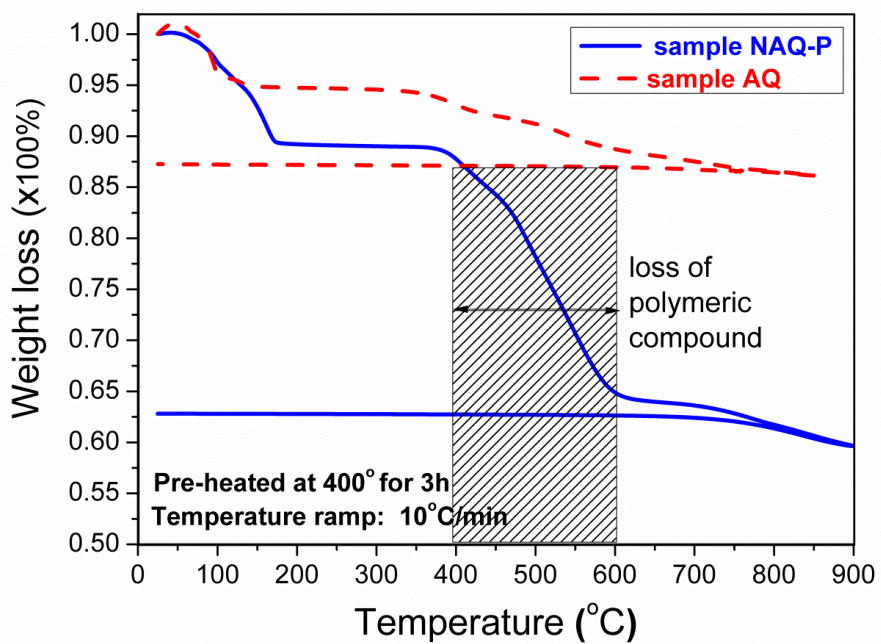
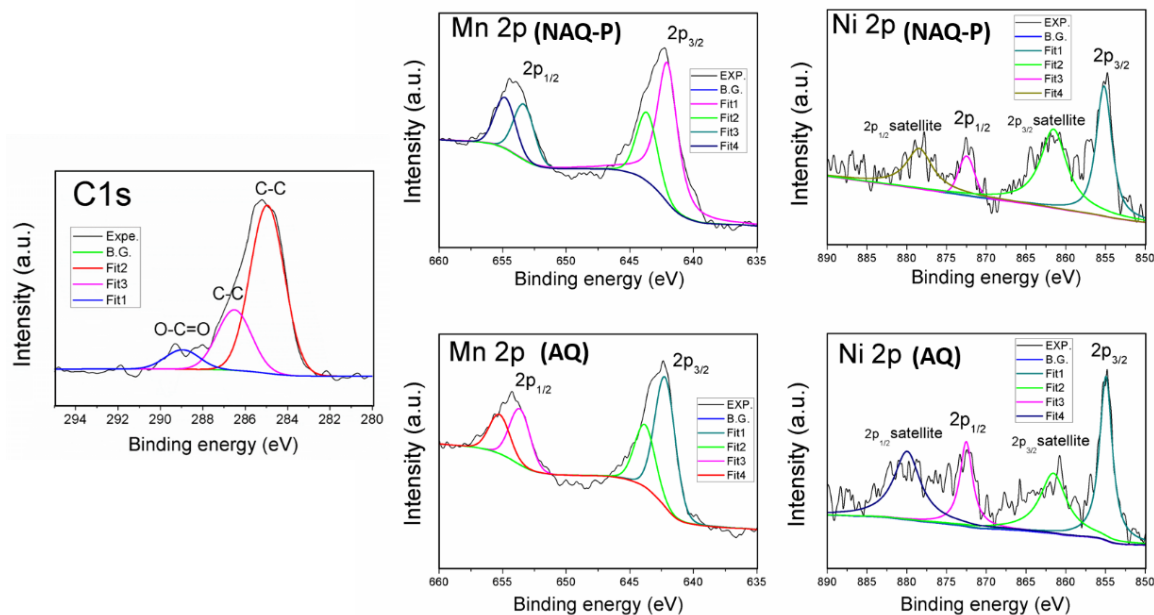


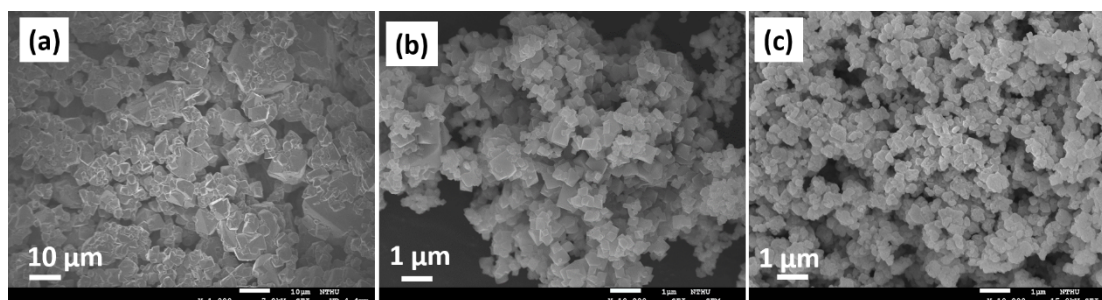
**Supporting Information Available.**



**Figure S1.** TGA curve of samples AQ and NAQ-P from R.T. to 900 °C with temperature ramp of 10 °C · min<sup>-1</sup>.



**Figure S2.** XPS spectra of Ni 2p and Mn 2p in samples AQ and NAQ-P with the fitted curves (corrected by C 1s spectrum)



**Figure S3.** SEM images of as-fabricated spinel powder (a) NAQ, (b) AQ and (c) NAQ-P

**Table S1.** The calculated particle size data

Samples	Average particle sizes (μm)	Absolute size deviations (μm)	Maximum particle sizes (μm)	Minimum particle sizes (μm)
NAQ	3.98	4.62	10.58	0.47
AQ	0.35	0.34	1.55	0.15
NAQ-P	0.31	0.18	0.69	0.13