

Materials List for:

On the Preparation and Testing of Fuel Cell Catalysts Using the Thin Film Rotating Disk Electrode Method

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Materials

Name	Company	Catalog Number	Comments
Ethylene glycol	Sigma-Aldrich	293237-1L	99.8%
Sodium hydroxide	Fisher Chemical	AC134070010	98%
Hexachloroplatinic(IV) acid hexahydrate	Alfa Aesar	11051	99.9%
Hydrochloric acid	Merck	1003171000	37%
Nitric acid	Any		60%
Sulfuric acid	Any		96%
Perchloric acid	Merck	1005170250	70%, Suprapur
Potassium hydroxide hydrate	Merck	1050020500	99.995%, Suprapur
Tin(II) chloride dihydrate	Sigma-Aldrich	31669-100G	>98%
Platinum standard for AAS	Sigma-Aldrich	47037-100ML	1000 mg/L ±4 mg/L
Acetone	Alfa Aesar	30698	99.5+%
Isopropanol	Alfa Aesar	36644	99.5%
Carbon black	Cabot	Vulcan XC 72R	
46 wt.% Pt/C	Tanaka Kikinokogyo	TEC10E50E	
Ar gas	Air Liquide		99.999%
O ₂ gas	Air Liquide		99.999%
CO gas	Air Liquide		99.97%
H ₂ gas	Air Liquide		99.999%
Microwave reactor	CEM	Discover SP	
Centrifuge	Corning	6759	
Rotary evaporator	KNF	RC600	
Ultrasonic bath	Qualilab	USR 54 H	35 kHz, 160/320 W
Filter paper	Albet	DP595 055	Retention rate 4-7 μm, φ55 mm
Crucible	VWR	459-0202	12 mL
Lid for crucible	VWR	459-0216	φ35 mm
pH meter	VWR	Symphony SP70P	
Glass electrode (for pH meter)	Mettler Toledo	InLab Routine	
Light scattering	Anton Paar	Litesizer	
TEM microscope	FEI	Tecani Spirit	
TEM grid	Quantifoil	N1-C73nCu20-01	Classic carbon film, Cu 200 mesh
TEM grid	Quantifoil		Classic holey carbon film, Cu 200 mesh

TEM grid	Quantifoil	N1-C74nCu20-01	Classic lacey carbon film, Cu 200 mesh
UV-vis spectrophotometer	Varian	CARY 5E	
Saturated calomel electrode	Schott	B3510+	
Perfluorinated membrane	Fuel Cell Store	591239	Nafion 117
RDE rotator	Raiometer Analytical	EDI101	
Potentiostat	Nordic Electrochemistry	ECi 200	
Control and data acquisition program	Nordic Electrochemistry	EC4 DAQ	
Data analysis program	Nordic Electrochemistry	EC4 VIEW	