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The Effects of Nonstoichiometry in High -  $T_c$  Superconducting Properties of  $YBa_2Cu_{3+x}O_{7-\delta}$

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**Abstract:** Polycrystalline samples of high  $T_c$  superconductor  $YBa_2Cu_{3+x}O_{7-\delta}$  with  $0 \leq x \leq 0.5$  were grown. The effects of nonstoichiometry on the resistance slope above transition temperature  $T_c$  and X-ray diffraction patterns for these samples were investigated. In the diffraction patterns obtained, apart from some new features in the peaks, these polycrystalline samples show predominantly 123 phase.

**Key Words:** Effects of nonstoichiometry, high  $T_c$  superconductor, polycrystalline samples.

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