Supporting Information

Synthesis, structures and magnetic properties of polynuclear Ru$^{III}$-3$d$ $(3d = Mn^{II/III}, Ni^{II}, Cu^{II})$ compounds based on $[\text{Ru}^{III}(Q)_{2}(CN)_{2}]^{-}$

Jing Xiang,$^{a,b}$ Li-Hui Jia,$^c$ Bing-Wu Wang,$^c$ Shek-Man Yiu,$^a$ Shie-Ming Peng,$^d$ Wai-Yeung Wong,$^e$ Song Gao,*$^c$ and Tai-Chu Lau*$^a$

$^a$ Institute of Molecular Functional Materials and Department of Biology and Chemistry, City University of Hong Kong, Tat Chee Avenue, Kowloon Tong, Hong Kong, China. E-mail: bhtclau@cityu.edu.hk; Fax: (+852)34420522

$^b$ College of Chemistry and Environmental Engineering, Yangtze University, Jingzhou 434020, HuBei, PR China

$^c$ State Key Laboratory of Rare Earth Materials Chemistry and Applications and PKU-HKU Joint Laboratory on Rare Earth Materials and Bioinorganic Chemistry, Peking University, Beijing 100871, China. E-mail: gaosong@pku.edu.cn; Fax: (+86) 10-62751708

$^d$ Department of Chemistry, National Taiwan University, Taipei 106, Taiwan

$^e$ Department of Chemistry, Hong Kong Baptist University, Waterloo Road, Kowloon Tong, Hong Kong, China
Figure S1. Packing diagram of 4

Figure S2. The packing diagram of 5 showing the π-π stacking interaction between Q rings.
Figure S3. The packing diagram of 6 showing the face-to-face $\pi$-$\pi$ stacking interactions between Q ligands.

Figure S4. The packing diagram of 7 showing the zigzag chains are well separated by counter-ions $[\text{Ru}^{III}(Q)_2(\text{CN})_2]^{-}$
Figure S5. Zero-field and field cooled magnetization (ZFCM/FCM) of 4 at 100 Oe.

Figure S6. Hysteresis loop at 2.0 K for 4.
Figure S7. Hysteresis loop at 2.0 K for 7.