SC-Database
Software version = 5.81 Data version = 4.62
Experiment list contains 18 experiments for
 (no ligands specified)
 Metal : Tc
 (no references specified)
 (no experimental details specified)

****
e- HL Electron (442)
Electron;

Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values | Reference | ExptNo
---
Tc | EMF | oth/un | 25°C | 1.00M | U | | 1973SAd (953) | 1
K(Tc(SCN)6- + e)=8.96(0.53V)

Tc | EMF | none | 24°C | 0.0 | U | | 1955CSc (954) | 2
K=37.6(738 mV)
K'=18.4(272 mV)
K: TcO4(VII)+4H+3e=TcO2(s)+2H2O. K': TcO2(s)+4H+4e=Tc(s)+2H2O

Tc | oth | none | 25°C | 0.0 | U | | 1953CSa (955) | 3
K=-15.8(-311 mV)
K'=55.9(472 mV)
K"=27(800 mV)
K:TcO4(VII)+2H2O+3e=TcO2(s)+4OH. K': TcO4(VII)+8H+7e=Tc(s)+4H2O
K": TcO3(s)+2H+2e=TcO2(s)+H2O
****
Br- HL Bromide CAS 10035-10-6 (19)
Bromide;

Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values | Reference | ExptNo
---
Tc | nmr | NaClO4 | 22°C | 4.0M | C | K1=0.10 B2=-0.58 | 2003GMa (2325) | 4
K3=-1.15
Method: NMR. M=[Tc(CO)3]+

Tc | ISE | NaClO4 | 15°C | 3.0M | U | | 1965SCf (2326) | 5
K6=3.58
Metal:Tc++++. Medium:HClO4
****
CN- HL Cyanide CAS 74-90-8 (230)
Cyanide;

Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values | Reference | ExptNo
---
Tc | kin | KNO3 | 25°C | 1.00M | U | M | 1992RLa (2763) | 6
K(TcO2L4+H=TcO2HL4)=5
K(TcO2HL4+H=TcO(H2O)L4)=2.9

```
                                        K(TcO(H2O)L4+A=TcOL4A+H2O)=1.7
--------------------------------------------------------------------------------
Tc         sp  oth/un   ?   var  U                        1962SHc  (2764)   7
                                        K(Tc(IV)(OH)3L3+L)=8.1
********************************************************************************
Cl-                    HL    Chloride         CAS 7647-01-0  (50)
Chloride;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tc         nmr NaClO4 22°C  4.0M C        K1=0.12   B2=-0.65  2003GMa  (5771)   8
                                        K3=-1.30
Method: NMR: M=[Tc(CO)3]+
--------------------------------------------------------------------------------
Tc         ISE NaClO4 15°C  3.0M U                        1965SCf  (5772)   9
                                        K6=4.66
Metal:Tc++++. Medium:HClO4
********************************************************************************
I-                     HL    Iodide           CAS 10034-85-2  (20)
Iodide;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tc         nmr NaClO4 22°C  4.0M C        K1=0.43   B2= 0.53  2003GMa  (8384)  10
                                        K3=-0.18
Method: NMR. M=[Tc(CO)3]+
********************************************************************************
OH-                    HL    Hydroxide          (57)
Hydroxide;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tc         gl  KCl    25°C  1.2M C                        1998ARa (12224)  11
                                        *K(TcO(H2O)(CN)4)=-2.90
                                        *K(TcO(OH)(CN)4)=-4-5
Medium: KCl/KNO3. Metal is Tc(V).
--------------------------------------------------------------------------------
Tc         dis NaClO4   ?        U                        1973GGb (12225)  12
                                        K(TcOOH=TcO2+H)= ca.1
Tc: Tc++++
--------------------------------------------------------------------------------
Tc         oth KNO3   18°C 0.10M U                        1969GKa (12226)  13
                                        *K(TcO+H2O=TcOOH+H)=-1.37
                                        *K(TcO+2H2O=TcO(OH)2+2H)=-3.8
Tc: Tc++++. Method: electrical migration or transference number
********************************************************************************
SCN-                   HL    Thiocyanate      CAS 463-56-9  (106)
Thiocyanate;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
```

Tc nmr NaClO4 22°C 4.0M C K1=2.84 B2= 4.87 2003GMa (15268) 14
K3=1.11
Method: NMR. M=[Tc(CO)3]+
****
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
---
Tc ix NaClO4 ? 0.10M U 1970GKb (47045) 15
K(TcO(OH)+L)=13.8
****
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
---
Tc ix NaClO4 ? 0.10M U 1970GKb (74210) 16
K(TcO(OH)+L)=19.1
****
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
---
Tc ix NaClO4 ? 0.10M U 1970GKb (88790) 17
K(TcO(OH)+L)=20.7
Metal: Tc(IV).

Tc oth oth/un ? .035M U 1970GKb (88791) 18
K(TcO(OH)+L)=20.4
Metal: Tc(IV). Method: electrical migration or transference number.

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EXPLANATORY NOTES

DATA Flags are :-

M Data for TERNARY Complexes

END