Electronic Supplementary Information (ESI) for *Dalton Transactions*

Simultaneous encapsulation of infinite T4(0)A(0)6(0) water tape and discrete water hexamer in a hydrogen-bonded Ag(I) supramolecular framework

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Content

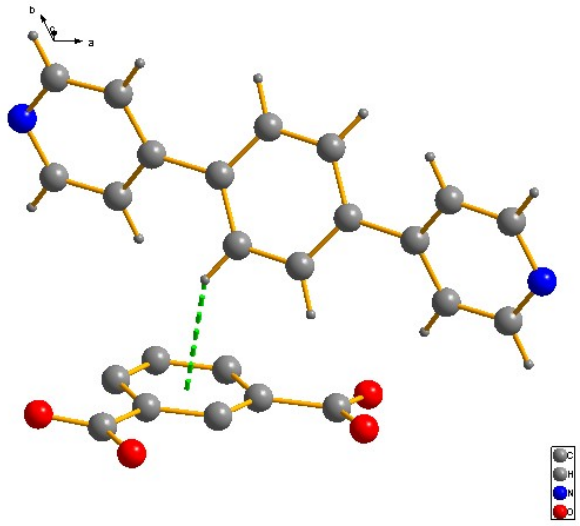
(1) Table S1: The π···π interactions in 1

Cg1···Cg2^{viii}	3.738(2)
Cg1···Cg3^{ix}	3.637(2)
Cg2···Cg2^{ix}	3.7011(19)
Cg3···Cg4^{x}	3.730(2)
Cg4···Cg4^{xi}	3.8642(19)
Cg5···Cg5^{viii}	3.857(2)
Cg6···Cg6^{x}	3.829(2)

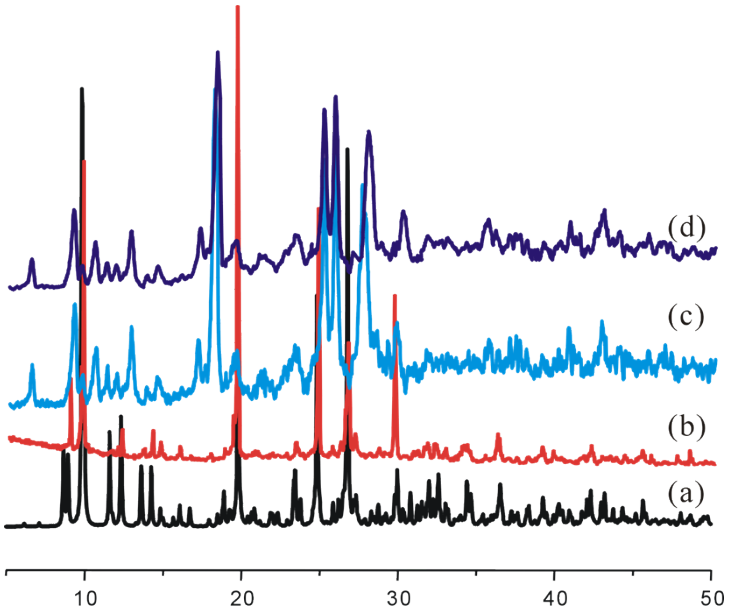
Cg1 to Cg6 are the centroids of N1/C1/C2/C3/C4/C5, N2/C12/C13/C14/C15/C16, N3/C17/C18/C19/C20/C21, N4/C28/C29/C30/C31/C32, C6/C7/C8/C9/C10/C11 and C22/C23/C24/C25/C26/C27.

Symmetry code: (viii) -1-x, 1-y, 1-z; (ix) –x, 1-y, 1-z; (x) 1-x, -y, 2-z; (xi) 2-x, -y, 2-z.

(2) Fig. S1: The C−H···π interaction

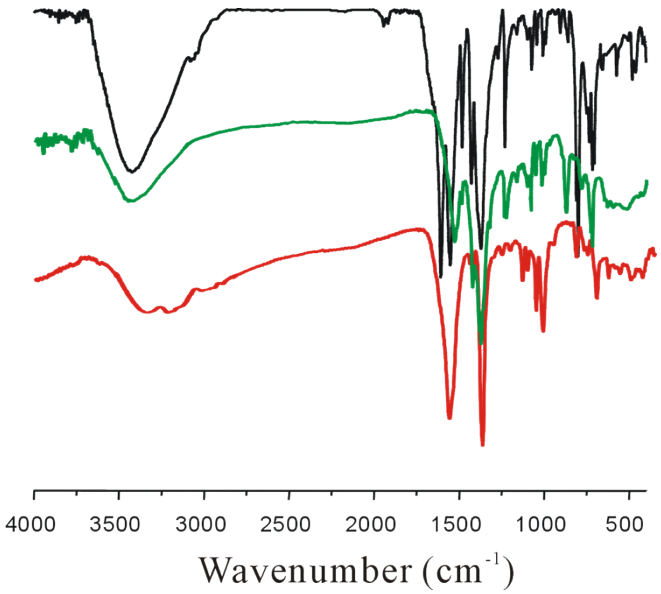


(3) Fig. S2: The XRD patterns of 1.



PXRD pattern of **1**: (a) simulated, (b) as-synthesized, (c) heated at 150 °C for 2 h and (d) rehydrated.

(4) Fig. S3: IR of 1, dehydrated and rehydrated 1.



IR of **1**: (Black line) as-synthesized, (Green line) heated at 150 °C for 2 h and (red line) rehydrated **1**.

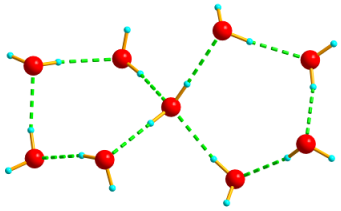
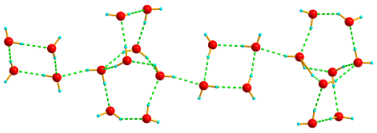
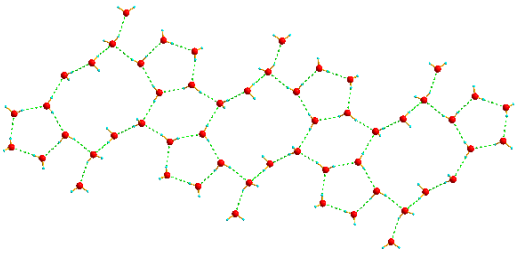
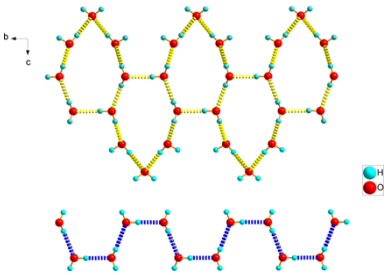
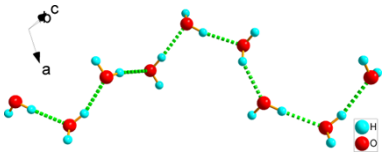
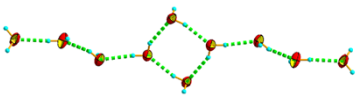
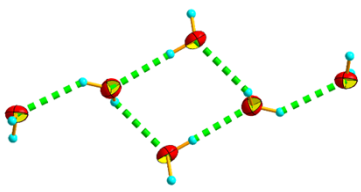
(5) Elemental analysis for 1, dehydrated and rehydrated 1.

Elemental Analysis for $[Ag_2(dpb)_2(bdc)\cdot 9H_2O]_n$ (**1**, $C_{40}H_{46}Ag_2N_4O_{13}$): C, 47.73 (47.59); H, 4.60 (3.98); N, 5.57 (5.30) %.

Elemental Analysis for dehydrated **1**: C, 55.62; H, 3.37; N, 6.41 %, resulting in a approximate formula of $[Ag_2(dpb)_2(bdc)\cdot H_2O]_n$ (calculated C, H, N contents: C, 55.71; H, 3.51; N, 6.50 %)

Elemental Analysis for rehydrated **1**: C, 56.13; H, 3.62; N, 6.03 %, resulting in a approximate formula of $[Ag_2(dpb)_2(bdc)\cdot H_2O]_n$ (calculated C, H, N contents: C, 55.71; H, 3.51; N, 6.50 %)

(6) Table S2: Different water clusters found in Ag(I)/bipyridine-based ligand dicarboxylate system

Complex	Water cluster	Ref.
Ag/1,2-bis(4-pyridyl)ethane/succinate		*Cryst. Growth Des.*, 2011, **11**, 1948
Ag/1,3-bis(4-pyridyl)propane/succinate		*Cryst. Growth Des.*, 2011, **11**, 1948
Ag/4,4'-bipyridine/succinate		*Inorg. Chem. Commun.*, 2006, **9**, 691
Ag/4,4'-bipyridine/oxalate		*Cryst Growth Des*, 2010, **10**, 4642
Ag/4,4'-bipyridine/adipate		*Cryst Growth Des*, 2010, **10**, 4642
Ag/4,4'-bipyridine/suberate		*J Mol Struct*, 2011, **1004**, 313
Ag/4,4'-bipyridine/azelate		*J Mol Struct*, 2011, **1004**, 313