

Supplementary Information for

High-quality β -(Al_xGa_{1-x})₂O₃ thin films on sapphire substrate by face-to-face annealing

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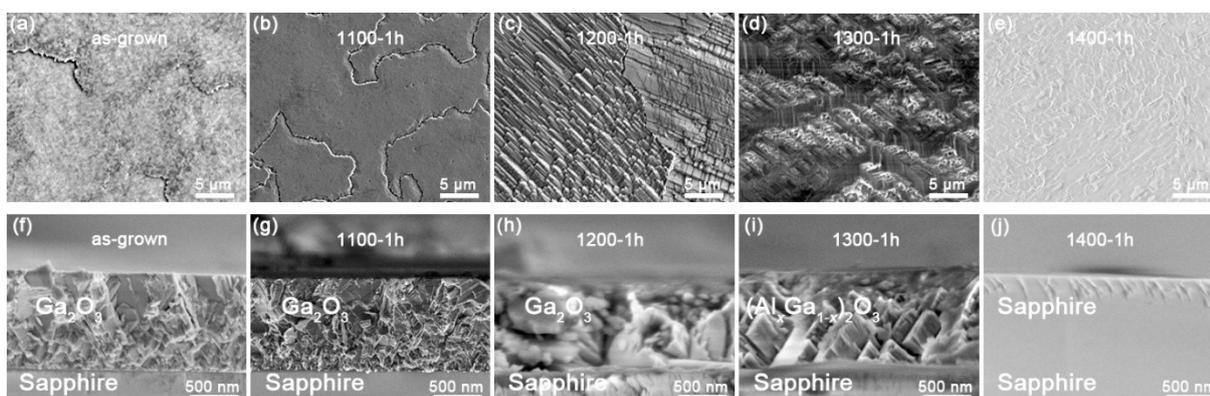


Fig. 1. The (a, b, c, d, e) surface and (f, g, h, i, j) cross-sectional SEM images of the as-grown, 1100-1h, 1200-1h, 1300-1h and 1400-1h samples.

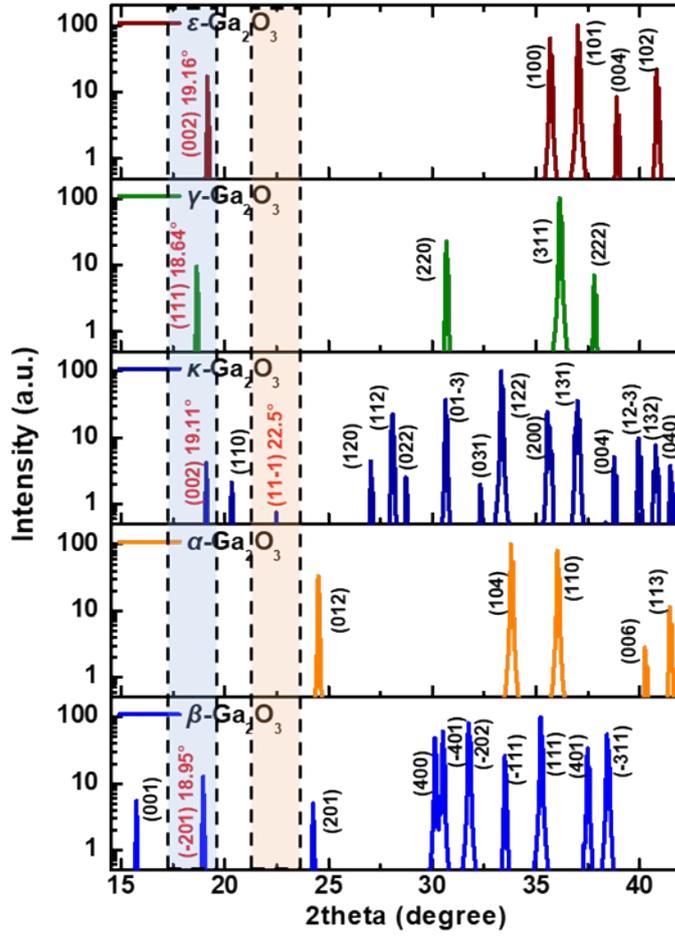


Fig. 2. The standard β , α , κ , γ , ε -Ga₂O₃ XRD diffraction peak patterns. The data is sourced from the SpringerMaterials crystal database, with the corresponding numbers for each isomorph as follows: β -Ga₂O₃: sd_1413271, α -Ga₂O₃: sd_1812181, κ -Ga₂O₃: sd_1043676, γ -Ga₂O₃: sd_1638490, ε -Ga₂O₃: sd_1638493.

Table. 1 The (-201) and (300) peak's FWHM of the as-grown, 1100-1h, 1200-1h 1300-1h, 1300-2h, 1300-3h and 1300-4h.

Samples	FWHM (°)
as-grown	2.05
1100-1h	2.00
1200-1h	1.87
1300-1h	NA
1300-2h	0.94
1300-3h	0.60
1300-4h	0.08