

Table III. Polynomial Coefficients in Expression $\ln(\kappa_p/\kappa_1)^\circ = \sum_{N=0}^3 D(N)P^N$

LiCl	Temperatures, °C								
	3	5	10	15	20	25	35	45	55
D(0) × 10 ⁴	3.215	-1.657	-1.376	-1.741	-1.027	-0.6098	-0.1705	-0.4221	0.1116
D(1) × 10 ⁴	1.958	1.851	1.592	1.363	1.159	1.018	0.7664	0.5796	0.4430
D(2) × 10 ⁸	-6.755	-6.406	-5.538	-4.591	-3.670	-3.354	-2.465	-1.903	-1.519
D(3) × 10 ¹²	7.979	7.631	6.896	5.285	3.635	3.731	2.444	1.737	1.262
NH ₄ Cl									
D(0) × 10 ⁴	0.7839	0.3419	-2.503	-0.2943	0.3560	-0.7373	0.5812	-1.221	-1.581
D(1) × 10 ⁴	1.775	1.656	1.417	1.205	1.049	0.8977	0.6736	0.5258	0.3864
D(2) × 10 ⁸	-6.965	-6.281	-5.394	-4.541	-3.970	-3.314	-2.473	-2.223	-1.647
D(3) × 10 ¹²	9.099	7.624	6.543	5.346	4.630	3.491	2.215	2.505	1.416
NaCl									
D(0) × 10 ⁴	-0.2432	2.946	-1.463	-1.513	-2.031	-0.9871	-2.715	0.2682	-0.3163
D(1) × 10 ⁴	1.663	1.532	1.321	1.140	0.9589	0.8182	0.6113	0.4326	0.3305
D(2) × 10 ⁸	-6.412	-5.719	-4.927	-4.329	-3.481	-2.959	-2.354	-1.622	-1.520
D(3) × 10 ¹²	8.166	6.653	5.708	5.143	3.728	2.881	2.260	1.232	1.681
KCl									
D(0) × 10 ⁴	8.019	-1.855	-0.3459	-1.707	-1.382	-0.0859	-0.8493	-1.237	3.864
D(1) × 10 ⁴	1.655	1.536	1.318	1.125	0.9751	0.8293	0.6314	0.4739	0.3012
D(2) × 10 ⁸	-6.312	-5.513	-4.811	-4.038	-3.496	-2.945	-2.338	-1.813	-0.7245
D(3) × 10 ¹²	8.261	6.147	5.661	4.450	3.759	2.930	2.313	1.583	-1.499
RbCl									
D(0) × 10 ⁴	-1.560	-3.063	-0.1641	-1.564	-0.1306	-1.837	-0.9944	-0.3806	0.2574
D(1) × 10 ⁴	1.609	1.482	1.265	1.071	0.9195	0.7893	0.5729	0.4060	0.2953
D(2) × 10 ⁸	-6.440	-5.695	-4.938	-4.105	-3.499	-3.048	-2.109	-1.645	-1.398
D(3) × 10 ¹²	8.622	6.795	6.168	4.827	3.838	3.240	1.490	1.309	1.445
CsCl									
D(0) × 10 ⁴	0.8316	-2.164	-1.274	-1.107	-1.185	-1.234	-0.0944	-0.8013	0.2515
D(1) × 10 ⁴	1.502	1.391	1.169	0.9742	0.8283	0.7107	0.5097	0.3491	0.2429
D(2) × 10 ⁸	-6.317	-5.685	-4.725	-3.931	-3.368	-2.947	-2.359	-1.718	-1.603
D(3) × 10 ¹²	8.524	7.097	5.576	4.473	3.604	3.210	2.679	1.594	2.224
KF									
D(0) × 10 ⁴	2.209	-0.0308	-0.4858	0.7505	0.0156	-1.172	0.8747	-3.262	1.282
D(1) × 10 ⁴	1.618	1.496	1.289	1.107	0.9507	0.8162	0.6186	0.4859	0.3401
D(2) × 10 ⁸	-6.059	-5.300	-4.541	-3.965	-3.228	-2.676	-2.086	-2.096	-1.211
D(3) × 10 ¹²	8.575	6.692	5.748	5.350	3.807	2.865	2.251	3.735	1.203
KBr									
D(0) × 10 ⁴	3.747	-0.9306	-1.028	-0.5682	-2.021	-2.844	-0.0347	-2.888	-3.684
D(1) × 10 ⁴	1.543	1.446	1.224	1.028	0.8814	0.7534	0.5494	0.3867	0.3339
D(2) × 10 ⁸	-6.411	-5.933	-4.990	-4.184	-3.566	-3.142	-2.445	-1.744	-2.204
D(3) × 10 ¹²	8.515	7.531	6.055	4.977	3.884	3.559	2.770	1.419	3.117
KI									
D(0) × 10 ⁴	0.5503	-1.186	-1.122	-1.137	-1.286	-4.549	-1.758	-7.638	-3.225
D(1) × 10 ⁴	1.341	1.240	1.023	0.8372	0.7016	0.5811	0.3850	0.2461	0.1388
D(2) × 10 ⁸	-6.269	-5.788	-4.731	-3.915	-3.416	-2.992	-2.230	-1.912	-1.513
D(3) × 10 ¹²	8.581	7.700	5.759	4.540	3.943	3.569	2.465	2.463	2.060
KNO ₃									
D(0) × 10 ⁴	0.3480	-1.275	-0.4411	-1.160	-1.593	-0.3279	-0.1232	-2.900	-1.369
D(1) × 10 ⁴	1.233	1.139	0.9449	0.7688	0.6411	0.5348	0.3664	0.2183	0.1286
D(2) × 10 ⁸	-5.747	-5.306	-4.424	-3.608	-3.163	-2.735	-2.254	-1.545	-1.544
D(3) × 10 ¹²	7.771	6.959	5.454	4.172	3.772	3.096	2.911	1.379	2.492

Table IV. Adequacy of Equation 2 in Representing $(\kappa_p/\kappa_1)^\circ$

Pressure, atm	Temperature, 25°C			
	CsCl		KI	
	Measured	Calcd	Measured	Calcd
200	1.0127	1.0123	1.0092	1.0100
800	1.0398	1.0396	1.0299	1.0291
1500	1.0506	1.0509	1.0315	1.0319
2000	1.0490	1.0492	1.0247	1.0249

constant. Our constancy of better than 0.01°C and absolute certainty of 0.05°C are sufficient to ensure an accuracy of 0.1% in the conductance ratios. To ensure thermal equilibration after each incremental change of pressure, readings were always taken as a function of time; the final resistance reading was not recorded unless constancy had been apparent for about 30 min.

Even when intrinsic point-by-point accuracy and reproducibility are good, and scatter is kept to a minimum by observing the mentioned precautions, errors may exist in the process of extrapolation to infinite dilution. Without the aid of the theoretical limiting slopes, the tendency is to draw the best