

Abstract Submitted  
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**Large enhancement of  $T_c$  (= 35 K) in a sample synthesized from a starting composition of  $\text{LaFeAsO}_{1-y}\text{H}_x$ .** KICHI MIYAZAWA, National Institute of Advanced Industrial Science and Technology and Department of Applied Electronics, Tokyo University of Science, SIGEKI ISHIDA, National Institute of Advanced Industrial Science and Technology and Department of Physics, University of Tokyo, KUNIHIRO KIHOU, PARASHARAM M. SHIRAGE, HIJIRI KITO, CHUL HO LEE, National Institute of Advanced Industrial Science and Technology, SHINICHI UCHIDA, Department of Physics, University of Tokyo, HIROSHI EISAKI, National Institute of Advanced Industrial Science and Technology, KAZUYASU TOKIWA, Department of Applied Electronics, Tokyo University of Science, AKIRA IYO, National Institute of Advanced Industrial Science and Technology and Department of Applied Electronics, Tokyo University of Science — Large enhancement of superconducting transition temperature ( $T_c$ ) has been found in a sample synthesized from a nominal composition of  $\text{LaFeAsO}_{1-y}\text{H}_x$ . A hydroxide powder of  $\text{La}(\text{OH})_3$  is mixed with starting materials and the sample is synthesized under high-pressure. The sample shows as high as  $T_c$  of 35 K (susceptibility onset) and 38 K (resistivity onset), while the maximum  $T_c$  of an oxygen-deficient  $\text{LaFeAsO}_{1-y}$  is 28 K. A large contraction of lattice is observed in the hydroxide-added samples.

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