

Effect of the Framework Flexibility on the Centricities in Centrosymmetric $\text{In}_2\text{Zn}(\text{SeO}_3)_4$ and Noncentrosymmetric $\text{Ga}_2\text{Zn}(\text{TeO}_3)_4$

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S1. Final Rietveld plot of $\text{In}_2\text{Zn}(\text{SeO}_3)_4$

S2. Final Rietveld plot of $\text{Ga}_2\text{Zn}(\text{TeO}_3)_4$

S3. Thermogravimetric analysis diagram and powder XRD pattern for calcined product for $\text{In}_2\text{Zn}(\text{SeO}_3)_4$

S4. Thermogravimetric analysis diagram and powder XRD patterns at different temperatures for $\text{Ga}_2\text{Zn}(\text{TeO}_3)_4$

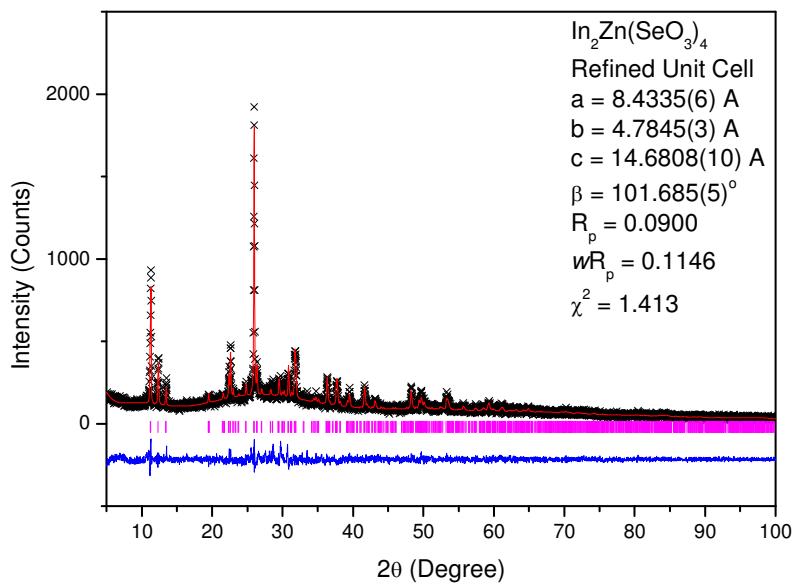
S5. IR spectrum for $\text{In}_2\text{Zn}(\text{SeO}_3)_4$

S6. IR spectrum for $\text{Ga}_2\text{Zn}(\text{TeO}_3)_4$

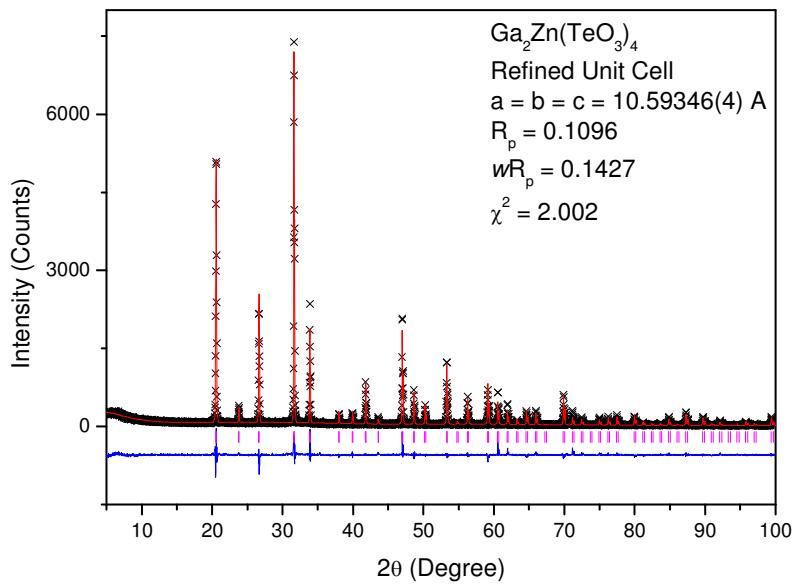
S7. ORTEP (50% probability ellipsoids) representations in $\text{In}_2\text{Zn}(\text{SeO}_3)_4$ showing the InO_6 octahedra, the ZnO_6 octahedra, and the asymmetric SeO_3 polyhedra.

S8. ORTEP (50% probability ellipsoids) representations in $\text{Ga}_2\text{Zn}(\text{TeO}_3)_4$ showing the GaO_4 or ZnO_4 tetrahedra and the asymmetric TeO_3 polyhedra.

S1. Final Rietveld plot of $\text{In}_2\text{Zn}(\text{SeO}_3)_4$

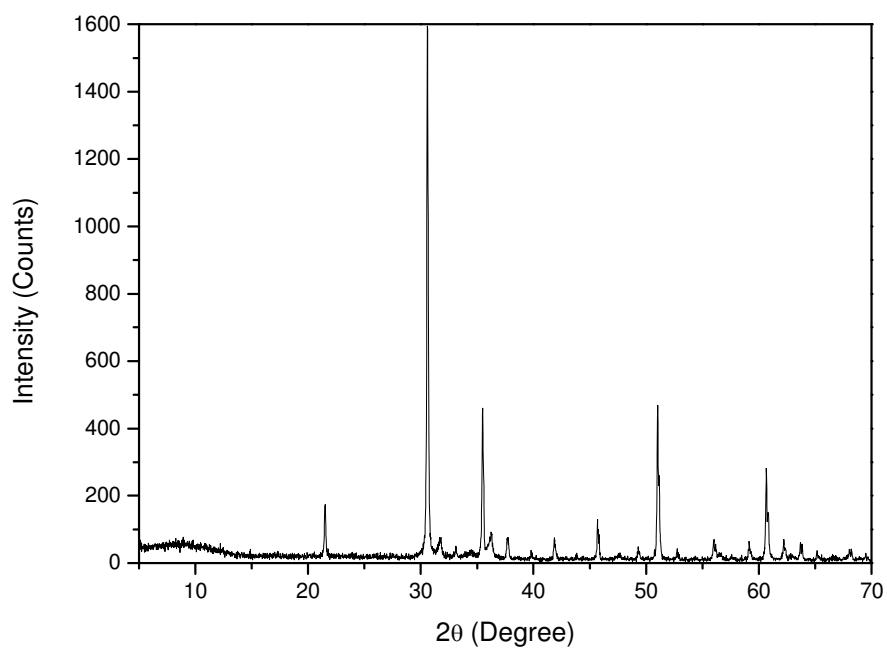
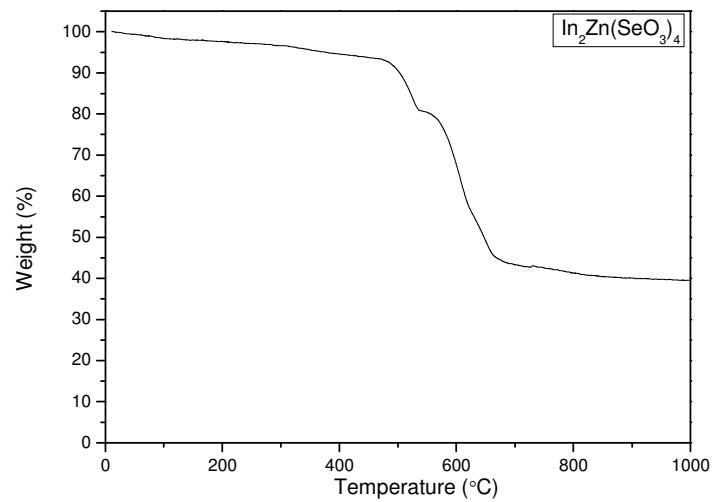


S2. Final Rietveld plot of $\text{Ga}_2\text{Zn}(\text{TeO}_3)_4$

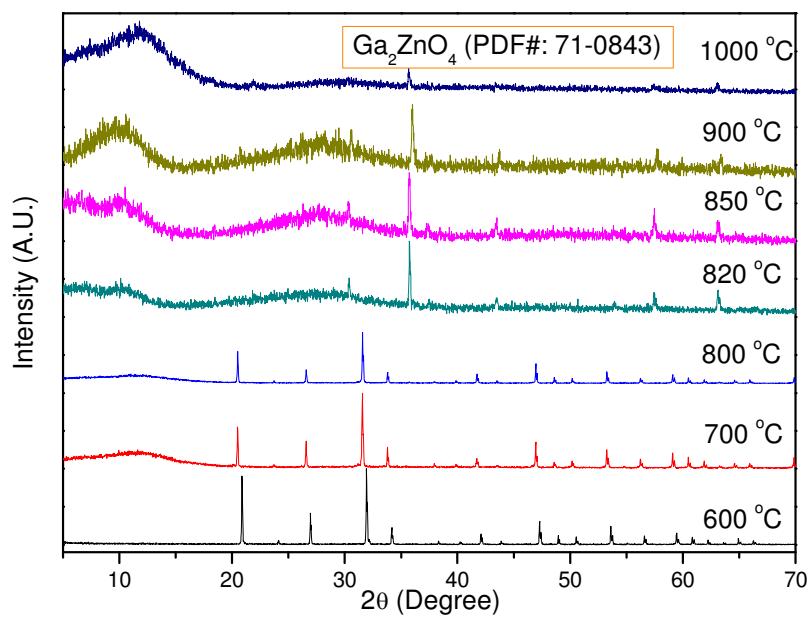
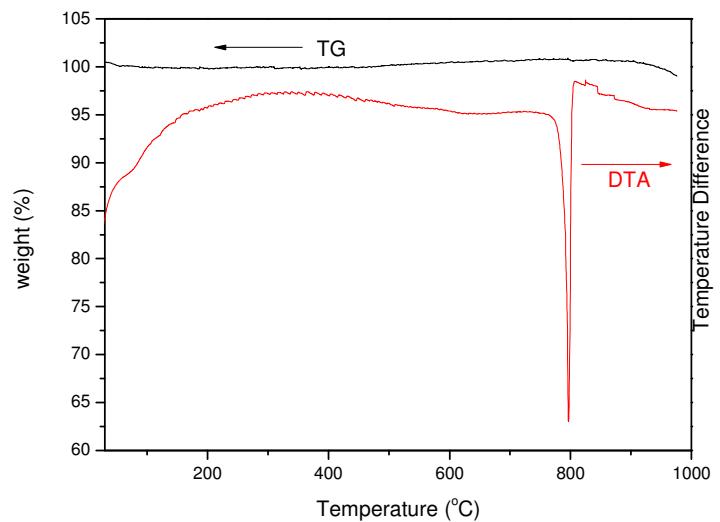


The calculated pattern (red solid line) is compared with observed data (x). The locations of reflections are indicated by the magenta vertical bars. The difference between the observed and calculated profiles is shown at the bottom (blue solid line).

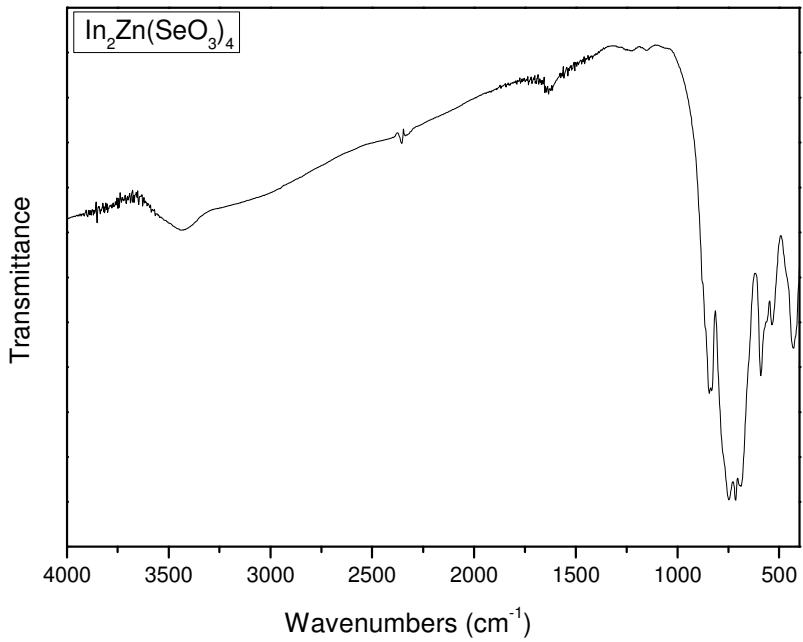
S3. Thermogravimetric analysis diagram and powder XRD pattern for calcined product for $\text{In}_2\text{Zn}(\text{SeO}_3)_4$



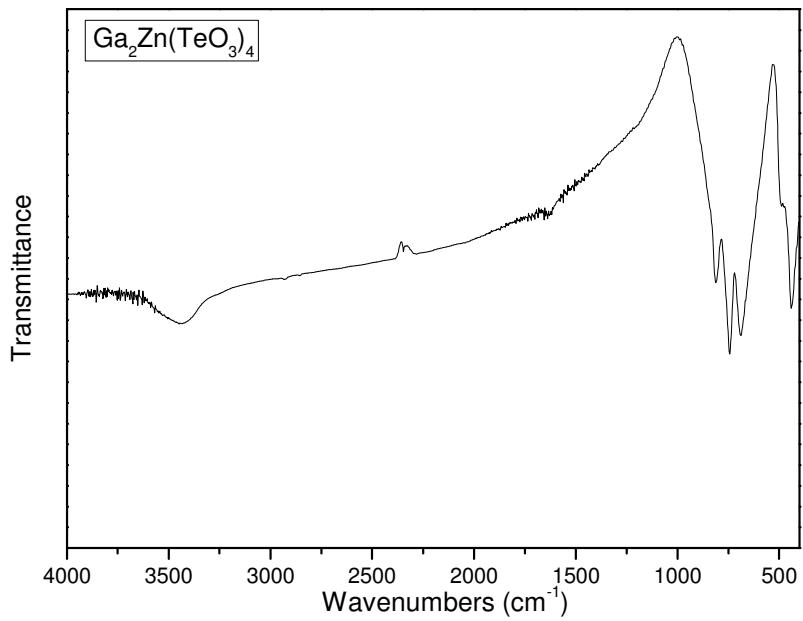
S4. Thermogravimetric analysis diagram and powder XRD patterns at different temperatures for $\text{Ga}_2\text{Zn}(\text{TeO}_3)_4$



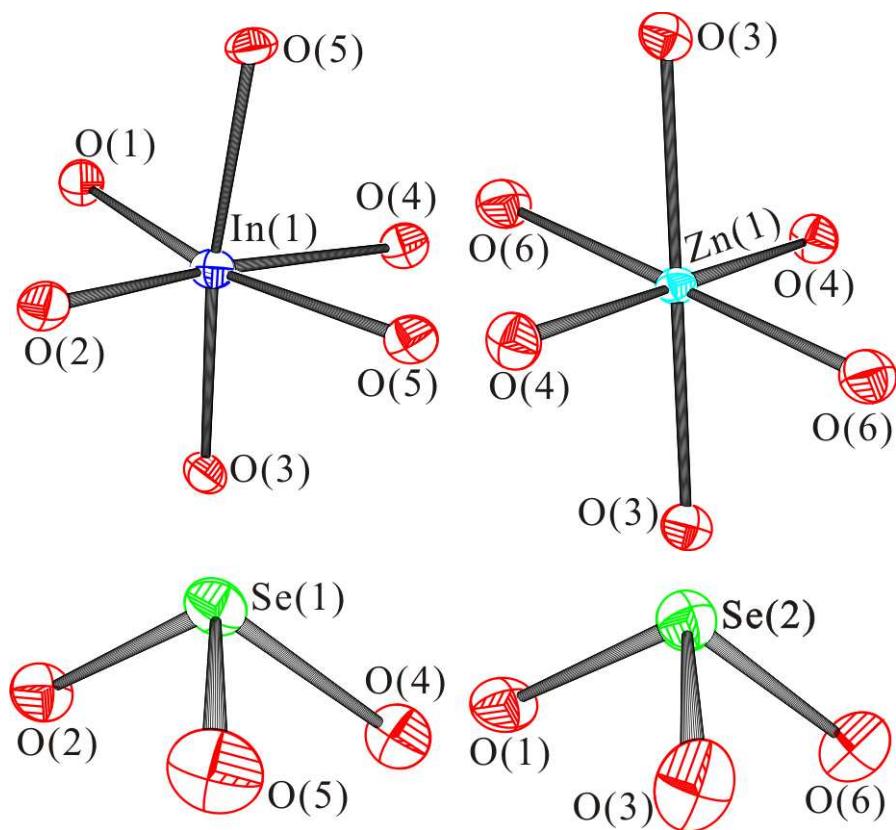
S5. IR spectrum for $\text{In}_2\text{Zn}(\text{SeO}_3)_4$



S6. IR spectrum for $\text{Ga}_2\text{Zn}(\text{TeO}_3)_4$



S7. ORTEP (50% probability ellipsoids) representations in $\text{In}_2\text{Zn}(\text{SeO}_3)_4$ showing the InO_6 octahedra, the ZnO_6 octahedra, and the asymmetric SeO_3 polyhedra.



S8. ORTEP (50% probability ellipsoids) representations in $\text{Ga}_2\text{Zn}(\text{TeO}_3)_4$ showing the GaO_4 or ZnO_4 tetrahedra and the asymmetric TeO_3 polyhedra.

