

Materials List for:

Template Directed Synthesis of Plasmonic Gold Nanotubes with Tunable IR Absorbance

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Materials

Name	Company	Catalog Number	Comments
Reagent/Material			
UniKera Standard Membrane	Synkera Technologies Inc.	SM-X-Y-13	Anodic aluminum oxide membranes are available from synkera in various pore sizes ranging from 13 - 150 nm, and thicknesses from 50 to 100 µm. We use the 50 µm ones. They are symmetric, meaning the pore size is uniform from top to bottom.
Anopore Inorganic Membranes	Whatman	6809-7023	13 mm diameter, 200 nm pore size. These membranes are very fragile. The pore diameters are not uniform throughout, so it is important to always use the bottom of the membrane as the working electrode
Silver Pellets %99.99	Kurt J. Lesker	EVMAG40EXE-D	
Copper(II) sulfate pentahydrate	Sigma-Aldrich	209189	
Sulfuric acid	ACP	S8780	Caution: corrosive liquid
Hydrogen peroxide (30%)	ACP	H7000	Caution: oxidizing liquid
Nitric Acid	ACP	N2800	Caution: corrosive fuming liquid
Sodium Hydroxide	Fisher Scientific	S318-1	Caution: caustic powder
Watts Nickel Pure	Technic Inc.	130859	Product is no longer available from Technic inc., however other commercial nickelplating solutions will work.
Techni-Gold 434HS	Technic Inc.	X6763600	Contains cyanide, do not acidify
Boron trifluoride diethyl etherate	Sigma-Aldrich	175501-100ML	Must be stored and used under inert atmosphere
3-hexylthiophene	Sigma-Aldrich	399051-5G	
Deuterium Oxide	Sigma-Aldrich	151880-100G	
Acetonitrile (anhydrous)	Sigma-Aldrich	271004	
Ethanol (anhydrous)	Caledon Labs	1500-1-05	
Equipment			
EC Epsilon potentiostat/galvanostat	BASi (Bioanalytical Systems, Inc.)	N/A	Reference electrodes and platinum wires were included with the potentiostat, and replacements can be purchaes from BASi http://www.basinc.com/products/ec/epsilon/features.html
Cary 5000 UV-Vis-NIR spectrophotometer	Agilent Technologies	N/A	http://www.chem.agilent.com/en-US/products-services/Instruments-

			Systems/Molecular-Spectroscopy/Cary-5000-UV-Vis-NIR/Pages/default.aspx
Thermomixer R	Eppendorf	N/A	http://www.eppendorf.com/int/index.php?action=products&contentid=1&catalognode=98
Branson 2510 Ultrasonic Cleaner	Branson	Z244810 (From Sigma Aldrich)	http://www.sigmaaldrich.com/catalog/product/aldrich/Z244910?lang=en&region=CA
Covap 2 thermal evaporator	Angstrom Engineering	N/A	http://www.angstromengineering.com/covap.html
Millipore Synergy water purification system	Millipore	N/A	http://www.millipore.com/catalogue/module/c9209