

Materials List for:

Reactive Inkjet Printing and Propulsion Analysis of Silk-based Self-propelled Micro-stirrers

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Materials

Name	Company	Catalog Number	Comments
Sodium Carbonate	Alfa Aesar	11552	anhydrous, 99.5%, granular
Calcium Chloride	Fluka Analytical	C1016	anhydrous, >93%, granular
Ethanol	Fisher Scientific	10542382	HPLC grade
PEG-400	Aldrich Chemistry	202398	average Mn 400, tetramer mol wt ~250 kDa
Catalase	Sigma Life Science	E3289	>20K units
Methanol	Acros Organics	268280025	HPLC grade
Hydrogen Peroxide	Sigma Aldrich	31642	30% (w/w)
Silk	Southwest University, China	NA	Raw Cleaned Silk Cocoons, Bombox Mori
Dialysis Tubes	Sigma Aldrich	D9777	Cellulose, avg. flat width 25 mm, Typical molecular weight cut-off = 14000
Fisherbrand Hoffman Clips	Fisher Scientific	12744396	Clips used to close the ends of the dialysis tubes
Si-Wafer	Sigma Aldrich	647535	Used as printing substrate
Balance	OHAUS Pioneer	PA214C	Analytical Balance
Conductivity meter	Mettler Toledo	FG3	Mettler Toledo FiveGo Portable conductivity meter
Centrifuge	Thermo Scientific	10355052	Heraeus Biofuge fresco sold by Thermo Scientific
Hotplate	Stuart	US152	Stuart US152 Magnetic Stirrer
Camera	PixeLink	PL-D732CU-T	High Speed Colour Camera
Lens	Navitar	Navitar 1-60135	Macro Zoom Lens
Jetting Devices	Microfab Technologies Inc.	MJ-AT-01-40-8MX	80um nozzle diameter Jetting device
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Lightpad	AGPTEK	UN-HL0245-EUUN	Light for the swimming experiment
Pipettors	Eppendorf	3123000063	single-channel, variable, 100 – 1,000 µL, blue
3123000055	single-channel, variable, 20 – 200 µL, yellow		
Microscope	Nikon	LV100ND	Manual, upright microscope
SEM	Fei	F50	Used for Scanning electron micrographs