Supporting Information

for

Hydrothermal-derived carbon as a stabilizing matrix for improved cycling performance of silicon-based anodes for lithium-ion full cells

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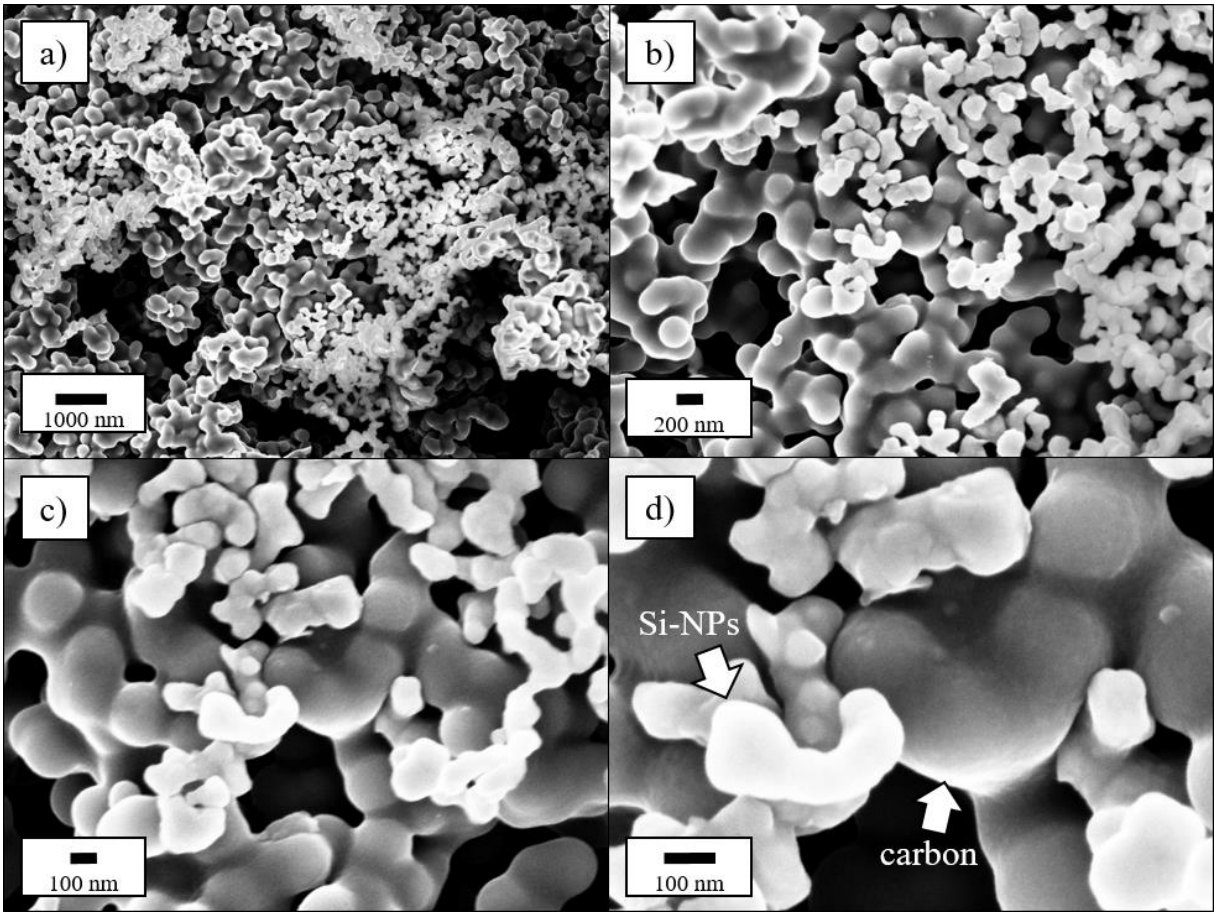

Figure S1: SEM micrographs of a physical mixture of the pure carbon matrix and the pure Si-NPs in a weight ratio of 80:20 in a magnification of 10k× (a), 25k× (b), 50k× (c) and 100k× (d).

Table S1: Overview of the tap densities of different materials used in this work.

Sample	Tap density / g cm^{-3}
Pure carbon matrix	0.16 ± 0.01
C:Si 90:10	0.19 ± 0.01
C:Si 80:20	0.24 ± 0.01
Physical mixture 80:20	0.20 ± 0.01
Pure Si-NPs	0.13 ± 0.01

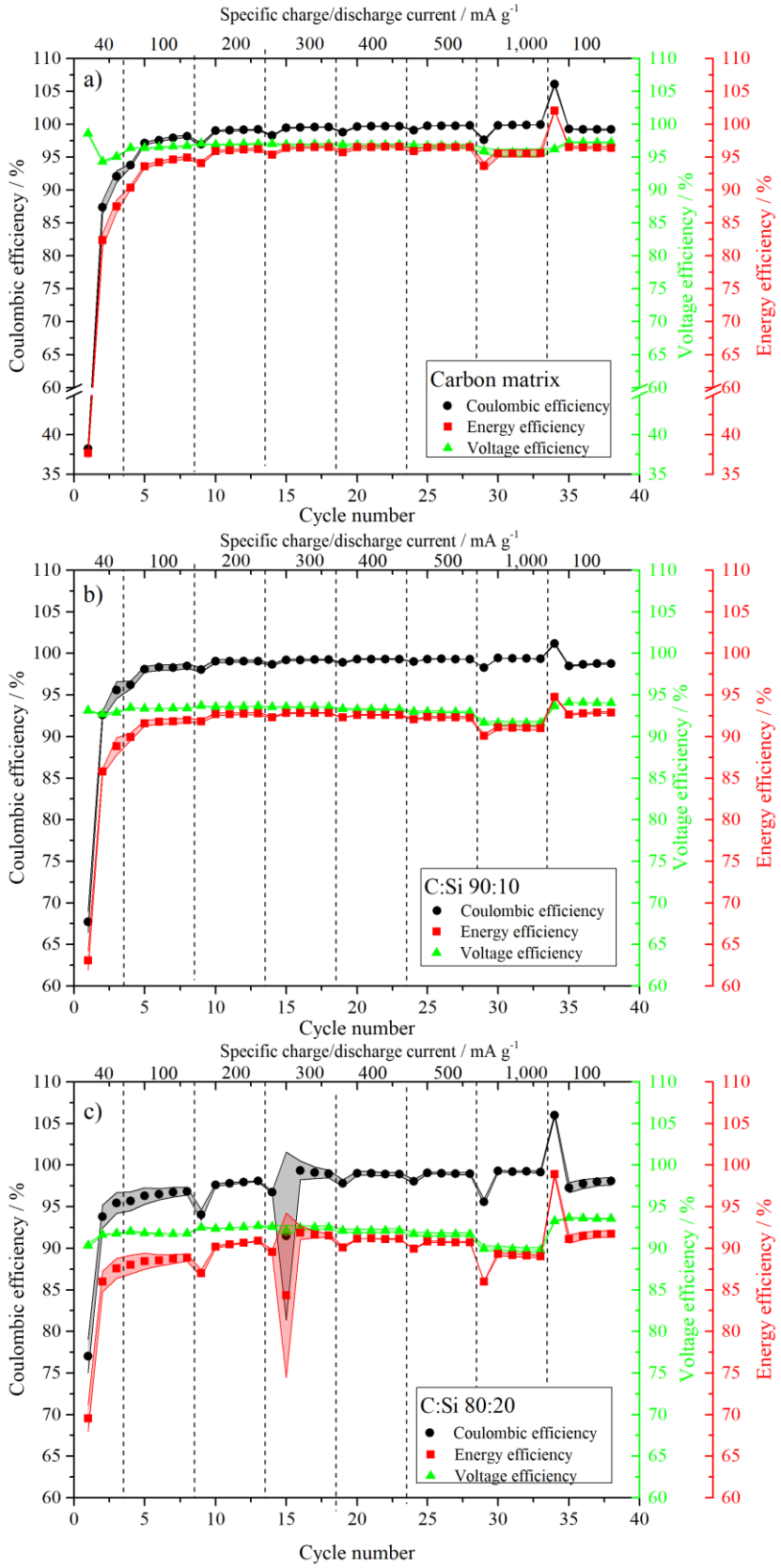

Figure S2: CEs, VEs and EEs of the Si/C composites with a carbon to silicon ratio of 100:0 (a), 90:10 (b), 80:20 (c) in constant current rate performance investigations at different charge/discharge currents (a). CE and RE: metallic lithium; potential range 0.02 V and 1.5 V vs Li/Li^+.