

Materials List for:

Single-Digit Nanometer Electron-Beam Lithography with an Aberration-Corrected Scanning Transmission Electron Microscope

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Materials

Name	Company	Catalog Number	Comments
Plasma asher	Plasma Etch	PE-75	Located in class 100 cleanroom
Silicon Nitride 5 nm thick TEM Windows (9 SMALL Windows)	TEM windows.com	SN100-A05Q33A	
TEM chip holder for resist coating			Home made
27 nm thick c-Si TEM Windows	TEMwindows.com		Custom order
A2 950K PMMA diluted in anisole to 0.5-1.0% by weight	MicroChem	M230002	
HSQ (1% solids XR-1541) e-beam resist in MIBK	Dow Corning	XR-1541-001	
Spinner	Reynolds Tech	ReynoldsTech Flo-Spin system	Located in class 100 cleanroom
Hot plate	Brewer Science	CEE 1300X	Located in class 100 cleanroom
Spectral reflectometer	Filmetrics	F20	Located in class 1000 cleanroom
Bath circulator	Thermo Scientific	Neslab RTE 740	Located in class 100 cleanroom
Optical microscope	Nikon	Eclipse L200N	Located in class 1000 cleanroom
MIBK/IPA 1:3 developer	MicroChem	M089025	
Sodium hydroxide	Sigma-Aldrich	221465	
Sodium chloride	Sigma-Aldrich	31434	
Isopropyl Alcohol, ACS Reagent Grade	Fisher Scientific	MK303202	
TEM chip holder for critical point drying			Home made
Critical point drying system	Tousimis	Autosamdri-815B, Series C	Located in class 100 cleanroom
Aberration-corrected STEM	Hitachi	HD 2700C	
Pattern generation system	JC Nability Lithography Systems	NPGS v9	
Scanning Electron Microscope (SEM)	Hitachi	S-4800	
Reactive ion etcher	Oxford Instruments	Plasmalab 100	Located in class 1000 cleanroom