

Materials List for:

Indium Phosphide Synaptic Device on Silicon to Emulate Synaptic Behavior for Neuromorphic Computing

Debarghya Sarkar^{*1}, Jun Tao^{*1}, Wei Wang¹, Qingfeng Lin¹, Matthew Yeung¹, Chenhao Ren¹, Rehan Kapadia¹

¹Ming Hsieh Department of Electrical Engineering, University of Southern California

*These authors contributed equally

Correspondence to: Rehan Kapadia at rkapadia@usc.edu

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Materials

Name	Company	Catalog Number	Comments
Acetone	JT Baker	9005-05	CMOS grade
IPA	JT Baker	9079-05	CMOS grade
DI water	ELGA	Purelabflex 3	
Dry nitrogen	Praxair	N/A	
Oxygen plasma asher	Tegal Co	100-5114	
LOR5A	Microchem	G516608 0500L1GL	
AZ5214E IR	Integrated Micro Materials	AZ5214EIR-Q	
Aligner	Karl Suss	100UV030	110V 60Hz
Quartz mask	Photosciences	N/A	Custom designed
MF-319	Dow	DEM-10018042	
Molybdenum (VI) oxide	Alfa Aesar	12930-14	99.9995% pure
Liquid nitrogen	Praxair	N/A	
Alumina coated molybdenum boat	Kurt J Lesker Company	EVSME3AOMO	7/8" x 3/4" x 1/8" deep
Thermal evaporator	Denton Vacuum Inc	DV-502A	
Thermal evaporator	Torr International Inc	THE4-1X2KW-LL	
Indium	Indium Co	SHOT16-47562	99.99995% pure
Electron beam evaporator	Sloan	SL1800	
Electron beam evaporator	Temescal	BJD-1800	
Silicon dioxide	Kurt J Lesker Company	EVMSIO21-5D	99.99% pure
Carbon crucible	Kurt J Lesker Company	EVCFABEB-23	1.125" TOD x 0.520" HIGH
PG Remover	Microchem	G05020040001PE	
Single-zone hot-wall tube furnace	Thermo Scientific	TF55035A-1	
Phosphine	Matheson	N/A	99.9995% pure
Hydrogen	HOGEN	N/A	99.999% pure
Germanium	Kurt J Lesker Company	EVMGE50500GM	99.999% pure
Gold	Kurt J Lesker Company	EVMAUX50G	99.999% pure
Nickel	International Advanced Materials	180166	99.999% pure
Rapid thermal annealer	AG Associate	Mini Pulse 310	
Forming gas	Airgas	N/A	98% N2, 2% H2
Atomic layer deposition	Ultratech/Cambridge Savannah ALD	Savannah S100	
Trimethyl aluminum	ALDRICH	1001278062	
Water	ALDRICH	W 4502	

Probe Station	Karl Suss	11500018	
Voltage Pulse Generator	Tektronix	AWG2021	
Semiconductor Parameter Analyzer	Keysight	B1500a	