Supplementary Information to

Influence of Aliovalent Cation substitution on structural and electrical properties of $Gd_2(Zr_{1-x}M_x)_2O_{7-\delta}$ (M = Sc, Y) system

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Table S1: Refined fitting parameters of Rietveld analysis

	GZ	GZY1	GZY2	GZY3	GZY4	GZS1	GZS2	GZS3
Flat background	186.9829	194.1553	177.678	179.4647	161.7568	176.7341	166.3954	168.047
Coefficient 1	-21.3647	-26.3029	-24.3479	-26.1509	-17.2779	-30.1538	-28.4476	-29.2692
Coefficient 2	22.45977	23.73738	34.15881	34.80234	35.35935	30.7739	25.92725	26.53172
Scale Factor	0.000181	0.000187	0.000158	0.000161	0.000133	0.000181	0.000175	0.000164
U	0.035581	0.0379	0.057153	0.142995	0.082256	0.097383	0.093578	0.056999
V	-0.0019	-0.00205	-0.00735	-0.06603	-0.02238	-0.02184	0.017424	0.016612
W	0.003596	0.003063	0.004667	0.013923	0.006291	0.007278	-0.00019	0.001149
Peak Shape 1	0.875262	0.651668	0.510645	0.661708	1.031867	0.587736	0.478828	0.195308
Peak Shape 2	0.00502	0.006852	0.007872	0.00552	0.003654	0.007718	0.007572	0.012047

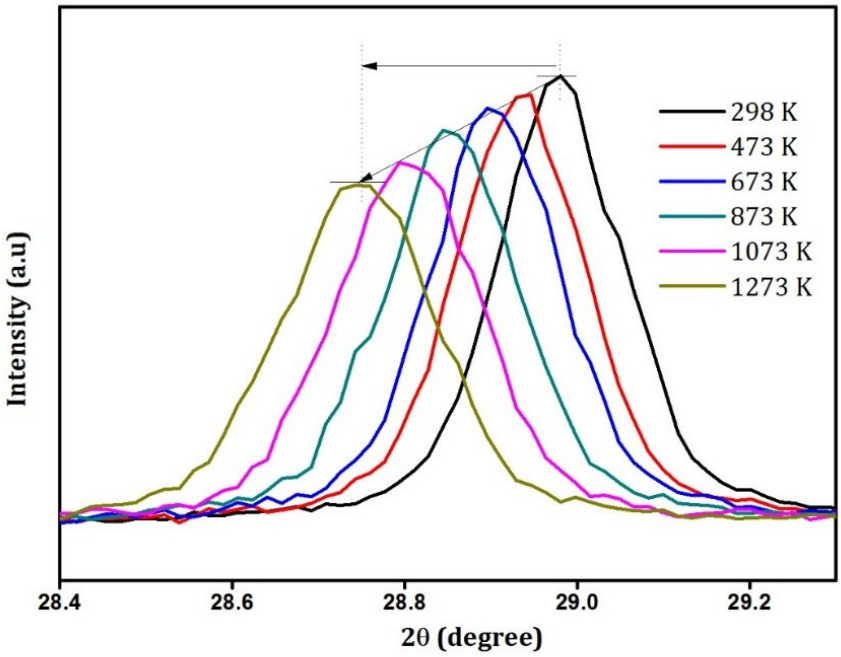

Figure S1: Effect of temperature on the (111) peak of GZY3 sample.

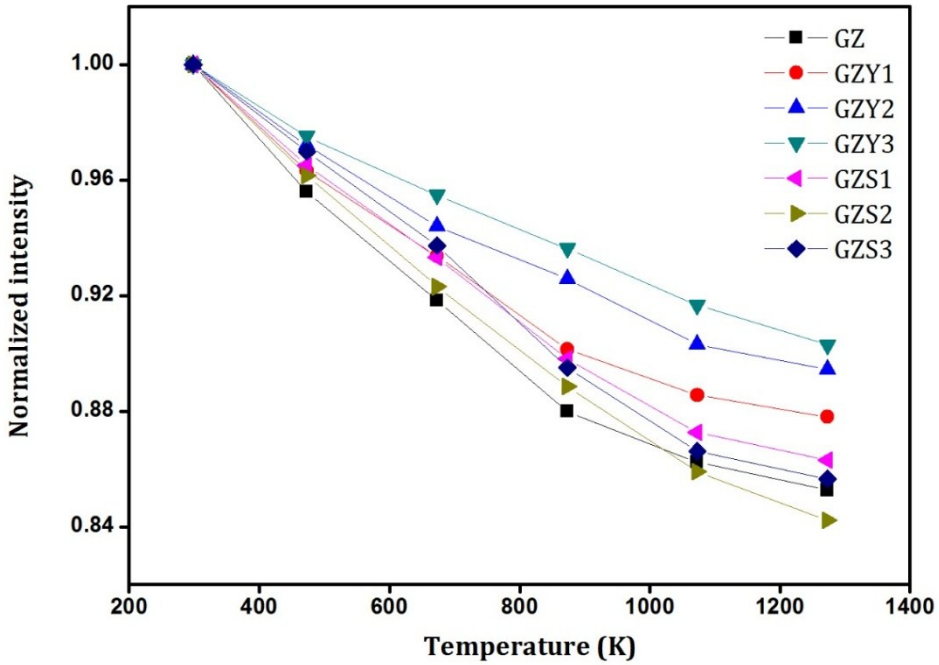

Figure S2: Change in intensity of the (111) XRD peak of various samples with temperature.

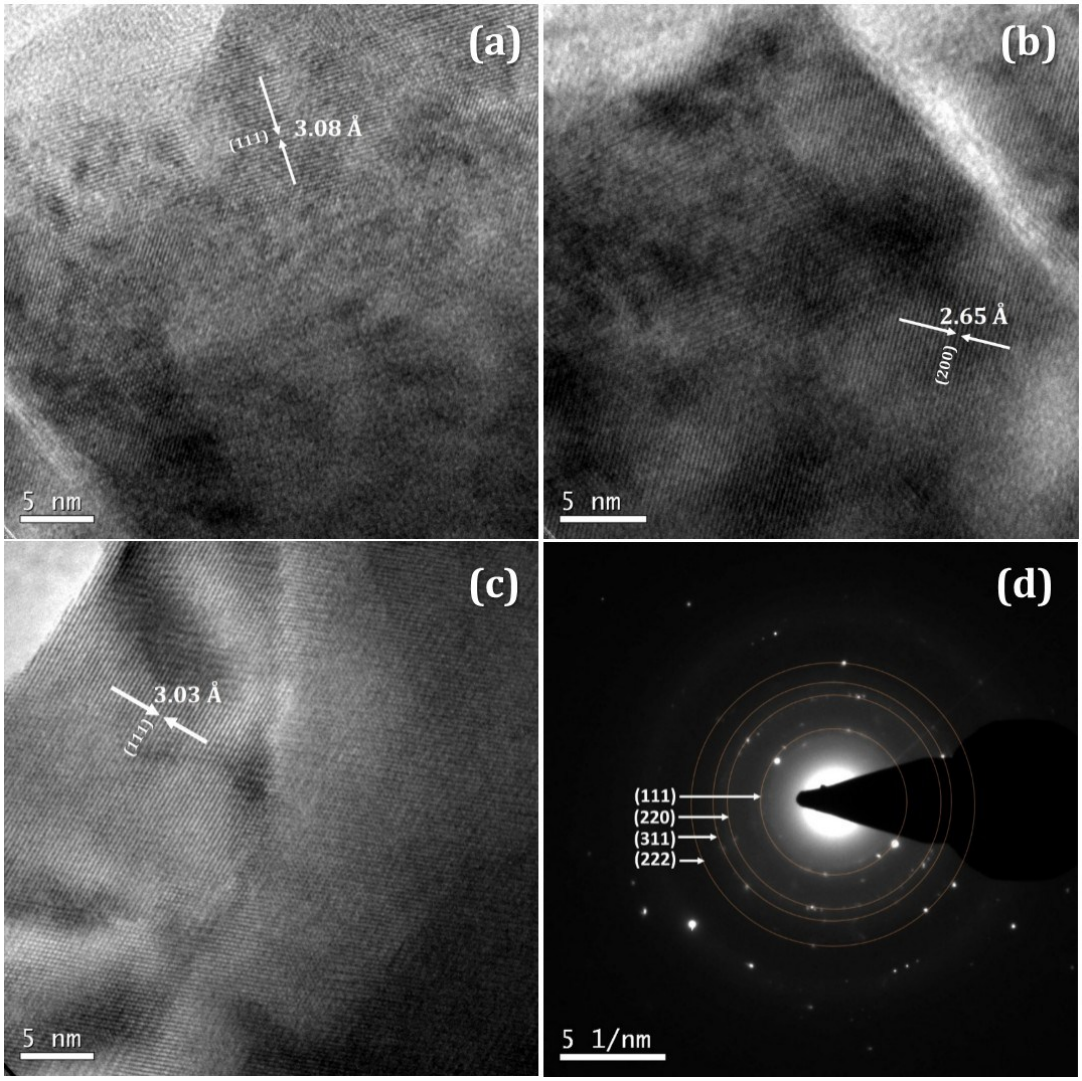

Figure S3: TEM images of various samples. (a),(b) and (c) show the HR-TEM images of GZ, GZY3 and GZS3 respectively.(d) shows the SAED pattern of GZY3.