

Supporting Information

Synthesis, Crystal Structure and Physical Properties of FeV_4S_8 and $\text{KFe}_2\text{V}_8\text{S}_{16}$

Lifang Sui,^{a,b} Xian Zhang,^c Zhangliu Tian,^b Rongtie Huang,^{a,b} Hui Zhang^{*b}, Jinjong Cheng,^a
Fuqiang Huang^{*b,c}

^a Department of Material Sciences and Engineering, Shanghai University, Shanghai 200444, P.R. China

^b CAS Key Laboratory of Materials for Energy Conversion and State Key Laboratory of High Performance Ceramics and Superfine Microstructures, Shanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai 200050, P. R. China. E-mail: huangfq@mail.sic.ac.cn.

^c Beijing National Laboratory for Molecular Sciences, College of Chemistry and Molecular Engineering, Peking University, Beijing 100871, P. R. China.

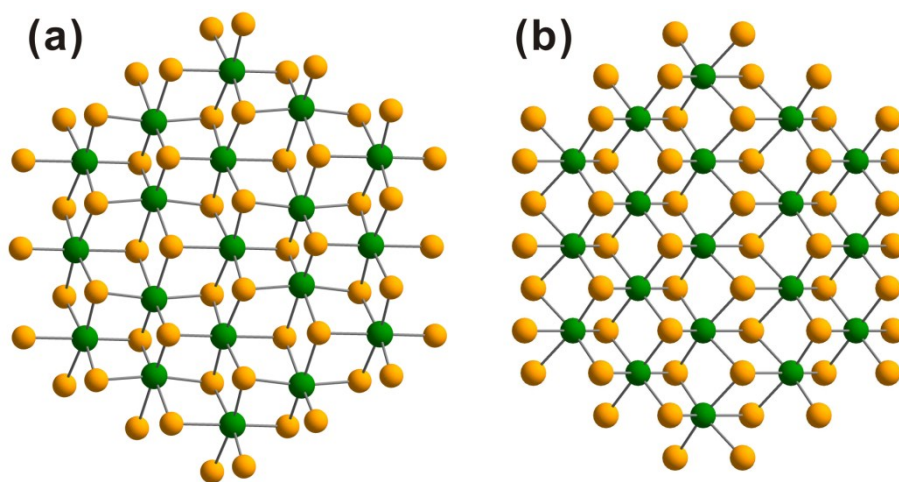


Figure S1. (a) The structure of the $[\text{V}_4\text{S}_8]^{3-}$ layers in FeV_4S_8 . (b) The structure of the $[\text{V}_8\text{S}_{16}]^{7-}$ layers $\text{KFe}_2\text{V}_8\text{S}_{16}$.

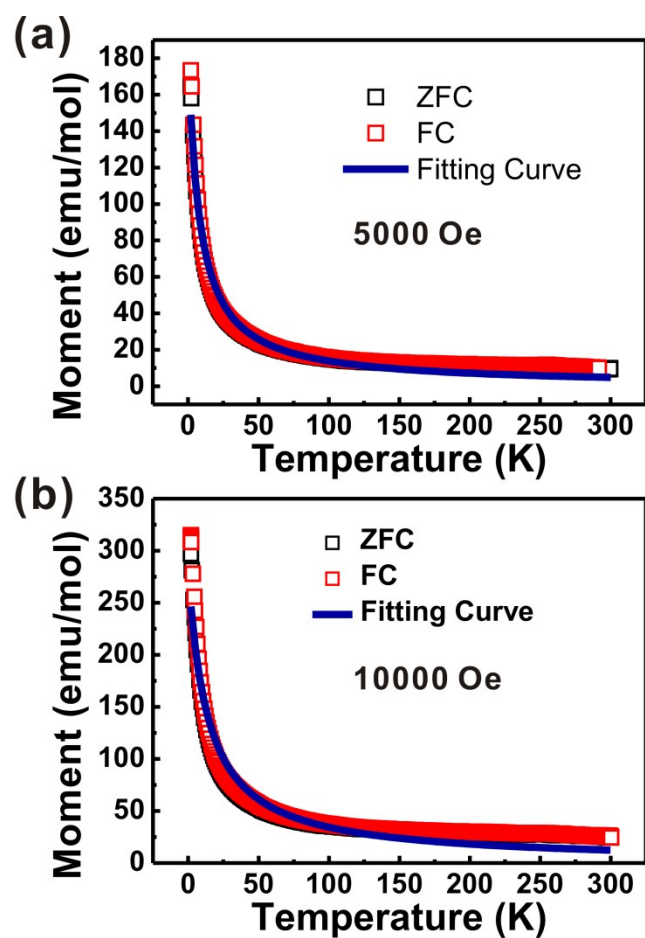


Figure S2. Temperature-dependence of the magnetization of the FeV_4S_8 compound under different external magnetic field (a) 5000 Oe and (b) 10000 Oe.

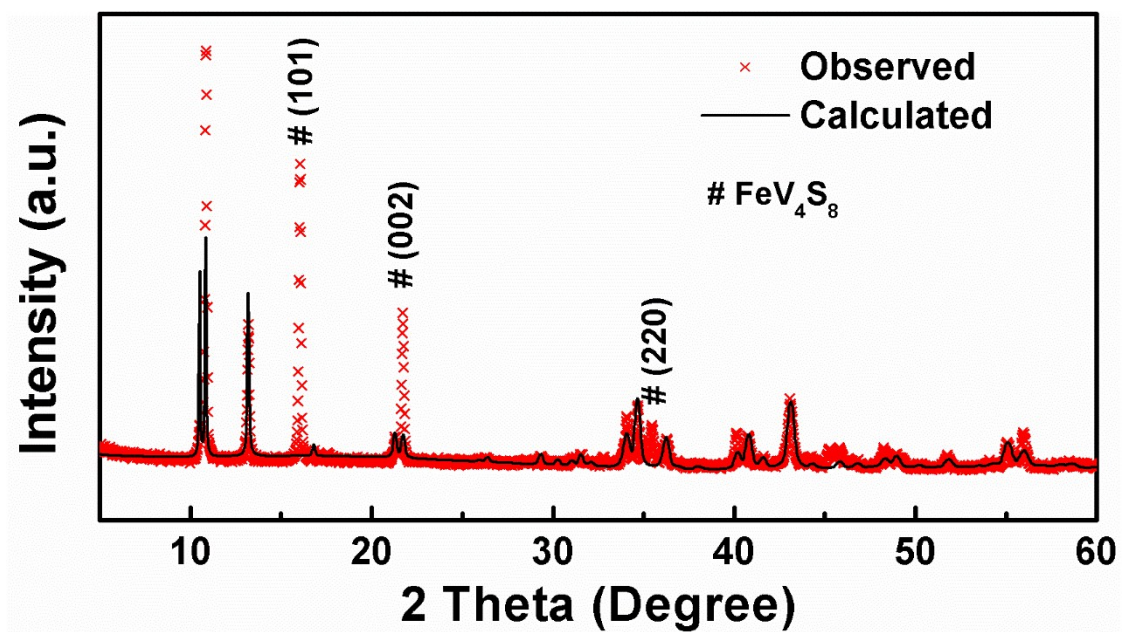


Figure S3. Powder XRD of the as-synthesized $\text{KFe}_2\text{V}_8\text{S}_{16}$