Electronic Supporting Information (ESI)

Heterometallic Co(II)-Ru₂(II,III) Carbonates: From Discrete Ionic Crystals to Three-Dimentional Network

Bin Liu,^{a,}* Dan Wang,^a Jin Jin,^a Xue-Mei Liu,^a Yan-Yan Jia,^a Gang-Lin Xue,^a

^aKey Laboratory of Synthetic and Natural Functional Molecule Chemistry of Ministry of Education, College of Chemistry & Materials Science, Shaanxi Key Laboratory of Physico-Inorganic Chemistry, Northwest University, Xi'an 710069, P. R. China

Corresponding Author: liubin@nwu.edu.cn (B. Liu). Fax: +86-29-88302604.



Fig S2. IR spectra of complex 2.

^{*} Corresponding author. Tel./fax: +86-029-88302604.

E-mail address: liubin@nwu.edu.cn (B. Liu)



Fig. S4b TG and DTA curve of complex 2



Fig. S4c TG and DTA curve of complex $\mathbf{3}$



Fig. S5 ORTEP representation (30% thermal probability ellipsoids) of the crystal structure of 1.



Fig. S6 ORTEP representation (30% thermal probability ellipsoids) of the crystal structure of 2



Fig. S7 ORTEP representation (30% thermal probability ellipsoids) of the crystal structure of 3.



Fig. S8 Comparison of XRPD patterns of the simulated and as-synthesized of 1.



Fig. S9 Comparison of XRPD patterns of the simulated and as-synthesized of 2.



Fig. S10 Comparison of XRPD patterns of the simulated and as-synthesized of 1.



Fig. S12 χ_{M} and χ_{M} vs T plots for complex 1.



Figure S13. Temperature dependence of FC and ZFC plots for 2 at 10 Oe.



Figure S14. Temperature dependence of FC and ZFC plots for 3 at 10 Oe



Fig. S15 the frequency dependence of T_p on χ_M " fitted in the Arrhenius law.



Fig. S16 data fitted by the conventional critical scaling law of the spin dynamics.