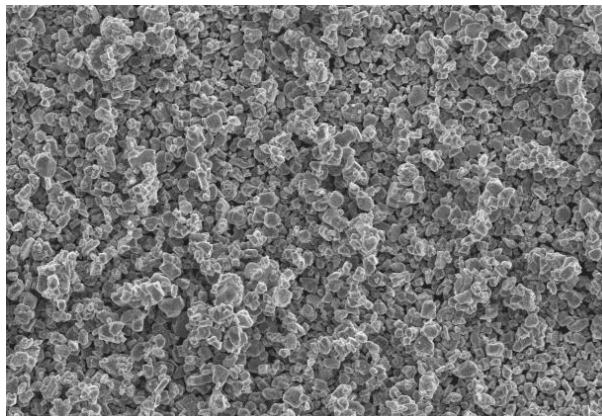
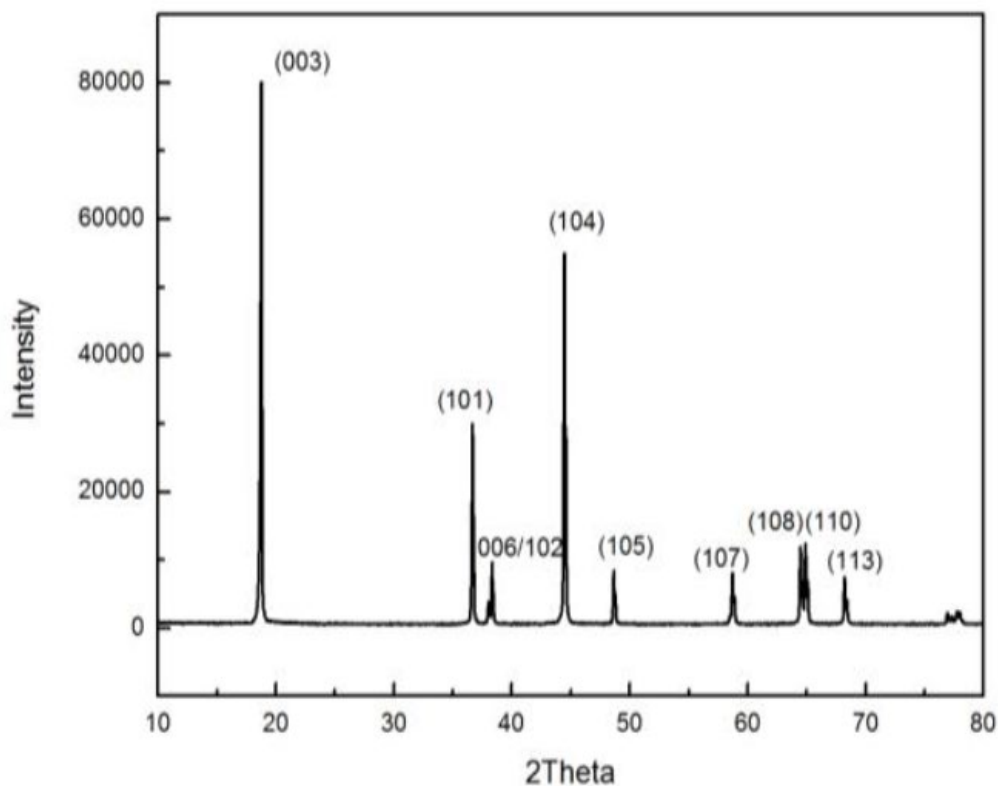


High Nickel Ni83 Single Crystal NMC Cathode Powder

SKU# PO0191



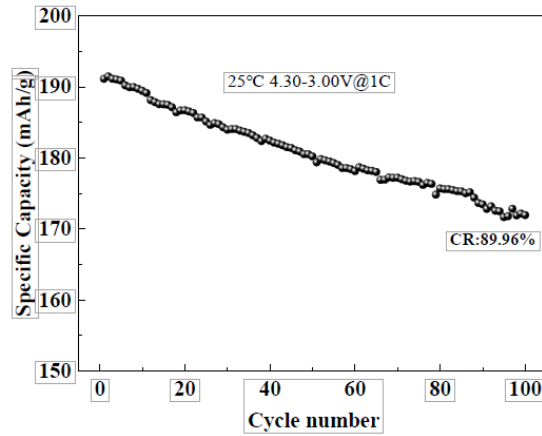
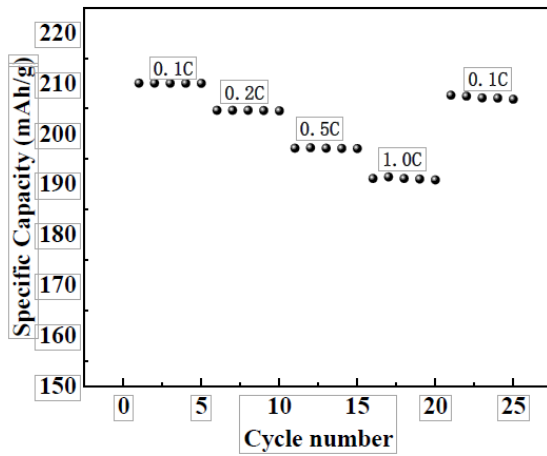
Physical Properties			
Parameter	Specifications	Value	Method
Appearance	Grey Black Powder	Grey Black Powder	Visual
D10 (μm)	≥ 1.0	1.91	Malvern, Wet
D50 (μm)	3.0 ~ 5.0	3.81	
D90 (μm)	≤ 10.0	7.33	
Dmax (μm)	≤ 25.0	13.54	
H ₂ O (ppm)	≤ 600	483	Karl Fischer Moisture Titrator
pH	≤ 11.9	11.65	Mettler-Toledo FE20K
BET Specific Surface Area (m ² /g)	0.30 ~ 0.9	0.58	BET
Tap Density (g/cm ³)	≥ 0.8	0.88	TD Tester
Chemical Properties			
Parameter	Specifications	Value	Method
Ni+Co+Mn (wt%)	58.5 ~ 60.5	59.4	ICP
Li (wt%)	7.0 ~7.6	7.2	
Ni (mol%)	83.0±0.7	82.8	
Co (mol%)	11.0±0.5	11.1	
Mn (mol%)	6.0±0.5	6.1	
Ca (wt%)	≤ 0.0100	0.0006	
Cu (wt%)	≤ 0.0020	0.0001	
Fe (wt%)	≤ 0.0050	0.0006	
Na (wt%)	≤ 0.0300	0.0091	



Half Coin cell performance:

Parameter	Unit	Specifications	Typical value	Test method
0.1C	mAh/g	≥200	210.90	vs.Li, 0.1C, 2.75V-4.3V
0.5C	mAh/g	≥190	198.19	vs.Li, 0.5C, 2.75V-4.3V
1C	mAh/g	≥185	191.47	vs.Li, 1C, 2.75V-4.3V
First cycle efficiency	%	≥87	88.68	vs.Li, 0.1C, 2.75V-4.3V

Single Crystal High Nickel Ni83 - Coin Cell Test @ 25°C 4.30V Cycle



Rate Capability (4.30 V)				100 Cycles		
0.1C	0.2C	0.5C	1C	0.1C	1.0C	1.0C
mAh/g	mAh/g	mAh/g	mAh/g	mAh/g	mAh/g	%
210.05	204.66	197.16	191.14	207.65	171.95	89.96