Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics.

Supplementary Materials

Unveiling the correlation between structural and magnetic ordering in nano $Co_{1-x}Ni_xTeO_4$

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Table S1. Synthesis conditions for $Co_{1-x}Ni_xTeO_4$ (x = 0, 0.5 and 1) nanoparticles for different calcination temperatures and soaking time.

CTO		**CNTO**		**NTO**	
Temp. (ºC)	Time (h)	Temp. (ºC)	Time (h)	Temp. (ºC)	Time (h)
Pristine	0	Pristine	0	Pristine	0
400	24	400	24	400	24
500	24	500	24	500	24

Table S2. EDS analysis presenting atomic percentage of each element for CTO, CNTO and NTO at different calcination temperatures.

CTO

Calcination Temperature	O (%)	Co (%)	Te (%)
Pristine	64.80	17.54	17.66
400 ºC	64.99	16.93	18.80
500 ºC	65.04	16.90	18.06
CNTO			
Calcination Temperature	O (%)	Co (%) and Ni (%)	Te (%)
Pristine	68.74	8.51 and 7.92	14.83
400 ºC	64.77	8.34 and 8.22	18.67
500 ºC	69.25	7.41 and 7.42	15.91
NTO			
Calcination Temperature	O (%)	Co (%)	Te (%)
Pristine	68.42	15.35	16.22
400 ºC	61.95	19.57	18.48
500 ºC	67.99	15.79	16.22

Table S3. Particle size for CTO, CNTO and NTO at different calcination temperatures.

CTO	
Calcination Temperature	Average size (nm)
Pristine	~ 3
400 ºC	~ 10
500 ºC	~ 25
CNTO	
Calcination Temperature	Average size (nm)
Pristine	~ 3
400 ºC	~ 8
500 ºC	~ 14
NTO	
Calcination Temperature	Average size (nm)

Pristine	~ 3
400 ºC	~ 6
500 ºC	~ 13

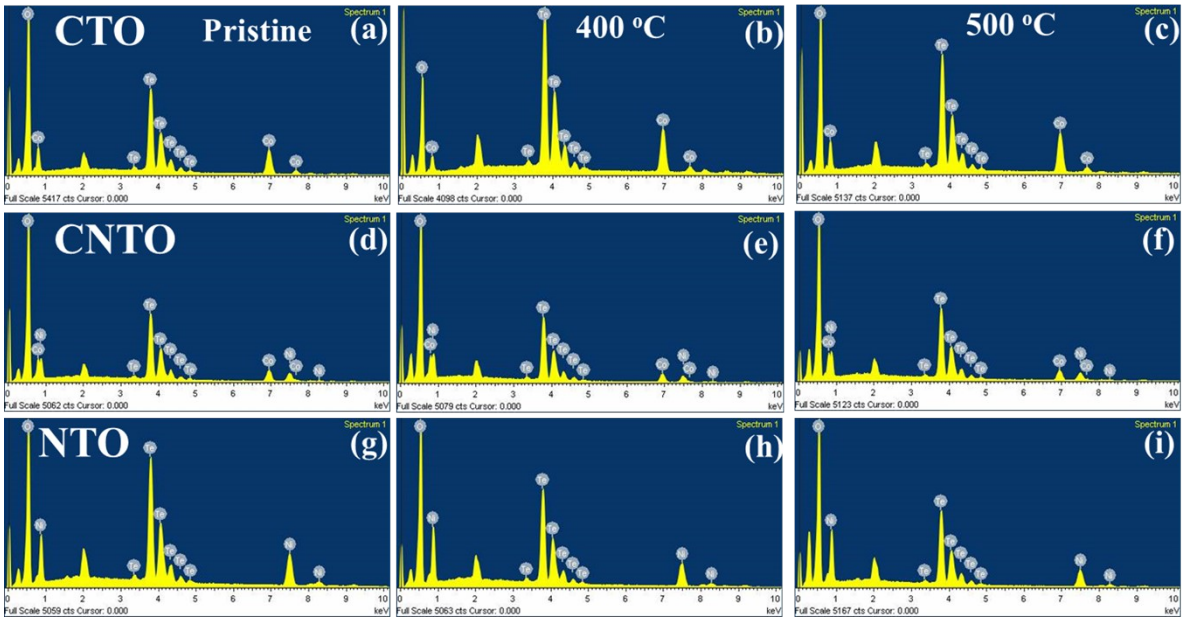

Fig. S1. EDS spectra for (a-c) CTO, (d-f) CNTO and (g-i) NTO at different calcination temperatures.

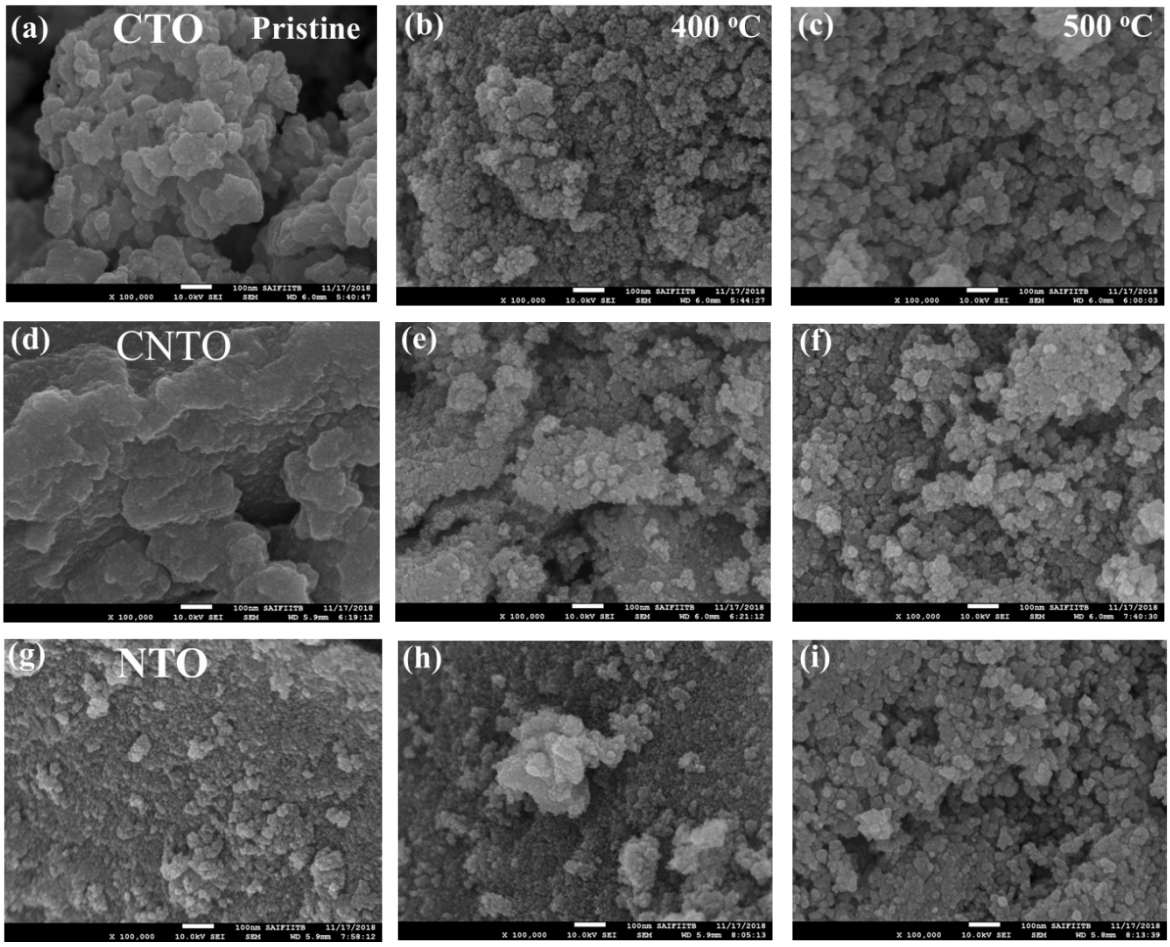

Fig. S2. SEM images of CTO, CNTO and NTO at different calcination temperature for, (a, d and g) pristine sample, calcined at (b, e and h) 400 ºC, and (c, f and i) 500 ºC, respectively.

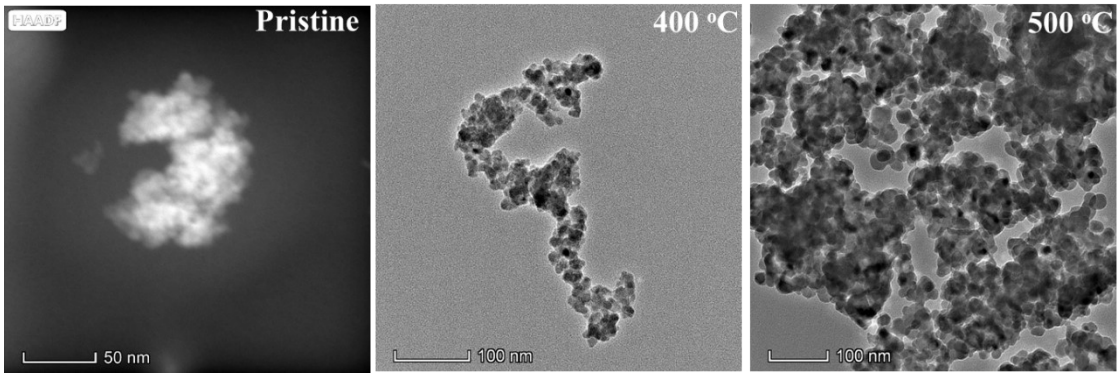

Fig. S3. TEM images for pristine and calcined (400 ºC and 500 ºC) CTO compounds.