Supplementary Information (SI) for Journal of Materials Chemistry A.

Synthesis and characterization of ionic liquid incorporated quaternized poly(2,6-dimethyl-1,4-phenylene oxide) and NiO/IrO_2 electrocatalyst for anion exchange membrane fuel cell applications

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1. Figure

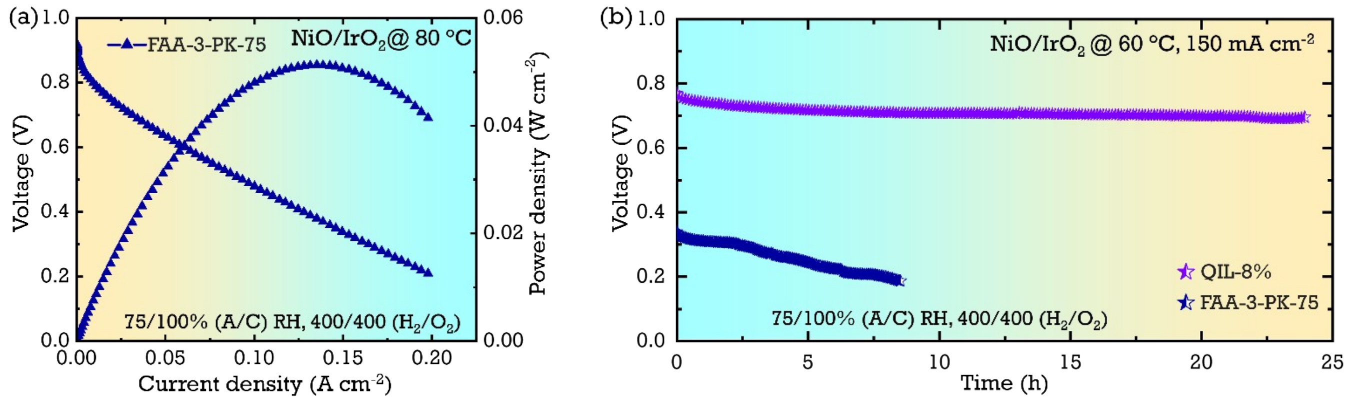

Fig. S1. Single cell and durability performances of membranes: (a) single cell performance of FAA-3-PK-75, and (b) durability results of FAA-3-PK-75 and QIL-8% membranes. [1,2]

2. Table

Table S1. Comparison table of QPPO based membranes.

Entry	Membrane	Hydroxide conductivity (mS cm^{-1})/ temperature °C	Peak power density	Fuel cell catalyst (Anode and cathode)	Reference
1	OBImPPO	45 mS cm^{-1} /RT	437 mW cm^{-2}	(PtRu/C and Pt/C)	2
2	QPPO-QPOSS-3	87.7 $mScm^{-1}$/80 °C	288 mW cm^{-2}	Pt/C and Pt/C	3
3	QPPO-3	21 $mScm^{-1}$/80 °C	77 mW cm^{-2}	Pt/C and Pt/C	4
4	ImPPO/IL-GO-0.5%	78.5 $mScm^{-1}$/80 °C	136 mW cm^{-2}	Pt/C and Pt/C	5
5	QPPO/QSiO2-3	45.08 $mScm^{-1}$/80 °C	142 mW cm^{-2}	Pt/C and Pt/C	6
6	PPO-TMIm-30	31.7 $mScm^{-1}$/RT	137.1 mW cm^{-2}	Pt/C and Pt/C	7
7	QPPO/F-p-gC3N4-0.5	142.1 $mScm^{-1}$/90 °C	286.2 mW cm^{-2}	Pt/C and PtRu/C	1
8	PPO-C-1QA	40.6 $mScm^{-1}$/20 °C	141 mW cm^{-2}	Pt/C and Pt/C	8
9	Pip-PPO	64 $mScm^{-1}$/80 °C	271 mW cm^{-2}	Pt/C and Pt/C	9
10	P-BDB-14	88.9 $mScm^{-1}$/90 °C	294.2 mW cm^{-2}	Pt/C and Pt/C	10
11	PPO-O-Ph-Pi	64 $mScm^{-1}$/80 °C	222 mW cm^{-2}	Pt/C and PtRu/C	11
12	QIL-8%	135 $mScm^{-1}$/80 °C	472 mW cm^{-2}	Pt/C and Pt/C	*This work*
13	QIL-8%	135 $mScm^{-1}$/80 °C	416 mW cm^{-2}	Pt/C and NiO/IrO_2	*This work*

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