

Electronic supplementary information (ESI) for *Materials Advances*

Electronic Supplementary Information

Ditch-structured microporous layers fabricated by nanosecond-pulse laser ablation for enhancing water transport in polymer electrolyte membrane fuel cells

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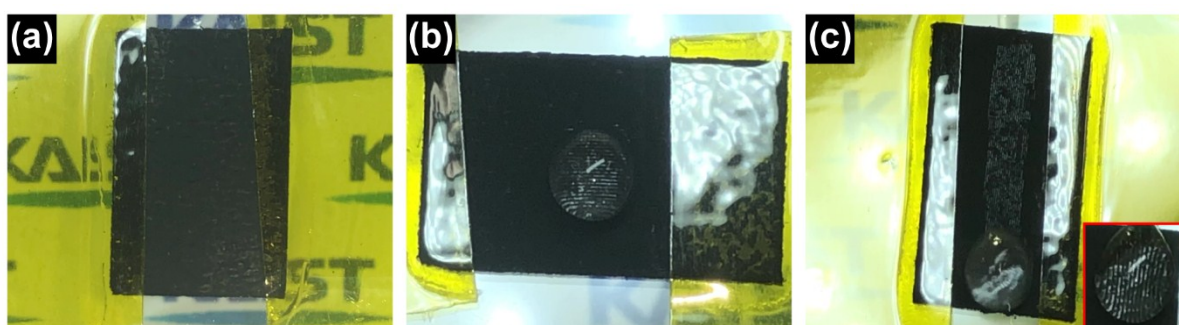


Fig. S1 Capture images from the Movie. S1 representing the sliding of a water droplet on a 60° tilted (a) P-MPL and (b-c) D1-MPL with a ditch orientation (b) perpendicular and (c) parallel to the direction of gravity.

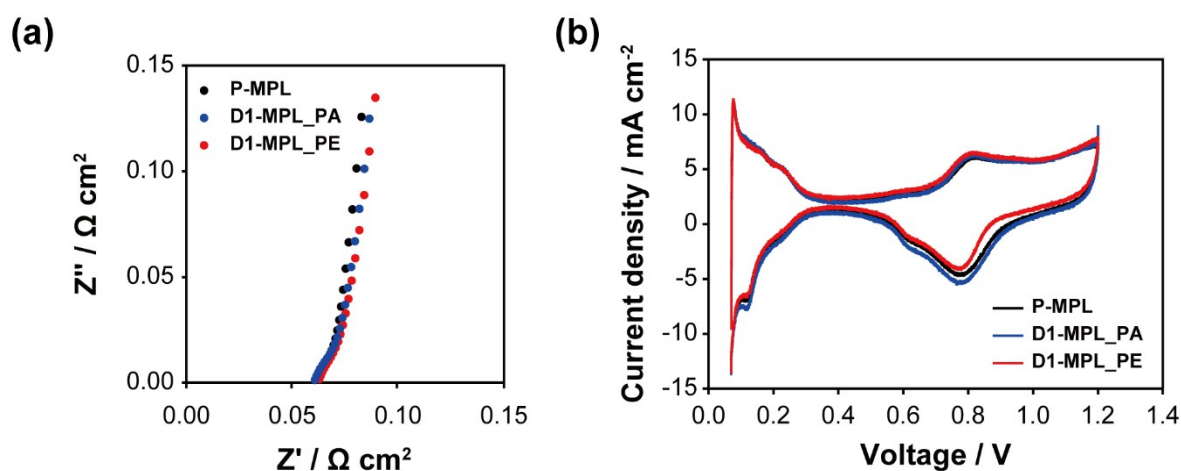


Fig. S2 Electrochemical properties of the catalyst layers for various laser ablation conditions. (a) OCV impedance graph and (b) CV graph.

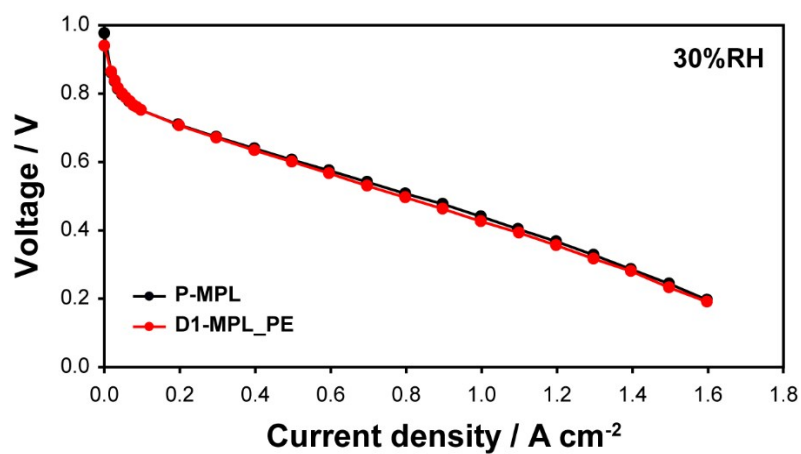


Fig. S3 The i-V polarization curves of the P-MPL and D1-MPL_PE in a low humidity condition.

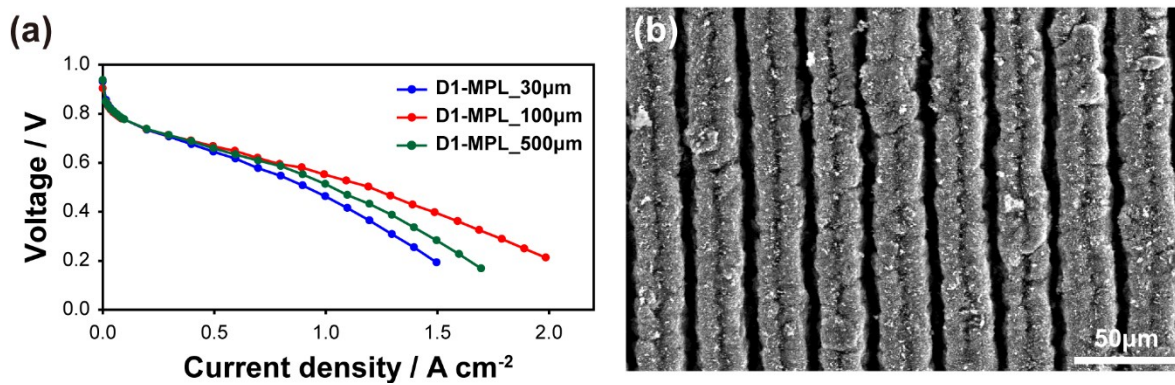


Fig. S4 (a) Polarization curves with different ditch spacings for the D1-MPLs and (b) top-view SEM image of the D1-MPL_30µm