Supplementary Information

Optimization of the pilot-scale re-mineralization by calcite dissolution using sulfuric acid for seawater desalination processes

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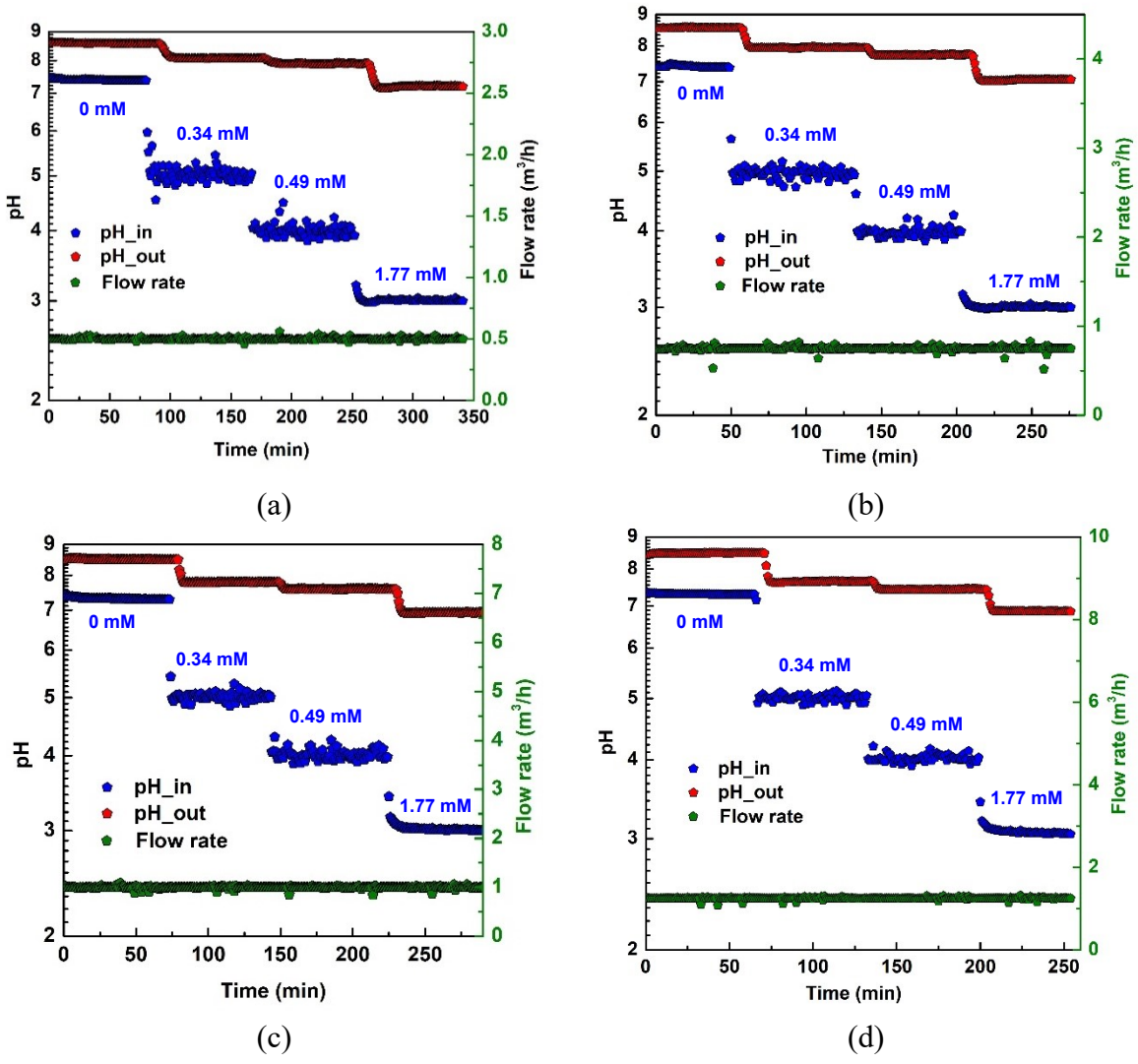

Figure. S1 Changes in pH and flow rate as a function of time (acid concentration) at the flow rates of 0.5 m^3/h (a), 0.75 m^3/h (b) 1.0 m^3/h (c) 1.25 m^3/h (d) recorded by the online data acquisition in the calcite dissolution system.

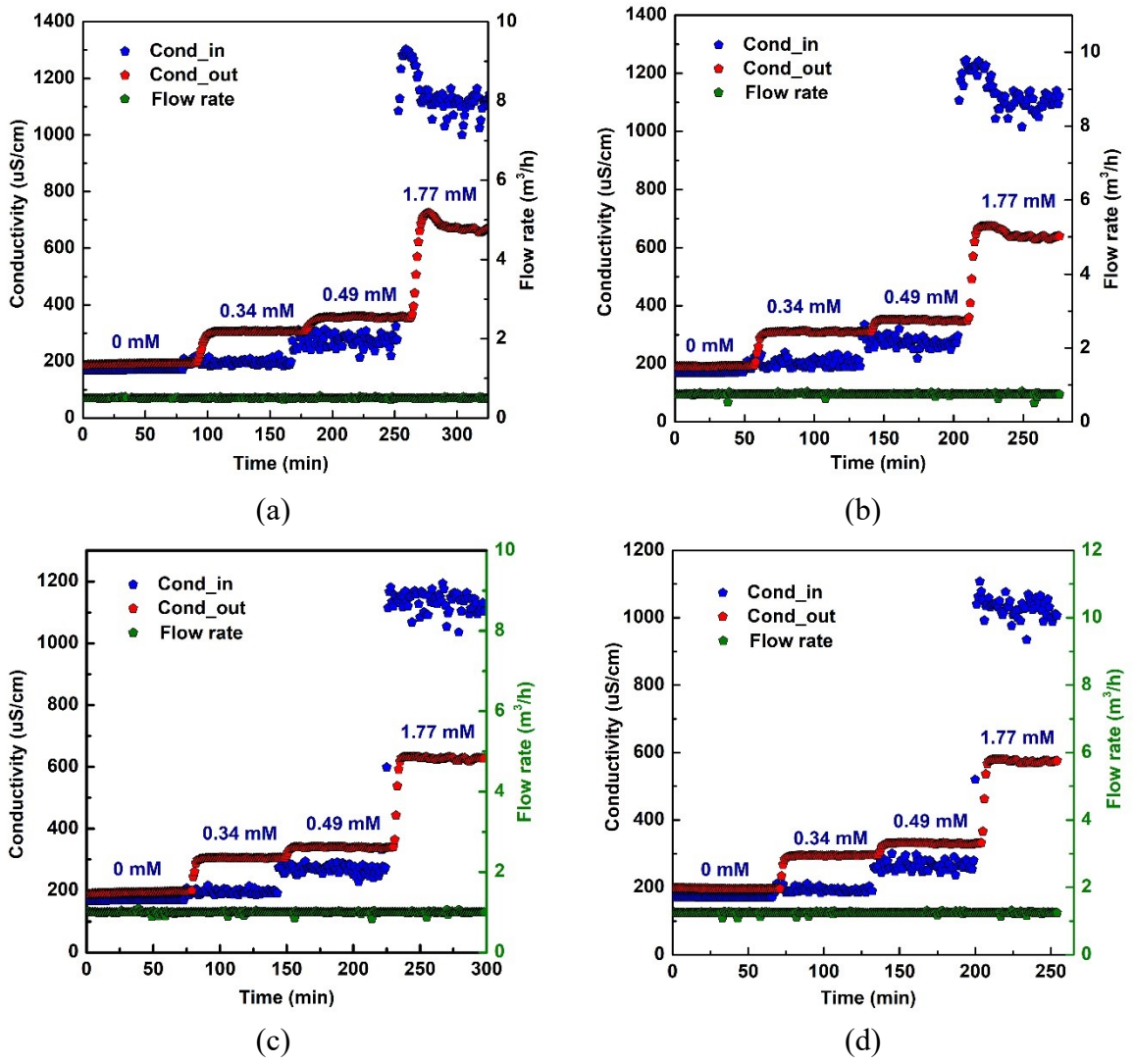

Figure. S2 Changes in conductivity and flow rate as a function of time (acid concentration) at the flow rates of 0.5 m^3/h (a), 0.75 m^3/h (b) 1.0 m^3/h (c) 1.25 m^3/h (d) recorded by the online data acquisition in the calcite dissolution system.

Table. S1 Ion concentration of the heavy metal elements in the produced water according to different surfuric acid concentration in the acidification.

Sulfuric acid concentration (mM)	Ion concentration of the heavy metal elements in permeate water (μg/L)								
	Pb	As	Cs	Hg	Cr	Cd	Ni	Sb	Fe
0	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
0.34	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
0.49	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
1.77	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

*N.D. = not detected