (27155) 397  
15 C: K1=2.51, K2=1.49. DH(B2)=-3.3 kJ mol<sup>-1</sup>, DS=63 J K<sup>-1</sup> mol<sup>-1</sup>

-----  
Mn++ oth oth/un 25°C 0.0 U K1=3.4 B2=6.7 1964SYa (27156) 398

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C3H7N03 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  
-----

Mn++ gl NaCl 20°C 0.15M U M K1=2.38 1983VDb (27232) 399

\*\*\*\*\*

C3H7N05S H2L Cysteic acid CAS 23537-25-9 (2603)

2-Amino-3-sulfonatopropanoic acid; HO3S.CH2.CH(NH2).COOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ g1 KNO3 25°C 0.50M U K1=3.30 1979DZb (27254) 400  
\*\*\*\*\*  
C3H7O5P H3L CAS 5926-41-4 (3549)  
2-Phosphonopropanoic acid; CH3.CH(PO3H2).COOH  
-----

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ g1 R4N.X 25°C 0.25M U K1=2.75 1957WBa (27303) 401  
Medium: 0.1-0.4 M (C3H7)4NI  
\*\*\*\*\*  
C3H7O5P H3L CAS 5962-42-5 (522)  
3-Phosphonopropanoic acid; HOOCH2.CH2.PO3H2  
-----

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ nmr oth/un 25°C 0.05M M K1=3.15 1982FPa (27312) 402  
K(Mn+HL)=1.60  
\*\*\*\*\*  
C3H7O6P H2L (6830)  
3-Hydroxy-2-oxopropylphosphoric acid; CH2(OH).CO.CH2.OPO3H2  
-----

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ g1 NaNO3 25°C 0.10M U K1=2.11 1992LCb (27323) 403  
\*\*\*\*\*  
C3H7O7P H3L CAS 28474-06-8 (3552)  
D-2,3-Dihydroxypropanoic acid 2-phosphate (D-2-phosphoglyceric acid)  
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-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ g1 R4N.X 25°C 0.25M U K1=3.09 1957WBa (27332) 404  
Medium: 0.1-0.4 M (C3H7)4NI  
\*\*\*\*\*  
C3H8NO5P H3L 3-Phosphono-Ala CAS 20263-06-3 (1509)  
2-Amino-3-phosphonatopropanoic acid; (H2O3P)CH2.CH(NH2).COOH  
-----

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ g1 KNO3 25°C 0.20M C K1=4.90 1978MAb (27352) 405  
K(Mn+HL)=2.60  
\*\*\*\*\*  
C3H8NO5P H3L Glyphosate CAS 1071-83-6 (1617)  
N-(Phosphonomethyl)glycine; H2O3P.CH2.NH.CH2.COOH  
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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----



Mn++ gl KCl 25°C 0.10M C I R K1=5.50 B2= 7.80 2001PRa (27406) 406  
B(MnHL)=12.3

IUPAC Recommended value

Mn++ gl KNO3 25°C 0.1M C K1=5.47 B2=7.80 1985MMa (27407) 407  
B(MnHL)=12.30

Mn++ gl KNO3 25°C 0.10M M K1=5.53 1978Lca (27408) 408  
K(MnL+H)=6.92  
K(MnL+OH)=4.30

\*\*\*\*\*  
C3H8NO6P H3L Phosphoserine CAS 17885-08-4 (1865)  
Serine dihydrogenphosphate, O-Phosphoserine; NH2.CH(CH2.OPO3H2).COOH

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

Mn++ gl KNO3 25°C 0.20M C K1=3.80 1978MAb (27470) 409  
K(Mn+HL)=2.33

Mn++ gl KNO3 25°C 0.20M C K1=3.80 1978MAc (27471) 410  
K(Mn+HL)=2.33  
K(MnL+H)=8.25

Mn++ gl KCl 25°C 0.15M U K1=3.9 19590Sa (27472) 411  
K(Mn+HL)=1.91

Mn++ gl oth/un 25°C 0.15M U K1=3.9 19570Sa (27473) 412

\*\*\*\*\*  
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

Mn++ gl KCl 25°C 0.20M C K1=3.47 B2=5.97 1989FSa (27579) 413  
B(MnHL)=10.92  
B(MnH-1L)=-5.99  
B(MnHL2)=14.30

\*\*\*\*\*  
C3H8OS2 H2L BAL CAS 59-52-9 (379)  
2,3-Dimercaptopropan-1-ol; HS.CH2.CH(SH).CH2(OH)

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

Mn++ gl KCl 30°C 0.10M U K1=5.23 B2=10.43 1961LTa (27664) 414

\*\*\*\*\*  
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

Mn++ sp NaCl 25°C 0.1M U K1=4.62 B2= 7.51 1999PAa (27793) 415  
Also published in Zh. Neorg.Khim. (1999) 44, 590

Mn++ EMF KNO3 ? 0.10M U K1=16.10 B2=21.10 1973RPa (27794) 416  
\*\*\*\*\*  
C3H9O4P H2L (6694)  
(Phosphonylmethoxy)ethane; H2O3P.CH2.O.CH2.CH3

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

Mn++ gl NaNO3 25°C 0.10M M K1=2.62 1992SCa (28021) 417  
\*\*\*\*\*  
C3H9O6P H2L CAS 57-03-4 (2984)  
2,3-Dihydroxypropylphosphoric acid, Glycerol 1-phosphate; HO.CH2.CH(OH).CH2.OPO3H2

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

Mn++ gl NaNO3 25°C 0.10M U K1=2.21 1992LCb (28049) 418  
\*\*\*\*\*  
C3H10NO3P H2L (1986)  
1,1-Dimethyl-1-aminomethylphosphonic acid; H2N.C(CH3)2.PO3H2

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

Mn++ gl KCl 25°C 0.10M U K1=4.03 B2=7.43 1969DMd (28076) 419  
K(Mn+HL)=2.94  
\*\*\*\*\*  
C3H10NO3P H2L CAS 35869-68-2 (1989)  
Dimethylaminomethylphosphonic acid; (CH3)2N.CH2.PO3H2

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

Mn++ gl KNO3 25°C 0.10M C K1=4.22 1993SKc (28101) 420  
K(MnL+H)=8.98  
\*\*\*\*\*  
C3H11NO6P2 H4L (6772)  
(Dimethylamino)-N-methylenediphosphonic acid; (CH3)2N.CH(PO3H2)2

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

Mn++ gl KCl 25°C 0.10M M K1=7.26 1978GMf (28414) 421  
K(Mn+HL)=6.71  
\*\*\*\*\*  
C3H11NO6P2 H4L (6735)  
N-Methylimino-N,N-bis(methylenephosphonic acid); CH3.N(CH2PO3H2)2

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

Mn++ gl KCl 25°C 0.20M C K1=7.42 2000Kka (28449) 422  
B(MnHL)=15.19

B(MnH2L)=19.82  
B(MnH-1L)=-4.23

-----  
Mn++ gl KNO3 25°C 0.10M C K1=8.24 1993SKc (28450) 423  
K(MnL+H)=7.93  
K(MnHL+H)=4.54

\*\*\*\*\*

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

-----  
Mn++ gl oth/un 25°C 0.10M U K1=5.15 1972AUa (28465) 424  
K(Mn+HL)=2.2

\*\*\*\*\*

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

-----  
Mn++ gl KNO3 25°C 0.10M C K1=10.9 1989SAa (28576) 425  
K(MnL+H)=7.37  
K(MnHL+H)=5.93  
K(MnH2L+H)=4.7

-----  
Mn++ vlt NaClO4 25°C 0.40M C 1988NKb (28577) 426  
K(Mn+H3L)=3.3  
K(Mn+H2L)=4.4  
K(Mn+HL)=5.7

Method: polarography. Medium pH=5.6.

-----  
Mn++ gl KCl 25°C 0.1M M K1=10.20 1975MNa (28578) 427  
K(Mn+HL)=5.64  
K(Mn+H2L)=4.42  
K(Mn+H3L)=3.54

\*\*\*\*\*

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

-----  
Mn++ oth NaClO4 25°C 0.50M U K1=1.51 1969TWa (28658) 428  
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

-----  
Mn++ gl NaNO3 25°C 0.10M C M K1=9.70 2000SSd (28683) 429

K(Mn+HL)=5.91  
 K(Mn+HL+OH)=12.89  
 K(MnHL+OH)=6.78  
 K(Mn+L+2OH)=18.62

Also data for ternary complexes. K(MnLOH+OH)=5.98.

\*\*\*\*\*

C4H3N2O2F HL 5-Fluorouracil CAS 51-21-8 (4277)  
 5-Fluoro-2,4(1H,3H)-pyrimidinedione;

| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values                 | Reference       | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|--------------------------|-----------------|--------|
| Mn++  | gl  | NaNO3  | 25°C | 0.10M | U   | M     |    | K1=6.49<br>K(MnA+L)=6.15 | 1996SGa (28693) | 430    |

A is adenine.

\*\*\*\*\*

C4H3N2O2I H2L 5-Iodouracil CAS 696-07-1 (8652)  
 5-Iodo-2,4-dihydroxypyrimidine;

| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values   | Reference       | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|--|-----------------|--------|
| Mn++  | gl  | NaNO3  | 25°C | 0.10M | C   | M     |    | K1=9.64<br>K(Mn+HL)=5.90<br>K(Mn+HL+OH)=12.62<br>K(MnHL+OH)=6.72<br>K(Mn+L+OH)=12.18 | 2000SSd (28702) | 431    |

Also data for ternary complexes. K(Mn+L+2OH)=18.82, K(MnLOH+OH)=6.65.

\*\*\*\*\*

C4H3N3O3S H3L Thiovioluric CAS 23036-77-3 (2000)  
 2-Thio-4,5,6(H)-pyrimidinetetrone 5-oxime

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference       | ExptNo |
|-------|-----|--------|------|------|-----|-------|----|----------|-----------------|--------|
| Mn++  | gl  | diox/w | 30°C | 50%  | U   |       |    | K1=2.93  | 1973CSb (28723) | 432    |

Medium: 50% dioxan, 0.1 M NaClO4

\*\*\*\*\*

C4H3N3O4 H3L Oxonic acid CAS 937-13-3 (1296)  
 4,6-Dihydroxy-1,3,5-triazine-2-carboxylic acid; C3N3(OH)2.COOH

| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values | Reference       | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|----------|-----------------|--------|
| Mn++  | sp  | NaClO4 | 20°C | 0.20M | U   |       |    | K1=3.85  | 1981LDa (28759) | 433    |

\*\*\*\*\*

C4H4N2O2 HL Uracil CAS 66-22-8 (412)  
 2,4-Dihydroxypyrimidone, 2,4-Pyrimidinedione;

| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values | Reference       | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|----------|-----------------|--------|
| Mn++  | gl  | KNO3   | 25°C | 0.10M | U   | T H   |    | K1=3.35  | 1983KSa (28860) | 434    |

|      |    |      |      |       |   |  |  |                 |                 |     |
|------|----|------|------|-------|---|--|--|-----------------|-----------------|-----|
| Mn++ | gl | KNO3 | 35°C | 0.10M | U |  |  | K1=3.14 B2=7.53 | 1981TSa (28861) | 435 |
|------|----|------|------|-------|---|--|--|-----------------|-----------------|-----|

-----  
Mn++ gl KNO3 45°C 0.10M U K1=2.9 1974KKa (28862) 436  
\*\*\*\*\*  
C4H4N2O2 H2L CAS 123-33-1 (8346)  
3,6-Dihydroxypyridazine;  
-----

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

Mn++ vlt mixed 25°C 30% C T H K1=10.08 1992SBb (28876) 437  
Method: polarography. Medium: 30% DMSO/H2O, 0.10 M LiClO4.  
Data for 15 and 35 C. DH(K1)=-61.8 kJ mol-1, DS(K1)=-52 J K-1 mol-1.  
\*\*\*\*\*  
C4H4N2O2S H2L Thiobarbituric CAS 504-17-6 (4279)  
4,6-Dihydroxy-2-mercaptopyrimidine, 2-thiobarbituric acid;  
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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Mn++ gl NaClO4 31°C 0.10M U T H K1=5.11 B2= 8.86 1984SJa (28893) 438  
Also data for 18 and 42 C. DH(K1)=-40.7 kJ mol-1, DS(K1)=-37.3 J K-1 mol-1  
DH(K2)=-30.4, DS(K2)=-28.6.  
\*\*\*\*\*  
C4H4N6 L 8-Azaadenine CAS 1123-54-2 (1884)  
8-Aza-6-aminopurine;  
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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Mn++ gl KNO3 45°C 0.10M U K1=4.0 1973TKa (28954) 439  
\*\*\*\*\*  
C4H4O4 H2L Maleic acid CAS 110-16-7 (111)  
cis-Butenedioic acid; HOOC.CH:CH.COOH  
-----

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Mn++ ix oth/un 25°C 0.16M U K1=1.68 1957LWc (29103) 440  
\*\*\*\*\*  
C4H4O4 H2L Fumaric acid CAS 110-17-8 (289)  
trans-Butenedioic acid; HOOC.CH:CH.COOH  
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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----

Mn++ ix oth/un 25°C 0.16M U K1=0.99 1957LWc (29210) 441  
\*\*\*\*\*  
C4H4O5 H2L Oxobutanedioic CAS 328-42-7 (1733)  
2-Oxosuccinic acid, Oxalacetic acid; HOOC.CH2.CO.COOH  
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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Mn++ gl NaClO4 25°C 0.50M U TI K1=1.21 1990MOf (29273) 442  
At 0.1 M, K1=1.64. At 30 C and 0.5 M, K1=1.14.  
-----

Mn++ kin oth/un 25°C 0.27M U K1=7.4 1987TLa (29274) 443  
Result given for enol form. For ligand hydrate, K1=6.6

Mn++ kin KCl 25°C 0.50M U I K1=1.23 1982BLb (29275) 444  
K(2Mn+L=Mn2H-1L+H)=-4.83  
K(MnL=MnH-1L+H)=-7.9  
K(MnL(keto)=MnL(enol))=-0.34

Also in 50% dioxan/H2O

Mn++ EMF diox/w 25°C 25% C I K1=1.42 1981MLa (29276) 445  
50% v/v dioxan/water: K1=1.91, K2=1.3; 75%: K1=2.18

Mn++ gl oth/un 25°C 0.10M U K1=2.8 1958GHc (29277) 446  
K(MnL+Mn)=2

\*\*\*\*\*  
C4H5N2Cl L CAS 872-49-1 (7589)  
5-Chloro-1-methylimidazole;

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

Mn++ gl NaNO3 25°C 0.50M M K1=1.03 1998KsA (29336) 447  
\*\*\*\*\*

C4H5N3O HL Cytosine CAS 71-30-7 (1096)  
2-Oxy-6-aminopyrimidine;

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

Mn++ gl KNO3 35°C 0.10M U M 1986RRe (29413) 448  
K(Mn+HL+HA)=8.05  
K(Mn(HL)A+H)=4.10  
K(Mn+HL+D)=9.07  
K(Mn+HL+HC)=7.63

HA is glycine; H2D is oxalic acid; C is histamine.  
K(Mn(HL)C+H)=3.45

Mn++ gl KNO3 45°C 0.10M U 1974KKa (29414) 449  
K(Mn+HL)=2.6

\*\*\*\*\*  
C4H5N3O2 HL (1327)  
4-Oximino-3-methyl-2-pyrazolin-5-one;

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

Mn++ gl alc/w 20°C 50% U T K1=2.33 B2=4.86 1981SSc (29429) 450  
At 30 C: K1=2.76, B2=5.58

\*\*\*\*\*  
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

Mn++ gl KNO3 25°C 0.50M U K1=0.93 B2=1.67 1989BLa (29488) 451  
\*\*\*\*\*

C4H6N2 L Methylpyrazole CAS 453-58-3 (368)  
3-Methyl-1,2-diazole; C3H3N2.CH3

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

Mn++ gl KNO3 25°C 0.50M U K1=0.44 B2=0.99 1989BLa (29504) 452

Mn++ vlt oth/un 25°C ? U K1=0.5 B2= 2.60 1980CFa (29505) 453  
\*\*\*\*\*

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  
-----

Mn++ gl NaNO3 25°C 0.50M M K1=1.38 1998KSa (29602) 454

Mn++ gl KNO3 25°C 0.50M U K1=1.34 B2=2.08 1989BLa (29603) 455  
B3=3.08

\*\*\*\*\*  
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  
-----

Mn++ gl NaClO4 25°C 0.10M U K1=5.20 B2= 9.34 1977STc (29664) 456  
\*\*\*\*\*

C4H6O2S2 HL CAS 2224-02-4 (1225)  
1,2-Dithiolane-3-carboxylic acid, Tetranorlipoic acid; C3H5S2.COOH

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

Mn++ gl NaClO4 25°C 0.10M C K1=1.87 1978SPd (29741) 457  
\*\*\*\*\*

C4H6O4 H2L Succinic acid CAS 110-15-6 (112)  
1,4-Butanedioic acid; HOOC.CH2.CH2.COOH

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

Mn++ gl NaClO4 37°C 0.15M C K1=2.71 B2=5.44 1977RWc (29995) 458  
B(MnHL)=7.41

-----  
Mn++ cal KCl 25°C 0.10M U H 1967MNC (29996) 459  
DH(K1)=12.5 kJ mol<sup>-1</sup>, DS=85.7 J K<sup>-1</sup> mol<sup>-1</sup>

-----  
Mn++ gl oth/un 25°C ->0 U T H K1=2.26 1961MNC (29997) 460  
DH(K1)=12.3 kJ mol<sup>-1</sup>, DS=85. K1=2.11(0 C), 2.18(15 C), 2.32(35 C)

Mn++ ix oth/un 25°C 0.16M U K1=1.26 1957LWc (29998) 461  
 \*\*\*\*\*  
 C4H6O4S H2L Thiodiacetic CAS 123-93-3 (140)  
 2,2'-Thiodiglycolic acid, Thiodiethanoic acid; HOOC.CH2.S.CH2.COOH

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

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Mn++ gl NaClO4 25°C 0.10M U TIH K1=2.92 1983DBb (30221) 462

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Mn++ gl NaClO4 25°C 0.10M U K1=1.75 1970PPa (30222) 463  
 K(Mn+HL)=0.6

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Mn++ EMF NaClO4 25°C 0.10M U K1=1.7 1966SYa (30223) 464  
 \*\*\*\*\*  
 C4H6O4S H3L Thiomalic acid CAS 70-49-5 (109)  
 2-Mercaptosuccinic acid, 2-Sulfanyl-1,4-butanedioic acid; HOOC.CH(SH).CH2.COOH

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

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Mn++ gl NaClO4 30°C 0.10M U K1=4.50 1988NDa (30346) 465  
 \*\*\*\*\*  
 C4H6O4S2 H2L CAS 505-73-7 (3585)  
 Dithiodiethanoic acid; HOOC.CH2.S.S.CH2.COOH

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

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Mn++ gl NaClO4 25°C 0.10M U K1=1.7 1968SKd (30412) 466  
 \*\*\*\*\*  
 C4H6O4Se H2L CAS 6228-62-2 (984)  
 Selenodiethanoic acid; HOOC.CH2.Se.CH2.COOH

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

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Mn++ gl KNO3 25°C 0.10M C K1=2.02 1975LPa (30450) 467  
 K(Mn+HL)=0.88

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Mn++ gl NaClO4 25°C 0.10M U K1=1.6 1966SYa (30451) 468  
 \*\*\*\*\*  
 C4H6O5 H2L Malic acid CAS 617-48-1 (393)  
 2-Hydroxybutane-1,4-dioic acid, Hydroxy-succinic acid; HOOC.CH2.CH(OH).COOH

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

---

Mn++ ix oth/un 25°C 0.16M U K1=2.24 1957LWc (30674) 469  
 \*\*\*\*\*  
 C4H6O5 H2L Diglycolic acid CAS 110-99-6 (243)  
 Di(carboxy)methyl ether, 2,2'-Oxydiethanoic acid; HOOC.CH2.O.CH2.COOH

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

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Mn++ gl KCl 25°C 0.10M C K1=2.54 1984MMg (30897) 470  
 -----  
 Mn++ gl NaClO4 25°C 0.10M U TIH K1=2.65 1983DBb (30898) 471  
 -----  
 Mn++ vlt NaClO4 25°C 0.40M C K1=2.7 B2= 3.80 1978NSa (30899) 472  
 B3=5.3

Method: polarography. Medium pH 5.3-8.6.

Mn++ gl KNO3 25°C 0.10M U K1=2.52 1975MTc (30900) 473  
 \*\*\*\*\*  
 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  
 -----

Mn++ ix oth/un 30°C dil C T K1=1.89 1992LHb (31301) 474  
 Medium: 0.2-5.0 mM tartaric acid eluent. At 40 C, K1=1.94

-----  
 Mn++ gl NaClO4 32°C 0.10M U K1=1.44 1967TPa (31302) 475  
 K(MnH-1L+H)=7.62  
 K(MnH-2L+H)=10.14

-----  
 Mn++ dis R4N.X 20°C 0.10M U K1=2.92 ? 1963STc (31303) 476  
 \*\*\*\*\*  
 C4H7NO2 HL (8137)  
 (S)-Azetidine-2-carboxylic acid;

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

Mn++ gl KNO3 25°C 0.10M C K1=3.4 1989ARa (31443) 477  
 \*\*\*\*\*  
 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  
 -----

Mn++ gl alc/w 25°C 75% U K1=6.2 B2=10.20 1986BTa (31456) 478  
 Medium: 75% MeOH/H2O, 0.1 M NaClO4  
 \*\*\*\*\*  
 C4H7NO2S HL Thioproline CAS 444-27-9 (1183)  
 Thiazolidine-4-carboxylic acid; C3H6NS.COOH

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

Mn++ gl NaCl 37°C 0.15M C K1=1.904 1981HMa (31473) 479  
 \*\*\*\*\*  
 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

Mn++ gl NaNO3 25°C 0.10M C M K1=4.82 2000KAb (31885) 480  
K(MnA+L)=5.07

H2A=Dipicolinic acid.

Mn++ gl KNO3 25°C 0.10M C M K1=4.74 1999AAa (31886) 481  
K(MnL+A)=3.66  
B(MnLA)=8.40  
K(MnL+B)=3.78  
B(MnLB)=8.52

K(MnHL+C)=1.61. HA=MOPSO, HB=MOPS, HC=TAPSO.

Mn++ gl KNO3 25°C 0.10M C M K(MnA+L)=9.48 1989MAd (31887) 482  
B(MnAL)=14.53

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

Mn++ gl KNO3 25°C 0.10M M K1=3.45 B2= 5.79 1981GVa (31888) 483

Mn++ gl oth/un 20°C 0.01M U K1=4 1952ALa (31889) 484

Mn++ gl KCl 25°C 0.10M U K1=3.74 1952KRb (31890) 485  
\*\*\*\*\*

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

Mn++ gl NaClO4 25°C 3.00M C K1=3.102 B2=5.222 1974BWa (32710) 486

Mn++ gl oth/un 20°C 0.01M U B2=4.5 1950ALa (32711) 487  
\*\*\*\*\*

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

Mn++ gl NaNO3 35°C 0.10M U M K1=2.60 1985KSc (33033) 488  
K(MnL+CMP)=1.44

H2CMP=cytidine-5'-monophosphoric acid

Mn++ gl KCl 25°C 0.20M C M K(Mn(DOPA)+L)=2.32 1984KDb (33034) 489  
B(MnHL(DOPA))=20.08

Ternary data also with Dopamine, Adrenaline and Noradrenaline

Mn++ gl KCl 20°C 0.20M U K1=1.90 1982KRc (33035) 490  
Using EPR spectroscopy: K1=1.83

Mn++ gl oth/un 25°C 0.02M U T K1=2.19 1956DRb (33036) 491

40 C: K1=1.99

-----  
Mn++ gl oth/un 25°C ->0 U K1=2.15 1951M0a (33037) 492  
\*\*\*\*\*  
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  
-----

Mn++ gl diox/w 25°C 50% U K1=1.85 1969SAa (33409) 493  
Medium: 50% dioxan, 0.1 M NaClO4  
\*\*\*\*\*  
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  
-----

Mn++ EMF NaClO4 25°C 1.0M U K1=0.90 B2=1.48 1967TGa (33490) 494  
K3=0.2

Method: quinhydrone electrode.

\*\*\*\*\*  
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  
-----

Mn++ gl alc/w 25°C 50% C K1=-0.31 1979SRa (33737) 495  
-----

Mn++ sp alc/w 25°C 50% C K1=-0.31 1975RSa (33738) 496  
Medium: 50% EtOH, 1.0 M NaClO4  
\*\*\*\*\*

C4H9NO2 HL 2-Aminobutyric CAS 2835-81-6 (571)  
2-Aminobutanoic acid; CH3.CH2.CH(NH2).COOH  
-----

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

Mn++ vlt NaClO4 25°C 0.40M U K1=3.1 1979NSa (33918) 497  
\*\*\*\*\*  
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  
-----

Mn++ gl KNO3 25°C 0.10M U K1=2.52 B2=4.27 1964LMa (34099) 498  
\*\*\*\*\*  
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  
-----

Mn++ gl KNO3 25°C 0.10M C M 1989MAd (34312) 499  
K(MnA+L)=3.95  
B(MnAL)=9.00

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

Mn++ gl NaCl 37°C 0.15M U K1=2.34 B2=4.94 1986XHa (34313) 500  
B(MnHL)=9.916

Mn++ gl NaCl 20°C 0.15M M K1=2.17 1985Vda (34314) 501

Mn++ gl KNO3 40°C 0.20M U T H K1=2.56 B2=3.93 1968Rmb (34315) 502  
At 15 C: K1=2.59, K2=1.39; DH(B2)=-3.3 kJ mol<sup>-1</sup>, DS=62.7 J K<sup>-1</sup> mol<sup>-1</sup>

\*\*\*\*\*

C4H9NO3 HL Homoserine CAS 1927-25-9 (578)  
2-Amino-4-hydroxybutanoic acid; HO.CH2.CH2.CH(NH2).COOH

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

Mn++ gl KCl 25°C 0.10M U K1=2.47 1971BDc (34356) 503

\*\*\*\*\*

C4H9NO3 HL CAS 4385-95-9 (1894)  
2-Aminoxybutanoic acid; CH3.CH2.CH(O.NH2).COOH

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

Mn++ gl KNO3 25°C 0.50M U K1=1.53 1985Wta (34365) 504

\*\*\*\*\*

C4H9N3O2 HL CAS 57-00-1 (8275)  
Methylguanidoethanoic acid;

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

Mn++ gl NaCl04 20°C 0.10M U T H K1=2.94 B2= 5.27 1983SSg (34419) 505

Also data for 30 and 40 C. DH(B2)=-4.85 kJ mol<sup>-1</sup>, DS(B2)=221 J K<sup>-1</sup> mol<sup>-1</sup>.

\*\*\*\*\*

C4H9O4P HL (1757)  
Prop-2-onophosphonic acid methyl ester; CH3.CO.CH2.P(O)(OH).OCH3

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

Mn++ sp oth/un 23°C 0.01M U K1=1.74 1975Kwa (34440) 506

\*\*\*\*\*

C4H10N05P 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

Mn++ gl KCl 20°C 0.10M U K1=7.88 1987BDc (34450) 507

K(Mn+HL)=2.98

\*\*\*\*\*

C4H10N05P 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  
-----  
Mn++ gl KCl 20°C 0.10M U K1=4.06 1987BDc (34463) 508  
K(Mn+HL)=2.14

\*\*\*\*\*  
C4H10N06P H2L CAS 6401-59-8 (2399)  
O-Phospho-2-methylserine;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl KNO3 25°C 0.20M C K1=3.65 1978MAc (34476) 509  
K(Mn+HL)=1.92  
K(MnL+H)=8.34

\*\*\*\*\*  
C4H10N06P H2L CAS 1114-81-4 (2400)  
O-Phospho-threonine;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl KNO3 25°C 0.20M C K1=3.81 1978MAc (34484) 510  
K(Mn+HL)=2.20  
K(MnL+H)=8.06

\*\*\*\*\*  
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  
-----  
Mn++ gl oth/un 20°C 0.01M U K1=4.2 1952ALa (34569) 511

\*\*\*\*\*  
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  
-----  
Mn++ gl KCl 25°C 0.50M C K1=3.629 1985LEa (34592) 512

\*\*\*\*\*  
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  
-----  
Mn++ gl KNO3 25°C 0.10M C M K1=3.68 2001AAa (34628) 513  
Also data for ternary complexes with 5'-GMP, 5'-IMP and 5'-CMP.

-----  
Mn++ gl KNO3 25°C 0.10M C K1=3.85 2000ADa (34629) 514  
\*\*\*\*\*

C4H10O2S L CAS 111-48-8 (4275)  
3-Thiapentan-1,5-diol; HO.CH2.CH2.S.CH2.CH2.OH

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

Mn++ gl NaClO4 25°C 1.0M C K1=-0.22 1979SRa (34686) 515  
\*\*\*\*\*

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  
-----

Mn++ oth oth/un 25°C 0.43M U K1=1.55 B2=2.00 1966SKe (34961) 516  
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  
-----

Mn++ gl NaClO4 25°C 2.0M U K1=0.70 B2= 0.73 2000LMb (35059) 517  
\*\*\*\*\*

C4H11NO8P2 H5L CAS 2439-99-8 (2129)  
N-Carboxymethyl-N,N-bis(methylenephosphonic acid); HOOC.CH2.N(CH2.PO3H2)2

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

Mn++ gl KNO3 25°C 0.10M C K1=9.9 2000SDa (35111) 518  
K(MnL+H)=6.73  
K(MnHL+H)=4.77  
K(MnH2L+H)=3.1  
K(MnL+OH)=2.6  
-----

Mn++ gl KCl 25°C 0.10M U K1=8.49 1974NKa (35112) 519  
K(Mn+HL)=4.75  
K(Mn+H2L)=3.87  
-----

Mn++ gl KNO3 25°C 0.10M U K1=7.0 1965WRa (35113) 520  
\*\*\*\*\*

C4H11N3O2 HL CAS 471915-94-3 (8550)  
2,4-Diamino-N-hydroxybutanamide;

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

Mn++ gl KCl 25°C 0.20M C K1=3.77 2002ECa (35178) 521  
B(MnHL)=12.88  
B(MnH-1L)=-4.93  
B(MnH2L2)=25.89  
B(MnHL2)=16.47  
\*\*\*\*\*

C4H1104P H2L (5867)  
n-Butyl phosphoric acid; C4H9.O.PO(OH)2

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

Mn++ gl NaNO3 25°C 0.10M C K1=2.34 1988MSa (35287) 522  
\*\*\*\*\*

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  
-----

Mn++ gl KNO3 25°C 0.10M U K1=2.94 1977PSb (35380) 523  
\*\*\*\*\*

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  
-----

Mn++ gl KNO3 25°C 0.10M U K1=2.64 1977PSb (35490) 524  
\*\*\*\*\*

C4H1207P2 H3L CAS 52811-47-9 (7665)  
N-Butyldiphosphoric acid;

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

Mn++ gl NaNO3 25°C 0.10M M K1=4.32 1999SSa (35586) 525  
\*\*\*\*\*

C4H13NO6P2 H4L CAS 5995-26-6 (1336)  
N-Ethyliminobis(methylenephosphonic) acid; C2H5N(CH2P03H2)2

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

Mn++ gl KCl 25°C 0.20M C K1=7.25 2000Kka (35607) 526  
B(MnHL)=15.80  
B(MnH2L)=20.54  
B(MnH-1L)=-3.49

-----  
Mn++ gl KNO3 25°C 1.00M M K1=6.94 1982BGb (35608) 527  
K(Mn+HL)=3.29  
\*\*\*\*\*

C4H13N3 L Dien CAS 111-40-0 (584)  
1,4,7-Triazaheptane, 2,2'-Iminobis(ethylamine), diethylenetriamine;  
NH2.(CH2)2.NH.(CH2)2.NH2

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

Mn++ cal KCl 25°C 0.10M U 1961CPa (35797) 528  
DH(B2)=29.1 kJ mol<sup>-1</sup>  
-----

Mn++ gl KCl 30°C 1.0M U T H K1=3.99 B2=6.82 1952JHa (35798) 529  
40 C: K1=3.89, K2=2.72. DH(K1)=-17 kJ mol<sup>-1</sup>, DH(K2)=-21

\*\*\*\*\*

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  
-----

Mn++ EMF KCl 25°C 0.10M C K1=6.0 2001MNB (35886) 530  
B(MnHL)=16.8  
B(MnH2L)=24.6  
K(MnH3L)=32.3  
K(MnH4L)=38.1

B(Mn2L)=12.1; B(Mn2HL)=21.4

-----  
Mn++ gl oth/un 25°C 0.10M U K1=7.25 1972AUa (35887) 531  
-----

Mn++ gl KCl 25°C 0.10M U K1=7.55 1965DKb (35888) 532  
K(Mn+HL)=3.63

\*\*\*\*\*

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  
-----

Mn++ dis NaClO4 25°C 1.0M C M K1=1.04 1977SMe (35927) 533  
Method: distribution from 1.0 M NaClO4 into CCl4/HL/tri-octylphosphine  
oxide (A). K(Mn+2HL(org)=MnL2(org)+2H)=-5.0.

\*\*\*\*\*

C5H3N2O4Br H2L 5-Bromoortotic 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  
-----

Mn++ gl R4N.X 25°C 0.10M U K1=1.88 1964TTa (35961) 534  
Medium: Me4NBr

\*\*\*\*\*

C5H3N2O4I H2L 5-Iodoortotic 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  
-----

Mn++ gl R4N.X 25°C 0.10M U K1=2.25 1964TTa (35968) 535  
Medium: Me4NBr

\*\*\*\*\*

C5H3N3O6 H2L 5-Nitroortotic 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  
-----



Mn++ ix NaClO4 25°C 0.10M U K1=1.74 1966DTa (35977) 536

Mn++ gl KCl 25°C 0.10M U K1=1.79 1961TDa (35978) 537

\*\*\*\*\*  
C5H3N4Cl L 6-Chloropurine CAS 87-42-3 (3032)  
6-Chloropurine;

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

Mn++ gl KNO3 45°C 0.10M U K1=6.6 1971TKc (35989) 538

\*\*\*\*\*  
C5H4NBr L CAS 1120-87-2 (8780)  
4-Bromopyridine;

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

Mn++ gl NaNO3 25°C 0.50M C K1=0.30 2002KSb (36004) 539

\*\*\*\*\*  
C5H4NCl L CAS 626-60-8 (322)  
3-Chloropyridine; C5H4N.Cl

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

Mn++ gl NaNO3 25°C 0.50M C K1=0.19 2002KSb (36025) 540

\*\*\*\*\*  
C5H4N2O3S H2L Thioorotic acid (4335)  
1,2,3,6-Tetrahydro-2-thio-6-oxo-4-pyrimidinecarboxylic acid;

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

Mn++ gl NaCl 20°C 0.15M U K1=3.79 1979DZe (36077) 541

K(Mn+HL)=2.33  
\*\*\*\*\*  
C5H4N2O4 H2L Orotic acid CAS 65-86-1 (624)  
1,2,3,6-Tetrahydro-2,6-dioxo-4-pyrimidinecarboxylic acid;

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

Mn++ gl NaCl 20°C 0.15M M K1=2.49 1985Vda (36114) 542

K(Mn+HL)=2.49  
-----  
Mn++ gl NaCl 20°C 0.15M U M K1=2.49 1983VDb (36115) 543

-----  
Mn++ gl NaCl 25°C 0.15M U T H K1=4.30 1979DZd (36116) 544

-----  
Mn++ gl NaCl 20°C 0.15M U K1=4.38 1979DZe (36117) 545

K(Mn+HL)=2.49  
-----  
Mn++ gl NaClO4 25°C 0.50M U K1=4.04 1979MDa (36118) 546

K(Mn+H2L)=4.04

K(Mn+2H2L)=6.96  
 K(Mn+H2L)=4.85 by spec.

\*\*\*\*\*

C5H4N2O4 H2L Isoorotic acid CAS 23945-44-0 (3616)  
 1,2,3,6-Tetrahydro-2,6-dioxo-5-pyrimidinecarboxylic acid;

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

Mn++ ix NaClO4 25°C 0.10M U 1966DTa (36128) 547  
 K(Mn+HL)=2.16

-----  
 Mn++ gl KCl 25°C 0.10M U 1961TDb (36129) 548  
 K(Mn+HL)=2.19

\*\*\*\*\*

C5H4N4O HL Hypoxanthine CAS 68-94-0 (1174)  
 6-Hydroxypurine;

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

Mn++ gl NaClO4 25°C 0.10M U TIH K1=3.50 B2= 5.80 1979RPb (36192) 549  
 Medium: KClO4. Data for 35 and 45 C and for I=0.05 and 0.20 M at 45 C.  
 DH(K1)=-87.9 kJ mol<sup>-1</sup>, DS(K1)=-228 J K<sup>-1</sup> mol<sup>-1</sup>; DH(K2)=28.4, DS(K2)=139.

-----  
 Mn++ gl KNO3 45°C 0.10M U K1=6.85 1971TKc (36193) 550

-----  
 Mn++ gl oth/un 20°C 0.01M U K1=2.4 1953ALa (36194) 551

\*\*\*\*\*

C5H4N4O2 HL Xanthine CAS 69-89-6 (4305)  
 Xanthine;

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

Mn++ gl NaNO3 25°C 0.10M U K1=1.54 1991KMa (36206) 552

\*\*\*\*\*

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  
 -----

Mn++ gl KNO3 45°C 0.10M U K1=6.6 1971TKc (36227) 553

\*\*\*\*\*

C5H4O2S HL 2-Thenoic acid CAS 527-72-0 (2312)  
 Thiophene-2-carboxylic acid; C4H3S.COOH

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

Mn++ gl NaClO4 30°C 0.20M U T H K1=1.98 1976SKc (36259) 554  
 At 40 C:K1=2.17; 50 C:2.22

-----  
 Mn++ gl diox/w 25°C 50% U K1=1.65 1968EGb (36260) 555

Medium: 50% dioxan, 0.1 M NaClO4

\*\*\*\*\*

C5H5N L Pyridine CAS 110-86-1 (31)  
Pyridine, Azine;

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| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values                     | Reference       | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|------------------------------|-----------------|--------|
| Mn++  | gl  | NaNO3  | 25°C | 0.50M | C   |       |    | K1=0.42                      | 2002KSb (36649) | 556    |
| Mn++  | cal | non-aq | 25°C | 100%  | U   | H     |    | K1=2.74<br>B2=4.73<br>B3=5.9 | 1994K0a (36650) | 557    |

Medium: CH3CN. DH(K1)=-25.3, DH(B2)=-49, DH(B3)=-83 kJ mol<sup>-1</sup>.

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Mn++ cal non-aq 25°C 100% U H K1=-0.07 1993K0a (36651) 558

Medium: dimethylformamide, 0.1 M Et4NC1O4. DH=-16.7 kJ mol<sup>-1</sup>.

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|      |     |        |      |       |   |    |  |   |                 |     |
|------|-----|--------|------|-------|---|----|--|---|-----------------|-----|
| Mn++ | vlt | NaClO4 | 30°C | 0.50M | C | TI |  | K1=0.95<br>B2= 1.23<br>B3=1.00<br>B4=1.65<br>B5=2.00<br>B6=2.61 | 1982KNd (36652) | 559 |
|------|-----|--------|------|-------|---|----|--|---|-----------------|-----|

Method: polarography. Data for 30 and 40 C. Also data for 10 and 20% DMF/H2O and formamide/H2O.

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|      |    |        |      |       |   |   |  |  |                 |     |
|------|----|--------|------|-------|---|---|--|--|-----------------|-----|
| Mn++ | gl | KNO3   | 25°C | 0.50M | U |   |  | K1=0.14<br>B2=-0.36                      | 1973BJa (36653) | 560 |
| Mn++ | gl | NaClO4 | 25°C | 1.0M  | U | H |  | K1=1.86<br>K3=0.90<br>K4=0.60<br>B2=3.45 | 1963ABa (36654) | 561 |

By calorimetry: DHi(average)=-10.0 kJ mol<sup>-1</sup>. DS(K1)=4 J K<sup>-1</sup> mol<sup>-1</sup>, DS(K2)=-8, DS(K3)=-17, DS(K4)=-21

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Mn++ gl oth/un 25°C 0.50M U K1=0.14 1950BJa (36655) 562

Medium: 0.5 M C5H5N.HNO3

\*\*\*\*\*

C5H5NOS (4389)  
2-Mercaptopyridine N-oxide;

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| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values        | Reference       | ExptNo |
|-------|-----|--------|------|------|-----|-------|----|-----------------|-----------------|--------|
| Mn++  | vlt | oth/un | 25°C |      |     | U     |    | Keff(Mn+L)=3.76 | 1997GAb (36721) | 563    |

Medium: phosphate buffer, pH 6.8. Concentration not stated.

\*\*\*\*\*

C5H5NO2 HL CAS 16867-04-2 (2316)  
2,3-Dihydroxypyridine, 3-Hydroxypyridin-2(1H)-one; C5H3N(OH)2

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| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values            | Reference       | ExptNo |
|-------|-----|--------|------|------|-----|-------|----|---------------------|-----------------|--------|
| Mn++  | gl  | diox/w | 25°C | 50%  | U   |       |    | K1=5.91<br>B2=10.69 | 1970GDa (36792) | 564    |

Medium: 50% dioxan, 0.1 M NaClO4

-----  
Mn++ g1 NaClO4 25°C 0.10M U K1=4.61 B2=8.32 1970GDa (36793) 565  
\*\*\*\*\*  
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  
-----

Mn++ g1 diox/w 20°C 60% U I K1=4.24 1979GBd (36818) 566  
\*\*\*\*\*  
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  
-----

Mn++ g1 NaNO3 25°C 0.50M C K1=-0.03 2002KSb (36860) 567  
\*\*\*\*\*  
C5H5N5 L Adenine CAS 73-24-5 (237)  
6-Aminopurine; H2N.C5H3N4  
-----

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

Mn++ g1 NaNO3 25°C 0.10M C M K1=8.29 2000SSd (36972) 568  
K(Mn+HL)=3.30  
K(Mn+HL+OH)=12.67  
K(MnHL+OH)=9.31  
-----

Also data for ternary complexes.

-----  
Mn++ g1 NaNO3 25°C 0.10M U K1=4.25 1996SGa (36973) 569  
-----

Mn++ g1 KNO3 45°C 0.10M U K1=3.39 1971TKc (36974) 570  
\*\*\*\*\*  
C5H5N5O L CAS 700-02-7 (3033)  
Adenine N-Oxide;  
-----

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

Mn++ g1 oth/un 25°C ? U K1=2.13 1960PEb (37004) 571  
\*\*\*\*\*  
C5H5N5S H3L 6-Thioguanine CAS 3647-48-1 (4307)  
2-Amino-6-mercaptapurine;  
-----

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

Mn++ g1 KNO3 45°C 0.10M U K(Mn+H2L)=3.0 1973TKa (37012) 572  
\*\*\*\*\*  
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
-----
Mn++      dis NaClO4 25°C 1.0M C    M    K1=0.94  B2= 2.96  1977SMe (37058) 573
                                     K(MnL2(org)+A(org))=5.43
                                     K(MnL2(org)+2A(org))=9.16
Method: distribution from 1.0 M NaClO4 into CCl4/HL/tri-octylposphine
oxide (A). K(Mn+2HL(org)=MnL2(org)+2H)=-10.28.
*****
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
-----
Mn++      sp  oth/un 25°C dil  U          B2=14.3      1972BSf (37079) 574
Medium: NaOH
*****
C5H6N2    L      2-Aminopyridine CAS 504-29-0 (1478)
2-Aminoazine, 2-Pyridylamine; C5H4N.NH2
-----

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  NaNO3  25°C 0.50M C          K1=0.13      2002KSb (37129) 575
-----
Mn++      gl  KNO3   25°C 0.10M U TIH    K1=2.19  B2=5.43  1976BBE (37130) 576
*****
C5H6N2O   HL          (3035)
2-Aminopyridine 1-oxide; C5H4N(-O)(NH2)
-----

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      sp  diox/w 25°C 50% U          K(Mn+HL)=0.75  1963SBa (37204) 577
Medium: 50% dioxan, 0.5 M NaClO4
*****
C5H6N2O2  HL      Thymine          CAS 65-71-4 (413)
2,4-Dihydroxy-5-methylpyrimidine; C4HN2(CH3)(OH)2
-----

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  KNO3   25°C 0.10M U T H    K1=3.52      1983KSa (37279) 578
-----
Mn++      gl  KNO3   35°C 0.10M U          K1=3.39  B2=6.69  1982TSa (37280) 579
-----
Mn++      gl  KNO3   45°C 0.10M U          K1=3.4      1974KKa (37281) 580
*****
C5H6N2O2  HL          CAS 3326-71-4 (2607)
2-Furanecarboxylic acid hydrazide; C4H3O.CONH.NH2
-----

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

```

Mn++ gl none 25°C 0.0 C I K1=2.170 1996RRb (37306) 581  
Data for 10-60% v/v DMF/H2O. In 50% DMF/H2O, K1=2.625.

\*\*\*\*\*  
C5H6N2O2S HL CAS 15112-09-1 (8298)  
N-Methyl-2-thiobarbituric acid;

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

Mn++ gl NaClO4 31°C 0.10M U T H K1=5.23 B2= 9.10 1984SJa (37326) 582  
Also data for 18 and 42 C. DH(K1)=-41.9 kJ mol<sup>-1</sup>, DS(K1)=-38.2 J K<sup>-1</sup> mol<sup>-1</sup>  
DH(K2)=-30.8, DS(K2)=-27.5.

\*\*\*\*\*  
C5H6N6 HL Diaminopurine CAS 1904-98-9 (4290)  
2,6-Diaminopurine;

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

Mn++ gl KNO3 45°C 0.10M U K1=7.5 1973TKa (37338) 583  
\*\*\*\*\*  
C5H6O4 H2L Citraconic acid CAS 498-23-7 (3021)  
Citraconic acid; CH3.C(COOH):CH.COOH

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

Mn++ ix oth/un 25°C 0.16M U K1=1.77 1957LWc (37363) 584  
\*\*\*\*\*  
C5H6O7 H3L (8107)  
Carboxymethyltartronic acid;

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

Mn++ gl KCl 25°C 0.10M C K1=3.76 1984MMg (37490) 585  
K(MnL+H)=2.84  
\*\*\*\*\*  
C5H7N3 L CAS 42166-50-7 (4291)  
2-Pyridylhydrazine; C5H4N.NH.NH2

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

Mn++ EMF NaNO3 20°C 0.10M U K1=2.64 1971ANa (37583) 586  
\*\*\*\*\*  
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  
-----

Mn++ gl diox/w 25°C 50% U K1=4.60 B2=10.24 1979PDa (37598) 587  
\*\*\*\*\*  
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
-----
Mn++      gl  KNO3   25°C 0.50M U          K1=0.27  B2=0.90  1989BLa (37678) 588
*****
C5H8O2          HL  Acetylacetone  CAS 123-54-6 (164)
Pentane-2,4-dione; CH3.CO.CH2.CO.CH3
-----
```

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      dis oth/un 30°C 0.26M U  I          Keff=3.40  1990SBa (38021) 589
In NH4 acetate, pH 7.24, using HPLC. Data also given for 20% MeOH/water
-----
```

```
Mn++      vlt NaClO4 25°C 0.10M C          K1=2.60  B2= 4.30  1984KCb (38022) 590
B3=6.30
Method: polarography. Medium pH 9.2
-----
```

```
Mn++      oth NaClO4 25°C 0.10M C  I  R  K1=3.91  B2=6.82  1982SLc (38023) 591
IUPAC evaluation. I=0 corr.: K1=4.21, B2=7.3
-----
```

```
Mn++      dis NaClO4 25°C 1.0M C  M  K1=4.09  B2= 6.98  1977SMe (38024) 592
K(MnL2(org)+A(org))=2.96
K(MnL2(org)+2A(org))=4.96
Method: distribution from 1.0 M NaClO4 into CCl4/HL/tri-octylphosphine
oxide (A). K(Mn+2HL(org)=MnL2(org)+2H)=-11.8.
-----
```

```
Mn++      EMF oth/un 25°C  ?  U          K1=5.70  B2=10.50  1968BDb (38025) 593
-----
```

```
Mn++      gl  NaClO4 25°C 0.10M U  H  K1=4.07          1968GFa (38026) 594
By calorimetry: DH(K1)=-6.3 kJ mol-1, DS=58.5 J K-1 mol-1
-----
```

```
Mn++      gl  oth/un 20°C 0.0 U T H  K1=4.24  B2=7.35  1955IFb (38027) 595
DH(K1)=-10 kJ mol-1, DS=46; DH(K2)=-20, DS=-7.5. 10 C: K1=4.28, K2=3.25;
30 C: K1=4.18, K2=3.07; 40 C: K1=4.11, K2=2.96
-----
```

```
Mn++      gl  diox/w 30°C 75% U          K1=8.15  B2=15.02  1953UFb (38028) 596
*****
C5H8O2S          HL          CAS 19418-11-2 (408)
Tetrahydrothiophene-2-carboxylic acid; C4H7S.CO.OH
-----
```

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  diox/w 25°C 50% U          K1=1.80          1969SGa (38159) 597
Medium: 50% dioxan, 0.1 M NaClO4
*****
C5H8O3          HL  Laevulinic acid CAS 123-76-2 (941)
4-Ketopentanoic acid; CH3.CO.CH2.CH2.CO.OH
-----
```

| Metal   | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg K values     | Reference       | ExptNo |
|---|-----|--------|------|-------|-----|-------|-----------------|-----------------|--------|
| Mn++  | gl  | KCl    | 25°C | 0.10M | U   |       | K1=0.75 B2=1.59 | 1983LTa (38171) | 598    |
| *****   |     |        |      |       |     |       |                 |                 |        |
| C5H8O3  |     | HL     |      |       |     |       | CAS 16874-33-2  | (2493)          |        |
| Tetrahydrofuran-2-carboxylic acid; C4H7O.COOH |     |        |      |       |     |       |                 |                 |        |

| Metal                                    | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values  | Reference       | ExptNo |
|--|-----|--------|------|------|-----|-------|--------------|-----------------|--------|
| Mn++                                     | gl  | diox/w | 25°C | 50%  | U   |       | K1=2.36      | 1969SGa (38181) | 599    |
| *****                                    |     |        |      |      |     |       |              |                 |        |
| C5H8O4                                   |     | H2L    |      |      |     |       | CAS 110-94-1 | (420)           |        |
| Pentanedioic acid; HOOC.CH2.CH2.CH2.COOH |     |        |      |      |     |       |              |                 |        |

| Metal  | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg K values    | Reference       | ExptNo |
|--|-----|--------|------|-------|-----|-------|----------------|-----------------|--------|
| Mn++   | ix  | oth/un | 25°C | 0.16M | U   |       | K1=1.13        | 1957LWc (38332) | 600    |
| *****  |     |        |      |       |     |       |                |                 |        |
| C5H8O4S  |     | H2L    |      |       |     |       | CAS 36303-63-6 | (988)           |        |
| 3-Thiahexane-1,6-dioic acid; HOOC.CH2.S.CH2.CH2.COOH |     |        |      |       |     |       |                |                 |        |

| Metal   | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg K values    | Reference       | ExptNo |
|---|-----|--------|------|-------|-----|-------|----------------|-----------------|--------|
| Mn++  | gl  | KNO3   | 25°C | 0.10M | C   |       | K1=1.70        | 1975LPa (38382) | 601    |
| *****   |     |        |      |       |     |       |                |                 |        |
| C5H9NO2   |     | HL     |      |       |     |       | CAS 14401-90-2 | (6205)          |        |
| Pent-2,4-dione monoxime; CH3.CO.CH2.C(:NOH).CH3 |     |        |      |       |     |       |                |                 |        |

| Metal                                     | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values    | Reference       | ExptNo |
|---|-----|--------|------|------|-----|-------|----------------|-----------------|--------|
| Mn++                                      | gl  | alc/w  | 25°C | 75%  | U   |       | K1=6.3 B2=9.50 | 1986BTa (38473) | 602    |
| *****                                     |     |        |      |      |     |       |                |                 |        |
| C5H9NO2                                   |     | HL     |      |      |     |       | CAS 147-85-3   | (44)            |        |
| Pyrrolidine-2-carboxylic acid; C4H8N.COOH |     |        |      |      |     |       |                |                 |        |

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values     | Reference       | ExptNo |
|-------|-----|--------|------|------|-----|-------|-----------------|-----------------|--------|
| Mn++  | nmr | none   | 27°C | 0.0  | U   |       | K1=2.84 B2=5.53 | 1987GFb (38628) | 603    |
| ***** |     |        |      |      |     |       |                 |                 |        |
|       |     |        |      |      |     |       | B3=6.74         |                 |        |
|       |     |        |      |      |     |       | K(Mn+HL)=1.15   |                 |        |
|       |     |        |      |      |     |       | K(MnL+HL)=1.53  |                 |        |
|       |     |        |      |      |     |       | K(MnL2+HL)=0.17 |                 |        |

| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg K values                | Reference       | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----------------------------|-----------------|--------|
| Mn++  | gl  | KNO3   | 37°C | 0.15M | U   |       | K1=2.84 B2=5.53            | 1969CPc (38629) | 604    |
| ***** |     |        |      |       |     |       |                            |                 |        |
|       |     |        |      |       |     |       | B3=6.74                    |                 |        |
|       |     |        |      |       |     |       | K(Mn+HL)=1.50              |                 |        |
|       |     |        |      |       |     |       | K(MnL+HL)=1.74             |                 |        |
|       |     |        |      |       |     |       | K(MnL+H2O=Mn(OH)L+H)=-9.95 |                 |        |



Mn++ gl KCl 25°C 0.10M U K1=3.34 1952KRb (38630) 605

Mn++ gl oth/un 20°C 0.03M U B2=5.5 1950ALa (38631) 606  
\*\*\*\*\*  
C5H9NO3 HL Hydroxyproline CAS 51-35-4 (416)  
4-Hydroxy-2-pyrrolidinecarboxylic acid; C4H7N(OH)(COOH)

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

Mn++ gl KNO3 30°C 0.10M C K1=3.45 1979HAa (38742) 607  
\*\*\*\*\*  
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

Mn++ gl KNO3 22°C 0.10M U K1=2.71 B2= 4.84 1975SHA (38785) 608  
\*\*\*\*\*  
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

Mn++ gl NaNO3 25°C 0.10M C M K1=4.04 2000KAb (39093) 609  
K(MnA+L)=4.25  
H2A=Dipicolinic acid.

Mn++ gl KNO3 25°C 0.10M C M K1=4.11 1999AAa (39094) 610  
K(MnL+A)=3.70  
B(MnLA)=7.81  
K(MnL+B)=3.60  
B(MnLB)=7.71  
HA=MOPSO, HB=MOPS.

Mn++ gl KNO3 25°C 0.10M C M K1=8.54 1989MAAd (39095) 611  
B(MnAL)=13.59  
H2A is N-(2-acetamido)imino diethanoic acid.

Mn++ gl KNO3 25°C 0.10M M K1=2.98 B2= 5.53 1981GVa (39096) 612

Mn++ gl KNO3 25°C 0.10M U K1=4.09 B2=7.62 1976GPd (39097) 613

Mn++ oth KNO3 20°C 0.10M U K1=3.4 1964JOa (39098) 614  
Method: paper electrophoresis

Mn++ gl oth/un 20°C 0.01M U K1=3.3 1952ALa (39099) 615  
\*\*\*\*\*  
C5H9NO4 H2L MIDA CAS 4408-64-4 (190)

N-Methyliminodiethanoic acid; CH<sub>3</sub>.N(CH<sub>2</sub>.COOH)<sub>2</sub>

| Metal  | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values        | Reference       | ExptNo |
|--|-----|--------|------|-------|-----|-------|----|-----------------|-----------------|--------|
| Mn++   | vlt | NaCl04 | 25°C | 0.10M | U   |       |    | K2=4.0          | 1969VPa (39262) | 616    |
| Method: amperometry  |     |        |      |       |     |       |    |                 |                 |        |
| Mn++   | cal | KNO3   | 20°C | 0.10M | U   | H     |    |                 | 1965ANa (39263) | 617    |
| DH(K1)=2.3 kJ mol <sup>-1</sup> , DS=111.2 J K <sup>-1</sup> mol <sup>-1</sup> , DH(B2)=1.0,, DS=186.4 |     |        |      |       |     |       |    |                 |                 |        |
| Mn++   | EMF | oth/un | 25°C | ->0   | U   | H     |    |                 | 1956MAa (39264) | 618    |
| Method: H electrode. DG(K1)=-33.4 kJ mol <sup>-1</sup> , DH=0, DS=108.8                                |     |        |      |       |     |       |    |                 |                 |        |
| Mn++   | gl  | KCl    | 20°C | 0.10M | U   |       |    | K1=5.40 B2=9.56 | 1955SAa (39265) | 619    |

\*\*\*\*\*  
 C<sub>5</sub>H<sub>9</sub>N<sub>3</sub> L Histamine CAS 51-45-6 (103)  
 4(5)-(2'-Aminoethyl)imidazole; C<sub>3</sub>H<sub>3</sub>N<sub>2</sub>.CH<sub>2</sub>.CH<sub>2</sub>.NH<sub>2</sub>

| Metal  | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values | Reference       | ExptNo |
|--|-----|--------|------|-------|-----|-------|----|----------|-----------------|--------|
| Mn++   | gl  | KNO3   | 35°C | 0.10M | C   | M     |    |          | 1985RRc (39540) | 620    |
| K(Mn+HL)=3.02<br>K(MnL(cytidine)+H)=3.48<br>K(Mn+HL+cytidine)=8.36 |     |        |      |       |     |       |    |          |                 |        |

|      |    |     |      |       |   |   |  |         |                 |     |
|------|----|-----|------|-------|---|---|--|---------|-----------------|-----|
| Mn++ | gl | KCl | 25°C | 0.10M | U | M |  | K1=3.33 | 1984DMc (39541) | 621 |
|------|----|-----|------|-------|---|---|--|---------|-----------------|-----|

|               |    |      |      |       |   |   |  |         |                 |     |
|---------------|----|------|------|-------|---|---|--|---------|-----------------|-----|
| Mn++          | gl | KNO3 | 15°C | 0.20M | U | T |  | K1=2.98 | 1971RMd (39542) | 622 |
| K1(40 C)=2.95 |    |      |      |       |   |   |  |         |                 |     |

\*\*\*\*\*  
 C<sub>5</sub>H<sub>9</sub>N<sub>3</sub>O<sub>4</sub>S H<sub>2</sub>L CAS 16907-58-7 (2106)  
 Thiosemicarbazone-diethanoic acid; H<sub>2</sub>N.CS.NH.N(CH<sub>2</sub>.COOH)<sub>2</sub>

| Metal        | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values | Reference       | ExptNo |
|--------------|-----|--------|------|-------|-----|-------|----|----------|-----------------|--------|
| Mn++         | gl  | KCl    | 30°C | 0.10M | U   |       |    | K1=2.0   | 1967GNb (39568) | 623    |
| K(Mn+HL)=1.5 |     |        |      |       |     |       |    |          |                 |        |

|   |     |      |      |       |   |   |  |  |                 |     |
|---|-----|------|------|-------|---|---|--|--|-----------------|-----|
| Mn++  | cal | KNO3 | 30°C | 0.10M | U | H |  |  | 1967Gnc (39569) | 624 |
| DH(K1)=30.1 kJ mol <sup>-1</sup> , DS=138 J K <sup>-1</sup> mol <sup>-1</sup> |     |      |      |       |   |   |  |  |                 |     |

\*\*\*\*\*  
 C<sub>5</sub>H<sub>9</sub>N<sub>3</sub>O<sub>5</sub> H<sub>2</sub>L CAS 4438-86-2 (3622)  
 Semicarbazone-1,1-diethanoic acid; H<sub>2</sub>N.CO.NH.N(CH<sub>2</sub>.COOH)<sub>2</sub>

| Metal        | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values | Reference       | ExptNo |
|--------------|-----|--------|------|-------|-----|-------|----|----------|-----------------|--------|
| Mn++         | gl  | KCl    | 30°C | 0.10M | U   |       |    | K1=2.6   | 1967GNb (39597) | 625    |
| K(Mn+HL)=1.6 |     |        |      |       |     |       |    |          |                 |        |

|      |     |      |      |       |   |   |  |  |                 |     |
|------|-----|------|------|-------|---|---|--|--|-----------------|-----|
| Mn++ | cal | KNO3 | 30°C | 0.10M | U | H |  |  | 1967Gnc (39598) | 626 |
|------|-----|------|------|-------|---|---|--|--|-----------------|-----|

DH(K1)=13.4 kJ mol<sup>-1</sup>, DS=92 J K<sup>-1</sup> mol<sup>-1</sup>

\*\*\*\*\*

C5H9N3S HL (1822)

2-Mercaptohistamine;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl NaClO4 25°C 0.10M U K1=5.35 B2= 9.60 1977STc (39609) 627  
\*\*\*\*\*

C5H10N07P H4L PMIDA 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  
-----  
Mn++ gl KNO3 25°C 0.10M C K1=9.8 2000SDa (39679) 628  
K(MnL+H)=5.89  
K(MnHL+H)=4.6  
K(MnL+OH)=2.7  
-----

Mn++ gl NaCl 25°C 0.10M U K1=8.12 1993DLA (39680) 629  
B(MnHL)=13.81  
-----

Mn++ oth KNO3 RT 0.10M C 1980MVA (39681) 630  
K(Mn+HL)=3.5  
-----

Method: paper electrophoresis.

-----  
Mn++ gl KCl 30°C 0.10M U K1=8.0 19580Mb (39682) 631  
\*\*\*\*\*

C5H10N2O2 HL (3039)  
Dimethylglyoxime O-methyl ether; CH3.C(:N.OH).C(:N.O.CH3).CH3

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl diox/w 25°C 50% U K1=6.18 B2=11.60 1954CFa (39708) 632  
\*\*\*\*\*

C5H10N2O3 HL Glutamine CAS 56-85-9 (18)  
2-Aminopentanedioic acid 5-amide; H2N.CH(CH2.CH2.CO.NH2)COOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl NaClO4 25°C 0.10M U K1=2.94 1973TSb (39824) 633  
-----  
Mn++ gl NaClO4 25°C 3.00M U K1=2.86 B2=4.62 1973WIA (39825) 634  
\*\*\*\*\*

C5H10N2O3 HL Ala-Gly CAS 687-69-4 (55)  
Alanyl-glycine; H2N.CH(CH3).CO.NH.CH2.COOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl KCl 20°C 0.20M U K1=1.93 1982KRc (39891) 635

Using EPR spectroscopy: K1=1.85

\*\*\*\*\*

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  
-----

Mn++ gl KCl 20°C 0.20M U K1=2.22 1982KRc (39940) 636  
Using EPR spectroscopy: K1=1.79

\*\*\*\*\*

C5H10N2O3 HL Gly-Sar CAS 29816-01-1 (2331)  
Glycyl-sarcosine; H2N.CH2.CO.N(CH3).CH2.COOH

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

Mn++ gl oth/un 25°C 0.02M U K1=2.29 B2=4.62 1956DRb (40028) 637

\*\*\*\*\*

C5H10N2O3 HL Sar-Gly (2332)  
Sarcosyl-glycine; CH3.NH.CH2.CO.NH.CH2.COOH

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Mn++ gl oth/un 25°C 0.02M U 1956DRb (40039) 638  
K(CuLOH+H)=3.85  
K(CuL(OH)2+H)=9.46

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Mn++ gl oth/un 25°C 0.02M U K1=0.4 1956DRb (40040) 639

\*\*\*\*\*

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  
-----

Mn++ gl alc/w 30°C 50% U T H K1=6.35 1992HRa (40131) 640  
Medium: 50% v/v EtOH/H2O, 0.1 M NaClO4. Data for 40 and 50 C.  
DH(K1)=-59.5 kJ mol<sup>-1</sup>, DS(K1)=75.7 J K<sup>-1</sup> mol<sup>-1</sup>.

\*\*\*\*\*

C5H11NO2 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  
-----

Mn++ gl KNO3 25°C 0.10M C M 1989MAd (40729) 641  
K(MnA+L)=3.98  
B(MnAL)=9.03

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

-----  
Mn++ gl NaCl 20°C 0.15M M K1=2.86 1985Vda (40730) 642

-----  
Mn++ gl KNO3 37°C 0.15M U T K1=2.34 B2=3.97 1969CPc (40731) 643

B3=5.19  
 K(Mn+HL)=1.16  
 K(MnL+HL)=1.07  
 K(MnL+H2O=Mn(OH)L+H)=-10.41

-----  
 Mn++ gl oth/un 25°C 0.01M U K1=2.84 B2=5.56 1949MMa (40732) 644  
 \*\*\*\*\*

C5H11NO2 HL Nor-Valine CAS 760-78-1 (689)  
 2-Aminopentanoic acid; CH3.CH2.CH2.CH(NH2).COOH

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

Mn++ gl NaNO3 25°C 0.10M C M K1=4.92 2000KAb (40840) 645  
 K(MnA+L)=3.60

H2A=Dipicolinic acid.

-----  
 Mn++ gl NaCl 20°C 0.15M M K1=2.90 1985Vda (40841) 646  
 -----

Mn++ gl NaCl 20°C 0.15M U M K1=2.90 1983Vdb (40842) 647  
 -----

Mn++ EMF KNO3 20°C 0.10M U T T K1=3.30 B2=5.19 1973BSf (40843) 648  
 Temperature range 20-60 C

K1(40 C)=3.19, K1(60 C)=3.03, B2(40 C)=5.12, B2(60 C)=5.06

-----  
 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  
 -----

Mn++ gl NaCl 20°C 0.15M U M K1=2.86 1983Vdb (40895) 649  
 \*\*\*\*\*

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  
 -----

Mn++ gl KNO3 25°C 0.10M C M K1=4.88 1999AAa (41106) 650  
 K(MnL+A)=3.73  
 B(MnLA)=8.61  
 K(MnHL+B)=1.89  
 K(MnHL+C)=1.20

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

-----  
 Mn++ EMF KNO3 20°C 0.10M U T K1=2.87 B2=4.92 1973BSf (41107) 651  
 20-60 C

K1(40 C)=2.79, K1(60 C)=2.72, B2(40 C)=4.83, B2(60 C)=4.75

-----  
 Mn++ gl KCl 25°C 0.10M U T K1=2.89 1971SSc (41108) 652  
 K1(35 C)=2.85, K1(45 C)=2.78  
 -----

Mn++ oth KNO3 20°C 0.10M U K1=3.2 B2=4.70 1964JOa (41109) 653  
Method: paper electrophoresis

Mn++ gl KNO3 25°C 0.10M U K1=2.77 B2=4.57 1964LMa (41110) 654  
\*\*\*\*\*  
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  
-----

Mn++ ISE non-aq 25°C 100% U K1=4.9 B2=9.3 1984LSb (41357) 655  
B3=12.6

Medium: DMSO, 0.1 M NaClO4; Ag-electrode

\*\*\*\*\*  
C5H11N2O7P H3L CAS 6665-42-5 (3636)  
O-Phosphorylserylglycine;

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

Mn++ gl KCl 25°C 0.15M U K1=2.63 19620Sa (41383) 656  
K(Mn+HL)=1.89  
K(Mn+MnL)=1.54

\*\*\*\*\*  
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  
-----

Mn++ gl NaNO3 25°C 0.10M C K1=2.20 1988MSa (41422) 657  
\*\*\*\*\*

C5H12N2O2 HL Ornithine CAS 1069-31-4 (46)  
2,5-Diaminopentanoic acid; H2N.CH2.CH2.CH(NH2)COOH

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

Mn++ gl KNO3 25°C 0.10M U K(Mn+HL)=1.60 1970CMc (41578) 658

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Mn++ gl oth/un 20°C 0.01M U K1=<2 1952ALa (41579) 659  
\*\*\*\*\*

C5H12O3S4 H3L CAS 19872-38-9 (4331)  
2,3-Dimercaptopropylthioethanesulfonic acid;

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

Mn++ EMF KNO3 ? 0.10M U K1=16.00 B2=21.00 1973RPa (41657) 660  
\*\*\*\*\*

C5H12O4S3 H3L CAS 19872-36-7 (4332)  
2,3-Dimercaptopropanoxyethanesulfonic acid; HS.CH2.CH(SH).CH2.O.CH2.CH2.HSO3

| Metal   | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg K values           | Reference       | ExptNo |
|---|-----|--------|------|-------|-----|-------|-----------------------|-----------------|--------|
| Mn++  | EMF | KNO3   | ?    | 0.10M | U   |       | K1=16.65 B2=23.25     | 1973RPa (41671) | 661    |
| *****   |     |        |      |       |     |       |                       |                 |        |
| C5H12O5S4   |     | H3L    |      |       |     |       | CAS 35617-14-2 (4333) |                 |        |
| 2,3-Dimercaptopropanesulfonethanesulfonic acid; HS.CH2.CH(SH).CH2.SO2.CH2CH2.HS03 |     |        |      |       |     |       |                       |                 |        |

| Metal  | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg K values           | Reference       | ExptNo |
|--|-----|--------|------|-------|-----|-------|-----------------------|-----------------|--------|
| Mn++   | EMF | KNO3   | ?    | 0.10M | U   |       | K1=15.70 B2=20.70     | 1973RPa (41702) | 662    |
| *****  |     |        |      |       |     |       |                       |                 |        |
| 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 |
|---|-----|--------|------|-------|-----|-------|--------------------------|-----------------|--------|
| Mn++  | gl  | KCl    | 25°C | 0.10M | M   |       | K1=7.05<br>K(Mn+HL)=6.58 | 1978GMf (41765) | 663    |
| *****   |     |        |      |       |     |       |                          |                 |        |
| C5H13NO8P2  |     | H4L    |      |       |     |       | (3714)                   |                 |        |
| N-(2'-Carboxyethyl)iminobis(methylenephosphonic acid) |     |        |      |       |     |       |                          |                 |        |

| Metal  | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg K values          | Reference       | ExptNo |
|--|-----|--------|------|-------|-----|-------|----------------------|-----------------|--------|
| Mn++   | gl  | KNO3   | 25°C | 0.10M | U   |       | K1=7.24              | 1965WRa (41770) | 664    |
| *****  |     |        |      |       |     |       |                      |                 |        |
| C5H14NO5P  |     | H2L    |      |       |     |       | CAS 5994-60-5 (1302) |                 |        |
| N,N'-Bis(2-hydroxyethyl)aminomethylphosphonic acid; (HO.CH2.CH2)2N.CH2.P03H2 |     |        |      |       |     |       |                      |                 |        |

| Metal   | Mtd | Medium | Temp | Conc  | Cal  | Flags | Lg K values           | Reference       | ExptNo |
|---|-----|--------|------|-------|------|-------|-----------------------|-----------------|--------|
| Mn++  | gl  | NaClO4 | 25°C | 0.10M | U    |       | K1=4.61               | 1981BGb (41845) | 665    |
| *****   |     |        |      |       |      |       |                       |                 |        |
| C5H15NO7P2  |     | H4L    |      |       | AMOK |       | CAS 63132-39-8 (1350) |                 |        |
| 1-Hydroxy-3-N,N-dimethylaminopropane-1,1-diphosphonic acid;<br>Me2N.CH2.CH2.C(OH)(P03H2)2 |     |        |      |       |      |       |                       |                 |        |

| Metal                               | Mtd | Medium | Temp | Conc  | Cal         | Flags | Lg K values              | Reference       | ExptNo |
|-------------------------------------|-----|--------|------|-------|-------------|-------|--------------------------|-----------------|--------|
| Mn++                                | gl  | KCl    | 25°C | 0.10M | U           |       | K1=8.33<br>K(Mn+HL)=8.09 | 1979KBa (41956) | 666    |
| *****                               |     |        |      |       |             |       |                          |                 |        |
| 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 |
|---------------------------|-----|--------|------|-------|-----|-------|-------------|-----------------|--------|
| Mn++                      | sp  | oth/un | 21°C | 0.40M | U   |       | K1=1.85     | 1955BKa (42131) | 667    |
| *****                     |     |        |      |       |     |       |             |                 |        |
| 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  
-----

Mn++ sp non-aq 23°C 100% U T M 1978JSa (42201) 668  
K(Mn(TPP)+L)=4.00

Medium: toluene. Mn(TPP)=meso-Tetraphenylporphinatomanganese(II).  
At 40 C: K=3.0; 0 C: 4.0

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C6H4N2O5 HL CAS 50-28-5 (505)  
2,4-Dinitrophenol; HO.C6H3(NO2)2

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

Mn++ sp oth/un 21°C 0.40M U K1=0.35 1955BKa (42234) 669

Medium:0.2-0.6(some EtOH)

\*\*\*\*\*

C6H4N4O HL CAS 900-47-0 (3083)  
4-Hydroxypteridine;

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

Mn++ gl oth/un 20°C 0.01M U K1=2.4 B2=4.5 1953ALa (42279) 670

\*\*\*\*\*

C6H4O4 H2L CAS 615-94-1 (1280)  
2,5-Dihydroxy-1,4-benzoquinone;

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

Mn++ gl KCl 30°C 25% M TIH K1=3.91 1991GDe (42307) 671

Medium: 35% Dioxan/H2O, 0.1 M NaClO4. Other solvents and backgroundf concs.

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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  
-----

Mn++ gl NaNO3 20°C 0.10M U K1=3.57 B2=6.32 1960ANb (42566) 672  
K3=1.8

-----  
Mn++ gl oth/un 25°C 0.0 U K1=3.88 B2=7.08 1957LUa (42567) 673

-----  
Mn++ ix oth/un 22°C ? U K1=3.6 B2=4.6 1957WFa (42568) 674

\*\*\*\*\*

C6H5NO2 HL Nicotinic acid CAS 59-67-6 (419)  
3-Pyridine-carboxylic acid; C5H4N.COOH

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



Mn++ gl NaCl 25°C 0.10M U K1=1.91 2001DSb (42676) 675

Mn++ gl KNO3 25°C 0.10M U K1=8.80 B2=13.82 1988ZMa (42677) 676  
K3=4.60

\*\*\*\*\*  
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

Mn++ gl NaCl04 25°C 0.10M U T K1=2.88 B2=4.74 1981RRb (42837) 677  
Temp range 25-50. K1 at 50 C = 2.51; K2 at 50 C = 1.70

\*\*\*\*\*  
C6H5NO4 H2L 3-Nitrocatechol CAS 6665-98-1 (2685)  
1,2-Dihydroxy-3-nitrobenzene; O2N.C6H3(OH)2

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

Mn++ gl KCl 25°C 0.10M M K1=7.22 B2=12.5 1985HAb (42862) 678

\*\*\*\*\*  
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

Mn++ gl NaCl04 30°C 0.05M U TIH K1=7.97 B2=14.17 1986NDa (42933) 679  
I=0.1, 40 C: K1=6.80, B2=12.37; 50 C: K1=6.40, B2=11.71  
I=0.1, 30 C:K1=7.01, B2=12.91; I=0.2, K1=6.88, B2=11.95

Mn++ gl KCl 25°C 0.10M M K1=6.83 B2=11.72 1984HAc (42934) 680

Mn++ gl KNO3 30°C 0.10M U K1=6.51 B2=11.25 1964MTb (42935) 681  
\*\*\*\*\*  
C6H5NO4 HL CAS 78901-24-3 (885)  
4-Hydroxypyridine-2-carboxylic acid N-oxide; C5H3N(O)(OH).COOH

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

Mn++ gl NaCl04 30°C 0.10M U T K1=3.33 B2=5.56 1982RRa (42970) 682

\*\*\*\*\*  
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

Mn++ gl KNO3 25°C 0.50M U K1=0.85 1981LMb (42989) 683

\*\*\*\*\*  
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 |
|---------------------------|-----|--------|------|-------|-----|-------|------------------|-----------------|--------|
| Mn++                      | gl  | KNO3   | 30°C | 0.10M | U   |       | K1=6.82 B2=11.48 | 1964MTb (43083) | 684    |
| *****                     |     |        |      |       |     |       |                  |                 |        |
| C6H6NBr                   |     |        | L    |       |     |       | (8782)           |                 |        |
| 5-Bromo-2-methylpyridine; |     |        |      |       |     |       |                  |                 |        |

| Metal                     | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg K values    | Reference       | ExptNo |
|---------------------------|-----|--------|------|-------|-----|-------|----------------|-----------------|--------|
| Mn++                      | gl  | NaNO3  | 25°C | 0.50M | C   |       | K1=-0.03       | 2002KSb (43195) | 685    |
| *****                     |     |        |      |       |     |       |                |                 |        |
| C6H6NCl                   |     |        | L    |       |     |       | CAS 10445-91-7 | (8781)          |        |
| 4-(Chloromethyl)pyridine; |     |        |      |       |     |       |                |                 |        |

| Metal   | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg K values  | Reference       | ExptNo |
|---|-----|--------|------|-------|-----|-------|--------------|-----------------|--------|
| Mn++  | gl  | NaNO3  | 25°C | 0.50M | C   |       | K1=0.37      | 2002KSb (43211) | 686    |
| *****   |     |        |      |       |     |       |              |                 |        |
| 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 |
|-----------------------------------|-----|--------|------|-------|-----|-------|--------------|-----------------|--------|
| Mn++                              | gl  | NaNO3  | 25°C | 0.10M | C   |       | K1=1.87      | 1988MSa (43248) | 687    |
| *****                             |     |        |      |       |     |       |              |                 |        |
| 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 |
|---|-----|--------|------|-------|-----|-------|------------------------------|-----------------|--------|
| Mn++  | gl  | NaClO4 | 25°C | 0.30M | U   |       | K1=5.2 B2=9.10               | 1966BEa (43301) | 688    |
| *****   |     |        |      |       |     |       |                              |                 |        |
| C6H6N2O2  |     |        | HL   |       |     |       | Aminonicotinic CAS 5345-47-1 | (903)           |        |
| 2-Aminopyridine-3-carboxylic acid; H2N.C5H4N.COOH |     |        |      |       |     |       |                              |                 |        |

| Metal  | Mtd | Medium | Temp | Conc  | Cal   | Flags | Lg K values | Reference       | ExptNo |
|--|-----|--------|------|-------|-------|-------|-------------|-----------------|--------|
| Mn++   | gl  | KNO3   | 35°C | 0.15M | U T H |       | K1=2.82     | 1980SKb (43354) | 689    |
| *****  |     |        |      |       |       |       |             |                 |        |
| Temperature range is 25-45C. At 35C, DH1=-7.24 kJ mol-1; DS1=30.59 J mol-1 K-1 |     |        |      |       |       |       |             |                 |        |

| Metal  | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values | Reference       | ExptNo |
|--|-----|--------|------|------|-----|-------|-------------|-----------------|--------|
| Mn++   | gl  | diox/w | 35°C | 50%  | U   |       | K1=3.21     | 1980SKb (43355) | 690    |
| *****  |     |        |      |      |     |       |             |                 |        |
| C6H6N2O2   |     |        | HL   |      |     |       | (8281)      |                 |        |
| 3-Hydroxy-2-amidocarboxypyridine, Hydroxypicolinamide; |     |        |      |      |     |       |             |                 |        |

| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg K values      | Reference       | ExptNo |
|-------|-----|--------|------|-------|-----|-------|------------------|-----------------|--------|
| Mn++  | gl  | KNO3   | 25°C | 0.10M | C   |       | K1=3.81 B2= 7.17 | 1990ARA (43376) | 691    |
| ***** |     |        |      |       |     |       |                  |                 |        |

C6H6N2O4 L Methyl orotate CAS 6153-44-2 (2612)  
2,4-Dihydroxypyrimidine-6-carboxylic acid methyl ether

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

Mn++ gl NaCl 19°C 0.15M U K1=2.94 1979DZc (43459) 692  
\*\*\*\*\*

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  
-----

Mn++ gl NaCl 20°C 0.15M U K1=4.60 1979DZc (43474) 693  
K(Mn+HL)=2.27  
\*\*\*\*\*

C6H6N4 L 9-Methylpurine CAS 20427-22-9 (2480)  
9-Methylpurine;

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

Mn++ gl NaClO4 25°C 1.00M U K1=0.2 1983ALa (43493) 694  
\*\*\*\*\*

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  
-----

Mn++ gl NaClO4 30°C 0.10M M TIH K1=7.27 B2=13.20 1986DNa (43785) 695  
Data for 0.05-0.20 M NaClO4. Extrap. to I=0.0, K1=7.45, B2=13.70.  
Data for 30-50 C. DH(K1)=-10.9 kJ mol-1.

-----  
Mn++ gl KNO3 35°C 0.10M C K1=6.55 1985RRh (43786) 696  
-----

Mn++ gl KCl 25°C 0.20M C M K1=7.53 B2=11.95 1983KGb (43787) 697  
B(Mn(ala)L)=9.35  
-----

Mn++ gl KNO3 25°C 1.0M U I M 1968TMa (43788) 698  
K(Mn+H2L=MnHL+H)=-6.41  
K(Mn+H2L=MnL+2H)=-14.807  
K(MnL+H2L=MnL2+2H)=-16.996

In 50% MeOH, 0.1 M KNO3: K(Mn+H2L=Mn(OH)(HL)+2H)=-14.66  
K(Mn+2H2L=Mn(HL)2+2H)=-11.46  
-----

Mn++ gl KCl 25°C 0.10M U K1=7.52 B2=13.22 1966JNa (43789) 699  
\*\*\*\*\*

C6H6O2S HL (3683)  
2-Acetyl-3-hydroxythiophene; C4H2S(CO.CH3)OH

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

Mn++ sp diox/w 25°C 10% U K1=2.9 1966PSb (43909) 700  
Medium: 10% dioxan, 0.1 M NaClO4. By glass electrode, K1=3.0

\*\*\*\*\*

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  
-----

Mn++ gl NaClO4 30°C 0.10M M TIH 1986DNa (43966) 701  
K(Mn+HL)=6.41  
K(Mn+2HL)=10.82

Data for 0.05-0.20 M NaClO4. Extrapol. to I=0.0, K(Mn+HL)=6.55,  
K(Mn+2HL)=11.47. Data for 30-50 C. DH(Mn+HL)=-31.9 kJ mol<sup>-1</sup>.

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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  
-----

Mn++ gl NaClO4 25°C 2.00M U H K1=4.19 B2=7.49 1978GHa (44093) 702  
K3=1.83

DH(K1)=-6.48 kJ mol<sup>-1</sup>, DH(K2)=-8.59, DH(K3)=-8.03

-----  
Mn++ gl diox/w 30°C 50% U K1=6.81 B2=11.81 1957CWa (44094) 703

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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  
-----

Mn++ gl NaClO4 25°C 2.00M U H K1=3.67 B2=6.67 1978GHa (44229) 704  
K3=1.82

DH(K1)=-5.41 kJ mol<sup>-1</sup>, DH(K2)=-9.41, DH(K3)=-10.95

-----  
Mn++ gl NaClO4 25°C 2.00M C T H K1=3.66 B2=6.65 1975GHa (44230) 705  
B3=8.50

DH(K1)=-4.6 kJ mol<sup>-1</sup>, DS=55.1 J K<sup>-1</sup> mol<sup>-1</sup>; DH(K2)=-17.0, DS=52.7

At 20 C, K1=3.70, B2=6.67, B3=8.40; at 40 C, K1=3.64, B2=6.60, B3=8.50

-----  
Mn++ gl KNO3 25°C 0.10M U K1=3.95 B2=6.78 1962MUa (44231) 706

-----  
Mn++ gl diox/w 30°C 75v% U K1=9.81 B2=17.28 1960KFc (44232) 707

\*\*\*\*\*

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  
-----

Mn++ gl KNO3 30°C 0.10M U K1=7.87 B2=12.53 1963MNC (44283) 708

\*\*\*\*\*

C6H606 H3L cis-Aconitic CAS 585-84-2 (3064)  
cis-1,2,3-Propenetricarboxylic acid, cis-Aconitic acid; HOOC.CH:C(COOH)CH2.COOH

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

Mn++ ix oth/un 25°C 0.16M U K1=2.47 1957LWc (44298) 709  
\*\*\*\*\*

C6H606 H3L trans-Aconitic CAS 4023-65-8 (3065)  
trans-1,2,3-Propenetricarboxylic acid; HOOC.CH:C(COOH)CH2.COOH

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

Mn++ ix oth/un 25°C 0.16M U K1=2.27 1957LWc (44305) 710  
\*\*\*\*\*

C6H608S2 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  
-----

Mn++ gl NaClO4 30°C 0.05M U TIH K1=8.89 B2=15.69 1986NDa (44470) 711  
I=0.1, 40 C: K1=8.59, B2=15.20; 50 C: K1=8.29, B2=14.82  
I=0.1, 30 C:K1= 8.69, B2=15.40; I=0.2, 30 C:K1= 8.49, B2=14.90

Mn++ gl KNO3 25°C 0.10M C M K1=8.30 B2=13.74 19830Za (44471) 712  
B3=17.57  
B(MnHL)=15.30  
B(MnL(bpy))=11.24

-----  
Mn++ gl NaClO4 25°C 1.00M C K1=7.20 B2=12.75 1974GSc (44472) 713  
B3=16.28  
B(MnHL)=13.88

-----  
Mn++ gl KNO3 25°C 0.10M U K1=8.6 1958CGa (44473) 714  
\*\*\*\*\*

C6H609 H4L Ditartronic ac (8108)  
Di(2-Propane-1,3-dioic acid)ether;

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

Mn++ gl KCl 25°C 0.10M C K1=4.51 1984MMg (44538) 715  
K(MnL+H)=3.23  
\*\*\*\*\*

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  
-----

Mn++ gl NaNO3 25°C 0.50M C K1=0.06 2002KSb (44611) 716  
\*\*\*\*\*

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 |
|-------|-----|--------|------|-------|-----|-------|----|----------------------------|-----------------|--------|
| Mn++  | gl  | NaNO3  | 25°C | 0.50M | C   |       |    | K1=0.47                    | 2002KSb (44701) | 717    |
| Mn++  | cal | non-aq | 25°C | 100%  | U   | H     |    | K1=2.9<br>B2=5.1<br>B3=6.4 | 1994K0a (44702) | 718    |

Medium: CH3CN. DH(K1)=-25.8, DH(B2)=-48, DH(B3)=-79 kJ mol<sup>-1</sup>.

|      |     |        |      |      |   |   |  |         |                 |     |
|------|-----|--------|------|------|---|---|--|---------|-----------------|-----|
| Mn++ | cal | non-aq | 25°C | 100% | U | H |  | K1=0.02 | 1993K0a (44703) | 719 |
|------|-----|--------|------|------|---|---|--|---------|-----------------|-----|

Medium: dimethylformamide, 0.1 M Et4NClO4. DH=-15.1 kJ mol<sup>-1</sup>.

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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 |
|-------|-----|--------|------|------|-----|-------|----|------------------------------|-----------------|--------|
| Mn++  | cal | non-aq | 25°C | 100% | U   | H     |    | K1=2.95<br>B2=5.28<br>B3=6.9 | 1994K0a (44827) | 720    |

Medium: CH3CN. DH(K1)=-30.3, DH(B2)=-52, DH(B3)=-83 kJ mol<sup>-1</sup>.

|      |     |        |      |      |   |   |  |         |                 |     |
|------|-----|--------|------|------|---|---|--|---------|-----------------|-----|
| Mn++ | cal | non-aq | 25°C | 100% | U | H |  | K1=0.13 | 1993K0a (44828) | 721 |
|------|-----|--------|------|------|---|---|--|---------|-----------------|-----|

Medium: dimethylformamide, 0.1 M Et4NClO4. DH(K1)=-20.6.

\*\*\*\*\*

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 |
|-------|-----|--------|------|------|-----|-------|----|----------|-----------------|--------|
| Mn++  | gl  | none   | 20°C | 0.0  | U   |       |    | K1=3.6   | 1959SIb (44934) | 722    |

\*\*\*\*\*

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 |
|-------|-----|--------|------|-------|-----|-------|----|----------|-----------------|--------|
| Mn++  | gl  | KNO3   | 25°C | 0.10M | U   |       |    | K1=1     | 1965MTa (44967) | 723    |

\*\*\*\*\*

C6H7O4P H2L CAS 701-64-4 (5866)  
Phenyl phosphoric acid; C6H5O.PO(OH)2

| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values | Reference       | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|----------|-----------------|--------|
| Mn++  | gl  | NaNO3  | 25°C | 0.10M | C   |       |    | K1=2.12  | 1988MSa (45232) | 724    |

\*\*\*\*\*

C6H8NO4P H2L (3713)  
2-Pyridylmethanephosphoric acid (1'-picoly] phosphate)

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

-----  
Mn++ gl KNO3 25°C 0.10M U K1=2.44 1968MTd (45247) 725  
\*\*\*\*\*  
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 |
|-------------------|-----|--------|------|-------|-----|-------|----|----------------|-----------------|--------|
| Mn++              | EMF | NaNO3  | 20°C | 0.10M | U   |       |    | K1=2.66        | 1971ANa (45358) | 726    |
| *****             |     |        |      |       |     |       |    |                |                 |        |
| C6H8N2O3S         |     | HL     |      |       |     |       |    | CAS 20349-92-2 | (4399)          |        |
| d-Tetranorbiotin; |     |        |      |       |     |       |    |                |                 |        |

| Metal  | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference       | ExptNo |
|--|-----|--------|------|------|-----|-------|----|----------|-----------------|--------|
| Mn++   | gl  | diox/w | 25°C | 50%  | U   |       |    | K1=1.66  | 1969SMc (45406) | 727    |
| *****  |     |        |      |      |     |       |    |          |                 |        |
| C6H8N2O4   |     | H2L    |      |      |     |       |    | (3100)   |                 |        |
| Cyanomethyliminodiethanoic acid; NC.CH2.N(CH2.COOH)2 |     |        |      |      |     |       |    |          |                 |        |

| Metal                                  | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values        | Reference       | ExptNo |
|--|-----|--------|------|-------|-----|-------|----|-----------------|-----------------|--------|
| Mn++                                   | gl  | KCl    | 20°C | 0.10M | U   |       |    | K1=3.50 B2=5.50 | 1955SAa (45418) | 728    |
| *****                                  |     |        |      |       |     |       |    |                 |                 |        |
| C6H8N4B-                               |     | L      |      |       |     |       |    | (7237)          |                 |        |
| Bis(pyrazol-1-yl)borate; (C3H3N2)2BH2- |     |        |      |       |     |       |    |                 |                 |        |

| Metal  | Mtd        | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference       | ExptNo |
|--|------------|--------|------|------|-----|-------|----|----------|-----------------|--------|
| Mn++   | dis non-aq |        | 25°C | 100% | U   |       |    |          | 1996KSA (45439) | 729    |
| *****  |            |        |      |      |     |       |    |          |                 |        |
| K(Mn+2HL=MnL2(org)+2H)=-7.16                         |            |        |      |      |     |       |    |          |                 |        |
| By solvent extraction into CHCl3                     |            |        |      |      |     |       |    |          |                 |        |
| *****  |            |        |      |      |     |       |    |          |                 |        |
| C6H8O5   |            | HL     |      |      |     |       |    | (5458)   |                 |        |
| 4-Ethyl-oxaloethanoic acid HOOC.CO.CH2.C(O)O.CH2.CH3 |            |        |      |      |     |       |    |          |                 |        |

| Metal   | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values           | Reference       | ExptNo |
|---|-----|--------|------|-------|-----|-------|----|--------------------|-----------------|--------|
| Mn++  | kin | KCl    | 25°C | 0.50M | U   |       |    | K1=1.12            | 1982BLb (45531) | 730    |
| *****   |     |        |      |       |     |       |    |                    |                 |        |
| K(Mn+H-1L=MnH-1L)=4.5                                       |     |        |      |       |     |       |    |                    |                 |        |
| C6H8O6  |     | H3L    |      |       |     |       |    | 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 |
|--------|-----|--------|------|-------|-----|-------|----|-------------------|-----------------|--------|
| Mn++   | ix  | oth/un | 25°C | 0.16M | U   |       |    | K1=1.99           | 1957LWc (45568) | 731    |
| *****  |     |        |      |       |     |       |    |                   |                 |        |
| C6H8O6 |     | H2L    |      |       |     |       |    | CAS 50-81-7 (285) |                 |        |

Ascorbic acid (Vitamin C);

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl KNO3 30°C 0.10M C M 1984BPc (45647) 732  
K(Mn(phen)+L)=4.70  
K(Mn(bpy)+L)=5.80  
K(Mn(en)+L)=3.12  
K(Mn(baea)+L)=4.80

K(Mn(dipropylenetriamine)+L) = 4.66; baea=bis(aminoethyl)amine

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C6H8O6S H3L CAS 99-68-3 (3692)

(Carboxymethylthio)butanedioic acid; HOOC.CH(S.CH2.COOH).CH2.COOH

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl KNO3 20°C 0.10M U K1=2.11 1977CAc (45702) 733

-----  
Mn++ gl KNO3 25°C 0.05M M K1=3.55 1975DPb (45703) 734

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C6H8O7 H3L Isocitric acid CAS 1637-73-6 (2527)

2-Hydroxy-3-carboxypentanedioic acid; HOOC.CH(OH).CH(COOH).CH2.COOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl NaClO4 25°C 1.0M U 1976PCb (45732) 735  
K(Mn+H-1L)=5.81  
K(Mn+H-1L+H)=14.46  
K(Mn+H-1L+2H)=18.45  
K(Mn+H-1L-H)=-4.36

Data are for DL isomeric mixture.

-----  
Mn++ gl R4N.X 25°C 0.10M U K1=1.76 B2=3.06 1970GTa (45733) 736

-----  
Mn++ ix oth/un 25°C 0.16M U K1=2.55 1957LWc (45734) 737

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C6H8O7 H3L Citric acid CAS 77-92-9 (95)

2-Hydroxypropane-1,2,3-tricarboxylic acid; HOOCCH2.CH(OH)(COOH).CH2COOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl KNO3 25°C 0.10M C M K1=3.81 B2=12.83 1985ADc (46165) 738  
B(MnHL)=8.15  
B(Mn2H-2L2)=-6.28

B(CdMnH-2L2)=-5.75.

-----  
Mn++ nmr R4N.X 25°C 0.05M M I K1=3.74 1982FPa (46166) 739  
K1=4.28 extrapolated to I=0

-----  
Mn++ gl KNO3 37°C 0.15M C K1=3.79 1979ADb (46167) 740



B(MnHL)=7.84  
 B(MnH2L)=11.37  
 B(Mn2H-2L2)=-5.73

-----  
 Mn++ vlt KNO3 25°C 1.0M C B2=5.72 1978SSh (46168) 741  
 Method: polarography.

-----  
 Mn++ gl NaClO4 37°C 0.15M C K1=3.83 1977RWc (46169) 742  
 B(MnH-1L)=-3.63  
 B(Mn2H-1L)=-0.07

-----  
 Mn++ oth KNO3 ? 0.70M U 1970BCa (46170) 743  
 K(Mn+H3L=MnH2L+H)=-1.44  
 K(MnH2L=MnL+2H)=-8.6

Method: zone electrophoresis

-----  
 Mn++ gl R4N.X 25°C 0.10M U K1=2.16 B2=4.15 1970GTa (46171) 744

-----  
 Mn++ EMF oth/un 18°C ? U K1=3.6 1970KAe (46172) 745  
 K(Mn+HL)=2.08

-----  
 Mn++ con oth/un 28°C ? U K1=2.84 1962KBb (46173) 746

-----  
 Mn++ gl NaClO4 33°C 0.25M U 1961PPa (46174) 747  
 K(Mn+H3L=MnHL+2H)=-4.9  
 K(MnL+H)=4.7  
 K(MnH-1L+H)=8.5

-----  
 Mn++ gl oth/un 25°C 0.15M U K1=3.67 1959LLa (46175) 748  
 K(Mn+HL)=2.08

-----  
 Mn++ ix NaCl 25°C 0.15M U K1=3.72 1958WIa (46176) 749

-----  
 Mn++ ix oth/un 25°C 0.16M U K1=3.54 1957LWc (46177) 750

\*\*\*\*\*  
 C6H8O7P2 H3L CAS 101378-64-7 (7666)  
 Phenyldiphosphoric acid;

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

-----  
 Mn++ gl NaNO3 25°C 0.10M M K1=4.08 1999SSa (46346) 751

\*\*\*\*\*  
 C6H9NO6 H3L CAS 41035-84-1 (4367)  
 N-Carboxymethyl-L-aspartic acid;

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

-----  
 Mn++ gl KNO3 25°C 1.0M U K1=5.61 B2= 8.98 2004NKa (46379) 752  
 B(MnHL)=9.52  
 K(Mn(OH)+L)=6.78

For 0.5 mol/L KNO3 K1=5.87; B2=9.21; B(MnHL)=9.74; K(Mn(OH)+L)=6.93  
 For 0.1 mol/L KNO3 K1=6.11; B2=9.50; B(MnHL)=10.33; K(Mn(OH)+L)=7.15

\*\*\*\*\*

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 |
|---|-----|--------|------|-------|-----|-------|----|--|-----------------|--------|
| Mn++  | gl  | NaCl   | 25°C | 0.15M | U   | M     |    | K1=7.15 B2=10.20<br>B(MnL(ATP))=9.12<br>B(MnHL(ATP))=15.57                     | 1983JKa (46908) | 753    |
| Mn++  | gl  | KNO3   | 25°C | 0.10M | U   | M     |    | K(MnL+Gly)=1.80  | 1971ICa (46909) | 754    |
| Mn++  | gl  | KNO3   | 25°C | 0.05M | U   | M     |    | K(MnL+Gly)=2.24  | 1968HAa (46910) | 755    |
| Mn++  | gl  | KNO3   | 25°C | 0.08M | U   | M     |    | K(MnL+A)=2.39<br>K(MnL+Gly)=2.24   | 1968HAa (46911) | 756    |
| A=ethylvalinate   |     |        |      |       |     |       |    |  |                 |        |
| Mn++  | gl  | NaClO4 | 25°C | 0.10M | U   | M     |    | K(MnL+Arg)=1.94<br>K(MnL+Ser)=1.28   | 1968ICa (46912) | 757    |
| Mn++  | gl  | NaClO4 | 25°C | 0.10M | U   | M     |    | K(MnL+GlyGly)=2.08   | 1968ICa (46913) | 758    |
| Mn++  | gl  | NaClO4 | 25°C | 0.10M | U   | M     |    | K(MnL+Asp)=2.08<br>K(MnL+Glu)=2.22   | 1968ICb (46914) | 759    |
| Mn++  | cal | KNO3   | 20°C | 0.10M | U   | H     |    | DH(K1)=4.8 kJ mol <sup>-1</sup> , DS=158.4 J K <sup>-1</sup> mol <sup>-1</sup> | 1964HDa (46915) | 760    |
| Mn++  | oth | KNO3   | 20°C | 0.10M | U   |       |    | K1=8.6 B2=11.60  | 1964JOa (46916) | 761    |
| Method: paper electrophoresis   |     |        |      |       |     |       |    |  |                 |        |
| Mn++  | dis | NaClO4 | 20°C | 0.10M | U   |       |    | K1=7.36  | 1963STc (46917) | 762    |
| Mn++  | EMF | oth/un | 30°C | 0.0   | U   | T H   |    | K1=8.644   | 1956HMa (46918) | 763    |
| Method: H electrode. K1=8.527(0 C), 8.534(10 C), 8.573(20 C)<br>DH(K1)=14.6 kJ mol <sup>-1</sup> , DS=214 J K <sup>-1</sup> mol <sup>-1</sup> |     |        |      |       |     |       |    |  |                 |        |
| Mn++  | EMF | KCl    | 20°C | 0.10M | U   | T     |    | K1=7.44  | 1951SFa (46919) | 764    |
| Method: H electrode   |     |        |      |       |     |       |    |  |                 |        |
| Mn++  | gl  | KCl    | 20°C | 0.10M | U   |       |    | K1=<10 K2=3.7  | 1948SBa (46920) | 765    |

K(MnLOH+H)=12

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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  
-----

Mn++ gl KNO3 25°C 0.10M C M K1=3.01 1999AAa (47577) 766  
K(MnL+A)=3.74  
B(MnLA)=6.75  
K(MnL+B)=3.49  
B(MnLB)=6.50

K(MnL+C)=3.51, B(MnLC)=6.52. HA=MOPSO, HB=MOPS, HC=TAPSO.

-----  
Mn++ gl KNO3 35°C 0.10M C M K1=3.85 1985RRc (47578) 767  
K(Mn+HL+cytidine)=8.43  
K(MnL(cytidine)+H)=3.91

-----  
Mn++ gl KNO3 35°C 0.10M C K1=6.26 1985RRh (47579) 768

-----  
Mn++ gl KCl 25°C 0.20M C M K(Mn(DOPA)+L)=2.71  
B(MnHL(DOPA))=20.47  
K(Mn(Dopamine)+L)=2.73  
B(MnHL(Dopamine))=20.81

K(MnA+L)=2.78, B(MnHLA)=19.71; K(MnB+L)=2.70, B(MnHLB)=20.26  
A=Noradrenaline, B=Adrenaline, H3DOPA=3,4-dihydroxyphenylalanine

-----  
Mn++ gl KCl 25°C 0.10M U K1=3.30 B2=6.26 1980DMa (47581) 770

-----  
Mn++ gl NaClO4 25°C 3.00M U T K1=3.91 B2=6.61 1970WIa (47582) 771

-----  
Mn++ gl KNO3 15°C 0.20M U T K1=3.35 B2=5.78 1969RMb (47583) 772  
K1(40 C)=3.32, K2(40 C)=2.39

-----  
Mn++ gl KNO3 37°C 0.15M U T K1=3.24 B2=6.16 1967PSd (47584) 773

-----  
Mn++ gl oth/un 20°C 0.01M U K1=<4 1952ALa (47585) 774

-----  
Mn++ gl KCl 25°C 0.10M U K1=3.58 1952KRb (47586) 775

-----  
Mn++ gl oth/un 25°C 0.01M U B2=7.74 1950MMa (47587) 776

\*\*\*\*\*

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  
-----

Mn++ gl NaClO4 25°C 0.10M U K1=4.07 B2=8.54 1982TSb (47641) 777

\*\*\*\*\*

C6H9O6P H3L CAS 4408-72-4 (7015)  
Phosphinotriethanoic acid; P(CH2.COOH)3

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl NaClO4 25°C 0.10M U I K1=2.04 1979POa (47660) 778  
In 50% v/v dioxan/H2O: K1=3.99  
\*\*\*\*\*

C6H10N2O3 HL CAS 32514-11-7 (4318)  
dl-Tetranordethiobiotin;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl diox/w 25°C 50% U K1=1.90 1969SMc (47710) 779  
\*\*\*\*\*

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  
-----  
Mn++ gl KNO3 25°C 0.10M C K1=5.05 1989MAd (47846) 780

Mn++ gl KNO3 25°C 0.10M C K1=4.72 B2= 6.93 1983LRc (47847) 781

Mn++ gl KNO3 25°C 0.10M C K1=4.72 1979NAb (47848) 782

Mn++ gl KCl 20°C 0.10M U K1=4.93 B2=7.23 1955SAa (47849) 783

-----  
C6H10N2O6P2 H4L (6893)  
N-(2-Pyridyl)aminomethylenedi(phosphonic acid); C5H4N.NH.CH(P03H2)2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl KNO3 25°C 0.10M U K1=8.90 1990GKa (47872) 784  
K(Mn+HL)=8.29  
K(Mn+H2L)=5.41

-----  
C6H10O2S2 HL (1224)  
1,2-Dithiolane-3-propanoic acid, Bisnorlipoic acid; C3H5S2.CH2CH2COOH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl NaClO4 25°C 0.10M C K1=2.11 1978SPd (47975) 785  
\*\*\*\*\*

C6H10O3 HL CAS 141-97-9 (3068)  
Ethyl acetoacetate; CH3.CO.CH2.CO2.C2H5

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl diox/w 30°C 75% U K1=8.78 1973AAa (48015) 786

\*\*\*\*\*  
 C6H1004S H2L CAS 42715-54-8 (986)  
 2,2'-Thiodipropanoic acid; HOOC.CH(CH3).S.CH(CH3).COOH

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

Mn++ gl KNO3 25°C 0.10M C K1=2.1 1975LPa (48126) 787

\*\*\*\*\*

C6H1004S H2L CAS 111-17-1 (139)  
 3,3'-Thiodipropanoic acid; HOOC.CH2.CH2.S.CH2.CH2.COOH

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

Mn++ gl NaClO4 25°C 0.10M U TIH K1=2.72 1983DBb (48184) 788

Mn++ gl KNO3 25°C 0.05M M K1=3.30 1975DPb (48185) 789

Mn++ gl KNO3 25°C 0.10M C K1=1.77 1975LPa (48186) 790

Mn++ gl NaClO4 25°C 0.10M U K1=0.5 1968SKd (48187) 791

\*\*\*\*\*

C6H1004S2 H2L CAS 7244-02-2 (438)  
 1,2-Bis(carboxymethylthio)ethane; HOOC.CH2.S.CH2.CH2.S.CH2.COOH

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

Mn++ gl NaClO4 25°C 0.10M U K1=1.04 1971PPb (48246) 792  
 K(Mn+HL)=0.7

\*\*\*\*\*

C6H1004S2 H2L CAS 1119-62-6 (3697)  
 3,3'-Di(thiopropoic acid); HOOC.CH2.CH2.S.S.CH2.CH2.COOH

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

Mn++ gl NaClO4 20°C 0.10M U T H K1=3.04 B2= 5.90 1984SGd (48268) 793  
 K values by Bjerrum's method. By least squares, K1=3.05, K2=2.86.

Also data for 30 and 40 C. DH(B2)=-61.2 kJ mol<sup>-1</sup>, DS(B2)=-82.6 J K<sup>-1</sup> mol<sup>-1</sup>

\*\*\*\*\*

C6H1004Se H2L CAS 80030-00-8 (987)  
 2,2'-Selenodipropanoic acid; HOOC.CH(CH3).Se.CH(CH3).COOH

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

Mn++ gl KNO3 25°C 0.10M C K1=2.02 1975LPa (48283) 794

\*\*\*\*\*

C6H1004Se H2L CAS 2168-88-9 (982)  
 3,3'-Selenodipropanoic acid; HOOC.CH2.CH2.Se.CH2.CH2.COOH

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

Mn++ gl KNO3 25°C 0.10M C K1=1.50 1975LPa (48294) 795  
\*\*\*\*\*

C6H10O4Te H2L CAS 2168-91-4 (983)  
3,3'-Tellurodipropionic acid; HOOC.CH2.CH2.Te.CH2.CH2.COOH

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

Mn++ gl KNO3 25°C 0.10M C K1=1.2 1975LPa (48305) 796  
\*\*\*\*\*

C6H10O5 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  
-----

Mn++ gl KNO3 25°C 0.10M C K1=2.0 1975LPa (48314) 797  
\*\*\*\*\*

C6H10O6 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  
-----

Mn++ gl KNO3 25°C 0.10M U K1=2.79 1975MTc (48345) 798  
\*\*\*\*\*

C6H10O8 H2L Saccharic acid CAS 87-73-0 (1191)  
D-2,3,4,5-Tetrahydroxy-1,6-hexanedioic acid, Glucaric acid; HOOC.(CHOH)4.COOH

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

Mn++ gl NaClO4 25°C 0.10M U K1=3.20 1997PPa (48480) 799  
K(Mn+H2L=MnL+2H)=-4.17  
\*K(MnL)=-7.13

-----  
Mn++ gl NaClO4 25°C 0.10M U M K1=3.56 1997PPc (48481) 800  
K(Mn(edta)+L)=3.26

-----  
Mn++ gl KNO3 25°C 1.00M U K(Mn+H2L=MnH-1L+3H)=-8.51  
-----

Mn++ sp KNO3 25°C 1.0M C K(Mn+H-1L)=8.51  
-----

Authors assume that K(H-1L+H)=14.0.

\*\*\*\*\*

C6H11NO2 HL Pipecolinic acid CAS 3105-95-1 (1125)  
2-Piperidine carboxylic acid; C5H10N.COOH

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

Mn++ gl oth/un 30°C 0.10M U K1=4.03 1985RRe (48536) 803  
\*\*\*\*\*

C6H11NO4S H3L CAS 58033-48-5 (3124)

N-2-Mercaptoethyliminodiethanoic acid; HS.CH2.CH2.N(CH2.COOH)2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl KCl 20°C 0.10M U K1=9.32 1955SAa (48613) 804  
K(Mn+HL)=4.69

\*\*\*\*\*  
C6H11N05 H2L HIMDA CAS 93-62-9 (192)  
N-(2-Hydroxyethyl)iminodiethanoic acid; HO.CH2.CH2.N(CH2.COOH)2

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ oth KNO3 20°C 0.10M U K1=6.4 B2=9.70 1965JMa (48760) 805  
Method: electrophoresis

-----  
Mn++ gl KCl 20°C 0.10M U K1=5.55 B2=9.31 1955SAa (48761) 806

-----  
Mn++ gl KCl 30°C 0.10M U K1=5.65 B2=9.58 1952CCa (48762) 807  
\*\*\*\*\*  
C6H11N3 L CAS 16227-10-4 (8351)  
4-Butyl-4H-1,2,4-triazole;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl NaClO4 25°C 0.10M U TIH K1=2.90 B2= 5.32 1981RPb (48870) 808  
Medium: KClO4. Also data for 35 C and for 0.05 M KClO4.  
Also DH and DS values.

\*\*\*\*\*  
C6H11N304 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  
-----  
Mn++ gl KCl 30°C 0.09M U T K1=2.08 1957MMa (48979) 809  
K1=1.85(0.35 C), 2.38(48.8 C)

-----  
Mn++ EMF none 25°C 0.0 U K1=1.41 1955EMa (48980) 810  
\*\*\*\*\*  
C6H12N203 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  
-----  
Mn++ gl KCl 20°C 0.20M U K1=1.86 1982KRc (49130) 811  
Using EPR spectroscopy: K1=1.95

\*\*\*\*\*  
C6H12N204 H2L EDDA CAS 5657-17-0 (119)  
1,2-Diaminoethane-N,N'-diethanoic acid; HOOC.CH2.NH.CH2.CH2.NH.CH2.COOH

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

|   |     |        |      |       |     |       |    |            |          |                      |        |
|---|-----|--------|------|-------|-----|-------|----|------------|----------|----------------------|--------|
| Mn++  | gl  | KNO3   | 25°C | 0.10M | U   |       |    | K1=6.85    |          | 1979GMa (49252)      | 812    |
| Mn++  | gl  | KNO3   | 25°C | 0.10M | U   | M     |    | K1=7.05    |          | 1970DNa (49253)      | 813    |
| K(MnL+en)=2.1   |     |        |      |       |     |       |    |            |          |                      |        |
| *****   |     |        |      |       |     |       |    |            |          |                      |        |
| 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 |
| Mn++  | gl  | KCl    | 20°C | 0.10M | U   |       |    | K1=7.71    | B2=11.41 | 1955SAa (49304)      | 814    |
| *****   |     |        |      |       |     |       |    |            |          |                      |        |
| 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 |
| Mn++  | gl  | KCl    | 25°C | 0.10M | U   | T     | T  | K1=2.83    |          | 1971SSc (50084)      | 815    |
| K1(35 C)=2.76, K1(45 C)=2.73  |     |        |      |       |     |       |    |            |          |                      |        |
| Mn++  | oth | KNO3   | 20°C | 0.10M | U   |       |    | K1=3.9     | B2=5.70  | 1964JOa (50085)      | 816    |
| Method: paper electrophoresis                                       |     |        |      |       |     |       |    |            |          |                      |        |
| Mn++  | gl  | KCl    | 25°C | 0.10M | U   |       |    | K1=2.15    |          | 1952KRb (50086)      | 817    |
| Mn++  | gl  | oth/un | 25°C | 0.01M | U   |       | T  | K1=2.78    | B2=5.45  | 1949MMa (50087)      | 818    |
| *****   |     |        |      |       |     |       |    |            |          |                      |        |
| C6H13NO2  |     | HL     |      |       |     |       |    | Norleucine |          | CAS 616-06-8 (602)   |        |
| 2-Aminoheptanoic acid (2-Aminocaproic acid) CH3.(CH2)3.CH(NH2).COOH |     |        |      |       |     |       |    |            |          |                      |        |
| Metal   | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values   |          | Reference            | ExptNo |
| Mn++  | gl  | oth/un | 20°C | 0.01M | U   |       |    | B2=5       |          | 1950ALa (50186)      | 819    |
| *****   |     |        |      |       |     |       |    |            |          |                      |        |
| 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 |
| Mn++  | gl  | KNO3   | 25°C | 0.10M | C   |       |    | K1=3.07    | B2=5.32  | 1991KNa (50385)      | 820    |
| Mn++  | gl  | KNO3   | 30°C | 0.10M | U   | M     |    | K1=2.91    |          | 1984GHb (50386)      | 821    |
| K(Mn(phen)+L)=2.80  |     |        |      |       |     |       |    |            |          |                      |        |
| Mn++  | oth | KNO3   | 20°C | 0.10M | U   |       |    | K1=3.9     | B2=6.00  | 1965JMa (50387)      | 822    |
| Method: paper electrophoresis                                       |     |        |      |       |     |       |    |            |          |                      |        |
| Mn++  | gl  | KCl    | 30°C | 0.10M | U   |       |    | K1=3.27    | B2=5.6   | 1957FCa (50388)      | 823    |



Mn++ gl KCl 30°C 0.10M U K1=3.15 B2=5.48 1953CCa (50389) 824  
\*\*\*\*\*

C6H13NO6 HL CAS 84518-56-9 (4387)  
2-Amino-2-deoxy-D-gluconic acid;

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

Mn++ gl KNO3 30°C 0.10M U K1=3.2 B2=6.70 1966MSa (50533) 825  
\*\*\*\*\*

C6H13N3O3 HL Citrulline (579)  
2-Amino-5-ureidovaleric acid; H2N.CO.NH.CH2.CH2.CH2.CH(NH2).COOH

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

Mn++ gl KNO3 25°C 0.10M U K1=1.59 1970CMc (50582) 826  
\*\*\*\*\*

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  
-----

Mn++ ix NaClO4 25°C 0.10M U K1=2.19 1966DTa (50621) 827  
\*\*\*\*\*

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  
-----

Mn++ gl KNO3 25°C 0.10M U K1=3.0 B2=6.8 1990CCa (50713) 828  
\*\*\*\*\*

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  
-----

Mn++ gl oth/un 20°C 0.01M U K1=2.18 1952ALa (50827) 829  
\*\*\*\*\*

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  
-----

Mn++ gl NaClO4 25°C 0.10M U K1=2.3 1965Nca (50872) 830  
\*\*\*\*\*

C6H14N4O L CAS 44981-30-8 (8526)  
Aminoiminomethylcarbamimidic acid, 2-methylpropyl ester;

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

Mn++ gl KNO3 20°C 0.10M U I K1=5.60 B2= 8.90 1997IMb (50897) 831

Data for 0.05-0.20 M (20 C) and 25-40 C (I=0.01 M). At I=0, K1=6.60, K2=3.75.

\*\*\*\*\*

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 |
|-------|-----|--------|------|------|-----|-------|---------------------------|-----------------|--------|
| Mn++  | gl  | none   | 25°C | 0.0  | C   | I     | K1=1.306<br>B(MnHL)=4.675 | 1996RRb (50906) | 832    |

Data for 10-60% v/v DMF/H2O and dioxane/H2O. In 50% DMF/H2O, K1=2.761, B(MnHL)=6.459.

\*\*\*\*\*

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 |
|------------------------|-----|--------|------|-------|-----|-------|--------------------|-----------------|--------|
| Mn++                   | gl  | KN03   | 25°C | 0.10M | U   |       | K1=2.55            | 1970CMc (51013) | 833    |
| Mn++                   | gl  | oth/un | 25°C | ?     | U   | T     | K1=2.64<br>B2=4.58 | 1960PEd (51014) | 834    |
| 40 C: K1=2.60, K2=1.90 |     |        |      |       |     |       |                    |                 |        |

|      |    |        |      |       |   |  |         |                 |     |
|------|----|--------|------|-------|---|--|---------|-----------------|-----|
| Mn++ | gl | oth/un | 20°C | 0.01M | U |  | K1=2.00 | 1952ALa (51015) | 835 |
|------|----|--------|------|-------|---|--|---------|-----------------|-----|

\*\*\*\*\*

C6H14O8P2 H4L CAS 36011-96-8 (4391)  
trans-1,2-Cyclohexanediol diphosphate; C6H10(OP03H2)2

| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg K values              | Reference       | ExptNo |
|-------|-----|--------|------|-------|-----|-------|--------------------------|-----------------|--------|
| Mn++  | gl  | R4N.X  | 20°C | 0.10M | U   |       | K1=4.96<br>K(Mn+HL)=2.89 | 1969HRa (51117) | 836    |

Medium: (C3H7)4NI

\*\*\*\*\*

C6H15N03 Triethanolamine CAS 102-71-6 (447)  
Tris-(2-hydroxyethyl)amine; L

| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg K values        | Reference       | ExptNo |
|-------|-----|--------|------|-------|-----|-------|--------------------|-----------------|--------|
| Mn++  | oth | oth/un | 25°C | 0.43M | U   |       | K1=1.47<br>B2=2.14 | 1966SKe (51299) | 837    |

Medium: CH2OHCH2.NH3NO3

\*\*\*\*\*

C6H15N06P2 H4L (6891)  
Piperidine-N-Methylenedi(phosphonic acid); C5H10N.CH(P03H2)2

| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg K values              | Reference       | ExptNo |
|-------|-----|--------|------|-------|-----|-------|--------------------------|-----------------|--------|
| Mn++  | gl  | KCl    | 25°C | 0.10M | U   |       | K1=7.75<br>K(Mn+HL)=6.27 | 1978GMf (51323) | 838    |

\*\*\*\*\*

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  
-----

Mn++ gl KNO3 20°C 0.10M U T H K1=8.33 1997BAa (51411) 839  
At 32 C, K1=7.02. DH(K1)=-99.8 kJ mol<sup>-1</sup>. DS(K1)=328 J K<sup>-1</sup> mol<sup>-1</sup>.

-----  
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  
-----

Mn++ gl KCl 25°C 0.20M C 2002ECa (51428) 840  
B(MnHL)=13.41  
B(MnH2L2)=26.3

-----  
C6H15N3O3 L (6613)  
1,3,5-Triamino-1,3,5-trideoxy-cis-inositol,5-Amino-5-deoxy-streptamine;

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

Mn++ gl KNO3 25°C 0.10M C K1=4.0 B2= 4.00 1998GMA (51454) 841  
K1 in 1.0 M KNO3.

-----  
C6H16N04P 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  
-----

Mn++ gl NaNO3 25°C 0.10M M K1=2.03 2002FGb (51574) 842

-----  
C6H16O6P2 H4L CAS 4721-22-6 (3708)  
Hexane-1,6-diphosphonic acid; H2O3P(CH2)6PO3H2

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

Mn++ gl KCl 25°C 0.10M U 1967KLa (51794) 843  
K(Mn+HL)=5.82  
B(Mn2L)=12.51  
K(2Mn+HL)=9.62

-----  
C6H16Si L (6824)  
n-Hexylsilane;

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

Mn++ cal non-aq 25°C 100% U HM 1992HSb (51798) 844  
Metal:Mn+. Medium:heptane. K:MnA2BC+L=MnH(H-1L)A2B. A:CO. B:C5H5. C:heptane.  
DH=-92.5 kJ mol<sup>-1</sup>. Data for many other silanes

\*\*\*\*\*  
 C6H17N06P2 CAS 5995-28-8 (1339)  
 N-t-Butyliminobis(methylenephosphonic) acid; (CH3)3CN(CH2PO3H2)2 H4L

| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values                 | Reference       | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|--------------------------|-----------------|--------|
| Mn++  | gl  | KNO3   | 25°C | 1.00M | M   |       |    | K1=6.39<br>K(Mn+HL)=4.57 | 1982BGb (51812) | 845    |

\*\*\*\*\*  
 C6H17N203P H2L (7486)  
 N,N,N'-Trimethyldiaminoethane-N'-methylphosphonic acid;  
 (CH3)2N.CH2CH2.N(CH3)CH2PO3H2

| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values                                 | Reference       | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|--|-----------------|--------|
| Mn++  | gl  | KNO3   | 25°C | 0.10M | C   |       |    | K1=5.49<br>K(MnL+H)=7.9<br>K(MnL+OH)=3.6 | 2001DSa (51826) | 846    |

|      |    |      |      |       |   |  |  |  |                 |     |
|------|----|------|------|-------|---|--|--|--|-----------------|-----|
| Mn++ | gl | KNO3 | 25°C | 0.10M | C |  |  | K1=5.49<br>K(MnL+H)=7.9<br>K(MnL+OH)=3.6 | 2001DSa (51827) | 847 |
|------|----|------|------|-------|---|--|--|--|-----------------|-----|

\*\*\*\*\*  
 C6H18N206P2 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 |
|-------|-----|--------|------|-------|-----|-------|----|--|-----------------|--------|
| Mn++  | gl  | KNO3   | 25°C | 0.10M | C   |       |    | K1=9.78<br>K(MnL+H)=6.59<br>K(MnL+OH)=1.9<br>K(MnHL+H)=5.9 | 2001DSa (51952) | 848    |

|      |    |      |      |       |   |  |  |  |                 |     |
|------|----|------|------|-------|---|--|--|--|-----------------|-----|
| Mn++ | gl | KNO3 | 25°C | 0.10M | C |  |  | K1=9.78<br>K(MnL+H)=6.59<br>K(MnHL+H)=5.9<br>K(MnL+OH)=1.9 | 2001DSa (51953) | 849 |
|------|----|------|------|-------|---|--|--|--|-----------------|-----|

\*\*\*\*\*  
 C6H18N206P2 H4L (7487)  
 N,N-Dimethyldiaminoethane-N',N'-dimethyldiphosphonic acid;  
 (CH3)2N.CH2CH2.N(CH2PO3H2)2

| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values   | Reference       | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|--|-----------------|--------|
| Mn++  | gl  | KNO3   | 25°C | 0.10M | C   |       |    | K1=9.68<br>K(MnL+H)=7.66<br>K(MnL+OH)=2.7<br>K(MnHL+H)=6.0 | 2001DSa (51970) | 850    |

Mn++ gl KNO3 25°C 0.10M C K1=9.68 2001DSa (51971) 851  
 K(MnL+H)=7.66  
 K(MnHL+H)=6.0  
 K(MnL+OH)=2.7

\*\*\*\*\*

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  
 -----

Mn++ gl NaClO4 25°C 1.0M U K1=5.61 1981BCe (52113) 852  
 -----

Mn++ gl diox/w 25°C 50% U K1=5.61 1979LPa (52114) 853  
 -----

Mn++ gl diox/w 25°C 50% C K1=5.61 1979MPe (52115) 854  
 Medium: 50% v/v dioxan/H2O, 0.1 M KNO3.  
 -----

Mn++ cal KCl 25°C 0.10M U H 1961SPb (52116) 855  
 DG(K1)=-28.01 kJ mol-1, DH=-9.6, DS=62.8 J K-1 mol-1  
 -----

Mn++ gl KNO3 40°C 1.0M U T H 1952JHa (52117) 856  
 B(Mn3L2)=2.72  
 Medium: 1 M (KNO3+KCl). B(Mn3L2)=2.84(30C), DH=-16.7 kJ mol-1  
 -----

Mn++ gl oth/un 30°C 1.0M U T K1=5.43 1952JHa (52118) 857  
 40 C: K1=5.31  
 -----

Mn++ gl KCl 20°C 0.10M U K1=4.9 1950SCa (52119) 858  
 -----

\*\*\*\*\*

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  
 -----

Mn++ gl R4N.X 25°C 0.10M C K1=5.77 1975JTa (52203) 859  
 -----

Mn++ cal KCl 25°C 0.10M U H 1960PCa (52204) 860  
 DG(K1)=-32.81 kJ mol-1, DH=-12.6, DS=-69 J K-1 mol-1  
 -----

Mn++ gl KCl 20°C 0.10M U K1=5.8 1950PSa (52205) 861  
 -----

\*\*\*\*\*

C6H18O24P6 HnL Phytic acid CAS 83-86-3 (745)  
 Cyclohexane-1,2,3,4,5,6-hexol-hexaphosphoric acid, Myo-inositol hexaphosphoric acid; H12L

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

Mn++ cal KCl 25°C 0.10M C H 1988EHb (52226) 862  
 DH(Keff)=15.6 to 11.0 kJ mol-1 for Mn:ligand ratios 1:1 to 6:1.  
 -----

\*\*\*\*\*

C6H19N2O9P3 H6L (8063)  
 N-Methylethylenediamine-N,N',N'-trimethylenetris(phosphonic acid);

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----  
 Mn++ gl KNO3 25°C 0.10M C K1=12.61 2001DSa (52239) 863  
 K(MnL+H)=6.96  
 K(MnH2L+H)=5.05  
 K(MnHL+H)=6.45  
 K(MnH3L+H)=4.0  
 K(MnL+OH)=2.8  
 -----

Mn++ gl KNO3 25°C 0.10M C K1=12.61 2001DSa (52240) 864  
 K(MnL+H)=6.96  
 K(MnHL+H)=6.45  
 K(MnH2L+H)=5.05  
 K(MnH3L+H)=4.0  
 K(MnL+OH)=2.8  
 -----

\*\*\*\*\*  
 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  
 -----  
 Mn++ gl KNO3 25°C 0.10M C K1=13.5 2001DSa (52349) 865  
 K(MnL+H)=8.87  
 K(MnH2L+H)=6.17  
 K(MnHL+H)=7.21  
 K(MnH3L+H)=4.9  
 K(MnL+OH)=1.8  
 -----

Mn++ gl KNO3 25°C 0.10M C K1=13.5 2001DSa (52350) 866  
 K(MnL+H)=8.87  
 K(MnHL+H)=7.21  
 K(MnH2L+H)=6.17  
 K(MnH3L+H)=4.9  
 K(MnL+OH)=1.8  
 -----

Mn++ gl KCl 25°C 0.10M U K1=12.70 1967KDa (52351) 867  
 K(Mn+HL)=9.66  
 K(Mn+H2L)=6.99  
 K(Mn+H3L)=5.13  
 K(Mn+H4L)=3.19  
 -----

Mn++ gl KNO3 25°C 0.10M U K1=9.40 1965WRa (52352) 868  
 \*\*\*\*\*  
 C7H4N2O6 HL CAS 528-45-0 (4432)  
 3,4-Dinitrobenzoic acid; (O2N)2.C6H3.COOH

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

Mn++ gl diox/w 25°C 50% U K1=1.50 1969SGa (52387) 869  
Medium: 50% dioxan, 0.1 M NaClO4

\*\*\*\*\*  
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  
-----

Mn++ gl KCl 25°C 0.0 C T H K1=4.36 1975DNd (52490) 870  
DH(K1)=14.05 kJ mol<sup>-1</sup>, DS=130.6 J mol<sup>-1</sup> K<sup>-1</sup>. Calculated from 0.1 M KCl by  
the Davies equation. Values also at 35 and 45 C

-----  
Mn++ gl NaClO4 30°C 0.10M U K1=3.06 1975JKa (52491) 871

-----  
Mn++ EMF NaClO4 30°C 0.10M U K1=3.06 1972JKa (52492) 872

-----  
Mn++ gl KNO3 35°C 0.10M U K1=2.95 1970DDa (52493) 873  
\*\*\*\*\*

C7H4N4O4 L CAS 50365-37-2 (7762)  
5,6-Dinitrobenzimidazole;

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

Mn++ gl NaNO3 25°C 0.50M M K1=0.08 1999KSa (52517) 874  
K(Mn+H-1L)=1.85  
\*K(MnL)=-7.15

\*\*\*\*\*  
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  
-----

Mn++ gl NaClO4 30°C 0.10M U T K1=5.03 1975JKa (52543) 875  
\*\*\*\*\*

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  
-----

Mn++ gl NaClO4 30°C 0.10M U T K1=4.49 1975JKa (52555) 876  
\*\*\*\*\*

C7H5NOS HL CAS 7405-23-4 (3177)  
4-Hydroxybenzothiazole;

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

Mn++ gl diox/w 25°C 50% U K1=5.36 B2=10.24 1960FFa (52591) 877  
\*\*\*\*\*

C7H5NO4 H2L Dipicolinic aci CAS 449-83-2 (418)

2,6-Pyridinedicarboxylic acid; C5H3N.(COOH)2

```
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      EMF NaNO3  20°C 0.10M U          K1=5.01  B2=8.49  1960ANb (52788) 878
*****
C7H5NO4          HL          CAS 62-23-7 (489)
4-Nitrobenzoic acid; O2N.C6H4.COOH
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  diox/w 25°C 50% U          K1=1.67          1969SGa (52911) 879
Medium: 50% dioxan, 0.1 M NaClO4
*****
C7H5NO4S2        H2L          (3178)
4-Hydroxybenzothiazole-7-sulfonic acid;
-----
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  diox/w 25°C 50% U          K1=5.1   B2=9.0   1962FFa (52949) 880
*****
C7H5NO5          H2L  Nitrosalicylic CAS 85-38-1 (1416)
2-Hydroxy-3-nitrobenzoic acid; HO.C6H3(NO2).COOH
-----
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  NaClO4 30°C 0.10M U          T K1=4.85          1975JKa (52976) 881
-----
Mn++      EMF NaClO4 30°C 0.10M U          K1=4.85          1972JKa (52977) 882
*****
C7H5NO5          H2L  Nitrosalicylic CAS 96-97-9 (148)
2-Hydroxy-5-nitrobenzoic acid; HO.C6H3(NO2).COOH
-----
```

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  KCl    25°C 0.10M U T H   K1=5.57          1975DNb (53052) 883
DH(K1)=18.2 kJ mol-1 and DS(K1)=172.5 J mol-1 K-1.
Values also available at 35 and 45 C
-----
```

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-----
Mn++      gl  NaClO4 30°C 0.10M U          K1=4.41          1975JKa (53053) 884
-----
Mn++      EMF NaClO4 30°C 0.10M U          K1=4.41          1972JKa (53054) 885
*****
C7H5NO5          H3L          CAS 499-51-4 (3150)
4-Hydroxypyridine-2,6-dicarboxylic acid; HO.C5H2N(COOH)2
-----
```

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  oth/un 20°C 0.10M U          K1=6.7          1963ANd (53075) 886
K(MnL+H)=6.02
-----
```



\*\*\*\*\*  
 C7H5N3O2 L CAS 94-52-0 (7761)  
 5-Nitrobenzimidazole;

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

Mn++ gl NaNO3 25°C 0.50M M K1=0.37 1999KSa (53101) 887  
 K(Mn+H-1L)=2.22  
 \*K(MnL)=-8.73

\*\*\*\*\*  
 C7H5O2Cl HL (3747)  
 2-Hydroxy-6-chlorobenzaldehyde (6-chlorosalicylaldehyde)

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

Mn++ gl diox/w 30°C 75% U K1=4.64 1978RJa (53159) 888

\*\*\*\*\*  
 C7H5O2Cl HL CAS 535-80-8 (1368)  
 3-Chlorobenzoic acid; Cl.C6H4.COOH

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

Mn++ gl diox/w 25°C 50% U K1=1.81 1969SGa (53172) 889  
 Medium: 50% dioxan, 0.1 M NaClO4

\*\*\*\*\*  
 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  
 -----

Mn++ gl diox/w 30°C 75% U K1=8.65 1978RJa (53190) 890

\*\*\*\*\*  
 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  
 -----

Mn++ gl diox/w 30°C 75% U K1=4.40 1978RJa (53270) 891

\*\*\*\*\*  
 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  
 -----

Mn++ gl NaClO4 30°C 0.10M U T K1=5.33 1975JKa (53290) 892

\*\*\*\*\*  
 C7H5O3Cl H2L CAS 321-14-2 (1113)  
 5-Chlorosalicylic acid; Cl.C6H3(OH).COOH

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

-----  
Mn++ gl NaClO4 30°C 0.10M U T K1=6.46 1975JKa (53346) 893  
\*\*\*\*\*  
C7H6NO2Cl HL CAS 7120-43-6 (3782)  
5-Chloro-2-hydroxybenzaldehyde oxime (5-chlorosalicylaldoxime)  
-----

| Metal   | Mtd | Medium    | Temp | Conc | Cal | Flags | Lg | K values             | Reference       | ExptNo |
|---|-----|-----------|------|------|-----|-------|----|----------------------|-----------------|--------|
| Mn++  | gl  | diox/w    | 20°C | 75%  | U   |       |    | K1=4.8 B2=10.50      | 1965BEb (53388) | 894    |
| Medium: 75% dioxan, 0.1 M NaClO4                    |     |           |      |      |     |       |    |                      |                 |        |
| *****   |     |           |      |      |     |       |    |                      |                 |        |
|   |     | C7H6NO3Br | H2L  |      |     |       |    | CAS 87353-69-3 (207) |                 |        |
| 4-Bromosalicylhydroxamic acid; Br.C6H3(OH).CO.NH.OH |     |           |      |      |     |       |    |                      |                 |        |

| Metal   | Mtd | Medium    | Temp | Conc | Cal | Flags | Lg | K values            | Reference       | ExptNo |
|---|-----|-----------|------|------|-----|-------|----|---------------------|-----------------|--------|
| Mn++  | EMF | diox/w    | 30°C | 50%  | U   |       |    | K1=3.28             | 1977DJa (53396) | 895    |
| Medium: 50% dioxan, 0.1 M NaClO4                    |     |           |      |      |     |       |    |                     |                 |        |
| *****   |     |           |      |      |     |       |    |                     |                 |        |
|   |     | C7H6NO3Br | H2L  |      |     |       |    | CAS 5798-94-7 (206) |                 |        |
| 5-Bromosalicylhydroxamic acid; Br.C6H3(OH).CO.NH.OH |     |           |      |      |     |       |    |                     |                 |        |

| Metal  | Mtd | Medium    | Temp | Conc | Cal | Flags | Lg | K values | Reference       | ExptNo |
|--|-----|-----------|------|------|-----|-------|----|----------|-----------------|--------|
| Mn++   | EMF | diox/w    | 30°C | 50%  | U   |       |    | K1=3.37  | 1977DJa (53407) | 896    |
| Medium: 50% dioxan, 0.1 M NaClO4                     |     |           |      |      |     |       |    |          |                 |        |
| *****  |     |           |      |      |     |       |    |          |                 |        |
|  |     | C7H6NO3Cl | H2L  |      |     |       |    | (205)    |                 |        |
| 3-Chlorosalicylhydroxamic acid; Cl.C6H3(OH).CO.NH.OH |     |           |      |      |     |       |    |          |                 |        |

| Metal                            | Mtd | Medium | Temp | Conc          | Cal | Flags | Lg | K values         | Reference       | ExptNo |
|----------------------------------|-----|--------|------|---------------|-----|-------|----|------------------|-----------------|--------|
| Mn++                             | EMF | diox/w | 30°C | 50%           | U   |       |    | K1=2.98          | 1977DJa (53417) | 897    |
| Medium: 50% dioxan, 0.1 M NaClO4 |     |        |      |               |     |       |    |                  |                 |        |
| *****                            |     |        |      |               |     |       |    |                  |                 |        |
|                                  |     | C7H6N2 | L    | Benzimidazole |     |       |    | CAS 51-17-2 (52) |                 |        |
| Benzimidazole; C7H6N2            |     |        |      |               |     |       |    |                  |                 |        |

| Metal                           | Mtd | Medium   | Temp | Conc  | Cal | Flags | Lg | K values              | Reference       | ExptNo |
|---------------------------------|-----|----------|------|-------|-----|-------|----|-----------------------|-----------------|--------|
| Mn++                            | gl  | KNO3     | 25°C | 0.50M | U   |       |    | K1=0.88               | 1981LMb (53472) | 898    |
| *****                           |     |          |      |       |     |       |    |                       |                 |        |
|                                 |     | C7H6N2O5 | HL   |       |     |       |    | CAS 26278-79-5 (3179) |                 |        |
| 2-Amino-4-hydroxybenzothiazole; |     |          |      |       |     |       |    |                       |                 |        |

| Metal | Mtd | Medium   | Temp | Conc | Cal | Flags | Lg | K values             | Reference       | ExptNo |
|-------|-----|----------|------|------|-----|-------|----|----------------------|-----------------|--------|
| Mn++  | gl  | diox/w   | 25°C | 50%  | U   |       |    | K1=6.2 B2=11.4       | 1962FFa (53487) | 899    |
| ***** |     |          |      |      |     |       |    |                      |                 |        |
|       |     | 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  
-----

Mn++ gl diox/w 20°C 75% U K1=4.42 B2=8.32 1965BEb (53493) 900  
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  
-----

Mn++ gl KNO3 20°C 0.10M U K1=5.89 B2=10.70 1965ABa (53511) 901

\*\*\*\*\*

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  
-----

Mn++ EMF diox/w 30°C 50% U K1=2.83 1977DJa (53523) 902  
Medium: 50% dioxan, 0.1 M NaClO4

\*\*\*\*\*

C7H6N2S HL CAS 583-39-1 (2043)  
2-Mercaptobenzimidazole;

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

Mn++ gl alc/w 25°C 50% U K1=4.05 1978ZJa (53530) 903

\*\*\*\*\*

C7H6OS HL Thiobenzoic CAS 98-91-9 (6294)  
Thiobenzoic acid; C6H5.COSH

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

Mn++ gl diox/w 30°C 60% U K1=4.1 B2=7.6 19720Tc (53556) 904  
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  
-----

Mn++ gl diox/w 30°C 75% U K1=5.34 1978RJa (53625) 905

Mn++ gl KNO3 25°C 0.50M U K1=2.10 1969HLA (53626) 906

Mn++ gl KCl 25°C 0.50M U M K1=2.15 B2=4.0 1968LBA (53627) 907  
B(MnL(Gly))=7.26  
B(MnL(Gly)2)=9.15  
B(MnL2(Gly)2)=13.04

Mn++ gl diox/w 25°C 50% U K1=3.73 B2=6.79 1949MMa (53628) 908

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C7H6O2 HL Tropolone CAS 533-75-5 (3129)

2-Hydroxycyclohepta-2,4,6-trien-1-one;

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Mn++ gl diox/w 30°C 50% U M K1=11.03 B2=17.28 1980KSa (53681) 909

B(Mn(bpy)+L)=6.14

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Mn++ sp NaClO4 25°C 0.10M U K1=4.60 1968OWa (53682) 910

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C7H6O2 HL Benzoic Acid CAS 65-85-0 (462)

Benzenecarboxylic acid; C6H5.COOH

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Mn++ gl NaClO4 25°C 1.00M U T H K1=0.62 1991BAa (53843) 911

K1 also at 30, 35 and 40C. DH=12.0 kJ mol<sup>-1</sup>, DS=52 J K<sup>-1</sup> mol<sup>-1</sup>.

-----  
Mn++ gl NaClO4 25°C 0.00 U I K1=2.06 1979TPa (53844) 912

-----  
Mn++ gl diox/w 25°C 50% U K1=1.90 1969SGa (53845) 913

Medium: 50% dioxan, 0.1 M NaClO4

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C7H6O2S H2L Thiosalicylic CAS 147-93-3 (236)

2-Mercaptobenzoic acid; HS.C6H4.COOH

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

Mn++ gl alc/w 17°C 50% U K1=5.07 1970RBc (53911) 914

Medium: 50% EtOH, 0.05 M NaClO4

-----  
Mn++ gl alc/w 50°C 45% U T H K1=5.28 B2=9.56 1968RSh (53912) 915

Medium: 45% EtOH, 0.15 M. K1=5.04(30 C),5.15(40 C); K2=4.05(30 C),4.18(40 C)

DH(K1)=18 kJ mol<sup>-1</sup>(25 C), DS=159 J K<sup>-1</sup> mol<sup>-1</sup>; DH(K2)=24, DS=155

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C7H6O2S2 H2L CAS 89677-36-1 (5448)

3-(2-Thiophene)-2-mercaptopropenoic acid; C4H3S.CH:C(SH).COOH

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

Mn++ gl diox/w 25°C 0.10M U K1=6.26 B2=10.41 1977WVa (53931) 916

\*\*\*\*\*

C7H6O3 H2L CAS 95-01-2 (4407)

2,4-Dihydroxybenzaldehyde; (OH)2.C6H3.CHO

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

Mn++ gl diox/w 30°C 75% U K1=11.39 1978RJa (53941) 917  
\*\*\*\*\*

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  
-----

Mn++ cal alc/w 25°C 100% U H 1990PJa (54260) 918  
Medium: MeOH. DG(K1)=-25.7 kJ mol<sup>-1</sup>, DH=21.4; DG(B2)=-43.4; DH=23.0

-----  
Mn++ gl alc/w 25°C 100% M 1988LTa (54261) 919  
K(Mn+HL)=4.5  
K(Mn+2HL)=7.6

Medium: MeOH

-----  
Mn++ gl NaNO3 35°C 0.10M U M T K1=6.10 1985KSc (54262) 920  
K(MnL+CMP)=0.15

H2CMP=cytidine-5'-monophosphoric acid

-----  
Mn++ gl NaClO4 30°C 0.10M U K1=7.90 1975JKa (54263) 921

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Mn++ gl KCl 20°C 0.10M U K1=5.90 B2=9.8 1958PEe (54264) 922  
\*\*\*\*\*

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  
-----

Mn++ gl alc/w 30°C 10% C K1=5.07 B2=8.90 1986IGc (54446) 923  
Medium: 10% v/v EtOH/H2O, 0.1 M KNO3

\*\*\*\*\*

C7H6O4 H3L CAS 303-38-8 (1398)  
2,3-Dihydroxybenzoic acid; C6H3(OH)2.COOH

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

Mn++ gl NaClO4 25°C 1.00M U T 1987GNa (54469) 924  
K(Mn+H2L=MnL+2H)=-15.2

\*\*\*\*\*

C7H6O4 H3L Resorcylic acid CAS 89-86-1 (876)  
2,4-Dihydroxybenzoic acid, b-Resorcylic acid; C6H3(OH)2.COOH

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

Mn++ gl NaClO4 30°C 0.10M U K1=9.00 1975JKa (54532) 925  
B(MnHL)=9.00

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C7H6O4 H3L CAS 409-79-9 (1115)  
2,5-Dihydroxybenzoic acid; C6H3(OH)2.COOH

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| Metal                                     | Mtd | Medium | Temp | Conc           | Cal | Flags | Lg | K values    | Reference       | ExptNo |
|---|-----|--------|------|----------------|-----|-------|----|-------------|-----------------|--------|
| Mn++                                      | gl  | NaClO4 | 30°C | 0.10M          | U   |       | T  | K1=8.46     | 1975JKa (54587) | 926    |
| *****                                     |     |        |      |                |     |       |    |             |                 |        |
| C7H6O4                                    |     | H3L    |      | Protocatechuic |     |       |    | CAS 99-50-3 | (875)           |        |
| 3,4-Dihydroxybenzoic acid; C6H3(OH)2.COOH |     |        |      |                |     |       |    |             |                 |        |

| Metal   | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values         | Reference       | ExptNo |
|---|-----|--------|------|-------|-----|-------|----|------------------|-----------------|--------|
| Mn++  | gl  | NaClO4 | 25°C | 1.00M | U   |       |    | K1=7.43 B2=12.64 | 1975SGb (54681) | 927    |
| Mn++  | gl  | KNO3   | 30°C | 0.10M | U   |       |    | K1=7.22 B2=12.28 | 1963MNC (54682) | 928    |
| *****   |     |        |      |       |     |       |    |                  |                 |        |
| C7H6O6S   |     | H3L    |      |       |     |       |    | CAS 5965-83-3    | (399)           |        |
| 5-Sulfosalicylic acid, 2-Hydroxy-5-sulfobenzoic; HO3S.C6H3(OH).COOH |     |        |      |       |     |       |    |                  |                 |        |

| Metal  | Mtd | Medium | Temp | Conc        | Cal | Flags | Lg | K values        | Reference       | ExptNo |
|--|-----|--------|------|-------------|-----|-------|----|-----------------|-----------------|--------|
| Mn++   | gl  | NaClO4 | 25°C | 1.00M       | U   |       |    | K1=4.77 B2=8.19 | 1975SGb (55023) | 929    |
| Mn++   | gl  | KCl    | 25°C | 0.10M       | U   |       |    | K1=5.25 B2=8.65 | 1962NAa (55024) | 930    |
| Mn++   | gl  | NaClO4 | 25°C | 0.10M       | U   |       |    | K1=5.24 B2=8.24 | 1960BSb (55025) | 931    |
| Mn++   | gl  | KCl    | 20°C | 0.10M       | U   |       |    | K1=5.10 B2=8.00 | 1958PEe (55026) | 932    |
| Mn++   | sp  | R4N.X  | ?    | 0.60M       | U   |       |    | B2=11.43        | 1956ITa (55027) | 933    |
| *****  |     |        |      |             |     |       |    |                 |                 |        |
| C7H7NO2  |     | HL     |      | Anthranilic |     |       |    | CAS 118-92-3    | (1589)          |        |
| 2-Aminobenzoic acid, Anthranilic acid; H2N.C6H4.COOH |     |        |      |             |     |       |    |                 |                 |        |

| Metal  | Mtd | Medium | Temp | Conc            | Cal | Flags | Lg | K values        | Reference       | ExptNo |
|--|-----|--------|------|-----------------|-----|-------|----|-----------------|-----------------|--------|
| Mn++   | gl  | oth/un | 25°C | ->0             | U   |       |    | K1=0.99 B2=2.87 | 1958LUa (55244) | 934    |
| *****  |     |        |      |                 |     |       |    |                 |                 |        |
| 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 |
|-------------------|-----|--------|------|------|-----|-------|----|----------|-----------------|--------|
| Mn++              | gl  | diox/w | 20°C | 75%  | U   |       |    |          | 1965BEb (55311) | 935    |
| K(Mn+HL)=5.8      |     |        |      |      |     |       |    |          |                 |        |
| K(MnHL+HL)=6.1(?) |     |        |      |      |     |       |    |          |                 |        |

Medium: 75% dioxan, 0.1 M NaClO4

| Metal  | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values      | Reference       | ExptNo |
|--|-----|--------|------|------|-----|-------|----|---------------|-----------------|--------|
| Mn++   | con | oth/un | 26°C | ?    | U   |       |    | K1=3.01       | 1963KBa (55312) | 936    |
| *****  |     |        |      |      |     |       |    |               |                 |        |
| C7H7NO2  |     | HL     |      |      |     |       |    | CAS 3222-47-7 | (3154)          |        |
| 6-Methylpyridine-2-carboxylic acid; CH3.C5H3N.COOH |     |        |      |      |     |       |    |               |                 |        |

| Metal                               | Mtd | Medium  | Temp | Conc  | Cal | Flags | Lg K values    | Reference       | ExptNo |
|-------------------------------------|-----|---------|------|-------|-----|-------|----------------|-----------------|--------|
| Mn++                                | gl  | NaNO3   | 20°C | 0.10M | U   |       | K1=3.35 B2=5.8 | 1960ANb (55430) | 937    |
| *****                               |     |         |      |       |     |       |                |                 |        |
|                                     |     | C7H7NO2 | HL   |       |     |       | CAS 495-18-1   | (184)           |        |
| Benzohydroxamic acid; C6H5.CO.NH.OH |     |         |      |       |     |       |                |                 |        |

| Metal                                       | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg K values      | Reference       | ExptNo |
|---|-----|--------|------|-------|-----|-------|------------------|-----------------|--------|
| Mn++  | gl  | NaNO3  | 25°C | 0.10M | M   |       | K1=3.49 B2= 6.98 | 1996KSc (55505) | 938    |
| Mn++  | gl  | diox/w | 30°C | 50%   | U   |       | K1=9.97 B2=17.87 | 1994JBb (55506) | 939    |
| Medium: 50% v/v dioxane/H2O, 0.10 M NaClO4. |     |        |      |       |     |       |                  |                 |        |
| Mn++  | gl  | diox/w | 35°C | 50%   | U   |       | K1=5.97 B2=10.49 | 1972ATa (55507) | 940    |
| Medium: 50% dioxan, I=0 corr.               |     |        |      |       |     |       |                  |                 |        |

| Metal   | Mtd | Medium  | Temp | Conc | Cal | Flags | Lg K values     | Reference       | ExptNo |
|---|-----|---------|------|------|-----|-------|-----------------|-----------------|--------|
| Mn++  | gl  | diox/w  | 25°C | 70%  | U   |       | K1=4.90 B2=8.86 | 1969JSa (55508) | 941    |
| *****   |     |         |      |      |     |       |                 |                 |        |
|   |     | 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 |
|---|-----|---------|------|-------|-----|-------|------------------|-----------------|--------|
| Mn++  | gl  | NaNO3   | 25°C | 0.10M | C   |       | K1=4.60          | 2000KHa (55601) | 942    |
| Mn++  | gl  | NaNO3   | 25°C | 0.10M | M   |       | K1=4.54 B2= 7.67 | 1996KSc (55602) | 943    |
| Mn++  | EMF | diox/w  | 30°C | 50%   | U   |       | K1=3.98          | 1977DJa (55603) | 944    |
| Medium: 50% dioxan, 0.1 M NaClO4                          |     |         |      |       |     |       |                  |                 |        |
| *****   |     |         |      |       |     |       |                  |                 |        |
|   |     | C7H7NO3 | HL   |       |     |       | CAS 548-93-6     | (3156)          |        |
| 3-Hydroxyanthranilic acid (2-Amino-3-hydroxybenzoic acid) |     |         |      |       |     |       |                  |                 |        |

| Metal  | Mtd | Medium  | Temp | Conc | Cal | Flags | Lg K values    | Reference       | ExptNo |
|--|-----|---------|------|------|-----|-------|----------------|-----------------|--------|
| Mn++   | gl  | oth/un  | 20°C | ?    | U   |       | K1=3.4         | 1959SIb (55628) | 945    |
| *****  |     |         |      |      |     |       |                |                 |        |
|  |     | C7H7NO4 | 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 |
|---|-----|----------|------|-------|-----|-------|-----------------|-----------------|--------|
| Mn++                                    | gl  | NaClO4   | 30°C | 0.10M | U T |       | K1=3.40 B2=5.74 | 1982RRa (55663) | 946    |
| *****                                   |     |          |      |       |     |       |                 |                 |        |
|   |     | C7H7N3O2 | H2L  |       |     |       | CAS 4463-97-2   | (1654)          |        |
| 2,6-Pyridinedialdoxime; C5H3N.(CH:NOH)2 |     |          |      |       |     |       |                 |                 |        |

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

Mn++ gl NaClO4 25°C 0.10M U K1=4.4 B2=8.50 1963BFb (55742) 947  
 \*\*\*\*\*  
 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  
 -----

Mn++ gl mixed 22°C 70% U K1=7.62 B2=14.27 1978MGd (55822) 948  
 Medium: 0.1 M KNO3 in 70% (v/v) dioxane in H2O  
 \*\*\*\*\*  
 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  
 -----

Mn++ gl diox/w 25°C 25% U K1=2.76 1975GSb (55876) 949  
 \*\*\*\*\*  
 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  
 -----

Mn++ gl KCl 25°C 0.10M U 1961TDb (55934) 950  
 K(Mn+HL)=2.07  
 \*\*\*\*\*  
 C7H8N4 L CAS 85180-62-7 (2481)  
 2,9-Dimethylpurine;

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

Mn++ gl NaClO4 25°C 1.00M U K1=<2.0 1983ALa (55958) 951  
 \*\*\*\*\*  
 C7H8N4 L (2641)  
 4,4'-(5,5')-Bisimidazolymethane; C3H3N2.CH2.C3H3N2

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

Mn++ gl KNO3 30°C 0.16M U K1=2.96 B2=5.80 1965DFa (55966) 952  
 \*\*\*\*\*  
 C7H8N4 L CAS 14675-46-8 (2484)  
 6,9-Dimethylpurine;

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

Mn++ gl NaClO4 25°C 1.00M U K1=<0.2 1983ALa (55971) 953  
 \*\*\*\*\*  
 C7H8N4 L CAS 85180-61-6 (2482)  
 8,9-Dimethylpurine;

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



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Mn++ gl NaClO4 25°C 1.00M U K1=<0.2 1983ALa (55979) 954  
\*\*\*\*\*  
C7H8N4 L (1928)  
Bis(imidazol-2-yl)methane; C3H3N2.CH2.C3H3N2  
-----

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

Mn++ gl KNO3 35°C 0.20M U K1=3.18 1989RVa (55996) 955  
\*\*\*\*\*  
C7H8O3S H2L FMPA (6145)  
3-(2-Furyl)-2-mercaptopropanoic acid;  
-----

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

Mn++ gl alc/w 25°C 10% C K1=3.68 B2=10.26 1986IGc (56109) 956  
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  
-----

Mn++ sp diox/w 25°C 10% U K1=3.79 1965CSa (56115) 957  
Medium: 10% dioxan, 0.1 M NaClO4  
\*\*\*\*\*  
C7H8O8P2 H4L (6892)  
1,2-((Phenylenedioxy)methylene)diphosphonic acid); C6H4O2C(P03H2)2  
-----

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

Mn++ gl R4N.X 25°C 0.50M U K1=7.25 1985GMb (56170) 958  
K(Mn+HL)=4.10  
Medium: 0.5 M Me4NCl  
\*\*\*\*\*  
C7H9N L 3,5-Lutidine (323)  
3,5-Dimethylpyridine; C5H3N.(CH3)2  
-----

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

Mn++ gl NaNO3 25°C 0.50M C K1=0.54 2002KSb (56288) 959  
\*\*\*\*\*  
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  
-----

Mn++ gl NaClO4 25°C 0.10M U K1=4.52 B2=8.26 1982MSa (56458) 960  
\*\*\*\*\*  
C7H9N3O2S2 L (6945)  
-----

1-Ethoxycarbonyl-3-thiazole-2-ylthiourea; C3H2NS.NHCSNHCOOC2H5

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

Mn++ gl alc/w 25°C 60% U K1=3.39 1994KEa (56502) 961  
Medium: 60 % EtOH/H2O, 0.1 M NaNO3

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C7H10N06ClP2 H4L (6895)  
N-(4-Chlorophenyl)aminomethylenedi(phosphonic acid); ClC6H4.NH.CH(PO3H2)2

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

Mn++ gl KNO3 25°C 0.10M U K1=9.2 1990GKa (56556) 962  
K(Mn+HL)=7.4

\*\*\*\*\*

C7H10N2 L CAS 6627-60-7 (3729)  
6-Methyl-2-(aminomethyl)pyridine; CH3.C5H3N.CH2.NH2

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

Mn++ EMF NaNO3 20°C 0.10M U K1=1.95 1971ANa (56657) 963  
\*\*\*\*\*

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  
-----

Mn++ gl KNO3 25°C 0.50M U K1=1.72 1983WKa (56755) 964  
B(MnHL)=6.22  
B(MnH2L)=9.81

\*\*\*\*\*

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  
-----

Mn++ gl KNO3 25°C 0.10M U K1=7.33 1967UKa (56882) 965  
K(Mn+HL)=1.51

\*\*\*\*\*

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  
-----

Mn++ gl KCl 25°C 0.10M U K1=6.66 1988KPa (56930) 966  
K(Mn+HL)=4.02  
K(Mn+H2L)=2.39

\*\*\*\*\*

C7H11N06P2 H4L CAS 4712-06-5 (4470)  
Amino(phenyl)methylenediphosphonic acid;

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

Mn++ gl KCl 25°C 0.10M U K1=9.93 1969DMd (56943) 967  
K(Mn+HL)=7.29  
B(Mn2L)=15.41

\*\*\*\*\*  
C7H12N2O2S L Cyclo-Met-Gly CAS 97605-73-7 (8135)  
Cyclo-(L-methionyl-L-glycine), 3-[2-(Methylthio)ethyl]-2,5-piperazine dione;  
-----

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

Mn++ sp NaClO4 20°C 1.0M C K1=-0.6 1982BBE (57085) 968  
pH 3.0

\*\*\*\*\*  
C7H12N2O3 HL Gly-Pro CAS 704-15-4 (257)  
Glycyl-proline; H2N.CH2.CO.NC4H7.COOH  
-----

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

Mn++ gl KCl 20°C 0.20M U K1=2.34 1982KRc (57125) 969  
Using EPR spectroscopy: K1=2.27

-----  
Mn++ gl oth/un 25°C 0.02M U K1=2.29 B2=4.33 1956DRb (57126) 970  
\*\*\*\*\*

C7H12N2O3 HL Pro-Gly CAS 2578-97-6 (262)  
Prolyl-glycine; C4H8N.CO.NH.CH2.COOH  
-----

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

Mn++ gl KCl 20°C 0.20M U K1=2.39 1982KRc (57151) 971  
Using EPR spectroscopy: K1=2.34

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C7H12N3O5P H2L P MEC CAS 117087-39-5 (8366)  
1-[2-(Phosphonomethoxy)ethyl]cytosine;  
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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Mn++ gl NaNO3 25°C 0.10M M K1=2.53 1999BHb (57201) 972  
K(Mn+HL)=0.6  
K(MnL+H)=5.0

\*\*\*\*\*  
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  
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Mn++ gl diox/w 25°C 50% U K1=5.04 B2=9.49 1973AHb (57246) 973

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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  
-----  
Mn++ gl diox/w 24°C 50% U K1=3.3 1979ACa (57293) 974  
\*\*\*\*\*  
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  
-----  
Mn++ gl KNO3 25°C 0.10M C K1=1.33 1975LPa (57306) 975  
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Mn++ ix oth/un 25°C 0.16M U K1=1.08 1957LWc (57307) 976  
\*\*\*\*\*  
C7H13NO2 HL CAS 99571-58-1 (6223)  
6-Methylpiperidine-2-carboxylic acid; CH3.C5H9N.COOH  
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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl oth/un 30°C 0.10M U K1=3.90 1985RRe (57451) 977  
\*\*\*\*\*  
C7H13NO2S HL (6377)  
2-Propylthiazolidine-4-carboxylic acid;  
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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl KNO3 30°C 0.10M U TIH K1=2.67 1983Rkb (57465) 978  
At I=0.0, K1=2.79. Data for 25-50 C. DH(K1)=-15.3 kJ mol-1,  
DS(K1)=0.88 J K-1 mol-1.  
\*\*\*\*\*  
C7H13NO4S H2L (3184)  
N-(2-Methylthioethyl)iminodiethanoic acid; CH3.S.CH2.CH2.N(CH2.COOH)2  
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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ EMF KCl 20°C 0.10M U K1=5.10 B2=8.70 1955SAa (57548) 979  
Method: H electrode  
\*\*\*\*\*  
C7H13NO5 H2L CAS 62117-07-1 (3171)  
N-(2-Methoxyethyl)iminodiethanoic acid; CH3.O.CH2.CH2.N(CH2.COOH)2  
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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ EMF KCl 20°C 0.10M U K1=5.53 B2=9.62 1955SAa (57576) 980  
Method: H electrode  
\*\*\*\*\*  
C7H14N3O8P H3L (3788)  
Glycyl-O-phosphoryl-DL-serylglycine;  
-----

| Metal   | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values               | Reference       | ExptNo |
|---|-----|--------|------|-------|-----|-------|----|------------------------|-----------------|--------|
| Mn++  | g/l | KCl    | 25°C | 0.15M | U   |       |    | K(Mn+HL)=2.08          | 19620Sa (57833) | 981    |
| *****   |     |        |      |       |     |       |    |                        |                 |        |
| 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 |
|---|-----|--------|------|-------|-----|-------|----|----------------------|-----------------|--------|
| Mn++  | g/l | NaNO3  | 25°C | 0.10M | M   |       |    | K1=2.06              | 2003FHa (57843) | 982    |
| *****   |     |        |      |       |     |       |    |                      |                 |        |
| C7H15NO4S   |     | 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 |
|--|-----|--------|------|-------|-----|-------|----|---|-----------------|--------|
| Mn++   | g/l | KNO3   | 25°C | 0.10M | C   | M     |    | K1=3.54<br>K(Mn(Ser)+2L)=6.31<br>K(Mn(Asp)+2L)=6.38<br>K(Mn(Glu)+2L)=6.50<br>K(Mn(His)+2L)=6.45 | 1999AAa (57963) | 983    |
| *****  |     |        |      |       |     |       |    |   |                 |        |
| C7H15NO5S  |     | 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 |
|--|-----|--------|------|-------|-----|-------|----|---|-----------------|--------|
| Mn++   | g/l | KNO3   | 25°C | 0.10M | C   | M     |    | K(Mn(Gly)+2L)=7.22<br>K(Mn(Ser)+2L)=7.77<br>K(Mn(Met)+2L)=7.37<br>K(Mn(Asp)+2L)=7.81<br>K(Mn(Glu)+2L)=7.30, K(Mn(His)+2L)=7.49. | 1999AAa (57995) | 984    |
| *****  |     |        |      |       |     |       |    |   |                 |        |
| C7H17NO6S  |     | HL     |      | DIPSO |     |       |    | (1097)  |                 |        |
| 3-[N,N-Bis(2-hydroxyethyl)amino]-2-hydroxypropane sulfonic acid; |     |        |      |       |     |       |    |   |                 |        |

| Metal   | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values               | Reference       | ExptNo |
|---|-----|--------|------|-------|-----|-------|----|------------------------|-----------------|--------|
| Mn++  | g/l | KNO3   | 25°C | 0.10M | C   |       |    | K1=3.52                | 2000ADa (58136) | 985    |
| *****   |     |        |      |       |     |       |    |                        |                 |        |
| Mn++  | g/l | KNO3   | 25°C | 0.10M | C   |       |    | K1=3.76                | 1999AAa (58137) | 986    |
| *****   |     |        |      |       |     |       |    |                        |                 |        |
| C7H17NO7P2  |     | HL     |      |       |     |       |    | CAS 220491-02-1 (7714) |                 |        |
| N-2-Methyltetrahydrofuryliminodi(methylenephosphonic acid); |     |        |      |       |     |       |    |                        |                 |        |

| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values         | Reference       | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|------------------|-----------------|--------|
| Mn++  | g/l | KCl    | 25°C | 0.20M | C   |       |    | K1=7.98 B2=12.97 | 2000Kka (58152) | 987    |

B(MnHL)=15.10  
B(MnH2L)=19.91  
B(MnH2L2)=29.19  
B(MnHL2)=22.00

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C7H17NO7S HL TAPSO CAS 68399-81-5 (167)  
3-[N-(Tris(hydroxymethyl)methyl)amino]-2-hydroxypropane sulfonic acid

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Mn++ g1 KNO3 25°C 0.10M C M K1=3.48 2001AAa (58177) 988  
Also data for ternary complexes with 5'-GMP, 5'-IMP and 5'-CMP.

-----  
Mn++ g1 KNO3 25°C 0.10M C K1=3.83 2000ADa (58178) 989  
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Mn++ g1 KNO3 25°C 0.10M C K1=3.44 1999AAa (58179) 990

\*\*\*\*\*

C7H19NO6P2 H4L (7464)  
N-(3-Methylbutyl)imino-bis(methylenephosphonic acid);

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

Mn++ g1 KCl 25°C 0.20M C K1=7.28 2000Kka (58272) 991  
B(MnHL)=15.99  
B(MnH2L)=20.74  
B(MnH-1L)=-3.39

\*\*\*\*\*

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

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

Mn++ g1 NaCl 25°C 0.10M U K1=11.39 1987Kmb (58386) 992  
B(MnHL)=21.85  
B(MnH2L)=30.36  
B(MnH3L)=37.55  
B(MnH4L)=43.744

B(MnH5L)=48.32; B(MnH6L)=52.27; B(Mn2L)=14.13 Calculated assuming literature values are Natural log values

\*\*\*\*\*

C8H5NO6 H2L CAS 603-11-2 (1171)  
3-Nitro-phthalic acid; O2N.C6H3(COOH)2

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

Mn++ g1 oth/un 35°C dil U K1=3.16 1970NPb (58434) 993

\*\*\*\*\*

C8H5NO6 H2L CAS 610-22-5 (1172)  
4-Nitro-phthalic acid; O2N.C6H3(COOH)2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl oth/un 25°C 0.40M U K1=2.80 1971NPc (58446) 994  
\*\*\*\*\*  
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  
-----  
Mn++ dis NaNO3 25°C 0.10M C K1=2.9 1994SDc (58648) 995  
Method: solvent extraction into CHCl3  
\*\*\*\*\*  
C8H6O4 H2L Phthalic acid CAS 88-99-3 (113)  
Benzene-1,2-dicarboxylic acid; C6H4(COOH)2  
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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl oth/un 25°C 0.10M U K1=2.23 1989SCa (58987) 996  
In 60% v/v EtOH/H2O: K1 = 3.16  
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Mn++ EMF oth/un 25°C 0.0 U T H K1=2.741 1962DNa (58988) 997  
Method: H electrode. 0-45 C: DH(K1)=9.2 kJ mol-1, DS=83.2 J K-1 mol-1  
K1=6.365-0.0975T+0.00005897T^2  
\*\*\*\*\*  
C8H7NO2Cl2 HL CAS 13538-26-6 (6286)  
3,5-Dichloro-2-hydroxyacetophenone oxime; Cl2(HO)C6H2.C(CH3):NOH  
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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl alc/w 27°C 75% U I K1=5.72 B2=10.99 1976LGa (59118) 998  
Data in 75% EtOH. Data also in 75% acetone and 75% dioxan  
\*\*\*\*\*  
C8H8NO2Cl HL CAS 61756-69-2 (4569)  
N-Acetyl-N-(4-chlorophenyl)hydroxamine; Cl.C6H4.N(CO.CH3).OH  
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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl diox/w 25°C 70% U K1=4.89 B2=8.86 1968JSb (59280) 999  
Medium: 70% dioxan, 0.1 M KCl  
\*\*\*\*\*  
C8H8N2O6S H2L CAS 15054-42-9 (3843)  
N-(2'-Nitrobenzenesulfonyl)aminoethanoic acid; O2N.C6H4.SO2.NH.CH2.COOH  
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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl NaNO3 25°C 0.10M C 2000SIa (59375)1000  
B(MnHL)=13.12  
B(MnH2L2)=26.12  
\*\*\*\*\*

C8H8O2 HL 2-Acetylphenol CAS 118-93-4 (1888)  
2-Hydroxyacetophenone; HO.C6H4.CO.CH3

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

Mn++ gl diox/w 30°C 75% U K1=7.42 1970KDa (59467)1001  
Medium: 75% dioxan, 0.1 M NaClO4

\*\*\*\*\*  
C8H8O2 HL p-Toluic acid CAS 99-94-5 (1372)  
4-Methylbenzoic acid; CH3.C6H4.COOH

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

Mn++ gl diox/w 25°C 50% U K1=1.88 1969SGa (59500)1002  
Medium: 50% dioxan, 0.1 M NaClO4

\*\*\*\*\*  
C8H8O2 HL CAS 613-84-3 (3189)  
5-Methylsalicylaldehyde (5-Methyl-2-hydroxybenzaldehyde)

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

Mn++ gl diox/w 30°C 75% U K1=9.48 1978RJa (59509)1003

\*\*\*\*\*  
C8H8O2S HL CAS 13205-48-6 (4506)  
4-(Methylthio)benzoic acid; CH3.S.C6H4.COOH

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

Mn++ ISE KNO3 25°C 0.10M C K1=0.72 1972FGb (59654)1004  
By competition with Ag+ using Ag ISE

\*\*\*\*\*  
C8H8O2Se HL CAS 17893-46-8 (4507)  
(Phenylseleno)ethanoic acid; C6H5.Se.CH2.COOH

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

Mn++ ISE KNO3 25°C 0.10M C K1=0.32 1972FGb (59662)1005  
By competition with Ag+ using Ag ISE

\*\*\*\*\*  
C8H8O3 H2L o-Cresotic acid CAS 83-40-9 (2338)  
2-Hydroxy-3-methylbenzoic acid; CH3.C6H3(OH).COOH

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

Mn++ con oth/un 26°C ? U 1962KBa (59702)1006  
K(Mn+HL=MnL+H)=2.87(?)

\*\*\*\*\*  
C8H8O3 HL Mandelic Acid CAS 611-72-3 (80)  
2-Phenyl-2-hydroxyethanoic acid; C6H5.CH(OH).COOH

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| Metal                                       | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg K values     | Reference       | ExptNo |
|---|-----|--------|------|-------|-----|-------|-----------------|-----------------|--------|
| Mn++  | gl  | KNO3   | 25°C | 0.10M | U   | T     | K1=1.73         | 1984JSa (59850) | 1007   |
| Mn++  | sp  | oth/un | ?    | ?     | U   |       | K1=6.7          | 1976SCb (59851) | 1008   |
| Mn++  | sp  | NaClO4 | 30°C | 0.10M | U   |       | K1=2.00 B2=3.40 | 1975KAd (59852) | 1009   |
| *****                                       |     |        |      |       |     |       |                 |                 |        |
| 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 |
|--|-----|--------|------|------|-----|-------|-----------------|-----------------|--------|
| Mn++   | gl  | diox/w | 30°C | 75%  | U   |       | K1=3.98 B2=7.08 | 1967KBb (59980) | 1010   |
| Medium: 75% dioxan, 0.1 M NaClO4                       |     |        |      |      |     |       |                 |                 |        |
| *****  |     |        |      |      |     |       |                 |                 |        |
| C8H8O5   |     | H2L    |      |      |     |       | CAS 5629-08-3   | (679)           |        |
| 7-Oxy-bicyclo[2.2.1]-hept-5-ene-2,3-dicarboxylic acid; |     |        |      |      |     |       |                 |                 |        |

| Metal  | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg K values          | Reference       | ExptNo |
|--|-----|--------|------|-------|-----|-------|----------------------|-----------------|--------|
| Mn++   | gl  | NaCl   | 37°C | 0.15M | U   |       | K1=4.57 B(MnHL)=9.52 | 1988HYa (60126) | 1011   |
| *****  |     |        |      |       |     |       |                      |                 |        |
| C8H9NOS  |     | HL     |      |       |     |       | CAS 4822-44-0        | (3240)          |        |
| N-(Mercaptoacetyl)aniline (thioglycolanilide); C6H5.NH.CO.CH2.SH |     |        |      |       |     |       |                      |                 |        |

| Metal   | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values                   | Reference       | ExptNo |
|---|-----|--------|------|------|-----|-------|-------------------------------|-----------------|--------|
| Mn++  | gl  | diox/w | 30°C | 75%  | U   |       | K1=6.3                        | 1961MAe (60161) | 1012   |
| *****   |     |        |      |      |     |       |                               |                 |        |
| 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 |
|---|-----|--------|------|-------|-----|-------|-----------------|-----------------|--------|
| Mn++  | gl  | KNO3   | 25°C | 0.10M | M   |       | K1=2.58 B2=4.50 | 1990SMa (60174) | 1013   |
| *****   |     |        |      |       |     |       |                 |                 |        |
| 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 |
|---|-----|--------|------|-------|-----|-------|-----------------|-----------------|--------|
| Mn++  | gl  | NaClO4 | 20°C | 0.10M | U   |       | K1=6.1 B2=12.20 | 1965BEb (60196) | 1014   |
| *****   |     |        |      |       |     |       |                 |                 |        |
| 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 |
|-------|-----|--------|------|------|-----|-------|-------------|-----------|--------|
| ***** |     |        |      |      |     |       |             |           |        |

Mn++ gl diox/w 30°C 50% U K1=5.90 1982UVa (60215)1015

Mn++ gl diox/w 30°C 75% U K1=10.26 B2=18.18 1976IKa (60216)1016  
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)

Mn++ gl diox/w 30°C 75% U K1=7.57 B2=14.92 1958KVa (60217)1017  
K3=7.13

Medium: 75% dioxan, 0.1 M NaClO4

\*\*\*\*\*  
C8H9NO2 L CAS 1849-49-6 (5907)  
5'-Deoxypyridoxal

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

Mn++ gl KNO3 25°C 0.10M M K1=2.91 1990SMa (60248)1018  
K(MnL+H)=7.51

\*\*\*\*\*  
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

Mn++ gl NaClO4 30°C 0.10M U T H K1=3.45 1981RSc (60347)1019  
Data for 30-50 C. DH(K1)=-12.0 kJ mol<sup>-1</sup>, DS(K1)=24 J K<sup>-1</sup> mol<sup>-1</sup>.  
K(Mn(bpy)+L)=3.25, DH=-12.1, DS=22.

Mn++ gl KNO3 30°C 0.10M U M K1=3.45 1980RSc (60348)1020  
K(Mn(His)+L)=3.30

Mn++ gl NaClO4 30°C 0.10M U T H K1=3.45 B2= 6.31 1980RSe (60349)1021  
DH(K1)=-12.8 kJ mol<sup>-1</sup>, DS(K1)=24 J K<sup>-1</sup> mol<sup>-1</sup>; DH(K2)=-15.4, DS(K2)=4.1.

\*\*\*\*\*  
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

Mn++ gl KNO3 25°C 0.05M M K1=3.27 1975DPb (60374)1022

\*\*\*\*\*  
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

Mn++ gl diox/w 27°C 60% U I K1=6.85 B2=10.00 1974SRa (60398)1023  
In 60% acetone: K1=4.43, B2=8.60; 60% 2-EtOEtOH: 3.38, 6.30

Mn++ gl diox/w 30°C 60% U B2=6.50 1967SRa (60399)1024

\*\*\*\*\*

C8H9NO3 HL Pyridoxal CAS 65-22-5 (110)  
3-Hydroxy-5-(hydroxymethyl)-2-methyl-4-pyridinecarboxaldehyde;

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

Mn++ gl KCl 25°C 0.50M U K1=1.70 1976EEa (60428)1025  
\*\*\*\*\*

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  
-----

Mn++ EMF diox/w 30°C 50% U K1=4.54 1977DJa (60438)1026  
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  
-----

Mn++ gl KNO3 20°C 0.10M U K1=3.05 B2= 6.02 1989SMc (60446)1027  
\*\*\*\*\*

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  
-----

Mn++ gl KNO3 30°C 0.10M U TIH K1=3.32 1983Rkb (60458)1028  
At I=0.0, K1=3.43. Data for 25-50 C. DH(K1)=-19.4 kJ mol-1,  
DS(K1)=4.0 J K-1 mol-1.  
\*\*\*\*\*

C8H9NO4 HL CAS 78257-51-9 (887)  
4-Ethoxypyridine-2-carboxylic acid N-oxide; C2H5O.C5H3N-O(COOH)

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

Mn++ gl NaClO4 30°C 0.10M U T K1=3.20 B2=5.70 1982RRa (60479)1029  
\*\*\*\*\*

C8H9NO5S H2L (6513)  
2-Amino-4-sulfobenzeneethanoic acid; NH2.CH(C6H4HSO3)COOH

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

Mn++ gl KNO3 25°C 0.10M M K1=2.29 B2=3.97 1990Sma (60523)1030  
\*\*\*\*\*

C8H9N3 L CAS 7471-05-8 (3198)  
2,2'-Pyridylimidazoline;

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

Mn++ gl diox/w 25°C 50% U K1=3.9 1956HFa (60543)1031  
\*\*\*\*\*

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  
-----

Mn++ cal KNO3 25°C 0.1M C H 1981CSb (60640)1032  
DH(K1)=-10.5 kJ mol<sup>-1</sup>, DS=159 K J mol<sup>-1</sup>

-----  
Mn++ gl R4N.X 25°C 0.10M C K1=10.28 B2=14.04 1975JTa (60641)1033  
-----

Mn++ oth KNO3 25°C 0.10M U K1=9.87 1972FVa (60642)1034  
K(Mn+HL)=3.48

-----  
Mn++ gl oth/un 20°C 0.0 U K2=4.0 1948SBa (60643)1035  
\*\*\*\*\*

C8H10N06P H3L Codecarboxylase CAS 41468-25-1 (2555)  
Pyridoxal-5-phosphoric acid;

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

Mn++ gl KNO3 25°C 0.10M M K1=3.25 1990SMa (60704)1036  
K(MnL+H)=7.73  
K(MnHL+H)=5.6

\*\*\*\*\*  
C8H10N2O2 HL (3227)  
N-(2'-Pyridylmethyl)glycine; C5H4N.CH2.NH.CH2.COOH

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

Mn++ gl KNO3 25°C 0.10M U K1=4.2 1965LCa (60745)1037  
\*\*\*\*\*  
C8H10N3OCl HL CAS 5756-79-6 (4578)  
3-Ethyl-3-hydroxy-1-(2-chlorophenyl)triazene;

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

Mn++ gl diox/w 25°C 70% U K1=5.79 B2=9.78 1968DSa (60783)1038  
Medium: 70% dioxan, 0.1 M KCl

\*\*\*\*\*  
C8H10N3OCl HL CAS 5756-78-5 (4579)  
3-Ethyl-3-hydroxy-1-(4-chlorophenyl)triazene;

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

Mn++ gl diox/w 25°C 70% U K1=5.94 B2=10.14 1968DSa (60788)1039  
Medium: 70% dioxan, 0.1 M KCl

\*\*\*\*\*  
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 |
|---|-----|--------|------|-------|-----|-------|----|----------|-----------------|--------|
| Mn++  | gl  | KNO3   | 30°C | 0.10M | U   |       |    | K1=3.70  | 1995KFa (60872) | 1040   |
| *****   |     |        |      |       |     |       |    |          |                 |        |
| C8H1007   |     |        | H2L  |       |     |       |    | (2958)   |                 |        |
| 5,6-Dihydroxy-7-oxa-bicyclo[2.2.1]heptan-2,3-dicarboxylic acid; |     |        |      |       |     |       |    |          |                 |        |

| Metal                                       | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values        | Reference       | ExptNo |
|---|-----|--------|------|-------|-----|-------|----|-----------------|-----------------|--------|
| Mn++  | gl  | KNO3   | 30°C | 0.10M | U   |       |    | K1=3.49         | 1995KFa (60885) | 1041   |
| *****                                       |     |        |      |       |     |       |    |                 |                 |        |
| C8H1009                                     |     |        | H4L  |       |     |       |    | CAS 137172-86-2 | (6612)          |        |
| SS-Oxydisuccinic acid; O(CH(COOH)CH2.COOH)2 |     |        |      |       |     |       |    |                 |                 |        |

| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values        | Reference       | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|-----------------|-----------------|--------|
| Mn++  | gl  | KCl    | 25°C | 0.10M | C   |       |    | K1=5.40         | 1992MMa (60905) | 1042   |
| ***** |     |        |      |       |     |       |    |                 |                 |        |
|       |     |        |      |       |     |       |    | K(MnL+H)=4.02   |                 |        |
|       |     |        |      |       |     |       |    | K(MnHL+H)=3.72  |                 |        |
|       |     |        |      |       |     |       |    | K(MnH2L+H)=3.13 |                 |        |
|       |     |        |      |       |     |       |    | K(Mn+HL)=3.46   |                 |        |

K(Mn+H2L)=2.38, K(Mn+H3L)=2.12  
\*\*\*\*\*

|   |  |  |     |  |  |  |  |                |        |  |
|---|--|--|-----|--|--|--|--|----------------|--------|--|
| C8H1009                                       |  |  | H4L |  |  |  |  | CAS 84852-72-2 | (6611) |  |
| meso-Oxydisuccinic acid; O(CH(COOH)CH2.COOH)2 |  |  |     |  |  |  |  |                |        |  |

| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values        | Reference       | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|-----------------|-----------------|--------|
| Mn++  | gl  | KCl    | 25°C | 0.10M | C   |       |    | K1=5.69         | 1992MMa (60917) | 1043   |
| ***** |     |        |      |       |     |       |    |                 |                 |        |
|       |     |        |      |       |     |       |    | K(MnL+H)=4.23   |                 |        |
|       |     |        |      |       |     |       |    | K(MnHL+H)=2.4   |                 |        |
|       |     |        |      |       |     |       |    | K(MnH2L+H)=4.25 |                 |        |
|       |     |        |      |       |     |       |    | K(Mn+HL)=3.95   |                 |        |

K(Mn+H2L)=1.4, K(Mn+H3L)=1.74  
\*\*\*\*\*

|  |  |  |     |  |  |  |  |        |  |  |
|--|--|--|-----|--|--|--|--|--------|--|--|
| C8H10010   |  |  | H4L |  |  |  |  | (5894) |  |  |
| 1-Hydroxy-3-oxapentane-1,2,4,5-tetracarboxylic acid; |  |  |     |  |  |  |  |        |  |  |
| HO.CH(COOH).CH(COOH).O.CH(COOH).CH2(COOH)            |  |  |     |  |  |  |  |        |  |  |

| Metal   | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values       | Reference       | ExptNo |
|---|-----|--------|------|-------|-----|-------|----|----------------|-----------------|--------|
| Mn++  | gl  | KCl    | 25°C | 0.10M | C   |       |    | K1=5.69        | 1989MMd (60929) | 1044   |
| *****   |     |        |      |       |     |       |    |                |                 |        |
|   |     |        |      |       |     |       |    | K(MnL+2H)=7.25 |                 |        |
| C8H11N0                                       |     |        | HL   |       |     |       |    | CAS 6623-41-2  | (3229)          |        |
| 2-Amino-4,5-dimethylphenol; H2N.C6H2(CH3)2.OH |     |        |      |       |     |       |    |                |                 |        |

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

Mn++ gl none 20°C 0.0 U K1=3.6 1959SIb (61019)1045  
\*\*\*\*\*

C8H11N03 HL Vitamin B6 CAS 65-23-6 (254)

5-Hydroxy-6-methyl-3,4-pyridinedimethanol, Pyridoxine;

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

Mn++ gl KCl 25°C 0.50M U K1=1.70 1976EEa (61121)1046

\*\*\*\*\*

C8H11N03 H2L Noradrenaline CAS 138-65-8 (253)

Norepinephrine, 3,4-Dihydroxyphenylethanolamine; (HO)2C6H3.CH(CH2.NH2).OH

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

Mn++ gl KCl 25°C 0.20M C K1=7.44 B2=12.07 1981GKb (61164)1047

B(MnHL)=16.93

B(MnHL2)=22.0

Mn++ gl KCl 25°C 0.10M U K1=8.58 B2=14.78 1966JNa (61165)1048

K1 adjusted to give hypothetical microscopic constant

\*\*\*\*\*

C8H11N04S H2L (6643)

N-Ethyl-3,4-dihydroxybenzene sulphonamide;

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

Mn++ gl NaClO4 25°C 1.00M U 1992AGc (61176)1049

K(Mn+H2L=MnL+2H)=-12.07

K(MnL+H2L=MnL2+2H)=-14.03

\*\*\*\*\*

C8H11N08P2 H5L (6894)

N-(4-Carboxyphenyl)aminomethylenedi(phosphonic acid); HOOC.C6H4.NH.CH(PO3H2)2

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

Mn++ gl KNO3 25°C 0.10M U K1=9.68 1990GKa (61229)1050

K(Mn+HL)=4.68

K(Mn+H2L)=2.81

\*\*\*\*\*

C8H11N30 HL CAS 5956-70-7 (4529)

3-Hydroxy-3-methyl-1-(4-tolyl)triazene; CH3.C6H4.N:N.N(OH).CH3

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

Mn++ gl diox/w 25°C 70% U K1=7.01 B2=12.58 1970DSb (61243)1051

Medium: 70% dioxan, 0.1 M KCl

\*\*\*\*\*

C8H11N302 HL CAS 5756-72-9 (4533)

3-Hydroxy-3-methyl-1-(4'-methoxyphenyl)triazene; CH3O.C6H4.N:N.N(OH).CH3

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

Mn++ gl diox/w 25°C 70% U K1=7.39 B2=12.99 1970DSb (61256)1052  
Medium: 70% dioxan, 0.1 M KCl

\*\*\*\*\*  
C8H12N2O2 HL Pyridoxamine CAS 85-87-0 (1175)  
4-(Aminomethyl)-5-hydroxy-6-methyl-3-pyridinemethanol;

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

Mn++ gl KCl 25°C 0.50M U K1=3.46 1976EEa (61422)1053

Mn++ gl KNO3 25°C 0.10M U K1=3.56 1957GMa (61423)1054

\*\*\*\*\*  
C8H12N2O3S HL CAS 16968-98-2 (4582)  
d-Bisnorbiotin

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

Mn++ gl diox/w 25°C 50% U K1=1.80 1969SMc (61467)1055  
Medium: 50% dioxan, 0.1 M NaClO4

\*\*\*\*\*  
C8H12N2O8 H4L CAS 35039-85-1 (4537)  
1,2-Diaminoethane-N,N'-dimalonic acid; (HOOC)2.CH.NH.CH2.CH2.NH.CH(COOH)2

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

Mn++ vlt KNO3 25°C 0.10M U K1=8.50 1974SGa (61515)1056

\*\*\*\*\*  
C8H12N4B- L (7238)  
(Pyrazol-1-yl)dihydro(3,5-dimethylpyrazol-1-yl)borate; C3H3N2.BH2.C3HN2(CH3)2-

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

Mn++ dis non-aq 25°C 100% U 1996KSa (61545)1057  
K(Mn+2HL=MnL2(org)+2H)=-7.83

By solvent extraction into CHCl3  
\*\*\*\*\*  
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  
-----

Mn++ gl NaNO3 25°C 0.10M M M K1=1.79 2000KLb (61652)1058  
K(PtLA+Mn)=1.79

A=diethylenetriamine

-----  
Mn++ gl NaNO3 25°C 0.10M M K1=2.54 1992SCa (61653)1059  
B(MnHL)=7.24

K(Mn+HL)=0.3

\*\*\*\*\*

C8H13NO3 H3L (4539)

(1-Acetyl)ethylideneiminopropanoic acid;

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

Mn++ EMF oth/un ? ? U K1=5.75 1972MGb (61748)1060

\*\*\*\*\*

C8H13NO6S H3L (5675)

2-Mercapto-1-aminoethane-N,N,S-triethanoic acid; H00C.CH2.S.CH2.CH2.N(CH2COOH)2

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

Mn++ gl NaClO4 25°C 0.10M U K1=6.71 1975POa (61826)1061

K(Mn+HL)=1.52

\*\*\*\*\*

C8H13N6O4P H2L (7462)

9-[2-(Phosphonomethoxy)ethyl]-2,6-diaminopurine;

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

Mn++ gl NaNO3 25°C 0.10M M K1=2.51 1999BSa (61876)1062

K(Mn+HL)=0.8

\*\*\*\*\*

C8H14N2O3 HL Ala-Pro CAS 13485-59-1 (256)

Alanyl-proline; H2N.CH(CH3).CO.NC4H7.COOH

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

Mn++ gl KCl 20°C 0.20M U K1=1.91 1982KRc (61915)1063

Using EPR spectroscopy: K1=1.96

\*\*\*\*\*

C8H14N2O3 HL Pro-Ala CAS 6422-36-2 (263)

Prolyl-alanine; C4H8N.CO.NH.CH(CH3).COOH

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

Mn++ gl KCl 20°C 0.20M U K1=2.46 1982KRc (61929)1064

Using EPR spectroscopy: K1=2.57

\*\*\*\*\*

C8H14N2O3 HL CAS 21561-97-7 (4448)

dl-Bisnordethiobiotin;

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

Mn++ gl diox/w 25°C 50% U K1=1.89 1969SMc (61934)1065

Medium: 50% dioxan, 0.1 M NaClO4

\*\*\*\*\*

C8H14N2O6P2 HL (7465)



N-(3-Pyridylmethyl)imino-bis(methylphosphonic acid);

| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values  | Reference | ExptNo      |
|-------|-----|--------|------|-------|-----|-------|----|---|-----------|-------------|
| Mn++  | gl  | KCl    | 25°C | 0.20M | C   |       |    | K1=6.75<br>B(MnHL)=14.07<br>B(MnH2L)=18.78<br>B(MnH3L)=22.71<br>B(MnH-1L)=-4.27 | 2000Kka   | (61968)1066 |

\*\*\*\*\*  
C8H1402S2 HL Lipoic acid CAS 1077-28-7 (409)  
1,2-Dithiolane-3-pentanoic acid (6,8-Thioctic acid); C3H5S2.(CH2)4.COOH

| Metal  | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values | Reference | ExptNo      |
|--|-----|--------|------|-------|-----|-------|----|----------|-----------|-------------|
| Mn++   | gl  | NaClO4 | 25°C | 0.10M | C   |       |    | K1=2.06  | 1978SPd   | (62071)1067 |
| For L-lipoic acid: K1=1.93; D-lipoic acid: K1=2.07 |     |        |      |       |     |       |    |          |           |             |

| Mn++                             | gl | diox/w | 25°C | 50% | U |  |  | K1=2.01 | 1969SMc | (62072)1068 |
|----------------------------------|----|--------|------|-----|---|--|--|---------|---------|-------------|
| Medium: 50% dioxan, 0.1 M NaClO4 |    |        |      |     |   |  |  |         |         |             |

\*\*\*\*\*  
C8H1404S3 H2L (2526)  
3,6,9-Trithiaundecanedioic acid; HOOC.CH2.S.C2H4.S.C2H4.S.CH2.COOH

| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values               | Reference | ExptNo      |
|-------|-----|--------|------|-------|-----|-------|----|------------------------|-----------|-------------|
| Mn++  | gl  | NaClO4 | 25°C | 0.10M | U   |       |    | K1=1.7<br>K(Mn+HL)=0.6 | 1971PPc   | (62126)1069 |

\*\*\*\*\*  
C8H1407 H2L (241)  
Di(carboxymethoxy)ethyl ether; (HOOC.CH2.O.CH2.CH2)2O

| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values | Reference | ExptNo      |
|-------|-----|--------|------|-------|-----|-------|----|----------|-----------|-------------|
| Mn++  | gl  | KNO3   | 25°C | 0.10M | U   |       |    | K1=2.90  | 1975MTc   | (62149)1070 |

\*\*\*\*\*  
C8H15N2O9P H4L (3847)  
O-Phosphoryl-L-seryl-L-glutamic acid;

| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values   | Reference | ExptNo      |
|-------|-----|--------|------|-------|-----|-------|----|--|-----------|-------------|
| Mn++  | gl  | KCl    | 25°C | 0.15M | U   |       |    | K1=2.984<br>K(Mn+HL)=2.24<br>K(Mn+MnL)=1.95<br>K(Mn+MnHL)=1.32<br>K(Mn2L+H)=6.88 | 19620Sa   | (62236)1071 |

K(Mn+H2L)=1.42  
\*\*\*\*\*

C8H16N2O3 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
-----
Mn++      gl  NaClO4 25°C 0.10M U      K1=2.50      1970GPa (62292)1072
*****
C8H16N2O3      HL      Gly-Leu      CAS 869-19-2 (255)
Glycyl-leucine; H2N.CH2.CO.NH.CH(CH2.CH(CH3)2).COOH
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  KCl    20°C 0.20M U      K1=1.93      1982KRc (62390)1073
Using EPR spectroscopy: K1=1.94
*****
C8H16N2O3      HL      Leu-Gly      CAS 686-50-0 (1248)
Leucyl-glycine; H2N.CH(CH2.CH(CH3)2).CO.NH.CH2.COOH
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  KCl    20°C 0.20M U      K1=2.01      1982KRc (62435)1074
Using EPR spectroscopy: K1=1.91
*****
C8H16N2O4      H2L      (267)
1,2-Diaminoethane-N,N'-di(2-propanoic acid); ((CH3)(COOH).CH.NH.CH2)2
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  KNO3   20°C 0.10M U      K1=6.10      1966MKb (62473)1075
*****
C8H16N2O4      H2L      CAS 13288-40-9 (3237)
1,2-Diaminoethane-N,N'-di(3-propanoic acid); (HOOCCH2CH2NHCH2.)2
-----

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  KCl    30°C 0.10M U      K1=3.4      1953CCb (62504)1076
*****
C8H16N2O4      H2L      (266)
N,N'-Dimethylethylenediamine-N,N'-diethanoic acid;
-----

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  KNO3   25°C 0.10M C      K1=8.48      1993WLa (62530)1077
                        K(Mn+HL)=2.36
*****
C8H16N2O4S2     H2L      CAS 462-10-2 (527)
DL-4,4'-Dithiobis(2-aminobutanoic acid); (HOOC.CH(NH2).CH2.CH2.S.)2
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  KCl    25°C 0.10M U      B2=6.99      1981BLb (62562)1078
                        B(MnHL)=12.54
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\*\*\*\*\*  
 C8H17N04 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  
 -----  
 Mn++ gl oth/un 30°C 0.10M U K1=3.02 B2=5.46 1957FCa (62783)1079  
 \*\*\*\*\*

C8H17N3O2 HL (5973)  
 1,4,7-Triazacyclononane-1-ethanoic acid;

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----  
 Mn++ gl KNO3 25°C 0.50M M K1=8.53 1993CKa (62791)1080  
 K(Mn(OH)L+H=ML)=11.02  
 \*\*\*\*\*

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  
 -----  
 Mn++ gl NaNO3 25°C 0.10M C M 1992LJb (62967)1081  
 B(MnCuL)=23.9  
 B(MnCu2L2)=46.8  
 B(MnCu3L3)=69.6  
 \*\*\*\*\*

C8H19N02 L CAS 102-79-4 (3841)  
 N-Butyl-2,2'-iminodiethanol (butyldiethanolamine);

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----  
 Mn++ oth oth/un 25°C 0.43M U K1=1.35 B2=1.80 1966SKe (63034)1082  
 Medium: CH2OHCH2NH2.HNO3  
 \*\*\*\*\*

C8H19N05 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  
 -----  
 Mn++ gl KNO3 25°C 1.0M C K1=0.70 1980SAb (63064)1083  
 K(Mn(ATP)+L)=0.6  
 \*\*\*\*\*

C8H19N06P2 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  
 -----  
 Mn++ gl KCl 25°C 0.20M C K1=6.58 2000Kka (63084)1084  
 B(MnHL)=16.30  
 B(MnH2L)=21.05

B(MnH-1L)=-4.84

Mn++ gl KNO3 25°C 1.00M M K1=6.11 1982BGb (63085)1085  
K(Mn+HL)=3.35

\*\*\*\*\*

C8H19N3O L (4430)  
1-Oxa-4,7,10-triazacyclododecane;

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

Mn++ gl KNO3 25°C 0.10M U K1=5.85 B2=9.14 1991ACa (63135)1086  
B(MnH-1L)=-4.60  
K(MnL+OH)=3.37

\*\*\*\*\*

C8H22N2O6P2 H4L CAS 13516-59-1 (3850)  
2,2'-(Ethylenedi-imino)bis(propylphosphonic acid);

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

Mn++ gl KCl 25°C 0.10M U K1=8.00 1965DKb (63342)1087  
K(Mn+HL)=3.57

\*\*\*\*\*

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  
-----

Mn++ cal KCl 25°C 0.10M U H 1964PVa (63474)1088  
DH(K1)=-15.5 kJ mol<sup>-1</sup>, DS=73.2 J K<sup>-1</sup> mol<sup>-1</sup>

-----  
Mn++ gl KCl 25°C 0.10M U K1=6.55 1963PVa (63475)1089  
-----

Mn++ gl NaClO4 25°C 0.15M U T H K1=7.62 1958JSa (63476)1090  
K1=7.55(35 C),7.46(45 C). DH(K1)=-15.4 kJ mol<sup>-1</sup>, DS=94.6 J K<sup>-1</sup> mol<sup>-1</sup>. KClO4

-----  
Mn++ gl KNO3 25°C 0.10M U K1=7.0 1958RHa (63477)1091  
\*\*\*\*\*

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  
-----

Mn++ gl NaNO3 25°C 0.50M M K1=0.84 1998KSa (63506)1092  
\*\*\*\*\*

C9H5NOBr2 HL CAS 521-74-4 (3279)  
5,7-Dibromo-8-hydroxyquinoline;

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

Mn++ gl diox/w 35°C 75% U K1=6.0 B2=10.73 1970GMh (63521)1093

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  
-----  
Mn++ gl diox/w 35°C 75% U K1=5.90 B2=10.53 1970GMh (63544)1094

Medium: 75% dioxan, 0.2 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  
-----  
Mn++ gl diox/w 35°C 75% U K1=4.10 B2=7.04 1970GMh (63628)1095

Medium: 75% dioxan, 0.2 M NaClO4

\*\*\*\*\*

C9H6NOCl HL CAS 130-16-5 (1268)  
5-Chloro-8-hydroxyquinoline;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl diox/w 25°C 60% U K1=7.62 B2=14.32 1973SCd (63663)1096

Medium: 60% dioxan, 0.1 M NaClO4

\*\*\*\*\*

C9H6NO4IS 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  
-----  
Mn++ gl KNO3 25°C 0.10M C K1=8.58 B2=15.89 1985ZHa (63816)1097

Mn++ gl oth/un 20°C 0.03M U K1=5.25 1977KCb (63817)1098  
K1=4.42 by solubility

-----  
Mn++ gl KNO3 28°C 0.10M U K1=4.95 B2=8.10 1967LMb (63818)1099

-----  
Mn++ gl KCl 25°C 0.10M U K1=5.3 B2=9.60 1963STa (63819)1100

\*\*\*\*\*

C9H6N2O3 HL CAS 5437-99-0 (3865)  
5-Nitro-8-hydroxyquinoline;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl diox/w 25°C 60% U K1=6.78 B2=13.08 1973SCd (63864)1101

Medium: 60% dioxan, 0.1 M NaClO4

\*\*\*\*\*

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  
-----  
Mn++ gl oth/un 25°C 0.0 U K1=4.76 B2=7.80 1955NUa (63912)1102  
\*\*\*\*\*  
C9H6N3OC1S 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  
-----  
Mn++ sp diox/w 20°C 10% U 1970KIa (63928)1103  
K(Mn+HL=MnL+H)=2.9  
\*\*\*\*\*  
C9H7NO HL Oxine CAS 148-24-3 (504)  
8-Hydroxyquinoline (8-quinolinol);  
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-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl KCl 25°C 0.1M U T K1=7.85 B2=14.40 1986MLb (64308)1104  
Also for 60 C K1=6.75; B2=12.56  
for 80 C K1=6.60; B2=12.20  
-----

Mn++ gl diox/w 25°C 60% U K1=7.62 B2=14.32 1973SCd (64309)1105  
Medium: 60% dioxan, 0.1 M NaClO4  
-----

Mn++ kin oth/un 25°C 0.10M U I M K1=5.84 1972HMb (64310)1106  
K(MnA+L)=5.58  
K(MnB+L)=5.71  
K(MnC+L)=4.98 (0.15 M)  
K(MnD+L)=4.12 (0.3 M)  
K(MnE+L)=4.12. H3A=NTA, H3B=uramil diethanoic acid, H3C=adenosine diphosphoric acid, H4D=ATP, H5E=tripolyphosphoric acid.  
-----

Mn++ kin oth/un 16°C 0.10M U K1=5.88 1970HZa (64311)1107  
By spectrophotometry K1=6.24  
-----

Mn++ kin oth/un 16°C 0.10M U I M K1=5.88 1970HZa (64312)1108  
K(MnA+L)=5.33  
K(MnB+L)=5.23  
H3A=NTA, H3B=uramildiethanoic acid.  
By spectroscopy, K(MnA+L)=4.63, K(MnB+L)=4.67  
-----

Mn++ kin oth/un 16°C 0.30M U I M K1=5.88 1970HZa (64313)1109  
K(MnA+L)=4.46  
K(MnB+L)=3.99 (0.03 M)  
By spectroscopy, 0.03 M: K(MnA+L)=4.59, K(MnB+L)=4.03.  
H4A=adenosine-5'-triphosphate; H5B=tripolyphosphoric acid.  
-----

Mn++ cal diox/w 25°C 50% U H 1968GFa (64314)1110  
Medium: 50% dioxan, 0.1 M NaClO4. DH(K1)=-14.6 kJ mol<sup>-1</sup>, DS=92 J K<sup>-1</sup> mol<sup>-1</sup>,  
-----

DH(B2)=-43.9, DS=113

Mn++ gl diox/w 25°C 50% U K1=7.30 B2=13.49 1967SFa (64315)1111

Mn++ gl diox/w 30°C 75% U K1=10.8 B2=20.4 1954UFa (64316)1112

Mn++ gl oth/un 20°C 0.01M U K1=6.8 B2=12.6 1953ALa (64317)1113

Mn++ gl diox/w 25°C 50% U K1=8.28 B2=15.45 1952JFa (64318)1114

\*\*\*\*\*

C9H7N03S2 H2L CAS 58447-10-2 (4675)

8-Mercaptoquinoline-5-sulfonic acid;

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

Mn++ EMF oth/un ? ? U K1=5.2 B2=9.80 1968ABa (64426)1115

\*\*\*\*\*

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

Mn++ gl NaClO4 25°C 1.00M U K1=5.47 B2=10.36 1975SGb (64559)1116  
B3=14.30

Mn++ gl diox/w 25°C 60% U K1=7.43 B2=13.74 1973SCd (64560)1117

Medium: 60% dioxan, 0.1 M NaClO4

Mn++ gl diox/w 25°C 50% U H K1=7.05 B2=13.18 1968GFa (64561)1118

Medium: 50% dioxan, 0.1 N NaClO4. By calorimetry: DH(K1)=-13.4 kJ mol<sup>-1</sup>,  
DS=92 J K<sup>-1</sup> mol<sup>-1</sup>; DH(B2)=-28.0 ?, DS=192 ?

Mn++ gl KNO3 25°C 0.10M U K1=5.67 B2=10.72 1959RGa (64562)1119

Mn++ gl oth/un 25°C 0.0 U K1=6.94 1954NUa (64563)1120

Mn++ gl oth/un 20°C 0.01M U K1=6.6 B2=11.5 1953ALa (64564)1121

\*\*\*\*\*

C9H7NS HL Quinolinethiol CAS 491-33-8 (1028)

8-Mercaptoquinoline;

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

Mn++ cal diox/w 25°C 50% U H 1968GFa (64648)1122  
Medium: 50% dioxan, 0.1 M NaClO4. DH(K1)=-14.6 kJ mol<sup>-1</sup>, DS=79 J K<sup>-1</sup> mol<sup>-1</sup>

Mn++ gl diox/w 27°C 50% U K1=6.74 1963CFa (64649)1123

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C9H7N3O2 HL (1328)

4-Oximino-3-phenyl-2-pyrazolin-5-one;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl alc/w 20°C 50% U T K1=2.57 B2=5.00 1981SSc (64663)1124  
At 30 C: K1=2.87, B2=4.95  
\*\*\*\*\*  
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  
-----  
Mn++ sp NaNO3 25°C 0.10M U K1=5.52 19860Ha (64713)1125  
K(Mn+HL)=2.02  
-----

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Mn++ gl alc/w 25°C 50% U 1967NPb (64714)1126  
K(Mn+2HL)=13.1  
Medium: 50% MeOH, 0.1 M NaClO4  
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-----  
Mn++ gl diox/w 25°C 50% U 1966SCd (64715)1127  
K(Mn+HL)=9.43  
K(MnHL+HL)=8.6  
K(MnL+H)=7.88  
K(MnOHL+H)=9.4  
-----

-----  
C9H8N04P H2L CAS 7220-39-5 (1930)  
8-Quinolyl-phosphoric acid;  
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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl NaCl 25°C 0.15M U K1=1.90 1989AKa (64756)1128  
\*\*\*\*\*  
C9H8N2O2S HL (8279)  
Dehydroxydemethyl-desferrithiocin;  
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-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl KNO3 25°C 0.10M C K1=2.4 1990ARa (64804)1129  
\*\*\*\*\*  
C9H8N2O4S2 HL CAS 219931-32-5 (8394)  
3-Phenylsulfonamidorhodanine;  
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-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ sp alc/w 30°C 20% C T H K1=7.00 B2=12.00 1998EGa (64832)1130  
Medium: 20% v/v EtOH/H2O, 0.10 M KCl. Also data for 35 and 45 C.  
DH and DS values reported  
\*\*\*\*\*  
C9H8N4OS 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 |
|---|-----|--------|------|------|-----|-------|----------------|-----------------|--------|
| Mn++  | gl  | alc/w  | 30°C | 60%  | M   |       | K1=4.48        | 1996HTb (64850) | 1131   |
| Medium: 60% v/v EtOH/H2O, 0.04 M KCl.                     |     |        |      |      |     |       |                |                 |        |
| *****   |     |        |      |      |     |       |                |                 |        |
| C9H8N4O2  |     | L      |      |      |     |       | CAS 10065-23-3 | (8471)          |        |
| Isatin 3-semicarbazone; Indole-2,3-dione 3-semicarbazone; |     |        |      |      |     |       |                |                 |        |

| Metal                                 | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values     | Reference       | ExptNo |
|---------------------------------------|-----|--------|------|------|-----|-------|-----------------|-----------------|--------|
| Mn++                                  | gl  | alc/w  | 30°C | 60%  | M   |       | K1=4.24         | 1996HTb (64853) | 1132   |
| 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 |
|--|-----|--------|------|------|-------|-------|------------------|-----------------|--------|
| Mn++   | gl  | alc/w  | 25°C | 50%  | C T H |       | K1=8.07 B2=14.32 | 2004JEa (64859) | 1133   |
| Medium: 50% v/v EtOH/H2O, 0.10 M KCl. DH(K1)=-27.8 kJ mol <sup>-1</sup> , DS(K1)=-248 J K <sup>-1</sup> mol <sup>-1</sup> ; DH(K2)=-26.8, DS(K2)=-210. Also data for 35 and 45 C |     |        |      |      |       |       |                  |                 |        |
| *****  |     |        |      |      |       |       |                  |                 |        |
| C9H8O2S  |     | H2L    |      |      |       |       | CAS 5740-34-1    | (1065)          |        |
| 3-Phenyl-2-mercaptopropenoic acid; C6H5.CH:C(SH).COOH  |     |        |      |      |       |       |                  |                 |        |

| Metal   | Mtd | Medium | Temp | Conc         | Cal | Flags | Lg K values  | Reference       | ExptNo |
|---|-----|--------|------|--------------|-----|-------|--------------|-----------------|--------|
| Mn++  | gl  | alc/w  | 25°C | 30%          | C   |       | K1=5.407     | 1988FGa (64878) | 1134   |
| Medium: 30% v/v EtOH/H2O, 0.1 M KNO3                        |     |        |      |              |     |       |              |                 |        |
| *****   |     |        |      |              |     |       |              |                 |        |
| 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 |
|-------|-----|--------|------|-------|-----|-------|------------------|-----------------|--------|
| Mn++  | gl  | NaCl   | 25°C | 0.10M | U   |       |                  | 1992CLa (64920) | 1135   |
|       |     |        |      |       |     |       | B(MnH-1L)=-4.88  |                 |        |
|       |     |        |      |       |     |       | B(MnH-2L)=-15.55 |                 |        |

Ligand defined as H2L

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|                              |  |     |  |  |  |  |                |        |  |
|------------------------------|--|-----|--|--|--|--|----------------|--------|--|
| C9H8O4                       |  | H2L |  |  |  |  | CAS 97652-17-0 | (3855) |  |
| 3-Carboxy-4-methyltropolone; |  |     |  |  |  |  |                |        |  |

| Metal                                  | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg K values   | Reference       | ExptNo |
|--|-----|--------|------|-------|-----|-------|---------------|-----------------|--------|
| Mn++                                   | sp  | NaClO4 | ?    | 0.20M | U   |       | K1=4.96       | 1967GDb (64948) | 1136   |
| *****                                  |     |        |      |       |     |       |               |                 |        |
| 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 |
|---|-----|--------|------|-------|-----|-------|----------------|-----------------|--------|
| Mn++  | gl  | oth/un | 25°C | 0.04M | U   |       | K1=2.82        | 1971NPc (64970) | 1137   |
| *****   |     |        |      |       |     |       |                |                 |        |
| 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 |
|--|-----|--------|------|------|-----|-------|----------------|-----------------|--------|
| Mn++   | gl  | alc/w  | 25°C | 75%  | U   |       | K1=4.8 B2=7.70 | 1986BTa (65037) | 1138   |
| Medium: 75% MeOH/H2O, 0.1 M NaClO4               |     |        |      |      |     |       |                |                 |        |
| *****  |     |        |      |      |     |       |                |                 |        |
| 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 |
|-------------------------------------|-----|--------|------|-------|-----|-------|-----------------|-----------------|--------|
| Mn++                                | gl  | KNO3   | 25°C | 0.10M | U   |       | K1=3.38 B2=6.28 | 1967HAb (65229) | 1139   |
| *****                               |     |        |      |       |     |       |                 |                 |        |
| C9H10N2O3                           |     |        | HL   |       |     |       | CAS 62134-49-0  | (9110)          |        |
| N-(2-Pyridyl)-3-carboxypropanamide; |     |        |      |       |     |       |                 |                 |        |

| Metal  | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg K values      | Reference       | ExptNo |
|--|-----|--------|------|-------|-----|-------|------------------|-----------------|--------|
| Mn++   | gl  | NaClO4 | 25°C | 0.10M | U   |       | K1=2.72 B2= 4.63 | 2002GSa (65262) | 1140   |
| *****  |     |        |      |       |     |       |                  |                 |        |
| 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 |
|----------------------------------|-----|--------|------|------|-----|-------|----------------|-----------------|--------|
| Mn++                             | gl  | diox/w | 25°C | 50%  | U   |       |                | 1969ZSa (65278) | 1141   |
|                                  |     |        |      |      |     |       | K(Mn+H2L)=2.53 |                 |        |
|                                  |     |        |      |      |     |       | K(Mn+HL)=5.26  |                 |        |
| *****                            |     |        |      |      |     |       |                |                 |        |
| C9H10N6                          |     |        | L    |      |     |       | CAS 3656-02-8  | (8053)          |        |
| 4-Phenylazo-3,5-diaminopyrazole; |     |        |      |      |     |       |                |                 |        |

| Metal   | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values    | Reference       | ExptNo |
|---|-----|--------|------|------|-----|-------|----------------|-----------------|--------|
| Mn++  | gl  | alc/w  | 25°C | 40%  | U   |       | K1=6.02        | 1994AAb (65303) | 1142   |
| Medium: 40% EtOH/H2O, 0.10 M NaClO4. Also data for the 4'-methyl and 4'-carboxy-phenyl derivatives. |     |        |      |      |     |       |                |                 |        |
| *****   |     |        |      |      |     |       |                |                 |        |
| C9H10N6B  |     |        | HL   |      |     |       | CAS 18583-60-3 | (7936)          |        |
| Hydrotris(pyrazolyl)borate;   |     |        |      |      |     |       |                |                 |        |

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values | Reference       | ExptNo |
|-------|-----|--------|------|------|-----|-------|-------------|-----------------|--------|
| Mn++  | dis | non-aq | 25°C | 100% | C   |       |             | 2001KSb (65311) | 1143   |

$$K(\text{Mn}+2\text{HL}=\text{MnL}_2(\text{org})+2\text{H})=3.3$$

Method: solvent extraction into chloroform.

K:  $\text{Mn}+2\text{HL}(\text{org})=\text{MnL}_2(\text{org})+2\text{H}$ .

\*\*\*\*\*

C9H1002 HL CAS 699-91-2 (4594)  
 2-Hydroxy-3-methylacetophenone;  $\text{HO}(\text{CH}_3).\text{C}_6\text{H}_3.\text{CO}.\text{CH}_3$

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

Mn++ gl diox/w 30°C 75% U K1=8.30 1970KDa (65321)1144  
 Medium: 50% v/v dioxan, 0.5 M NaClO4

\*\*\*\*\*

C9H1002 HL CAS 6921-64-8 (4595)  
 2-Hydroxy-4-methylacetophenone;  $\text{HO}(\text{CH}_3).\text{C}_6\text{H}_3.\text{CO}.\text{CH}_3$

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

Mn++ gl diox/w 30°C 75% U K1=6.90 B2=12.53 1970KDa (65328)1145  
 Medium: 50% v/v dioxan, 0.5 M NaClO4

\*\*\*\*\*

C9H1002 HL CAS 1450-72-2 (4596)  
 2-Hydroxy-5-methylacetophenone;  $\text{HO}(\text{CH}_3).\text{C}_6\text{H}_3.\text{CO}.\text{CH}_3$

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

Mn++ gl diox/w 30°C 75% U K1=6.82 B2=12.04 1970GMe (65335)1146  
 Medium: 50% v/v dioxan, 0.5 M NaClO4

\*\*\*\*\*

C9H1002 HL CAS 610-99-1 (4597)  
 2-Hydroxypropiophenone;

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

Mn++ gl diox/w 30°C 75% U K1=7.42 1970KDa (65345)1147  
 Medium: 75% dioxan, 0.1 M NaClO4

\*\*\*\*\*

C9H1003 H2L CAS 1643-34-0 (4598)  
 2,6-Dihydroxy-4-methylacetophenone;  $(\text{HO})_2(\text{CH}_3).\text{C}_6\text{H}_2.\text{CO}.\text{CH}_3$

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

Mn++ gl diox/w 30°C 75% U K1=3.25 1970KDa (65431)1148  
 Medium: 75% dioxan, 0.1 M NaClO4

\*\*\*\*\*

C9H1003 HL Phenyllactic CAS 828-01-3 (1190)  
 2-Hydroxy-3-phenylpropanoic acid, b-Phenyllactic acid;  $\text{C}_6\text{H}_5.\text{CH}_2.\text{CH}(\text{OH}).\text{COOH}$

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

Mn++ sp oth/un ? ? U K1=6.6 1976SCb (65450)1149

\*\*\*\*\*  
 C9H1003S HL CAS 18619-21-2 (4637)  
 (2-Methoxyphenylthio)ethanoic acid; CH3O.C6H4.S.CH2.COOH

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----  
 Mn++ ISE KNO3 25°C 0.10M C K1=0.51 1972FGb (65500)1150  
 By competition with Ag+ using Ag ISE

\*\*\*\*\*  
 C9H1003S HL CAS 3996-32-5 (4638)  
 (3-Methoxyphenylthio)ethanoic acid; CH3O.C6H4.S.CH2.COOH

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----  
 Mn++ ISE KNO3 25°C 0.10M C K1=0.59 1972FGb (65509)1151  
 By competition with Ag+ using Ag ISE

\*\*\*\*\*  
 C9H1003Se HL (4640)  
 (2-Methoxyphenylseleno)ethanoic acid; CH3O.C6H4.Se.CH2.COOH

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----  
 Mn++ ISE KNO3 25°C 0.10M C K1=0.49 1972FGb (65522)1152  
 By competition with Ag+ using Ag ISE

\*\*\*\*\*  
 C9H1008 H4L CAS 3724-52-5 (1264)  
 cis-1,2,3,4-Cyclopentanetetracarboxylic acid; C5H6.(COOH)4

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----  
 Mn++ gl NaClO4 30°C 0.19M U K1=5.50 B2=8.95 1985MSb (65646)1153

\*\*\*\*\*  
 C9H11NOS HL CAS 34282-30-9 (3287)  
 N-(Mercaptoacetyl)-4-methylanilide; CH3.C6H4.NH.CO.CH2.SH

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----  
 Mn++ gl diox/w 30°C 75% U K1=6.4 1961MAe (65676)1154

\*\*\*\*\*  
 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  
 -----  
 Mn++ gl KNO3 25°C 0.10M C M K(MnA+L)=3.83  
 B(MnAL)=8.88

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

-----  
 Mn++ gl NaCl 20°C 0.15M M K1=2.30 1985VDA (65955)1156

Mn++ gl NaCl 20°C 0.15M U M K1=2.30 1983VDb (65956)1157

Mn++ EMF KNO3 20°C 0.10M U T K1=2.39 1973BSf (65957)1158  
K1(30 C)=2.37, K1(40 C)=2.33, K1(50 C)=2.31, K1(60 C)=2.39

Mn++ gl KCl 25°C 0.10M U T K1=2.94 1971SSc (65958)1159  
K1(35 C)=2.89, K1(45 C)=2.84

\*\*\*\*\*  
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

Mn++ EMF KNO3 20°C 0.10M U T K1=2.13 1973BSf (66010)1160  
K1(30 C)=2.02, K1(40 C)=1.97, K1(50 C)=1.95, K1(60 C)=1.91

\*\*\*\*\*  
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

Mn++ gl KNO3 25°C 0.10M M K1=2.65 B2=4.86 1990Sma (66056)1161

\*\*\*\*\*  
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

Mn++ gl KCl 25°C 0.20M U H B2=7.7 1984KGa (66064)1162  
B(MnHL)=13.47  
B(MnHL2)=17.8

DH(MnHL)=-26 kJ mol<sup>-1</sup>; DH(MnHL2)=-29; DH(MnL2)=-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

Mn++ gl KCl 25°C 0.20M U H B2=5.6 1984KGa (66075)1163  
B(MnHL)=12.72  
B(MnH2L2)=24.6  
B(MnHL2)=15.7

DH(MnHL)=-26 kJ mol<sup>-1</sup>; DH(MnH2L2)=-51; DH(MnHL2)=-28; DH(MnL2)=13 kJ mol<sup>-1</sup>  
\*\*\*\*\*

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

Mn++ gl KCl 25°C 0.20M U H B2=6.7 1984KGa (66232)1164  
B(MnHL)=13.08  
B(MnHL2)=16.8  
B(MnH2L2)=25.7

DH(MnHL)=-24 kJ mol<sup>-1</sup>;DH(MnH2L2)=-48;DH(MnHL2)=-25;DH(MnL2)=15

Mn++ gl KCl 25°C 0.10M U M K1=2.91 B2=6.42 1983MDc (66233)1165

Mn++ gl oth/un 20°C 0.01M U 1952ALa (66234)1166  
K(Mn+HL)=2.4

\*\*\*\*\*  
C9H11NO3 HL Peonoloxime (6250)  
2-Hydroxy-4-methoxyacetophenoneoxime; CH3O.C6H3(OH).C(:NOH).CH3

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

Mn++ gl diox/w 28°C 50% U K1=5.67 B2=10.75 1979BRb (66271)1167

\*\*\*\*\*  
C9H11NO3 H2L (6713)  
N-Ethyl-3,4-dihydroxybenzamide; (HO)2C6H3.CO.NH.CH2CH3

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

Mn++ gl NaClO4 25°C 1.00M U 1992AGc (66300)1168

K(Mn+H2L=MnL+2H)=-13.25  
K(MnL+H2L=MnL2+2H)=-15.30

For 5-bromo analogue values are: -11.20, -12.95; 5-nitro: -9.78, -10.89;  
5-fluoro: -11.75, -13.63

\*\*\*\*\*  
C9H11NO4 H3L DOPA CAS 59-92-7 (5)  
2-Amino-3-(3,4-dihydroxyphenyl)propanoic acid; H2NCH(CH2C6H3(OH)2)COOH

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

Mn++ sp KCl 25°C 0.20M C 1983KGa (66399)1169

K(MnL2+H)=11.32  
K(MnHL2+H)=9.67

Microconstants also reported.

-----  
Mn++ gl KCl 25°C 0.20M C K1=8.14 B2=12.43 1983KGb (66400)1170

B(MnHL)=17.76  
B(MnH2L2)=33.43  
B(MnHL2)=23.75

\*\*\*\*\*  
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

Mn++ vlt oth/un 25°C 0.10M U K1=8.85 1968RFa (66424)1171

\*\*\*\*\*  
 C9H11N3O2                    H2L                    CAS 36408-72-7 (7572)  
 2,6-Diacetylpyridine dioxime; C5H3N(C(=NOH)CH3)2  
 -----

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

|      |     |       |      |     |   |  |  |  |                 |      |
|------|-----|-------|------|-----|---|--|--|--|-----------------|------|
| Mn++ | kin | alc/w | 25°C | 24% | U |  |  |  | 1998YGa (66480) | 1172 |
|------|-----|-------|------|-----|---|--|--|--|-----------------|------|

\*K(MnH2L)=-7.0

Medium: 24% v/v EtOH/H2O, 4% MeCN, 0.1 M NaCl.

\*\*\*\*\*  
 C9H11N3O2S                    HL                    (1273)  
 1-Ethoxycarbonyl-3-pyridin-2-ylthiourea; C5H4N.NH.CS.NH.CO.OC2H5  
 -----

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

|      |    |       |      |     |   |  |  |                    |                 |      |
|------|----|-------|------|-----|---|--|--|--------------------|-----------------|------|
| Mn++ | gl | alc/w | 25°C | 75% | U |  |  | K1=4.84    B2=9.36 | 1980Smb (66496) | 1173 |
|------|----|-------|------|-----|---|--|--|--------------------|-----------------|------|

\*\*\*\*\*

C9H11N3O2S                    HL                    CAS 51146-75-9 (6170)  
 N-(2-Hydroxy-3-methoxybenzylidene)thiosemicarbazide; CH3O(OH)C6H3.CH:N.CS.NH.NH2  
 -----

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

|      |    |        |      |     |   |   |  |         |                 |      |
|------|----|--------|------|-----|---|---|--|---------|-----------------|------|
| Mn++ | gl | diox/w | 35°C | 50% | U | I |  | K1=5.06 | 1993GJa (66507) | 1174 |
|------|----|--------|------|-----|---|---|--|---------|-----------------|------|

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=5.52.

\*\*\*\*\*  
 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 |
|-------|-----|--------|------|------|-----|-------|----|----------|-----------|--------|
|-------|-----|--------|------|------|-----|-------|----|----------|-----------|--------|

|      |    |      |      |       |   |   |    |                    |                 |      |
|------|----|------|------|-------|---|---|----|--------------------|-----------------|------|
| Mn++ | gl | KNO3 | 25°C | 0.10M | C | T | HM | K1=3.44    B2=6.88 | 1987KRa (66698) | 1175 |
|------|----|------|------|-------|---|---|----|--------------------|-----------------|------|

|      |    |      |      |       |   |  |   |         |                 |      |
|------|----|------|------|-------|---|--|---|---------|-----------------|------|
| Mn++ | gl | KNO3 | 35°C | 0.10M | U |  | M | K1=3.20 | 1986RRa (66699) | 1176 |
|------|----|------|------|-------|---|--|---|---------|-----------------|------|

Ternary complexes with glycine, oxalate, histidine and histamine

\*\*\*\*\*  
 C9H12O6                    H3L                    CAS 16526-68-4 (5948)  
 cis, cis-1,3,5-Cyclohexanetricarboxylic acid;  
 -----

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

|      |    |      |      |       |   |  |  |         |                 |      |
|------|----|------|------|-------|---|--|--|---------|-----------------|------|
| Mn++ | gl | KNO3 | 25°C | 0.50M | U |  |  | K1=1.65 | 1983Wka (66772) | 1177 |
|------|----|------|------|-------|---|--|--|---------|-----------------|------|

B(MnHL)=6.32

B(MnH2L)=10.22

\*\*\*\*\*  
 C9H13NO2                    H2L    Phenylephrine                    CAS 61-76-7 (2759)  
 3-Hydroxy-alpha-(methylaminomethyl)benzyl alcohol; HO.C6H4.CH(CH2.NH.CH3)OH  
 -----

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

Mn++ gl KNO3 22°C 0.25M U 1984GKa (66811)1178

K(Mn+HL)=3.61

\*\*\*\*\*

C9H13NO3 H2L (-)Adrenaline CAS 51-43-4 (252)

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  
-----

Mn++ gl KCl 25°C 0.20M C K1=7.69 B2=12.46 1981GKb (66863)1179

B(MnHL)=17.56

B(MnHL2)=22.5

-----  
Mn++ gl KCl 25°C 0.10M U K1=8.80 B2=15.10 1966JNa (66864)1180

K1 adjusted to give hypothetical microscopic constant

\*\*\*\*\*

C9H13NO6 H3L (3881)

2,6-Dicarboxypiperidyl-N-ethanoic acid;

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

Mn++ gl KNO3 25°C 0.10M U K1=7.40 1968KTd (66889)1181

\*\*\*\*\*

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  
-----

Mn++ gl R4N.X 25°C 0.10M C T 1991SMa (66975)1182

K(Mn+HL)=2.37

IUPAC evaluation

-----  
Mn++ gl NaNO3 25°C 0.10M C 1988MSa (66976)1183

K(Mn+HL)=2.11

-----  
Mn++ gl NaClO4 25°C 0.10M C 1984SSe (66977)1184

K(Mn+HL)=2.01

\*\*\*\*\*

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  
-----

Mn++ gl NaNO3 25°C 0.50M C K1=0.19 1992KJa (67065)1185

-----  
Mn++ gl KNO3 35°C 0.10M C M K1=2.51 1985RRc (67066)1186

B(MnHL(Gly))=11.95

B(MnL(oxalate))=9.53

B(MnHL(His))=12.34

B(MnHL(histamine))=11.84



-----  
Mn++      gl    KNO3    45°C 0.10M U            K1=2.60            1981TKa (67067)1187  
\*\*\*\*\*  
C9H14N2O12P2                    H4L    UDP                    CAS 58-98-0 (3288)  
Uridine-5'-diphosphoric acid;  
-----

| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values                                  | Reference       | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|---|-----------------|--------|
| Mn++  | gl  | NaNO3  | 25°C | 0.10M | M   |       |    | K1=4.07<br>K(Mn+H2L)=2.3<br>K(MnHL+H)=4.6 | 1999SSa (67161) | 1188   |

\*\*\*\*\*  
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 |
|-------|-----|--------|------|-------|-----|-------|----|----------|-----------------|--------|
| Mn++  | gl  | KNO3   | 25°C | 0.10M | C   | M     |    | K1=2.79  | 2001AAa (67255) | 1189   |

Also data for ternary complexes with MOPSO, TAPSO and ACES.

|      |    |       |      |       |   |  |   |         |                 |      |
|------|----|-------|------|-------|---|--|---|---------|-----------------|------|
| Mn++ | gl | R4N.X | 25°C | 0.10M | C |  | T | K1=2.36 | 1991SMa (67256) | 1190 |
|------|----|-------|------|-------|---|--|---|---------|-----------------|------|

IUPAC evaluation

|      |    |       |      |       |   |  |  |         |                 |      |
|------|----|-------|------|-------|---|--|--|---------|-----------------|------|
| Mn++ | gl | NaNO3 | 25°C | 0.10M | C |  |  | K1=2.10 | 1988MSa (67257) | 1191 |
|------|----|-------|------|-------|---|--|--|---------|-----------------|------|

|      |    |      |      |       |   |  |   |  |                 |      |
|------|----|------|------|-------|---|--|---|--|-----------------|------|
| Mn++ | gl | KNO3 | 35°C | 0.10M | U |  | M |  | 1986RRe (67258) | 1192 |
|------|----|------|------|-------|---|--|---|--|-----------------|------|

K(Mn+HL+HA)=5.64  
K(Mn+HL+E)=6.61  
K(MnLE+H)=3.66  
K(Mn+L+HC)=6.49

K(MnLC+H)=3.84; K(Mn+L+HD)=6.00. HA is glycine; H2E is oxalic acid;  
C is histamine; HD is histidine.

|      |    |       |      |       |   |  |   |         |                 |      |
|------|----|-------|------|-------|---|--|---|---------|-----------------|------|
| Mn++ | gl | NaNO3 | 35°C | 0.10M | U |  | M | K1=2.65 | 1985KSc (67259) | 1193 |
|------|----|-------|------|-------|---|--|---|---------|-----------------|------|

K(Mn(phen)+L)=3.65  
K(Mn(GlyGly)+L)=1.44  
B(Mn(salicylate)+L)=0.15

-----  
Mn++      gl    KCl      25°C 0.10M U            K1=2.37            1984MDb (67260)1194  
\*\*\*\*\*  
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 |
|-------|-----|--------|------|-------|-----|-------|----|--------------------------|-----------------|--------|
| Mn++  | gl  | KNO3   | 25°C | 0.10M | U   |       |    | K1=4.40<br>K(Mn+HL)=3.14 | 1964LMa (67320) | 1195   |

\*\*\*\*\*  
C9H14N5O3P                    H2L                    CAS 121149-93-7 (2512)  
9-(4-Phosphonobutyl)adenine;  
-----

| Metal   | Mtd | Medium | Temp | Conc  | Cal  | Flags | Lg | K values  | Reference       | ExptNo |
|---|-----|--------|------|-------|------|-------|----|---|-----------------|--------|
| Mn++  | gl  | NaNO3  | 25°C | 0.10M | M    |       |    | K1=2.47<br>K(Mn+HL)=0.4<br>*K(MnHL)=-5.6                      | 2000GKa (67358) | 1196   |
| *****   |     |        |      |       |      |       |    |   |                 |        |
| C9H15NO6  |     | H3L    |      |       |      |       |    | CAS 817-11-8  | (3271)          |        |
| 3,3',3''-Nitritotripropanoic acid; (HOOC.CH2.CH2)3N                           |     |        |      |       |      |       |    |   |                 |        |
| Metal   | Mtd | Medium | Temp | Conc  | Cal  | Flags | Lg | K values  | Reference       | ExptNo |
| Mn++  | cal | KNO3   | 25°C | 0.10M | C    | H     |    |   | 1983GSb (67434) | 1197   |
| DH(K1)=0.47 kJ mol-1, DS(K1)=54.4 J K-1 mol-1                                 |     |        |      |       |      |       |    |   |                 |        |
| *****   |     |        |      |       |      |       |    |   |                 |        |
| C9H15NO6P2  |     | H4L    |      |       |      |       |    | (6888)  |                 |        |
| N-Benzyl-N-methylaminomethylenedi(phosphonic acid); C6H5.CH2.N(CH3)CH(PO3H2)2 |     |        |      |       |      |       |    |   |                 |        |
| Metal   | Mtd | Medium | Temp | Conc  | Cal  | Flags | Lg | K values  | Reference       | ExptNo |
| Mn++  | gl  | KCl    | 25°C | 0.10M | M    |       |    | K1=7.03<br>K(Mn+HL)=6.38                                      | 1978GMF (67447) | 1198   |
| Cu and Zn form precipitates at pH 3.7-8.4 and 4.7-9.5 resp. (0.001 M)         |     |        |      |       |      |       |    |   |                 |        |
| *****   |     |        |      |       |      |       |    |   |                 |        |
| C9H15NO6P2  |     | H4L    |      |       |      |       |    | CAS 6056-53-7   | (1337)          |        |
| N-Benzyliminobis(methylenephosphonic) acid; C6H5CH2N(CH2PO3H2)2               |     |        |      |       |      |       |    |   |                 |        |
| Metal   | Mtd | Medium | Temp | Conc  | Cal  | Flags | Lg | K values  | Reference       | ExptNo |
| Mn++  | gl  | KCl    | 25°C | 0.20M | C    |       |    | K1=6.96<br>B(MnHL)=15.07<br>B(MnH2L)=19.82<br>B(MnH-1L)=-4.08 | 2000KKa (67461) | 1199   |
| Metal   | Mtd | Medium | Temp | Conc  | Cal  | Flags | Lg | K values  | Reference       | ExptNo |
| Mn++  | gl  | KNO3   | 25°C | 1.00M | M    |       |    | K1=6.54<br>K(Mn+HL)=3.23                                      | 1982BGb (67462) | 1200   |
| *****   |     |        |      |       |      |       |    |   |                 |        |
| C9H15NO6S   |     | H3L    |      |       | DCMM |       |    | CAS 72306-91-3  | (8239)          |        |
| Dicarboxymethyl-N,N-methionine acid;  |     |        |      |       |      |       |    |   |                 |        |
| Metal   | Mtd | Medium | Temp | Conc  | Cal  | Flags | Lg | K values  | Reference       | ExptNo |
| Mn++  | gl  | NaCl   | 25°C | 0.50M | C    |       |    | K(Mn+HL)=3.15   | 1980MFC (67472) | 1201   |
| Additional methods: conductivity, spectrophotometry                           |     |        |      |       |      |       |    |   |                 |        |
| *****   |     |        |      |       |      |       |    |   |                 |        |
| C9H15N2O15P3  |     | H5L    |      |       | UTP  |       |    | CAS 63-39-8   | (407)           |        |
| Uridine-5'-triphosphoric acid;  |     |        |      |       |      |       |    |   |                 |        |
| Metal   | Mtd | Medium | Temp | Conc  | Cal  | Flags | Lg | K values  | Reference       | ExptNo |

Mn++ gl R4N.X 25°C 0.10M C R 1991SMa (67527)1202  
K(Mn+HL)=5.08  
K(Mn+H2L)=3.0

IUPAC evaluation

Mn++ gl NaNO3 25°C 0.10M C 1987STb (67528)1203  
K(Mn+HL)=4.91  
K(MnL+H)=4.24  
K(Mn+H2L)=2.70

Mn++ gl KNO3 25°C 0.10M U T H K1=6.31 1983RRe (67529)1204  
Also data for 35 and 45 C. At 45 C: K1=6.10.  
DH(K1)=-27.6 kJ mol<sup>-1</sup>, DS(K1)=29 J K<sup>-1</sup> mol<sup>-1</sup>.

Mn++ gl NaClO4 25°C 0.10M C M 1977SIc (67530)1205  
K(Mn+HL)=4.58  
K(Mn(bpy)+HL)=4.59  
B(Mn(HL)(bpy))=7.21

Mn++ gl KNO3 35°C 0.10M U 1976KRa (67531)1206  
K(Mn+HL)=6.21

Mn++ nmr NaClO4 25°C 0.10M U 1975SIb (67532)1207  
K(MnL+H)=9.45  
K(Mn(OH)L+H)=11.1

By spectrophotometry, K(MnL+H)=9.3.

Mn++ ix NaCl 23°C 0.10M U 1958WAa (67533)1208  
K(Mn+HL)=4.78

\*\*\*\*\*  
C9H15N3O11P2 H3L CDP CAS 63-38-7 (2187)  
Cytidine-5'-diphosphoric acid;

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

Mn++ gl NaNO3 25°C 0.10M M K1=2.30 1999SSa (67588)1209  
K(Mn+HL)=4.09  
K(MnL+H)=4.60

Mn++ gl KCl 25°C 0.10M U K1=3.82 1984MDb (67589)1210  
B(MnHL)=8.01

\*\*\*\*\*  
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

Mn++ gl KCl 20°C 0.10M U K1=4.60 B2=7.56 1955SAa (67629)1211

\*\*\*\*\*

C9H16N3O14P3 H4L CTP CAS 65-47-4 (406)  
 Cytidine-5'-triphosphoric acid;

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| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values                | Reference       | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|-------------------------|-----------------|--------|
| Mn++  | gl  | R4N.X  | 25°C | 0.10M | C   | TI    | R  | K1=5.08<br>K(Mn+HL)=3.0 | 1991SMa (67705) | 1212   |

IUPAC evaluation

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|      |    |       |      |       |   |  |  |  |                 |      |
|------|----|-------|------|-------|---|--|--|--|-----------------|------|
| Mn++ | gl | NaNO3 | 25°C | 0.10M | C |  |  | K1=4.90<br>K(Mn+HL)=3.1<br>K(MnL+H)=4.75 | 1987STb (67706) | 1213 |
|------|----|-------|------|-------|---|--|--|--|-----------------|------|

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|      |    |     |      |       |   |  |  |                         |                 |      |
|------|----|-----|------|-------|---|--|--|-------------------------|-----------------|------|
| Mn++ | gl | KCl | 25°C | 0.10M | U |  |  | K1=4.63<br>B(MnHL)=8.97 | 1984MDb (67707) | 1214 |
|------|----|-----|------|-------|---|--|--|-------------------------|-----------------|------|

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|      |    |      |      |       |   |     |  |                          |                 |      |
|------|----|------|------|-------|---|-----|--|--------------------------|-----------------|------|
| Mn++ | gl | KNO3 | 25°C | 0.10M | U | T H |  | K1=4.56<br>K(Mn+HL)=4.24 | 1983RRe (67708) | 1215 |
|------|----|------|------|-------|---|-----|--|--------------------------|-----------------|------|

Also data for 35 and 45 C. At 45 C: K1=4.85, K(Mn+HL)=4.01.  
 DH(K1)=-18.8 kJ mol<sup>-1</sup>, DS(K1)=24 J K<sup>-1</sup> mol<sup>-1</sup>; DH(Mn+HL)=-20.9, DS=11

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|      |    |        |      |       |   |  |  |   |                 |      |
|------|----|--------|------|-------|---|--|--|---|-----------------|------|
| Mn++ | gl | NaClO4 | 25°C | 0.10M | C |  |  | K1=4.74<br>K(Mn+HL)=2.69<br>K(MnL+H)=4.46 | 1977SIc (67709) | 1216 |
|------|----|--------|------|-------|---|--|--|---|-----------------|------|

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|      |     |        |      |       |   |  |  |                   |                 |      |
|------|-----|--------|------|-------|---|--|--|-------------------|-----------------|------|
| Mn++ | nmr | NaClO4 | 25°C | 0.10M | U |  |  | K(Ni(OH)L+H)=9.41 | 1975SIb (67710) | 1217 |
|------|-----|--------|------|-------|---|--|--|-------------------|-----------------|------|

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|      |     |        |      |       |   |  |  |                    |                 |      |
|------|-----|--------|------|-------|---|--|--|--------------------|-----------------|------|
| Mn++ | nmr | NaClO4 | 25°C | 0.10M | U |  |  | K(Mn(OH)L+H)=10.87 | 1975SIb (67711) | 1218 |
|------|-----|--------|------|-------|---|--|--|--------------------|-----------------|------|

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|      |    |      |      |      |   |   |  |                          |                 |      |
|------|----|------|------|------|---|---|--|--------------------------|-----------------|------|
| Mn++ | gl | KNO3 | 35°C | 0.1M | C | I |  | K1=4.43<br>K(Mn+HL)=4.10 | 1975TRc (67712) | 1219 |
|------|----|------|------|------|---|---|--|--------------------------|-----------------|------|

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|      |    |      |      |       |   |  |  |         |                 |      |
|------|----|------|------|-------|---|--|--|---------|-----------------|------|
| Mn++ | ix | NaCl | 23°C | 0.10M | U |  |  | K1=4.78 | 1958WAa (67713) | 1220 |
|------|----|------|------|-------|---|--|--|---------|-----------------|------|

\*\*\*\*\*

C9H16O4 H2L Azelaic acid CAS 123-99-9 (3255)  
 Nonanedioic acid; HOOC.(CH2)7.COOH

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| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values | Reference       | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|----------|-----------------|--------|
| Mn++  | ix  | oth/un | 25°C | 0.16M | U   |       |    | K1=1.03  | 1957LWc (67793) | 1221   |

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C9H17NO5 HL Pantothenic acid CAS 63409-48-3 (2629)  
 N-(2,4-Dihydroxy-3,3-dimethylbutyryl)-3-aminopropanoic acid;

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| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values | Reference       | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|----------|-----------------|--------|
| Mn++  | gl  | KCl    | 25°C | 0.24M | U   |       |    | K1=0.95  | 1980FMd (67815) | 1222   |

\*\*\*\*\*

C9H17N06S HL (6381)  
2-(D-Deoxyglucosyl)thiazolidine-4-carboxylic acid;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl NaCl04 25°C 0.10M C K1=2.43 1992GBb (67834)1223  
B(Mn2H-1L2)=-0.32  
B(Mn2H-2L2)=-9.41  
B(Mn2H-4L2)=-29.66

Data also for other sugar substituents (D and L arabinoso-, D-xylo-, D-ribo-  
D-lyxo-

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C9H17N07S HL (6462)  
2(RS)-1,2,3,4,5-Pentahydroxypentylthiazolidine-4(R)-carboxylic acid;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl NaCl04 25°C 0.10M C K1=2.35 1992GBb (67841)1224  
B(Mn2H-1L2)=-0.47  
B(Mn2H-2L2)=-10.21  
B(Mn2H-4L2)=-30.10

Data also for other sugar substituents (D-gluco-, D-galacto-, D-manno-,  
D-rhamo

-----  
Mn++ gl NaCl04 25°C 0.10M C K1=2.31 1992GNa (67842)1225  
B(Mn2H-1L2)=0.66  
B(Mn2H-2L2)=-10.3  
B(Mn2H-4L2)=-30.40

\*\*\*\*\*

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  
-----  
Mn++ gl KCl 20°C 0.20M U K1=1.83 1982KRc (67908)1226  
Using EPR spectroscopy: K1=1.89

\*\*\*\*\*

C9H19N2O4+ H2L (3277)  
2-Di(carboxymethyl)aminoethyltrimethylammonium cation  
+

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl KCl 20°C 0.10M U K1=2.87 1955SAa (68003)1227

\*\*\*\*\*

C9H20N3O7P H3L CAS 88794-71-2 (3887)  
O-Phosphoryl-L-seryl-L-lysine;

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

Mn++ gl KCl 25°C 0.15M U K1=2.33 19620Sa (68076)1228  
 \*\*\*\*\*  
 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  
 -----

Mn++ gl KNO3 25°C 0.10M U K1=3.96 1991ACa (68204)1229  
 B(MnH-1L)=-5.93  
 K(MnL+OH)=3.93

\*\*\*\*\*  
 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  
 -----

Mn++ gl KNO3 25°C 0.10M C K1=6.16 B2=10.84 1999WKa (68214)1230  
 \*\*\*\*\*

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  
 -----

Mn++ gl KNO3 25°C 1.00M U 1988MKb (68323)1231  
 K(Mn+Cu+HL)=18.4  
 K(Mn+CuL)=3.31  
 K(Mn+CuHL)=1.95

-----  
 Mn++ gl KCl 25°C 1.0M U K1=16.6 1984KMa (68324)1232  
 K(Mn+HL)=10.8  
 K(Mn+H2L)=7.3

\*\*\*\*\*  
 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  
 -----

Mn++ gl KCl 25°C 0.10M U K1=11.15 1967KDa (68411)1233  
 K(Mn+HL)=8.41  
 K(Mn+H2L)=6.31  
 K(Mn+H3L)=5.34  
 K(Mn+H4L)=4.64

K(Mn+H5L)=3.94, K(Mn+H6L)=2.64

\*\*\*\*\*  
 C10H7NO2 HL CAS 14510-06-6 (4715)  
 2-Formyl-8-hydroxyquinoline;

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

Mn++ gl diox/w 25°C 50% U K1=5.49 B2=10.41 1972HUb (68610)1234  
Medium: 50% v/v dioxan, 0.1 M KCl

\*\*\*\*\*

C10H7NO2 HL CAS 132-53-6 (2524)

2-Nitroso-1-naphthol;

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

Mn++ gl diox/w 30°C 75% U K1=6.78 B2=12.20 1957CFa (68649)1235

Mn++ gl diox/w 30°C 75% U K1=7.10 B2=12.60 1954UFa (68650)1236

\*\*\*\*\*

C10H7NO2 HL CAS 2598-30-3 (3317)

5-Formyl-8-hydroxyquinoline;

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

Mn++ gl diox/w 25°C 50% U K1=5.73 B2=10.70 1958JPa (68674)1237  
K3=4.58

Medium: 50% dioxan, 0.3 M NaCl

\*\*\*\*\*

C10H7NO2 HL Quinaldic acid CAS 93-10-7 (2209)

Quinoline-2-carboxylic acid;

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

Mn++ gl KNO3 25°C 0.10M U K1=7.40 B2=11.46 1988ZMa (68713)1238  
K3=3.77

Mn++ gl oth/un 25°C 0.0 U K1=2.96 B2=5.92 1955LUa (68714)1239

\*\*\*\*\*

C10H7NO2 HL CAS 86-59-9 (873)

Quinoline-8-carboxylic acid;

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

Mn++ gl alc/w 30°C 50% U K1=3.05 B2=5.65 1981RRa (68764)1240  
Medium: 50% v/v EtOH, 0.1 M KNO3

Mn++ gl diox/w 25°C 50% U K1=4.2 1955HCb (68765)1241

Mn++ gl oth/un 25°C 0.0 U K1=2.11 B2=4.86 1955LUa (68766)1242

\*\*\*\*\*

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  
-----

Mn++ gl diox/w 25°C 50% U K1=1.51 1968EGb (68780)1243  
Medium: 50% dioxan, 0.1 M NaClO4

\*\*\*\*\*

C10H7N04 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 |
|-------|-----|--------|------|------|-----|-------|----|--------------------------------------|-----------------|--------|
| Mn++  | gl  | diox/w | 25°C | 50%  | U   |       |    | K1=5.5 B2=10.50<br>K(Mn(OH)L+H)=10.7 | 1964BFa (68795) | 1244   |

\*\*\*\*\*

C10H7N05S H2L CAS 97573-20-5 (3332)  
1,2-Naphthoquinone-4-sulfonic acid-2-oxime

| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values             | Reference       | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|----------------------|-----------------|--------|
| Mn++  | gl  | oth/un | 25°C | 0.01M | U   |       |    | K(Mn+HL=MnL+H)=-4.61 | 1961MAd (68801) | 1245   |

\*\*\*\*\*

C10H7N05S 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 |
|-------|-----|--------|------|------|-----|-------|----|----------|-----------------|--------|
| Mn++  | sp  | oth/un | 25°C | 0.0  | U   |       |    | K1=2.07  | 1966MAg (68889) | 1246   |

\*\*\*\*\*

C10H7N08S2 H3L Nitroso-R acid CAS 525-05-3 (1811)  
1-Nitroso-2-hydroxynaphthalene-3,6-disulfonic acid;

| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values                            | Reference       | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|-------------------------------------|-----------------|--------|
| Mn++  | oth | KCl    | 25°C | 0.10M | U   | I     |    | K1=2.7                              | 1967MAi (69019) | 1247   |
| Mn++  | gl  | KCl    | 25°C | 0.10M | U   |       |    | K1=3.7(I=0)<br>K(Mn+HL=MnL+H)=-4.19 | 1961MAd (69020) | 1248   |

\*\*\*\*\*

C10H7N302S 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 |
|-------|-----|--------|------|------|-----|-------|----|----------|-----------------|--------|
| Mn++  | gl  | alc/w  | 30°C | 60%  | M   |       |    | K1=4.10  | 1996HTb (69074) | 1249   |

Medium: 60% v/v EtOH/H2O, 0.04 M KCl.

\*\*\*\*\*

C10H7N303 L CAS 114526-85-1 (8474)  
2-(1,3-Dihydro-1,3-dioxo-2H-inden-2-ylidene)hydrazinecarboxamide;

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference       | ExptNo |
|-------|-----|--------|------|------|-----|-------|----|----------|-----------------|--------|
| Mn++  | gl  | alc/w  | 30°C | 60%  | M   |       |    | K1=3.90  | 1996HTb (69077) | 1250   |

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 |
|-------|-----|--------|------|------|-----|-------|----|-----------------|-----------------|--------|
| Mn++  | gl  | alc/w  | 18°C | 50%  | U T |       |    | K1=5.30 B2=9.78 | 1982SGa (69085) | 1251   |

Medium: 50% v/v EtOH/H2O, 0.1 M NaClO4

\*\*\*\*\*

C10H7N4O7ClS H3L CAS 3373-16-8 (2912)  
(2-Hydroxy-3-sulfo-5-chlorophenyl)-1-azobarbituric acid;

| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values | Reference       | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|----------|-----------------|--------|
| Mn++  | sp  | oth/un | 25°C | 0.03M | U   |       |    |          | 1981SPc (69089) | 1252   |

K(Mn+HL)=6.02

\*\*\*\*\*

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 |
|-------|-----|--------|------|-------|-----|-------|----|----------|-----------------|--------|
| Mn++  | dis | NaNO3  | 25°C | 0.10M | C   |       |    | K1=3.1   | 1994SDc (69155) | 1253   |

Method: solvent extraction into CHCl3

|      |     |        |      |      |   |   |  |                  |                 |      |
|------|-----|--------|------|------|---|---|--|------------------|-----------------|------|
| Mn++ | dis | NaClO4 | 25°C | 1.0M | C | M |  | K1=0.80 B2= 2.63 | 1977SMe (69156) | 1254 |
|------|-----|--------|------|------|---|---|--|------------------|-----------------|------|

K(MnL2(org)+A(org))=6.1  
K(MnL2(org)+2A(org))=10.4  
Method: distribution from 1.0 M NaClO4 into CCl4/HL/tri-octylposphine oxide (A). K(Mn+2HL(org)=MnL2(org)+2H)=-12.62.

\*\*\*\*\*

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

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values         | Reference       | ExptNo |
|-------|-----|--------|------|------|-----|-------|----|------------------|-----------------|--------|
| Mn++  | cal | non-aq | 25°C | 100% | U   | H     |    | K1=1.53 B2= 2.22 | 1997KYb (69602) | 1256   |

Medium: N,N-dimethylformamide, 0.4 M Et4NClO4.  
DH(K1)=-6.0 kJ mol-1, DH(B2)=-13.1 kJ mol-1.

|      |     |        |      |       |   |  |  |               |                 |      |
|------|-----|--------|------|-------|---|--|--|---------------|-----------------|------|
| Mn++ | EMF | NaClO4 | 20°C | 1.50M | U |  |  | K1=2.4 B2=4.6 | 1990IAa (69603) | 1257 |
|------|-----|--------|------|-------|---|--|--|---------------|-----------------|------|

B3=6.2  
Medium: LiClO4

|      |    |        |      |      |   |  |  |        |                 |      |
|------|----|--------|------|------|---|--|--|--------|-----------------|------|
| Mn++ | sp | non-aq | 25°C | 100% | C |  |  | K1=2.5 | 1987AWa (69604) | 1258 |
|------|----|--------|------|------|---|--|--|--------|-----------------|------|

Medium: DMSO, 0.06 M NaClO4

|      |    |        |      |     |   |   |  |                  |                 |      |
|------|----|--------|------|-----|---|---|--|------------------|-----------------|------|
| Mn++ | gl | diox/w | 25°C | 50% | U | M |  | K1=5.71 B2=10.67 | 1984ABb (69605) | 1259 |
|------|----|--------|------|-----|---|---|--|------------------|-----------------|------|

B(MnL(PFHA))=10.86

B(MnL(PTHA))=11.02

Experimental details given in S.A.Abbasi, Thermochem. Acta 30 (1980), 50%H<sub>2</sub>O  
PFHA=N-phenyl-2-furylhydroxamate, PTHA=N-phenyl-2-thenohydroxamate

Mn++ sp NaClO<sub>4</sub> 25°C 0.20M U I K<sub>1</sub>=2.97 1983EBa (69606)1260

Mn++ sp NaClO<sub>4</sub> 21°C 0.30M C K<sub>1</sub>=2.73 1982DEa (69607)1261  
Value is for pressure of 10 bar. Data for 10-2000 bar.

Mn++ sp non-aq 25°C 100% U K<sub>1</sub>=3.10 1981AWa (69608)1262  
Medium: hexamethylphosphoric triamide

Mn++ gl NaClO<sub>4</sub> 25°C 0.10M C M 1977SFa (69609)1263

K(MnLA)=5.36

K(MnA+L)=2.64

K(MnL+A)=2.74

B(MnLB)=11.01

K(MnB+L)=3.04; B(Mn(ATP)L)=7.35, K(Mn(ATP)+L)=2.65; B(MnCL)=7.40; K(MnC+L)=  
2.74. H<sub>2</sub>A=malonic acid, H<sub>2</sub>B=pyrocatechol, C=inosinetriphosphate

Mn++ kin NaClO<sub>4</sub> 25°C 0.30M U K<sub>1</sub>=2.59 1974HMa (69610)1264

Mn++ sp NaClO<sub>4</sub> 25°C 0.30M U K<sub>1</sub>=2.57 1974HMa (69611)1265

Mn++ kin NaClO<sub>4</sub> 25°C 0.30M U M 1974HMa (69612)1266  
K(MnA+L)=2.08

H<sub>5</sub>A=triphosphoric acid

Mn++ kin NaClO<sub>4</sub> 25°C 0.30M U M 1974HMa (69613)1267  
K(Mn(ATP)+L)=2.65

Mn++ kin alc/w 25°C 0.20M U K<sub>1</sub>=2.7 1973BMb (69614)1268  
Medium: MeOH, 0.2 M NaClO<sub>4</sub>

Mn++ dis KNO<sub>3</sub> 30°C 1.0M U H K<sub>1</sub>=2.54 B<sub>2</sub>=4.39 1965DDa (69615)1269  
K<sub>3</sub>=1.51

By calorimetry: DH(K<sub>1</sub>)=-23.9 kJ mol<sup>-1</sup>, DS=-30.5 J K<sup>-1</sup> mol<sup>-1</sup>;

DH(B<sub>2</sub>)=-25.5, DS=0; DH(B<sub>3</sub>)=-26.0, DS=27.2

Mn++ cal NaNO<sub>3</sub> 20°C 0.10M U H 1963ANb (69616)1270  
DH(K<sub>1</sub>)=-14.6 kJ mol<sup>-1</sup>, DS=0

Mn++ gl NaNO<sub>3</sub> 20°C 0.10M U K<sub>1</sub>=2.6 1963ANg (69617)1271

Mn++ gl NaClO<sub>4</sub> 25°C 1.0M U H K<sub>1</sub>=4.06 B<sub>2</sub>=7.84 1962ABa (69618)1272  
K<sub>3</sub>=3.63

DH(K<sub>1</sub>)=-18.0 kJ mol<sup>-1</sup>, DS=17; DH(K<sub>2</sub>)=-18.0, DS=13; DH(K<sub>3</sub>)=-18.0, DS=8

Mn++ dis KCl 25°C 0.10M U K<sub>1</sub>=2.62 B<sub>2</sub>=4.62 1962IMa (69619)1273

K3=1.1

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Mn++ sp oth/un 25°C 0.01M U K1=2.48 1955LFb (69620)1274  
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Mn++ sp oth/un ? 0.50M U 1955MBb (69621)1275  
B3=6.3  
-----

Mn++ sp oth/un 27°C 0.50M U K1=2.5 1955SKa (69622)1276  
\*\*\*\*\*  
C10H8N2O2 HL CAS 80690-06-8 (874)  
5-Aminoquinoline-8-carboxylic acid;  
-----

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl alc/w 30°C 50% U K1=3.84 B2=6.78 1981RRa (69676)1277  
Medium: 50% v/v EtOH, 0.1 M KNO3  
\*\*\*\*\*  
C10H8N2O2 HL CAS 5603-22-5 (2753)  
8-Hydroxyquinoline-2-carboxaldehyde oxime  
-----

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl diox/w 25°C 50% U K1=5.83 B2=11.63 1967SFa (69682)1278  
\*\*\*\*\*  
C10H8N2O2S HL CAS 15112-10-4 (8299)  
N-Phenyl-2-thiobarbituric acid;  
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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl NaClO4 31°C 0.10M U T H K1=5.50 B2= 9.64 1984SJa (69692)1279  
Also data for 18 and 42 C. DH(K1)=-57.2 kJ mol<sup>-1</sup>, DS(K1)=-83.3 J K<sup>-1</sup> mol<sup>-1</sup>  
DH(K2)=-32.0, DS(K2)=-26.3. Also data for N-tolyl- derivatives.  
\*\*\*\*\*  
C10H8N2O5 HL CAS 36874-89-9 (6226)  
4-Nitromaleanilic acid; HOOC.CH:CH.CO.NH.C6H4.NO2  
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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl alc/w 22°C 80% U T H K1=7.50 B2=12.85 1985SAb (69708)1280  
30 C: K1= 7.40, K2=5.30; 40 C: K1= 7.30, K2=5.25  
DH(K1)=-16.9 kJ mol<sup>-1</sup>, DS=85 J K<sup>-1</sup> mol<sup>-1</sup>; DH(K2)=-10.5, DS=67  
\*\*\*\*\*  
C10H9NO HL 8-OH-Quinaldine CAS 826-81-3 (998)  
2-Methyl-8-hydroxyquinoline;  
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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ cal diox/w 25°C 50% U H 1968GFa (70050)1281  
Medium: 50% dioxan, 0.1 M NaClO4. DH(K1)=-13.8 kJ mol<sup>-1</sup>, DS=83.6 J K<sup>-1</sup> mol<sup>-1</sup>;  
DH(B2)=-26.3, DS=163  
-----

Mn++ gl diox/w 25°C 50% U K1=6.81 B2=13.10 1967SFa (70051)1282

Mn++ gl diox/w 40°C 50% U T H K1=7.40 B2=13.90 1954JFa (70052)1283  
K1=7.75(0.7 C),7.44(25 C); K2=6.85(0.7 C),6.55(25 C).  
DH(B2)=-27.6 kJ mol<sup>-1</sup>, DS=176 J K<sup>-1</sup> mol<sup>-1</sup>

C10H9NO HL CAS 3846-73-9 (3320)  
8-Hydroxy-4-methylquinoline;

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

Mn++ gl diox/w 25°C 50% U H K1=7.74 B2=14.81 1968GFa (70095)1284  
Medium: 50% dioxan, 0.1 M NaClO4. By calorimetry DH(K1)=-17.1 kJ mol<sup>-1</sup>,  
DS=92 J K<sup>-1</sup> mol<sup>-1</sup>; DH(B2)=-26.7, DS=192

Mn++ gl diox/w 40°C 50% U T H K1=8.12 B2=15.06 1954JFa (70096)1285  
K1=8.63(0.7 C),8.31(25 C); K2=7.60(0.7 C),7.24(25 C).  
DH(B2)=-48.5 kJ mol<sup>-1</sup>, DS=134 J K<sup>-1</sup> mol<sup>-1</sup>

C10H9NO2 HL CAS 57334-35-7 (3905)  
2-Hydroxymethyl-8-hydroxyquinoline;

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

Mn++ gl diox/w 25°C 50% U K1=7.5 1967SFa (70120)1286  
C10H9NO3 HL Maleanilic acid CAS 37902-58-2 (6225)  
Maleanilic acid; HOOC.CH:CH.CO.NH.C6H5

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

Mn++ gl alc/w 22°C 80% U T H K1=5.80 B2=11.00 1985SAb (70157)1287  
Medium:MeOH/H2O,0.1 NaClO4. 30 C: K1= 5.70, K2=5.15; 40 C: K1= 5.60, K2=5.10  
DH(K1)=-15.8 kJ mol<sup>-1</sup>, DS=58 J K<sup>-1</sup> mol<sup>-1</sup>; DH(K2)=-10.5, DS=64

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

Mn++ gl KNO3 25°C 0.10M C K1=6.35 B2=11.55 1990ARa (70170)1288

Mn++ gl KNO3 25°C 0.10M C K1=6.35 B2=11.55 1990ARa (70171)1289  
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

-----  
Mn++ gl oth/un 20°C 0.0 U K1=2.18 1961PEb (70222)1290  
\*\*\*\*\*  
C10H9N08 H2L CAS 83785-11-9 (685)  
2-Nitro-1,4-di(carboxymethoxy)benzene; O2N.C6H3.(OCH2COOH)2  
-----

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

Mn++ gl oth/un 30°C ? U K1=3.47 1985TZa (70237)1291  
\*\*\*\*\*  
C10H9N3 L Dipyritydylamine CAS 1202-34-2 (2428)  
(2,2'-Dipyritydyl)amine; C5H4N.NH.C5H4N  
-----

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

Mn++ gl KNO3 25°C 0.10M U TIH K1=1.78 B2=5.94 1976BBE (70339)1292  
-----

Mn++ EMF KNO3 20°C 0.10M U K1=2.0 1971ANa (70340)1293  
\*\*\*\*\*  
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  
-----

Mn++ gl alc/w 25°C 50% U B2=7.6 1967NPb (70374)1294  
Medium: 50% MeOH, 0.1 M NaClO4  
\*\*\*\*\*  
C10H9N3O5 L CAS 59224-23-6 (8472)  
3-(2-Oxo-3-indolinylydene)dithiocarbazic acid methyl ester;  
-----

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

Mn++ gl alc/w 30°C 60% M K1=3.60 1996HTb (70377)1295  
Medium: 60% v/v EtOH/H2O, 0.04 M KCl.  
\*\*\*\*\*  
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  
-----

Mn++ gl alc/w 20°C 50% U T K1=2.50 B2=4.80 1981SSc (70391)1296  
At 30 C: K1=2.35, B2=4.75  
\*\*\*\*\*  
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  
-----

Mn++ gl diox/w 20°C 75% M T K1=9.76 B2=16.65 1980Gmd (70436)1297  
\*\*\*\*\*

C10H10NO3Br HL CAS 61563-99-3 (1991)  
4-Bromo-N-hydroxyacetoacetanilide; CH3.CO.CH2.CO.N(OH).C6H4.Br

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl none 20°C 0.0 U K1=5.57 B2=8.79 1979KSb (70505)1298  
\*\*\*\*\*

C10H10NO3Cl HL CAS 75813-79-5 (1962)  
4-Chloro-N-hydroxyacetoacetanilide; CH3.CO.CH2.CO.N(OH).C6H4.Cl

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl none 20°C 0.0 U K1=4.96 B2=9.44 1979KSb (70510)1299  
\*\*\*\*\*

C10H10N2O HL CAS 70125-17-6 (3906)  
2-Aminomethyl-8-hydroxyquinoline;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl diox/w 25°C 50% U K1=8.32 B2=15.84 1967SFa (70534)1300  
\*\*\*\*\*

C10H10N2O3S H2L CAS 76045-30-2 (7218)  
Desferriferrithiocin,  
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  
-----  
Mn++ gl KNO3 25°C 0.10M C K1=7.28 B2=13.71 1990ARa (70563)1301  
\*\*\*\*\*

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  
-----  
Mn++ gl alc/w 25°C 50% U M K1=3.51 B2=6.00 1986SKe (70615)1302  
K(MnA+L)=1.99

Medium: 50% v/v EtOH/H2O, 0.1 M NaCl. H3A=nitrolotrientanoic acid

-----  
Mn++ gl mixed 25°C 65% U T K1=3.51 B2=6.00 1982KNc (70616)1303  
Medium: 65% DMSO/H2O, 0.1 KNO3  
\*\*\*\*\*

C10H10O2 HL Benzoylacetone CAS 93-91-4 (197)  
1-Phenylbutane-1,3-dione; C6H5.CO.CH2.CO.CH3

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ dis NaCl04 25°C 1.0M C M 1977SMe (70749)1304  
K(MnL2(org))+A(org))=3.81  
K(MnL2(org))+2A(org))=5.40

Method: distribution from 1.0 M NaCl04 into CCl4/HL/tri-octylphosphine

oxide (A).  $K(\text{Mn}+2\text{HL}(\text{org})=\text{MnL}_2(\text{org})+2\text{H})=-8.4$ .

-----  
Mn++ gl diox/w 25°C 50% U K1=4.95 B2=9.35 1974DHa (70750)1305  
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Mn++ gl diox/w 30°C 75% U K1=8.66 B2=15.78 1955H0a (70751)1306  
\*\*\*\*\*

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  
-----

Mn++ gl diox/w 30°C 75% U K1=7.66 B2=14.27 1955H0a (70800)1307  
\*\*\*\*\*

C10H1004 H2L CAS 616-75-1 (4700)  
Benzylmalonic acid; HOOC.CH(CH2.C6H5).COOH  
-----

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

Mn++ gl none 25°C 0.0 U K1=2.98 1970NPb (70822)1308  
\*\*\*\*\*

C10H1006 H2L CAS 5411-14-3 (2394)  
1,2-Phenylenedioxodiethanoic acid; C6H4(O.CH2.COOH)2  
-----

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

Mn++ gl NaClO4 25°C 0.10M U K1=2.8 1968SMb (70855)1309  
\*\*\*\*\*

C10H11N02 HL (4730)  
N-Phenyl-(trans-2-butenyl)hydroxamic acid; CH3.CH:CH.CO.N(C6H5).OH  
-----

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

Mn++ gl diox/w 35°C 50% U K1=6.41 B2=11.00 1970BTc (70922)1310  
\*\*\*\*\*

C10H11N02S HL CAS 42607-21-6 (8331)  
2-Phenylthiazolidine-4-carboxylic acid;  
-----

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

Mn++ gl KNO3 30°C 0.10M U TIH K1=3.25 1983Rkb (70927)1311  
At I=0.0, K1=3.42. Data for 25-50 C.  $\text{DH}(K1)=-19.0 \text{ kJ mol}^{-1}$ ,  
 $\text{DS}(K1)=2.6 \text{ J K}^{-1} \text{ mol}^{-1}$ .  
\*\*\*\*\*

C10H11N03 HL (1960)  
N-Hydroxyacetacetanilide; CH3.CO.CH2.CO.N(OH).C6H5  
-----

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

Mn++ gl diox/w 20°C 82% U K1=6.19 B2=9.81 1979KSb (70941)1312  
\*\*\*\*\*

C10H11N04 H2L CAS 1137-73-1 (2567)  
N-Phenyliminodiethanoic acid; C6H5.N(CH2.COOH)2

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ cal KNO3 25°C 0.1M C H K1=1.65 1991ANa (71004)1313  
DH(K1)=24.2 kJ mol-1  
-----

Mn++ cal KNO3 25°C 0.10M U K1=1.65 1991Aa (71005)1314  
DH(K1)=24.27 kJ mol-1, DS(K1)=112.97 J K-1 mol-1  
-----

Mn++ gl KCl 20°C 0.10M U K1=1.58 1955SAa (71006)1315  
\*\*\*\*\*

C10H11N05 H3L CAS 100844-86-8 (2108)  
N-(2-Hydroxyphenyl)iminodiethanoic acid; HO.C6H4.N(CH2.COOH)2

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ EMF oth/un ? ? U K1=7.82 1968TRc (71043)1316  
K(Mn+HL)=2.85  
\*\*\*\*\*

C10H11O2Cl HL CAS 77103-89-0 (6319)  
5-Chloro-2-hydroxybutyrophenone; (HO)(Cl)C6H3.CO.CH2.CH2.CH3

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl diox/w 40°C 75% U K1=6.90 1974PSc (71104)1317  
Medium: 75% dioxan/H2O, 0.1 M NaClO4  
\*\*\*\*\*

C10H11O4P H2L CAS 58942-13-5 (7014)  
Phenylphosphino-P,P-diethanoic acid, Diphenylphosphinediethanoic acid;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl diox/w 25°C 50% U K1=2.69 1979POa (71140)1318  
Medium 50% v/v dioxan/H2O, 0.1 M NaClO4  
\*\*\*\*\*

C10H12N2O HL CAS 155055-22-4 (8339)  
3-(Phenylimino)-2-butanone oxime;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl alc/w 30°C 50% U T K1=6.95 B2=12.91 1993HMd (71164)1319  
Medium: 50% v/v MeOH/H2O, 0.1 M NaClO4. Data for 40 and 50 C.  
For 2-OH deriv., K1=5.78, for 3-OH, K1=5.86, for 4-OH, K1=6.12.  
\*\*\*\*\*

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  
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Mn++ gl alc/w 30°C 40% C T I M K1=4.81 B2= 8.82 1997RRd (71175)1320  
K(CuL+gly)=7.27  
K(CuL+beta-ala)=7.47  
K(CuL+pro)=7.93  
K(CuL+en)=9.95

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. K(Cu(phen)+L)=5.87, K(Cu(sal)+L)=3.71.  
-----

Mn++ gl alc/w 30°C 40% C T I K1=2.95 B2= 5.30 1997RRd (71176)1321  
Medium: 40% v/v EtOH/H2O, 0.10 M KNO3. Also data for 50-70% v/v EtOH/H2O, 0.1 M KNO3, and for 20-50 C.  
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\*\*\*\*\*  
C10H12N2O4 H2L CAS 16598-05-3 (967)  
2-Pyridylmethyliminodiethanoic acid; C5H4N.CH2.N(CH2.COOH)2  
-----

| Metal                                   | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values         | Reference       | ExptNo |
|---|-----|--------|------|-------|-----|-------|----|------------------|-----------------|--------|
| Mn++                                    | gl  | NaNO3  | 20°C | 0.10M | C   | H     |    | K1=7.10 B2=10.60 | 1981ANb (71266) | 1322   |
| DH1=-1.7 kJ mol-1 DS1=130.1 J K-1 mol-1 |     |        |      |       |     |       |    |                  |                 |        |

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Mn++ gl KNO3 20°C 0.10M U K1=6.97 B2=10.60 1963IFc (71267)1323  
\*\*\*\*\*  
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 |
|---|-----|--------|------|-------|-----|-------|----|----------|-----------------|--------|
| Mn++  | gl  | NaCl   | 25°C | 0.50M | C   |       |    | K1=1.22  | 1984RFb (71291) | 1324   |
| *****   |     |        |      |       |     |       |    |          |                 |        |
| C10H12N2O4 HL (6004)  |     |        |      |       |     |       |    |          |                 |        |
| N-Benzyloxycarbonylglycyl hydroxamic acid; C6H5.CH2.O.CO.NH.CH2.CO.NHOH |     |        |      |       |     |       |    |          |                 |        |

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| Metal                             | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values      | Reference       | ExptNo |
|-----------------------------------|-----|--------|------|-------|-----|-------|----|---------------|-----------------|--------|
| Mn++                              | gl  | KNO3   | 25°C | 0.10M | U   |       |    | K1=3.7 B2=5.9 | 1987CSb (71303) | 1325   |
| *****                             |     |        |      |       |     |       |    |               |                 |        |
| C10H12N4O L CAS 16347-32-3 (2483) |     |        |      |       |     |       |    |               |                 |        |
| 9-(Tetrahydro-2-pyranlyl)purine;  |     |        |      |       |     |       |    |               |                 |        |

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| Metal                                    | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values | Reference       | ExptNo |
|--|-----|--------|------|-------|-----|-------|----|----------|-----------------|--------|
| Mn++                                     | gl  | NaClO4 | 25°C | 1.00M | U   |       |    | K1=<0.2  | 1983ALa (71323) | 1326   |
| *****                                    |     |        |      |       |     |       |    |          |                 |        |
| C10H12N4O5 HL Inosine CAS 58-63-9 (2344) |     |        |      |       |     |       |    |          |                 |        |
| Hypoxanthine-9-beta-D-ribofuranoside;    |     |        |      |       |     |       |    |          |                 |        |

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| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values | Reference       | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|----------|-----------------|--------|
| Mn++  | gl  | KNO3   | 25°C | 0.10M | C   | T H   |    | K1=2.68  | 1983RRd (71390) | 1327   |

Data for 25-45 C.  $DH(K1)=-3.10$  kJ mol<sup>-1</sup>,  $DS(K1)=41.0$  J K<sup>-1</sup> mol<sup>-1</sup>.

\*\*\*\*\*

C10H12N4O6 H2L Xanthosine CAS 5968-90-1 (1176)  
 3,9-Dihydro-9-ribofuranosyl-1H-purine-2,6-dione;

| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values  | Reference | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|---|-----------|--------|
| Mn++  | gl  | KNO3   | 25°C | 0.10M | U   | M     |    | 1990RRa (71490)1328<br>K(Mn(His)+H+L)=2.86<br>B(MnHL(histamine))=8.96<br>B(MnH2L(catechol))=9.13<br>K(Mn(Gly)+H+L)=2.86 |           |        |

|      |    |       |      |       |   |  |  |  |  |  |
|------|----|-------|------|-------|---|--|--|--|--|--|
| Mn++ | gl | NaNO3 | 25°C | 0.10M | C |  |  | 1989KTa (71491)1329<br>K(Mn+H-1L)=0.84 |  |  |
|------|----|-------|------|-------|---|--|--|--|--|--|

|      |    |      |      |       |   |   |  |  |  |  |
|------|----|------|------|-------|---|---|--|--|--|--|
| Mn++ | gl | KNO3 | 35°C | 0.10M | U | M |  | 1983RRb (71492)1330<br>K(Mn+HL)=2.57<br>K(Mn+2HL)=5.76<br>K(MnGly+H2L)=2.8 |  |  |
|------|----|------|------|-------|---|---|--|--|--|--|

|      |    |      |      |       |   |   |   |                                       |  |  |
|------|----|------|------|-------|---|---|---|---------------------------------------|--|--|
| Mn++ | gl | KNO3 | 25°C | 0.10M | U | T | H | 1983RRc (71493)1331<br>K(Mn+2HL)=5.31 |  |  |
|------|----|------|------|-------|---|---|---|---------------------------------------|--|--|

DH=-11.7kJ mol<sup>-1</sup>. At 5 C: K=6.36; 35 C: 5.76; 45 C: 5.61

|      |    |      |      |       |   |   |  |  |  |  |
|------|----|------|------|-------|---|---|--|--|--|--|
| Mn++ | gl | KNO3 | 45°C | 0.10M | U | M |  | 1979RRb (71494)1332<br>K(Mn+HL+TetraMeen)=5.00<br>K(Mn+HL+Sulphosalicylate)=2.75 |  |  |
|------|----|------|------|-------|---|---|--|--|--|--|

|      |    |      |      |       |   |   |  |  |  |  |
|------|----|------|------|-------|---|---|--|--|--|--|
| Mn++ | gl | KNO3 | 45°C | 0.10M | U | M |  | 1979RRb (71495)1333<br>K(Mn+HL+bpy)=6.82 |  |  |
|------|----|------|------|-------|---|---|--|--|--|--|

|      |    |      |      |       |   |   |  |                                      |  |  |
|------|----|------|------|-------|---|---|--|--------------------------------------|--|--|
| Mn++ | gl | KNO3 | 25°C | 0.10M | U | T |  | 1978RRa (71496)1334<br>K(Mn+HL)=2.48 |  |  |
|------|----|------|------|-------|---|---|--|--------------------------------------|--|--|

\*\*\*\*\*

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 |
|-------|-----|--------|------|-------|-----|-------|----|----------|---------------------|--------|
| Mn++  | sp  | NaClO4 | 25°C | 0.10M | U   |       |    | K1=2.5   | 1965SIa (71510)1335 |        |

\*\*\*\*\*

C10H12N5O6P HL Cyclic-AMP CAS 37063-35-7 (2147)  
 Adenosine-3',5'-cyclophosphoric acid;

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values                 | Reference           | ExptNo |
|-------|-----|--------|------|------|-----|-------|----|--------------------------|---------------------|--------|
| Mn++  | nmr | oth/un | 25°C | ?    | U   | M     |    | K1eff=1.15<br>K2eff=0.57 | 1977FHa (71513)1336 |        |

Beff(Mn(ATP)L)=4.62

At pD 7.6 in D20

\*\*\*\*\*

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  
-----

Mn++ gl diox/w 30°C 75% U K1=7.34 1970KDa (71528)1337

Medium: 75% dioxan, 0.1 M NaClO4

\*\*\*\*\*

C10H12O2 HL CAS 1901-78-6 (4701)

2-Hydroxybutyrophenone; HO.C6H4.CO.CH2.CH2.CH3

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

Mn++ gl KNO3 40°C 0.10M U K1=5.06 1973SPc (71533)1338

\*\*\*\*\*

C10H12O2 HL CAS 1946-74-3 (202)

3-Isopropyltropolone;

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

Mn++ gl diox/w 30°C 50% U M K1=11.16 B2=17.54 1980Ksa (71592)1339

K(Mn(bpy)+L)=6.16

\*\*\*\*\*

C10H12O2 HL CAS 499-44-5 (3303)

4-Isopropyltropolone;

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

Mn++ dis non-aq 25°C 100% C M 1997SNa (71632)1340

K(2Mn+4L=Mn2L4(org))=26.8

Method: solvent extraction from 0.10 M NaNO3 into CHCl3.

K is for: 2Mn(aq)+4L(aq)=Mn2L4(org). Data for ternary complexes with TOPO.

\*\*\*\*\*

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  
-----

Mn++ gl diox/w 30°C 75% U K1=6.77 B2=11.14 1970KDa (71665)1341

Medium: 75% dioxan, 0.1 M NaClO4

\*\*\*\*\*

C10H13NO2 HL (4743)

N-Phenyl-n-butyrohydroxamic acid; CH3.CH2.CH2.CO.N(C6H5).OH

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

Mn++ gl diox/w 25°C 50% U K1=6.23 B2=10.76 1972STf (71719)1342

\*\*\*\*\*  
 C10H13N03S HL (3340)  
 N-(Mercaptoacetyl)-2,5-dimethoxyaniline; HS.CH2.CO.NH.C6H3(OCH3)2

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

Mn++ gl diox/w 30°C 75% U K1=6.4 1961MAe (71752)1343

\*\*\*\*\*  
 C10H13N2011P 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  
 -----

Mn++ gl NaNO3 25°C 0.10M M K1=2.49 1991BSc (71793)1344  
 K(MnH-1L+H)=8.91

\*\*\*\*\*  
 C10H13N408P H3L IMP CAS 131-99-7 (843)  
 Inosine-5'-monophosphoric acid;

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

Mn++ gl KNO3 25°C 0.10M C M K1=2.35 2001AAa (71858)1345  
 Also data for ternary complexes with MOPSO, TAPSO and ACES.

-----  
 Mn++ gl NaNO3 25°C 0.10M M 1994SMb (71859)1346  
 K(Mn+HL)=2.31  
 \*K(MnHL)=-8.21

\*\*\*\*\*  
 C10H13N409P H3L (3930)  
 Inosine-5'-monophosphoric acid N(1)-oxide;

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

Mn++ sp NaClO4 25°C 0.10M U 1965SIa (71885)1347  
 K(Mn+HL)=2.85

\*\*\*\*\*  
 C10H13N504 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  
 -----

Mn++ sp oth/un 20°C var U K1=-0.82 1964SBb (71946)1348  
 Medium: 1-3 M Mn(ClO4)2

\*\*\*\*\*  
 C10H13N505 HL Guanosine CAS 118-00-3 (1402)  
 2-Aminopurin-6-one-9-ribose;

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

Mn++ gl KNO3 25°C 0.10M C T HM 1988KRa (72013)1349

K(Mn+HL)=2.65  
K(MnHL+HL)=3.49

Also data at 15, 35 and 45 C. DH(MnHL)=-7; DS=27. DH(MnH2L2)=-9.3; DS=35.  
Also ternary complexes with bpy, phen and 5-sulfosalicylic acid

\*\*\*\*\*

C10H13N5O5 L CAS 116-92-9 (2174)

Adenosine-N'-oxide;

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

Mn++ gl none 25°C 0.0 U K1=5.37 1960PEb (72033)1350

\*\*\*\*\*

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  
-----

Mn++ dis non-aq 25°C 100% U 1996KSa (72129)1351

K(Mn+2HL=MnL2(org)+2H)=-6.96

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  
-----

Mn++ gl NaNO3 25°C 0.10M M K1=2.03 1997SSg (72153)1352

K(Mn+HL)=1.25

K(MnL+H)=4.05

-----  
Mn++ gl KNO3 25°C 0.10M U K1=2.03 1995SSe (72154)1353

\*\*\*\*\*

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  
-----

Mn++ gl R4N.X 25°C 0.10M C TIH R K1=2.41 1991SMa (72187)1354

IUPAC evaluation. DH(K1)=9.2 kJ mol<sup>-1</sup> (tentative)

-----  
Mn++ gl NaNO3 25°C 0.10M U K1=2.14 1989MSf (72188)1355

-----  
Mn++ gl KNO3 40°C 0.10M U T H K1=2.35 1967TMF (72189)1356

K1=2.43(0.4 C), 2.41(12 C), 2.38(25 C). At 25 C: DH(K1)=-4.2 kJ mol<sup>-1</sup>, DS=31 J

\*\*\*\*\*

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  
-----

Mn++ gl R4N.X 25°C 0.10M C TIH R K1=2.32 1991SMa (72240)1357  
IUPAC evaluation: DH(K1)=9.6 kJ mol<sup>-1</sup> (tentative)

Mn++ gl NaNO3 25°C 0.10M U K1=2.06 1989MSf (72241)1358

Mn++ gl KNO3 40°C 0.10M U T H K1=2.25 1967TMF (72242)1359  
K1=2.34(0.4 C), 2.31(12 C), 2.28(25 C). At 25 C: DH(K1)=-3.8 kJ mol<sup>-1</sup>, DS=32 J

Mn++ ix NaClO4 25°C 0.10M U K1=1.86 1966DTa (72243)1360

Mn++ gl R4N.X 25°C 0.10M U K1=1.98 1966DTa (72244)1361  
Medium: Me4NBr

Mn++ gl KNO3 25°C 0.10M U K1=2.28 1962TMa (72245)1362  
\*\*\*\*\*  
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

Mn++ gl NaNO3 25°C 0.10M M K1=2.23 2003BSa (72460)1363  
K(MnL+H)=4.3  
K(Mn+HL)=0.3

Mn++ gl KNO3 25°C 0.10M C M K1=2.35 2001A0a (72461)1364  
K(MnL+A)=2.94  
B(MnLA)=5.29  
K(MnL+B)=3.34  
B(MnLB)=5.69

HA=POPSO, HB=HEPPSO.

Mn++ gl KNO3 25°C 0.10M C M K1=2.35 2000ADa (72462)1365  
K(MnL+A)=4.74  
B(MnLA)=7.09  
K(MnL+B)=3.92  
B(MnLB)=6.27

K(MnL+C)=3.45, B(MnLC)=5.80. HA=ACES, HB=MOPSO, HC=CHES.  
Also data for TAPSO and DIPSO.

Mn++ gl NaNO3 25°C 0.10M C M K1=2.40 2000KHa (72463)1366  
K(MnL+A)=2.48  
B(MnLA)=4.88

H2A=salicylhydroxamic acid.

Mn++ gl NaNO3 25°C 0.10M M K1=2.23 1996SSd (72464)1367

Mn++ gl R4N.X 25°C 0.10M C TIH R K1=2.46 1991SMa (72465)1368  
IUPAC evaluation. DH(K1)=9.2 kJ mol<sup>-1</sup> (tentative). 37 C, I=0.15 M: K1=2.38

Mn++ gl NaNO3 25°C 0.10M U K1=2.23 1989MSf (72466)1369

|                  |     |                    |      |       |       |       |    |                      |  |
|------------------|-----|--------------------|------|-------|-------|-------|----|----------------------|--|
| Mn <sup>++</sup> | gl  | NaNO <sub>3</sub>  | 25°C | 0.10M | C     |       |    | K1=2.23              | 1988SMb (72467)1370  |
| Mn <sup>++</sup> | gl  | KCl                | 25°C | 0.10M | U     | M     |    | K1=3.30              | 1984DMc (72468)1371  |
| Mn <sup>++</sup> | gl  | KCl                | 25°C | 0.10M | U     | M     |    |                      | 1983MDd (72469)1372  |
|                  |     |                    |      |       |       |       |    | B(MnL(Gly))=4.90     |  |
| Mn <sup>++</sup> | gl  | KCl                | 25°C | 0.10M | U     |       |    | K1=2.02              | 1980DMa (72470)1373  |
| Mn <sup>++</sup> | gl  | R4N.X              | 25°C | 0.20M | M     | T     | H  | K1=2.34              | 1977RSa (72471)1374  |
|                  |     |                    |      |       |       |       |    |                      | Medium: 0.20 M Me <sub>4</sub> NBr, pH 7.5. Data for 1-45 C. DH(K1)=4.2 kJ mol <sup>-1</sup> , DS(K1)=59 J K <sup>-1</sup> mol <sup>-1</sup> . |
| Mn <sup>++</sup> | gl  | KNO <sub>3</sub>   | 40°C | 0.10M | U     | T     | H  | K1=2.37              | 1967TMF (72472)1375  |
|                  |     |                    |      |       |       |       |    |                      | K1=2.46(0.4 C), 2.43(12 C), 2.40(25 C). At 25 C: DH(K1)=-4.2 kJ mol <sup>-1</sup> , DS=32 J  |
| Mn <sup>++</sup> | gl  | KNO <sub>3</sub>   | 25°C | 0.10M | U     |       |    | K1=2.35              | 1966DTa (72473)1376  |
| Mn <sup>++</sup> | gl  | NaClO <sub>4</sub> | 25°C | 0.10M | U     |       |    | K1=2.14              | 1964SBa (72474)1377  |
| Mn <sup>++</sup> | gl  | KNO <sub>3</sub>   | 25°C | 0.10M | U     |       |    | K1=2.40              | 1962TMa (72475)1378  |
| Mn <sup>++</sup> | ix  | oth/un             | 25°C | 0.10M | U     |       |    | K1=2.19              | 1961TDb (72476)1379  |
|                  |     |                    |      |       |       |       |    |                      | Veronal buffer.  |
| Mn <sup>++</sup> | ix  | NaCl               | 23°C | 0.10M | U     |       |    | K1=2.31              | 1958WAa (72477)1380  |
| Mn <sup>++</sup> | gl  | R4N.X              | 25°C | 0.20M | U     |       |    | K1=2.19              | 1956SAa (72478)1381  |
|                  |     |                    |      |       |       |       |    |                      | Medium: 0.2 M n-Pr <sub>4</sub> NCl  |
|                  |     |                    |      |       |       |       |    |                      | *****  |
|                  |     | 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   |
| Mn <sup>++</sup> | gl  | NaClO <sub>4</sub> | 25°C | 0.10M | U     |       |    |                      | 1964SBa (72523)1382  |
|                  |     |                    |      |       |       |       |    | K(Mn+HL)=2.14        |  |
|                  |     |                    |      |       |       |       |    | K(MnL+H)=8.93        |  |
|                  |     |                    |      |       |       |       |    |                      | By spectrophotometry: K1=5.71  |
|                  |     |                    |      |       |       |       |    |                      | *****  |
|                  |     | 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   |
| Mn <sup>++</sup> | gl  | KNO <sub>3</sub>   | 25°C | 0.10M | C     | M     |    | K1=2.37              | 2001AAa (72590)1383  |
|                  |     |                    |      |       |       |       |    |                      | Also data for ternary complexes with MOPSO, TAPSO and ACES.  |
| Mn <sup>++</sup> | gl  | NaNO <sub>3</sub>  | 25°C | 0.10M | M     |       |    |                      | 1994SMb (72591)1384  |

K(Mn+HL)=2.39  
\*K(MnHL)=-8.58

\*\*\*\*\*

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  
-----  
Mn++ gl NaClO4 25°C 0.10M U K1=2.32 1973PPc (72628)1385  
B(MnHL)=6.41  
B(MnH2L)=9.48  
-----

Mn++ gl oth/un 25°C 0.10M U K1=1 1972PPb (72629)1386

\*\*\*\*\*

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  
-----  
Mn++ gl R4N.X 25°C 0.10M C T K1=2.37 1991SMa (72701)1387  
K(Mn+HL)=2.37  
-----

IUPAC evaluation

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Mn++ gl NaNO3 25°C 0.10M C K(Mn+HL)=2.11 1988MSa (72702)1388  
-----

\*\*\*\*\*

C10H15N4O14P3 H5L ITP CAS 35908-31-7 (2148)

Inosine 5'-triphosphoric acid;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl NaNO3 25°C 0.10M C K(Mn+HL)=5.21 2001SBc (72764)1389  
K(MnHL+H)=4.35  
K(Mn+H2L)=3.1  
-----

Mn++ gl R4N.X 25°C 0.10M C T K(Mn+HL)=5.07 1991SMa (72765)1390  
-----

IUPAC evaluation

-----  
Mn++ nmr NaClO4 25°C 0.10M U K(MnL+H)=8.93 1975SIb (72766)1391  
K(Mn(OH)L+H)=11.24  
-----

By spectrophotometry, K(MnL+H)=8.8.

-----  
Mn++ gl KNO3 25°C 0.10M U T K(Mn+HL)=4.45 1973TRb (72767)1392  
K(35 C)=4.62, K(45 C)=4.35  
-----

Mn++ ix NaCl 23°C 0.10M U 1958WAa (72768)1393



K(Mn+HL)=4.57

\*\*\*\*\*

C10H15N5O4S HL CAS 252909-87-8 (8773)  
N-2-(4-Amino-1,6-dihydro-1-methyl-5-nitroso-6-oxopyrimidinyl)methionine;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl KCl 25°C 0.10M C 2003LAa (72827)1394

B(MnHL)=5.28  
B(MnHL2)=8.77

\*\*\*\*\*

C10H15N5O10P2 H3L ADP CAS 20398-34-9 (2181)  
Adenosine-5'-diphosphoric acid;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl NaNO3 25°C 0.10M M K1=4.22 2003BSa (72991)1395

K(MnL+H)=4.56  
K(Mn+HL)=2.38

-----  
Mn++ gl KNO3 25°C 0.10M C M K1=4.16 2001A0a (72992)1396  
K(MnL+A)=2.08  
B(MnLA)=6.24  
K(MnL+B)=1.97  
B(MnLB)=6.13

K(MnL+C)=3.23, B(MnLC)=7.39, K(MnL+D)=3.87, B(MnLD)=8.03.  
HA=PIPES, HB=MOPPS, HC=POPSO, HD=HEPPSO.

-----  
Mn++ gl KNO3 25°C 0.10M C M K1=4.16 2000ADa (72993)1397  
K(MnL+A)=7.40  
B(MnLA)=11.56  
K(MnL+B)=3.75  
B(MnLB)=7.91

HA=ACES, HB=MOPSO. Also data for CHES, TAPSO and DIPSO.

-----  
Mn++ gl NaNO3 25°C 0.10M C M K1=4.00 2000KHa (72994)1398  
K(MnL+A)=4.10  
B(MnLA)=8.10

H2A=salicylhydroxamic acid.

-----  
Mn++ gl R4N.X 25°C 0.10M C TIH R K1=4.29 1991SMa (72995)1399  
K(Mn+HL)=1.89  
IUPAC evaluation. 37 C, 0.15 NaCl: K1=4.08. DH(K1)=13.4 kJ mol<sup>-1</sup>

-----  
Mn++ gl KNO3 22°C 0.25M U K1=4.55 1984GKa (72996)1400

-----  
Mn++ gl KCl 25°C 0.10M U M 1983MDd (72997)1401  
B(MnL(Gly))=6.43

-----  
Mn++ gl KCl 25°C 0.10M U K1=3.80 1980DMa (72998)1402

B(MnHL)=8.88

Mn++ oth oth/un RT dil C K1=3.28 1980KRb (72999)1403  
Method: effect of [Mn++] on ATP exchange activity. Medium: not stated.

Mn++ nmr non-aq 25°C 100% U H K2=2.64 1978ZLa (73000)1404  
Medium: toluene. DH(K2)=-6.3 kJ mol<sup>-1</sup>

Mn++ gl R4N.X 25°C 0.20M M T H K1=4.31 1977RSa (73001)1405  
Medium: 0.20 M Me4NBr, pH 7.5. Data for 1-45 C. DH(K1)=15 kJ mol<sup>-1</sup>,  
DS(K1)=132 J K<sup>-1</sup> mol<sup>-1</sup>.

Mn++ gl KNO3 40°C 0.10M U T H K1=4.06 1967TMF (73002)1406  
K(Mn+HL)=1.81  
K1=4.47(0.4 C),4.24(12 C),4.16(25 C); K=2.00(0.4 C),1.95(12 C),1.89(25 C).  
At 25 C:DH(K1)=-10.0 kJ mol<sup>-1</sup>,DS=46 J K<sup>-1</sup> mol<sup>-1</sup>, DH(Mn+HL)=-7.9,DS=8

Mn++ sp oth/un 30°C 0.10M U K1=4.40 19640Pa (73003)1407  
Medium: 0.1 M buffer N-ethylmorpholine+HCl

Mn++ gl KNO3 25°C 0.10M U K1=4.16 1962TMa (73004)1408  
K(Mn+HL)=1.89

Mn++ ix NaCl 23°C 0.10M U K1=3.94 1958WAa (73005)1409

Mn++ gl R4N.X 25°C 0.20M U K1=3.54 1956SAa (73006)1410  
K(Mn+HL)=1.50

Medium: 0.2 M n-Pr4NCl

\*\*\*\*\*

C10H16N2O3S HL Vitamin H CAS 58-85-5 (410)  
D-Biotin (Coenzyme R);

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

Mn++ gl diox/w 25°C 50% U K1=2.07 1969SMc (73050)1411  
Medium: 50% dioxan, 0.1 M NaClO4

\*\*\*\*\*

C10H16N2O4S HL CAS 3376-83-8 (4793)  
D-Biotin-DL-sulfoxide;

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

Mn++ gl diox/w 25°C 50% U K1=1.98 1969SMc (73055)1412  
Medium: 50% dioxan, 0.1 M NaClO4. Value for d-isomer. For l-isomer, K1=1.97

\*\*\*\*\*

C10H16N2O5S HL (4794)  
D-Biotin sulfone;

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

Mn++ gl diox/w 25°C 50% U K1=2.06 1969SMc (73062)1413  
Medium: 50% dioxan, 0.1 M NaClO4

\*\*\*\*\*  
C10H16N2O6 H2L CAS 23873-27-0 (9120)  
N,N'-Bis-(3-carboxy-1-oxopropanyl)-1,2-diaminoethane;

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

Mn++ gl NaClO4 25°C 0.10M M K1=5.10 B2= 8.92 2003GSa (73069)1414

\*\*\*\*\*  
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  
-----

Mn++ gl NaCl 25°C 0.10M C K1=8.97 20020Ha (73156)1415  
K(MnL+H)=4.7  
K(MnHL+HL)=4.0

Ligand is [S,S] isomer.

-----  
Mn++ gl KNO3 25°C 0.10M U K1=8.63 1993VZa (73157)1416  
K[Mn+HL]=3.47

-----  
Mn++ vlt KNO3 25°C 0.10M U K1=8.45 1974SGa (73158)1417

-----  
Mn++ gl KNO3 30°C 0.10M U K1=5.11 1971TSc (73159)1418

-----  
Mn++ gl KNO3 20°C 0.10M U K1=8.95 1968MJa (73160)1419  
By paper electrophoresis: K1=11.7

\*\*\*\*\*  
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  
-----

Mn++ cal oth/un 25°C 0.5M U M 2003PKa (73946)1420  
K(MnL+NH3)=0.30

Medium: NH4NO3. DH=-8.14 kJ mol<sup>-1</sup>

-----  
Mn++ gl NaCl 37°C 0.15M C K1=12.42 1984DMb (73947)1421

-----  
Mn++ vlt KNO3 20°C 0.10M U K1=14.20 1978NLb (73948)1422

-----  
Mn++ dis none 25°C 0.0 U K1=13.8 1977MFb (73949)1423  
Measured by liquid chromatography on a chelating resin

-----  
Mn++ oth NaClO4 25°C 1.0M U 1973HHb (73950)1424  
K(CoLCl+Mn)=0.83

-----  
Mn++ gl KNO3 25°C 0.10M U K1=14.05 1969BNa (73951)1425

K(MnL+H)=3.07

K(Mn+HL)=5.47

Mn++ oth KNO3 20°C 0.10M U K1=14.5 1965JMb (73952)1426  
Method: electrophoresis

Mn++ vlt KNO3 25°C 0.20M U K1=13.64 19650Ga (73953)1427

Mn++ gl KNO3 20°C 0.10M U K1=14.04 1964ANa (73954)1428  
K(Mn+HL)=6.9

Mn++ cal KNO3 20°C 0.10M U H 1963ANf (73955)1429  
DH(K1)=-19.1 kJ mol<sup>-1</sup>, DS=201 J K<sup>-1</sup> mol<sup>-1</sup>

Mn++ dis NaClO4 20°C 0.10M U K1=12.88 1963STc (73956)1430

Mn++ EMF NaNO3 22°C 0.10M U T K1=13.98 1957SAb (73957)1431

Mn++ EMF oth/un 25°C 0.0 U H 1956MAa (73958)1432  
Method: H electrode. DS(K1)=172 J K<sup>-1</sup> mol<sup>-1</sup>

Mn++ EMF NaClO4 25°C 0.10M U K1=13.8 1956SRb (73959)1433

Mn++ cal oth/un 25°C 0.05M U H 1954CHa (73960)1434  
Medium: Mn(NO3)2. DH(K1)=-21.7 kJ mol<sup>-1</sup>, DS=171 J K<sup>-1</sup> mol<sup>-1</sup>

Mn++ vlt KNO3 20°C 0.10M U K1=14.04 1954SGa (73961)1435  
K(Mn+HL)=6.9  
K(MnL+H)=0.47

Mn++ EMF KCl 20°C 0.10M U T K1=13.58 1951SFa (73962)1436  
Method: H electrode

\*\*\*\*\*  
C10H16N2O11P2 H4L CAS 491-97-4 (7674)  
Thymidine-5'-diphosphoric acid;

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

Mn++ gl NaNO3 25°C 0.10M M K(Mn+HL)=4.18 1999SSa (74389)1437

\*\*\*\*\*  
C10H16N5O13P3 H4L ATP CAS 56-65-5 (403)  
Adenosine-5'-triphosphoric acid;

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

Mn++ gl KNO3 25°C 0.10M C M K1=4.70 2001A0a (74762)1438  
K(MnL+A)=2.23  
B(MnLA)=6.93  
K(MnL+B)=3.05

B(MnLB)=7.75

K(MnL+C)=3.40, B(MnLC)=8.10.  
HA=PIPES, HB=POPSO and HC=HEPPSO.

---

Mn++ gl KNO3 25°C 0.10M C M K1=4.70 2000ADa (74763)1439  
K(MnL+A)=3.47  
B(MnLA)=8.17  
K(MnL+B)=3.75  
B(MnLB)=8.45

K(MnL+C)=3.39, B(MnLC)=8.09. HA=ACES, HB=MOPSO, HC=CHES.  
Also data for TAPSO and DIPSO.

---

Mn++ gl NaNO3 25°C 0.10M C M K1=4.80 2000KHa (74764)1440  
K(MnL+A)=4.89  
B(MnLA)=9.69

H2A=salicylhydroxamic acid.

---

Mn++ gl R4N.X 25°C 0.10M C TIH R K1=5.11 B2=7.76 1991SMa (74765)1441  
IUPAC evaluation. DH(K1)=18.0 kJ mol<sup>-1</sup>. 27 C, I=0.15 M: K1=4.79

---

Mn++ gl NaNO3 25°C 0.10M C K1=5.01 1987STb (74766)1442  
K(Mn+HL)=2.74  
K(MnL+H)=4.20

---

Mn++ gl NaClO4 25°C 0.10M U M K1=5.32 1986CCc (74767)1443  
B(MnHL)=9.83  
B(MnH2L)=13.49  
B(MnH2L2)=18.81  
B(Mn2L)=7.43

Ternary complexes with 2,2'-dipyridylamine

---

Mn++ ix oth/un 25°C 0.06M C K1eff=4.12 1985JEa (74768)1444

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=4.15

---

Mn++ nmr mixed 25°C 40% U HM K1=4.72 B2=5.62 1985LEc (74769)1445  
K3=2.04  
K(MnL+Gly)=-0.51

DH(K1)=-30.96, DH(K2)=12.55, DH(K3)=-12.55, DH(MnL+A)=2.51 kJ mol<sup>-1</sup>

Medium: water:glycerol 3:2 (v/v)

---

Mn++ gl KCl 25°C 0.10M U M K1=4.85 1984DMc (74770)1446

---

Mn++ gl KNO3 22°C 0.25M U K1=4.55 1984GKa (74771)1447

---

Mn++ gl NaCl 25°C 0.15M U M K1=4.72 1983JKa (74772)1448  
B(MnHL)=9.19  
B(MnH2L)=12.73  
B(MnL(NTA))=9.12

B(MnHL(NTA))=15.57

---

Mn++ gl KCl 25°C 0.10M U M 1983MDd (74773)1449  
B(MnL(Gly))=7.67

---

Mn++ gl KCl 25°C 0.10M U K1=4.85 1980DMa (74774)1450  
B(MnHL)=9.65

---

Mn++ oth oth/un RT dil C K1=4.23 1980KRb (74775)1451  
Method: effect of [Mn++] on ATP exchange activity. Medium: not stated.

---

Mn++ gl KNO3 35°C 0.10M C M K1=5.25 1979MTb (74776)1452  
K(Mn+HL)=3.11

---

Mn++ gl R4N.X 25°C 0.20M U H K1=5.7 1978GFb (74777)1453  
Medium: Me4NBr. DH(K1)=8.7 kJ mol<sup>-1</sup>

---

Mn++ gl NaClO4 25°C 0.10M C K1=4.91 1978MSd (74778)1454  
B(Mn(phen)L)=9.04  
K(Mn(phen)+L)=5.03  
K(MnL+phen)=4.13

---

Mn++ gl NaCl 25°C 0.12M U M K1=4.56 1978RMc (74779)1455  
K(MnL+DOPA)=4.14

H3DOPA=3,4-dihydroxyphenylalanine

---

Mn++ gl R4N.X 25°C 0.20M M T H K1=5.71 1977RSa (74780)1456  
Medium: 0.20 M Me4NBr, pH 7.5. Data for 1-43 C. DH(K1)=38 kJ mol<sup>-1</sup>,  
DS(K1)=236 J K<sup>-1</sup> mol<sup>-1</sup>.

---

Mn++ gl R4N.X 20°C 0.10M M K1=5.12 1976PSe (74781)1457  
K(Mn+HL)=3.14

Medium: 0.1 M Me4NClO4

---

Mn++ gl NaClO4 25°C 0.10M U M 1976SNa (74782)1458  
K(MnL+Ala)=1.36  
K(Mn(Ala)+L)=3.47

---

Mn++ nmr NaClO4 25°C 0.10M U 1975SIb (74783)1459  
K(Mn(OH)L+H)=10.7

---

Mn++ ix KCl 25°C 0.10M U 1971YBa (74784)1460  
K1eff=4.51

pH=8.5

---

Mn++ gl R4N.X 30°C 0.10M U T K1=5.19 1966PSa (74785)1461  
K(Mn+HL)=2.62

Medium: Me4NBr

---

Mn++ gl KNO3 40°C 0.10M U T H K1=4.63 1966TMb (74786)1462

K(Mn+HL)=2.30

K1=4.97(0.4 C),4.82(12 C),4.78(25 C); K=2.55(0.4 C),2.48(12 C),2.39(25 C).

At 25 C:DH(K1)=12.5 kJ mol<sup>-1</sup>, DS=50 J K<sup>-1</sup> mol<sup>-1</sup>; DH(Mn+HL)=-9.6, DS=13

-----  
Mn++ sp oth/un 25°C 0.0 U H K1=5.70 1963GPb (74787)1463  
DH(K1)=20.1 kJ mol<sup>-1</sup>, DS=176 J K<sup>-1</sup> mol<sup>-1</sup>  
-----

Mn++ gl KCl 20°C 0.10M U K1=4.52 B2=5.89 1962HBa (74788)1464  
K(Mn+HL)=2.61  
K(Mn+H2L)=2.03  
-----

Mn++ gl KNO3 25°C 0.10M U K1=4.78 1962TMb (74789)1465  
K(Mn+HL)=2.39  
-----

Mn++ gl KCl 22°C 0.10M U K1=4.78 1961BRb (74790)1466  
K(Mn(OH)L+H)=10.4  
-----

Mn++ sp R4N.X 25°C 0.10M U TI K1=4.58 1959BUa (74791)1467  
Medium: 0.1 M Bu3EtNBr. K1=4.99(64C). AT I=0.22 M K1=4.35  
-----

Mn++ ix NaCl 23°C 0.10M U K1=4.75 1958WAa (74792)1468  
-----

Mn++ gl R4N.X 25°C 0.20M U K1=3.98 1956SAa (74793)1469  
K(Mn+HL)=1.57  
-----

\*\*\*\*\*  
C10H16N5O14P3 H5L GTP CAS 86-01-1 (404)  
Guanosine-5'-triphosphoric acid;  
-----

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

Mn++ gl NaNO3 25°C 0.10M C K(Mn+HL)=5.36  
K(MnHL+H)=4.50  
K(Mn+H2L)=3.36  
-----

Mn++ gl R4N.X 25°C 0.10M C TI R K(Mn+HL)=5.05  
-----

IUPAC evaluation

Mn++ gl NaClO4 25°C 0.10M C K(Mn+HL)=4.64  
-----

Mn++ nmr NaClO4 25°C 0.10M U K(MnL+H)=9.36  
K(Mn(OH)L+H)=11.3  
-----

By spectrophotometry, K(MnL+H)=9.3.  
-----

Mn++ gl KNO3 25°C 0.10M U T K(Mn+HL)=5.18  
-----

K(35 C)=5.29, K(45 C)=5.09

-----  
Mn++ ix NaCl 23°C 0.10M U 1958WAa (74887)1475  
K(Mn+HL)=4.73

\*\*\*\*\*

C10H16O8P2 H4L (6907)

1,2-Diphosphinoethane-P,P,P'P'-tetraethanoic acid;  
(HOOC.CH2)2P.CH2.CH2.P(CH2.COOH)2

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

Mn++ gl NaCl04 25°C 0.10M C K1=2.92 1992PPb (74952)1476  
B(MnHL)=8.47  
B(MnH2L)=12.46

-----  
Mn++ gl NaCl04 25°C 0.10M C K1=2.92 1982PPc (74953)1477  
B(MnHL)=8.47  
B(MnH2L)=12.46

\*\*\*\*\*

C10H17NO5 H2L (3917)

N-(Tetrahydropyran-2-ylmethyl)iminodiethanoic acid;

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

Mn++ gl KNO3 20°C 0.10M U K1=5.89 B2=10.24 1963IFa (75003)1478

\*\*\*\*\*

C10H17NO8S HL (1735)

2-(5-Carboxy-1,2,3,4-tetrahydroxypropyl)4-carboxythiazolidine,  
Galactocarboxythiazolidine;

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

Mn++ gl NaCl04 25°C 0.10M C K1=2.27 1992GNa (75013)1479  
B(MnH-1L2)=0.77  
B(Mn2H-2L2)=-10.43  
B(Mn2H-3L2)=-19.31  
B(Mn2H-4L2)=-30.19

\*\*\*\*\*

C10H17N2O14P3 H3L TTP CAS 365-08-2 (402)

Thymidine-5'-triphosphoric acid;

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

Mn++ gl NaCl 25°C 0.10M C T 1991SMa (75053)1480  
K(Mn+HL)=5.1

IUPAC evaluation

-----  
Mn++ gl NaNO3 25°C 0.10M C 1987STb (75054)1481  
K(Mn+HL)=5.01

-----  
Mn++ nmr NaCl04 25°C 0.10M U 1975SIb (75055)1482



K(MnL+H)=9.67  
K(Mn(OH)L+H)=11.2

By spectrophotometry, K(MnL+H)=9.6.

\*\*\*\*\*

C10H17N3O6S                    H3L      Glutathione                    CAS 70-18-8 (333)  
Glutamyl-cysteinyl-glycine;

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

Mn++            gl   NaClO4 25°C 0.10M U TIH      K1=6.690                    2001SGd (75131)1483  
Data for 0.05-0.2 M NaClO4 and 15-45 C. DH(K1)=-33.8 kJ mol<sup>-1</sup>, DS(K1)=-21  
J K<sup>-1</sup> mol<sup>-1</sup>. At I=0, K1=7.00. Also data for MeOH/H2O, EtOH/H2O, DMF/H2O.

-----  
Mn++            gl   KNO3    30°C 0.10M U T M                    1995SSc (75132)1484

K(MnA+L)=5.60  
K(MnB+L)=5.75  
K(MnC+L)=5.40  
K(MnD+L)=6.79

Also data for 40 and 50 C. HA is anthranilic acid, H2B is ascorbic acid,  
HC is nicotinic acid, HD is sulfanilic acid.

-----  
Mn++            gl   KNO3    25°C 0.16M U                    K1=2.7                    1959MEa (75133)1485

\*\*\*\*\*

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  
-----

Mn++            gl   R4N.X    20°C 0.10M M T H                    K1=5.44                    1976PSe (75171)1486  
K(Mn+HL)=3.10

Medium: 0.1 M Me4NClO4. At 0 C: K1=5.63, K(Mn+HL)=3.14. DH(K1)=-14 kJ mol<sup>-1</sup>,  
DS=17 J K<sup>-1</sup> mol<sup>-1</sup>; DH(Mn+HL)=-3, DS=14

-----  
Mn++            ix   KCl      25°C 0.10M U                    1971YBa (75172)1487

K1eff=4.93

pH=8.5

\*\*\*\*\*

C10H18N2O3                    HL                    CAS 533-48-2 (411)

D/L-Desthiobiotin, 5-Methyl-2-oxo-4-imidazoline-caproic acid;

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

Mn++            gl   diox/w 25°C 50% U                    K1=1.96                    1969SMc (75180)1488

Medium: 50% dioxan, 0.1 M NaClO4

\*\*\*\*\*

C10H18N2O4S                    H2L                    (6638)

1-Thia-4,7-diazacyclononane-N,N'-diethanoic acid;

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

Mn++ gl KNO3 25°C 0.10M C K1=9.25 1993WLa (75217)1489  
\*\*\*\*\*

C10H18N2O5 H2L (5608)  
1-Oxa-4,7-diazacyclononane-N,N'-diethanoic acid;

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

Mn++ gl KNO3 25°C 0.10M U K1=7.73 1990CCa (75236)1490  
\*\*\*\*\*

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  
-----

Mn++ gl KNO3 25°C 0.10M U K1=10.75 1969BNa (75445)1491  
2nd method: calorimetry

-----  
Mn++ cal KNO3 25°C 0.10M U H 1965WHa (75446)1492  
DH(K1)=-21.7 kJ mol<sup>-1</sup>, DS=134 J K<sup>-1</sup> mol<sup>-1</sup>

-----  
Mn++ gl KCl 30°C 0.10M U K1=10.7 1955CMA (75447)1493  
\*\*\*\*\*

C10H18O8 H2L CAS 32775-08-9 (240)  
1,12-Dicarboxy-2,5,8,11-tetraoxadodecane; (HOOC.CH2.O.CH2.CH2.O.CH2)2

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

Mn++ gl KNO3 25°C 0.10M U K1=2.18 1975MTc (75620)1494  
\*\*\*\*\*

C10H19N04 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  
-----

Mn++ gl KCl 20°C 0.10M U K1=5.55 B2=10.00 1955SAa (75640)1495  
\*\*\*\*\*

C10H19N3O4 H2L (8095)  
1,4,7-Triazacyclononane-1,4-diethanoic acid;

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

Mn++ gl KCl 25°C 1.0M U K1=11.56 2000LKc (75657)1496  
\*\*\*\*\*

C10H20N2O3 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  
-----

Mn++ gl NaNO3 25°C U K1=1.85 1976TCb (75753)1497  
Ionic strength not stated.

\*\*\*\*\*  
 C10H2005 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  
 -----  
 Mn++ con mixed 25°C 90% C K1=2.11 2003ISa (76052)1498  
 Medium: 90% v/v DMSO/H2O.

-----  
 Mn++ con alc/w 25°C 40% C K1=1.71 2002ISa (76053)1499  
 Medium: 40% EtOH/H2O.

-----  
 Mn++ con alc/w 25°C 40% C K1=1.97 2001ISa (76054)1500  
 Medium: 40% v/v EtOH/H2O.

\*\*\*\*\*  
 C10H22N203 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  
 -----  
 Mn++ gl R4N.X 25°C 0.05M U K1=4.0 1999BDb (76326)1501  
 Medium: Et4NC104

\*\*\*\*\*  
 C10H23N302 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  
 -----  
 Mn++ gl KNO3 25°C 0.10M C K1=6.63 1994CDa (76524)1502

\*\*\*\*\*  
 C10H24N40 L (7051)  
 1-Oxa-4,7,10,13-tetraazacyclopentadecane;

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----  
 Mn++ gl KNO3 25°C 0.10M C K1=8.53 1994CDa (76710)1503

\*\*\*\*\*  
 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  
 -----  
 Mn++ gl NaClO4 25°C 0.10M M K1=10.85 1996RHa (76735)1504  
 Also data for the 2-Methyl-; 2,3-Dimethyl-; 2,5-Dimethyl-; 2,8-Dimethyl-;  
 2,5,8-Trimethyl-; 2,2,3,3-Tetramethyl-; and other derivatives.

-----  
 Mn++ gl oth/un 25°C 0.20M U K1=10.65 1988NJa (76736)1505  
 Medium: KBr

\*\*\*\*\*  
 C10H26N2012P4 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
-----
Mn++      gl  oth/un 25°C 0.10M U          K1=8.49      1959BYa (76760)1506
*****
C10H26N4O6P2      H4L          CAS 200951-96-8 (7643)
1,4,7,10-Tetraazacyclododecane-1,7-bis(methanephosphonic acid);
-----
```

```
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  KCl    25°C 0.10M C          K1=18.1      1998BRa (76807)1507
                    *K(MnL)=-6.4
                    K(MnL+H)=5.7
*****
C10H28N2O12P4      H8L          CAS 23605-74-5 (435)
(Hexamethylenedinitrilo)tetra(methylenephosphonic acid);
(CH2.CH2.CH2.N(CH2.PO3H2)2)2
-----
```

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  KNO3   25°C 0.10M U          K1=6.69      1980ZRb (76840)1508
                    K(MnL+H)=9.66
                    K(MnHL+H)=7.52
                    K(MnH2L+H)=6.12
                    K(MnH3L+H)=5.43
*****
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
-----
Mn++      gl  NaNO3  25°C 1.0M C          K1=9.33      2001GLb (76876)1509
                    B(MnHL)=17.05
-----
```

```
Mn++      cal KNO3  25°C 0.10M U  H    K1=9.24      1971Pwa (76877)1510
DH(K1)=-36.99 kJ mol-1, DS=52.25 J K-1 mol-1
-----
```

```
Mn++      cal KCl   25°C 0.10M U  H    K1=9.30      1964SPb (76878)1511
K calculated. By calorimetry: DH(K1)=-37.0 kJ mol-1, DS=52.2 J K-1 mol-1
-----
```

```
Mn++      gl  KCl    20°C 0.10M U          K1=9.37      1953SMa (76879)1512
*****
C11H8N2O          L    Dipyridylketone CAS 19437-26-4 (1151)
2,2'-Carbonyldipyridine; C5H4N.CO.C5H4N
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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Mn++      gl  NaClO4 25°C 0.10M U          K1=1.03      1975FSb (76918)1513
                    K(MnH-1L+H)=7.8
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C11H8N6O HL (7009)  
1-(5-Tetrazolyl)azo-2-naphthol;

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Mn++ sp NaClO4 20°C 0.10M U K1=5.96 1978SSf (76927)1514  
\*\*\*\*\*

C11H8O3 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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Mn++ gl alc/w 30°C 50% U K1=5.00 B2=9.25 1981RRc (77147)1515  
\*\*\*\*\*

C11H8O3S HL CAS 32267-05-3 (3353)  
2-Furoyl-2-thenoylmethane; C4H3O.CO.CH2.CO.C4H3S

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Mn++ gl diox/w 30°C 75% U K1=8.81 B2=16.60 1953UFe (77159)1516  
\*\*\*\*\*

C11H8O4 HL CAS 6724-42-1 (6183)  
8-Formyl-7-hydroxy-4-methyl-2H-1-benzopyran-2-one; CH0.C9H30(:O)(CH3)(OH)

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

Mn++ gl alc/w 35°C 70% U K1=3.73 B2=6.73 1984CEa (77204)1517  
\*\*\*\*\*

C11H9NO2 HL CAS 92609-55-3 (4827)  
5-Acetyl-8-hydroxyquinoline;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Mn++ gl diox/w 25°C 60% U K1=6.78 B2=13.08 1973SCd (77331)1518  
Medium: 60% dioxan, 0.1 M NaClO4  
\*\*\*\*\*

C11H9NO2S HL CAS 29556-13-6 (1450)  
N-Phenyl-2-thenoylhydroxamic acid; C4H3SCON(C6H5)OH

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

Mn++ gl diox/w 25°C 50% U M K1=5.17 B2=9.53 1984ABb (77349)1519  
B(MnL(bpy))=11.02  
B(MnL(phen))=12.37  
-----

Mn++ gl NaClO4 25°C 0.10M U K1=5.13 B2=9.29 1975BLa (77350)1520  
\*\*\*\*\*

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  
-----  
Mn++ gl diox/w 30°C 0.10M U K1=3.70 1981KSa (77364)1521  
\*\*\*\*\*  
C11H9NO3 H2L CAS 35975-56-5 (16)  
Methyl-8-hydroxyquinoline-2-carboxylic acid;  
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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ sp NaClO4 25°C 0.10M U K1=4.70 1977HCa (77371)1522  
\*\*\*\*\*  
C11H9NO3 HL CAS 1137-48-0 (1449)  
N-Phenyl-2-furylhydroxamic acid; C4H3O.CO.N(C6H5).OH  
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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl diox/w 25°C 50% U M K1=5.02 B2=9.36 1984ABb (77392)1523  
B(MnL(bpy))=10.86  
B(MnL(phen))=12.22  
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Mn++ gl NaClO4 25°C 0.10M U K1=4.84 B2=8.86 1975BLa (77393)1524  
\*\*\*\*\*  
C11H9NO3S2 HL (939)  
2-(Thiophene-2'-aldimino)benzene sulfonic acid; C4H3S.CH:N.C6H4.SO3H  
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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl NaClO4 25°C 0.10M U K1=4.15 B2=7.02 1982MSa (77401)1525  
\*\*\*\*\*  
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  
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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl alc/w 35°C 70% U K1=3.99 B2=6.95 1984CEa (77438)1526  
\*\*\*\*\*  
C11H9N3O HL CAS 10335-29-2 (3937)  
2-(2'-Pyridylazo)phenol; C5H4N.N:N.C6H4.OH  
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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ sp alc/w 24°C 5% U B2=10.52 1973BJb (77458)1527  
K(MnL2+OH)=7.57  
Medium: 5% EtOH, 0.1 M NaClO4  
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Mn++ gl alc/w 25°C 50% U K1=5.6 B2=12.60 1967ANa (77459)1528  
Medium: 50% MeOH, 0.1 M NaClO4  
\*\*\*\*\*  
C11H9N3O2 H2L PAR CAS 1141-59-9 (636)  
-----

4-(2'-Pyridylazo)-1,3-dihydroxybenzene; C<sub>5</sub>H<sub>4</sub>N.N:N.C<sub>6</sub>H<sub>3</sub>(OH)<sub>2</sub>

| Metal | Mtd | Medium            | Temp | Conc  | Cal | Flags | Lg | K values   | Reference       | ExptNo |
|-------|-----|-------------------|------|-------|-----|-------|----|--|-----------------|--------|
| Mn++  | sp  | NaNO <sub>3</sub> | 25°C | 0.10M | U   |       |    | K1=8.48<br>K(Mn+HL)=2.40   | 19860Ha (77560) | 1529   |
| Mn++  | sp  | oth/un            | ?    | 0.10M | U   |       |    | B2=15.6  | 1973NEb (77561) | 1530   |
| Mn++  | gl  | diox/w            | 25°C | 50%   | U   |       |    | K(Mn+HL)=9.79<br>K(MnHL+HL)=9.13                                   | 1966SCd (77562) | 1531   |
| Mn++  | gl  | diox/w            | 25°C | 50%   | U   |       |    | K(Mn+HL)=9.7<br>*K(MnHL+HL)=9.2<br>K(MnL+H)=8.8<br>K(MnOHL+H)=10.3 | 1962CYa (77563) | 1532   |

\*\*\*\*\*  
 C11H9N3O4 H2L CAS 82628-26-0 (1379)  
 1-(2-Tolyl)violuric acid;

| Metal   | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values        | Reference       | ExptNo |
|---|-----|--------|------|------|-----|-------|----|-----------------|-----------------|--------|
| Mn++  | gl  | alc/w  | 18°C | 50%  | U T |       |    | K1=5.08 B2=9.20 | 1982SGa (77622) | 1533   |
| Medium: 50% v/v EtOH/H <sub>2</sub> O, 0.1 M NaClO <sub>4</sub> |     |        |      |      |     |       |    |                 |                 |        |
| *****   |     |        |      |      |     |       |    |                 |                 |        |
| C11H9N3O4   |     | H2L    |      |      |     |       |    | CAS 82628-27-1  | (1378)          |        |
| 1-(3-Tolyl)violuric acid;                                       |     |        |      |      |     |       |    |                 |                 |        |
| Metal   | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values        | Reference       | ExptNo |
| Mn++  | gl  | alc/w  | 18°C | 50%  | U T |       |    | K1=5.13 B2=9.51 | 1982SGa (77629) | 1534   |
| Medium: 50% v/v EtOH/H <sub>2</sub> O, 0.1 M NaClO <sub>4</sub> |     |        |      |      |     |       |    |                 |                 |        |
| *****   |     |        |      |      |     |       |    |                 |                 |        |
| C11H9N3O4   |     | H2L    |      |      |     |       |    | CAS 82628-25-9  | (1377)          |        |
| 1-(4-Tolyl)violuric acid;                                       |     |        |      |      |     |       |    |                 |                 |        |

\*\*\*\*\*  
 C11H9N3O5S HL (6249)  
 1,2-Naphthoquinone-4-sulfonic acid 2-semicarbazone; C<sub>10</sub>H<sub>5</sub>(:O)(HSO<sub>3</sub>):N.NH.CO.NH<sub>2</sub>

| Metal | Mtd | Medium             | Temp | Conc  | Cal   | Flags | Lg | K values        | Reference       | ExptNo |
|-------|-----|--------------------|------|-------|-------|-------|----|-----------------|-----------------|--------|
| Mn++  | gl  | NaClO <sub>4</sub> | 28°C | 0.10M | U T H |       |    | K1=4.05 B2=7.33 | 1980MGd (77642) | 1536   |

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C11H10N2O L (7591)  
4'-(Imidazol-1-yl)acetophenone;

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Mn++ gl NaNO3 25°C 0.50M M K1=1.02 1998KSa (77669)1537  
\*\*\*\*\*

C11H10N3OC1S HL (1294)  
2-(4',5'-Dimethyl-2'-thiazolylazo)-4-chlorophenol;

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

Mn++ gl diox/w 25°C 60% U K1=4.33 B2=8.54 1981KTa (77690)1538  
\*\*\*\*\*

C11H10N4 L PAPHY CAS 2215-33-0 (1305)  
Pyridine-2-aldehyde-2'-pyridyl-hydrazone; C5H4N.CH:N.NH.C5H4N

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

Mn++ EMF KNO3 20°C 0.10M U K1=3.68 B2=5.68 1971ANa (77708)1539  
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Mn++ gl oth/un 25°C 0.0 U 1964GHd (77709)1540

K(Mn+HL)=3.3  
K(Mn+2HL)=6.9

\*\*\*\*\*

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  
-----

Mn++ gl alc/w 25°C 70% C K1=7.08 B2=10.76 1982SDa (77722)1541  
In 70% ethanol/H2O; Electrolyte: 0.1 M KCl

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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  
-----

Mn++ gl alc/w 22°C 80% U T H K1=7.35 B2=12.85 1985SAb (77787)1542  
30 C: K1= 7.25, K2=5.45; 40 C: K1= 7.15, K2=5.40  
DH(K1)=-23.0 kJ mol<sup>-1</sup>, DS=61 J K<sup>-1</sup> mol<sup>-1</sup>; DH(K2)= -9.6, DS=74

\*\*\*\*\*

C11H11NO6 H3L CAS 1147-65-5 (425)  
N-(2'-Carboxyphenyl)iminodiethanoic acid; HOOC.C6H4.N(CH2.COOH)2

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

Mn++ gl KNO3 25°C 0.10M U K1=5.85 1967UKa (77831)1543  
K(Mn+HL) < 1  
-----



Mn++ sp NaNO3 20°C 0.10M U 1961DSa (77832)1544

K(?)=5.37

\*\*\*\*\*

C11H11N2O2Br HL (9228)

3-[4-Bromophenylazo]penta-2,4-dione;

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

Mn++ gl alc/w 25°C 0.1M U K1=7.52 2004GMc (77876)1545

Medium: 0.1 mol/L KCl in 3:7 EtOH/H2O mixture

-----  
Mn++ gl alc/w 25°C 0.1M U K1=6.92 2004GMc (77877)1546

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  
-----

Mn++ gl alc/w 25°C 0.1M U K1=6.87 2004GMc (77889)1547

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  
-----

Mn++ gl alc/w 25°C 0.1M U K1=7.51 2004GMc (77900)1548

Medium: 0.1 mol/L KCl in 3:7 EtOH/H2O mixture

\*\*\*\*\*

C11H11N3O3S L CAS 67665-24-1 (8341)

Furoin thiosemicarbazone;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Mn++ gl alc/w 30°C 50% U T H K1=8.04 B2=15.23 1991HRa (77950)1549

Medium: 50% v/v EtOH/H2O, 0.1 M NaClO4. Data for 40 and 50 C.

DH(K1)=-110 kJ mol<sup>-1</sup>, DS(K1)=210 J K<sup>-1</sup> mol<sup>-1</sup>; DH(K2)=-124, DS(K2)=274.

\*\*\*\*\*

C11H11N3O4 HL (9230)

3-[4-Nitrophenylazo]penta-2,4-dione;

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

Mn++ gl alc/w 25°C 0.1M U K1=6.31 2004GMc (77960)1550

Medium: 0.1 mol/L KCl in 3:7 EtOH/H2O mixture

\*\*\*\*\*

C11H11O2F HL CAS 38440-21-0 (2906)

1-(4-Fluorophenyl)-1,3-pentanedione; F.C6H4.CO.CH2.CO.CH2.CH3

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| Metal   | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values      | Reference       | ExptNo |
|---|-----|--------|------|------|-----|-------|------------------|-----------------|--------|
| Mn++  | gl  | diox/w | 20°C | 75%  | M T |       | K1=9.96 B2=17.33 | 1980GMd (77967) | 1551   |
| *****   |     |        |      |      |     |       |                  |                 |        |
| 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 |
|---|-----|--------|------|------|-----|-------|-------------|-----------------|--------|
| Mn++  | gl  | alc/w  | 25°C | 70%  | U   |       | K1=6.15     | 1992CGd (77981) | 1552   |
| Medium: 70% EtOH/H2O. For 4-fluoro K1=4.77; 4-bromo 6.20; 4-iodo 6.50 |     |        |      |      |     |       |             |                 |        |
| *****   |     |        |      |      |     |       |             |                 |        |
| 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 |
|--|-----|--------|------|-------|-----|-------|-------------------------|-----------------|--------|
| Mn++   | gl  | KNO3   | 25°C | 0.50M | U   |       | K1=0.57 B2=0.89 B3=1.02 | 1980LWa (78004) | 1553   |
| *****  |     |        |      |       |     |       |                         |                 |        |
| 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 |
|-------|-----|--------|------|-------|-----|-------|---|-----------------|--------|
| Mn++  | gl  | KNO3   | 25°C | 0.10M | U   | M     | K1=2.53 B2=4.98                           | 1988MBa (78217) | 1554   |
| Mn++  | gl  | NaCl   | 20°C | 0.15M | M   |       | K1=2.59                                   | 1985VDa (78218) | 1555   |
| Mn++  | gl  | NaCl   | 20°C | 0.15M | U   | M     | K1=2.59                                   | 1983VDb (78219) | 1556   |
| Mn++  | gl  | NaClO4 | 25°C | 0.10M | C   | M     | K1=2.50 K(MnL+ATP)=3.82 K(Mn(ATP)+L)=1.54 | 1976SNa (78220) | 1557   |

|  |     |      |      |       |     |  |         |                 |      |
|--|-----|------|------|-------|-----|--|---------|-----------------|------|
| Mn++   | EMF | KNO3 | 20°C | 0.10M | U T |  | K1=2.88 | 1973BSf (78221) | 1558 |
| K1(30 C)=2.86, K1(40 C)=2.82, K1(50 C)=2.79, K1(60 C)=2.75 |     |      |      |       |     |  |         |                 |      |

|      |    |        |      |      |   |  |                        |                 |      |
|------|----|--------|------|------|---|--|------------------------|-----------------|------|
| Mn++ | gl | NaClO4 | 25°C | 3.0M | U |  | K1=2.84 B2=5.15 B3=8.0 | 1970WIa (78222) | 1559 |
|------|----|--------|------|------|---|--|------------------------|-----------------|------|

|                                 |    |        |      |       |   |  |      |                 |      |
|---------------------------------|----|--------|------|-------|---|--|------|-----------------|------|
| Mn++                            | gl | oth/un | 20°C | 0.01M | U |  | K2=5 | 1950ALa (78223) | 1560 |
| *****                           |    |        |      |       |   |  |      |                 |      |
| C11H12N2O2 HL (9226)            |    |        |      |       |   |  |      |                 |      |
| 3-[Diphenylazo]penta-2,4-dione; |    |        |      |       |   |  |      |                 |      |

| Metal   | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values | Reference       | ExptNo |
|---|-----|--------|------|------|-----|-------|-------------|-----------------|--------|
| Mn++  | gl  | alc/w  | 25°C | 0.1M | U   |       | K1=7.56     | 2004GMc (78251) | 1561   |
| Medium: 0.1 mol/L KCl in 3:7 EtOH/H2O mixture |     |        |      |      |     |       |             |                 |        |

\*\*\*\*\*  
C11H12N2O3                    H2L                                    CAS 121565-72-8 (8344)  
2-[[2-(Hydroxyimino)-1-methylpropylidene]amino]benzoic acid;

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

Mn++            gl alc/w 30°C 50% C T H            K1=7.76            1993HCb (78272)1562  
Medium: 50% v/v EtOH/H2O, 0.10 M NaClO4. For meta-COOH, K1=9.56;  
for para-COOH, K1=8.04. Data for 40 and 50 C and DH and DS values.

\*\*\*\*\*  
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  
-----

Mn++            gl KCl 25°C 0.10M U T            K1=6.84            2005ACa (78324)1563  
For 35 C K1=6.71; for 45 C K1=6.57

\*\*\*\*\*  
C11H12O2                            HL                                    CAS 4023-79-4 (305)  
1-(4-Methylphenyl)butane-1,3-dione; CH3.C6H4.CO.CH2.CO.CH3

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

Mn++            gl diox/w 20°C 75% M T            K1=10.24 B2=17.47 1980GMd (78374)1564

\*\*\*\*\*  
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  
-----

Mn++            gl alc/w 25°C 70% U            K1=8.25            1992CGd (78440)1565  
Medium: 70% EtOH/H2O

\*\*\*\*\*  
C11H13NO3                            H2L                                    CAS 63467-38-9 (1961)  
4-Methyl-N-hydroxyacetanilide; CH3.CO.CH2.CO.N(OH).C6H4.CH3

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

Mn++            gl diox/w 20°C 82% U            K1=5.19 B2=8.84 1979KSb (78498)1566

\*\*\*\*\*  
C11H13NO4                            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  
-----

Mn++            gl oth/un ? ? U            K1=6.6            1975DTa (78587)1567

\*\*\*\*\*  
C11H13NO6                            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 |
|--|-----|--------|------|------|-----|-------|----|-----------------------|-----------------|--------|
| Mn++   | EMF | oth/un | ?    | ?    | U   |       |    | K(Mn+HL)=10.3         | 1975DTa (78665) | 1568   |
| *****  |     |        |      |      |     |       |    |                       |                 |        |
| C11H13NO6  |     | 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 |
|--|-----|--------|------|------|-----|-------|----|-----------------------|-----------------|--------|
| Mn++   | gl  | oth/un | 25°C | 0.0  | U   |       |    | K(Mn+HL)=9.61         | 1970TTb (78680) | 1569   |
| *****  |     |        |      |      |     |       |    |                       |                 |        |
| C11H13NO6  |     | H4L    |      |      |     |       |    | CAS 31477-66-7 (4853) |                 |        |
| 2,6-Dihydroxybenzyliminodiethanoic acid; (HO)2.C6H3.CH2.N(CH2.COOH)2 |     |        |      |      |     |       |    |                       |                 |        |

| Metal   | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values           | Reference       | ExptNo |
|---|-----|--------|------|------|-----|-------|----|--------------------|-----------------|--------|
| Mn++  | EMF | oth/un | ?    | ?    | U   |       |    | K(Mn+HL)=7.4       | 1975DTa (78694) | 1570   |
| *****   |     |        |      |      |     |       |    |                    |                 |        |
| C11H13N3O   |     | L      |      |      |     |       |    | CAS 83-07-8 (2027) |                 |        |
| 4-Amino-2,3-dimethyl-1-phenyl-3-pyrazolin-5-one, 4-Aminoantipyrine; |     |        |      |      |     |       |    |                    |                 |        |

| Metal  | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values              | Reference       | ExptNo |
|--|-----|--------|------|-------|-----|-------|----|-----------------------|-----------------|--------|
| Mn++   | gl  | KNO3   | 25°C | 0.50M | U   |       |    | K1=1.07 B2=1.83       | 1980LWa (78707) | 1571   |
| *****  |     |        |      |       |     |       |    |                       |                 |        |
| C11H13O4AsS  |     | H2L    |      |       |     |       |    | CAS 36198-36-4 (4870) |                 |        |
| Bis(carboxymethyl)-2-(methylthiophenyl)arsine; (HOOC.CH2)2.As.C6H4.S.CH3 |     |        |      |       |     |       |    |                       |                 |        |

| Metal  | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values              | Reference       | ExptNo |
|--|-----|--------|------|-------|-----|-------|----|-----------------------|-----------------|--------|
| Mn++   | gl  | oth/un | 25°C | 0.10M | U   |       |    | K1=2.86 K(Mn+HL)=2.35 | 1971FPa (78745) | 1572   |
| *****  |     |        |      |       |     |       |    |                       |                 |        |
| 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 |
|--|-----|--------|------|-------|-----|-------|----|-----------------------|-----------------|--------|
| Mn++   | gl  | NaNO3  | 20°C | 0.10M | C   |       |    | K1=6.60 B2=10.10      | 1981ANb (78888) | 1573   |
| *****  |     |        |      |       |     |       |    |                       |                 |        |
| C11H14N4O5                                     |     | HL     |      |       |     |       |    | CAS 56566-64-4 (2816) |                 |        |
| Biacetylmonoxime-4-phenyl-3-thiosemicarbazone; |     |        |      |       |     |       |    |                       |                 |        |

| Metal   | Mtd | Medium | Temp | Conc | Cal   | Flags | Lg | K values | Reference       | ExptNo |
|---|-----|--------|------|------|-------|-------|----|----------|-----------------|--------|
| Mn++  | gl  | alc/w  | 30°C | 50%  | U T H |       |    | K1=6.49  | 1992HRa (78939) | 1574   |
| Medium: 50% v/v EtOH/H2O, 0.1 M NaClO4. Data for 40 and 50 C. |     |        |      |      |       |       |    |          |                 |        |

DH(K1)=-50.5 kJ mol<sup>-1</sup>, DS(K1)=43.2 J K<sup>-1</sup> mol<sup>-1</sup>.

-----  
Mn++ sp none 25°C 0.0 U K1=10.18 1975CJb (78940)1575  
\*\*\*\*\*  
C11H14N4O4 L Tubercidin CAS 69-33-0 (6412)  
7-Deazaadenosine, Tubercidin;  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl NaNO3 25°C 0.50M C K1=0.13 2002KSb (78959)1576  
-----  
Mn++ gl NaNO3 25°C 0.50M M K1=0.23 1991JCa (78960)1577  
\*\*\*\*\*  
C11H14O2 HL CAS 20907-24-8 (4816)  
2-Hydroxy-3-methylbutyrophenone; (HO).C6H3(CH3).CO.CH2.CH2.CH3  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl KNO3 40°C 0.10M U K1=5.52 1973SPc (78985)1578  
\*\*\*\*\*  
C11H14O2 HL CAS 52780-68-4 (4817)  
2-Hydroxy-4-methylbutyrophenone; (HO).C6H3(CH3).CO.CH2.CH2.CH3  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl KNO3 40°C 0.10M U K1=4.82 1973SPc (78990)1579  
\*\*\*\*\*  
C11H14O2 HL CAS 24323-47-5 (4818)  
2-Hydroxy-5-methylbutyrophenone; (HO).C6H3(CH3).CO.CH2.CH2.CH3  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl KNO3 40°C 0.10M U K1=5.17 1973SPc (78995)1580  
\*\*\*\*\*  
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  
-----  
Mn++ gl NaNO3 25°C 0.10M C K1=2.11 1988SMb (79070)1581  
K(Mn+HL)=1.0  
\*\*\*\*\*  
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  
-----  
Mn++ gl KNO3 20°C 0.10M U 1982GSg (79110)1582  
K(Mn+HL)=11.34

-----  
Mn++ gl KNO3 20°C 0.10M U K1=11.34 1982GSh (79111)1583  
\*\*\*\*\*  
C11H17N08S H3L CAS 91649-51-3 (8438)  
N,N,S-Tris(carboxymethyl)methionine;  
-----

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

Mn++ gl KCl 25°C 0.10M C K1=5.88 1984RFd (79176)1584  
K(Mn+HL)=5.83  
\*K(MnHL)=-10.84  
\*\*\*\*\*

C11H18N2O3S HL CAS 1784-22-1 (4874)  
d-Homobiotin  
-----

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

Mn++ gl diox/w 25°C 50% U K1=2.0 1969SMc (79207)1585  
Medium: 50% dioxan, 0.1 M NaClO4  
\*\*\*\*\*

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  
-----

Mn++ gl KNO3 20°C 0.10M U K1=10.06 1981NSc (79311)1586  
-----

Mn++ vlt KNO3 20°C 0.10M U K1=15.28 1978NLb (79312)1587  
-----

Mn++ dis none 25°C 0.0 U K1=13.0 1977MFb (79313)1588  
Measured by liquid chromatography on a chelating resin  
-----

Mn++ cal KNO3 25°C 0.20M C H 1975CGf (79314)1589  
DH(K1)=-22.0 kJ mol<sup>-1</sup>.  
-----

Mn++ vlt KNO3 25°C 0.20M U K1=14.85 19650Ga (79315)1590  
\*\*\*\*\*

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  
-----

Mn++ vlt KNO3 25°C 0.20M U K1=<10.8 19650Ga (79457)1591  
-----

Mn++ cal KNO3 20°C 0.10M U H 1964ANa (79458)1592  
DH(K1)=-3.0(?) kJ mol<sup>-1</sup>, DS=221(?) J K<sup>-1</sup> mol<sup>-1</sup>  
-----

Mn++ gl KNO3 20°C 0.10M U K1=9.99 1964LAa (79459)1593  
K(Mn+HL)=4.82  
\*\*\*\*\*

C11H18N2O9 H4L HDPTA CAS 3148-72-9 (431)  
1,3-Diamino-2-hydroxypropane-N,N,N',N'-tetraethanoic acid;

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

Mn++ EMF KCl 20°C 0.10M U K1=8.90 1966PIa (79565)1594  
Method: H electrode

-----  
Mn++ gl KNO3 25°C 0.10M U K2=9.06 1966TKa (79566)1595  
K(MnL+H)=5.1

-----  
Mn++ oth KNO3 20°C 0.10M U K1=9 1965JMb (79567)1596  
Method: electrophoresis

-----  
Mn++ vlt KCl 20°C 0.10M U K1=8.20 1964DSc (79568)1597

\*\*\*\*\*  
C11H18N4 L CAS 78668-34-5 (6708)  
3,6,9,15-Tetraazabicyclo[9.3.1]pentadeca-1(15),11,13-triene;

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

Mn++ gl KNO3 25°C 0.10M C K1=8.81 1993CDa (79619)1598

\*\*\*\*\*  
C11H18N5O12P3 H4L CAS 5085-65-4 (4875)  
Adenylylmethylenediphosphoric acid;

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

Mn++ ix KCl 25°C 0.10M U K1eff=4.92 1971YBa (79641)1599

pH=9.2

\*\*\*\*\*  
C11H20N2O3 HL Pro-Leu CAS 52899-07-7 (258)  
Prolyl-leucine; C4H8N.CO.NH.CH(CH2.CH(CH3)2).COOH

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

Mn++ gl KCl 20°C 0.20M U K1=2.47 1982KRc (79707)1600  
Using EPR spectroscopy: K1=2.40

\*\*\*\*\*  
C11H20N2O4S H2L (6639)  
1-Thia-4,8-diazacyclodecane-N,N'-diethanoic acid;

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

Mn++ gl KNO3 25°C 0.10M C K1=8.97 1993WLa (79716)1601

\*\*\*\*\*  
C11H20N4O6 H2L ICRF 198 CAS 108430-47-3 (8369)  
N,N'-(1-Methyl-1,2-ethanediy1)bis[N-(2-amino-2-oxoethyl)glycine];

| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values                            | Reference | ExptNo      |
|-------|-----|--------|------|-------|-----|-------|----|-------------------------------------|-----------|-------------|
| Mn++  | gl  | NaCl   | 37°C | 0.15M | C   |       |    | K1=9.762 B2=11.60<br>B(MnHL)=10.980 | 1982HMB   | (79730)1602 |

\*\*\*\*\*

C11H25N3O2 L (7052)  
1,4-Dioxa-7,11,14-triazacyclohexadecane;

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

|      |    |      |      |       |   |  |  |         |         |             |
|------|----|------|------|-------|---|--|--|---------|---------|-------------|
| Mn++ | gl | KNO3 | 25°C | 0.10M | C |  |  | K1=6.49 | 1994CDa | (79940)1603 |
|------|----|------|------|-------|---|--|--|---------|---------|-------------|

\*\*\*\*\*

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 |
|-------|-----|--------|------|------|-----|-------|----|----------|-----------|--------|
|-------|-----|--------|------|------|-----|-------|----|----------|-----------|--------|

|      |     |      |      |       |   |   |  |                         |         |             |
|------|-----|------|------|-------|---|---|--|-------------------------|---------|-------------|
| Mn++ | EMF | KNO3 | 25°C | 0.10M | U | H |  | K1=5.3<br>K(Mn+MnL)=2.2 | 1971PWa | (80053)1604 |
|------|-----|------|------|-------|---|---|--|-------------------------|---------|-------------|

By calorimetry. DH(K1)=-10.7 kJ mol<sup>-1</sup>, DS=65.2 J K<sup>-1</sup> mol<sup>-1</sup>

\*\*\*\*\*

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 |
|-------|-----|--------|------|------|-----|-------|----|----------|-----------|--------|
|-------|-----|--------|------|------|-----|-------|----|----------|-----------|--------|

|      |    |     |      |       |   |  |  |                        |         |             |
|------|----|-----|------|-------|---|--|--|------------------------|---------|-------------|
| Mn++ | gl | KCl | 25°C | 0.50M | M |  |  | K1=8.6<br>K(MnL+H)=8.1 | 1991HLA | (80061)1605 |
|------|----|-----|------|-------|---|--|--|------------------------|---------|-------------|

\*\*\*\*\*

C12H6O2Cl4S 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 |
|-------|-----|--------|------|------|-----|-------|----|----------|-----------|--------|
|-------|-----|--------|------|------|-----|-------|----|----------|-----------|--------|

|      |    |       |      |     |   |  |  |                 |         |             |
|------|----|-------|------|-----|---|--|--|-----------------|---------|-------------|
| Mn++ | gl | alc/w | 25°C | 75% | U |  |  | K1=5.32 B2=9.34 | 1970FGa | (80100)1606 |
|------|----|-------|------|-----|---|--|--|-----------------|---------|-------------|

Medium: 75% EtOH, 1.0 M NaClO4

\*\*\*\*\*

C12H8N2 L Phenanthroline CAS 66-71-7 (144)  
1,10-Phenanthroline;

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

|      |     |        |      |      |   |    |  |                             |         |             |
|------|-----|--------|------|------|---|----|--|-----------------------------|---------|-------------|
| Mn++ | cal | non-aq | 25°C | 100% | C | IH |  | K1=3.60 B2= 6.73<br>B3=8.44 | 2000KYa | (80480)1607 |
|------|-----|--------|------|------|---|----|--|-----------------------------|---------|-------------|

Medium: DMF, 0.4 M Et4NClO4. Also data for I=0.16 M Et4NClO4.

DH(K1)=-15.0 kJ mol<sup>-1</sup>, DH(B2)=-33.1, DH(B3)=-46.4

\*\*\*\*\*

|      |     |        |      |       |   |  |  |                            |         |             |
|------|-----|--------|------|-------|---|--|--|----------------------------|---------|-------------|
| Mn++ | EMF | NaClO4 | 20°C | 1.50M | U |  |  | K1=4.1 B2=7.8<br>B3 = 10.8 | 1990IAa | (80481)1608 |
|------|-----|--------|------|-------|---|--|--|----------------------------|---------|-------------|



Medium: LiClO4

Mn++ gl NaNO3 35°C 0.10M U M K1=3.93 1985KSc (80482)1609  
K(MnL+CMP)=3.65

H2CMP=cytidine-5'-monophosphoric acid

Mn++ gl diox/w 25°C 50% U M K1=6.95 B2=12.84 1984ABb (80483)1610  
B(MnL(PFHA))=12.22  
B(MnL(PTHA))=12.37

PFHA=N-phenyl-2-furylhydroxamate, PTHA=N-phenyl-2-thenohydroxamate

Mn++ sp NaClO4 25°C 0.20M U I K1=3.05 1983EBa (80484)1611

Mn++ gl KNO3 35°C 0.10M C M K1=4.23 1979MTb (80485)1612

Mn++ gl NaClO4 25°C 0.10M C M K1=4.01 1978MSd (80486)1613  
B(MnL(ATP))=9.04

Mn++ kin NaClO4 19°C 0.20M U K1=2.6 1976BMa (80487)1614

Mn++ kin alc/w 25°C 100% U K1=3.8 1973BMb (80488)1615  
Medium: MeOH, 0.2 M NaClO4

Mn++ ISE alc/w 25°C 50% U K1=4.06 B2=8.22 1972BBa (80489)1616  
B3=11.69

Medium: 50% EtOH, 0.15 M K2SO4. In aqueous soln: K1=4.18, B2=7.09, B3=10.50

Mn++ cal NaNO3 20°C 0.10M U H 1963ANb (80490)1617  
DH(K1)=-14.6 kJ mol<sup>-1</sup>, DS=28.4 J K<sup>-1</sup> mol<sup>-1</sup>; DH(B2)=-29.3, DS=45.6;  
DH(B3)=-37.6, DS=43.5

Mn++ gl KNO3 20°C 0.10M U K1=4.13 B2=7.61 1963ANg (80491)1618  
K3=2.7

Mn++ EMF oth/un 25°C 0.10M U K1=3.88 B2=7.04 1963DBa (80492)1619  
K3=3.07

Mn++ EMF oth/un 25°C 0.10M U K1=3.5 B2=6.75 1962IMa (80493)1620  
K3=3.0

Medium: K2SO4

Mn++ dis KCl 25°C 0.10M U K1=4.50 B2=8.65 1962IMa (80494)1621  
K3=4.05

Mn++ sp oth/un ? 0.50M U B3=7.35 1955MBb (80495)1622

\*\*\*\*\*  
C12H8N4O4S2 H2L CAS 3385-61-8 (2586)  
7-(2-Thiazolylazo)-8-hydroxyquinoline-5-sulfonic acid;  
\*\*\*\*\*

| Metal                                 | Mtd | Medium      | Temp | Conc | Cal | Flags | Lg K values | Reference       | ExptNo |
|---------------------------------------|-----|-------------|------|------|-----|-------|-------------|-----------------|--------|
| Mn++                                  | sp  | diox/w      | 25°C | 50%  | U   |       | K1=6.09     | 1977RIa (80556) | 1623   |
| *****                                 |     |             |      |      |     |       |             |                 |        |
|                                       |     | C12H8O2Cl2S | H2L  |      |     |       | CAS 97-24-5 | (4946)          |        |
| Fentichlor; Cl.C6H3(OH).S.C6H3(OH).Cl |     |             |      |      |     |       |             |                 |        |

| Metal  | Mtd | Medium      | Temp | Conc | Cal | Flags | Lg K values      | Reference       | ExptNo |
|--|-----|-------------|------|------|-----|-------|------------------|-----------------|--------|
| Mn++   | gl  | alc/w       | 25°C | 75%  | U   |       | K1=5.98 B2=10.48 | 1970FGa (80563) | 1624   |
| Medium: 75% EtOH, 1.0 M NaClO4                 |     |             |      |      |     |       |                  |                 |        |
| *****  |     |             |      |      |     |       |                  |                 |        |
|  |     | C12H10N3OBr | HL   |      |     |       | CAS 5756-88-7    | (4001)          |        |
| 1-(4'-Bromophenyl)-3-hydroxy-3-phenyltriazene; |     |             |      |      |     |       |                  |                 |        |

| Metal   | Mtd | Medium      | Temp | Conc | Cal | Flags | Lg K values      | Reference       | ExptNo |
|---|-----|-------------|------|------|-----|-------|------------------|-----------------|--------|
| Mn++  | gl  | diox/w      | 25°C | 70%  | U   |       | K1=5.90 B2=10.85 | 1965PSd (80753) | 1625   |
| Medium: 70% dioxan, 0.1 M KCl                   |     |             |      |      |     |       |                  |                 |        |
| *****   |     |             |      |      |     |       |                  |                 |        |
|   |     | C12H10N3OCl | HL   |      |     |       | CAS 52756-05-6   | (3998)          |        |
| 1-(2'-Chlorophenyl)-3-hydroxy-3-phenyltriazene; |     |             |      |      |     |       |                  |                 |        |

| Metal   | Mtd | Medium      | Temp | Conc | Cal | Flags | Lg K values     | Reference       | ExptNo |
|---|-----|-------------|------|------|-----|-------|-----------------|-----------------|--------|
| Mn++  | gl  | diox/w      | 25°C | 70%  | U   |       | K1=5.36 B2=9.78 | 1964PSg (80760) | 1626   |
| Medium: 70% dioxan, 0.1 M KCl                   |     |             |      |      |     |       |                 |                 |        |
| *****   |     |             |      |      |     |       |                 |                 |        |
|   |     | C12H10N3OCl | HL   |      |     |       | CAS 5756-86-5   | (3999)          |        |
| 1-(4'-Chlorophenyl)-3-hydroxy-3-phenyltriazene; |     |             |      |      |     |       |                 |                 |        |

| Metal  | Mtd | Medium      | Temp | Conc | Cal | Flags | Lg K values      | Reference       | ExptNo |
|--|-----|-------------|------|------|-----|-------|------------------|-----------------|--------|
| Mn++   | gl  | diox/w      | 25°C | 70%  | U   |       | K1=5.83 B2=10.50 | 1964PSb (80766) | 1627   |
| Medium: 70% dioxan, 0.1 M KCl                                |     |             |      |      |     |       |                  |                 |        |
| *****  |     |             |      |      |     |       |                  |                 |        |
|  |     | 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 |
|--------------------------------------|-----|-----------|------|------------|-----|-------|------------------|-----------------|--------|
| Mn++                                 | gl  | NaClO4    | 30°C | 0.10M      | U   |       | K1=4.00 B2= 5.79 | 1981GMi (80784) | 1628   |
| *****                                |     |           |      |            |     |       |                  |                 |        |
|                                      |     | 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 |
|----------------------------------|-----|--------|------|------|-----|-------|---------------|-----------------|--------|
| Mn++                             | gl  | diox/w | 20°C | 75%  | U   |       | K1=4.4 B2=8.8 | 1968BKb (80818) | 1629   |
| 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  
-----

Mn++ gl KNO3 25°C 0.10M U 1967UKa (80854)1630  
K(Mn+HL)=6.49  
K(Mn+H2L)=1.41

\*\*\*\*\*

C12H11N30S HL (6787)  
2-Hydroxy-1-naphthaldehyde thiosemicarbazone;

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

Mn++ gl diox/w 20°C 75% U K1=5.67 B2=9.92 1992SSc (80891)1631  
Medium: 75% v/v dioxan/H2O and other mixtures, 0.1 M NaClO4

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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  
-----

Mn++ gl diox/w 20°C 75% U K1=5.03 B2=9.20 1992SSc (80920)1632  
Medium: 75% v/v dioxan/H2O and other mixtures, 0.1 M NaClO4

\*\*\*\*\*

C12H11N304S H2L (4003)  
3-Hydroxy-3-phenyl-1-(4'-sulfonyl)triazene;

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

Mn++ gl diox/w 25°C 70% U K1=4.83 B2=8.21 1964PSf (80940)1633  
Medium: 70% dioxan, 0.1 M KCl

\*\*\*\*\*

C12H12N03Cl 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  
-----

Mn++ sp NaClO4 25°C 0.50M C K1=0.441 1984MTa (80970)1634

\*\*\*\*\*

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  
-----

Mn++ EMF KNO3 20°C 0.10M U K1=4.39 1978CSa (81028)1635

\*\*\*\*\*

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  
-----

Mn++ gl mixed 25°C 75% U K1=4.14 1998Sjb (81077)1636  
Medium: 75% DMSO/H2O, 0.10 M NaClO4.

-----  
Mn++ sp KCl 25°C 0.10M U K1=3.1 1978TSb (81078)1637  
\*\*\*\*\*  
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  
-----

Mn++ gl NaNO3 25°C 0.50M M K1=0.31 1998KSd (81103)1638  
\*\*\*\*\*  
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  
-----

Mn++ gl alc/w 25°C 50% U T H K1=5.95 B2=11.19 1999EEa (81128)1639  
Medium: 50%(v/v) EtOH/H2O, 0.10 M KCl. DH(K1)=-23.9 kJ mol-1,  
DS(K1)=33.6 J K-1 mol-1; DH(K2)=-22.98 kJ mol-1, DS(K2)=20.0 J K-1 mol-1.  
\*\*\*\*\*  
C12H12N8B HL CAS 40250-95-1 (7937)  
Tetrakis(pyrazolyl)borate;

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

Mn++ dis non-aq 25°C 100% C 2001KSb (81145)1640  
K(Mn+2HL=MnL2(org)+2H)=0.5  
Method: solvent extraction into chloroform.  
K: Mn+2HL(org)=MnL2(org)+2H.  
\*\*\*\*\*

C12H12O3 HL (6844)  
3-Benzoylpenta-2,4-dione; CH3.CO.CH(CO.C6H5)CO.CH3

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

Mn++ gl KCl 25°C 0.20M U K1=4.48 1992CMd (81165)1641  
\*\*\*\*\*  
C12H13NO3 HL (1054)  
4-Dimethylamino-benzylidenepyruvic acid; (CH3)2N.C6H4.CH:CH.CO.COOH

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

Mn++ sp NaClO4 25°C 0.50M C K1=0.489 1984MTa (81200)1642  
\*\*\*\*\*  
C12H13N3 L CAS 1539-42-0 (932)  
bis-((2-Pyridyl)methyl)-amine (Di-2-picolyamine); C5H4N.CH2NHCH2.C5H4N

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl KNO3 20°C 0.10M C H K1=3.52 B2=6.05 1977AHc (81286)1643  
Calorimetry: DH1=-10.46 kJ mol<sup>-1</sup>, DS1=32.2; DH(B2)=-20, DS(B2)=36  
-----

Mn++ gl KNO3 25°C 0.10M U K1=4.16 B2=7.07 1968RBa (81287)1644  
\*\*\*\*\*  
C12H13N3OS 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  
-----  
Mn++ gl diox/w 25°C 60% U K1=5.22 B2=10.63 1981KTa (81301)1645  
\*\*\*\*\*  
C12H13N5O4 L Ethenoadenosine CAS 39007-51-7 (6331)  
N6-Ethenoadenosine;  
-----

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl NaNO3 25°C 0.10M C K1=0.72 1983SSc (81319)1646  
-----  
Mn++ sp none 22°C 0.0 C K1eff=0.72 1979VWa (81320)1647  
-----

Method: fluorescence spectroscopy. Medium pH ca. 6.  
\*\*\*\*\*  
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  
-----  
Mn++ gl NaNO3 25°C 0.10M U M K(Mn(NTA)+L)=1.24 1988SSg (81371)1648  
\*\*\*\*\*  
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  
-----  
Mn++ gl NaClO4 25°C 0.10M C K1=2.59 1984SSe (81384)1649  
-----  
Mn++ sp none 22°C 0.0 C K1eff=0.87 1979VWa (81385)1650  
-----

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  
-----

Mn++ gl diox/w 30°C 75% U K1=9.02 1973AAa (81401)1651  
 \*\*\*\*\*  
 C12H14O14 H6L CAS 111451-17-3 (5895)  
 3,6-Dioxaoctane-1,2,4,5,7,8-hexacarboxylic acid; (CH2(COOH).CH(COOH).O.CH(COOH)-)2

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

Mn++ gl KCl 25°C 0.10M C K1=7.00 1989MMd (81418)1652  
 K(MnL+H)=4.67  
 K(MnHL+H)=4.03  
 K(MnH2L+H)=3.54  
 K(MnL+Mn)=2.57

\*\*\*\*\*  
 C12H15N05 H3L (4930)  
 1-Hydroxy-4-methylphenyl-2-methyleneiminodiethanoic acid;

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

Mn++ gl oth/un 25°C 0.0 U K1=9.0 1970TTb (81499)1653  
 \*\*\*\*\*

C12H15N5O10P2 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  
 -----

Mn++ sp none 22°C 0.0 C K1eff=1.02 1979VWa (81538)1654

Method: fluorescence spectroscopy. Medium pH ca. 6.  
 Other species also present.

\*\*\*\*\*  
 C12H16N2O8 H4L (6460)  
 1,4-Diaminobut-2-yne-N,N,N',N'-tetraethanoic acid;  
 (HOOC.CH2)2N.CH2.CC.CH2.N(CH2.COOH)2

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

Mn++ gl KCl 25°C 0.10M U K1=5.65 1979TSa (81603)1655  
 K(Mn+HL)=4.49  
 K(Mn+MnL)=4.2

\*\*\*\*\*  
 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  
 -----

Mn++ gl NaNO3 25°C 0.10M U K1=5.10 1986SSb (81630)1656  
 K(Mn+HL)=3.26  
 K(MnL+H)=4.7

-----  
 Mn++ sp none 22°C 0.0 C 1979VWa (81631)1657

K1eff=0.77

Method: fluorescence spectroscopy. Medium pH ca. 6.

Other species also present.

\*\*\*\*\*

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  
-----

Mn++ gl NaCl 23°C 0.15M U K1=2.10 1989DBb (81774)1658  
-----

Mn++ gl KNO3 45°C 0.10M U T K1=2.85 1981TTa (81775)1659  
K(MnL+H)=2.00

5 C: K1 = 2.75  
-----

Mn++ gl KNO3 35°C 0.10M U K1=2.99 1978KBa (81776)1660  
K(Mn+HL)=2.16  
-----

\*\*\*\*\*

C12H17N5O2 HL (8220)  
N,N-Bis[(1-methylimidazol-2-yl)methyl]glycine;

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

Mn++ oth oth/un 25°C 0.13M C K1=5.3 2001PDa (81777)1661  
Method: xanthine/xanthine oxidase assay.

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\*\*\*\*\*

C12H18N2O8 H4L (8011)  
trans-1,4-Diaminobuten-2-N,N,N',N'-tetraethanoic acid

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

Mn++ gl KCl 20°C 0.10M U K1=6.94 1976TTb (81893)1662  
K(Mn+HL)=4.65  
K(MnL+Mn)=3.9

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\*\*\*\*\*

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  
-----

Mn++ gl KNO3 25°C 0.10M U K1=10.83 1988MGa (81909)1663  
K(Mn+H2L)=3.27

K(Mn+HL)=7.61

B(Mn2L)=14.25

K(MnL+H)=7.14

K(MnHL+H)=4.27  
-----

\*\*\*\*\*

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 |
|-------|-----|--------|------|-------|-----|-------|--------------------------|-----------------|--------|
| Mn++  | gl  | NaCl   | 23°C | 0.15M | U   |       | K1=4.20                  | 1989DBb (81943) | 1664   |
| Mn++  | gl  | KNO3   | 45°C | 0.10M | U T |       | K1=4.03<br>K(MnL+H)=2.65 | 1981TTa (81944) | 1665   |

5 C: K1 = 3.82

|      |    |      |      |       |   |  |                          |                 |      |
|------|----|------|------|-------|---|--|--------------------------|-----------------|------|
| Mn++ | gl | KNO3 | 35°C | 0.10M | U |  | K1=4.30<br>K(Mn+HL)=2.84 | 1978KBa (81945) | 1666 |
|------|----|------|------|-------|---|--|--------------------------|-----------------|------|

\*\*\*\*\*  
 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 |
|-------|-----|--------|------|------|-----|-------|-------------|-----------------|--------|
| Mn++  | gl  | alc/w  | 25°C | 0.2M | U   |       | K1=6.64     | 1999MTc (82007) | 1667   |

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 |
|-------|-----|--------|------|-------|-----|-------|-------------|-----------------|--------|
| Mn++  | vlt | KNO3   | 20°C | 0.10M | U   |       | K1=15.66    | 1968NLa (82029) | 1668   |

\*\*\*\*\*  
 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 |
|-------|-----|--------|------|-------|-----|-------|-------------|-----------------|--------|
| Mn++  | vlt | KNO3   | 25°C | 0.10M | U   |       | K1=6.74     | 1974SGa (82084) | 1669   |

|      |    |      |      |       |   |  |         |                 |      |
|------|----|------|------|-------|---|--|---------|-----------------|------|
| Mn++ | gl | KNO3 | 30°C | 0.10M | U |  | K1=5.18 | 1971TSc (82085) | 1670 |
|------|----|------|------|-------|---|--|---------|-----------------|------|

\*\*\*\*\*

| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg K values | Reference       | ExptNo |
|-------|-----|--------|------|-------|-----|-------|-------------|-----------------|--------|
| Mn++  | vlt | KNO3   | 20°C | 0.10M | U   |       | K1=13.37    | 1976NKa (82138) | 1671   |

|      |    |      |      |       |   |  |          |                 |      |
|------|----|------|------|-------|---|--|----------|-----------------|------|
| Mn++ | gl | KNO3 | 20°C | 0.10M | U |  | K1=13.30 | 1966MKb (82139) | 1672 |
|------|----|------|------|-------|---|--|----------|-----------------|------|

\*\*\*\*\*

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

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



-----  
Mn++ gl KNO3 20°C 0.10M U H 1964ANa (82229)1673  
K(Mn+MnL)=1.82  
By calorimetry: DH(K1)=14.3 kJ mol<sup>-1</sup>, DS=231 J K<sup>-1</sup> mol<sup>-1</sup>  
-----

Mn++ gl KNO3 20°C 0.10M U K1=9.53 1964LAa (82230)1674  
K(Mn+HL)=5.44  
-----

\*\*\*\*\*  
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 |
|-------|-----|--------|------|-------|-----|-------|---------------------------|-----------------|--------|
| Mn++  | ISE | KNO3   | 20°C | 0.10M | U   |       | K1=16.72<br>K(Mn+HL)=2.68 | 1971ISa (82316) | 1675   |

-----  
Mn++ vlt KNO3 20°C 0.10M U K1=16.72 1966DMa (82317)1676  
-----

Mn++ oth KNO3 20°C 0.10M U K1=17.5 1965JMb (82318)1677  
Method: electrophoresis  
-----

Mn++ vlt KNO3 20°C 0.10M U K1=16.3 1964MNa (82319)1678  
\*\*\*\*\*  
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 |
|-------|-----|--------|------|-------|-----|-------|---------------------------|-----------------|--------|
| Mn++  | ISE | KNO3   | 20°C | 0.10M | U   |       | K1=14.10<br>K(Mn+HL)=3.46 | 1971ISa (82406) | 1679   |

-----  
Mn++ vlt KNO3 20°C 0.10M U K1=14.11 1966DMa (82407)1680  
-----

Mn++ oth KNO3 20°C 0.10M U K1=15 1965JMb (82408)1681  
Method: electrophoresis  
-----

Mn++ vlt KNO3 20°C 0.10M U K1=14.2 1964MNa (82409)1682  
\*\*\*\*\*  
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 |
|-------|-----|--------|------|-------|-----|-------|---------------------------|-----------------|--------|
| Mn++  | gl  | KNO3   | 20°C | 0.10M | U   | H     | K1=10.07<br>K(Mn+HL)=5.53 | 1964ANa (82467) | 1683   |

By calorimetry:DH(K1)=-6.4 kJ mol<sup>-1</sup>, DS=175 J K<sup>-1</sup> mol<sup>-1</sup>  
-----

Mn++ gl KCl 20°C 0.10M U K1=9.64 1964PCa (82468)1684  
-----

K(Mn+HL)=5.08

\*\*\*\*\*

C12H20N2O9 H4L EEDTA CAS 923-73-9 (2112)  
Oxa-bis(ethyleneimino)diethanoic acid; ((HOOC.CH2)2N.CH2.CH2)2O

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

Mn++ cal KNO3 25°C 0.10M U H 1965WHa (82549)1685  
DH(K1)=-23.4 kJ mol-1, DS=171 J K-1 mol-1

-----  
Mn++ gl KNO3 20°C 0.10M U H K1=13.76 1964ANa (82550)1686  
By calorimetry: DH(K1)=-24.7 kJ mol-1, DS=192 J K-1 mol-1

-----  
Mn++ gl KCl 20°C 0.10M U K1=13.2 1964PCa (82551)1687

\*\*\*\*\*

C12H20N4 L (6709)  
3,7,10,16-Tetraazabicyclo[10.3.1]hexadeca-1(16),12,14-triene;

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

Mn++ gl KNO3 25°C 0.10M C K1=7.29 1993CDa (82606)1688  
K(Mn(OH)L+H)=9.93

\*\*\*\*\*

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  
-----

Mn++ gl KCl 25°C 0.10M C K1=5.07 1995IOb (82624)1689  
K(MnL+H)=3.52

\*\*\*\*\*

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  
-----

Mn++ gl R4N.X 25°C 0.10M M K1=14.9 1990CBc (82738)1690  
Medium: Me4NCl

-----  
Mn++ gl KNO3 25°C 0.10M U K1=14.3 1975HTa (82739)1691  
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  
-----

Mn++ gl oth/un 25°C 0.10M M K1=8.8 1983BSd (82752)1692  
Medium: 0.10 M KClO4.

\*\*\*\*\*

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  
-----

Mn++ gl R4N.X 25°C 0.10M C K1=11.03 1992ADa (82793)1693  
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  
-----

Mn++ gl R4N.X 25°C 0.10M C K1=10.72 1992ADa (82807)1694  
Medium: 0.1 M Me4NNO3

\*\*\*\*\*  
C12H22N4O6 H2L ICRF 243 (5772)  
DL-NN'-Dicarboxamidomethyl-NN'-dicarboxymethyl-2,3-diaminobutane;

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

Mn++ gl NaCl 37°C 0.15M U K1=10.626 1985HCa (82834)1695  
B(MnHL)=12.225  
B(MnH-1L2)=1.274

\*\*\*\*\*  
C12H22N4O6 H2L ICRF 226 CAS 83266-80-2 (8370)  
N,N'-(1-Ethyl-1,2-ethanediy1)bis[N-(2-amino-2-oxoethyl)glycine];

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

Mn++ gl NaCl 37°C 0.15M C K1=9.382 1982HMb (82844)1696

\*\*\*\*\*  
C12H22N4O6 H2L ICRF 236 (5771)  
meso-NN'-Dicarboxamidomethyl-NN'-dicarboxymethyl-2,3-diaminobutane;

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

Mn++ gl NaCl 37°C 0.15M U K1=7.615 1985HCa (82852)1697  
B(MnHL)=9.452

\*\*\*\*\*  
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  
-----

Mn++ gl oth/un 20°C 0.10M U 1985NHa (82933)1698  
K(MnL+H)=9.84  
K(MnL+OH)=5.23  
K(MnL(OH)+OH)=1.95

\*\*\*\*\*

C12H23N3O5 H2L (6393)  
1-Oxa-4,7,10-triazacyclododecan-4,10-diethanoic acid;

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

Mn++ gl R4N.X 25°C 0.10M C K1=12.737 1992ADa (82974)1699  
B(MnHL)=15.88

Medium: 0.1 M Me4NNO3

\*\*\*\*\*

C12H24N2O3 HL Leu-Leu CAS 36077-41-5 (974)  
Leucyl-leucine; H2N.CH(CH2.CH(CH3)2).CO.NH.CH(CH2.CH(CH3)2).COOH

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

Mn++ gl KCl 20°C 0.20M U K1=2.15 1982KRc (83041)1700  
Using EPR spectroscopy: K1=1.96

\*\*\*\*\*

C12H24N4O4 H2L (7343)  
1,4,7,10-Tetraazacyclododecane-1,7-bis(ethanoic acid);

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

Mn++ gl R4N.X 25°C 0.10M C H K1=14.54 2001BCa (83089)1701  
K(MnL+H)=4.25  
K(MnHL+H)=4.45  
K(MnL+OH)=2.50

Medium: 0.10 M Me4NCl. By calorimetry: DH(K1)=-23.4 kJ mol<sup>-1</sup>,  
DH(MnL+H)=-32.2, DH(MnHL+H)=-33.9, DH(MnL+OH)=-1.7.

\*\*\*\*\*

C12H24N4O4 H2L CAS 229312-34-9 (7904)  
1,4,7,10-Tetraazacyclododecane-1,4-bis(ethanoic acid);

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

Mn++ gl R4N.X 25°C 0.10M C H K1=16.13 2001BCa (83098)1702  
K(MnL+2H)=8.31  
K(MnL+OH)=2.49

Medium: 0.10 M Me4NCl. By calorimetry: DH(K1)=-33.0 kJ mol<sup>-1</sup>,  
DH(MnL+2H)=-41.8, DH(MnL+OH)=-0.8.

\*\*\*\*\*

C12H24N4O4 H2L (7522)  
1,4,8,11-Tetraazacyclotetradecane-6,13-dicarboxylic acid

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

Mn++ gl KCl 25°C 0.50M U K1=18.3 1997BLd (83103)1703  
K(MnL+H)=8.9  
K(MnHL+H)=3.7  
\*K(MnL)=-9.3

\*\*\*\*\*

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  
-----  
Mn++ con mixed 25°C 90% C K1=2.65 2003ISa (83469)1704  
Medium: 90% v/v DMSO/H2O.

-----  
Mn++ con alc/w 25°C 40% C K1=2.55 2002ISa (83470)1705  
Medium: 40% EtOH/H2O.

-----  
Mn++ con alc/w 25°C 40% C K1=2.76 2001ISa (83471)1706  
Medium: 40% v/v EtOH/H2O.

\*\*\*\*\*  
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  
-----  
Mn++ gl R4N.X 25°C 0.05M U K1=2.7 1999BDb (83865)1707  
Medium: Et4NClO4

\*\*\*\*\*  
C12H27N3O2 L (7053)  
1,4-Dioxa-7,11,15-triazacycloheptadecane;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl KNO3 25°C 0.10M C K1=3.42 1994CDa (84059)1708

\*\*\*\*\*  
C12H27N5O2 HL (7521)  
6-Methyl-1,4,8,11-tetraazacyclotetradecane-6-amino-3-carboxylic acid

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl KCl 25°C 0.50M U K1=12.0 1997BLd (84112)1709  
K(MnL+H)=8.6  
K(MnHL+H)=5.9  
\*K(MnL)=-8.7

\*\*\*\*\*  
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  
-----  
Mn++ dis non-aq 25°C 100% C I 2004CCa (84234)1710  
K(Mn+A+L(org))=MnAL(org))=11.39

Distribution of MnA2 from H2O into CH2Cl2. A is nitrate. For the N-tetra-  
benzyl- derivative, K'=12.24. Distribution into CHCl3, K=10.48; K'=10.13

\*\*\*\*\*  
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 |
|-------|-----|--------|------|------|-----|-------|----|---|-----------------|--------|
| Mn++  | gl  | KNO3   | 25°C | 1.0M | U   |       |    | K1=12.77<br>K(Mn+HL)=8.26<br>K(Mn+H2L)=5.90<br>K(Mn+H3L)=4.21 | 1988MKa (84279) | 1711   |

\*\*\*\*\*  
 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 |
|-------|-----|--------|------|-------|-----|-------|----|----------|-----------------|--------|
| Mn++  | gl  | NaClO4 | 25°C | 0.15M | C   |       |    | K1=10.50 | 1991BBa (84342) | 1712   |

\*\*\*\*\*  
 C12H30N6 L (6409)  
 6,13-Dimethyl-1,4,8,11-tetraazacyclotetradecane-6,13-diamine;

| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values                               | Reference       | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|--|-----------------|--------|
| Mn++  | gl  | KCl    | 25°C | 0.50M | U   |       |    | K1=6.2<br>K(MnL+H)=8.2<br>*K(MnL)=-4.6 | 1997BLd (84378) | 1713   |

\*\*\*\*\*  
 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 |
|-------|-----|--------|------|-------|-----|-------|----|--|-----------------|--------|
| Mn++  | gl  | KNO3   | 25°C | 1.00M | U   | M     |    | B(MnCuL)=30.1<br>K(Mn+Cu+HL)=25.0<br>K(Mn+CuL)=4.67<br>K(Mn+CuHL)=4.30 | 1988MKb (84415) | 1714   |

|      |    |      |      |      |   |  |  |   |                 |      |
|------|----|------|------|------|---|--|--|---|-----------------|------|
| Mn++ | gl | KNO3 | 25°C | 1.0M | U |  |  | K1=16.9<br>K(Mn+HL)=12.9<br>K(Mn+H2L)=8.8<br>K(Mn+H3L)=7.1<br>K(Mn+H4L)=4.6 | 1984KMb (84416) | 1715 |
|------|----|------|------|------|---|--|--|---|-----------------|------|

\*\*\*\*\*  
 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 |
|-------|-----|--------|------|-------|-----|-------|----|------------------------|-----------------|--------|
| Mn++  | gl  | NaClO4 | 25°C | 0.10M | U   |       |    | K1=8.2<br>K(Mn+HL)=5.1 | 1963Gcb (84447) | 1716   |

\*\*\*\*\*

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  
-----  
Mn++ gl KCl 25°C 0.10M U K1=4.51 B2=7.22 1986DDa (84497)1717  
\*\*\*\*\*

C13H9NOS HL CAS 3411-95-8 (1683)  
2-(2-Hydroxyphenyl)benzothiazole;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl diox/w 25°C 50% U K1=5.80 1954CFa (84553)1718  
\*\*\*\*\*

C13H9NO2BrCl HL CAS 104614-71-3 (9109)  
4-Bromo-N-(3-chlorophenyl)-N-hydroxybenzamide;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl diox/w 25°C 50% C M K1=6.55 2001AMc (84577)1719  
B(Mn(gly)L)=12.00

Medium: 50% v/v dioxane/H2O

\*\*\*\*\*

C13H9NO2ClF HL CAS 104614-72-4 (9107)  
N-(3-Chlorophenyl)-4-fluoro-N-hydroxybenzamide;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl diox/w 25°C 50% C M K1=6.78 2001AMc (84585)1720  
B(Mn(gly)L)=12.46

Medium: 50% v/v dioxane/H2O

\*\*\*\*\*

C13H9NO2Cl2 HL CAS 67201-86-9 (9108)  
4-Chloro-N-(3-chlorophenyl)-N-hydroxybenzamide;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl diox/w 25°C 50% C M K1=6.56 2001AMc (84593)1721  
B(Mn(gly)L)=12.04

Medium: 50% v/v dioxane/H2O

\*\*\*\*\*

C13H9N3O4S2 H2L CAS 2536-61-0 (4031)  
1-(1',3'-Thiazol-2'-ylazo)-2-hydroxynaphthalene-6-sulfonic acid;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl alc/w 25°C 50% U I K1=4.9 B2=8.9 1967NPb (84643)1722  
Medium: 50% MeOH, 0.1 M NaClO4. In 0% MeOH: K1=4.3, K2=3.3  
\*\*\*\*\*

C13H10NO2Br HL CAS 82461-64-1 (1121)

N-Phenyl-2-bromobenzohydroxamic acid; Br.C6H4.CO.N(C6H5)OH

```
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  diox/w 25°C  50% U T H      K1=6.25  B2=11.19  1977AGc (84702)1723
At 35 C: K1=6.07, K2=4.76. DH(K1)=-31.7 and DH(K2)=-31.7 kJ mol-1
-----
```

```
-----
Mn++      gl  diox/w 35°C  50% U          K1=6.07  B2=10.83  1974ATa (84703)1724
*****
C13H10N02Cl          HL                      (8130)
N-(2-Chlorophenyl)benzohydroxamic acid;
-----
```

```
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  diox/w 25°C  50% U          K1=7.25  B2=12.90  1986ARb (84710)1725
Also data for the N-(2-chlorophenyl)-3-methoxy, 3-methyl, 3-fluoro,
3-chloro, 3-bromo-, 3-iodo and 3-nitro-benzohydroxamic acids.
*****
```

```
C13H10N02Cl          HL                      CAS 36016-24-7 (1818)
N-(4-Chlorophenyl)benzohydroxamic acid; C6H5.CO.N(C6H4Cl)OH
-----
```

```
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  diox/w 25°C  70% U          K1=5.23  B2=9.57   1967JSa (84718)1726
Medium: 70% dioxan, 0.1 M KCl
*****
```

```
C13H10N02Cl          HL                      CAS 78154-49-1 (5649)
N-3-Chlorophenylbenzohydroxamic acid;
-----
```

```
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  diox/w 25°C  50% C      M      K1=6.92          2001AMc (84738)1727
B(Mn(gly)L)=12.77
Medium: 50% v/v dioxane/H2O
-----
```

```
-----
Mn++      gl  diox/w 30°C  50% U          K1=8.72  B2=15.47  1994JBb (84739)1728
Medium: 50% v/v dioxane/H2O, 0.10 M NaClO4.
-----
```

```
-----
Mn++      gl  diox/w 25°C  50% U          K1=4.91          1989PMb (84740)1729
*****
C13H10N02Cl          HL                      CAS 105417-12-7 (1122)
N-Phenyl-2-chlorobenzohydroxamic acid; Cl.C6H4.CO.N(C6H5)OH
-----
```

```
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  diox/w 25°C  50% U T H      K1=6.22  B2=11.33  1977AGc (84750)1730
At 35 C: K1=6.04, K2=4.93. DH(K1)=-31.7 and DH(K2)=-31.7 kJ mol-1
-----
```

```
-----
Mn++      gl  diox/w 35°C  50% U          K1=6.04  B2=10.97  1974ATa (84751)1731
*****
```



C13H10NO2F HL CAS 90493-82-6 (1123)  
N-Phenyl-2-fluorobenzohydroxamic acid; F.C6H4.CO.N(C6H5)OH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl diox/w 25°C 50% U T H K1=6.30 B2=11.38 1977AGc (84759)1732  
At 35 C: K1=6.10, K2=4.88. DH(K1)=-35.2 and DH(K2)=-35.2 kJ mol-1  
-----

Mn++ gl diox/w 35°C 50% U K1=6.10 B2=10.98 1974ATa (84760)1733  
\*\*\*\*\*  
C13H10NO2I HL CAS 90493-83-7 (1120)  
N-Phenyl-2-iodobenzohydroxamic acid; I.C6H4.CO.N(C6H5)OH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl diox/w 25°C 50% U T H K1=6.19 B2=11.03 1977AGc (84768)1734  
At 35 C: K1=6.02, K2=4.68. DH(K1)=-29.9 and DH(K2)=-28.2 kJ mol-1  
-----

Mn++ gl diox/w 35°C 50% U K1=6.02 B2=10.70 1974ATa (84769)1735  
\*\*\*\*\*  
C13H10N2 L CAS 3002-77-5 (3400)  
2-Methyl-1,10-phenanthroline;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ dis KCl 25°C 0.10M U K1=3.0 B2=5.5 1962IMa (84781)1736  
K3=2.4  
\*\*\*\*\*

C13H10N2 L CAS 3003-78-6 (2752)  
5-Methyl-1,10-phenanthroline;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ dis KCl 25°C 0.10M U K1=4.28 B2=7.58 1962MBa (84816)1737  
K3=3.60  
\*\*\*\*\*

C13H10N2O HL CAS 5496-07-1 (3404)  
2-(2'-Hydroxyphenyl)benzimidazole;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl alc/w 35°C 60% U K1=4.20 B2=7.30 1984MLa (84827)1738  
\*\*\*\*\*

C13H10N2O L Pyocyanine CAS 83-06-5 (2186)  
Pyocyanine;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ sp non-aq 25°C 100% U K1=2.2 1978MSc (84838)1739  
Medium: DMSO

\*\*\*\*\*

C13H10N2O3 HL CAS 19357-10-9 (9111)  
N-(2-Pyridyl)-2-carboxybenzamide;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl mixed 25°C 40% U K1=5.38 B2= 9.80 2002GSa (84862)1740  
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  
-----  
Mn++ gl diox/w 30°C 50% U K1=4.77 1982UVa (84872)1741  
\*\*\*\*\*

C13H10N2O4 HL CAS 2029-61-0 (178)  
N-Phenyl-2-nitrobenzohydroxamic acid; O2N.C6H4.CO.N(C6H5).OH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl diox/w 25°C 50% U T H K1=5.90 B2=10.44 1977AGc (84898)1742  
At 35 C: K1=5.74, K2=4.38. DH(K1)=-28.2 and DH(K2)=-28.2 kJ mol<sup>-1</sup>

-----  
Mn++ gl diox/w 25°C 50% U T K1=5.89 B2=10.63 1977VKa (84899)1743  
At 35 C: K1=5.85, K2=4.71

-----  
Mn++ gl diox/w 35°C 50% U K1=5.74 B2=10.12 1974ATa (84900)1744  
\*\*\*\*\*

C13H10N2O4 HL CAS 17120-18-2 (220)  
N-Phenyl-3-nitrobenzohydroxamic acid; O2N.C6H4.CO.N(C6H5).OH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl diox/w 25°C 50% U T K1=5.72 B2=10.32 1977VKa (84910)1745  
At 35 C: K1=5.68, K2=4.55

\*\*\*\*\*

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  
-----  
Mn++ gl diox/w 30°C 50% U K1=7.19 1982UVa (84918)1746  
\*\*\*\*\*

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  
-----  
Mn++ gl KNO3 25°C 0.10M U K1=4.94 B2=8.44 1964MTc (84941)1747

\*\*\*\*\*

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  
-----  
Mn++ gl diox/w 27°C 50% U K1=3.84 B2=6.96 1972SDb (85036)1748  
Medium: 50% dioxan, 0.1 M NaClO4

\*\*\*\*\*  
C13H11NOS HL CAS 56048-80-7 (5018)  
N-Thiobenzoyl-N-phenylhydroxylamine; C6H5.CS.N(C6H5)OH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl diox/w 30°C 75% U K1=6.12 B2=12.78 1971DTc (85057)1749  
\*\*\*\*\*

C13H11NO2 H2L (1383)  
2-Hydroxybenzophenone oxime; HO.C6H4.C(:NOH)C6H5

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl diox/w 30°C 50% U K1=5.80 1982UVa (85076)1750  
\*\*\*\*\*

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  
-----  
Mn++ gl alc/w 25°C 50% U K1=4.7 B2=9.10 1977DWa (85086)1751  
\*\*\*\*\*

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  
-----  
Mn++ gl diox/w 30°C 50% U K1=9.03 B2=15.57 1994JBb (85162)1752  
Medium: 50% v/v dioxane/H2O, 0.10 M NaClO4.

-----  
Mn++ gl diox/w 25°C 50% U K1=5.08 B2=9.60 1976BLa (85163)1753  
-----

Mn++ gl diox/w 25°C 50% U K1=6.02 B2=11.17 1972STf (85164)1754  
-----

Mn++ EMF diox/w 25°C 75% U K1=5.51 B2=9.84 1967JSb (85165)1755  
Medium: 75% v/v dioxan, 0.1 M KCl  
\*\*\*\*\*

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  
-----

Mn++ gl diox/w 30°C 50% U K1=7.51 1982UVa (85194)1756  
\*\*\*\*\*  
C13H11NO3 H2L CAS 156357-28-7 (8319)  
N-(p-Hydroxyphenyl)benzohydroxamic acid;

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

Mn++ gl diox/w 30°C 50% U K1=9.07 B2=16.35 1994JBb (85200)1757  
Medium: 50% v/v dioxane/H2O, 0.10 M NaClO4.  
For N-(m-hydroxyphenyl)benzohydroxamic acid, K1=8.02, K2=6.37.  
\*\*\*\*\*  
C13H11NO5 HL Oxolinic acid CAS 14698-29-4 (2755)  
1-Ethyl-6,7-dioxymethylene-quinoline-4-one-3-carboxylic acid;

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

Mn++ sp KCl 25°C 0.10M U K1=3.5 1978TSb (85219)1758  
\*\*\*\*\*  
C13H11N3O5 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  
-----

Mn++ gl alc/w 25°C 75% U K1=4.19 B2=7.90 1980SMb (85266)1759  
\*\*\*\*\*  
C13H11N3O5S H3L (5019)  
4-Hydroxy-3-oximinomethylazobenzene-4'-sulfonic acid;

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

Mn++ gl alc/w 25°C 50% U K1=3.52 B2=6.56 1973DSa (85299)1760  
Medium: 42% EtOH, 0.2 M NaClO4  
\*\*\*\*\*  
C13H11N5O2 L CAS 4453-80-9 (8115)  
3-Nitro-1,5-diphenylformazan;

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

Mn++ gl diox/w 30°C 50% C T H K1=5.50 B2= 9.97 2001SKb (85314)1761  
Medium: 50% v/v dioxane/water, 0.1 M KCl. Data for 20-40 C.  
DH(K1)=-23.7 kJ mol<sup>-1</sup>, DH(K2)=-18.5.  
\*\*\*\*\*  
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  
-----

Mn++ gl KNO3 32°C 0.10M U K1=5.33 1981SBb (85385)1762  
\*\*\*\*\*  
C13H12N4S L Dithizone CAS 60-10-6 (1801)

Diphenylthiocarbazone; C6H5.NH.NH.CS.N:N.C6H5

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      sp NaCl04 25°C 0.10M U          K1=4.94  B2=9.55  1973BSe (85466)1763
*****
C13H13N3O          HL                      (4018)
3-Hydroxy-1-(2'-methylphenyl)-3-phenyltriazene;
-----
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl KCl   25°C 0.10M U          K1=6.68  B2=12.07  1964PSa (85507)1764
*****
C13H13N3O          HL                      CAS 5756-83-2 (4019)
3-Hydroxy-1-(4'-methylphenyl)-3-phenyltriazene;
-----
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl KCl   25°C 0.10M U          K1=7.02  B2=12.74  1964PSa (85513)1765
*****
C13H13N3O2         HL                      CAS 5756-89-8 (4021)
3-Hydroxy-1-(4'-methoxyphenyl)-3-phenyltriazene;
-----
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl diox/w 25°C 70% U          K1=7.24  B2=13.34  1965PSb (85521)1766
Medium: 70% dioxan, 0.1 M KCl
*****
C13H13N5OS         HL                      CAS 220035-45-0 (8639)
alpha-Pyridoin thiosemicarbazone;
-----
```

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl diox/w 30°C 50% U TIH    K1=7.71  B2=14.64  19980Fa (85529)1767
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)
3-Benzoyl-5-bromohexa-5-ene-2-one; CH2=CBr.CH2.CH(CO.CH3)CO.C6H5
-----
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl KCl   25°C 0.20M U          K1=4.44          1992CMd (85537)1768
*****
C13H13O2Cl         HL                      (6842)
3-Benzoyl-5-chlorohex-5-ene-2-one; CH2=CCl.CH2.CH(CO.CH3)CO.C6H5
-----
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl KCl   25°C 0.20M U          K1=4.51          1992CMd (85545)1769
```

\*\*\*\*\*  
C13H14NO3P H2L CAS 19316-85-7 (1466)  
2-Hydroxyphenyl-N-phenylaminomethylphosphinic acid;

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

Mn++ gl NaClO4 20°C 0.10M U K1=5.05 1985SIb (85565)1770  
\*\*\*\*\*

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  
-----

Mn++ gl NaClO4 20°C 0.10M U K1=5.75 1985SIb (85643)1771  
\*\*\*\*\*

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  
-----

Mn++ gl NaClO4 20°C 0.10M U K1=5.70 1985SIb (85656)1772  
\*\*\*\*\*

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  
-----

Mn++ sp NaNO3 25°C 0.15M U K1=0.7 1953KMa (85685)1773  
\*\*\*\*\*

C13H15NO6 H3L (4999)  
2-Benzylnitriilotriethanoic acid;

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

Mn++ oth oth/un 25°C 0.10M U K1=7.20 1962HKa (85740)1774  
\*\*\*\*\*

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  
-----

Mn++ gl NaClO4 20°C 0.10M U K1=5.60 1985SIa (85783)1775  
\*\*\*\*\*

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  
-----

Mn++ gl NaClO4 20°C 0.10M U K1=5.60 1985SIa (85796)1776  
\*\*\*\*\*

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  
-----

Mn++ gl NaClO4 20°C 0.10M U K1=5.70 1985SIa (85809)1777  
\*\*\*\*\*

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  
-----

Mn++ gl NaClO4 20°C 0.10M U K1=7.70 1985SIa (85822)1778  
K(Mn+HL)=3.60  
\*\*\*\*\*

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  
-----

Mn++ gl NaClO4 20°C 0.10M U K1=7.70 1985SIa (85835)1779  
K(Mn+HL)=3.60  
\*\*\*\*\*

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  
-----

Mn++ gl NaClO4 20°C 0.10M U K1=7.80 1985SIa (85848)1780  
K(Mn+HL)=3.60  
\*\*\*\*\*

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  
-----

Mn++ gl diox/w 25°C 60% U K1=5.74 B2=11.84 1981Kta (85859)1781  
\*\*\*\*\*

C13H15N3O5 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  
-----

Mn++ gl diox/w 25°C 60% U K1=5.28 B2=10.59 1981Kta (85868)1782  
\*\*\*\*\*

C13H15N3O5 HL CAS 76877-49-1 (1293)  
2-(4',5'-Dimethyl-2-thiazolylazo)-4-methyl-6-methoxyphenol;

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  diox/w 25°C 60% U          B2=10.60      1981KTa (85892)1783
*****
C13H16N4O5          HL                      CAS 76877-51-5 (1290)
2-(4',5'-Dimethyl-2-thiazolylazo)-5-dimethylaminophenol;
-----

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  diox/w 25°C 60% U          K1=7.11  B2=14.38  1981KTa (85944)1784
*****
C13H16N4O2          HL                      (8221)
N-[1-(Methylimidazol-2-yl)methyl]-N-(2-pyridylmethyl)glycine;
-----

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      oth oth/un 25°C 0.13M C      K1=6.0        2001PDa (85946)1785
Method: xanthine/xanthine oxidase assay.
*****
C13H17N3O          L    Aminopyrine      (2030)
1-Phenyl-2,3-dimethyl-4-dimethylamino-5-pyrazolone, Dimethylaminoantipyrine;
-----

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  KNO3   25°C 0.50M U          K1=0.74      1980LWa (86000)1786
*****
C13H18N2O4          H2L                      CAS 13933-94-3 (4028)
Pyridoxylidenevaline;
-----

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      sp  oth/un 25°C 0.10M U          K1=5.0        1961DRa (86043)1787
*****
C13H20N04P          H3L                      (1471)
2-Hydroxyphenyl-N-(cyclohexylamino)methylphosphonic acid;
C6H4(OH)CH(PO3H2).NH.C6H11
-----

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  NaClO4 20°C 0.10M U          K1=6.60      1985SIb (86093)1788
                          K(Mn+HL)=3.30
*****
C13H20N2O4S          HL                      CAS 2130-76-9 (5024)
4-Toluenesulfonyl lysine;
-----

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      vlt KCl    25°C 0.10M U          K1=3.74      1968RFa (86099)1789
*****

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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  
-----

Mn++ gl KNO3 25°C 0.10M C K1=3.61 2001CDb (86166)1790  
\*\*\*\*\*

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  
-----

Mn++ gl KNO3 20°C 0.10M U H K1=8.7 1964ANa (86200)1791  
K(Mn+HL)=5.6

By calorimetry: DH(K1)=3.76 kJ mol<sup>-1</sup>, DS=180 kJ mol<sup>-1</sup>

\*\*\*\*\*

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  
-----

Mn++ vlt KNO3 20°C 0.10M U K1=15.60 1974NLa (86231)1792  
\*\*\*\*\*

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  
-----

Mn++ gl KNO3 20°C 0.10M U K1=10.97 1981NSc (86259)1793  
\*\*\*\*\*

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  
-----

Mn++ vlt KNO3 20°C 0.10M U K1=15.47 1968NLb (86286)1794  
\*\*\*\*\*

C13H22N4 L (6710)

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  
-----

Mn++ gl KNO3 25°C 0.10M C K1=5.477 1993CDa (86324)1795  
\*\*\*\*\*

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  
-----

Mn++ gl KCl 25°C 0.10M C K1=5.10 1995IOb (86348)1796  
K(MnL+H)=3.37

\*\*\*\*\*

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  
-----

Mn++ gl R4N.X 25°C 0.10M C K1=8.03 1998CCd (86413)1797  
\*K(MnL)=-10.89

Medium: 0.10 M Me4NNO3.

\*\*\*\*\*

C14H8N3O8S2F3 HL (9231)  
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  
-----

Mn++ gl KCl 25°C 0.1M U K1=7.27 B2=13.67 2004ACa (86611)1798

\*\*\*\*\*

C14H8O3 HL CAS 129-43-1 (2778)  
1-Hydroxyanthraquinone;

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

Mn++ gl diox/w 30°C 75% U K1=9.03 B2=17.83 1960KFc (86630)1799

\*\*\*\*\*

C14H8O7S H3L DASA CAS 83-61-4 (950)  
1,2-Dihydroxyanthraquinone-3-sulfonic acid, Alizarin Red S;

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

Mn++ sp oth/un 25°C 0.03M U 1981SPc (86741)1800  
K(Mn+HL)=5.63

\*\*\*\*\*

C14H9NO2 HL CAS 641-63-4 (4038)  
2-(2'-Pyridyl)indan-1,3-dione;

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

Mn++ gl diox/w 30°C 75% U K1=8.06 B2=15.74 1964Cmb (86789)1801

\*\*\*\*\*

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  
-----

Mn++ gl diox/w 30°C 50% U T H K1=5.74 B2= 7.92 1978SJC (86932)1802  
Medium: 50% dioxane/H2O, 0.10 M NaClO4. At 40 C, K1=5.54, K2=2.00.

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  
-----

Mn++ gl diox/w 25°C 30% U K1=5.04 1978CPb (86957)1803  
Medium: 30% v/v dioxane/H2O, 0.20 M NaClO4.

\*\*\*\*\*

C14H11NO4 H2L CAS 156357-30-1 (8320)  
N-(p-Carboxyphenyl)benzohydroxamic acid;

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

Mn++ gl diox/w 30°C 50% U K1=7.77 B2=13.71 1994JBb (86976)1804  
Medium: 50% v/v dioxane/H2O, 0.10 M NaClO4.

For N-(o-carboxyphenyl)benzohydroxamic acid, K1=7.53, K2=5.69.

\*\*\*\*\*

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  
-----

Mn++ gl diox/w 25°C 50% C M K1=7.15 2001AMc (87064)1805  
B(Mn(gly)L)=13.20

Medium: 50% v/v dioxane/H2O

-----  
Mn++ gl diox/w 25°C 50% U K1=5.15 1989PMb (87065)1806  
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  
-----

Mn++ gl diox/w 25°C 50% C M K1=7.30 2001AMc (87096)1807  
B(Mn(gly)L)=13.50

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  
-----

Mn++ dis KCl 25°C 0.10M U K1=<3 1962IMa (87131)1808  
\*\*\*\*\*

C14H12N2O3 H2L CAS 4870-46-6 (3432)  
2-Hydroxy-5-methyl-2'-carboxy-azobenzene; HO.C6H3(CH3).N:N.C6H4.CO2H

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

Mn++ gl diox/w 30°C 75% U 1957SFb (87218)1809  
K(Mn+H2L=MnL+2H)=-10.6

\*\*\*\*\*  
C14H12N2O4 HL (179)  
N-3-Tolyl-3-nitrobenzohydroxamic acid; O2N.C6H4.CO.N(C6H4.CH3).OH

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

Mn++ gl diox/w 25°C 50% U T K1=5.90 B2=11.68 1977VKa (87263)1810  
At 35 C: K1=5.86, K2=5.75

\*\*\*\*\*  
C14H12N2O4 HL CAS 85407-74-5 (180)  
N-4-Tolyl-2-nitrobenzohydroxamic acid; O2N.C6H4.CO.N(C6H4.CH3).OH

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

Mn++ gl diox/w 25°C 50% U T K1=5.82 B2=10.52 1977VKa (87276)1811  
At 35 C: K1=5.78, K2=4.65

\*\*\*\*\*  
C14H12N2O4 HL (221)  
N-4-Tolyl-3-nitrobenzohydroxamic acid; O2N.C6H4.CO.N(C6H4.CH3).OH

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

Mn++ gl diox/w 25°C 50% U T K1=5.74 B2=10.35 1977VKa (87289)1812  
At 35 C: K1=5.70, K2=4.37

\*\*\*\*\*  
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  
-----

Mn++ gl alc/w 30°C 50% U K1=5.10 1986SBa (87331)1813

\*\*\*\*\*  
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  
-----

Mn++ gl alc/w 30°C 50% U K1=3.10 1986SBa (87342)1814

\*\*\*\*\*  
C14H12O3 HL Benzilic acid 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  
-----

Mn++ sp oth/un ? ? U K1=6.7 1976SCb (87350)1815

\*\*\*\*\*  
C14H12O4 H3L (2741)  
2,4,6-Trihydroxydeoxybenzoin, 2,4,6-trihydroxyphenylacetophenone;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl alc/w 30°C 50% U K1=3.27 1986SBa (87358)1816  
\*\*\*\*\*  
C14H13NO HL CAS 3246-73-9 (5056)  
N-(Salicylidene)-2-methylaniline; CH3.C6H4.N:CH.C6H4.OH  
-----

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl diox/w 27°C 50% U K1=3.74 1972SDb (87369)1817  
Medium: 50% dioxan, 0.1 M NaClO4  
\*\*\*\*\*  
C14H13NO HL CAS 952-81-8 (5057)  
N-(Salicylidene)-3-methylaniline; CH3.C6H4.N:CH.C6H4.OH  
-----

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl diox/w 27°C 50% U K1=3.85 B2=7.28 1972SDb (87376)1818  
Medium: 50% dioxan, 0.1 M NaClO4  
\*\*\*\*\*  
C14H13NO HL CAS 982-76-3 (5058)  
N-(Salicylidene)-4-methylaniline; CH3.C6H4.N:CH.C6H4.OH  
-----

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl diox/w 27°C 50% U K1=3.79 1972SDb (87386)1819  
Medium: 50% dioxan, 0.1 M NaClO4  
\*\*\*\*\*  
C14H13NO2 HL DPAHA CAS 4463-22-3 (880)  
2,2'-Diphenylacetohydroxamic acid; (C6H5)2.CH.CO.NH.OH  
-----

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl alc/w 20°C 50% U TIH K1=4.65 B2=8.52 1979RSb (87405)1820  
DH(K1)=-11.5 kJ mol<sup>-1</sup>, DS=50.1 J K<sup>-1</sup> mol<sup>-1</sup>, DH(K2)=-10.6, DS=37.5  
\*\*\*\*\*  
C14H13NO2 HL N,2'-DPAHA CAS 13663-57-5 (879)  
N,2'-Diphenylacetohydroxamic acid; C6H5.CH2.CO.N(C6H5).OH  
-----

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl alc/w 20°C 50% U T H K1=4.60 B2=8.36 1985RSd (87428)1821  
30 C:K1=4.46, K2=3.63; 40 C, K1=4.31, K2=3.50; 50 C, K1=4.20, K2=3.40  
DH(K1)=-21.8 kJ mol<sup>-1</sup>, DS=10 J K<sup>-1</sup> mol<sup>-1</sup>; DH(K2)=-22.4, DS=2.4  
-----

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl alc/w 30°C 50% U T K1=4.46 B2=8.09 1981RSa (87429)1822  
Medium: 50% v/v EtOH, 0.1 M KNO3  
\*\*\*\*\*  
C14H13NO2 HL CAS 1503-92-0 (1817)  
-----

N-(4-Tolyl)benzohydroxamic acid; C6H5.CO.N(C6H4.CH3).OH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl diox/w 30°C 50% U K1=9.37 B2=16.61 1994JBb (87446)1823  
Medium: 50% v/v dioxane/H2O, 0.10 M NaClO4.

-----  
Mn++ gl diox/w 25°C 70% U K1=5.78 B2=10.32 1969JSa (87447)1824  
\*\*\*\*\*  
C14H13NO2 HL CAS 1143-74-2 (4044)  
N-2-Tolylbenzohydroxamic acid; C6H5.CO.N(C6H4.CH3).OH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl diox/w 30°C 50% U K1=10.34 B2=19.02 1994JBb (87477)1825  
Medium: 50% v/v dioxane/H2O, 0.10 M NaClO4.

-----  
Mn++ gl diox/w 25°C 50% U T K1=6.25 B2=11.45 1979AMa (87478)1826  
At 35 C, K1=6.14, K2=5.10. Also data for the 4-methyl-, 4-methoxy-,  
4-fluoro-, 4-chloro-, 4-bromo- and 4-nitro-benzohydroxamic acid derivatives.

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Mn++ gl diox/w 25°C 50% U K1=6.39 B2=12.01 1972STf (87479)1827

-----  
Mn++ oth diox/w 25°C 70% U K1=9.75 1968JSc (87480)1828  
\*\*\*\*\*  
C14H13NO2 HL CAS 14489-88-4 (203)  
N-3-Tolylbenzohydroxamic acid; C6H5.CO.N(C6H4.CH3).OH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl diox/w 25°C 70% U T K1=7.37 B2=13.97 1975SAa (87492)1829  
\*\*\*\*\*  
C14H13NO2 HL CAS 17120-15-9 (380)  
N-Phenyl-2-methylbenzohydroxamic acid; CH3.C6H4.CO.N(C6H5)OH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl diox/w 25°C 50% U T K1=6.61 B2=11.53 1977AGb (87513)1830  
At 35 C: K1=6.46

-----  
Mn++ gl diox/w 25°C 50% U T H K1=6.61 B2=11.53 1977AGc (87514)1831  
At 35 C: K1=6.46, K2=4.77. DH(K1)=-26.4 and DH(K2)=-26.4 kJ mol<sup>-1</sup>

-----  
Mn++ gl diox/w 35°C 50% U K1=6.46 B2=11.23 1974ATa (87515)1832

-----  
Mn++ oth diox/w 30°C 50% U K1=6.33 B2=11.92 1973ASa (87516)1833  
\*\*\*\*\*  
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 |
|-------|-----|--------|------|------|-----|-------|-----------------|-----------------|--------|
| Mn++  | gl  | alc/w  | 25°C | 50%  | U   |       | K1=3.45 B2=6.20 | 1977DWa (87529) | 1834   |

\*\*\*\*\*  
 C14H13N03 H2L (1386)  
 2-Hydroxy-5-methoxybenzophenone oxime; HO(CH3O)C6H3.C(:NOH)C6H5

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

|      |    |        |      |     |   |  |         |                 |      |
|------|----|--------|------|-----|---|--|---------|-----------------|------|
| Mn++ | gl | diox/w | 30°C | 50% | U |  | K1=5.66 | 1982UVa (87538) | 1835 |
|------|----|--------|------|-----|---|--|---------|-----------------|------|

\*\*\*\*\*

C14H13N03 HL CAS 34661-16-0 (1124)  
 N-Phenyl-2-methoxybenzohydroxamic acid; CH3O.C6H4.CO.N(C6H5)OH

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

|      |    |        |      |     |       |  |                  |                 |      |
|------|----|--------|------|-----|-------|--|------------------|-----------------|------|
| Mn++ | gl | diox/w | 25°C | 50% | U T H |  | K1=6.98 B2=12.83 | 1977AGc (87564) | 1836 |
|------|----|--------|------|-----|-------|--|------------------|-----------------|------|

At 35 C: K1=6.80, K2=5.67. DH(K1)=-31.7 and DH(K2)=-31.7 kJ mol<sup>-1</sup>

|      |    |        |      |     |   |  |                  |                 |      |
|------|----|--------|------|-----|---|--|------------------|-----------------|------|
| Mn++ | gl | diox/w | 35°C | 50% | U |  | K1=6.80 B2=12.47 | 1974ATa (87565) | 1837 |
|------|----|--------|------|-----|---|--|------------------|-----------------|------|

\*\*\*\*\*

C14H13N3O2 HL (4045)  
 1-(4'-Acetylphenyl)-3-hydroxy-3-phenyltriazene;

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

|      |    |        |      |     |   |  |                  |                 |      |
|------|----|--------|------|-----|---|--|------------------|-----------------|------|
| Mn++ | gl | diox/w | 25°C | 70% | U |  | K1=6.09 B2=10.89 | 1964PSe (87593) | 1838 |
|------|----|--------|------|-----|---|--|------------------|-----------------|------|

Medium: 70% dioxan, 0.1 M KCl

\*\*\*\*\*  
 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 |
|-------|-----|--------|------|------|-----|-------|-------------|-----------|--------|
|-------|-----|--------|------|------|-----|-------|-------------|-----------|--------|

|      |    |        |      |     |   |  |        |                 |      |
|------|----|--------|------|-----|---|--|--------|-----------------|------|
| Mn++ | gl | diox/w | 25°C | 50% | U |  | K1=1.9 | 1979POa (87636) | 1839 |
|------|----|--------|------|-----|---|--|--------|-----------------|------|

Medium: 50% dioxan/H2O, 0.1 M NaClO4

\*\*\*\*\*  
 C14H15N5OS HL CAS 220035-48-3 (8653)  
 alpha-Pyridoin 2-methylthiosemicarbazone;

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

|      |    |        |      |     |       |  |                  |                 |      |
|------|----|--------|------|-----|-------|--|------------------|-----------------|------|
| Mn++ | gl | diox/w | 30°C | 50% | U TIH |  | K1=7.59 B2=14.42 | 19980Fa (87783) | 1840 |
|------|----|--------|------|-----|-------|--|------------------|-----------------|------|

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.

\*\*\*\*\*  
 C14H15N5OS HL CAS 220035-52-9 (8654)  
 alpha-Pyridoin 4-methylthiosemicarbazone;

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

-----  
Mn++ gl diox/w 30°C 50% U TIH K1=7.60 B2=14.45 19980Fa (87789)1841  
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.

\*\*\*\*\*

C14H16N03P H2L CAS 25881-35-0 (1469)  
Phenyl-N-(benzylamino)methylphosphonic acid; C6H5.CH(PO3H2).NH.CH2.C6H5

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

Mn++ gl NaCl04 20°C 0.10M U K1=6.30 1985SIb (87812)1842  
K(Mn+HL)=3.05

\*\*\*\*\*

C14H16N04P 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  
-----

Mn++ gl NaCl04 20°C 0.10M U K1=6.60 1985SIb (87825)1843  
K(Mn+HL)=3.30

\*\*\*\*\*

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  
-----

Mn++ gl NaCl04 25°C 0.10M M K1=3.70 B2= 6.62 2003GSa (87913)1844

\*\*\*\*\*

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  
-----

Mn++ cal NaCl04 25°C 1.00M U H K1=11.37 1987MNa (87959)1845  
DH(K1)=-3.3 kJ mol<sup>-1</sup>; DS(K1)=207 J K<sup>-1</sup> mol<sup>-1</sup>

-----  
Mn++ gl NaCl04 25°C 1.00M C 1985NKa (87960)1846

K(MnL+H)=2.29  
K(MnHL+H)=1.7  
K(MnH-1L+H)=11.5

\*\*\*\*\*

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  
-----

Mn++ gl KCl 25°C 0.10M U K1=3.10 1968UHa (87983)1847  
K(Mn+H2L)=1.5  
K(Mn+HL)=2.10  
B(Mn2L)=5.0



\*\*\*\*\*  
 C14H16N2O8 H4L (6108)  
 1,3-Phenylenediamine-N,N'-disuccinic acid;

| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values  | Reference       | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|---|-----------------|--------|
| Mn++  | gl  | NaCl   | 25°C | 0.50M | C   |       |    | K1=2.306<br>B(MnH2L)=10.929<br>B(MnHL)=7.174<br>B(Mn2L)=3.067 | 1989FRa (87992) | 1848   |

\*\*\*\*\*  
 C14H16N2O8 H4L CAS 91856-15-4 (8449)  
 1,4-Phenylenediamine-N,N'-disuccinic acid;

| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values                                 | Reference       | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|--|-----------------|--------|
| Mn++  | gl  | NaCl   | 25°C | 0.50M | C   |       |    | K1=2.82<br>B(MnHL)=8.09<br>K(Mn+HL)=1.46 | 1984RFe (88013) | 1849   |

\*\*\*\*\*  
 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 |
|-------|-----|--------|------|-------|-----|-------|----|--------------------------|-----------------|--------|
| Mn++  | gl  | NaCl04 | 20°C | 0.10M | U   |       |    | K1=7.60<br>K(Mn+HL)=3.50 | 1985SIb (88045) | 1850   |

\*\*\*\*\*  
 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 |
|-------|-----|--------|------|------|-----|-------|----|----------|-----------------|--------|
| Mn++  | gl  | alc/w  | 25°C | 0.2M | U   |       |    | K1=5.15  | 1999MTc (88065) | 1851   |

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 |
|-------|-----|--------|------|-------|-----|-------|----|----------|-----------------|--------|
| Mn++  | gl  | KNO3   | 25°C | 0.10M | U   | H     |    | K1=5.60  | 1975APc (88114) | 1852   |

DH(K1)=-18.8 kJ mol<sup>-1</sup>, DS=43.5 J K<sup>-1</sup> mol<sup>-1</sup>

\*\*\*\*\*  
 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 |
|-------|-----|--------|------|-------|-----|-------|----|----------|-----------------|--------|
| Mn++  | gl  | oth/un | 25°C | 0.10M | U   |       |    | K1=5.9   | 1964PCa (88115) | 1853   |

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values | Reference       | ExptNo |
|-------|-----|--------|------|------|-----|-------|-------------|-----------------|--------|
| Mn++  | con | mixed  | 25°C | 90%  | C   |       | K1=2.19     | 2003ISa (88306) | 1854   |

Medium: 90% v/v DMSO/H2O.

|      |     |       |      |     |   |  |         |                 |      |
|------|-----|-------|------|-----|---|--|---------|-----------------|------|
| Mn++ | con | alc/w | 25°C | 40% | C |  | K1=1.88 | 2002ISa (88307) | 1855 |
|------|-----|-------|------|-----|---|--|---------|-----------------|------|

Medium: 40% EtOH/H2O.

|      |     |       |      |     |   |  |         |                 |      |
|------|-----|-------|------|-----|---|--|---------|-----------------|------|
| Mn++ | con | alc/w | 25°C | 40% | C |  | K1=1.98 | 2001ISa (88308) | 1856 |
|------|-----|-------|------|-----|---|--|---------|-----------------|------|

Medium: 40% v/v EtOH/H2O.

\*\*\*\*\*  
 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 |
|-------|-----|--------|------|-------|-----|-------|-------------|-----------------|--------|
| Mn++  | cal | KNO3   | 25°C | 0.10M | U   | H     |             | 1965WHa (88717) | 1857   |

DH(K1)=-29.7 kJ mol<sup>-1</sup>, DS=217 J K<sup>-1</sup> mol<sup>-1</sup>

|      |     |      |      |       |   |     |  |                 |      |
|------|-----|------|------|-------|---|-----|--|-----------------|------|
| Mn++ | cal | KNO3 | 20°C | 0.10M | U | T H |  | 1963ANb (88718) | 1858 |
|------|-----|------|------|-------|---|-----|--|-----------------|------|

DH(K1)=-17.3 kJ mol<sup>-1</sup>, DS1=274 J K<sup>-1</sup> mol<sup>-1</sup>

|      |     |      |      |       |   |   |          |                 |      |
|------|-----|------|------|-------|---|---|----------|-----------------|------|
| Mn++ | cal | KNO3 | 20°C | 0.10M | U | H | K1=17.43 | 1963ANf (88719) | 1859 |
|------|-----|------|------|-------|---|---|----------|-----------------|------|

DH(K1)=17.3 kJ mol<sup>-1</sup>, DS=276 J K<sup>-1</sup> mol<sup>-1</sup>

|      |     |        |      |       |   |  |          |                 |      |
|------|-----|--------|------|-------|---|--|----------|-----------------|------|
| Mn++ | dis | NaClO4 | 20°C | 0.10M | U |  | K1=14.70 | 1963STc (88720) | 1860 |
|------|-----|--------|------|-------|---|--|----------|-----------------|------|

|      |     |      |      |       |   |  |                           |                 |      |
|------|-----|------|------|-------|---|--|---------------------------|-----------------|------|
| Mn++ | vlt | KNO3 | 20°C | 0.10M | U |  | K1=16.78<br>K(MnL+H)=2.28 | 1954SGa (88721) | 1861 |
|------|-----|------|------|-------|---|--|---------------------------|-----------------|------|

\*\*\*\*\*  
 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 |
|-------|-----|--------|------|-------|-----|-------|---|-----------------|--------|
| Mn++  | gl  | KNO3   | 25°C | 0.10M | U   |       | K1=8.60<br>K(Mn+H2L)=2.21<br>K(Mn+HL)=6.87<br>B(Mn2L)=12.94<br>B(Mn2L2)=19.98 | 1988TGe (88898) | 1862   |

\*K(MnH2L)=-4.91, \*K(MnHL)=-7.54.

\*\*\*\*\*  
 C14H22O2                      H2L                      (4036)  
 1,2-Dihydroxy-3,5-bis(1',1'-dimethylethyl)benzene;

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values | Reference       | ExptNo |
|-------|-----|--------|------|------|-----|-------|-------------|-----------------|--------|
| Mn++  | gl  | alc/w  | 25°C | 50%  | U   |       |             | 1968TMa (88984) | 1863   |

K(Mn+H2L=Mn(OH)HL+2H)=-14.68

$$K(\text{Mn}+2\text{H}_2\text{L}=\text{Mn}(\text{HL})_2+2\text{H})=-12.23$$

Medium: 50% MeOH, 0.1 M KNO<sub>3</sub>

\*\*\*\*\*

C14H<sub>23</sub>N<sub>3</sub>O<sub>10</sub> H5L DTPA CAS 67-43-6 (238)  
Diethylenetriamine-pentaethanoic acid; HOOC.CH<sub>2</sub>.N(CH<sub>2</sub>.CH<sub>2</sub>.N(CH<sub>2</sub>.COOH)<sub>2</sub>)<sub>2</sub>

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl NaCl 37°C 0.15M C K1=14.31 1984DMb (89315)1864  
B(MnHL)=18.72  
B(MnH<sub>2</sub>L)=21.49

-----  
Mn++ cal KNO<sub>3</sub> 20°C 0.10M U T H 1965ANa (89316)1865  
DH(K1)=-30.0 kJ mol<sup>-1</sup>, DS=196.5 J K<sup>-1</sup> mol<sup>-1</sup>

-----  
Mn++ cal KNO<sub>3</sub> 25°C 0.10M U H 1965WHa (89317)1866  
DH(K1)=-31.4 kJ mol<sup>-1</sup>, DS=192 J K<sup>-1</sup> mol<sup>-1</sup>

-----  
Mn++ EMF KNO<sub>3</sub> 25°C 0.10M U K1=15.5 1960HRa (89318)1867

-----  
Mn++ gl KNO<sub>3</sub> 25°C 0.10M C K1=15.5 1960WAa (89319)1868  
K(MnL+H)=4.5

-----  
Mn++ EMF oth/un 20°C 0.10M U K1=15.60 1959ANd (89320)1869  
K(MnL+Mn)=2.09  
K(Mn+HL)=8.63

-----  
Mn++ gl KNO<sub>3</sub> 25°C 0.10M U K1=15.1 1959CFc (89321)1870

-----  
Mn++ gl oth/un 20°C 0.10M U K1=15.13 1958DRa (89322)1871

\*\*\*\*\*

C14H<sub>24</sub>N<sub>2</sub>O<sub>8</sub> 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  
-----  
Mn++ vlt KNO<sub>3</sub> 20°C 0.10M U K1=13.19 1969NDc (89514)1872

\*\*\*\*\*

C14H<sub>24</sub>N<sub>2</sub>O<sub>8</sub> H4L (7165)  
1,2-Diaminohexane-N,N,N',N'-tetraethanoic acid; (HOOCCH<sub>2</sub>)NCH<sub>2</sub>CH(C<sub>4</sub>H<sub>9</sub>)N(CH<sub>2</sub>COOH)<sub>2</sub>

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ vlt KNO<sub>3</sub> 20°C 0.10M U K1=15.59 1974NLa (89534)1873

\*\*\*\*\*

C14H<sub>24</sub>N<sub>2</sub>O<sub>8</sub> H4L HMDTA CAS 1633-00-7 (920)  
1,6-Diaminohexane-N,N,N',N'-tetraethanoic acid; ((HOOC.CH<sub>2</sub>)<sub>2</sub>N.CH<sub>2</sub>.CH<sub>2</sub>.CH<sub>2</sub>)<sub>2</sub>

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

Mn++ gl KNO3 20°C 0.10M U H K1=9.03 1964ANa (89589)1874  
K(Mn+HL)=5.69

By calorimetry: DH(K1)=3.6 kJ mol<sup>-1</sup>, DS=185 J K<sup>-1</sup> mol<sup>-1</sup>

\*\*\*\*\*

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  
-----

Mn++ vlt KNO3 20°C 0.10M U K1=15.44 1968NLb (89637)1875

\*\*\*\*\*

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  
-----

Mn++ gl KCl 30°C 0.10M U K1=4.7 1953CCb (89687)1876

\*\*\*\*\*

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  
-----

Mn++ cal KNO3 25°C 0.10M U H 1965WHa (89894)1877

DH(K1)=-36.8 kJ mol<sup>-1</sup>, DS=112.9 J K<sup>-1</sup> mol<sup>-1</sup>

-----  
Mn++ gl KNO3 20°C 0.10M U H K1=12.28 1964ANa (89895)1878

K(Mn+HL)=7.02

By calorimetry: DH(K1)=-34.1 kJ mol<sup>-1</sup>, DS=89.9 J K<sup>-1</sup> mol<sup>-1</sup>

-----  
Mn++ gl KNO3 20°C 0.10M U K1=12.11 1963FCa (89896)1879

K(Mn+HL)=6.59

-----  
Mn++ EMF KNO3 25°C 0.10M U K1=12.3 1960HRa (89897)1880

\*\*\*\*\*

C14H24N4 L CAS 106202-21-5 (6711)

7-Methyl-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  
-----

Mn++ gl KNO3 25°C 0.10M C K1=3.70 1993CDa (89999)1881

K(Mn(OH)L+H)=9.10

\*\*\*\*\*

C14H25N3O7 H3L (5397)

1-Oxa-4,7,10-triazacyclododecane-4,7,10-triethanoic acid;

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

Mn++ gl R4N.X 25°C 0.10M U K1=16.09 1988ADa (90088)1882

K(Mn+HL)=8.62

\*\*\*\*\*

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  
-----  
Mn++ cal R4N.X 25°C 0.10M U H 1989DSa (90197)1883  
DH(MnL)=-12.5 kJ mol<sup>-1</sup>; DS=188; (estimated values).

-----  
Mn++ gl R4N.X 25°C 0.10M C K1=12.111 1987DDb (90198)1884

\*\*\*\*\*

C14H26N4O6 H3L DOTRA (6701)  
1,4,7,10-Tetraazacyclododecane-1,4,7-triethanoic acid;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl R4N.X 25°C 0.10M C H K1=19.40 2001BCa (90253)1885  
K(MnL+H)=3.13

Medium: 0.10 M Me4NCl. By calorimetry: DH(K1)=-36.8 kJ mol<sup>-1</sup>,  
DH(MnL+H)=-8.8.

\*\*\*\*\*

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  
-----  
Mn++ gl R4N.X 25°C 0.10M U K1=7.08 1992CDa (90287)1886  
B(MnHL)=13.95

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  
-----  
Mn++ gl R4N.X 25°C 0.05M U K1=5.3 1999BDb (90404)1887  
Medium: Et4NC1O4

\*\*\*\*\*

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  
-----  
Mn++ gl R4N.X 25°C 0.10M C K1=5.28 1995LLa (90631)1888  
Medium: Et4NC1O4

\*\*\*\*\*

C14H34N4O6P2 H4L CAS 200952-02-9 (7644)  
1,4,7,10-Tetraazacyclododecane-1,7-bis(methanephosphonic acid monoethyl ester);

-----

| Metal   | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values        | Reference       | ExptNo |
|---|-----|--------|------|-------|-----|-------|----|-----------------|-----------------|--------|
| Mn++  | gl  | KCl    | 25°C | 0.10M | C   |       |    | K1=11.03        | 1998BRa (90846) | 1889   |
| *****   |     |        |      |       |     |       |    |                 |                 |        |
| 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 |
|-------|-----|--------|------|-------|-----|-------|----|--|-----------------|--------|
| Mn++  | gl  | KNO3   | 25°C | 1.00M | U   | M     |    | B(MnCuL)=34.1<br>K(Mn+Cu+HL)=29.7<br>K(Mn+CuL)=7.50<br>K(Mn+CuHL)=5.03 | 1988MKb (90874) | 1890   |

| Metal   | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values   | Reference       | ExptNo |
|---|-----|--------|------|-------|-----|-------|----|--|-----------------|--------|
| Mn++  | gl  | KNO3   | 25°C | 1.00M | U   |       |    | K1=10.8<br>K(Mn+HL)=10.0<br>K(Mn+H2L)=8.2<br>K(Mn+H3L)=5.6 | 1987PBa (90875) | 1891   |
| *****   |     |        |      |       |     |       |    |  |                 |        |
| C14H36N6  |     | L      |      | TAPEN |     |       |    | CAS 4879-98-5  | (5715)          |        |
| N,N,N',N'-Tetrakis(3-aminopropyl)diaminoethane; (-CH2.N(CH2.CH2.CH2.NH2)2)2 |     |        |      |       |     |       |    |  |                 |        |

| Metal                                       | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values     | Reference       | ExptNo |
|---|-----|--------|------|-------|-----|-------|----|--------------|-----------------|--------|
| Mn++  | gl  | KNO3   | 25°C | 0.50M | M   |       |    | K1=6.13      | 1986GMa (90899) | 1892   |
| *****                                       |     |        |      |       |     |       |    |              |                 |        |
| C14H37N7                                    |     | L      |      |       |     |       |    | CAS 298-85-5 | (5606)          |        |
| 1,4,7,10,13,16,19-Heptaazacycloheptacosane; |     |        |      |       |     |       |    |              |                 |        |

| Metal   | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values  | Reference       | ExptNo |
|---|-----|--------|------|-------|-----|-------|----|---|-----------------|--------|
| Mn++  | gl  | NaClO4 | 25°C | 0.15M | C   |       |    | K1=9.79   | 1991BBa (90914) | 1893   |
| *****   |     |        |      |       |     |       |    |   |                 |        |
| Mn++  | gl  | NaClO4 | 25°C | 0.15M | U   | H     |    | K1=9.79<br>DH(K1)=-20.9 kJ mol <sup>-1</sup> , DS(K1)=115 J mol <sup>-1</sup> K <sup>-1</sup> . | 1990BBc (90915) | 1894   |
| *****   |     |        |      |       |     |       |    |   |                 |        |
| 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 |
|---|-----|--------|------|------|-----|-------|----|------------------|-----------------|--------|
| Mn++  | gl  | alc/w  | 35°C | 40%  | C   | T H   |    | K1=7.05 B2=12.17 | 2004MUa (90968) | 1895   |
| Medium: 40% v/v EtOH/H2O, 0.1 M KCl. Data for 25 and 45 C. DH(K1)=31.59 kJ mol <sup>-1</sup> , DS(K1)=238 J K <sup>-1</sup> mol <sup>-1</sup> ; DH(K2)=29.68, DS(K2)=194. |     |        |      |      |     |       |    |                  |                 |        |
| *****   |     |        |      |      |     |       |    |                  |                 |        |
| C15H11NO  |     | HL     |      |      |     |       |    | CAS 6961-25-7    | (4059)          |        |
| 8-Hydroxy-2-phenylquinoline;  |     |        |      |      |     |       |    |                  |                 |        |

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

-----  
Mn++ gl diox/w 25°C 50% U K1=6.22 1954JFa (91047)1896  
\*\*\*\*\*  
C15H11N02 HL CAS 55022-23-6 (4061)  
2-(6'-Methyl-2'-pyridyl)indan-1,3-dione;  
-----

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

Mn++ gl diox/w 30°C 75% U K1=8.72 1964CMb (91063)1897  
\*\*\*\*\*  
C15H11N04 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  
-----

Mn++ gl alc/w 35°C 70% U K1=4.36 B2=8.37 1982SLb (91079)1898  
\*\*\*\*\*  
C15H11N3 L CAS 1148-79-4 (488)  
2,2':6'2"-Terpyridine; C5H4N.C5H3N.C5H4N  
-----

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

Mn++ gl oth/un 25°C 2.00M U K1=5.12 B2=9.19 1992IAa (91160)1899  
-----

Mn++ kin alc/w 25°C ? U K1=5.0 1973BMb (91161)1900  
Medium: MeOH, 0.2 M NaClO4  
-----

Mn++ kin oth/un 25°C var U K1=4.4 1966HHa (91162)1901  
\*\*\*\*\*  
C15H11N30 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  
-----

Mn++ sp alc/w 24°C 40% U B2=15.69 1973BJb (91230)1902  
Medium: 40% EtOH, 0.1 M NaClO4  
-----

Mn++ dis NaClO4 31°C 0.10M U B2=15.3 1963BFa (91231)1903  
-----

Mn++ gl diox/w 25°C 50% U K1=8.5 B2=16.4 1962CYa (91232)1904  
\*\*\*\*\*  
C15H11N30 HL (5108)  
2-(2'-Pyridylazo)-1-hydroxynaphthalene;  
-----

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

Mn++ sp alc/w 24°C 40% U B2=13.54 1973BJb (91258)1905  
Medium: 40% EtOH, 0.1 M NaClO4  
\*\*\*\*\*  
C15H11N30 HL CAS 4312-09-8 (989)  
-----

5-Phenylazo-8-hydroxyquinoline; C6H5.N:N.C9H5N.OH

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  diox/w 25°C 50% U      K1=6.2   B2=12.57 1965TFa (91269)1906
Medium: 50% dioxan, 0.1 M NaClO4
*****
C15H11N3O2      H2L                      (4062)
8-Hydroxy-5-(2'-hydroxyphenylazo)quinoline;
-----
```

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  diox/w 25°C 50% U      K1=7.1   B2=13.01 1965TFa (91280)1907
Medium: 50% dioxan, 0.1 M NaClO4
*****
C15H11N3O2      H2L                      CAS 4563-87-5 (4063)
8-Hydroxy-5-(3'-hydroxyphenylazo)quinoline;
-----
```

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  diox/w 25°C 50% U      K1=6.6   B2=12.52 1965TFa (91287)1908
Medium: 50% dioxan, 0.1 M NaClO4
*****
C15H11N3O2      H2L                      CAS 5087-35-4 (4064)
8-Hydroxy-5-(4'-hydroxyphenylazo)quinoline;
-----
```

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  diox/w 25°C 50% U      K1=6.6   B2=12.66 1965TFa (91294)1909
Medium: 50% dioxan, 0.1 M NaClO4
*****
C15H11N3O2      L                        CAS 74378-23-7 (2745)
Phenanthrenequinone monosemicarbazone; C14H8(:O)(:N.NH.CO.NH2)
-----
```

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  NaClO4 25°C 0.10M C TIH K1=5.96   B2=11.16 1985SMa (91307)1910
*****
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
-----
Mn++      gl  alc/w 35°C 70% U      K1=4.5   B2=8.40 1978SLb (91393)1911
Medium: 70% EtOH, 0.1 M KNO3
*****
C15H12OS      HL                      (1261)
mono-Thiodibenzoylmethane; C6H5.CO.CH2.CS.C6H5
-----
```

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
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Mn++ gl diox/w 30°C 75% U K1=7.43 B2=14.74 1969UTa (91495)1912  
Medium: 75% dioxan, 0.01 M Me4NI

Mn++ gl diox/w 30°C 75% U K1=7.67 B2=14.20 1966USa (91496)1913  
\*\*\*\*\*  
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

Mn++ gl diox/w 30°C 75% U K1=9.32 B2=17.79 1953UFe (91554)1914  
\*\*\*\*\*  
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

Mn++ gl diox/w 30°C 75% U K1=8.56 B2=16.33 1955H0a (91606)1915  
\*\*\*\*\*  
C15H13NO2S H2L (6851)  
Benzoylacetyl-2-thioanilide; C6H5.CO.CH2.CO.NH.C6H4.SH

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

Mn++ gl oth/un 25°C 0.10M U K1=8.40 1990AIa (91650)1916  
Data also for analogues with OH and COOH in place of SH  
\*\*\*\*\*  
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

Mn++ gl diox/w 25°C 50% C M K1=7.50 2001AMc (91705)1917  
B(Mn(gly)L)=13.83  
Medium: 50% v/v dioxane/H2O

\*\*\*\*\*  
C15H14N2O5S HL (9232)  
3-(5-Sulphonylnaphthylazo)penta-2,4-dione;

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

Mn++ gl KCl 25°C 0.1M U H K1=6.91 2004ACb (91736)1918  
for 35 C K1=6.77; for 45 C K1=6.64  
\*\*\*\*\*  
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

Mn++ gl diox/w 30°C 75% U K1=5.26 B2=8.99 1970KDa (91781)1919  
Medium: 75% dioxan, 0.1 M NaClO4

\*\*\*\*\*

C15H15N02 HL (2908)  
N-(3-Tolyl)-4'-tolylhydroxamic acid; CH3.C6H4.CO.N(C6H4.CH3)OH

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

Mn++ gl diox/w 25°C 50% U T H K1=6.50 B2=11.85 1977AGe (91835)1920

\*\*\*\*\*

C15H15N02 HL (1167)  
N-(4-Tolyl)-4'-tolylhydroxamic acid; CH3.C6H4.CO.N(C6H4.CH3)OH

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

Mn++ gl diox/w 25°C 50% U I K1=6.1 B2=12.30 1976AKa (91844)1921  
In 60% dioxan: K1=7.4, K2=6.6; 70%: 8.9, 8.1

\*\*\*\*\*

C15H15N03 HL (6240)  
N-4-Tolyl-4'-methoxybenzohydroxamic acid; CH3O.C6H4.CO.N(C6H4.CH3).OH

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

Mn++ gl diox/w 25°C 50% M TI K1=6.34 B2=11.62 1979AGb (91866)1922  
Data for 25 and 35 C and for 0-70% dioxan/H2O.

\*\*\*\*\*

C15H16N2O2 HL CAS 7397-15-1 (6853)  
Peonolphenylhydrazone;

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

Mn++ gl diox/w 20°C 75% U T K1=11.43 B2=21.26 1991NNa (91926)1923  
30 C: K1=11.12, K2=9.71; 40 C: K1=10.92, K2=9.12

\*\*\*\*\*

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  
-----

Mn++ gl alc/w 20°C 75% U T H K1=9.08 B2=16.20 1993RAa (92031)1924  
Medium: 75% v/v MeOH/H2O; 0.10 M KNO3. 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  
-----

Mn++ gl KCl 25°C 0.10M C K1=2.85 1997DMa (92052)1925  
K(Mn+H2L)=1.38  
K(Mn+HL)=2.03

K(2Mn+HL)=3.6  
K(2Mn+HL+L)=7.71

B(Mn2L2)=8.07

\*\*\*\*\*

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  
-----  
Mn++ oth oth/un 25°C 0.10M U K1=3.5 1969RMa (92062)1926  
K(MnL+H)=5.3

\*\*\*\*\*

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  
-----  
Mn++ gl KCl 25°C 0.10M U K1=3.16 1992DRb (92070)1927  
B(MnH2L)=13.44  
B(MnHL)=9.15

\*\*\*\*\*

C15H18N2O8 H4L (6114)  
2,5-Toluenediamine-N,N'-disuccinic acid;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl NaCl 25°C 0.50M C K1=2.487 1989FRa (92094)1928  
B(MnHL)=7.983  
B(MnH2L)=12.127

\*\*\*\*\*

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  
-----  
Mn++ gl KNO3 25°C 0.10M U H K1=4.45 1975APc (92183)1929  
DH(K1)=-13.4 kJ mol<sup>-1</sup>, DS=40.6 J K<sup>-1</sup> mol<sup>-1</sup>

\*\*\*\*\*

C15H27N3O6 H3L (6514)  
1,5,9-Triazacyclododecane-N,N',N''-triethanoic acid;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl R4N.X 25°C 0.10M M K1=12.8 1990CBc (92465)1930  
Medium: Me4NCl

\*\*\*\*\*

C15H28N2O8 H2L (7126)  
1,4,10,13-Tetraoxa-7,16-diazacyclooctadecane-7-malonic acid;

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

-----  
Mn++ gl NaCl 25°C 0.15M U K1=5.60 1995BGa (92495)1931  
\*\*\*\*\*  
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  
-----

Mn++ gl R4N.X 25°C 0.10M C I K1=4.1 1991DLA (92521)1932  
In 95% v/v MeOH/H2O: K1=5.23  
\*\*\*\*\*  
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  
-----

Mn++ gl mixed 25°C 75% U K1=6.02 1972MCb (92658)1933  
Medium: 75% acetone, 0.1 M KNO3  
\*\*\*\*\*  
C16H9N4O4BrS2 H2L CAS 62312-95-2 (2585)  
7-(6-Br-2-benzothiazolylazo)-8-hydroxyquinoline-5-sulfonic acid;  
-----

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

Mn++ sp diox/w 25°C 50% U K1=5.28 1977RIa (92677)1934  
\*\*\*\*\*  
C16H11N2OBr HL CAS 7150-24-5 (5172)  
1-(4-Bromophenylazo)-2-hydroxynaphthalene;  
-----

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

Mn++ gl mixed 25°C 75% U K1=6.29 1972MCb (92700)1935  
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  
-----

Mn++ gl mixed 25°C 75% U K1=5.66 1972MCb (92715)1936  
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  
-----

Mn++ gl mixed 25°C 75% U K1=6.04 1972MCb (92730)1937  
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  
-----  
Mn++ gl mixed 25°C 75% U K1=6.68 1972MCb (92745)1938  
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  
-----  
Mn++ gl diox/w 30°C 75% U K1=14.19 1952SNa (92762)1939  
\*\*\*\*\*

C16H11N3O3 HL CAS 6410-09-9 (5151)  
1-(2-Nitrophenylazo)-2-hydroxynaphthalene;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl mixed 25°C 75% U K1=4.07 1972MCb (92799)1940  
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  
-----  
Mn++ gl mixed 25°C 75% U K1=4.19 1972MCb (92814)1941  
Medium: 75% acetone, 0.1 M KNO3

\*\*\*\*\*  
C16H11N3O3S HL CAS 35778-69-9 (4090)  
Diphenylthiovioluric acid;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl diox/w 30°C 75% U K1=3.09 1973CSb (92826)1942  
Medium: 75% dioxan, 0.1 M NaClO4

\*\*\*\*\*  
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  
-----  
Mn++ gl diox/w 30°C 75% C K1=3.10 B2=5.98 1978MGb (92835)1943  
\*\*\*\*\*

C16H11N5O HL (6785)  
5-(4-Benzimidazolylazo)-8-hydroxyquinoline;

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

-----  
Mn++ gl NaCl 25°C 0.10M M K1=6.92 B2=11.56 19910Ea (92889)1944  
\*\*\*\*\*

C16H12N2 L (6848)

6-Phenyl-2,2'-bipyridyl;  
-----

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

Mn++ gl oth/un 25°C 2.00M U K1=2.07 B2=3.87 1992IAa (92907)1945  
K3=1.50

\*\*\*\*\*  
C16H12N2O HL CAS 842-07-9 (5156)

1-Phenylazo-2-hydroxynaphthalene;  
-----

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

Mn++ gl mixed 25°C 75% U K1=7.32 1972MCb (92920)1946

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  
-----

Mn++ gl mixed 25°C 75% U 1972MCb (92954)1947

K(Mn+HL)=7.24

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  
-----

Mn++ gl mixed 25°C 75% U 1972MCb (92972)1948

K(Mn+HL)=6.96

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  
-----

Mn++ gl mixed 25°C 75% U K1=3.92 1972MCb (93001)1949

Medium: 75% acetone, 0.1 M KNO3  
\*\*\*\*\*

C16H12O2 HL CAS 56461-08-6 (3453)

2-Benzoylindan-1-one;  
-----

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

Mn++ gl diox/w 30°C 75% U K1=8.72 B2=15.71 1959MFa (93144)1950

\*\*\*\*\*

C16H13N2OCl HL CAS 36458-49-8 (5181)

2-(4-Chlorophenylaminomethyl)-8-hydroxyquinoline;

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

Mn++ gl diox/w 25°C 50% U K1=6.8 1972HUb (93168)1951

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  
-----

Mn++ gl oth/un 30°C ? U K1=8.96 1964PCa (93202)1952

\*\*\*\*\*

C16H14N2O HL (1318)

2-(2-Hydroxynaphthyliminomethyl)pyridine;

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

Mn++ gl diox/w 25°C 50% A K1=4.59 1981RUa (93413)1953

\*\*\*\*\*

C16H14N2O2 H2L CAS 36458-47-6 (5158)

2-(2-Hydroxyphenylaminomethyl)-8-hydroxyquinoline;

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

Mn++ gl diox/w 25°C 50% U K1=9.50 1972HUa (93427)1954

K(Mn+HL)=5.94

K(MnHL+HL)=6.36

Medium: 50% v/v dioxan, 0.1 M KCl

\*\*\*\*\*

C16H14N4O2 H2L (3467)

5-Hydroxy-4-(2-hydroxyphenylazo)-3-methyl-1-phenylpyrazole;

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

Mn++ gl diox/w 30°C 75% U K1=13.16 1952SNa (93474)1955

K(Mn+H2L=MnL+2H)=-10.6

\*\*\*\*\*

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  
-----

Mn++ gl diox/w 30°C 75% U K1=9.51 1955H0a (93551)1956

\*\*\*\*\*

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
-----
Mn++      gl  alc/w  35°C  70% U          K1=5.4   B2=10.60  1978SLb (93571)1957
Medium: 70% EtOH, 0.1 M KNO3
```

```
*****
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
-----
Mn++      gl  alc/w  25°C  0.2M U          K(Mn+HL)=4.17  1999MTc (93683)1958
Medium: 0.2 M KCl in 3:7 v/v H2O/EtOH
```

```
*****
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
-----
Mn++      gl  NaCl04 25°C 0.10M C          K1=5.226 B2= 8.69  2001SGe (93712)1959
```

```
*****
C16H18N2O4S      HL  Penicillin G  CAS 69-57-8 (942)
Benzylpenicillin;
```

```
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  NaCl04 20°C 0.10M U T          K1=5.00   K2=4.35  1982CTa (93807)1960
K1 and K2 also supplied at 20 and 30 degrees
```

```
*****
C16H18N2O5S      HL  Penicillin V  CAS 87-08-1 (943)
Phenoxymethylpenicillinic acid, 4-Thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid;
```

```
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  NaCl04 20°C 0.10M U T          K1=4.45   B2=8.40  1982CTa (93818)1961
K1 & K2 also supplied at 30 and 40 degrees
```

```
*****
C16H18O9          HL  Chlorogenic acid CAS 327-97-9 (2844)
3-(3',4'-Dihydroxycinnamoyl)-1,3,4,5-tetrahydroxycyclohexane carboxylic acid;
```

```
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  KNO3   20°C  1M U          K1=7.02   B2=12.13  1996AAa (93900)1962
```

```
*****
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  
-----  
Mn++ gl diox/w 30°C 60% U K1=5.68 B2=9.75 1979PJa (93909)1963  
\*\*\*\*\*  
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  
-----  
Mn++ gl KNO3 20°C 0.10M U K1=14.58 1989SLa (94043)1964  
K was determined by a competitive reaction with TREN  
-----

-----  
Mn++ vlt KNO3 20°C 0.10M U K1=14.58 1969NDb (94044)1965  
\*\*\*\*\*  
C16H20N2O10 H6L (704)  
1,2-Dihydroxy-3,6-di-(methyleneiminodiethanoic acid)-benzene;  
-----

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl KNO3 25°C 0.10M C K1=11.02 1988ZHa (94066)1966  
K(Mn+H2L)=8.21  
K(Mn+HL)=10.55  
K(MnHL+H)=8.82  
K(MnL+H)=11.39  
-----

B(Mn2L)=22.9  
\*\*\*\*\*  
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  
-----  
Mn++ gl oth/un 25°C 0.0 U 1970TTb (94076)1967  
K(Mn+HL)=10.3  
K(Mn+H2L)=8.1  
K(Mn+H3L)=6.5  
K(2Mn+HL)=18.0  
-----

-----  
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  
-----  
Mn++ gl KNO3 25°C 0.10M U H K1=2.57 1975APc (94182)1968  
DH(K1)=-0.8 kJ mol<sup>-1</sup> DS=47.7 J K<sup>-1</sup> mol<sup>-1</sup>  
\*\*\*\*\*  
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 |
|-------|-----|--------|------|-------|-----|-------|--|-----------------|--------|
| Mn++  | gl  | NaClO4 | 30°C | 0.10M | M   |       | K1=3.15<br>B(MnH-1L)=-9.48<br>B(MnH-2L)=-15.54 | 1994LZa (94299) | 1969   |

\*\*\*\*\*

C16H24N2O8 H4L CAS 38557-30-1 (1256)  
Ethylene-bis(N,N'-(2,6-dicarboxy)piperidine); ((HOOC)2.C5H8N.CH2.)2

| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg K values | Reference       | ExptNo |
|-------|-----|--------|------|-------|-----|-------|-------------|-----------------|--------|
| Mn++  | gl  | NaNO3  | 25°C | 0.10M | U   |       | K1=11.20    | 1979PBa (94319) | 1970   |

\*\*\*\*\*

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 |
|-------|-----|--------|------|------|-----|-------|------------------|-----------------|--------|
| Mn++  | gl  | mixed  | 22°C | 70%  | U   |       | K1=7.43 B2=14.55 | 1978MGd (94552) | 1971   |

Medium: 0.1 M KNO3 in 70% (v/v) dioxane in H2O

\*\*\*\*\*

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 |
|-------|-----|--------|------|-------|-----|-------|---|-----------------|--------|
| Mn++  | gl  | KCl    | 25°C | 0.10M | C   |       | K1=8.7<br>B(MnHL)=13.3<br>B(MnH2L)=14.7 | 1996IOb (94673) | 1972   |

\*\*\*\*\*

C16H28N2O8 H4L (5167)  
1,2-Diaminoethane-N,N'-diethanoic-N,N'-di-2-(3-methyl)butanoic acid;

| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg K values | Reference       | ExptNo |
|-------|-----|--------|------|-------|-----|-------|-------------|-----------------|--------|
| Mn++  | gl  | KNO3   | 20°C | 0.10M | U   |       | K1=9.75     | 1969NDc (94716) | 1973   |

\*\*\*\*\*

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 |
|-------|-----|--------|------|-------|-----|-------|-------------|-----------------|--------|
| Mn++  | vlt | KNO3   | 20°C | 0.10M | U   |       | K1=13.23    | 1969NDc (94742) | 1974   |

\*\*\*\*\*

C16H28N2O8 H4L (5138)  
1,2-Diaminooctane-N,N',N'-tetraethanoic acid;  
(HOOCCH2)2N.CH2.CH(C6H13)N(CH2COOH)2

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

Mn++ vlt KNO3 20°C 0.10M U K1=15.51 1979MBd (94768)1975  
\*\*\*\*\*

C16H28N2O8 H4L (2850)  
1,8-Diaminooctane-N,N,N',N'-tetraethanoic acid; ((HOOCCH2)2N(CH2)4)2

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

Mn++ gl KNO3 20°C 0.10M U H K1=9.0 1964ANa (94794)1976  
K(Mn+HL)=5.7

By calorimetry: DH(K1)=2.1 kJ mol<sup>-1</sup>, DS=180 J K<sup>-1</sup> mol<sup>-1</sup>

\*\*\*\*\*

C16H28N4O4S HL d-Biocytyl CAS 576-19-2 (5195)  
N(6)-d-Biotinylyl-L-lysine;

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

Mn++ gl NaClO4 25°C 0.10M U K1=2.47 1970GPa (94810)1977  
\*\*\*\*\*

C16H28N4O5S HL CAS 2663-93-6 (6302)  
d-Biocytyl sulfoxide;

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

Mn++ gl NaClO4 25°C 0.10M U K1=2.45 1970GPa (94814)1978  
\*\*\*\*\*

C16H28N4O6S HL CAS 26432-35-9 (5196)  
Biocytyl sulfone;

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

Mn++ gl NaClO4 25°C 0.10M U K1=2.44 1970GPa (94818)1979  
\*\*\*\*\*

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  
-----

Mn++ gl R4N.X 25°C 0.10M C H K1=19.89 2001BCa (94915)1980  
K(MnL+H)=4.26  
K(MnHL+H)=2.99

Medium: 0.10 M Me4NCl. By calorimetry: DH(K1)=-66.0 kJ mol<sup>-1</sup>,  
DH(MnL+H)=-18.4, DH(MnHL+H)=-2.9.

-----  
Mn++ gl R4N.X 25°C 0.10M C K1=20.202 1992CDd (94916)1981

B(MnHL)=24.351  
B(Mn2L)=22.60  
B(Mn2HL)=26.83

Medium: 0.10 M Me4NNO3.

-----  
Mn++ EMF KCl 20°C 0.10M C K1=17.8 1981SFa (94917)1982

Method: Pt/H2 electrode.

\*\*\*\*\*

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  
-----  
Mn++ gl R4N.X 25°C 0.10M C K1=9.18 1997CCa (94952)1983  
K(Mn(OH)L+H)=10.63

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  
-----  
Mn++ gl R4N.X 25°C 0.10M C K1=14.44 2000CDd (94963)1984  
K(MnL+H)=3.98

Medium: 0.10 M (Me4N)NO3.

\*\*\*\*\*

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  
-----  
Mn++ gl R4N.X 25°C 0.10M C H K1=8.657 1989DSa (95047)1985  
By calorimetry: DH(MnL)=-6.7 kJ mol<sup>-1</sup>; DS=67; (estimated values).

\*\*\*\*\*

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  
-----  
Mn++ gl R4N.X 25°C 0.05M U K1=5.4 1999BDb (95243)1986  
Medium: Et4NClO4

\*\*\*\*\*

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  
-----  
Mn++ gl R4N.X 25°C 0.15M C K1=7.42 2002FGc (95363)1987  
B(MnHL)=16.57  
B(MnH2L)=24.08  
B(MnH-1L)=-2.17  
B(Mn2H-1L)=2.32

Medium: 0.15 M Me4NCl. B(Mn2H-2L)=-5.89, B(Mn2H-3L)=-16.55.

\*\*\*\*\*

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
-----
Mn++      gl  R4N.X  25°C 0.10M C          K1=4.08      1995LLa (95417)1988
Medium: Et4NClO4
*****
C16H34N2O6          L          CAS 69930-74-1 (1321)
N,N'-Bis(2-hydroxyethyl)-1,7,10,16-tetraoxa-4,13-diazacyclooctadecane;
-----

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  R4N.X  25°C 0.10M C          K1=2.88      1995LLa (95452)1989
Medium: Et4NClO4
*****
C16H40N4O12P4      H8L          CAS 41007-47-0 (2070)
1,4,7,10-Tetraethylphosphonic acid-1,4,7,10-tetraazacyclododecane;
C8H16N4(CH2CH2.PO(OH)2)4
-----

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  KNO3   25°C 1.00M U          K1=12.4      1989PBb (95639)1990
                    K(Mn+HL)=8.9
                    K(Mn+H2L)=5.6
                    K(Mn+H3L)=4.6
*****
C16H40N8          L          CAS 297-11-0 (5588)
1,4,7,10,13,16,19,22-Octaazacyclotetracosane;
-----

```

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  NaClO4 25°C 0.15M C          K1=6.27      1991BBa (95659)1991
                    B(MnHL)=14.51
                    K(MnL+H)=8.24
                    K(Mn+HL)=4.86
*****
C17H12N4O7S2      H3L          (6784)
2-(4-Benzimidazolylazo)-2-hydroxynaphthalene-3,6-disulfonic acid;
-----

```

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  NaCl   25°C 0.10M M          K1=6.49      B2=10.60     19910Ea (95729)1992
*****
C17H13NO3S        H2L          CAS 119516-70-0 (6185)
7-Hydroxy-8((2-mercaptophenyl)iminomethyl)-4-methyl-2H-1-benzopyran-2-one;
-----

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  diox/w 20°C 70% U T H      K1=10.83     1988KOb (95750)1993
25 C:K=10.50; 32 C: K=10.05; 45 C:K= 9.22. DH=-114.6 kJ mol-1, DS=-183.5
*****

```

C17H14N2O HL CAS 2046-17-5 (5214)  
1-(2-Methylphenylazo)-2-hydroxynaphthalene;

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

Mn++ gl mixed 25°C 75% U K1=7.35 1972MCb (95797)1994  
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  
-----

Mn++ gl mixed 25°C 75% U K1=7.84 1972MCb (95812)1995  
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  
-----

Mn++ gl mixed 25°C 75% U K1=8.03 1972MCb (95831)1996  
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  
-----

Mn++ gl mixed 25°C 75% U K1=7.76 1972MCb (95846)1997  
Medium: 75% acetone, 0.1 M KNO3

\*\*\*\*\*  
C17H14O3 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  
-----

Mn++ gl KCl 25°C 0.20M U K1=4.49 1992CMd (95966)1998

\*\*\*\*\*  
C17H15N3OS HL (1292)  
2-(4',5'-Dimethyl-2-thiazolylazo)-4-phenylphenol;

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

Mn++ gl diox/w 25°C 60% U K1=5.00 B2=9.87 1981KTA (95994)1999

\*\*\*\*\*  
C17H15N3O3S L CAS 141102-86-5 (8342)  
Furoin-4-phenyl-3-thiosemicarbazide;

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

Mn++ gl alc/w 30°C 50% U T H K1=8.47 B2=15.90 1991HRa (96001)2000  
Medium: 50% v/v EtOH/H2O, 0.1 M NaClO4. Data for 40 and 50 C.  
DH(K1)=-130 kJ mol-1, DS(K1)=268 J K-1 mol-1; DH(K2)=-128, DS(K2)=281.

\*\*\*\*\*

C17H16N2O HL CAS 36458-48-7 (5219)  
2-(4-Tolylaminomethyl)-8-hydroxyquinoline;

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

Mn++ gl diox/w 25°C 50% U K1=6.67 B2=12.87 1972HUb (96025)2001  
Medium: 50% v/v dioxan, 0.1 M KCl

\*\*\*\*\*

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  
-----

Mn++ gl mixed 30°C 60% M I K1=5.21 B2=9.79 1991GDb (96153)2002  
Medium: 60%v/v acetone/water; 0.1M NaClO4; data also for 65% and 75%; for  
75% v/v dioxane/water and EtOH/water.

Mn++ gl mixed 30°C 60% M I K1=5.21 B2=9.79 1991GDc (96154)2003  
Medium: 60%v/v acetone/water; 0.1M NaClO4; data also for 65% and 75%; for  
75% v/v dioxane/water and EtOH/water

Mn++ gl alc/w 30°C 75% M TI K1=4.98 B2=9.01 1990DGc (96155)2004  
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  
-----

Mn++ gl diox/w 30°C 75% U K1=9.65 1955HOa (96172)2005

\*\*\*\*\*

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  
-----

Mn++ gl NaClO4 ? 0.10M U K1=4.35 B2=8.39 1963DSa (96183)2006

\*\*\*\*\*

C17H20N4O L CAS 192878-10-7 (8495)  
Di(2-ethylphenyl)carbazone;

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

Mn++ gl diox/w 25°C 50% U K1=4.18 B2= 7.84 1996SKb (96303)2007

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  
-----  
Mn++ gl KNO3 35°C 0.10M U K1=3.72 1973TMa (96340)2008  
K(Mn+HL)=3.24

-----  
Mn++ gl oth/un 20°C 0.01M U K1=3.4 1953ALa (96341)2009  
\*\*\*\*\*

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  
-----  
Mn++ gl KNO3 35°C 0.10M U K1=5.74 1973TMa (96387)2010

-----  
Mn++ ix NaCl 23°C 0.10M U K1=2.17 1958WAa (96388)2011  
\*\*\*\*\*

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  
-----  
Mn++ gl R4N.X 25°C 0.10M C K1=18.59 1997DQa (96458)2012  
K(MnL+H)=2.21  
K(Mn(OH)L+H)=8.71

Medium:Me4NNO3

\*\*\*\*\*

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  
-----  
Mn++ gl R4N.X 25°C 0.10M C K1=9.99 1998CDa (96504)2013

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  
-----  
Mn++ gl KCl 25°C 0.10M C K1=10.8 1996IOb (96591)2014  
B(MnHL)=14.0  
B(MnH-1L)=1.2

\*\*\*\*\*

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 |
|-------|-----|--------|------|-------|-----|-------|--|-----------------|--------|
| Mn++  | gl  | KN03   | 25°C | 0.10M | C   |       | K1=16.74<br>B(MnHL)=20.65<br>B(Mn2L)=20.07<br>B(Mn2HL)=24.03 | 1992CDd (96653) | 2015   |

|      |     |     |      |       |   |  |         |                 |      |
|------|-----|-----|------|-------|---|--|---------|-----------------|------|
| Mn++ | EMF | KCl | 20°C | 0.10M | C |  | K1=14.9 | 1981SFa (96654) | 2016 |
|------|-----|-----|------|-------|---|--|---------|-----------------|------|

Method: Pt/H2 electrode.

\*\*\*\*\*

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 |
|-------|-----|--------|------|-------|-----|-------|---------------------------|-----------------|--------|
| Mn++  | gl  | R4N.X  | 25°C | 0.10M | C   |       | K1=9.47<br>K(MnL+Mn)=3.07 | 2000CDd (96682) | 2017   |

Medium: 0.10 M (Me4N)NO3.

\*\*\*\*\*

C17H32N4O7 H3L CAS 120041-08-9 (6702)  
10-Hydroxypropyl-1,4,7,10-tetraazacyclododecane-1,4,7-triethanoic acid;

| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg K values               | Reference       | ExptNo |
|-------|-----|--------|------|-------|-----|-------|---------------------------|-----------------|--------|
| Mn++  | gl  | R4N.X  | 25°C | 0.10M | C   | H     | K1=17.89<br>K(MnL+H)=5.07 | 2001BCa (96718) | 2018   |

Medium: 0.10 M Me4NCl. By calorimetry: DH(K1)=-33.0 kJ mol<sup>-1</sup>,  
DH(MnL+H)=-25.1.

\*\*\*\*\*

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 |
|-------|-----|--------|------|------|-----|-------|-------------|-----------------|--------|
| Mn++  | gl  | diox/w | 30°C | 75%  | U   |       | K1=9.31     | 1964CMB (96842) | 2019   |

\*\*\*\*\*

C18H15N3O3S HL CAS 61625-17-0 (4139)  
Di-4-tolylthiovioluric acid;

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values      | Reference       | ExptNo |
|-------|-----|--------|------|------|-----|-------|------------------|-----------------|--------|
| Mn++  | gl  | diox/w | 30°C | 25%  | M   | T     | K1=2.91 B2= 5.08 | 1978MGe (97014) | 2020   |

Medium: 25% dioxane/H2O, 0.10 M NaClO4. Data for 40, 45 and 50 C.

\*\*\*\*\*

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 |
|---|-----|--------|------|-------|-----|-------|---|-----------------|--------|
| Mn++  | gl  | diox/w | 30°C | 75%   | U   |       | K1=8.48   | 1962SCc (97199) | 2021   |
| *****   |     |        |      |       |     |       |   |                 |        |
| 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 |
| Mn++  | gl  | diox/w | 30°C | 75%   | U   |       | K1=8.50   | 1962SCc (97211) | 2022   |
| *****   |     |        |      |       |     |       |   |                 |        |
| 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 |
| Mn++  | gl  | KNO3   | 20°C | 0.10M | C   | H     | K1=5.62<br>K(MnL(OH)+H) > 10  | 1977AHc (97266) | 2023   |
| DH1=-26.0 kJ mol-1, DS1=18.8  |     |        |      |       |     |       |   |                 |        |
| Mn++  | gl  | KNO3   | 20°C | 0.10M | U   | H     | K1=5.6  | 1970WAa (97267) | 2024   |
| By calorimetry, DH=-25.9 kJ mol-1, DS=18.3 J K-1 mol-1                          |     |        |      |       |     |       |   |                 |        |
| *****   |     |        |      |       |     |       |   |                 |        |
| 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 |
| Mn++  | gl  | diox/w | 30°C | 75%   | C   |       | K1=9.45   | 1973AAa (97298) | 2025   |
| *****   |     |        |      |       |     |       |   |                 |        |
| 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 |
| Mn++  | gl  | diox/w | 30°C | 75%   | U   |       | B2=14   | 1963SYa (97316) | 2026   |
| *****   |     |        |      |       |     |       |   |                 |        |
| 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 |
| Mn++  | gl  | KNO3   | 25°C | 0.10M | C   |       | K1=16.0<br>K(Mn+HL)=9.8<br>K(Mn+H2L)=4.7<br>*K(MnH2L)=-6.4<br>*K(MnHL)=-7.3 | 1992GVa (97405) | 2027   |
| *****   |     |        |      |       |     |       |   |                 |        |
| Mn++  | EMF | oth/un | ?    | ?     | U   |       | K1=7.89<br>K(Mn+HL)=5.49  | 1968TRc (97406) | 2028   |

K(Mn+H2L)=3.91

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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  
-----

Mn++ gl oth/un 25°C 0.10M U K1=12.7 1965Lca (97547)2029

\*\*\*\*\*

C18H26N6 L (6628)  
3,6,14,17,23,24-Hexaazatricyclo[17.3.1.1]tetracos-1(23),8,10,12(24),19,21-hexaene;

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

Mn++ gl KCl 25°C 0.10M M K1=15.1 1996MBb (97718)2030

-----  
Mn++ gl KCl 25°C 0.20M C K1=12.5 1992Rma (97719)2031

\*\*\*\*\*

C18H28O10 H2L (OE0AcAcOE)2 CAS 62950-36-1 (2254)  
1,4,10,13,16,22-Hexaoxacyclotetracos-6,8,18,20-tetraone;

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

Mn++ gl diox/w 24°C 50% U K1=7.6 1979Aca (97869)2032

\*\*\*\*\*

C18H30N2O12 H4L (7125)  
1,4,10,13-Tetraoxa-7,16-diazacyclooctadecane-7,16-bis(malonic acid);

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

Mn++ gl NaCl 25°C 0.15M U K1=7.41 1995BGa (97928)2033

\*\*\*\*\*

C18H30N4O12 H6L TTHA CAS 869-52-3 (694)  
Triethylenetetraaminehexaethanoic acid;((HOOC.CH2)2N.CH2.CH2.N(CH2.COOH).CH2)2

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

Mn++ gl KNO3 25°C 0.10M C K1=14.71 1998AKa (98068)2034

K(MnL+H)=9.02

K(MnHL+H)=3.51

K(MnH2L+H)=2.73

K(MnL+Mn)=6.32

-----  
Mn++ ISE KNO3 25°C 0.10M U K1=14.30 1970HAa (98069)2035

By glass electrode : K1=14.65, K(MnL+H)=8.74, K(MnHL+H)=3.45, B(Mn2L)=6.54

\*\*\*\*\*

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  
-----

-----  
Mn++ gl KCl 25°C 0.10M C K1=9.5 1996IOb (98126)2036  
B(MnHL)=13.1

\*\*\*\*\*  
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  
-----

Mn++ gl KNO3 25°C 0.10M C K1=11.272 1992CDd (98214)2037  
-----

Mn++ EMF KCl 20°C 0.10M C K1=11.2 1981SFa (98215)2038  
Method: Pt/H2 electrode.

\*\*\*\*\*  
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  
-----

Mn++ EMF KCl 20°C 0.10M C K1=16.4 1981SFa (98246)2039  
Method: Pt/H2 electrode. For the 3-ethyl- derivative, K1=9.2

\*\*\*\*\*  
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  
-----

Mn++ gl R4N.X 25°C 0.10M C K1=14.63 1999CDb (98259)2040  
K(MnL+Mn)=3.53  
\*K(MnL)=-8.5

Medium: 0.10 M NMe4NO3.

\*\*\*\*\*  
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  
-----

Mn++ gl KNO3 25°C 0.10M C K1=8.33 2000DDc (98305)2041  
\*K(MnL)=-6.86  
\*K(MnH-1L)=-8.27

K values calculated from batch titrations.

\*\*\*\*\*  
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  
-----

Mn++ gl R4N.X 25°C 0.05M U K1=3.9 1999BDb (98646)2042  
Medium: Et4NClO4

\*\*\*\*\*

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  
-----

Mn++ gl R4N.X 25°C 0.10M C K1=2.78 1995LLa (98841)2043

Medium: Et4NClO4

\*\*\*\*\*  
C19H12O9Br2S H6L Bromo Pyrog.Red CAS 16574-43-9 (706)  
5',5"-Dibromopyrogallolsulfonephthalein;

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

Mn++ sp oth/un 25°C ? U I 1985XZa (99012)2044

B(Mn+2L+surfactant=MnL2)=12.30

\*\*\*\*\*  
C19H13N3O4S H2L CAS 85413-91-9 (4144)  
1-Hydroxy-2-(8'-quinolyloxy)naphthalene-4-sulfonic acid;

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

Mn++ gl alc/w 25°C 50% U K1=8.6 B2=15.6 1967AND (99030)2045

Medium: 50% MeOH, 0.1 M NaClO4

\*\*\*\*\*  
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  
-----

Mn++ sp oth/un RT dil C 1982EDa (99138)2046

B2eff=8.2

Medium: borax buffer, pH 10.

\*\*\*\*\*  
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  
-----

Mn++ gl diox/w 30°C 75% U K1=8.11 B2=14.78 1973AAa (99177)2047

\*\*\*\*\*  
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  
-----

Mn++ gl NaClO4 25°C 0.10M U T M K1=4.22 B2= 6.87 2000CCe (99193)2048

K(MnL+ala)=3.89

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  
-----  
Mn++ gl diox/w 30°C 50% U TIH K1=8.16 B2=16.21 19980Fa (99200)2049  
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.  
\*\*\*\*\*  
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  
-----  
Mn++ gl diox/w 30°C 75% U K1=7.3 1965SMh (99229)2050  
\*\*\*\*\*  
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  
-----  
Mn++ gl diox/w 30°C 75% U K1=7.80 1965SMh (99250)2051  
\*\*\*\*\*  
C19H19N7O6 H3L Folic acid CAS 75708-92-8 (194)  
Pteroylglutamic acid;  
-----

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl NaClO4 37°C 0.15M U B2=6.61 1977RWc (99287)2052  
-----  
Mn++ gl oth/un 20°C 0.01M U B2=6 1953ALa (99288)2053  
\*\*\*\*\*  
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-t  
riene;  
-----

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl R4N.X 25°C 0.10M C K1=11.810 1998CDa (99410)2054  
K(MnL+H)=4.55  
Medium: 0.10 M Me4NNO3.  
\*\*\*\*\*  
C20H14N2O HL (5291)  
1-(1-Naphthylazo)-2-hydroxynaphthalene;  
-----

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl mixed 25°C 75% U K1=7.02 1972MCb (99601)2055  
Medium: 75% acetone, 0.1 M KNO3  
\*\*\*\*\*  
C20H14N2O HL CAS 2653-64-7 (5292)  
-----

1-(2-Naphthylazo)-2-hydroxynaphthalene;

```
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  mixed  25°C  75%  U          K1=7.27      1972Mcb (99616)2056
Medium: 75% acetone, 0.1 M KNO3
```

```
*****
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
-----
Mn++      gl  diox/w 30°C  75%  U          K(Mn+H2L=MnL+2H)=-9.8
1957SFb (99796)2057
```

```
*****
C20H18N4O2      HL          (5917)
Pyruvic monohydrazone-3-hydrazino-4-benzyl-6-phenylpyridazine;
```

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Mn++      gl  diox/w 30°C  75%  U          B2=13.61     1985RSb (99837)2058
K(Mn+HL)=4.16
K(Mn+2HL)=8.21
K(Mn+L+HL)=11.44
```

```
*****
C20H19N3O3S      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
-----
Mn++      gl  diox/w 25°C  75%  U T H      K1=2.98  B2= 4.27  2001SSd (99874)2059
Medium: 75% v/v dioxan/H2O, 0.10 NaClO4. Data for 30 and 35 C.
DH(B2)=-0.25 kJ mol-1.
```

```
*****
C20H19N3O3S      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
-----
Mn++      gl  diox/w 25°C  75%  U T H      K1=3.38     2001SSd (99883)2060
Medium: 75% v/v dioxan/H2O, 0.10 NaClO4. Data for 30 and 35 C.
DH(K1)=-0.59 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
-----
Mn++      gl  alc/w  25°C  70%  U          K1=3.27  B2= 6.45  1995EEa (99895)2061
Medium: 70% v/v EtOH/H2O, 0.10 M NaCl.
```

\*\*\*\*\*  
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  
-----  
Mn++ gl KNO3 25°C 0.10M U K1=14.78 1967LMd (100011)2062  
K(Mn+HL)=9.98  
K(Mn+H2L)=5.56

\*\*\*\*\*  
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  
-----  
Mn++ con mixed 25°C 90% C K1=2.69 2003ISa (100168)2063  
Medium: 90% v/v DMSO/H2O.

\*\*\*\*\*  
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  
-----  
Mn++ con mixed 25°C 90% C K1=2.88 2003ISa (100669)2064  
Medium: 90% v/v DMSO/H2O.

-----  
Mn++ con alc/w 25°C 40% C K1=2.82 2002ISa (100670)2065  
Medium: 40% EtOH/H2O.

-----  
Mn++ con alc/w 25°C 40% C K1=2.88 2001ISa (100671)2066  
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  
-----  
Mn++ gl KCl 25°C 0.5M U K1=8.45 2002WHa (100770)2067  
K(MnL+H)=8.0  
K(MnL=MnH-1L+H)=8.45

Data for the trans isomer. For the cis-isomer K1=9.4, K(MnL+H)=7.35  
K(MnL=MnH-1L+H)=9.8

\*\*\*\*\*  
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  
-----  
Mn++ gl diox/w 30°C 75% U I K1=5.95 B2=11.05 1979SGd (101014)2068



\*\*\*\*\*  
 C21H21N2O8Cl H2L Demeclocycline CAS 64-73-3 (5759)  
 7-Chloro-6-demethyltetracycline;

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----  
 Mn++ gl KNO3 25°C 0.10M C K1=6.33 1979DDd (101184)2069  
 K(Mn+HL)=3.88

Also data for other tetracycline analogues.

\*\*\*\*\*  
 C21H23NO6 HL Colchicine (7054)  
 Colchicine;

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----  
 Mn++ gl diox/w 20°C 75% U I K1=5.89 B2=11.60 1994SHc (101222)2070  
 \*\*\*\*\*

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  
 -----  
 Mn++ gl mixed 25°C 20% C K1=5.17 2001SCc (101237)2071  
 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  
 -----  
 Mn++ gl KNO3 20°C 0.10M C K1=2.62 1977AHc (101247)2072  
 \*\*\*\*\*

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  
 -----  
 Mn++ gl diox/w 25°C 13% C K1=6.02 2001CLa (101285)2073  
 B(MnHL)=15.22  
 B(MnH-2L)=-13.78

Medium: 13% v/v dioxane/H2O, 0.10 M KNO3.

\*\*\*\*\*  
 C21H30N4O8 H3L Tyr-Val-Asp-Ala (6015)  
 Tyrosyl-valyl-aspartyl-alanine

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----  
 Mn++ nmr KCl 25°C 0.50M U K1=3.10 1987ZAa (101367)2074  
 K(Mn+HL)=2.01 ?

\*\*\*\*\*

C22H15N3O HL (6255)  
1-(4'-Methyl-2'-quinolyloxy)-acenaphthylen-2-ol; CH3.C9H5N.N:N.C12H6.OH

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl diox/w 30°C 75% U K1=6.36 B2=12.09 1979SGd (101522)2075  
\*\*\*\*\*

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  
-----  
Mn++ gl alc/w 35°C 40% C T H K1=9.08 B2=16.01 2004MUb (101715)2076  
Medium: 40% v/v EtOH/H2O, 0.10 M KCl. DH(K1)=27.4 kJ mol<sup>-1</sup>, DS(K1)=263  
J K<sup>-1</sup> mol<sup>-1</sup>; DH(K2)=26.4, DS(K2)=218. 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  
-----  
Mn++ gl diox/w 25°C 50% U K1=17.6 1972HUa (101733)2077  
K(MnL+H)=6.20  
K(Mn+HL)=12.4

Medium: 50% v/v dioxan, 0.1 M KCl

\*\*\*\*\*  
C22H23N2O8Cl H2L Aureomycin CAS 56235-18-8 (3515)  
Chlorotetracycline;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl oth/un 20°C 0.01M U K1=4.3 1956ARd (101762)2078  
\*\*\*\*\*

C22H24N2O8 H2L Tetracycline CAS 60-54-8 (2201)  
Tetracycline;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl NaClO4 25°C 0.10M C B(MnHL)=4.60 1996SJa (101820)2079

-----  
Mn++ gl NaNO3 25°C 0.10M C K1=3.9 1992GAa (101821)2080

-----  
Mn++ gl oth/un 20°C 0.01M U K1=4.4 1956ARd (101822)2081  
\*\*\*\*\*

C22H24N2O8 H4L CAS 91044-25-6 (1921)  
rac-1,2-Diphenyl-1,2-diaminoethane-N,N,N',N'-tetraethanoic acid;

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

Mn++ gl KNO3 20°C 0.10M U K1=15.10 1989SLa (101858)2082  
\*\*\*\*\*  
C22H24N2O9 H2L Oxotetracycline CAS 79-57-2 (2202)  
Oxytetracycline, 5-Hydroxy-tetracycline;

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

Mn++ gl oth/un 20°C .005M U K1=5.8 B2=10.60 1956ARd (101885)2083  
\*\*\*\*\*  
C22H26N4O8 H4L (5526)  
N,N'-Dipyridoxylethylenediamine-N,N'-diethanoic acid;

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

Mn++ gl NaCl 25°C 0.10M M K1=12.56 1988RSa (101964)2084  
K(MnL+H)=8.74  
K(MnHL+H)=7.90  
\*\*\*\*\*  
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  
-----

Mn++ gl R4N.X 25°C 0.10M C K1=8.72 1993YTa (101981)2085  
\*\*\*\*\*  
C22H32N4O14P2 H6L DPDP CAS 118248-91-2 (5896)  
N,N'-Dipyridoxyldiaminoethane-N,N'-diethanoic acid 5,5'-diphosphoric acid;

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

Mn++ gl NaCl 25°C 0.10M C K1=15.10 1989RCa (102204)2086  
K(MnL+H)=9.35  
K(MnHL+H)=8.55  
K(MnH2L+H)=6.41  
K(MnH3L+H)=5.76  
\*\*\*\*\*  
C23H18O3 L CAS 29549-01-7 (5321)  
Ethyl alpha-(alpha-naphthyl)phenylpropioloyl ethanoate;

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

Mn++ gl diox/w 30°C 75% U K1=8.12 B2=15.00 1973AAa (102616)2087  
\*\*\*\*\*  
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  
-----

Mn++ gl alc/w 25°C 95% U H K1=<4.0 1991BFa (102699)2088  
Medium: 95% MeOH/H2O, 0.1 M Et4NC104. DH=10.75, DS=73.6

\*\*\*\*\*  
C23H27N2O8I H2L CAS 6602-90-0 (361)  
4-Methyltetracycline Iodide;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl KNO3 25°C 0.10M U K1=4.00 B2=7.98 1979HFa (102719)2089

\*\*\*\*\*  
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  
-----

Mn++ gl diox/w 25°C 13% C K1=6.41 2001CLa (102765)2090  
B(MnHL)=15.50  
B(MnH-2L)=-13.10

Medium: 13% v/v dioxane/H2O, 0.10 M KNO3.  
\*\*\*\*\*  
C24H23NO7S H3L (1980)  
3-(N-Carboxymethyl)aminomethyl-o-cresolsulfonephthalein;

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

Mn++ gl KNO3 25°C 0.10M U K1=4.6 B2=7.70 1979Ymb (102929)2091  
\*\*\*\*\*  
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  
-----

Mn++ gl alc/w 25°C 95% U K1=<4.0 1991BFa (102996)2092  
Medium: 95% MeOH/H2O, 0.1 M Et4NC104

\*\*\*\*\*  
C24H32O8 L DiBz-24-Crown-8 CAS 14174-09-5 (580)  
2,3:14,15-Dibenzo-1,4,7,10,13,16,19,22-octaoxacyclotetracos-2,14-diene;

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

Mn++ con mixed 25°C 90% C K1=1.85 2003ISa (103146)2093  
Medium: 90% v/v DMSO/H2O.

\*\*\*\*\*  
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  
-----

Mn++ gl NaNO3 25°C 0.10M C K1=7.32 1999SLa (103285)2094

B(MnHL)=15.34  
B(MnH2L)=23.07

\*\*\*\*\*  
C24H42N6O12 H6L (6546)  
1,4,7,10,13,16-Hexaazacyclooctadecane-N,N',N'',N''',N''''-hexaethanoic acid;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ EMF KCl 20°C 0.10M C K1=14.2 1981SFa (103381)2095  
Method: Pt/H2 electrode.

\*\*\*\*\*  
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;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ con mixed 25°C 90% C K1=1.98 2003ISa (103431)2096  
Medium: 90% v/v DMSO/H2O.

\*\*\*\*\*  
C24H51OP L CAS 78-50-2 (4162)  
Trioctylphosphine oxide; (C8H17)3P:O

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ dis non-aq 20°C 100% U M 1974HHc (103543)2097  
K(MnA2+L)=5.70  
K(MnA2+2L)=10.80

A=thenoyltrifluoroacetone, (4,4,4-trifluoro-1-(2-thienyl)-1,3-butanedione)  
Medium: cyclohexane

\*\*\*\*\*  
C25H28N4O10 L CAS 752-13-6 (2940)  
Tetraacetylriboflavine;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ sp non-aq 38°C 100% U K1=1.6 1975LHa (103677)2098  
Medium: acetone

\*\*\*\*\*  
C26H23N5O2 HL (5918)  
Hippuric monohydrazone-3-hydrazino-4-benzyl-6-phenylpyridazine;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl diox/w 30°C 75% U K1=9.19 B2=16.97 1985RSb (103884)2099

\*\*\*\*\*  
C26H25N09S H4L Semi-Xylenol O (426)  
3-(N,N-Di(carboxymethyl)aminomethyl)-2-cresolsulfonephthalein;

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

Mn++ gl KNO3 25°C 0.10M U K1=9.4 1981MUa (103946)2100  
 \*\*\*\*\*  
 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  
 -----

Mn++ gl R4N.X 25°C 0.10M C K1=9.91 1993YTa (103967)2101  
 \*\*\*\*\*  
 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  
 -----

Mn++ dis non-aq 25°C 100% U 1997HIb (104006)2102  
 K(M+3L+2ClO4=ML3.2ClO4)=27.47  
 Method: extraction form 0.1 M NaClO4 into nitrobenzene.  
 Reaction is: Mn(aq)+3L(org)+2ClO4(aq)=MnL3.2ClO4(org)

-----  
 Mn++ gl KNO3 20°C 0.10M C H K1=10.27 1977AHc (104007)2103  
 Calorimetry: DH1=-47.8 kJ mol<sup>-1</sup>, DS1=32.6

-----  
 Mn++ cal KNO3 20°C 0.10M U H K1=10.3 1970WAa (104008)2104  
 DH=-47.6 kJ mol<sup>-1</sup>, DS=33.4 J K<sup>-1</sup> mol<sup>-1</sup>  
 \*\*\*\*\*  
 C26H34N6O8 H4L CAS 132709-65-0 (8941)  
 3,6,14,17,23,24-Hexaazatricyclo[25.3.1.1.0.0]dotriaconta-10,12,14,26,28,  
 tic acid;

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

Mn++ gl KCl 25°C 0.10M M K1=15.1 1996MBb (104097)2105  
 K(MnL+H)=5.5  
 \*\*\*\*\*  
 C26H38N6 L CAS 180684-75-7 (7295)  
 1,8,14,17,24,31-Hexaazatricyclo[25.3.1.1.0.0]dotriaconta-10,12,14,26,28,

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

Mn++ gl KNO3 25°C 0.20M C K1=13 1996FJa (104208)2106  
 \*\*\*\*\*  
 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  
 -----

Mn++ gl NaNO3 25°C 0.10M C K1=5.34 1999SLa (104232)2107  
 B(MnHL)=14.07  
 B(MnH2L)=22.18

\*\*\*\*\*

C26H42N6O2 H2L BDBPH CAS 226714-05-2 (7225)  
13,27-Dimethyl-3,6,9,17,20,23-hexaazatricyclo[23.3.1]triacontahexaene-29,30-diol;

| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values  | Reference        | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|---|------------------|--------|
| Mn++  | gl  | KCl    | 25°C | 0.10M | C   | M     |    |   | 2001GMa (104262) | 2108   |
|       |     |        |      |       |     |       |    | B(MnH-1L)=-0.84<br>B(Mn2L)=19.57<br>B(CuMnL)=39.63<br>B(CuMnH-1L)=28.97 |                  |        |
|       |     |        |      |       |     |       |    | B(CuMnH-2L)=18.37.  |                  |        |

|      |    |      |      |       |   |  |  |  |                  |      |
|------|----|------|------|-------|---|--|--|--|------------------|------|
| Mn++ | gl | NaCl | 25°C | 0.10M | C |  |  | K1=11.58<br>K(MnL+H)=10.65<br>K(MnHL+H)=9.96<br>K(MnH2L+H)=6.43<br>*K(MnL)=-12.42          | 2000SMi (104263) | 2109 |
|      |    |      |      |       |   |  |  | *K(MnH-1L)=-10.74, K(MnL+Mn)=7.99, *K(Mn2L)=-10.76, *K(Mn2H-1L)=-13.83,<br>K(Mn2L+H)=5.10. |                  |      |

\*\*\*\*\*

C27H33N9O15P2 H2L FAD CAS 146-14-5 (3521)  
Flavin adenine dinucleotide;

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference        | ExptNo |
|-------|-----|--------|------|------|-----|-------|----|----------|------------------|--------|
| Mn++  | ix  | NaCl   | 23°C | 0.1M | U   |       |    | K1=2.39  | 1958WAa (104546) | 2110   |

C27H38N6O12 H4L DGYVDA (6016)  
Aspartyl-glycyl-tyrosyl-valyl-aspartyl-alanine;

| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values                            | Reference        | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|-------------------------------------|------------------|--------|
| Mn++  | nmr | KCl    | 25°C | 0.50M | U   |       |    | K(Mn+HL)=3.08 ?<br>K(Mn+H2L)=2.04 ? | 1987ZAa (104585) | 2111   |

\*\*\*\*\*

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 |
|-------|-----|--------|------|------|-----|-------|----|----------------|------------------|--------|
| Mn++  | sp  | oth/un | 25°C | ?    | U   |       |    | K1=4.2 B2=9.34 | 1978ISb (104664) | 2112   |

C30H50N6O2 L CAS 380446-61-7 (8002)  
3,7,11,19,23,27-Hexaaza-33,34-dihydroxy-15,31-dimethyltricyclotetraatriaconta-1,13,15,17,29,30-hex

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

Mn++ gl KCl 25°C 0.10M U K1=8.45 2001WMa (105371)2113  
 K(MnL+H)=8.98  
 K(MnHL+H)=8.08  
 K(MnH2L+H)=5.16  
 K(MnL+Mn)=7.46  
 K(Mn2L+H)=5.01, \*K(Mn2L)=-9.89, \*K(Mn2(OH)L)=-11.58.

\*\*\*\*\*

C31H32N2O13S H6L Xylenol orange CAS 63721-85-5 (432)  
 5,5'-Bis-N,N-bis(carboxymethyl)aminomethyl-4'-hydroxy-3,3'-dimethylfuchstone-2"-sulfonic acid;

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

Mn++ gl NaClO4 30°C 0.10M C 1995STa (105481)2114  
 K(Mn+H2L)=6.01  
 K(Mn+HL)=8.13

\*\*\*\*\*

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  
 -----

Mn++ gl NaClO4 30°C 0.1M U TIH K1=11.59 1996STa (105611)2115  
 K(Mn+HL)=10.71  
 K(Mn+H2L)=7.88

\*K1=-8.2.

\*\*\*\*\*

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  
 -----

Mn++ gl KCl 25°C 0.10M M K1=7.9 1981MGa (105707)2116  
 K(Mn+HL)=4.9

\*\*\*\*\*

C32H49N9O7 HL KLAHFG CAS 188184-11-4 (5653)  
 Lysyl-leucyl-alanyl-histidyl-phenylalanyl-glycine;

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

Mn++ gl NaCl 20°C 0.15M U M K1=2.17 1983VDb (105811)2117  
 \*\*\*\*\*

C34H38N4O6 H4L (3525)  
 Haematoporphyrin IX;

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

Mn++ EMF oth/un var var U 1963LCC (106035)2118  
 K(MnL+H)=6.9  
 K(MnLOH+H)=12.8



\*\*\*\*\*  
C34H46N4O14 H2L CAS 226947-33-7 (8530)  
N,N'-Bis[(benzo-15-crown-5)-oylmethyl]diaminoglyoxime;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl mixed 25°C 60% U K1=9.53 1999ADd (106077)2119  
B(MnHL)=19.43  
B(MnH2L2)=26.53  
B(MnH-1L)=-0.50

Medium: 60% v/v acetone/H2O, 0.20 M KNO3.

\*\*\*\*\*  
C34H54O8 H2L Lasalocid CAS 25999-20-6 (2335)  
Lasalocid acid;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ cal alc/w 25°C 100% U T H 1990PJa (106146)2120  
Medium: MeOH. DG(K1)=-26.3 kJ mol<sup>-1</sup>, DH=23.4; DG(B2)=-44.0; DH=30

-----  
Mn++ gl alc/w 25°C 100% M K1=4.6 B2=7.7 1988LTa (106147)2121  
Medium: MeOH

\*\*\*\*\*  
C36H60N8O8 L CAS 121925-84-6 (7152)  
Cyclo(Gly-eLL-Gly)2 (eLL=N,N'-ethylene-bridged (S)-leucyl-(S)-leucine

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ sp non-aq 25°C 100% U K1=3.87 1994MKa (106456)2122  
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  
-----  
Mn++ gl KNO3 30°C 0.0 U T H K1=7.82 1978SSj (106613)2123  
Extrapolated from data for I=0.1-1.0 M KNO3. Data for 40 C.  
DH(K1)=-22 kJ mol<sup>-1</sup>, DS(K1)=77.8 J K<sup>-1</sup> mol<sup>-1</sup>.

\*\*\*\*\*  
C43H58N4O12 H3L Rifampicin CAS 13292-46-1 (8977)  
3-[[[(4-Methyl-1-piperazinyloxy)methyl]rifamycin;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ gl alc/w 30°C 50% C T H 2001SKd (107020)2124  
K(Mn+H2L)=6.71  
K(MnH2L+H2L)=5.22

Medium: 50% v/v MeOH/H2O, 0.05 M KCl. DH(Mn+H2L)=-48.26 kJ mol<sup>-1</sup>, DS=-31.0 J K<sup>-1</sup> mol<sup>-1</sup>; DH(MnH2L+H2L)=-39.03, DS=-29.0. Also data for 35 and 40 C.

\*\*\*\*\*  
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  
-----  
Mn++ kin non-aq 25°C 100% U 2000INa (107072)2125  
K(Mn+H2L=MnH2L)=1.77

Medium: acetonitrile

\*\*\*\*\*  
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  
-----  
Mn++ nmr non-aq 20°C 100% U T M 1991WGa (107351)2126  
K(MnLN+MnA=MnL+MnAN)=0.0899

Medium: toluene. -40 to 40 C. K=-0.229(-40C); -0.180(-20C); 0.0086(0C); 0.134(40C). H2A: Octaethylporphyrin. DH=8.4 kJ mol<sup>-1</sup>; DS=30. N=nitride + others

\*\*\*\*\*  
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  
-----  
Mn++ sp alc/w 25°C 100% C K1=5.8 2004Mfa (107836)2127  
Medium: MeOH, 0.01 M Et4NCl.

\*\*\*\*\*  
Polymer Albumin (3526)  
Albumin;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ nmr R4N.X 24°C 0.20M U 1963Mca (108067)2128  
K1eff=4.43  
K'=3.52(2nd-6th Mn++ bound)

Medium: Me4NCl. K' is the average for binding of 2nd to 6th Mn++.

See reference for definitions

\*\*\*\*\*  
Polymer CPA CAS 11075-17-5 (1758)  
Carboxypeptidase A

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn++ oth NaCl 4°C 1.0M U 1961VWa (108114)2129  
K(Mn+HxL=MnHyL+(x-y))=5.6

Medium: 0.05 M tris buffer pH 8

\*\*\*\*\*  
Polymer HL (2215)  
Deoxyribonuclease;

| Metal   | Mtd | Medium | Temp | Conc  | Cal     | Flags | Lg | K values             | Reference        | ExptNo |
|---|-----|--------|------|-------|---------|-------|----|----------------------|------------------|--------|
| Mn++  | con | none   | 25°C | 0.0   | U       |       |    | K1=5.1               | 1980WHa (108120) | 2130   |
| pH 8. Protein from bovine pancreas<br>*****                                       |     |        |      |       |         |       |    |                      |                  |        |
| Polymer   |     |        |      |       | DNA     |       |    | (4185)               |                  |        |
| Deoxyribonucleic acid;  |     |        |      |       |         |       |    |                      |                  |        |
| Metal   | Mtd | Medium | Temp | Conc  | Cal     | Flags | Lg | K values             | Reference        | ExptNo |
| Mn++  | nmr | NaCl   | 25°C | 0.01M | C       |       |    | K1eff=5.52           | 2000CCb (108150) | 2131   |
| Method: 23 Na nmr, using calf thymus Na-DNA. K1eff at pH 6.0.                     |     |        |      |       |         |       |    |                      |                  |        |
| Metal   | Mtd | Medium | Temp | Conc  | Cal     | Flags | Lg | K values             | Reference        | ExptNo |
| Mn++  | ix  | NaCl   | 25°C | 0.15M | U       |       |    | K'=2.44(calf thymus) | 1957WNa (108151) | 2132   |
| See reference for definition<br>*****   |     |        |      |       |         |       |    |                      |                  |        |
| Polymer   |     |        |      |       | Enolase |       |    | CAS 9014-08-8        | (4186)           |        |
| Enolase;  |     |        |      |       |         |       |    |                      |                  |        |
| Metal   | Mtd | Medium | Temp | Conc  | Cal     | Flags | Lg | K values             | Reference        | ExptNo |
| Mn++  | nmr | oth/un | 20°C | 0.50M | U       |       |    | K'=5.0(yeast)        | 1963C0a (108165) | 2133   |
| Medium: 0.5 M KCl, 0.05 Tris.HCl. See reference for definition<br>*****           |     |        |      |       |         |       |    |                      |                  |        |
| Polymer   |     |        |      |       | Gelatin |       |    | (4187)               |                  |        |
| Gelatin   |     |        |      |       |         |       |    |                      |                  |        |
| Metal   | Mtd | Medium | Temp | Conc  | Cal     | Flags | Lg | K values             | Reference        | ExptNo |
| Mn++  | oth | none   | 24°C | 0.0   | C       | T     |    | K1eff=4.38           | 2001THa (108196) | 2134   |
| Method: fluorescence quenching. Medium: pH 10.0.<br>At 32 C, K1eff=4.48.<br>***** |     |        |      |       |         |       |    |                      |                  |        |
| Polymer   |     |        |      |       |         |       |    | (5382)               |                  |        |
| Polyacroleinoxime;  |     |        |      |       |         |       |    |                      |                  |        |
| Metal   | Mtd | Medium | Temp | Conc  | Cal     | Flags | Lg | K values             | Reference        | ExptNo |
| Mn++  | gl  | KNO3   | 25°C | 0.10M | U       |       |    | B2=11.6              | 1971MKb (108299) | 2135   |
| *****   |     |        |      |       |         |       |    |                      |                  |        |
| Polymer   |     |        |      |       |         |       |    | (4195)               |                  |        |
| Polyethylene and maleic anhydridecopolymer (1:1)                                  |     |        |      |       |         |       |    |                      |                  |        |
| Metal   | Mtd | Medium | Temp | Conc  | Cal     | Flags | Lg | K values             | Reference        | ExptNo |

Mn++ gl oth/un 25°C 0.0 U 1968BHd (108334)2136

K'=8.81

\*\*\*\*\*

Polymer (6896)

Polymaleic acid-methacrylic acid copolymer; (-C4H2O3.CH2.C(CH3)COOH-)n

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

Mn++ dis NaCl 25°C 0.10M U 1993KHa (108349)2137

K1eff=5.3

Method: dialysis; pH=8 [Mn]=0.00005 M

\*\*\*\*\*

Polymer (1642)

Polymethacrylic acid;

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

Mn++ vlt KNO3 25°C 0.01M U I 1996CAa (108377)2138

K1eff=4.39

Method: differential pulse polarography. Also K1eff=4.70 (I=0.005 M),  
and 4.00 (I=0.02).

\*\*\*\*\*

Polymer (4203)

Procarboxypeptidase;

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

Mn++ oth NaCl 4°C 1.0M U K1=3.4 1967PVa (108398)2139

Method: dialysis

\*\*\*\*\*

Polymer (4204)

Pyruvate kinase;

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

Mn++ sp R4N.X 25°C 0.10M U 1966SSc (108404)2140

K'=4.0

Medium: Me4NCl. See reference for definition

-----  
Mn++ nmr oth/un 27°C 0.10M U T 1965MCc (108405)2141

K'=4.1

Medium: 0.1 M KCl, 0.02 Tris. By kinetics: K'=4.2(29 C)

-----  
Mn++ nmr oth/un 20°C 0.50M U 1963COa (108406)2142

K'=4.2

Medium: 0.5 M KCl, 0.05 Tris

-----  
Mn++ sp oth/un 25°C 0.10M U 1963SMb (108407)2143

K'=4.16

Medium: 0.1 M KCl, 0.05 Tris

\*\*\*\*\*

e- HL Electron (442)  
Electron;

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

Mn+++ EMF none 25?°C 0.00 U 1970TTa (658)2144

K=9.0(0.53V,X=Zn++)

K: XMn(III)W11040H2 n- + e=XMn(II)W11040H2 (n+1)-; data also for various X  
(K=7.3(0.43V,X=B(III)), 11.0(0.65V,X=Si(IV))

-----  
Mn+++ EMF none 25?°C 0.00 U 1970TTa (659)2145

K=13.7(0.81V,X=Ge(IV))

K: XMn(III)W11040H2 n- + e=XMn(II)W11040H2 (n+1)-; data also for X=P(V)  
K=14.9(0.88V,X=P(V))

-----  
Mn+++ EMF none 25?°C 0.00 U 1970TTa (660)2146

K=11.7(0.69V,X=P(V))

K: X2Mn(III)W17062H2 (7-) + e=X2Mn(II)W17062H2 (8-); data also for X=As(V)  
(K=13.5(0.80V,X=As(V))

-----  
Mn+++ EMF NaCl04 25°C 3.00M U 1969CGa (661)2147

K(Mn+++ + e)=26.057(1541.5mV)

Medium: HCl04

-----  
Mn+++ oth none 25°C 0.0 U 1952LAB (662)2148

K=2.6(100 mV)

K: Mn(OH)3(s)+e=Mn(OH)2(s)+OH. From thermodynamic data

-----  
Mn+++ oth none 25°C 0.0 U 1952RWa (663)2149

K=31.12

K: Mn(OH)3(s) + 3H + e = Mn++ + 3H2O

-----  
Mn+++ EMF oth/un 25°C 1.50M U 1952TRa (664)2150

K=-4.12(-244 mV)

Medium NaCN. K: Mn(CN)6+e=Mn(II)(CN)6

-----  
Mn+++ sp KCl 25°C 10.1M U T 1950IDa (665)2151

K=0.72

Medium: HCl. K: Mn+Cl=Mn(II)+1/2Cl2. At 0 C: K=0.48

-----  
Mn+++ EMF oth/un 25°C 7.50M U 1950VMa (666)2152

K(Mn+e=Mn(II))=25.15(1488 mV)

Medium: H2SO4

-----  
Mn+++ EMF oth/un 18°C var U 1927GBa (667)2153

K=-4.23(-244 mV)

Medium: KCN. K: Mn(CN)6+e=Mn(II)(CN)6

-----  
Mn+++ EMF oth/un 12°C 7.50M U 1923GHa (668)2154

K(Mn+e=Mn(II))=26.7(1511 mV)

Medium: H2SO4

\*\*\*\*\*

Br- HL Bromide CAS 10035-10-6 (19)  
Bromide;

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

Mn+++ sp non-aq 25°C 100% U M 1991LMb (2133)2155

K=1.68

Medium(S): CH2Cl2. K:a2-P2W17O61MnS+L=a2-P2W17O61MnL+S.

\*\*\*\*\*

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

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

Mn+++ oth oth/un 18°C var U 1913MEa (2740)2156

K=9.70

Method: chemical analysis. K: K(MnOOH(s)+3CN+3HCN=Mn(CN)6+2H2O)

\*\*\*\*\*

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

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

Mn+++ sp NaClO4 25°C 7.10M U I K1=3.04 1980TGa (5233)2157

Mn+++ sp oth/un 25°C 3.26M U K1=1.12 B2=1.16 1974RNa (5234)2158

Medium: HClO4/Mn(ClO4)2

-----  
Mn+++ kin NaClO4 25°C 2.0M U K1=0.95 1948TAa (5235)2159

\*\*\*\*\*

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

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

Mn+++ con non-aq 25°C 100% U 1993DVA (6325)2160

Kout(Mn(dmsO)6+L)=2.70

Kout(Mn(dmsO)6L+L)=1.90

Kout(Mn(urea)6+L)=2.15

Kout(Mn(urea)6L+L)=1.56

Medium(S): acetonitrile.

\*\*\*\*\*

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

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

Mn+++ EMF NaClO4 25°C 3.00M U K1=2.6 B2=4.42 1981CCb (7023)2161  
B3=4.95

-----  
Mn+++ sp NaClO4 25°C 6.0M U 1969DIb (7024)2162  
K(Mn+HF=MnF+H)=2.88

Medium: HClO4

-----  
Mn+++ sp NaClO4 23°C 5.35M U 1969DKa (7025)2163  
K(Mn+HF=MnF+H)=2.20  
K(MnOH+HF=MnOHF+H)=2.28

Medium: HClO4

-----  
Mn+++ sp NaClO4 23°C 5.30M U I 1964FCa (7026)2164  
K(Mn+HF=MnF+H)=2.4

Medium: HClO4. \*K1=2.7(I=6.1)

-----  
Mn+++ kin NaClO4 25°C 2.0M U 1948TAa (7027)2165  
\*K1=2.51

\*\*\*\*\*

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

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

-----  
Mn+++ kin NaNO3 30°C 0.10M U 1996KBa (9388)2166  
Kout(Mn2O2(A)4+NO2)=1.15  
Kout(Mn2O2(A)4+2NO2)=2.85  
K(Mn2O2(A)4+H=Mn2O2A3+HA)=1.54

Mn2O2A4 is oxygen-bridged Mn(III)Mn(IV)(O2)(phen)4.

\*\*\*\*\*

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

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

-----  
Mn+++ kin NaClO4 25°C 3.80M U 1969DKb (10242)2167  
K(Mn+HL=MnL+H)=1.85

By spectrophotometry K=1.95

-----  
Mn+++ sp NaClO4 25°C 0.25M U M 1967SHb (10243)2168  
K(Mn(EDTA)+L)=1.51

\*\*\*\*\*

OH- HL Hydroxide (57)  
Hydroxide;

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

-----  
Mn+++ sp oth/un 25°C 0.01M U 1998RNB (11743)2169  
\*K(MnP(H2O)2)=-8.0  
\*K(MnP(OH)(H2O))=-10.6

MnP: (meso-tetrakis(1-methyl-4-pyridinium)porphyrinato)Mn(III)

Medium: 0.01 M buffer.

Mn+++ oth NaNO3 25°C 1.00M U K1=12.5 B2=24.0 1987NSa (11744)2170  
B3=35.6

Mn+++ EMF NaClO4 25°C 3.00M C 1978BPa (11745)2171  
\*K1=0.4  
\*B2=0.1

Eo(e + Mn+++)=0.1559 V

Mn+++ EMF NaClO4 25°C 5.60M U 1974RNa (11746)2172  
\*K1=0.02

Mn+++ sp NaClO4 23°C 4.00M U 1973GTb (11747)2173  
\*K1=-0.02

Mn+++ kin NaNO3 25°C 1.90M U 1969DKc (11748)2174  
\*K1=0.04

Medium: NaNO3 or NaClO4 at I=1.9-4.2 M

Mn+++ kin NaClO4 12°C 3.00M U H 1968RNa (11749)2175  
\*K1=-0.20

DH(\*K1)=20.1 kJ mol<sup>-1</sup>

Mn+++ sp NaClO4 25°C 4.00M U H 1967WDa (11750)2176  
\*K1=-0.03

Medium: 4 M Mn(ClO4)<sub>2</sub>. DH(\*K1)=20.1 kJ mol<sup>-1</sup>. DS=65.6 J K<sup>-1</sup> mol<sup>-1</sup>

Mn+++ sp NaClO4 25°C 4.00M U T H 1965WDa (11751)2177  
\*K1=-0.06

Medium: 4M (Mn,H)ClO4. DH(\*K1)=20.0 kJ mol<sup>-1</sup>, DS=65 J K<sup>-1</sup> mol<sup>-1</sup>

Mn+++ sp NaClO4 23°C 6.00M U 1964DSb (11752)2178  
\*K1=0.6

Mn+++ sp NaClO4 23°C 5.0M U 1964FCa (11753)2179  
\*K1=0.2

Medium: 5-6 M HClO4

\*\*\*\*\*

PO4--- H3L Phosphate CAS 7664-38-2 (176)

Phosphate;

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

Mn+++ EMF NaClO4 25°C 3.00M C 1981CPa (13248)2180  
K(Mn+H3L=MnHL+2H)=1.5  
K(Mn+H3L=MnH2L+H)=1.3  
K(Mn+2H3L=MnH4L2+2H)=2.9

\*\*\*\*\*



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  
-----

Mn+++ EMF oth/un 25°C 3.0M C 1983CPb (13621)2181  
K(Mn+H4L=MnH2L+2H)=4.86  
K(Mn+H4L=MnHL+3H)=4.2  
K(Mn+2H4L=MnH4L2+4H)=6.54  
K(Mn+2H4L=MnH5L2+3H)=6.76

-----  
Mn+++ EMF oth/un 25°C 3.0M C 1983CPf (13622)2182  
K(Mn+H4P207=MnH2P207+2H)=4.86  
K(Mn+H4P207=MnHP207+3H)=4.2

Medium: 3.0 M (Li,H)ClO4. Method: Ir/Mn(III),Mn(II) electrode.  
K(Mn+2H4P207=MnH4(P207)2+4H)=6.54, K(Mn+2H4P207=MnH5(P207)2+3H)=6.76

-----  
Mn+++ sp NaClO4 20°C 1.80M U 1972BPd (13623)2183  
K(Mn+H2L)=9.0

Medium: HClO4

-----  
Mn+++ vlt NaClO4 25°C 0.34M U K1=16.7 B2=30.9 1970GSg (13624)2184  
K(Mn+H2L)=5.1  
K(Mn+2H2L)=8.4  
K(Mn+3H2L)=11.2

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

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

Mn+++ kin NaClO4 30°C 1.00M U 1993MBa (15467)2185  
Kout(MnA2(H2O)2+HL)=1.48  
Kout(MnA2(H2O)2+L)=2.00

HA=acetylacetone.

\*\*\*\*\*  
S04-- H2L Sulfate CAS 7664-93-9 (15)  
Sulfate;

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

Mn+++ sp NaClO4 23°C 2.70M U I 1973GTb (16354)2186  
K(Mn+HL)=0.08

Medium:(Na,H)ClO4. K(Mn+HL)=0.21(I=4.3), 0.27(I=5), 0.40(I=6.6), 0.57(I=8.2)

\*\*\*\*\*  
CH4N2O L Urea CAS 57-13-6 (2018)  
Carbamide, Urea; (H2N)2CO

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

Mn+++ nmr non-aq 25°C 100% U 1993DVa (17722)2187  
K(MnL6+S=MnL5S+L)=-3.72  
K(MnL6+2S=MnL4S2+2L)=-6.55  
K(MnL6+3S=MnL3S3+3L)=-14.78

Medium(S): acetonitrile.

\*\*\*\*\*

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

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

Mn+++ sp non-aq 25°C 100% U M 1981IKa (17885)2188  
K(MnClA2+L)=0.13

Medium: dichloromethane. HA=acetylacetone. Also for HA=benzoylacetone

\*\*\*\*\*

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  
-----

Mn+++ kin NaClO4 25°C 2.0M U K1=9.98 B2=16.57 1948TAa (18964)2189  
K3=2.85

Medium:HClO4

-----  
Mn+++ sp oth/un 0°C 0.0 U 1936CEa (18965)2190  
K3=2.42

\*\*\*\*\*

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

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

Mn+++ nmr non-aq 25°C 100% U 1993DVa (22109)2191  
K(MnL6+S=MnL5S+L)=-3.23  
K(MnL6+2S=MnL4S2+2L)=-6.27  
K(MnL6+3S=MnL3S3+3L)=-11.29

Medium(S): acetonitrile.

-----  
Mn+++ sp non-aq 21°C 100% U M 1983LKa (22110)2192  
K(MnA+L)=3.49  
K(MnA+2L)=5.74

Medium: C2H4Cl2. A=tetraphenylporphin

-----  
Mn+++ sp non-aq 25°C 100% U M 1981IKa (22111)2193  
K(MnClA2+L)=1.45

Medium: dichloromethane. HA=acetylacetone

\*\*\*\*\*

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

-----

| Metal  | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values | Reference                      | ExptNo |
|--|-----|--------|------|-------|-----|-------|----|----------|--------------------------------|--------|
| Mn+++  | kin | NaNO3  | 30°C | 0.20M | U   | M     |    |          | 1991ABd (23911)                | 2194   |
|  |     |        |      |       |     |       |    |          | K(MnPA2+HL=MnPA(HL)+A)=2.43    |        |
|  |     |        |      |       |     |       |    |          | K(MnP(OH)L+H=MnP(OH)(HL))=11.3 |        |
| A=H2O or OH. P:meso-tetrakis(2,6-dimethyl-3-sulfonatophenyl)porphyrin. |     |        |      |       |     |       |    |          |                                |        |

|       |    |        |      |      |   |   |  |  |                 |      |
|-------|----|--------|------|------|---|---|--|--|-----------------|------|
| Mn+++ | sp | non-aq | 21°C | 100% | U | M |  |  | 1983LKa (23912) | 2195 |
|       |    |        |      |      |   |   |  |  | K(MnA+L)=4.35   |      |
|       |    |        |      |      |   |   |  |  | K(MnA+2L)=7.45  |      |

Medium: C2H4Cl2. A=tetraphenylporphin  
 \*\*\*\*\*  
 C3H7NO L DMF CAS 68-12-2 (598)  
 N,N-Dimethylformamide; HCO.N(CH3)2

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference        | ExptNo |
|-------|-----|--------|------|------|-----|-------|----|----------|------------------|--------|
| Mn+++ | sp  | non-aq | 25°C | 100% | U   | M     |    |          | 1981IKa (25663)  | 2196   |
|       |     |        |      |      |     |       |    |          | K(MnClA2+L)=1.00 |        |

Medium: dichloromethane. HA=acetylacetone  
 \*\*\*\*\*  
 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 |
|-------|-----|--------|------|------|-----|-------|----|----------|-----------------|--------|
| Mn+++ | sp  | non-aq | 25°C | 100% | U   | M     |    |          | 1991LMb (29604) | 2197   |
|       |     |        |      |      |     |       |    |          | K=3.56          |        |

Medium S): CH2Cl2. K:a2-P2W17O61MnS+L=a2-P2W17O61MnL+S.  
 \*\*\*\*\*  
 C4H11NO8P2 H5L CAS 2439-99-8 (2129)  
 N-Carboxymethyl-N,N-bis(methylenephosphonic acid); HOOC.CH2.N(CH2.PO3H2)2

| Metal | Mtd | Medium | Temp | Conc  | Cal | Flags | Lg | K values | Reference       | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|----------|-----------------|--------|
| Mn+++ | sp  | NaClO4 | 20°C | 1.00M | U   |       |    | K1=12.46 | 1978KPb (35114) | 2198   |

\*\*\*\*\*  
 C5H5N L Pyridine CAS 110-86-1 (31)  
 Pyridine, Azine;

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference       | ExptNo |
|-------|-----|--------|------|------|-----|-------|----|----------|-----------------|--------|
| Mn+++ | sp  | non-aq | 25°C | 100% | U   | M     |    |          | 1991LMb (36656) | 2199   |
|       |     |        |      |      |     |       |    |          | K=3.61          |        |

Medium(S): CH2Cl2. K:a2-P2W17O61MnS+L=a2-P2W17O61MnL+S.  
 -----

|       |    |        |      |      |   |   |  |  |                 |      |
|-------|----|--------|------|------|---|---|--|--|-----------------|------|
| Mn+++ | sp | non-aq | 21°C | 100% | U | M |  |  | 1983LKa (36657) | 2200 |
|       |    |        |      |      |   |   |  |  | K(MnA+L)=4.08   |      |
|       |    |        |      |      |   |   |  |  | K(MnA+2L)=6.99  |      |

Medium: C2H4Cl2. A=tetraphenylporphin

-----  
Mn+++ sp non-aq 25°C 100% U M 1981IKa (36658)2201  
K(MnClA2+L)=2.01

Medium: dichloromethane. HA=acetylacetone

\*\*\*\*\*

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  
-----

Mn+++ gl oth/un 25°C 0.20M U 1951CAa (38029)2202  
K3=3.86

\*\*\*\*\*

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  
-----

Mn+++ sp NaClO4 ? 1.00M U K1=20.25 1971BPh (46921)2203

\*\*\*\*\*

C6H11NO5 H2L HIMDA CAS 93-62-9 (192)

N-(2-Hydroxyethyl)iminodiethanoic acid; HO.CH2.CH2.N(CH2.COOH)2

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

Mn+++ sp NaClO4 ? 1.00M U M 1973BPb (48763)2204  
K(MnH2P207+L)=6.80

\*\*\*\*\*

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  
-----

Mn+++ gl oth/un 25°C 0.10M U K1=9.75 1956WMe (52353)2205

\*\*\*\*\*

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

2,2'-Bipyridine; (C5H4N)2

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

Mn+++ EMF NaClO4 20°C 1.50M U K1=4.3 B2=9.6 1990IAa (69623)2206  
B3=15.3

Medium: LiClO4

\*\*\*\*\*

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  
-----

Mn+++ sp oth/un ? dil U K1=5.3 1963MRb (69959)2207

\*\*\*\*\*

C10H12N4O6 H2L Xanthosine CAS 5968-90-1 (1176)  
3,9-Dihydro-9-ribofuranosyl-1H-purine-2,6-dione;

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

Mn+++ gl KNO3 35°C 0.10M C M 1985RRh (71497)2208  
K(Mn+HL)=2.57  
K(Mn(gly)+HL)=2.8  
K(Mn(his)+HL)=2.9  
K(Mn+HL+HA)=8.94

K(Mn+HL+B)=8.70. H2A is catechol, H2B is oxalic acid.

\*\*\*\*\*

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  
-----

Mn+++ sp NaClO4 ? 1.0M U K1=26.99 1971BPh (73963)2209  
-----

Mn+++ sp oth/un 19°C ? U K1=17.35 1971MAm (73964)2210  
K(Mn+HL)=8.89  
-----

Mn+++ vlt oth/un ? ? U K1=14.76 1969SVd (73965)2211  
-----

Mn+++ sp NaClO4 25°C 0.20M U T K1=24.8 1967HSa (73966)2212  
-----

Mn+++ vlt oth/un 25°C 0.20M U T K1=24.9 1965TSa (73967)2213  
-----

Mn+++ gl oth/un 25°C ? U 1962Y0a (73968)2214  
K(Mn(OH)L+H)=5.5  
K(MnL+H)=2.7  
-----

Mn+++ sp oth/un ? 0.10M U 1962Y0a (73969)2215  
K(Mn(OH)L+H)=5.3  
-----

\*\*\*\*\*

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  
-----

Mn+++ sp oth/un 20°C dil U K1=13.55 1972Mce (75448)2216  
-----

Mn+++ sp NaClO4 25°C 0.20M U K1=22.7 1967HSa (75449)2217  
-----

\*\*\*\*\*

C11H11NO2 HL CAS 7545-59-7 (4830)  
8-Hydroxy-5-methoxymethylquinoline;

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

Mn+++ vlt mixed ? 50% U K1=39.35 1970CVa (77770)2218  
Medium: 50% DMF, 1 M NaClO4

\*\*\*\*\*  
C12H8N2 L Phenanthroline CAS 66-71-7 (144)  
1,10-Phenanthroline;

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

Mn+++ EMF NaClO4 20°C 1.50M U K1=5.5 B2=20.7 1990IAa (80496)2219  
Medium: LiClO4

\*\*\*\*\*  
C12H20N2O9 H4L EEDTA CAS 923-73-9 (2112)  
Oxa-bis(ethyleneimino)diethanoic acid; ((HOOC.CH2)2N.CH2.CH2)2O

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

Mn+++ sp oth/un 19°C ? U K1=17.18 1971MAk (82552)2220  
K(Mn+HL)=10.04

\*\*\*\*\*  
C13H10N02Br 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  
-----

Mn+++ gl diox/w 30°C 50% U K1=5.09 1982UVa (84691)2221

\*\*\*\*\*  
C13H11N03 H2L CAS 55260-17-8 (9214)  
N-2-Hydroxy-1-naphthalidene glycine;

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

Mn+++ gl mixed 25°C 50% C K1=13.23 B2=18.73 2004DSa (85203)2222  
Medium: 50% v/v DMSO/H2O, 0.10 M NaCl.

\*\*\*\*\*  
C13H11N2O3F3 HL (5563)  
3-(2-Acetylphenylhydrazone)-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  
-----

Mn+++ gl diox/w 25°C 75% U K1=6.10 B2=10.90 1990ASb (85250)2223

\*\*\*\*\*  
C13H14N2O L CAS 87413-05-6 (6300)  
1-Benzyl-1,4-dihydronicotinamide;

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

Mn+++ sp non-aq 25°C 100% U 1989FKb (85580)2224

K(MnP+L)=2.40  
K(MnPL+L)=1.93

Medium: CH<sub>2</sub>Cl<sub>2</sub>. MnP=tetraphenylporphyrinatomanganese(III) perchlorate  
 \*\*\*\*\*

C13H14N2O3 HL (4940)  
 3-(2-Acetylphenylhydrazone)pentane-2,4-dione; (CH<sub>3</sub>.CO)2C:N.NH.C<sub>6</sub>H<sub>4</sub>(CO.CH<sub>3</sub>)

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

Mn+++ gl diox/w 25°C 75% U K1=7.75 B2=12.75 1990ASb (85613)2225  
 \*\*\*\*\*

C14H13NO2 H2L (1387)  
 2'-Hydroxy-5'-methylbenzophenone oxime; HO(CH<sub>3</sub>)C<sub>6</sub>H<sub>3</sub>.C(:NOH)C<sub>6</sub>H<sub>5</sub>

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

Mn+++ gl diox/w 30°C 50% U K1=6.28 1982UVa (87391)2226  
 \*\*\*\*\*

C14H13NO3 H2L CAS 41084-64-4 (9215)  
 N-[(2-Hydroxy-1-naphthalenyl)methylene]-alanine;

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

Mn+++ gl mixed 25°C 50% C K1=13.99 B2=19.20 2004DSa (87567)2227  
 Medium: 50% v/v DMSO/H<sub>2</sub>O, 0.10 M NaCl.  
 \*\*\*\*\*

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  
 -----

Mn+++ kin NaClO<sub>4</sub> 25°C 0.20M U 1994GAa (88722)2228  
 \*K(MnL)=-7.90

-----  
 Mn+++ sp NaClO<sub>4</sub> 25°C 0.20M U K1=28.9 1967HSa (88723)2229  
 \*\*\*\*\*

C14H23N3O10 H5L DTPA CAS 67-43-6 (238)  
 Diethylenetriamine-pentaethanoic acid; HOOC.CH<sub>2</sub>.N(CH<sub>2</sub>.CH<sub>2</sub>.N(CH<sub>2</sub>.COOH)<sub>2</sub>)<sub>2</sub>

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

Mn+++ sp NaClO<sub>4</sub> ? 1.0M U K1=31.06 1971BPh (89323)2230

-----  
 Mn+++ sp oth/un 20°C dil U K1=19.35 1971MAn (89324)2231  
 K(Mn+H2L)=5.36  
 K(Mn+H3L)=3.70

-----  
 C15H11N3 L CAS 1148-79-4 (488)  
 2,2':6'2"-Terpyridine; C<sub>5</sub>H<sub>4</sub>N.C<sub>5</sub>H<sub>3</sub>N.C<sub>5</sub>H<sub>4</sub>N

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

Mn+++ gl oth/un 25°C 2.00M U K1=12.35 B2=19.69 1992IAa (91163)2232

\*\*\*\*\*

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  
-----

Mn+++ vlt R4N.X 25°C 0.10M U K1=15.25 1989BAb (91773)2233

Medium: (CH3CH2)4NC1O4

\*\*\*\*\*

C15H15N04 H2L CAS 162127-15-3 (9217)

N-[(2-Hydroxy-1-naphthalenyl)methylene]-threonine;

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

Mn+++ gl mixed 25°C 50% C K1=15.45 B2=20.62 2004DSa (91873)2234

Medium: 50% v/v DMSO/H2O, 0.10 M NaCl.

\*\*\*\*\*

C16H12N2 L (6848)

6-Phenyl-2,2'-bipyridyl;

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

Mn+++ gl oth/un 25°C 2.00M U K1=6.30 B2=11.25 1992IAa (92908)2235

K3=3.62

\*\*\*\*\*

C16H17N03S H2L CAS 162127-16-4 (9218)

N-[(2-Hydroxy-1-naphthalenyl)methylene]-methionine;

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

Mn+++ gl mixed 25°C 50% C K1=6.68 B2= 9.50 2004DSa (93730)2236

Medium: 50% v/v DMSO/H2O, 0.10 M NaCl.

\*\*\*\*\*

C16H18N2O3 HL (5564)

2-(2-Acetylphenylhydrazone)-5,5-dimethyl-1,3-cyclohexanedione;

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

Mn+++ gl diox/w 25°C 75% U K1=6.80 B2=10.77 1990ASb (93782)2237

\*\*\*\*\*

C18H15P L CAS 603-35-0 (621)

Triphenylphosphine; (C6H5)3P

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

Mn+++ sp non-aq 25°C 100% U M 1991LMb (97142)2238

K=0.78

Medium(S): CH2Cl2. K:a2-P2W17O61MnS+L=a2-P2W17O61MnL+S.

\*\*\*\*\*



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  
-----  
Mn+++ gl diox/w 25°C 75% U K1=7.60 B2=11.52 1990ASb (97175)2239  
\*\*\*\*\*

C18H20N2O6 H4L EHPG CAS 10328-28-6 (429)  
N,N'-Ethylene-bis-(2-(2'-hydroxyphenyl))glycine; (HOOCCH(C6H4OH)NHCH2.)2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn+++ sp NaCl 25°C 1.0M U 1990ADb (97436)2240  
K(Mn(OH)L+H)=9.3

K(MnL+H) is about 3

\*\*\*\*\*  
C20H17NO3 H2L CAS 162127-28-8 (9216)  
N-[(2-Hydroxy-1-naphthalenyl)methylene]-phenylalanine;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn+++ gl mixed 25°C 50% C K1=12.32 B2=15.43 2004DSa (99818)2241  
Medium: 50% v/v DMSO/H2O, 0.10 M NaCl.  
\*\*\*\*\*

C20H24N2O6 H4L (6591)  
Diaminoethanebis(2-hydroxy-4-methyl-phenyl)ethanoic acid;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn+++ sp NaCl 25°C 1.0M U 1990ADb (99963)2242  
K(Mn(OH)L+H)=9.2  
K(MnL+H)=1.9

Data listed refer to meso-form of L  
For racemic form: K(Mn(OH)L+H)=9.1;K(MnL+H)=2.5

\*\*\*\*\*  
C21H26N2O6 H4L BHTDA CAS I4 (6592)  
N,N'-Bis(2-hydroxybenzyl-trimethylenedinitrilo-N,N'-diethanoic acid;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Mn+++ sp NaCl 25°C 1.0M U 1990ADb (101277)2243  
K(Mn(OH)L+H)=9.5

K(MnL+H) is about 3

\*\*\*\*\*  
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

-----  
Mn+++ gl diox/w 25°C 75% U K1=7.18 B2=11.58 1990ASb (102598)2244  
\*\*\*\*\*  
C34H38N4O6 H4L (3525)  
Haematoporphyrin IX;  
-----

| Metal     | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values        | Reference        | ExptNo |
|-----------|-----|--------|------|------|-----|-------|----|-----------------|------------------|--------|
| Mn+++     | EMF | oth/un | var  | var  | U   |       |    | K(MnLOH+H)=12.0 | 1963LCc (106036) | 2245   |
| *****     |     |        |      |      |     |       |    |                 |                  |        |
| e-        |     | HL     |      |      |     |       |    | Electron        | (442)            |        |
| Electron; |     |        |      |      |     |       |    |                 |                  |        |

| Metal  | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values                       | Reference     | ExptNo |
|--|-----|--------|------|------|-----|-------|----|--------------------------------|---------------|--------|
| Mn++++   | EMF | none   | 25°C | 0.00 | U   |       |    | K=41.6(1.231V) to 42.1(1.244V) | 1969ACa (669) | 2246   |
| K: beta-MnO2(s)+4H+ + 2e=Mn++ + 2H2O. K=40.43(1.196V,highly crystalline) |     |        |      |      |     |       |    |                                |               |        |

|                              |     |      |      |     |   |  |  |                                |               |      |
|------------------------------|-----|------|------|-----|---|--|--|--------------------------------|---------------|------|
| Mn++++                       | EMF | none | 18°C | 0.0 | U |  |  | K(Mn+2e=Mn(II))=52.3 (1510 mV) | 1967LIa (670) | 2247 |
| Extrapolation from 1.5 M HCl |     |      |      |     |   |  |  |                                |               |      |

|                                   |     |      |      |     |   |  |  |                                |               |      |
|-----------------------------------|-----|------|------|-----|---|--|--|--------------------------------|---------------|------|
| Mn++++                            | EMF | none | 25°C | 0.0 | U |  |  | K=41.7 to 42.0(1233 to 1241mV) | 1962CCa (671) | 2248 |
| K: beta-MnO2(s)+4H+2e=Mn(II)+2H2O |     |      |      |     |   |  |  |                                |               |      |

|                              |     |      |      |     |   |  |  |                             |               |      |
|------------------------------|-----|------|------|-----|---|--|--|-----------------------------|---------------|------|
| Mn++++                       | EMF | none | 25°C | 0.0 | U |  |  | K=40.84(gamma-MnO2;1208 mV) | 1959GBa (672) | 2249 |
| K: MnO2(s)+4H+2e=Mn(II)+2H2O |     |      |      |     |   |  |  |                             |               |      |

|                                  |    |        |      |      |   |   |  |                             |               |      |
|----------------------------------|----|--------|------|------|---|---|--|-----------------------------|---------------|------|
| Mn++++                           | sp | oth/un | 25°C | 7.0M | U | I |  | K(Mn(IV)+Mn(II)=2Mn(III))=4 | 1959SLa (673) | 2250 |
| Medium: H2SO4. In 4 M H2SO4: K=3 |    |        |      |      |   |   |  |                             |               |      |

|   |     |      |      |     |   |  |  |                            |               |      |
|---|-----|------|------|-----|---|--|--|----------------------------|---------------|------|
| Mn++++  | EMF | none | 25°C | 0.0 | U |  |  | K=41.25(beta-MnO2;1220 mV) | 1954MTa (674) | 2251 |
| K: MnO2(s)+4H+2e=Mn(II)+2H2O. Data also for alpha-,gamma,and delta-MnO2:<br>K=42 to 44(1250 to 1300 mV) |     |      |      |     |   |  |  |                            |               |      |

|               |     |        |      |       |   |  |  |                                |               |      |
|---------------|-----|--------|------|-------|---|--|--|--------------------------------|---------------|------|
| Mn++++        | EMF | oth/un | 25°C | 7.50M | U |  |  | K(Mn+e=Mn(III))=27.93(1652 mV) | 1950VMa (675) | 2252 |
| Medium: H2SO4 |     |        |      |       |   |  |  |                                |               |      |

|                              |     |      |      |     |   |  |  |                  |               |      |
|------------------------------|-----|------|------|-----|---|--|--|------------------|---------------|------|
| Mn++++                       | EMF | none | 25°C | 0.0 | U |  |  | K=41.55(1229 mV) | 1949WWa (676) | 2253 |
| K: MnO2(s)+4H+2e=Mn(II)+2H2O |     |      |      |     |   |  |  |                  |               |      |

|        |     |      |      |     |   |  |  |  |               |      |
|--------|-----|------|------|-----|---|--|--|--|---------------|------|
| Mn++++ | EMF | none | 25°C | 0.0 | U |  |  |  | 1947HUa (677) | 2254 |
|--------|-----|------|------|-----|---|--|--|--|---------------|------|

K=41.60(1230 mV)

K: MnO2(s)+4H+2e=Mn(II)+2H2O

Mn++++ EMF oth/un 12°C 7.50M U 1923GHa (678)2255  
K(Mn+e=Mn(III))=29.0(1642 mV)

Medium: H2SO4

Mn++++ EMF oth/un 18°C 8.0M U I 1912STa (679)2256  
K=15.27(441 mV)

Medium: KOH. K: Mn(VI)+2e=Mn(IV)(s). At I=0 K(MnO4+2H2O+2e=MnO2(s)+4OH)=17.7 (510 mV)

\*\*\*\*\*

I04- HL Periodate CAS 13444-71-8 (6063)  
Periodate;

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

Mn++++ gl oth/un ? dil U 1961LIa (8609)2257  
Successive Ka(H9Mn(IO6)3)= -2.75, -4.35, -5.45?, -9.55?, -10.45?  
By kinetics, 35 C, K(MnL2(OH)3+2OH+L=MnL3(OH)5)=8.7

\*\*\*\*\*

TeO4-- H2L Tellurate (5750)  
Tellurate(VI); TeO4-- or TeO2(OH)4--

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

Mn++++ sp oth/un ? var U 1971IIa (17310)2258  
B4=14.6

Mn++++ sol oth/un var dil U 1971IIb (17311)2259  
Kso=ca.-13.2 (26-80 C)

Mn++++ sp oth/un 25°C var U 1962LYa (17312)2260  
K(MnL3(OH)5=MnL2(OH)4+L+OH)=-4.4

Mn++++ kin oth/un 25°C 0.10M U 1961LIa (17313)2261  
K3eff=3.37 (0.1 M NaOH)  
K(MnL2+L+OH=MnL3OH?)=4.37

Medium:NaOH. By pH K(H13Mn(TeO6)3+H)=2.2, K(H12(TeO6)3+H)=2.2, K(H11(TeO3)6+H)=-7.5 etc.

Mn++++ EMF oth/un 0°C dil U 1961LIa (17314)2262  
K(H10Mn(TeO6)3+H)=7.5  
K(H9Mn(TeO6)3+H)=7.5  
K(H8Mn(TeO6)3+H)=11.5

By pH method. Temp. unknown.

\*\*\*\*\*

C34H38N4O6 H4L (3525)  
Haematoporphyrin IX;

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| Metal  | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference | ExptNo                                     |
|--------|-----|--------|------|------|-----|-------|----|----------|-----------|--|
| Mn++++ | EMF | oth/un | var  | var  | U   |       |    |          | 1963LCC   | (106037)2263                               |
|        |     |        |      |      |     |       |    |          |           | $K(\text{MnL}(\text{OH})_2+\text{H}) < 10$ |

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#### EXPLANATORY NOTES

DATA Flags are :-

T Data at other TEMPERATURES  
I Data with various BACKGROUNDS  
H Data for THERMOCHEMICAL quantities  
M Data for TERNARY Complexes

EVALUATION Flags are :-

T or IUP=T signifies EVALUATION RATING = Tentative by IUPAC  
R or IUP=R signifies EVALUATION RATING = Recommended by IUPAC

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