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^{7}Li NMR studies of $LiMn_2O_4$ prepared by eutectic self-mixing method without any mixing

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Abstracts:

Lithiated transition metal oxides such as LiMn2O4, Li1-xMnO_2, $LiNiO_2$, $LiCoO_2$, and their solid solution phases are used as cathode materials for lithium rechargeable batteries. We prepared the cathode materials using a novel eutectic self-mixing method without any artificial mixing procedures. This method provides an extraordinarily simple way to make the cathode materials, and it is possible to prepare at very low temperatures such as 250℃. Furthermore, the cathode materials produced have discharge capacities that are much better than cathode materials prepared by previously reported synthetic methods. The spontaneous and homogeneous mixing is verified by ^{7}Li magic-angle-spinning (MAS) NMR spectroscopy.