

# **$K_4TM_4(V_2O_7)_2(IO_3)_4(H_2O)$ (TM = Zn, Ni, Co): A Series of Quinary Mixed Metal Vanadium(V) Iodates**

*Bing-Ping Yang, Xiang Xu, Chao Huang and Jiang-Gao Mao\**

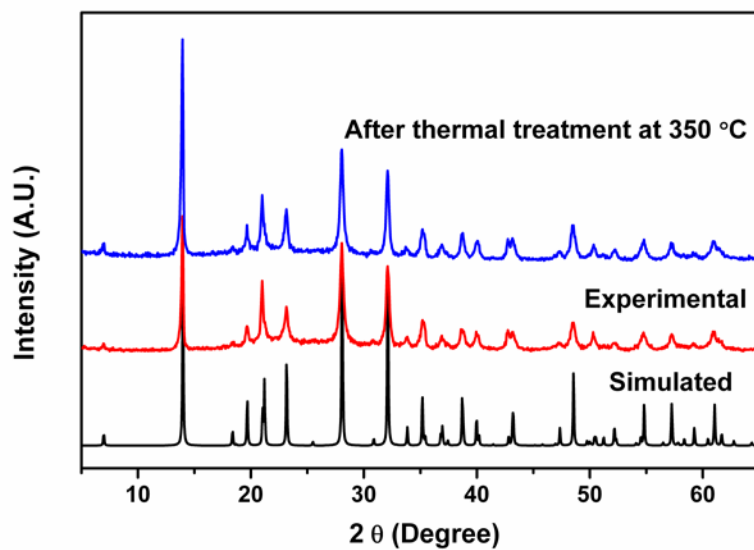
## **Supporting Information**

Figure S1. X-ray diffraction powder patterns for  $K_4TM_4(V_2O_7)_2(IO_3)_4(H_2O)$  (TM = Zn, Ni, Co): Simulated, experimental and after thermal treatment at 350 °C for 2 hrs.

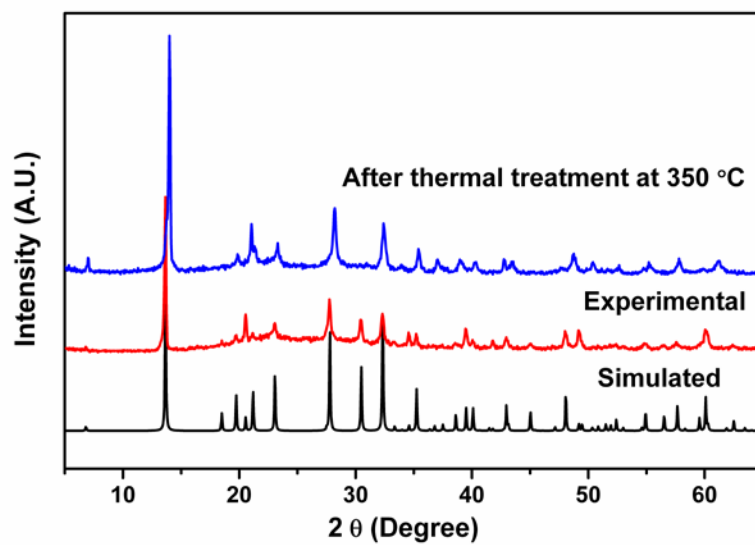
Figure S2. Powder X-ray diffraction studies for the thermal decomposition products of  $K_4TM_4(V_2O_7)_2(IO_3)_4(H_2O)$  (TM = Zn, Ni, Co) (800 °C, 2 hrs).

Figure S3. Infrared Vibrations ( $cm^{-1}$ ) for  $K_4TM_4(V_2O_7)_2(IO_3)_4(H_2O)$  (TM = Zn, Ni, Co).

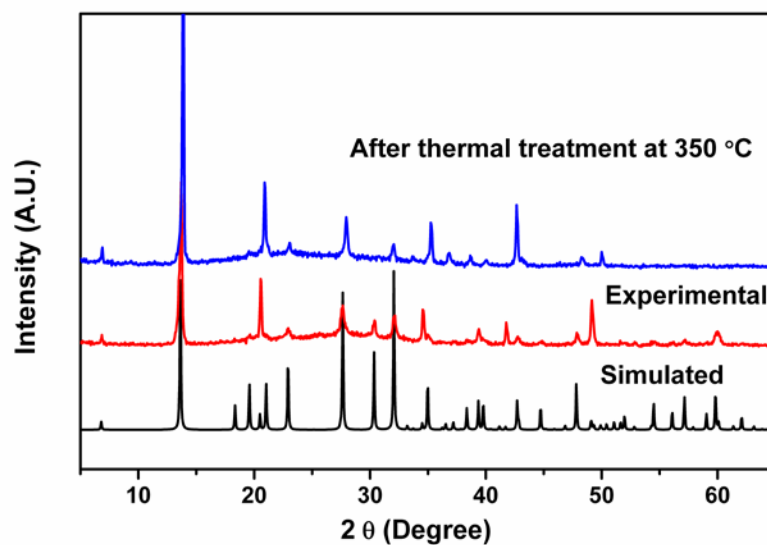
Figure S4. UV absorption spectra for  $K_4TM_4(V_2O_7)_2(IO_3)_4(H_2O)$  (TM = Zn, Ni, Co).



(a)  $K_4Zn_4(V_2O_7)_2(IO_3)_4(H_2O)$

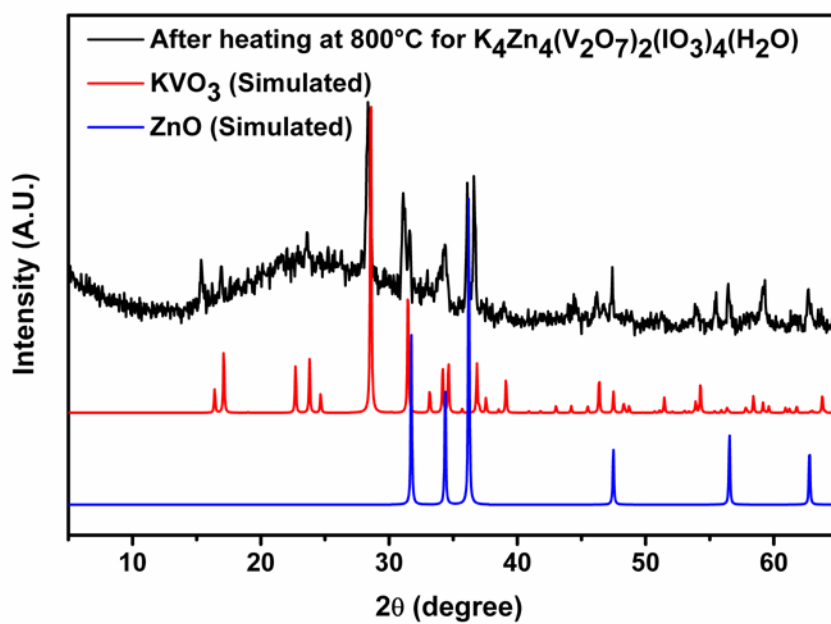


(b)  $K_4Ni_4(V_2O_7)_2(IO_3)_4(H_2O)$

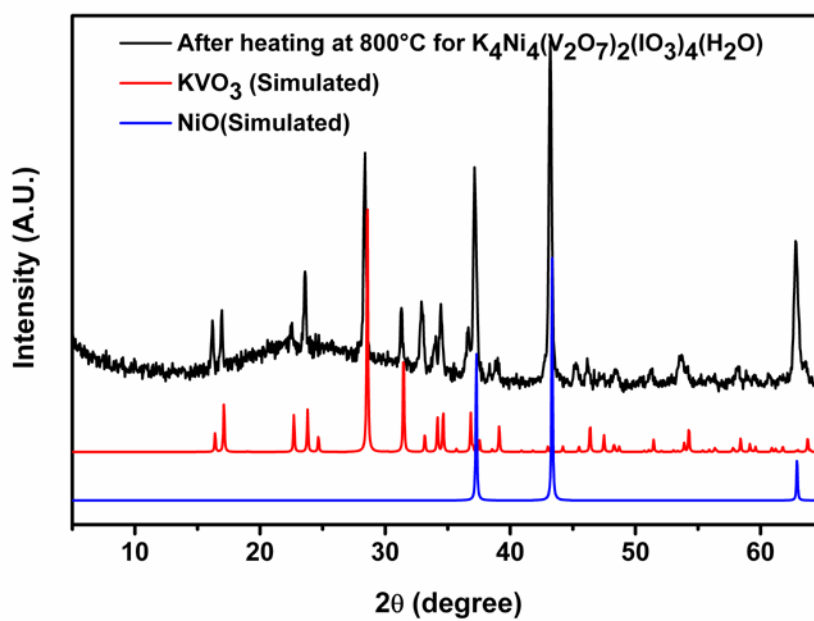


(c)  $\text{K}_4\text{Co}_4(\text{V}_2\text{O}_7)_2(\text{IO}_3)_4(\text{H}_2\text{O})$

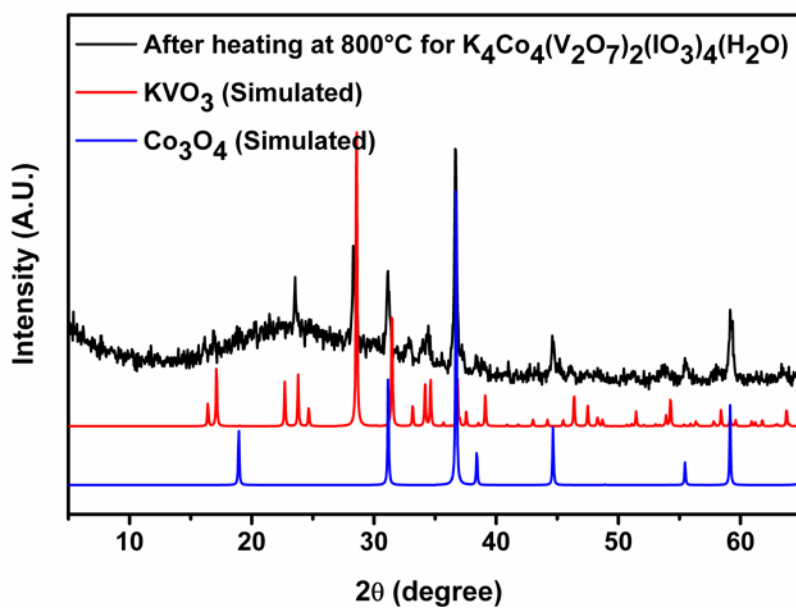
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(a)



(b)



(c)

Figure S2. Powder X-ray diffraction studies for the thermal decomposition products of  $K_4TM_4(V_2O_7)_2(IO_3)_4(H_2O)$  (TM = Zn (a), Ni (b), Co (c)) (800 °C, 2 hrs).

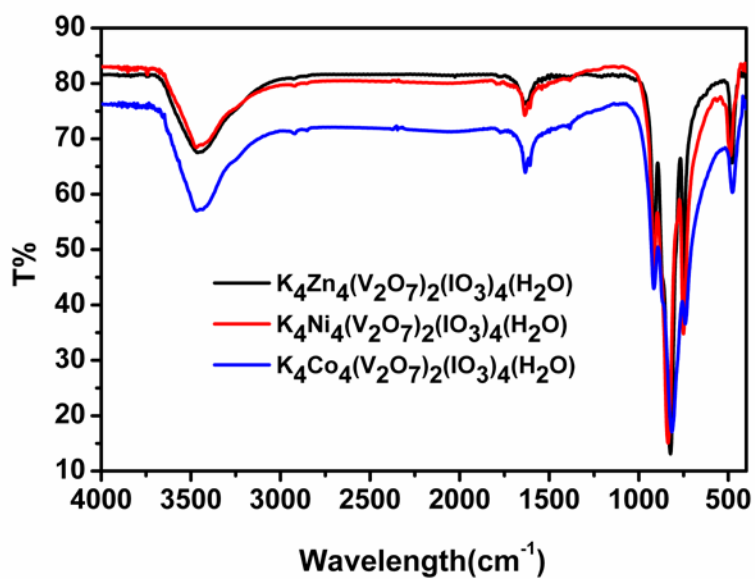


Figure S3. Infrared Vibrations ( $cm^{-1}$ ) for  $K_4TM_4(V_2O_7)_2(IO_3)_4(H_2O)$  (TM = Zn, Ni, Co).

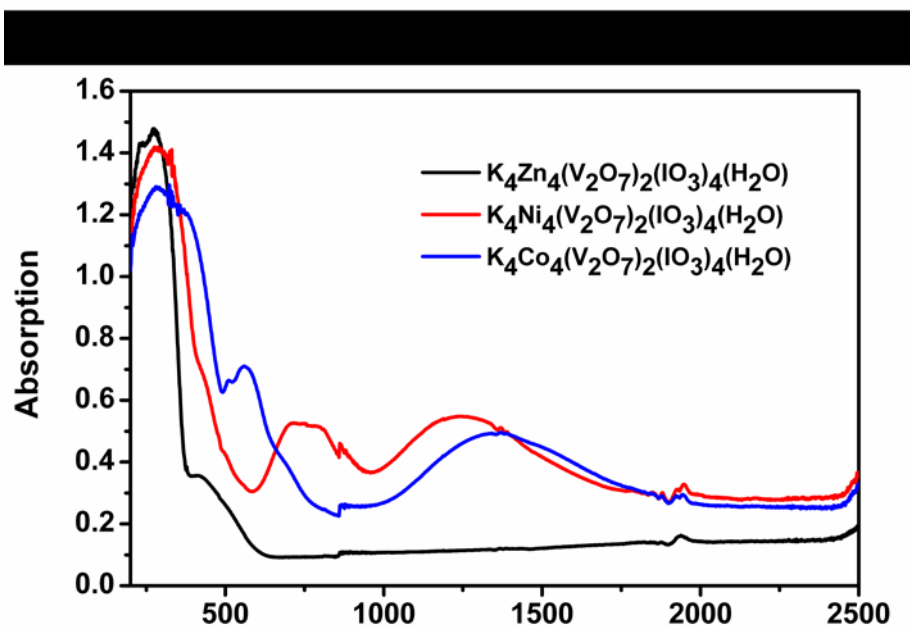


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