

Materials List for:

Trapping of Micro Particles in Nanoplasmonic Optical Lattice

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Materials

Name	Company	Catalog Number	Comments
Thermoelectric cooling element	Thorlabs	TEC 1.4-6	TEC element for sample cooling
RTD thermometer	Omega Engineering	RTD Thermometer 969C	
Forward looking infrared camera	FLIR	FLIR One	IR camera for temperature monitoring
light emitting diode light source	Touchbright		Light source for illumination for fluorescent imaging
Long working distance objective	Olympus	LMPLFLN	For illuminating the sample and imaging
Optical trap kit	Thorlabs	OTKB/M	
Cover slip			thickness 0.17 mm
Scanning electron microscope	Hitachi	SEM-Hitachi S3400N	
Electron beam blander	DEBEN	PCD beam blander	the blander is added to the scanning electron microscope
Thermal evaporator	SYSKEY Technology		
Mask aligner	Karl Suss	MJB 3	For marker fabrication
Electron beam resist	Sigma Alrich	PMMA 120K	For e-beam lithography
Electron beam resist	Sigma Alrich	PMMA 960K	For e-beam lithography
Fluorescent labeled polystyrene microspheres	Polyscience		2 um diameter
Bipolar transistor	Mouser	2N3904	quantity 2 for TEC driver circuit
Bipolar transistor	Mouser	2N3906	quantity 2 for TEC driver circuit
MOSFET power transistor	Mouser	IRF5305	quantity 2 for TEC driver circuit
MOSFET power transistor	Mouser	IRF1310N	quantity 2 for TEC driver circuit
10 kOhm resistor	Mouser		quantity 6 for TEC driver circuit
910 Ohm resistor	Mouser		quantity 2 for TEC driver circuit
Photoresist	Microchemicals	AZ4620	For marker fabrication
Acetone	Sigma Alrich		For marker fabrication
Fluorescence Module for the OTKB/M, Metric Threads	Thorlabs	OTKB-FL/M	
Fluorescent filter set	Thorlabs	MDF-FITC	For Fluorescein Isothiocyanate (FITC)
Ultrasonic cleaner	Delta	DC150H	For the lift off step