Supporting Information

3D Carbon Nanonetwork Coated Composite Electrode with Multi-heteroatom Doping for High-rate Vanadium Redox Flow Batteries

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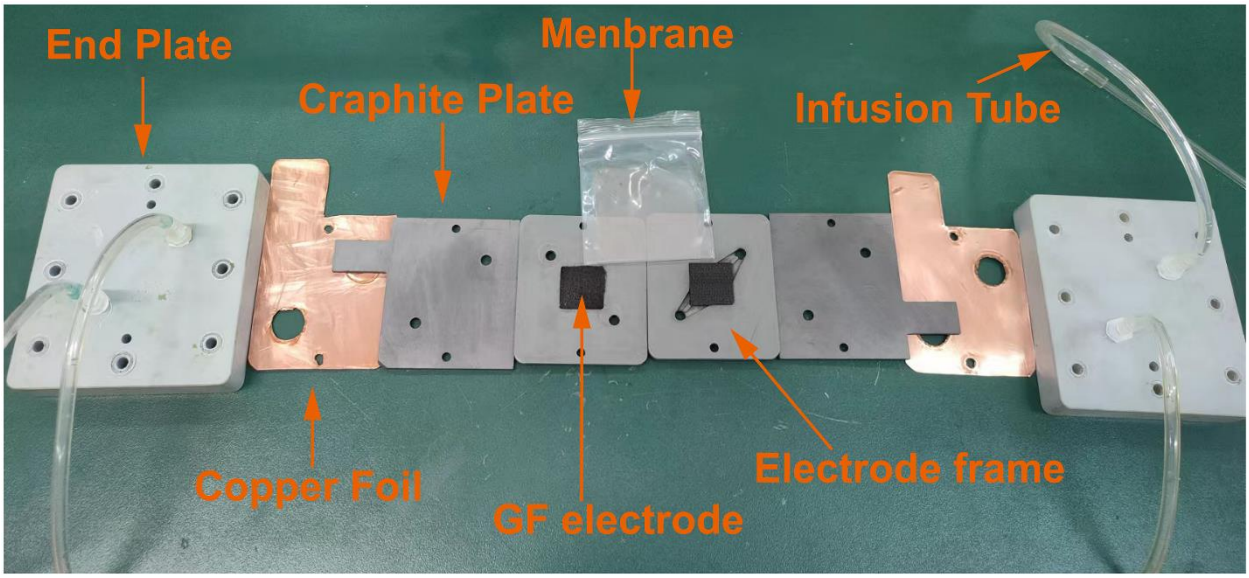

Figure S1. The design/structure of the flow battery.

Table S1. Comparison of the rate capability of the GF@PCNs electrode with previous work on electrodes materials for VRFBs

Reference	Electrode	Current density (mA cm^{-2})	Discharge capacity (Ah L^{-1})	Energy efficiency	Maximum Current density (mA cm^{-2})
This work	**GF@PCNs-900**	**250** **400**	***17.1*** ***5.0***	***68.0*** ***54.0***	***400***
[1]Adv. Funct. Mater., 2019, 1903192	Exfoilated-GF	100 200	21.0 10.0	86.4 60.0	200
[2]J. Mater. Chem. A, 2019, 7, 5589-5600	$NiCoO_2$/GF	100 150	Not Given	73.7 72.5	150
[3]Nano Energy, 2018, 43, 55-62	PGF	150 200	28.0 24.0	73.0 68.0	300
[4]Energy Storage Mater., 2018, 13, 66-71.	GO-rGO/GF	50 100	Not Given	87.0 65.0	100
[5]J. Mater. Chem. A, 2018, 6, 6625-6632.	TiC-GF	80 100	26	67.0 62.0	100
[6]Chem. Eng. J., 2022, 450, 138377.	Bio-CF	100	Not Given	82	100
[7]Appl. Surf. Sci., 2021, 546, 148941.	B-CF	60 100	Not Given	85.0 80.0	300
[8]Nano Energy, 2016, 28, 19-28.	NCS/GF	150 200	27.0 23.0	71.0 67.0	300
[9] ChemNanoMat, 2022, 8, e202200027..	ASP-CF	100 200	Not Given	85.0 60.0	250
[10]Adv. Sci., 2016, 3, 1500276	CF-G-1	25 125	20.5	87.0 72.0	125

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