Electronic Supplementary Material (ESI) for Green Chemistry.

Supporting information

One-pot compositional and structural regeneration of degraded $LiCoO_2$ for directly reusing as a high-performance lithium-ion battery cathode

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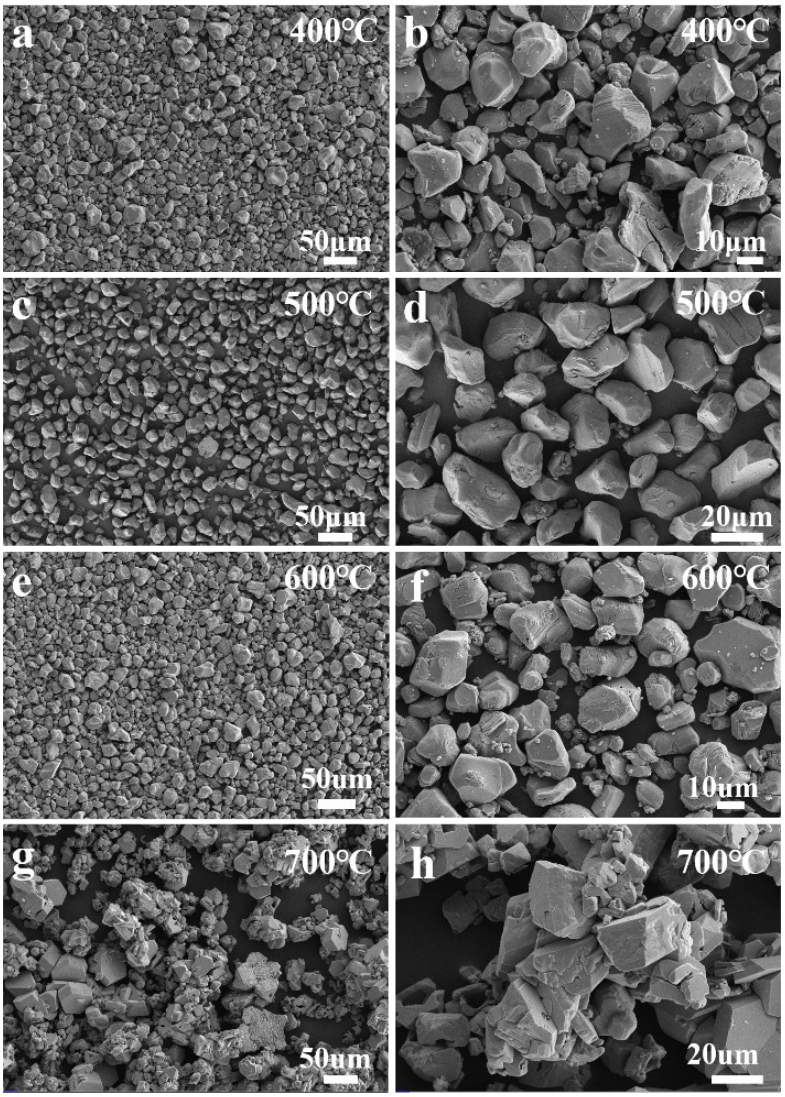

Fig. S1 SEM images of $LiCoO_2$ regenerated in LiOH-KOH-Li_2CO_3 molten salt at 400 °C (a-b), 500 °C (c-d), 600 °C (e-f) and 700 °C (g-h), respectively.

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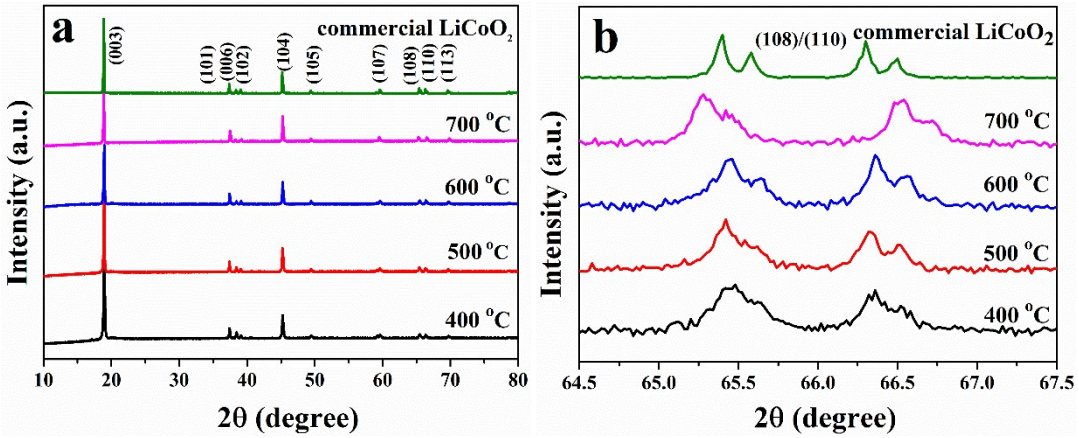

Fig. S2 (a) the XRD patterns of commercial $LiCoO_2$ and regenerated $LiCoO_2$ prepared at various temperatures; (b) The enlarged view of all (108)/(110) reflections in (a).

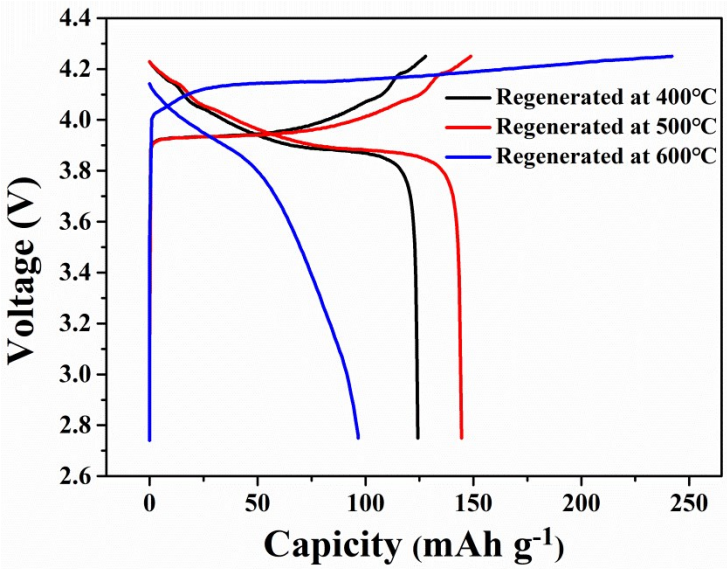

Fig. S3 Voltage–capacity profiles of different regenerated $LiCoO_2$ materials at 0.2 C.

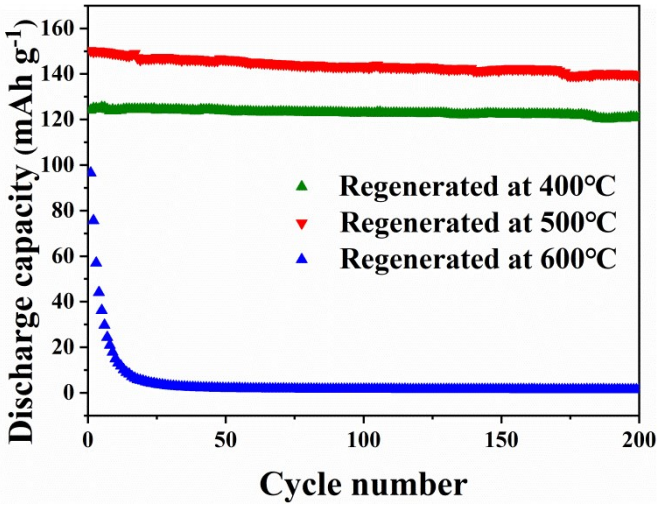

Fig. S4 Cycling performance of different regenerated $LiCoO_2$ materials at 0.2 C.

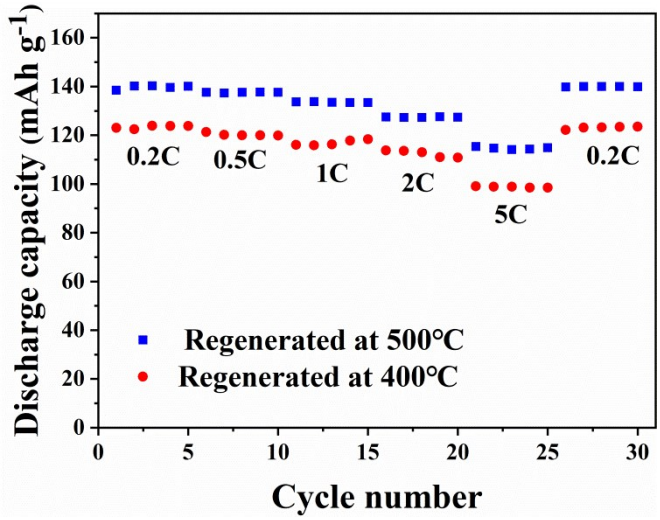

Fig. S5 Discharge specific capacity performance of different regenerated $LiCoO_2$ materials at different rate.