Crystal Growth of a Promising Semiconductor: β-Ga_2O_3

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Wide band gap semiconductors have become one of the hottest topics of the day to their unique properties and appllcation potentials in various fields. Among them, β-Ga_2O_3 crystal as a third-generation wide band gap semiconductor has shown excellent performances in many fields, including high-temperature gas sensors, deep ultraviolet optoelectronic devices and ultra-high voltage power devices. N-type semiconductors have been successfully prepared and the carrier concentration can be controlled to a certain extent. However, the preparation of p-type semiconductors is still a major problem, which also restricts its applications as devices. Recently, our group has devoted huge efforts to the research of β-Ga_2O_3 crystals.