Isopiestic and potentiometric data for the determination of ternary parameters

All concentrations are in mol kg^{-1}

Osmotic coefficients were calculated from reported reference solutions concentrations, when available, by using a regression of reference data published at:

NaCl: Clarke, E. C. W.; Glew, D. N. *J. Phys. Chem. Ref. Data* **1985**, 14, 489-610. A^{ϕ}= 0.391941 $(kg/mol)^{1/2}$; $\Delta\phi = 0.004$
$CaCl_2$: Rard, J. A.; Clegg, S. L. *J. Chem. Eng. Data* **1997**, 42, 819-849. A^{ϕ}= 0.391475 $(kg/mol)^{1/2}$; $\Delta\phi = 0.005$
Uncertainty of equilibrium concentrations were estimated by adding 0.3% of the mean value to the error of the stock solution. The uncertainty of water activity and osmotic coefficient were calculated by regarding the error propagation: $\Delta a_w = f(\Delta m_i, \Delta\phi_{ref})$; $\Delta\phi_{ref} = f(\Delta m_i, \Delta a_w)$.

Table S1: Isopiestic data for the system CsCl-$MgCl_2$-H_2O.

m_{CsCl}	Δm_{CsCl}	m_{MgCl2}	Δm_{MgCl2}	ϕ_{exp}	$\Delta\phi_{exp}$	ϕ_{calc}
			This work			
NaCl (Ref.) = 5.199 ± 0.016, a_w = 0.7977 ± 0.0008						
6.266	0.019	0.1396	0.0015	0.969	0.005	0.970
5.978	0.018	0.293	0.003	0.978	0.005	0.982
5.680	0.017	0.444	0.005	0.989	0.005	0.997
5.356	0.016	0.606	0.006	1.001	0.005	1.016
5.368	0.016	0.599	0.006	1.001	0.005	1.015
5.043	0.015	0.757	0.008	1.015	0.006	1.039
4.672	0.014	0.923	0.010	1.036	0.006	1.068
4.283	0.013	1.091	0.011	1.060	0.006	1.102
3.886	0.012	1.254	0.013	1.088	0.007	1.141
3.879	0.012	1.255	0.013	1.089	0.007	1.141
3.469	0.011	1.415	0.015	1.122	0.007	1.185
3.037	0.009	1.571	0.016	1.163	0.008	1.235
2.580	0.008	1.727	0.018	1.214	0.009	1.292
2.137	0.007	1.869	0.020	1.270	0.010	1.352
2.140	0.007	1.868	0.020	1.270	0.010	1.351
1.691	0.005	2.001	0.021	1.337	0.011	1.416
1.249	0.004	2.125	0.022	1.414	0.012	1.487
0.8275	0.0025	2.239	0.023	1.499	0.014	1.561
0.4013	0.0012	2.344	0.025	1.602	0.017	1.643
NaCl (Ref.) = 3.913 ± 0.012, a_w = 0.8549 ± 0.0006						
4.507	0.014	0.1137	0.0012	0.930	0.005	0.929
4.302	0.013	0.2275	0.0024	0.937	0.005	0.937
4.063	0.012	0.357	0.004	0.946	0.005	0.950
3.836	0.012	0.475	0.005	0.956	0.005	0.965
3.830	0.012	0.478	0.005	0.956	0.005	0.965
3.583	0.011	0.606	0.006	0.968	0.006	0.984
3.320	0.010	0.730	0.008	0.985	0.006	1.005

m_{CsCl}	Δm_{CsCl}	m_{MgCl2}	Δm_{MgCl2}	ϕ_{exp}	$\Delta\phi_{exp}$	ϕ_{calc}
3.034	0.009	0.862	0.009	1.005	0.006	1.032
2.746	0.008	0.989	0.010	1.028	0.006	1.061
2.749	0.008	0.989	0.010	1.028	0.006	1.061
2.456	0.008	1.112	0.012	1.055	0.007	1.094
2.136	0.007	1.240	0.013	1.088	0.008	1.133
1.829	0.006	1.357	0.014	1.125	0.008	1.174
1.512	0.005	1.473	0.015	1.169	0.009	1.220
1.512	0.005	1.472	0.015	1.169	0.009	1.219
1.026	0.003	1.638	0.017	1.249	0.011	1.297
0.8905	0.0027	1.681	0.018	1.275	0.012	1.321
0.5864	0.0018	1.777	0.019	1.338	0.013	1.377
0.2892	0.0009	1.866	0.020	1.409	0.015	1.437
NaCl (Ref.) = 2.511 ± 0.008, a_w = 0.9121 ± 0.0004						
2.757	0.008	0.0773	0.0008	0.889	0.005	0.885
2.621	0.008	0.1587	0.0017	0.893	0.005	0.891
2.463	0.008	0.2491	0.0026	0.900	0.005	0.899
2.308	0.007	0.336	0.004	0.908	0.005	0.909
2.312	0.007	0.334	0.004	0.908	0.005	0.909
2.148	0.007	0.422	0.004	0.918	0.006	0.921
1.980	0.006	0.512	0.005	0.929	0.006	0.936
1.814	0.006	0.595	0.006	0.944	0.006	0.952
1.635	0.005	0.684	0.007	0.960	0.006	0.972
1.636	0.005	0.683	0.007	0.960	0.006	0.971
1.453	0.004	0.772	0.008	0.979	0.007	0.994
1.272	0.004	0.855	0.009	1.000	0.007	1.018
1.089	0.003	0.937	0.010	1.024	0.008	1.044
0.8962	0.0027	1.019	0.011	1.053	0.009	1.074
0.8975	0.0027	1.019	0.011	1.053	0.009	1.074
0.7175	0.0022	1.094	0.011	1.083	0.010	1.104
0.5291	0.0016	1.169	0.012	1.119	0.011	1.139
0.3509	0.0011	1.239	0.013	1.156	0.012	1.174
0.1687	0.0005	1.308	0.014	1.199	0.013	1.213
NaCl (Ref.) = 0.9154 ± 0.0028, a_w = 0.96966 ± 0.00015						
0.9395	0.0029	0.0323	0.0003	0.866	0.005	0.858
0.8819	0.0027	0.0698	0.0007	0.867	0.005	0.859
0.8268	0.0025	0.1055	0.0011	0.868	0.005	0.861
0.7666	0.0023	0.1443	0.0015	0.870	0.005	0.864
0.7734	0.0024	0.1400	0.0015	0.869	0.005	0.864
0.7131	0.0022	0.1779	0.0019	0.873	0.006	0.867
0.6548	0.0020	0.2147	0.0022	0.875	0.006	0.871
0.5318	0.0016	0.290	0.003	0.885	0.006	0.883
0.5373	0.0016	0.286	0.003	0.884	0.006	0.882
0.4760	0.0015	0.322	0.003	0.891	0.007	0.889
0.4131	0.0013	0.360	0.004	0.897	0.007	0.897
0.3542	0.0011	0.394	0.004	0.904	0.008	0.905
0.2980	0.0009	0.426	0.004	0.912	0.008	0.914
0.2955	0.0009	0.427	0.004	0.913	0.008	0.914
0.2362	0.0007	0.461	0.005	0.922	0.009	0.924

m_{CsCl}	Δm_{CsCl}	m_{MgCl2}	Δm_{MgCl2}	ϕ_{exp}	$\Delta\phi_{exp}$	ϕ_{calc}
0.1792	0.0005	0.493	0.005	0.931	0.009	0.934
0.1179	0.0004	0.526	0.006	0.942	0.010	0.946
0.05994	0.00018	0.558	0.006	0.953	0.011	0.958

Table S2: emf-data for the system CsCl-$MgCl_2$-H_2O

m_{Cs+}	m_{Mg++}	m_{Cl-}	γ_{CsCl}	γ_{calc}
		Hu et al. 2009 [5]		
0.0075	0.0008	0.0091	0.9060	0.9004
0.0225	0.0025	0.0275	0.8423	0.8423
0.0375	0.0042	0.0459	0.8086	0.8079
0.0750	0.0083	0.0916	0.7557	0.7543
0.1500	0.0167	0.1834	0.6942	0.6938
0.2250	0.0250	0.2750	0.6589	0.6567
0.3750	0.0417	0.4584	0.6204	0.6099
0.5250	0.0583	0.6416	0.5896	0.5801
0.6750	0.0750	0.8250	0.5679	0.5589
0.8250	0.0917	1.0084	0.5544	0.5429
0.9750	0.1083	1.1916	0.5428	0.5306
1.1250	0.1250	1.3750	0.5325	0.5207
0.0050	0.0017	0.0084	0.9076	0.8996
0.0150	0.0050	0.0250	0.8487	0.8433
0.0250	0.0083	0.0416	0.8116	0.8101
0.0500	0.0167	0.0834	0.7674	0.7580
0.1000	0.0333	0.1666	0.7089	0.7001
0.1500	0.0500	0.2500	0.6779	0.6645
0.2500	0.0833	0.4166	0.6358	0.6195
0.3500	0.1167	0.5834	0.6115	0.5905
0.4500	0.1500	0.7500	0.5918	0.5699
0.5500	0.1833	0.9166	0.5768	0.5543
0.6500	0.2167	1.0834	0.5658	0.5421
0.7500	0.2500	1.2500	0.5536	0.5323
0.0025	0.0025	0.0075	0.9085	0.9000
0.0075	0.0075	0.0225	0.8545	0.8441
0.0125	0.0125	0.0375	0.8188	0.8116
0.0250	0.0250	0.0750	0.7797	0.7614
0.0500	0.0500	0.1500	0.7263	0.7059
0.0750	0.0750	0.2250	0.6939	0.6720
0.1250	0.1250	0.3750	0.6603	0.6291
0.1750	0.1750	0.5250	0.6363	0.6014
0.2250	0.2250	0.6750	0.6210	0.5815
0.2750	0.2750	0.8250	0.6068	0.5665
0.3250	0.3250	0.9750	0.5959	0.5547
0.3750	0.3750	1.1250	0.5873	0.5452

Table S3: solubility data for the system CsCl-$MgCl_2$-H_2O. Data in italic were excluded from the calculation of Pitzer parameters

m_{Cs+}	m_{Mg++}	m_{Cl-}
	CsCl(cr) [8]	
10.766	*0.658*	*12.083*
10.647	*1.544*	*13.734*
7.728	*3.240*	*14.208*
	$CsCl{\cdot}MgCl_2{\cdot}6H_2O$ [8]	
7.728	*3.240*	*14.208*
6.694	*3.664*	*14.022*
3.678	*3.886*	*11.450*
0.102	*5.788*	*11.677*
	Bischofite [8]	
0.102	*5.788*	*11.677*
	CsCl(cr) [6]	
3.980	*3.081*	*10.141*
	$CsCl{\cdot}MgCl_2{\cdot}6H_2O$ [6]	
3.980	*3.081*	*10.141*
2.198	*3.597*	*9.392*
0.183	*4.885*	*9.953*
0.056	*5.817*	*11.690*
	Bischofite [6]	
0.056	5.817	11.690
	CsCl(cr) [7]	
9.783	0.491	10.765
8.821	1.432	11.685
8.052	1.803	11.658
7.563	2.599	12.761
7.354	3.165	13.684
	$CsCl{\cdot}MgCl_2{\cdot}6H_2O$ [7]	
7.354	*3.165*	*13.684*
7.002	*3.161*	*13.324*
4.895	*3.164*	*11.223*
3.004	*3.382*	*9.768*
1.882	*3.662*	*9.206*
0.993	*3.935*	*8.863*
0.314	*4.792*	*9.898*
0.089	*5.413*	*10.915*

Table S.4: Isopiestic data for the system Cs_2SO_4-$MgSO_4$-H_2O

m_{CsCl}	Δm_{CsCl}	m_{MgSO4}	Δm_{MgSO4}	ϕ_{exp}	$\Delta\phi_{exp}$	ϕ_{calc}
This work						
NaCl (Ref.) = 1.971 ± 0.006, a_w = 0.9325 ± 0.0003						
1.726	0.005	0.1464	0.0007	0.709	0.004	0.710
1.700	0.005	0.3100	0.0014	0.679	0.004	0.675
1.666	0.005	0.4863	0.0022	0.650	0.004	0.642
1.618	0.005	0.683	0.003	0.624	0.004	0.612
1.618	0.005	0.682	0.003	0.624	0.004	0.612
1.553	0.005	0.891	0.004	0.603	0.003	0.588
1.473	0.004	1.106	0.005	0.585	0.003	0.570
1.373	0.004	1.319	0.006	0.574	0.003	0.561
1.249	0.004	1.533	0.007	0.570	0.003	0.560
1.247	0.004	1.539	0.007	0.569	0.003	0.560
1.114	0.003	1.725	0.008	0.571	0.003	0.568
0.9655	0.0029	1.898	0.009	0.580	0.003	0.583
0.8087	0.0025	2.049	0.009	0.595	0.004	0.605
0.6583	0.0020	2.173	0.010	0.614	0.004	0.630
0.6581	0.0020	2.171	0.010	0.614	0.004	0.629
0.5076	0.0015	2.272	0.010	0.640	0.004	0.657
0.3644	0.0011	2.354	0.011	0.669	0.004	0.687
0.2348	0.0007	2.418	0.011	0.701	0.005	0.717
0.1150	0.0004	2.467	0.011	0.735	0.005	0.746
NaCl (Ref.) = 1.486 ± 0.005, a_w = 0.94996 ± 0.00025						
1.308	0.004	0.1247	0.0006	0.683	0.004	0.688
1.285	0.004	0.2597	0.0012	0.652	0.004	0.656
1.249	0.004	0.4301	0.0020	0.619	0.004	0.623
1.212	0.004	0.5710	0.0026	0.596	0.003	0.600
1.213	0.004	0.5729	0.0026	0.595	0.003	0.599
1.161	0.004	0.738	0.003	0.574	0.003	0.577
1.095	0.003	0.915	0.004	0.557	0.003	0.560
1.017	0.003	1.090	0.005	0.545	0.003	0.550
0.9238	0.0028	1.263	0.006	0.538	0.003	0.546
0.9249	0.0028	1.259	0.006	0.539	0.003	0.546
0.8249	0.0025	1.414	0.007	0.537	0.003	0.548
0.7077	0.0022	1.567	0.007	0.542	0.003	0.556
0.6005	0.0018	1.682	0.008	0.552	0.003	0.568
0.4873	0.0015	1.788	0.008	0.566	0.004	0.583
0.4858	0.0015	1.790	0.008	0.566	0.004	0.584
0.3756	0.0011	1.878	0.009	0.584	0.004	0.602
0.2719	0.0008	1.949	0.009	0.604	0.004	0.621
0.1766	0.0005	2.007	0.009	0.627	0.004	0.640
0.08368	0.00026	2.057	0.009	0.653	0.004	0.661
NaCl (Ref.) = 1.013 ± 0.003, a_w = 0.96635 ± 0.00017						
0.8829	0.0027	0.0938	0.0004	0.670	0.004	0.675
0.8604	0.0026	0.2011	0.0009	0.637	0.004	0.645
0.8331	0.0025	0.3107	0.0014	0.609	0.004	0.619
0.7991	0.0024	0.4276	0.0020	0.584	0.003	0.595

m_{CsCl}	Δm_{CsCl}	m_{MgSO4}	Δm_{MgSO4}	ϕ_{exp}	$\Delta\phi_{exp}$	ϕ_{calc}
0.7996	0.0024	0.4274	0.0020	0.584	0.003	0.595
0.7595	0.0023	0.5495	0.0025	0.563	0.003	0.574
0.7116	0.0022	0.678	0.003	0.544	0.003	0.557
0.6592	0.0020	0.798	0.004	0.532	0.003	0.545
0.5967	0.0018	0.923	0.004	0.523	0.003	0.537
0.5954	0.0018	0.926	0.004	0.522	0.003	0.536
0.5304	0.0016	1.038	0.005	0.518	0.003	0.533
0.4594	0.0014	1.146	0.005	0.518	0.003	0.533
0.3896	0.0012	1.238	0.006	0.521	0.003	0.536
0.3124	0.0010	1.329	0.006	0.529	0.003	0.542
0.3151	0.0010	1.327	0.006	0.528	0.003	0.542
0.2497	0.0008	1.395	0.006	0.537	0.003	0.549
0.1821	0.0006	1.458	0.007	0.549	0.004	0.558
0.1132	0.0003	1.518	0.007	0.563	0.004	0.569
0.05492	0.00017	1.561	0.007	0.578	0.004	0.580
NaCl (Ref.) = 0.5456 ± 0.0017, a_w = 0.98202 ± 0.00009						
0.4576	0.0014	0.0559	0.0005	0.678	0.004	0.682
0.4390	0.0013	0.1150	0.0009	0.651	0.004	0.657
0.4174	0.0013	0.1793	0.0015	0.625	0.004	0.634
0.3941	0.0012	0.2435	0.0020	0.603	0.004	0.614
0.3947	0.0012	0.2430	0.0020	0.603	0.004	0.614
0.3702	0.0011	0.3077	0.0025	0.584	0.004	0.596
0.3436	0.0010	0.376	0.003	0.565	0.004	0.579
0.3131	0.0010	0.443	0.004	0.552	0.004	0.565
0.2833	0.0009	0.508	0.004	0.540	0.004	0.553
0.2832	0.0009	0.508	0.004	0.540	0.004	0.553
0.2529	0.0008	0.570	0.005	0.530	0.004	0.544
0.2190	0.0007	0.633	0.005	0.524	0.004	0.536
0.1873	0.0006	0.687	0.006	0.520	0.004	0.531
0.1524	0.0005	0.745	0.006	0.517	0.004	0.527
0.1557	0.0005	0.740	0.006	0.517	0.004	0.527
0.1197	0.0004	0.796	0.007	0.516	0.004	0.524
0.09200	0.00028	0.835	0.007	0.518	0.005	0.523
0.05899	0.00018	0.879	0.007	0.520	0.005	0.523
0.03022	0.00009	0.919	0.008	0.522	0.005	0.524

Table S5: solubility data for the system Cs_2SO_4-$MgSO_4$-H_2O. Data in italic were excluded from the calculation of Pitzer parameters

m_{Cs+}	m_{Mg++}	m_{SO4--}
	Cs_2SO_4(cr) [9]	
10.098	*0.109*	*10.206*
	$Cs_2SO_4 \cdot MgSO_4 \cdot 6H_2O$ [9]	
1.162	*3.179*	*4.341*
10.098	*0.109*	*10.206*
	Epsomite [9]	
1.162	3.179	4.341
	Epsomite [8]	
0.511	3.097	3.352
0.703	3.133	3.485
1.009	3.236	3.741
1.181	3.347	3.937
	$Cs_2SO_4 \cdot MgSO_4 \cdot 6H_2O$ [8]	
1.181	*3.347*	*3.937*
1.349	*3.004*	*3.679*
2.097	*1.379*	*2.427*
3.407	*0.443*	*2.146*
5.826	*0.178*	*3.091*
9.058	*0.073*	*4.601*
	Cs_2SO_4(cr) [8]	
9.058	0.073	4.601
9.537	0.036	4.805

Table S.6: Isopiestic data for the system CsCl-$CaCl_2$-H_2O

m_{CsCl}	Δm_{CsCl}	m_{CaCl2}	Δm_{CaCl2}	ϕ_{exp}	$\Delta\phi_{exp}$	ϕ_{calc}
This work						
$CaCl_2$ (Ref.) = 2.817 ± 0.018, a_w = 0.7722 ± 0.0014						
6.993	0.022	0.1665	0.0011	0.991	0.008	0.980
6.704	0.021	0.3342	0.0021	0.996	0.008	0.986
6.413	0.020	0.500	0.003	1.002	0.008	0.996
6.411	0.020	0.503	0.003	1.001	0.008	0.996
6.079	0.019	0.685	0.004	1.010	0.008	1.010
5.716	0.018	0.874	0.006	1.021	0.008	1.030
5.325	0.016	1.066	0.007	1.036	0.008	1.054
4.903	0.015	1.262	0.008	1.056	0.008	1.084
4.892	0.015	1.266	0.008	1.057	0.008	1.085
4.461	0.014	1.455	0.009	1.080	0.008	1.120
3.971	0.012	1.656	0.011	1.112	0.009	1.165
3.489	0.011	1.837	0.012	1.149	0.009	1.213
2.981	0.009	2.017	0.013	1.195	0.009	1.268
2.987	0.009	2.014	0.013	1.194	0.009	1.267
2.468	0.008	2.188	0.014	1.248	0.010	1.329
1.948	0.006	2.340	0.015	1.315	0.011	1.393

m_{CsCl}	Δm_{CsCl}	m_{CaCl2}	Δm_{CaCl2}	ϕ_{exp}	$\Delta\phi_{exp}$	ϕ_{calc}
1.446	0.004	2.478	0.016	1.390	0.012	1.462
0.9484	0.0029	2.603	0.017	1.479	0.013	1.535
0.4577	0.0014	2.717	0.017	1.583	0.014	1.614
NaCl (Ref.) = 3.902 ± 0.012, a_w = 0.8554 ± 0.0006						
4.504	0.014	0.1129	0.0007	0.927	0.005	0.925
4.295	0.013	0.2392	0.0015	0.931	0.005	0.931
4.087	0.013	0.3647	0.0023	0.935	0.005	0.939
3.855	0.012	0.498	0.003	0.941	0.005	0.951
3.850	0.012	0.501	0.003	0.942	0.005	0.951
3.613	0.011	0.634	0.004	0.950	0.005	0.965
3.345	0.010	0.774	0.005	0.962	0.005	0.984
3.077	0.009	0.909	0.006	0.976	0.005	1.005
2.783	0.009	1.050	0.007	0.994	0.006	1.030
2.776	0.009	1.054	0.007	0.995	0.006	1.031
2.476	0.008	1.190	0.008	1.017	0.006	1.060
2.175	0.007	1.318	0.008	1.043	0.006	1.091
1.861	0.006	1.446	0.009	1.075	0.006	1.127
1.534	0.005	1.571	0.010	1.114	0.007	1.167
1.531	0.005	1.572	0.010	1.114	0.007	1.168
1.217	0.004	1.685	0.011	1.157	0.008	1.209
0.9048	0.0028	1.791	0.011	1.207	0.008	1.254
0.5930	0.0018	1.892	0.012	1.263	0.009	1.302
0.2907	0.0009	1.985	0.013	1.326	0.010	1.353
NaCl (Ref.) = 2.492 ± 0.008, a_w = 0.9128 ± 0.0004						
2.726	0.008	0.0829	0.0005	0.888	0.005	0.883
2.594	0.008	0.1670	0.0011	0.890	0.005	0.887
2.452	0.008	0.2547	0.0016	0.893	0.005	0.893
2.310	0.007	0.3412	0.0022	0.897	0.005	0.900
2.310	0.007	0.3430	0.0022	0.896	0.005	0.900
2.159	0.007	0.4306	0.0028	0.902	0.005	0.909
1.990	0.006	0.527	0.003	0.910	0.005	0.921
1.826	0.006	0.618	0.004	0.920	0.005	0.934
1.632	0.005	0.719	0.005	0.934	0.006	0.951
1.645	0.005	0.711	0.005	0.933	0.006	0.949
1.468	0.005	0.800	0.005	0.949	0.006	0.967
1.287	0.004	0.890	0.006	0.966	0.006	0.987
1.101	0.003	0.978	0.006	0.986	0.006	1.009
0.9096	0.0028	1.064	0.007	1.010	0.007	1.033
0.9111	0.0028	1.063	0.007	1.010	0.007	1.033
0.7211	0.0022	1.145	0.007	1.038	0.007	1.059
0.5345	0.0016	1.225	0.008	1.067	0.008	1.087
0.3507	0.0011	1.299	0.008	1.101	0.008	1.117
0.1725	0.0005	1.369	0.009	1.137	0.009	1.148
NaCl (Ref.) = 0.9052 ± 0.0028, a_w = 0.97001 ± 0.00016						
0.9275	0.0029	0.0338	0.0002	0.864	0.005	0.858
0.8771	0.0028	0.0683	0.0004	0.863	0.005	0.858
0.8254	0.0026	0.1039	0.0007	0.861	0.005	0.859
0.7646	0.0024	0.1428	0.0009	0.863	0.005	0.860

m_{CsCl}	Δm_{CsCl}	m_{CaCl2}	Δm_{CaCl2}	ϕ_{exp}	$\Delta\phi_{exp}$	ϕ_{calc}
0.7682	0.0024	0.1412	0.0009	0.862	0.005	0.860
0.7111	0.0022	0.1776	0.0011	0.865	0.005	0.862
0.6611	0.0021	0.2158	0.0014	0.858	0.005	0.865
0.5971	0.0019	0.2506	0.0016	0.869	0.005	0.868
0.5393	0.0017	0.2869	0.0018	0.872	0.005	0.872
0.5404	0.0017	0.2863	0.0018	0.871	0.005	0.872
0.4805	0.0015	0.3230	0.0021	0.876	0.006	0.877
0.4228	0.0013	0.3588	0.0023	0.879	0.006	0.882
0.3604	0.0011	0.3965	0.0025	0.885	0.006	0.888
0.3013	0.0009	0.4314	0.0028	0.891	0.006	0.895
0.3029	0.0010	0.4305	0.0028	0.891	0.006	0.894
0.2409	0.0008	0.466	0.003	0.899	0.006	0.902
0.1810	0.0006	0.501	0.003	0.907	0.007	0.910
0.1176	0.0004	0.537	0.003	0.916	0.007	0.919
0.05992	0.00019	0.569	0.004	0.925	0.007	0.928

Table S.7: emf-data for the system CsCl-$CaCl_2$-H_2O

m_{Cs+}	m_{Ca++}	m_{Cl-}	γ_{CsCl}	γ_{calc}
Hu et al. 2009 [10]				
0.0080	0.0007	0.0094	0.9073	0.8995
0.0400	0.0033	0.0466	0.8067	0.8078
0.0800	0.0067	0.0934	0.7568	0.7534
0.1600	0.0133	0.1866	0.7081	0.6925
0.2400	0.0200	0.2800	0.6699	0.6551
0.4000	0.0333	0.4666	0.6248	0.6079
0.5600	0.0467	0.6534	0.5910	0.5777
0.7200	0.0600	0.8400	0.5673	0.5564
0.8800	0.0733	1.0266	0.5486	0.5403
1.0400	0.0867	1.2134	0.5331	0.5278
1.2000	0.1000	1.4000	0.5212	0.5178
0.0060	0.0013	0.0086	0.9093	0.9005
0.0300	0.0067	0.0434	0.8116	0.8091
0.0600	0.0133	0.0866	0.7629	0.7567
0.1200	0.0267	0.1734	0.7182	0.6975
0.1800	0.0400	0.2600	0.6815	0.6613
0.3000	0.0667	0.4334	0.6324	0.6153
0.4200	0.0933	0.6066	0.6023	0.5858
0.5400	0.1200	0.7800	0.5812	0.5647
0.6600	0.1467	0.9534	0.5631	0.5487
0.7800	0.1733	1.1266	0.5493	0.5361
0.9000	0.2000	1.3000	0.5380	0.5260
0.0040	0.0020	0.0080	0.9110	0.9000
0.0200	0.0100	0.0400	0.8163	0.8107
0.0400	0.0200	0.0800	0.7778	0.7595
0.0800	0.0400	0.1600	0.7208	0.7024
0.1200	0.0600	0.2400	0.6857	0.6674

m_{Cs+}	m_{Ca++}	m_{Cl-}	γ_{CsCl}	γ_{calc}
0.2000	0.1000	0.4000	0.6404	0.6229
0.2800	0.1400	0.5600	0.6122	0.5941
0.3600	0.1800	0.7200	0.5900	0.5734
0.4400	0.2200	0.8800	0.5739	0.5576
0.5200	0.2600	1.0400	0.5623	0.5452
0.6000	0.3000	1.2000	0.5496	0.5352
0.0020	0.0027	0.0074	0.9142	0.8995
0.0100	0.0133	0.0366	0.8192	0.8120
0.0200	0.0267	0.0734	0.7897	0.7620
0.0400	0.0533	0.1466	0.7218	0.7071
0.0600	0.0800	0.2200	0.6876	0.6733
0.1000	0.1333	0.3666	0.6451	0.6305
0.1400	0.1867	0.5134	0.6205	0.6027
0.1800	0.2400	0.6600	0.6022	0.5826
0.2200	0.2933	0.8066	0.5885	0.5672
0.2600	0.3467	0.9534	0.5745	0.5550
0.3000	0.4000	1.1000	0.5627	0.5452

Table S.8: Solubility data for the system CsCl-$CaCl_2$-H_2O at 298.15 K

m_{Cs+}	m_{Ca++}	m_{Cl-}
antarcticite [11]		
traces	*7.210*	*14.420*
$CsCl{\cdot}CaCl_2$ [11]		
traces	*7.210*	*14.420*
traces	*7.100*	*14.199*
0.045	*6.743*	*13.531*
0.129	*6.477*	*13.084*
0.204	*6.239*	*12.683*
0.321	*6.178*	*12.677*
0.539	*6.199*	*12.937*
$2CsCl{\cdot}CaCl_2{\cdot}2H_2O$ [11]		
0.539	*6.199*	*12.937*
0.689	*6.054*	*12.797*
1.047	*5.813*	*12.674*
1.258	*5.569*	*12.396*
1.678	*5.214*	*12.105*
2.113	*4.762*	*11.638*
2.747	*4.534*	*11.816*
3.299	*4.067*	*11.433*
4.819	*3.690*	*12.198*
5.884	*3.240*	*12.364*
6.618	*3.019*	*12.655*
7.189	*2.757*	*12.703*
8.060	*2.784*	*13.628*
$5CsCl{\cdot}CaCl_2$ [11]		

m_{Cs+}	m_{Ca++}	m_{Cl-}
8.060	*2.784*	*13.628*
8.155	*2.743*	*13.641*
8.232	*2.301*	*12.835*
8.886	*2.028*	*12.941*
9.054	*1.940*	*12.935*
9.595	*1.709*	*13.012*
	CsCl(cr) [11]	
9.595	1.709	13.012
10.125	1.367	12.858
10.874	0.386	11.646