Electronic Supplementary Material (ESI) for CrystEngComm.


# Supplementary Information

Table S1. Selected distances (Å) in $Gd_3Al_{2.3}Ga_{2.7}O_{12}$ and $Gd_3Sc_{1.3}Al_{1.6}Ga_{2.1}O_{12}$.

| Polyhedron | Distance, Å | GAGG | GASGG |
|---|---|---|---|
| $AO_8$ | *A*-O×4 | 2.389(7) | 2.370(6) |
| | *A*-O×4 | 2.395(6) | 2.416(7) |
| $BO_6$ | *B*-O×6 | 2.005(9) | 2.097(8) |
| $CO_4$ | *C*-O×4 | 1.833(8) | 1.862(8) |

Figure S1. Example photo of the grown Ce-doped $Gd_3Al_{2.3}Ga_{2.7}O_{12}$ single crystal.

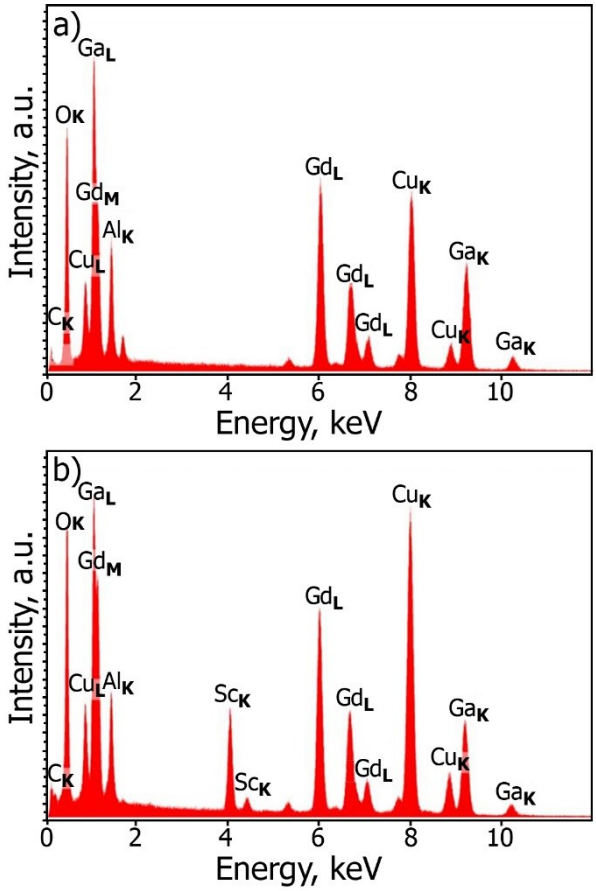


Figure S2. EDX spectra of GAGG (*a*) and GASGG (*b*) samples from selected area.

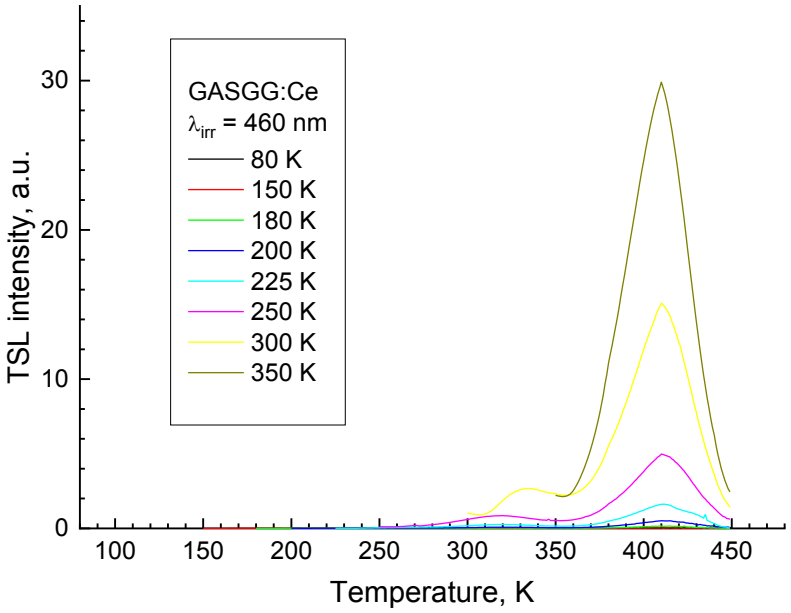


Figure S3. TSL curves for GASGG:Ce measured at $\lambda_{irr}$ = 460 nm (2.7 eV). Irradiation temperatures are presented on the plot.

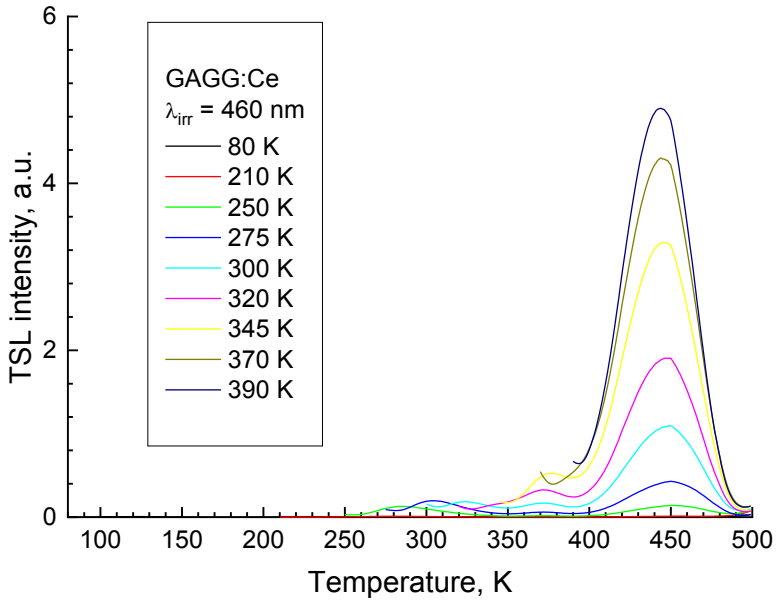


Figure S4. TSL curves for GAGG:Ce measured at $\lambda_{irr}$ = 460 nm (2.7 eV). Irradiation temperatures are presented on the plot.

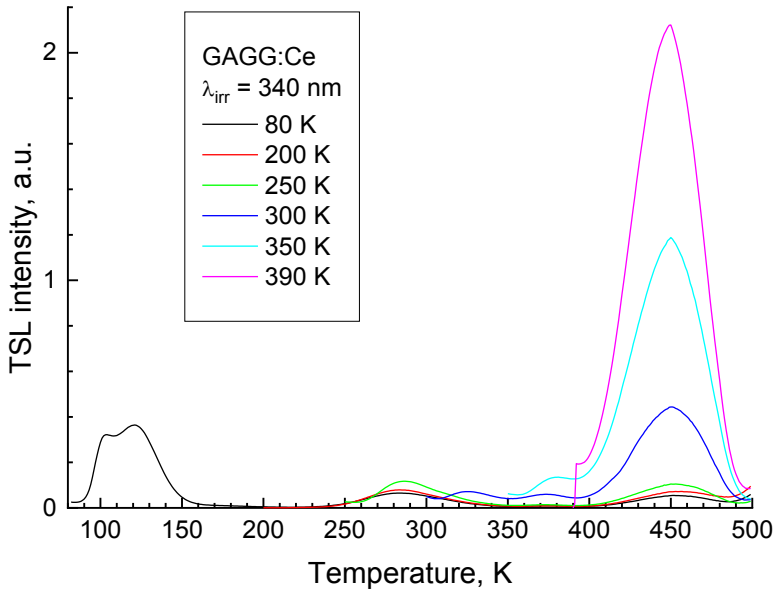


Figure S5. TSL curves for GAGG:Ce measured at $\lambda_{irr}$ = 340 nm (3.65 eV). Irradiation temperatures are presented on the plot.