

NAME	PMR-HC-1	Start Date:	11.11.2020
Description	High current PMR at 750 °C, 5 bar, Ni interconnect		

Electrode:	Ni-BCZY-Protonic		
Length:	1.16	cm	
Area:	3.47	cm ²	

Reaction Conditions			
Temperature:	750		
Pressure:	5		
Feed:		Pressure bar	Concentration %
	CH4	1.17	23.4
	H2	0.73	14.6
	H2O	3.04	60.7
	He	0.01	0.2
	Total	5	100
Sweep:		Pressure bar	Concentration %
	N2	3.84	76.7
	H ₂ O	1.17	23.3
	Total	5	100

Current Density	Total permeate flow	GC H ₂ concentration	H ₂ Flux
A/cm ²	mL/min	%	mL/min·cm ²
0.00	97	0.0%	0.0
1.44	138	29.4%	11.6
2.88	164	40.7%	19.2
4.32	193	49.7%	27.6
5.76	232	58.2%	38.9
7.20	261	62.7%	47.1

NAME	PMR-HC-2	Start Date:	19.03.2020
Description	High current PMR at 750 °C, 5 bar, Ag interconnect		

Electrode:	Ni-BCZY-Protonic		
Length:	0.89	cm	
Area:	2.74	cm ²	

Reaction Conditions			
Temperature:	750		
Pressure:	5		
Feed:		Pressure bar	Concentration %
	CH4	1.17	23.4
	H2	0.73	14.6
	H2O	3.04	60.7
	He	0.01	0.2
	Total	5	100
Sweep:		Pressure bar	Concentration %
	N2	3.84	76.7
	H ₂ O	1.17	23.3
	Total	5	100

Current Density	Total permeate flow	GC H ₂ concentration	H ₂ Flux
A/cm ²	mL/min	%	mL/min·cm ²
0.00	110	0.0%	0.0
1.82	148	25.7%	11.6
3.65	177	37.9%	19.2
5.47	215	48.8%	27.6
7.30	235	53.2%	38.9