

Measurement and Correlation of Solubility of Calcium-L-lactate Pentahydrate in Ethanol + Water and Acetone + Water Systems

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Table S1. Parameters of Equation 3 for CLLP in Binary Ethanol + Water and Acetone +**Water Solvent Mixtures**

x_B^0	A	B	C	R^2	$MPD\%$
binary ethanol + water solvent mixtures					
0.0000	-247.789	8153.94	37.7741	0.9989	0.8867
0.04165	-126.284	2286.06	19.8510	0.9984	1.270
0.08908	-155.845	3015.91	24.5328	0.9998	0.5885
0.1436	-50.9990	-2199.63	9.12290	0.9996	0.9121
0.2068	-39.5967	-2553.27	7.25680	0.9981	1.874
0.2812	-212.807	4888.71	33.2044	0.9999	0.5209
0.3698	-181.453	3537.20	28.4172	0.9997	0.7143
0.4772	-16.3580	-4433.47	4.01060	0.9987	1.923
0.6101	119.067	-10461.4	-16.3370	0.9996	1.195
The overall $MPD\%$					1.098
binary acetone + water solvent mixtures					
0.0000	-247.789	8153.94	37.7741	0.9989	0.8867
0.03333	-145.466	3188.22	22.6743	0.9992	0.8483
0.07198	-71.1014	-443.269	11.6846	0.9985	1.375
0.1174	-115.961	1247.24	18.4876	0.9998	0.5115
0.1714	-37.4305	-2431.86	6.76561	0.9995	0.8312
0.2368	-201.361	4389.46	31.4021	0.9982	1.924
0.3176	-3.05143	-4284.00	1.54817	0.9982	1.816
0.4199	-0.826780	-4684.63	1.17861	0.9995	1.048
0.5538	-12.5616	-3114.06	2.00119	0.9999	0.2110
The overall $MPD\%$					1.050

Table S2. Parameters of Equation 6 for CLLP in Binary Ethanol + Water and Acetone +**Water Solvent Mixtures**

T/K	B_1	B_2	B_3	B_4	B_5	R^2	$MPD\%$
binary ethanol + water solvent mixtures							
278.15	-5.81609	-17.0655	51.5737	-100.855	67.9656	0.9998	6.451
283.15	-5.65140	-15.2119	43.8223	-89.1531	63.1577	0.9999	4.518
288.15	-5.50378	-13.0166	29.7570	-53.4951	34.4148	0.9992	4.205
293.15	-5.35536	-10.8860	17.1034	-22.4474	9.30616	0.9999	3.778
298.15	-5.17580	-10.4294	17.9429	-29.6929	17.9056	0.9999	3.603
303.15	-5.02151	-8.50980	8.22279	-9.32468	3.27908	0.9995	2.647
308.15	-4.83421	-7.82009	5.91552	-4.91221	0.180523	0.9997	2.147
313.15	-4.64916	-6.66286	-1.19308	13.6168	-15.5963	0.9994	2.486
The overall $MPD\%$							3.729
binary acetone + water solvent mixtures							
278.15	-5.88784	-16.2959	33.5557	-89.9518	78.7352	0.9998	1.623
283.15	-5.74922	-15.1135	27.8500	-75.9184	65.5845	0.9997	1.345
288.15	-5.55307	-12.5735	6.52571	-10.7639	3.21850	0.9999	1.490
293.15	-5.40841	-11.5036	5.63047	-14.6010	7.59820	1.000	0.9560
298.15	-5.21944	-11.8277	13.2659	-38.5861	28.1312	0.9999	1.006
303.15	-5.03223	-11.0647	11.4879	-37.1859	27.3105	0.9995	1.671
308.15	-4.93352	-8.95433	-6.33841	14.7227	-20.4262	0.9994	2.233
313.15	-4.67360	-9.26658	-0.158290	-2.16150	-8.36888	0.9997	1.777
The overall $MPD\%$							1.513

Table S3. Parameters of Equation 11 for CLLP in Binary Ethanol + Water and Acetone**+Water Solvent Mixtures**

solvent	A_1	A_2	A_3	A_4
ethanol + water	-193.888	5257.32	30.0314	375.309
acetone + water	-163.685	3766.38	25.6020	331.718
	A_5	A_6	A_7	A_8
ethanol + water	-21478.0	6574.95	-11339.0	6963.74
acetone + water	-16856.5	3504.16	-9679.22	6996.17
	A_9	R^2	$MPD\%$	
ethanol + water	-55.1749	0.9707	5.089	
acetone + water	-50.4132	0.9839	6.237	

Table S4. Slope and Intercept of the $\ln x_A$ vs $10^4(1/T-1/T_{\text{mean}})$ Plot in Binary Ethanol + Water**Solvent Mixtures**

x_B^0	slope	intercept	R^2	x_B^0	slope	intercept	R^2
0.0000	-0.2988	-5.293	0.9953	0.2812	-0.4905	-7.366	0.9988
0.04165	-0.3569	-5.619	0.9981	0.3698	-0.4845	-7.822	0.9989
0.08908	-0.4220	-6.076	0.9990	0.4772	-0.5616	-8.563	0.9990
0.1436	-0.4891	-6.555	0.9997	0.6101	-0.5643	-9.302	0.9995
0.2068	-0.4694	-6.966	0.9986				

Table S5. Slope and Intercept of the $\ln x_A$ vs $10^4(1/T-1/T_{\text{mean}})$ Plot in Binary Acetone + Water**Solvent Mixtures**

x_B^0	slope	intercept	R^2	x_B^0	slope	intercept	R^2
0.0000	-0.2988	-5.293	0.9953	0.2368	-0.4873	-7.864	0.9977
0.03333	-0.3500	-5.685	0.9984	0.3176	-0.4741	-8.757	0.9987
0.07198	-0.3890	-6.136	0.9987	0.4199	-0.5032	-9.991	0.9996
0.1174	-0.4206	-6.571	0.9994	0.5538	-0.3704	-11.73	0.9999
0.1714	-0.4427	-7.183	0.9996				