

Supporting Information:

S1: As-obtained products under different reaction conditions.

Reaction temp (°C)	Reaction time (h)	[KOH] (mol/L)	Morphology	Size (μm)	Phase composition
150	24	12	concaved cuboctahedron	~1.0	LiCoO ₂
150	24	8	irregular partical	–	LiCoO ₂
150	24	4	irregular partical	–	LiCoO ₂ + Co(OH) ₂
180	24	12	flower-like microstructure	~1.0	LiCoO ₂
120	24	12	irregular partical	–	LiCoO ₂
150	12	12	hexagonal plates	0.8- 1.2	LiCoO ₂
150	48	12	concaved cuboctahedron	~1.0	LiCoO ₂

S2: SEM images of the products at the different reaction times: (a) and (b) 12 h; (c) and (d) 48 h.

