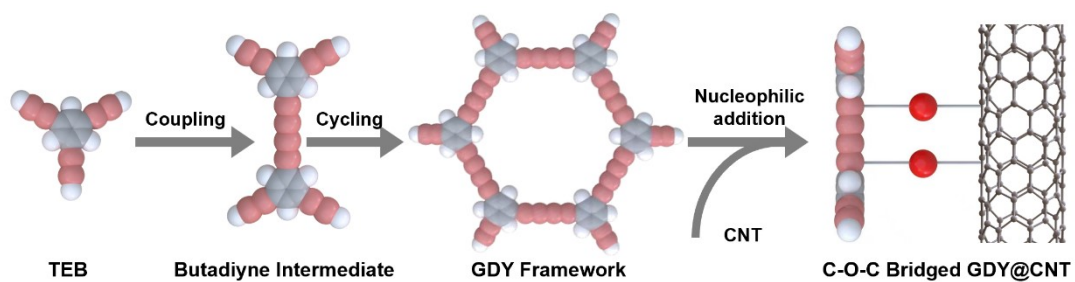
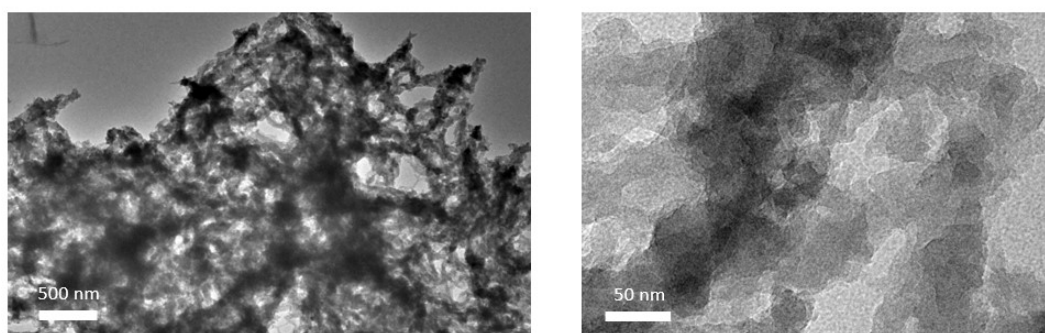


## Supplementary Material

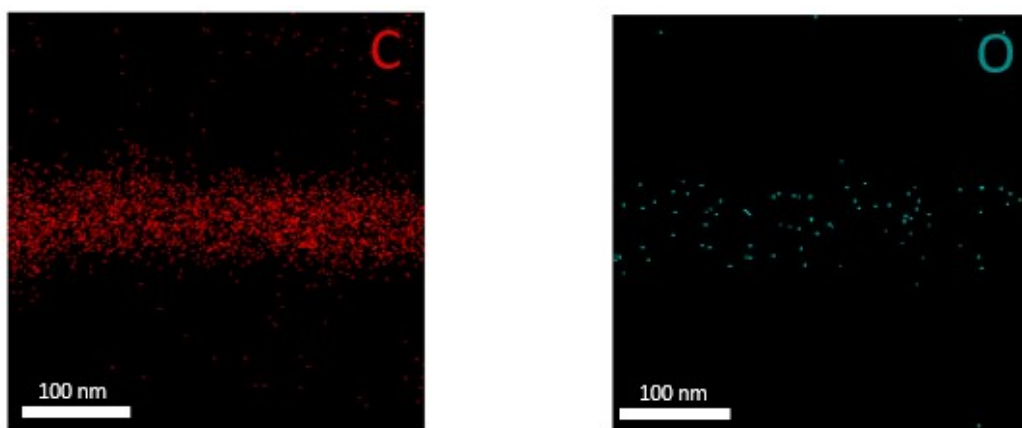
**Insight into a robust graphdiyne@carbon nanotubes electrode for rapid lithium-ion storage**



**Fig. S1** Schematic illustration of the formation of bridged GDY@CNT.



**Fig. S2** TEM images of GDY.



**Fig. S3** EDS mapping of GDY@CNT.

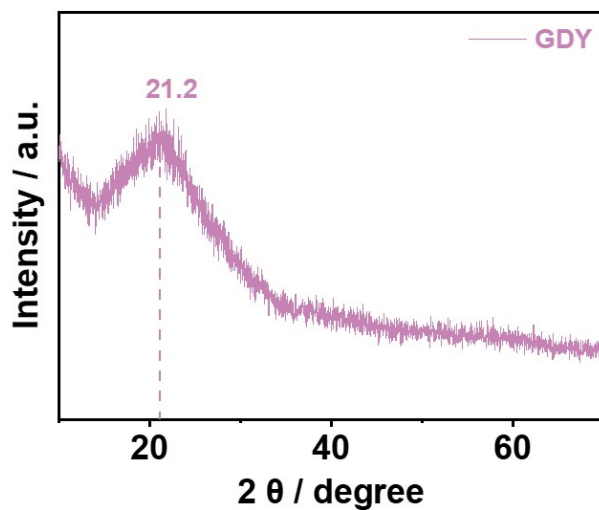


Fig. S4 XRD patterns of GDY.

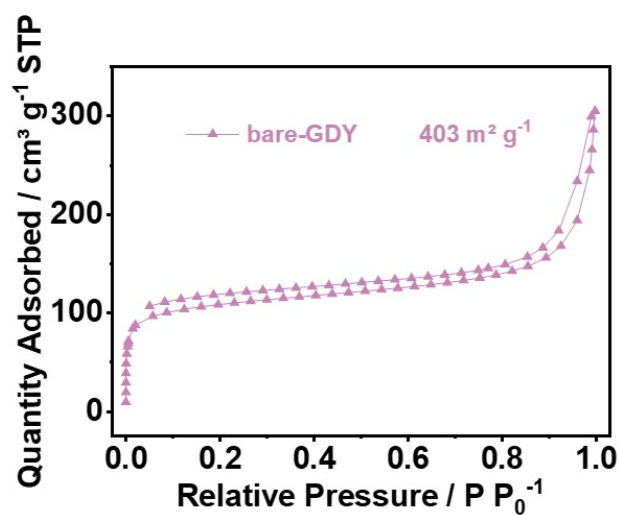


Fig. S5 N<sub>2</sub> adsorption/desorption isotherms of bare-GDY.

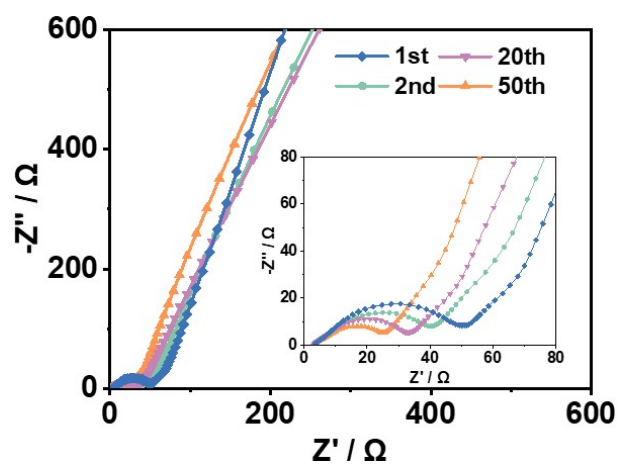


Fig. S6 EIS plots of the GDY electrodes after the 1st to 50th cycles.

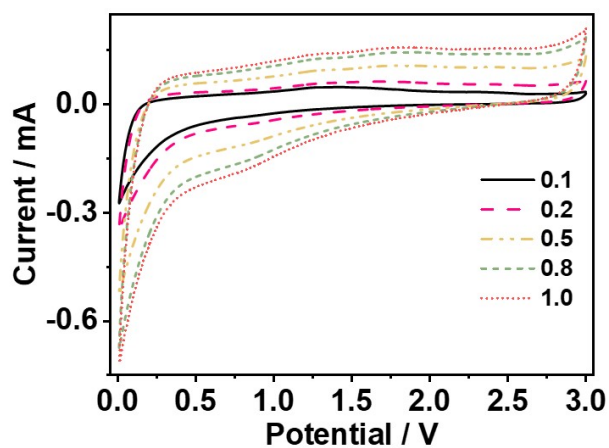


Fig. S7 CV curves of GDY electrode at various scan rates from 0.1 to 1 mV s<sup>-1</sup>.

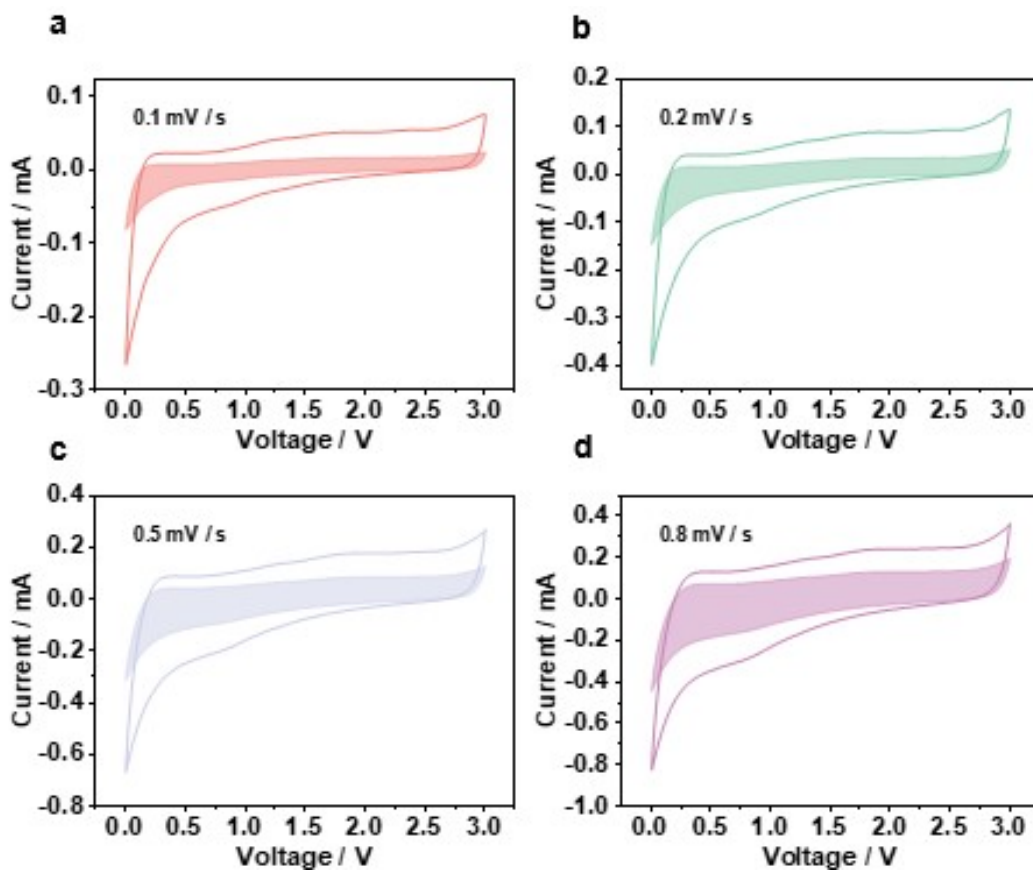


Fig. S8 Pseudocapacitance contribution ratio of GDY@CNT at 0.1 to 0.8 mV s<sup>-1</sup>.

**Table S1.** Comparison of GDY@CNT electrodes for lithium-ion batteries.

Electrode	Capacity (mA h g <sup>-1</sup> )	Current density (mA g <sup>-1</sup> )	Cyclic stability (cycles)	Ref
SiMP	400	1000	20	1
NPGA	195	1000	1000	2
HRGO	423	100	100	3
GNPs	414	1000	350	4
Activated Carbon	253	100	400	5
MWCNTs	300	25	40	6
GDYO	234.3	100	200	7
S-Graphdiyne	275	500	500	8
nLTO/SWCNT	136	175	1000	9
CuVO@GDY	600	500	260	10
AN-GDY	100	500	5000	11
3DGDY	610	50	200	12
PQ-GDY@Cu	570	200	900	13
Ti <sub>3</sub> C <sub>2</sub> T <sub>x</sub> /GDYO-5%	770	100	100	14
GDY@CNT	1017	100	10	This work
GDY@CNT	439	1000	600	This work

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