Electronic Supplementary Material (ESI) for Journal of Materials Chemistry A.

Supplementary Information

Toward High-Performance Flexible Micro-Supercapacitors: In-Situ Construction of 2D Porous Carbon Nanosheets with A Unique Polycrystalline-like Micro-Morphological Feature

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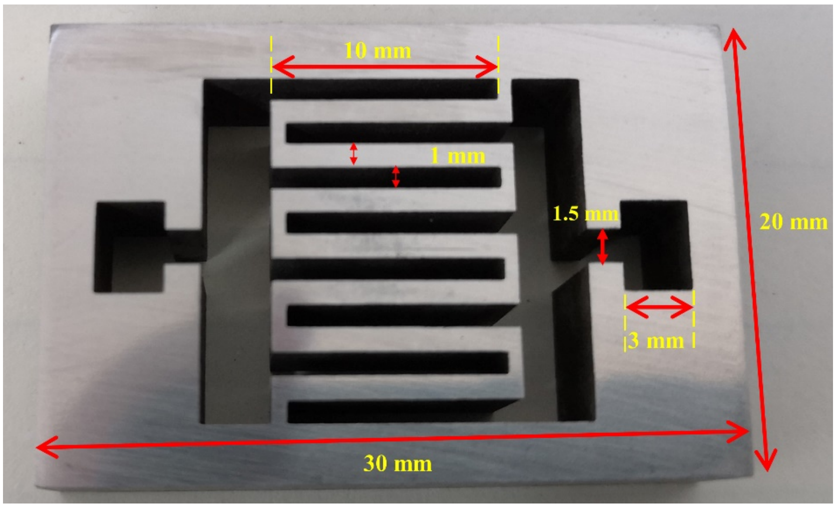

Figure S1 The optical photo of the interdigital mask.

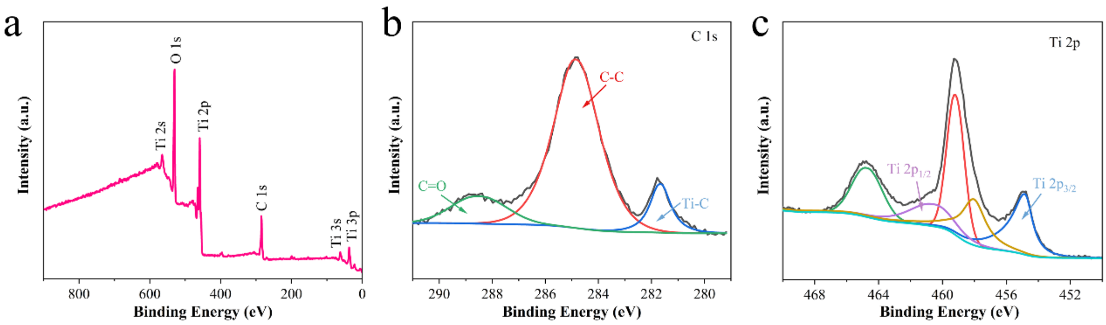

Figure S2. XPS spectrums of P-TiC: (a) survey spectrum; (b) C 1s; (c) Ti 2p.

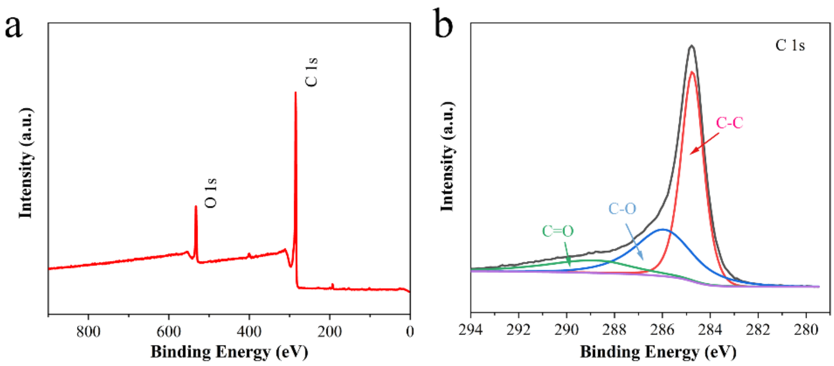

Figure S3. XPS spectrums of PL-PCN: (a) survey spectrum; (b) C 1s.

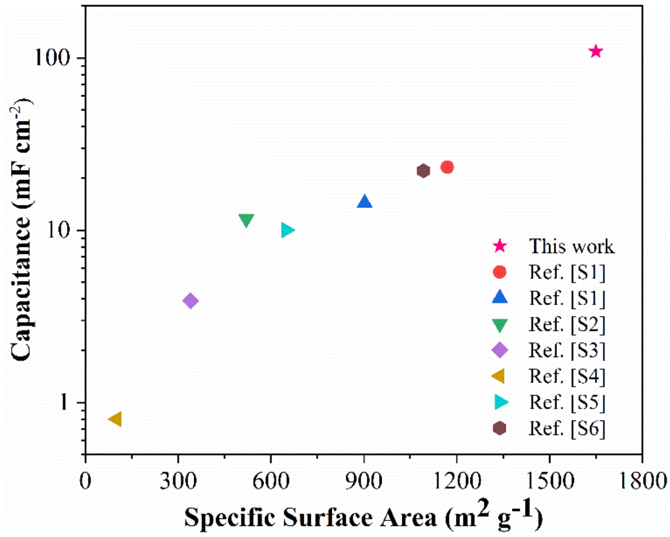

Figure S4. The specific capacitance as a function of the specific surface area of the electrodes summarized from the relevant literatures.

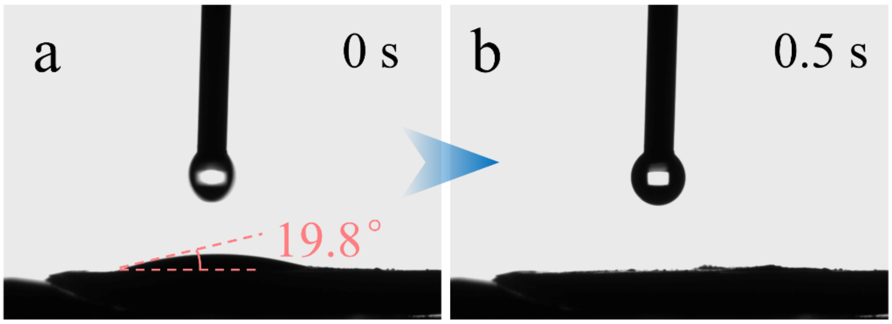

Figure S5. Dynamic contact angle test for PL-PCN with H_3PO_4 electrolyte.

Figure S5 shows the dynamic contact angle test for PL-PCN with H_3PO_4 electrolyte. It can be clearly seen that the contact angle has completely disappeared even within 0.5 s (19.8°→0°), suggesting a superior wettability.

Table S1. The comparison of electrochemical performance with other recently reported carbon-based MSCs works.

Electrode material	Electrolyte	Areal capacitance (mF cm^{-2})	References
O/S co-doped porous graphene	PVA/H_2SO_4	53.2 (0.08 mA cm^{-2})	[S7]
Porous carbon nanosheets	PVA/H_2SO_4	23.2 (0.2 mA cm^{-2})	[S1]
Porous carbon	PVA/H_2SO_4	8.4 (100 mV s^{-1})	[S8]
3D porous graphene	PVA/H_3PO_4	1.7 (20 mV s-1)	[S9]
Carbon nanotubes	PVA/H_3PO_4	4.69 (50 mV s^{-1})	[S10]
Porous graphene	PVA/H_2SO_4	37.95 (0.6 mA cm^{-2})	[S11]
Graphene/activated carbon	PVA/H_2SO_4	12.5 (0.01mA cm^{-2})	[S12]
Graphene quantum dots	EMIMBF4/AN	0.4681 (15 μA cm^{-2})	[S13]
Fluorine-modified graphene	EMIMBF4/PVDF-HFP	17.4 (1 mV s^{-1})	[S14]
PL-PCN	PVA/H_3PO_4	108.88 (0.1 mA cm^{-2})	This work

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