Electronic Supplementary Material for CrystEngComm

Construction of coordination networks with high connectivity: a new 8-connected self-penetrating network based on tetranuclear metal clusters

Zhi-Gang Li,[a,b] Guan-Hua Wang,[a,b] Heng-Qing Jia,[a] Ning-Hai Hu,*[a] Jing-Wei Xu*[a] and Stuart R. Batten[c]

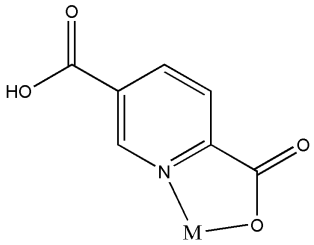
[a]*Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun 130022, China. Fax: 86 431 85685653; Tel: 86 431 85262342; E-mail: hunh@ciac.jl.cn*

[b]*Graduate School, Chinese Academy of Sciences, Beijing, 100039, China.*

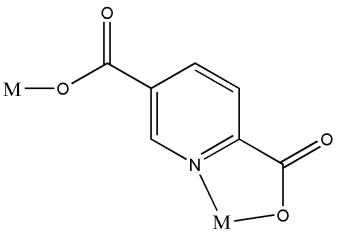
[c]*School of Chemistry, Monash University, Clayton, Victoria, 3800, Australia.*

Supplementary Information

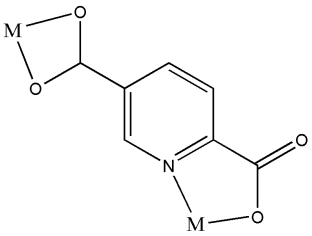
Figure S1. Various coordination modes of 2,5-pydc ligand summarized from Cambridge Structural Database.



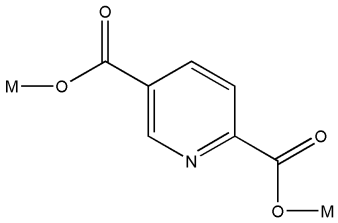
(κ^2N,O^2)



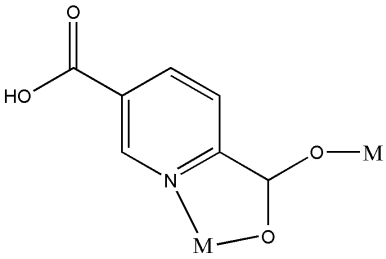
μ-($\kappa^3N,O^2:O^5$)



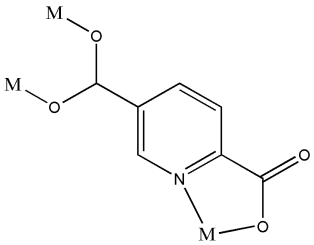
μ-($\kappa^4N,O^2:O^5,O^{5'}$)



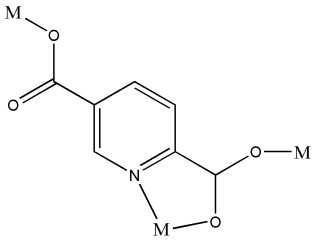
μ-($\kappa^2O^2:O^5$)



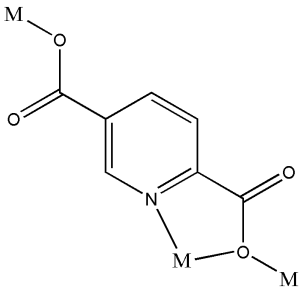
μ-($\kappa^3N,O^2:O^{2'}$)



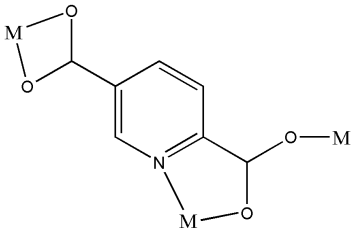
μ_3-($\kappa^4N,O^2:O^5:O^{5'}$)



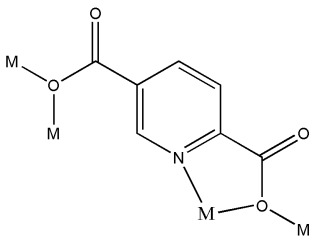
μ_3-($\kappa^4N,O^2:O^{2'}:O^5$)



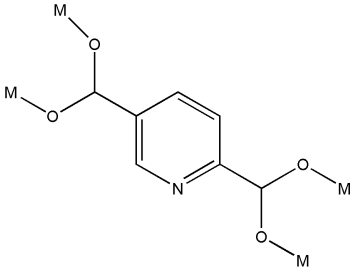
μ_3-($\kappa^4N,O^2:O^2:O^5$)



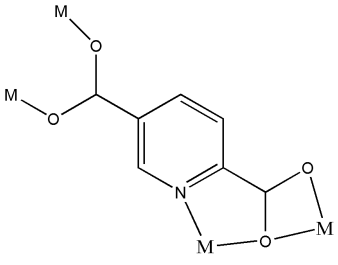
μ_3-($\kappa^5N,O^2:O^{2'}:O^5,O^{5'}$)



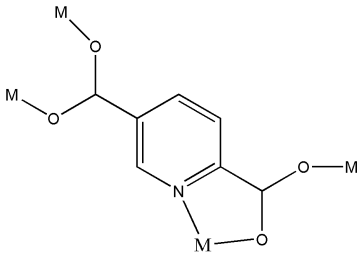
μ_4-($\kappa^5N,O^2:O^2:O^5:O^5$)



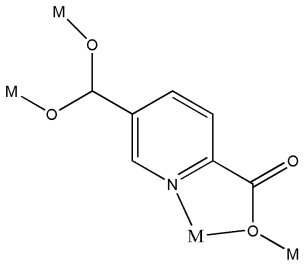
μ_4-($\kappa^4O^2:O^{2'}:O^5:O^{5'}$)



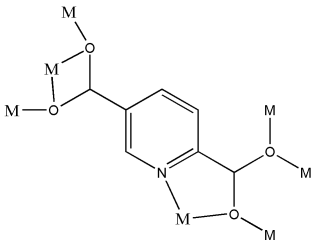
μ_4-($\kappa^6N,O^2:O^2,O^{2'}:O^5:O^{5'}$)



μ_4-($\kappa^5N,O^2:O^{2'}:O^5:O^{5'}$)



μ_4-($\kappa^5N,O^2:O^2:O^5:O^{5'}$)



μ_7-($\kappa^9N,O^2:O^2:O^{2'}:O^{2'}:O^5:O^5,O^{5'}:O^{5'}$)

Figure S2. Thermal gravimetric curves of **1** and **2**.

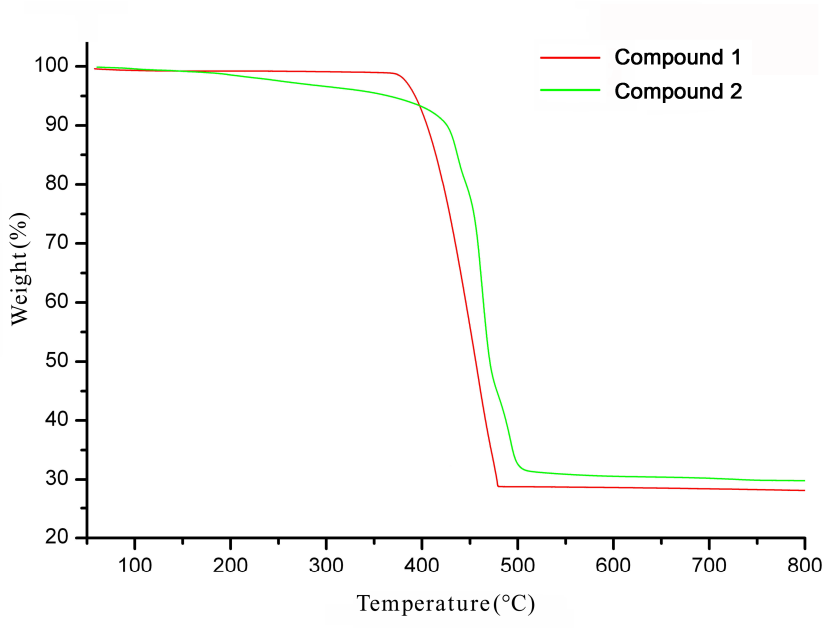
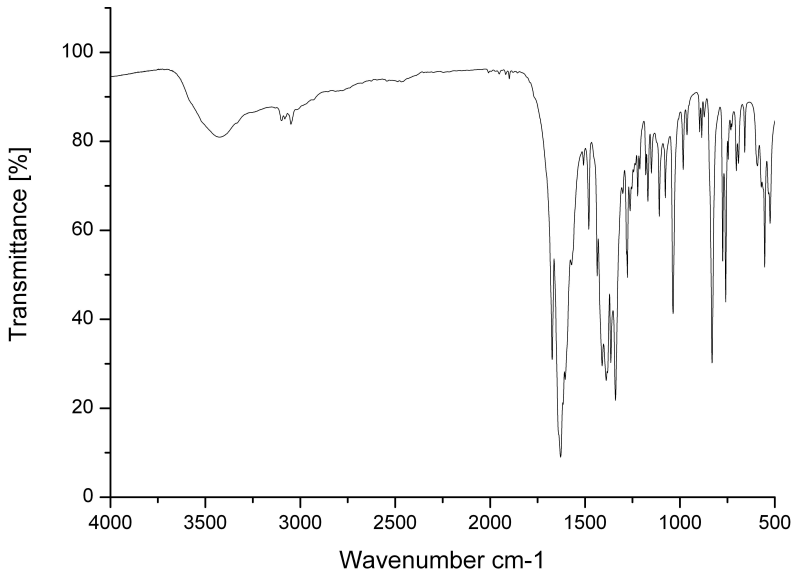
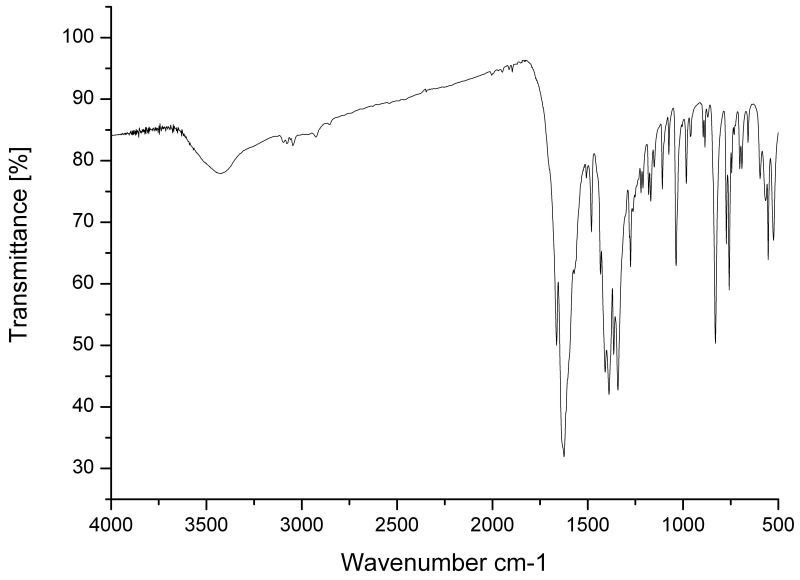


Figure S3. FT-IR spectroscopy of **1** (a) and **2** (b).



(a)



(b)

Figure S4. Structure of **2**, showing the coordination environments of the Zn^{2+} ions and the coordination modes of the 2,5-pydc ligands. Displacement ellipsoids are drawn at the 30% probability level. Symmetry codes: (a) x, 1–y, 0.5+z; (b) –0.5+x, 0.5–y, –0.5+z; (c) 0.5–x, 0.5+y, 0.5–z; (d) x, 1–y, –0.5+z; (e) 0.5–x, –0.5+y, 0.5–z; (f) 0.5+x, 0.5–y, 0.5+z.

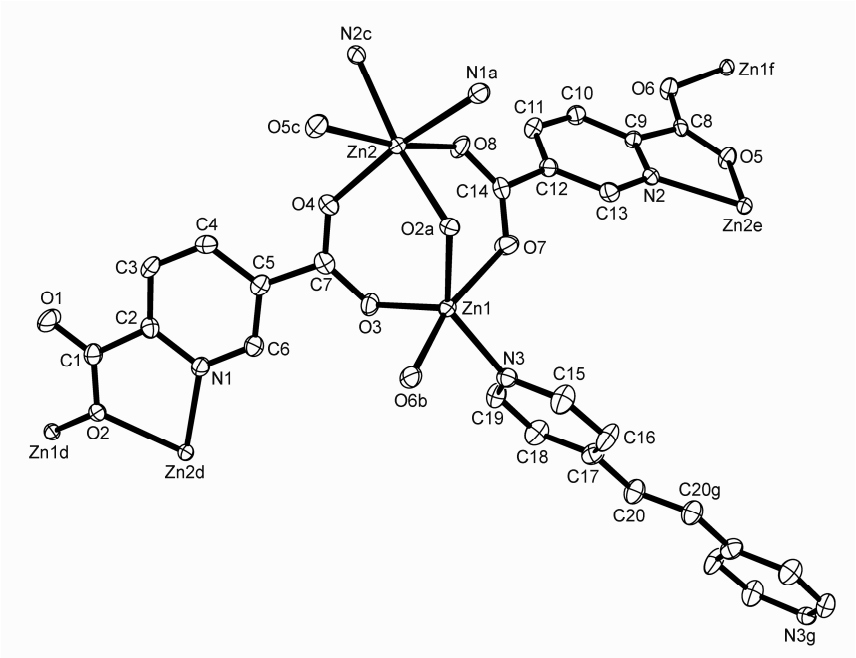


Figure S5. A view of the Zn_4 clusters in **2**, showing the connection of a Zn_4 core to eight neighbours. Symmetry code: (a) –x, 1–y, –z.