

## Supplementary Materials

**Table S1.** Flux and feed solution conductivity for the experiments with NaCl draw solution without ultrasound. Notes: Time in min, flux in L/m<sup>2</sup>.h, and conductivity of feed solution (Cond FS) in mS/cm

Case: 0.25-C-BL						Case: 1.0-C-BL					
Run #1			Run #2			Run #1			Run #2		
Time	Flux	Cond FS	Time	Flux	Cond FS	Time	Flux	Cond FS	Time	Flux	Cond FS
20	9.37	76.5	20	8.52	73.9	20	16.7	74.9	20	15.69	77.7
30	4.58	78.2	30	7.9	74.3	30	15.9	75.7	30	15.25	78.5
40	10.06	79.2	40	7.41	74.7	40	16.17	76.8	40	14.99	79.5
50	9.99	79.7	50	8.74	75.2	50	15.22	77.7	50	14.9	80.3
60	9.07	80.1	60	6.75	75.8	60	15.4	78.7	60	14.83	81.5
70	8.32	80.6	70	7.59	76.1	70	14.23	79.8	70	14.01	82.4
80	9.67	81.4	80	7.41	76.6	80	14.81	80.6	80	14.11	83.4
90	9.21	82	90	6.2	76.9	90	14.07	81.7	90	14.22	84.5
100	8.11	82.9	100	6.63	77.4	100	13.95	82.7	100	13.83	85.4
110	8.38	83.5	110	6.8	78	110	13.83	83.7	110	13.56	86.6
120	8.65	83.8	120	6.42	78.5	120	13.21	84.8	120	13.63	87.7
130	8.52	84.8	130	7.65	79.1	130	14.07	85.6	130	12.88	88.2
140	8.27	85.1	140	6.54	79.5	140	13.21	86.4	140	12.68	89.3

Case: 0.25-CC-BL						Case: 1.0-CC-BL					
Run #1			Run #2			Run #1			Run #2		
Time	Flux	Cond FS	Time	Flux	Cond FS	Time	Flux	Cond FS	Time	Flux	Cond FS
20	7.64	74.2	20	7.01	72.9	20	14.41	77.5	20	13.33	76.2
30	7.91	74.8	30	6.31	73.2	30	14.06	78.4	30	13.02	77
40	7.65	75	40	6.14	73.5	40	14.36	79.4	40	12.84	77.8
50	7.04	76.3	50	6.12	73.8	50	13.62	80.3	50	12.65	78.5
60	7.16	76.8	60	6.17	74.3	60	13.68	81.2	60	12.4	79.4
70	7.04	77.4	70	6.28	74.5	70	12.8	82.2	70	12.2	80.3
80	7.28	78.2	80	6.05	74.7	80	13.33	83.1	80	12.19	80.9
90	6.54	78.8	90	6.22	75.2	90	12.65	83.8	90	12.07	81.8
100	7.07	79.3	100	5.85	75.3	100	12.28	84.8	100	11.64	82.7
110	6.38	79.9	110	5.98	75.4	110	10.58	85.8	110	11.6	83.5
120	6.78	80.7	120	5.98	76	120	11.58	86.5	120	11.52	84.2
130	6.8	81.4	130	5.07	76.1	130	12.59	87.5	130	11.06	85.1
140	6.89	81.8	140	5.4	76.5	140	11.88	88.3	140	11	85.8

**Table S2.** Flux and feed solution conductivity for the experiments with NaCl draw solution with ultrasound. Notes: Time in min, flux in L/m<sup>2</sup>.h, and conductivity of feed solution (Cond FS) in mS/cm

Case: 0.25-C-AL						Case: 1.0-C-AL					
Run #1			Run #2			Run #1			Run #2		

Time	Flux	Cond FS	Time	Flux	Cond FS	Time	Flux	Cond FS	Time	Flux	Cond FS
20	10.62	75.2	20	12.22	76.7	20	15.63	72.7	20	17.21	77.9
30	10.62	76.3	30	12.12	78.4	30	16.41	73.6	30	16.07	78.6
40	10.6	77.8	40	12.21	79.1	40	15.4	74.5	40	15.84	79.8
50	11.12	78.3	50	9.68	79.7	50	14.3	75.6	50	17.68	80.5
60	10.47	79.5	60	12.83	80.5	60	15.77	76.3	60	15.47	81.8
70	10.37	80.1	70	11.62	81.3	70	14.78	77.2	70	15.06	83
80	9.99	80.5	80	12.46	81.9	80	14.42	78.4	80	15.51	84.2
90	9.8	81.2	90	11.26	82.7	90	14.05	79.1	90	14.43	84.9
100	6.83	82.1	100	10.77	83.9	100	14.17	80.2	100	14.25	86.1
110	10.02	82.7	110	9.69	84.5	110	15.77	81.3	110	14.51	87.3
120	10.22	83.8	120	10.64	84.9	120	12.07	82.2	120	14.43	88.2
130	9.99	84.3	130	10.78	86.1	130	13.93	83.2	130	14.86	89.6
140	9.48	85	140	10.77	86.6	140	13.31	83.9	140	13.84	90.3

Case: 0.25-CC-AL						Case: 1.0-CC-AL					
Run #1			Run #2			Run #1			Run #2		
Time	Flux	Cond FS	Time	Flux	Cond FS	Time	Flux	Cond FS	Time	Flux	Cond FS
20	13.41	72.8	20	12.1	75.4	20	16.42	78.3	20	17.07	77.4
30	13.09	73.7	30	12.1	76.4	30	16.42	79.2	30	16.69	78.3
40	12.83	74.5	40	13.21	76.9	40	16.32	80.3	40	17.16	79.4
50	12.22	75.3	50	10	77.8	50	15.83	81.2	50	15.88	80.4
60	11.6	76.1	60	11.36	79	60	15.4	82.3	60	16.06	81.5
70	11.52	76.7	70	12.54	79.8	70	14.93	83.4	70	15.8	82.6
80	7.3	77.5	80	12.15	80.7	80	14.94	84.5	80	15.84	83.7
90	9.35	78.2	90	9.63	81.3	90	14.81	85.5	90	14.93	84.8
100	11.98	79.1	100	11.85	82.1	100	14.56	86.6	100	14.85	86
110	10.49	79.9	110	7.46	82.8	110	14.32	87.7	110	14.68	87.1
120	10.86	80.5	120	11.8	83.6	120	13.69	88.8	120	14.06	88.2
130	10.86	81.2	130	10.74	84.3	130	14.31	89.8	130	13.59	89.2
140	10.47	82.1	140	10.79	85.1	140	13.19	90.9	140	12.48	90.6

Case: 0.25-C-SL						Case: 1.0-C-SL					
Run #1			Run #2			Run #1			Run #2		
Time	Flux	Cond FS	Time	Flux	Cond FS	Time	Flux	Cond FS	Time	Flux	Cond FS
20	8.4	72	20	5.43	72.2	20	14.52	74.8	20	14.46	77.3
30	6.3	72.4	30	5.06	72.4	30	14.26	75.5	30	14.69	78.5
40	9.14	72.8	40	5.06	72.7	40	14.07	76.6	40	13.44	79.2
50	5.56	72.9	50	3.83	72.8	50	13.6	77.5	50	15.81	80.1
60	6.17	73.5	60	4.32	73	60	14.07	78.6	60	14.2	80.9
70	4.07	73.7	70	3.95	73.5	70	12.21	79.1	70	13.83	82.1
80	5.06	74.2	80	3.83	73.7	80	12.81	80.2	80	13.81	83.1
90	5.06	74.5	90	4.81	73.9	90	13.6	80.9	90	13.53	83.8
100	4.69	74.9	100	3.21	74.2	100	12.46	81.7	100	12.89	84.8
110	4.99	75	110	4.44	74.5	110	12.21	82.7	110	13.16	85.8
120	5.14	75.3	120	3.7	74.8	120	11.09	83	120	12.09	86.6
130	4.37	75.4	130	3.94	74.9	130	11.27	83.7	130	12.53	87.6
140	5.04	75.5	140	4.58	75.2	140	10.54	84.3	140	12.1	88.5

Case: 0.25-CC-SL						Case: 1.0-CC-SL					
Run #1			Run #2			Run #1			Run #2		
Time	Flux	Cond FS	Time	Flux	Cond FS	Time	Flux	Cond FS	Time	Flux	Cond FS
20	4.94	71.9	20	5.31	70.8	20	14.94	76.9	20	15.43	74.9
30	5.19	72.3	30	4.57	71.1	30	16.17	78	30	14.89	75.7
40	3.95	72.7	40	7.41	71.5	40	16.05	78.8	40	14.26	76.6
50	6.91	73.2	50	6.65	71.7	50	14.07	79.7	50	13.81	77.5
60	6.17	73.3	60	8.28	72	60	14.44	80.7	60	13.86	78.5
70	4.57	73.7	70	6.42	72.4	70	14.69	81.6	70	13.6	79.4
80	3.09	73.8	80	6.67	72.9	80	13.83	82.6	80	13.35	80.3
90	5.31	74.1	90	6.37	73.2	90	12.1	83.3	90	13.54	81.1
100	4.32	74.4	100	6.72	73.7	100	13.58	84.4	100	13.06	82.2
110	3.81	74.8	110	5.05	74.1	110	13.83	85.3	110	12.54	83.1
120	4.83	75.1	120	6.06	74.5	120	12.47	86.2	120	12.44	84
130	5.19	75.4	130	6.17	74.9	130	12.22	87.2	130	14.64	84.8
140	4.8	75.7	140	7.56	75.3	140	12.35	88.2	140	10.7	85.8

**Table S3.** Flux and feed solution conductivity for the experiments with MgCl<sub>2</sub> draw solution without ultrasound. Notes: Time in min, flux in L/m<sup>2</sup>.h, and conductivity of feed solution (Cond FS) in mS/cm.

Case: 0.25-C-BL						Case: 1.0-C-BL					
Run #1			Run #2			Run #1			Run #2		
Time	Flux	Cond FS	Time	Flux	Cond FS	Time	Flux	Cond FS	Time	Flux	Cond FS
20	3.06	72.6	20	5.14	72.7	20	11.62	73	20	10.41	75.9
30	3.68	72.9	30	5.07	73	30	11.67	73.6	30	10.21	76.6
40	4.15	73.1	40	5.2	73.4	40	11.59	74.1	40	10.15	77.1
50	4.38	73.4	50	5.22	73.7	50	11.42	74.8	50	10.15	77.6
60	4.86	73.7	60	5.06	73.9	60	11.38	75.5	60	9.6	78.3
70	3.8	73.9	70	5.02	74.3	70	11.32	76.2	70	9.93	78.8
80	3.47	74	80	4.75	74.5	80	11.48	77	80	9.72	79.4
90	3.54	74.2	90	4.89	74.8	90	10.86	77.5	90	9.74	80.1
100	3.51	74.4	100	4.8	75	100	10.68	78.1	100	8.89	80.7
110	3.84	74.6	110	4.7	75.3	110	10.65	78.8	110	9.36	81.2
120	3.72	74.9	120	4.49	75.6	120	10.42	79.4	120	9	82
130	3.64	75.1	130	4.49	75.8	130	10.43	80.1	130	8.93	82.5
140	3.95	75.4	140	4.28	76.1	140	10.02	80.7	140	8.75	82.9

Case: 0.25-CC-BL						Case: 1.0-CC-BL					
Run #1			Run #2			Run #1			Run #2		
Time	Flux	Cond FS	Time	Flux	Cond FS	Time	Flux	Cond FS	Time	Flux	Cond FS
20	5.38	74.4	20	5.79	74.9	20	10.3	75.7	20	10.46	75.4
30	5.15	74.7	30	5.59	75.2	30	10.48	76.5	30	10.21	76
40	4.86	75.1	40	5.48	75.5	40	10.4	77	40	9.85	76.5
50	5.05	75.4	50	5.53	75.8	50	10.42	77.5	50	10.22	77.3
60	5.05	75.8	60	5.54	76.1	60	10.2	78.1	60	9.83	77.7
70	4.7	76.1	70	5.28	76.4	70	9.88	78.8	70	9.46	78.3
80	4.72	76.3	80	5.41	76.7	80	9.85	79.4	80	9.49	79
90	4.69	76.6	90	5.3	77	90	10.1	80.1	90	9.58	79.5
100	4.62	76.9	100	5.41	77.3	100	9.7	80.8	100	9.2	80.1
110	4.8	77.2	110	5.17	77.5	110	9.37	81.3	110	9.26	80.8
120	4.65	77.5	120	4.94	77.7	120	9.14	82	120	9.09	81.2
130	4.89	77.8	130	4.62	78	130	9.19	82.5	130	9.04	81.9
140	4.74	78	140	4.63	78.2	140	9.11	82.9	140	8.65	82.3

**Table S4.** Flux and feed solution conductivity for the experiments with MgCl<sub>2</sub> draw solution with ultrasound. Notes: Time in min, flux in L/m<sup>2</sup>.h, and conductivity of feed solution (Cond FS) in mS/cm

Case: 0.25-C-AL						Case: 1.0-C-AL					
Run #1			Run #2			Run #1			Run #2		
Time	Flux	Cond FS	Time	Flux	Cond FS	Time	Flux	Cond FS	Time	Flux	Cond FS
20	7.53	73.6	20	9.25	74.2	20	11.72	76.1	20	11.44	76
30	6.98	74	30	8.54	74.5	30	12.3	76.6	30	10.75	76.7
40	6.7	74.7	40	8.07	74.8	40	11.95	77.7	40	10.72	77.2
50	6.63	75.1	50	7.93	75.4	50	12.09	78.2	50	10.52	77.8
60	6.74	75.5	60	7.95	76.3	60	11.25	78.9	60	10.21	78.5
70	6.84	75.8	70	8.07	76.7	70	11.42	79.6	70	10.49	79.2
80	6.53	76.2	80	8	77	80	11.09	80.2	80	9.96	79.7
90	6.4	76.6	90	7.52	77.7	90	11.26	80.9	90	9.83	80.4
100	6.3	77.1	100	7.69	78.1	100	11.42	81.5	100	9.85	81.1
110	6.23	77.5	110	0.44	78.6	110	10.93	82.2	110	9.99	81.8
120	6.51	77.8	120	7.64	78.9	120	10.86	83.1	120	10.05	82.4
130	6.57	78.2	130	7.54	79.4	130	10.86	83.8	130	9.36	82.9
140	6.31	78.7	140	7.52	79.8	140	10.44	84.4	140	9.27	83.4

Case: 0.25-CC-AL						Case: 1.0-CC-AL					
Run #1			Run #2			Run #1			Run #2		
Time	Flux	Cond FS	Time	Flux	Cond FS	Time	Flux	Cond FS	Time	Flux	Cond FS
20	8.41	75.4	20	9.36	75.7	20	10.56	75.6	20	10.72	75.8
30	8.46	75.9	30	8.78	76.1	30	10.57	76.3	30	10.7	76.6
40	9.58	76.4	40	8.44	76.5	40	10.62	77	40	10.04	77.1
50	6.69	76.8	50	8.31	77	50	10.58	77.6	50	9.93	77.9
60	8.32	77.2	60	8.48	77.7	60	10.22	78.2	60	10.49	78.4
70	8.15	77.8	70	8.02	78.1	70	10.1	78.9	70	9.7	79
80	7.9	78.3	80	7.83	78.8	80	10.02	79.6	80	10.02	79.4
90	7.79	78.8	90	7.65	79.4	90	10.15	80	90	9.77	80.1
100	7.88	79.2	100	7.77	79.8	100	10.05	80.7	100	9.32	80.7
110	7.67	79.7	110	7.91	80.2	110	9.89	81.4	110	9.47	81.2
120	7.43	80.3	120	7.73	80.7	120	9.53	81.9	120	9.23	81.9
130	7.57	80.6	130	7.64	81.2	130	10.01	82.7	130	9	82.6
140	7.33	81	140	7.59	81.8	140	9.64	83	140	8.99	82.7

Case: 0.25-C-SL						Case: 1.0-C-SL					
Run #1			Run #2			Run #1			Run #2		
Time	Flux	Cond FS	Time	Flux	Cond FS	Time	Flux	Cond FS	Time	Flux	Cond FS
20	4.41	74.9	20	4.14	74.9	20	10.58	75.4	20	9.1	75.3
30	4.49	75.2	30	4.22	75.1	30	9.99	76.1	30	9.85	75.9
40	4.77	75.4	40	3.86	75.4	40	10.06	76.6	40	9.72	76.4
50	5.36	75.6	50	4.05	75.7	50	9.9	77.1	50	10.63	77.1
60	4.83	75.9	60	4.26	75.9	60	10.07	77.8	60	10.02	77.7
70	4.91	76.2	70	4.47	76.1	70	9.59	78.4	70	9.6	78.2
80	4.8	76.6	80	4.32	76.5	80	9.26	79.1	80	10.49	78.9
90	5.04	76.9	90	4.46	76.8	90	9.41	79.4	90	8.84	79.5
100	5.05	77	100	4.6	77	100	9.23	80.2	100	9.26	80
110	4.89	77.5	110	4.33	77.3	110	9.06	80.8	110	9.3	80.4
120	5.06	77.6	120	4.84	77.5	120	9.01	81.4	120	9.14	81
130	5.2	77.9	130	4.53	77.8	130	8.84	81.9	130	8.91	81.7
140	5.52	78.1	140	4.33	78.1	140	9.86	82.2	140	8.91	82.2

Case: 0.25-CC-SL						Case: 1.0-CC-SL					
Run #1			Run #2			Run #1			Run #2		
Time	Flux	Cond FS	Time	Flux	Cond FS	Time	Flux	Cond FS	Time	Flux	Cond FS
20	5.59	74.5	20	5.84	74.6	20	10.04	75.2	20	8.98	75.6
30	6.19	74.8	30	5.99	75	30	11.53	76	30	8.9	76.2
40	5.59	75.1	40	5.67	75.5	40	9.57	76.7	40	8.75	76.7
50	5.51	75.4	50	6.15	75.9	50	9.95	77.4	50	9.04	77.2
60	5.44	75.8	60	5.84	76.2	60	10.27	77.7	60	9.1	77.8
70	5.23	76.1	70	5.86	76.5	70	9.72	78.4	70	9.09	78.2
80	5.38	76.4	80	5.62	76.9	80	10.07	79	80	8.86	78.8
90	5.58	76.6	90	5.99	77.2	90	10.06	79.7	90	8.83	79.7
100	5.12	77.1	100	5.94	77.8	100	9.53	80.3	100	8.94	80.2
110	5.62	77.3	110	5.47	78.2	110	8.91	80.9	110	8.8	80.5
120	5.28	77.5	120	5.8	78.6	120	9.4	81.5	120	8.54	81.1
130	5.93	77.8	130	5.32	78.9	130	9.15	82.2	130	8.2	81.8
140	4.46	78.2	140	5.32	79.4	140	9.14	82.6	140	8.28	82.2