

Fig. 1. Layered XRD plots over the range of 2θ = 33° - 40° for all of the samples. It is seen that the peaks shift over the entire range of 2θ = 36.0° , corresponding to α -Ga₂O₃, up to just below 2θ = 37.8° , corresponding to α -Al₂O₃. All of the films shown have growth rates exceeding 1 µm/h.

<i>x</i>	T _{sub} °C	Ga Flux 10 ¹⁵ cm ⁻² s ⁻¹	Al Flux 10 ¹⁴ cm ⁻² s ⁻¹		Film FWHM arc sec	Substrate FWHM arc sec	RMS Roughno
0.95	620	1.20	46	2.87	-	-	0.435
0.86	620	1.20	37	2.45	13	9	0.521
0.80	620	1.36	34	2.01	13	14	0.308
0.70	610	1.36	25	2.36	11	9	0.610
0.65	610	1.40	23	1.95	14	14	0.543
0.55	610	1.51	13.2	1.81	11	9	0.646
0.51	600	1.94	16	1.74	12	12	0.409
0.49	620	1.16	11	1.64	11	8	-
0.39	600	1.63	6.9	1.4	15	16	0.773
0.30	600	1.32	2.7	1.34	11	8	0.970
0.23	600	1.63	2.8	1.07	11	12	0.915
0.15	590	1.47	1.1	1.15	12	13	1.01
0.09	600	1.63	0.67	1.22	11	9	1.13
0.02	590	1.55	0	1.2	12	12	1.06
verage	605	-	-	-	12	11	-

Table 1: Growth conditions and measured properties for each film grown in the study