

# Theoretical and experimental investigation on structural, electronic and magnetic properties of layered $\text{Mn}_5\text{O}_8$

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## 1 Supplementary Information

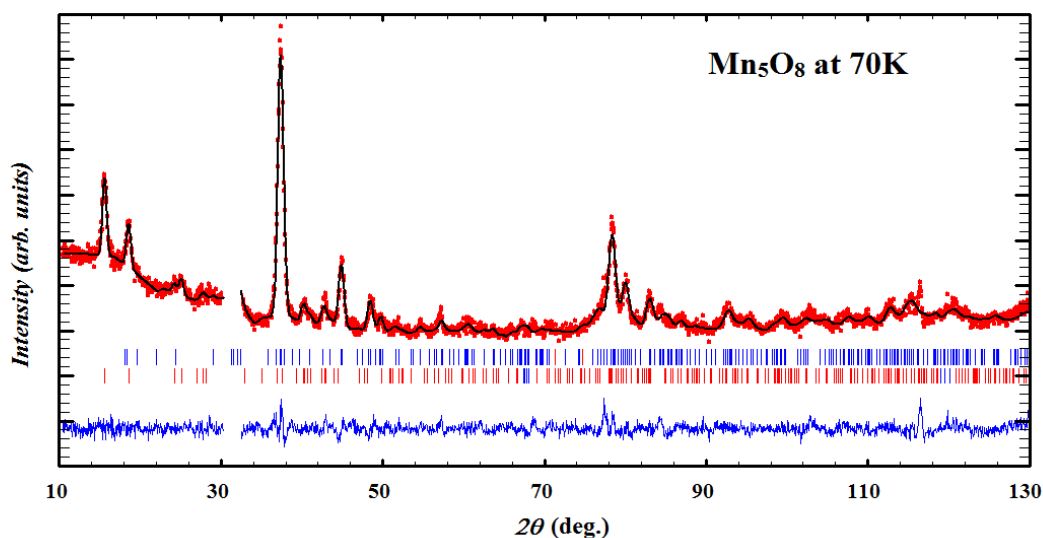


Figure 1: Experimental, calculated, and difference NPD patterns of  $\text{Mn}_5\text{O}_8$  at 70 K. Upper and lower bars denote Bragg positions of nuclei and magnetic reflections respectively. The region  $30.2^\circ$  to  $32.3^\circ$  is excluded owing to background from the detector system.

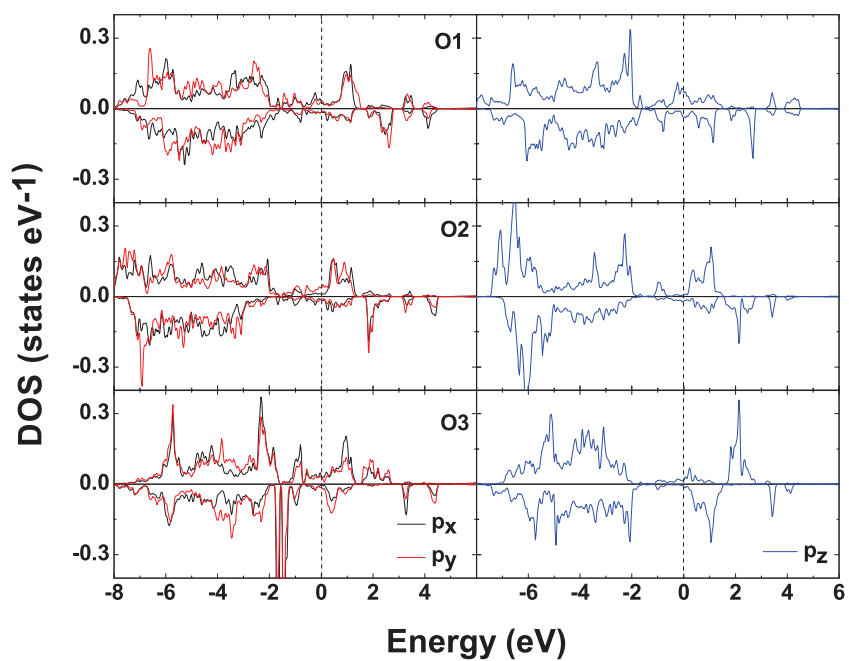


Figure 2: Orbital decomposed DOS for oxygen  $p$  states of  $Mn_5O_8$  in the ground state M4 configuration.

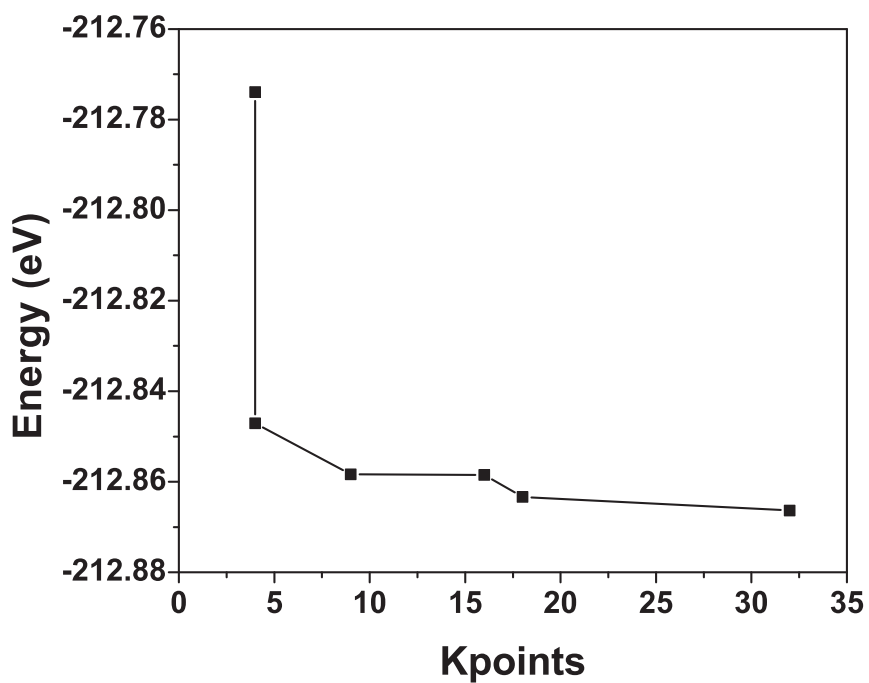


Figure 3: Total energy curve as a function of K-point for  $Mn_5O_8$