

Electronic Supplementary Information

Enhanced cycling stability of ring-shaped phosphorus inside multi-walled carbon nanotubes as anodes for lithium-ion batteries

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Table S1 SEM-EDS measurements of *r*-P@MWCNTs, RP-on-*r*-P@MWCNTs, and RP-on-MWCNTs

	Element	Weight %	Atomic %	Error %
<i>r</i> -P@MWCNTs	C K	~ 85	~ 93	9.2
	P K	~ 15	~ 7	2.0
RP-on- <i>r</i> -P@MWCNTs	C K	~ 32	~ 55	15.8
	P K	~ 68	~ 45	1.3
RP-on-MWCNTs	C K	~ 30	~ 52	17.1
	P K	~ 70	~ 48	1.3

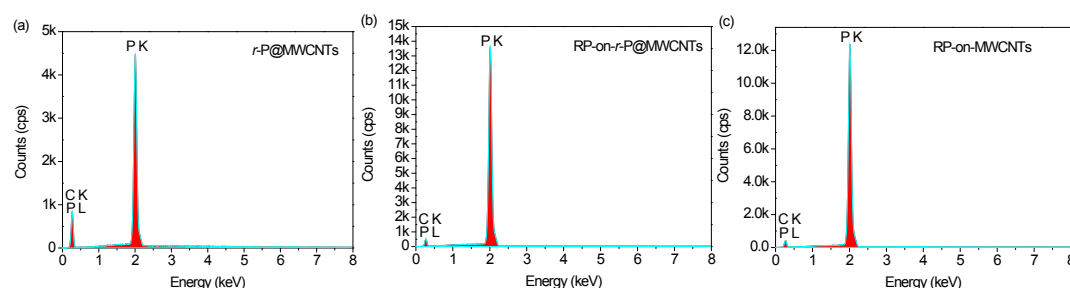


Figure S1. EDS spectra of (a) *r*-P@MWCNTs, (b) RP-on-*r*-P@MWCNTs, and (c) RP-on-MWCNTs.

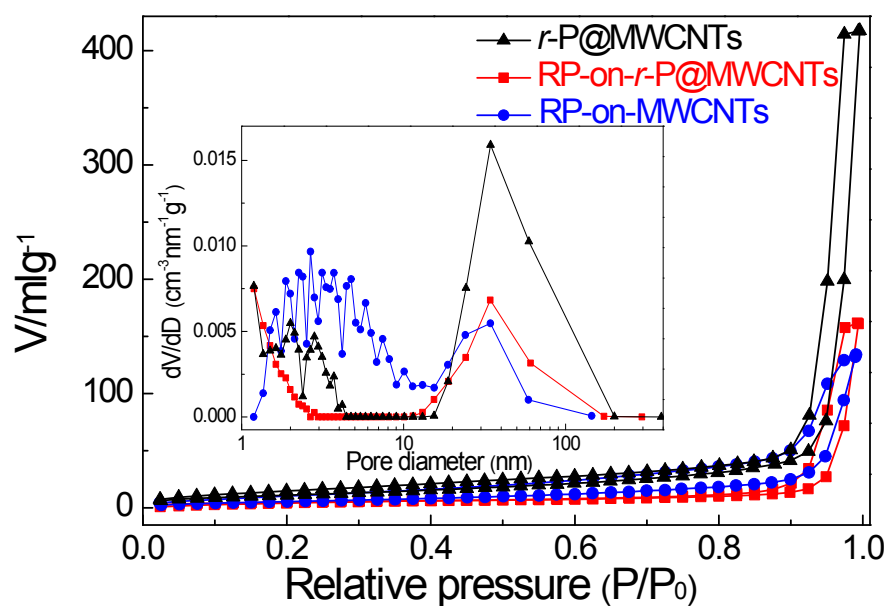


Figure S2. Nitrogen adsorption and desorption isotherms for RP-on-r-P@MWCNTs (red), r-P@MWCNTs (black), and RP-on-MWCNTs (blue). The corresponding BJH distributions are shown in the inset.

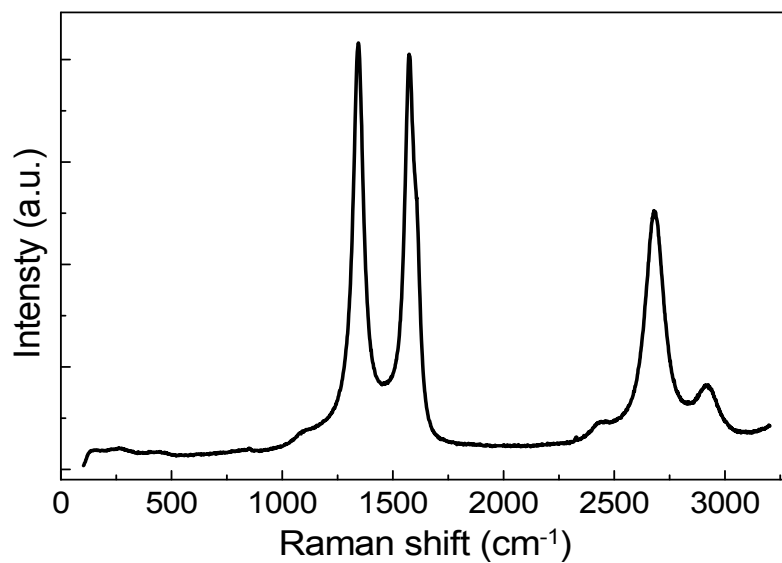


Figure S3. Raman spectrum of MWCNTs by 514 nm excitation.