

Supporting Information

Effect of slight structural difference of polyvinylidene fluoride binders on the electrochemical performance of single crystal $\text{LiNi}_{0.5}\text{Co}_{0.2}\text{Mn}_{0.3}\text{O}_2$ cathode

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Figure S1. Peel Test Chart.

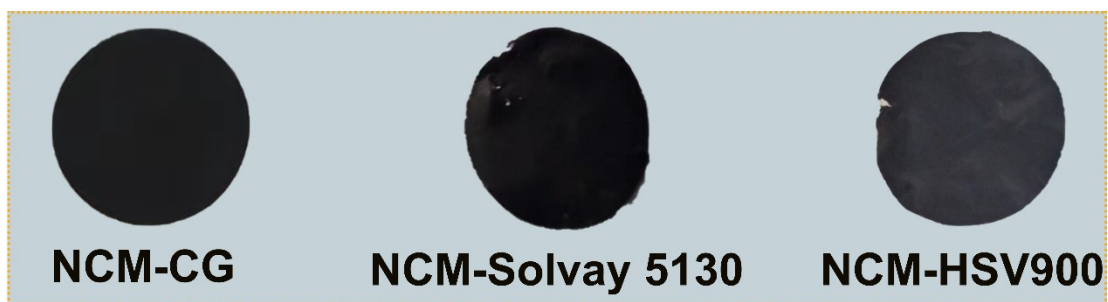


Figure S2. Electrode surface after 100 cycles at 2C magnification.

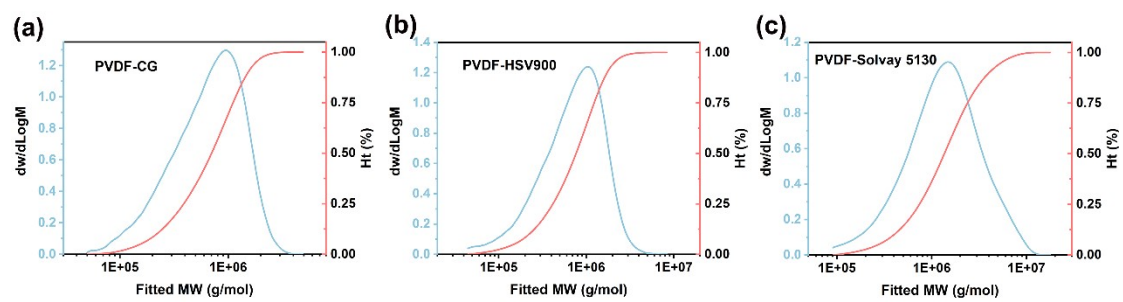


Figure S3. Different PVDF molecular weight distribution plot.

Table S1. The fitted results of Nyquist plots for NCM-CG, NCM-HSV900 and NCM-Solvay 5130 after 1st and 100th cycle

Cycle number	NCM-CG		NCM-HSV900		NCM-Solvay 5130	
	R_f/Ω	R_{ct}/Ω	R_f/Ω	R_{ct}/Ω	R_f/Ω	R_{ct}/Ω
1 st	15.9	18.5	27.7	19.6	25.9	20.0
100 th	19.9	198.3	31.7	282.3	24.9	231.3

Table S2. Molecular weight averages for PVDF-CG, PVDF-HSV900 and PVDF-Solvay 5130 .

Peak	Mp (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz+1 (g/mol)	Mv (g/mol)	PD
CG	975461	458850	805773	1155421	1464680	1108645	1.756
HSV900	1082937	464528	903225	1373002	1886913	1304730	1.944
5130	1562090	855666	1873791	3413268	5147580	3171269	2.19