

Depolymerizable Olefinic Polymers Based on Fused-Ring Cyclooctene Monomers

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Materials

Name	Company	Catalog Number	Comments
1 and 3 dram vials	VWR	66011-041, 66011-100	
1,4-butanediol	Sigma-Aldrich	240559-100G	
1,5-cyclooctadiene	ACROS	AC297120010	
1-butanol	Fisher	A399-1	
20 mL scintillation vials	VWR	66022-081	
Acetic Anhydride	Alfa-Aesar	AAL042950B	
Acetone	Fisher	A18-20	
Aluminum backed TLC plates	Silicycle	TLA-R10011B-323	
Ammonium hydroxide	Fisher	A669-212	
Aniline	TCI	A0463500G	
BD precisionglide (18 G)	Fisher		
Chloroform	Fisher	C298-4	
Column for circulation (to be packed with silver nitrate treated silica gel)			Approximately 1 cm radius and 25 cm long, with inner thread on either end
d-Chloroform	Cambridge Isotopes	DLM-7-100	
Dichloromethane	VWR	BDH1113-19L	
EDC.HCl; 3-(3-dimethylaminopropyl)-1-ethyl-carbodiimide hydrochloride	Chemimpex	00050	
Ethyl Acetate	Fisher	E145-20	
Ethyl Vinyl Ether	Sigma-Aldrich	422177-250ML	
Glass chromatography columns	Fabricated in-house	D = 20 mm, L = 450 mm and D = 40 mm, L = 450 mm	The columns are fitted with a teflon stopcock at one end and a 24/40 ground glass joint to accommodate a solvent reservoir if needed.
Grubbs Catalyst 1st Generation (M102)	Sigma-Aldrich	579726-1G	
Grubbs Catalyst 2nd Generation (M204)	Sigma-Aldrich	569747-100MG	
Hexanes	Fisher	H292-20	

Hydraulic press	Carver Instruments	#3912	Coupled with temperature control modules (see below)
Hydrochloric acid	Fisher	AA87617K4	
Maleic Anhydride	ACROS	AC125240010	
Methanol	Fisher	A412-20	
Micro essential Hydrion pH paper (1-13 pH)	Fisher	14-850-120	
Normject Luer Lock syringes (1, 3 and 10 mL)	VWR	89174-491, 53547-014 and 53547-010	
Photoreactor chamber	Rayonet	RPR-100	
QuadraPure TU (catalyst scavenger)	Sigma-Aldrich	655422-5G	
Quartz tubes	Fabricated in-house	D=2", L=12.5" and D=1.5", L=10.5"	
Rotavap	Buchi		
SciLog Accu Digital Metering Pump MP- 40	Parker		500 mL capacity
Siliaflash Irregular Silica, F60	Silicycle	R10030B-25KG	
Silver Nitrate	ACROS	AC197680050	
Sodium hydroxide	VWR	BDH9292-2.5KG	
Steel Mold	Fabricated in-house	Overall dimensions of mold cavity: length 20 mm, width 7 mm and depth 1 mm; gauge dimensions: length 10 mm, width 3 mm)	
Steel Plates	Fabricated in-house	100 mm x 150 mm x 1 mm	
Teflon Mold (6-cavities)	Fabricated in-house	Overall cavity dimensions: length 25 mm, width 8.35 mm and depth 0.8 mm; gauge dimensions: length 5 mm, width 2 mm)	
Teflon Sheets (0.005" thick)	McMaster-Carr	8569K61	
Temperature Control Modules	Omega	C9000A and C9000	°C units (two modules, one for top and one for bottom)
Triphenyl Phosphine	TCI	T0519500G	
UV lamps	Rayonet	RPR2537A and RPR3000A	
Vacuum pump	Welch Duoseal		
Whatman Filter Paper (grade 2)	VWR	09-810F	filter paper