

**DIFFUSION COEFFICIENTS OF 301  
ELECTROLYTES IN AQUEOUS  
SOLUTIONS FROM ONSAGER-  
FUOSS AND PIKAL THEORIES**

by

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**Summary**

Diffusion coefficients in aqueous electrolyte solutions have been calculated according to Onsager-Fuoss and Pikal theories for over 301 electrolytes in aqueous solutions using the most reliable data.

**Key words:** diffusion coefficient, electrolyte, solution

The ever-increasing development of science and technology demands precise data concerning the fundamental thermodynamic and transport properties of ionic solutions. Many fields, such as corrosion, pollution, food technology, biochemical phenomena, rates of reactions, etc., which involve such solutions, have been moving towards a more scientific treatment. Accordingly, the relevant fundamental parameters need to be known over a wider scale.

Whereas a reasonable amount of data exist for density, viscosity, conductance, transport numbers and activity coefficients [1], data for diffusion coefficients even in aqueous solutions is very scarce due to the experimental difficulties in their measurement. Therefore, calculation of diffusion coefficients according to models

concerning the nature of the electrolyte solutions may provide a valuable estimation when no experimental data are available.

Table I presents diffusion coefficients of 301 electrolytes, cited in ref. [1], in aqueous solutions for concentrations from 0.000 to 1.000 mol dm<sup>-3</sup>, calculated according to Onsager-Fuoss and Pikal theories.

The Onsager-Fuoss equation [2] is expressed by

$$D = \left(1 + c \frac{d \ln y^{\pm}}{dc}\right) (D^0 + \sum \Delta_n) \quad (1)$$

where D is the mutual diffusion coefficient of the electrolyte, the first term in parenthesis is the activity factor,  $y^{\pm}$  is the mean molar activity coefficient, c is the concentration in mol dm<sup>-3</sup>,  $D^0$  is the Nernst limiting value of the diffusion coefficient, and  $\Delta_n$  are the electrophoretic terms given by

$$\Delta_n = K_B T A_n \frac{(z_1^n t_2^0 + z_2^n t_1^0)^2}{a^n |z_1 z_2|} \quad (2)$$

where  $K_B$  is the Boltzmann's constant; T is the absolute temperature;  $A_n$  are functions of the dielectric constant, of the viscosity of the solvent, of the temperature, and of the dimensionless concentration-dependent quantity ( $\kappa a$ ), being  $\kappa$  the reciprocal of average radius of the ionic atmosphere;  $t_1^0$  and  $t_2^0$  are the limiting transport numbers of the cation and anion, respectively;  $z_1$  is the algebraic valency of a cation and  $z_2$  is the algebraic valency of an anion.

Since the expression for the electrophoretic effect has been derived on the basis of the expansion of the exponential Boltzmann function because that function had been consistent with the Poisson equation, we only would have to take into account the electrophoretic term of the first order ( $n = 1$ ). For symmetrical electrolytes we can consider the second term.

Thus, the experimental data  $D_{exp}$  can be compared with the calculated  $D_{cal}$  on the basis of eq. (3) and (4)

$$D = (D^0 + \Delta_1 + \Delta_2) \left(1 + c \frac{d \ln y^{\pm}}{dc}\right) \quad (3)$$

$$D = (D^0 + \Delta_1) \left(1 + c \frac{d \ln y^{\pm}}{dc}\right) \quad (4)$$

for symmetrical and non-symmetrical electrolytes, respectively.

The theory of mutual diffusion in binary electrolytes, developed by Pikal [3], includes the Onsager-Fuoss equation, but has new terms resulting from the application of the Boltzmann exponential function for the study of diffusion.

The electrophoretic correction appears now as the sum of two terms

$$\Delta v_j = \Delta v_j^L + \Delta v_j^S \quad (5)$$

where  $\Delta v_j^L$  represents the effect of electrostatic interactions of long-range, and  $\Delta v_j^S$  represents them as short-range.

Designating by  $M = 10^{12} L/c$  the solute thermodynamic

mobility, where  $L$  is the thermodynamic diffusion coefficient,  $\Delta M$  can be represented by the equation

$$\frac{1}{M} = \frac{1}{M^0} (1 - \frac{\Delta M}{M^0}) \quad (6)$$

where  $M^0$  is the value of  $M$  for infinite dilution, and

$$\Delta M = \Delta M^{OF} + \Delta M_1 + \Delta M_2 + \Delta M_A + \Delta M_{H1} + \Delta M_{H2} + \Delta M_{H3} \quad (7)$$

The first term on the right hand in equation (7),  $\Delta M^{OF}$ , represents the Onsager-Fuoss term for the effect of the concentration in the solute thermodynamic mobility,  $M$ ; the second term,  $\Delta M_1$ , is a consequence of the approximation applied on the ionic thermodynamic force; the other terms result from the Boltzmann exponential function.

The relation between the solute thermodynamic mobility and the mutual diffusion coefficient is given by

$$D = \frac{L}{c} 10^3 RT v \left( 1 + c \frac{d \ln y \pm}{d c} \right) \quad (8)$$

where  $R$  is the gas constant, and  $v$  is the number of ions formed upon complete ionization of one solute "molecule". From equations (6) and (8) we obtain a version of Pikal's equation more useful for estimating the mutual diffusion coefficients of electrolytes,  $D_{Pikal}$ :

$$D_{Pikal} = \frac{10^3 RT v}{\frac{1}{M^0} (1 - \frac{\Delta M}{M^0})} \left( 1 + c \frac{d \ln y \pm}{d c} \right) \quad (9)$$

#### References

- [1] V.M.M. Lobo, "Handbook of Electrolyte Solutions", Elsevier Sci. Publ., Amsterdam (1990).
- [2] L. Onsager and R.M. Fuoss, J. Phys. Chem. 36, 2689 (1932).
- [3] M.J. Pikal, J. Phys. Chem. 75, 663 (1971).

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TABLE I

Diffusion Coefficients calculated from Onsager-Fuoss, [ $D_{of} / (10^{-9} \text{ m}^2 \text{ s}^{-1})$ ], and Pikal [ $D_{pikal} / (10^{-9} \text{ m}^2 \text{ s}^{-1})$ ] from 0.000 to 1.000 mol dm<sup>-3</sup> assuming indicated  $\Lambda^0 / (\text{cm}^2 \Omega^{-1} \text{ eq}^{-1})$  and distances of closest approach  $a / 10^{-10} \text{ m}$ .

| Electrolyte | $\text{AgClO}_3$  |          | $\text{AgClO}_4$  |          | $\text{AgF}$      |         | $\text{AgNO}_2$   |         |
|-------------|-------------------|----------|-------------------|----------|-------------------|---------|-------------------|---------|
|             | $\Lambda^0=126.5$ | $a=1.75$ | $\Lambda^0=129.2$ | $a=2.91$ | $\Lambda^0=117.3$ | $a=3.0$ | $\Lambda^0=133.9$ | $a=2.8$ |
| Conc.       | Dof               | Dpikal   | Dof               | Dpikal   | Dof               | Dpikal  | Dof               | Dpikal  |
| 0.000       | 1.683             | 1.683    | 1.717             | 1.717    | 1.556             | 1.557   | 1.772             | 1.772   |
| 0.001       | 1.657             | 1.656    | 1.690             | 1.689    | 1.533             | 1.532   | 1.745             | 1.743   |
| 0.002       | 1.647             | 1.647    | 1.681             | 1.679    | 1.524             | 1.523   | 1.735             | 1.733   |
| 0.003       | 1.640             | 1.640    | 1.675             | 1.672    | 1.519             | 1.517   | 1.728             | 1.726   |
| 0.004       | 1.635             | 1.635    | 1.669             | 1.667    | 1.514             | 1.512   | 1.723             | 1.720   |
| 0.005       | 1.630             | 1.630    | 1.664             | 1.662    | 1.510             | 1.507   | 1.718             | 1.715   |
| 0.006       | 1.626             | 1.626    | 1.660             | 1.658    | 1.506             | 1.504   | 1.713             | 1.711   |
| 0.007       | 1.622             | 1.623    | 1.657             | 1.654    | 1.503             | 1.500   | 1.710             | 1.707   |
| 0.008       | 1.621             | 1.620    | 1.653             | 1.651    | 1.500             | 1.498   | 1.706             | 1.703   |
| 0.009       | 1.618             | 1.617    | 1.651             | 1.648    | 1.498             | 1.495   | 1.703             | 1.700   |
| 0.010       | 1.616             | 1.614    | 1.648             | 1.645    | 1.495             | 1.492   | 1.700             | 1.697   |
| 0.020       | 1.595             | 1.595    | 1.629             | 1.625    | 1.479             | 1.474   | 1.680             | 1.676   |
| 0.030       | 1.582             | 1.582    | 1.618             | 1.611    | 1.469             | 1.462   | 1.668             | 1.661   |
| 0.040       | 1.572             | 1.572    | 1.610             | 1.601    | 1.463             | 1.453   | 1.660             | 1.651   |
| 0.050       | 1.564             | 1.564    | 1.605             | 1.592    | 1.458             | 1.445   | 1.654             | 1.642   |
| 0.060       | 1.559             | 1.557    | 1.601             | 1.585    | 1.455             | 1.438   | 1.649             | 1.634   |
| 0.070       | 1.554             | 1.550    | 1.599             | 1.578    | 1.453             | 1.432   | 1.646             | 1.627   |
| 0.080       | 1.550             | 1.544    | 1.596             | 1.572    | 1.451             | 1.426   | 1.644             | 1.620   |
| 0.090       | 1.547             | 1.531    | 1.594             | 1.566    | 1.449             | 1.420   | 1.642             | 1.614   |
| 0.100       | 1.545             | 1.526    | 1.592             | 1.560    | 1.448             | 1.415   | 1.640             | 1.609   |
| 0.200       | 1.541             | 1.479    | 1.592             | 1.508    | 1.450             | 1.361   | 1.637             | 1.557   |
| 0.300       | 1.543             | 1.435    | 1.606             | 1.450    | 1.463             | 1.301   | 1.652             | 1.502   |
| 0.400       | 1.553             | 1.389    | 1.621             | 1.385    | 1.478             | 1.269   | 1.666             | 1.439   |
| 0.500       | 1.568             | 1.342    | 1.639             | 1.355    | 1.495             | 1.199   | 1.684             | 1.370   |
| 0.600       | 1.585             | 1.293    | 1.659             | 1.281    | 1.513             | 1.124   | 1.704             | 1.341   |
| 0.700       | 1.605             | 1.244    | 1.680             | 1.205    | 1.533             | 1.046   | 1.725             | 1.267   |
| 0.800       | 1.629             | 1.195    | 1.701             | 1.127    | 1.553             | 0.970   | 1.747             | 1.191   |
| 0.900       | 1.648             | 1.145    | 1.724             | 1.051    | 1.574             | 0.896   | 1.770             | 1.115   |
| 1.000       | 1.668             | 1.097    | 1.747             | 0.977    | 1.595             | 0.825   | 1.793             | 1.041   |

| Electrolyte | $\text{AgNO}_3$    |          | $\text{Ag}_2\text{SO}_4$ |         | $\text{AlBr}_3$   |         | $\text{AlCl}_3$   |         |
|-------------|--------------------|----------|--------------------------|---------|-------------------|---------|-------------------|---------|
|             | $\Lambda^0=133.32$ | $a=2.45$ | $\Lambda^0=141.7$        | $a=6.3$ | $\Lambda^0=141.4$ | $a=6.0$ | $\Lambda^0=139.3$ | $a=6.0$ |
| Conc.       | Dof                | Dpikal   | Dof                      | Dpikal  | Dof               | Dpikal  | Dof               | Dpikal  |
| 0.000       | 1.766              | 1.766    | 1.392                    | 1.392   | 1.240             | 1.240   | 1.225             | 1.225   |
| 0.001       | 1.738              | 1.737    | 1.327                    | 1.321   | 1.158             | 1.074   | 1.144             | 1.062   |
| 0.002       | 1.728              | 1.726    | 1.309                    | 1.298   | 1.145             | 0.992   | 1.130             | 0.982   |
| 0.003       | 1.721              | 1.718    | 1.298                    | 1.280   | 1.140             | 0.921   | 1.125             | 0.912   |
| 0.004       | 1.714              | 1.712    | 1.290                    | 1.265   | 1.133             | 0.835   | 1.119             | 0.828   |
| 0.005       | 1.709              | 1.706    | 1.284                    | 1.251   | 1.129             | 0.746   | 1.115             | 0.740   |
| 0.006       | 1.704              | 1.701    | 1.278                    | 1.238   | 1.126             | 0.658   | 1.112             | 0.654   |
| 0.007       | 1.700              | 1.697    | 1.274                    | 1.236   | 1.125             | 0.575   | 1.110             | 0.572   |
| 0.008       | 1.696              | 1.693    | 1.270                    | 1.224   | 1.124             | 0.508   | 1.109             | 0.506   |
| 0.009       | 1.692              | 1.689    | 1.267                    | 1.213   | 1.124             | 0.440   | 1.109             | 0.438   |
| 0.010       | 1.689              | 1.686    | 1.264                    | 1.201   | 1.124             | 0.380   | 1.109             | 0.379   |
| 0.020       | 1.663              | 1.658    | 1.250                    | 1.061   | 1.124             | 0.105   | 1.109             | 0.105   |
| 0.030       | 1.645              | 1.638    | 1.244                    | 0.889   | 1.130             | 0.041   | 1.115             | 0.041   |
| 0.040       | 1.631              | 1.621    | 1.242                    | 0.716   | 1.139             | 0.020   | 1.124             | 0.020   |
| 0.050       | 1.619              | 1.606    | 1.242                    | 0.563   | 1.150             | 0.012   | 1.135             | 0.012   |
| 0.060       | 1.608              | 1.592    | 1.243                    | 0.451   | 1.152             | 0.007   | 1.137             | 0.007   |
| 0.070       | 1.599              | 1.578    | 1.246                    | 0.352   | 1.156             | 0.005   | 1.141             | 0.005   |
| 0.080       | 1.590              | 1.566    | 1.250                    | 0.277   | 1.160             | 0.004   | 1.145             | 0.004   |
| 0.090       | 1.581              | 1.553    | 1.251                    | 0.221   | 1.164             | 0.003   | 1.149             | 0.003   |
| 0.100       | 1.573              | 1.541    | 1.253                    | 0.178   | 1.169             | 0.002   | 1.153             | 0.002   |
| 0.200       | 1.508              | 1.427    | 1.278                    | 0.037   | 1.212             | 0.000   | 1.196             | 0.000   |
| 0.300       | 1.455              | 1.312    | 1.304                    | 0.014   | 1.249             | 0.000   | 1.233             | 0.000   |
| 0.400       | 1.405              | 1.226    | 1.329                    | 0.007   | 1.576             | 0.000   | 1.554             | 0.000   |
| 0.500       | 1.358              | 1.113    | 1.353                    | 0.004   | 1.668             | 0.000   | 1.644             | 0.000   |
| 0.600       | 1.312              | 1.002    | 1.376                    | 0.003   | 1.754             | 0.000   | 1.729             | 0.000   |
| 0.700       | 1.267              | 0.895    | 1.476                    | 0.002   | 1.835             | 0.000   | 1.808             | 0.000   |
| 0.800       | 1.223              | 0.795    | 1.507                    | 0.001   | 1.913             | 0.000   | 1.885             | 0.000   |
| 0.900       | 1.180              | 0.703    | 1.538                    | 0.001   | 1.988             | 0.000   | 1.958             | 0.000   |
| 1.000       | 1.136              | 0.619    | 1.568                    | 0.001   | 2.060             | 0.000   | 2.029             | 0.000   |

| Electrolyte | Al(ClO <sub>4</sub> ) <sub>3</sub> |         | Al(NO <sub>3</sub> ) <sub>3</sub> |         | Al <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub> |         | BaBr <sub>2</sub> |         |
|-------------|------------------------------------|---------|-----------------------------------|---------|---|---------|-------------------|---------|
|             | $\Lambda^0=130.3$                  | $a=6.3$ | $\Lambda^0=134.42$                | $a=6.0$ | $\Lambda^0=142.8$                               | $a=6.5$ | $\Lambda^0=142.1$ | $a=4.0$ |
| Conc.       | Dof                                | Dpikal  | Dof                               | Dpikal  | Dof   | Dpikal  | Dof               | Dpikal  |
| 0.000       | 1.155                              | 1.155   | 1.188                             | 1.188   | 0.781   | 0.781   | 1.403             | 1.404   |
| 0.001       | 1.077                              | 1.006   | 1.109                             | 1.033   | 0.719   | 0.655   | 1.341             | 1.322   |
| 0.002       | 1.065                              | 0.939   | 1.095                             | 0.957   | 0.711   | 0.532   | 1.322             | 1.295   |
| 0.003       | 1.058                              | 0.864   | 1.090                             | 0.891   | 0.709   | 0.397   | 1.310             | 1.275   |
| 0.004       | 1.052                              | 0.783   | 1.084                             | 0.810   | 0.711   | 0.295   | 1.301             | 1.257   |
| 0.005       | 1.048                              | 0.699   | 1.080                             | 0.726   | 0.709   | 0.215   | 1.293             | 1.242   |
| 0.006       | 1.046                              | 0.625   | 1.077                             | 0.643   | 0.709   | 0.158   | 1.288             | 1.227   |
| 0.007       | 1.045                              | 0.546   | 1.075                             | 0.564   | 0.709   | 0.119   | 1.283             | 1.215   |
| 0.008       | 1.044                              | 0.474   | 1.074                             | 0.499   | 0.710   | 0.091   | 1.279             | 1.202   |
| 0.009       | 1.044                              | 0.410   | 1.074                             | 0.433   | 0.711   | 0.072   | 1.275             | 1.189   |
| 0.010       | 1.046                              | 0.354   | 1.074                             | 0.376   | 0.712   | 0.057   | 1.272             | 1.176   |
| 0.020       | 1.043                              | 0.097   | 1.074                             | 0.105   | 0.724   | 0.011   | 1.252             | 1.062   |
| 0.030       | 1.049                              | 0.038   | 1.079                             | 0.041   | 0.729   | 0.004   | 1.242             | 0.919   |
| 0.040       | 1.062                              | 0.019   | 1.088                             | 0.020   | 0.735   | 0.002   | 1.238             | 0.768   |
| 0.050       | 1.064                              | 0.011   | 1.098                             | 0.012   | 0.741   | 0.001   | 1.239             | 0.630   |
| 0.060       | 1.067                              | 0.007   | 1.100                             | 0.007   | 0.747   | 0.001   | 1.236             | 0.511   |
| 0.070       | 1.071                              | 0.005   | 1.104                             | 0.005   | 0.752   | 0.001   | 1.235             | 0.421   |
| 0.080       | 1.075                              | 0.003   | 1.107                             | 0.004   | 0.758   | 0.000   | 1.235             | 0.341   |
| 0.090       | 1.079                              | 0.002   | 1.112                             | 0.003   | 0.762   | 0.000   | 1.236             | 0.277   |
| 0.100       | 1.083                              | 0.002   | 1.116                             | 0.002   | 0.767   | 0.000   | 1.238             | 0.227   |
| 0.200       | 1.124                              | 0.000   | 1.157                             | 0.000   | 1.059   | 0.000   | 1.271             | 0.050   |
| 0.300       | 1.158                              | 0.000   | 1.193                             | 0.000   | 1.176   | 0.000   | 1.292             | 0.019   |
| 0.400       | 1.447                              | 0.000   | 1.499                             | 0.000   | 1.277   | 0.000   | 1.316             | 0.009   |
| 0.500       | 1.527                              | 0.000   | 1.586                             | 0.000   | 1.367   | 0.000   | 1.342             | 0.005   |
| 0.600       | 1.602                              | 0.000   | 1.666                             | 0.000   | 1.451   | 0.000   | 1.367             | 0.003   |
| 0.700       | 1.672                              | 0.000   | 1.743                             | 0.000   | 1.531   | 0.000   | 1.392             | 0.002   |
| 0.800       | 1.740                              | 0.000   | 1.816                             | 0.000   | 1.606   | 0.000   | 1.417             | 0.002   |
| 0.900       | 1.805                              | 0.000   | 1.886                             | 0.000   | 1.679   | 0.000   | 1.441             | 0.001   |
| 1.000       | 1.868                              | 0.000   | 1.954                             | 0.000   | 1.750   | 0.000   | 1.465             | 0.001   |

| Electrolyte | Ba(BrO <sub>3</sub> ) <sub>2</sub> |         | Ba(ClO <sub>2</sub> ) <sub>2</sub> |         | Ba(C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> ) <sub>2</sub> |         | BaC <sub>2</sub> O <sub>4</sub> |         |
|-------------|------------------------------------|---------|------------------------------------|---------|--|---------|---------------------------------|---------|
|             | $\Lambda^0=119.5$                  | $a=4.3$ | $\Lambda^0=118.8$                  | $a=4.3$ | $\Lambda^0=104.7$  | $a=4.8$ | $\Lambda^0=112.5$               | $a=3.5$ |
| Conc.       | Dof                                | Dpikal  | Dof                                | Dpikal  | Dof  | Dpikal  | Dof                             | Dpikal  |
| 0.000       | 1.188                              | 1.188   | 1.180                              | 1.180   | 0.996  | 0.996   | 0.736                           | 0.736   |
| 0.001       | 1.135                              | 1.125   | 1.127                              | 1.118   | 0.951  | 0.948   | 0.629                           | 0.723   |
| 0.002       | 1.119                              | 1.104   | 1.111                              | 1.097   | 0.937  | 0.933   | 0.597                           | 0.675   |
| 0.003       | 1.108                              | 1.089   | 1.101                              | 1.082   | 0.929  | 0.921   | 0.578                           | 0.681   |
| 0.004       | 1.101                              | 1.076   | 1.093                              | 1.069   | 0.922  | 0.912   | 0.565                           | 0.687   |
| 0.005       | 1.095                              | 1.064   | 1.087                              | 1.058   | 0.917  | 0.900   | 0.556                           | 0.692   |
| 0.006       | 1.090                              | 1.054   | 1.082                              | 1.047   | 0.914  | 0.892   | 0.550                           | 0.695   |
| 0.007       | 1.086                              | 1.044   | 1.079                              | 1.037   | 0.910  | 0.884   | 0.546                           | 0.696   |
| 0.008       | 1.083                              | 1.040   | 1.075                              | 1.034   | 0.908  | 0.877   | 0.544                           | 0.695   |
| 0.009       | 1.080                              | 1.031   | 1.072                              | 1.025   | 0.906  | 0.870   | 0.543                           | 0.692   |
| 0.010       | 1.077                              | 1.022   | 1.070                              | 1.016   | 0.903  | 0.862   | 0.544                           | 0.687   |
| 0.020       | 1.060                              | 0.917   | 1.053                              | 0.912   | 0.889  | 0.792   | 0.591                           | 0.500   |
| 0.030       | 1.052                              | 0.802   | 1.045                              | 0.798   | 0.884  | 0.698   | 0.681                           | 0.437   |
| 0.040       | 1.050                              | 0.693   | 1.042                              | 0.690   | 0.882  | 0.595   | 0.800                           | 0.389   |
| 0.050       | 1.049                              | 0.574   | 1.042                              | 0.572   | 0.880  | 0.494   | 0.942                           | 0.389   |
| 0.060       | 1.048                              | 0.469   | 1.040                              | 0.468   | 0.880  | 0.405   | 1.087                           | 0.369   |
| 0.070       | 1.047                              | 0.381   | 1.040                              | 0.380   | 0.880  | 0.335   | 1.244                           | 0.351   |
| 0.080       | 1.048                              | 0.310   | 1.041                              | 0.310   | 0.881  | 0.273   | 1.408                           | 0.335   |
| 0.090       | 1.049                              | 0.253   | 1.042                              | 0.253   | 0.882  | 0.223   | 1.580                           | 0.321   |
| 0.100       | 1.051                              | 0.208   | 1.043                              | 0.209   | 0.884  | 0.184   | 1.759                           | 0.308   |
| 0.200       | 1.076                              | 0.047   | 1.069                              | 0.047   | 0.903  | 0.041   | 3.794                           | 0.245   |
| 0.300       | 1.095                              | 0.018   | 1.088                              | 0.018   | 0.920  | 0.016   | 5.898                           | 0.182   |
| 0.400       | 1.117                              | 0.009   | 1.109                              | 0.009   | 0.938  | 0.008   | 8.081                           | 0.150   |
| 0.500       | 1.139                              | 0.005   | 1.131                              | 0.005   | 0.956  | 0.005   | 10.313                          | 0.120   |
| 0.600       | 1.160                              | 0.003   | 1.152                              | 0.003   | 0.973  | 0.003   | 12.577                          | 0.099   |
| 0.700       | 1.181                              | 0.002   | 1.173                              | 0.002   | 0.990  | 0.002   | 14.866                          | 0.084   |
| 0.800       | 1.202                              | 0.002   | 1.193                              | 0.002   | 1.007  | 0.001   | 17.174                          | 0.072   |
| 0.900       | 1.222                              | 0.001   | 1.214                              | 0.001   | 1.023  | 0.001   | 19.497                          | 0.063   |
| 1.000       | 1.242                              | 0.001   | 1.233                              | 0.001   | 1.039  | 0.001   | 21.833                          | 0.057   |

| Electrolyte | <b>BaCl<sub>2</sub></b>   |                           | <b>Ba(ClO<sub>3</sub>)<sub>2</sub></b> |                           | <b>Ba(ClO<sub>4</sub>)<sub>2</sub></b> |        | <b>Ba<sub>2</sub>Fe(CN)<sub>6</sub></b> |        |
|-------------|---------------------------|---------------------------|--|---------------------------|--|--------|---|--------|
|             | $\Delta^0=139.3$<br>a=4.0 | $\Delta^0=127.6$<br>a=4.3 | $\Delta^0=131.0$<br>a=4.3              | $\Delta^0=171.8$<br>a=4.5 | Dof                                    | Dpikal | Dof                                     | Dpikal |
| Conc.       | Dof                       | Dpikal                    | Dof                                    | Dpikal                    | Dof                                    | Dpikal | Dof                                     | Dpikal |
| 0.000       | 1.385                     | 1.385                     | 1.274                                  | 1.274                     | 1.307                                  | 1.307  | 0.800                                   | 0.800  |
| 0.001       | 1.324                     | 1.307                     | 1.217                                  | 1.204                     | 1.249                                  | 1.235  | 0.727                                   | 0.792  |
| 0.002       | 1.306                     | 1.280                     | 1.200                                  | 1.180                     | 1.231                                  | 1.210  | 0.720                                   | -0.296 |
| 0.003       | 1.294                     | 1.260                     | 1.189                                  | 1.163                     | 1.220                                  | 1.192  | 0.716                                   | -0.232 |
| 0.004       | 1.285                     | 1.243                     | 1.181                                  | 1.148                     | 1.212                                  | 1.177  | 0.711                                   | -0.218 |
| 0.005       | 1.278                     | 1.228                     | 1.175                                  | 1.135                     | 1.205                                  | 1.163  | 0.708                                   | -0.999 |
| 0.006       | 1.273                     | 1.213                     | 1.170                                  | 1.123                     | 1.200                                  | 1.150  | 0.706                                   | -6.543 |
| 0.007       | 1.268                     | 1.200                     | 1.166                                  | 1.111                     | 1.196                                  | 1.138  | 0.706                                   | 0.949  |
| 0.008       | 1.265                     | 1.196                     | 1.162                                  | 1.107                     | 1.192                                  | 1.134  | 0.706                                   | 0.376  |
| 0.009       | 1.262                     | 1.184                     | 1.159                                  | 1.096                     | 1.189                                  | 1.123  | 0.707                                   | 0.215  |
| 0.010       | 1.259                     | 1.171                     | 1.157                                  | 1.086                     | 1.186                                  | 1.113  | 0.711                                   | 0.126  |
| 0.020       | 1.240                     | 1.036                     | 1.138                                  | 0.966                     | 1.168                                  | 0.989  | 0.708                                   | 0.020  |
| 0.030       | 1.233                     | 0.889                     | 1.131                                  | 0.835                     | 1.160                                  | 0.855  | 0.717                                   | 0.007  |
| 0.040       | 1.231                     | 0.752                     | 1.128                                  | 0.713                     | 1.157                                  | 0.729  | 0.735                                   | 0.004  |
| 0.050       | 1.231                     | 0.609                     | 1.128                                  | 0.583                     | 1.156                                  | 0.595  | 0.736                                   | 0.002  |
| 0.060       | 1.231                     | 0.488                     | 1.126                                  | 0.470                     | 1.155                                  | 0.480  | 0.739                                   | 0.001  |
| 0.070       | 1.231                     | 0.389                     | 1.126                                  | 0.378                     | 1.154                                  | 0.386  | 0.743                                   | 0.001  |
| 0.080       | 1.233                     | 0.312                     | 1.126                                  | 0.305                     | 1.155                                  | 0.311  | 0.747                                   | 0.001  |
| 0.090       | 1.235                     | 0.253                     | 1.128                                  | 0.247                     | 1.156                                  | 0.252  | 0.752                                   | 0.000  |
| 0.100       | 1.238                     | 0.206                     | 1.130                                  | 0.203                     | 1.158                                  | 0.206  | 0.757                                   | 0.000  |
| 0.200       | 1.279                     | 0.045                     | 1.157                                  | 0.044                     | 1.186                                  | 0.045  | 0.802                                   | 0.000  |
| 0.300       | 1.312                     | 0.017                     | 1.178                                  | 0.017                     | 1.208                                  | 0.017  | 0.840                                   | 0.000  |
| 0.400       | 1.347                     | 0.008                     | 1.201                                  | 0.008                     | 1.232                                  | 0.008  | 1.334                                   | 0.000  |
| 0.500       | 1.382                     | 0.005                     | 1.225                                  | 0.005                     | 1.256                                  | 0.005  | 1.462                                   | 0.000  |
| 0.600       | 1.417                     | 0.003                     | 1.248                                  | 0.003                     | 1.279                                  | 0.003  | 1.582                                   | 0.000  |
| 0.700       | 1.452                     | 0.002                     | 1.270                                  | 0.002                     | 1.302                                  | 0.002  | 1.696                                   | 0.000  |
| 0.800       | 1.486                     | 0.002                     | 1.293                                  | 0.002                     | 1.325                                  | 0.002  | 1.805                                   | 0.000  |
| 0.900       | 1.519                     | 0.001                     | 1.315                                  | 0.001                     | 1.348                                  | 0.001  | 1.910                                   | 0.000  |
| 1.000       | 1.553                     | 0.001                     | 1.336                                  | 0.001                     | 1.370                                  | 0.001  | 2.013                                   | 0.000  |

| Electrolyte | <b>BaI<sub>2</sub></b>    |                           | <b>Ba(IO<sub>3</sub>)<sub>2</sub></b> |                            | <b>Ba(NO<sub>2</sub>)<sub>2</sub></b> |        | <b>Ba(NO<sub>3</sub>)<sub>2</sub></b> |        |
|-------------|---------------------------|---------------------------|---------------------------------------|----------------------------|---------------------------------------|--------|---------------------------------------|--------|
|             | $\Delta^0=140.6$<br>a=4.0 | $\Delta^0=104.7$<br>a=4.6 | $\Delta^0=135.7$<br>a=4.0             | $\Delta^0=135.12$<br>a=4.0 | Dof                                   | Dpikal | Dof                                   | Dpikal |
| Conc.       | Dof                       | Dpikal                    | Dof                                   | Dpikal                     | Dof                                   | Dpikal | Dof                                   | Dpikal |
| 0.000       | 1.391                     | 1.391                     | 0.996                                 | 0.996                      | 1.350                                 | 1.350  | 1.344                                 | 1.345  |
| 0.001       | 1.330                     | 1.311                     | 0.951                                 | 0.947                      | 1.290                                 | 1.273  | 1.285                                 | 1.268  |
| 0.002       | 1.311                     | 1.285                     | 0.937                                 | 0.931                      | 1.272                                 | 1.248  | 1.267                                 | 1.243  |
| 0.003       | 1.298                     | 1.264                     | 0.928                                 | 0.921                      | 1.260                                 | 1.229  | 1.255                                 | 1.224  |
| 0.004       | 1.289                     | 1.247                     | 0.922                                 | 0.912                      | 1.251                                 | 1.212  | 1.246                                 | 1.208  |
| 0.005       | 1.282                     | 1.232                     | 0.917                                 | 0.904                      | 1.244                                 | 1.198  | 1.239                                 | 1.194  |
| 0.006       | 1.276                     | 1.218                     | 0.913                                 | 0.897                      | 1.238                                 | 1.185  | 1.233                                 | 1.181  |
| 0.007       | 1.272                     | 1.205                     | 0.909                                 | 0.889                      | 1.233                                 | 1.173  | 1.229                                 | 1.169  |
| 0.008       | 1.268                     | 1.192                     | 0.907                                 | 0.882                      | 1.230                                 | 1.161  | 1.225                                 | 1.157  |
| 0.009       | 1.264                     | 1.180                     | 0.904                                 | 0.870                      | 1.226                                 | 1.149  | 1.222                                 | 1.145  |
| 0.010       | 1.261                     | 1.167                     | 0.903                                 | 0.863                      | 1.223                                 | 1.137  | 1.219                                 | 1.133  |
| 0.020       | 1.241                     | 1.055                     | 0.887                                 | 0.786                      | 1.204                                 | 1.030  | 1.199                                 | 1.027  |
| 0.030       | 1.231                     | 0.914                     | 0.882                                 | 0.706                      | 1.194                                 | 0.896  | 1.189                                 | 0.894  |
| 0.040       | 1.227                     | 0.764                     | 0.880                                 | 0.607                      | 1.190                                 | 0.752  | 1.185                                 | 0.751  |
| 0.050       | 1.228                     | 0.628                     | 0.878                                 | 0.509                      | 1.191                                 | 0.621  | 1.187                                 | 0.620  |
| 0.060       | 1.226                     | 0.510                     | 0.877                                 | 0.420                      | 1.189                                 | 0.506  | 1.184                                 | 0.506  |
| 0.070       | 1.225                     | 0.421                     | 0.877                                 | 0.345                      | 1.188                                 | 0.419  | 1.183                                 | 0.419  |
| 0.080       | 1.225                     | 0.340                     | 0.878                                 | 0.283                      | 1.188                                 | 0.340  | 1.183                                 | 0.340  |
| 0.090       | 1.225                     | 0.277                     | 0.879                                 | 0.236                      | 1.188                                 | 0.277  | 1.184                                 | 0.277  |
| 0.100       | 1.227                     | 0.227                     | 0.880                                 | 0.196                      | 1.190                                 | 0.228  | 1.185                                 | 0.228  |
| 0.200       | 1.259                     | 0.050                     | 0.900                                 | 0.045                      | 1.221                                 | 0.050  | 1.217                                 | 0.050  |
| 0.300       | 1.280                     | 0.019                     | 0.916                                 | 0.017                      | 1.242                                 | 0.019  | 1.237                                 | 0.019  |
| 0.400       | 1.305                     | 0.009                     | 0.934                                 | 0.009                      | 1.265                                 | 0.010  | 1.261                                 | 0.010  |
| 0.500       | 1.330                     | 0.005                     | 0.952                                 | 0.005                      | 1.290                                 | 0.006  | 1.285                                 | 0.006  |
| 0.600       | 1.355                     | 0.004                     | 0.970                                 | 0.003                      | 1.314                                 | 0.004  | 1.309                                 | 0.004  |
| 0.700       | 1.380                     | 0.002                     | 0.987                                 | 0.002                      | 1.339                                 | 0.002  | 1.333                                 | 0.002  |
| 0.800       | 1.405                     | 0.002                     | 1.004                                 | 0.002                      | 1.362                                 | 0.002  | 1.357                                 | 0.002  |
| 0.900       | 1.429                     | 0.001                     | 1.020                                 | 0.001                      | 1.386                                 | 0.001  | 1.381                                 | 0.001  |
| 1.000       | 1.453                     | 0.001                     | 1.036                                 | 0.001                      | 1.409                                 | 0.001  | 1.404                                 | 0.001  |

| Electrolyte | Ba(OH) <sub>2</sub> |         | Ba(SCN) <sub>2</sub> |         | BaS <sub>2</sub> O <sub>3</sub> |         | BeCl <sub>2</sub> |         |
|-------------|---------------------|---------|----------------------|---------|---------------------------------|---------|-------------------|---------|
|             | $\Delta^0=261.3$    | $a=4.3$ | $\Delta^0=130.2$     | $a=4.3$ | $\Delta^0=151.1$                | $a=4.5$ | $\Delta^0=121.3$  | $a=5.5$ |
| Conc.       | Dof                 | Dpikal  | Dof                  | Dpikal  | Dof                             | Dpikal  | Dof               | Dpikal  |
| 0.000       | 1.923               | 1.924   | 1.299                | 1.299   | 0.981                           | 0.981   | 1.130             | 1.130   |
| 0.001       | 1.836               | 1.789   | 1.242                | 1.228   | 0.833                           | 0.849   | 1.084             | 1.058   |
| 0.002       | 1.809               | 1.740   | 1.224                | 1.204   | 0.789                           | 0.812   | 1.072             | 1.032   |
| 0.003       | 1.792               | 1.704   | 1.213                | 1.186   | 0.761                           | 0.766   | 1.064             | 1.017   |
| 0.004       | 1.780               | 1.673   | 1.205                | 1.171   | 0.741                           | 0.744   | 1.059             | 1.000   |
| 0.005       | 1.770               | 1.645   | 1.198                | 1.157   | 0.728                           | 0.725   | 1.056             | 0.985   |
| 0.006       | 1.762               | 1.619   | 1.193                | 1.144   | 0.718                           | 0.709   | 1.053             | 0.970   |
| 0.007       | 1.756               | 1.594   | 1.189                | 1.132   | 0.712                           | 0.695   | 1.052             | 0.955   |
| 0.008       | 1.751               | 1.586   | 1.185                | 1.128   | 0.707                           | 0.683   | 1.049             | 0.940   |
| 0.009       | 1.746               | 1.564   | 1.182                | 1.118   | 0.704                           | 0.672   | 1.047             | 0.925   |
| 0.010       | 1.743               | 1.542   | 1.180                | 1.107   | 0.703                           | 0.662   | 1.045             | 0.910   |
| 0.020       | 1.714               | 1.311   | 1.161                | 0.985   | 0.749                           | 0.608   | 1.037             | 0.733   |
| 0.030       | 1.702               | 1.071   | 1.153                | 0.852   | 0.859                           | 0.585   | 1.037             | 0.561   |
| 0.040       | 1.698               | 0.864   | 1.150                | 0.727   | 0.997                           | 0.566   | 1.035             | 0.402   |
| 0.050       | 1.697               | 0.667   | 1.149                | 0.594   | 1.156                           | 0.546   | 1.036             | 0.286   |
| 0.060       | 1.694               | 0.513   | 1.148                | 0.479   | 1.332                           | 0.524   | 1.037             | 0.207   |
| 0.070       | 1.693               | 0.397   | 1.147                | 0.385   | 1.520                           | 0.501   | 1.040             | 0.153   |
| 0.080       | 1.693               | 0.310   | 1.148                | 0.311   | 1.719                           | 0.524   | 1.042             | 0.116   |
| 0.090       | 1.695               | 0.246   | 1.149                | 0.252   | 1.926                           | 0.498   | 1.045             | 0.089   |
| 0.100       | 1.697               | 0.198   | 1.151                | 0.207   | 2.140                           | 0.473   | 1.049             | 0.070   |
| 0.200       | 1.737               | 0.040   | 1.179                | 0.045   | 4.475                           | 0.288   | 1.070             | 0.013   |
| 0.300       | 1.765               | 0.015   | 1.201                | 0.017   | 6.996                           | 0.202   | 1.091             | 0.005   |
| 0.400       | 1.797               | 0.007   | 1.224                | 0.008   | 9.623                           | 0.148   | 1.112             | 0.002   |
| 0.500       | 1.830               | 0.004   | 1.248                | 0.005   | 12.318                          | 0.115   | 1.133             | 0.001   |
| 0.600       | 1.863               | 0.003   | 1.272                | 0.003   | 15.060                          | 0.093   | 1.152             | 0.001   |
| 0.700       | 1.895               | 0.002   | 1.295                | 0.002   | 17.837                          | 0.078   | 1.172             | 0.001   |
| 0.800       | 1.927               | 0.001   | 1.317                | 0.002   | 20.643                          | 0.066   | 1.190             | 0.000   |
| 0.900       | 1.959               | 0.001   | 1.340                | 0.001   | 23.472                          | 0.057   | 1.209             | 0.000   |
| 1.000       | 1.990               | 0.001   | 1.362                | 0.001   | 26.319                          | 0.050   | 1.401             | 0.000   |

| Electrolyte | Be(NO <sub>3</sub> ) <sub>2</sub> |         | BeSO <sub>4</sub> |         | BeSeO <sub>4</sub> |         | CaBr <sub>2</sub> |         |
|-------------|-----------------------------------|---------|-------------------|---------|--------------------|---------|-------------------|---------|
|             | $\Delta^0=116.42$                 | $a=5.5$ | $\Delta^0=124.8$  | $a=6.0$ | $\Delta^0=120.7$   | $a=6.0$ | $\Delta^0=137.9$  | $a=4.5$ |
| Conc.       | Dof                               | Dpikal  | Dof               | Dpikal  | Dof                | Dpikal  | Dof               | Dpikal  |
| 0.000       | 1.102                             | 1.103   | 0.766             | 0.766   | 0.751              | 0.751   | 1.351             | 1.351   |
| 0.001       | 1.057                             | 1.033   | 0.652             | 0.647   | 0.639              | 0.636   | 1.292             | 1.272   |
| 0.002       | 1.045                             | 1.008   | 0.617             | 0.608   | 0.605              | 0.598   | 1.274             | 1.245   |
| 0.003       | 1.038                             | 0.994   | 0.595             | 0.581   | 0.584              | 0.571   | 1.263             | 1.224   |
| 0.004       | 1.033                             | 0.978   | 0.580             | 0.558   | 0.569              | 0.549   | 1.255             | 1.212   |
| 0.005       | 1.030                             | 0.964   | 0.569             | 0.540   | 0.558              | 0.531   | 1.249             | 1.197   |
| 0.006       | 1.027                             | 0.950   | 0.560             | 0.524   | 0.550              | 0.515   | 1.244             | 1.183   |
| 0.007       | 1.026                             | 0.935   | 0.554             | 0.509   | 0.544              | 0.501   | 1.240             | 1.170   |
| 0.008       | 1.023                             | 0.921   | 0.550             | 0.496   | 0.540              | 0.488   | 1.237             | 1.157   |
| 0.009       | 1.021                             | 0.907   | 0.547             | 0.490   | 0.537              | 0.482   | 1.234             | 1.144   |
| 0.010       | 1.019                             | 0.892   | 0.546             | 0.480   | 0.536              | 0.473   | 1.232             | 1.130   |
| 0.020       | 1.012                             | 0.722   | 0.581             | 0.406   | 0.570              | 0.401   | 1.214             | 0.983   |
| 0.030       | 1.011                             | 0.555   | 0.659             | 0.348   | 0.648              | 0.346   | 1.207             | 0.840   |
| 0.040       | 1.010                             | 0.400   | 0.764             | 0.298   | 0.750              | 0.299   | 1.207             | 0.679   |
| 0.050       | 1.011                             | 0.286   | 0.886             | 0.256   | 0.870              | 0.259   | 1.204             | 0.536   |
| 0.060       | 1.012                             | 0.207   | 1.020             | 0.233   | 1.002              | 0.238   | 1.204             | 0.420   |
| 0.070       | 1.015                             | 0.153   | 1.165             | 0.202   | 1.145              | 0.208   | 1.204             | 0.329   |
| 0.080       | 1.017                             | 0.116   | 1.312             | 0.178   | 1.289              | 0.184   | 1.205             | 0.260   |
| 0.090       | 1.020                             | 0.090   | 1.465             | 0.157   | 1.439              | 0.164   | 1.207             | 0.208   |
| 0.100       | 1.023                             | 0.071   | 1.623             | 0.141   | 1.594              | 0.147   | 1.209             | 0.168   |
| 0.200       | 1.044                             | 0.014   | 3.364             | 0.063   | 3.304              | 0.067   | 1.239             | 0.035   |
| 0.300       | 1.065                             | 0.005   | 5.264             | 0.038   | 5.170              | 0.041   | 1.262             | 0.013   |
| 0.400       | 1.086                             | 0.002   | 7.244             | 0.027   | 7.115              | 0.029   | 1.286             | 0.006   |
| 0.500       | 1.106                             | 0.001   | 9.277             | 0.020   | 9.111              | 0.022   | 1.311             | 0.004   |
| 0.600       | 1.125                             | 0.001   | 13.150            | 0.016   | 12.947             | 0.017   | 1.336             | 0.002   |
| 0.700       | 1.144                             | 0.001   | 15.847            | 0.013   | 15.607             | 0.014   | 1.359             | 0.002   |
| 0.800       | 1.162                             | 0.000   | 18.630            | 0.011   | 18.352             | 0.012   | 1.383             | 0.001   |
| 0.900       | 1.180                             | 0.000   | 21.492            | 0.009   | 21.175             | 0.010   | 1.406             | 0.001   |
| 1.000       | 1.367                             | 0.000   | 24.425            | 0.008   | 24.069             | 0.009   | 1.428             | 0.001   |

| Electrolyte | Ca(C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> ) <sub>2</sub> |       | CaC <sub>2</sub> O <sub>4</sub> |       | CaCl <sub>2</sub>           |       | Ca(ClO <sub>3</sub> ) <sub>2</sub> |       |
|-------------|--|-------|---------------------------------|-------|-----------------------------|-------|------------------------------------|-------|
|             | $\Delta^0=100.5$<br>$a=5.3$                                    |       | $\Delta^0=108.3$<br>$a=5.3$     |       | $\Delta^0=135.8$<br>$a=4.9$ |       | $\Delta^0=124.1$<br>$a=4.8$        |       |
|             | Conc.  | Dof   | Dpikal                          | Dof   | Dpikal                      | Dof   | Dpikal                             | Dof   |
| 0.000       | 0.969  | 0.969 | 0.714                           | 0.714 | 1.335                       | 1.261 | 1.237                              | 1.237 |
| 0.001       | 0.926  | 0.921 | 0.605                           | 0.614 | 1.278                       | 1.261 | 1.183                              | 1.170 |
| 0.002       | 0.914  | 0.905 | 0.573                           | 0.582 | 1.262                       | 1.235 | 1.167                              | 1.147 |
| 0.003       | 0.906  | 0.894 | 0.553                           | 0.558 | 1.251                       | 1.217 | 1.157                              | 1.131 |
| 0.004       | 0.901  | 0.884 | 0.539                           | 0.531 | 1.244                       | 1.197 | 1.150                              | 1.117 |
| 0.005       | 0.896  | 0.879 | 0.529                           | 0.515 | 1.239                       | 1.182 | 1.144                              | 1.100 |
| 0.006       | 0.893  | 0.871 | 0.522                           | 0.500 | 1.235                       | 1.168 | 1.140                              | 1.087 |
| 0.007       | 0.891  | 0.863 | 0.516                           | 0.487 | 1.231                       | 1.155 | 1.137                              | 1.075 |
| 0.008       | 0.888  | 0.856 | 0.512                           | 0.476 | 1.230                       | 1.141 | 1.134                              | 1.064 |
| 0.009       | 0.886  | 0.848 | 0.510                           | 0.465 | 1.226                       | 1.128 | 1.132                              | 1.052 |
| 0.010       | 0.884  | 0.841 | 0.509                           | 0.456 | 1.224                       | 1.115 | 1.129                              | 1.040 |
| 0.020       | 0.872  | 0.752 | 0.542                           | 0.388 | 1.211                       | 0.982 | 1.113                              | 0.926 |
| 0.030       | 0.870  | 0.642 | 0.617                           | 0.377 | 1.210                       | 0.811 | 1.108                              | 0.778 |
| 0.040       | 0.867  | 0.536 | 0.715                           | 0.350 | 1.211                       | 0.643 | 1.107                              | 0.628 |
| 0.050       | 0.867  | 0.429 | 0.828                           | 0.325 | 1.213                       | 0.498 | 1.106                              | 0.494 |
| 0.060       | 0.867  | 0.339 | 0.954                           | 0.302 | 1.217                       | 0.391 | 1.105                              | 0.386 |
| 0.070       | 0.868  | 0.268 | 1.088                           | 0.282 | 1.221                       | 0.302 | 1.106                              | 0.307 |
| 0.080       | 0.870  | 0.214 | 1.229                           | 0.263 | 1.226                       | 0.236 | 1.108                              | 0.242 |
| 0.090       | 0.872  | 0.172 | 1.380                           | 0.246 | 1.232                       | 0.187 | 1.110                              | 0.193 |
| 0.100       | 0.874  | 0.139 | 1.527                           | 0.231 | 1.238                       | 0.151 | 1.112                              | 0.156 |
| 0.200       | 0.892  | 0.030 | 3.147                           | 0.144 | 1.297                       | 0.031 | 1.138                              | 0.032 |
| 0.300       | 0.910  | 0.011 | 4.908                           | 0.098 | 1.353                       | 0.012 | 1.160                              | 0.012 |
| 0.400       | 0.927  | 0.006 | 6.740                           | 0.074 | 1.410                       | 0.006 | 1.183                              | 0.006 |
| 0.500       | 0.945  | 0.003 | 8.617                           | 0.058 | 1.467                       | 0.004 | 1.206                              | 0.003 |
| 0.600       | 0.962  | 0.002 | 10.525                          | 0.049 | 1.522                       | 0.002 | 1.228                              | 0.002 |
| 0.700       | 0.978  | 0.001 | 12.456                          | 0.041 | 1.578                       | 0.002 | 1.250                              | 0.002 |
| 0.800       | 0.994  | 0.001 | 17.679                          | 0.035 | 1.632                       | 0.001 | 1.271                              | 0.001 |
| 0.900       | 1.010  | 0.001 | 20.441                          | 0.031 | 1.686                       | 0.001 | 1.292                              | 0.001 |
| 1.000       | 1.130  | 0.001 | 23.280                          | 0.028 | 1.740                       | 0.001 | 1.312                              | 0.001 |

| Electrolyte | Ca(ClO <sub>4</sub> ) <sub>2</sub> |       | Ca <sub>3</sub> [Fe(CN) <sub>6</sub> ] <sub>2</sub> |       | CaI <sub>2</sub>            |       | Ca(NO <sub>2</sub> ) <sub>2</sub> |       |
|-------------|------------------------------------|-------|---|-------|-----------------------------|-------|-----------------------------------|-------|
|             | $\Delta^0=126.8$<br>$a=4.8$        |       | $\Delta^0=158.4$<br>$a=5.0$                         |       | $\Delta^0=136.4$<br>$a=4.5$ |       | $\Delta^0=131.5$<br>$a=4.5$       |       |
|             | Conc.                              | Dof   | Dpikal  | Dof   | Dpikal                      | Dof   | Dpikal                            | Dof   |
| 0.000       | 1.261                              | 1.261 | 0.824   | 0.824 | 1.339                       | 1.340 | 1.301                             | 1.301 |
| 0.001       | 1.206                              | 1.192 | 0.737   | 0.966 | 1.281                       | 1.262 | 1.244                             | 1.227 |
| 0.002       | 1.190                              | 1.169 | 0.724   | 0.719 | 1.264                       | 1.235 | 1.227                             | 1.201 |
| 0.003       | 1.180                              | 1.152 | 0.715   | 0.525 | 1.253                       | 1.214 | 1.217                             | 1.182 |
| 0.004       | 1.173                              | 1.137 | 0.710   | 0.448 | 1.245                       | 1.202 | 1.209                             | 1.170 |
| 0.005       | 1.167                              | 1.120 | 0.707   | 0.369 | 1.239                       | 1.188 | 1.203                             | 1.157 |
| 0.006       | 1.163                              | 1.107 | 0.706   | 0.306 | 1.234                       | 1.174 | 1.198                             | 1.144 |
| 0.007       | 1.159                              | 1.094 | 0.707   | 0.268 | 1.230                       | 1.161 | 1.194                             | 1.131 |
| 0.008       | 1.156                              | 1.082 | 0.705   | 0.233 | 1.226                       | 1.148 | 1.191                             | 1.119 |
| 0.009       | 1.154                              | 1.070 | 0.703   | 0.200 | 1.224                       | 1.135 | 1.188                             | 1.107 |
| 0.010       | 1.151                              | 1.058 | 0.702   | 0.174 | 1.222                       | 1.122 | 1.187                             | 1.095 |
| 0.020       | 1.135                              | 0.940 | 0.706   | 0.056 | 1.204                       | 0.977 | 1.169                             | 0.956 |
| 0.030       | 1.130                              | 0.787 | 0.717   | 0.026 | 1.197                       | 0.836 | 1.162                             | 0.822 |
| 0.040       | 1.129                              | 0.633 | 0.720   | 0.014 | 1.197                       | 0.677 | 1.162                             | 0.668 |
| 0.050       | 1.127                              | 0.497 | 0.725   | 0.008 | 1.194                       | 0.535 | 1.160                             | 0.530 |
| 0.060       | 1.127                              | 0.387 | 0.730   | 0.005 | 1.194                       | 0.419 | 1.159                             | 0.417 |
| 0.070       | 1.128                              | 0.308 | 0.735   | 0.004 | 1.194                       | 0.329 | 1.159                             | 0.328 |
| 0.080       | 1.130                              | 0.242 | 0.740   | 0.003 | 1.195                       | 0.260 | 1.161                             | 0.260 |
| 0.090       | 1.132                              | 0.193 | 0.746   | 0.002 | 1.197                       | 0.208 | 1.162                             | 0.209 |
| 0.100       | 1.134                              | 0.155 | 0.751   | 0.002 | 1.199                       | 0.168 | 1.165                             | 0.169 |
| 0.200       | 1.160                              | 0.032 | 0.792   | 0.000 | 1.228                       | 0.035 | 1.193                             | 0.036 |
| 0.300       | 1.183                              | 0.012 | 1.110   | 0.000 | 1.251                       | 0.013 | 1.215                             | 0.013 |
| 0.400       | 1.207                              | 0.006 | 1.210   | 0.000 | 1.276                       | 0.007 | 1.239                             | 0.007 |
| 0.500       | 1.230                              | 0.003 | 1.302   | 0.000 | 1.300                       | 0.004 | 1.263                             | 0.004 |
| 0.600       | 1.252                              | 0.002 | 1.386   | 0.000 | 1.325                       | 0.002 | 1.287                             | 0.002 |
| 0.700       | 1.275                              | 0.002 | 1.466   | 0.000 | 1.348                       | 0.002 | 1.310                             | 0.002 |
| 0.800       | 1.296                              | 0.001 | 1.543   | 0.000 | 1.371                       | 0.001 | 1.332                             | 0.001 |
| 0.900       | 1.317                              | 0.001 | 1.616   | 0.000 | 1.394                       | 0.001 | 1.354                             | 0.001 |
| 1.000       | 1.338                              | 0.001 | 1.687   | 0.000 | 1.417                       | 0.001 | 1.376                             | 0.001 |

| Electrolyte | $\text{Ca}(\text{NO}_3)_2$    |        | $\text{Ca}(\text{OII})_2$    |        | $\text{Ca}(\text{SCN})_2$    |        | $\text{CaSO}_4$              |        |
|-------------|-------------------------------|--------|------------------------------|--------|------------------------------|--------|------------------------------|--------|
|             | $\Lambda^0=130.92$<br>$a=4.5$ |        | $\Lambda^0=257.1$<br>$a=4.8$ |        | $\Lambda^0=126.0$<br>$a=4.8$ |        | $\Lambda^0=139.3$<br>$a=5.0$ |        |
| Conc.       | Dof                           | Dpikal | Dof                          | Dpikal | Dof                          | Dpikal | Dof                          | Dpikal |
| 0.000       | 1.296                         | 1.296  | 1.826                        | 1.826  | 1.254                        | 1.254  | 0.907                        | 0.908  |
| 0.001       | 1.240                         | 1.223  | 1.743                        | 1.698  | 1.199                        | 1.186  | 0.771                        | 0.776  |
| 0.002       | 1.223                         | 1.197  | 1.719                        | 1.652  | 1.183                        | 1.163  | 0.729                        | 0.735  |
| 0.003       | 1.212                         | 1.178  | 1.704                        | 1.618  | 1.173                        | 1.146  | 0.703                        | 0.706  |
| 0.004       | 1.204                         | 1.166  | 1.693                        | 1.589  | 1.166                        | 1.131  | 0.685                        | 0.684  |
| 0.005       | 1.198                         | 1.153  | 1.685                        | 1.559  | 1.160                        | 1.114  | 0.673                        | 0.665  |
| 0.006       | 1.194                         | 1.140  | 1.678                        | 1.534  | 1.156                        | 1.101  | 0.664                        | 0.648  |
| 0.007       | 1.190                         | 1.128  | 1.673                        | 1.510  | 1.152                        | 1.089  | 0.657                        | 0.627  |
| 0.008       | 1.187                         | 1.115  | 1.669                        | 1.486  | 1.150                        | 1.077  | 0.652                        | 0.616  |
| 0.009       | 1.184                         | 1.103  | 1.666                        | 1.463  | 1.148                        | 1.065  | 0.649                        | 0.605  |
| 0.010       | 1.182                         | 1.091  | 1.662                        | 1.440  | 1.145                        | 1.053  | 0.648                        | 0.596  |
| 0.020       | 1.164                         | 0.954  | 1.637                        | 1.217  | 1.129                        | 0.936  | 0.690                        | 0.536  |
| 0.030       | 1.158                         | 0.820  | 1.629                        | 0.957  | 1.124                        | 0.784  | 0.787                        | 0.502  |
| 0.040       | 1.158                         | 0.667  | 1.627                        | 0.723  | 1.123                        | 0.631  | 0.913                        | 0.511  |
| 0.050       | 1.156                         | 0.530  | 1.624                        | 0.538  | 1.121                        | 0.496  | 1.058                        | 0.488  |
| 0.060       | 1.155                         | 0.417  | 1.623                        | 0.402  | 1.121                        | 0.387  | 1.219                        | 0.462  |
| 0.070       | 1.155                         | 0.328  | 1.624                        | 0.308  | 1.122                        | 0.308  | 1.390                        | 0.436  |
| 0.080       | 1.156                         | 0.260  | 1.626                        | 0.237  | 1.123                        | 0.242  | 1.572                        | 0.410  |
| 0.090       | 1.158                         | 0.209  | 1.628                        | 0.185  | 1.126                        | 0.193  | 1.761                        | 0.386  |
| 0.100       | 1.160                         | 0.169  | 1.631                        | 0.147  | 1.128                        | 0.155  | 1.961                        | 0.363  |
| 0.200       | 1.189                         | 0.036  | 1.665                        | 0.029  | 1.154                        | 0.032  | 4.060                        | 0.220  |
| 0.300       | 1.211                         | 0.013  | 1.694                        | 0.011  | 1.176                        | 0.012  | 6.348                        | 0.147  |
| 0.400       | 1.235                         | 0.007  | 1.726                        | 0.005  | 1.200                        | 0.006  | 8.733                        | 0.108  |
| 0.500       | 1.258                         | 0.004  | 1.757                        | 0.003  | 1.223                        | 0.003  | 11.180                       | 0.084  |
| 0.600       | 1.282                         | 0.002  | 1.788                        | 0.002  | 1.245                        | 0.002  | 13.669                       | 0.068  |
| 0.700       | 1.305                         | 0.002  | 1.819                        | 0.001  | 1.267                        | 0.002  | 16.192                       | 0.057  |
| 0.800       | 1.327                         | 0.001  | 1.848                        | 0.001  | 1.289                        | 0.001  | 18.739                       | 0.049  |
| 0.900       | 1.349                         | 0.001  | 1.878                        | 0.001  | 1.310                        | 0.001  | 25.495                       | 0.042  |
| 1.000       | 1.371                         | 0.001  | 1.906                        | 0.001  | 1.330                        | 0.001  | 28.982                       | 0.037  |

| Electrolyte | $\text{CaS}_2\text{O}_3$     |                              | $\text{CdBr}_2$              |                              | $\text{CdCl}_2$              |                              | $\text{Cd}(\text{ClO}_3)_2$  |                              |
|-------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
|             | $\Lambda^0=164.9$<br>$a=5.0$ | $\Lambda^0=132.4$<br>$a=4.0$ | $\Lambda^0=130.3$<br>$a=4.0$ | $\Lambda^0=118.6$<br>$a=4.3$ | $\Lambda^0=118.6$<br>$a=4.3$ | $\Lambda^0=118.6$<br>$a=4.3$ | $\Lambda^0=118.6$<br>$a=4.3$ | $\Lambda^0=118.6$<br>$a=4.3$ |
| Conc.       | Dof                          | Dpikal                       | Dof                          | Dpikal                       | Dof                          | Dpikal                       | Dof                          | Dpikal                       |
| 0.000       | 0.942                        | 0.943                        | 1.277                        | 1.277                        | 1.263                        | 1.263                        | 1.237                        | 1.237                        |
| 0.001       | 0.800                        | 0.804                        | 1.223                        | 1.198                        | 1.209                        | 1.186                        | 1.183                        | 1.170                        |
| 0.002       | 0.757                        | 0.761                        | 1.207                        | 1.173                        | 1.193                        | 1.160                        | 1.167                        | 1.147                        |
| 0.003       | 0.730                        | 0.731                        | 1.196                        | 1.152                        | 1.183                        | 1.140                        | 1.157                        | 1.131                        |
| 0.004       | 0.711                        | 0.707                        | 1.189                        | 1.135                        | 1.175                        | 1.123                        | 1.150                        | 1.117                        |
| 0.005       | 0.698                        | 0.688                        | 1.183                        | 1.119                        | 1.170                        | 1.108                        | 1.144                        | 1.100                        |
| 0.006       | 0.689                        | 0.671                        | 1.178                        | 1.104                        | 1.165                        | 1.094                        | 1.140                        | 1.087                        |
| 0.007       | 0.682                        | 0.650                        | 1.174                        | 1.091                        | 1.161                        | 1.080                        | 1.137                        | 1.075                        |
| 0.008       | 0.676                        | 0.638                        | 1.171                        | 1.077                        | 1.158                        | 1.067                        | 1.134                        | 1.064                        |
| 0.009       | 0.673                        | 0.627                        | 1.169                        | 1.064                        | 1.156                        | 1.054                        | 1.132                        | 1.052                        |
| 0.010       | 0.672                        | 0.617                        | 1.167                        | 1.051                        | 1.154                        | 1.041                        | 1.129                        | 1.040                        |
| 0.020       | 0.715                        | 0.556                        | 1.151                        | 0.930                        | 1.139                        | 0.923                        | 1.113                        | 0.926                        |
| 0.030       | 0.816                        | 0.519                        | 1.144                        | 0.782                        | 1.132                        | 0.777                        | 1.108                        | 0.778                        |
| 0.040       | 0.946                        | 0.523                        | 1.142                        | 0.633                        | 1.129                        | 0.630                        | 1.107                        | 0.628                        |
| 0.050       | 1.096                        | 0.495                        | 1.145                        | 0.505                        | 1.132                        | 0.503                        | 1.106                        | 0.494                        |
| 0.060       | 1.263                        | 0.464                        | 1.143                        | 0.399                        | 1.130                        | 0.399                        | 1.105                        | 0.386                        |
| 0.070       | 1.441                        | 0.434                        | 1.143                        | 0.322                        | 1.130                        | 0.322                        | 1.106                        | 0.307                        |
| 0.080       | 1.628                        | 0.404                        | 1.143                        | 0.256                        | 1.130                        | 0.256                        | 1.108                        | 0.242                        |
| 0.090       | 1.824                        | 0.377                        | 1.144                        | 0.206                        | 1.132                        | 0.206                        | 1.110                        | 0.193                        |
| 0.100       | 2.031                        | 0.351                        | 1.146                        | 0.167                        | 1.133                        | 0.167                        | 1.112                        | 0.156                        |
| 0.200       | 4.207                        | 0.200                        | 1.180                        | 0.035                        | 1.167                        | 0.035                        | 1.138                        | 0.032                        |
| 0.300       | 6.580                        | 0.129                        | 1.199                        | 0.013                        | 1.186                        | 0.013                        | 1.160                        | 0.012                        |
| 0.400       | 9.053                        | 0.093                        | 1.221                        | 0.007                        | 1.208                        | 0.007                        | 1.183                        | 0.006                        |
| 0.500       | 11.591                       | 0.071                        | 1.245                        | 0.004                        | 1.231                        | 0.004                        | 1.206                        | 0.003                        |
| 0.600       | 14.173                       | 0.057                        | 1.268                        | 0.002                        | 1.254                        | 0.002                        | 1.228                        | 0.002                        |
| 0.700       | 16.790                       | 0.047                        | 1.291                        | 0.002                        | 1.277                        | 0.002                        | 1.250                        | 0.002                        |
| 0.800       | 19.433                       | 0.040                        | 1.314                        | 0.001                        | 1.300                        | 0.001                        | 1.271                        | 0.001                        |
| 0.900       | 26.286                       | 0.034                        | 1.336                        | 0.001                        | 1.322                        | 0.001                        | 1.292                        | 0.001                        |
| 1.000       | 29.870                       | 0.030                        | 1.359                        | 0.001                        | 1.344                        | 0.001                        | 1.312                        | 0.001                        |

| Electrolyte | Cd(ClO <sub>4</sub> ) <sub>2</sub> |       | CdI <sub>2</sub>           |       | Cd(NO <sub>2</sub> ) <sub>2</sub> |       | Cd(NO <sub>3</sub> ) <sub>2</sub> |       |
|-------------|------------------------------------|-------|----------------------------|-------|-----------------------------------|-------|-----------------------------------|-------|
|             | $\Lambda^0=121.3$<br>a=4.3         |       | $\Lambda^0=130.9$<br>a=4.0 |       | $\Lambda^0=126.0$<br>a=4.0        |       | $\Lambda^0=125.42$<br>a=4.0       |       |
|             | Conc.                              | Dof   | Dpikal                     | Dof   | Dpikal                            | Dof   | Dpikal                            | Dof   |
| 0.000       | 1.196                              | 1.197 | 1.267                      | 1.267 | 1.232                             | 1.232 | 1.228                             | 1.228 |
| 0.001       | 1.146                              | 1.127 | 1.213                      | 1.189 | 1.180                             | 1.158 | 1.176                             | 1.154 |
| 0.002       | 1.131                              | 1.103 | 1.197                      | 1.164 | 1.164                             | 1.134 | 1.160                             | 1.130 |
| 0.003       | 1.121                              | 1.085 | 1.187                      | 1.144 | 1.154                             | 1.115 | 1.150                             | 1.111 |
| 0.004       | 1.114                              | 1.070 | 1.179                      | 1.127 | 1.147                             | 1.099 | 1.143                             | 1.095 |
| 0.005       | 1.109                              | 1.055 | 1.174                      | 1.111 | 1.142                             | 1.084 | 1.138                             | 1.081 |
| 0.006       | 1.105                              | 1.042 | 1.169                      | 1.097 | 1.137                             | 1.070 | 1.133                             | 1.067 |
| 0.007       | 1.101                              | 1.030 | 1.165                      | 1.083 | 1.133                             | 1.058 | 1.129                             | 1.055 |
| 0.008       | 1.099                              | 1.026 | 1.162                      | 1.070 | 1.130                             | 1.045 | 1.127                             | 1.042 |
| 0.009       | 1.096                              | 1.014 | 1.160                      | 1.057 | 1.128                             | 1.033 | 1.124                             | 1.030 |
| 0.010       | 1.095                              | 1.003 | 1.157                      | 1.044 | 1.126                             | 1.020 | 1.122                             | 1.017 |
| 0.020       | 1.080                              | 0.871 | 1.142                      | 0.925 | 1.111                             | 0.907 | 1.107                             | 0.905 |
| 0.030       | 1.074                              | 0.730 | 1.135                      | 0.779 | 1.104                             | 0.767 | 1.100                             | 0.765 |
| 0.040       | 1.073                              | 0.604 | 1.133                      | 0.631 | 1.102                             | 0.624 | 1.098                             | 0.623 |
| 0.050       | 1.074                              | 0.478 | 1.136                      | 0.504 | 1.105                             | 0.500 | 1.101                             | 0.499 |
| 0.060       | 1.073                              | 0.375 | 1.134                      | 0.399 | 1.103                             | 0.397 | 1.099                             | 0.397 |
| 0.070       | 1.073                              | 0.295 | 1.134                      | 0.322 | 1.103                             | 0.322 | 1.099                             | 0.322 |
| 0.080       | 1.074                              | 0.233 | 1.134                      | 0.256 | 1.103                             | 0.256 | 1.099                             | 0.256 |
| 0.090       | 1.076                              | 0.187 | 1.135                      | 0.206 | 1.104                             | 0.206 | 1.100                             | 0.206 |
| 0.100       | 1.078                              | 0.151 | 1.137                      | 0.167 | 1.106                             | 0.168 | 1.102                             | 0.168 |
| 0.200       | 1.107                              | 0.032 | 1.171                      | 0.035 | 1.139                             | 0.036 | 1.135                             | 0.036 |
| 0.300       | 1.126                              | 0.012 | 1.190                      | 0.013 | 1.157                             | 0.013 | 1.153                             | 0.013 |
| 0.400       | 1.148                              | 0.006 | 1.212                      | 0.007 | 1.179                             | 0.007 | 1.175                             | 0.007 |
| 0.500       | 1.170                              | 0.003 | 1.235                      | 0.004 | 1.202                             | 0.004 | 1.197                             | 0.004 |
| 0.600       | 1.192                              | 0.002 | 1.258                      | 0.002 | 1.224                             | 0.002 | 1.220                             | 0.002 |
| 0.700       | 1.214                              | 0.002 | 1.281                      | 0.002 | 1.246                             | 0.002 | 1.242                             | 0.002 |
| 0.800       | 1.235                              | 0.001 | 1.304                      | 0.001 | 1.269                             | 0.001 | 1.264                             | 0.001 |
| 0.900       | 1.256                              | 0.001 | 1.326                      | 0.001 | 1.290                             | 0.001 | 1.286                             | 0.001 |
| 1.000       | 1.276                              | 0.001 | 1.348                      | 0.001 | 1.312                             | 0.001 | 1.307                             | 0.001 |

| Electrolyte | CdSO <sub>4</sub>          |       | CdSeO <sub>4</sub>         |       | CeCl <sub>3</sub>          |       | Ce(NO <sub>3</sub> ) <sub>3</sub> |       |
|-------------|----------------------------|-------|----------------------------|-------|----------------------------|-------|-----------------------------------|-------|
|             | $\Lambda^0=133.8$<br>a=3.6 |       | $\Lambda^0=129.7$<br>a=4.5 |       | $\Lambda^0=143.3$<br>a=6.0 |       | $\Lambda^0=138.42$<br>a=6.0       |       |
|             | Conc.                      | Dof   | Dpikal                     | Dof   | Dpikal                     | Dof   | Dpikal                            | Dof   |
| 0.000       | 0.857                      | 0.857 | 0.839                      | 0.839 | 1.266                      | 1.266 | 1.227                             | 1.227 |
| 0.001       | 0.734                      | 0.772 | 0.715                      | 0.731 | 1.179                      | 1.103 | 1.142                             | 1.072 |
| 0.002       | 0.697                      | 0.764 | 0.678                      | 0.701 | 1.164                      | 1.025 | 1.127                             | 0.997 |
| 0.003       | 0.674                      | 0.764 | 0.655                      | 0.660 | 1.157                      | 0.956 | 1.120                             | 0.932 |
| 0.004       | 0.659                      | 0.765 | 0.639                      | 0.641 | 1.150                      | 0.873 | 1.113                             | 0.853 |
| 0.005       | 0.648                      | 0.766 | 0.628                      | 0.625 | 1.145                      | 0.786 | 1.108                             | 0.770 |
| 0.006       | 0.641                      | 0.767 | 0.620                      | 0.611 | 1.142                      | 0.699 | 1.105                             | 0.687 |
| 0.007       | 0.636                      | 0.766 | 0.615                      | 0.598 | 1.140                      | 0.616 | 1.102                             | 0.606 |
| 0.008       | 0.634                      | 0.765 | 0.612                      | 0.587 | 1.138                      | 0.547 | 1.101                             | 0.540 |
| 0.009       | 0.633                      | 0.661 | 0.609                      | 0.577 | 1.138                      | 0.477 | 1.100                             | 0.471 |
| 0.010       | 0.634                      | 0.654 | 0.608                      | 0.567 | 1.137                      | 0.415 | 1.100                             | 0.411 |
| 0.020       | 0.685                      | 0.594 | 0.651                      | 0.510 | 1.136                      | 0.118 | 1.098                             | 0.118 |
| 0.030       | 0.790                      | 0.539 | 0.749                      | 0.479 | 1.141                      | 0.046 | 1.103                             | 0.046 |
| 0.040       | 0.927                      | 0.516 | 0.869                      | 0.454 | 1.149                      | 0.023 | 1.111                             | 0.023 |
| 0.050       | 1.087                      | 0.491 | 1.009                      | 0.429 | 1.160                      | 0.013 | 1.121                             | 0.013 |
| 0.060       | 1.255                      | 0.467 | 1.163                      | 0.406 | 1.162                      | 0.008 | 1.123                             | 0.008 |
| 0.070       | 1.436                      | 0.444 | 1.328                      | 0.383 | 1.166                      | 0.006 | 1.127                             | 0.006 |
| 0.080       | 1.627                      | 0.423 | 1.503                      | 0.397 | 1.170                      | 0.004 | 1.131                             | 0.004 |
| 0.090       | 1.826                      | 0.403 | 1.685                      | 0.373 | 1.174                      | 0.003 | 1.135                             | 0.003 |
| 0.100       | 2.032                      | 0.384 | 1.873                      | 0.351 | 1.179                      | 0.002 | 1.139                             | 0.002 |
| 0.200       | 4.367                      | 0.273 | 3.919                      | 0.205 | 1.223                      | 0.000 | 1.182                             | 0.000 |
| 0.300       | 6.821                      | 0.199 | 6.126                      | 0.141 | 1.261                      | 0.000 | 1.219                             | 0.000 |
| 0.400       | 9.376                      | 0.146 | 8.425                      | 0.103 | 1.570                      | 0.000 | 1.513                             | 0.000 |
| 0.500       | 11.996                     | 0.113 | 10.783                     | 0.080 | 1.658                      | 0.000 | 1.597                             | 0.000 |
| 0.600       | 14.660                     | 0.091 | 13.182                     | 0.064 | 1.740                      | 0.000 | 1.676                             | 0.000 |
| 0.700       | 17.357                     | 0.076 | 15.612                     | 0.053 | 1.818                      | 0.000 | 1.751                             | 0.000 |
| 0.800       | 20.081                     | 0.064 | 18.066                     | 0.045 | 1.893                      | 0.000 | 1.822                             | 0.000 |
| 0.900       | 22.826                     | 0.056 | 20.541                     | 0.039 | 1.965                      | 0.000 | 1.891                             | 0.000 |
| 1.000       | 25.589                     | 0.049 | 23.031                     | 0.034 | 2.034                      | 0.000 | 1.957                             | 0.000 |

| Electrolyte | $\text{Ce}(\text{SO}_4)_2$ |         | $\text{CoBr}_2$  |         | $\text{Co}(\text{C}_2\text{H}_3\text{O}_2)_2$ |         | $\text{CoCl}_2$  |         |
|-------------|----------------------------|---------|------------------|---------|---|---------|------------------|---------|
|             | $\Delta^0=146.8$           | $a=7.5$ | $\Delta^0=132.4$ | $a=4.5$ | $\Delta^0=95.0$                               | $a=5.3$ | $\Delta^0=130.3$ | $a=4.5$ |
| Conc.       | Dof                        | Dpikal  | Dof              | Dpikal  | Dof   | Dpikal  | Dof              | Dpikal  |
| 0.000       | 0.727                      | 0.727   | 1.277            | 1.277   | 0.931   | 0.931   | 1.263            | 1.263   |
| 0.001       | 0.782                      | 0.633   | 1.222            | 1.200   | 0.890   | 0.884   | 1.209            | 1.187   |
| 0.002       | 0.802                      | 0.389   | 1.207            | 1.173   | 0.879   | 0.868   | 1.193            | 1.160   |
| 0.003       | 0.818                      | 0.227   | 1.197            | 1.152   | 0.872   | 0.856   | 1.183            | 1.140   |
| 0.004       | 0.831                      | 0.136   | 1.189            | 1.140   | 0.867   | 0.846   | 1.176            | 1.128   |
| 0.005       | 0.836                      | 0.087   | 1.184            | 1.125   | 0.863   | 0.841   | 1.171            | 1.114   |
| 0.006       | 0.841                      | 0.058   | 1.180            | 1.111   | 0.860   | 0.833   | 1.167            | 1.100   |
| 0.007       | 0.846                      | 0.041   | 1.176            | 1.097   | 0.859   | 0.826   | 1.163            | 1.086   |
| 0.008       | 0.850                      | 0.030   | 1.173            | 1.084   | 0.856   | 0.818   | 1.160            | 1.073   |
| 0.009       | 0.854                      | 0.023   | 1.171            | 1.070   | 0.854   | 0.810   | 1.158            | 1.060   |
| 0.010       | 0.858                      | 0.018   | 1.170            | 1.057   | 0.852   | 0.802   | 1.157            | 1.047   |
| 0.020       | 0.876                      | 0.003   | 1.154            | 0.905   | 0.842   | 0.707   | 1.141            | 0.898   |
| 0.030       | 0.876                      | 0.001   | 1.148            | 0.760   | 0.841   | 0.591   | 1.136            | 0.755   |
| 0.040       | 0.877                      | 0.001   | 1.150            | 0.602   | 0.839   | 0.482   | 1.137            | 0.599   |
| 0.050       | 0.878                      | 0.000   | 1.147            | 0.466   | 0.838   | 0.377   | 1.135            | 0.465   |
| 0.060       | 0.880                      | 0.000   | 1.147            | 0.360   | 0.839   | 0.293   | 1.134            | 0.359   |
| 0.070       | 0.881                      | 0.000   | 1.147            | 0.279   | 0.840   | 0.228   | 1.135            | 0.279   |
| 0.080       | 0.883                      | 0.000   | 1.149            | 0.218   | 0.842   | 0.179   | 1.136            | 0.219   |
| 0.090       | 0.884                      | 0.000   | 1.151            | 0.173   | 0.844   | 0.143   | 1.138            | 0.174   |
| 0.100       | 0.886                      | 0.000   | 1.153            | 0.140   | 0.846   | 0.115   | 1.141            | 0.140   |
| 0.200       | 1.310                      | 0.000   | 1.182            | 0.029   | 0.864   | 0.024   | 1.169            | 0.029   |
| 0.300       | 1.457                      | 0.000   | 1.204            | 0.011   | 0.882   | 0.009   | 1.191            | 0.011   |
| 0.400       | 1.585                      | 0.000   | 1.227            | 0.005   | 0.899   | 0.004   | 1.214            | 0.005   |
| 0.500       | 1.701                      | 0.000   | 1.251            | 0.003   | 0.916   | 0.003   | 1.237            | 0.003   |
| 0.600       | 1.809                      | 0.000   | 1.274            | 0.002   | 0.932   | 0.002   | 1.260            | 0.002   |
| 0.700       | 1.911                      | 0.000   | 1.297            | 0.001   | 0.948   | 0.001   | 1.282            | 0.001   |
| 0.800       | 2.009                      | 0.000   | 1.319            | 0.001   | 0.964   | 0.001   | 1.304            | 0.001   |
| 0.900       | 2.103                      | 0.000   | 1.341            | 0.001   | 0.979   | 0.001   | 1.326            | 0.001   |
| 1.000       | 2.195                      | 0.000   | 1.362            | 0.001   | 1.105   | 0.000   | 1.347            | 0.001   |

| Electrolyte | $\text{Co}(\text{ClO}_3)_2$ |         | $\text{Co}(\text{ClO}_4)_2$ |         | $\text{CoI}_2$   |         | $\text{Co}(\text{NH}_3)_6\text{Cl}_2$ |         |
|-------------|-----------------------------|---------|-----------------------------|---------|------------------|---------|---------------------------------------|---------|
|             | $\Delta^0=118.6$            | $a=4.8$ | $\Delta^0=121.3$            | $a=4.8$ | $\Delta^0=130.9$ | $a=4.5$ | $\Delta^0=182.0$                      | $a=3.5$ |
| Conc.       | Dof                         | Dpikal  | Dof                         | Dpikal  | Dof              | Dpikal  | Dof                                   | Dpikal  |
| 0.000       | 1.174                       | 1.175   | 1.196                       | 1.197   | 1.267            | 1.267   | 1.180                                 | 1.180   |
| 0.001       | 1.125                       | 1.109   | 1.145                       | 1.129   | 1.213            | 1.191   | 0.998                                 | 1.085   |
| 0.002       | 1.110                       | 1.087   | 1.131                       | 1.106   | 1.197            | 1.164   | 0.943                                 | 1.014   |
| 0.003       | 1.101                       | 1.070   | 1.122                       | 1.089   | 1.187            | 1.144   | 0.908                                 | 0.999   |
| 0.004       | 1.095                       | 1.056   | 1.115                       | 1.074   | 1.180            | 1.132   | 0.885                                 | 0.989   |
| 0.005       | 1.090                       | 1.039   | 1.110                       | 1.056   | 1.175            | 1.117   | 0.868                                 | 0.982   |
| 0.006       | 1.086                       | 1.026   | 1.106                       | 1.043   | 1.170            | 1.103   | 0.856                                 | 0.975   |
| 0.007       | 1.083                       | 1.014   | 1.103                       | 1.031   | 1.167            | 1.090   | 0.848                                 | 0.969   |
| 0.008       | 1.081                       | 1.002   | 1.101                       | 1.018   | 1.164            | 1.076   | 0.842                                 | 0.963   |
| 0.009       | 1.079                       | 0.990   | 1.099                       | 1.005   | 1.162            | 1.063   | 0.840                                 | 0.957   |
| 0.010       | 1.077                       | 0.977   | 1.097                       | 0.993   | 1.161            | 1.050   | 0.839                                 | 0.950   |
| 0.020       | 1.063                       | 0.858   | 1.083                       | 0.869   | 1.145            | 0.900   | 0.897                                 | 0.801   |
| 0.030       | 1.059                       | 0.706   | 1.079                       | 0.713   | 1.139            | 0.757   | 1.027                                 | 0.761   |
| 0.040       | 1.059                       | 0.557   | 1.079                       | 0.561   | 1.141            | 0.600   | 1.198                                 | 0.727   |
| 0.050       | 1.058                       | 0.431   | 1.077                       | 0.432   | 1.138            | 0.466   | 1.400                                 | 0.752   |
| 0.060       | 1.058                       | 0.331   | 1.078                       | 0.332   | 1.138            | 0.359   | 1.613                                 | 0.740   |
| 0.070       | 1.059                       | 0.260   | 1.079                       | 0.260   | 1.138            | 0.279   | 1.841                                 | 0.725   |
| 0.080       | 1.061                       | 0.203   | 1.081                       | 0.203   | 1.140            | 0.219   | 2.081                                 | 0.708   |
| 0.090       | 1.063                       | 0.161   | 1.083                       | 0.160   | 1.142            | 0.174   | 2.331                                 | 0.691   |
| 0.100       | 1.065                       | 0.129   | 1.085                       | 0.129   | 1.144            | 0.140   | 2.591                                 | 0.672   |
| 0.200       | 1.091                       | 0.026   | 1.111                       | 0.026   | 1.173            | 0.029   | 5.519                                 | 0.553   |
| 0.300       | 1.112                       | 0.010   | 1.132                       | 0.010   | 1.195            | 0.011   | 8.597                                 | 0.410   |
| 0.400       | 1.134                       | 0.005   | 1.155                       | 0.005   | 1.218            | 0.005   | 11.795                                | 0.333   |
| 0.500       | 1.155                       | 0.003   | 1.177                       | 0.003   | 1.241            | 0.003   | 15.068                                | 0.264   |
| 0.600       | 1.177                       | 0.002   | 1.198                       | 0.002   | 1.264            | 0.002   | 18.393                                | 0.216   |
| 0.700       | 1.197                       | 0.001   | 1.219                       | 0.001   | 1.287            | 0.001   | 21.757                                | 0.182   |
| 0.800       | 1.217                       | 0.001   | 1.240                       | 0.001   | 1.309            | 0.001   | 25.151                                | 0.155   |
| 0.900       | 1.237                       | 0.001   | 1.260                       | 0.001   | 1.330            | 0.001   | 28.569                                | 0.135   |
| 1.000       | 1.257                       | 0.001   | 1.280                       | 0.001   | 1.351            | 0.001   | 32.008                                | 0.120   |

| Electrolyte | Co(NO <sub>3</sub> ) <sub>2</sub> |         | CoSO <sub>4</sub> |         | CrBr <sub>3</sub> |         | CrCl <sub>3</sub> |         |
|-------------|-----------------------------------|---------|-------------------|---------|-------------------|---------|-------------------|---------|
|             | $\Lambda^0=125.42$                | $a=4.5$ | $\Lambda^0=133.8$ | $a=5.0$ | $\Lambda^0=145.4$ | $a=6.0$ | $\Lambda^0=143.3$ | $a=6.0$ |
| Conc.       | Dof                               | Dpikal  | Dof               | Dpikal  | Dof               | Dpikal  | Dof               | Dpikal  |
| 0.000       | 1.228                             | 1.228   | 0.857             | 0.857   | 1.282             | 1.282   | 1.266             | 1.266   |
| 0.001       | 1.176                             | 1.156   | 0.729             | 0.733   | 1.194             | 1.116   | 1.179             | 1.103   |
| 0.002       | 1.160                             | 1.131   | 0.691             | 0.695   | 1.179             | 1.036   | 1.164             | 1.025   |
| 0.003       | 1.151                             | 1.111   | 0.666             | 0.667   | 1.172             | 0.966   | 1.157             | 0.956   |
| 0.004       | 1.144                             | 1.100   | 0.650             | 0.646   | 1.165             | 0.881   | 1.150             | 0.873   |
| 0.005       | 1.139                             | 1.086   | 0.638             | 0.628   | 1.160             | 0.792   | 1.145             | 0.786   |
| 0.006       | 1.134                             | 1.073   | 0.630             | 0.612   | 1.157             | 0.704   | 1.142             | 0.699   |
| 0.007       | 1.131                             | 1.060   | 0.624             | 0.592   | 1.155             | 0.620   | 1.140             | 0.616   |
| 0.008       | 1.128                             | 1.048   | 0.619             | 0.580   | 1.153             | 0.550   | 1.138             | 0.547   |
| 0.009       | 1.126                             | 1.035   | 0.616             | 0.570   | 1.153             | 0.479   | 1.138             | 0.477   |
| 0.010       | 1.125                             | 1.023   | 0.615             | 0.560   | 1.153             | 0.417   | 1.137             | 0.415   |
| 0.020       | 1.110                             | 0.880   | 0.656             | 0.498   | 1.151             | 0.118   | 1.136             | 0.118   |
| 0.030       | 1.105                             | 0.744   | 0.749             | 0.458   | 1.156             | 0.046   | 1.141             | 0.046   |
| 0.040       | 1.106                             | 0.593   | 0.869             | 0.458   | 1.165             | 0.023   | 1.149             | 0.023   |
| 0.050       | 1.103                             | 0.462   | 1.008             | 0.428   | 1.176             | 0.013   | 1.160             | 0.013   |
| 0.060       | 1.103                             | 0.358   | 1.161             | 0.397   | 1.178             | 0.008   | 1.162             | 0.008   |
| 0.070       | 1.104                             | 0.279   | 1.325             | 0.368   | 1.182             | 0.006   | 1.166             | 0.006   |
| 0.080       | 1.105                             | 0.219   | 1.498             | 0.341   | 1.186             | 0.004   | 1.170             | 0.004   |
| 0.090       | 1.107                             | 0.174   | 1.679             | 0.316   | 1.190             | 0.003   | 1.174             | 0.003   |
| 0.100       | 1.109                             | 0.140   | 1.870             | 0.294   | 1.195             | 0.002   | 1.179             | 0.002   |
| 0.200       | 1.137                             | 0.029   | 3.873             | 0.164   | 1.239             | 0.000   | 1.223             | 0.000   |
| 0.300       | 1.158                             | 0.011   | 6.057             | 0.105   | 1.278             | 0.000   | 1.261             | 0.000   |
| 0.400       | 1.181                             | 0.005   | 8.333             | 0.076   | 1.593             | 0.000   | 1.570             | 0.000   |
| 0.500       | 1.203                             | 0.003   | 10.668            | 0.058   | 1.683             | 0.000   | 1.658             | 0.000   |
| 0.600       | 1.226                             | 0.002   | 13.044            | 0.046   | 1.767             | 0.000   | 1.740             | 0.000   |
| 0.700       | 1.248                             | 0.001   | 15.451            | 0.038   | 1.846             | 0.000   | 1.818             | 0.000   |
| 0.800       | 1.269                             | 0.001   | 17.883            | 0.032   | 1.922             | 0.000   | 1.893             | 0.000   |
| 0.900       | 1.290                             | 0.001   | 24.523            | 0.028   | 1.995             | 0.000   | 1.965             | 0.000   |
| 1.000       | 1.311                             | 0.001   | 27.892            | 0.024   | 2.066             | 0.000   | 2.034             | 0.000   |

| Electrolyte | Cr(ClO <sub>4</sub> ) <sub>3</sub> |         | Cr(NO <sub>3</sub> ) <sub>3</sub> |         | Cr <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub> |         | CsBr              |          |
|-------------|------------------------------------|---------|-----------------------------------|---------|---|---------|-------------------|----------|
|             | $\Lambda^0=134.3$                  | $a=6.3$ | $\Lambda^0=138.42$                | $a=6.0$ | $\Lambda^0=146.8$                               | $a=6.5$ | $\Lambda^0=155.2$ | $a=3.15$ |
| Conc.       | Dof                                | Dpikal  | Dof                               | Dpikal  | Dof   | Dpikal  | Dof               | Dpikal   |
| 0.000       | 1.192                              | 1.192   | 1.227                             | 1.227   | 0.808   | 0.808   | 2.065             | 2.066    |
| 0.001       | 1.109                              | 1.042   | 1.142                             | 1.072   | 0.741   | 0.683   | 2.034             | 2.032    |
| 0.002       | 1.094                              | 0.977   | 1.127                             | 0.997   | 0.731   | 0.562   | 2.022             | 2.020    |
| 0.003       | 1.087                              | 0.904   | 1.120                             | 0.932   | 0.729   | 0.427   | 2.014             | 2.012    |
| 0.004       | 1.080                              | 0.825   | 1.113                             | 0.853   | 0.730   | 0.322   | 2.007             | 2.005    |
| 0.005       | 1.075                              | 0.742   | 1.108                             | 0.770   | 0.728   | 0.238   | 2.001             | 1.999    |
| 0.006       | 1.072                              | 0.667   | 1.105                             | 0.687   | 0.727   | 0.178   | 1.997             | 1.994    |
| 0.007       | 1.070                              | 0.587   | 1.102                             | 0.606   | 0.727   | 0.135   | 1.992             | 1.989    |
| 0.008       | 1.069                              | 0.513   | 1.101                             | 0.540   | 0.728   | 0.104   | 1.988             | 1.985    |
| 0.009       | 1.069                              | 0.446   | 1.100                             | 0.471   | 0.729   | 0.082   | 1.985             | 1.982    |
| 0.010       | 1.071                              | 0.388   | 1.100                             | 0.411   | 0.730   | 0.066   | 1.981             | 1.978    |
| 0.020       | 1.066                              | 0.109   | 1.098                             | 0.118   | 0.742   | 0.013   | 1.958             | 1.953    |
| 0.030       | 1.072                              | 0.043   | 1.103                             | 0.046   | 0.747   | 0.005   | 1.944             | 1.937    |
| 0.040       | 1.085                              | 0.021   | 1.111                             | 0.023   | 0.753   | 0.002   | 1.935             | 1.925    |
| 0.050       | 1.087                              | 0.012   | 1.121                             | 0.013   | 0.759   | 0.001   | 1.929             | 1.915    |
| 0.060       | 1.090                              | 0.008   | 1.123                             | 0.008   | 0.765   | 0.001   | 1.924             | 1.906    |
| 0.070       | 1.094                              | 0.005   | 1.127                             | 0.006   | 0.771   | 0.001   | 1.920             | 1.898    |
| 0.080       | 1.098                              | 0.004   | 1.131                             | 0.004   | 0.776   | 0.000   | 1.917             | 1.891    |
| 0.090       | 1.102                              | 0.003   | 1.135                             | 0.003   | 0.781   | 0.000   | 1.914             | 1.884    |
| 0.100       | 1.106                              | 0.002   | 1.139                             | 0.002   | 0.785   | 0.000   | 1.912             | 1.878    |
| 0.200       | 1.148                              | 0.000   | 1.182                             | 0.000   | 1.073   | 0.000   | 1.913             | 1.820    |
| 0.300       | 1.182                              | 0.000   | 1.219                             | 0.000   | 1.188   | 0.000   | 1.928             | 1.787    |
| 0.400       | 1.461                              | 0.000   | 1.513                             | 0.000   | 1.288   | 0.000   | 1.947             | 1.721    |
| 0.500       | 1.539                              | 0.000   | 1.597                             | 0.000   | 1.377   | 0.000   | 1.969             | 1.645    |
| 0.600       | 1.611                              | 0.000   | 1.676                             | 0.000   | 1.460   | 0.000   | 1.993             | 1.560    |
| 0.700       | 1.680                              | 0.000   | 1.751                             | 0.000   | 1.538   | 0.000   | 2.018             | 1.471    |
| 0.800       | 1.746                              | 0.000   | 1.822                             | 0.000   | 1.613   | 0.000   | 2.045             | 1.380    |
| 0.900       | 1.809                              | 0.000   | 1.891                             | 0.000   | 1.685   | 0.000   | 2.071             | 1.289    |
| 1.000       | 1.871                              | 0.000   | 1.957                             | 0.000   | 1.755   | 0.000   | 2.100             | 1.201    |

| Electrolyte | CsBrO <sub>3</sub> |          | CsCHO <sub>2</sub> |         | CsC <sub>2</sub> H <sub>3</sub> O <sub>2</sub> |         | CsCl             |         |
|-------------|--------------------|----------|--------------------|---------|--|---------|------------------|---------|
|             | $\Delta^0=132.6$   | $a=3.21$ | $\Delta^0=131.9$   | $a=3.0$ | $\Delta^0=117.8$                               | $a=3.5$ | $\Delta^0=153.1$ | $a=3.0$ |
| Conc.       | Dof                | Dpikal   | Dof                | Dpikal  | Dof  | Dpikal  | Dof              | Dpikal  |
| 0.000       | 1.721              | 1.721    | 1.708              | 1.708   | 1.423  | 1.423   | 2.043            | 2.044   |
| 0.001       | 1.694              | 1.693    | 1.681              | 1.680   | 1.400  | 1.398   | 2.012            | 2.010   |
| 0.002       | 1.684              | 1.683    | 1.672              | 1.670   | 1.392  | 1.390   | 2.000            | 1.998   |
| 0.003       | 1.678              | 1.675    | 1.665              | 1.663   | 1.386  | 1.383   | 1.992            | 1.989   |
| 0.004       | 1.672              | 1.670    | 1.660              | 1.657   | 1.381  | 1.378   | 1.985            | 1.982   |
| 0.005       | 1.667              | 1.665    | 1.655              | 1.652   | 1.377  | 1.374   | 1.979            | 1.976   |
| 0.006       | 1.663              | 1.661    | 1.651              | 1.648   | 1.373  | 1.371   | 1.974            | 1.971   |
| 0.007       | 1.660              | 1.657    | 1.647              | 1.644   | 1.370  | 1.367   | 1.969            | 1.966   |
| 0.008       | 1.656              | 1.653    | 1.644              | 1.641   | 1.367  | 1.364   | 1.965            | 1.962   |
| 0.009       | 1.653              | 1.650    | 1.641              | 1.638   | 1.365  | 1.362   | 1.961            | 1.958   |
| 0.010       | 1.651              | 1.648    | 1.638              | 1.635   | 1.363  | 1.359   | 1.957            | 1.954   |
| 0.020       | 1.632              | 1.627    | 1.619              | 1.614   | 1.347  | 1.340   | 1.932            | 1.927   |
| 0.030       | 1.621              | 1.613    | 1.607              | 1.600   | 1.338  | 1.327   | 1.915            | 1.908   |
| 0.040       | 1.614              | 1.602    | 1.600              | 1.589   | 1.332  | 1.317   | 1.903            | 1.893   |
| 0.050       | 1.608              | 1.593    | 1.594              | 1.580   | 1.328  | 1.308   | 1.894            | 1.881   |
| 0.060       | 1.605              | 1.585    | 1.590              | 1.572   | 1.325  | 1.300   | 1.886            | 1.869   |
| 0.070       | 1.602              | 1.578    | 1.588              | 1.564   | 1.322  | 1.292   | 1.880            | 1.859   |
| 0.080       | 1.599              | 1.571    | 1.585              | 1.558   | 1.320  | 1.285   | 1.874            | 1.850   |
| 0.090       | 1.597              | 1.564    | 1.583              | 1.551   | 1.318  | 1.278   | 1.869            | 1.841   |
| 0.100       | 1.596              | 1.558    | 1.581              | 1.545   | 1.317  | 1.283   | 1.865            | 1.832   |
| 0.200       | 1.598              | 1.496    | 1.580              | 1.486   | 1.320  | 1.219   | 1.838            | 1.753   |
| 0.300       | 1.611              | 1.457    | 1.593              | 1.420   | 1.329  | 1.135   | 1.828            | 1.672   |
| 0.400       | 1.627              | 1.382    | 1.608              | 1.385   | 1.342  | 1.036   | 1.820            | 1.621   |
| 0.500       | 1.646              | 1.297    | 1.626              | 1.308   | 1.358  | 0.930   | 1.817            | 1.535   |
| 0.600       | 1.666              | 1.206    | 1.646              | 1.224   | 1.375  | 0.824   | 1.815            | 1.443   |
| 0.700       | 1.687              | 1.113    | 1.666              | 1.137   | 1.392  | 0.724   | 1.814            | 1.348   |
| 0.800       | 1.709              | 1.021    | 1.688              | 1.051   | 1.411  | 0.634   | 1.815            | 1.255   |
| 0.900       | 1.735              | 0.934    | 1.710              | 0.968   | 1.428  | 0.555   | 1.816            | 1.163   |
| 1.000       | 1.756              | 0.852    | 1.732              | 0.889   | 1.445  | 0.486   | 1.817            | 1.075   |

| Electrolyte | CsClO <sub>3</sub> |          | CsClO <sub>4</sub> |          | CsF              |          | CsI              |          |
|-------------|--------------------|----------|--------------------|----------|------------------|----------|------------------|----------|
|             | $\Delta^0=141.4$   | $a=2.29$ | $\Delta^0=144.1$   | $a=1.61$ | $\Delta^0=132.2$ | $a=5.21$ | $\Delta^0=153.7$ | $a=3.16$ |
| Conc.       | Dof                | Dpikal   | Dof                | Dpikal   | Dof              | Dpikal   | Dof              | Dpikal   |
| 0.000       | 1.868              | 1.868    | 1.910              | 1.910    | 1.713            | 1.714    | 2.046            | 2.046    |
| 0.001       | 1.839              | 1.838    | 1.880              | 1.879    | 1.688            | 1.686    | 2.014            | 2.013    |
| 0.002       | 1.828              | 1.827    | 1.868              | 1.868    | 1.679            | 1.677    | 2.003            | 2.001    |
| 0.003       | 1.820              | 1.819    | 1.860              | 1.860    | 1.672            | 1.670    | 1.995            | 1.992    |
| 0.004       | 1.814              | 1.812    | 1.854              | 1.853    | 1.667            | 1.665    | 1.988            | 1.986    |
| 0.005       | 1.810              | 1.807    | 1.848              | 1.848    | 1.663            | 1.661    | 1.982            | 1.980    |
| 0.006       | 1.805              | 1.802    | 1.843              | 1.843    | 1.660            | 1.658    | 1.978            | 1.975    |
| 0.007       | 1.801              | 1.798    | 1.839              | 1.839    | 1.657            | 1.654    | 1.973            | 1.970    |
| 0.008       | 1.797              | 1.794    | 1.835              | 1.835    | 1.654            | 1.652    | 1.969            | 1.966    |
| 0.009       | 1.794              | 1.791    | 1.834              | 1.832    | 1.652            | 1.649    | 1.966            | 1.963    |
| 0.010       | 1.791              | 1.788    | 1.831              | 1.829    | 1.649            | 1.647    | 1.962            | 1.959    |
| 0.020       | 1.768              | 1.764    | 1.806              | 1.806    | 1.636            | 1.630    | 1.940            | 1.935    |
| 0.030       | 1.753              | 1.748    | 1.790              | 1.790    | 1.628            | 1.619    | 1.926            | 1.919    |
| 0.040       | 1.743              | 1.735    | 1.777              | 1.778    | 1.624            | 1.611    | 1.917            | 1.906    |
| 0.050       | 1.735              | 1.725    | 1.768              | 1.768    | 1.621            | 1.604    | 1.911            | 1.896    |
| 0.060       | 1.730              | 1.715    | 1.760              | 1.759    | 1.619            | 1.597    | 1.906            | 1.888    |
| 0.070       | 1.725              | 1.707    | 1.754              | 1.751    | 1.618            | 1.590    | 1.902            | 1.880    |
| 0.080       | 1.722              | 1.699    | 1.749              | 1.744    | 1.618            | 1.583    | 1.899            | 1.873    |
| 0.090       | 1.719              | 1.692    | 1.745              | 1.737    | 1.619            | 1.576    | 1.896            | 1.866    |
| 0.100       | 1.717              | 1.685    | 1.741              | 1.731    | 1.619            | 1.569    | 1.894            | 1.860    |
| 0.200       | 1.709              | 1.640    | 1.728              | 1.673    | 1.631            | 1.471    | 1.895            | 1.802    |
| 0.300       | 1.716              | 1.593    | 1.731              | 1.627    | 1.651            | 1.334    | 1.910            | 1.769    |
| 0.400       | 1.731              | 1.543    | 1.739              | 1.582    | 1.673            | 1.177    | 1.929            | 1.703    |
| 0.500       | 1.751              | 1.489    | 1.752              | 1.537    | 1.694            | 1.020    | 1.951            | 1.626    |
| 0.600       | 1.769              | 1.431    | 1.770              | 1.491    | 1.715            | 0.875    | 1.975            | 1.541    |
| 0.700       | 1.789              | 1.370    | 1.789              | 1.443    | 1.737            | 0.749    | 2.000            | 1.451    |
| 0.800       | 1.810              | 1.308    | 1.811              | 1.395    | 1.759            | 0.641    | 2.026            | 1.360    |
| 0.900       | 1.833              | 1.245    | 1.840              | 1.347    | 1.781            | 0.551    | 2.053            | 1.270    |
| 1.000       | 1.856              | 1.182    | 1.860              | 1.300    | 1.803            | 0.476    | 2.082            | 1.183    |

| Electrolyte | CsIO <sub>3</sub> |         | CsNO <sub>2</sub> |          | CsNO <sub>3</sub>  |          | CsOH              |         |
|-------------|-------------------|---------|-------------------|----------|--------------------|----------|-------------------|---------|
|             | $\Lambda^0=117.8$ | $a=2.4$ | $\Lambda^0=148.8$ | $a=2.53$ | $\Lambda^0=148.22$ | $a=2.13$ | $\Lambda^0=274.4$ | $a=3.0$ |
| Conc.       | Dof               | Dpikal  | Dof               | Dpikal   | Dof                | Dpikal   | Dof               | Dpikal  |
| 0.000       | 1.423             | 1.423   | 1.978             | 1.979    | 1.970              | 1.971    | 2.944             | 2.945   |
| 0.001       | 1.399             | 1.398   | 1.948             | 1.946    | 1.940              | 1.938    | 2.893             | 2.891   |
| 0.002       | 1.391             | 1.389   | 1.936             | 1.935    | 1.928              | 1.927    | 2.874             | 2.871   |
| 0.003       | 1.384             | 1.383   | 1.928             | 1.927    | 1.920              | 1.918    | 2.861             | 2.857   |
| 0.004       | 1.380             | 1.378   | 1.923             | 1.920    | 1.913              | 1.911    | 2.849             | 2.846   |
| 0.005       | 1.377             | 1.373   | 1.917             | 1.914    | 1.907              | 1.906    | 2.840             | 2.836   |
| 0.006       | 1.373             | 1.370   | 1.912             | 1.909    | 1.904              | 1.901    | 2.831             | 2.827   |
| 0.007       | 1.370             | 1.366   | 1.908             | 1.905    | 1.899              | 1.896    | 2.824             | 2.819   |
| 0.008       | 1.367             | 1.363   | 1.904             | 1.901    | 1.895              | 1.892    | 2.817             | 2.813   |
| 0.009       | 1.364             | 1.360   | 1.900             | 1.897    | 1.892              | 1.888    | 2.811             | 2.806   |
| 0.010       | 1.361             | 1.358   | 1.897             | 1.894    | 1.888              | 1.885    | 2.805             | 2.800   |
| 0.020       | 1.344             | 1.338   | 1.873             | 1.869    | 1.863              | 1.860    | 2.765             | 2.757   |
| 0.030       | 1.333             | 1.323   | 1.858             | 1.852    | 1.848              | 1.843    | 2.739             | 2.729   |
| 0.040       | 1.325             | 1.312   | 1.848             | 1.839    | 1.836              | 1.829    | 2.721             | 2.707   |
| 0.050       | 1.319             | 1.302   | 1.840             | 1.829    | 1.828              | 1.818    | 2.708             | 2.689   |
| 0.060       | 1.315             | 1.296   | 1.834             | 1.820    | 1.821              | 1.809    | 2.697             | 2.675   |
| 0.070       | 1.312             | 1.289   | 1.830             | 1.812    | 1.816              | 1.800    | 2.689             | 2.662   |
| 0.080       | 1.309             | 1.282   | 1.826             | 1.805    | 1.811              | 1.792    | 2.682             | 2.650   |
| 0.090       | 1.307             | 1.276   | 1.824             | 1.798    | 1.808              | 1.785    | 2.676             | 2.639   |
| 0.100       | 1.306             | 1.270   | 1.822             | 1.792    | 1.805              | 1.778    | 2.671             | 2.629   |
| 0.200       | 1.300             | 1.212   | 1.814             | 1.741    | 1.795              | 1.719    | 2.654             | 2.543   |
| 0.300       | 1.306             | 1.152   | 1.824             | 1.691    | 1.801              | 1.690    | 2.664             | 2.452   |
| 0.400       | 1.318             | 1.086   | 1.843             | 1.636    | 1.814              | 1.645    | 2.683             | 2.378   |
| 0.500       | 1.332             | 1.015   | 1.861             | 1.576    | 1.833              | 1.597    | 2.707             | 2.252   |
| 0.600       | 1.345             | 0.942   | 1.881             | 1.511    | 1.855              | 1.546    | 2.736             | 2.108   |
| 0.700       | 1.360             | 0.869   | 1.904             | 1.443    | 1.875              | 1.492    | 2.766             | 1.955   |
| 0.800       | 1.376             | 0.799   | 1.927             | 1.373    | 1.896              | 1.436    | 2.799             | 1.798   |
| 0.900       | 1.393             | 0.731   | 1.951             | 1.303    | 1.919              | 1.378    | 2.832             | 1.644   |
| 1.000       | 1.410             | 0.669   | 1.976             | 1.234    | 1.943              | 1.321    | 2.866             | 1.496   |

| Electrolyte | Cs <sub>2</sub> SO <sub>4</sub> |         | CuBr <sub>2</sub> |         | Cu(C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> ) <sub>2</sub> |         | CuCl <sub>2</sub> |         |
|-------------|---------------------------------|---------|-------------------|---------|--|---------|-------------------|---------|
|             | $\Lambda^0=156.6$               | $a=3.3$ | $\Lambda^0=135.0$ | $a=4.5$ | $\Lambda^0=97.6$   | $a=5.3$ | $\Lambda^0=132.9$ | $a=4.5$ |
| Conc.       | Dof                             | Dpikal  | Dof               | Dpikal  | Dof  | Dpikal  | Dof               | Dpikal  |
| 0.000       | 1.567                           | 1.567   | 1.312             | 1.313   | 0.949  | 0.950   | 1.298             | 1.298   |
| 0.001       | 1.490                           | 1.481   | 1.256             | 1.235   | 0.908  | 0.902   | 1.242             | 1.221   |
| 0.002       | 1.464                           | 1.445   | 1.239             | 1.207   | 0.896  | 0.886   | 1.225             | 1.195   |
| 0.003       | 1.447                           | 1.418   | 1.229             | 1.187   | 0.889  | 0.874   | 1.215             | 1.174   |
| 0.004       | 1.434                           | 1.396   | 1.221             | 1.175   | 0.883  | 0.865   | 1.207             | 1.162   |
| 0.005       | 1.424                           | 1.375   | 1.215             | 1.160   | 0.879  | 0.860   | 1.201             | 1.148   |
| 0.006       | 1.415                           | 1.365   | 1.211             | 1.146   | 0.876  | 0.852   | 1.197             | 1.134   |
| 0.007       | 1.407                           | 1.348   | 1.207             | 1.132   | 0.874  | 0.844   | 1.193             | 1.121   |
| 0.008       | 1.401                           | 1.331   | 1.204             | 1.119   | 0.872  | 0.836   | 1.190             | 1.108   |
| 0.009       | 1.395                           | 1.315   | 1.202             | 1.106   | 0.869  | 0.829   | 1.188             | 1.095   |
| 0.010       | 1.390                           | 1.299   | 1.200             | 1.092   | 0.867  | 0.821   | 1.186             | 1.082   |
| 0.020       | 1.354                           | 1.147   | 1.183             | 0.943   | 0.857  | 0.729   | 1.169             | 0.935   |
| 0.030       | 1.333                           | 1.032   | 1.177             | 0.799   | 0.855  | 0.616   | 1.163             | 0.794   |
| 0.040       | 1.318                           | 0.889   | 1.177             | 0.639   | 0.853  | 0.508   | 1.164             | 0.636   |
| 0.050       | 1.309                           | 0.754   | 1.175             | 0.499   | 0.852  | 0.402   | 1.162             | 0.498   |
| 0.060       | 1.302                           | 0.633   | 1.174             | 0.388   | 0.853  | 0.315   | 1.161             | 0.387   |
| 0.070       | 1.294                           | 0.531   | 1.175             | 0.302   | 0.854  | 0.247   | 1.161             | 0.302   |
| 0.080       | 1.287                           | 0.445   | 1.176             | 0.238   | 0.856  | 0.195   | 1.163             | 0.238   |
| 0.090       | 1.281                           | 0.373   | 1.178             | 0.189   | 0.858  | 0.156   | 1.165             | 0.190   |
| 0.100       | 1.276                           | 0.325   | 1.180             | 0.153   | 0.860  | 0.126   | 1.167             | 0.153   |
| 0.200       | 1.249                           | 0.078   | 1.210             | 0.032   | 0.878  | 0.027   | 1.196             | 0.032   |
| 0.300       | 1.227                           | 0.030   | 1.232             | 0.012   | 0.895  | 0.010   | 1.218             | 0.012   |
| 0.400       | 1.205                           | 0.015   | 1.256             | 0.006   | 0.913  | 0.005   | 1.242             | 0.006   |
| 0.500       | 1.184                           | 0.008   | 1.280             | 0.003   | 0.930  | 0.003   | 1.266             | 0.003   |
| 0.600       | 1.163                           | 0.005   | 1.304             | 0.002   | 0.947  | 0.002   | 1.289             | 0.002   |
| 0.700       | 1.143                           | 0.003   | 1.327             | 0.001   | 0.963  | 0.001   | 1.312             | 0.001   |
| 0.800       | 1.122                           | 0.002   | 1.350             | 0.001   | 0.979  | 0.001   | 1.335             | 0.001   |
| 0.900       | 1.102                           | 0.002   | 1.372             | 0.001   | 0.994  | 0.001   | 1.357             | 0.001   |
| 1.000       | 1.081                           | 0.001   | 1.394             | 0.001   | 1.117  | 0.001   | 1.378             | 0.001   |

| Electrolyte | $\text{Cu}(\text{ClO}_3)_2$ |         | $\text{Cu}(\text{ClO}_4)_2$ |         | $\text{Cu}(\text{NO}_3)_2$ |         | $\text{CuSO}_4$   |         |
|-------------|-----------------------------|---------|-----------------------------|---------|----------------------------|---------|-------------------|---------|
|             | $\Lambda^0=121.2$           | $a=4.8$ | $\Lambda^0=123.9$           | $a=4.8$ | $\Lambda^0=128.02$         | $a=4.8$ | $\Lambda^0=136.4$ | $a=5.0$ |
| Conc.       | Dof                         | Dpikal  | Dof                         | Dpikal  | Dof                        | Dpikal  | Dof               | Dpikal  |
| 0.000       | 1.205                       | 1.205   | 1.228                       | 1.228   | 1.261                      | 1.261   | 0.881             | 0.882   |
| 0.001       | 1.153                       | 1.139   | 1.175                       | 1.160   | 1.207                      | 1.190   | 0.749             | 0.754   |
| 0.002       | 1.138                       | 1.116   | 1.160                       | 1.136   | 1.191                      | 1.166   | 0.709             | 0.714   |
| 0.003       | 1.128                       | 1.100   | 1.150                       | 1.119   | 1.181                      | 1.147   | 0.684             | 0.686   |
| 0.004       | 1.121                       | 1.085   | 1.143                       | 1.105   | 1.174                      | 1.132   | 0.667             | 0.664   |
| 0.005       | 1.116                       | 1.068   | 1.138                       | 1.087   | 1.168                      | 1.114   | 0.655             | 0.646   |
| 0.006       | 1.112                       | 1.056   | 1.134                       | 1.074   | 1.164                      | 1.100   | 0.647             | 0.629   |
| 0.007       | 1.109                       | 1.044   | 1.130                       | 1.062   | 1.161                      | 1.087   | 0.640             | 0.609   |
| 0.008       | 1.106                       | 1.032   | 1.128                       | 1.049   | 1.158                      | 1.074   | 0.635             | 0.597   |
| 0.009       | 1.105                       | 1.020   | 1.126                       | 1.037   | 1.156                      | 1.061   | 0.632             | 0.587   |
| 0.010       | 1.102                       | 1.008   | 1.123                       | 1.024   | 1.154                      | 1.048   | 0.631             | 0.578   |
| 0.020       | 1.087                       | 0.891   | 1.108                       | 0.904   | 1.138                      | 0.921   | 0.672             | 0.517   |
| 0.030       | 1.083                       | 0.741   | 1.104                       | 0.749   | 1.134                      | 0.760   | 0.768             | 0.480   |
| 0.040       | 1.082                       | 0.591   | 1.103                       | 0.595   | 1.133                      | 0.602   | 0.890             | 0.484   |
| 0.050       | 1.081                       | 0.461   | 1.102                       | 0.463   | 1.132                      | 0.466   | 1.032             | 0.457   |
| 0.060       | 1.081                       | 0.357   | 1.102                       | 0.358   | 1.132                      | 0.359   | 1.189             | 0.429   |
| 0.070       | 1.082                       | 0.282   | 1.103                       | 0.283   | 1.133                      | 0.283   | 1.357             | 0.401   |
| 0.080       | 1.084                       | 0.221   | 1.104                       | 0.221   | 1.134                      | 0.221   | 1.534             | 0.374   |
| 0.090       | 1.086                       | 0.176   | 1.107                       | 0.175   | 1.137                      | 0.175   | 1.718             | 0.349   |
| 0.100       | 1.088                       | 0.141   | 1.109                       | 0.141   | 1.139                      | 0.140   | 1.914             | 0.326   |
| 0.200       | 1.114                       | 0.029   | 1.135                       | 0.029   | 1.166                      | 0.028   | 3.964             | 0.190   |
| 0.300       | 1.135                       | 0.011   | 1.157                       | 0.011   | 1.188                      | 0.011   | 6.198             | 0.124   |
| 0.400       | 1.158                       | 0.005   | 1.180                       | 0.005   | 1.212                      | 0.005   | 8.527             | 0.090   |
| 0.500       | 1.180                       | 0.003   | 1.202                       | 0.003   | 1.235                      | 0.003   | 10.916            | 0.069   |
| 0.600       | 1.202                       | 0.002   | 1.225                       | 0.002   | 1.258                      | 0.002   | 13.347            | 0.056   |
| 0.700       | 1.223                       | 0.001   | 1.246                       | 0.001   | 1.280                      | 0.001   | 15.810            | 0.046   |
| 0.800       | 1.243                       | 0.001   | 1.267                       | 0.001   | 1.301                      | 0.001   | 18.299            | 0.040   |
| 0.900       | 1.264                       | 0.001   | 1.288                       | 0.001   | 1.322                      | 0.001   | 24.995            | 0.034   |
| 1.000       | 1.284                       | 0.001   | 1.308                       | 0.001   | 1.343                      | 0.001   | 28.421            | 0.030   |

| Electrolyte | $\text{FeBr}_2$   |        | $\text{FeCl}_2$   |        | $\text{FeCl}_3$   |        | $\text{Fe}(\text{ClO}_4)_2$ |        |
|-------------|-------------------|--------|-------------------|--------|-------------------|--------|-----------------------------|--------|
|             | $\Lambda^0=131.9$ |        | $\Lambda^0=129.8$ |        | $\Lambda^0=144.3$ |        | $\Lambda^0=120.8$           |        |
| Conc.       | Dof               | Dpikal | Dof               | Dpikal | Dof               | Dpikal | Dof                         | Dpikal |
| 0.000       | 1.270             | 1.270  | 1.256             | 1.256  | 1.276             | 1.276  | 1.190                       | 1.190  |
| 0.001       | 1.216             | 1.193  | 1.202             | 1.181  | 1.188             | 1.113  | 1.140                       | 1.123  |
| 0.002       | 1.200             | 1.166  | 1.187             | 1.154  | 1.172             | 1.035  | 1.125                       | 1.100  |
| 0.003       | 1.190             | 1.145  | 1.177             | 1.133  | 1.165             | 0.967  | 1.116                       | 1.083  |
| 0.004       | 1.183             | 1.133  | 1.170             | 1.122  | 1.157             | 0.884  | 1.110                       | 1.068  |
| 0.005       | 1.178             | 1.118  | 1.165             | 1.107  | 1.152             | 0.797  | 1.105                       | 1.050  |
| 0.006       | 1.173             | 1.104  | 1.161             | 1.093  | 1.149             | 0.710  | 1.101                       | 1.037  |
| 0.007       | 1.170             | 1.090  | 1.157             | 1.080  | 1.147             | 0.627  | 1.098                       | 1.024  |
| 0.008       | 1.167             | 1.077  | 1.155             | 1.066  | 1.145             | 0.558  | 1.096                       | 1.012  |
| 0.009       | 1.165             | 1.063  | 1.152             | 1.053  | 1.144             | 0.487  | 1.094                       | 0.999  |
| 0.010       | 1.164             | 1.050  | 1.151             | 1.040  | 1.144             | 0.424  | 1.091                       | 0.987  |
| 0.020       | 1.148             | 0.898  | 1.135             | 0.891  | 1.142             | 0.121  | 1.078                       | 0.863  |
| 0.030       | 1.143             | 0.753  | 1.130             | 0.748  | 1.147             | 0.048  | 1.074                       | 0.706  |
| 0.040       | 1.144             | 0.595  | 1.132             | 0.592  | 1.156             | 0.024  | 1.074                       | 0.555  |
| 0.050       | 1.142             | 0.460  | 1.129             | 0.459  | 1.166             | 0.014  | 1.073                       | 0.427  |
| 0.060       | 1.141             | 0.354  | 1.129             | 0.354  | 1.168             | 0.009  | 1.073                       | 0.327  |
| 0.070       | 1.142             | 0.274  | 1.130             | 0.274  | 1.172             | 0.006  | 1.074                       | 0.256  |
| 0.080       | 1.144             | 0.215  | 1.131             | 0.215  | 1.176             | 0.004  | 1.076                       | 0.200  |
| 0.090       | 1.146             | 0.170  | 1.133             | 0.171  | 1.180             | 0.003  | 1.078                       | 0.158  |
| 0.100       | 1.148             | 0.137  | 1.135             | 0.137  | 1.185             | 0.002  | 1.081                       | 0.126  |
| 0.200       | 1.177             | 0.028  | 1.164             | 0.028  | 1.229             | 0.000  | 1.106                       | 0.025  |
| 0.300       | 1.198             | 0.010  | 1.185             | 0.010  | 1.267             | 0.000  | 1.127                       | 0.010  |
| 0.400       | 1.222             | 0.005  | 1.208             | 0.005  | 1.573             | 0.000  | 1.150                       | 0.005  |
| 0.500       | 1.245             | 0.003  | 1.231             | 0.003  | 1.661             | 0.000  | 1.172                       | 0.003  |
| 0.600       | 1.268             | 0.002  | 1.254             | 0.002  | 1.743             | 0.000  | 1.193                       | 0.002  |
| 0.700       | 1.291             | 0.001  | 1.277             | 0.001  | 1.821             | 0.000  | 1.214                       | 0.001  |
| 0.800       | 1.313             | 0.001  | 1.298             | 0.001  | 1.895             | 0.000  | 1.235                       | 0.001  |
| 0.900       | 1.334             | 0.001  | 1.320             | 0.001  | 1.966             | 0.000  | 1.255                       | 0.001  |
| 1.000       | 1.356             | 0.001  | 1.341             | 0.001  | 2.036             | 0.000  | 1.274                       | 0.001  |

| Electrolyte | Fe(ClO <sub>4</sub> ) <sub>3</sub> |        | Fe(NO <sub>3</sub> ) <sub>2</sub> |        | Fe(NO <sub>3</sub> ) <sub>3</sub> |        | FeSO <sub>4</sub> |        |
|-------------|------------------------------------|--------|-----------------------------------|--------|-----------------------------------|--------|-------------------|--------|
|             | $\Lambda^0=135.3$                  |        | $\Lambda^0=124.92$                |        | $\Lambda^0=139.42$                |        | $\Lambda^0=133.3$ |        |
|             | $a=4.8$                            |        | $a=4.5$                           |        | $a=6.0$                           |        | $a=5.0$           |        |
| Conc.       | Dof                                | Dpikal | Dof                               | Dpikal | Dof                               | Dpikal | Dof               | Dpikal |
| 0.000       | 1.201                              | 1.201  | 1.221                             | 1.222  | 1.236                             | 1.237  | 0.853             | 0.853  |
| 0.001       | 1.116                              | 1.050  | 1.170                             | 1.150  | 1.150                             | 1.081  | 0.744             | 0.748  |
| 0.002       | 1.099                              | 0.982  | 1.154                             | 1.124  | 1.134                             | 1.007  | 0.712             | 0.716  |
| 0.003       | 1.090                              | 0.919  | 1.145                             | 1.105  | 1.127                             | 0.942  | 0.692             | 0.693  |
| 0.004       | 1.085                              | 0.853  | 1.138                             | 1.094  | 1.120                             | 0.863  | 0.677             | 0.673  |
| 0.005       | 1.081                              | 0.786  | 1.133                             | 1.080  | 1.115                             | 0.781  | 0.665             | 0.654  |
| 0.006       | 1.076                              | 0.733  | 1.129                             | 1.067  | 1.111                             | 0.697  | 0.657             | 0.637  |
| 0.007       | 1.073                              | 0.666  | 1.126                             | 1.054  | 1.109                             | 0.617  | 0.648             | 0.614  |
| 0.008       | 1.070                              | 0.602  | 1.123                             | 1.041  | 1.108                             | 0.550  | 0.640             | 0.599  |
| 0.009       | 1.067                              | 0.541  | 1.121                             | 1.029  | 1.107                             | 0.481  | 0.633             | 0.585  |
| 0.010       | 1.066                              | 0.484  | 1.120                             | 1.016  | 1.106                             | 0.420  | 0.627             | 0.571  |
| 0.020       | 1.065                              | 0.164  | 1.104                             | 0.874  | 1.104                             | 0.121  | 0.594             | 0.450  |
| 0.030       | 1.063                              | 0.069  | 1.099                             | 0.737  | 1.109                             | 0.048  | 0.580             | 0.353  |
| 0.040       | 1.067                              | 0.035  | 1.101                             | 0.586  | 1.117                             | 0.024  | 0.571             | 0.299  |
| 0.050       | 1.073                              | 0.020  | 1.098                             | 0.456  | 1.126                             | 0.014  | 0.567             | 0.239  |
| 0.060       | 1.081                              | 0.013  | 1.098                             | 0.353  | 1.129                             | 0.009  | 0.566             | 0.192  |
| 0.070       | 1.095                              | 0.009  | 1.099                             | 0.274  | 1.132                             | 0.006  | 0.567             | 0.156  |
| 0.080       | 1.097                              | 0.006  | 1.100                             | 0.215  | 1.136                             | 0.004  | 0.568             | 0.128  |
| 0.090       | 1.100                              | 0.005  | 1.102                             | 0.171  | 1.141                             | 0.003  | 0.571             | 0.106  |
| 0.100       | 1.103                              | 0.004  | 1.104                             | 0.138  | 1.145                             | 0.002  | 0.575             | 0.089  |
| 0.200       | 1.141                              | 0.001  | 1.132                             | 0.028  | 1.188                             | 0.000  | 0.600             | 0.025  |
| 0.300       | 1.180                              | 0.000  | 1.153                             | 0.011  | 1.225                             | 0.000  | 0.630             | 0.011  |
| 0.400       | 1.215                              | 0.000  | 1.176                             | 0.005  | 1.516                             | 0.000  | 0.658             | 0.006  |
| 0.500       | 1.248                              | 0.000  | 1.198                             | 0.003  | 1.600                             | 0.000  | 0.683             | 0.004  |
| 0.600       | 1.278                              | 0.000  | 1.220                             | 0.002  | 1.679                             | 0.000  | 0.707             | 0.002  |
| 0.700       | 1.727                              | 0.000  | 1.242                             | 0.001  | 1.753                             | 0.000  | 0.730             | 0.002  |
| 0.800       | 1.808                              | 0.000  | 1.264                             | 0.001  | 1.824                             | 0.000  | 0.751             | 0.001  |
| 0.900       | 1.886                              | 0.000  | 1.284                             | 0.001  | 1.892                             | 0.000  | 0.931             | 0.001  |
| 1.000       | 1.962                              | 0.000  | 1.305                             | 0.001  | 1.958                             | 0.000  | 0.969             | 0.001  |

| Electrolyte | H <sub>3</sub> AsO <sub>4</sub> |        | HBr               |        | HCHO <sub>2</sub> |        | HC <sub>2</sub> H <sub>3</sub> O <sub>2</sub> |        |
|-------------|---------------------------------|--------|-------------------|--------|-------------------|--------|---|--------|
|             | $\Lambda^0=383.7$               |        | $\Lambda^0=428.1$ |        | $\Lambda^0=404.8$ |        | $\Lambda^0=390.7$                             |        |
|             | $a=6.7$                         |        | $a=6.0$           |        | $a=6.3$           |        | $a=6.8$                                       |        |
| Conc.       | Dof                             | Dpikal | Dof               | Dpikal | Dof               | Dpikal | Dof   | Dpikal |
| 0.000       | 1.650                           | 1.650  | 3.410             | 3.410  | 2.534             | 2.535  | 1.954   | 1.954  |
| 0.001       | 1.610                           | 1.609  | 3.349             | 3.346  | 2.485             | 2.482  | 1.911   | 1.909  |
| 0.002       | 1.596                           | 1.594  | 3.328             | 3.324  | 2.467             | 2.464  | 1.896   | 1.894  |
| 0.003       | 1.587                           | 1.584  | 3.312             | 3.309  | 2.455             | 2.452  | 1.886   | 1.883  |
| 0.004       | 1.579                           | 1.576  | 3.301             | 3.297  | 2.445             | 2.442  | 1.877   | 1.874  |
| 0.005       | 1.573                           | 1.570  | 3.291             | 3.287  | 2.437             | 2.433  | 1.871   | 1.867  |
| 0.006       | 1.567                           | 1.564  | 3.282             | 3.278  | 2.430             | 2.426  | 1.865   | 1.861  |
| 0.007       | 1.563                           | 1.559  | 3.275             | 3.271  | 2.424             | 2.420  | 1.860   | 1.856  |
| 0.008       | 1.559                           | 1.554  | 3.269             | 3.264  | 2.419             | 2.414  | 1.855   | 1.851  |
| 0.009       | 1.555                           | 1.550  | 3.263             | 3.258  | 2.414             | 2.409  | 1.851   | 1.846  |
| 0.010       | 1.551                           | 1.546  | 3.258             | 3.252  | 2.410             | 2.404  | 1.848   | 1.842  |
| 0.020       | 1.528                           | 1.517  | 3.224             | 3.213  | 2.382             | 2.371  | 1.824   | 1.812  |
| 0.030       | 1.514                           | 1.496  | 3.204             | 3.189  | 2.365             | 2.349  | 1.810   | 1.791  |
| 0.040       | 1.505                           | 1.478  | 3.192             | 3.170  | 2.355             | 2.330  | 1.801   | 1.773  |
| 0.050       | 1.499                           | 1.460  | 3.184             | 3.154  | 2.348             | 2.314  | 1.794   | 1.755  |
| 0.060       | 1.494                           | 1.442  | 3.179             | 3.139  | 2.343             | 2.297  | 1.790   | 1.737  |
| 0.070       | 1.490                           | 1.423  | 3.176             | 3.124  | 2.340             | 2.280  | 1.786   | 1.718  |
| 0.080       | 1.487                           | 1.402  | 3.173             | 3.108  | 2.337             | 2.262  | 1.784   | 1.697  |
| 0.090       | 1.485                           | 1.380  | 3.172             | 3.092  | 2.335             | 2.243  | 1.782   | 1.675  |
| 0.100       | 1.483                           | 1.357  | 3.171             | 3.075  | 2.334             | 2.223  | 1.780   | 1.651  |
| 0.200       | 1.480                           | 1.052  | 3.188             | 2.832  | 2.342             | 1.934  | 1.783   | 1.328  |
| 0.300       | 1.488                           | 0.734  | 3.221             | 2.464  | 2.362             | 1.550  | 1.795   | 0.963  |
| 0.400       | 1.499                           | 0.496  | 3.257             | 2.048  | 2.386             | 1.181  | 1.812   | 0.672  |
| 0.500       | 1.512                           | 0.341  | 3.296             | 1.656  | 2.412             | 0.884  | 1.830   | 0.471  |
| 0.600       | 1.527                           | 0.241  | 3.335             | 1.324  | 2.440             | 0.665  | 1.849   | 0.338  |
| 0.700       | 1.542                           | 0.176  | 3.376             | 1.059  | 2.468             | 0.507  | 1.869   | 0.250  |
| 0.800       | 1.558                           | 0.133  | 3.416             | 0.852  | 2.496             | 0.394  | 1.889   | 0.189  |
| 0.900       | 1.574                           | 0.103  | 3.457             | 0.693  | 2.524             | 0.312  | 1.910   | 0.147  |
| 1.000       | 1.590                           | 0.082  | 3.498             | 0.570  | 2.553             | 0.251  | 1.930   | 0.117  |

| Electrolyte | HCN              |         | H <sub>2</sub> CO <sub>3</sub> |         | HCl              |          | HClO <sub>3</sub> |         |
|-------------|------------------|---------|--------------------------------|---------|------------------|----------|-------------------|---------|
|             | $\Delta^0=427.7$ | $a=6.0$ | $\Delta^0=419.0$               | $a=6.8$ | $\Delta^0=426.0$ | $a=4.08$ | $\Delta^0=414.3$  | $a=6.3$ |
| Conc.       | Dof              | Dpikal  | Dof                            | Dpikal  | Dof              | Dpikal   | Dof               | Dpikal  |
| 0.000       | 3.395            | 3.396   | 2.309                          | 2.310   | 3.335            | 3.335    | 2.903             | 2.904   |
| 0.001       | 3.335            | 3.332   | 2.170                          | 2.146   | 3.273            | 3.270    | 2.849             | 2.847   |
| 0.002       | 3.314            | 3.310   | 2.130                          | 2.085   | 3.250            | 3.247    | 2.830             | 2.827   |
| 0.003       | 3.298            | 3.295   | 2.105                          | 2.053   | 3.234            | 3.230    | 2.816             | 2.813   |
| 0.004       | 3.287            | 3.283   | 2.087                          | 2.015   | 3.221            | 3.216    | 2.806             | 2.803   |
| 0.005       | 3.277            | 3.273   | 2.072                          | 1.978   | 3.210            | 3.205    | 2.797             | 2.794   |
| 0.006       | 3.269            | 3.264   | 2.060                          | 1.942   | 3.200            | 3.195    | 2.790             | 2.786   |
| 0.007       | 3.261            | 3.257   | 2.049                          | 1.906   | 3.191            | 3.186    | 2.784             | 2.779   |
| 0.008       | 3.255            | 3.250   | 2.040                          | 1.870   | 3.184            | 3.178    | 2.778             | 2.773   |
| 0.009       | 3.249            | 3.244   | 2.032                          | 1.832   | 3.177            | 3.170    | 2.773             | 2.768   |
| 0.010       | 3.244            | 3.239   | 2.025                          | 1.794   | 3.171            | 3.163    | 2.768             | 2.763   |
| 0.020       | 3.210            | 3.200   | 1.986                          | 1.367   | 3.126            | 3.118    | 2.738             | 2.728   |
| 0.030       | 3.191            | 3.175   | 1.964                          | 0.958   | 3.100            | 3.087    | 2.721             | 2.705   |
| 0.040       | 3.178            | 3.156   | 1.953                          | 0.675   | 3.081            | 3.064    | 2.710             | 2.686   |
| 0.050       | 3.170            | 3.140   | 1.947                          | 0.462   | 3.067            | 3.045    | 2.703             | 2.670   |
| 0.060       | 3.165            | 3.125   | 1.943                          | 0.324   | 3.056            | 3.029    | 2.699             | 2.654   |
| 0.070       | 3.162            | 3.110   | 1.945                          | 0.234   | 3.048            | 3.015    | 2.695             | 2.637   |
| 0.080       | 3.159            | 3.094   | 1.942                          | 0.175   | 3.042            | 3.001    | 2.693             | 2.620   |
| 0.090       | 3.158            | 3.078   | 1.940                          | 0.134   | 3.037            | 2.988    | 2.691             | 2.602   |
| 0.100       | 3.157            | 3.061   | 1.939                          | 0.104   | 3.033            | 2.975    | 2.691             | 2.583   |
| 0.200       | 3.174            | 2.817   | 1.950                          | 0.019   | 3.025            | 2.836    | 2.703             | 2.301   |
| 0.300       | 3.207            | 2.450   | 1.973                          | 0.007   | 3.042            | 2.639    | 2.730             | 1.906   |
| 0.400       | 3.243            | 2.034   | 1.999                          | 0.003   | 3.069            | 2.390    | 2.759             | 1.501   |
| 0.500       | 3.281            | 1.643   | 2.026                          | 0.002   | 3.101            | 2.112    | 2.791             | 1.156   |
| 0.600       | 3.321            | 1.312   | 2.053                          | 0.001   | 3.136            | 1.833    | 2.824             | 0.888   |
| 0.700       | 3.361            | 1.049   | 2.255                          | 0.001   | 3.171            | 1.574    | 2.857             | 0.688   |
| 0.800       | 3.401            | 0.844   | 2.303                          | 0.001   | 3.207            | 1.343    | 2.890             | 0.541   |
| 0.900       | 3.442            | 0.686   | 2.349                          | 0.000   | 3.244            | 1.146    | 2.924             | 0.432   |
| 1.000       | 3.482            | 0.564   | 2.395                          | 0.000   | 3.281            | 0.979    | 2.958             | 0.350   |

| Electrolyte | HClO <sub>4</sub> |         | H <sub>2</sub> CrO <sub>4</sub> |         | HF               |         | III              |         |
|-------------|-------------------|---------|---------------------------------|---------|------------------|---------|------------------|---------|
|             | $\Delta^0=417.0$  | $a=6.3$ | $\Delta^0=434.7$                | $a=6.5$ | $\Delta^0=405.1$ | $a=6.3$ | $\Delta^0=426.6$ | $a=4.5$ |
| Conc.       | Dof               | Dpikal  | Dof                             | Dpikal  | Dof              | Dpikal  | Dof              | Dpikal  |
| 0.000       | 3.005             | 3.005   | 2.730                           | 2.731   | 2.546            | 2.547   | 2.546            | 2.547   |
| 0.001       | 2.950             | 2.947   | 2.572                           | 2.551   | 2.496            | 2.494   | 2.495            | 2.492   |
| 0.002       | 2.930             | 2.927   | 2.527                           | 2.485   | 2.479            | 2.476   | 2.476            | 2.473   |
| 0.003       | 2.916             | 2.913   | 2.498                           | 2.435   | 2.466            | 2.463   | 2.463            | 2.460   |
| 0.004       | 2.905             | 2.902   | 2.477                           | 2.390   | 2.457            | 2.453   | 2.452            | 2.448   |
| 0.005       | 2.897             | 2.893   | 2.461                           | 2.374   | 2.449            | 2.445   | 2.443            | 2.439   |
| 0.006       | 2.889             | 2.885   | 2.446                           | 2.339   | 2.442            | 2.438   | 2.435            | 2.431   |
| 0.007       | 2.883             | 2.878   | 2.434                           | 2.303   | 2.436            | 2.432   | 2.428            | 2.424   |
| 0.008       | 2.877             | 2.872   | 2.423                           | 2.268   | 2.431            | 2.426   | 2.422            | 2.417   |
| 0.009       | 2.872             | 2.867   | 2.414                           | 2.231   | 2.426            | 2.421   | 2.416            | 2.411   |
| 0.010       | 2.867             | 2.862   | 2.406                           | 2.194   | 2.422            | 2.416   | 2.411            | 2.406   |
| 0.020       | 2.836             | 2.826   | 2.362                           | 1.769   | 2.393            | 2.382   | 2.376            | 2.367   |
| 0.030       | 2.819             | 2.803   | 2.338                           | 1.322   | 2.377            | 2.360   | 2.355            | 2.340   |
| 0.040       | 2.808             | 2.784   | 2.325                           | 0.949   | 2.366            | 2.342   | 2.339            | 2.320   |
| 0.050       | 2.801             | 2.768   | 2.319                           | 0.698   | 2.359            | 2.325   | 2.328            | 2.303   |
| 0.060       | 2.797             | 2.752   | 2.316                           | 0.503   | 2.355            | 2.309   | 2.319            | 2.287   |
| 0.070       | 2.793             | 2.736   | 2.315                           | 0.370   | 2.351            | 2.292   | 2.313            | 2.273   |
| 0.080       | 2.791             | 2.719   | 2.317                           | 0.279   | 2.348            | 2.274   | 2.307            | 2.259   |
| 0.090       | 2.790             | 2.701   | 2.316                           | 0.215   | 2.347            | 2.255   | 2.303            | 2.245   |
| 0.100       | 2.789             | 2.682   | 2.315                           | 0.170   | 2.346            | 2.234   | 2.300            | 2.230   |
| 0.200       | 2.803             | 2.403   | 2.336                           | 0.032   | 2.353            | 1.946   | 2.292            | 2.056   |
| 0.300       | 2.831             | 2.007   | 2.369                           | 0.012   | 2.374            | 1.561   | 2.303            | 1.813   |
| 0.400       | 2.862             | 1.594   | 2.405                           | 0.006   | 2.398            | 1.190   | 2.322            | 1.535   |
| 0.500       | 2.895             | 1.236   | 2.440                           | 0.003   | 2.425            | 0.892   | 2.345            | 1.264   |
| 0.600       | 2.929             | 0.955   | 2.475                           | 0.002   | 2.452            | 0.672   | 2.368            | 1.026   |
| 0.700       | 2.964             | 0.744   | 2.678                           | 0.001   | 2.480            | 0.513   | 2.393            | 0.831   |
| 0.800       | 2.999             | 0.587   | 2.733                           | 0.001   | 2.509            | 0.399   | 2.419            | 0.675   |
| 0.900       | 3.034             | 0.470   | 2.787                           | 0.001   | 2.537            | 0.316   | 2.445            | 0.553   |
| 1.000       | 3.070             | 0.381   | 2.840                           | 0.001   | 2.566            | 0.254   | 2.472            | 0.457   |

| Electrolyte | $\text{HIO}_3$              |        | $\text{HNO}_3$               |        | $\text{H}_3\text{PO}_4$     |        | $\text{H}_2\text{SO}_4$     |        |
|-------------|-----------------------------|--------|------------------------------|--------|-----------------------------|--------|-----------------------------|--------|
|             | $\Delta^0=390.7$<br>$a=6.6$ |        | $\Delta^0=421.12$<br>$a=6.0$ |        | $\Delta^0=385.7$<br>$a=6.6$ |        | $\Delta^0=429.5$<br>$a=6.5$ |        |
| Conc.       | Dof                         | Dpikal | Dof                          | Dpikal | Dof                         | Dpikal | Dof                         | Dpikal |
| 0.000       | 1.954                       | 1.954  | 3.158                        | 3.158  | 1.738                       | 1.738  | 2.594                       | 2.595  |
| 0.001       | 1.911                       | 1.909  | 3.100                        | 3.098  | 1.697                       | 1.696  | 2.442                       | 2.420  |
| 0.002       | 1.896                       | 1.894  | 3.080                        | 3.077  | 1.683                       | 1.681  | 2.398                       | 2.356  |
| 0.003       | 1.885                       | 1.883  | 3.065                        | 3.062  | 1.673                       | 1.671  | 2.370                       | 2.306  |
| 0.004       | 1.877                       | 1.874  | 3.054                        | 3.051  | 1.665                       | 1.662  | 2.350                       | 2.262  |
| 0.005       | 1.870                       | 1.867  | 3.045                        | 3.041  | 1.659                       | 1.655  | 2.335                       | 2.246  |
| 0.006       | 1.864                       | 1.861  | 3.037                        | 3.033  | 1.653                       | 1.649  | 2.320                       | 2.211  |
| 0.007       | 1.859                       | 1.855  | 3.030                        | 3.026  | 1.648                       | 1.644  | 2.309                       | 2.176  |
| 0.008       | 1.855                       | 1.850  | 3.024                        | 3.019  | 1.644                       | 1.639  | 2.298                       | 2.140  |
| 0.009       | 1.851                       | 1.846  | 3.018                        | 3.013  | 1.640                       | 1.635  | 2.290                       | 2.104  |
| 0.010       | 1.847                       | 1.841  | 3.013                        | 3.008  | 1.637                       | 1.631  | 2.282                       | 2.067  |
| 0.020       | 1.822                       | 1.811  | 2.980                        | 2.970  | 1.613                       | 1.602  | 2.239                       | 1.645  |
| 0.030       | 1.808                       | 1.790  | 2.962                        | 2.946  | 1.599                       | 1.581  | 2.215                       | 1.212  |
| 0.040       | 1.798                       | 1.772  | 2.950                        | 2.927  | 1.590                       | 1.563  | 2.202                       | 0.860  |
| 0.050       | 1.792                       | 1.754  | 2.942                        | 2.911  | 1.583                       | 1.545  | 2.196                       | 0.627  |
| 0.060       | 1.787                       | 1.737  | 2.937                        | 2.896  | 1.578                       | 1.527  | 2.192                       | 0.449  |
| 0.070       | 1.783                       | 1.718  | 2.933                        | 2.880  | 1.574                       | 1.508  | 2.191                       | 0.329  |
| 0.080       | 1.781                       | 1.698  | 2.931                        | 2.864  | 1.571                       | 1.488  | 2.193                       | 0.248  |
| 0.090       | 1.779                       | 1.677  | 2.929                        | 2.848  | 1.569                       | 1.467  | 2.191                       | 0.191  |
| 0.100       | 1.777                       | 1.654  | 2.928                        | 2.830  | 1.567                       | 1.443  | 2.191                       | 0.150  |
| 0.200       | 1.778                       | 1.344  | 2.942                        | 2.578  | 1.565                       | 1.141  | 2.207                       | 0.028  |
| 0.300       | 1.791                       | 0.988  | 2.971                        | 2.208  | 1.574                       | 0.812  | 2.237                       | 0.010  |
| 0.400       | 1.806                       | 0.697  | 3.004                        | 1.802  | 1.586                       | 0.559  | 2.269                       | 0.005  |
| 0.500       | 1.824                       | 0.492  | 3.038                        | 1.432  | 1.601                       | 0.388  | 2.302                       | 0.003  |
| 0.600       | 1.843                       | 0.355  | 3.074                        | 1.129  | 1.617                       | 0.276  | 2.334                       | 0.002  |
| 0.700       | 1.863                       | 0.263  | 3.111                        | 0.893  | 1.633                       | 0.203  | 2.538                       | 0.001  |
| 0.800       | 1.883                       | 0.200  | 3.148                        | 0.712  | 1.650                       | 0.154  | 2.590                       | 0.001  |
| 0.900       | 1.903                       | 0.156  | 3.185                        | 0.575  | 1.667                       | 0.119  | 2.642                       | 0.001  |
| 1.000       | 1.924                       | 0.124  | 3.222                        | 0.470  | 1.685                       | 0.095  | 2.693                       | 0.001  |

| Electrolyte | $\text{Hg}(\text{CN})_2$    |        | $\text{HgCl}_2$             |        | $\text{Hg}_2\text{Cl}_2$    |        | $\text{KBr}$                 |        |
|-------------|-----------------------------|--------|-----------------------------|--------|-----------------------------|--------|------------------------------|--------|
|             | $\Delta^0=141.6$<br>$a=4.0$ |        | $\Delta^0=139.9$<br>$a=4.0$ |        | $\Delta^0=144.9$<br>$a=4.0$ |        | $\Delta^0=151.9$<br>$a=3.67$ |        |
| Conc.       | Dof                         | Dpikal | Dof                         | Dpikal | Dof                         | Dpikal | Dof                          | Dpikal |
| 0.000       | 1.399                       | 1.399  | 1.385                       | 1.385  | 1.442                       | 1.443  | 2.020                        | 2.020  |
| 0.001       | 1.337                       | 1.318  | 1.324                       | 1.305  | 1.378                       | 1.361  | 1.989                        | 1.987  |
| 0.002       | 1.318                       | 1.291  | 1.305                       | 1.279  | 1.357                       | 1.334  | 1.978                        | 1.976  |
| 0.003       | 1.306                       | 1.271  | 1.293                       | 1.259  | 1.344                       | 1.314  | 1.970                        | 1.968  |
| 0.004       | 1.297                       | 1.253  | 1.284                       | 1.242  | 1.334                       | 1.297  | 1.963                        | 1.961  |
| 0.005       | 1.289                       | 1.238  | 1.277                       | 1.227  | 1.327                       | 1.282  | 1.958                        | 1.956  |
| 0.006       | 1.284                       | 1.224  | 1.271                       | 1.213  | 1.320                       | 1.268  | 1.953                        | 1.951  |
| 0.007       | 1.279                       | 1.211  | 1.266                       | 1.200  | 1.315                       | 1.256  | 1.949                        | 1.947  |
| 0.008       | 1.275                       | 1.198  | 1.262                       | 1.187  | 1.310                       | 1.243  | 1.946                        | 1.943  |
| 0.009       | 1.271                       | 1.185  | 1.259                       | 1.175  | 1.307                       | 1.231  | 1.942                        | 1.939  |
| 0.010       | 1.268                       | 1.173  | 1.256                       | 1.163  | 1.303                       | 1.219  | 1.939                        | 1.936  |
| 0.020       | 1.248                       | 1.059  | 1.236                       | 1.051  | 1.281                       | 1.110  | 1.918                        | 1.913  |
| 0.030       | 1.238                       | 0.917  | 1.226                       | 0.911  | 1.270                       | 0.974  | 1.906                        | 1.898  |
| 0.040       | 1.234                       | 0.765  | 1.222                       | 0.762  | 1.265                       | 0.826  | 1.899                        | 1.887  |
| 0.050       | 1.235                       | 0.629  | 1.223                       | 0.626  | 1.265                       | 0.688  | 1.893                        | 1.877  |
| 0.060       | 1.233                       | 0.510  | 1.220                       | 0.509  | 1.262                       | 0.566  | 1.889                        | 1.869  |
| 0.070       | 1.232                       | 0.420  | 1.219                       | 0.419  | 1.261                       | 0.471  | 1.886                        | 1.868  |
| 0.080       | 1.232                       | 0.340  | 1.219                       | 0.339  | 1.261                       | 0.385  | 1.883                        | 1.862  |
| 0.090       | 1.232                       | 0.276  | 1.220                       | 0.276  | 1.261                       | 0.315  | 1.882                        | 1.856  |
| 0.100       | 1.234                       | 0.227  | 1.222                       | 0.227  | 1.263                       | 0.260  | 1.881                        | 1.851  |
| 0.200       | 1.267                       | 0.050  | 1.254                       | 0.050  | 1.295                       | 0.058  | 1.887                        | 1.797  |
| 0.300       | 1.288                       | 0.019  | 1.275                       | 0.019  | 1.316                       | 0.022  | 1.903                        | 1.728  |
| 0.400       | 1.312                       | 0.009  | 1.299                       | 0.009  | 1.341                       | 0.011  | 1.925                        | 1.642  |
| 0.500       | 1.338                       | 0.005  | 1.324                       | 0.005  | 1.367                       | 0.006  | 1.949                        | 1.543  |
| 0.600       | 1.363                       | 0.003  | 1.349                       | 0.003  | 1.393                       | 0.004  | 1.974                        | 1.436  |
| 0.700       | 1.388                       | 0.002  | 1.374                       | 0.002  | 1.419                       | 0.003  | 2.002                        | 1.328  |
| 0.800       | 1.413                       | 0.002  | 1.399                       | 0.002  | 1.445                       | 0.002  | 2.026                        | 1.221  |
| 0.900       | 1.437                       | 0.001  | 1.423                       | 0.001  | 1.470                       | 0.002  | 2.052                        | 1.120  |
| 1.000       | 1.461                       | 0.001  | 1.447                       | 0.001  | 1.494                       | 0.001  | 2.077                        | 1.025  |

| Electrolyte | KBrO <sub>3</sub> |          | KCHO <sub>2</sub> |         | KC <sub>2</sub> H <sub>3</sub> O <sub>2</sub> |         | K <sub>2</sub> CO <sub>3</sub> |         |
|-------------|-------------------|----------|-------------------|---------|---|---------|--------------------------------|---------|
|             | $\Delta^0=129.3$  | $a=2.57$ | $\Delta^0=128.6$  | $a=3.3$ | $\Delta^0=114.5$                              | $a=3.8$ | $\Delta^0=142.8$               | $a=3.8$ |
| Conc.       | Dof               | Dpikal   | Dof               | Dpikal  | Dof   | Dpikal  | Dof                            | Dpikal  |
| 0.000       | 1.689             | 1.689    | 1.677             | 1.677   | 1.401   | 1.401   | 1.424                          | 1.425   |
| 0.001       | 1.662             | 1.661    | 1.651             | 1.649   | 1.379   | 1.377   | 1.354                          | 1.344   |
| 0.002       | 1.653             | 1.651    | 1.641             | 1.640   | 1.371   | 1.369   | 1.332                          | 1.311   |
| 0.003       | 1.646             | 1.644    | 1.635             | 1.633   | 1.365   | 1.363   | 1.317                          | 1.286   |
| 0.004       | 1.641             | 1.639    | 1.630             | 1.627   | 1.360   | 1.358   | 1.306                          | 1.264   |
| 0.005       | 1.636             | 1.634    | 1.625             | 1.623   | 1.356   | 1.354   | 1.297                          | 1.243   |
| 0.006       | 1.632             | 1.630    | 1.621             | 1.619   | 1.353   | 1.351   | 1.290                          | 1.235   |
| 0.007       | 1.629             | 1.626    | 1.618             | 1.615   | 1.350   | 1.347   | 1.284                          | 1.218   |
| 0.008       | 1.625             | 1.623    | 1.615             | 1.612   | 1.348   | 1.345   | 1.279                          | 1.202   |
| 0.009       | 1.622             | 1.620    | 1.612             | 1.609   | 1.345   | 1.342   | 1.274                          | 1.186   |
| 0.010       | 1.620             | 1.617    | 1.609             | 1.606   | 1.343   | 1.340   | 1.270                          | 1.170   |
| 0.020       | 1.600             | 1.595    | 1.591             | 1.586   | 1.329   | 1.322   | 1.244                          | 1.019   |
| 0.030       | 1.588             | 1.581    | 1.573             | 1.573   | 1.320   | 1.310   | 1.229                          | 0.906   |
| 0.040       | 1.579             | 1.570    | 1.574             | 1.563   | 1.315   | 1.300   | 1.221                          | 0.767   |
| 0.050       | 1.573             | 1.561    | 1.570             | 1.554   | 1.311   | 1.297   | 1.217                          | 0.641   |
| 0.060       | 1.569             | 1.553    | 1.566             | 1.546   | 1.308   | 1.290   | 1.216                          | 0.530   |
| 0.070       | 1.565             | 1.546    | 1.563             | 1.539   | 1.306   | 1.284   | 1.212                          | 0.439   |
| 0.080       | 1.563             | 1.539    | 1.561             | 1.532   | 1.304   | 1.278   | 1.211                          | 0.364   |
| 0.090       | 1.562             | 1.533    | 1.559             | 1.526   | 1.303   | 1.272   | 1.210                          | 0.304   |
| 0.100       | 1.560             | 1.528    | 1.558             | 1.520   | 1.303   | 1.266   | 1.210                          | 0.263   |
| 0.200       | 1.555             | 1.475    | 1.561             | 1.479   | 1.307   | 1.197   | 1.228                          | 0.063   |
| 0.300       | 1.565             | 1.422    | 1.574             | 1.417   | 1.318   | 1.105   | 1.251                          | 0.025   |
| 0.400       | 1.581             | 1.362    | 1.590             | 1.340   | 1.332   | 0.997   | 1.272                          | 0.012   |
| 0.500       | 1.597             | 1.296    | 1.609             | 1.253   | 1.348   | 0.884   | 1.294                          | 0.007   |
| 0.600       | 1.615             | 1.227    | 1.629             | 1.160   | 1.365   | 0.774   | 1.317                          | 0.005   |
| 0.700       | 1.634             | 1.156    | 1.651             | 1.066   | 1.384   | 0.673   | 1.340                          | 0.003   |
| 0.800       | 1.655             | 1.084    | 1.672             | 0.975   | 1.400   | 0.583   | 1.363                          | 0.002   |
| 0.900       | 1.676             | 1.014    | 1.696             | 0.889   | 1.417   | 0.506   | 1.386                          | 0.002   |
| 1.000       | 1.698             | 0.947    | 1.717             | 0.809   | 1.434   | 0.440   | 1.409                          | 0.001   |

| Electrolyte | K <sub>2</sub> C <sub>2</sub> O <sub>4</sub> |         | KCl              |         | KClO <sub>3</sub> |         | KClO <sub>4</sub> |          |
|-------------|--|---------|------------------|---------|-------------------|---------|-------------------|----------|
|             | $\Delta^0=122.3$                             | $a=3.8$ | $\Delta^0=149.8$ | $a=3.8$ | $\Delta^0=138.1$  | $a=3.3$ | $\Delta^0=140.8$  | $a=4.95$ |
| Conc.       | Dof  | Dpikal  | Dof              | Dpikal  | Dof               | Dpikal  | Dof               | Dpikal   |
| 0.000       | 1.171  | 1.171   | 1.993            | 1.993   | 1.830             | 1.831   | 1.870             | 1.870    |
| 0.001       | 1.112  | 1.097   | 1.963            | 1.961   | 1.803             | 1.801   | 1.843             | 1.841    |
| 0.002       | 1.093  | 1.063   | 1.951            | 1.950   | 1.792             | 1.791   | 1.833             | 1.831    |
| 0.003       | 1.081  | 1.037   | 1.944            | 1.942   | 1.785             | 1.783   | 1.827             | 1.825    |
| 0.004       | 1.073  | 1.013   | 1.938            | 1.935   | 1.780             | 1.777   | 1.822             | 1.820    |
| 0.005       | 1.066  | 0.991   | 1.932            | 1.930   | 1.775             | 1.772   | 1.818             | 1.816    |
| 0.006       | 1.060  | 0.983   | 1.928            | 1.925   | 1.770             | 1.768   | 1.814             | 1.812    |
| 0.007       | 1.056  | 0.965   | 1.924            | 1.921   | 1.766             | 1.764   | 1.812             | 1.809    |
| 0.008       | 1.052  | 0.947   | 1.920            | 1.917   | 1.763             | 1.760   | 1.809             | 1.807    |
| 0.009       | 1.048  | 0.929   | 1.917            | 1.914   | 1.760             | 1.757   | 1.807             | 1.804    |
| 0.010       | 1.045  | 0.911   | 1.914            | 1.911   | 1.757             | 1.754   | 1.805             | 1.802    |
| 0.020       | 1.026  | 0.745   | 1.893            | 1.888   | 1.738             | 1.733   | 1.795             | 1.789    |
| 0.030       | 1.015  | 0.630   | 1.881            | 1.873   | 1.726             | 1.719   | 1.791             | 1.783    |
| 0.040       | 1.009  | 0.501   | 1.872            | 1.862   | 1.719             | 1.708   | 1.791             | 1.779    |
| 0.050       | 1.007  | 0.395   | 1.867            | 1.852   | 1.714             | 1.699   | 1.792             | 1.777    |
| 0.060       | 1.007  | 0.312   | 1.862            | 1.843   | 1.710             | 1.691   | 1.795             | 1.775    |
| 0.070       | 1.004  | 0.248   | 1.858            | 1.836   | 1.706             | 1.683   | 1.799             | 1.773    |
| 0.080       | 1.002  | 0.199   | 1.855            | 1.828   | 1.704             | 1.677   | 1.804             | 1.772    |
| 0.090       | 1.001  | 0.162   | 1.852            | 1.822   | 1.702             | 1.670   | 1.809             | 1.770    |
| 0.100       | 1.001  | 0.138   | 1.850            | 1.815   | 1.701             | 1.664   | 1.815             | 1.768    |
| 0.200       | 1.015  | 0.030   | 1.846            | 1.769   | 1.704             | 1.625   | 1.877             | 1.727    |
| 0.300       | 1.031  | 0.012   | 1.851            | 1.703   | 1.718             | 1.566   | 1.948             | 1.641    |
| 0.400       | 1.044  | 0.006   | 1.860            | 1.623   | 1.736             | 1.494   | 2.023             | 1.522    |
| 0.500       | 1.059  | 0.003   | 1.870            | 1.532   | 1.757             | 1.410   | 2.096             | 1.387    |
| 0.600       | 1.075  | 0.002   | 1.882            | 1.434   | 1.779             | 1.320   | 2.169             | 1.250    |
| 0.700       | 1.092  | 0.001   | 1.894            | 1.334   | 1.802             | 1.228   | 2.243             | 1.120    |
| 0.800       | 1.108  | 0.001   | 1.907            | 1.234   | 1.826             | 1.136   | 2.317             | 1.000    |
| 0.900       | 1.125  | 0.001   | 1.921            | 1.137   | 1.852             | 1.047   | 2.391             | 0.894    |
| 1.000       | 1.142  | 0.001   | 1.932            | 1.046   | 1.874             | 0.963   | 2.466             | 0.801    |

| Electrolyte | $K_2CrO_4$                   |        | KF                            |        | $K_3Fe(CN)_6$                |        | $K_4Fe(CN)_6$                |        |
|-------------|------------------------------|--------|-------------------------------|--------|------------------------------|--------|------------------------------|--------|
|             | $\Lambda^0=158.5$<br>$a=3.5$ |        | $\Lambda^0=128.9$<br>$a=2.96$ |        | $\Lambda^0=172.4$<br>$a=3.5$ |        | $\Lambda^0=181.6$<br>$a=3.5$ |        |
| Conc.       | Dof                          | Dpikal | Dof                           | Dpikal | Dof                          | Dpikal | Dof                          | Dpikal |
| 0.000       | 1.574                        | 1.574  | 1.682                         | 1.682  | 1.497                        | 1.497  | 1.456                        | 1.456  |
| 0.001       | 1.497                        | 1.488  | 1.656                         | 1.654  | 1.362                        | 1.439  | 1.274                        | 1.826  |
| 0.002       | 1.472                        | 1.459  | 1.646                         | 1.645  | 1.324                        | 1.449  | 1.231                        | 2.819  |
| 0.003       | 1.454                        | 1.435  | 1.640                         | 1.638  | 1.301                        | 1.481  | 1.207                        | 4.621  |
| 0.004       | 1.441                        | 1.415  | 1.635                         | 1.632  | 1.283                        | 1.509  | 1.191                        | 6.429  |
| 0.005       | 1.431                        | 1.397  | 1.630                         | 1.627  | 1.271                        | 1.529  | 1.183                        | 3.529  |
| 0.006       | 1.422                        | 1.380  | 1.626                         | 1.623  | 1.260                        | 1.537  | 1.167                        | 2.323  |
| 0.007       | 1.414                        | 1.355  | 1.622                         | 1.620  | 1.252                        | 1.529  | 1.154                        | 1.439  |
| 0.008       | 1.408                        | 1.339  | 1.619                         | 1.616  | 1.248                        | 1.506  | 1.143                        | 0.919  |
| 0.009       | 1.402                        | 1.323  | 1.616                         | 1.613  | 1.240                        | 0.655  | 1.134                        | 0.617  |
| 0.010       | 1.397                        | 1.307  | 1.613                         | 1.610  | 1.232                        | 0.601  | 1.126                        | 0.434  |
| 0.020       | 1.365                        | 1.188  | 1.595                         | 1.590  | 1.190                        | 0.272  | 1.098                        | 0.051  |
| 0.030       | 1.345                        | 1.056  | 1.584                         | 1.576  | 1.175                        | 0.155  | 1.072                        | 0.016  |
| 0.040       | 1.334                        | 0.929  | 1.576                         | 1.566  | 1.168                        | 0.090  | 1.065                        | 0.008  |
| 0.050       | 1.327                        | 0.807  | 1.571                         | 1.557  | 1.160                        | 0.057  | 1.067                        | 0.004  |
| 0.060       | 1.323                        | 0.728  | 1.567                         | 1.549  | 1.157                        | 0.038  | 1.074                        | 0.003  |
| 0.070       | 1.322                        | 0.625  | 1.565                         | 1.542  | 1.157                        | 0.027  | 1.085                        | 0.002  |
| 0.080       | 1.319                        | 0.536  | 1.562                         | 1.535  | 1.159                        | 0.021  | 1.108                        | 0.001  |
| 0.090       | 1.317                        | 0.459  | 1.560                         | 1.529  | 1.162                        | 0.016  | 1.110                        | 0.001  |
| 0.100       | 1.316                        | 0.394  | 1.558                         | 1.523  | 1.166                        | 0.012  | 1.113                        | 0.001  |
| 0.200       | 1.330                        | 0.110  | 1.558                         | 1.466  | 1.209                        | 0.002  | 1.180                        | 0.000  |
| 0.300       | 1.360                        | 0.044  | 1.571                         | 1.402  | 1.247                        | 0.001  | 1.254                        | 0.000  |
| 0.400       | 1.383                        | 0.022  | 1.585                         | 1.370  | 1.288                        | 0.000  | 1.322                        | 0.000  |
| 0.500       | 1.408                        | 0.013  | 1.603                         | 1.297  | 1.327                        | 0.000  | 1.383                        | 0.000  |
| 0.600       | 1.434                        | 0.009  | 1.622                         | 1.217  | 1.366                        | 0.000  | 1.439                        | 0.000  |
| 0.700       | 1.461                        | 0.006  | 1.643                         | 1.134  | 1.402                        | 0.000  | 2.362                        | 0.000  |
| 0.800       | 1.487                        | 0.004  | 1.664                         | 1.051  | 1.438                        | 0.000  | 2.538                        | 0.000  |
| 0.900       | 1.513                        | 0.003  | 1.686                         | 0.971  | 1.472                        | 0.000  | 2.709                        | 0.000  |
| 1.000       | 1.539                        | 0.003  | 1.708                         | 0.895  | 1.505                        | 0.000  | 2.876                        | 0.000  |

| Electrolyte | $KH_2AsO_4$                  |        | $KHCO_3$                     |        | $KH_2PO_4$                   |        | $K_2HPO_4$                   |        |
|-------------|------------------------------|--------|------------------------------|--------|------------------------------|--------|------------------------------|--------|
|             | $\Lambda^0=107.5$<br>$a=3.6$ |        | $\Lambda^0=118.0$<br>$a=3.8$ |        | $\Lambda^0=109.5$<br>$a=3.6$ |        | $\Lambda^0=130.5$<br>$a=3.5$ |        |
| Conc.       | Dof                          | Dpikal | Dof                          | Dpikal | Dof                          | Dpikal | Dof                          | Dpikal |
| 0.000       | 1.238                        | 1.238  | 1.476                        | 1.476  | 1.287                        | 1.287  | 1.282                        | 1.282  |
| 0.001       | 1.216                        | 1.215  | 1.452                        | 1.451  | 1.265                        | 1.264  | 1.218                        | 1.204  |
| 0.002       | 1.209                        | 1.207  | 1.444                        | 1.442  | 1.257                        | 1.255  | 1.198                        | 1.176  |
| 0.003       | 1.204                        | 1.201  | 1.438                        | 1.436  | 1.252                        | 1.250  | 1.185                        | 1.152  |
| 0.004       | 1.199                        | 1.197  | 1.433                        | 1.431  | 1.247                        | 1.245  | 1.175                        | 1.131  |
| 0.005       | 1.196                        | 1.193  | 1.429                        | 1.427  | 1.244                        | 1.241  | 1.167                        | 1.111  |
| 0.006       | 1.192                        | 1.189  | 1.426                        | 1.424  | 1.240                        | 1.238  | 1.161                        | 1.092  |
| 0.007       | 1.190                        | 1.186  | 1.423                        | 1.420  | 1.238                        | 1.235  | 1.155                        | 1.066  |
| 0.008       | 1.187                        | 1.184  | 1.420                        | 1.417  | 1.235                        | 1.232  | 1.151                        | 1.047  |
| 0.009       | 1.185                        | 1.181  | 1.418                        | 1.415  | 1.233                        | 1.229  | 1.146                        | 1.029  |
| 0.010       | 1.183                        | 1.179  | 1.416                        | 1.412  | 1.231                        | 1.227  | 1.143                        | 1.012  |
| 0.020       | 1.169                        | 1.161  | 1.401                        | 1.394  | 1.216                        | 1.209  | 1.122                        | 0.875  |
| 0.030       | 1.161                        | 1.149  | 1.392                        | 1.382  | 1.208                        | 1.197  | 1.107                        | 0.731  |
| 0.040       | 1.155                        | 1.139  | 1.387                        | 1.372  | 1.203                        | 1.187  | 1.099                        | 0.603  |
| 0.050       | 1.152                        | 1.130  | 1.383                        | 1.369  | 1.199                        | 1.178  | 1.095                        | 0.493  |
| 0.060       | 1.148                        | 1.121  | 1.380                        | 1.363  | 1.196                        | 1.170  | 1.093                        | 0.426  |
| 0.070       | 1.146                        | 1.113  | 1.378                        | 1.356  | 1.193                        | 1.162  | 1.094                        | 0.348  |
| 0.080       | 1.144                        | 1.116  | 1.376                        | 1.351  | 1.192                        | 1.165  | 1.091                        | 0.286  |
| 0.090       | 1.143                        | 1.110  | 1.375                        | 1.345  | 1.190                        | 1.159  | 1.090                        | 0.236  |
| 0.100       | 1.142                        | 1.104  | 1.374                        | 1.339  | 1.189                        | 1.152  | 1.089                        | 0.196  |
| 0.200       | 1.143                        | 1.032  | 1.380                        | 1.273  | 1.192                        | 1.083  | 1.101                        | 0.048  |
| 0.300       | 1.150                        | 0.940  | 1.391                        | 1.185  | 1.200                        | 0.993  | 1.126                        | 0.019  |
| 0.400       | 1.161                        | 0.834  | 1.407                        | 1.080  | 1.211                        | 0.888  | 1.141                        | 0.009  |
| 0.500       | 1.174                        | 0.726  | 1.424                        | 0.968  | 1.225                        | 0.780  | 1.159                        | 0.005  |
| 0.600       | 1.188                        | 0.624  | 1.442                        | 0.857  | 1.240                        | 0.676  | 1.178                        | 0.004  |
| 0.700       | 1.203                        | 0.533  | 1.462                        | 0.754  | 1.256                        | 0.583  | 1.197                        | 0.002  |
| 0.800       | 1.219                        | 0.455  | 1.480                        | 0.660  | 1.272                        | 0.501  | 1.217                        | 0.002  |
| 0.900       | 1.233                        | 0.389  | 1.497                        | 0.578  | 1.287                        | 0.431  | 1.237                        | 0.001  |
| 1.000       | 1.247                        | 0.334  | 1.515                        | 0.507  | 1.302                        | 0.372  | 1.256                        | 0.001  |

| Electrolyte | KHS                         |        | KI                           |        | KIO <sub>3</sub>             |        | KIO <sub>4</sub>             |        |
|-------------|-----------------------------|--------|------------------------------|--------|------------------------------|--------|------------------------------|--------|
|             | $\Delta^0=138.5$<br>$a=3.3$ |        | $\Delta^0=150.4$<br>$a=3.88$ |        | $\Delta^0=114.5$<br>$a=2.77$ |        | $\Delta^0=128.0$<br>$a=2.31$ |        |
| Conc.       | Dof                         | Dpikal | Dof                          | Dpikal | Dof                          | Dpikal | Dof                          | Dpikal |
| 0.000       | 1.836                       | 1.837  | 2.001                        | 2.001  | 1.401                        | 1.401  | 1.666                        | 1.666  |
| 0.001       | 1.808                       | 1.807  | 1.970                        | 1.969  | 1.378                        | 1.377  | 1.640                        | 1.639  |
| 0.002       | 1.798                       | 1.796  | 1.960                        | 1.958  | 1.370                        | 1.368  | 1.630                        | 1.629  |
| 0.003       | 1.791                       | 1.789  | 1.952                        | 1.950  | 1.364                        | 1.362  | 1.623                        | 1.622  |
| 0.004       | 1.785                       | 1.783  | 1.945                        | 1.943  | 1.360                        | 1.357  | 1.618                        | 1.617  |
| 0.005       | 1.780                       | 1.778  | 1.940                        | 1.938  | 1.356                        | 1.353  | 1.615                        | 1.612  |
| 0.006       | 1.776                       | 1.774  | 1.936                        | 1.933  | 1.352                        | 1.349  | 1.610                        | 1.608  |
| 0.007       | 1.772                       | 1.770  | 1.932                        | 1.929  | 1.349                        | 1.346  | 1.607                        | 1.604  |
| 0.008       | 1.769                       | 1.766  | 1.928                        | 1.925  | 1.346                        | 1.343  | 1.603                        | 1.600  |
| 0.009       | 1.766                       | 1.763  | 1.925                        | 1.922  | 1.344                        | 1.340  | 1.600                        | 1.597  |
| 0.010       | 1.763                       | 1.760  | 1.922                        | 1.919  | 1.342                        | 1.338  | 1.598                        | 1.595  |
| 0.020       | 1.743                       | 1.738  | 1.902                        | 1.897  | 1.325                        | 1.319  | 1.578                        | 1.573  |
| 0.030       | 1.732                       | 1.724  | 1.891                        | 1.882  | 1.315                        | 1.306  | 1.565                        | 1.559  |
| 0.040       | 1.724                       | 1.713  | 1.884                        | 1.874  | 1.308                        | 1.296  | 1.556                        | 1.548  |
| 0.050       | 1.719                       | 1.704  | 1.878                        | 1.866  | 1.303                        | 1.287  | 1.550                        | 1.538  |
| 0.060       | 1.715                       | 1.696  | 1.874                        | 1.859  | 1.300                        | 1.280  | 1.545                        | 1.529  |
| 0.070       | 1.712                       | 1.689  | 1.871                        | 1.853  | 1.297                        | 1.272  | 1.541                        | 1.521  |
| 0.080       | 1.709                       | 1.682  | 1.869                        | 1.847  | 1.296                        | 1.266  | 1.538                        | 1.514  |
| 0.090       | 1.708                       | 1.676  | 1.868                        | 1.841  | 1.294                        | 1.259  | 1.536                        | 1.507  |
| 0.100       | 1.706                       | 1.670  | 1.867                        | 1.836  | 1.292                        | 1.253  | 1.534                        | 1.505  |
| 0.200       | 1.709                       | 1.631  | 1.875                        | 1.778  | 1.289                        | 1.192  | 1.528                        | 1.456  |
| 0.300       | 1.724                       | 1.572  | 1.893                        | 1.702  | 1.298                        | 1.124  | 1.536                        | 1.407  |
| 0.400       | 1.742                       | 1.500  | 1.915                        | 1.607  | 1.310                        | 1.048  | 1.550                        | 1.354  |
| 0.500       | 1.762                       | 1.416  | 1.939                        | 1.499  | 1.323                        | 0.967  | 1.568                        | 1.296  |
| 0.600       | 1.785                       | 1.326  | 1.965                        | 1.385  | 1.338                        | 0.885  | 1.585                        | 1.235  |
| 0.700       | 1.808                       | 1.234  | 1.991                        | 1.271  | 1.354                        | 0.849  | 1.603                        | 1.171  |
| 0.800       | 1.832                       | 1.142  | 2.016                        | 1.160  | 1.371                        | 0.770  | 1.622                        | 1.107  |
| 0.900       | 1.858                       | 1.053  | 2.041                        | 1.056  | 1.389                        | 0.696  | 1.642                        | 1.044  |
| 1.000       | 1.880                       | 0.969  | 2.066                        | 0.960  | 1.406                        | 0.628  | 1.663                        | 0.982  |

| Electrolyte | KMnO <sub>4</sub>           |        | KNO <sub>2</sub>            |        | KNO <sub>3</sub>             |        | KOII                        |        |
|-------------|-----------------------------|--------|-----------------------------|--------|------------------------------|--------|-----------------------------|--------|
|             | $\Delta^0=136.3$<br>$a=3.3$ |        | $\Delta^0=145.5$<br>$a=3.0$ |        | $\Delta^0=144.92$<br>$a=3.5$ |        | $\Delta^0=271.1$<br>$a=3.3$ |        |
| Conc.       | Dof                         | Dpikal | Dof                         | Dpikal | Dof                          | Dpikal | Dof                         | Dpikal |
| 0.000       | 1.803                       | 1.803  | 1.936                       | 1.937  | 1.929                        | 1.929  | 2.852                       | 2.853  |
| 0.001       | 1.775                       | 1.774  | 1.907                       | 1.905  | 1.899                        | 1.897  | 2.803                       | 2.800  |
| 0.002       | 1.765                       | 1.764  | 1.896                       | 1.894  | 1.887                        | 1.886  | 2.784                       | 2.781  |
| 0.003       | 1.759                       | 1.756  | 1.888                       | 1.886  | 1.880                        | 1.877  | 2.771                       | 2.767  |
| 0.004       | 1.753                       | 1.750  | 1.882                       | 1.879  | 1.873                        | 1.870  | 2.760                       | 2.756  |
| 0.005       | 1.748                       | 1.745  | 1.877                       | 1.874  | 1.867                        | 1.864  | 2.751                       | 2.747  |
| 0.006       | 1.744                       | 1.741  | 1.872                       | 1.869  | 1.861                        | 1.859  | 2.743                       | 2.739  |
| 0.007       | 1.740                       | 1.737  | 1.868                       | 1.865  | 1.857                        | 1.854  | 2.736                       | 2.731  |
| 0.008       | 1.737                       | 1.734  | 1.864                       | 1.861  | 1.852                        | 1.850  | 2.729                       | 2.725  |
| 0.009       | 1.734                       | 1.731  | 1.861                       | 1.858  | 1.848                        | 1.846  | 2.723                       | 2.719  |
| 0.010       | 1.731                       | 1.728  | 1.858                       | 1.855  | 1.845                        | 1.842  | 2.718                       | 2.713  |
| 0.020       | 1.712                       | 1.707  | 1.836                       | 1.831  | 1.817                        | 1.812  | 2.680                       | 2.672  |
| 0.030       | 1.700                       | 1.693  | 1.823                       | 1.816  | 1.797                        | 1.790  | 2.657                       | 2.645  |
| 0.040       | 1.693                       | 1.682  | 1.814                       | 1.804  | 1.782                        | 1.772  | 2.640                       | 2.625  |
| 0.050       | 1.688                       | 1.673  | 1.808                       | 1.794  | 1.769                        | 1.755  | 2.628                       | 2.608  |
| 0.060       | 1.684                       | 1.665  | 1.803                       | 1.786  | 1.758                        | 1.740  | 2.619                       | 2.594  |
| 0.070       | 1.681                       | 1.658  | 1.800                       | 1.779  | 1.747                        | 1.725  | 2.611                       | 2.582  |
| 0.080       | 1.678                       | 1.651  | 1.797                       | 1.772  | 1.736                        | 1.711  | 2.604                       | 2.570  |
| 0.090       | 1.677                       | 1.645  | 1.794                       | 1.765  | 1.727                        | 1.698  | 2.599                       | 2.560  |
| 0.100       | 1.675                       | 1.639  | 1.792                       | 1.759  | 1.718                        | 1.684  | 2.595                       | 2.550  |
| 0.200       | 1.678                       | 1.600  | 1.792                       | 1.704  | 1.643                        | 1.556  | 2.584                       | 2.480  |
| 0.300       | 1.693                       | 1.540  | 1.806                       | 1.644  | 1.579                        | 1.453  | 2.596                       | 2.382  |
| 0.400       | 1.710                       | 1.467  | 1.823                       | 1.614  | 1.518                        | 1.327  | 2.617                       | 2.255  |
| 0.500       | 1.731                       | 1.383  | 1.843                       | 1.544  | 1.460                        | 1.200  | 2.643                       | 2.104  |
| 0.600       | 1.752                       | 1.293  | 1.866                       | 1.466  | 1.404                        | 1.074  | 2.672                       | 1.936  |
| 0.700       | 1.775                       | 1.200  | 1.889                       | 1.384  | 1.348                        | 0.955  | 2.703                       | 1.763  |
| 0.800       | 1.799                       | 1.108  | 1.914                       | 1.300  | 1.293                        | 0.844  | 2.735                       | 1.592  |
| 0.900       | 1.824                       | 1.020  | 1.939                       | 1.217  | 1.239                        | 0.741  | 2.770                       | 1.429  |
| 1.000       | 1.846                       | 0.937  | 1.964                       | 1.136  | 1.186                        | 0.649  | 2.802                       | 1.279  |

| Electrolyte | KSCN                        |        | K <sub>2</sub> SO <sub>3</sub> |        | K <sub>2</sub> SO <sub>4</sub> |        | K <sub>2</sub> SeO <sub>4</sub> |        |
|-------------|-----------------------------|--------|--------------------------------|--------|--------------------------------|--------|---------------------------------|--------|
|             | $\Delta^0=140.0$<br>$a=3.3$ |        | $\Delta^0=145.5$<br>$a=3.8$    |        | $\Delta^0=153.3$<br>$a=3.0$    |        | $\Delta^0=149.2$<br>$a=3.5$     |        |
| Conc.       | Dof                         | Dpikal | Dof                            | Dpikal | Dof                            | Dpikal | Dof                             | Dpikal |
| 0.000       | 1.859                       | 1.859  | 1.452                          | 1.453  | 1.528                          | 1.528  | 1.489                           | 1.489  |
| 0.001       | 1.830                       | 1.829  | 1.381                          | 1.372  | 1.453                          | 1.446  | 1.416                           | 1.406  |
| 0.002       | 1.820                       | 1.818  | 1.358                          | 1.338  | 1.429                          | 1.410  | 1.393                           | 1.377  |
| 0.003       | 1.813                       | 1.811  | 1.343                          | 1.313  | 1.412                          | 1.384  | 1.377                           | 1.354  |
| 0.004       | 1.807                       | 1.805  | 1.332                          | 1.291  | 1.398                          | 1.362  | 1.365                           | 1.334  |
| 0.005       | 1.802                       | 1.799  | 1.323                          | 1.271  | 1.388                          | 1.348  | 1.355                           | 1.315  |
| 0.006       | 1.798                       | 1.795  | 1.315                          | 1.262  | 1.379                          | 1.330  | 1.347                           | 1.298  |
| 0.007       | 1.794                       | 1.791  | 1.309                          | 1.246  | 1.371                          | 1.313  | 1.340                           | 1.272  |
| 0.008       | 1.790                       | 1.788  | 1.304                          | 1.230  | 1.364                          | 1.297  | 1.334                           | 1.255  |
| 0.009       | 1.787                       | 1.784  | 1.299                          | 1.214  | 1.358                          | 1.280  | 1.329                           | 1.239  |
| 0.010       | 1.784                       | 1.781  | 1.295                          | 1.198  | 1.353                          | 1.265  | 1.324                           | 1.223  |
| 0.020       | 1.764                       | 1.760  | 1.267                          | 1.050  | 1.320                          | 1.115  | 1.295                           | 1.098  |
| 0.030       | 1.753                       | 1.745  | 1.252                          | 0.938  | 1.300                          | 1.009  | 1.277                           | 0.960  |
| 0.040       | 1.745                       | 1.734  | 1.244                          | 0.800  | 1.286                          | 0.884  | 1.267                           | 0.830  |
| 0.050       | 1.740                       | 1.725  | 1.239                          | 0.672  | 1.277                          | 0.762  | 1.261                           | 0.709  |
| 0.060       | 1.736                       | 1.717  | 1.238                          | 0.559  | 1.271                          | 0.661  | 1.258                           | 0.631  |
| 0.070       | 1.733                       | 1.710  | 1.235                          | 0.465  | 1.267                          | 0.572  | 1.257                           | 0.534  |
| 0.080       | 1.730                       | 1.703  | 1.233                          | 0.388  | 1.265                          | 0.520  | 1.254                           | 0.451  |
| 0.090       | 1.728                       | 1.697  | 1.232                          | 0.324  | 1.267                          | 0.451  | 1.252                           | 0.382  |
| 0.100       | 1.727                       | 1.691  | 1.232                          | 0.282  | 1.264                          | 0.391  | 1.251                           | 0.325  |
| 0.200       | 1.730                       | 1.652  | 1.251                          | 0.068  | 1.267                          | 0.118  | 1.266                           | 0.087  |
| 0.300       | 1.744                       | 1.593  | 1.275                          | 0.027  | 1.292                          | 0.049  | 1.294                           | 0.034  |
| 0.400       | 1.762                       | 1.521  | 1.296                          | 0.013  | 1.323                          | 0.025  | 1.315                           | 0.017  |
| 0.500       | 1.783                       | 1.438  | 1.319                          | 0.008  | 1.345                          | 0.015  | 1.338                           | 0.010  |
| 0.600       | 1.806                       | 1.348  | 1.343                          | 0.005  | 1.368                          | 0.010  | 1.362                           | 0.007  |
| 0.700       | 1.829                       | 1.255  | 1.367                          | 0.003  | 1.393                          | 0.007  | 1.387                           | 0.005  |
| 0.800       | 1.853                       | 1.163  | 1.390                          | 0.003  | 1.418                          | 0.005  | 1.411                           | 0.003  |
| 0.900       | 1.880                       | 1.074  | 1.414                          | 0.002  | 1.444                          | 0.004  | 1.436                           | 0.002  |
| 1.000       | 1.903                       | 0.990  | 1.437                          | 0.001  | 1.469                          | 0.003  | 1.460                           | 0.002  |

| Electrolyte | LaBr <sub>3</sub>           |        | La(C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> ) <sub>3</sub> |        | LaCl <sub>3</sub>            |        | La(ClO <sub>4</sub> ) <sub>3</sub> |        |
|-------------|-----------------------------|--------|--|--------|------------------------------|--------|------------------------------------|--------|
|             | $\Delta^0=148.1$<br>$a=6.0$ |        | $\Delta^0=110.7$<br>$a=6.8$                                    |        | $\Delta^0=146.0$<br>$a=5.75$ |        | $\Delta^0=137.0$<br>$a=6.3$        |        |
| Conc.       | Dof                         | Dpikal | Dof  | Dpikal | Dof                          | Dpikal | Dof                                | Dpikal |
| 0.000       | 1.310                       | 1.310  | 0.916  | 0.916  | 1.293                        | 1.294  | 1.167                              | 1.167  |
| 0.001       | 1.218                       | 1.143  | 0.847  | 0.820  | 1.192                        | 1.116  | 1.088                              | 1.018  |
| 0.002       | 1.201                       | 1.064  | 0.834  | 0.775  | 1.166                        | 1.039  | 1.074                              | 0.952  |
| 0.003       | 1.194                       | 0.995  | 0.825  | 0.730  | 1.152                        | 0.958  | 1.068                              | 0.877  |
| 0.004       | 1.186                       | 0.911  | 0.820  | 0.678  | 1.137                        | 0.874  | 1.061                              | 0.797  |
| 0.005       | 1.180                       | 0.823  | 0.816  | 0.621  | 1.125                        | 0.800  | 1.057                              | 0.713  |
| 0.006       | 1.177                       | 0.734  | 0.813  | 0.561  | 1.114                        | 0.715  | 1.055                              | 0.639  |
| 0.007       | 1.174                       | 0.649  | 0.811  | 0.509  | 1.106                        | 0.632  | 1.053                              | 0.560  |
| 0.008       | 1.173                       | 0.579  | 0.810  | 0.452  | 1.098                        | 0.556  | 1.052                              | 0.487  |
| 0.009       | 1.172                       | 0.506  | 0.810  | 0.399  | 1.091                        | 0.486  | 1.052                              | 0.422  |
| 0.010       | 1.171                       | 0.441  | 0.809  | 0.351  | 1.085                        | 0.424  | 1.055                              | 0.365  |
| 0.020       | 1.169                       | 0.127  | 0.805  | 0.104  | 1.035                        | 0.121  | 1.051                              | 0.101  |
| 0.030       | 1.173                       | 0.050  | 0.809  | 0.041  | 1.001                        | 0.047  | 1.057                              | 0.039  |
| 0.040       | 1.182                       | 0.025  | 0.814  | 0.021  | 0.977                        | 0.023  | 1.070                              | 0.020  |
| 0.050       | 1.192                       | 0.014  | 0.816  | 0.012  | 0.962                        | 0.013  | 1.072                              | 0.011  |
| 0.060       | 1.195                       | 0.009  | 0.819  | 0.008  | 0.942                        | 0.008  | 1.075                              | 0.007  |
| 0.070       | 1.199                       | 0.006  | 0.822  | 0.005  | 0.927                        | 0.005  | 1.078                              | 0.005  |
| 0.080       | 1.203                       | 0.004  | 0.826  | 0.004  | 0.914                        | 0.004  | 1.082                              | 0.003  |
| 0.090       | 1.207                       | 0.003  | 0.829  | 0.003  | 0.904                        | 0.003  | 1.087                              | 0.003  |
| 0.100       | 1.212                       | 0.003  | 0.832  | 0.002  | 0.897                        | 0.002  | 1.091                              | 0.002  |
| 0.200       | 1.257                       | 0.000  | 0.863  | 0.000  | 0.905                        | 0.000  | 1.132                              | 0.000  |
| 0.300       | 1.296                       | 0.000  | 0.888  | 0.000  | 1.005                        | 0.000  | 1.166                              | 0.000  |
| 0.400       | 1.604                       | 0.000  | 1.061  | 0.000  | 1.163                        | 0.000  | 1.452                              | 0.000  |
| 0.500       | 1.693                       | 0.000  | 1.111  | 0.000  | 1.697                        | 0.000  | 1.531                              | 0.000  |
| 0.600       | 1.775                       | 0.000  | 1.157  | 0.000  | 2.047                        | 0.000  | 1.605                              | 0.000  |
| 0.700       | 1.853                       | 0.000  | 1.200  | 0.000  | 2.445                        | 0.000  | 1.675                              | 0.000  |
| 0.800       | 1.928                       | 0.000  | 1.241  | 0.000  | 2.889                        | 0.000  | 1.742                              | 0.000  |
| 0.900       | 2.000                       | 0.000  | 1.281  | 0.000  | 3.375                        | 0.000  | 1.806                              | 0.000  |
| 1.000       | 2.070                       | 0.000  | 1.320  | 0.000  | 3.901                        | 0.000  | 1.869                              | 0.000  |

| Electrolyte | LiBrO <sub>3</sub>          |        | LiCHO <sub>2</sub>          |        | LiC <sub>2</sub> H <sub>3</sub> O <sub>2</sub> |        | LiCl                          |        |
|-------------|-----------------------------|--------|-----------------------------|--------|--|--------|-------------------------------|--------|
|             | $\Delta^0=94.48$<br>$a=4.8$ |        | $\Delta^0=93.78$<br>$a=4.8$ |        | $\Delta^0=79.68$<br>$a=5.3$                    |        | $\Delta^0=114.98$<br>$a=4.25$ |        |
| Conc.       | Dof                         | Dpikal | Dof                         | Dpikal | Dof  | Dpikal | Dof                           | Dpikal |
| 0.000       | 1.216                       | 1.216  | 1.210                       | 1.210  | 1.060  | 1.060  | 1.319                         | 1.319  |
| 0.001       | 1.198                       | 1.197  | 1.192                       | 1.191  | 1.045  | 1.044  | 1.297                         | 1.295  |
| 0.002       | 1.192                       | 1.190  | 1.186                       | 1.184  | 1.040  | 1.039  | 1.289                         | 1.287  |
| 0.003       | 1.187                       | 1.186  | 1.181                       | 1.180  | 1.036  | 1.035  | 1.284                         | 1.282  |
| 0.004       | 1.184                       | 1.182  | 1.178                       | 1.176  | 1.033  | 1.032  | 1.279                         | 1.277  |
| 0.005       | 1.181                       | 1.179  | 1.175                       | 1.173  | 1.031  | 1.030  | 1.276                         | 1.274  |
| 0.006       | 1.178                       | 1.177  | 1.172                       | 1.171  | 1.029  | 1.028  | 1.273                         | 1.270  |
| 0.007       | 1.176                       | 1.174  | 1.170                       | 1.168  | 1.028  | 1.026  | 1.270                         | 1.268  |
| 0.008       | 1.174                       | 1.172  | 1.168                       | 1.166  | 1.026  | 1.025  | 1.268                         | 1.266  |
| 0.009       | 1.173                       | 1.171  | 1.167                       | 1.165  | 1.025  | 1.023  | 1.266                         | 1.263  |
| 0.010       | 1.171                       | 1.169  | 1.165                       | 1.163  | 1.024  | 1.022  | 1.264                         | 1.261  |
| 0.020       | 1.162                       | 1.157  | 1.156                       | 1.151  | 1.017  | 1.013  | 1.253                         | 1.247  |
| 0.030       | 1.157                       | 1.149  | 1.151                       | 1.143  | 1.014  | 1.006  | 1.247                         | 1.239  |
| 0.040       | 1.153                       | 1.142  | 1.148                       | 1.137  | 1.012  | 1.000  | 1.244                         | 1.232  |
| 0.050       | 1.151                       | 1.136  | 1.146                       | 1.131  | 1.011  | 0.995  | 1.242                         | 1.227  |
| 0.060       | 1.150                       | 1.131  | 1.144                       | 1.125  | 1.010  | 0.990  | 1.242                         | 1.222  |
| 0.070       | 1.149                       | 1.125  | 1.144                       | 1.119  | 1.010  | 0.984  | 1.242                         | 1.217  |
| 0.080       | 1.149                       | 1.119  | 1.143                       | 1.114  | 1.011  | 0.978  | 1.243                         | 1.213  |
| 0.090       | 1.149                       | 1.113  | 1.144                       | 1.107  | 1.012  | 0.971  | 1.244                         | 1.208  |
| 0.100       | 1.150                       | 1.106  | 1.144                       | 1.101  | 1.012  | 0.965  | 1.245                         | 1.203  |
| 0.200       | 1.158                       | 1.022  | 1.152                       | 1.017  | 1.022  | 0.873  | 1.270                         | 1.135  |
| 0.300       | 1.172                       | 0.908  | 1.166                       | 0.904  | 1.035  | 0.756  | 1.301                         | 1.032  |
| 0.400       | 1.187                       | 0.784  | 1.181                       | 0.781  | 1.050  | 0.636  | 1.336                         | 0.909  |
| 0.500       | 1.203                       | 0.665  | 1.197                       | 0.662  | 1.063  | 0.528  | 1.372                         | 0.783  |
| 0.600       | 1.218                       | 0.560  | 1.212                       | 0.558  | 1.077  | 0.437  | 1.408                         | 0.667  |
| 0.700       | 1.233                       | 0.471  | 1.227                       | 0.469  | 1.091  | 0.363  | 1.444                         | 0.565  |
| 0.800       | 1.248                       | 0.397  | 1.242                       | 0.397  | 1.105  | 0.304  | 1.480                         | 0.480  |
| 0.900       | 1.264                       | 0.338  | 1.258                       | 0.337  | 1.119  | 0.257  | 1.516                         | 0.409  |
| 1.000       | 1.279                       | 0.289  | 1.273                       | 0.288  | 1.133  | 0.220  | 1.552                         | 0.351  |

| Electrolyte | LiClO <sub>3</sub>           |        | LiClO <sub>4</sub>           |        | Li <sub>2</sub> CrO <sub>4</sub> |        | LiF                          |        |
|-------------|------------------------------|--------|------------------------------|--------|----------------------------------|--------|------------------------------|--------|
|             | $\Delta^0=103.28$<br>$a=4.8$ |        | $\Delta^0=105.98$<br>$a=5.0$ |        | $\Delta^0=123.68$<br>$a=5.0$     |        | $\Delta^0=94.08$<br>$a=3.72$ |        |
| Conc.       | Dof                          | Dpikal | Dof                          | Dpikal | Dof                              | Dpikal | Dof                          | Dpikal |
| 0.000       | 1.288                        | 1.288  | 1.264                        | 1.264  | 1.061                            | 1.062  | 1.213                        | 1.213  |
| 0.001       | 1.268                        | 1.267  | 1.244                        | 1.243  | 1.012                            | 1.009  | 1.194                        | 1.193  |
| 0.002       | 1.261                        | 1.260  | 1.237                        | 1.236  | 0.997                            | 0.992  | 1.188                        | 1.186  |
| 0.003       | 1.256                        | 1.254  | 1.232                        | 1.231  | 0.987                            | 0.977  | 1.183                        | 1.182  |
| 0.004       | 1.252                        | 1.250  | 1.229                        | 1.227  | 0.980                            | 0.966  | 1.180                        | 1.178  |
| 0.005       | 1.249                        | 1.247  | 1.226                        | 1.224  | 0.974                            | 0.957  | 1.177                        | 1.175  |
| 0.006       | 1.246                        | 1.244  | 1.223                        | 1.221  | 0.970                            | 0.948  | 1.174                        | 1.172  |
| 0.007       | 1.244                        | 1.242  | 1.221                        | 1.219  | 0.966                            | 0.940  | 1.172                        | 1.169  |
| 0.008       | 1.242                        | 1.239  | 1.220                        | 1.217  | 0.963                            | 0.932  | 1.170                        | 1.167  |
| 0.009       | 1.240                        | 1.237  | 1.218                        | 1.215  | 0.960                            | 0.930  | 1.168                        | 1.165  |
| 0.010       | 1.238                        | 1.236  | 1.217                        | 1.214  | 0.957                            | 0.923  | 1.166                        | 1.163  |
| 0.020       | 1.227                        | 1.222  | 1.209                        | 1.203  | 0.941                            | 0.853  | 1.155                        | 1.150  |
| 0.030       | 1.221                        | 1.213  | 1.206                        | 1.197  | 0.935                            | 0.774  | 1.149                        | 1.141  |
| 0.040       | 1.217                        | 1.206  | 1.206                        | 1.193  | 0.932                            | 0.688  | 1.145                        | 1.133  |
| 0.050       | 1.215                        | 1.199  | 1.206                        | 1.189  | 0.930                            | 0.620  | 1.143                        | 1.126  |
| 0.060       | 1.213                        | 1.193  | 1.208                        | 1.186  | 0.929                            | 0.536  | 1.140                        | 1.125  |
| 0.070       | 1.212                        | 1.186  | 1.210                        | 1.182  | 0.930                            | 0.458  | 1.139                        | 1.120  |
| 0.080       | 1.211                        | 1.180  | 1.213                        | 1.178  | 0.931                            | 0.390  | 1.138                        | 1.116  |
| 0.090       | 1.211                        | 1.173  | 1.216                        | 1.174  | 0.932                            | 0.332  | 1.137                        | 1.111  |
| 0.100       | 1.212                        | 1.167  | 1.220                        | 1.169  | 0.934                            | 0.283  | 1.137                        | 1.106  |
| 0.200       | 1.219                        | 1.076  | 1.260                        | 1.094  | 0.953                            | 0.074  | 1.144                        | 1.049  |
| 0.300       | 1.233                        | 0.953  | 1.307                        | 0.976  | 0.972                            | 0.030  | 1.154                        | 0.973  |
| 0.400       | 1.248                        | 0.818  | 1.356                        | 0.839  | 0.992                            | 0.015  | 1.168                        | 0.883  |
| 0.500       | 1.264                        | 0.689  | 1.403                        | 0.708  | 1.011                            | 0.009  | 1.183                        | 0.788  |
| 0.600       | 1.280                        | 0.576  | 1.452                        | 0.592  | 1.029                            | 0.006  | 1.199                        | 0.696  |
| 0.700       | 1.295                        | 0.480  | 1.500                        | 0.496  | 1.047                            | 0.004  | 1.216                        | 0.612  |
| 0.800       | 1.311                        | 0.402  | 1.549                        | 0.417  | 1.065                            | 0.003  | 1.231                        | 0.536  |
| 0.900       | 1.327                        | 0.339  | 1.597                        | 0.354  | 1.082                            | 0.002  | 1.246                        | 0.470  |
| 1.000       | 1.344                        | 0.288  | 1.646                        | 0.303  | 1.099                            | 0.002  | 1.261                        | 0.412  |

| Electrolyte | LiI                         |        | LiIO <sub>3</sub>         |        | LiNO <sub>2</sub>           |        | LiNO <sub>3</sub>          |        |
|-------------|-----------------------------|--------|---------------------------|--------|-----------------------------|--------|----------------------------|--------|
|             | $\Delta^0=115.58$<br>a=5.88 |        | $\Delta^0=79.68$<br>a=5.3 |        | $\Delta^0=110.68$<br>a=3.93 |        | $\Delta^0=110.1$<br>a=2.64 |        |
| Conc.       | Dof                         | Dpikal | Dof                       | Dpikal | Dof                         | Dpikal | Dof                        | Dpikal |
| 0.000       | 1.370                       | 1.370  | 1.060                     | 1.060  | 1.340                       | 1.340  | 1.336                      | 1.336  |
| 0.001       | 1.348                       | 1.347  | 1.045                     | 1.044  | 1.318                       | 1.317  | 1.314                      | 1.313  |
| 0.002       | 1.340                       | 1.339  | 1.040                     | 1.039  | 1.310                       | 1.308  | 1.306                      | 1.304  |
| 0.003       | 1.335                       | 1.333  | 1.036                     | 1.035  | 1.305                       | 1.303  | 1.300                      | 1.299  |
| 0.004       | 1.331                       | 1.329  | 1.033                     | 1.032  | 1.300                       | 1.298  | 1.296                      | 1.294  |
| 0.005       | 1.327                       | 1.325  | 1.031                     | 1.030  | 1.297                       | 1.294  | 1.292                      | 1.290  |
| 0.006       | 1.325                       | 1.322  | 1.029                     | 1.028  | 1.293                       | 1.291  | 1.289                      | 1.286  |
| 0.007       | 1.322                       | 1.320  | 1.028                     | 1.026  | 1.291                       | 1.288  | 1.286                      | 1.283  |
| 0.008       | 1.320                       | 1.317  | 1.026                     | 1.025  | 1.288                       | 1.285  | 1.283                      | 1.280  |
| 0.009       | 1.318                       | 1.315  | 1.025                     | 1.023  | 1.286                       | 1.283  | 1.281                      | 1.277  |
| 0.010       | 1.316                       | 1.313  | 1.024                     | 1.022  | 1.284                       | 1.281  | 1.279                      | 1.275  |
| 0.020       | 1.305                       | 1.299  | 1.017                     | 1.013  | 1.270                       | 1.264  | 1.263                      | 1.257  |
| 0.030       | 1.299                       | 1.289  | 1.014                     | 1.006  | 1.262                       | 1.255  | 1.253                      | 1.245  |
| 0.040       | 1.295                       | 1.280  | 1.012                     | 1.000  | 1.258                       | 1.247  | 1.246                      | 1.236  |
| 0.050       | 1.293                       | 1.273  | 1.011                     | 0.995  | 1.254                       | 1.240  | 1.242                      | 1.228  |
| 0.060       | 1.292                       | 1.265  | 1.010                     | 0.990  | 1.251                       | 1.233  | 1.238                      | 1.221  |
| 0.070       | 1.292                       | 1.256  | 1.010                     | 0.984  | 1.249                       | 1.227  | 1.235                      | 1.214  |
| 0.080       | 1.291                       | 1.247  | 1.011                     | 0.978  | 1.247                       | 1.221  | 1.234                      | 1.208  |
| 0.090       | 1.291                       | 1.238  | 1.012                     | 0.971  | 1.246                       | 1.216  | 1.233                      | 1.202  |
| 0.100       | 1.291                       | 1.228  | 1.012                     | 0.965  | 1.246                       | 1.210  | 1.231                      | 1.197  |
| 0.200       | 1.301                       | 1.090  | 1.022                     | 0.873  | 1.250                       | 1.138  | 1.227                      | 1.143  |
| 0.300       | 1.317                       | 0.910  | 1.035                     | 0.756  | 1.261                       | 1.042  | 1.235                      | 1.082  |
| 0.400       | 1.332                       | 0.731  | 1.050                     | 0.636  | 1.274                       | 0.929  | 1.247                      | 1.013  |
| 0.500       | 1.348                       | 0.578  | 1.063                     | 0.528  | 1.290                       | 0.812  | 1.259                      | 0.938  |
| 0.600       | 1.365                       | 0.457  | 1.077                     | 0.437  | 1.308                       | 0.701  | 1.273                      | 0.861  |
| 0.700       | 1.382                       | 0.364  | 1.091                     | 0.363  | 1.323                       | 0.602  | 1.288                      | 0.785  |
| 0.800       | 1.399                       | 0.294  | 1.105                     | 0.304  | 1.339                       | 0.516  | 1.304                      | 0.712  |
| 0.900       | 1.416                       | 0.240  | 1.119                     | 0.257  | 1.355                       | 0.443  | 1.320                      | 0.672  |
| 1.000       | 1.432                       | 0.199  | 1.133                     | 0.220  | 1.371                       | 0.382  | 1.337                      | 0.607  |

| Electrolyte | Li <sub>2</sub> SO <sub>4</sub> |        | MgBr <sub>2</sub>          |        | Mg(BrO <sub>3</sub> ) <sub>2</sub> |        | Mg(C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> ) <sub>2</sub> |        |
|-------------|---------------------------------|--------|----------------------------|--------|------------------------------------|--------|--|--------|
|             | $\Delta^0=118.48$<br>a=3.9      |        | $\Delta^0=131.46$<br>a=5.5 |        | $\Delta^0=108.86$<br>a=5.8         |        | $\Delta^0=94.06$<br>a=6.3                                      |        |
| Conc.       | Dof                             | Dpikal | Dof                        | Dpikal | Dof                                | Dpikal | Dof  | Dpikal |
| 0.000       | 1.003                           | 1.003  | 1.264                      | 1.264  | 1.086                              | 1.086  | 0.924  | 0.924  |
| 0.001       | 0.956                           | 0.952  | 1.210                      | 1.188  | 1.040                              | 1.028  | 0.884  | 0.878  |
| 0.002       | 0.941                           | 0.934  | 1.195                      | 1.161  | 1.028                              | 1.009  | 0.874  | 0.864  |
| 0.003       | 0.931                           | 0.920  | 1.186                      | 1.146  | 1.020                              | 0.995  | 0.868  | 0.853  |
| 0.004       | 0.923                           | 0.912  | 1.180                      | 1.129  | 1.015                              | 0.982  | 0.863  | 0.843  |
| 0.005       | 0.917                           | 0.902  | 1.175                      | 1.114  | 1.011                              | 0.971  | 0.860  | 0.834  |
| 0.006       | 0.912                           | 0.893  | 1.172                      | 1.100  | 1.009                              | 0.959  | 0.857  | 0.826  |
| 0.007       | 0.908                           | 0.885  | 1.169                      | 1.085  | 1.006                              | 0.948  | 0.855  | 0.823  |
| 0.008       | 0.904                           | 0.876  | 1.166                      | 1.071  | 1.003                              | 0.937  | 0.853  | 0.815  |
| 0.009       | 0.901                           | 0.869  | 1.163                      | 1.056  | 1.001                              | 0.925  | 0.851  | 0.806  |
| 0.010       | 0.898                           | 0.863  | 1.161                      | 1.041  | 0.999                              | 0.914  | 0.850  | 0.797  |
| 0.020       | 0.878                           | 0.790  | 1.150                      | 0.868  | 0.990                              | 0.786  | 0.844  | 0.683  |
| 0.030       | 0.868                           | 0.734  | 1.148                      | 0.690  | 0.988                              | 0.621  | 0.841  | 0.542  |
| 0.040       | 0.861                           | 0.662  | 1.146                      | 0.513  | 0.987                              | 0.466  | 0.841  | 0.412  |
| 0.050       | 0.858                           | 0.588  | 1.146                      | 0.376  | 0.988                              | 0.346  | 0.842  | 0.307  |
| 0.060       | 0.855                           | 0.520  | 1.147                      | 0.277  | 0.989                              | 0.257  | 0.843  | 0.233  |
| 0.070       | 0.852                           | 0.457  | 1.150                      | 0.207  | 0.992                              | 0.194  | 0.846  | 0.176  |
| 0.080       | 0.850                           | 0.414  | 1.152                      | 0.158  | 0.994                              | 0.149  | 0.849  | 0.135  |
| 0.090       | 0.849                           | 0.361  | 1.155                      | 0.123  | 0.997                              | 0.117  | 0.851  | 0.105  |
| 0.100       | 0.848                           | 0.315  | 1.158                      | 0.098  | 1.001                              | 0.093  | 0.852  | 0.084  |
| 0.200       | 0.851                           | 0.093  | 1.182                      | 0.019  | 1.020                              | 0.018  | 0.869  | 0.017  |
| 0.300       | 0.856                           | 0.038  | 1.206                      | 0.007  | 1.041                              | 0.007  | 0.887  | 0.006  |
| 0.400       | 0.860                           | 0.019  | 1.230                      | 0.003  | 1.062                              | 0.003  | 0.904  | 0.003  |
| 0.500       | 0.865                           | 0.011  | 1.253                      | 0.002  | 1.081                              | 0.002  | 0.921  | 0.002  |
| 0.600       | 0.869                           | 0.007  | 1.275                      | 0.001  | 1.100                              | 0.001  | 0.936  | 0.001  |
| 0.700       | 0.874                           | 0.005  | 1.296                      | 0.001  | 1.119                              | 0.001  | 1.029  | 0.001  |
| 0.800       | 0.879                           | 0.004  | 1.317                      | 0.001  | 1.137                              | 0.001  | 1.054  | 0.001  |
| 0.900       | 0.883                           | 0.003  | 1.337                      | 0.000  | 1.275                              | 0.000  | 1.078  | 0.000  |
| 1.000       | 0.887                           | 0.002  | 1.520                      | 0.000  | 1.304                              | 0.000  | 1.101  | 0.000  |

| Electrolyte | <b>MgC<sub>2</sub>O<sub>4</sub></b> |        | <b>MgCl<sub>2</sub></b>      |        | <b>Mg(ClO<sub>4</sub>)<sub>2</sub></b> |        | <b>MgCrO<sub>4</sub></b>     |        |
|-------------|-------------------------------------|--------|------------------------------|--------|--|--------|------------------------------|--------|
|             | $\Delta^0=101.86$<br>$a=6.3$        |        | $\Delta^0=129.36$<br>$a=5.5$ |        | $\Delta^0=120.36$<br>$a=5.8$           |        | $\Delta^0=138.06$<br>$a=6.0$ |        |
| Conc.       | Dof                                 | Dpikal | Dof                          | Dpikal | Dof                                    | Dpikal | Dof                          | Dpikal |
| 0.000       | 0.677                               | 0.677  | 1.249                        | 1.249  | 1.185                                  | 1.185  | 0.870                        | 0.870  |
| 0.001       | 0.574                               | 0.576  | 1.196                        | 1.176  | 1.135                                  | 1.118  | 0.738                        | 0.735  |
| 0.002       | 0.543                               | 0.542  | 1.181                        | 1.151  | 1.121                                  | 1.096  | 0.698                        | 0.691  |
| 0.003       | 0.523                               | 0.517  | 1.172                        | 1.131  | 1.113                                  | 1.079  | 0.672                        | 0.660  |
| 0.004       | 0.510                               | 0.497  | 1.165                        | 1.112  | 1.107                                  | 1.065  | 0.655                        | 0.636  |
| 0.005       | 0.500                               | 0.479  | 1.160                        | 1.096  | 1.103                                  | 1.051  | 0.642                        | 0.615  |
| 0.006       | 0.492                               | 0.467  | 1.157                        | 1.081  | 1.100                                  | 1.038  | 0.632                        | 0.598  |
| 0.007       | 0.486                               | 0.455  | 1.154                        | 1.067  | 1.097                                  | 1.025  | 0.625                        | 0.583  |
| 0.008       | 0.482                               | 0.444  | 1.151                        | 1.053  | 1.094                                  | 1.011  | 0.620                        | 0.569  |
| 0.009       | 0.480                               | 0.434  | 1.149                        | 1.039  | 1.092                                  | 0.998  | 0.617                        | 0.563  |
| 0.010       | 0.479                               | 0.425  | 1.147                        | 1.025  | 1.090                                  | 0.984  | 0.615                        | 0.553  |
| 0.020       | 0.507                               | 0.362  | 1.133                        | 0.886  | 1.080                                  | 0.835  | 0.652                        | 0.484  |
| 0.030       | 0.575                               | 0.320  | 1.130                        | 0.714  | 1.078                                  | 0.648  | 0.740                        | 0.432  |
| 0.040       | 0.666                               | 0.311  | 1.131                        | 0.551  | 1.077                                  | 0.479  | 0.857                        | 0.385  |
| 0.050       | 0.771                               | 0.282  | 1.130                        | 0.418  | 1.078                                  | 0.350  | 0.993                        | 0.342  |
| 0.060       | 0.890                               | 0.257  | 1.131                        | 0.322  | 1.080                                  | 0.257  | 1.142                        | 0.321  |
| 0.070       | 1.011                               | 0.235  | 1.133                        | 0.246  | 1.082                                  | 0.192  | 1.305                        | 0.286  |
| 0.080       | 1.138                               | 0.216  | 1.135                        | 0.190  | 1.085                                  | 0.147  | 1.470                        | 0.256  |
| 0.090       | 1.269                               | 0.199  | 1.138                        | 0.150  | 1.088                                  | 0.115  | 1.641                        | 0.230  |
| 0.100       | 1.405                               | 0.185  | 1.142                        | 0.119  | 1.092                                  | 0.091  | 1.817                        | 0.208  |
| 0.200       | 2.903                               | 0.105  | 1.173                        | 0.024  | 1.113                                  | 0.018  | 3.767                        | 0.099  |
| 0.300       | 4.533                               | 0.074  | 1.201                        | 0.009  | 1.136                                  | 0.006  | 5.895                        | 0.062  |
| 0.400       | 6.231                               | 0.056  | 1.229                        | 0.004  | 1.158                                  | 0.003  | 8.114                        | 0.043  |
| 0.500       | 7.972                               | 0.045  | 1.257                        | 0.003  | 1.179                                  | 0.002  | 10.390                       | 0.033  |
| 0.600       | 11.507                              | 0.038  | 1.285                        | 0.002  | 1.200                                  | 0.001  | 14.512                       | 0.026  |
| 0.700       | 13.880                              | 0.033  | 1.312                        | 0.001  | 1.220                                  | 0.001  | 17.461                       | 0.021  |
| 0.800       | 16.332                              | 0.029  | 1.339                        | 0.001  | 1.239                                  | 0.001  | 20.500                       | 0.018  |
| 0.900       | 18.856                              | 0.025  | 1.365                        | 0.001  | 1.393                                  | 0.000  | 23.618                       | 0.015  |
| 1.000       | 21.446                              | 0.023  | 1.390                        | 0.000  | 1.424                                  | 0.000  | 26.810                       | 0.013  |

| Electrolyte | <b>Mg<sub>2</sub>Fe(CN)<sub>6</sub></b> |        | <b>MgI<sub>2</sub></b>       |        | <b>Mg(IO<sub>3</sub>)<sub>2</sub></b> |        | <b>Mg(NO<sub>2</sub>)<sub>2</sub></b> |        |
|-------------|---|--------|------------------------------|--------|---------------------------------------|--------|---------------------------------------|--------|
|             | $\Delta^0=161.16$<br>$a=7.5$            |        | $\Delta^0=129.96$<br>$a=5.5$ |        | $\Delta^0=94.06$<br>$a=6.3$           |        | $\Delta^0=125.06$<br>$a=5.5$          |        |
| Conc.       | Dof                                     | Dpikal | Dof                          | Dpikal | Dof                                   | Dpikal | Dof                                   | Dpikal |
| 0.000       | 0.711                                   | 0.711  | 1.254                        | 1.254  | 0.924                                 | 0.924  | 1.220                                 | 1.220  |
| 0.001       | 0.728                                   | 0.624  | 1.201                        | 1.179  | 0.884                                 | 0.878  | 1.168                                 | 1.148  |
| 0.002       | 0.736                                   | 0.450  | 1.186                        | 1.153  | 0.874                                 | 0.864  | 1.154                                 | 1.123  |
| 0.003       | 0.743                                   | 0.336  | 1.177                        | 1.137  | 0.868                                 | 0.853  | 1.145                                 | 1.109  |
| 0.004       | 0.750                                   | 0.242  | 1.171                        | 1.121  | 0.863                                 | 0.843  | 1.139                                 | 1.093  |
| 0.005       | 0.752                                   | 0.182  | 1.166                        | 1.106  | 0.860                                 | 0.834  | 1.135                                 | 1.079  |
| 0.006       | 0.754                                   | 0.135  | 1.163                        | 1.092  | 0.857                                 | 0.826  | 1.131                                 | 1.066  |
| 0.007       | 0.756                                   | 0.104  | 1.160                        | 1.078  | 0.855                                 | 0.823  | 1.129                                 | 1.052  |
| 0.008       | 0.758                                   | 0.080  | 1.157                        | 1.064  | 0.853                                 | 0.815  | 1.126                                 | 1.039  |
| 0.009       | 0.760                                   | 0.065  | 1.154                        | 1.049  | 0.851                                 | 0.806  | 1.123                                 | 1.025  |
| 0.010       | 0.762                                   | 0.052  | 1.152                        | 1.034  | 0.850                                 | 0.797  | 1.121                                 | 1.011  |
| 0.020       | 0.772                                   | 0.011  | 1.141                        | 0.863  | 0.844                                 | 0.683  | 1.110                                 | 0.848  |
| 0.030       | 0.772                                   | 0.004  | 1.139                        | 0.687  | 0.841                                 | 0.542  | 1.108                                 | 0.678  |
| 0.040       | 0.773                                   | 0.002  | 1.137                        | 0.512  | 0.841                                 | 0.412  | 1.106                                 | 0.508  |
| 0.050       | 0.774                                   | 0.001  | 1.137                        | 0.375  | 0.842                                 | 0.307  | 1.107                                 | 0.374  |
| 0.060       | 0.776                                   | 0.001  | 1.138                        | 0.277  | 0.843                                 | 0.233  | 1.108                                 | 0.277  |
| 0.070       | 0.777                                   | 0.000  | 1.141                        | 0.208  | 0.846                                 | 0.176  | 1.110                                 | 0.208  |
| 0.080       | 0.779                                   | 0.000  | 1.143                        | 0.159  | 0.849                                 | 0.135  | 1.113                                 | 0.159  |
| 0.090       | 0.780                                   | 0.000  | 1.146                        | 0.123  | 0.851                                 | 0.105  | 1.116                                 | 0.124  |
| 0.100       | 0.781                                   | 0.000  | 1.150                        | 0.098  | 0.852                                 | 0.084  | 1.119                                 | 0.098  |
| 0.200       | 1.028                                   | 0.000  | 1.173                        | 0.019  | 0.869                                 | 0.017  | 1.142                                 | 0.019  |
| 0.300       | 1.116                                   | 0.000  | 1.197                        | 0.007  | 0.887                                 | 0.006  | 1.165                                 | 0.007  |
| 0.400       | 1.193                                   | 0.000  | 1.220                        | 0.003  | 0.904                                 | 0.003  | 1.188                                 | 0.004  |
| 0.500       | 1.263                                   | 0.000  | 1.243                        | 0.002  | 0.921                                 | 0.002  | 1.210                                 | 0.002  |
| 0.600       | 1.329                                   | 0.000  | 1.265                        | 0.001  | 0.936                                 | 0.001  | 1.232                                 | 0.001  |
| 0.700       | 1.391                                   | 0.000  | 1.286                        | 0.001  | 1.029                                 | 0.001  | 1.252                                 | 0.001  |
| 0.800       | 1.450                                   | 0.000  | 1.307                        | 0.001  | 1.054                                 | 0.001  | 1.273                                 | 0.001  |
| 0.900       | 1.508                                   | 0.000  | 1.327                        | 0.000  | 1.078                                 | 0.000  | 1.292                                 | 0.000  |
| 1.000       | 1.563                                   | 0.000  | 1.508                        | 0.000  | 1.101                                 | 0.000  | 1.467                                 | 0.000  |

| Electrolyte | <b>Mg(NO<sub>3</sub>)<sub>2</sub></b> |         | <b>MgSO<sub>4</sub></b> |         | <b>MgS<sub>2</sub>O<sub>3</sub></b> |         | <b>MnBr<sub>2</sub></b> |         |
|-------------|---------------------------------------|---------|-------------------------|---------|-------------------------------------|---------|-------------------------|---------|
|             | $\Delta^0=124.48$                     | $a=5.5$ | $\Delta^0=132.86$       | $a=3.9$ | $\Delta^0=140.46$                   | $a=6.0$ | $\Delta^0=131.9$        | $a=4.5$ |
| Conc.       | Dof                                   | Dpikal  | Dof                     | Dpikal  | Dof                                 | Dpikal  | Dof                     | Dpikal  |
| 0.000       | 1.216                                 | 1.216   | 0.848                   | 0.848   | 0.879                               | 0.879   | 1.270                   | 1.270   |
| 0.001       | 1.164                                 | 1.145   | 0.725                   | 0.762   | 0.746                               | 0.743   | 1.216                   | 1.193   |
| 0.002       | 1.150                                 | 1.120   | 0.688                   | 0.751   | 0.705                               | 0.698   | 1.200                   | 1.166   |
| 0.003       | 1.141                                 | 1.105   | 0.665                   | 0.696   | 0.679                               | 0.666   | 1.190                   | 1.145   |
| 0.004       | 1.135                                 | 1.090   | 0.650                   | 0.683   | 0.662                               | 0.642   | 1.183                   | 1.133   |
| 0.005       | 1.131                                 | 1.076   | 0.639                   | 0.672   | 0.648                               | 0.621   | 1.178                   | 1.118   |
| 0.006       | 1.127                                 | 1.062   | 0.632                   | 0.661   | 0.638                               | 0.604   | 1.173                   | 1.104   |
| 0.007       | 1.125                                 | 1.049   | 0.627                   | 0.652   | 0.631                               | 0.588   | 1.170                   | 1.090   |
| 0.008       | 1.122                                 | 1.036   | 0.624                   | 0.643   | 0.626                               | 0.574   | 1.167                   | 1.077   |
| 0.009       | 1.119                                 | 1.022   | 0.623                   | 0.634   | 0.623                               | 0.568   | 1.165                   | 1.063   |
| 0.010       | 1.117                                 | 1.008   | 0.624                   | 0.626   | 0.621                               | 0.558   | 1.164                   | 1.050   |
| 0.020       | 1.106                                 | 0.846   | 0.671                   | 0.541   | 0.659                               | 0.487   | 1.148                   | 0.898   |
| 0.030       | 1.105                                 | 0.677   | 0.772                   | 0.504   | 0.747                               | 0.434   | 1.143                   | 0.753   |
| 0.040       | 1.103                                 | 0.507   | 0.907                   | 0.473   | 0.865                               | 0.385   | 1.144                   | 0.595   |
| 0.050       | 1.103                                 | 0.374   | 1.055                   | 0.445   | 1.003                               | 0.341   | 1.142                   | 0.460   |
| 0.060       | 1.104                                 | 0.277   | 1.217                   | 0.460   | 1.154                               | 0.318   | 1.141                   | 0.354   |
| 0.070       | 1.106                                 | 0.208   | 1.391                   | 0.437   | 1.318                               | 0.282   | 1.142                   | 0.274   |
| 0.080       | 1.109                                 | 0.159   | 1.575                   | 0.415   | 1.484                               | 0.252   | 1.144                   | 0.215   |
| 0.090       | 1.112                                 | 0.124   | 1.767                   | 0.393   | 1.657                               | 0.226   | 1.146                   | 0.170   |
| 0.100       | 1.115                                 | 0.099   | 1.966                   | 0.372   | 1.836                               | 0.204   | 1.148                   | 0.137   |
| 0.200       | 1.138                                 | 0.019   | 4.180                   | 0.241   | 3.805                               | 0.096   | 1.177                   | 0.028   |
| 0.300       | 1.161                                 | 0.007   | 6.531                   | 0.160   | 5.955                               | 0.059   | 1.198                   | 0.010   |
| 0.400       | 1.184                                 | 0.004   | 8.979                   | 0.117   | 8.196                               | 0.041   | 1.222                   | 0.005   |
| 0.500       | 1.206                                 | 0.002   | 11.490                  | 0.090   | 10.496                              | 0.031   | 1.245                   | 0.003   |
| 0.600       | 1.227                                 | 0.001   | 14.044                  | 0.073   | 14.641                              | 0.025   | 1.268                   | 0.002   |
| 0.700       | 1.248                                 | 0.001   | 16.630                  | 0.060   | 17.615                              | 0.020   | 1.291                   | 0.001   |
| 0.800       | 1.268                                 | 0.001   | 19.242                  | 0.051   | 20.677                              | 0.017   | 1.313                   | 0.001   |
| 0.900       | 1.288                                 | 0.000   | 21.875                  | 0.044   | 23.820                              | 0.015   | 1.334                   | 0.001   |
| 1.000       | 1.462                                 | 0.000   | 24.525                  | 0.038   | 27.037                              | 0.013   | 1.356                   | 0.001   |

| Electrolyte | <b>MnCl<sub>2</sub></b> |         | <b>Mn(ClO<sub>4</sub>)<sub>2</sub></b> |         | <b>Mn(NO<sub>3</sub>)<sub>2</sub></b> |         | <b>MnSO<sub>4</sub></b> |         |
|-------------|-------------------------|---------|--|---------|---------------------------------------|---------|-------------------------|---------|
|             | $\Delta^0=129.8$        | $a=4.5$ | $\Delta^0=120.8$                       | $a=4.8$ | $\Delta^0=124.92$                     | $a=4.5$ | $\Delta^0=133.3$        | $a=5.0$ |
| Conc.       | Dof                     | Dpikal  | Dof                                    | Dpikal  | Dof                                   | Dpikal  | Dof                     | Dpikal  |
| 0.000       | 1.256                   | 1.256   | 1.190                                  | 1.190   | 1.221                                 | 1.222   | 0.853                   | 0.853   |
| 0.001       | 1.202                   | 1.181   | 1.140                                  | 1.123   | 1.170                                 | 1.150   | 0.726                   | 0.729   |
| 0.002       | 1.187                   | 1.154   | 1.125                                  | 1.100   | 1.154                                 | 1.124   | 0.687                   | 0.691   |
| 0.003       | 1.177                   | 1.133   | 1.116                                  | 1.083   | 1.145                                 | 1.105   | 0.663                   | 0.664   |
| 0.004       | 1.170                   | 1.122   | 1.110                                  | 1.068   | 1.138                                 | 1.094   | 0.646                   | 0.642   |
| 0.005       | 1.165                   | 1.107   | 1.105                                  | 1.050   | 1.133                                 | 1.080   | 0.635                   | 0.624   |
| 0.006       | 1.161                   | 1.093   | 1.101                                  | 1.037   | 1.129                                 | 1.067   | 0.627                   | 0.608   |
| 0.007       | 1.157                   | 1.080   | 1.098                                  | 1.024   | 1.126                                 | 1.054   | 0.620                   | 0.588   |
| 0.008       | 1.155                   | 1.066   | 1.096                                  | 1.012   | 1.123                                 | 1.041   | 0.616                   | 0.577   |
| 0.009       | 1.152                   | 1.053   | 1.094                                  | 0.999   | 1.121                                 | 1.029   | 0.613                   | 0.566   |
| 0.010       | 1.151                   | 1.040   | 1.091                                  | 0.987   | 1.120                                 | 1.016   | 0.612                   | 0.557   |
| 0.020       | 1.135                   | 0.891   | 1.078                                  | 0.863   | 1.104                                 | 0.874   | 0.653                   | 0.495   |
| 0.030       | 1.130                   | 0.748   | 1.074                                  | 0.706   | 1.099                                 | 0.737   | 0.746                   | 0.454   |
| 0.040       | 1.132                   | 0.592   | 1.074                                  | 0.555   | 1.101                                 | 0.586   | 0.865                   | 0.452   |
| 0.050       | 1.129                   | 0.459   | 1.073                                  | 0.427   | 1.098                                 | 0.456   | 1.003                   | 0.422   |
| 0.060       | 1.129                   | 0.354   | 1.073                                  | 0.327   | 1.098                                 | 0.353   | 1.156                   | 0.391   |
| 0.070       | 1.130                   | 0.274   | 1.074                                  | 0.256   | 1.099                                 | 0.274   | 1.319                   | 0.362   |
| 0.080       | 1.131                   | 0.215   | 1.076                                  | 0.200   | 1.100                                 | 0.215   | 1.491                   | 0.335   |
| 0.090       | 1.133                   | 0.171   | 1.078                                  | 0.158   | 1.102                                 | 0.171   | 1.671                   | 0.310   |
| 0.100       | 1.135                   | 0.137   | 1.081                                  | 0.126   | 1.104                                 | 0.138   | 1.862                   | 0.288   |
| 0.200       | 1.164                   | 0.028   | 1.106                                  | 0.025   | 1.132                                 | 0.028   | 3.855                   | 0.159   |
| 0.300       | 1.185                   | 0.010   | 1.127                                  | 0.010   | 1.153                                 | 0.011   | 6.029                   | 0.102   |
| 0.400       | 1.208                   | 0.005   | 1.150                                  | 0.005   | 1.176                                 | 0.005   | 8.295                   | 0.073   |
| 0.500       | 1.231                   | 0.003   | 1.172                                  | 0.003   | 1.198                                 | 0.003   | 10.619                  | 0.056   |
| 0.600       | 1.254                   | 0.002   | 1.193                                  | 0.002   | 1.220                                 | 0.002   | 12.984                  | 0.045   |
| 0.700       | 1.277                   | 0.001   | 1.214                                  | 0.001   | 1.242                                 | 0.001   | 15.380                  | 0.037   |
| 0.800       | 1.298                   | 0.001   | 1.235                                  | 0.001   | 1.264                                 | 0.001   | 17.801                  | 0.031   |
| 0.900       | 1.320                   | 0.001   | 1.255                                  | 0.001   | 1.284                                 | 0.001   | 24.429                  | 0.027   |
| 1.000       | 1.341                   | 0.001   | 1.274                                  | 0.001   | 1.305                                 | 0.001   | 27.787                  | 0.023   |

| Electrolyte | NH <sub>4</sub> Br        |        | NH <sub>4</sub> ClO <sub>2</sub> |        | NH <sub>4</sub> C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> |        | (NH <sub>4</sub> ) <sub>2</sub> C <sub>2</sub> O <sub>4</sub> |        |
|-------------|---------------------------|--------|----------------------------------|--------|--|--------|---|--------|
|             | $\Delta^0=152.1$<br>a=2.8 |        | $\Delta^0=128.8$<br>a=3.0        |        | $\Delta^0=114.7$<br>a=3.5                                    |        | $\Delta^0=122.5$<br>a=3.5                                     |        |
| Conc.       | Dof                       | Dpikal | Dof                              | Dpikal | Dof  | Dpikal | Dof   | Dpikal |
| 0.000       | 2.023                     | 2.023  | 1.679                            | 1.679  | 1.403  | 1.403  | 1.172   | 1.173  |
| 0.001       | 1.991                     | 1.990  | 1.653                            | 1.651  | 1.380  | 1.379  | 1.113   | 1.096  |
| 0.002       | 1.980                     | 1.978  | 1.643                            | 1.641  | 1.372  | 1.370  | 1.095   | 1.068  |
| 0.003       | 1.972                     | 1.969  | 1.637                            | 1.634  | 1.366  | 1.364  | 1.083   | 1.044  |
| 0.004       | 1.965                     | 1.962  | 1.631                            | 1.629  | 1.361  | 1.359  | 1.074   | 1.022  |
| 0.005       | 1.960                     | 1.957  | 1.627                            | 1.624  | 1.358  | 1.355  | 1.067   | 1.001  |
| 0.006       | 1.955                     | 1.952  | 1.623                            | 1.620  | 1.354  | 1.351  | 1.061   | 0.981  |
| 0.007       | 1.950                     | 1.947  | 1.619                            | 1.616  | 1.351  | 1.348  | 1.056   | 0.954  |
| 0.008       | 1.946                     | 1.943  | 1.616                            | 1.613  | 1.348  | 1.345  | 1.052   | 0.935  |
| 0.009       | 1.943                     | 1.939  | 1.613                            | 1.610  | 1.346  | 1.343  | 1.049   | 0.916  |
| 0.010       | 1.939                     | 1.936  | 1.610                            | 1.607  | 1.344  | 1.340  | 1.046   | 0.898  |
| 0.020       | 1.916                     | 1.911  | 1.592                            | 1.587  | 1.329  | 1.322  | 1.028   | 0.758  |
| 0.030       | 1.901                     | 1.894  | 1.581                            | 1.573  | 1.320  | 1.310  | 1.015   | 0.614  |
| 0.040       | 1.891                     | 1.882  | 1.573                            | 1.563  | 1.314  | 1.300  | 1.008   | 0.493  |
| 0.050       | 1.884                     | 1.872  | 1.568                            | 1.554  | 1.311  | 1.291  | 1.005   | 0.394  |
| 0.060       | 1.879                     | 1.863  | 1.564                            | 1.546  | 1.307  | 1.283  | 1.003   | 0.336  |
| 0.070       | 1.875                     | 1.855  | 1.562                            | 1.539  | 1.305  | 1.276  | 1.005   | 0.270  |
| 0.080       | 1.872                     | 1.848  | 1.559                            | 1.532  | 1.303  | 1.268  | 1.002   | 0.218  |
| 0.090       | 1.869                     | 1.841  | 1.557                            | 1.526  | 1.301  | 1.261  | 1.001   | 0.178  |
| 0.100       | 1.866                     | 1.835  | 1.555                            | 1.520  | 1.300  | 1.267  | 1.000   | 0.147  |
| 0.200       | 1.862                     | 1.782  | 1.555                            | 1.462  | 1.304  | 1.204  | 1.010   | 0.035  |
| 0.300       | 1.877                     | 1.727  | 1.569                            | 1.397  | 1.313  | 1.123  | 1.033   | 0.013  |
| 0.400       | 1.893                     | 1.664  | 1.583                            | 1.364  | 1.326  | 1.027  | 1.044   | 0.007  |
| 0.500       | 1.913                     | 1.595  | 1.601                            | 1.288  | 1.342  | 0.923  | 1.059   | 0.004  |
| 0.600       | 1.935                     | 1.570  | 1.620                            | 1.206  | 1.359  | 0.820  | 1.074   | 0.003  |
| 0.700       | 1.959                     | 1.495  | 1.641                            | 1.122  | 1.376  | 0.722  | 1.091   | 0.002  |
| 0.800       | 1.984                     | 1.417  | 1.662                            | 1.038  | 1.395  | 0.634  | 1.108   | 0.001  |
| 0.900       | 2.009                     | 1.338  | 1.684                            | 0.957  | 1.412  | 0.556  | 1.124   | 0.001  |
| 1.000       | 2.035                     | 1.260  | 1.706                            | 0.880  | 1.428  | 0.488  | 1.141   | 0.001  |

| Electrolyte | NH <sub>4</sub> Cl        |        | NH <sub>4</sub> ClO <sub>4</sub> |        | (NH <sub>4</sub> ) <sub>2</sub> CrO <sub>4</sub> |        | NH <sub>4</sub> F         |        |
|-------------|---------------------------|--------|----------------------------------|--------|--|--------|---------------------------|--------|
|             | $\Delta^0=150.0$<br>a=2.8 |        | $\Delta^0=141.0$<br>a=3.0        |        | $\Delta^0=122.5$<br>a=3.3                        |        | $\Delta^0=129.1$<br>a=3.0 |        |
| Conc.       | Dof                       | Dpikal | Dof                              | Dpikal | Dof  | Dpikal | Dof                       | Dpikal |
| 0.000       | 1.996                     | 1.996  | 1.873                            | 1.873  | 1.172  | 1.173  | 1.684                     | 1.684  |
| 0.001       | 1.965                     | 1.964  | 1.844                            | 1.843  | 1.114  | 1.096  | 1.658                     | 1.656  |
| 0.002       | 1.954                     | 1.952  | 1.833                            | 1.832  | 1.095  | 1.065  | 1.648                     | 1.647  |
| 0.003       | 1.946                     | 1.944  | 1.827                            | 1.824  | 1.083  | 1.039  | 1.642                     | 1.640  |
| 0.004       | 1.940                     | 1.937  | 1.820                            | 1.818  | 1.074  | 1.015  | 1.636                     | 1.634  |
| 0.005       | 1.934                     | 1.931  | 1.815                            | 1.813  | 1.067  | 0.993  | 1.632                     | 1.629  |
| 0.006       | 1.929                     | 1.926  | 1.811                            | 1.808  | 1.061  | 0.972  | 1.628                     | 1.625  |
| 0.007       | 1.925                     | 1.922  | 1.807                            | 1.804  | 1.056  | 0.966  | 1.624                     | 1.621  |
| 0.008       | 1.921                     | 1.918  | 1.803                            | 1.800  | 1.052  | 0.947  | 1.621                     | 1.618  |
| 0.009       | 1.917                     | 1.914  | 1.800                            | 1.797  | 1.048  | 0.929  | 1.618                     | 1.615  |
| 0.010       | 1.914                     | 1.911  | 1.797                            | 1.794  | 1.045  | 0.911  | 1.615                     | 1.612  |
| 0.020       | 1.891                     | 1.886  | 1.776                            | 1.771  | 1.029  | 0.736  | 1.597                     | 1.592  |
| 0.030       | 1.876                     | 1.870  | 1.764                            | 1.756  | 1.015  | 0.594  | 1.586                     | 1.578  |
| 0.040       | 1.867                     | 1.857  | 1.755                            | 1.745  | 1.008  | 0.508  | 1.578                     | 1.568  |
| 0.050       | 1.860                     | 1.847  | 1.749                            | 1.736  | 1.004  | 0.409  | 1.573                     | 1.559  |
| 0.060       | 1.854                     | 1.839  | 1.745                            | 1.727  | 1.002  | 0.331  | 1.569                     | 1.551  |
| 0.070       | 1.850                     | 1.831  | 1.742                            | 1.720  | 1.001  | 0.268  | 1.567                     | 1.544  |
| 0.080       | 1.848                     | 1.824  | 1.739                            | 1.713  | 1.003  | 0.219  | 1.564                     | 1.537  |
| 0.090       | 1.845                     | 1.817  | 1.736                            | 1.707  | 1.001  | 0.181  | 1.562                     | 1.531  |
| 0.100       | 1.842                     | 1.811  | 1.734                            | 1.701  | 1.000  | 0.158  | 1.560                     | 1.525  |
| 0.200       | 1.839                     | 1.758  | 1.734                            | 1.646  | 1.007  | 0.037  | 1.560                     | 1.467  |
| 0.300       | 1.853                     | 1.703  | 1.748                            | 1.585  | 1.036  | 0.015  | 1.573                     | 1.403  |
| 0.400       | 1.869                     | 1.641  | 1.765                            | 1.554  | 1.046  | 0.007  | 1.588                     | 1.369  |
| 0.500       | 1.889                     | 1.572  | 1.785                            | 1.484  | 1.059  | 0.004  | 1.606                     | 1.294  |
| 0.600       | 1.911                     | 1.547  | 1.806                            | 1.406  | 1.075  | 0.003  | 1.626                     | 1.212  |
| 0.700       | 1.934                     | 1.472  | 1.829                            | 1.324  | 1.091  | 0.002  | 1.646                     | 1.128  |
| 0.800       | 1.959                     | 1.395  | 1.853                            | 1.240  | 1.108  | 0.001  | 1.667                     | 1.044  |
| 0.900       | 1.984                     | 1.316  | 1.877                            | 1.158  | 1.125  | 0.001  | 1.689                     | 0.963  |
| 1.000       | 2.010                     | 1.239  | 1.902                            | 1.078  | 1.142  | 0.001  | 1.712                     | 0.886  |

| Electrolyte | NH <sub>4</sub> HCO <sub>3</sub> |         | NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub> |         | (NH <sub>4</sub> ) <sub>2</sub> HPO <sub>4</sub> |         | NH <sub>4</sub> HSO <sub>3</sub> |         |
|-------------|----------------------------------|---------|--|---------|--|---------|----------------------------------|---------|
|             | $\Delta^0=118.2$                 | $a=3.4$ | $\Delta^0=109.7$                               | $a=3.4$ | $\Delta^0=130.7$                                 | $a=3.3$ | $\Delta^0=123.7$                 | $a=3.4$ |
| Conc.       | Dof                              | Dpikal  | Dof  | Dpikal  | Dof  | Dpikal  | Dof                              | Dpikal  |
| 0.000       | 1.477                            | 1.478   | 1.288  | 1.288   | 1.283  | 1.284   | 1.586                            | 1.586   |
| 0.001       | 1.454                            | 1.452   | 1.266  | 1.265   | 1.220  | 1.206   | 1.561                            | 1.560   |
| 0.002       | 1.445                            | 1.444   | 1.258  | 1.256   | 1.200  | 1.174   | 1.552                            | 1.551   |
| 0.003       | 1.440                            | 1.437   | 1.253  | 1.251   | 1.187  | 1.149   | 1.546                            | 1.544   |
| 0.004       | 1.435                            | 1.432   | 1.248  | 1.246   | 1.177  | 1.126   | 1.541                            | 1.539   |
| 0.005       | 1.431                            | 1.428   | 1.245  | 1.242   | 1.168  | 1.105   | 1.537                            | 1.534   |
| 0.006       | 1.427                            | 1.424   | 1.241  | 1.238   | 1.162  | 1.084   | 1.533                            | 1.531   |
| 0.007       | 1.424                            | 1.421   | 1.238  | 1.235   | 1.156  | 1.078   | 1.530                            | 1.527   |
| 0.008       | 1.421                            | 1.418   | 1.236  | 1.233   | 1.151  | 1.061   | 1.527                            | 1.524   |
| 0.009       | 1.419                            | 1.415   | 1.234  | 1.230   | 1.147  | 1.043   | 1.524                            | 1.521   |
| 0.010       | 1.416                            | 1.413   | 1.231  | 1.228   | 1.143  | 1.026   | 1.522                            | 1.519   |
| 0.020       | 1.400                            | 1.394   | 1.217  | 1.210   | 1.123  | 0.854   | 1.505                            | 1.500   |
| 0.030       | 1.391                            | 1.382   | 1.208  | 1.197   | 1.107  | 0.710   | 1.495                            | 1.487   |
| 0.040       | 1.385                            | 1.372   | 1.203  | 1.187   | 1.098  | 0.618   | 1.489                            | 1.476   |
| 0.050       | 1.381                            | 1.363   | 1.199  | 1.178   | 1.093  | 0.509   | 1.485                            | 1.468   |
| 0.060       | 1.378                            | 1.355   | 1.196  | 1.170   | 1.091  | 0.420   | 1.482                            | 1.460   |
| 0.070       | 1.375                            | 1.348   | 1.193  | 1.162   | 1.090  | 0.346   | 1.479                            | 1.453   |
| 0.080       | 1.373                            | 1.341   | 1.191  | 1.155   | 1.091  | 0.286   | 1.477                            | 1.446   |
| 0.090       | 1.372                            | 1.334   | 1.189  | 1.148   | 1.089  | 0.239   | 1.475                            | 1.440   |
| 0.100       | 1.371                            | 1.328   | 1.188  | 1.140   | 1.088  | 0.210   | 1.474                            | 1.433   |
| 0.200       | 1.373                            | 1.282   | 1.189  | 1.088   | 1.097  | 0.052   | 1.478                            | 1.390   |
| 0.300       | 1.384                            | 1.208   | 1.197  | 1.005   | 1.127  | 0.020   | 1.490                            | 1.320   |
| 0.400       | 1.399                            | 1.118   | 1.208  | 0.908   | 1.140  | 0.010   | 1.505                            | 1.236   |
| 0.500       | 1.415                            | 1.020   | 1.222  | 0.806   | 1.157  | 0.006   | 1.523                            | 1.142   |
| 0.600       | 1.433                            | 0.920   | 1.236  | 0.706   | 1.176  | 0.004   | 1.543                            | 1.043   |
| 0.700       | 1.451                            | 0.823   | 1.252  | 0.614   | 1.195  | 0.003   | 1.563                            | 0.946   |
| 0.800       | 1.470                            | 0.733   | 1.267  | 0.532   | 1.215  | 0.002   | 1.583                            | 0.854   |
| 0.900       | 1.490                            | 0.651   | 1.284  | 0.461   | 1.235  | 0.001   | 1.605                            | 0.768   |
| 1.000       | 1.508                            | 0.579   | 1.299  | 0.401   | 1.254  | 0.001   | 1.624                            | 0.691   |

| Electrolyte | NH <sub>4</sub> I |         | NH <sub>4</sub> IO <sub>3</sub> |         | NH <sub>4</sub> NO <sub>3</sub> |         | NH <sub>4</sub> OH |         |
|-------------|-------------------|---------|---------------------------------|---------|---------------------------------|---------|--------------------|---------|
|             | $\Delta^0=150.6$  | $a=2.8$ | $\Delta^0=114.7$                | $a=3.4$ | $\Delta^0=145.12$               | $a=2.3$ | $\Delta^0=271.3$   | $a=3.0$ |
| Conc.       | Dof               | Dpikal  | Dof                             | Dpikal  | Dof                             | Dpikal  | Dof                | Dpikal  |
| 0.000       | 2.004             | 2.004   | 1.403                           | 1.403   | 1.931                           | 1.931   | 2.858              | 2.858   |
| 0.001       | 1.973             | 1.971   | 1.380                           | 1.379   | 1.901                           | 1.900   | 2.808              | 2.806   |
| 0.002       | 1.961             | 1.959   | 1.372                           | 1.370   | 1.890                           | 1.889   | 2.789              | 2.786   |
| 0.003       | 1.954             | 1.951   | 1.366                           | 1.364   | 1.882                           | 1.880   | 2.776              | 2.772   |
| 0.004       | 1.947             | 1.944   | 1.361                           | 1.359   | 1.875                           | 1.874   | 2.765              | 2.761   |
| 0.005       | 1.941             | 1.938   | 1.357                           | 1.355   | 1.871                           | 1.868   | 2.755              | 2.751   |
| 0.006       | 1.936             | 1.933   | 1.354                           | 1.351   | 1.866                           | 1.863   | 2.747              | 2.743   |
| 0.007       | 1.932             | 1.929   | 1.351                           | 1.348   | 1.862                           | 1.859   | 2.740              | 2.736   |
| 0.008       | 1.928             | 1.925   | 1.348                           | 1.345   | 1.858                           | 1.855   | 2.733              | 2.729   |
| 0.009       | 1.924             | 1.921   | 1.346                           | 1.343   | 1.854                           | 1.852   | 2.727              | 2.722   |
| 0.010       | 1.921             | 1.918   | 1.344                           | 1.340   | 1.851                           | 1.848   | 2.722              | 2.717   |
| 0.020       | 1.898             | 1.893   | 1.328                           | 1.322   | 1.827                           | 1.824   | 2.682              | 2.674   |
| 0.030       | 1.884             | 1.877   | 1.319                           | 1.309   | 1.813                           | 1.807   | 2.657              | 2.646   |
| 0.040       | 1.874             | 1.864   | 1.314                           | 1.299   | 1.802                           | 1.795   | 2.639              | 2.625   |
| 0.050       | 1.867             | 1.854   | 1.310                           | 1.291   | 1.794                           | 1.784   | 2.626              | 2.608   |
| 0.060       | 1.861             | 1.846   | 1.307                           | 1.283   | 1.788                           | 1.774   | 2.616              | 2.593   |
| 0.070       | 1.857             | 1.838   | 1.304                           | 1.275   | 1.783                           | 1.766   | 2.608              | 2.580   |
| 0.080       | 1.855             | 1.831   | 1.302                           | 1.268   | 1.779                           | 1.758   | 2.601              | 2.568   |
| 0.090       | 1.852             | 1.824   | 1.300                           | 1.261   | 1.777                           | 1.751   | 2.595              | 2.557   |
| 0.100       | 1.849             | 1.818   | 1.299                           | 1.254   | 1.774                           | 1.744   | 2.590              | 2.547   |
| 0.200       | 1.845             | 1.765   | 1.301                           | 1.206   | 1.766                           | 1.699   | 2.573              | 2.461   |
| 0.300       | 1.860             | 1.710   | 1.311                           | 1.129   | 1.773                           | 1.654   | 2.583              | 2.367   |
| 0.400       | 1.876             | 1.648   | 1.324                           | 1.036   | 1.789                           | 1.606   | 2.600              | 2.289   |
| 0.500       | 1.896             | 1.579   | 1.339                           | 0.936   | 1.809                           | 1.553   | 2.624              | 2.160   |
| 0.600       | 1.918             | 1.554   | 1.356                           | 0.835   | 1.828                           | 1.496   | 2.651              | 2.014   |
| 0.700       | 1.942             | 1.479   | 1.373                           | 0.739   | 1.849                           | 1.437   | 2.680              | 1.859   |
| 0.800       | 1.966             | 1.401   | 1.391                           | 0.652   | 1.871                           | 1.376   | 2.711              | 1.702   |
| 0.900       | 1.992             | 1.323   | 1.410                           | 0.574   | 1.894                           | 1.313   | 2.744              | 1.549   |
| 1.000       | 2.017             | 1.245   | 1.426                           | 0.505   | 1.918                           | 1.252   | 2.777              | 1.404   |

| Electrolyte | NH <sub>4</sub> SCN |         | (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> |         | NaBr             |          | NaBrO <sub>3</sub> |         |
|-------------|---------------------|---------|---|---------|------------------|----------|--------------------|---------|
|             | $\Delta^0=140.2$    | $a=3.5$ | $\Delta^0=153.5$                                | $a=3.3$ | $\Delta^0=128.5$ | $a=3.58$ | $\Delta^0=105.9$   | $a=3.9$ |
| Conc.       | Dof                 | Dpikal  | Dof   | Dpikal  | Dof              | Dpikal   | Dof                | Dpikal  |
| 0.000       | 1.861               | 1.861   | 1.530   | 1.530   | 1.627            | 1.628    | 1.405              | 1.406   |
| 0.001       | 1.833               | 1.831   | 1.455   | 1.445   | 1.602            | 1.600    | 1.385              | 1.383   |
| 0.002       | 1.823               | 1.821   | 1.430   | 1.414   | 1.593            | 1.591    | 1.378              | 1.376   |
| 0.003       | 1.815               | 1.813   | 1.414   | 1.389   | 1.586            | 1.584    | 1.372              | 1.370   |
| 0.004       | 1.809               | 1.807   | 1.401   | 1.368   | 1.581            | 1.579    | 1.368              | 1.366   |
| 0.005       | 1.804               | 1.802   | 1.391   | 1.348   | 1.576            | 1.574    | 1.365              | 1.363   |
| 0.006       | 1.800               | 1.798   | 1.382   | 1.329   | 1.573            | 1.570    | 1.362              | 1.360   |
| 0.007       | 1.796               | 1.794   | 1.375   | 1.322   | 1.569            | 1.567    | 1.359              | 1.357   |
| 0.008       | 1.793               | 1.790   | 1.368   | 1.306   | 1.566            | 1.563    | 1.357              | 1.354   |
| 0.009       | 1.790               | 1.787   | 1.362   | 1.291   | 1.563            | 1.560    | 1.355              | 1.352   |
| 0.010       | 1.787               | 1.784   | 1.357   | 1.276   | 1.561            | 1.558    | 1.353              | 1.350   |
| 0.020       | 1.768               | 1.763   | 1.327   | 1.119   | 1.544            | 1.538    | 1.340              | 1.335   |
| 0.030       | 1.757               | 1.749   | 1.307   | 0.982   | 1.534            | 1.525    | 1.333              | 1.327   |
| 0.040       | 1.749               | 1.738   | 1.294   | 0.889   | 1.528            | 1.515    | 1.329              | 1.320   |
| 0.050       | 1.745               | 1.729   | 1.287   | 0.770   | 1.523            | 1.507    | 1.326              | 1.314   |
| 0.060       | 1.740               | 1.721   | 1.283   | 0.664   | 1.520            | 1.499    | 1.324              | 1.309   |
| 0.070       | 1.737               | 1.714   | 1.280   | 0.570   | 1.517            | 1.492    | 1.322              | 1.304   |
| 0.080       | 1.735               | 1.707   | 1.280   | 0.488   | 1.515            | 1.492    | 1.321              | 1.299   |
| 0.090       | 1.733               | 1.700   | 1.277   | 0.418   | 1.513            | 1.487    | 1.321              | 1.294   |
| 0.100       | 1.732               | 1.704   | 1.276   | 0.376   | 1.512            | 1.482    | 1.320              | 1.289   |
| 0.200       | 1.738               | 1.653   | 1.286   | 0.103   | 1.517            | 1.424    | 1.329              | 1.232   |
| 0.300       | 1.752               | 1.588   | 1.318   | 0.042   | 1.529            | 1.347    | 1.342              | 1.155   |
| 0.400       | 1.771               | 1.508   | 1.339   | 0.021   | 1.545            | 1.253    | 1.358              | 1.063   |
| 0.500       | 1.793               | 1.417   | 1.362   | 0.013   | 1.564            | 1.148    | 1.376              | 0.964   |
| 0.600       | 1.816               | 1.319   | 1.387   | 0.008   | 1.584            | 1.040    | 1.395              | 0.865   |
| 0.700       | 1.840               | 1.220   | 1.412   | 0.006   | 1.604            | 0.934    | 1.414              | 0.772   |
| 0.800       | 1.866               | 1.122   | 1.437   | 0.004   | 1.626            | 0.835    | 1.432              | 0.687   |
| 0.900       | 1.889               | 1.029   | 1.463   | 0.003   | 1.646            | 0.744    | 1.449              | 0.611   |
| 1.000       | 1.912               | 0.942   | 1.488   | 0.002   | 1.666            | 0.663    | 1.467              | 0.545   |

| Electrolyte | NaCHO <sub>2</sub> |         | Na <sub>2</sub> CO <sub>3</sub> |         | Na <sub>2</sub> C <sub>2</sub> O <sub>4</sub> |         | NaCl             |         |
|-------------|--------------------|---------|---------------------------------|---------|---|---------|------------------|---------|
|             | $\Delta^0=105.2$   | $a=3.9$ | $\Delta^0=119.4$                | $a=4.4$ | $\Delta^0=98.9$                               | $a=4.4$ | $\Delta^0=126.4$ | $a=4.0$ |
| Conc.       | Dof                | Dpikal  | Dof                             | Dpikal  | Dof   | Dpikal  | Dof              | Dpikal  |
| 0.000       | 1.397              | 1.397   | 1.161                           | 1.161   | 0.987   | 0.987   | 1.611            | 1.611   |
| 0.001       | 1.376              | 1.375   | 1.107                           | 1.101   | 0.941   | 0.931   | 1.585            | 1.584   |
| 0.002       | 1.369              | 1.368   | 1.091                           | 1.079   | 0.928   | 0.910   | 1.577            | 1.575   |
| 0.003       | 1.364              | 1.362   | 1.080                           | 1.063   | 0.919   | 0.892   | 1.570            | 1.568   |
| 0.004       | 1.360              | 1.358   | 1.072                           | 1.048   | 0.913   | 0.876   | 1.565            | 1.563   |
| 0.005       | 1.356              | 1.355   | 1.065                           | 1.035   | 0.908   | 0.861   | 1.561            | 1.559   |
| 0.006       | 1.354              | 1.351   | 1.060                           | 1.030   | 0.904   | 0.857   | 1.557            | 1.555   |
| 0.007       | 1.351              | 1.349   | 1.056                           | 1.019   | 0.901   | 0.844   | 1.554            | 1.552   |
| 0.008       | 1.349              | 1.346   | 1.053                           | 1.008   | 0.898   | 0.831   | 1.551            | 1.549   |
| 0.009       | 1.347              | 1.344   | 1.050                           | 0.997   | 0.896   | 0.818   | 1.549            | 1.546   |
| 0.010       | 1.345              | 1.342   | 1.048                           | 0.987   | 0.896   | 0.806   | 1.546            | 1.543   |
| 0.020       | 1.332              | 1.327   | 1.028                           | 0.873   | 0.880   | 0.671   | 1.531            | 1.525   |
| 0.030       | 1.325              | 1.319   | 1.020                           | 0.760   | 0.874   | 0.544   | 1.522            | 1.515   |
| 0.040       | 1.322              | 1.312   | 1.018                           | 0.670   | 0.875   | 0.453   | 1.517            | 1.507   |
| 0.050       | 1.318              | 1.306   | 1.014                           | 0.563   | 0.872   | 0.356   | 1.513            | 1.500   |
| 0.060       | 1.316              | 1.301   | 1.013                           | 0.468   | 0.870   | 0.279   | 1.510            | 1.493   |
| 0.070       | 1.314              | 1.296   | 1.012                           | 0.387   | 0.870   | 0.220   | 1.508            | 1.487   |
| 0.080       | 1.314              | 1.291   | 1.012                           | 0.320   | 0.870   | 0.175   | 1.506            | 1.482   |
| 0.090       | 1.313              | 1.286   | 1.013                           | 0.266   | 0.871   | 0.141   | 1.506            | 1.476   |
| 0.100       | 1.313              | 1.281   | 1.015                           | 0.222   | 0.872   | 0.115   | 1.505            | 1.471   |
| 0.200       | 1.321              | 1.224   | 1.037                           | 0.054   | 0.891   | 0.025   | 1.514            | 1.406   |
| 0.300       | 1.334              | 1.147   | 1.055                           | 0.021   | 0.904   | 0.010   | 1.530            | 1.317   |
| 0.400       | 1.351              | 1.055   | 1.075                           | 0.011   | 0.919   | 0.005   | 1.549            | 1.208   |
| 0.500       | 1.368              | 0.957   | 1.096                           | 0.006   | 0.935   | 0.003   | 1.571            | 1.089   |
| 0.600       | 1.387              | 0.859   | 1.116                           | 0.004   | 0.951   | 0.002   | 1.594            | 0.971   |
| 0.700       | 1.406              | 0.767   | 1.136                           | 0.003   | 0.967   | 0.001   | 1.615            | 0.859   |
| 0.800       | 1.424              | 0.682   | 1.156                           | 0.002   | 0.983   | 0.001   | 1.637            | 0.757   |
| 0.900       | 1.441              | 0.607   | 1.175                           | 0.001   | 0.999   | 0.001   | 1.658            | 0.666   |
| 1.000       | 1.459              | 0.541   | 1.194                           | 0.001   | 1.014   | 0.001   | 1.680            | 0.588   |

| Electrolyte | NaClO <sub>3</sub> |          | NaClO <sub>4</sub> |         | Na <sub>2</sub> CrO <sub>4</sub> |         | NaF              |          |
|-------------|--------------------|----------|--------------------|---------|----------------------------------|---------|------------------|----------|
|             | $\Delta^0=114.7$   | $a=3.23$ | $\Delta^0=117.4$   | $a=3.4$ | $\Delta^0=135.1$                 | $a=4.1$ | $\Delta^0=105.5$ | $a=3.34$ |
| Conc.       | Dof                | Dpikal   | Dof                | Dpikal  | Dof                              | Dpikal  | Dof              | Dpikal   |
| 0.000       | 1.502              | 1.503    | 1.529              | 1.529   | 1.259                            | 1.259   | 1.401            | 1.401    |
| 0.001       | 1.479              | 1.478    | 1.506              | 1.504   | 1.199                            | 1.194   | 1.380            | 1.379    |
| 0.002       | 1.471              | 1.470    | 1.497              | 1.496   | 1.180                            | 1.171   | 1.372            | 1.371    |
| 0.003       | 1.466              | 1.464    | 1.492              | 1.489   | 1.167                            | 1.155   | 1.367            | 1.365    |
| 0.004       | 1.461              | 1.459    | 1.487              | 1.485   | 1.158                            | 1.140   | 1.363            | 1.361    |
| 0.005       | 1.457              | 1.455    | 1.483              | 1.480   | 1.150                            | 1.128   | 1.360            | 1.357    |
| 0.006       | 1.453              | 1.451    | 1.479              | 1.477   | 1.144                            | 1.117   | 1.356            | 1.354    |
| 0.007       | 1.450              | 1.448    | 1.476              | 1.474   | 1.139                            | 1.106   | 1.354            | 1.351    |
| 0.008       | 1.448              | 1.445    | 1.473              | 1.471   | 1.134                            | 1.095   | 1.351            | 1.349    |
| 0.009       | 1.445              | 1.443    | 1.471              | 1.468   | 1.131                            | 1.085   | 1.349            | 1.347    |
| 0.010       | 1.443              | 1.440    | 1.468              | 1.466   | 1.127                            | 1.075   | 1.347            | 1.345    |
| 0.020       | 1.427              | 1.423    | 1.453              | 1.448   | 1.104                            | 0.994   | 1.334            | 1.329    |
| 0.030       | 1.418              | 1.411    | 1.444              | 1.436   | 1.092                            | 0.893   | 1.326            | 1.319    |
| 0.040       | 1.413              | 1.402    | 1.438              | 1.427   | 1.087                            | 0.795   | 1.321            | 1.310    |
| 0.050       | 1.409              | 1.395    | 1.434              | 1.419   | 1.085                            | 0.698   | 1.318            | 1.304    |
| 0.060       | 1.406              | 1.388    | 1.431              | 1.412   | 1.082                            | 0.627   | 1.316            | 1.297    |
| 0.070       | 1.404              | 1.382    | 1.429              | 1.406   | 1.080                            | 0.541   | 1.313            | 1.291    |
| 0.080       | 1.402              | 1.376    | 1.427              | 1.400   | 1.080                            | 0.465   | 1.312            | 1.286    |
| 0.090       | 1.400              | 1.370    | 1.426              | 1.394   | 1.080                            | 0.399   | 1.311            | 1.280    |
| 0.100       | 1.399              | 1.365    | 1.425              | 1.388   | 1.080                            | 0.343   | 1.310            | 1.275    |
| 0.200       | 1.403              | 1.327    | 1.429              | 1.347   | 1.103                            | 0.095   | 1.316            | 1.238    |
| 0.300       | 1.415              | 1.268    | 1.442              | 1.281   | 1.122                            | 0.038   | 1.328            | 1.178    |
| 0.400       | 1.430              | 1.196    | 1.457              | 1.202   | 1.144                            | 0.019   | 1.343            | 1.106    |
| 0.500       | 1.447              | 1.115    | 1.475              | 1.113   | 1.167                            | 0.011   | 1.360            | 1.025    |
| 0.600       | 1.465              | 1.029    | 1.494              | 1.020   | 1.189                            | 0.007   | 1.377            | 0.942    |
| 0.700       | 1.485              | 0.943    | 1.513              | 0.927   | 1.211                            | 0.005   | 1.396            | 0.860    |
| 0.800       | 1.504              | 0.860    | 1.533              | 0.840   | 1.232                            | 0.004   | 1.415            | 0.781    |
| 0.900       | 1.527              | 0.782    | 1.555              | 0.758   | 1.253                            | 0.003   | 1.435            | 0.708    |
| 1.000       | 1.545              | 0.711    | 1.573              | 0.684   | 1.274                            | 0.002   | 1.453            | 0.642    |

| Electrolyte | Na <sub>4</sub> Fe(CN) <sub>6</sub> |         | NaH <sub>2</sub> AsO <sub>4</sub> |         | NaHCO <sub>3</sub> |         | NaH <sub>2</sub> PO <sub>4</sub> |         |
|-------------|-------------------------------------|---------|-----------------------------------|---------|--------------------|---------|----------------------------------|---------|
|             | $\Delta^0=158.2$                    | $a=4.6$ | $\Delta^0=84.1$                   | $a=4.6$ | $\Delta^0=94.6$    | $a=4.2$ | $\Delta^0=86.1$                  | $a=4.2$ |
| Conc.       | Dof                                 | Dpikal  | Dof                               | Dpikal  | Dof                | Dpikal  | Dof                              | Dpikal  |
| 0.000       | 1.139                               | 1.139   | 1.078                             | 1.079   | 1.255              | 1.255   | 1.115                            | 1.115   |
| 0.001       | 0.991                               | 1.161   | 1.062                             | 1.061   | 1.236              | 1.235   | 1.099                            | 1.098   |
| 0.002       | 0.960                               | 1.236   | 1.057                             | 1.055   | 1.230              | 1.229   | 1.093                            | 1.092   |
| 0.003       | 0.944                               | 1.182   | 1.053                             | 1.051   | 1.226              | 1.224   | 1.089                            | 1.087   |
| 0.004       | 0.928                               | 1.000   | 1.049                             | 1.048   | 1.222              | 1.220   | 1.086                            | 1.084   |
| 0.005       | 0.917                               | 0.773   | 1.047                             | 1.045   | 1.219              | 1.217   | 1.083                            | 1.081   |
| 0.006       | 0.908                               | 0.573   | 1.045                             | 1.043   | 1.216              | 1.215   | 1.081                            | 1.079   |
| 0.007       | 0.902                               | 0.418   | 1.043                             | 1.040   | 1.214              | 1.212   | 1.079                            | 1.077   |
| 0.008       | 0.897                               | 0.312   | 1.041                             | 1.038   | 1.212              | 1.210   | 1.077                            | 1.075   |
| 0.009       | 0.893                               | 0.237   | 1.039                             | 1.037   | 1.211              | 1.208   | 1.075                            | 1.073   |
| 0.010       | 0.890                               | 0.183   | 1.038                             | 1.036   | 1.209              | 1.207   | 1.074                            | 1.072   |
| 0.020       | 0.873                               | 0.031   | 1.029                             | 1.025   | 1.199              | 1.195   | 1.065                            | 1.060   |
| 0.030       | 0.873                               | 0.009   | 1.024                             | 1.017   | 1.193              | 1.187   | 1.060                            | 1.053   |
| 0.040       | 0.880                               | 0.005   | 1.022                             | 1.011   | 1.190              | 1.180   | 1.057                            | 1.047   |
| 0.050       | 0.892                               | 0.003   | 1.019                             | 1.005   | 1.188              | 1.175   | 1.055                            | 1.041   |
| 0.060       | 0.895                               | 0.002   | 1.018                             | 1.000   | 1.186              | 1.170   | 1.053                            | 1.036   |
| 0.070       | 0.899                               | 0.001   | 1.017                             | 0.995   | 1.185              | 1.165   | 1.052                            | 1.031   |
| 0.080       | 0.905                               | 0.001   | 1.016                             | 0.990   | 1.184              | 1.160   | 1.052                            | 1.026   |
| 0.090       | 0.911                               | 0.001   | 1.016                             | 0.984   | 1.184              | 1.155   | 1.052                            | 1.021   |
| 0.100       | 0.917                               | 0.000   | 1.016                             | 0.979   | 1.185              | 1.149   | 1.052                            | 1.015   |
| 0.200       | 0.977                               | 0.000   | 1.023                             | 0.909   | 1.193              | 1.085   | 1.059                            | 0.947   |
| 0.300       | 1.027                               | 0.000   | 1.034                             | 0.816   | 1.206              | 0.999   | 1.071                            | 0.856   |
| 0.400       | 1.426                               | 0.000   | 1.047                             | 0.714   | 1.222              | 0.899   | 1.085                            | 0.755   |
| 0.500       | 1.545                               | 0.000   | 1.061                             | 0.614   | 1.239              | 0.796   | 1.099                            | 0.654   |
| 0.600       | 1.656                               | 0.000   | 1.076                             | 0.524   | 1.256              | 0.699   | 1.115                            | 0.562   |
| 0.700       | 1.761                               | 0.009   | 1.089                             | 0.446   | 1.272              | 0.611   | 1.128                            | 0.481   |
| 0.800       | 1.861                               | 0.000   | 1.102                             | 0.380   | 1.288              | 0.534   | 1.142                            | 0.413   |
| 0.900       | 1.958                               | 0.000   | 1.116                             | 0.325   | 1.304              | 0.467   | 1.156                            | 0.356   |
| 1.000       | 2.052                               | 0.000   | 1.129                             | 0.280   | 1.320              | 0.410   | 1.170                            | 0.308   |

| Electrolyte | Na <sub>2</sub> HPO <sub>4</sub> |        | NaI                        |        | NaIO <sub>3</sub>        |        | NaMnO <sub>4</sub>        |        |
|-------------|----------------------------------|--------|----------------------------|--------|--------------------------|--------|---------------------------|--------|
|             | $\Delta^0=107.1$<br>a=4.1        |        | $\Delta^0=127.0$<br>a=4.23 |        | $\Delta^0=91.1$<br>a=4.2 |        | $\Delta^0=112.9$<br>a=3.8 |        |
| Conc.       | Dof                              | Dpikal | Dof                        | Dpikal | Dof                      | Dpikal | Dof                       | Dpikal |
| 0.000       | 1.065                            | 1.065  | 1.615                      | 1.615  | 1.200                    | 1.201  | 1.484                     | 1.484  |
| 0.001       | 1.016                            | 1.007  | 1.590                      | 1.589  | 1.183                    | 1.182  | 1.461                     | 1.460  |
| 0.002       | 1.001                            | 0.986  | 1.581                      | 1.579  | 1.177                    | 1.175  | 1.454                     | 1.452  |
| 0.003       | 0.991                            | 0.969  | 1.575                      | 1.573  | 1.173                    | 1.171  | 1.448                     | 1.446  |
| 0.004       | 0.984                            | 0.954  | 1.570                      | 1.568  | 1.169                    | 1.167  | 1.443                     | 1.441  |
| 0.005       | 0.978                            | 0.940  | 1.566                      | 1.563  | 1.166                    | 1.164  | 1.440                     | 1.438  |
| 0.006       | 0.973                            | 0.927  | 1.562                      | 1.560  | 1.164                    | 1.162  | 1.436                     | 1.434  |
| 0.007       | 0.970                            | 0.914  | 1.559                      | 1.556  | 1.162                    | 1.160  | 1.433                     | 1.431  |
| 0.008       | 0.967                            | 0.901  | 1.556                      | 1.553  | 1.160                    | 1.158  | 1.431                     | 1.429  |
| 0.009       | 0.964                            | 0.889  | 1.553                      | 1.551  | 1.158                    | 1.156  | 1.429                     | 1.426  |
| 0.010       | 0.962                            | 0.876  | 1.551                      | 1.549  | 1.157                    | 1.154  | 1.427                     | 1.424  |
| 0.020       | 0.945                            | 0.775  | 1.536                      | 1.531  | 1.147                    | 1.143  | 1.413                     | 1.408  |
| 0.030       | 0.937                            | 0.652  | 1.527                      | 1.520  | 1.142                    | 1.135  | 1.405                     | 1.397  |
| 0.040       | 0.934                            | 0.541  | 1.522                      | 1.511  | 1.139                    | 1.129  | 1.400                     | 1.388  |
| 0.050       | 0.934                            | 0.443  | 1.518                      | 1.504  | 1.136                    | 1.123  | 1.397                     | 1.384  |
| 0.060       | 0.932                            | 0.377  | 1.515                      | 1.498  | 1.135                    | 1.118  | 1.394                     | 1.379  |
| 0.070       | 0.931                            | 0.307  | 1.513                      | 1.492  | 1.134                    | 1.113  | 1.392                     | 1.374  |
| 0.080       | 0.931                            | 0.250  | 1.512                      | 1.486  | 1.133                    | 1.108  | 1.391                     | 1.368  |
| 0.090       | 0.931                            | 0.205  | 1.511                      | 1.480  | 1.133                    | 1.103  | 1.390                     | 1.364  |
| 0.100       | 0.932                            | 0.170  | 1.511                      | 1.474  | 1.133                    | 1.098  | 1.390                     | 1.359  |
| 0.200       | 0.955                            | 0.040  | 1.518                      | 1.402  | 1.142                    | 1.032  | 1.397                     | 1.302  |
| 0.300       | 0.969                            | 0.015  | 1.533                      | 1.302  | 1.154                    | 0.945  | 1.410                     | 1.226  |
| 0.400       | 0.986                            | 0.008  | 1.552                      | 1.181  | 1.169                    | 0.844  | 1.427                     | 1.134  |
| 0.500       | 1.004                            | 0.004  | 1.572                      | 1.053  | 1.185                    | 0.743  | 1.445                     | 1.033  |
| 0.600       | 1.022                            | 0.003  | 1.593                      | 0.928  | 1.202                    | 0.648  | 1.464                     | 0.932  |
| 0.700       | 1.040                            | 0.002  | 1.612                      | 0.812  | 1.217                    | 0.562  | 1.485                     | 0.835  |
| 0.800       | 1.058                            | 0.001  | 1.632                      | 0.709  | 1.232                    | 0.488  | 1.503                     | 0.746  |
| 0.900       | 1.075                            | 0.001  | 1.652                      | 0.619  | 1.247                    | 0.425  | 1.522                     | 0.665  |
| 1.000       | 1.093                            | 0.001  | 1.672                      | 0.542  | 1.263                    | 0.372  | 1.541                     | 0.593  |

| Electrolyte | Na <sub>2</sub> MoO <sub>4</sub> |        | NaNO <sub>2</sub>          |        | NaNO <sub>3</sub>           |        | NaOH                      |        |
|-------------|----------------------------------|--------|----------------------------|--------|-----------------------------|--------|---------------------------|--------|
|             | $\Delta^0=124.6$<br>a=4.4        |        | $\Delta^0=122.1$<br>a=3.95 |        | $\Delta^0=121.52$<br>a=2.98 |        | $\Delta^0=247.7$<br>a=3.9 |        |
| Conc.       | Dof                              | Dpikal | Dof                        | Dpikal | Dof                         | Dpikal | Dof                       | Dpikal |
| 0.000       | 1.196                            | 1.196  | 1.573                      | 1.573  | 1.568                       | 1.568  | 2.128                     | 2.128  |
| 0.001       | 1.140                            | 1.134  | 1.549                      | 1.547  | 1.543                       | 1.542  | 2.087                     | 2.085  |
| 0.002       | 1.123                            | 1.113  | 1.540                      | 1.538  | 1.534                       | 1.533  | 2.072                     | 2.069  |
| 0.003       | 1.112                            | 1.096  | 1.534                      | 1.532  | 1.529                       | 1.526  | 2.061                     | 2.058  |
| 0.004       | 1.103                            | 1.082  | 1.529                      | 1.527  | 1.524                       | 1.521  | 2.053                     | 2.049  |
| 0.005       | 1.097                            | 1.069  | 1.525                      | 1.523  | 1.519                       | 1.517  | 2.045                     | 2.041  |
| 0.006       | 1.091                            | 1.063  | 1.521                      | 1.519  | 1.515                       | 1.513  | 2.039                     | 2.035  |
| 0.007       | 1.087                            | 1.053  | 1.518                      | 1.516  | 1.512                       | 1.509  | 2.033                     | 2.029  |
| 0.008       | 1.083                            | 1.042  | 1.516                      | 1.513  | 1.509                       | 1.506  | 2.028                     | 2.023  |
| 0.009       | 1.080                            | 1.032  | 1.513                      | 1.510  | 1.506                       | 1.503  | 2.024                     | 2.018  |
| 0.010       | 1.078                            | 1.022  | 1.511                      | 1.508  | 1.504                       | 1.501  | 2.019                     | 2.014  |
| 0.020       | 1.057                            | 0.913  | 1.496                      | 1.490  | 1.487                       | 1.482  | 1.990                     | 1.980  |
| 0.030       | 1.048                            | 0.805  | 1.487                      | 1.480  | 1.476                       | 1.469  | 1.972                     | 1.962  |
| 0.040       | 1.046                            | 0.717  | 1.482                      | 1.472  | 1.469                       | 1.459  | 1.960                     | 1.946  |
| 0.050       | 1.042                            | 0.611  | 1.478                      | 1.465  | 1.465                       | 1.451  | 1.951                     | 1.932  |
| 0.060       | 1.040                            | 0.514  | 1.475                      | 1.459  | 1.461                       | 1.444  | 1.943                     | 1.920  |
| 0.070       | 1.040                            | 0.430  | 1.473                      | 1.453  | 1.459                       | 1.437  | 1.937                     | 1.909  |
| 0.080       | 1.040                            | 0.359  | 1.471                      | 1.448  | 1.456                       | 1.431  | 1.933                     | 1.899  |
| 0.090       | 1.041                            | 0.301  | 1.471                      | 1.442  | 1.455                       | 1.425  | 1.929                     | 1.889  |
| 0.100       | 1.042                            | 0.253  | 1.470                      | 1.437  | 1.453                       | 1.420  | 1.926                     | 1.879  |
| 0.200       | 1.064                            | 0.063  | 1.477                      | 1.373  | 1.453                       | 1.365  | 1.918                     | 1.765  |
| 0.300       | 1.084                            | 0.025  | 1.491                      | 1.287  | 1.466                       | 1.302  | 1.926                     | 1.610  |
| 0.400       | 1.105                            | 0.012  | 1.508                      | 1.183  | 1.479                       | 1.263  | 1.942                     | 1.422  |
| 0.500       | 1.126                            | 0.007  | 1.528                      | 1.070  | 1.496                       | 1.187  | 1.961                     | 1.225  |
| 0.600       | 1.147                            | 0.005  | 1.550                      | 0.956  | 1.514                       | 1.105  | 1.981                     | 1.038  |
| 0.700       | 1.168                            | 0.003  | 1.568                      | 0.849  | 1.533                       | 1.021  | 2.004                     | 0.872  |
| 0.800       | 1.188                            | 0.002  | 1.588                      | 0.751  | 1.553                       | 0.939  | 2.025                     | 0.731  |
| 0.900       | 1.208                            | 0.002  | 1.607                      | 0.663  | 1.573                       | 0.860  | 2.047                     | 0.615  |
| 1.000       | 1.227                            | 0.001  | 1.627                      | 0.587  | 1.594                       | 0.786  | 2.070                     | 0.519  |

| Electrolyte | NaSCN                     |        | Na <sub>2</sub> SO <sub>3</sub> |        | Na <sub>2</sub> SO <sub>4</sub> |        | Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> |        |
|-------------|---------------------------|--------|---------------------------------|--------|---------------------------------|--------|---|--------|
|             | $\Delta^0=116.6$<br>a=3.9 |        | $\Delta^0=122.1$<br>a=4.4       |        | $\Delta^0=129.9$<br>a=3.5       |        | $\Delta^0=137.5$<br>a=4.1                     |        |
| Conc.       | Dof                       | Dpikal | Dof                             | Dpikal | Dof                             | Dpikal | Dof   | Dpikal |
| 0.000       | 1.521                     | 1.522  | 1.180                           | 1.180  | 1.229                           | 1.229  | 1.272   | 1.272  |
| 0.001       | 1.498                     | 1.497  | 1.125                           | 1.119  | 1.171                           | 1.165  | 1.211   | 1.206  |
| 0.002       | 1.490                     | 1.488  | 1.108                           | 1.097  | 1.151                           | 1.144  | 1.192   | 1.184  |
| 0.003       | 1.484                     | 1.482  | 1.097                           | 1.080  | 1.138                           | 1.128  | 1.179   | 1.167  |
| 0.004       | 1.480                     | 1.478  | 1.088                           | 1.066  | 1.128                           | 1.113  | 1.169   | 1.152  |
| 0.005       | 1.476                     | 1.474  | 1.082                           | 1.053  | 1.120                           | 1.100  | 1.162   | 1.141  |
| 0.006       | 1.472                     | 1.470  | 1.077                           | 1.048  | 1.113                           | 1.088  | 1.155   | 1.129  |
| 0.007       | 1.469                     | 1.467  | 1.072                           | 1.037  | 1.108                           | 1.068  | 1.150   | 1.118  |
| 0.008       | 1.467                     | 1.464  | 1.069                           | 1.026  | 1.103                           | 1.056  | 1.145   | 1.108  |
| 0.009       | 1.464                     | 1.462  | 1.066                           | 1.016  | 1.098                           | 1.044  | 1.141   | 1.097  |
| 0.010       | 1.462                     | 1.459  | 1.064                           | 1.006  | 1.094                           | 1.033  | 1.138   | 1.087  |
| 0.020       | 1.448                     | 1.443  | 1.043                           | 0.894  | 1.068                           | 0.945  | 1.114   | 1.008  |
| 0.030       | 1.440                     | 1.433  | 1.035                           | 0.784  | 1.050                           | 0.847  | 1.102   | 0.908  |
| 0.040       | 1.435                     | 1.425  | 1.033                           | 0.695  | 1.039                           | 0.754  | 1.096   | 0.812  |
| 0.050       | 1.431                     | 1.419  | 1.029                           | 0.588  | 1.031                           | 0.662  | 1.094   | 0.716  |
| 0.060       | 1.428                     | 1.413  | 1.027                           | 0.492  | 1.025                           | 0.602  | 1.091   | 0.646  |
| 0.070       | 1.426                     | 1.407  | 1.027                           | 0.409  | 1.022                           | 0.522  | 1.090   | 0.560  |
| 0.080       | 1.425                     | 1.402  | 1.027                           | 0.341  | 1.016                           | 0.452  | 1.089   | 0.483  |
| 0.090       | 1.424                     | 1.397  | 1.028                           | 0.284  | 1.012                           | 0.390  | 1.089   | 0.416  |
| 0.100       | 1.424                     | 1.392  | 1.029                           | 0.238  | 1.008                           | 0.337  | 1.090   | 0.358  |
| 0.200       | 1.431                     | 1.332  | 1.051                           | 0.059  | 0.988                           | 0.097  | 1.113   | 0.101  |
| 0.300       | 1.445                     | 1.250  | 1.070                           | 0.023  | 0.978                           | 0.038  | 1.132   | 0.040  |
| 0.400       | 1.462                     | 1.152  | 1.091                           | 0.011  | 0.964                           | 0.019  | 1.154   | 0.021  |
| 0.500       | 1.481                     | 1.046  | 1.112                           | 0.007  | 0.951                           | 0.011  | 1.177   | 0.012  |
| 0.600       | 1.501                     | 0.939  | 1.133                           | 0.004  | 0.938                           | 0.007  | 1.199   | 0.008  |
| 0.700       | 1.521                     | 0.837  | 1.153                           | 0.003  | 0.926                           | 0.005  | 1.221   | 0.005  |
| 0.800       | 1.540                     | 0.743  | 1.173                           | 0.002  | 0.914                           | 0.003  | 1.243   | 0.004  |
| 0.900       | 1.559                     | 0.660  | 1.192                           | 0.002  | 0.901                           | 0.002  | 1.264   | 0.003  |
| 1.000       | 1.578                     | 0.586  | 1.212                           | 0.001  | 0.888                           | 0.002  | 1.285   | 0.002  |

| Electrolyte | Na <sub>2</sub> WO <sub>4</sub> |        | NdBr <sub>3</sub>         |        | NdCl <sub>3</sub>         |        | Nd(ClO <sub>4</sub> ) <sub>3</sub> |        |
|-------------|---------------------------------|--------|---------------------------|--------|---------------------------|--------|------------------------------------|--------|
|             | $\Delta^0=119.5$<br>a=4.6       |        | $\Delta^0=142.7$<br>a=6.0 |        | $\Delta^0=140.6$<br>a=6.0 |        | $\Delta^0=131.6$<br>a=6.3          |        |
| Conc.       | Dof                             | Dpikal | Dof                       | Dpikal | Dof                       | Dpikal | Dof                                | Dpikal |
| 0.000       | 1.162                           | 1.162  | 1.254                     | 1.254  | 1.239                     | 1.239  | 1.167                              | 1.167  |
| 0.001       | 1.108                           | 1.102  | 1.170                     | 1.088  | 1.156                     | 1.076  | 1.088                              | 1.018  |
| 0.002       | 1.091                           | 1.080  | 1.156                     | 1.007  | 1.141                     | 0.996  | 1.074                              | 0.952  |
| 0.003       | 1.081                           | 1.067  | 1.151                     | 0.936  | 1.136                     | 0.927  | 1.068                              | 0.877  |
| 0.004       | 1.073                           | 1.054  | 1.144                     | 0.850  | 1.129                     | 0.843  | 1.061                              | 0.797  |
| 0.005       | 1.067                           | 1.041  | 1.139                     | 0.761  | 1.125                     | 0.755  | 1.057                              | 0.713  |
| 0.006       | 1.062                           | 1.030  | 1.136                     | 0.673  | 1.122                     | 0.669  | 1.055                              | 0.639  |
| 0.007       | 1.058                           | 1.019  | 1.135                     | 0.590  | 1.120                     | 0.586  | 1.053                              | 0.560  |
| 0.008       | 1.054                           | 1.008  | 1.134                     | 0.522  | 1.119                     | 0.519  | 1.052                              | 0.487  |
| 0.009       | 1.052                           | 0.992  | 1.133                     | 0.453  | 1.119                     | 0.451  | 1.052                              | 0.422  |
| 0.010       | 1.049                           | 0.981  | 1.133                     | 0.392  | 1.119                     | 0.391  | 1.055                              | 0.365  |
| 0.020       | 1.031                           | 0.870  | 1.133                     | 0.109  | 1.118                     | 0.109  | 1.051                              | 0.101  |
| 0.030       | 1.023                           | 0.776  | 1.139                     | 0.043  | 1.124                     | 0.043  | 1.057                              | 0.039  |
| 0.040       | 1.021                           | 0.659  | 1.148                     | 0.021  | 1.133                     | 0.021  | 1.070                              | 0.020  |
| 0.050       | 1.018                           | 0.549  | 1.158                     | 0.012  | 1.143                     | 0.012  | 1.072                              | 0.011  |
| 0.060       | 1.017                           | 0.453  | 1.161                     | 0.008  | 1.146                     | 0.008  | 1.075                              | 0.007  |
| 0.070       | 1.016                           | 0.372  | 1.165                     | 0.005  | 1.149                     | 0.005  | 1.078                              | 0.005  |
| 0.080       | 1.017                           | 0.306  | 1.169                     | 0.004  | 1.153                     | 0.004  | 1.082                              | 0.003  |
| 0.090       | 1.018                           | 0.262  | 1.173                     | 0.003  | 1.157                     | 0.003  | 1.087                              | 0.003  |
| 0.100       | 1.020                           | 0.218  | 1.177                     | 0.002  | 1.162                     | 0.002  | 1.091                              | 0.002  |
| 0.200       | 1.041                           | 0.050  | 1.221                     | 0.000  | 1.205                     | 0.000  | 1.132                              | 0.000  |
| 0.300       | 1.060                           | 0.019  | 1.259                     | 0.000  | 1.242                     | 0.000  | 1.166                              | 0.000  |
| 0.400       | 1.081                           | 0.010  | 1.582                     | 0.000  | 1.559                     | 0.000  | 1.452                              | 0.000  |
| 0.500       | 1.102                           | 0.006  | 1.673                     | 0.000  | 1.649                     | 0.000  | 1.531                              | 0.000  |
| 0.600       | 1.122                           | 0.004  | 1.758                     | 0.000  | 1.732                     | 0.000  | 1.605                              | 0.000  |
| 0.700       | 1.142                           | 0.003  | 1.839                     | 0.000  | 1.812                     | 0.000  | 1.675                              | 0.000  |
| 0.800       | 1.161                           | 0.002  | 1.916                     | 0.000  | 1.887                     | 0.000  | 1.742                              | 0.000  |
| 0.900       | 1.180                           | 0.001  | 1.990                     | 0.000  | 1.960                     | 0.000  | 1.806                              | 0.000  |
| 1.000       | 1.199                           | 0.001  | 2.062                     | 0.000  | 2.031                     | 0.000  | 1.869                              | 0.000  |

| Electrolyte | NiBr <sub>2</sub> |         | Ni(C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> ) <sub>2</sub> |         | NiCl <sub>2</sub> |         | Ni(ClO <sub>3</sub> ) <sub>2</sub> |         |
|-------------|-------------------|---------|--|---------|-------------------|---------|------------------------------------|---------|
|             | $\Delta^0=132.4$  | $a=4.5$ | $\Delta^0=95.0$  | $a=5.3$ | $\Delta^0=130.3$  | $a=4.5$ | $\Delta^0=118.6$                   | $a=4.8$ |
| Conc.       | Dof               | Dpikal  | Dof  | Dpikal  | Dof               | Dpikal  | Dof                                | Dpikal  |
| 0.000       | 1.277             | 1.277   | 0.931  | 0.931   | 1.263             | 1.263   | 1.174                              | 1.175   |
| 0.001       | 1.222             | 1.200   | 0.890  | 0.884   | 1.209             | 1.187   | 1.125                              | 1.109   |
| 0.002       | 1.207             | 1.173   | 0.879  | 0.868   | 1.193             | 1.160   | 1.110                              | 1.087   |
| 0.003       | 1.197             | 1.152   | 0.872  | 0.856   | 1.183             | 1.140   | 1.101                              | 1.070   |
| 0.004       | 1.189             | 1.140   | 0.867  | 0.846   | 1.176             | 1.128   | 1.095                              | 1.056   |
| 0.005       | 1.184             | 1.125   | 0.863  | 0.841   | 1.171             | 1.114   | 1.090                              | 1.039   |
| 0.006       | 1.180             | 1.111   | 0.860  | 0.833   | 1.167             | 1.100   | 1.086                              | 1.026   |
| 0.007       | 1.176             | 1.097   | 0.859  | 0.826   | 1.163             | 1.086   | 1.083                              | 1.014   |
| 0.008       | 1.173             | 1.084   | 0.856  | 0.818   | 1.160             | 1.073   | 1.081                              | 1.002   |
| 0.009       | 1.171             | 1.070   | 0.854  | 0.810   | 1.158             | 1.060   | 1.079                              | 0.990   |
| 0.010       | 1.170             | 1.057   | 0.852  | 0.802   | 1.157             | 1.047   | 1.077                              | 0.977   |
| 0.020       | 1.154             | 0.905   | 0.842  | 0.707   | 1.141             | 0.898   | 1.063                              | 0.858   |
| 0.030       | 1.148             | 0.760   | 0.841  | 0.591   | 1.136             | 0.755   | 1.059                              | 0.706   |
| 0.040       | 1.150             | 0.602   | 0.839  | 0.482   | 1.137             | 0.599   | 1.059                              | 0.557   |
| 0.050       | 1.147             | 0.466   | 0.838  | 0.377   | 1.135             | 0.465   | 1.058                              | 0.431   |
| 0.060       | 1.147             | 0.360   | 0.839  | 0.293   | 1.134             | 0.359   | 1.058                              | 0.331   |
| 0.070       | 1.147             | 0.279   | 0.840  | 0.228   | 1.135             | 0.279   | 1.059                              | 0.260   |
| 0.080       | 1.149             | 0.218   | 0.842  | 0.179   | 1.136             | 0.219   | 1.061                              | 0.203   |
| 0.090       | 1.151             | 0.173   | 0.844  | 0.143   | 1.138             | 0.174   | 1.063                              | 0.161   |
| 0.100       | 1.153             | 0.140   | 0.846  | 0.115   | 1.141             | 0.140   | 1.065                              | 0.129   |
| 0.200       | 1.182             | 0.029   | 0.864  | 0.024   | 1.169             | 0.029   | 1.091                              | 0.026   |
| 0.300       | 1.204             | 0.011   | 0.882  | 0.009   | 1.191             | 0.011   | 1.112                              | 0.010   |
| 0.400       | 1.227             | 0.005   | 0.899  | 0.004   | 1.214             | 0.005   | 1.134                              | 0.005   |
| 0.500       | 1.251             | 0.003   | 0.916  | 0.003   | 1.237             | 0.003   | 1.155                              | 0.003   |
| 0.600       | 1.274             | 0.002   | 0.932  | 0.002   | 1.260             | 0.002   | 1.177                              | 0.002   |
| 0.700       | 1.297             | 0.001   | 0.948  | 0.001   | 1.282             | 0.001   | 1.197                              | 0.001   |
| 0.800       | 1.319             | 0.001   | 0.964  | 0.001   | 1.304             | 0.001   | 1.217                              | 0.001   |
| 0.900       | 1.341             | 0.001   | 0.979  | 0.001   | 1.326             | 0.001   | 1.237                              | 0.001   |
| 1.000       | 1.362             | 0.001   | 1.105  | 0.000   | 1.347             | 0.001   | 1.257                              | 0.001   |

| Electrolyte | Ni(ClO <sub>4</sub> ) <sub>2</sub> |         | Ni(NO <sub>3</sub> ) <sub>2</sub> |         | NiSO <sub>4</sub> |         | PbBr <sub>2</sub> |         |
|-------------|------------------------------------|---------|-----------------------------------|---------|-------------------|---------|-------------------|---------|
|             | $\Delta^0=121.3$                   | $a=4.8$ | $\Delta^0=125.42$                 | $a=4.5$ | $\Delta^0=133.8$  | $a=5.0$ | $\Delta^0=148.4$  | $a=3.8$ |
| Conc.       | Dof                                | Dpikal  | Dof                               | Dpikal  | Dof               | Dpikal  | Dof               | Dpikal  |
| 0.000       | 1.196                              | 1.197   | 1.228                             | 1.228   | 0.857             | 0.857   | 1.477             | 1.477   |
| 0.001       | 1.145                              | 1.129   | 1.176                             | 1.156   | 0.729             | 0.733   | 1.410             | 1.395   |
| 0.002       | 1.131                              | 1.106   | 1.160                             | 1.131   | 0.691             | 0.695   | 1.389             | 1.363   |
| 0.003       | 1.122                              | 1.089   | 1.151                             | 1.111   | 0.666             | 0.667   | 1.375             | 1.342   |
| 0.004       | 1.115                              | 1.074   | 1.144                             | 1.100   | 0.650             | 0.646   | 1.365             | 1.323   |
| 0.005       | 1.110                              | 1.056   | 1.139                             | 1.086   | 0.638             | 0.628   | 1.357             | 1.307   |
| 0.006       | 1.106                              | 1.043   | 1.134                             | 1.073   | 0.630             | 0.612   | 1.350             | 1.298   |
| 0.007       | 1.103                              | 1.031   | 1.131                             | 1.060   | 0.624             | 0.592   | 1.344             | 1.285   |
| 0.008       | 1.101                              | 1.018   | 1.128                             | 1.048   | 0.619             | 0.580   | 1.339             | 1.272   |
| 0.009       | 1.099                              | 1.005   | 1.126                             | 1.035   | 0.616             | 0.570   | 1.335             | 1.260   |
| 0.010       | 1.097                              | 0.993   | 1.125                             | 1.023   | 0.615             | 0.560   | 1.332             | 1.248   |
| 0.020       | 1.083                              | 0.869   | 1.110                             | 0.880   | 0.656             | 0.498   | 1.308             | 1.129   |
| 0.030       | 1.079                              | 0.713   | 1.105                             | 0.744   | 0.749             | 0.458   | 1.295             | 1.013   |
| 0.040       | 1.079                              | 0.561   | 1.106                             | 0.593   | 0.869             | 0.458   | 1.289             | 0.872   |
| 0.050       | 1.077                              | 0.432   | 1.103                             | 0.462   | 1.008             | 0.428   | 1.286             | 0.734   |
| 0.060       | 1.078                              | 0.332   | 1.103                             | 0.358   | 1.161             | 0.397   | 1.287             | 0.608   |
| 0.070       | 1.079                              | 0.260   | 1.104                             | 0.279   | 1.325             | 0.368   | 1.285             | 0.502   |
| 0.080       | 1.081                              | 0.203   | 1.105                             | 0.219   | 1.498             | 0.341   | 1.284             | 0.414   |
| 0.090       | 1.083                              | 0.160   | 1.107                             | 0.174   | 1.679             | 0.316   | 1.284             | 0.343   |
| 0.100       | 1.085                              | 0.129   | 1.109                             | 0.140   | 1.870             | 0.294   | 1.285             | 0.289   |
| 0.200       | 1.111                              | 0.026   | 1.137                             | 0.029   | 3.873             | 0.164   | 1.310             | 0.066   |
| 0.300       | 1.132                              | 0.010   | 1.158                             | 0.011   | 6.057             | 0.105   | 1.339             | 0.025   |
| 0.400       | 1.155                              | 0.005   | 1.181                             | 0.005   | 8.333             | 0.076   | 1.364             | 0.013   |
| 0.500       | 1.177                              | 0.003   | 1.203                             | 0.003   | 10.668            | 0.058   | 1.390             | 0.007   |
| 0.600       | 1.198                              | 0.002   | 1.226                             | 0.002   | 13.044            | 0.046   | 1.417             | 0.005   |
| 0.700       | 1.219                              | 0.001   | 1.248                             | 0.001   | 15.451            | 0.038   | 1.443             | 0.003   |
| 0.800       | 1.240                              | 0.001   | 1.269                             | 0.001   | 17.883            | 0.032   | 1.469             | 0.002   |
| 0.900       | 1.260                              | 0.001   | 1.290                             | 0.001   | 24.523            | 0.028   | 1.495             | 0.002   |
| 1.000       | 1.280                              | 0.001   | 1.311                             | 0.001   | 27.892            | 0.024   | 1.521             | 0.001   |

| Electrolyte | $\text{Pb}(\text{C}_2\text{H}_3\text{O}_2)_2$ |        | $\text{PbCl}_2$              |        | $\text{Pb}(\text{ClO}_4)_2$  |        | $\text{PbI}_2$               |        |
|-------------|---|--------|------------------------------|--------|------------------------------|--------|------------------------------|--------|
|             | $\Lambda^0=111.0$<br>$a=4.5$                  |        | $\Lambda^0=146.3$<br>$a=4.5$ |        | $\Lambda^0=137.3$<br>$a=4.0$ |        | $\Lambda^0=146.9$<br>$a=3.8$ |        |
| Conc.       | Dof   | Dpikal | Dof                          | Dpikal | Dof                          | Dpikal | Dof                          | Dpikal |
| 0.000       | 1.032   | 1.033  | 1.458                        | 1.458  | 1.370                        | 1.370  | 1.463                        | 1.463  |
| 0.001       | 0.984   | 0.982  | 1.392                        | 1.378  | 1.308                        | 1.295  | 1.397                        | 1.383  |
| 0.002       | 0.969   | 0.965  | 1.371                        | 1.347  | 1.289                        | 1.271  | 1.376                        | 1.351  |
| 0.003       | 0.960   | 0.953  | 1.358                        | 1.325  | 1.276                        | 1.252  | 1.363                        | 1.330  |
| 0.004       | 0.953   | 0.946  | 1.347                        | 1.307  | 1.266                        | 1.237  | 1.352                        | 1.312  |
| 0.005       | 0.947   | 0.938  | 1.339                        | 1.292  | 1.259                        | 1.224  | 1.344                        | 1.296  |
| 0.006       | 0.942   | 0.931  | 1.332                        | 1.283  | 1.253                        | 1.211  | 1.337                        | 1.287  |
| 0.007       | 0.939   | 0.924  | 1.327                        | 1.270  | 1.248                        | 1.200  | 1.332                        | 1.274  |
| 0.008       | 0.936   | 0.917  | 1.322                        | 1.258  | 1.243                        | 1.189  | 1.327                        | 1.262  |
| 0.009       | 0.933   | 0.910  | 1.318                        | 1.246  | 1.240                        | 1.178  | 1.323                        | 1.250  |
| 0.010       | 0.931   | 0.904  | 1.314                        | 1.234  | 1.236                        | 1.168  | 1.319                        | 1.238  |
| 0.020       | 0.914   | 0.827  | 1.291                        | 1.117  | 1.215                        | 1.071  | 1.296                        | 1.121  |
| 0.030       | 0.906   | 0.755  | 1.278                        | 1.004  | 1.204                        | 0.949  | 1.283                        | 1.007  |
| 0.040       | 0.904   | 0.663  | 1.272                        | 0.865  | 1.199                        | 0.814  | 1.277                        | 0.867  |
| 0.050       | 0.901   | 0.569  | 1.270                        | 0.730  | 1.199                        | 0.687  | 1.274                        | 0.731  |
| 0.060       | 0.900   | 0.481  | 1.270                        | 0.606  | 1.196                        | 0.571  | 1.275                        | 0.606  |
| 0.070       | 0.900   | 0.403  | 1.268                        | 0.501  | 1.194                        | 0.480  | 1.273                        | 0.501  |
| 0.080       | 0.900   | 0.336  | 1.267                        | 0.414  | 1.194                        | 0.395  | 1.272                        | 0.414  |
| 0.090       | 0.901   | 0.281  | 1.267                        | 0.343  | 1.195                        | 0.326  | 1.272                        | 0.343  |
| 0.100       | 0.902   | 0.236  | 1.268                        | 0.289  | 1.196                        | 0.271  | 1.273                        | 0.289  |
| 0.200       | 0.921   | 0.057  | 1.293                        | 0.067  | 1.225                        | 0.062  | 1.298                        | 0.066  |
| 0.300       | 0.938   | 0.022  | 1.322                        | 0.026  | 1.246                        | 0.024  | 1.327                        | 0.025  |
| 0.400       | 0.956   | 0.011  | 1.346                        | 0.013  | 1.270                        | 0.012  | 1.351                        | 0.013  |
| 0.500       | 0.974   | 0.007  | 1.372                        | 0.007  | 1.295                        | 0.007  | 1.378                        | 0.007  |
| 0.600       | 0.992   | 0.004  | 1.399                        | 0.005  | 1.319                        | 0.004  | 1.404                        | 0.005  |
| 0.700       | 1.009   | 0.003  | 1.425                        | 0.003  | 1.344                        | 0.003  | 1.430                        | 0.003  |
| 0.800       | 1.027   | 0.002  | 1.450                        | 0.002  | 1.368                        | 0.002  | 1.456                        | 0.002  |
| 0.900       | 1.043   | 0.002  | 1.476                        | 0.002  | 1.391                        | 0.002  | 1.481                        | 0.002  |
| 1.000       | 1.060   | 0.001  | 1.501                        | 0.001  | 1.415                        | 0.001  | 1.507                        | 0.001  |

| Electrolyte | $\text{Pb}(\text{NO}_3)_2$    |        | $\text{PrBr}_3$              |        | $\text{PrCl}_3$              |        | $\text{Pr}(\text{ClO}_4)_3$  |        |
|-------------|-------------------------------|--------|------------------------------|--------|------------------------------|--------|------------------------------|--------|
|             | $\Lambda^0=141.42$<br>$a=3.8$ |        | $\Lambda^0=143.8$<br>$a=6.0$ |        | $\Lambda^0=141.7$<br>$a=6.0$ |        | $\Lambda^0=132.7$<br>$a=6.3$ |        |
| Conc.       | Dof                           | Dpikal | Dof                          | Dpikal | Dof                          | Dpikal | Dof                          | Dpikal |
| 0.000       | 1.412                         | 1.412  | 1.266                        | 1.266  | 1.250                        | 1.250  | 1.177                        | 1.177  |
| 0.001       | 1.348                         | 1.335  | 1.180                        | 1.100  | 1.165                        | 1.087  | 1.096                        | 1.028  |
| 0.002       | 1.328                         | 1.306  | 1.165                        | 1.019  | 1.151                        | 1.008  | 1.082                        | 0.962  |
| 0.003       | 1.314                         | 1.285  | 1.160                        | 0.948  | 1.145                        | 0.939  | 1.075                        | 0.888  |
| 0.004       | 1.304                         | 1.269  | 1.153                        | 0.863  | 1.138                        | 0.855  | 1.069                        | 0.808  |
| 0.005       | 1.297                         | 1.254  | 1.148                        | 0.774  | 1.133                        | 0.768  | 1.065                        | 0.725  |
| 0.006       | 1.290                         | 1.245  | 1.145                        | 0.686  | 1.130                        | 0.681  | 1.062                        | 0.651  |
| 0.007       | 1.285                         | 1.233  | 1.143                        | 0.602  | 1.128                        | 0.599  | 1.060                        | 0.571  |
| 0.008       | 1.280                         | 1.221  | 1.142                        | 0.534  | 1.127                        | 0.531  | 1.059                        | 0.497  |
| 0.009       | 1.276                         | 1.210  | 1.141                        | 0.464  | 1.126                        | 0.461  | 1.059                        | 0.432  |
| 0.010       | 1.273                         | 1.199  | 1.141                        | 0.402  | 1.126                        | 0.401  | 1.061                        | 0.374  |
| 0.020       | 1.250                         | 1.089  | 1.140                        | 0.113  | 1.125                        | 0.113  | 1.057                        | 0.104  |
| 0.030       | 1.238                         | 0.982  | 1.146                        | 0.044  | 1.131                        | 0.044  | 1.063                        | 0.041  |
| 0.040       | 1.231                         | 0.850  | 1.155                        | 0.022  | 1.140                        | 0.022  | 1.076                        | 0.020  |
| 0.050       | 1.229                         | 0.719  | 1.165                        | 0.013  | 1.150                        | 0.013  | 1.078                        | 0.012  |
| 0.060       | 1.229                         | 0.599  | 1.168                        | 0.008  | 1.152                        | 0.008  | 1.081                        | 0.007  |
| 0.070       | 1.227                         | 0.498  | 1.172                        | 0.005  | 1.156                        | 0.005  | 1.085                        | 0.005  |
| 0.080       | 1.226                         | 0.412  | 1.176                        | 0.004  | 1.160                        | 0.004  | 1.089                        | 0.004  |
| 0.090       | 1.226                         | 0.342  | 1.180                        | 0.003  | 1.164                        | 0.003  | 1.093                        | 0.003  |
| 0.100       | 1.227                         | 0.290  | 1.185                        | 0.002  | 1.169                        | 0.002  | 1.097                        | 0.002  |
| 0.200       | 1.252                         | 0.067  | 1.229                        | 0.000  | 1.212                        | 0.000  | 1.138                        | 0.000  |
| 0.300       | 1.279                         | 0.026  | 1.267                        | 0.000  | 1.250                        | 0.000  | 1.173                        | 0.000  |
| 0.400       | 1.303                         | 0.013  | 1.586                        | 0.000  | 1.563                        | 0.000  | 1.455                        | 0.000  |
| 0.500       | 1.328                         | 0.007  | 1.677                        | 0.000  | 1.653                        | 0.000  | 1.534                        | 0.000  |
| 0.600       | 1.353                         | 0.005  | 1.762                        | 0.000  | 1.736                        | 0.000  | 1.608                        | 0.000  |
| 0.700       | 1.379                         | 0.003  | 1.842                        | 0.000  | 1.814                        | 0.000  | 1.677                        | 0.000  |
| 0.800       | 1.404                         | 0.002  | 1.918                        | 0.000  | 1.889                        | 0.000  | 1.743                        | 0.000  |
| 0.900       | 1.428                         | 0.002  | 1.992                        | 0.000  | 1.962                        | 0.000  | 1.807                        | 0.000  |
| 1.000       | 1.453                         | 0.001  | 2.064                        | 0.000  | 2.032                        | 0.000  | 1.870                        | 0.000  |

| Electrolyte | $\text{Pr}(\text{NO}_3)_3$    |        | RbBr                         |        | $\text{RbBrO}_3$             |        | $\text{RbC}_2\text{H}_3\text{O}_2$ |        |
|-------------|-------------------------------|--------|------------------------------|--------|------------------------------|--------|------------------------------------|--------|
|             | $\Lambda^0=136.82$<br>$a=6.0$ |        | $\Lambda^0=155.9$<br>$a=3.4$ |        | $\Lambda^0=133.3$<br>$a=2.7$ |        | $\Lambda^0=118.5$<br>$a=3.5$       |        |
| Conc.       | Dof                           | Dpikal | Dof                          | Dpikal | Dof                          | Dpikal | Dof                                | Dpikal |
| 0.000       | 1.212                         | 1.212  | 2.075                        | 2.075  | 1.727                        | 1.728  | 1.428                              | 1.428  |
| 0.001       | 1.129                         | 1.057  | 2.043                        | 2.042  | 1.700                        | 1.699  | 1.404                              | 1.403  |
| 0.002       | 1.114                         | 0.982  | 2.031                        | 2.030  | 1.690                        | 1.689  | 1.396                              | 1.394  |
| 0.003       | 1.108                         | 0.916  | 2.023                        | 2.021  | 1.683                        | 1.681  | 1.390                              | 1.388  |
| 0.004       | 1.101                         | 0.836  | 2.017                        | 2.014  | 1.678                        | 1.676  | 1.385                              | 1.383  |
| 0.005       | 1.097                         | 0.753  | 2.011                        | 2.008  | 1.673                        | 1.670  | 1.381                              | 1.378  |
| 0.006       | 1.094                         | 0.669  | 2.006                        | 2.003  | 1.669                        | 1.666  | 1.377                              | 1.375  |
| 0.007       | 1.092                         | 0.590  | 2.002                        | 1.999  | 1.665                        | 1.662  | 1.374                              | 1.371  |
| 0.008       | 1.091                         | 0.524  | 1.998                        | 1.995  | 1.662                        | 1.659  | 1.372                              | 1.368  |
| 0.009       | 1.090                         | 0.456  | 1.994                        | 1.991  | 1.659                        | 1.655  | 1.369                              | 1.366  |
| 0.010       | 1.090                         | 0.397  | 1.991                        | 1.988  | 1.656                        | 1.652  | 1.367                              | 1.363  |
| 0.020       | 1.088                         | 0.113  | 1.969                        | 1.964  | 1.636                        | 1.631  | 1.351                              | 1.344  |
| 0.030       | 1.093                         | 0.044  | 1.956                        | 1.948  | 1.623                        | 1.616  | 1.342                              | 1.331  |
| 0.040       | 1.102                         | 0.022  | 1.947                        | 1.936  | 1.615                        | 1.605  | 1.336                              | 1.321  |
| 0.050       | 1.112                         | 0.013  | 1.941                        | 1.926  | 1.609                        | 1.595  | 1.332                              | 1.312  |
| 0.060       | 1.114                         | 0.008  | 1.936                        | 1.917  | 1.604                        | 1.587  | 1.328                              | 1.304  |
| 0.070       | 1.118                         | 0.005  | 1.932                        | 1.909  | 1.601                        | 1.580  | 1.326                              | 1.296  |
| 0.080       | 1.122                         | 0.004  | 1.930                        | 1.902  | 1.599                        | 1.573  | 1.323                              | 1.288  |
| 0.090       | 1.126                         | 0.003  | 1.927                        | 1.896  | 1.596                        | 1.567  | 1.322                              | 1.281  |
| 0.100       | 1.130                         | 0.002  | 1.926                        | 1.889  | 1.594                        | 1.561  | 1.321                              | 1.287  |
| 0.200       | 1.172                         | 0.000  | 1.929                        | 1.849  | 1.590                        | 1.505  | 1.324                              | 1.222  |
| 0.300       | 1.209                         | 0.000  | 1.945                        | 1.788  | 1.601                        | 1.447  | 1.333                              | 1.138  |
| 0.400       | 1.507                         | 0.000  | 1.966                        | 1.713  | 1.617                        | 1.381  | 1.346                              | 1.038  |
| 0.500       | 1.593                         | 0.000  | 1.989                        | 1.626  | 1.633                        | 1.310  | 1.361                              | 0.931  |
| 0.600       | 1.672                         | 0.000  | 2.014                        | 1.531  | 1.652                        | 1.234  | 1.378                              | 0.825  |
| 0.700       | 1.747                         | 0.000  | 2.040                        | 1.431  | 1.672                        | 1.156  | 1.395                              | 0.725  |
| 0.800       | 1.819                         | 0.000  | 2.067                        | 1.331  | 1.693                        | 1.132  | 1.415                              | 0.634  |
| 0.900       | 1.889                         | 0.000  | 2.095                        | 1.234  | 1.715                        | 1.055  | 1.431                              | 0.555  |
| 1.000       | 1.956                         | 0.000  | 2.121                        | 1.141  | 1.737                        | 0.981  | 1.448                              | 0.486  |

| Electrolyte | RbCl                         |        | RbClO <sub>3</sub>            |        | RbClO <sub>4</sub>            |        | RbF                           |        |
|-------------|------------------------------|--------|-------------------------------|--------|-------------------------------|--------|-------------------------------|--------|
|             | $\Lambda^0=153.8$<br>$a=3.6$ |        | $\Lambda^0=142.1$<br>$a=2.48$ |        | $\Lambda^0=144.8$<br>$a=1.86$ |        | $\Lambda^0=132.9$<br>$a=4.01$ |        |
| Conc.       | Dof                          | Dpikal | Dof                           | Dpikal | Dof                           | Dpikal | Dof                           | Dpikal |
| 0.000       | 2.054                        | 2.054  | 1.876                         | 1.876  | 1.918                         | 1.918  | 1.720                         | 1.720  |
| 0.001       | 2.022                        | 2.021  | 1.847                         | 1.845  | 1.888                         | 1.887  | 1.694                         | 1.692  |
| 0.002       | 2.011                        | 2.009  | 1.836                         | 1.834  | 1.876                         | 1.876  | 1.684                         | 1.682  |
| 0.003       | 2.002                        | 2.000  | 1.828                         | 1.826  | 1.868                         | 1.868  | 1.677                         | 1.675  |
| 0.004       | 1.996                        | 1.993  | 1.823                         | 1.820  | 1.862                         | 1.861  | 1.672                         | 1.670  |
| 0.005       | 1.990                        | 1.987  | 1.817                         | 1.815  | 1.856                         | 1.856  | 1.668                         | 1.665  |
| 0.006       | 1.985                        | 1.982  | 1.813                         | 1.810  | 1.851                         | 1.851  | 1.664                         | 1.661  |
| 0.007       | 1.981                        | 1.978  | 1.809                         | 1.806  | 1.849                         | 1.847  | 1.660                         | 1.658  |
| 0.008       | 1.977                        | 1.974  | 1.805                         | 1.802  | 1.845                         | 1.843  | 1.657                         | 1.654  |
| 0.009       | 1.973                        | 1.970  | 1.801                         | 1.799  | 1.841                         | 1.840  | 1.654                         | 1.651  |
| 0.010       | 1.970                        | 1.967  | 1.798                         | 1.795  | 1.838                         | 1.837  | 1.652                         | 1.649  |
| 0.020       | 1.947                        | 1.941  | 1.776                         | 1.772  | 1.813                         | 1.813  | 1.635                         | 1.631  |
| 0.030       | 1.933                        | 1.924  | 1.762                         | 1.756  | 1.797                         | 1.793  | 1.626                         | 1.619  |
| 0.040       | 1.923                        | 1.911  | 1.752                         | 1.743  | 1.786                         | 1.780  | 1.620                         | 1.610  |
| 0.050       | 1.916                        | 1.900  | 1.745                         | 1.733  | 1.777                         | 1.769  | 1.616                         | 1.602  |
| 0.060       | 1.909                        | 1.890  | 1.739                         | 1.724  | 1.770                         | 1.759  | 1.612                         | 1.595  |
| 0.070       | 1.904                        | 1.880  | 1.735                         | 1.717  | 1.764                         | 1.751  | 1.610                         | 1.589  |
| 0.080       | 1.900                        | 1.879  | 1.732                         | 1.710  | 1.759                         | 1.743  | 1.608                         | 1.583  |
| 0.090       | 1.896                        | 1.872  | 1.729                         | 1.703  | 1.756                         | 1.736  | 1.608                         | 1.578  |
| 0.100       | 1.894                        | 1.865  | 1.728                         | 1.697  | 1.753                         | 1.730  | 1.607                         | 1.572  |
| 0.200       | 1.883                        | 1.796  | 1.720                         | 1.646  | 1.743                         | 1.674  | 1.614                         | 1.506  |
| 0.300       | 1.881                        | 1.715  | 1.730                         | 1.596  | 1.744                         | 1.624  | 1.630                         | 1.418  |
| 0.400       | 1.886                        | 1.620  | 1.748                         | 1.541  | 1.755                         | 1.574  | 1.649                         | 1.310  |
| 0.500       | 1.892                        | 1.514  | 1.764                         | 1.480  | 1.771                         | 1.522  | 1.670                         | 1.192  |
| 0.600       | 1.901                        | 1.403  | 1.784                         | 1.415  | 1.791                         | 1.468  | 1.693                         | 1.072  |
| 0.700       | 1.910                        | 1.292  | 1.805                         | 1.348  | 1.815                         | 1.414  | 1.714                         | 0.957  |
| 0.800       | 1.920                        | 1.183  | 1.827                         | 1.279  | 1.835                         | 1.427  | 1.735                         | 0.852  |
| 0.900       | 1.928                        | 1.080  | 1.850                         | 1.210  | 1.856                         | 1.378  | 1.757                         | 0.757  |
| 1.000       | 1.937                        | 0.984  | 1.874                         | 1.142  | 1.878                         | 1.328  | 1.778                         | 0.672  |

| Electrolyte | RbI              |          | RbIO <sub>3</sub> |          | RbNO <sub>2</sub> |          | RbNO <sub>3</sub> |          |
|-------------|------------------|----------|-------------------|----------|-------------------|----------|-------------------|----------|
|             | $\Delta^0=154.4$ | $a=3.51$ | $\Delta^0=118.5$  | $a=2.61$ | $\Delta^0=149.5$  | $a=7.95$ | $\Delta^0=148.92$ | $a=2.37$ |
| Conc.       | Dof              | Dpikal   | Dof               | Dpikal   | Dof               | Dpikal   | Dof               | Dpikal   |
| 0.000       | 2.055            | 2.055    | 1.428             | 1.428    | 1.987             | 1.988    | 1.979             | 1.979    |
| 0.001       | 2.024            | 2.022    | 1.404             | 1.403    | 1.959             | 1.957    | 1.948             | 1.947    |
| 0.002       | 2.013            | 2.010    | 1.395             | 1.394    | 1.950             | 1.948    | 1.936             | 1.935    |
| 0.003       | 2.004            | 2.002    | 1.389             | 1.387    | 1.943             | 1.942    | 1.928             | 1.927    |
| 0.004       | 1.998            | 1.995    | 1.385             | 1.382    | 1.939             | 1.937    | 1.922             | 1.920    |
| 0.005       | 1.992            | 1.989    | 1.381             | 1.378    | 1.935             | 1.933    | 1.917             | 1.914    |
| 0.006       | 1.987            | 1.985    | 1.377             | 1.374    | 1.932             | 1.929    | 1.912             | 1.909    |
| 0.007       | 1.983            | 1.980    | 1.374             | 1.370    | 1.929             | 1.926    | 1.908             | 1.905    |
| 0.008       | 1.979            | 1.976    | 1.371             | 1.367    | 1.927             | 1.924    | 1.904             | 1.901    |
| 0.009       | 1.976            | 1.973    | 1.368             | 1.364    | 1.925             | 1.922    | 1.900             | 1.897    |
| 0.010       | 1.972            | 1.969    | 1.366             | 1.362    | 1.923             | 1.920    | 1.897             | 1.894    |
| 0.020       | 1.951            | 1.946    | 1.348             | 1.342    | 1.913             | 1.905    | 1.872             | 1.869    |
| 0.030       | 1.938            | 1.930    | 1.337             | 1.328    | 1.908             | 1.896    | 1.857             | 1.852    |
| 0.040       | 1.930            | 1.918    | 1.330             | 1.318    | 1.907             | 1.887    | 1.846             | 1.838    |
| 0.050       | 1.924            | 1.908    | 1.324             | 1.308    | 1.906             | 1.879    | 1.838             | 1.827    |
| 0.060       | 1.919            | 1.900    | 1.320             | 1.300    | 1.907             | 1.869    | 1.832             | 1.818    |
| 0.070       | 1.916            | 1.892    | 1.317             | 1.293    | 1.908             | 1.859    | 1.827             | 1.810    |
| 0.080       | 1.913            | 1.885    | 1.315             | 1.286    | 1.909             | 1.848    | 1.823             | 1.803    |
| 0.090       | 1.911            | 1.879    | 1.314             | 1.279    | 1.911             | 1.835    | 1.821             | 1.797    |
| 0.100       | 1.910            | 1.882    | 1.312             | 1.273    | 1.913             | 1.821    | 1.818             | 1.791    |
| 0.200       | 1.915            | 1.830    | 1.306             | 1.212    | 1.937             | 1.625    | 1.810             | 1.740    |
| 0.300       | 1.931            | 1.766    | 1.314             | 1.146    | 1.964             | 1.370    | 1.818             | 1.693    |
| 0.400       | 1.952            | 1.687    | 1.327             | 1.073    | 1.990             | 1.119    | 1.834             | 1.643    |
| 0.500       | 1.975            | 1.595    | 1.339             | 0.995    | 2.017             | 0.904    | 1.854             | 1.587    |
| 0.600       | 2.000            | 1.495    | 1.353             | 0.915    | 2.043             | 0.732    | 1.873             | 1.528    |
| 0.700       | 2.027            | 1.392    | 1.369             | 0.836    | 2.070             | 0.597    | 1.895             | 1.465    |
| 0.800       | 2.055            | 1.289    | 1.386             | 0.761    | 2.096             | 0.493    | 1.918             | 1.401    |
| 0.900       | 2.080            | 1.190    | 1.403             | 0.691    | 2.121             | 0.412    | 1.942             | 1.336    |
| 1.000       | 2.106            | 1.096    | 1.420             | 0.662    | 2.147             | 0.349    | 1.966             | 1.271    |

| Electrolyte | RbOH             |         | Rb <sub>2</sub> SO <sub>4</sub> |         | SmCl <sub>3</sub> |         | Sm(ClO <sub>4</sub> ) <sub>3</sub> |         |
|-------------|------------------|---------|---------------------------------|---------|-------------------|---------|------------------------------------|---------|
|             | $\Delta^0=275.1$ | $a=3.0$ | $\Delta^0=157.3$                | $a=3.3$ | $\Delta^0=142.1$  | $a=6.0$ | $\Delta^0=133.1$                   | $a=6.3$ |
| Conc.       | Dof              | Dpikal  | Dof                             | Dpikal  | Dof               | Dpikal  | Dof                                | Dpikal  |
| 0.000       | 2.964            | 2.964   | 1.570                           | 1.570   | 1.254             | 1.254   | 1.181                              | 1.181   |
| 0.001       | 2.913            | 2.910   | 1.493                           | 1.482   | 1.169             | 1.091   | 1.099                              | 1.032   |
| 0.002       | 2.893            | 2.890   | 1.467                           | 1.449   | 1.154             | 1.012   | 1.085                              | 0.966   |
| 0.003       | 2.880            | 2.876   | 1.450                           | 1.423   | 1.148             | 0.943   | 1.078                              | 0.892   |
| 0.004       | 2.868            | 2.864   | 1.437                           | 1.401   | 1.141             | 0.860   | 1.072                              | 0.812   |
| 0.005       | 2.859            | 2.854   | 1.426                           | 1.380   | 1.136             | 0.772   | 1.067                              | 0.729   |
| 0.006       | 2.850            | 2.846   | 1.417                           | 1.361   | 1.133             | 0.686   | 1.065                              | 0.655   |
| 0.007       | 2.843            | 2.838   | 1.409                           | 1.353   | 1.131             | 0.603   | 1.063                              | 0.575   |
| 0.008       | 2.836            | 2.831   | 1.403                           | 1.337   | 1.130             | 0.535   | 1.062                              | 0.501   |
| 0.009       | 2.830            | 2.825   | 1.397                           | 1.321   | 1.129             | 0.465   | 1.061                              | 0.435   |
| 0.010       | 2.824            | 2.819   | 1.392                           | 1.305   | 1.129             | 0.404   | 1.064                              | 0.377   |
| 0.020       | 2.783            | 2.776   | 1.360                           | 1.142   | 1.128             | 0.114   | 1.059                              | 0.105   |
| 0.030       | 2.758            | 2.747   | 1.339                           | 1.000   | 1.133             | 0.045   | 1.065                              | 0.041   |
| 0.040       | 2.739            | 2.725   | 1.326                           | 0.902   | 1.142             | 0.022   | 1.078                              | 0.020   |
| 0.050       | 2.726            | 2.708   | 1.319                           | 0.780   | 1.152             | 0.013   | 1.080                              | 0.012   |
| 0.060       | 2.715            | 2.693   | 1.314                           | 0.671   | 1.155             | 0.008   | 1.083                              | 0.007   |
| 0.070       | 2.707            | 2.680   | 1.311                           | 0.574   | 1.158             | 0.005   | 1.087                              | 0.005   |
| 0.080       | 2.700            | 2.668   | 1.311                           | 0.491   | 1.163             | 0.004   | 1.091                              | 0.004   |
| 0.090       | 2.694            | 2.657   | 1.308                           | 0.420   | 1.167             | 0.003   | 1.095                              | 0.003   |
| 0.100       | 2.689            | 2.647   | 1.307                           | 0.377   | 1.171             | 0.002   | 1.100                              | 0.002   |
| 0.200       | 2.672            | 2.562   | 1.317                           | 0.103   | 1.215             | 0.000   | 1.141                              | 0.000   |
| 0.300       | 2.683            | 2.471   | 1.350                           | 0.042   | 1.253             | 0.000   | 1.175                              | 0.000   |
| 0.400       | 2.701            | 2.397   | 1.370                           | 0.021   | 1.565             | 0.000   | 1.457                              | 0.000   |
| 0.500       | 2.726            | 2.272   | 1.393                           | 0.012   | 1.654             | 0.000   | 1.535                              | 0.000   |
| 0.600       | 2.755            | 2.129   | 1.419                           | 0.008   | 1.737             | 0.000   | 1.609                              | 0.000   |
| 0.700       | 2.786            | 1.976   | 1.444                           | 0.006   | 1.815             | 0.000   | 1.678                              | 0.000   |
| 0.800       | 2.818            | 1.820   | 1.470                           | 0.004   | 1.890             | 0.000   | 1.744                              | 0.000   |
| 0.900       | 2.852            | 1.665   | 1.496                           | 0.003   | 1.963             | 0.000   | 1.808                              | 0.000   |
| 1.000       | 2.886            | 1.517   | 1.522                           | 0.002   | 2.033             | 0.000   | 1.870                              | 0.000   |

| Electrolyte | Sm(NO <sub>3</sub> ) <sub>3</sub> |        | SrBr <sub>2</sub>          |        | Sr(BrO <sub>3</sub> ) <sub>2</sub> |        | Sr(CHO <sub>2</sub> ) <sub>2</sub> |        |
|-------------|-----------------------------------|--------|----------------------------|--------|------------------------------------|--------|------------------------------------|--------|
|             | $\Lambda^0=137.22$<br>a=6.0       |        | $\Lambda^0=137.9$<br>a=4.0 |        | $\Lambda^0=115.3$<br>a=4.3         |        | $\Lambda^0=114.6$<br>a=4.3         |        |
| Conc.       | Dof                               | Dpikal | Dof                        | Dpikal | Dof                                | Dpikal | Dof                                | Dpikal |
| 0.000       | 1.216                             | 1.216  | 1.351                      | 1.351  | 1.150                              | 1.150  | 1.142                              | 1.143  |
| 0.001       | 1.132                             | 1.061  | 1.292                      | 1.271  | 1.100                              | 1.088  | 1.092                              | 1.082  |
| 0.002       | 1.117                             | 0.986  | 1.274                      | 1.244  | 1.084                              | 1.068  | 1.077                              | 1.061  |
| 0.003       | 1.111                             | 0.920  | 1.263                      | 1.224  | 1.075                              | 1.052  | 1.068                              | 1.046  |
| 0.004       | 1.104                             | 0.840  | 1.254                      | 1.206  | 1.068                              | 1.039  | 1.061                              | 1.033  |
| 0.005       | 1.100                             | 0.757  | 1.247                      | 1.191  | 1.062                              | 1.028  | 1.055                              | 1.022  |
| 0.006       | 1.096                             | 0.674  | 1.242                      | 1.176  | 1.058                              | 1.017  | 1.051                              | 1.011  |
| 0.007       | 1.094                             | 0.594  | 1.238                      | 1.163  | 1.054                              | 1.006  | 1.047                              | 1.001  |
| 0.008       | 1.093                             | 0.528  | 1.234                      | 1.150  | 1.051                              | 1.003  | 1.044                              | 0.997  |
| 0.009       | 1.093                             | 0.460  | 1.231                      | 1.137  | 1.049                              | 0.994  | 1.042                              | 0.988  |
| 0.010       | 1.092                             | 0.400  | 1.228                      | 1.124  | 1.046                              | 0.984  | 1.040                              | 0.979  |
| 0.020       | 1.091                             | 0.114  | 1.210                      | 1.007  | 1.031                              | 0.876  | 1.024                              | 0.871  |
| 0.030       | 1.096                             | 0.045  | 1.201                      | 0.862  | 1.024                              | 0.757  | 1.017                              | 0.754  |
| 0.040       | 1.104                             | 0.022  | 1.198                      | 0.711  | 1.022                              | 0.646  | 1.015                              | 0.644  |
| 0.050       | 1.114                             | 0.013  | 1.200                      | 0.577  | 1.022                              | 0.528  | 1.015                              | 0.527  |
| 0.060       | 1.117                             | 0.008  | 1.198                      | 0.463  | 1.021                              | 0.426  | 1.014                              | 0.425  |
| 0.070       | 1.120                             | 0.006  | 1.197                      | 0.378  | 1.020                              | 0.343  | 1.014                              | 0.342  |
| 0.080       | 1.124                             | 0.004  | 1.197                      | 0.303  | 1.021                              | 0.276  | 1.014                              | 0.276  |
| 0.090       | 1.128                             | 0.003  | 1.198                      | 0.245  | 1.022                              | 0.224  | 1.016                              | 0.224  |
| 0.100       | 1.132                             | 0.002  | 1.200                      | 0.200  | 1.024                              | 0.184  | 1.017                              | 0.184  |
| 0.200       | 1.175                             | 0.000  | 1.233                      | 0.043  | 1.050                              | 0.040  | 1.043                              | 0.040  |
| 0.300       | 1.211                             | 0.000  | 1.253                      | 0.016  | 1.069                              | 0.015  | 1.062                              | 0.015  |
| 0.400       | 1.509                             | 0.000  | 1.277                      | 0.008  | 1.090                              | 0.008  | 1.083                              | 0.008  |
| 0.500       | 1.594                             | 0.000  | 1.301                      | 0.005  | 1.111                              | 0.004  | 1.104                              | 0.004  |
| 0.600       | 1.673                             | 0.000  | 1.326                      | 0.003  | 1.132                              | 0.003  | 1.124                              | 0.003  |
| 0.700       | 1.748                             | 0.000  | 1.350                      | 0.002  | 1.152                              | 0.002  | 1.145                              | 0.002  |
| 0.800       | 1.820                             | 0.000  | 1.374                      | 0.001  | 1.173                              | 0.001  | 1.165                              | 0.001  |
| 0.900       | 1.889                             | 0.000  | 1.398                      | 0.001  | 1.192                              | 0.001  | 1.184                              | 0.001  |
| 1.000       | 1.956                             | 0.000  | 1.421                      | 0.001  | 1.212                              | 0.001  | 1.204                              | 0.001  |

| Electrolyte | Sr(C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> ) <sub>2</sub> |        | SrCl <sub>2</sub>           |        | Sr(ClO <sub>3</sub> ) <sub>2</sub> |        | Sr(ClO <sub>4</sub> ) <sub>2</sub> |        |
|-------------|--|--------|-----------------------------|--------|------------------------------------|--------|------------------------------------|--------|
|             | $\Lambda^0=100.5$<br>a=4.8                                     |        | $\Lambda^0=135.8$<br>a=4.89 |        | $\Lambda^0=124.1$<br>a=4.3         |        | $\Lambda^0=126.8$<br>a=4.3         |        |
| Conc.       | Dof  | Dpikal | Dof                         | Dpikal | Dof                                | Dpikal | Dof                                | Dpikal |
| 0.000       | 0.969  | 0.969  | 1.334                       | 1.334  | 1.237                              | 1.237  | 1.261                              | 1.261  |
| 0.001       | 0.926  | 0.922  | 1.277                       | 1.259  | 1.183                              | 1.168  | 1.206                              | 1.190  |
| 0.002       | 0.913  | 0.907  | 1.260                       | 1.234  | 1.167                              | 1.145  | 1.190                              | 1.166  |
| 0.003       | 0.905  | 0.896  | 1.250                       | 1.216  | 1.156                              | 1.127  | 1.179                              | 1.148  |
| 0.004       | 0.899  | 0.887  | 1.243                       | 1.196  | 1.149                              | 1.112  | 1.171                              | 1.133  |
| 0.005       | 0.895  | 0.875  | 1.238                       | 1.182  | 1.143                              | 1.099  | 1.165                              | 1.119  |
| 0.006       | 0.891  | 0.866  | 1.234                       | 1.168  | 1.138                              | 1.087  | 1.161                              | 1.106  |
| 0.007       | 0.888  | 0.859  | 1.231                       | 1.155  | 1.134                              | 1.075  | 1.157                              | 1.094  |
| 0.008       | 0.886  | 0.851  | 1.228                       | 1.141  | 1.131                              | 1.071  | 1.153                              | 1.090  |
| 0.009       | 0.884  | 0.843  | 1.227                       | 1.128  | 1.128                              | 1.060  | 1.151                              | 1.079  |
| 0.010       | 0.882  | 0.836  | 1.224                       | 1.115  | 1.126                              | 1.049  | 1.148                              | 1.067  |
| 0.020       | 0.869  | 0.762  | 1.214                       | 0.986  | 1.109                              | 0.927  | 1.131                              | 0.940  |
| 0.030       | 0.864  | 0.664  | 1.214                       | 0.818  | 1.102                              | 0.793  | 1.124                              | 0.803  |
| 0.040       | 0.863  | 0.557  | 1.219                       | 0.651  | 1.100                              | 0.670  | 1.122                              | 0.676  |
| 0.050       | 0.862  | 0.456  | 1.223                       | 0.507  | 1.100                              | 0.542  | 1.122                              | 0.545  |
| 0.060       | 0.861  | 0.369  | 1.229                       | 0.400  | 1.099                              | 0.433  | 1.121                              | 0.434  |
| 0.070       | 0.862  | 0.302  | 1.236                       | 0.310  | 1.099                              | 0.345  | 1.121                              | 0.346  |
| 0.080       | 0.863  | 0.244  | 1.243                       | 0.243  | 1.100                              | 0.276  | 1.122                              | 0.276  |
| 0.090       | 0.864  | 0.198  | 1.252                       | 0.194  | 1.101                              | 0.223  | 1.123                              | 0.223  |
| 0.100       | 0.866  | 0.162  | 1.260                       | 0.156  | 1.103                              | 0.182  | 1.125                              | 0.182  |
| 0.200       | 0.885  | 0.036  | 1.344                       | 0.033  | 1.131                              | 0.039  | 1.154                              | 0.039  |
| 0.300       | 0.902  | 0.014  | 1.425                       | 0.013  | 1.151                              | 0.015  | 1.174                              | 0.015  |
| 0.400       | 0.920  | 0.007  | 1.507                       | 0.007  | 1.174                              | 0.007  | 1.197                              | 0.007  |
| 0.500       | 0.937  | 0.004  | 1.588                       | 0.004  | 1.197                              | 0.004  | 1.220                              | 0.004  |
| 0.600       | 0.954  | 0.003  | 1.668                       | 0.003  | 1.219                              | 0.003  | 1.243                              | 0.003  |
| 0.700       | 0.971  | 0.002  | 1.747                       | 0.002  | 1.241                              | 0.002  | 1.266                              | 0.002  |
| 0.800       | 0.987  | 0.001  | 1.826                       | 0.001  | 1.263                              | 0.001  | 1.288                              | 0.001  |
| 0.900       | 1.003  | 0.001  | 1.905                       | 0.001  | 1.284                              | 0.001  | 1.310                              | 0.001  |
| 1.000       | 1.019  | 0.001  | 1.983                       | 0.001  | 1.305                              | 0.001  | 1.331                              | 0.001  |

| Electrolyte | Sr <sub>2</sub> Fe(CN) <sub>6</sub> |         | SrI <sub>2</sub> |         | Sr(NO <sub>2</sub> ) <sub>2</sub> |         | Sr(NO <sub>3</sub> ) <sub>2</sub> |         |
|-------------|-------------------------------------|---------|------------------|---------|-----------------------------------|---------|-----------------------------------|---------|
|             | $\Delta^0=167.6$                    | $a=5.0$ | $\Delta^0=136.4$ | $a=4.0$ | $\Delta^0=131.5$                  | $a=4.0$ | $\Delta^0=130.92$                 | $a=4.0$ |
| Conc.       | Dof                                 | Dpikal  | Dof              | Dpikal  | Dof                               | Dpikal  | Dof                               | Dpikal  |
| 0.000       | 0.766                               | 0.766   | 1.339            | 1.340   | 1.301                             | 1.301   | 1.296                             | 1.296   |
| 0.001       | 0.837                               | -0.793  | 1.281            | 1.260   | 1.244                             | 1.225   | 1.240                             | 1.221   |
| 0.002       | 0.875                               | -1.507  | 1.264            | 1.235   | 1.227                             | 1.201   | 1.223                             | 1.197   |
| 0.003       | 0.895                               | -1.323  | 1.252            | 1.214   | 1.216                             | 1.182   | 1.212                             | 1.178   |
| 0.004       | 0.910                               | 2.134   | 1.244            | 1.197   | 1.208                             | 1.165   | 1.203                             | 1.161   |
| 0.005       | 0.924                               | 0.995   | 1.237            | 1.182   | 1.201                             | 1.151   | 1.197                             | 1.147   |
| 0.006       | 0.936                               | 0.561   | 1.232            | 1.168   | 1.196                             | 1.137   | 1.192                             | 1.134   |
| 0.007       | 0.947                               | 0.357   | 1.227            | 1.155   | 1.192                             | 1.125   | 1.188                             | 1.122   |
| 0.008       | 0.961                               | 0.246   | 1.224            | 1.142   | 1.188                             | 1.113   | 1.184                             | 1.109   |
| 0.009       | 0.966                               | 0.178   | 1.221            | 1.129   | 1.185                             | 1.101   | 1.181                             | 1.097   |
| 0.010       | 0.971                               | 0.138   | 1.218            | 1.116   | 1.183                             | 1.089   | 1.179                             | 1.085   |
| 0.020       | 1.003                               | 0.026   | 1.200            | 1.001   | 1.165                             | 0.979   | 1.161                             | 0.977   |
| 0.030       | 1.025                               | 0.009   | 1.191            | 0.858   | 1.157                             | 0.842   | 1.153                             | 0.840   |
| 0.040       | 1.035                               | 0.005   | 1.188            | 0.708   | 1.154                             | 0.698   | 1.149                             | 0.697   |
| 0.050       | 1.034                               | 0.003   | 1.190            | 0.575   | 1.155                             | 0.569   | 1.151                             | 0.569   |
| 0.060       | 1.033                               | 0.002   | 1.188            | 0.462   | 1.153                             | 0.459   | 1.149                             | 0.459   |
| 0.070       | 1.032                               | 0.001   | 1.187            | 0.378   | 1.152                             | 0.376   | 1.148                             | 0.376   |
| 0.080       | 1.032                               | 0.001   | 1.187            | 0.303   | 1.153                             | 0.303   | 1.148                             | 0.303   |
| 0.090       | 1.031                               | 0.001   | 1.188            | 0.245   | 1.154                             | 0.246   | 1.149                             | 0.246   |
| 0.100       | 1.031                               | 0.000   | 1.190            | 0.201   | 1.155                             | 0.201   | 1.151                             | 0.201   |
| 0.200       | 1.035                               | 0.000   | 1.223            | 0.043   | 1.187                             | 0.044   | 1.183                             | 0.044   |
| 0.300       | 1.487                               | 0.000   | 1.243            | 0.016   | 1.207                             | 0.017   | 1.202                             | 0.017   |
| 0.400       | 1.607                               | 0.000   | 1.266            | 0.008   | 1.230                             | 0.008   | 1.225                             | 0.008   |
| 0.500       | 1.717                               | 0.000   | 1.291            | 0.005   | 1.253                             | 0.005   | 1.249                             | 0.005   |
| 0.600       | 1.819                               | 0.000   | 1.315            | 0.003   | 1.277                             | 0.003   | 1.272                             | 0.003   |
| 0.700       | 1.916                               | 0.000   | 1.339            | 0.002   | 1.301                             | 0.002   | 1.296                             | 0.002   |
| 0.800       | 2.008                               | 0.000   | 1.363            | 0.002   | 1.324                             | 0.002   | 1.319                             | 0.002   |
| 0.900       | 2.098                               | 0.000   | 1.386            | 0.001   | 1.347                             | 0.001   | 1.342                             | 0.001   |
| 1.000       | 2.185                               | 0.000   | 1.409            | 0.001   | 1.369                             | 0.001   | 1.364                             | 0.001   |

| Electrolyte | SrSO <sub>4</sub> |         | SrS <sub>2</sub> O <sub>3</sub> |         | TiC <sub>2</sub> H <sub>3</sub> O <sub>2</sub> |         | TiCl             |         |
|-------------|-------------------|---------|---------------------------------|---------|--|---------|------------------|---------|
|             | $\Delta^0=139.3$  | $a=4.5$ | $\Delta^0=146.9$                | $a=4.5$ | $\Delta^0=115.9$                               | $a=3.5$ | $\Delta^0=151.2$ | $a=2.8$ |
| Conc.       | Dof               | Dpikal  | Dof                             | Dpikal  | Dof  | Dpikal  | Dof              | Dpikal  |
| 0.000       | 0.907             | 0.908   | 0.942                           | 0.943   | 1.411  | 1.411   | 2.012            | 2.013   |
| 0.001       | 0.772             | 0.788   | 0.802                           | 0.816   | 1.388  | 1.386   | 1.981            | 1.980   |
| 0.002       | 0.731             | 0.755   | 0.759                           | 0.781   | 1.380  | 1.378   | 1.970            | 1.968   |
| 0.003       | 0.706             | 0.712   | 0.732                           | 0.737   | 1.374  | 1.372   | 1.962            | 1.959   |
| 0.004       | 0.688             | 0.691   | 0.714                           | 0.715   | 1.369  | 1.367   | 1.955            | 1.953   |
| 0.005       | 0.676             | 0.674   | 0.701                           | 0.697   | 1.365  | 1.363   | 1.950            | 1.947   |
| 0.006       | 0.667             | 0.659   | 0.692                           | 0.681   | 1.362  | 1.359   | 1.945            | 1.942   |
| 0.007       | 0.661             | 0.646   | 0.686                           | 0.668   | 1.359  | 1.356   | 1.940            | 1.937   |
| 0.008       | 0.658             | 0.634   | 0.682                           | 0.656   | 1.356  | 1.353   | 1.936            | 1.933   |
| 0.009       | 0.655             | 0.624   | 0.679                           | 0.645   | 1.353  | 1.350   | 1.933            | 1.930   |
| 0.010       | 0.654             | 0.614   | 0.678                           | 0.635   | 1.351  | 1.348   | 1.929            | 1.926   |
| 0.020       | 0.698             | 0.559   | 0.723                           | 0.579   | 1.336  | 1.329   | 1.906            | 1.901   |
| 0.030       | 0.802             | 0.532   | 0.830                           | 0.551   | 1.327  | 1.317   | 1.892            | 1.885   |
| 0.040       | 0.930             | 0.511   | 0.963                           | 0.527   | 1.321  | 1.307   | 1.882            | 1.873   |
| 0.050       | 1.079             | 0.490   | 1.117                           | 0.502   | 1.318  | 1.298   | 1.875            | 1.862   |
| 0.060       | 1.244             | 0.468   | 1.288                           | 0.476   | 1.314  | 1.290   | 1.869            | 1.853   |
| 0.070       | 1.420             | 0.446   | 1.470                           | 0.451   | 1.311  | 1.282   | 1.865            | 1.846   |
| 0.080       | 1.606             | 0.468   | 1.662                           | 0.464   | 1.309  | 1.275   | 1.863            | 1.839   |
| 0.090       | 1.799             | 0.444   | 1.863                           | 0.437   | 1.308  | 1.268   | 1.860            | 1.832   |
| 0.100       | 2.000             | 0.422   | 2.070                           | 0.411   | 1.307  | 1.273   | 1.857            | 1.826   |
| 0.200       | 4.183             | 0.258   | 4.331                           | 0.237   | 1.310  | 1.210   | 1.853            | 1.772   |
| 0.300       | 6.538             | 0.182   | 6.771                           | 0.160   | 1.319  | 1.128   | 1.868            | 1.717   |
| 0.400       | 8.993             | 0.134   | 9.314                           | 0.115   | 1.333  | 1.031   | 1.884            | 1.655   |
| 0.500       | 11.510            | 0.105   | 11.923                          | 0.089   | 1.348  | 0.926   | 1.904            | 1.586   |
| 0.600       | 14.070            | 0.085   | 14.577                          | 0.071   | 1.365  | 0.821   | 1.926            | 1.562   |
| 0.700       | 16.664            | 0.071   | 17.267                          | 0.059   | 1.382  | 0.723   | 1.950            | 1.487   |
| 0.800       | 19.284            | 0.061   | 19.983                          | 0.050   | 1.402  | 0.634   | 1.975            | 1.409   |
| 0.900       | 21.926            | 0.053   | 22.721                          | 0.043   | 1.418  | 0.556   | 2.000            | 1.331   |
| 1.000       | 24.585            | 0.047   | 25.478                          | 0.038   | 1.435  | 0.487   | 2.026            | 1.253   |

| Electrolyte | TIClO <sub>4</sub> |        | TlF              |        | TINO <sub>2</sub> |        | TINO <sub>3</sub> |        |
|-------------|--------------------|--------|------------------|--------|-------------------|--------|-------------------|--------|
|             | $\Delta^0=142.2$   | a=3.0  | $\Delta^0=130.3$ | a=3.0  | $\Delta^0=146.9$  | a=2.8  | $\Delta^0=146.32$ | a=2.8  |
| Conc.       | Dof                | Dpikal | Dof              | Dpikal | Dof               | Dpikal | Dof               | Dpikal |
| 0.000       | 1.887              | 1.888  | 1.695            | 1.696  | 1.954             | 1.955  | 1.946             | 1.947  |
| 0.001       | 1.858              | 1.857  | 1.669            | 1.668  | 1.924             | 1.923  | 1.916             | 1.915  |
| 0.002       | 1.848              | 1.846  | 1.659            | 1.658  | 1.913             | 1.911  | 1.905             | 1.904  |
| 0.003       | 1.841              | 1.838  | 1.653            | 1.651  | 1.906             | 1.903  | 1.898             | 1.895  |
| 0.004       | 1.834              | 1.832  | 1.648            | 1.645  | 1.899             | 1.897  | 1.892             | 1.889  |
| 0.005       | 1.829              | 1.826  | 1.643            | 1.640  | 1.894             | 1.891  | 1.886             | 1.883  |
| 0.006       | 1.825              | 1.822  | 1.639            | 1.636  | 1.889             | 1.886  | 1.881             | 1.879  |
| 0.007       | 1.821              | 1.818  | 1.635            | 1.632  | 1.885             | 1.882  | 1.877             | 1.874  |
| 0.008       | 1.817              | 1.814  | 1.632            | 1.629  | 1.881             | 1.878  | 1.873             | 1.870  |
| 0.009       | 1.814              | 1.811  | 1.629            | 1.626  | 1.878             | 1.875  | 1.870             | 1.867  |
| 0.010       | 1.811              | 1.808  | 1.626            | 1.623  | 1.874             | 1.871  | 1.867             | 1.864  |
| 0.020       | 1.790              | 1.785  | 1.607            | 1.603  | 1.852             | 1.847  | 1.844             | 1.840  |
| 0.030       | 1.777              | 1.770  | 1.596            | 1.589  | 1.838             | 1.831  | 1.830             | 1.824  |
| 0.040       | 1.768              | 1.758  | 1.589            | 1.578  | 1.828             | 1.819  | 1.821             | 1.812  |
| 0.050       | 1.762              | 1.749  | 1.583            | 1.569  | 1.822             | 1.809  | 1.814             | 1.802  |
| 0.060       | 1.758              | 1.740  | 1.580            | 1.561  | 1.817             | 1.801  | 1.809             | 1.793  |
| 0.070       | 1.755              | 1.733  | 1.577            | 1.554  | 1.813             | 1.793  | 1.805             | 1.786  |
| 0.080       | 1.752              | 1.726  | 1.574            | 1.547  | 1.810             | 1.786  | 1.803             | 1.779  |
| 0.090       | 1.749              | 1.720  | 1.572            | 1.541  | 1.807             | 1.780  | 1.800             | 1.772  |
| 0.100       | 1.747              | 1.714  | 1.570            | 1.535  | 1.805             | 1.774  | 1.798             | 1.766  |
| 0.200       | 1.747              | 1.658  | 1.570            | 1.476  | 1.802             | 1.720  | 1.794             | 1.713  |
| 0.300       | 1.761              | 1.597  | 1.583            | 1.411  | 1.816             | 1.665  | 1.809             | 1.657  |
| 0.400       | 1.778              | 1.567  | 1.598            | 1.377  | 1.832             | 1.602  | 1.824             | 1.595  |
| 0.500       | 1.798              | 1.496  | 1.616            | 1.301  | 1.851             | 1.533  | 1.844             | 1.526  |
| 0.600       | 1.819              | 1.417  | 1.636            | 1.219  | 1.873             | 1.509  | 1.865             | 1.502  |
| 0.700       | 1.843              | 1.335  | 1.656            | 1.134  | 1.896             | 1.435  | 1.889             | 1.427  |
| 0.800       | 1.866              | 1.251  | 1.678            | 1.049  | 1.920             | 1.357  | 1.913             | 1.350  |
| 0.900       | 1.891              | 1.168  | 1.700            | 0.967  | 1.945             | 1.280  | 1.937             | 1.272  |
| 1.000       | 1.916              | 1.088  | 1.722            | 0.889  | 1.970             | 1.203  | 1.963             | 1.196  |

| Electrolyte | Tl <sub>2</sub> SO <sub>4</sub> |        | YCl <sub>3</sub> |        | Y(NO <sub>3</sub> ) <sub>3</sub> |        | ZnBr <sub>2</sub> |        |
|-------------|---------------------------------|--------|------------------|--------|----------------------------------|--------|-------------------|--------|
|             | $\Delta^0=154.7$                | a=3.3  | $\Delta^0=141.5$ | a=6.0  | $\Delta^0=136.62$                | a=6.0  | $\Delta^0=131.9$  | a=4.5  |
| Conc.       | Dof                             | Dpikal | Dof              | Dpikal | Dof                              | Dpikal | Dof               | Dpikal |
| 0.000       | 1.543                           | 1.543  | 1.248            | 1.248  | 1.210                            | 1.210  | 1.270             | 1.270  |
| 0.001       | 1.467                           | 1.457  | 1.164            | 1.085  | 1.127                            | 1.055  | 1.216             | 1.193  |
| 0.002       | 1.442                           | 1.425  | 1.149            | 1.006  | 1.113                            | 0.980  | 1.200             | 1.166  |
| 0.003       | 1.425                           | 1.400  | 1.143            | 0.937  | 1.107                            | 0.914  | 1.190             | 1.145  |
| 0.004       | 1.412                           | 1.378  | 1.136            | 0.853  | 1.100                            | 0.834  | 1.183             | 1.133  |
| 0.005       | 1.402                           | 1.358  | 1.132            | 0.766  | 1.095                            | 0.750  | 1.178             | 1.118  |
| 0.006       | 1.393                           | 1.340  | 1.129            | 0.679  | 1.092                            | 0.667  | 1.173             | 1.104  |
| 0.007       | 1.386                           | 1.332  | 1.127            | 0.596  | 1.090                            | 0.587  | 1.170             | 1.090  |
| 0.008       | 1.379                           | 1.316  | 1.125            | 0.529  | 1.089                            | 0.522  | 1.167             | 1.077  |
| 0.009       | 1.373                           | 1.301  | 1.125            | 0.460  | 1.089                            | 0.454  | 1.165             | 1.063  |
| 0.010       | 1.368                           | 1.285  | 1.125            | 0.399  | 1.089                            | 0.395  | 1.164             | 1.050  |
| 0.020       | 1.338                           | 1.127  | 1.124            | 0.112  | 1.087                            | 0.112  | 1.148             | 0.898  |
| 0.030       | 1.317                           | 0.988  | 1.129            | 0.044  | 1.092                            | 0.044  | 1.143             | 0.753  |
| 0.040       | 1.305                           | 0.893  | 1.138            | 0.022  | 1.101                            | 0.022  | 1.144             | 0.595  |
| 0.050       | 1.297                           | 0.773  | 1.149            | 0.013  | 1.111                            | 0.013  | 1.142             | 0.460  |
| 0.060       | 1.293                           | 0.666  | 1.151            | 0.008  | 1.113                            | 0.008  | 1.141             | 0.354  |
| 0.070       | 1.290                           | 0.571  | 1.155            | 0.005  | 1.117                            | 0.005  | 1.142             | 0.274  |
| 0.080       | 1.290                           | 0.489  | 1.159            | 0.004  | 1.120                            | 0.004  | 1.144             | 0.215  |
| 0.090       | 1.287                           | 0.419  | 1.163            | 0.003  | 1.125                            | 0.003  | 1.146             | 0.170  |
| 0.100       | 1.286                           | 0.377  | 1.167            | 0.002  | 1.129                            | 0.002  | 1.148             | 0.137  |
| 0.200       | 1.296                           | 0.103  | 1.211            | 0.000  | 1.171                            | 0.000  | 1.177             | 0.028  |
| 0.300       | 1.328                           | 0.042  | 1.248            | 0.000  | 1.207                            | 0.000  | 1.198             | 0.010  |
| 0.400       | 1.349                           | 0.021  | 1.563            | 0.000  | 1.507                            | 0.000  | 1.222             | 0.005  |
| 0.500       | 1.372                           | 0.013  | 1.652            | 0.000  | 1.592                            | 0.000  | 1.245             | 0.003  |
| 0.600       | 1.397                           | 0.008  | 1.735            | 0.000  | 1.672                            | 0.000  | 1.268             | 0.002  |
| 0.700       | 1.422                           | 0.006  | 1.814            | 0.000  | 1.747                            | 0.000  | 1.291             | 0.001  |
| 0.800       | 1.448                           | 0.004  | 1.889            | 0.000  | 1.819                            | 0.000  | 1.313             | 0.001  |
| 0.900       | 1.473                           | 0.003  | 1.962            | 0.000  | 1.889                            | 0.000  | 1.334             | 0.001  |
| 1.000       | 1.499                           | 0.002  | 2.032            | 0.000  | 1.956                            | 0.000  | 1.356             | 0.001  |

| Electrolyte | ZnCl <sub>2</sub>           |        | Zn(ClO <sub>3</sub> ) <sub>2</sub> |        | Zn(ClO <sub>4</sub> ) <sub>2</sub> |        | ZnF <sub>2</sub>            |        |
|-------------|-----------------------------|--------|------------------------------------|--------|------------------------------------|--------|-----------------------------|--------|
|             | $\Delta^0=129.8$<br>$a=4.5$ |        | $\Delta^0=118.1$<br>$a=4.8$        |        | $\Delta^0=120.8$<br>$a=4.8$        |        | $\Delta^0=108.9$<br>$a=4.8$ |        |
| Conc.       | Dof                         | Dpikal | Dof                                | Dpikal | Dof                                | Dpikal | Dof                         | Dpikal |
| 0.000       | 1.256                       | 1.256  | 1.169                              | 1.169  | 1.190                              | 1.190  | 1.087                       | 1.087  |
| 0.001       | 1.202                       | 1.181  | 1.119                              | 1.103  | 1.140                              | 1.123  | 1.041                       | 1.029  |
| 0.002       | 1.187                       | 1.154  | 1.105                              | 1.081  | 1.125                              | 1.100  | 1.027                       | 1.009  |
| 0.003       | 1.177                       | 1.133  | 1.096                              | 1.064  | 1.116                              | 1.083  | 1.019                       | 0.995  |
| 0.004       | 1.170                       | 1.122  | 1.089                              | 1.050  | 1.110                              | 1.068  | 1.013                       | 0.982  |
| 0.005       | 1.165                       | 1.107  | 1.085                              | 1.033  | 1.105                              | 1.050  | 1.009                       | 0.967  |
| 0.006       | 1.161                       | 1.093  | 1.081                              | 1.020  | 1.101                              | 1.037  | 1.005                       | 0.956  |
| 0.007       | 1.157                       | 1.080  | 1.078                              | 1.008  | 1.098                              | 1.024  | 1.002                       | 0.945  |
| 0.008       | 1.155                       | 1.066  | 1.076                              | 0.996  | 1.096                              | 1.012  | 1.000                       | 0.934  |
| 0.009       | 1.152                       | 1.053  | 1.074                              | 0.984  | 1.094                              | 0.999  | 0.999                       | 0.924  |
| 0.010       | 1.151                       | 1.040  | 1.072                              | 0.971  | 1.091                              | 0.987  | 0.996                       | 0.913  |
| 0.020       | 1.135                       | 0.891  | 1.058                              | 0.851  | 1.078                              | 0.863  | 0.984                       | 0.807  |
| 0.030       | 1.130                       | 0.748  | 1.054                              | 0.699  | 1.074                              | 0.706  | 0.980                       | 0.671  |
| 0.040       | 1.132                       | 0.592  | 1.054                              | 0.551  | 1.074                              | 0.555  | 0.980                       | 0.535  |
| 0.050       | 1.129                       | 0.459  | 1.053                              | 0.425  | 1.073                              | 0.427  | 0.979                       | 0.418  |
| 0.060       | 1.129                       | 0.354  | 1.053                              | 0.326  | 1.073                              | 0.327  | 0.979                       | 0.324  |
| 0.070       | 1.130                       | 0.274  | 1.054                              | 0.256  | 1.074                              | 0.256  | 0.980                       | 0.256  |
| 0.080       | 1.131                       | 0.215  | 1.056                              | 0.200  | 1.076                              | 0.200  | 0.982                       | 0.201  |
| 0.090       | 1.133                       | 0.171  | 1.058                              | 0.158  | 1.078                              | 0.158  | 0.984                       | 0.160  |
| 0.100       | 1.135                       | 0.137  | 1.061                              | 0.127  | 1.081                              | 0.126  | 0.986                       | 0.128  |
| 0.200       | 1.164                       | 0.028  | 1.086                              | 0.026  | 1.106                              | 0.025  | 1.009                       | 0.026  |
| 0.300       | 1.185                       | 0.010  | 1.107                              | 0.010  | 1.127                              | 0.010  | 1.029                       | 0.010  |
| 0.400       | 1.208                       | 0.005  | 1.129                              | 0.005  | 1.150                              | 0.005  | 1.049                       | 0.005  |
| 0.500       | 1.231                       | 0.003  | 1.150                              | 0.003  | 1.172                              | 0.003  | 1.070                       | 0.003  |
| 0.600       | 1.254                       | 0.002  | 1.172                              | 0.002  | 1.193                              | 0.002  | 1.089                       | 0.002  |
| 0.700       | 1.277                       | 0.001  | 1.192                              | 0.001  | 1.214                              | 0.001  | 1.108                       | 0.001  |
| 0.800       | 1.298                       | 0.001  | 1.212                              | 0.001  | 1.235                              | 0.001  | 1.127                       | 0.001  |
| 0.900       | 1.320                       | 0.001  | 1.232                              | 0.001  | 1.255                              | 0.001  | 1.145                       | 0.001  |
| 1.000       | 1.341                       | 0.001  | 1.251                              | 0.001  | 1.274                              | 0.001  | 1.163                       | 0.001  |

| Electrolyte | ZnI <sub>2</sub>            |        | Zn(NO <sub>3</sub> ) <sub>2</sub> |        | Zn(SCN) <sub>2</sub>        |        | ZnSO <sub>4</sub>            |        |
|-------------|-----------------------------|--------|-----------------------------------|--------|-----------------------------|--------|------------------------------|--------|
|             | $\Delta^0=130.4$<br>$a=4.5$ |        | $\Delta^0=124.92$<br>$a=4.5$      |        | $\Delta^0=120.0$<br>$a=4.8$ |        | $\Delta^0=133.3$<br>$a=3.64$ |        |
| Conc.       | Dof                         | Dpikal | Dof                               | Dpikal | Dof                         | Dpikal | Dof                          | Dpikal |
| 0.000       | 1.260                       | 1.260  | 1.221                             | 1.222  | 1.184                       | 1.184  | 0.853                        | 0.853  |
| 0.001       | 1.206                       | 1.184  | 1.170                             | 1.150  | 1.134                       | 1.117  | 0.730                        | 0.768  |
| 0.002       | 1.191                       | 1.157  | 1.154                             | 1.124  | 1.119                       | 1.095  | 0.693                        | 0.760  |
| 0.003       | 1.181                       | 1.137  | 1.145                             | 1.105  | 1.110                       | 1.077  | 0.670                        | 0.758  |
| 0.004       | 1.174                       | 1.125  | 1.138                             | 1.094  | 1.104                       | 1.063  | 0.655                        | 0.759  |
| 0.005       | 1.168                       | 1.110  | 1.133                             | 1.080  | 1.099                       | 1.045  | 0.644                        | 0.760  |
| 0.006       | 1.164                       | 1.096  | 1.129                             | 1.067  | 1.095                       | 1.032  | 0.637                        | 0.760  |
| 0.007       | 1.161                       | 1.083  | 1.126                             | 1.054  | 1.092                       | 1.020  | 0.633                        | 0.759  |
| 0.008       | 1.158                       | 1.069  | 1.123                             | 1.041  | 1.090                       | 1.007  | 0.630                        | 0.661  |
| 0.009       | 1.156                       | 1.056  | 1.121                             | 1.029  | 1.088                       | 0.995  | 0.629                        | 0.654  |
| 0.010       | 1.155                       | 1.043  | 1.120                             | 1.016  | 1.086                       | 0.982  | 0.630                        | 0.648  |
| 0.020       | 1.139                       | 0.893  | 1.104                             | 0.874  | 1.072                       | 0.859  | 0.681                        | 0.585  |
| 0.030       | 1.134                       | 0.749  | 1.099                             | 0.737  | 1.068                       | 0.704  | 0.785                        | 0.529  |
| 0.040       | 1.135                       | 0.593  | 1.101                             | 0.586  | 1.068                       | 0.553  | 0.920                        | 0.506  |
| 0.050       | 1.133                       | 0.459  | 1.098                             | 0.456  | 1.067                       | 0.426  | 1.079                        | 0.481  |
| 0.060       | 1.133                       | 0.354  | 1.098                             | 0.353  | 1.067                       | 0.327  | 1.246                        | 0.456  |
| 0.070       | 1.133                       | 0.274  | 1.099                             | 0.274  | 1.068                       | 0.256  | 1.425                        | 0.433  |
| 0.080       | 1.135                       | 0.215  | 1.100                             | 0.215  | 1.070                       | 0.200  | 1.614                        | 0.411  |
| 0.090       | 1.137                       | 0.171  | 1.102                             | 0.171  | 1.072                       | 0.158  | 1.812                        | 0.391  |
| 0.100       | 1.139                       | 0.137  | 1.104                             | 0.138  | 1.075                       | 0.126  | 2.016                        | 0.414  |
| 0.200       | 1.168                       | 0.028  | 1.132                             | 0.028  | 1.100                       | 0.026  | 4.327                        | 0.261  |
| 0.300       | 1.189                       | 0.010  | 1.153                             | 0.011  | 1.121                       | 0.010  | 6.758                        | 0.189  |
| 0.400       | 1.212                       | 0.005  | 1.176                             | 0.005  | 1.144                       | 0.005  | 9.291                        | 0.138  |
| 0.500       | 1.235                       | 0.003  | 1.198                             | 0.003  | 1.165                       | 0.003  | 11.886                       | 0.107  |
| 0.600       | 1.258                       | 0.002  | 1.220                             | 0.002  | 1.187                       | 0.002  | 14.526                       | 0.086  |
| 0.700       | 1.281                       | 0.001  | 1.242                             | 0.001  | 1.208                       | 0.001  | 17.200                       | 0.071  |
| 0.800       | 1.303                       | 0.001  | 1.264                             | 0.001  | 1.228                       | 0.001  | 19.899                       | 0.061  |
| 0.900       | 1.324                       | 0.001  | 1.284                             | 0.001  | 1.248                       | 0.001  | 22.620                       | 0.053  |
| 1.000       | 1.345                       | 0.001  | 1.305                             | 0.001  | 1.268                       | 0.001  | 25.358                       | 0.046  |

| Electrolyte | ZnSeO <sub>4</sub>          |        |                      |        |                      |        |                      |        |
|-------------|-----------------------------|--------|----------------------|--------|----------------------|--------|----------------------|--------|
|             | $\Lambda^0=129.2$<br>$a=50$ |        | $\Lambda^0=$<br>$a=$ |        | $\Lambda^0=$<br>$a=$ |        | $\Lambda^0=$<br>$a=$ |        |
| Conc.       | Dof                         | Dpikal | Dof                  | Dpikal | Dof                  | Dpikal | Dof                  | Dpikal |
| 0.000       | 0.834                       | 0.835  |                      |        |                      |        |                      |        |
| 0.001       | 0.710                       | 0.715  |                      |        |                      |        |                      |        |
| 0.002       | 0.673                       | 0.677  |                      |        |                      |        |                      |        |
| 0.003       | 0.649                       | 0.651  |                      |        |                      |        |                      |        |
| 0.004       | 0.633                       | 0.630  |                      |        |                      |        |                      |        |
| 0.005       | 0.622                       | 0.612  |                      |        |                      |        |                      |        |
| 0.006       | 0.614                       | 0.597  |                      |        |                      |        |                      |        |
| 0.007       | 0.608                       | 0.577  |                      |        |                      |        |                      |        |
| 0.008       | 0.603                       | 0.565  |                      |        |                      |        |                      |        |
| 0.009       | 0.601                       | 0.555  |                      |        |                      |        |                      |        |
| 0.010       | 0.600                       | 0.546  |                      |        |                      |        |                      |        |
| 0.020       | 0.640                       | 0.485  |                      |        |                      |        |                      |        |
| 0.030       | 0.731                       | 0.446  |                      |        |                      |        |                      |        |
| 0.040       | 0.848                       | 0.448  |                      |        |                      |        |                      |        |
| 0.050       | 0.983                       | 0.420  |                      |        |                      |        |                      |        |
| 0.060       | 1.133                       | 0.392  |                      |        |                      |        |                      |        |
| 0.070       | 1.293                       | 0.365  |                      |        |                      |        |                      |        |
| 0.080       | 1.462                       | 0.339  |                      |        |                      |        |                      |        |
| 0.090       | 1.638                       | 0.316  |                      |        |                      |        |                      |        |
| 0.100       | 1.825                       | 0.294  |                      |        |                      |        |                      |        |
| 0.200       | 3.779                       | 0.169  |                      |        |                      |        |                      |        |
| 0.300       | 5.909                       | 0.110  |                      |        |                      |        |                      |        |
| 0.400       | 8.129                       | 0.080  |                      |        |                      |        |                      |        |
| 0.500       | 10.406                      | 0.062  |                      |        |                      |        |                      |        |
| 0.600       | 12.723                      | 0.050  |                      |        |                      |        |                      |        |
| 0.700       | 15.070                      | 0.041  |                      |        |                      |        |                      |        |
| 0.800       | 17.441                      | 0.035  |                      |        |                      |        |                      |        |
| 0.900       | 24.020                      | 0.030  |                      |        |                      |        |                      |        |
| 1.000       | 27.327                      | 0.027  |                      |        |                      |        |                      |        |

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