

Supporting Information

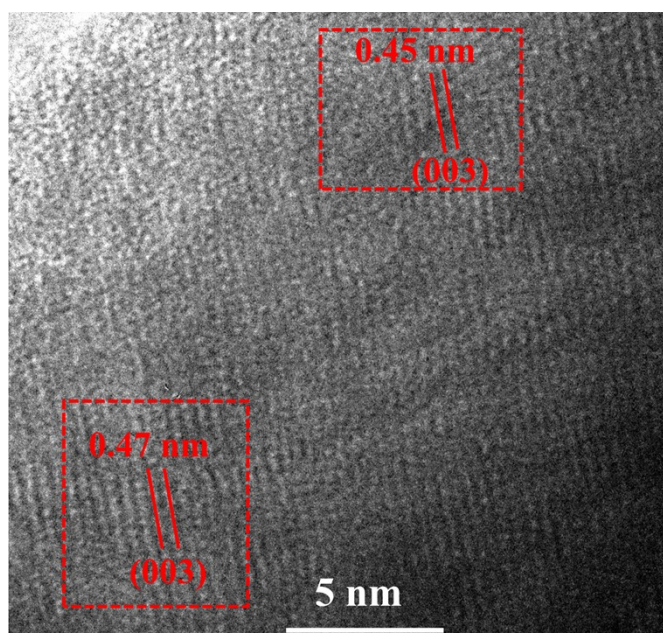


Fig. S1 TEM image of NCM622 after two cycles at a current density of 1C

	0.5C	a-H1	c-H1	a-H2	c-H2	a-S	c-S
Charge	Pristine	2.8718	14.2048				
	3.8 V	2.8718	14.2048				
	3.9 V	2.8718	14.2048	2.862	14.3683		
	4.0 V	2.8634	14.2048	2.8211	14.4511		
	4.1 V	2.8629	14.2865	2.8211	14.4511		
	4.2 V			2.8133	14.4535		
	4.3 V			2.813	14.4511		
	4.2 V					2.8135	14.3699
	4.1 V					2.8142	14.4535
	4.0 V					2.8193	14.4558
Discharge	3.9 V					2.821	14.4683
	3.8 V					2.8212	14.4816
	3.0 V					2.8594	14.2918
	3.8 V					2.8467	14.3315
	3.9 V					2.8296	14.3699
Charge	4.0 V					2.8248	14.4364
	4.1 V					2.8205	14.4496
	4.2 V					2.8182	14.4589
	4.3 V					2.8124	14.4496
	4.2 V					2.8131	14.4434
	4.1 V					2.8158	14.4496
	4.0 V					2.8177	14.4558
	3.9 V					2.8198	14.4628
	3.8 V					2.821	14.4691
	3.0 V	2.854	14.2842	2.8238	14.4496		

Tab. S1 The parameters of the a-axis and c-axis at a current density of 0.5C

	1C	a-H1	c-H1	a-H2	c-H2	a-S	c-S
Charge	Pristine	2.8718	14.2048				
	3.8 V	2.8699	14.2123				
	3.9 V	2.8688	14.2138				
	4.0 V	2.868	14.2251				
	4.1 V	2.8664	14.2266	2.8233	14.4193		
	4.2 V	2.8634	14.204	2.817	14.4426		
	4.3 V	2.8633	14.2	2.8125	14.4387		
	4.2 V					2.817	14.4426
	4.1 V					2.8202	14.4582
	4.0 V					2.8205	14.4613
Discharge	3.9 V					2.8209	14.473
	3.8 V					2.8212	14.4769
	3.0 V					2.8546	14.343
	3.8 V					2.8435	14.3622
	3.9 V					2.8308	14.4271
	4.0 V					2.8277	14.4465
Charge	4.1 V					2.8217	14.4504
	4.2 V					2.8202	14.4543
	4.3 V					2.8136	14.4504
	4.2 V					2.8198	14.4613
	4.1 V					2.8205	14.4769
	4.0 V					2.8206	14.4847
	3.9 V					2.8211	14.4925
	3.8 V					2.8273	14.455
	3.0 V	2.8542	14.2865	2.8303	14.4465		
	Discharge						

Tab. S2 The parameters of the a-axis and c-axis at a current density of 1C

	3C	a-H1	c-H1	a-H2	c-H2	a-S	c-S
Charge	Pristine	2.8718	14.2048				
	3.8 V	2.8702	14.2058				
	3.9 V	2.8673	14.2063				
	4.0 V	2.8641	14.2069				
	4.1 V	2.8623	14.2078	2.8205	14.3999		
	4.2 V	2.8622	14.2123	2.8167	14.4123		
	4.3 V	2.8621	14.204	2.8134	14.4116		
	4.2 V					2.8139	14.4543
	4.1 V					2.8161	14.4582
	4.0 V					2.8194	14.4597
Discharge	3.9 V					2.82	14.4621
	3.8 V					2.8212	14.4855
	3.0 V					2.8409	14.3699
	3.8 V					2.8359	14.3776
	3.9 V					2.8297	14.4271
Charge	4.0 V					2.8292	14.4465
	4.1 V					2.8229	14.4488
	4.2 V					2.8169	14.4504
	4.3 V					2.8124	14.4309
	4.2 V					2.8129	14.4348
Discharge	4.1 V					2.8136	14.4457
	4.0 V					2.8141	14.4504
	3.9 V					2.815	14.4621
	3.8 V					2.8186	14.473
	3.0 V					2.8406	14.3583

Tab. S3. The parameters of the a-axis and c-axis at a current density of 3C

	5C	a-H1	c-H1	a-H2	c-H2	a-S	c-S
Charge	Pristine	2.8718	14.2048				
	3.8 V	2.8707	14.2086				
	3.9 V	2.8684	14.2123				
	4.0 V	2.868	14.2161				
	4.1 V	2.8657	14.2199	2.8212	14.4123		
	4.2 V	2.8634	14.2078	2.8211	14.4232		
	4.3 V	2.863	14.2046	2.8158	14.4224		
	4.2 V					2.8165	14.4379
	4.1 V					2.8167	14.4387
	4.0 V					2.8168	14.4473
Discharge	3.9 V					2.8212	14.4519
	3.8 V					2.8252	14.4535
	3.0 V					2.8363	14.376
	3.8 V					2.8391	14.3799
	3.9 V					2.8288	14.4309
Charge	4.0 V					2.8256	14.4519
	4.1 V					2.8216	14.4535
	4.2 V					2.8168	14.4473
	4.3 V					2.8139	14.4441
	4.2 V					2.8158	14.4451
Discharge	4.1 V					2.8173	14.4465
	4.0 V					2.8207	14.4519
	3.9 V					2.8215	14.4566
	3.8 V					2.8217	14.4473
	3.0 V					2.8459	14.3683

Tab. S4 The parameters of the a-axis and c-axis at a current density of 5C

	10C	a-H1	c-H1	a-H2	c-H2	
Charge	Pristine	2.8718	14.2048			
	3.8 V	2.8718	14.2048			
	3.9 V	2.8718	14.2048			
	4.0 V	2.8718	14.2048			
	4.1 V	2.8718	14.2048	2.8296	14.376	
	4.2 V	2.8718	14.2048	2.8128	14.374	
	4.3 V	2.8718	14.2048	2.8123	14.3722	
	Discharge	4.2 V	2.8718	14.2048	2.8129	14.4154
		4.1 V	2.8718	14.2048	2.8141	14.4465
		4.0 V	2.8718	14.2048	2.8145	14.4418
3.9 V		2.8718	14.2048	2.8202	14.4473	
3.8 V		2.8718	14.2048	2.8209	14.4162	
3.0 V		2.8718	14.2048	2.8311	14.3653	
Charge		3.8 V	2.8718	14.2048	2.8296	14.3699
		3.9 V	2.8718	14.2048	2.8217	14.4356
		4.0 V	2.8718	14.2048	2.8202	14.4309
		4.1 V	2.8718	14.2048	2.8146	14.4054
	4.2 V	2.8718	14.2048	2.8138	14.376	
	4.3 V	2.8718	14.2048	2.8132	14.3699	
	Discharge	4.2 V	2.8718	14.2048	2.8137	14.3953
		4.1 V	2.8718	14.2048	2.8141	14.4465
		4.0 V	2.8718	14.2048	2.8143	14.448
		3.9 V	2.8718	14.2048	2.8202	14.4504
3.8 V		2.8718	14.2048	2.8211	14.4566	
3.0 V		2.8712	14.2857	2.8391	14.3653	

Tab. S5 The parameters of the a-axis and c-axis at a current density of 10C