

Materials List for:

Encapsulating Cytochrome c in Silica Aerogel Nanoarchitectures without Metal Nanoparticles while Retaining Gas-phase Bioactivity

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Materials

Name	Company	Catalog Number	Comments
Potassium phosphate, monobasic	Fisher Scientific	P285-500	Certified ACS (also possible to use sodium phosphate monobasic)
Potassium phosphate dibasic anhydrous	Fisher Scientific	P288-500	Certified ACS (also possible to use sodium phosphate dibasic)
Water	Millipore Direct-Q		18 MΩ cm
pH meter and electrode	Denver Instrument	UB-10	
Cytochrome c from equine heart	Sigma Aldrich	C7752-100MG	≥95% based on Mol. Wt. 12,384, used as received and stored at -20 °C
Glass scintillation vials	Wheaton	03-341-25J	20 ml, O.D. x height (with cap): 28 mm x 61 mm
Disposable cuvette	Fisher Scientific	14-955-126	methacrylate, 10 mm x 10 mm x 45 mm
Ultraviolet Visible Spectrophotometer	Shimadzu	UV-1800	Uses UVProbe v 2.33 software
Circular dichroism spectrometer (or spectropolarimeter)	JASCO	J-810	
Isotemp Laboratory Refrigerator	Fisher Scientific		
Polypropylene disposable beakers	Fisher Scientific	01-291-10	50 ml
Tetramethylorthosilicate (also known as tetramethoxysilane, TMOS)	Sigma Aldrich	218472-500G	98% purity
Methanol	Fisher Scientific	A457-4	GC Resolv grade
Ammonium hydroxide solution	Sigma Aldrich	221228-25ML-A	ACS reagent, 28.0%-30.0%
General purpose polypropylene scintillation vials	Sigma Aldrich	Z376825-1PAK	16 mm x 57 mm, volume size 6.5 ml, slice off bottom with sharp knife or razor
generic plastic wrap	various		
Parafilm M laboratory wrapping film	Fisher Scientific	S37440	
Plastic syringe plunger	various		use syringe plunger from 3 ml syringe
Ethyl alcohol	Acros	61509-0040	Absolute, 200 proof, 99.5% A.C.S. reagent
Acetone	Fisher Scientific	A949-4	HPLC grade
Critical point drying apparatus	Quorum Technologies		E3000 Series
Circulator	Fisher Scientific	Isotemp 3016	
Carbon dioxide cylinder	Tech Air		siphon tube
Micrometer	Central Tool Company		
GRAMS/AI 8.0 software	Thermo Electron Corporation		

Nitrogen cylinder	Tech Air		Another inert gas could be substituted
10% nitric oxide/90% nitrogen cylinder	Airgas		
Tygon tubing	various		
T-switch valve	various		
syringe needles	various		