Electronic Supplementary Material (ESI) for RSC Advances.

Table S1. Atomic coordinations, atomic occupancies, bond lengths obtained from Rietveld refinements of sample S, H, G, and their element valences derived from different models

Sample S	Atoms	Sites	*x*	*y*	*z*	*B* /Å^2	Occupancies
	Li/Fe	4a	0.00000	0.00000	0.00000	2.8300	0.979/0.021
	Fe/Li	4c	0.28220	0.25000	0.97350	0.4860	0.933/0.067
	P	4c	0.09530	0.25000	0.41680	0.8280	1.0
	O	4c	0.09590	0.25000	0.74360	1.1170	1.0
	O	4c	0.45450	0.25000	0.20440	0.4340	1.0
	O	8d	0.16500	0.04600	0.28170	0.6860	1.0

Bong length (Å)								
Li/Fe	-O1	2.1624 (6)	Fe/Li	-O1	2.2050 (1)	P	-O1	1.5346 (6)
	-O1	2.1624 (6)		-O2	2.0824 (9)		-O2	1.5609 (7)
	-O2	2.0961 (2)		-O3	2.2485 (3)		-O3	1.5537 (7)
	-O2	2.0961 (2)		-O3	2.0632 (8)		-O3	1.5537 (7)
	-O3	2.1738 (4)		-O3	2.0632 (8)			
	-O3	2.1738 (4)		-O3	2.2485 (3)			

Atoms	Valences	
	Bond valence sum	Charge distribution model
Li/Fe	0.984 (2.031)	1.009 (2.018)
Fe/Li	2.031 (0.984)	1.984 (0.992)
P	4.886	5.007
O1	1.869	1.924
O2	1.952	1.980
O3	2.016	2.048

Sample H	Atoms	Sites	*x*	*y*	*z*	*B* /Å^2	Occupancies
	Li/Fe	4a	0.00000	0.00000	0.00000	2.9451	0.974/0.026
	Fe/Li	4c	0.28225	0.25000	0.97446	0.5653	0.932/0.068
	P	4c	0.09562	0.25000	0.41726	0.8354	1.0
	O	4c	0.09641	0.25000	0.74228	0.9483	1.0
	O	4c	0.45384	0.25000	0.20794	0.6964	1.0
	O	8d	0.16467	0.04653	0.28392	0.6530	1.0

Bong length (Å)

Li/Fe	-O1	2.1682 (9)	Fe/Li	-O1	2.2047 (5)	P	
	-O1	2.1682 (9)		-O2	2.0814 (6)		-O1 1.5254 (2)
	-O2	2.0869 (4)		-O3	2.2517 (1)		-O2 1.5758 (8)
	-O2	2.0869 (4)		-O3	2.0651 (0)		-O3 1.5456 (6)
	-O3	2.1766 (4)		-O3	2.0651 (0)		-O3 1.5456 (6)
	-O3	2.1766 (4)		-O3	2.2517 (1)		

Atoms	Valences	
	Bond valence sum	Charge distribution
Li/Fe	0.992 (2.035)	1.016 (2.033)
Fe/Li	2.047 (0.986)	1.982 (0.991)
P	4.952	5.001
O1	1.906	1.952
O2	1.925	1.907
O3	2.043	2.071

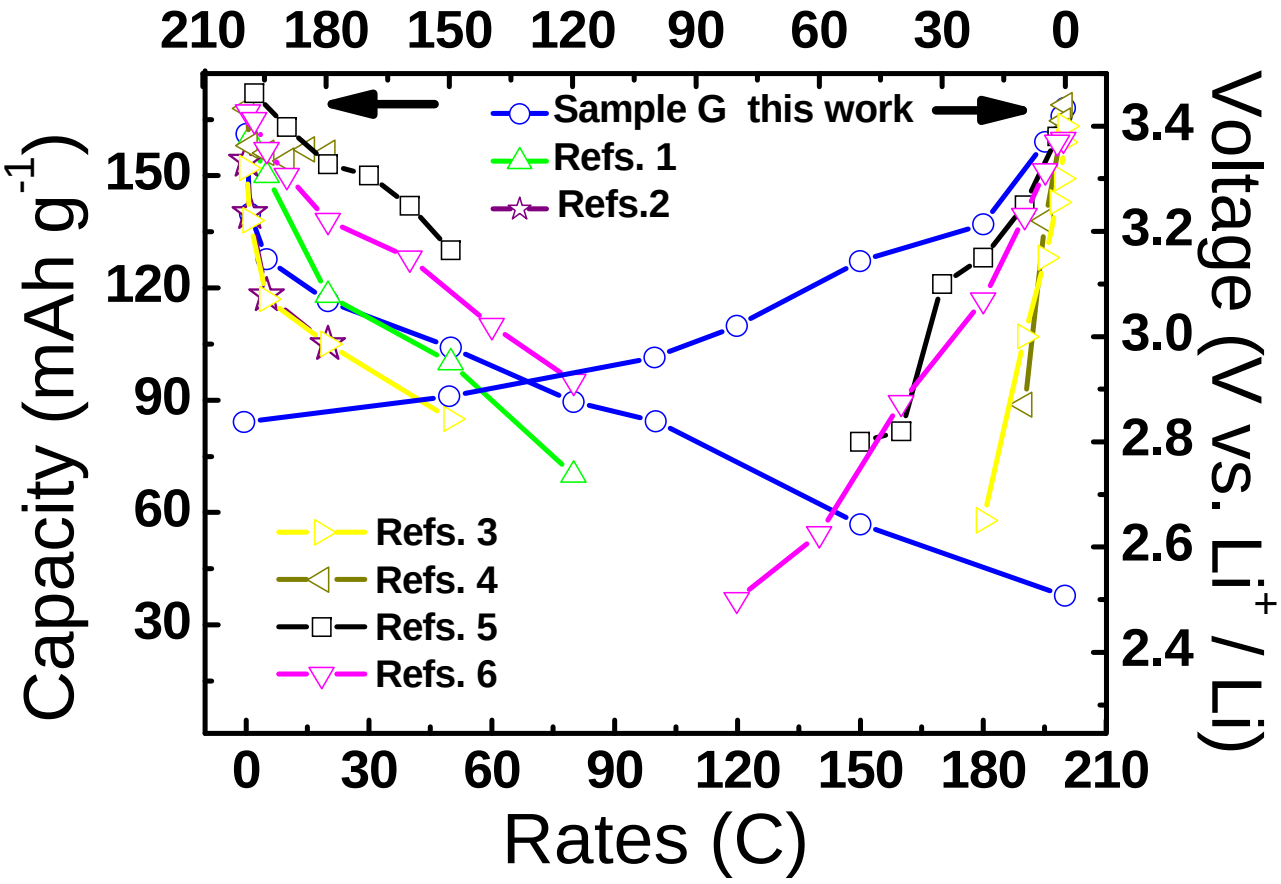
Sample G	Atoms	Sites	*x*	*y*	*z*	*B* /Å^2	Occupancies
	Li/Fe	4a	0.00000	0.00000	0.00000	3.689	0.976/0.024
	Fe/Li	4c	0.28240	0.25000	0.97459	0.388	0.936/0.064
	P	4c	0.09480	0.25000	0.41752	0.674	1.0
	O	4c	0.09703	0.25000	0.74488	0.771	1.0
	O	4c	0.45463	0.25000	0.20723	0.440	1.0
	O	8d	0.16483	0.04608	0.28450	0.517	1.0

Bong length (Å)

Li/Fe	-O1	2.1645 (5)	Fe/Li	-O1	2.1951 (7)	P	-O1 1.5362 (3)
	-O1	2.1645 (5)		-O2	2.0853 (1)		-O2 1.5600 (2)
	-O2	2.0872 (4)		-O3	2.2545 (3)		-O3 1.5520 (0)
	-O2	2.0872 (4)		-O3	2.0611 (2)		-O3 1.5520 (0)
	-O3	2.1794 (5)		-O3	2.0611 (2)		
	-O3	2.1794 (5)		-O3	2.2545 (3)		

Atoms	Valences	
	Bond valence sum	Charge distribution
Li/Fe	0.991 (2.046)	1.009 (2.018)
Fe/Li	2.041 (0.989)	1.985 (0.993)
P	4.917	5.065
O1	1.879	1.919
O2	1.973	1.987
O3	2.028	2.047

Figure S1. Comparison of highest discharge capacities and voltages at various discharge rates reported as yet



Refs.	*Synthesis conditions*	Morphology	*size of primary particles*	*Loading material: conductive additive: PVDF*
ACS Nano 5637-5646, 7 (6), 2013	Hydrothermal 400℃ for 2h	Nanosheets	3.7-4.6 nm thick	80:10:10 Carbon nanotubes
J. Power Source 223, 100-106, 2013	Hydrothermal 150℃ for 12h	Nanoparticles	5-20 nm	80:10:10 Carbon black
RCS Advances 3, 3421-3427, 2013	Hydrothermal 160℃ for 2h Solvothermal 400℃ for 12h	Nanoparticles	66.5 nm	80:15:5 Carbon black
NanoLett. 14, 5632-5636, 2012	Solvothermal 180 ℃ for 10h	Nanoplates	30 nm thick	50:35:15 Carbon black
Nature	Solid state reaction	Nanoparticles	50 nm	80: 15: 5 Carbon black
Chem Comm	Impinge jet reaction followed by 350℃ for 6 h and 700℃ for 10h	Nanoparticles	50 nm	75: 15 :10 Carbon black