

Materials List for:

Achieving Moderate Pressures in Sealed Vessels Using Dry Ice As a Solid CO₂ Source

Mohit Kapoor^{1,2}, Pratibha Chand-Thakuri^{1,2}, Justin M. Maxwell^{1,2}, Michael C. Young^{1,2}

¹Department of Chemistry and Biochemistry, University of Toledo

²School of Green Chemistry and Engineering, University of Toledo

* These authors contributed equally

Correspondence to: Michael C. Young at Michael.Young8@utoledo.edu

URL: <https://www.jove.com/video/58281>

DOI: [doi:10.3791/58281](https://doi.org/10.3791/58281)

Materials

Name	Company	Catalog Number	Comments
7.5 mL Sample Vial with Screw Cap (Thermoset)	Qorpak	GLC-00984	Can be reused.
40 mL Sample Vial with Screw Cap (Thermoset)	Qorpak	GLC-01039	Can be reused.
Pressure Tube, #15 Thread, 7" Long, 25.4 mm O.D.	Ace Glass	8648-06	Can be reused.
Pie-Block for 2 Dram Vials	ChemGlass	CG-1991-P14	Can be reused.
Pie-Block for 10 Dram Vials	ChemGlass	CG-1991-P12	Can be reused.
3.2 mm PTFE Disposable Stir Bars	Fisher	14-513-93	Can be reused.
C-MAG HS 7 Control Hotplate	IKA	20002695	
Analytical Weighing Balance	Sartorius	QUINTIX2241S	
Double-Ended Micro-Tapered Spatula	Fisher Scientific	21-401-10	
Hei-VAP Advantage - Hand Lift Model with G5 Dry Ice Condenser Rotary Evaporator	Heidolph	561-01500-00	
Bump Trap 14/20 Joint	ChemGlass	CG-1322-01	
<i>tert</i> -Amyl amine	Alfa Aesar	B24639-14	Used as received.
2-Methyl-N-(3-methylbenzyl)butan-2-amine	N/A	N/A	Prepared from reductive amination of <i>tert</i> -amyl amine and 3-tolualdehyde in the presence of sodium borohydride in methanol.
Palladium Acetate	Chem-Impex International, Inc.	4898	Used as received.
Silver Trifluoroacetate	Oakwood Chemicals	007271	Used as received.
Phenyl Iodide	Oakwood Chemicals	003461	Used as received.
Acetic Acid	Fisher Chemical	A38	Used as received.
1,1,1,3,3,3-Hexafluoroisopropanol	Oakwood Chemicals	003409	Used as received.
Deionized Water			Obtained from <i>in-house</i> deionized water system.
Dry Ice	Carbonic Enterprises Dry Ice Inc.		<i>Non-food grade</i> dry ice.
Concentrated Hydrochloric Acid	Fisher Chemical	A144SI	Diluted to a 1.2 M solution prior to use.
Diethyl Ether, Certified	Fisher Chemical	E138	Used as received.
Hexanes, Certified ACS	Fisher Chemical	H292	Used as received.
Saturated Ammonium Hydroxide	Fisher Chemical	A669	Used as received.
Dichloromethane	Fisher Chemical	D37	Used as received.

Sodium Sulfate, Anhydrous	Oakwood Chemicals	044702	Used as received.
250 mL Separatory Funnel			Prepared <i>in-house</i> by staff glassblower.
100 mL Round Bottom Flask			Prepared <i>in-house</i> by staff glassblower.
Scientific Disposable Funnel	Caplugs	2085136030	
Borosilicate Glass Scintillation Vials, 20 mL	Fisher Scientific	03-337-15	
5 mm O.D. Thin Walled Precision NMR Tubes	Wilmad	666000575	
Chloroform- <i>d</i>	Cambridge Isotope Laboratories, Inc.	DLM-7	Used as received.