

Development of an online citrate/Ca²⁺ sensing system for dialysis

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The codes to drive the SIA instrument.

Command	Description
Loop Start (#) n	Start of the analysis and repeat “n” times
Loop Start (#) 3	
Syringe Pump Valve In	
Syringe Pump Flowrate (microliter/sec) 300	
Syringe Pump Aspirate (microliter) 800	
Syringe Pump Delay Until Done	Rinse the system three times with 800 uL of citrate sensing solution each time.
Syringe Pump Valve Out	
Multiposition Valve port 7	Note: The “port 7” is the port to the flowcell.
Syringe Pump Flowrate (microliter/sec) 300	
Syringe Pump Empty	
Syringe Pump Delay Until Done	
Loop End	
Syringe Pump Valve In	
Syringe Pump Flowrate (microliter/sec) 300	
Syringe Pump Aspirate (microliter) 300	
Syringe Pump Delay Until Done	
Syringe Pump Valve Out	
Multiposition Valve sample	
Syringe Pump Flowrate (microliter/sec) 50	Aspirate 300 uL citrate sensing solution, 12 uL of Ca ²⁺ sensing solution and 13 uL of dialysate sample into the flowcell.
Syringe Pump Aspirate (microliter) 12	
Syringe Pump Delay Until Done	
Multiposition Valve ReagentB	Note: The “sample” is the port to dialysate sampleing loop. The “reagentB” is the port to Ca ²⁺ sensing stock solution.
Syringe Pump Flowrate (microliter/sec) 50	
Syringe Pump Aspirate (microliter) 13	
Syringe Pump Delay Until Done	
Multiposition Valve port 7	
Syringe Pump Flowrate (microliter/sec) 300	
Syringe Pump Empty	
Syringe Pump Delay Until Done	
Delay (sec) 300	Wait for 300s before collection of the absorption spectrum to allow the reactions to reach completion or equilibrium.
Loop End	End of a sensing cycle.