

Materials List for:

Synthesis of $\text{In}_{37}\text{P}_{20}(\text{O}_2\text{CR})_{51}$ Clusters and Their Conversion to InP Quantum Dots

Nayon Park¹, Madison Monahan¹, Andrew Ritchhart¹, Max R. Friedfeld¹, Brandi M. Cossairt¹

¹Department of Chemistry, University of Washington

Correspondence to: Brandi M. Cossairt at cossairt@uw.edu

URL: <https://www.jove.com/video/59425>

DOI: [doi:10.3791/59425](https://doi.org/10.3791/59425)

Materials

Name	Company	Catalog Number	Comments
Acetonitrile, anhydrous, 99.8%	Sigma Aldrich	271004	Dried over 4Å sieves
Adapter, Airfree, 14/20 Joint, 0 - 4mm Chem-Cap (T-adapter)	Chemglass Life Sciences LLC	AF-0501-01	
Adapter, Inlet, 14/20 Inner Joint	Chemglass Life Sciences LLC	CG-1014-14	
Bio-Beads S-X1, 200-400 mesh	Bio-Rad Laboratories	152-2150	
Cary 5000 UV-Vis-NIR	Agilent		
Column, Chromatography, 24/40 Outer Joint, 3/4in ID X 10in E.L., 2mm Stpk	Chemglass Life Sciences LLC	CG-1188-06	
Condenser, Liebig, 185mm, 14/20 Top Outer, 14/20 Lower Inner, 110mm Jacket Length	Chemglass Life Sciences LLC	CG-1218-A-20	
Distilling heads, short paths, jacketed	Chemglass Life Sciences LLC	CG-1240	
Eppendorf Microcentrifuge 5430	Fisher Chemical	05-100-177	
Falcon 15mL Conical Centrifuge Tubes	Fisher Chemical	14-959-49B	
Flask, Round Bottom, 50mL, Heavy Wall, 14/20 - 14/20, 3-Neck, Angled 20°	Chemglass Life Sciences LLC	CG-1524-A-05	
ImageJ	Developed at National Institutes of Health and the Laboratory for Optical and Computational Instrumentation		Open source Java image processing program
Indium acetate, 99.99%	Sigma Aldrich	510270	
Myristic acid, 99%	Sigma Aldrich	M3128	
Temperature controller	Fisher Chemical	50 401 831	
Thermometers, non-mercury, 10/18	Chemglass Life Sciences LLC	CG-3508-N	
Thermowell, 14/20 Inner Jt, 1/2" OD above the Jt, 6mm OD Round Bottomed Tube below the Jt, for 25ml RBF	Chemglass Life Sciences LLC	UW-1205-171JS	Custom ordered
Toluene, anhydrous, 99.8%	Sigma Aldrich	244511	Dried over 4Å sieves
Trimethylindium, 98%	Strem	49-2010	Heat sensitive, moisture sensitive
Tris(trimethylsilyl)phosphine	Ref #31, 32		Pyrophoric
Ultrathin Carbon Film on Lacey Carbon Support Film, 400 mesh, Copper	Ted Pella Inc.	1824	
Vacuum gauge 1-STA 115VAC 60Hz	Fisher Chemical	11 278	

Vacuum pump 115VAC 60Hz	Fisher Chemical	01 096	
1-Octadecene (ODE), 90%	Sigma Aldrich	O806	Technical grade, distilled and dried over 4Å sieves