

## *Supporting Information for Dalton Transactions*

### **Three novel organosilver(I) coordination networks constructed from diallylmelamine and polycarboxylates incorporating silver-vinyl bonding**

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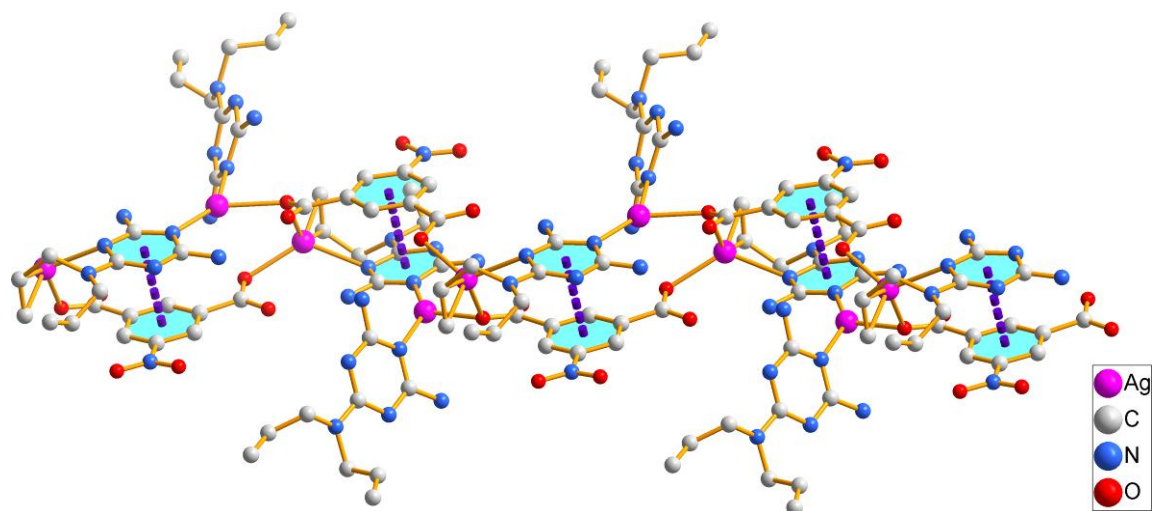
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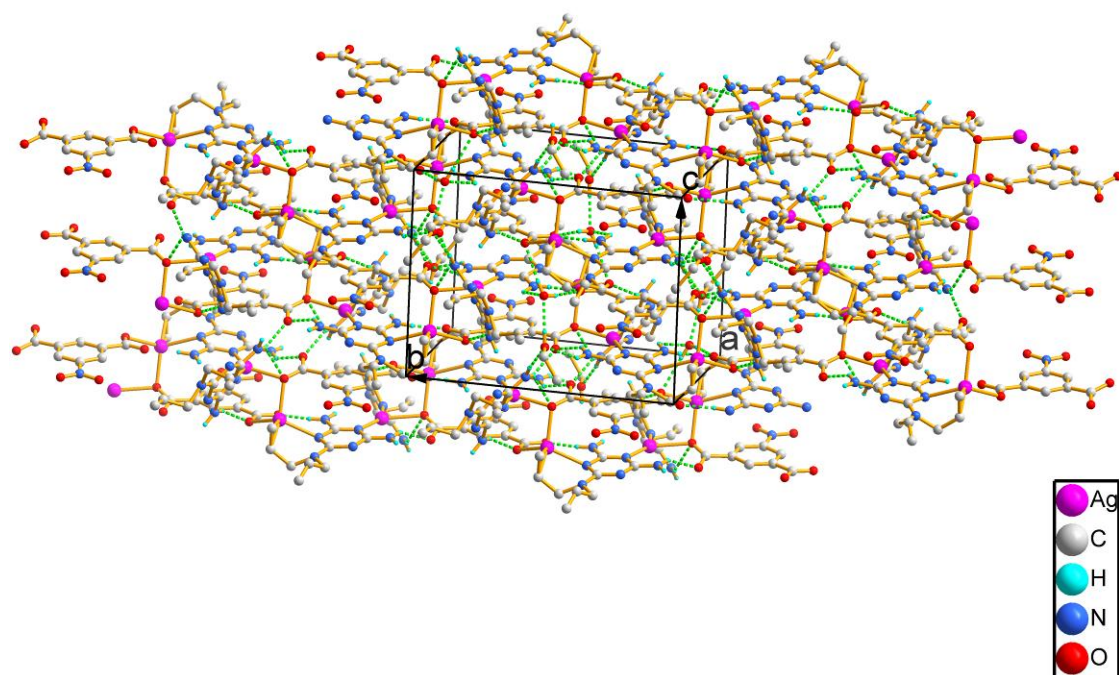
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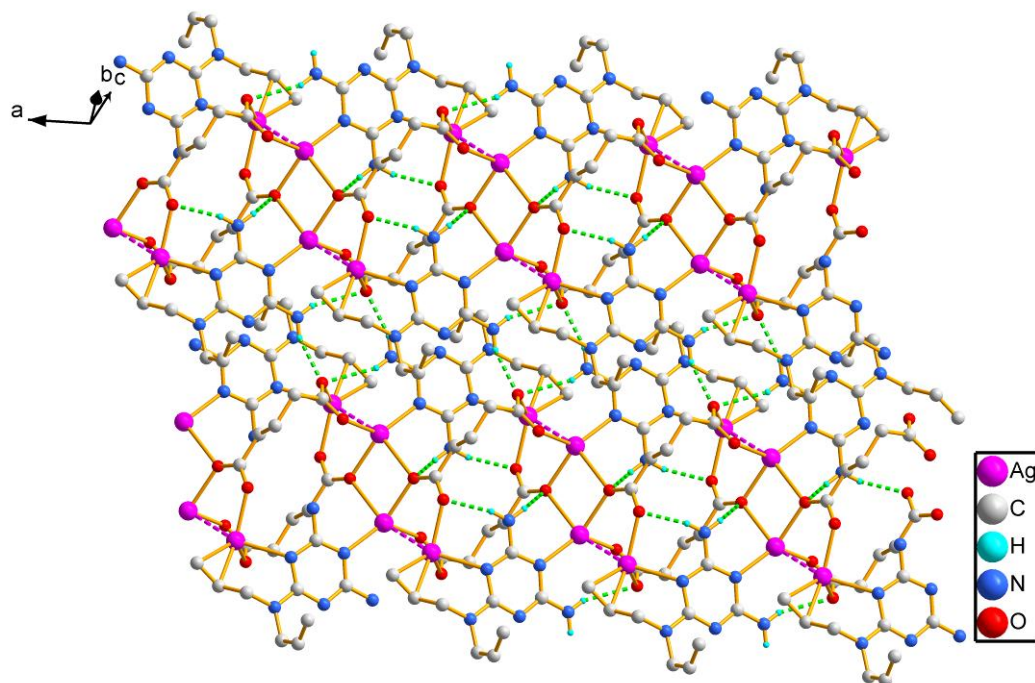
(1) Fig. S1: The strong  $\pi\cdots\pi$  interactions between triazinyl and phenyl rings.



(2) Fig. S2: The 3D supramolecular framework of 1.



(3) Fig. S3: 2D supramolecular sheet of **2** containing  $R_4^2(8)$  motifs.



(4) Table S1: The hydrogen bond geometries for 1-3

Complex 1			
<i>D</i> —H... <i>A</i>	H... <i>A</i>	<i>D</i> ... <i>A</i>	<i>D</i> —H... <i>A</i>
N4—H4A...O1W	2.58	3.041 (5)	114
N4—H4B...O2	1.96	2.808 (5)	161
N5—H5A...O7	2.14	2.902 (5)	145
N5—H5B...O3 <sup>iii</sup>	2.02	2.770 (5)	142
N10—H10A...O7 <sup>v</sup>	2.13	3.005 (5)	172
N10—H10B...O3 <sup>vi</sup>	2.06	2.728 (5)	132
N11—H11A...N9 <sup>vii</sup>	2.42	3.201 (5)	149
N11—H11B...O1 <sup>iv</sup>	2.15	2.925 (5)	147
O1W—H1WA...O2	2.02	2.863 (5)	173
O1W—H1WB...O1 <sup>v</sup>	2.28	3.126 (5)	173
O7—H7D...O1W <sup>i</sup>	2.05	2.878 (4)	170

Symmetry codes: (i)  $-x+1, y+1/2, -z+1/2$ . (iii)  $x, y+1, z$ ; (v)  $-x+1, -y+1, -z+1$ ; (vi)  $-x+1, -y, -z+1$ ; (vii)  $x, -y-1/2, z-1/2$ ; (iv)  $-x+1, y-1/2, -z+1/2$ ;

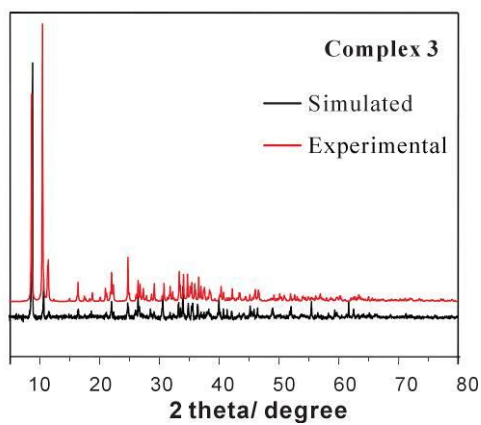
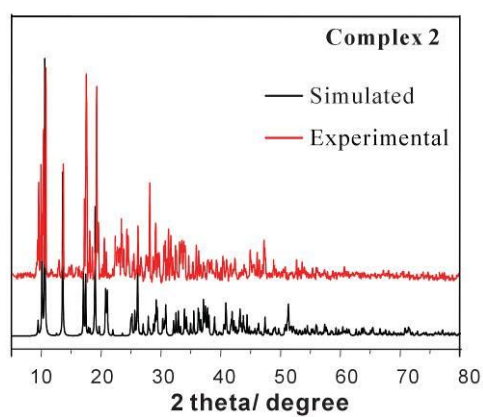
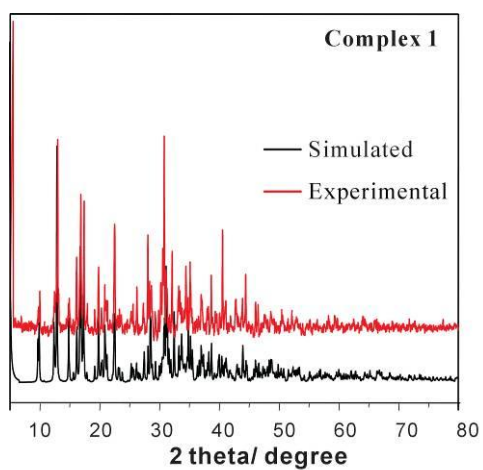
Complex 2			
<i>D</i> —H... <i>A</i>	H... <i>A</i>	<i>D</i> ... <i>A</i>	<i>D</i> —H... <i>A</i>
N4—H4A...O1	2.10	2.847 (4)	145
N4—H4B...O2 <sup>i</sup>	2.35	3.060 (4)	140
N5—H5A...O4 <sup>iv</sup>	2.12	2.945 (4)	159
N5—H5B...O4 <sup>v</sup>	2.33	3.100 (4)	150

Symmetry codes: (i)  $-x+1, -y, -z$ ; (iv)  $x+1, y+1, z+1$ ; (v)  $-x+2, -y, -z$ .

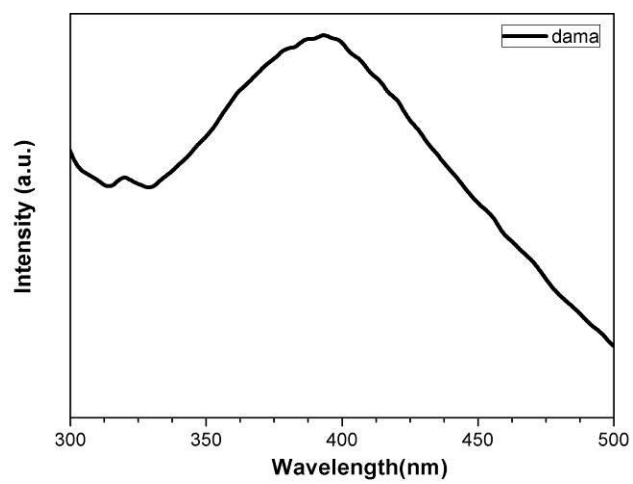
Complex 3			
<i>D</i> —H... <i>A</i>	H... <i>A</i>	<i>D</i> ... <i>A</i>	<i>D</i> —H... <i>A</i>
N4—H4C...O1W <sup>i</sup>	2.12	3.022 (5)	165
N4—H4D...O6 <sup>i</sup>	2.03	2.795 (4)	140
N5—H5B...O1W <sup>ii</sup>	2.14	3.014 (4)	171
N5—H5C...O1 <sup>ii</sup>	2.11	2.990 (5)	174
N10—H10A...O4 <sup>iii</sup>	2.10	2.750 (4)	128
N10—H10B...O7 <sup>iv</sup>	2.28	2.906 (5)	126
N11—H11A...O2W <sup>v</sup>	2.38	3.139 (5)	144
N11—H11B...O8 <sup>vi</sup>	2.12	2.984 (4)	168
O1W—H1WA...O2W	2.00	2.835 (4)	169
O1W—H1WB...O2 <sup>i</sup>	1.95	2.743 (4)	155
O2W—H2WA...N9 <sup>v</sup>	2.06	2.885 (5)	163
O2W—H2WB...O7 <sup>v</sup>	1.97	2.773 (4)	158

Symmetry codes: (i)  $-x+1, -y+1, -z+1$ ; (ii)  $-x, -y+1, -z+1$ ; (iii)  $-x+1, -y, -z+2$ ; (iv)  $x-1, y, z$ ; (v)  $-x+2, -y, -z+1$ ; (vi)  $-x+2, -y, -z+2$ .

(5) Fig. S4: PXRD of 1-3



(6) Fig. S5: Emission spectrum of free dama ligand



(7) Fig. S6: IR spectra of 1-3

