

Table S1 Operating Parameters of the Experiments.

Exp. No	Anode Temp. (°C)	Reaction Temp. (°C)	Relative Humidity (%)	Membrane Used Times	Voltage supply (V)	Average current Density (mA.cm ²)	H ₂ Utilization (%)	Current Efficiency (%)	Total Efficiency (%)	Products Volume Percentage (%)	
										Propanol (V%)	Isopropyl (V%)
1	60	65	80	1	0.02	52	4.5	59.66	2.68	12.70	1.04
2	60	65	80	2	0.02	38	3.29	57.59	1.89	13.84	0.94
3	60	65	80	3	0.02	36	3.11	50.76	1.58	13.34	1.1
4	60	65	80	4	0.02	30	1.78	40.75	0.73	12.89	1.3
5	60	65	80	1	0.02	44	3.87	53.69	2.08	12.30	1.35
6	60	65	80	2	0.02	44	3.80	49.96	1.90	11.60	1.64
7	60	65	80	3	0.02	36	3.11	48.54	1.51	16.30	1.45
8	60	65	80	4	0.02	30	2.05	41.25	0.97	15.98	0.8
9	60	65	80	5	0.01	26	2.25	42.54	0.96	15.87	0
10	60	65	80	6	0.15	18	1.56	37.30	0.58	16.96	0
11	55	64	66	1	0.02	24	2.07	45.12	0.93	8.71	1.43
12	56	65	66	2	0.02	20	1.73	41.18	0.71	7.80	0.85
13	50	65	49	3	0.02	16	1.38	43.83	0.61	5.84	0.8
14	52	67	50	4	0.02	16	1.39	43.17	0.60	5.86	0.72
15	44	65	36	5	0.02	10	0.86	41.79	0.36	4.91	0.64
16	63	65	91	6	0.02	32	2.77	54.70	1.51	16.06	1.46
17	61	65	82	7	0.02	20	2.25	47.69	1.07	15.10	0.1
18	60	65	81	8	0.02	18	3.11	43.96	1.37	13.55	0.1
19	75	80	81	1	0.02	68	5.88	18.46	1.09	14.29	1.36

20	68	73	81	2	0.02	56	4.84	19.89	0.96	10.39	1.04
21	60	65	80	3	0.02	45	3.57	27.60	0.98	13.03	0.98
22	53	57	83	4	0.02	32	2.64	28.14	0.74	10.48	0.55
23	46	50	82	5	0.02	20	1.73	29.20	0.51	28.82	0.1
24	63	65	91	6	0.02	18	2.42	50.68	1.23	16.08	0.1

H₂ flow rate was 0.25 ml/min; acetone flow rate was 6 ml/hour.