Supporting Information

Table SI1

	A bare $LiFePO_4$	B aged 30d. 120°C	C aged 3d. 120°C + H_2O	D aged 80d. 120°C + H_2O
Figures of merit	R_{wp} = 11.19%	R_{wp} = 14.96%	R_{wp} = 14.10%	R_{wp} = 13.37%
	G.O.F = 1.14	G.O.F = 1.36	G.O.F = 1.17	G.O.F = 1.16
Triphylite phase				
Pnma				
Wt% in Original	95.5(3)	78.9(6)	59.5(4)	3.1(3)
a (Å)	10.3301(1)	10.3040(6)	10.3006(7)	10.3212(4)
b (Å)	6.0080(7)	6.0001(3)	5.9968(4)	6.0050(4)
c (Å)	4.6921(7)	4.6935(3)	4.6942(3)	4.6923(4)
Cell Volume ($Å^3$)	291.209(6)	290.176(3)	289.964(3)	290.8266(4)
Cry Size L(nm)	118.2(2)	94.0(3)	90.9(2)	97(4)
Tavorite phase				
P-1				
Wt% in Original			16.2(1)	89.4(8)
a (Å)			5.352(2)	5.3509(3)
b (Å)			7.272(2)	7.2853(4)
c (Å)			5.118(1)	5.1177(3)
α (°)			109.41(2)	109.261(4)
β (°)			97.71(3)	97.862(4)
γ (°)			106.43(3)	106.386(4)
Cell Volume ($Å^3$)			174.39(9)	174.775(2)
Cry Size L(nm)			73.4(4)	194.3(9)

Table SI1. Refined lattice parameters obtained by the Rietveld method of the X-ray diffraction patterns recorded for the different $LiFePO_4$-TiO_2 mixtures.

Figure SI2

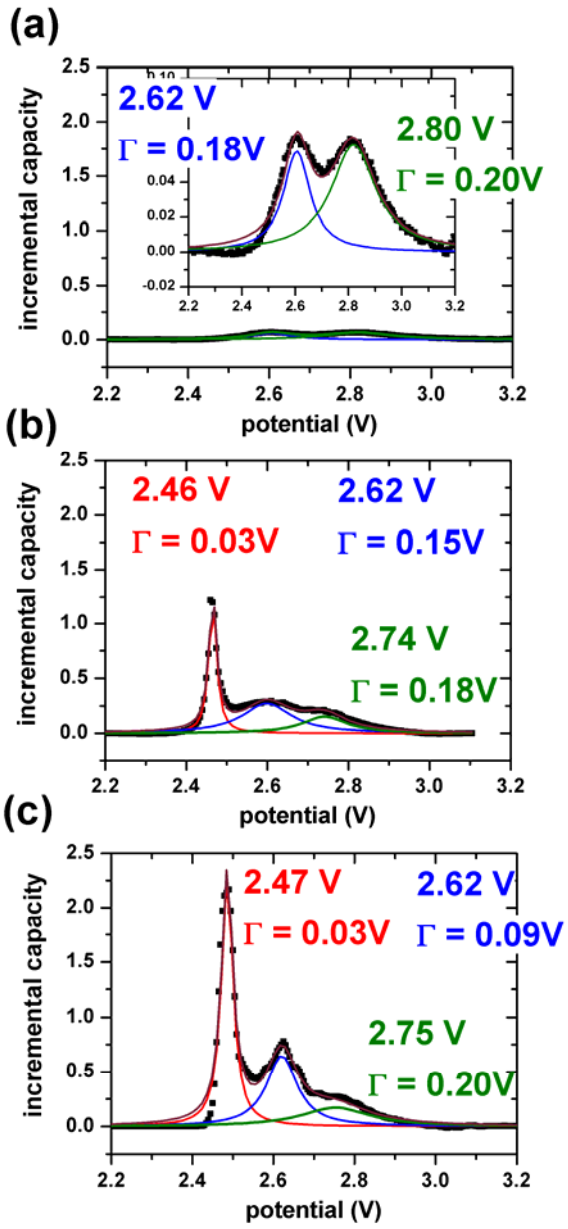

Figure SI2. Incremental capacity curves fitting using pseudo-Voigt functions. Example of the 2nd charge recorded on sample B (a), C (b) and D (c). Offset is set to zero and profile shape factors are constrained to 1, while all other parameters are let free.