Electronic Supplementary Material (ESI) for Environmental Science: Nano.

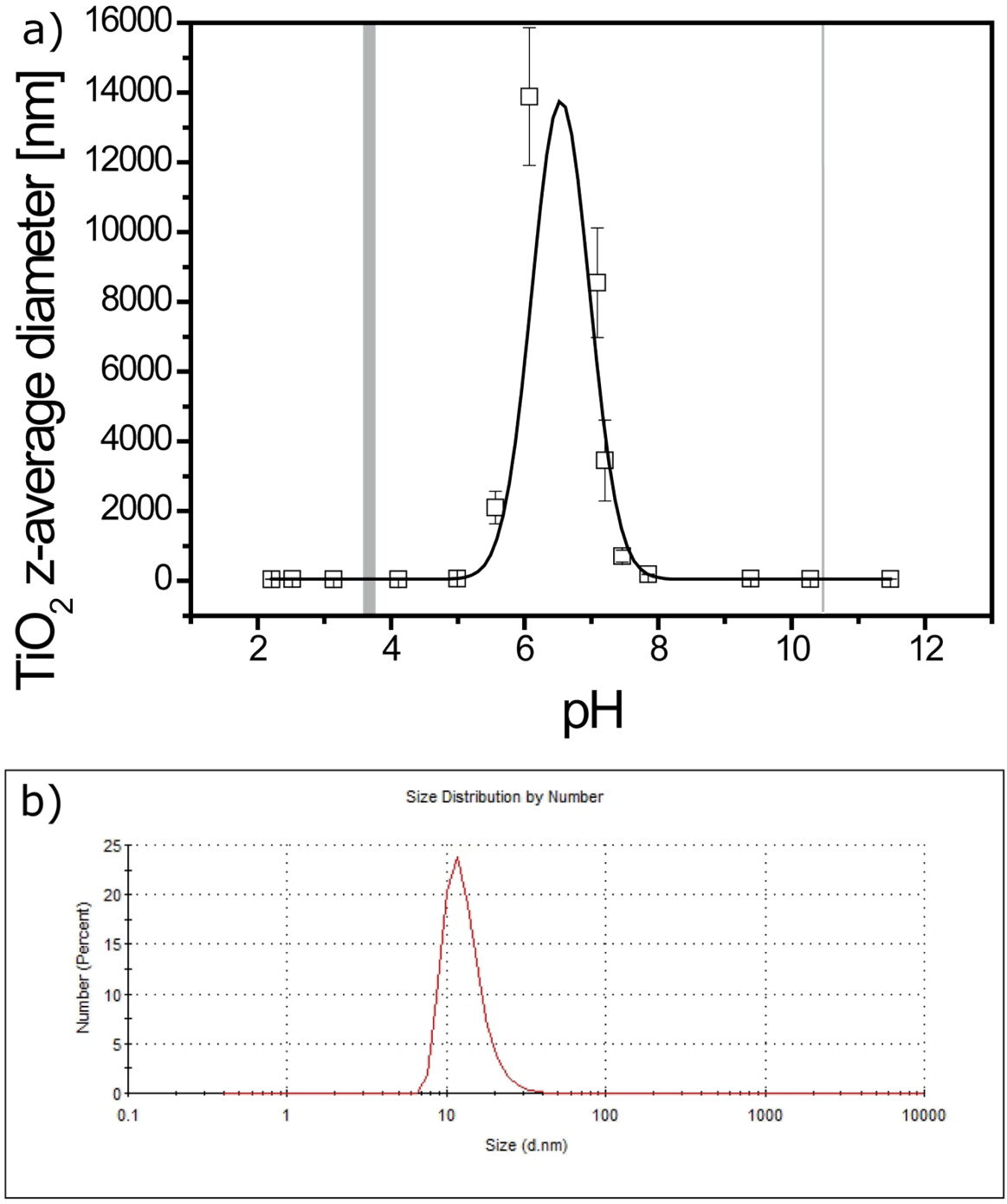

Fig. S1 - a) TiO_2 z-average diameter values as a function of pH. At pH 3.8 (large gray vertical line) the TiO_2 ENPs are dispersed with a z-average diameter value found equal to 47 ± 1 nm. At pH 10.4 (narrow gray line), the ENPs are also stable with diameter value equal to 53 ± 1 nm. b) TiO_2 number size distribution at pH 3.8 with mode value in agreement with manufacturer particle primary diameter $[TiO_2]$ = 50 mg L^{-1} and [NaCl] = 0.001 M.

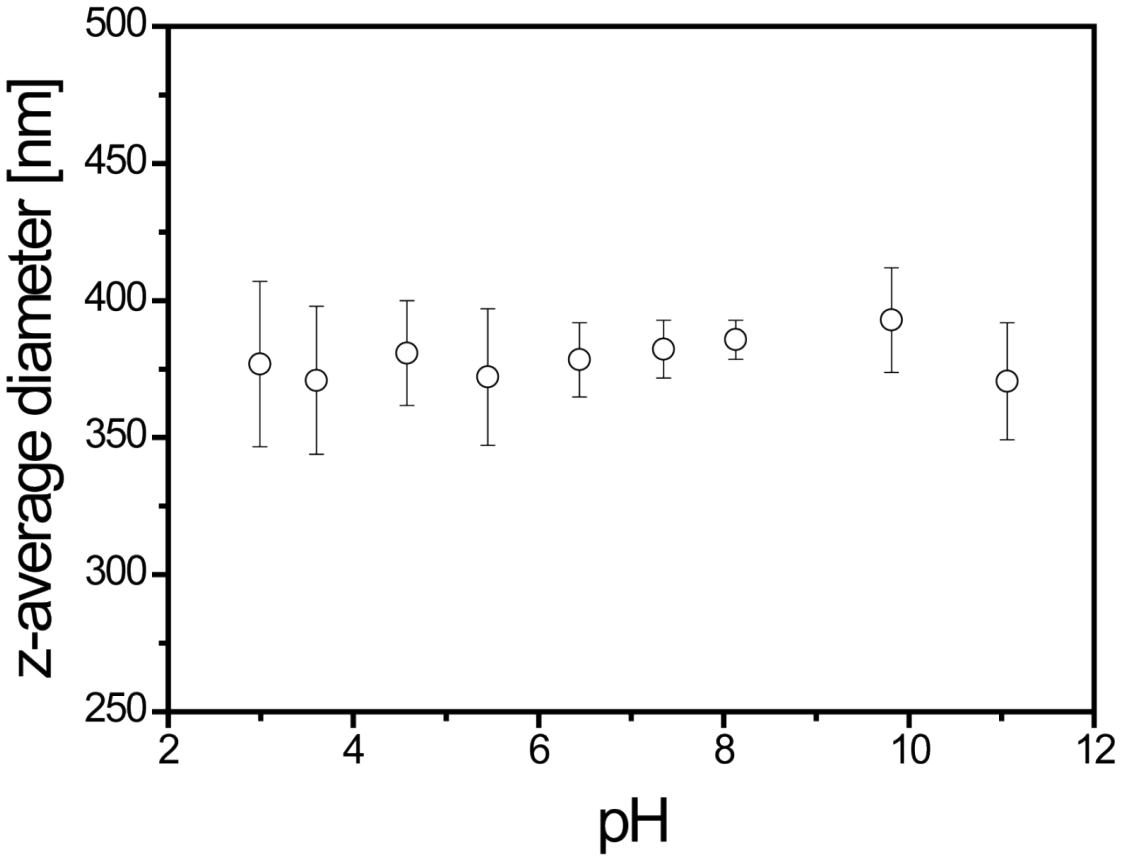

Fig. S2 - SRHA z-average diameter values as a function of pH. Z-average diameters are found constant over pH variation with mean value equal to 379 ± 19 nm. [SRHA] = 100 mg L^{-1} and [NaCl] = 0.001 M.

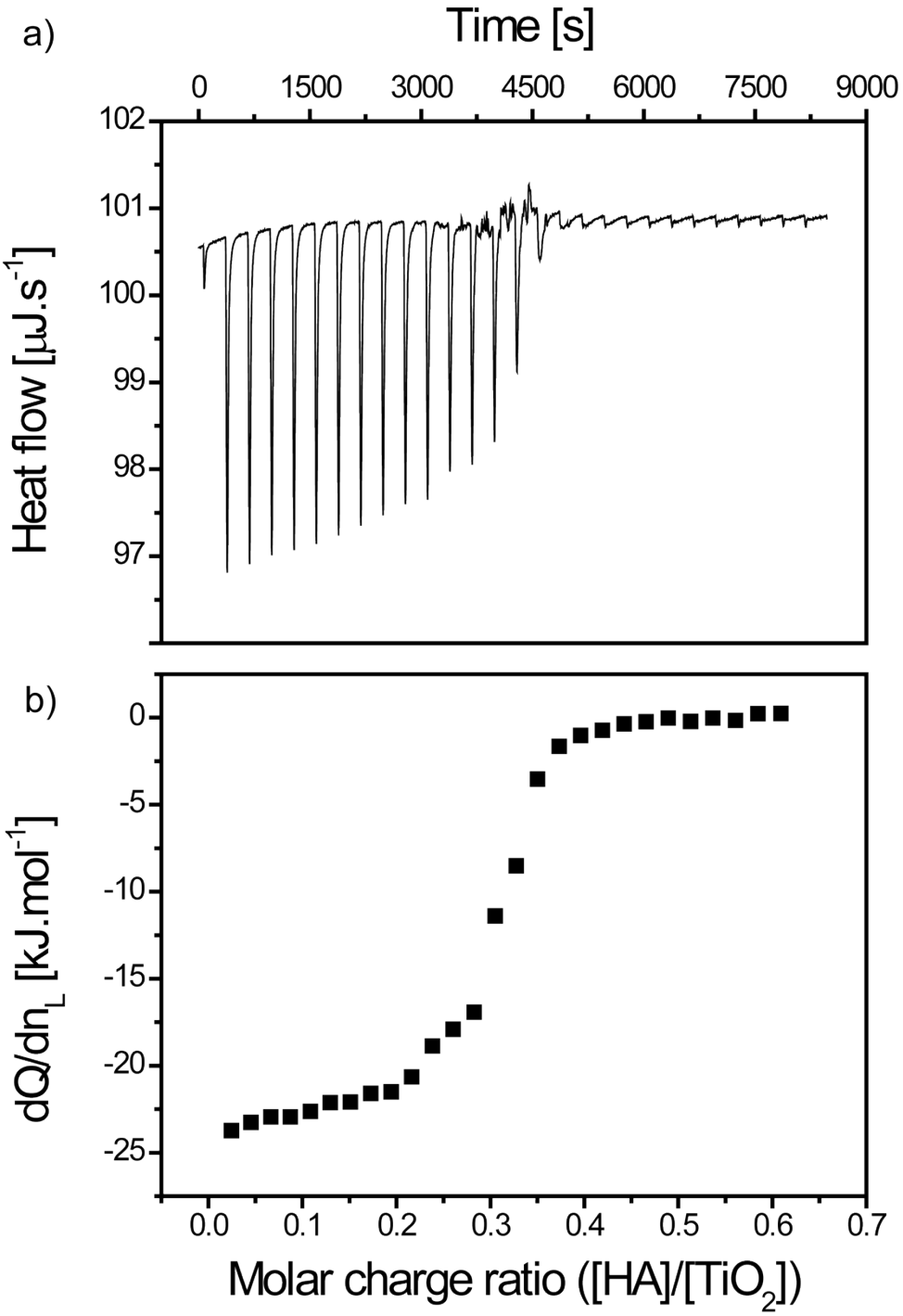

Fig. S3 - a) Real-time thermogram for TiO_2 0.2 g L^{-1} titration with SRHA 0.50 mM at pH < pH_{PCN,TiO_2} at 298.15 K. Negative peaks indicate an exothermic reaction. b) Corresponding integrated heat data as a function of molar charge ratio.

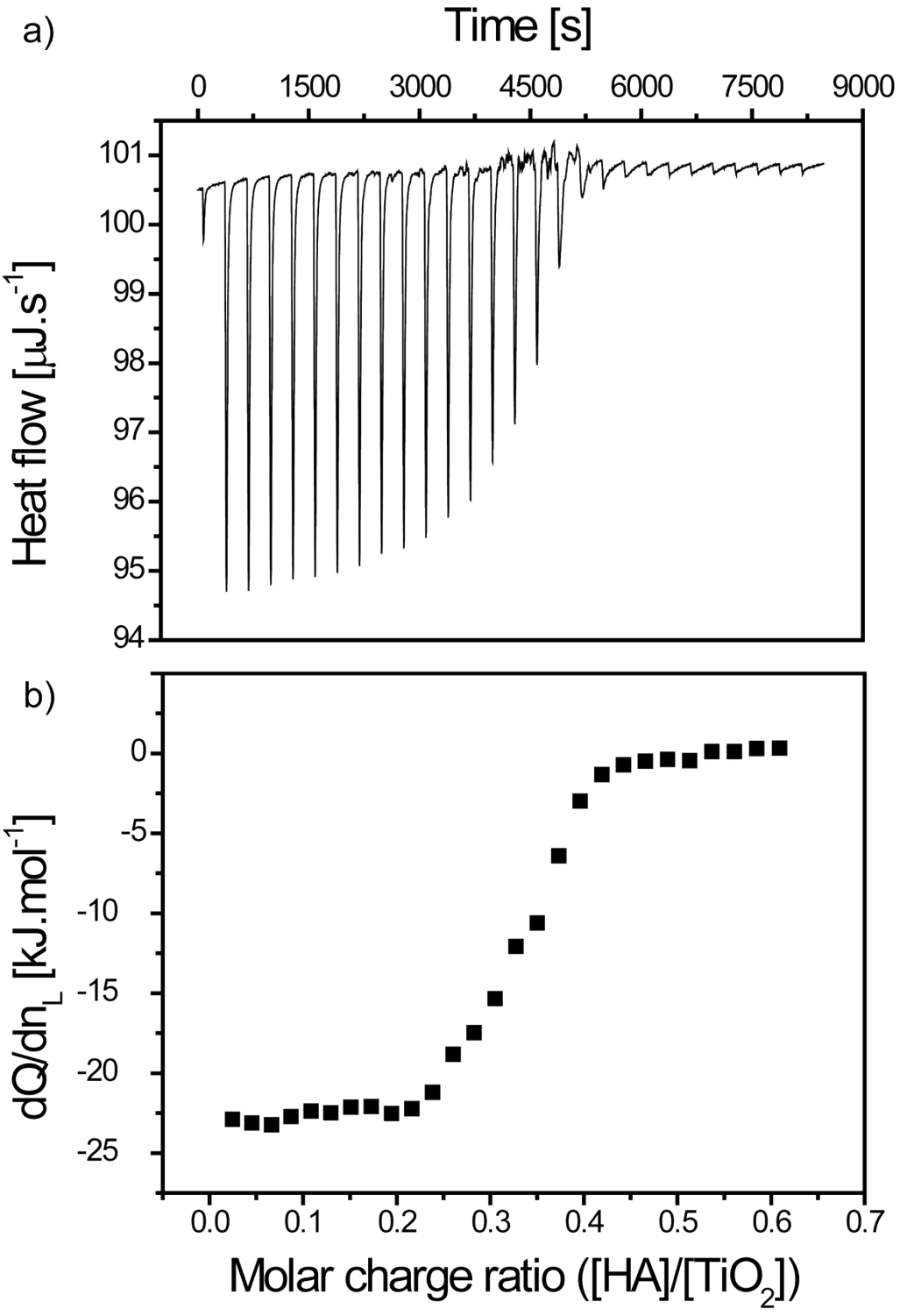

Fig. S4 - a) Real-time thermogram for TiO_2 0.3 g L^{-1} titration with SRHA 0.75 mM at pH < pH_{PCN,TiO_2} at 298.15 K. Negative peaks indicate an exothermic reaction. b) Corresponding integrated heat data as a function of molar charge ratio.

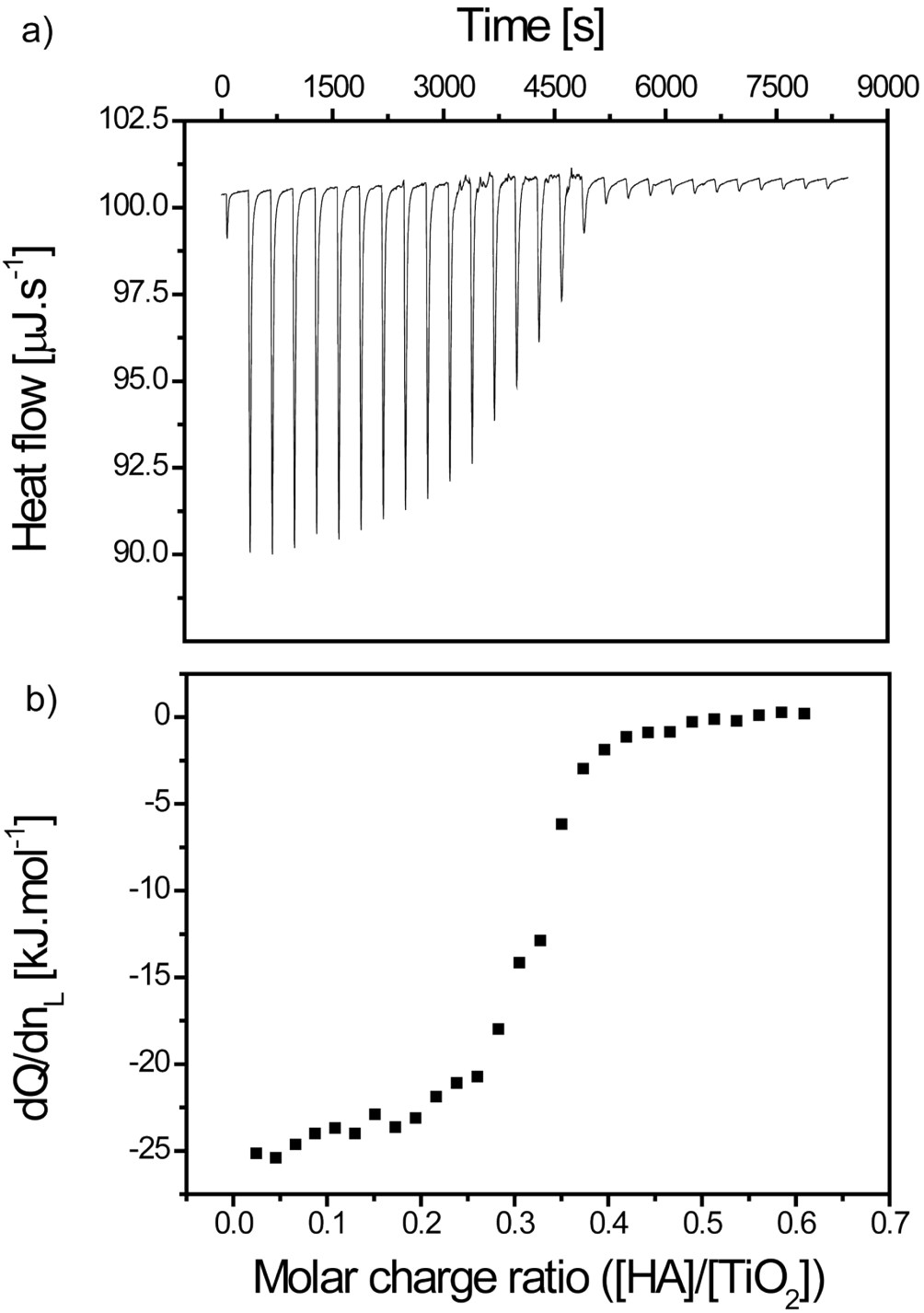

Fig. S5 - a) Real-time thermogram for TiO_2 0.5 g L^{-1} titration with SRHA 1.25 mM at pH < pH_{PCN,TiO_2} at 298.15 K. Negative peaks indicate an exothermic reaction. b) Corresponding integrated heat data as a function of molar charge ratio.

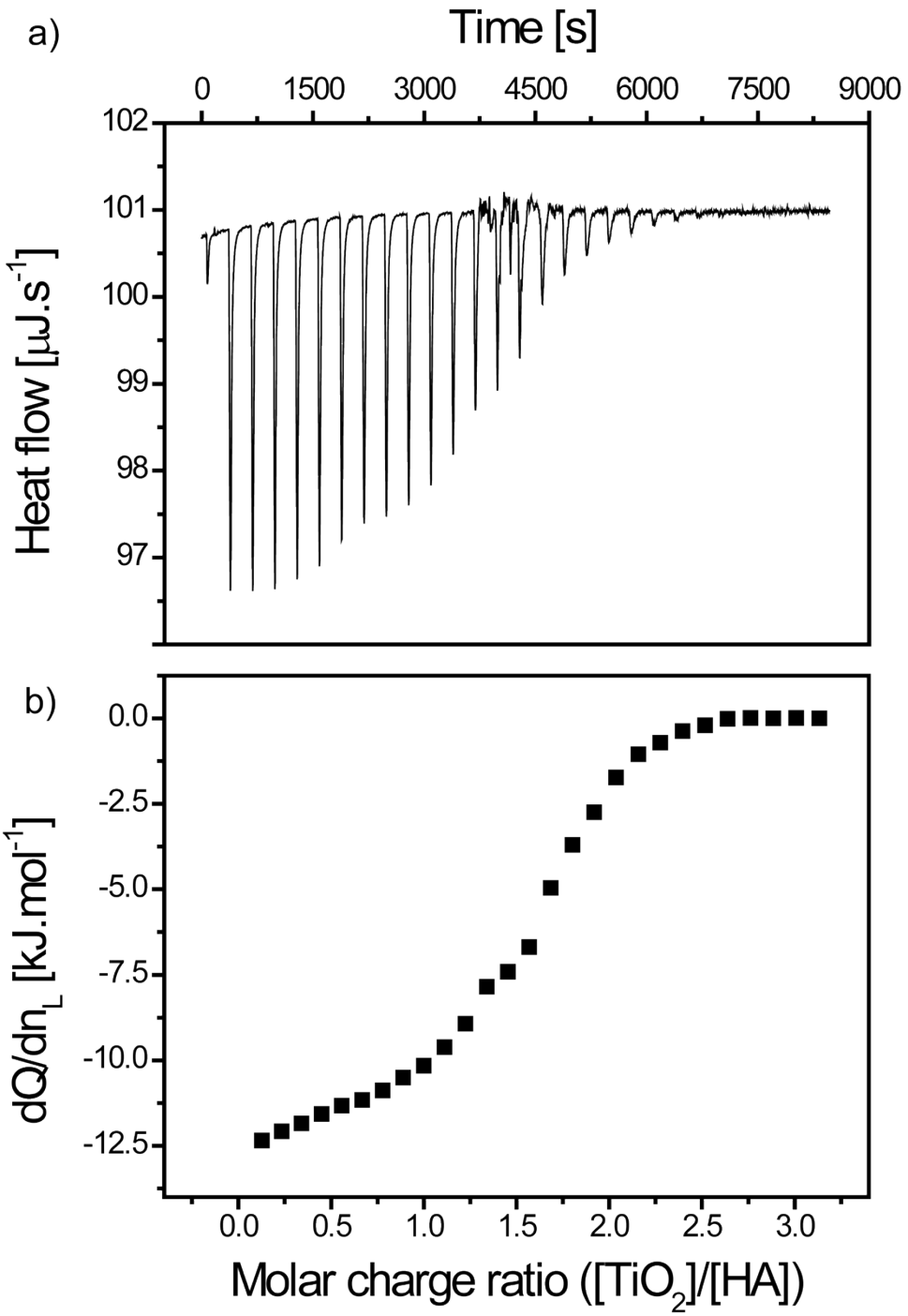

Fig. S6 - a) Real-time thermogram for SRHA 0.075 mM titration with TiO_2 1.4 g L^{-1} at pH < pH_{PCN,TiO_2} at 298.15 K. Negative peaks indicate an exothermic reaction. b) Corresponding integrated heat data as a function of molar charge ratio.

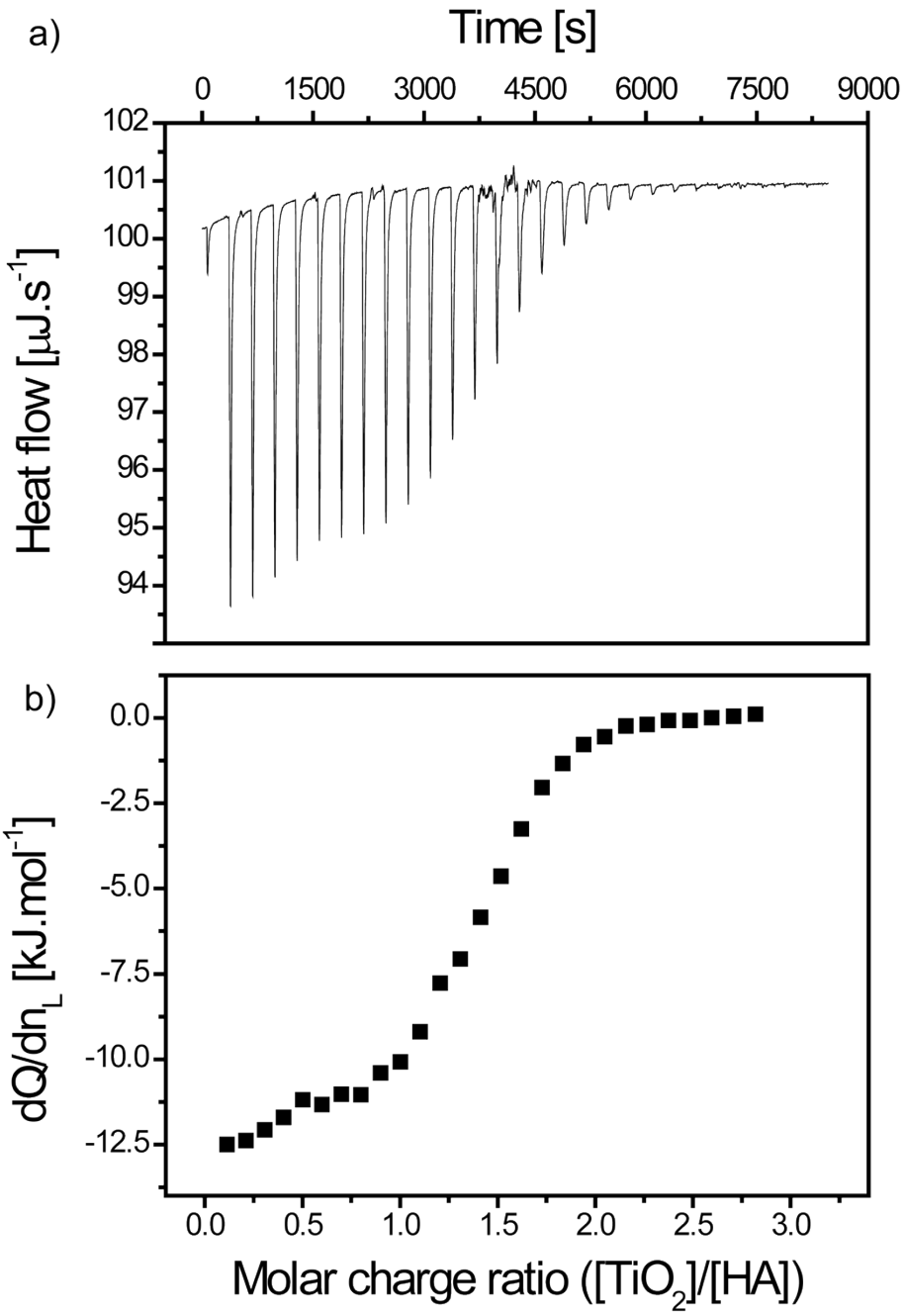

Fig. S7 - a) Real-time thermogram for SRHA 0.1125 mM titration with TiO_2 2.1 g L^{-1} at pH < pH_{PCN,TiO_2} at 298.15 K. Negative peaks indicate an exothermic reaction. b) Corresponding integrated heat data as a function of molar charge ratio.

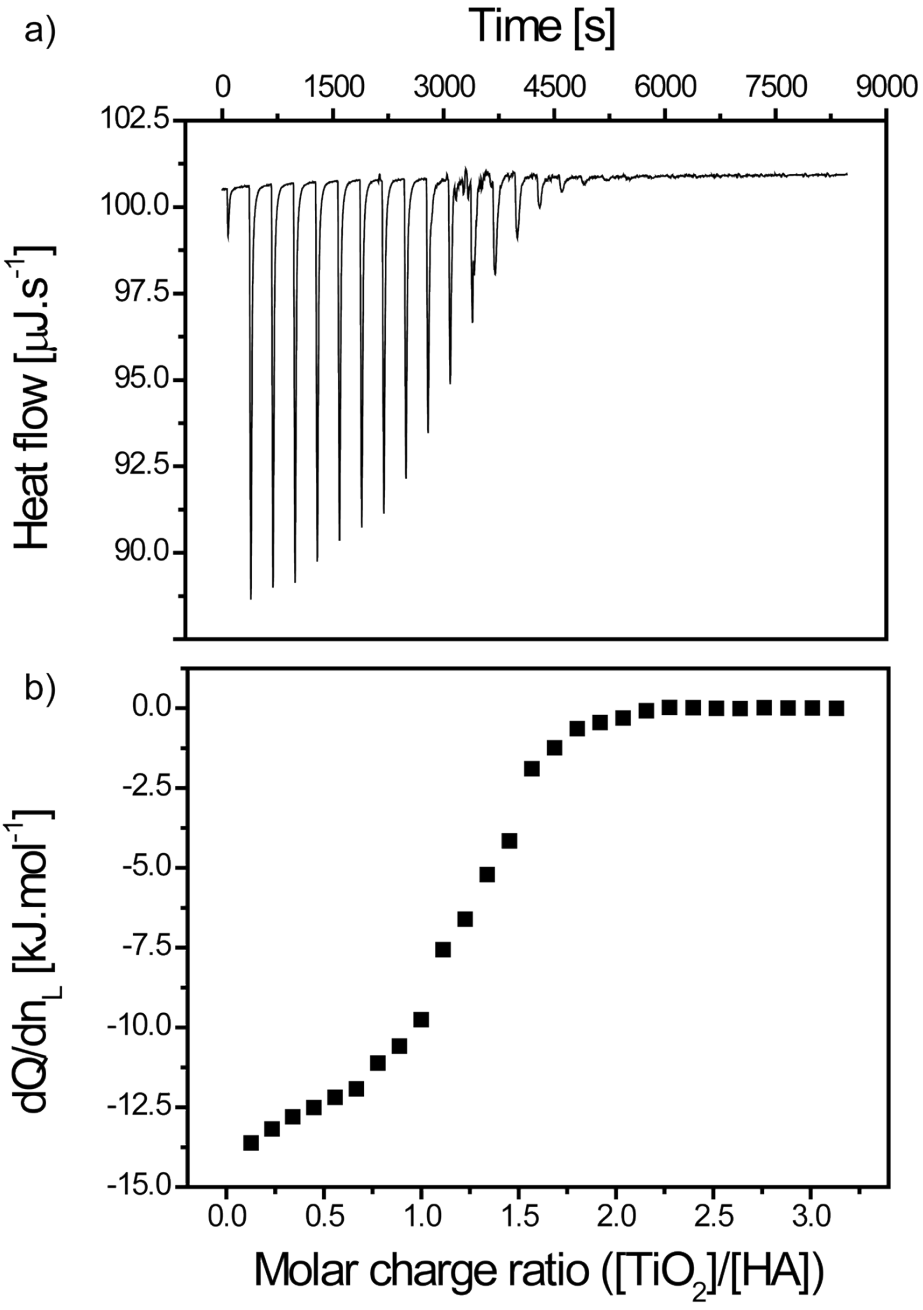

Fig. S8 - a) Real-time thermogram for SRHA 0.1875 mM titration with TiO_2 3.5 g L^{-1} at pH < pH_{PCN,TiO_2} at 298.15 K. Negative peaks indicate an exothermic reaction. b) Corresponding integrated heat data as a function of molar charge ratio.

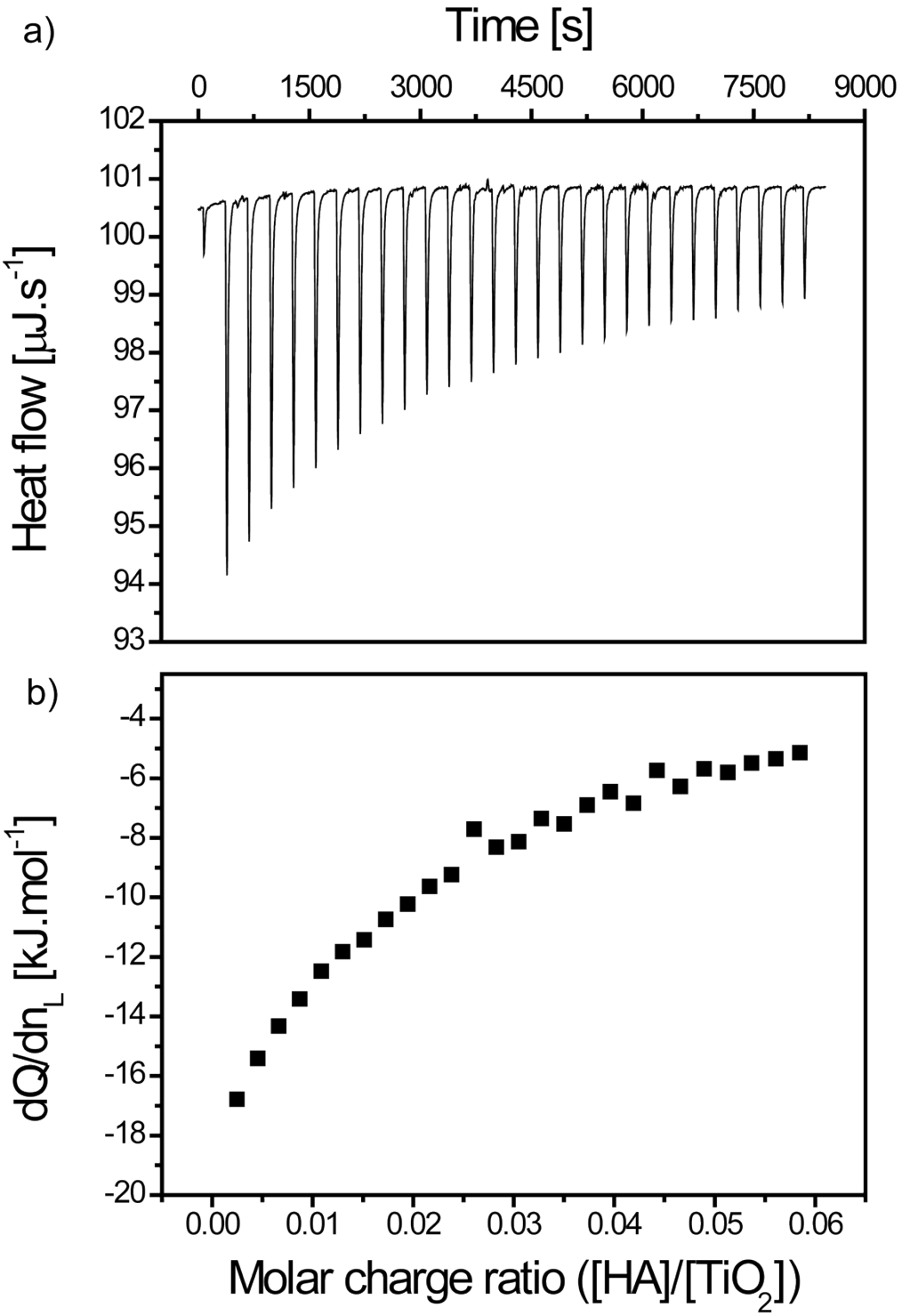

Fig. S9 - a) Real-time thermogram for TiO_2 5 g L^{-1} titration with SRHA 1.25 mM at pH > pH_{PCN,TiO_2} at 298.15 K. b) Corresponding integrated heat data as a function of molar charge ratio.

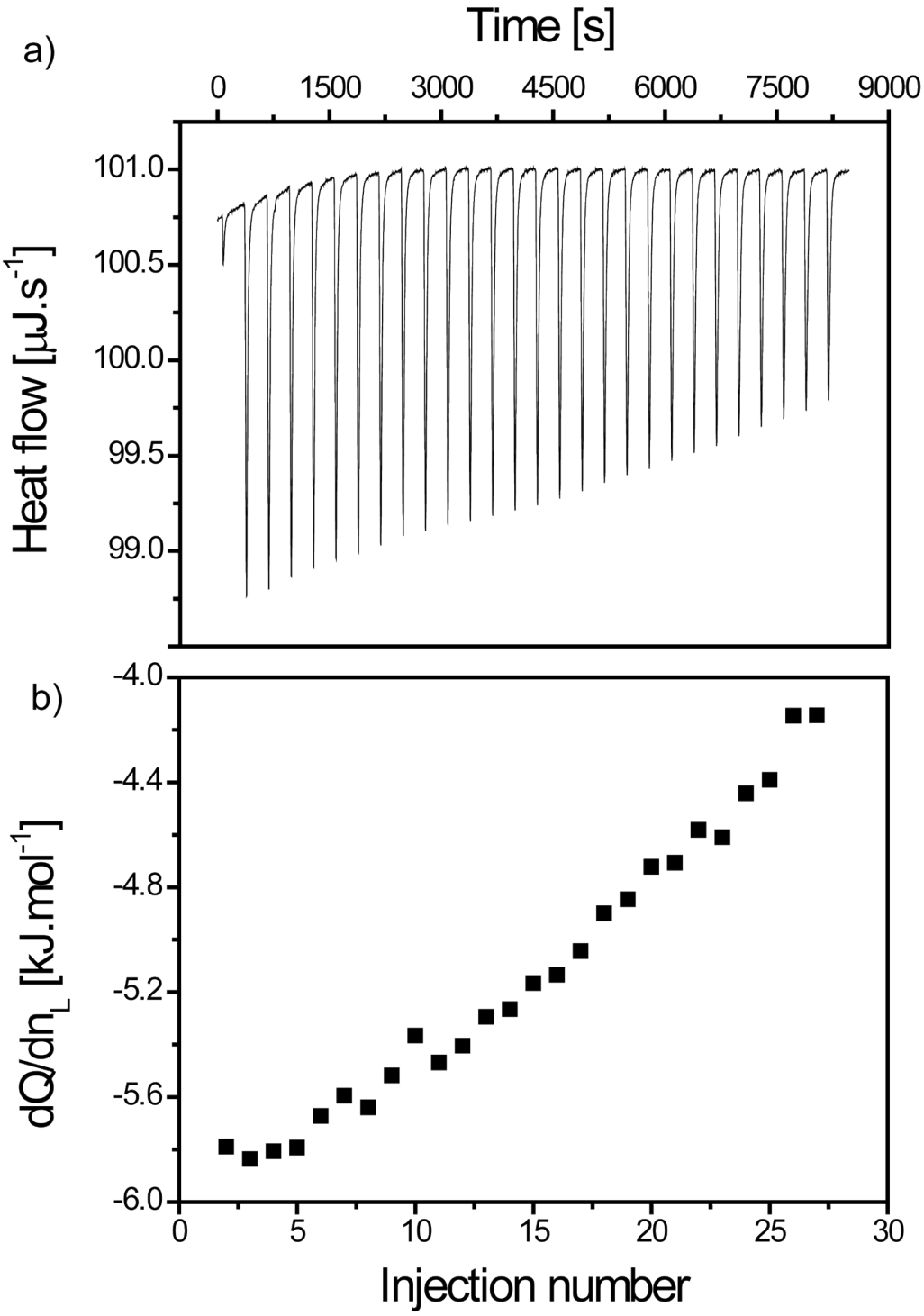

Fig. S10 - a) Real-time thermogram for water titration with SRHA 1.25 mM at pH > pH_{PCN,TiO_2} at 298.15 K. b) Corresponding integrated heat data as a function of injection number.