

Towards a high-power Si@graphite anode for lithium ion batteries through wet ball milling process

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	Crystallite size (nm)	Lattice strain (%)
Si	37.05	-
BMD	14.09	0.143
BMW	35.45	0.011

Table S1: Data results of the Si diffraction peak at 28°. The crystallite size has been obtained using the Scherrer formula considering the FWHM.

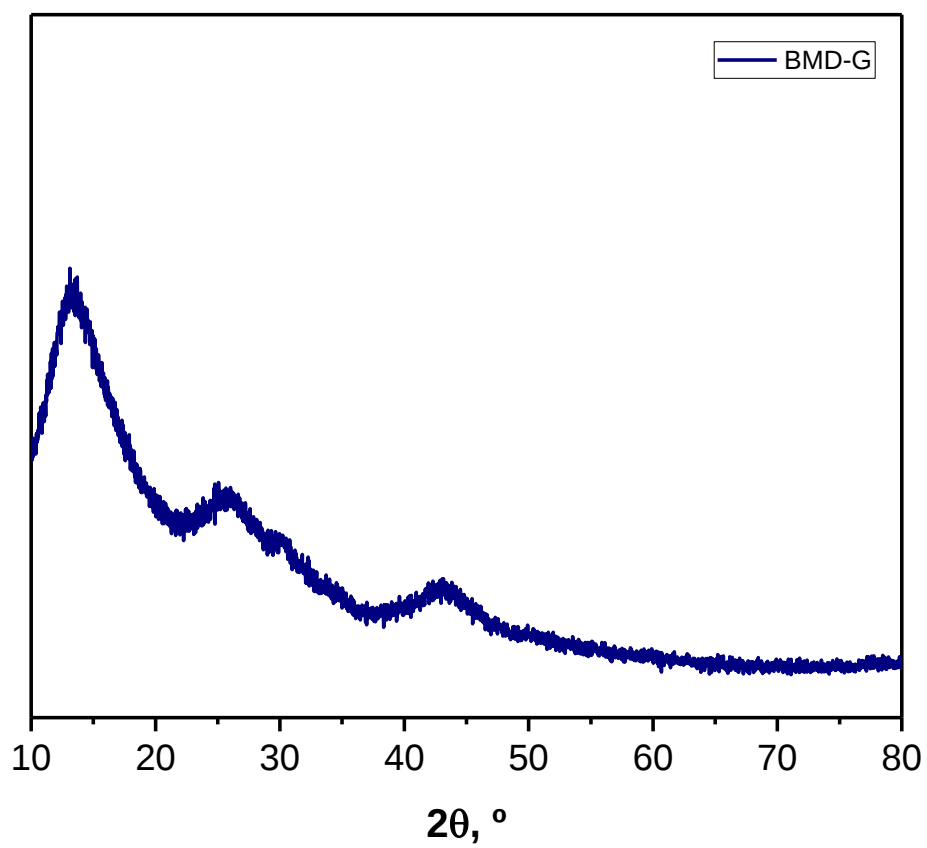


Figure S1: XRD pattern of the dry milled graphite (M-G). The broad band between 10-20° corresponds to the sample holder.

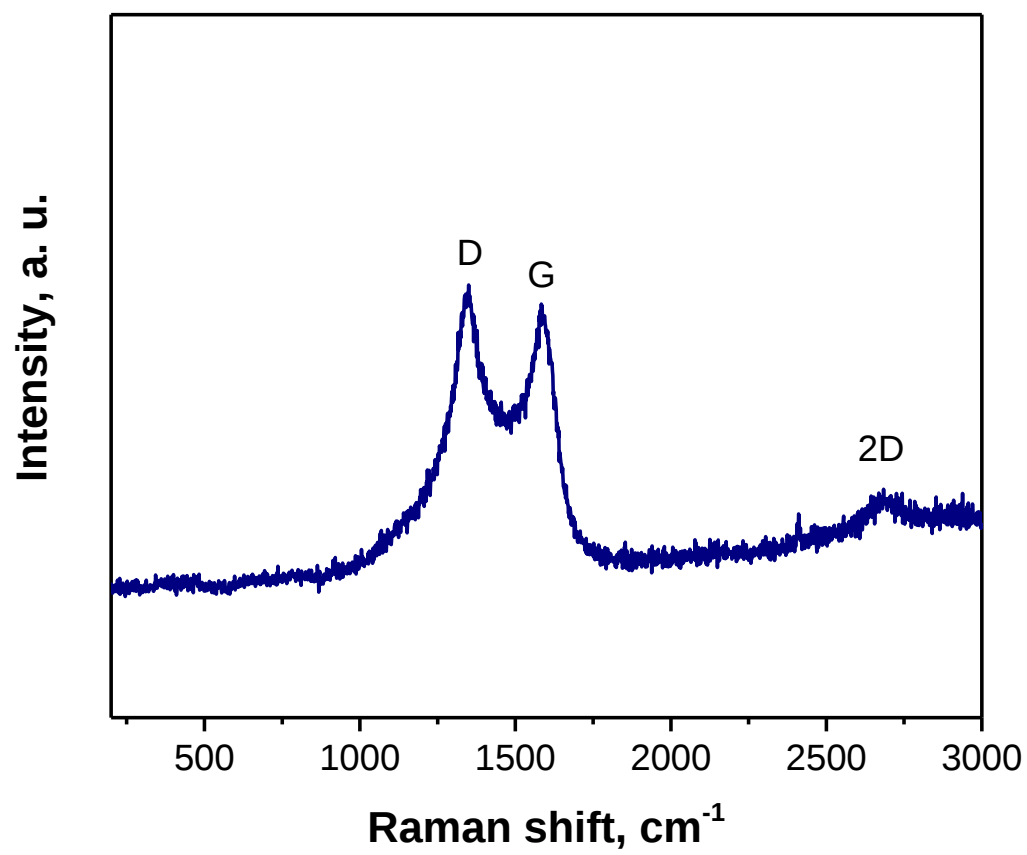


Figure S2: Raman spectrum of the dry milled graphite (M-G)

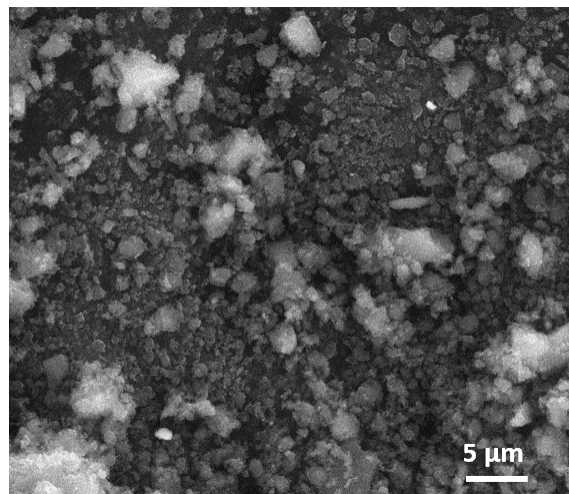
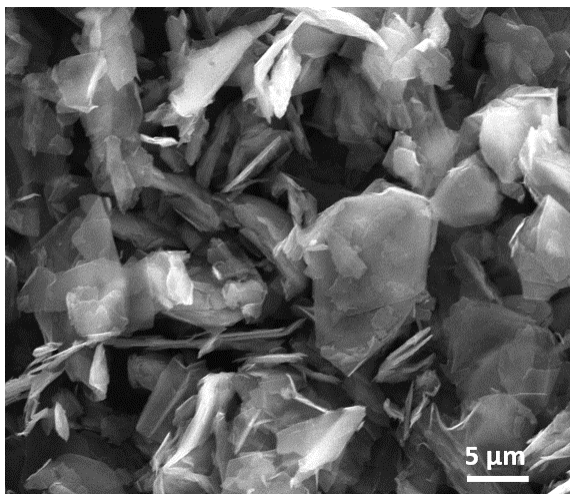


Figure S3: SEM images of graphite (left) and dry milled graphite (M-G) (right)

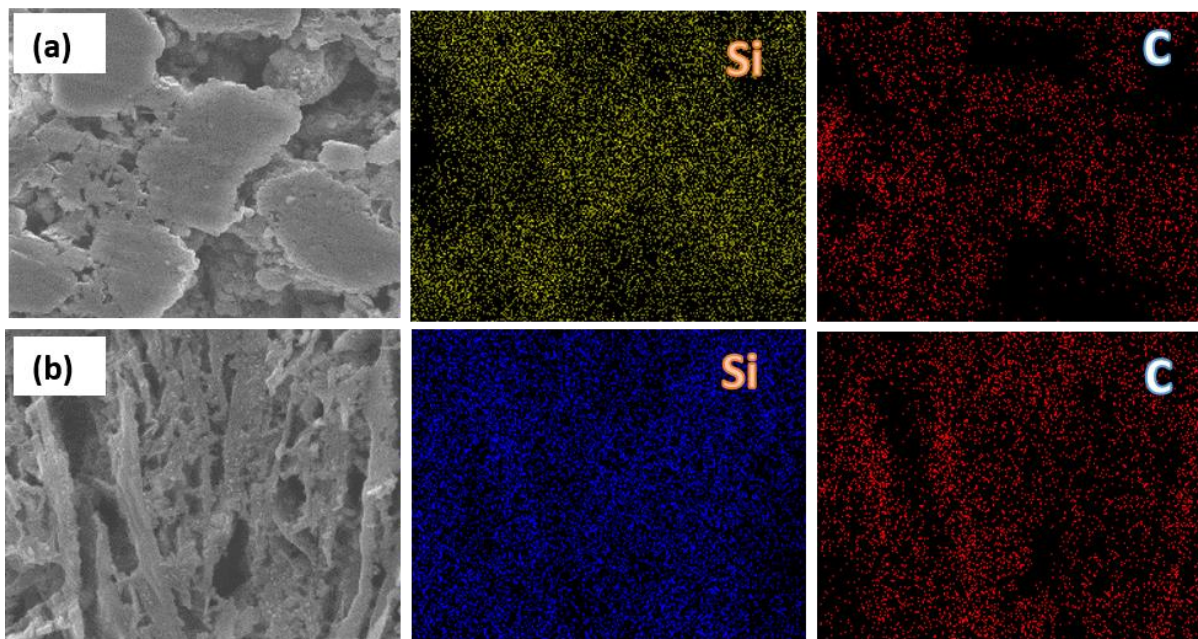


Figure S4: EDX elemental mapping of pristine electrodes of a) e-BMD and b) e-BMW.

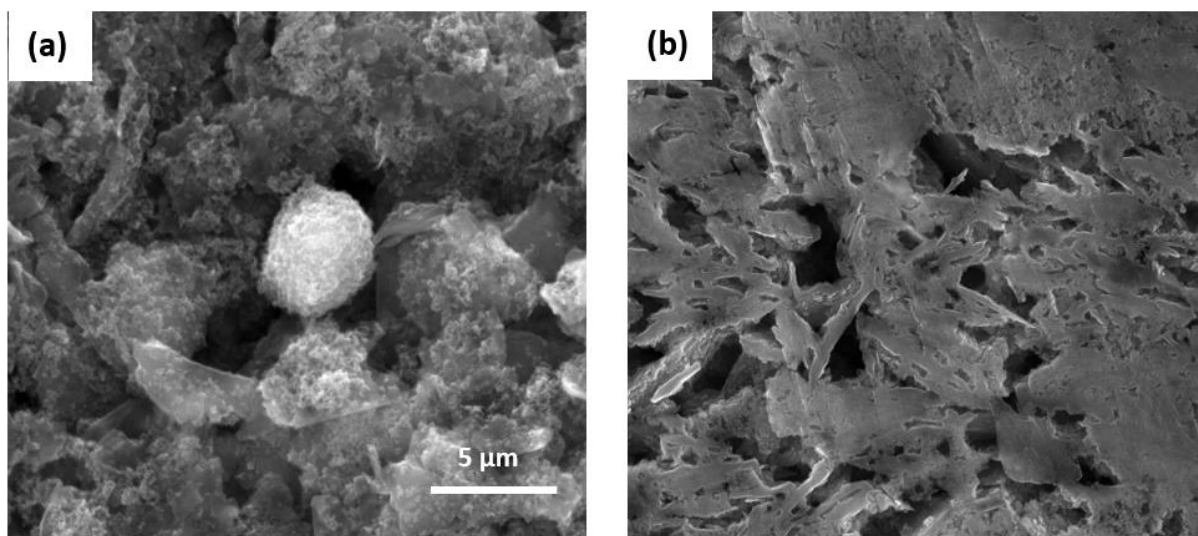


Figure S5: a) SEM image of Si@G synthesized following the wet conditions without the addition of IPA. B) SEM cross section image of the corresponding electrode. The thickness of the electrode is 28 μm.

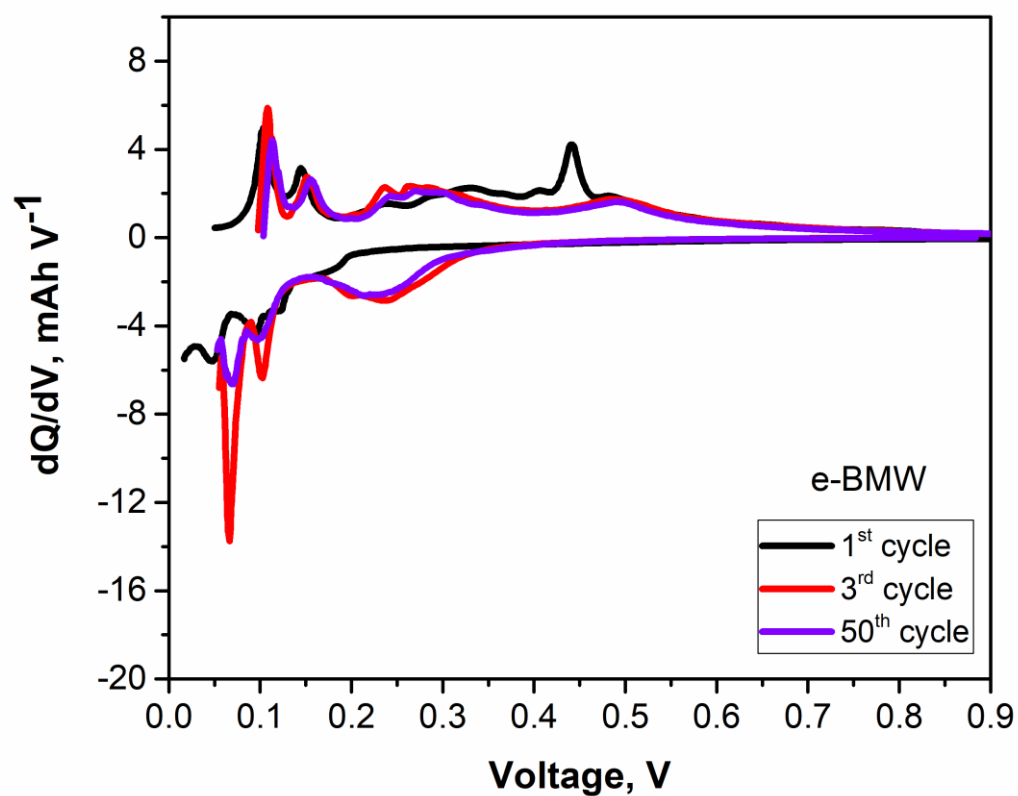


Figure S6: Differential capacity profile of e-BMW. The voltage window is 0.05 – 0.9 V and the current density is 250 mA g^{-1} . 1st activation cycle: 0.005 – 0.9 V at 100 mA g^{-1} .