

Materials List for:

HKUST-1 as a Heterogeneous Catalyst for the Synthesis of Vanillin

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Materials

Name	Company	Catalog Number	Comments
HKUST-1	Sigma-Aldrich	MFCD10567003	
Ferulic Acid (trans-4-Hydroxy-3-methoxycinnamic acid)	Sigma-Aldrich	537-98-4	
Ethanol	Sigma-Aldrich	64-17-5	
Hydrogen peroxide solution	Sigma-Aldrich	7722-84-1	
Acetonitrile	Sigma-Aldrich	75-05-8	
Ethyl acetate	Sigma-Aldrich	141-78-6	
Ammonium chloride	Sigma-Aldrich	12125-02-9	
Sodium sulfate anhydrous	Sigma-Aldrich	7757-82-6	
Ethyl acetate	Sigma-Aldrich	141-78-6	
n-Hexane	Sigma-Aldrich	110-54-3	
Silica Gel	Sigma-Aldrich	112926-00-8	Size 70/230
250 ml two-neck round-bottom flask	Sigma-Aldrich	Z516872-1EA	250 ml capacity
Magnetic stirring bar	Bel-Art products	371100002	Teflon, octagon
Condenser	Cole-Parmer	JZ-34706-00	200 mm Jacket length
Vacuum pump (Approx. 10 ⁻² bar)	Cole-Parmer	JZ-78162-00	Vacuum/Pressure Diaphragm Pump
Stopcock	Cole-Parmer	EW-30600-00	with a male Luer slip
Hose	Cole-Parmer	JZ-06602-04	16.0 mm ID and 23.2 mm ED
Rubber septums	Cole-Parmer	JZ-08918-34	Silicone with PTFE coating
Hot plate	Cole-Parmer	JZ-04660-15	10.2 cm x 10.2 cm, 5 to 540 °C
Sand bath	Cole-Parmer	GH-01184-00	Fluidized Sand Bath SBS-4, 50 to 600 °C
N ₂ gas	INFRA	Cod. 103	Cylinder 9 m ³
Ballons (filled with N ₂ gas)	Sigma-Aldrich	Z154989-100EA	Thick-wall, natural latex rubber
Syringes with removable needles	Sigma-Aldrich	Z116912-100EA	10 ml capacity
Filter paper	Cole-Parmer	JZ-81050-24	Grade No. 235 qualitative filter paper (90 mm diameter disc)
Buchner funnel	Cole-Parmer	JZ-17815-04	320 ml capacity which accept standard paper filter sizes
Buchner flask	Cole-Parmer	JZ-34557-02	250 ml capacity
Rotary Evaporator	Cole-Parmer	JZ-28710-02	

Beakers	Cole-Parmer	JZ-34502-(02,04,05)	Pyrex Brand 1000 Griffin; 20, 50 and 100 ml
Separation funnel	Cole-Parmer	JZ-34505-44	Capacity for 125 ml with steam length of 60 mm
Glass column for chromatography	Cole-Parmer	JZ-34695-42	Column with fritted disk, 10.5 mm ID x 250 mm L
PXRD diffractometer	Bruker		AXS D8 Advance XRD
FTIR spectrophotometer	Thermo scientific	FT-IR (JZ-83008-02); ATR (JZ-83008-26)	Nicolet iS5 FT-IR Spectrometer, with KBr Windows and iD5 Diamond ATR