

A new metal-organic framework constructed by manganese and acetic acid

Wei Xue¹

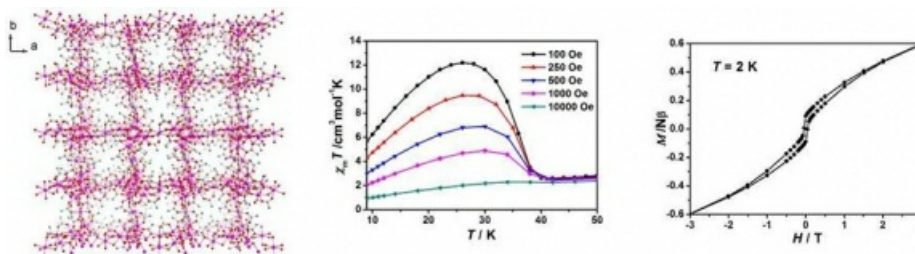
¹School Of Chemistry, Sun Yat-Sen University, Guangzhou, China

E-mail: wizard7777@163.com

Metal-organic frameworks (MOFs) or porous coordination polymers (PCPs) are well-known for their highly designable framework and porous structures, which play important roles in numerous application areas including gas storages, selective adsorption/separation, catalysis, molecular magnetism, guest polarization, etc. Recently, we have discovered a new three-dimensional framework [MnII₄MnIVO₂(OAc)₈·1.4EtOH] that constructed by manganese ions and acetic acid. Multivalent manganese ion and three-dimensional magnetic coupled network result an interesting magnetic behavior, and the suitable void space limited the movement of the guest molecule with multiple hydrogen bonds gives rise to the interesting guest polarization. The investigations of magnetic property revealed the existence of long range ordering and metamagnetic behaviour¹. Both dc and ac magnetic susceptibility indicated the phase transition occurs at around 32 K, and a typical loop for spin canting behavior was observed below critical temperature.

[1] Kahn, O. Molecular Magnetism, VCH Publishers, New York, 1993.

[2] Xue, W. Wang, B.-Y. Zhu, J. Zhang, W.-X. Zhang, Y.-B. Zhao, H.-X. Chen, X.-M., Chem. Commun. 2011, 47, 10233-10235.



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