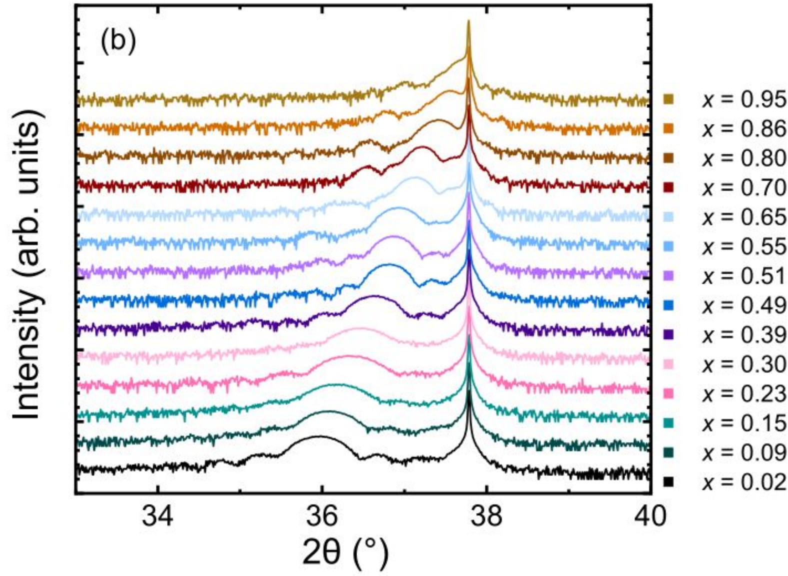

Fig. 1. Layered XRD plots over the range of 2θ = 33° - 40° for all of the samples. It is seen that the peaks shift over the entire range of 2θ = 36.0°, corresponding to α-Ga_2O_3, up to just below 2θ = 37.8°, corresponding to α-Al_2O_3. All of the films shown have growth rates exceeding 1 μm/h.

x	T_{sub}	Ga Flux	Al Flux	Growth Rate	Film FWHM	Substrate FWHM	RMS Roughness
-	°C	10^{15} $cm^{-2}s^{-1}$	10^{14} $cm^{-2}s^{-1}$	μm/h	arc sec	arc sec	nm
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
Average	605	-	-	-	12	11	-

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