

## S1-3.9

# The Structure and Chemical Composition of Ga<sub>2</sub>O<sub>3</sub> Oxide Prepared by Annealing of Ga<sub>2</sub>Se<sub>3</sub> Crystals

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The chemical composition and structure of Ga<sub>2</sub>O<sub>3</sub> obtained by thermal treatment (TT) in air of β-Ga<sub>2</sub>Se<sub>3</sub> crystals were studied using the X-ray diffraction (XRD) method, Raman spectroscopy, EDX, and SEM. The surface of the Ga<sub>2</sub>Se<sub>3</sub> crystal air annealed at 770 K is covered by β-Ga<sub>2</sub>O<sub>3</sub> layer of microcrystallites and as well as by β-Ga<sub>2</sub>Se<sub>3</sub> crystallites. The oxygen is non-homogenously distributed on the surface of the 770 K annealed sample. The sample obtained by TT at 1150 K consists of nanolamella, nanotowers, and nanobars of β-Ga<sub>2</sub>O<sub>3</sub>, their size being estimated to 10÷200 nm.