

Supporting Information

Influence of Sodium Chloride and Lithium Bromide on the Phase Behavior of a Citrate - Polyethylene Glycol 2000 - Aqueous Two-Phase System

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1. Supporting information

The following Table S 1 to Table S 4 show the amount of mass m_i for every component used for a feed point of the different citrate-PEG2000 ATPS with or without displacement agent (NaCl or LiBr). All masses are given in grams. For reasons of clarity and due to the fact that only small deviations occur using the mass balance, the table exemplarily give the masses for one of the triplet measurements.

Table S 1: Amount of mass m_i for every component used for a feed point of the $(\text{NH}_4)_3\text{Cit}$ -PEG2000 ATPS tie-lines with 0, 7.5 and 12.5 wt.% added NaCl given grams. The weight percentage of NaCl ($w_{\text{NaCl,Feed}}$) is given in weight percentage (wt.%). The table exemplarily give the masses (of the solutes and water) for one of the triplet measurements. ^a

Phase-former in feed [wt.%]	$w_{\text{NaCl,Feed}}$ [wt.%]	$m_{(\text{NH}_4)_3\text{Cit}}$ [g]	m_{PEG2000} [g]	m_{NaCl} [g]	m_{water} [g]
16 wt.% $(\text{NH}_4)_3\text{Cit}$ 16.5 wt.% PEG2000	0	1.6010	1.6503	0.0000	6.7483
	7.5	1.6013	1.6509	0.7510	5.9964
	12.5	1.6006	1.6502	1.2504	5.4986
16.5 wt.% $(\text{NH}_4)_3\text{Cit}$ 18 wt.% PEG2000	0	1.6509	1.7991	0.0000	6.5507
	7.5	1.6503	1.7994	0.7504	5.7996
	12.5	1.6497	1.7992	1.2498	5.3010
17 wt.% $(\text{NH}_4)_3\text{Cit}$ 19.5 wt.% PEG2000	0	1.6997	1.9510	0.0000	6.3491
	7.5	1.6997	1.9504	0.7498	5.6003
	12.5	1.7004	1.9501	1.2506	5.0991

^a Uncertainty of the mass balance used $u(m_i) = \pm 0.0001g$

Table S 2: Amount of mass m_i for every component used for a feed point of the K_3Cit -PEG2000 ATPS tie-lines with 0, 7.5 and 12.5 wt.% added NaCl given grams. The weight percentage of NaCl ($w_{\text{NaCl,Feed}}$) is given in weight percentage (wt.%). The table exemplarily give the masses (of the solutes and water) for one of the triplet measurements. ^a

Phase-former in feed [wt.%]	$w_{\text{NaCl,Feed}}$ [wt.%]	$m_{\text{K}_3\text{Cit}}$ [g]	m_{PEG2000} [g]	m_{NaCl} [g]	m_{water} [g]
15.5 wt.% K_3Cit 15 wt.% PEG2000	0	1.5503	1.5004	0.0000	6.9491
	7.5	1.5495	1.5009	0.7511	6.1982
	12.5	1.5508	1.5000	1.2498	5.6992

16 wt.% K3Cit 16 wt.% PEG2000	0	1.5998	1.5993	0.0000	6.8002
	7.5	1.6005	1.6002	0.7498	6.0498
	12.5	1.5989	1.6006	1.2494	5.5511
17.5 wt.% K3Cit 17.5 wt.% PEG2000	0	1.7503	1.7501	0.0000	6.4999
	7.5	1.7510	1.7497	0.7504	5.7494
	12.5	1.7500	1.7505	1.2494	5.2508

^a Uncertainty of the mass balance used $u(m_i) = \pm 0.0001g$

Table S 3: Amount of mass m_i for every component used for a feed point of the $(NH_4)_3Cit$ -PEG2000 ATPS tie-lines with 0, 12.5 and 20 wt.% added LiBr given grams. The weight percentage of LiBr ($w_{LiBr,Feed}$) is given in weight percentage (wt.%). The table exemplarily give the masses (of the solutes and water) for one of the triplet measurements. ^a

Phase-former in feed [wt.%]	$w_{LiBr,Feed}$ [wt.%]	$m_{(NH_4)_3Cit}$ [g]	$m_{PEG2000}$ [g]	m_{LiBr} [g]	m_{water} [g]
16 wt.% $(NH_4)_3Cit$ 16.5 wt.% PEG2000	0	1.6010	1.6503	0.0000	6.7483
	12.5	1.5995	1.6506	1.2500	5.4995
	20	1.6010	1.6496	2.0010	4.7483
16.5 wt.% $(NH_4)_3Cit$ 18 wt.% PEG2000	0	1.6509	1.7991	0.0000	6.5507
	12.5	1.6504	1.7998	1.2504	5.2996
	20	1.6500	1.7989	2.0006	4.5501
17 wt.% $(NH_4)_3Cit$ 19.5 wt.% PEG2000	0	1.6997	1.9510	0.0000	6.3491
	12.5	1.7005	1.9502	1.2495	5.1007
	20	1.6999	1.9498	1.9997	4.3509

^a Uncertainty of the mass balance used $u(m_i) = \pm 0.0001g$

Table S 4: Amount of mass m_i for every component used for a feed point of the K_3Cit -PEG2000 ATPS tie-lines with 0, 12.5 and 20 wt.% added LiBr given grams. The weight percentage of LiBr ($w_{LiBr,Feed}$) is given in weight percentage (wt.%). The table exemplarily give the masses (of the solutes and water) for one of the triplet measurements. ^a

Phase-former in feed [wt.%]	$w_{LiBr,Feed}$ [wt.%]	m_{K_3Cit} [g]	$m_{PEG2000}$ [g]	m_{LiBr} [g]	m_{water} [g]
15.5 wt.% K_3Cit 15 wt.% PEG2000	0	1.5503	1.5004	0.0000	6.9491
	12.5	1.5503	1.5006	1.2504	5.6993
	20	1.5504	1.5003	2.0003	4.9494

	0	1.5998	1.5993	0.0000	6.8002
16 wt.% K ₃ Cit	12.5	1.5996	1.6006	1.2501	5.5493
16 wt.% PEG2000	20	1.5999	1.6000	2.0011	4.7987
	0	1.7503	1.7501	0.0000	6.4999
17.5 wt.% K ₃ Cit	12.5	1.7494	1.7505	1.2499	5.2501
17.5 wt.% PEG2000	20	1.7510	1.7505	2.0004	4.4986

^a Uncertainty of the mass balance used $u(m_i) = \pm 0.0001g$