Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Information

Formation, structure and electrochemical performance of the nano-sized Li_2FeSiO_4/C synthesized with the co - incorporation of citric acid and glucose followed by a two - step annealing

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Table 1S. The atomic coordinates and occupancies derived from the Rietveld refinements for samples C3G8, C6G9, C6G10 and C9G7

Sample	Atoms	Sites	x	y	z	Occupancies
C3G8	Li1/Fe	2a	0.68401 (56)	0.93843 (43)	0.65050 (44)	1.000/0.000
	Li2/Fe	2a	0.17671 (47)	0.77220 (61)	0.15518 (51)	1.000/0.000
	Li3/Fe	2a	0.55534 (53)	0.45417 (50)	0.08207 (61)	0.874/0.126 (1)
	Li4/Fe	2a	0.08432 (66)	0.40966 (56)	0.58220 (43)	0.959/0.041 (1)
	Fe1/Li	2a	0.29448 (30)	0.90525 (28)	0.53585 (32)	0.781/0.219 (1)
	Fe2/Li	2a	0.79680 (28)	0.80680 (31)	0.04024 (37)	0.830/0.170 (2)
	Si1	2a	0.04777 (44)	0.81019 (29)	0.78773 (26)	1.0
	Si2	2a	0.54511 (29)	0.93054 (25)	0.29111 (28)	1.0
	O1	2a	0.87130 (35)	0.89293 (35)	0.83616 (33)	1.0
	O2	2a	0.37684 (46)	0.83800 (37)	0.33356 (32)	1.0
	O3	2a	0.43316 (53)	0.30074 (51)	0.90037 (45)	1.0
	O4	2a	0.92727 (45)	0.33138 (52)	0.40302 (62)	1.0
	O5	2a	0.66788 (29)	0.78266 (35)	0.44968 (54)	1.0
	O6	2a	0.18555 (62)	0.82558 (41)	0.96246 (32)	1.0
	O7	2a	0.95459 (47)	0.96505 (34)	0.21551 (39)	1.0
	O8	2a	0.47116 (51)	0.83112 (29)	0.71467 (51)	1.0

Sample	Atoms	Sites	x	y	z	Occupancies
C6G9	Li1/Fe	2a	0.66964 (52)	0.90294 (35)	0.66762 (58)	0.987/0.013 (1)
	Li2/Fe	2a	0.17199 (42)	0.82582 (48)	0.16987 (50)	0.970/0.030 (1)
	Li3/Fe	2a	0.55990 (51)	0.48775 (32)	0.07713 (53)	0.842/0.158 (1)
	Li4/Fe	2a	0.08263 (55)	0.32483 (45)	0.57523 (69)	0.928/0.072 (2)
	Fe1/Li	2a	0.29640 (27)	0.90291 (17)	0.54224 (23)	0.538/0.462 (2)
	Fe2/Li	2a	0.79369 (21)	0.82229 (20)	0.04533 (23)	0.644/0.356 (1)
	Si1	2a	0.04035 (26)	0.87438 (28)	0.79357 (27)	1.0
	Si2	2a	0.54223 (27)	0.95746 (30)	0.29260 (30)	1.0
	O1	2a	0.83977 (43)	0.96616 (45)	0.86340 (43)	1.0
	O2	2a	0.34312 (42)	0.88576 (42)	0.35082 (43)	1.0
	O3	2a	0.42871 (53)	0.32773 (39)	0.88445 (60)	1.0
	O4	2a	0.92394 (55)	0.35033 (41)	0.38320 (60)	1.0
	O5	2a	0.66435 (45)	0.76117 (53)	0.46385 (41)	1.0
	O6	2a	0.17944 (38)	0.88508 (39)	0.96048 (36)	1.0
	O7	2a	0.95006 (61)	0.87527 (56)	0.22478 (74)	1.0
	O8	2a	0.45910 (55)	0.77689 (54)	0.72254 (63)	1.0

Sample	Atoms	Sites	x	y	z	Occupancies
C6G10	Li1/Fe	2a	0.66458 (54)	0.92168 (51)	0.66435 (40)	0.977/0.023 (2)
	Li2/Fe	2a	0.16958 (43)	0.82844 (52)	0.16651 (60)	0.953/0.047 (2)
	Li3/Fe	2a	0.56125 (48)	0.48208 (57)	0.08206 (51)	0.820/0.180 (1)
	Li4/Fe	2a	0.08536 (61)	0.32820 (39)	0.57593 (49)	0.904/0.096 (2)
	Fe1/Li	2a	0.29748 (31)	0.90318 (27)	0.54365 (29)	0.503/0.497 (1)
	Fe2/Li	2a	0.79633 (23)	0.81896 (34)	0.04632 (31)	0.595/0.405 (1)
	Si1	2a	0.04487 (29)	0.85836 (33)	0.78846 (34)	1.0
	Si2	2a	0.54033 (26)	0.94394 (29)	0.29714 (31)	1.0
	O1	2a	0.83956 (35)	0.97024 (45)	0.86262 (29)	1.0
	O2	2a	0.34110 (56)	0.89494 (55)	0.35667 (39)	1.0
	O3	2a	0.42664 (44)	0.34113 (51)	0.88978 (57)	1.0
	O4	2a	0.92475 (39)	0.34614 (39)	0.38348 (61)	1.0
	O5	2a	0.66784 (60)	0.76875 (34)	0.46723 (38)	1.0
	O6	2a	0.18207 (58)	0.88790 (50)	0.96354 (51)	1.0
	O7	2a	0.95061 (47)	0.87134 (32)	0.22665 (51)	1.0
	O8	2a	0.45626 (33)	0.76898 (39)	0.72044 (43)	1.0

Sample	Atoms	Sites	x	y	z	Occupancies
C9G7	Li1/Fe	2a	0.67601 (56)	0.86818 (47)	0.66680 (60)	0.895/0.105 (3)
	Li2/Fe	2a	0.18729 (45)	0.71513 (55)	0.15530 (34)	0.871/0.129 (3)
	Li3/Fe	2a	0.57236 (38)	0.43241 (41)	0.08782 (33)	0.905/0.095 (2)
	Li4/Fe	2a	0.09629 (60)	0.32583 (44)	0.58683 (41)	0.875/0.125 (1)
	Fe1/Li	2a	0.29338 (29)	0.87898 (31)	0.54109 (34)	0.483/0.517 (2)
	Fe2/Li	2a	0.78764 (33)	0.82107 (30)	0.04648 (31)	0.448/0.552 (1)
	Si1	2a	0.03982 (28)	0.86889 (34)	0.79776 (29)	1.0
	Si2	2a	0.54162 (34)	0.94474 (21)	0.29208 (32)	1.0
	O1	2a	0.80566 (45)	0.94538 (35)	0.86058 (44)	1.0
	O2	2a	0.32279 (50)	0.95859 (39)	0.34810 (34)	1.0
	O3	2a	0.40793 (34)	0.31315 (50)	0.86053 (47)	1.0
	O4	2a	0.91490 (46)	0.37756 (34)	0.37897 (53)	1.0
	O5	2a	0.66210 (46)	0.71793 (43)	0.44570 (42)	1.0
	O6	2a	0.18538 (32)	0.87095 (23)	0.96444 (36)	1.0
	O7	2a	0.94054 (61)	0.85582 (51)	0.21118 (54)	1.0
	O8	2a	0.44650 (52)	0.76517 (44)	0.71230 (38)	1.0

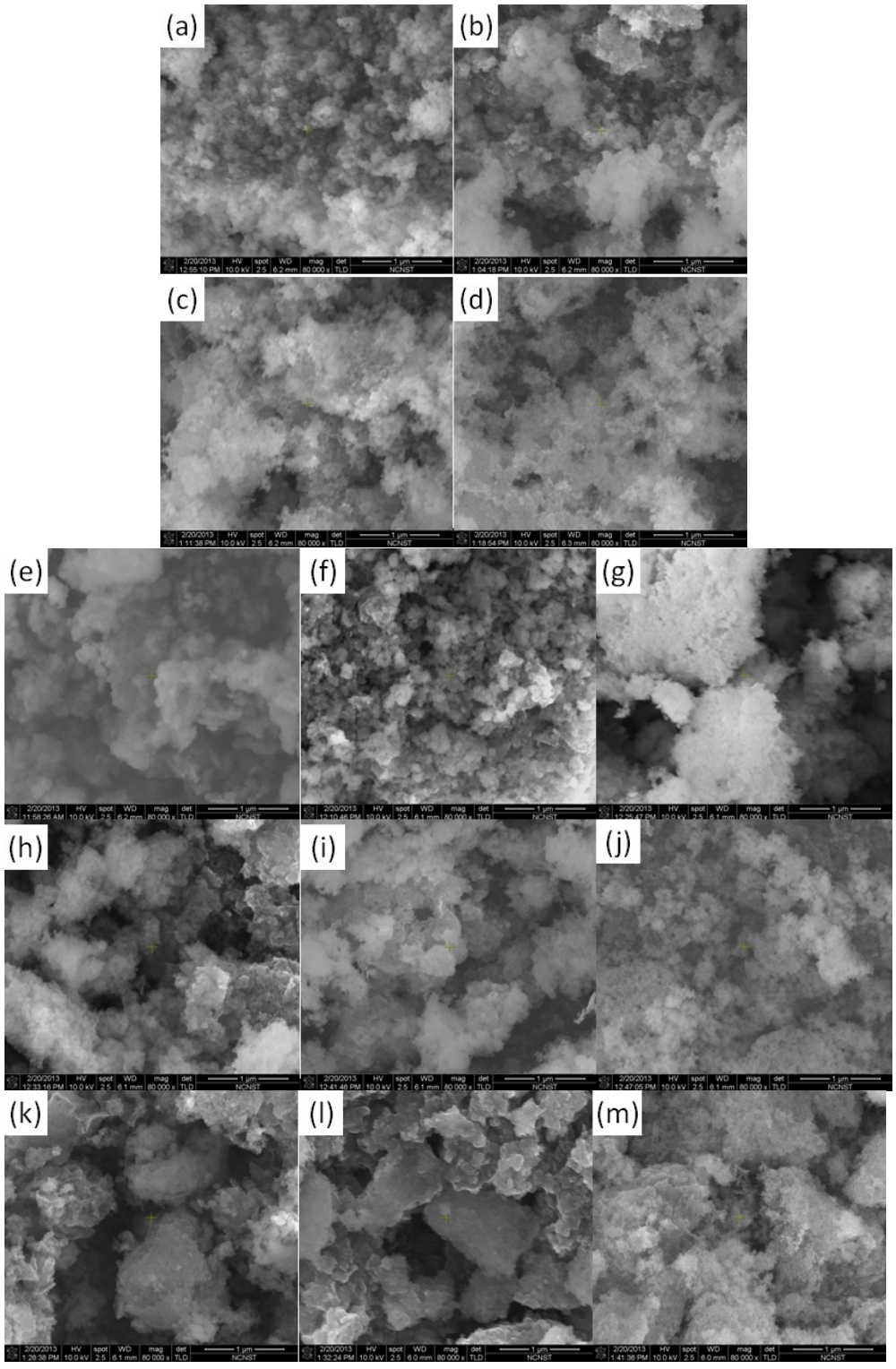

Figure 1S. SEM images of samples C3G8 (a), C3G9 (b), C3G10 (c), C3G11 (d), C6G5 (e), C6G6 (f), C6G7 (g), C6G8 (h), C6G9 (i), C6G10 (j), C9G5 (k), C9G6 (l) and C9G7 (m)

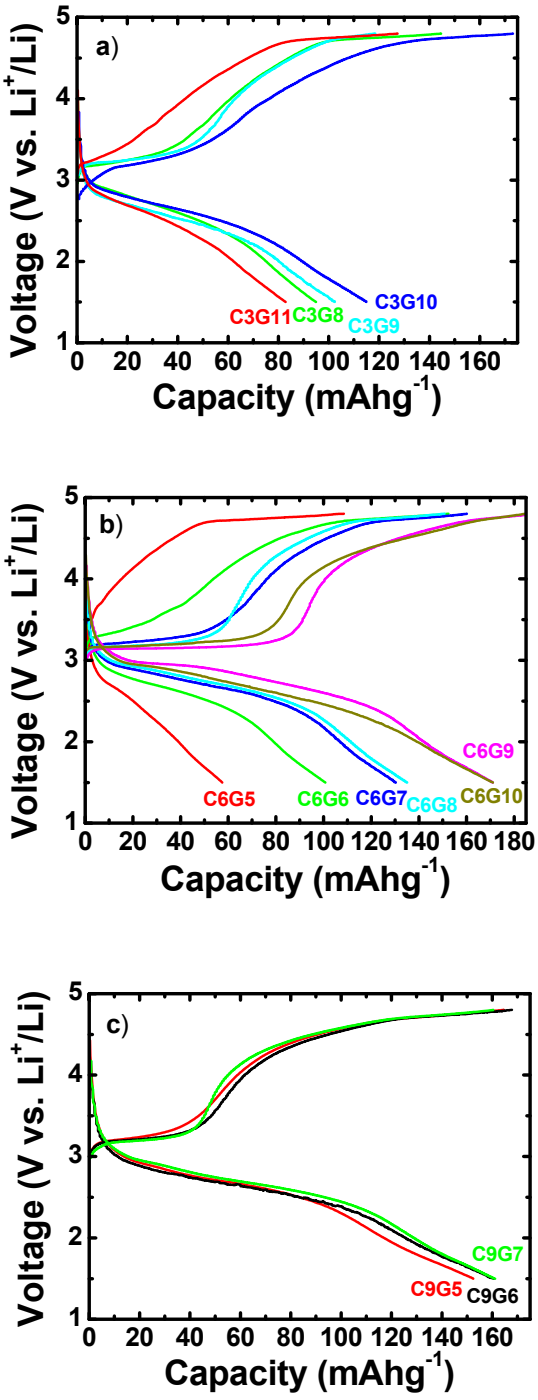

Figure 2S. Initial charge/discharge curves of samples C3G8, C3G9, C3G10, and C3G11 (a), C6G5, C6G6, C6G7, C8G8, C6G9, and C6G10 (b), C9G5, C9G6, and C9G7 (c) at 0.1 C rate and over the potential of 1.5 – 4.8 V