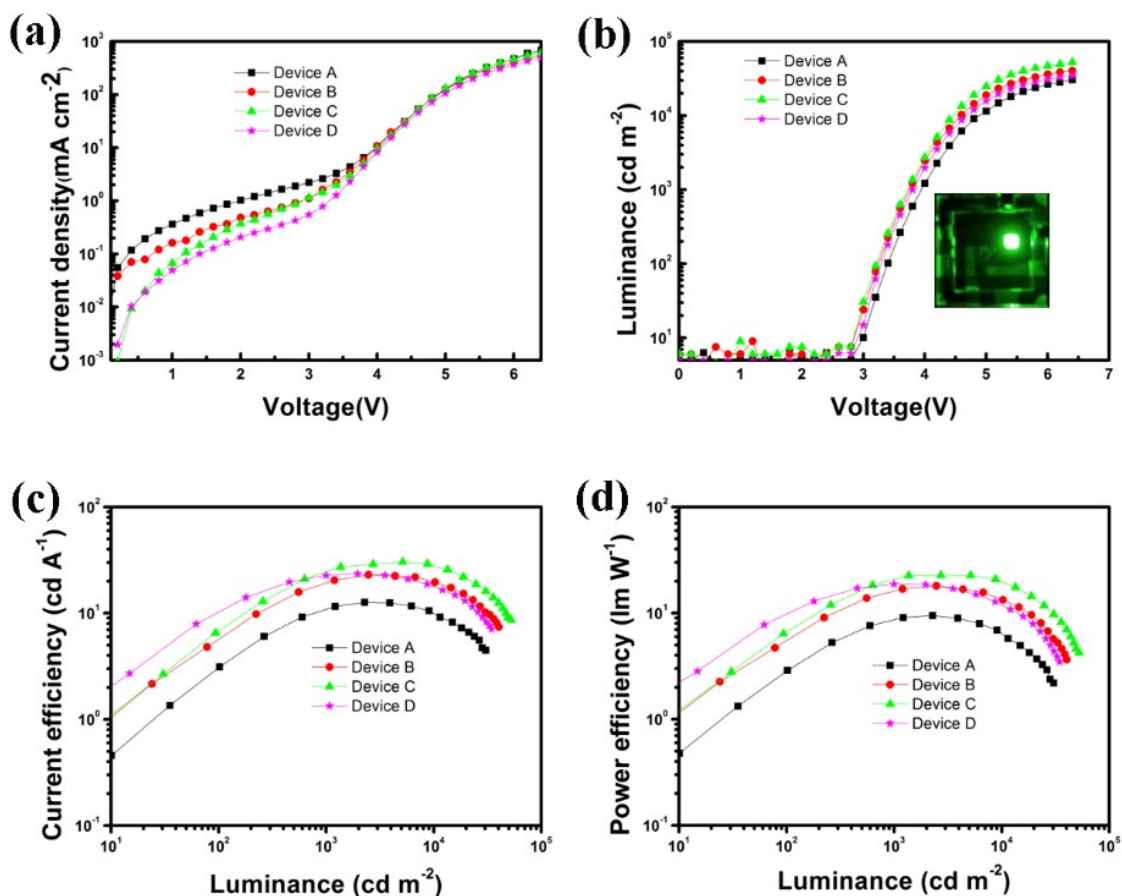
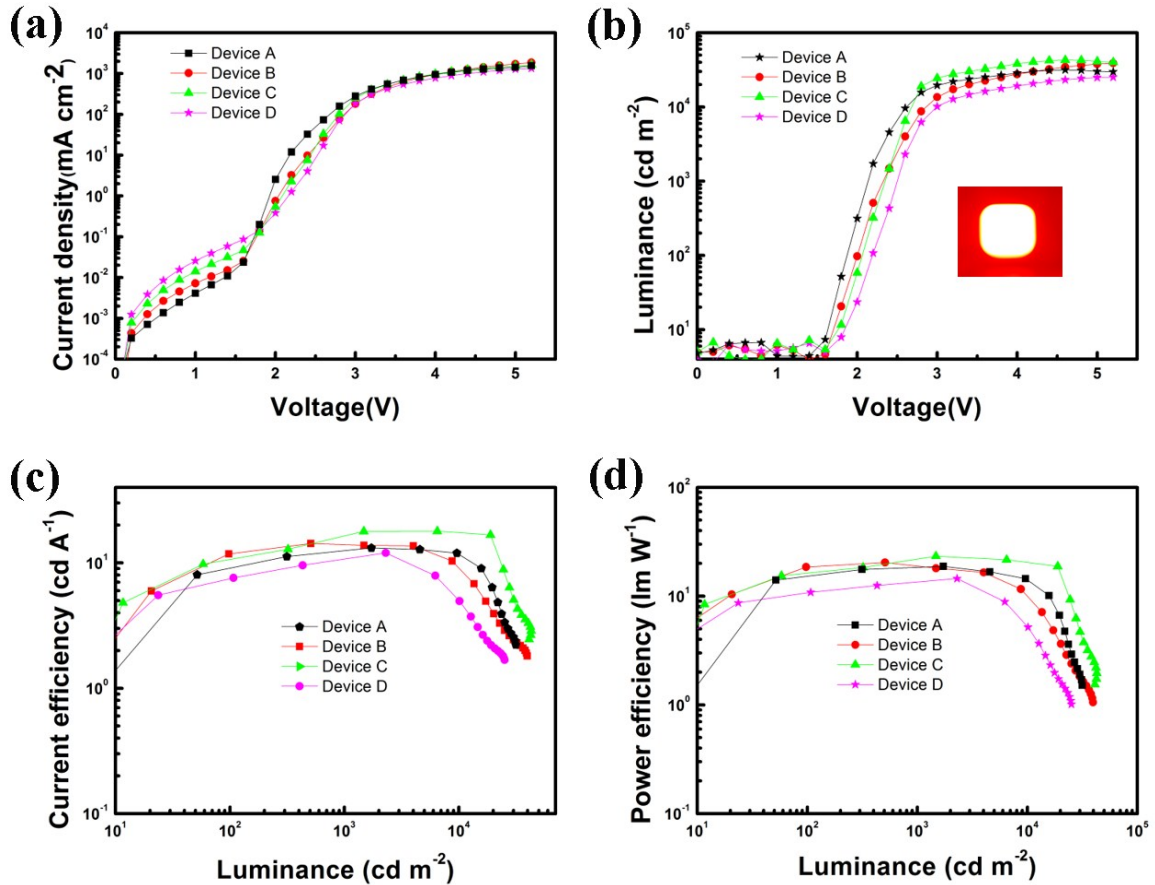


Electronic Supplementary Information



S1. Electroluminescence performance of MZO based green QLEDs: (a) Current density (J) versus driving voltage (V), (b) Luminance (L) versus driving voltage (V), (c) Current efficiency, and (d) Power efficiency of QLED (Device A : $x=0$, Device B : $x=0.01$, Device C : $x=0.02$, Device D : $x=0.05$).



S2. Electroluminescence performance of red QLEDs based on MZO/ Cs₂CO₃: (a) Current density(J) versus driving voltage (V), (b) Luminance (L versus driving voltage(V) , (c) Current efficiency , and (d) Power efficiency of QLED (Cs₂CO₃ doping ratio of Device A: 0, Device B: 0.1 wt%, Device C: 0.25 wt%, Device D: 0.5 wt%).

QLED	L _{max} (cd m ⁻²)	η _A (cd A ⁻¹)		η _P (lm W ⁻¹)		η _{EQE} (%)	
		Peak	@1,000 cd m ⁻²	Peak	@1,000 cd m ⁻²	Peak	@1,000 cd m ⁻²
Device A	31,545	13.16	12.24	18.80	18.56	9.64	9.19
Device B	39,600	14.26	14.09	20.23	18.86	10.45	10.20
Device C	42,910	17.87	17.24	23.32	22.95	13.09	12.01
Device D	25,188	12.01	10.83	14.51	13.68	8.80	7.89

S3. Summary of electroluminescence performance, maximum luminance (L_{max}), current efficiency(η_A), power efficiency (η_P) and EQE (η_{EQE}) of red QLED devices based on MZO/ Cs₂CO₃(Cs₂CO₃ doping ratio of Device A: 0, Device B: 0.1 wt%, Device C: 0.25 wt%, Device D: 0.5 wt%).