

Materials List for:

Preparation of Poly(pentafluorophenyl acrylate) Functionalized SiO₂ Beads for Protein Purification

Sura Kim¹, Jayoung Ku^{1,2}, Jaemin Park¹, Raisa Kharbush^{1,2}, Sheng Li¹

¹Department of Chemical and Biomolecular Engineering, Korea Advanced Institute of Science and Technology (KAIST)

²KI for Health Science and Technology (KIHST), Korea Advanced Institute of Science and Technology (KAIST)

Correspondence to: Sheng Li at shengli@kaist.ac.kr

URL: <https://www.jove.com/video/58843>

DOI: [doi:10.3791/58843](https://doi.org/10.3791/58843)

Materials

Name	Company	Catalog Number	Comments
2,2-Azobisisobutyronitrile, 99%	Daejung Chemicals	1102-4405	
Methyl alcohol for HPLC, 99.9%	Duksan Pure Chemicals	d62	
Phenylmagnesium bromide solution 1.0 M in THF	Sigma-Aldrich	331376	
Carbon disulfide anhydrous, ≥99%	Sigma-Aldrich	335266	
Benzyl bromide, 98%	Sigma-Aldrich	B17905	
Petroleum ether, 90%	Samchun Chemicals	P0220	
Ethyl ether, 99%	Daejung Chemicals	4025-4404	
Magnesium sulfate anhydrous, powder, 99%	Daejung Chemicals	5514-4405	
Pentafluorophenyl acrylate	Santa Cruz Biotechnology	sc-264001	contains inhibitor
Aluminium oxide, activated, basic, Brockmann I	Sigma-Aldrich	199443	
Sodium Chloride (NaCl)	Daejung Chemicals	7548-4400	
Anisole anhydrous, 99.7%	Sigma-Aldrich	296295	
Silica nanoparticle	Microparticles GmbH	SiO2-R-0.7	5% w/v aqueous suspension
3-Aminopropyltrimethoxysilane, >96.0%	Tokyo Chemical Industry	T1255	
Dimethyl sulfoxide for HPLC, ≥99.7%	Sigma-Aldrich	34869	
Amino-terminated poly(ethylene glycol) methyl ether	Polymer Source	P16082-EGOCH3NH2	
Phosphate buffered saline tablet	Takara	T9181	
Tween-20	Calbiochem	9480	
Tris-HCl (pH 8.0)	Invitrogen	AM9855G	
KCl	Invitrogen	AM9640G	
NP-40	VWR	E109-50ML	
Glycerol	Invitrogen	15514-011	
Dithiothreitol	Biosesang	D1037	
Protease inhibitor	Merck	535140-1MLCN	
Bromo phenol blue	Sigma-Aldrich	B5525-5G	
Tris-HCl (pH 6.8)	Biosolution	BT033	
Sodium dodecyl sulfate	Biosolution	BS003	
2-Mercaptoethanol	Gibco	21985-023	
PKR Antibody	Cell Signaling Technology	12297S	

GAPDH Antibody	Santa Cruz Biotechnology	sc-32233	
Normal Rabbit IgG	Cell Signaling Technology	2729S	
HeLa	Korea Cell Line Bank	10002	
Sonicator	DAIHAN Scientific	WUC-D10H	
Ultrasonicator	BMBio	BR2006A	
Centrifuge I	Eppendorf	5424 R	
Centrifuge II	LABOGENE	1736R	
Rotator	FINEPCR	ROTATOR/AG	
Vacuum oven	DAIHAN Scientific	ThermoStable OV-30	
Gel permeation chromatography (THF)	Agilent Technologies	1260 Infinity II	
X-ray photoelectron spectrometer	Thermo VG Scientific	Sigma Probe	
Dynamic light scattering	Malvern Instruments	ZEN 3690	