Supporting information

Comprehensive Investigation of Novel Pore-Graded Gas Diffusion Layers for High-Performance and Cost-Effective Proton Exchange Membrane Electrolyzers

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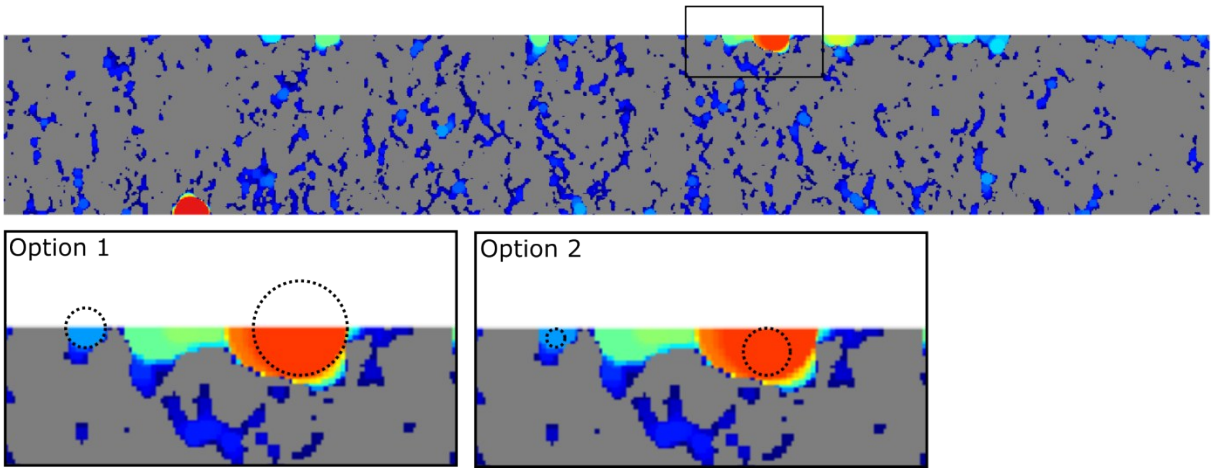

Figure S1. Schematic X-Ray CT cross-section images analysis of the 16S sample with local pore radii inscribed.

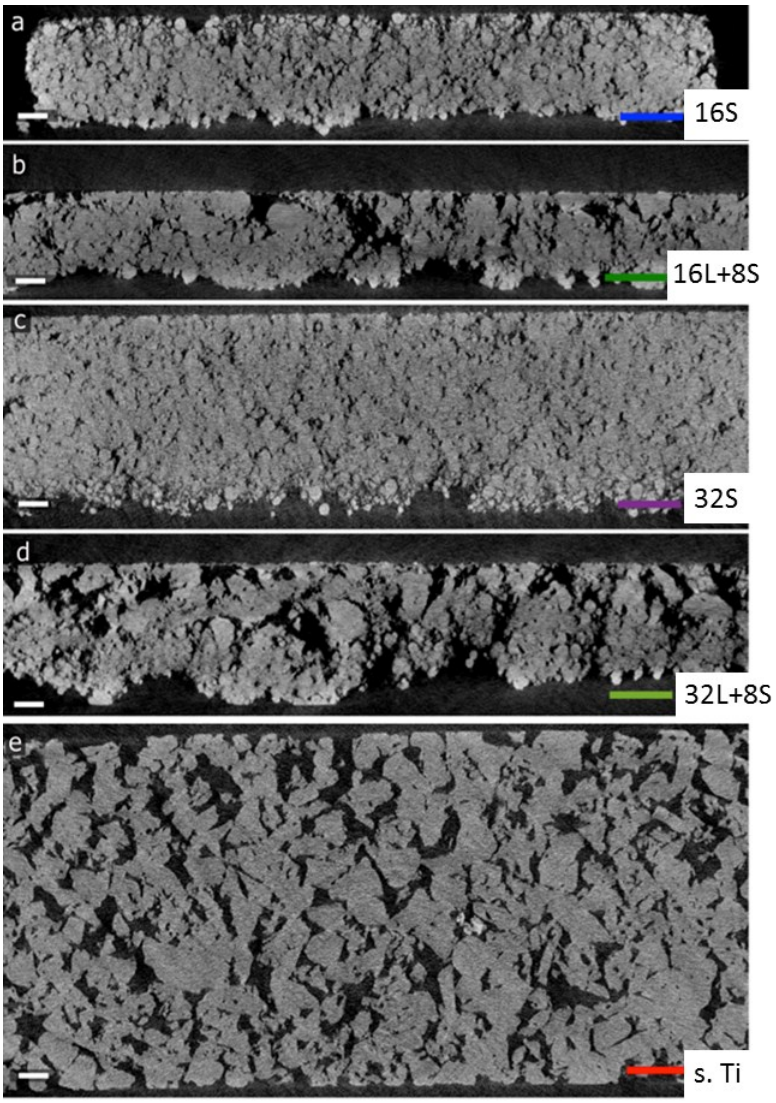

Figure S2. X-ray CT cross-section images of a) 16S, b) 16L+8S, c) 32S, d) 32L+8S and e) sintered Ti.

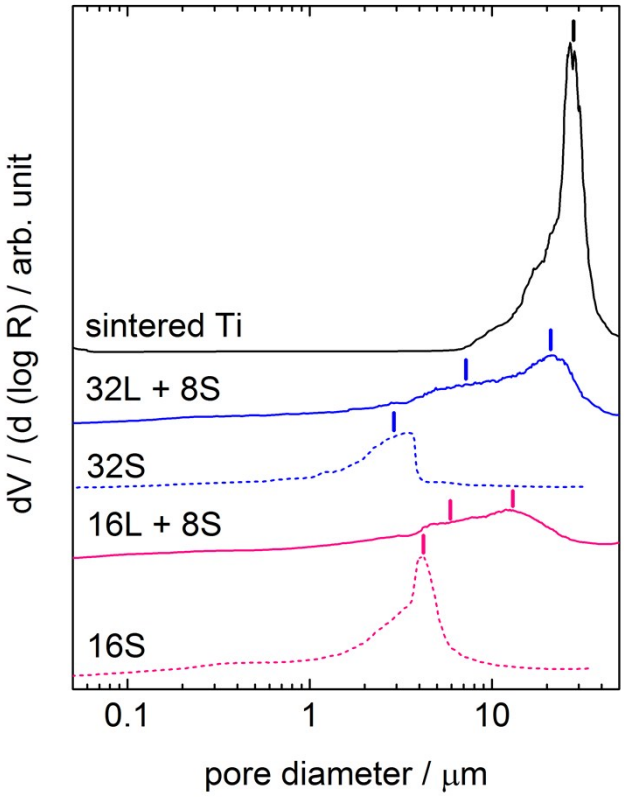

Figure S3. Mercury intrusion porosimetry characteristics up to 200 MPa of the PTLs: 16S, 32S, 16L+8S, 32L+8S and sintered Ti plate. The short bars on top of peaks correspond to the pore diameters (position in x-axis) calculated from the Gaussian fittings. In the case of the pore-graded PTLs, separate Gaussian fittings were used for the Ti45 and T125 regions.

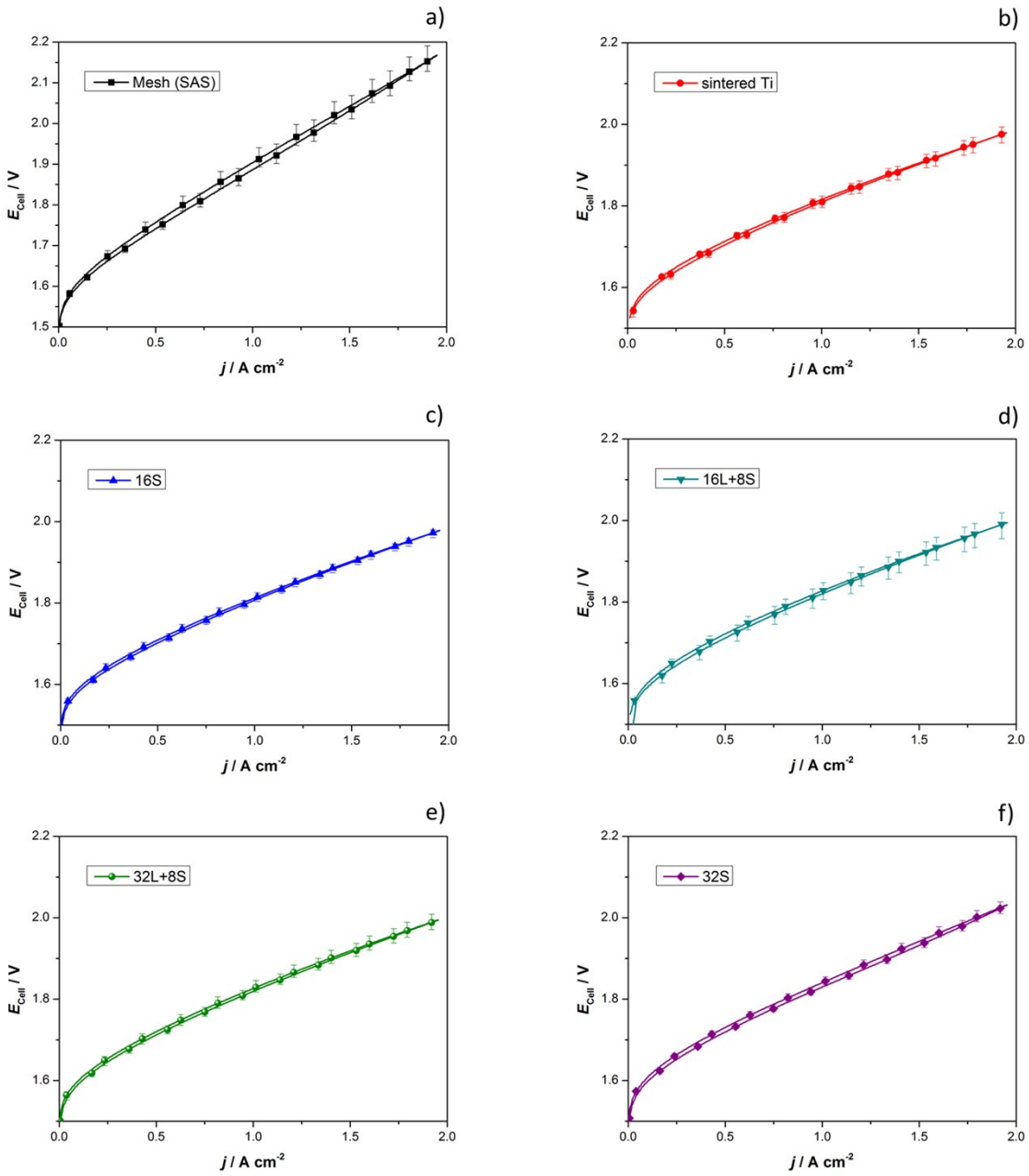

Figure S4. Polarization curves of the 4 cm^2 active are 2-cell PEM electrolyzer with the GDLs: a) SAS mesh; b) sintered Ti; c) 16S; d) 16S + 8S; e) 32L+8S and f) 32S.

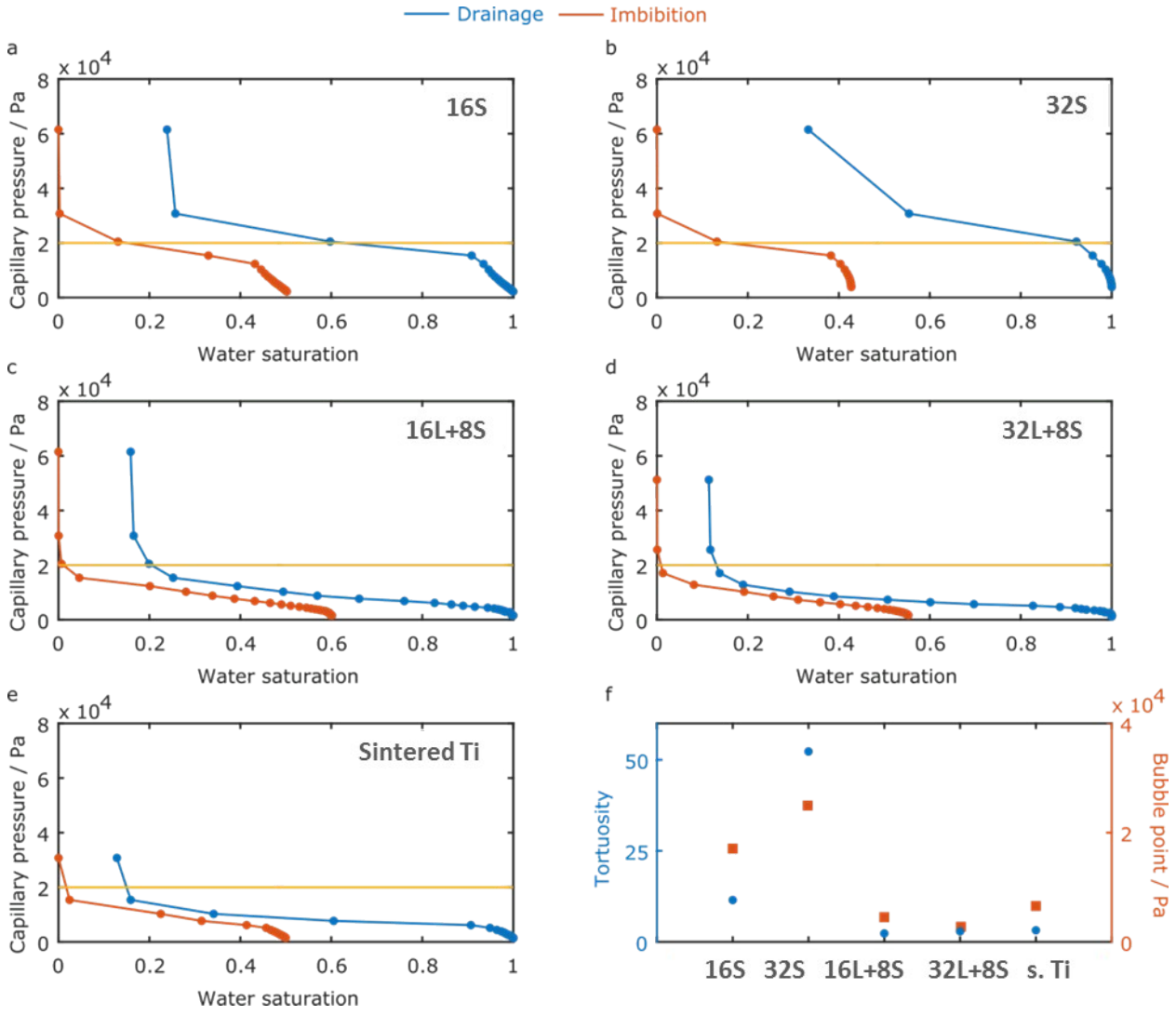

Figure S5. a-e) Drainage (blue) and imbibition (red) simulation results for the 5 investigated GDLs. The orange line is an optical guide for comparison and is located at 20 kPa. f) Bubble point and tortuosity.