Supplementary information for

An unusual temperature induced isostructural phase transition in Scheelite $Li_{0.5}Ce_{0.5}MoO_4$

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Table S1. Intensity ratios between peaks of the main phase and surrogate phase.

Selected 2θ Values	Peak intensity in %	
	Main Phase	Surrogate Phase
18.15	100	100
19.56	13.55	13.35
21.64	22.97	23.62
29.30	39.17	37.29
30.75	18.92	16.17
33.34	18.19	19.15
35.90	58.02	56.03
36.68	17.56	14.27

Table S2. List of oxygen coordinates after Rietveld refinements.

Temperature (°C)	Phase	*x*	*y*	*z*
550	1	0.246(1)	0.393(1)	0.043(1)
	2	0.243(2)	0.396(2)	0.044(2)
490	1	0.238(1)	0.392(1)	0.044(1)
	2	0.242(1)	0.376(2)	0.041(1)
450	1	0.242(2)	0.390(1)	0.042(1)
	2	0.240(1)	0.395(1)	0.042(2)
400		0.242(1)	0.389(2)	0.040(1)
300		0.240(1)	0.391(1)	0.043(1)
200		0.240(1)	0.393(1)	0.041(1)
100		0.244(1)	0.390(1)	0.042(1)
25		0.241(1)	0.394(1)	0.042(1)

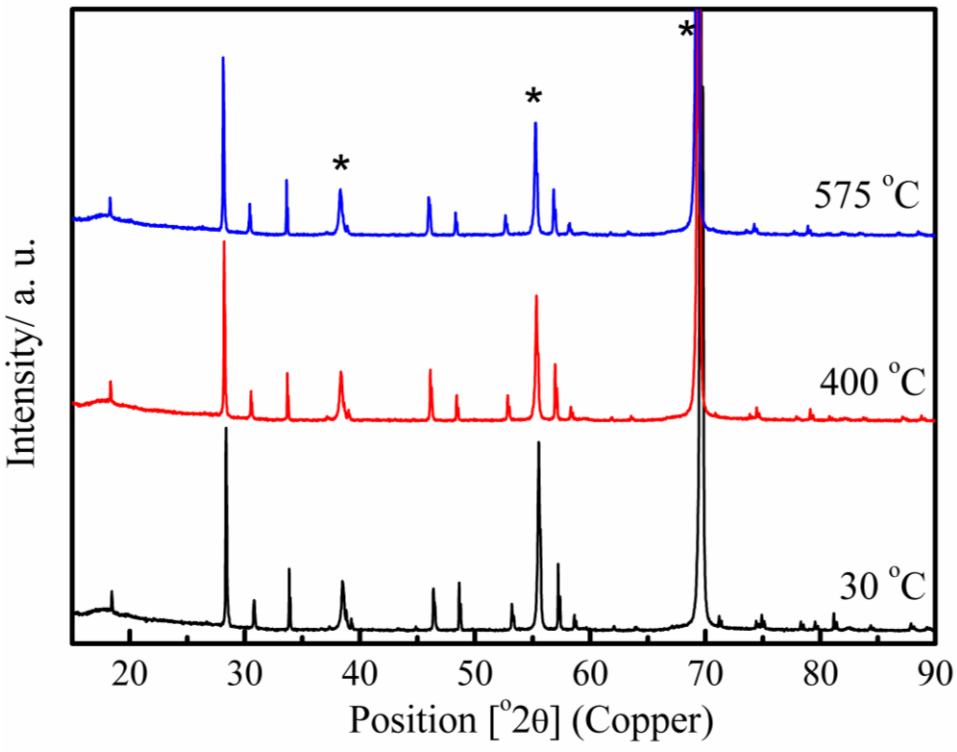

Figure S1 Laboratory powder X-ray diffractogram of LCM at different temperature

(* Bragg peaks from Ta strip).

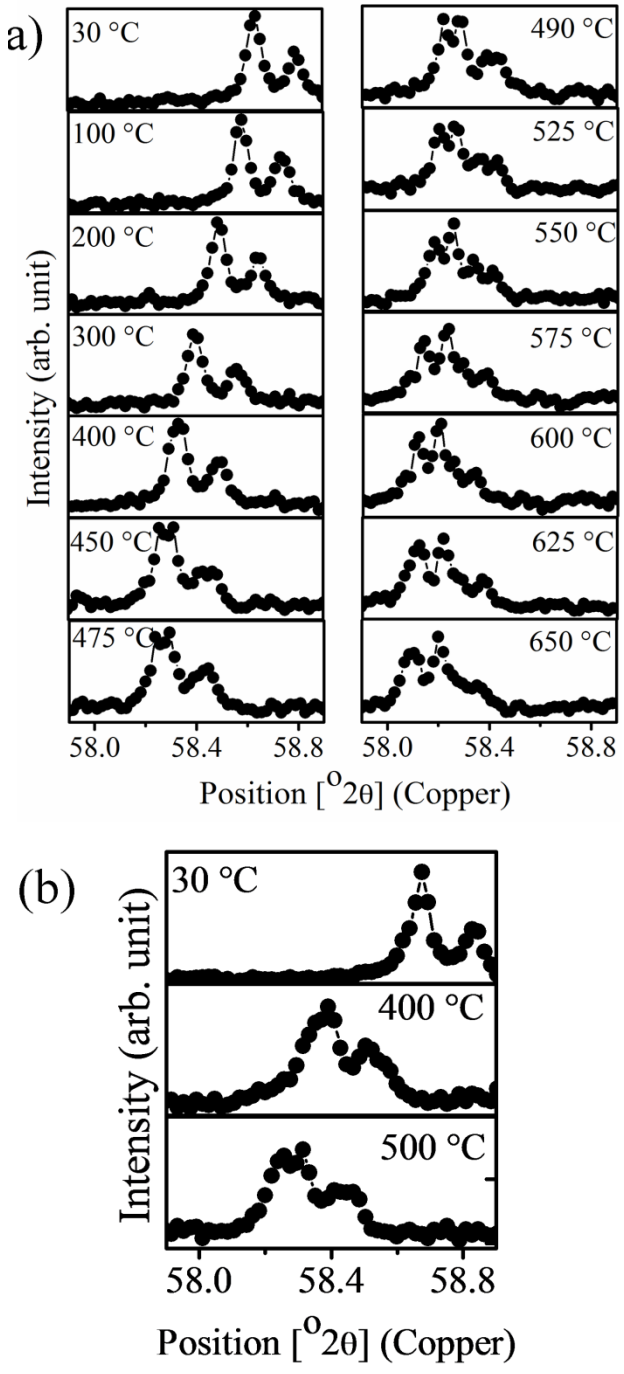

Figure S2 Laboratory powder X-ray diffractogram of LCM in a narrow 2θ interval at different temperature (a) Heating cycle (b) Cooling cycle.