

Measuring the Time-evolution of Nanoscale Materials with Stopped-flow and Small-angle Neutron Scattering

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Materials

Name	Company	Catalog Number	Comments
Dynamic mixer	Analytical Scientific Instruments	462-0150A	Magnetically coupled rotor, binary dynamic mixer assembly (ternary type available), 0.15 mL dead volume (larger dead volume available)
Fluoropolymer tubing	IDEX Health & Science	1507L	PFA Tubing Natural 1/16 inch OD x 0.040 inch ID x 50 ft
Fluoropolymer 1/4-28 flangeless fittings	IDEX Health & Science	XP-245	PFA flangeless fitting with ferrules, 1/4-28 threading, 1/16 inch OD tubing
Glass syringes	Hamilton Company	81660	Hamilton 1000 series syringes, 10 mL (81660), model 1010 C syr, 1/4"-28 thread termination, other volumes available
High-pressure flow selector valves	Vici Valco	C85X-1570EUTB	Vici 10 position selector valves, 15000 psi max, 0.25 mm bore, 1/16 inch OD tubing, 10-32 coned threaded ports, USB universal actuator
High-pressure switch valves	Vici Valco	C82X-1574EUHB	Vici 4 port switch valves, 15000 psi max, 0.25 mm bore, 1/16 inch OD tubing, 10-32 coned threaded ports, USB universal actuator
High-pressure syringes	Cetoni	A2019000358	3 mL stainless steel syringe, 510 bar max, 21 mL/min flow rate max
Low-pressure flow selector valves	Vici Valco	C25-3180EUHB	Vici 10 position selector valves, max 250 psi liquid, 0.75 mm bore, 1/16 inch OD tubing, 1/4-28 threaded ports, USB universal actuator
neMESYS high-pressure syringe pumps	Cetoni	A3921000103	Max force 2600 N
neMESYS mid-pressure syringe pumps	Cetoni	A3921000131	Max force 1000 N
Power supply	Cetoni	A3921000127	Base 600, supplies power for up to 4 high pressure pumps

Quartz flow-through sample cell	Starna Scientific	3-2.30-Q-1/TC	Quartz micro flow cells, 2 mm path length (1 mm available), 2 mm by 2 mm by 30 mm internal dimension
Quartz windows	Technical Glass Products	NA	GE 124 Clear fused quartz ground and polished plates, 11.75 inch by 23.75 inch by 0.375 inch thick
Stainless steel 10-32 coned compression fittings	IDEX Health & Science	U-321X, U-320X	316 stainless steel ferrule (U-321X) and nut (U-320X) -Valco type, 10-32 coned, for 1/16 inch OD stainless steel tubing
Stainless steel tubing	IDEX Health & Science	U-102	Stainless Steel Tubing 1/16 inch OD x 0.020 inch ID, 10 cm, various precut lengths available
Syringe pump control software	Cetoni	T6000000004	QmixElements software for nemesys pumps, QmixSDK software development kit
Thermoelectric air conditioner	EIC Solutions	AAC-140C-4XT-HC	Thermoelectric air conditioner mounted on insulated enclosure to control the pump, valve, mixer, and sample temperature
T-slot railing	McMaster-Carr	47065T103	Aluminum t-slotted railing (1.5 inch by 1.5 inch) cut to various lengths
Vapor locking bottle caps	Cole-Parmer	EW-12018-02	Four 304 SS port inserts, 1/4"-28 threads, GL45 bottle cap size, PTFE body, SS threads, PP collar