

Hydrogen Production and Utilization in a Membrane Reactor

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Citation

 Rousseau, A.R., Stankovic, M.D., Berlinguette, C.P. Hydrogen Production and Utilization in a Membrane Reactor. *J. Vis. Exp.* (193), e65098, doi:10.3791/65098 (2023).

Date Published

March 10, 2023

DOI

10.3791/65098

URL

jove.com/video/65098

Materials

Name	Company	Catalog Number	Comments
Ag/AgCl Reference Electrode	BASi research products	MW-2021	Reference electrode
Analytical Balance	Cole-Parmer	RK-11219-03	Instrument
Atmospheric Mass Spectrometer	ESS CatalySys	NA	Instrument
Bench Power Supply	Newark	1550	Instrument
Conductive Copper Foil Electrical Tape	McMaster Carr	76555A711	Electrochemical cell assembly
Dichloromethane	Sigma Aldrich	270997	Reagent
Electric Rolling Press with Dual Micrometer	MTI Corporation	MR100A	Equipment
Electrochemical glass H-cell	University of British Columbia glass blowing	NA	Electrochemical cell assembly
ESS catalysis QUADSTAR	ESS CatalySys	NA	Software
Ethanol	Sigma Aldrich	493511	Reagent
Flat Rolling Mill	Pepetolls	18700A	Equipment
Gas Chromatography Mass Spectrometer	Agilent	NA	Instrument
GC-MS vial	Agilent	5067-0205	Vial for GC-MS
Hexanes	Sigma Aldrich	1.0706	Reagent
Hydrochloric Acid	Sigma Aldrich	258148	Reagent
Hydrogen peroxide solution (30% v/v)	Sigma Aldrich	H1009	Reagent
Isopropyl Alcohol	Sigma Aldrich	W292907	Reagent
Masshunter Acquisition Software	Agilent	G1617FA	Software
Micropipette (100 µL - 1000 µL)	Gilson	F123602	instrument
Micropipette (20 µL - 200 µL)	Gilson	F123601	Instrument
Mitutoyo Digital Micrometer	Uline	H-2780	Instrument
Muffle Furnace	MTI Corporation	KSL-1100X	Equipment
Nitric acid	Sigma Aldrich	438073	Reagent

Nitrogen gas	Sigma Aldrich	608661	Reagent
Palladium (II) Chloride	Sigma Aldrich	520659	Reagent
Pd wafer bar, 1 oz, 99.95%	Silver Gold Bull.	NA	Reagent
Platinum Auxiliary Electrode	BASi research products	MW-1032	Anode
Potentiostat	Metrohm	PGSTAT302N	Instrument
Propiophenone	Sigma Aldrich	P51605	Reagent
Proton Exchange Membrane, Nafion 212	Fuel cell store	NA	Electrochemical cell assembly
Sulfuric acid	Sigma Aldrich	258105	Reagent