

Materials List for

Experimental Approaches for the Synthesis of Low-Valent Metal-Organic Frameworks from Multitopic Phosphine Linkers

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Materials

Name	Company	Catalog Number	Comments
2800 Ultrasonic Cleaner, 3/4 Gallon, 40 kHz	Branson	CPX2800H	Used for sonicating
Argon, Ultra High Purity	Matheson	G1901101	Used as inert gas source
D8 ADVANCE Powder X-Ray Diffractometer	Bruker		Used to collect PXRD patterns
Dewar Flask	Chemglass Life Sciences	CG159303	Dewar used for liquid nitrogen
Flask, High Vacuum Valve, Capacity (mL) 10, Valve Size 0-4 mm	Synthware Glass	F490010	Reaction vessel referred to as "10 mL flask"
Grade 2 Qualitative Filter Paper, Standard, 42.5 mm circle	Whatman	1002-042	Used for product isolation
Methylene Chloride (HPLC)	Fisher Scientific	MFCD00000881	Dried and deoxygenated prior to use
Sn1 (tetraptopic phosphine linker)			Prepared according to literature procedure (ref. 15)
SuperNuova+ Stirring Hotplate	Thermo Fisher Scientific	SP88850190	Used to heat oil bath
Tetrakis(triphenylphosphine) palladium(0), 99% (99.9+%-Pd)	Strem Chemicals	46-2150	Commercial Pd(0) source
Toluene (HPLC)	Fisher Scientific	MFCD00008512	Dried and deoxygenated prior to use
Triphenylphosphine, ≥95.0% (GC)	Sigma-Aldrich	93092	Used as a modulator
Weighing Paper	Fisher Scientific	09-898-12B	Used for solid addition