Electronic Supplementary Material (ESI) for Green Chemistry.

Supplementary information

Template-free Synthesis of Interconnected Carbon Nanosheets *via* Cross-linking Coupled with Annealing for High-efficiency Triiodide Reduction

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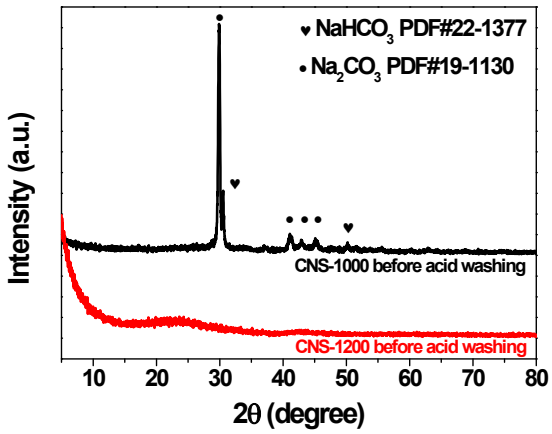

Fig. S1 XRD patterns of CNS-1000 and CNS-1200 before acid washing.

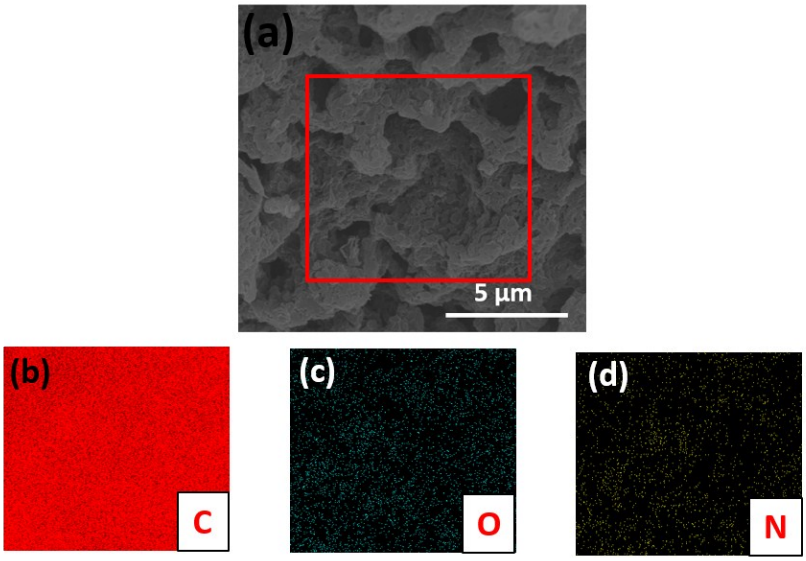

Fig. S2 FESEM image and corresponding element mappings of C, O and N for the CNS-1200.

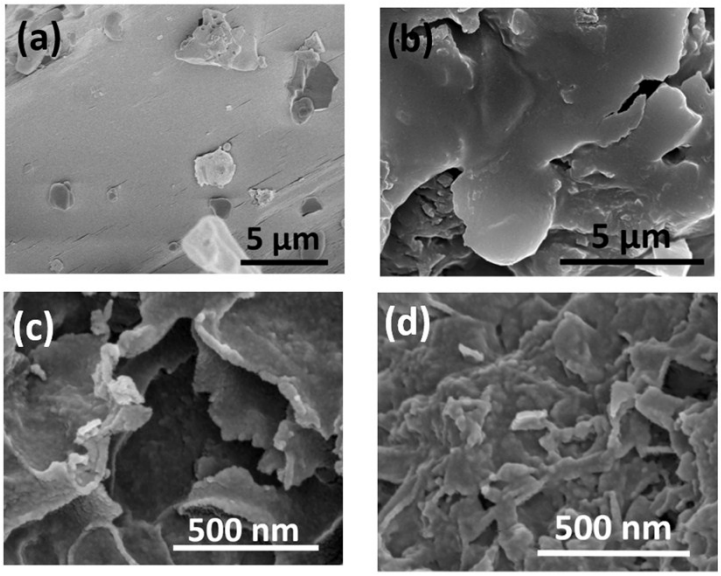

Fig. S3 FESEM images of (a) the urea and sodium citrate mixture, (b) the intermediates after cross-linking, (c-d) CNS-1000 and CNS-1400.

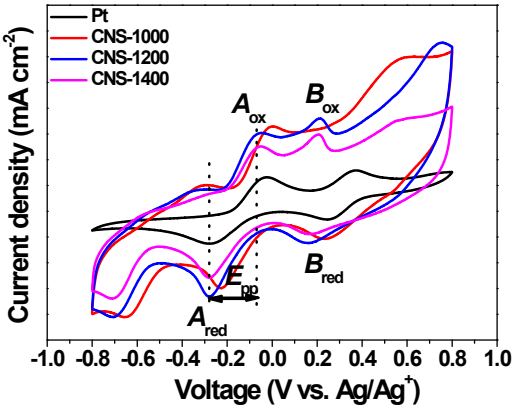

Fig. S4 CV curves of Pt, CNS-1000, CNS-1200 and CNS-1400.

Table S1 Elemental analysis data of the samples

Samples	Ultimate analysis (wt. ×100%)			
	C	N	H	O*
mixture of raw materials	21.29	30.23	5.34	43.14
intermediates after cross-linking	26.21	21.20	2.99	49.6
CNS-1000	83.75	5.92	0.98	9.35
CNS-1200	91.20	0.55	0.59	7.66
CNS-1400	94.55	0.40	0.34	4.71

*by difference

Table S2 Comparison of photovoltaic parameters for various CEs in our work and literature work

	V_{oc} (V)	J_{sc} (mA cm^{-2})	FF (%)	PCE (%)	references
MWCNTs/PANI	0.78	16.08	57.67	7.21	1
B, N-G-1200	0.77	15.3	69	8.08	2
rGO/ATRCs	0.75±0.03	17.4±0.15	68.3±0.4	8.9±0.5	3
NHG-2	0.744	17.19	0.709	9.07	4
CNS-1200	0.77±0.01	15.94±0.18	71.03±0.19	8.71±0.11	This work

Table S3 Electrochemical parameters for CNS-1200 and Pt reference

CEs	Z_{pore} (Ω cm^2)	R_s (Ω cm^2)	R_{ct} (Ω cm^2)	Z_N (Ω cm^2)
CNS-1200	0.38	3.48	0.35	0.91
Pt	-	6.0	1.52	0.91

Reference

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2. C. Yu H. Fang, Z. Liu, H. Hu, X. Meng and J. Qiu, *Nano Energy*, 2016, **25**, 184-192.
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