

Supplementary data

Effect of pore-size distribution in cathodic gas diffusion layer on electricity generations of microbial fuel cells (MFCs)

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Table S1 Volumes of different pore diameters

Pore diameter	Volumes (m ³ /g)			
	GDL-A	GDL-B	GDL-C	GDL-D
3000	2.93×10 ⁻⁴	1.98×10 ⁻⁴	2.71×10 ⁻⁴	2.47×10 ⁻⁴
1500	2.43×10 ⁻⁴	1.80×10 ⁻⁴	2.28×10 ⁻⁴	2.36×10 ⁻⁴
1000	2.15×10 ⁻⁴	8.80×10 ⁻⁵	1.17×10 ⁻⁴	1.59×10 ⁻⁴
500	0	1.66×10 ⁻⁴	2.24×10 ⁻⁴	2.07×10 ⁻⁴
400	0	0	1.09×10 ⁻⁴	0
300	2.42×10 ⁻⁴	1.50×10 ⁻⁴	1.80×10 ⁻⁴	9.70×10 ⁻⁵
200	2.90×10 ⁻⁵	3.20×10 ⁻⁵	3.90×10 ⁻⁵	6.60×10 ⁻⁵
150	0	3.40×10 ⁻⁵	5.40×10 ⁻⁵	4.00×10 ⁻⁵
130	0	3.30×10 ⁻⁵	4.60×10 ⁻⁵	3.30×10 ⁻⁵
110	3.00×10 ⁻⁶	2.00×10 ⁻⁵	3.00×10 ⁻⁵	4.20×10 ⁻⁵
100	2.50×10 ⁻⁵	3.50×10 ⁻⁵	4.80×10 ⁻⁵	2.90×10 ⁻⁵
90	1.40×10 ⁻⁵	0	0	2.80×10 ⁻⁵
80	0	0	1.20×10 ⁻⁵	0
70	0	0	9.00×10 ⁻⁶	1.30×10 ⁻⁵
60	0	5.00×10 ⁻⁶	0	0
50	0	0	3.70×10 ⁻⁵	2.50×10 ⁻⁵
40	2.00×10 ⁻⁶	2.20×10 ⁻⁵	4.60×10 ⁻⁵	7.00×10 ⁻⁵
30	0	3.40×10 ⁻⁶	0	2.10×10 ⁻⁶
20	2.50×10 ⁻⁴	3.50×10 ⁻⁴	5.10×10 ⁻⁴	8.30×10 ⁻⁵

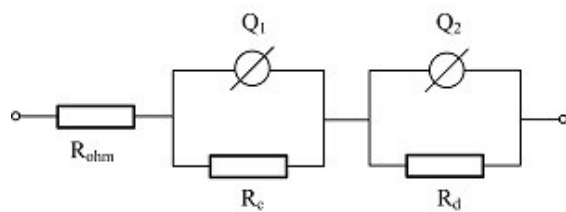


Fig. S1 Equivalent circuit for modeling the EIS of air cathodes

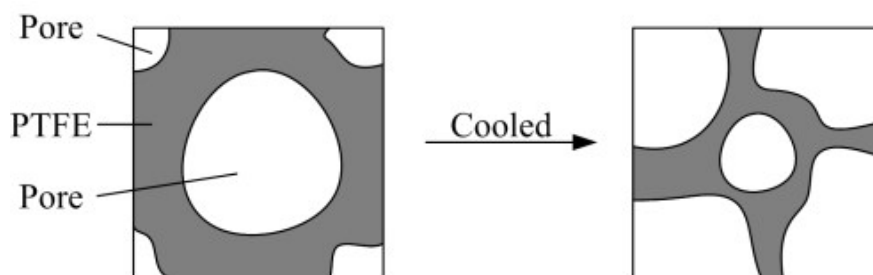


Fig. S2 Schematic diagram of the progress of PTFE contraction upon cooling.

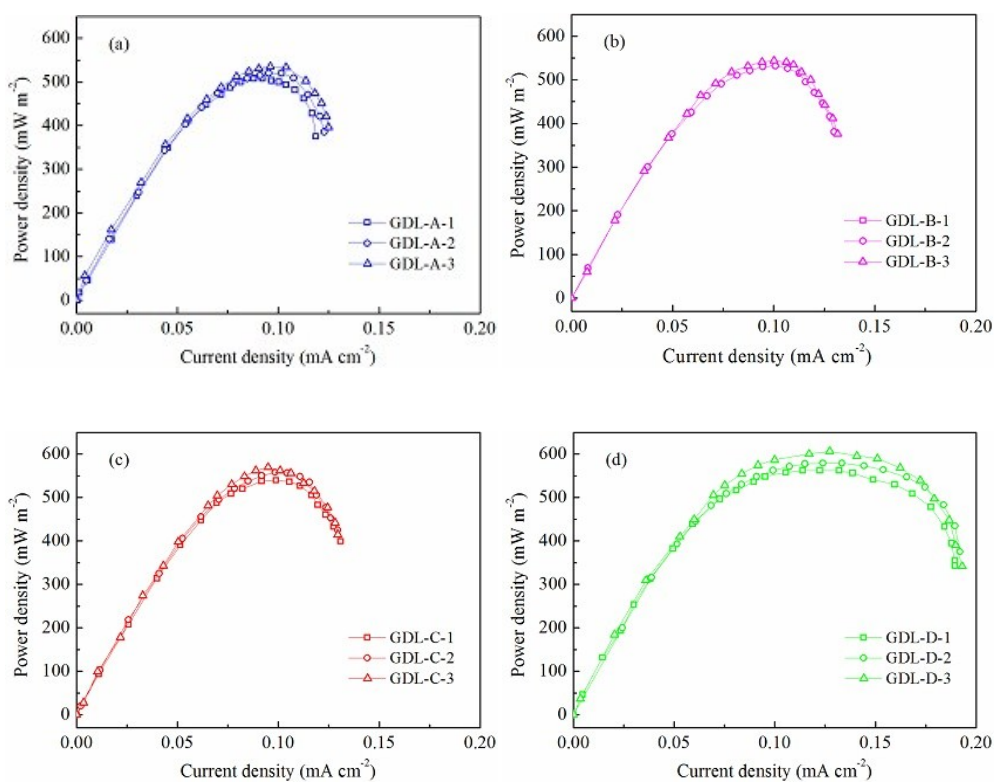


Fig. S3 Power densities of MFCs for triplicate GDLs

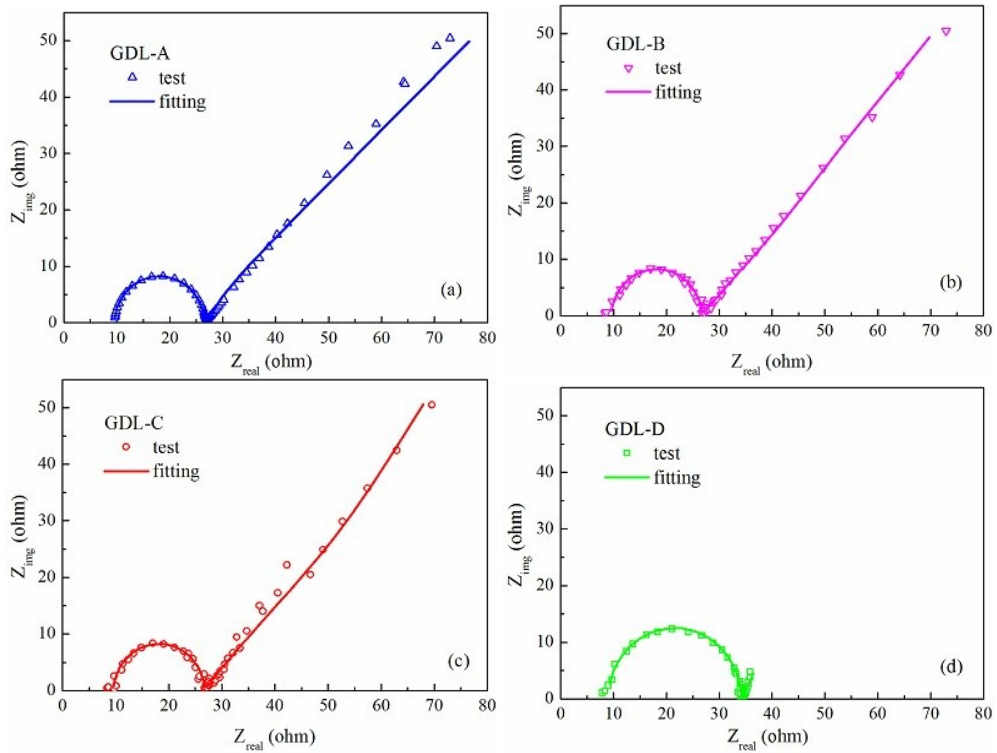


Fig. S4 Tested Nyquist plots (symbols) and least-squares fitting curves (lines) of cathodes with different GDLs