

1 **SUPPLEMENTARY MATERIALS**

2 **Table 1S:** FTIR of graphene oxide (GO), oxidized carbon nanotubes (OCNTs) and nanohybrid GO-
3 OCNTs

Nanomaterial	Wavenumber (cm⁻¹)	Functional group
Graphene oxide (GO)	3447	O–H Stretching
	3042	Aromatic C–H stretching
	2979	Asymmetric C–H stretching
	2886	Symmetric C–H stretching
	1711	C=O Stretching
	1645	Conjugated C=C stretching
	1632	Asymmetric COO ⁻ stretching
	1385	Symmetric COO ⁻ stretching
	1031	COC stretching
Oxidized carbon nanotubes (OCNTs)	3451	O–H Stretching
	3031	Aromatic C–H stretching
	2975	Asymmetric C–H stretching
	2882	Symmetric C–H stretching
	1709	C=O Stretching
	1649	Conjugated C=C stretching
	1625	Asymmetric COO ⁻ stretching
	1385	Symmetric COO ⁻ stretching
	1080	COC stretching
Nanohybrid GO-OCNTs	3342	O–H Stretching
	3005	Aromatic C–H stretching
	2918	Asymmetric C–H stretching
	2851	Symmetric C–H stretching
	1734	C=O Stretching
	1644	Conjugated C=C stretching
	1632	Asymmetric COO ⁻ stretching
	1346	Symmetric COO ⁻ stretching
	1067	COC stretching

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