

Materials List for:

Atom Transfer Radical Polymerization of Functionalized Vinyl Monomers Using Perylene as a Visible Light Photocatalyst

Jordan C. Theriot¹, Matthew D. Ryan¹, Tracy A. French¹, Ryan M. Pearson¹, Garret M. Miyake¹

¹Department of Chemistry and Biochemistry, University of Colorado Boulder

Correspondence to: Garret M. Miyake at Garret.Miyake@colorado.edu

URL: <https://www.jove.com/video/53571>

DOI: [doi:10.3791/53571](https://doi.org/10.3791/53571)

Materials

Name	Company	Catalog Number	Comments
perylene, min 98.0%	TCI America	TCP0078-025G	purify by sublimation
<i>N,N</i> -dimethylformamide	VWR	EM-DX1726-1	Omnisolv
methyl methacrylate, 99%	VWR	200000-678	distilled prior to use, stored in refrigerator
ethyl α -bromophenyl acetate	Aldrich	554065	distilled prior to use stored in refrigerator
butylated hydroxytoluene	Aldrich	W218405	
Chloroform-D	Cambridge Isotope Labs	DLM-7-100	
tetrahydrofuran	VWR	EM-TX0279-1	Omnisolv
methanol	VWR	BDH1135	
dichloromethane	VWR	EM-DX0831-1	Omnisolv
styrene, 99%	VWR	AAAA18481-0F	distilled prior to use, stored in refrigerator
glass scintillation vial, 20 ml	VWR	66022-065	
screw top vial, 2 ml	Agilent	5182-0715	
septum cap for screw top vial	Agilent	5182-0717	
heavy wall pressure vessel, 100 ml	Synthware	P160005	
syringe, 1 ml norm-ject	VWR	89174-491	
NMR tube	New Era	NE-UL5-7'	
nylon syringe filter, 0.45 μ m	VWR	28143-240	
glovebox	Mbraun	LABstar	
solvent purification system	Mbraun	MB-SPS-800	
stirplate	IKA	3582401	
light-emitting diodes	Creative Lighting Solutions	CL-FRS1210-5M-12V-WH	2x 12-inch strips of 5500 K white LEDs were used for illumination
12 V DC power supply for LEDs	Creative Lighting Solutions	CL-PS16001-40W	
high performance liquid chromatograph	Agilent	G1310B, G1322A, G1329B, G1316A	
gel permeation size-exclusion columns	Agilent	PL1110-6500	
multi-angle light scattering detector	Wyatt	WTREOS	
differential refractometer	Wyatt	WTREX	