Supplementary Information

Anisotropic thermal expansion of $\{Co(Bpa)\}(VO_3)_2$ and diffuse scattering in $[\{Ni(H_2O)(Bpa)\}(VO_3)_2]\cdot 2H_2O$, two new 3D hybrid vanadates

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Supplementary Information

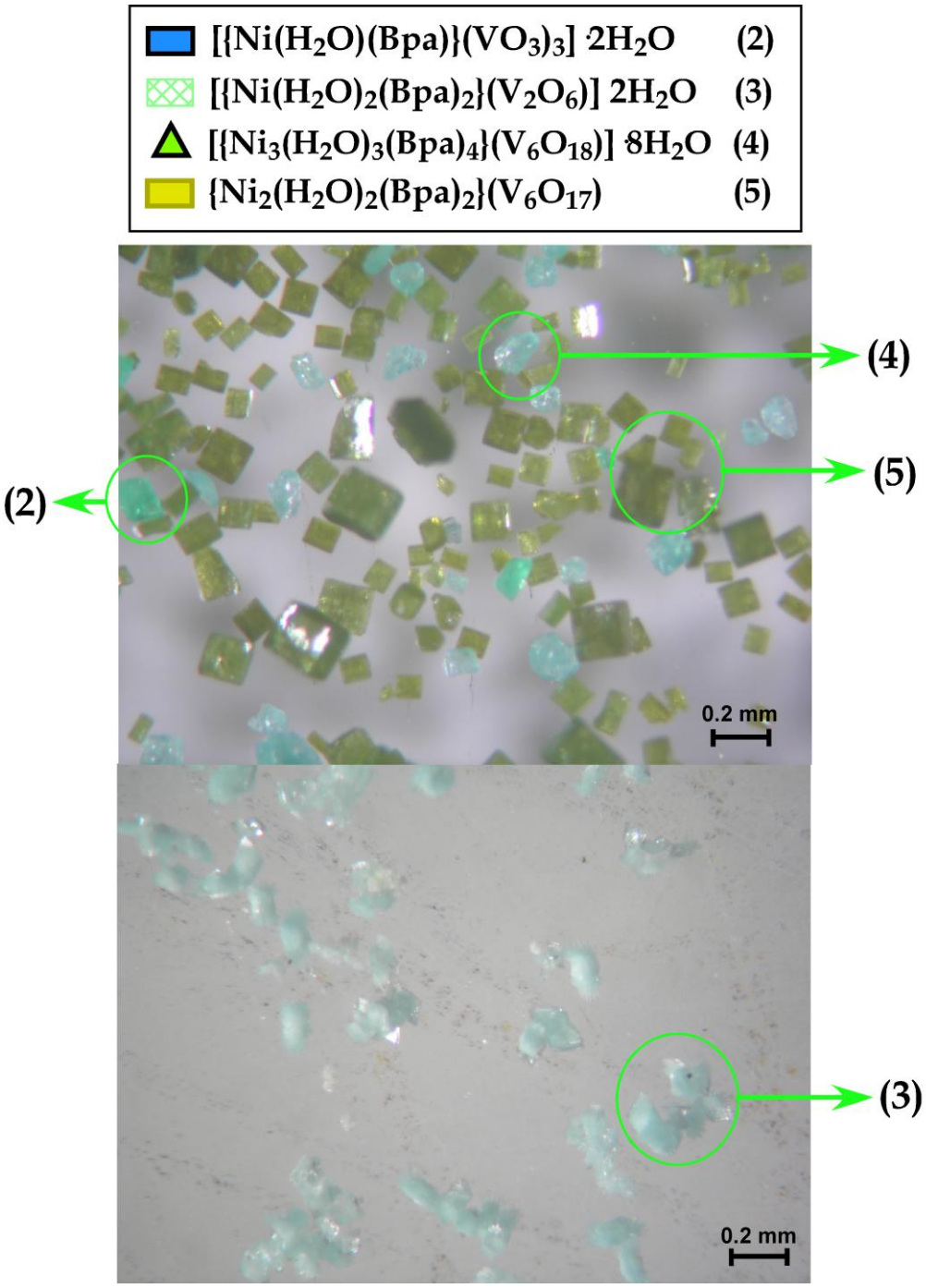

Figure S1. Products after the hydrothermal reaction. The above figure shown the mixture of phases obtained at a initial 0.258:0.258:0.258 stoichiometry. The compound (3) morphology and color is shown in the below figure.

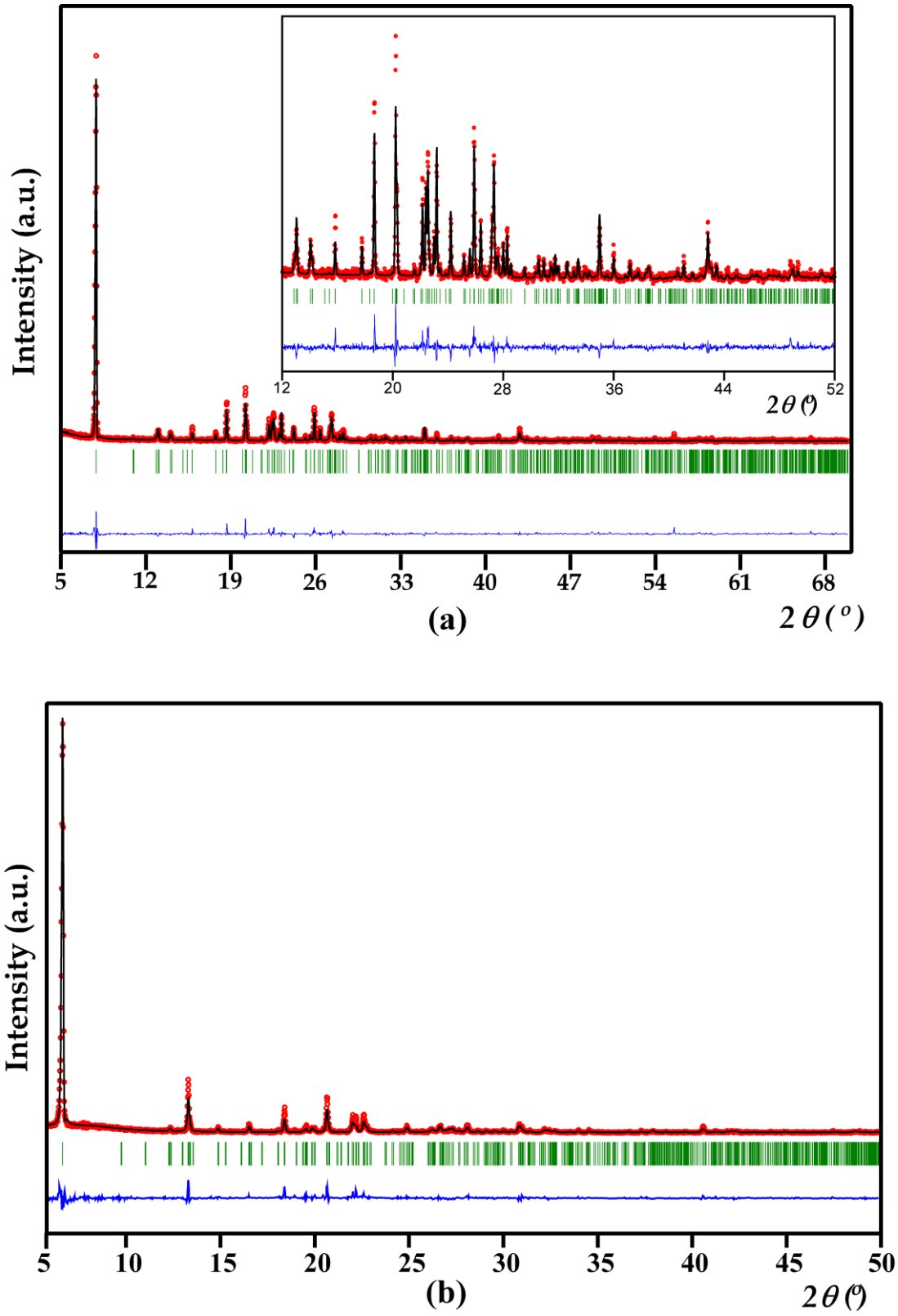

Figure S2. (a) Rietveld refinement for $\{Co(Bpa)\}(VO_3)_2$ **(1)**. (**b**) Rietveld refinement for $[\{Ni(H_2O)(Bpa)\}(VO_3)_2]\cdot 2H_2O$ (**2**). Red points: Experimental data; Black line: Calculated, Green bars: Reflection positions, Blue line: Experimental-Calculated.

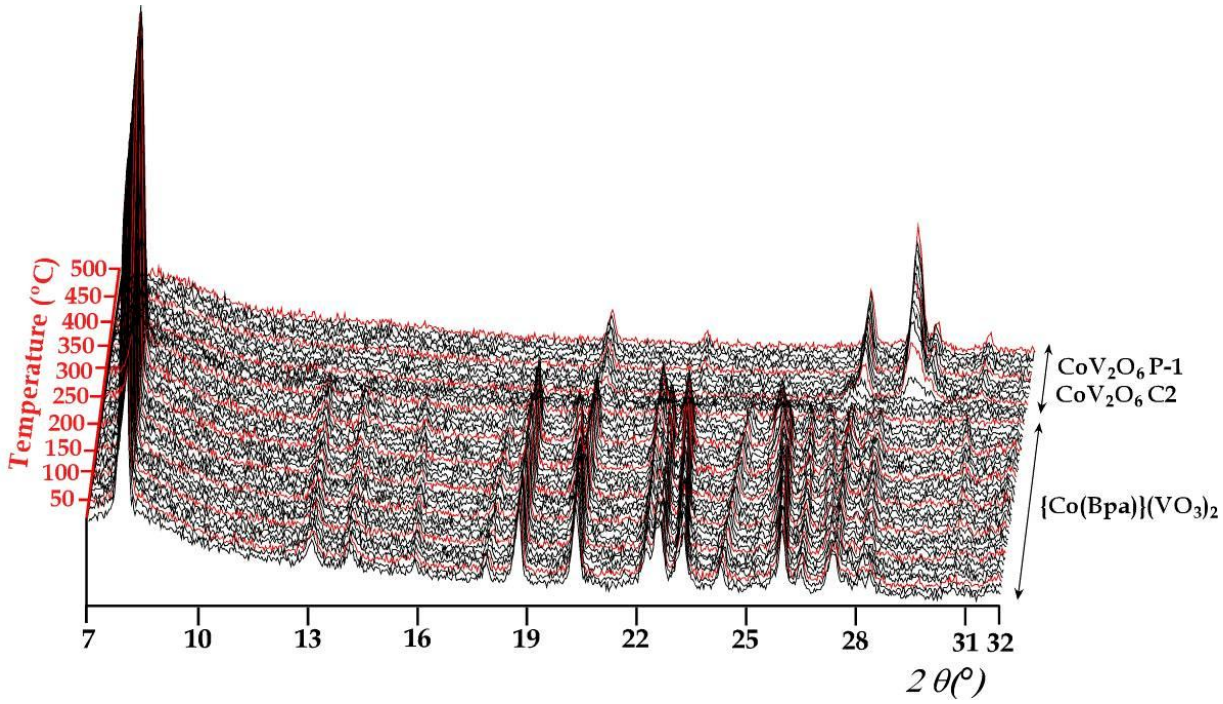

Figure S3. X-ray thermodiffractometry experiment for $\{Co(Bpa)\}(VO_3)_2$.

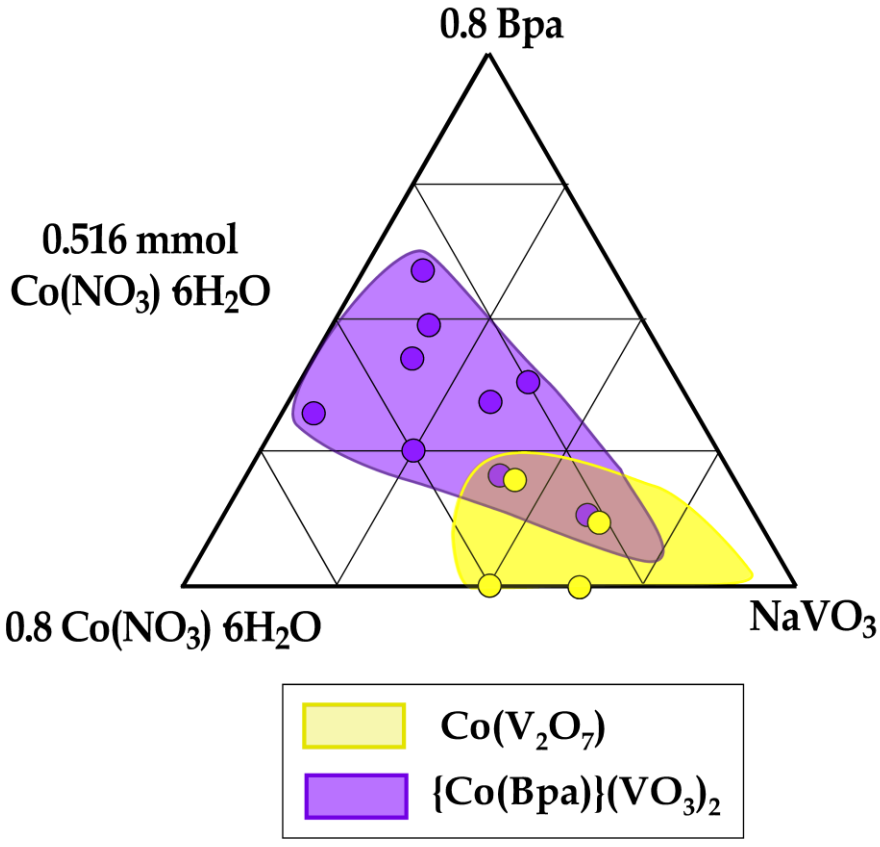

Figure S4. Compositional space diagrams for the $Co(NO_3)_2 \cdot 6H_2O/NaVO_3$/Bpa system. (0.516 mmol of $Co(NO_3)_2 \cdot 6H_2O$).

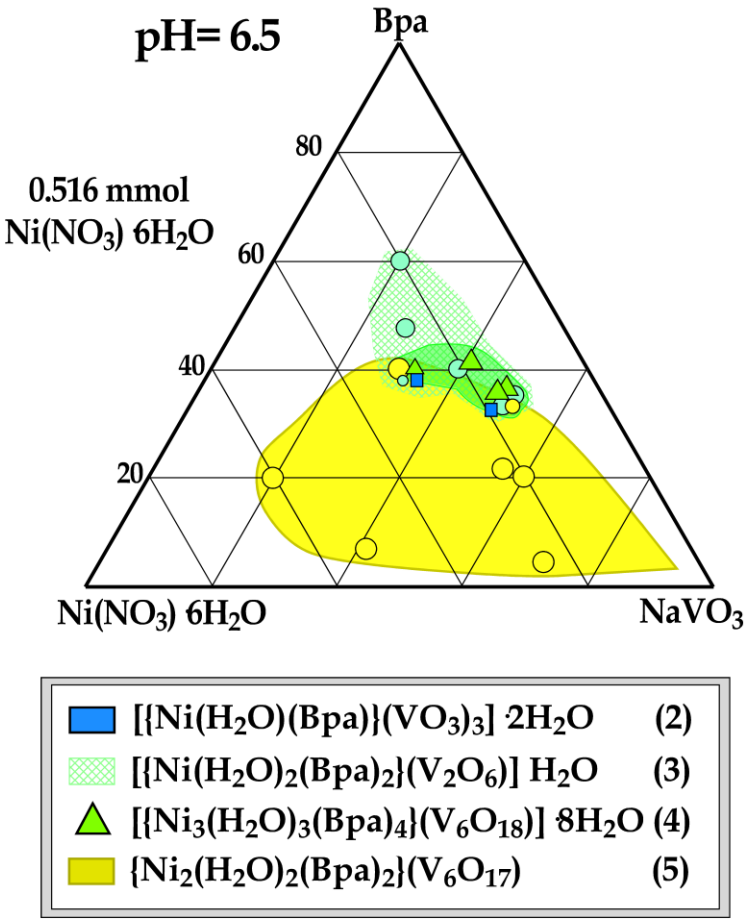

Figure S5. Compositional space diagrams for the $Ni(NO_3)_2 \cdot 6H_2O/NaVO_3$/Bpa system. (0.516 mmol of $Ni(NO_3)_2 \cdot 6H_2O$).

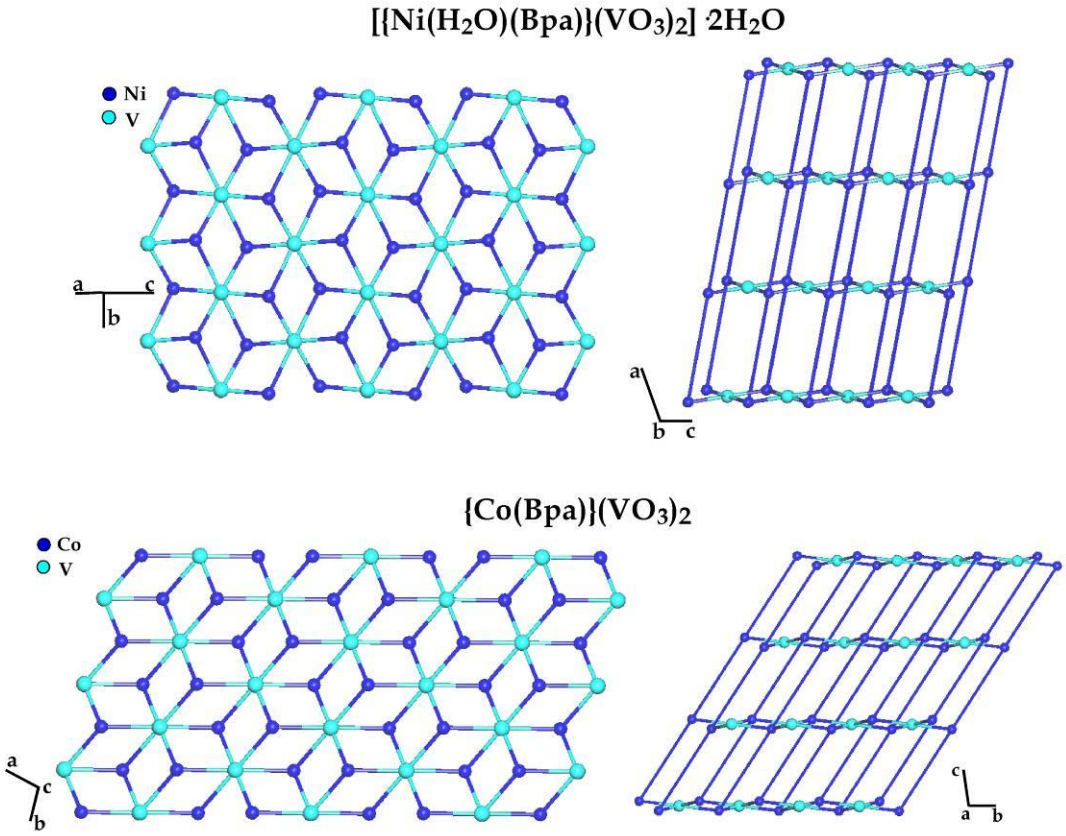

Figure S6. Topology of crystal structures.

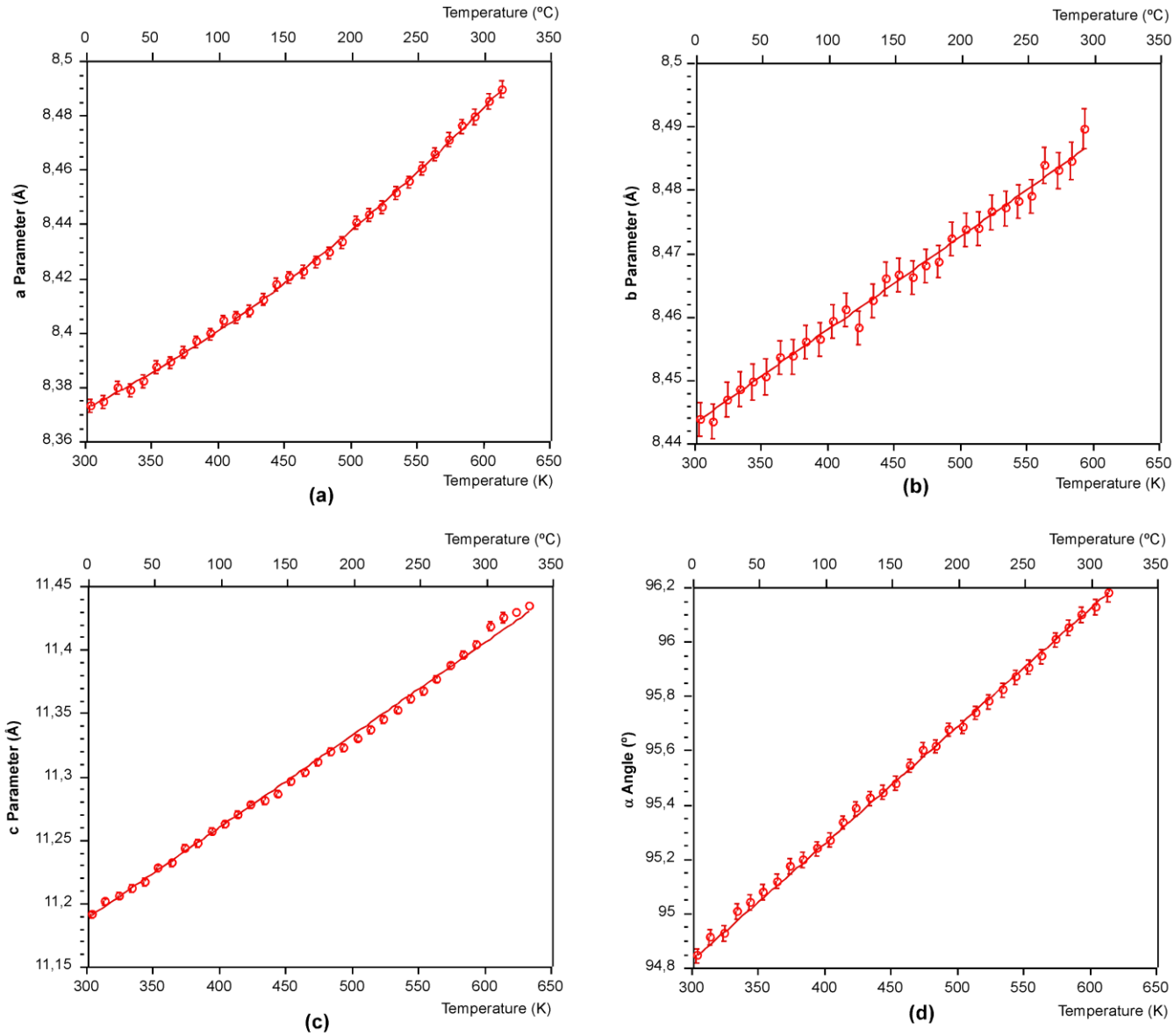

Figure S7.- For $\{Co(Bpa)\}(VO_3)_2$: Fits of the thermal evolution of the cell parameters and volume considering a temperature independent thermal expansion coefficient ($P(T)=P_{Ti}\exp[\alpha_0(T-T_i)]$), and temperature dependent thermal expansion coefficient ($P(T)=P_{Ti}\exp[\alpha_0(T-T_i)]$; $\alpha_0= a_0 + a_1T$) for a linear and non-linear thermal variations, respectively.

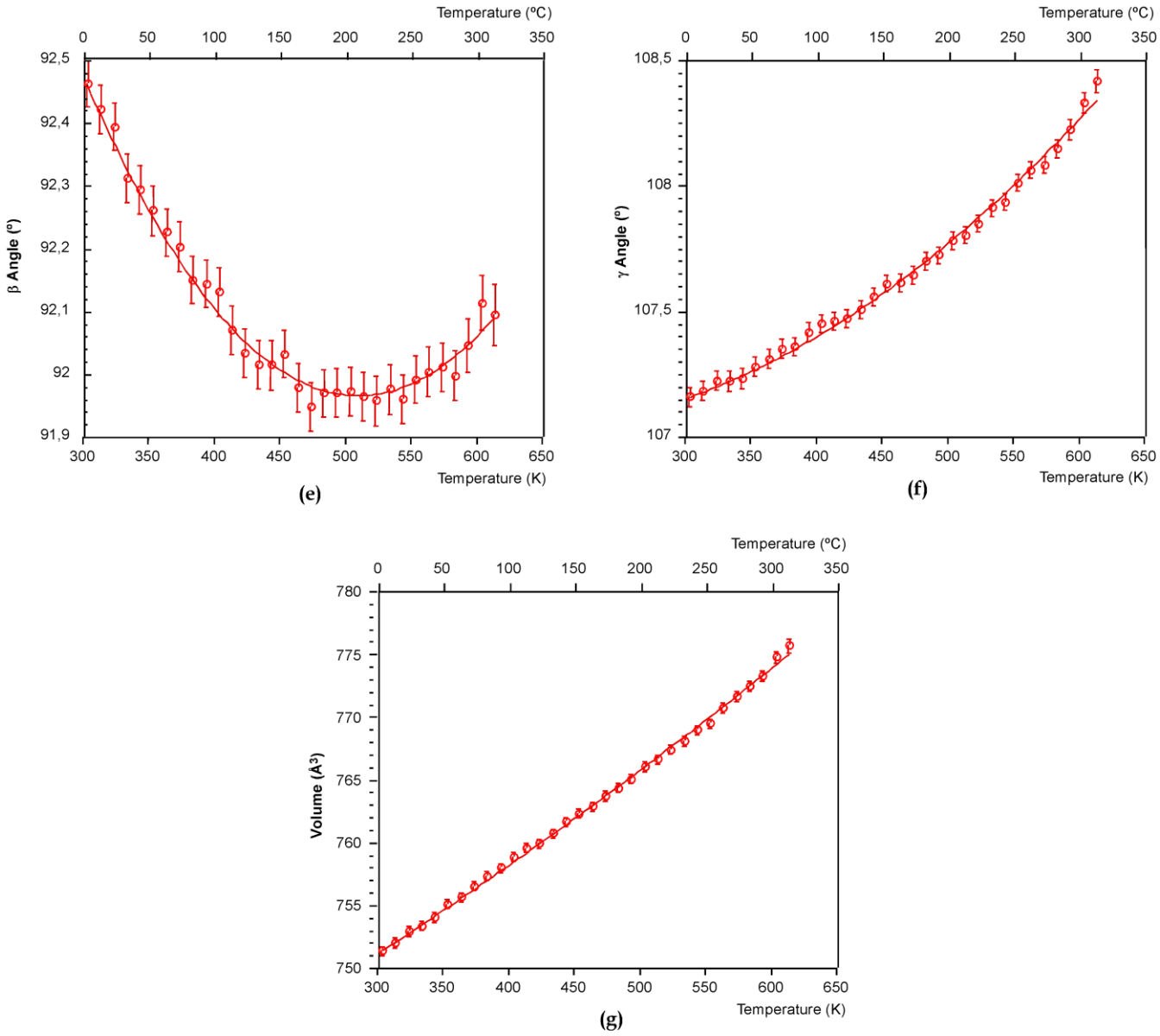

Figure S8.- For $\{Co(Bpa)\}(VO_3)_2$: Fits of the thermal evolution of the cell parameters and volume considering a temperature independent thermal expansion coefficient ($P(T)=P_{Ti}\exp[\alpha_0(T-T_i)]$), and temperature dependent thermal expansion coefficient ($P(T)=P_{Ti}\exp[\alpha_0(T-T_i)];\alpha_0= a_0 + a_1T$) for a linear and non-linear thermal variations, respectively.