Supplementary Data

Table T1 Comparison of selected (Experimental and calculated) bond distances (Å) and bond angles (°) for complexes (**1**), (**2**) and (**3**).

Bond lengths	Exp.	Calc.	Dev.	Bond angles	Exp.	Calc.	Dev.
Comp. (**1**)							
Ag - N1	2.456	2.449	0.007	N1- Ag - N2	78.70	79.10	-0.40
Ag - N2	2.442	2.480	-0.038	N1 Ag - O1	71.34	76.20	-4.86
Ag - O1	2.600	2.455	0.145	N1-Ag - O4B	134.41	120.90	13.5
Ag - O4B	2.390	2.520	-0.130	N2- Ag - O4B	144.23	146.00	-1.77
Ag...AgB	3.245	2.885	0.360	N2- Ag - O1	125.48	125.10	0.38
				O4B - Ag - O1	85.44	88.10	-2.66
Comp. (**2**)							
Ag - N1	2.481	2.527	-0.046	N1 - Ag - N2	78.11	78.80	-0.69
Ag - N2	2.439	2.473	-0.034	N1 - Ag - O1	69.78	70.40	-0.62
Ag - O1	2.561	2.523	0.038	N1 - Ag - O3B	137.36	130.60	6.76
Ag - O3B	2.472	2.502	-0.030	N2 - Ag - O3B	141.41	145.90	-4.49
Ag - O4	2.642	2.824	-0.182	N2 - Ag - O1	127.99	128.60	-0.61
Ag...AgB	3.237	3.202	0.035	N2 - Ag - O4	69.70	69.22	0.48
				O3B - Ag - O1	86.66	82.90	3.76
				O1- Ag - O4	161.21	161.43	-0.22
Comp.(**3**)							
Ag - N1	2.350	2.572	-0.222	N1 - Ag - O1	73.06	70.00	3.06
Ag - N2	2.279	2.456	-0.177	N1 - Ag - O2	71.45	70.30	1.51
Ag- O1	2.679	2.543	0.136	N1 - Ag - O3	74.11	71.60	2.51
Ag - O2	2.722	2.533	0.189	O1 - Ag - O2	107.56	103.20	4.36
Ag - O3	2.664	2.540	0.124	O1 - Ag - O3	121.74	118.10	3.64
				O2 – Ag - O3	105.68	107.10	-1.42
				N2 - Ag - N1	174.58	171.90	2.68

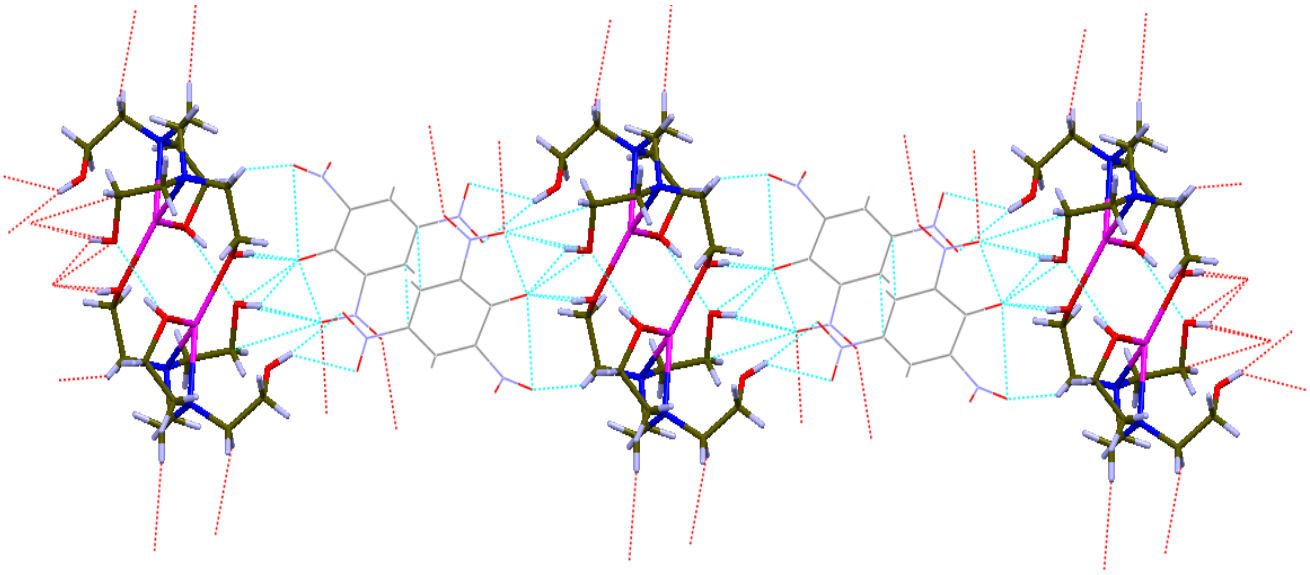


Fig. S1 Side view of the polymer chain of complex (**1**) extended along the crystallographic 'a' axis.

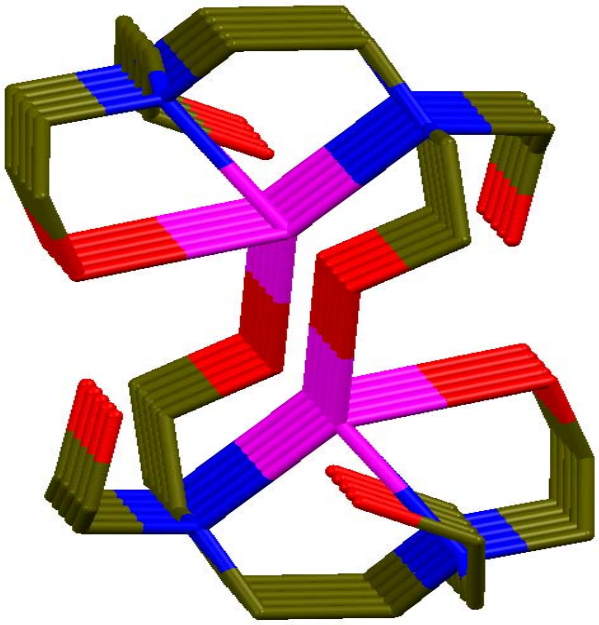


Fig. S2 Top view of the polymer chain of complex (**1**) extended along the crystallographic 'c' axis . Picrate anions have been removed for clarity.

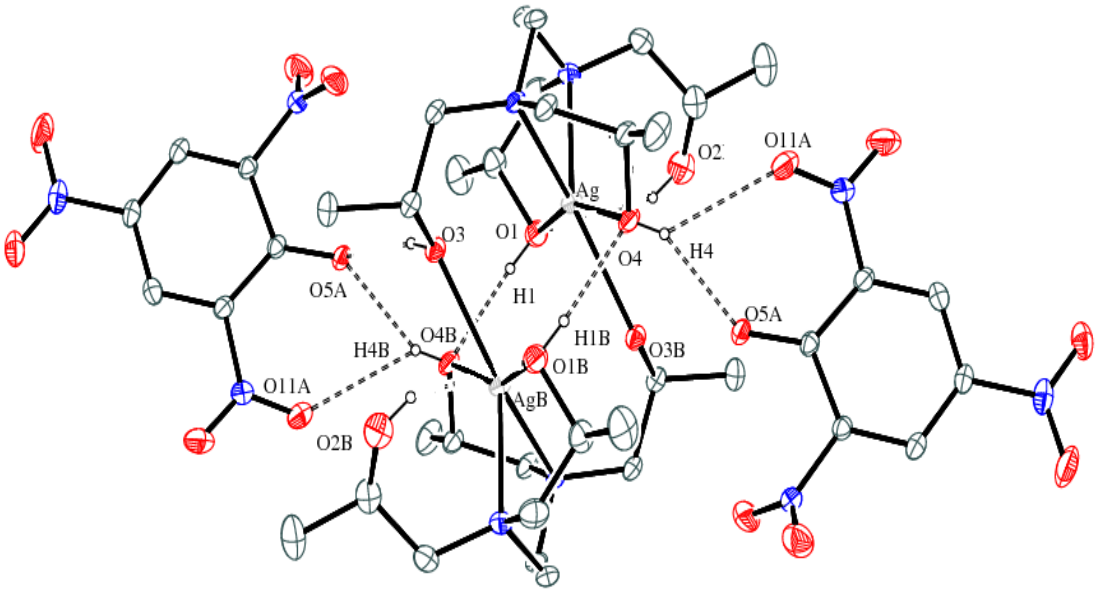


Fig. S3 Molecular structure of complex (**2**) with hydrogen bonding interactions. [Symmetry Code A = 1-x+1/2, -1/2 + y, 1-z+1/2, B = 2-x,1-y, 2-z]

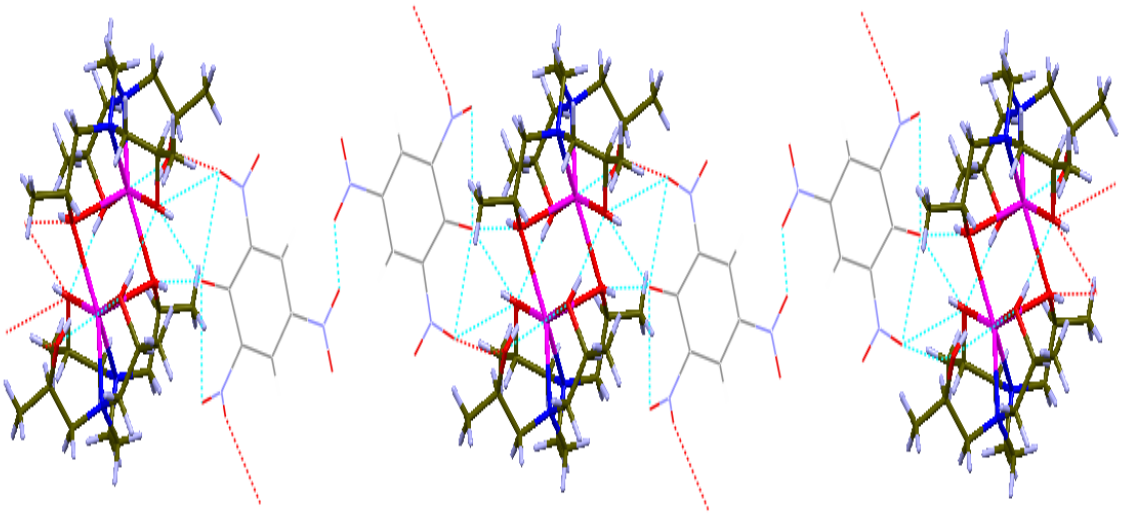


Fig. S4 Side view of the polymer chain of complex (**2**) extended along the crystallographic 'a' axis.

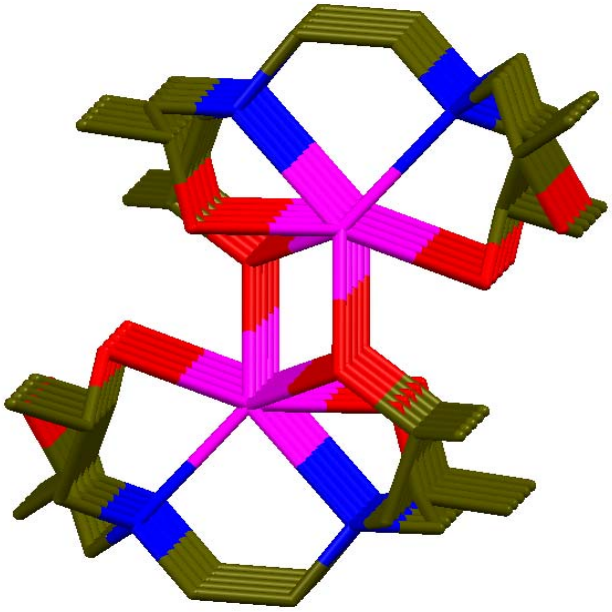


Fig. S5 Top view of the polymer chain of complex (**2**) extended along the crystallographic ‘c’ axis, Picrate anions have been removed for clarity.

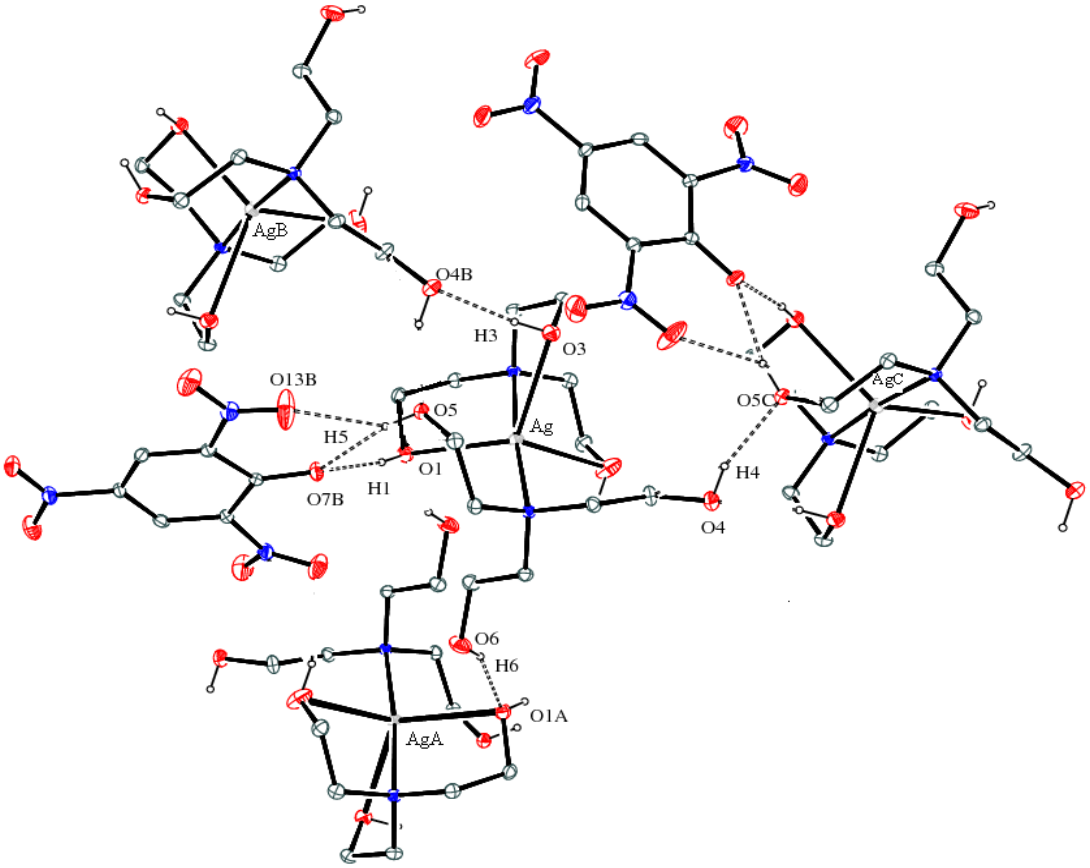


Fig. S6 Molecular structure of the complex (**3**) with hydrogen bonding interactions. [Symmetry Code: A = -x, -y, 2-z, B = x, 1/2 -y, z + 1/2 , c = x, 1/2-y, -1/2+ z]

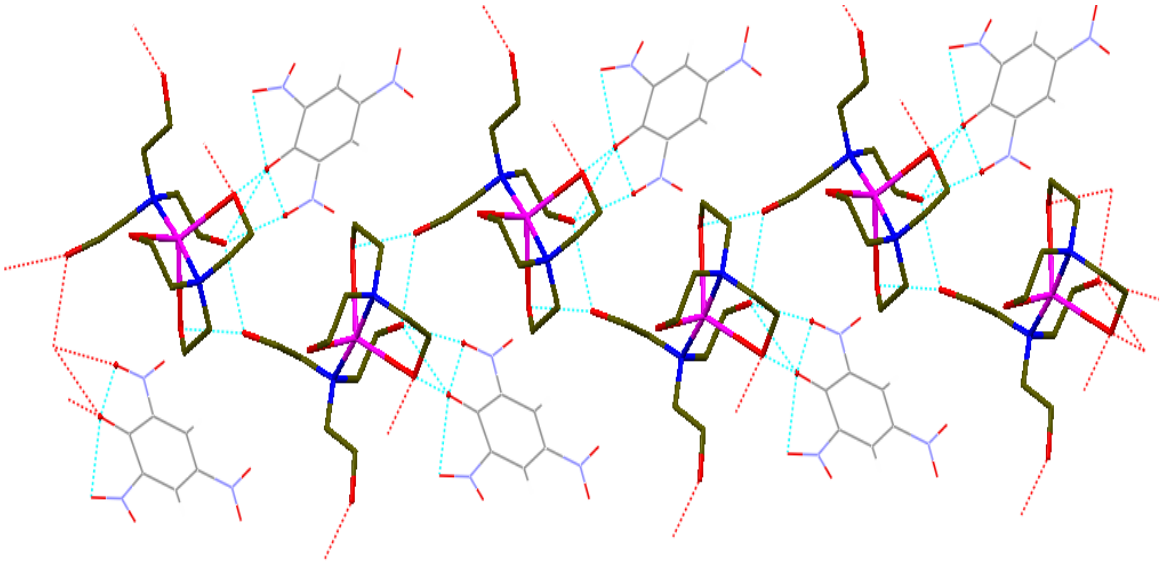


Fig. S7 Side view of the polymer chain of complex (**3**) extended along crystallographic 'a' axis .

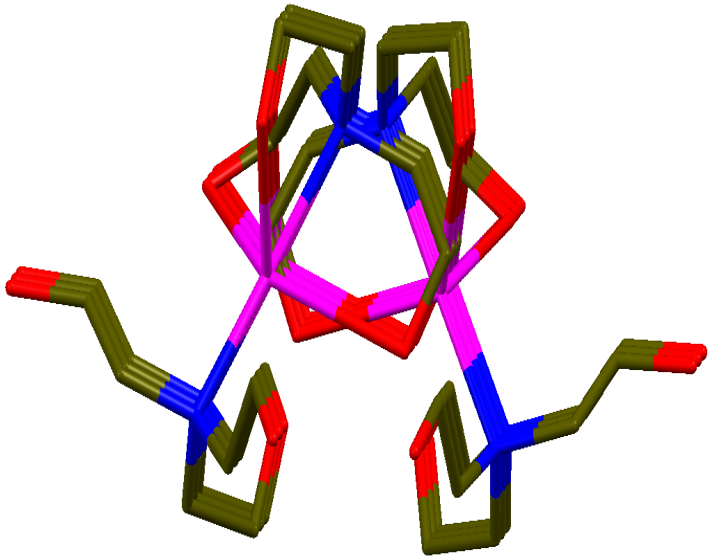


Fig. S8 Top view of the polymeric chain of complex (**3**) extended along crystallographic 'c' axis. Picrate anions have been removed for clarity.

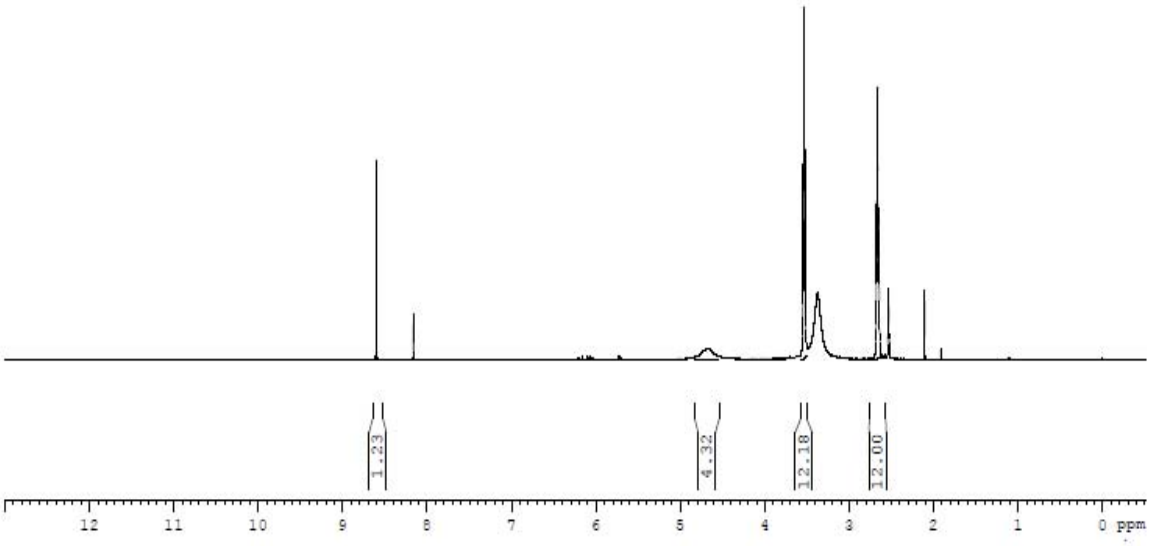


Fig. S9 ^{1}H NMR spectra of [Ag (THEEN)]$_2$(PIC)$_2$

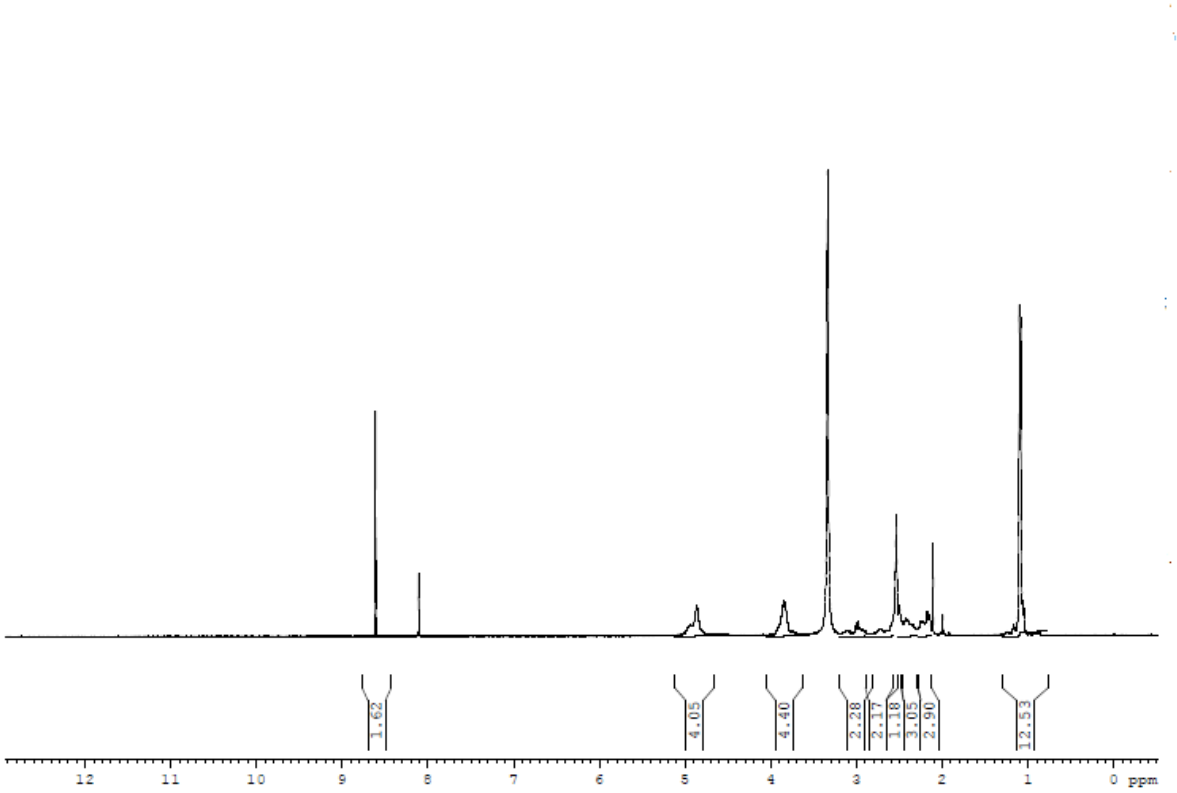


Fig. S10 ^{1}H NMR spectra of [Ag (THPEN)]$_2$(PIC)$_2$

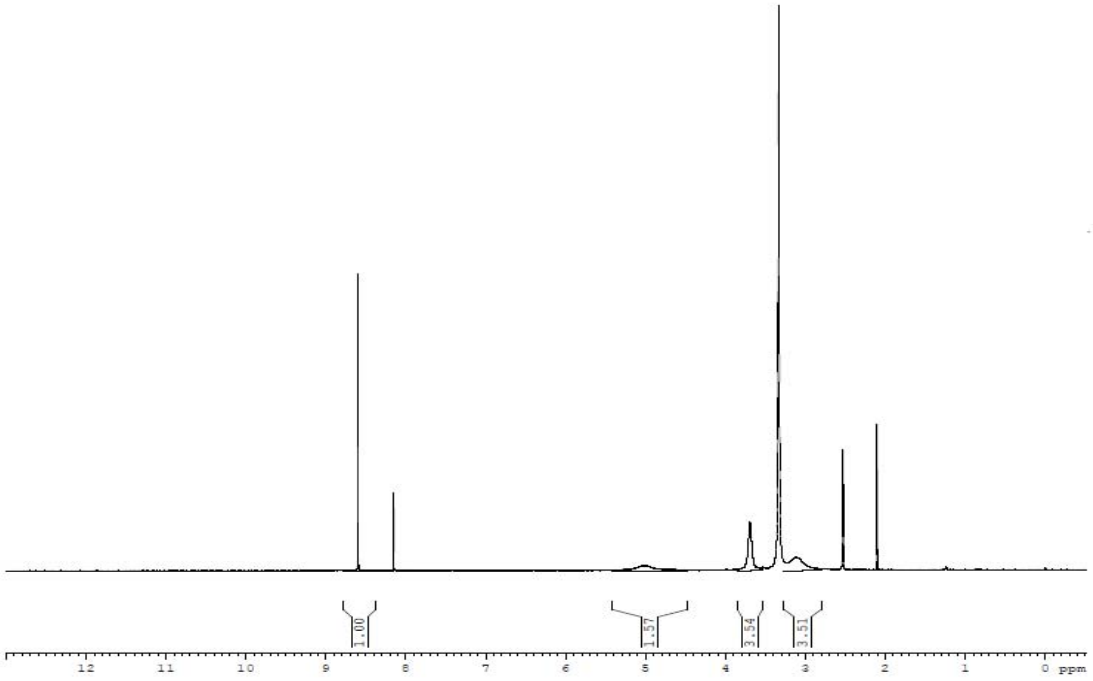
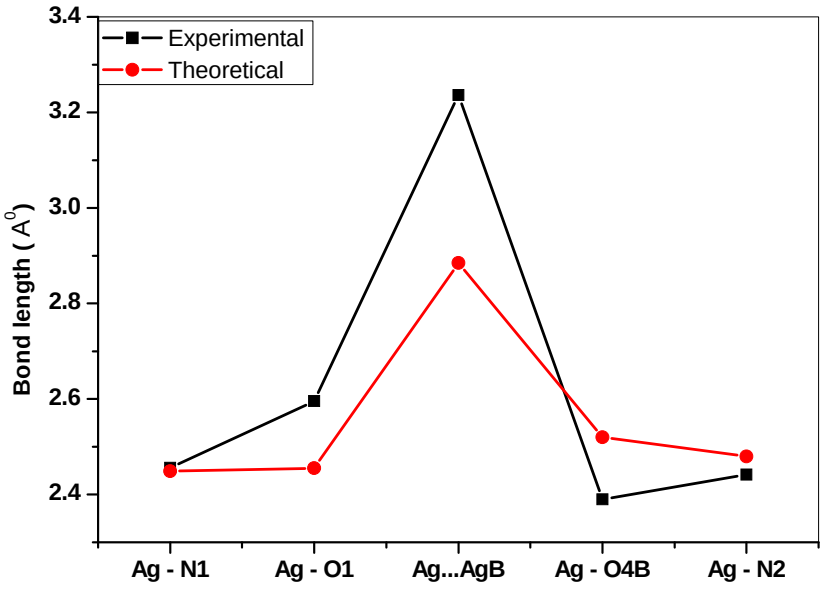
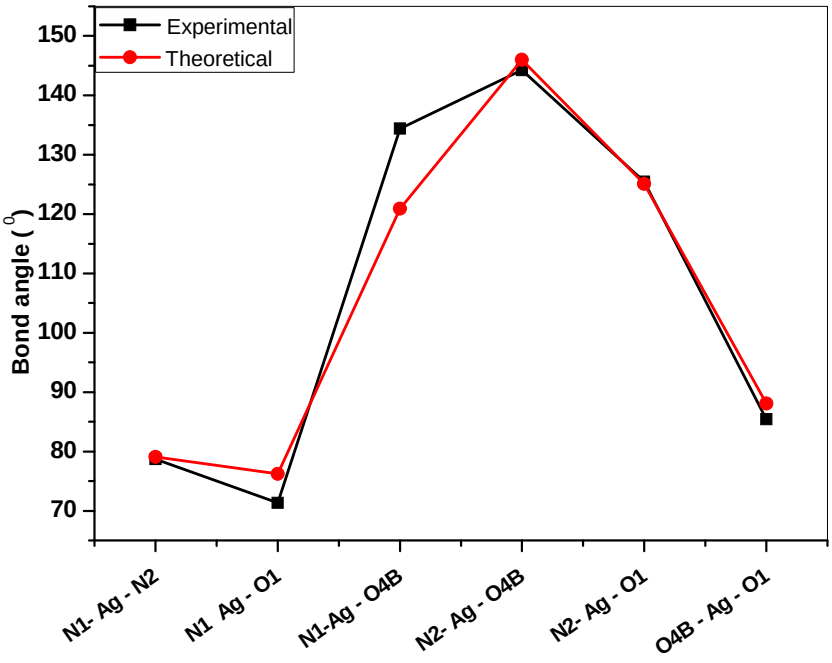


Fig. S11 ^{1}H NMR spectra of [Ag $(TEAH_3)_2$] (PIC)

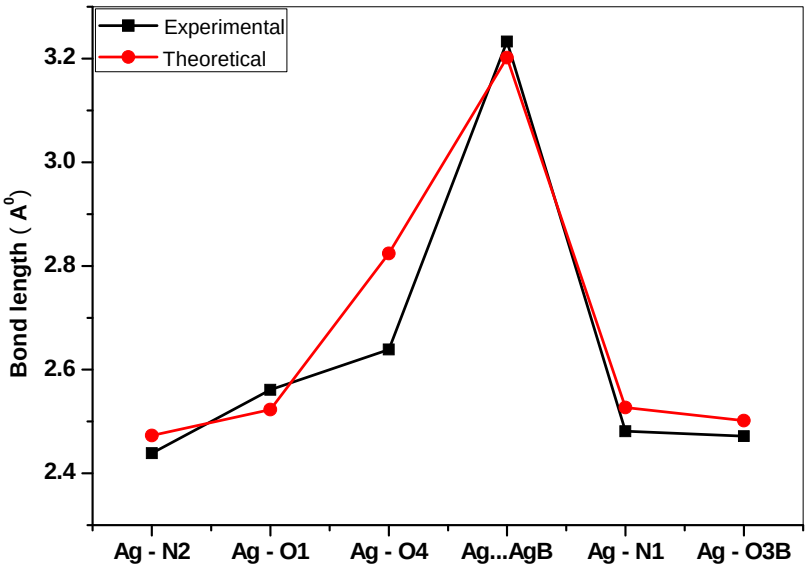


(a)

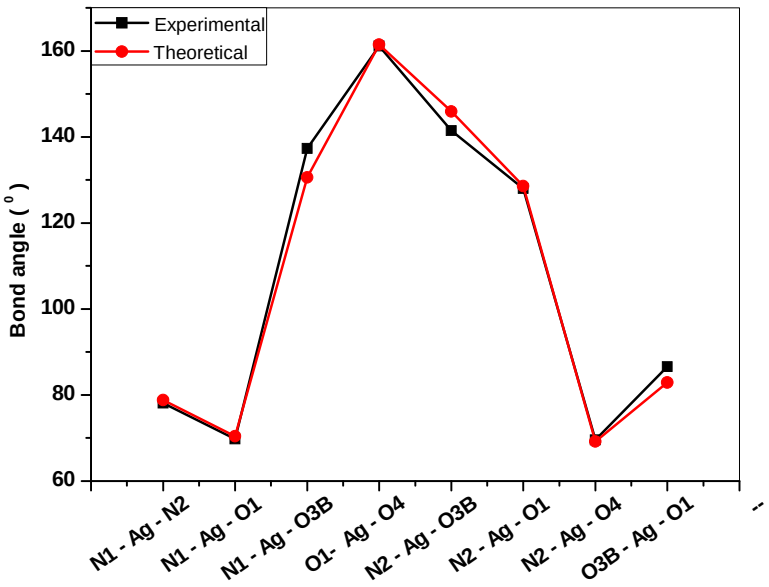


(b)

Fig. S12 Deviations of theoretical and experimental (a) bond lengths (Å) (b) bond angles ($^\circ$) for complex (**1**)

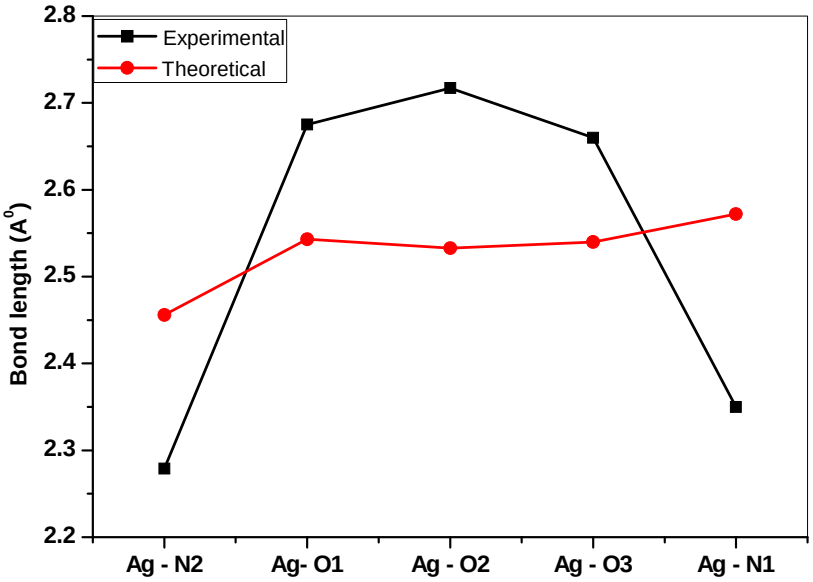


(a)

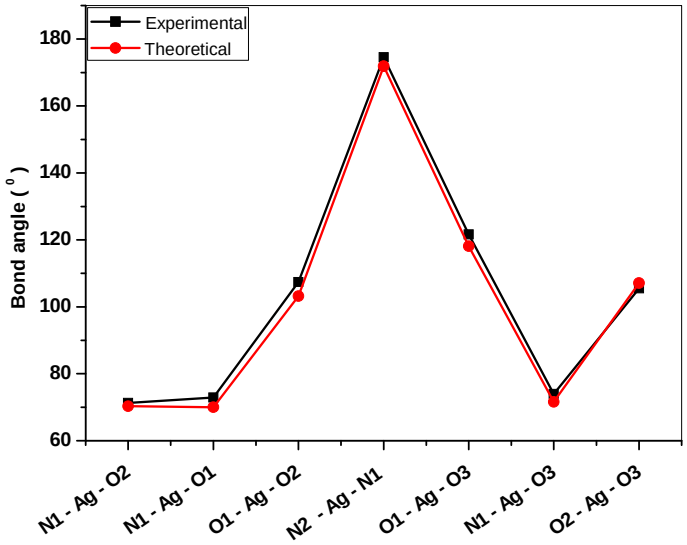


(b)

Fig. S13 Deviations of theoretical and experimental (a) bond lengths (Å) (b) bond angles (°) for complex (**2**)



(a)



(b)

Fig. S14 Deviations of theoretical and experimental (a) bond lengths (Å) (b) bond angles (°) for complex (**3**)