

Supporting Information

Effects of Carboxyl Functionalized CNT on Electrochemical Behaviour of Polyluminol-CNT Composites

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Supplementary Figures and Tables

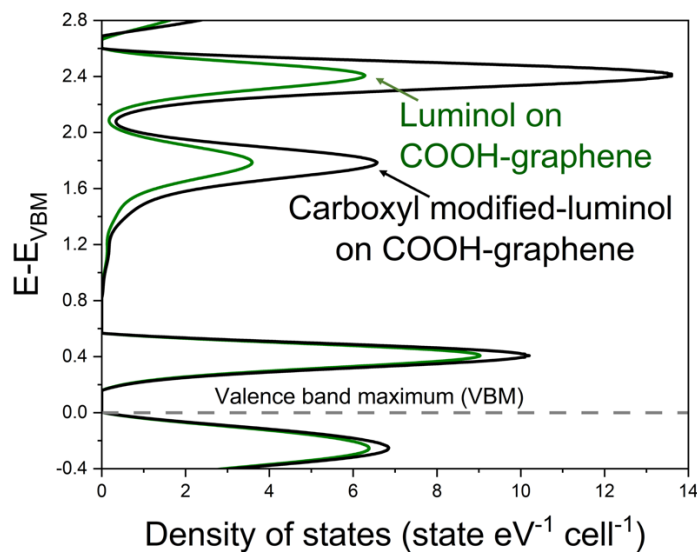


Figure S1. A comparison between the pDOS of luminol and carboxyl modified-luminol adsorbed to COOH-graphene.

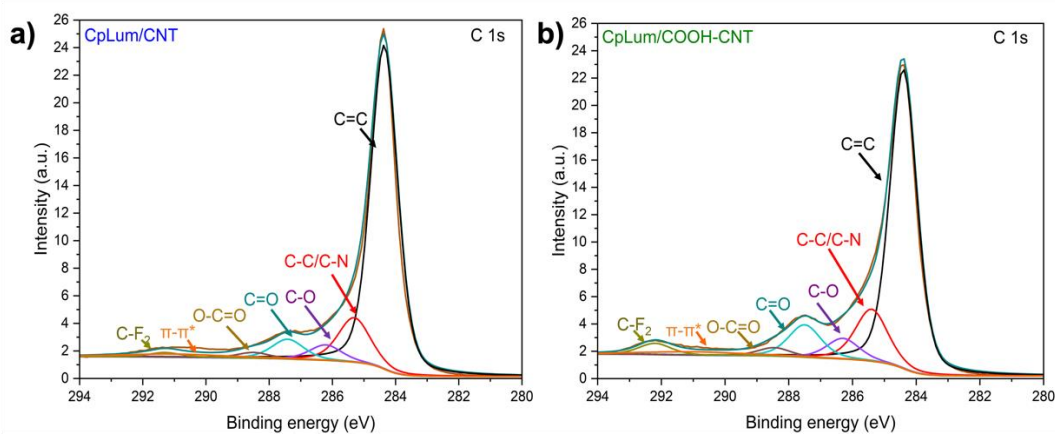


Figure S2. High-resolution C 1s spectra of a) CpLum/CNT and b) CpLum/COOH-CNT.

Table S1. Bonding group percentages in CpLum/CNT and CpLum/COOH-CNT

Element	Peaks (eV)	CpLum/CNT [%]	CpLum/COOH-CNT [%]
C 1s	284.4 (C=C)	60.1 ±6.5	60.9 ±8.0
	285.4 (C-C/C-N)	11.8 ±0.4	10.1 ±1.3
	286.3 (C-O)	4.1 ±0.5	4.6 ±0.4
	287.5 (C=O)	6.2 ±1.4	5.5 ±1.9
	288.5 (O-C=O)	1.8 ±0.5	2.3 ±0.8
O 1s	531.2 (O=C _Q)	2.1 ±0.6	2.6 ±0.9
	532.7 (O=C _{Bz})	2.9 ±1.1	3.3 ±0.9
	533.5 (O=C-QH)	0.9 ±0.3	0.8 ±0.3
N 1s	399 (=N-Q)	2.7 ±0.9	1.9 ±0.9
	399.8 (HN-Bz)	6.1 ±1.6	6.6 ±2.0
	400.6 (O=C-NH)	1.4 ±0.7	1.5 ±0.1

Table S2. Summary of total charge storage at 15 mV s⁻¹ and 100 mV s⁻¹

Scan rate (mV s ⁻¹)	Charge (C cm ⁻³)			
	CNT	CpLum/CNT	COOH-CNT	CpLum/COOH-CNT
15	50.9 ±1.9	104.1 ±18.6	64.4 ±12.7	137.1 ±17.1
100	45.8 ±2.8	86.2 ±14.1	54.3 ±11.6	116.1 ±14.2

Table S3. b-values for CpLum/CNT and CpLum/COOH-CNT

Composite	b-value	
	Anodic	Cathodic
CpLum/CNT	0.83 ±0.02	0.84 ±0.02
CpLum/COOH-CNT	0.85 ±0.01	0.86 ±0.02