

Materials List for:

Applications of the Single-probe: Mass Spectrometry Imaging and Single Cell Analysis under Ambient Conditions

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Materials

Name	Company	Catalog Number	Comments
Single-probe fabrication			
Dual bore quartz tubing, 1.120" × 0.005" × 12"	Friedrich & Dimmock, Inc, Millville, NJ	MBT-005-020-2Q	
Micropipette laser puller	Sutter Instrument Co., Novato, CA	Model P-2000	
Fused silica capillary, ID: 40 µm, OD: 110 µm	Molex, Lisle, IL	TSP040105	
UV curing resin	Prime Dental, Prime-Dent, Chicago, IL, USA	Item No. 006.030	
LED UV lamp	Foshan Liang Ya Dental Equipment, Guangdong, China	LY-C240	
Epoxy resin	Devcon, Danvers, MA	Part No. 20945	
Inline MicroFilter	IDEX Health & Science LLC, Lake Forest, IL	M-520	
Microunion	IDEX Health & Science LLC, Lake Forest, IL	M-539	
Microscope slide (glass)	C & A Scientific - Premiere, Manassas, VA	9105	
Syringe	Hamilton, Reno, NV	1725LTN 250UL	
Mass spectrometer			
LTQ Orbitrap Mass spectrometer	Thermo Fisher Scientific, Inc., Waltham, MA	LTQ Orbitrap XL	
Xcalibur 2.1 Software	Thermo Fisher Scientific, Inc., Waltham, MA	XCALIBUR21	
Fance Stage Control	Pacific Northwest National Laboratory, Richland, WA		
MSI QuickView	Pacific Northwest National Laboratory, Richland, WA		
Contact closure device			
USB-6009 Multifunction DAQ	National Instruments, Austin, TX	779026-01	
DR-5V SDS Relay	Panasonic, Kadoma, Japan	DR-SDS-5	
Logic Gates 50 Ohm Line Driver	Texas Instruments, Dallas, TX	SN74128N	
Single-probe setup			
Motorized linear stage and controller (3 sets)	Newport, Irvine, CA	Conex-MFACC	
Miniature XYZ stage	Newport, Irvine, CA	MT-XYZ	
Translation XY stage	ThorLab, Newton, NJ	PT1 and PT102	
Thermo LTQ XL ion source interface flange	New Objective, Woburn, MA	PV5500	

Digital stereo microscope, 250X - 2,000X	Shenzhen D&F Co., Shenzhen, China	Supereyes T004	
USB Digital Photography Microscope	DX.com, HongKong, China	S02 25~500X	
Syringe pump	Chemyx Inc., Stafford, TX	Nexus 3000	
Solid Aluminum Optical Breadboard, 8" x 8" x 1/2"	Thorlabs, Newton, NJ	MB810	
Flexible clamp holder	Siskiyou, Grants Pass, OR	MXB-3h	
Solvents			
Methol	Sigma-Aldrich, St. Louis, MO	34860 Chromasolv	
Water	Sigma-Aldrich, St. Louis, MO	W4502	
Acetonitrile	Sigma-Aldrich, St. Louis, MO	34967 Chromasolv	
Cell culture			
Dulbecco's Modified Eagle's Medium (DMEM)	Cellgro, Manasas, VA	10-013-CV	
10% heat-inactivated fetal bovine serum (FBS)	Gibco/Life Technologies, Long Island, NY	10100-139	
Penicillin/Streptomycin	Cellgro, Manasas, VA	30-002-CI	
10 mM HEPES (pH 7.4)	Cellgro, Manasas, VA	25-060-CI	
Phosphate Buffered Saline (PBS)	Cellgro, Manasas, VA	46-013-CM	
TrypLE Express	Thermo Fisher Scientific, Waltham, MA	12604-013	
12-well plates	Corning Inc., Corning, NY	Falcon 351143	
T25 flask	Corning Inc., Corning, NY	Falcon 3055	
Micro Cover Glasses, Round, No. 1	VWR International, Radnor, PA	48380-046	
DMSO (Dimethyl Sulfoxide)	VWR International, Radnor, PA	BDH1115-1LP	
Tissue imaging			
Cryo-Cut Microtome	American Optical Coporation		
Tissue-Tek, Optimum cutting temperature (OCT)	Sakura Finetek Inc., Torrance, CA	4583	
Microscope slide (polycarbonate)	Science Supply Solutions, Elk Grove Village, IL	P11011P	