Electronic Supplementary Material (ESI) for Journal of Materials Chemistry A. This journal is © The Royal Society of Chemistry 2017

Effect of $LiCoO_2/Li_7La_3Zr_2O_{12}$ ratio on the structure and electrochemical

properties of nanocomposite cathodes for all-solid-state lithium batteries

Hiroaki Wakayama^{†*} and Yasuaki Kawai[†]

[†]Toyota Central R&D Laboratories, Inc., Nagakute, Aichi 480-1192, Japan

*Hiroaki Wakayama Telephone: + 81-561-71-7861; fax: +81-561-63-6948 Postal address: Toyota Central R & D Laboratories, Inc., Nagakute, Aichi 480-1192, Japan E-mail: wakayama@mosk.tytlabs.co.jp



Figure S1. STEM image of a spin-casted sample with an LCO content ratio of 0.9.

Table S1. EDX spectroscopy results for the spots labeled in Figure S1.

Spot	Co	Zr	La	С
001	0.01	0.25	0.11	99.63
002	1.27	0.00	0.01	98.72
003	0.00	0.22	0.09	99.69
004	1.34	0.01	0.00	98.65



Figure S2. STEM images of calcined (723 K) LCO/LLZ nanocomposite samples with LCO content ratios of 0.9 (a), 0.8 (b), and 0.7 (c) and EDX mapping images for Co (d), Zr (d), and La (f) in a calcined (723 K) sample with an LCO content ratio of 0.9.



Figure S3. Scanning electron microscopy images of samples that were calcined at 1023

K and had LCO content ratios of 0.7 (a), 0.8 (b), 0.9 (c), 0.95 (d) and 0.975 (e).