

Fig. s1. IR spectra of compounds 1-5.

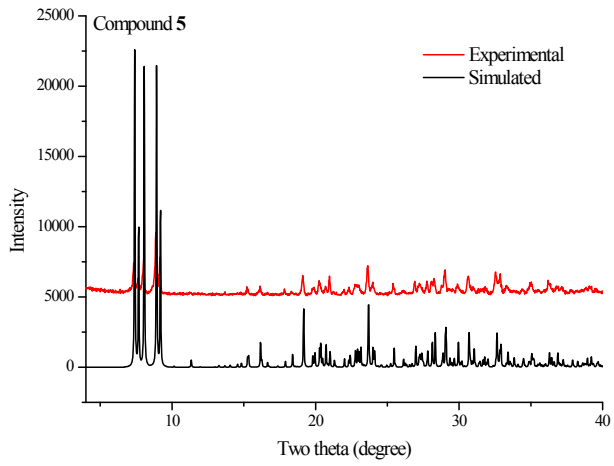
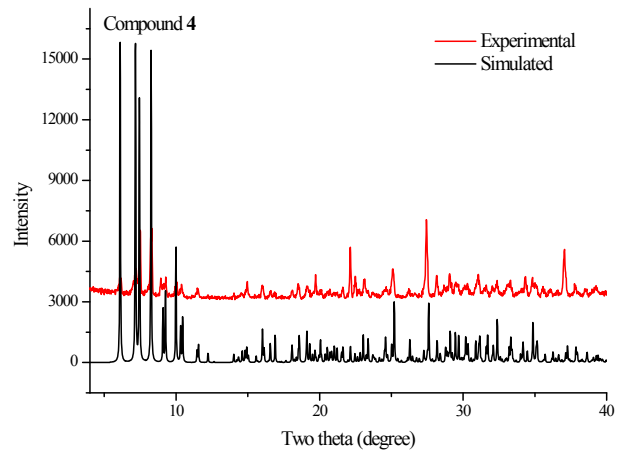
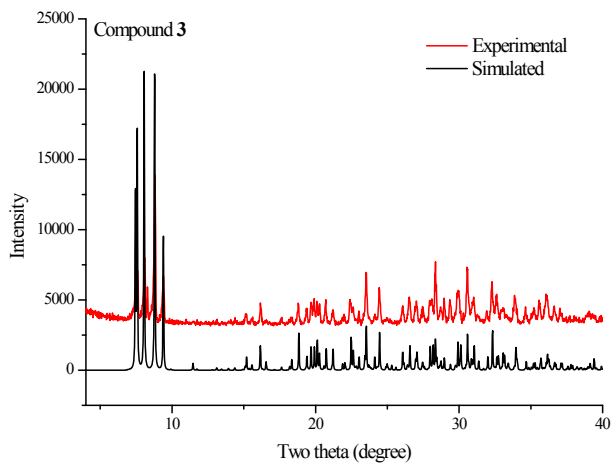
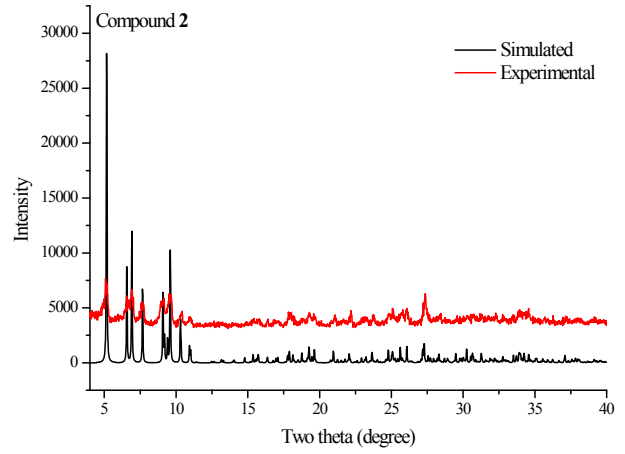
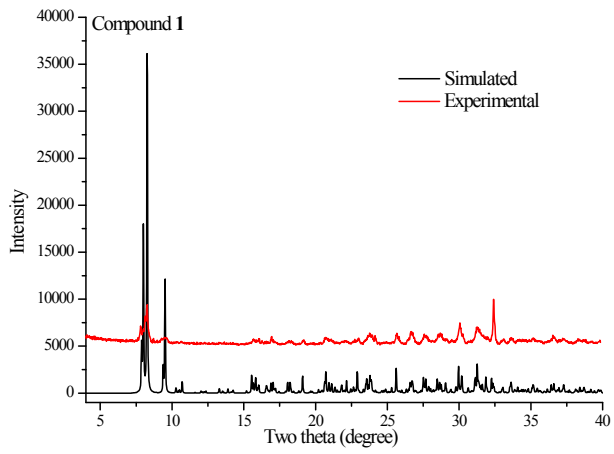


Fig. s2. Experimental and simulated patterns of compounds 1-5.

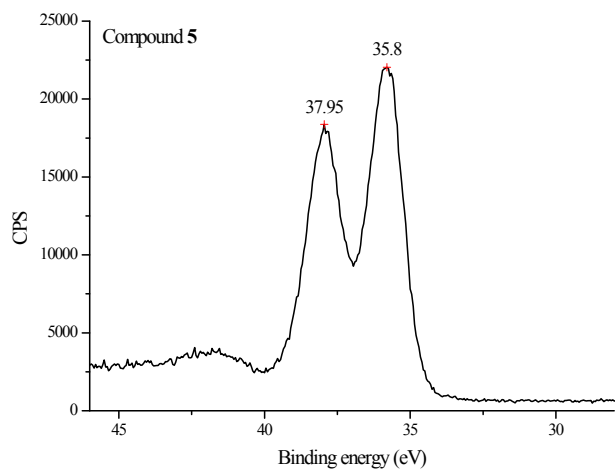
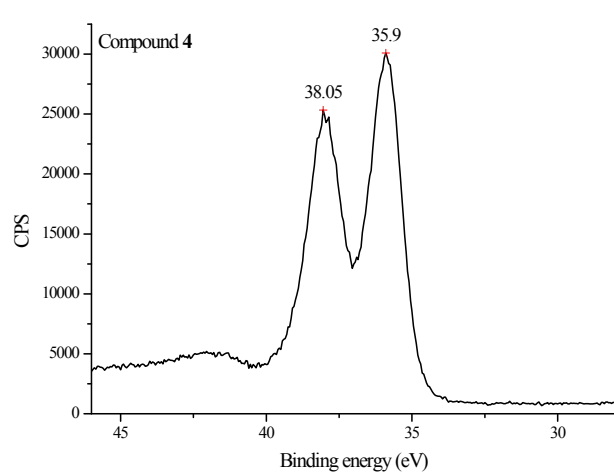
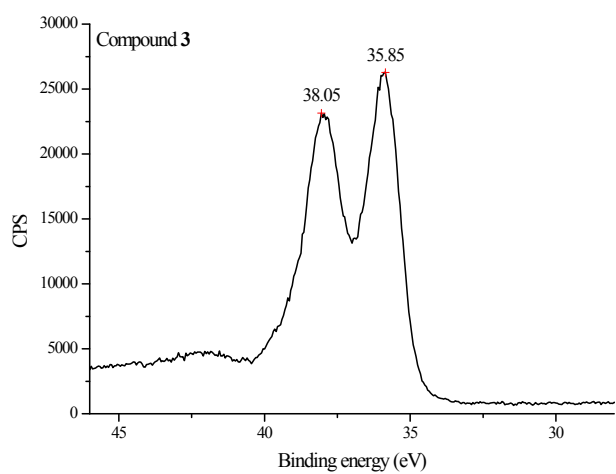
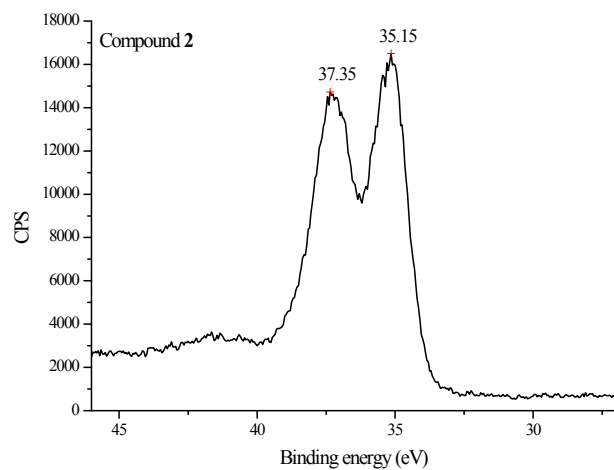
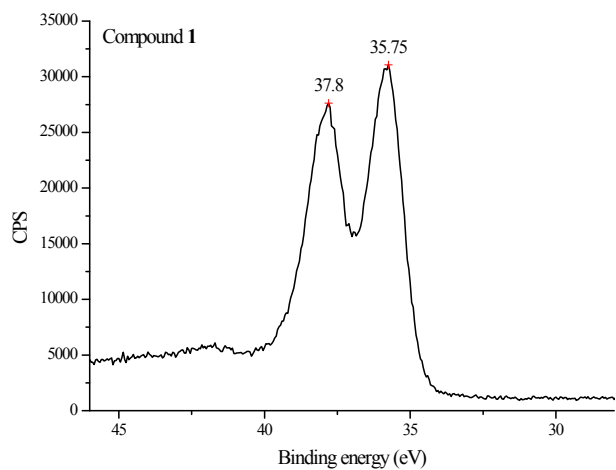


Fig. s3. XPS spectra of tungsten atoms in compounds 1-5.

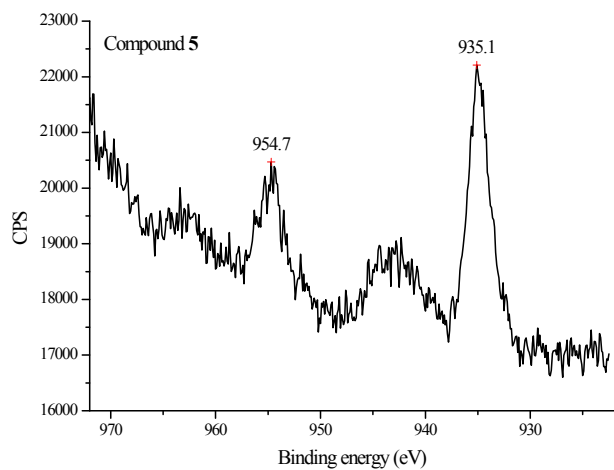
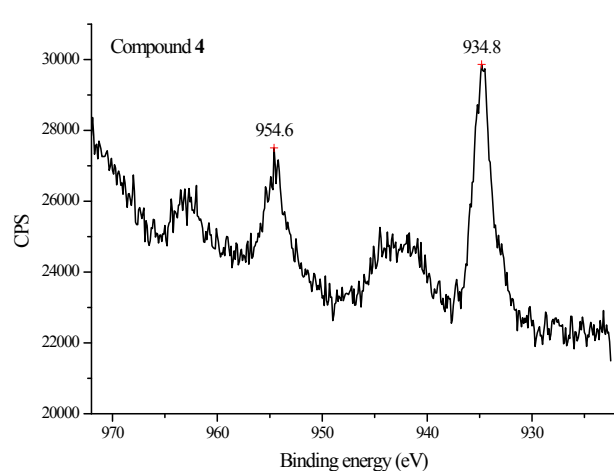
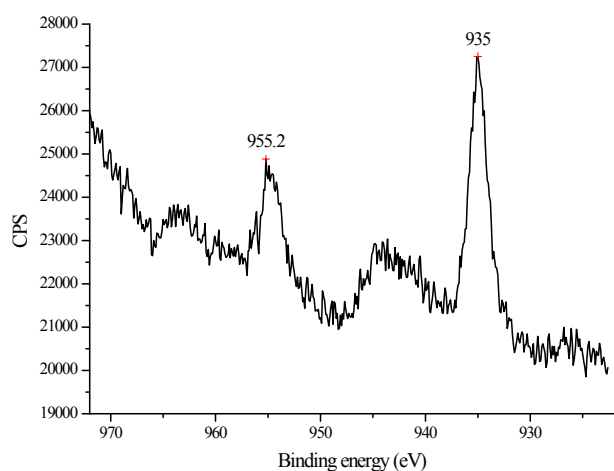
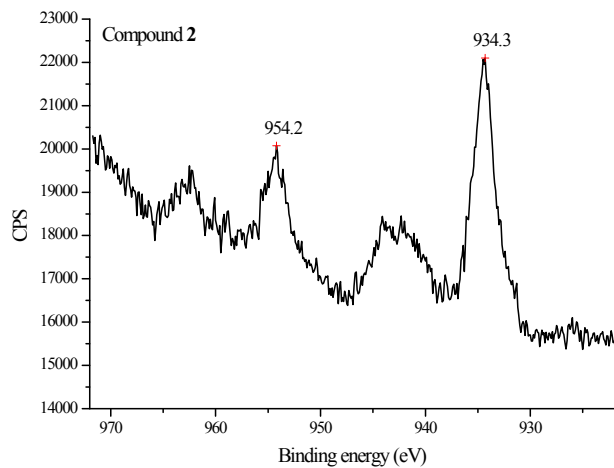
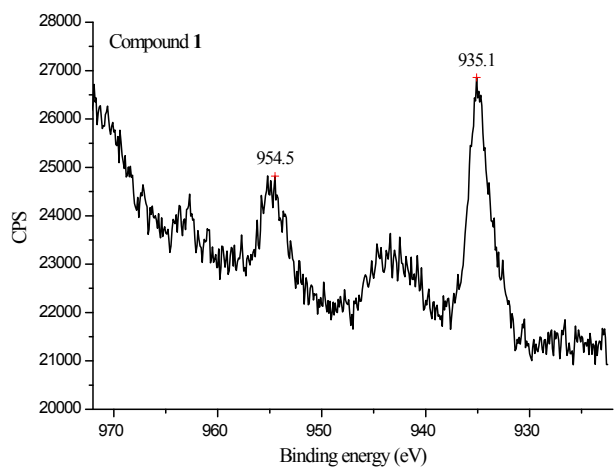


Fig. s4. XPS spectra of copper atoms in compounds 1-5.

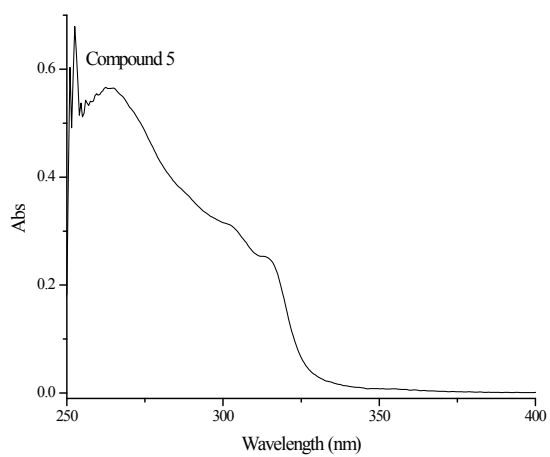
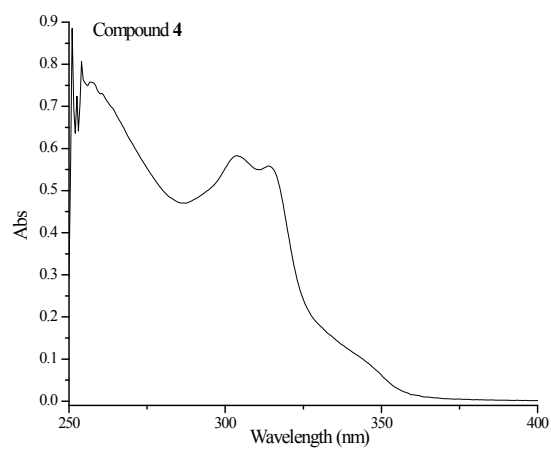
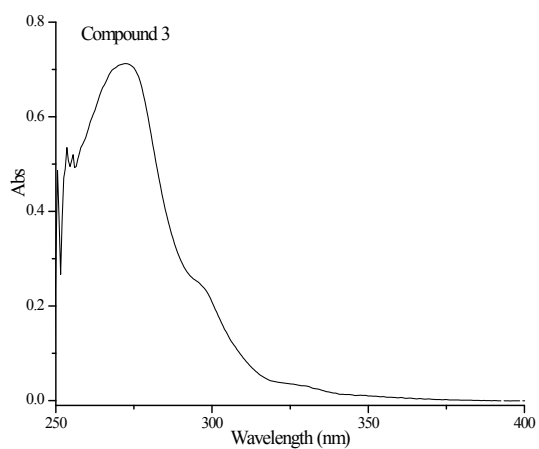
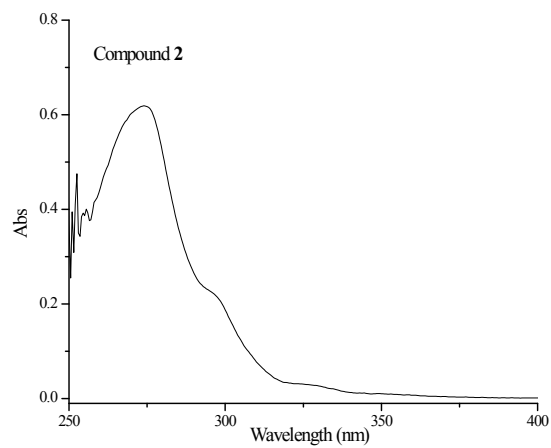
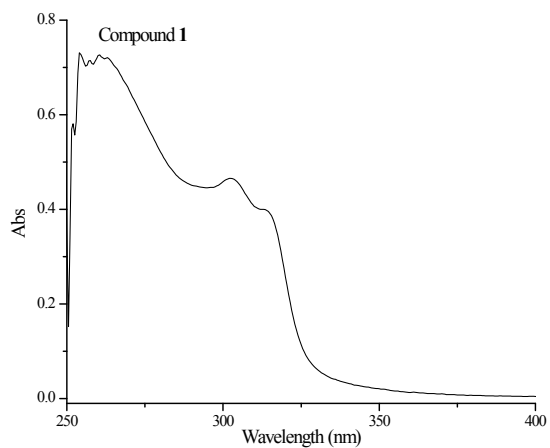


Fig. s5. UV-Vis spectra of compounds 1-5.

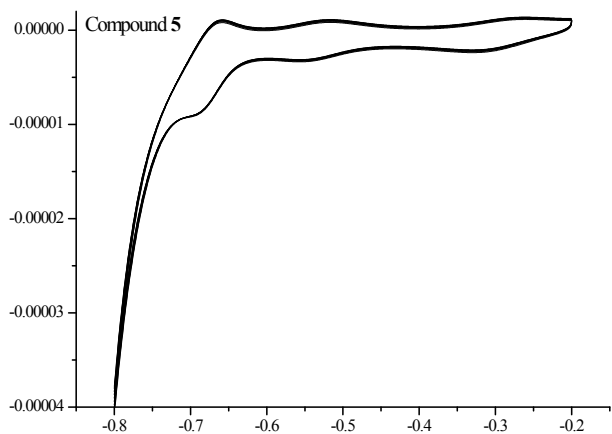
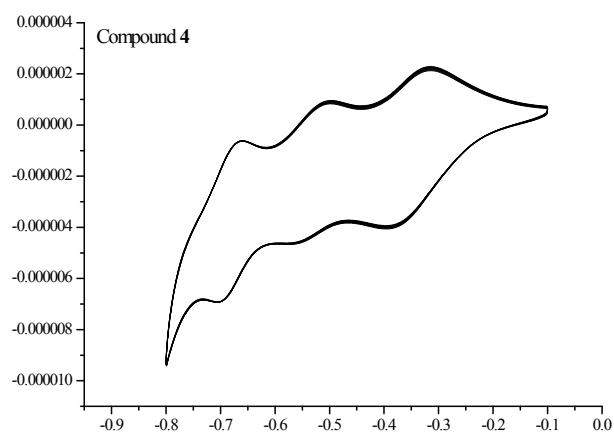
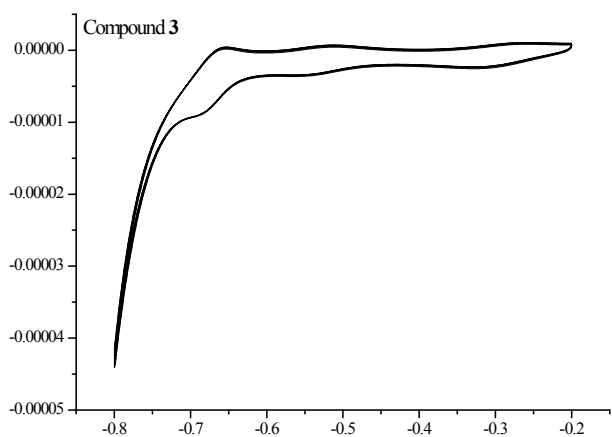
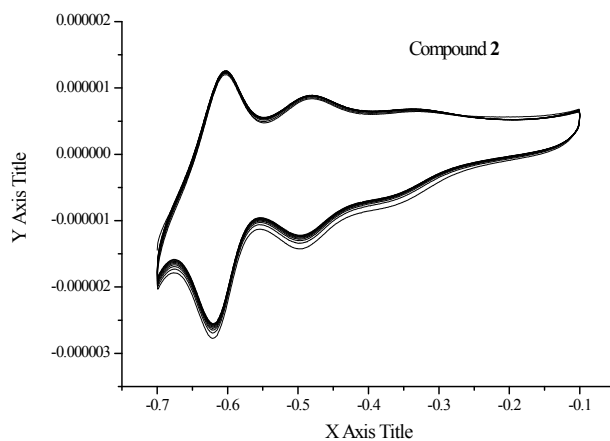
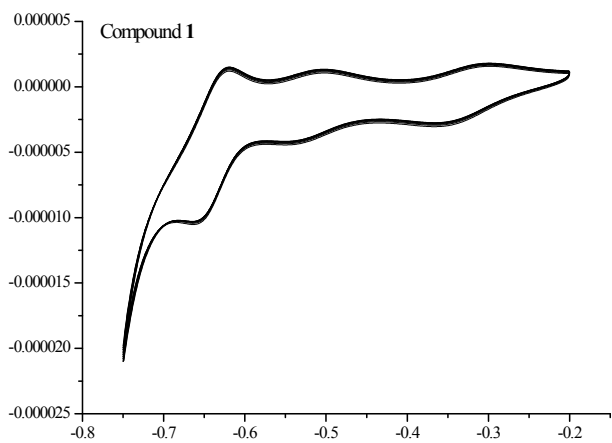
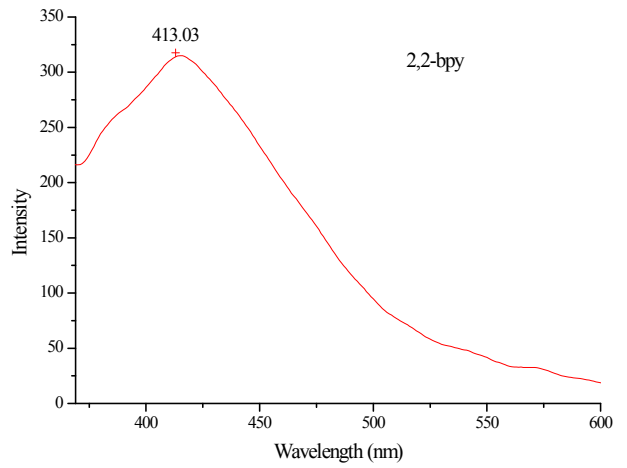
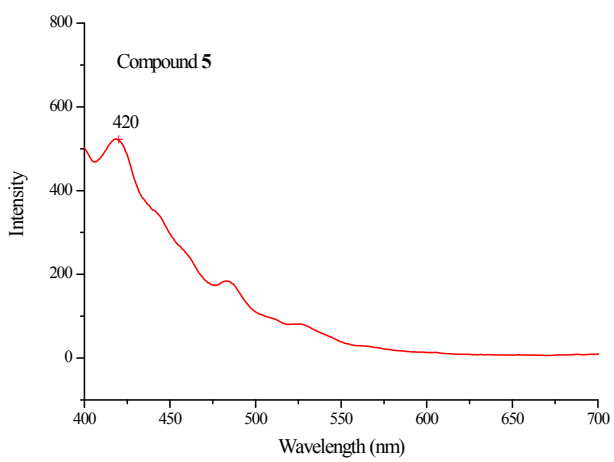
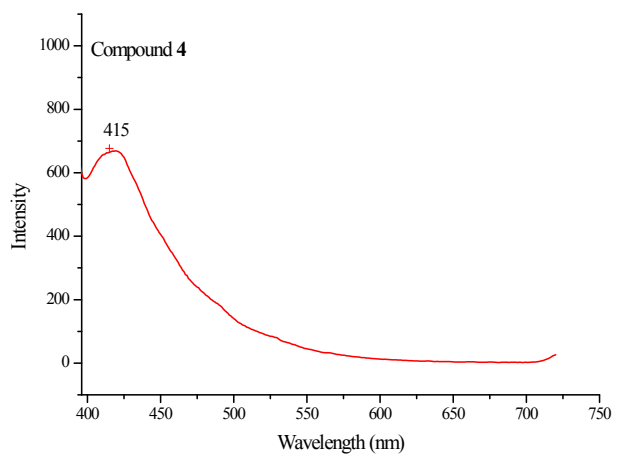
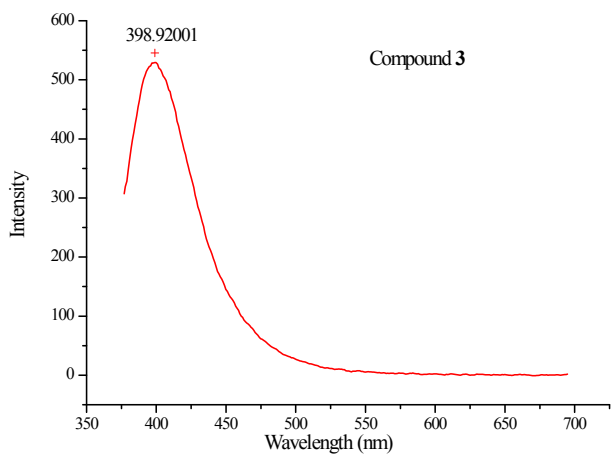
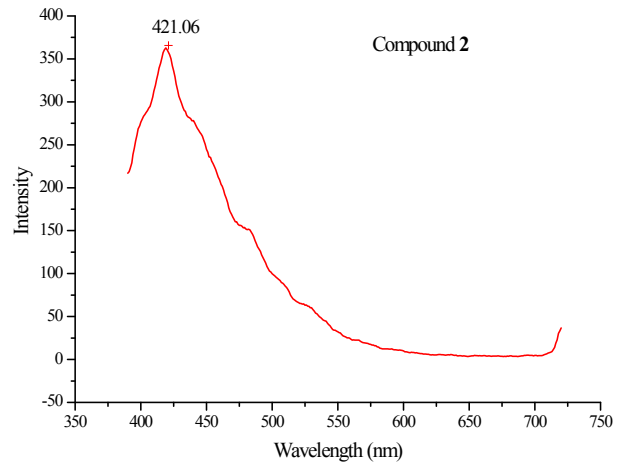
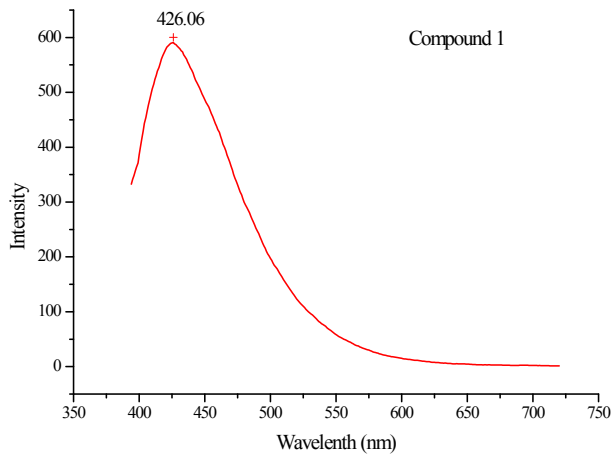


Fig. s6. Cyclic voltammograms of saturated DMSO solutions of compounds 1-5.



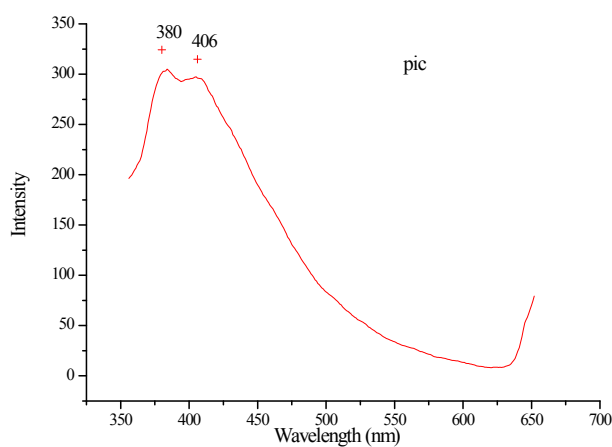
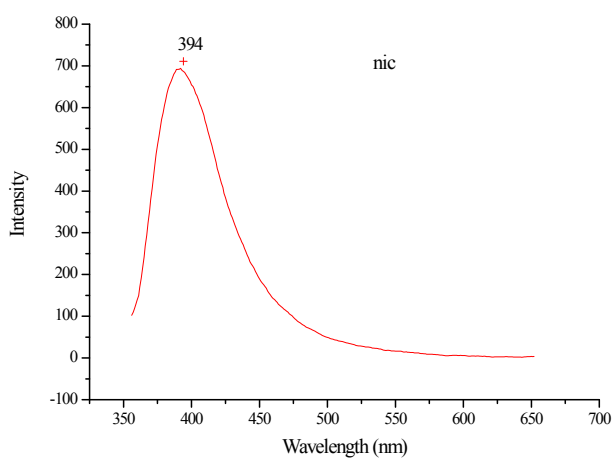
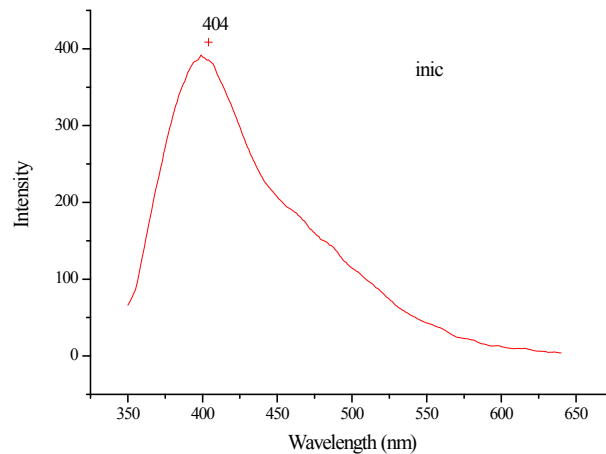
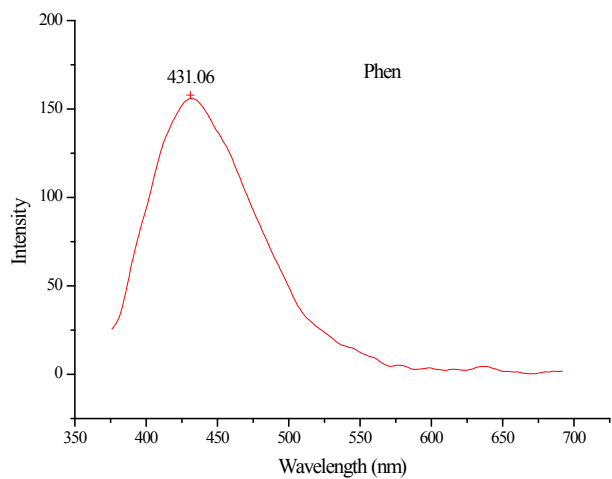
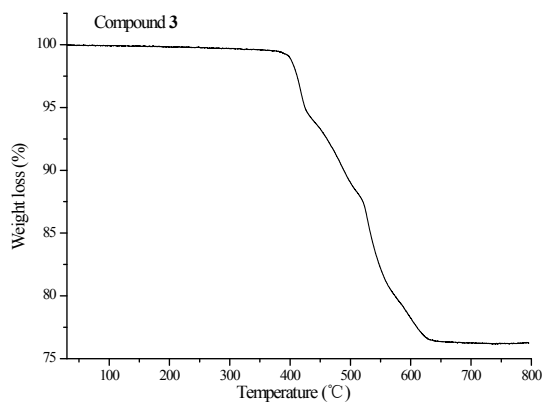
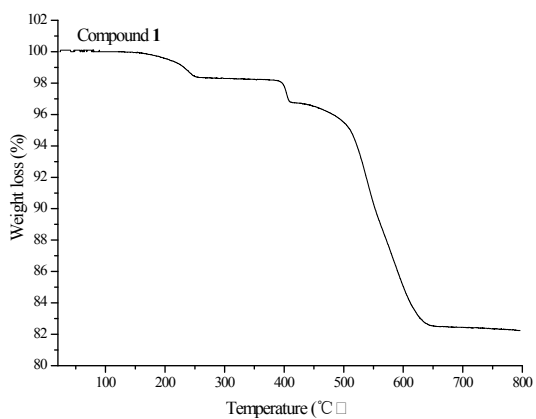


Fig. s7. Photoluminescence properties of DMSO solutions of compounds 1-5.





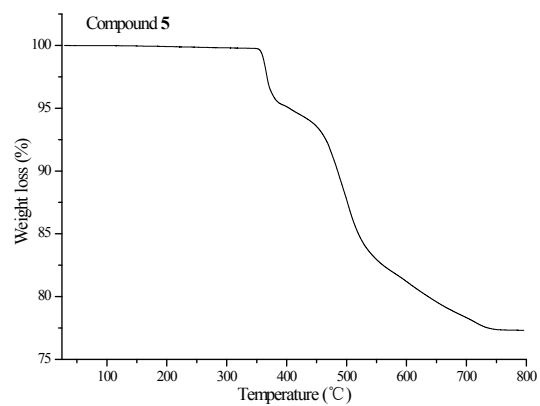
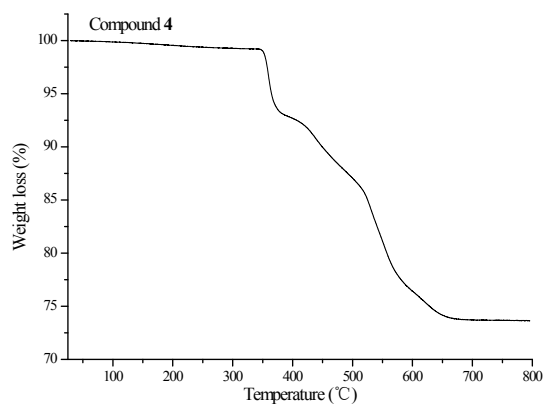


Fig. s8. TG curves of compounds 1, 3, 4 and 5.

Table s1. Selected important bond distances of compounds 1-5.

Compound 1							
W(1)-O(27)	1.699(10)	W(8)-O(13)	1.878(10)	Cu(2)-N(3)	1.966(12)	C(15)-C(16)	1.51(2)
W(1)-O(10)	1.911(10)	W(8)-O(26)	1.903(9)	Cu(2)-N(4)	1.997(11)	C(16)-N(4)	1.299(18)
W(1)-O(21)	1.916(10)	W(8)-O(40)	1.907(9)	Cu(2)-O(4)	2.461(10)	C(16)-C(17)	1.41(2)
W(1)-O(12)	1.922(10)	W(8)-O(36)	1.968(10)	Si(1)-O(19)	1.608(9)	C(17)-C(18)	1.39(3)
W(1)-O(6)	1.938(10)	W(8)-O(19)	2.360(9)	Si(1)-O(39)	1.623(10)	C(17)-H(17A)	0.9300
W(1)-O(39)	2.351(9)	W(9)-O(20)	1.710(10)	Si(1)-O(28)	1.626(9)	C(18)-C(19)	1.38(2)
W(2)-O(8)	1.692(11)	W(9)-O(17)	1.889(10)	Si(1)-O(11)	1.630(10)	C(18)-H(18A)	0.9300
W(2)-O(3)	1.887(11)	W(9)-O(24)	1.892(10)	O(20)-Cu(3)#4	2.502(11)	C(19)-C(20)	1.37(2)
W(2)-O(31)	1.912(9)	W(9)-O(38)	1.917(9)	O(27)-Cu(1)#5	2.629(11)	C(19)-H(19A)	0.9300
W(2)-O(9)	1.915(10)	W(9)-O(40)	1.922(9)	O(37)-Cu(3)#6	2.539(10)	C(20)-N(4)	1.321(18)
W(2)-O(17)	1.952(10)	W(9)-O(19)	2.360(9)	O(42)-C(36)	1.273(16)	C(20)-H(20A)	0.9300
W(2)-O(28)	2.337(9)	W(10)-O(29)	1.704(10)	O(43)-C(36)	1.240(15)	C(21)-N(5)	1.30(2)
W(3)-O(5)	1.682(11)	W(10)-O(30)	1.920(9)	N(1)-C(1)	1.335(18)	C(21)-C(22)	1.42(2)
W(3)-O(24)	1.909(9)	W(10)-O(18)	1.923(10)	N(1)-C(5)	1.365(17)	C(21)-H(21A)	0.9300
W(3)-O(6)	1.909(10)	W(10)-O(33)	1.933(10)	C(1)-C(2)	1.38(2)	C(22)-C(23)	1.35(3)
W(3)-O(3)	1.911(10)	W(10)-O(25)	1.933(9)	C(1)-H(1A)	0.9300	C(22)-H(22A)	0.9300
W(3)-O(34)	1.917(10)	W(10)-O(11)	2.342(9)	C(2)-C(3)	1.36(2)	C(23)-C(24)	1.41(3)
W(3)-O(39)	2.341(9)	W(11)-O(22)	1.696(10)	C(2)-H(2A)	0.9300	C(23)-H(23A)	0.9300
W(4)-O(4)	1.710(10)	W(11)-O(32)	1.888(10)	C(3)-C(4)	1.37(2)	C(24)-C(25)	1.36(2)
W(4)-O(23)	1.894(10)	W(11)-O(25)	1.891(10)	C(3)-H(3A)	0.9300	C(24)-H(24A)	0.9300
W(4)-O(14)	1.896(10)	W(11)-O(9)	1.924(10)	C(4)-C(5)	1.34(2)	C(25)-N(5)	1.365(18)
W(4)-O(18)	1.906(10)	W(11)-O(35)	1.943(9)	C(4)-H(4A)	0.9300	C(25)-C(26)	1.45(2)
W(4)-O(26)	1.910(9)	W(11)-O(28)	2.340(8)	C(5)-C(6)	1.47(2)	C(26)-N(6)	1.302(19)
W(4)-O(11)	2.335(8)	W(12)-O(37)	1.724(10)	C(6)-N(2)	1.370(18)	C(26)-C(27)	1.39(2)
W(5)-O(7)	1.671(11)	W(12)-O(30)	1.873(9)	C(6)-C(7)	1.37(2)	C(27)-C(28)	1.36(3)
W(5)-O(13)	1.915(10)	W(12)-O(36)	1.890(9)	C(7)-C(8)	1.43(2)	C(27)-H(27A)	0.9300
W(5)-O(21)	1.928(10)	W(12)-O(38)	1.914(9)	C(7)-H(7A)	0.9300	C(28)-C(29)	1.41(3)
W(5)-O(34)	1.932(11)	W(12)-O(35)	1.922(9)	C(8)-C(9)	1.37(2)	C(28)-H(28A)	0.9300
W(5)-O(23)	1.935(11)	W(12)-O(19)	2.342(9)	C(8)-H(8A)	0.9300	C(30)-N(6)	1.318(18)
W(5)-O(39)	2.369(8)	Cu(3)-OW1	1.967(10)	C(9)-C(10)	1.38(2)	C(30)-C(29)	1.42(2)
W(6)-O(16)	1.709(10)	Cu(3)-N(5)	1.983(13)	C(9)-H(9A)	0.9300	C(30)-H(30A)	0.9300
W(6)-O(10)	1.916(10)	Cu(3)-N(6)	2.010(12)	C(10)-N(2)	1.329(19)	C(31)-N(7)	1.333(17)
W(6)-O(2)	1.919(10)	Cu(3)-N(7)	2.027(12)	C(10)-H(10A)	0.9300	C(31)-C(32)	1.37(2)
W(6)-O(14)	1.932(10)	Cu(3)-O(20)#1	2.502(11)	N(3)-C(11)	1.32(2)	C(31)-H(31A)	0.9300
W(6)-O(33)	1.933(10)	Cu(3)-O(37)#2	2.539(10)	N(3)-C(15)	1.36(2)	C(32)-C(33)	1.37(2)
W(6)-O(11)	2.355(9)	Cu(1)-O(41)	1.877(10)	C(11)-C(12)	1.39(2)	C(32)-H(32A)	0.9300
W(7)-O(15)	1.712(10)	Cu(1)-O(42)	1.971(10)	C(11)-H(11A)	0.9300	C(33)-C(34)	1.375(19)
W(7)-O(2)	1.883(10)	Cu(1)-N(2)	1.974(12)	C(12)-C(13)	1.40(2)	C(33)-C(36)	1.517(18)
W(7)-O(12)	1.893(10)	Cu(1)-N(1)	2.009(12)	C(12)-H(12A)	0.9300	C(34)-C(35)	1.39(2)
W(7)-O(31)	1.933(10)	Cu(1)-O(27)#3	2.629(11)	C(13)-C(14)	1.34(2)	C(34)-H(34A)	0.9300
W(7)-O(32)	1.939(10)	Cu(1)-Cu(2)	3.289(2)	C(13)-H(13A)	0.9300	C(35)-N(7)	1.322(18)
W(7)-O(28)	2.356(8)	Cu(2)-O(41)	1.913(10)	C(14)-C(15)	1.41(2)	C(35)-H(35A)	0.9300
W(8)-O(1)	1.685(10)	Cu(2)-O(43)	1.955(9)	C(14)-H(14A)	0.9300	C(29)-H(29A)	0.9300
Compound 2							

O(23)-C(42)	1.238(16)	W(6)-O(19)#2	1.872(10)	N(6)-C(36)	1.332(18)	C(25)-H(25A)	0.9300
O(23)-Cu(1)	1.944(9)	W(6)-O(17)	1.875(13)	N(6)-Cu(3)	2.019(11)	C(26)-C(27)	1.32(3)
O(24)-C(42)	1.251(16)	W(6)-O(16)#2	1.876(11)	C(1)-C(2)	1.40(2)	C(26)-H(26A)	0.9300
O(24)-Cu(2)	1.979(9)	W(6)-O(18)	1.895(13)	C(1)-H(1A)	0.9300	C(27)-C(28)	1.43(3)
N(13)-C(37)	1.307(19)	W(6)-O(2)	2.343(15)	C(2)-C(3)	1.37(2)	C(27)-H(27A)	0.9300
N(13)-C(41)	1.311(17)	W(6)-O(1)#2	2.358(14)	C(2)-H(2A)	0.9300	C(28)-C(29)	1.43(3)
N(13)-Cu(3)#1	2.019(10)	Si(1)-O(4)	1.607(13)	C(3)-C(4)	1.40(2)	C(28)-C(36)	1.43(2)
W(1)-O(12)	1.688(10)	Si(1)-O(4)#2	1.607(13)	C(3)-H(3A)	0.9300	C(29)-C(30)	1.35(4)
W(1)-O(5)	1.881(14)	Si(1)-O(1)#2	1.609(13)	C(4)-C(12)	1.400(18)	C(29)-H(29A)	0.9300
W(1)-O(17)	1.889(13)	Si(1)-O(1)	1.609(13)	C(4)-C(5)	1.41(2)	C(30)-C(31)	1.44(3)
W(1)-O(21)	1.907(14)	Si(1)-O(2)#2	1.618(16)	C(5)-C(6)	1.34(2)	C(30)-H(30A)	0.9300
W(1)-O(10)	1.913(10)	Si(1)-O(2)	1.618(16)	C(5)-H(5A)	0.9300	C(31)-C(35)	1.38(2)
W(1)-O(4)	2.377(14)	Si(1)-O(3)#2	1.688(14)	C(6)-C(7)	1.45(2)	C(31)-C(32)	1.38(3)
W(1)-O(1)#2	2.393(14)	Si(1)-O(3)	1.688(14)	C(6)-H(6A)	0.9300	C(32)-C(33)	1.37(4)
W(2)-O(14)	1.672(9)	O(1)-O(2)#2	1.78(2)	C(7)-C(11)	1.365(19)	C(32)-H(32A)	0.9300
W(2)-O(21)	1.890(14)	O(1)-O(4)#2	1.815(19)	C(7)-C(8)	1.42(2)	C(33)-C(34)	1.43(3)
W(2)-O(9)	1.892(10)	O(1)-W(6)#2	2.358(14)	C(8)-C(9)	1.37(2)	C(33)-H(33A)	0.9300
W(2)-O(13)	1.900(14)	O(1)-W(1)#2	2.393(14)	C(8)-H(8A)	0.9300	C(34)-H(34A)	0.9300
W(2)-O(16)	1.909(11)	O(2)-O(1)#2	1.78(2)	C(9)-C(10)	1.40(2)	C(35)-C(36)	1.41(2)
W(2)-O(4)	2.377(13)	O(2)-O(4)#2	1.85(2)	C(9)-H(9A)	0.9300	C(37)-C(38)	1.413(19)
W(2)-O(2)#2	2.405(15)	O(2)-W(2)#2	2.405(15)	C(10)-H(10A)	0.9300	C(37)-H(37A)	0.9300
W(3)-O(7)	1.670(9)	O(4)-O(1)#2	1.815(19)	C(11)-C(12)	1.434(17)	C(38)-C(39)	1.342(19)
W(3)-O(10)#2	1.869(10)	O(4)-O(2)#2	1.85(2)	C(13)-C(14)	1.39(2)	C(38)-H(38A)	0.9300
W(3)-O(22)	1.875(15)	O(9)-W(5)#2	1.896(10)	C(13)-H(13A)	0.9300	C(39)-C(40)	1.386(18)
W(3)-O(20)	1.894(15)	O(10)-W(3)#2	1.869(10)	C(14)-C(15)	1.35(2)	C(39)-C(42)	1.530(17)
W(3)-O(19)	1.935(11)	O(16)-W(6)#2	1.876(11)	C(14)-H(14A)	0.9300	C(40)-C(41)	1.408(18)
W(3)-O(3)	2.344(14)	O(19)-W(6)#2	1.872(10)	C(15)-C(16)	1.39(2)	C(40)-H(40A)	0.9300
W(3)-O(1)	2.468(14)	N(1)-C(1)	1.342(17)	C(15)-H(15A)	0.9300	C(41)-H(41A)	0.9300
W(4)-O(6)	1.649(9)	N(1)-C(12)	1.357(17)	C(16)-C(24)	1.398(19)	Cu(1)-Cl(1)	2.258(4)
W(4)-O(20)	1.897(14)	N(1)-Cu(1)	1.997(11)	C(16)-C(17)	1.45(2)	Cu(1)-Cl(2)	2.726(4)
W(4)-O(5)	1.899(14)	N(2)-C(10)	1.326(17)	C(17)-C(18)	1.34(2)	Cu(1)-Cu(2)	3.266(2)
W(4)-O(13)	1.907(14)	N(2)-C(11)	1.363(16)	C(17)-H(17A)	0.9300	Cu(2)-Cl(2)	2.313(4)
W(4)-O(15)	1.912(14)	N(2)-Cu(1)	1.997(10)	C(18)-C(19)	1.419(19)	Cu(2)-Cl(1)	2.757(4)
W(4)-O(3)	2.403(14)	N(3)-C(13)	1.327(16)	C(18)-H(18A)	0.9300	Cu(2)-Cl(3)	2.938(5)
W(4)-O(4)	2.458(14)	N(3)-C(24)	1.347(17)	C(19)-C(23)	1.381(18)	Cu(3)-N(13)#1	2.019(10)
W(5)-O(8)	1.680(9)	N(3)-Cu(2)	1.997(10)	C(19)-C(20)	1.41(2)	Cu(3)-Cl(3)	2.257(4)
W(5)-O(15)	1.869(14)	N(4)-C(22)	1.314(17)	C(20)-C(21)	1.35(3)	Cu(3)-Cl(2)	2.748(4)
W(5)-O(18)	1.886(13)	N(4)-C(23)	1.357(17)	C(20)-H(20A)	0.9300		
W(5)-O(9)#2	1.896(10)	N(4)-Cu(2)	2.027(11)	C(21)-C(22)	1.39(2)		
W(5)-O(22)	1.910(14)	N(5)-C(34)	1.32(2)	C(21)-H(21A)	0.9300		
W(5)-O(3)	2.333(14)	N(5)-C(35)	1.37(2)	C(22)-H(22A)	0.9300		
W(5)-O(2)	2.437(16)	N(5)-Cu(3)	2.013(12)	C(23)-C(24)	1.402(19)		
W(6)-O(11)	1.688(10)	N(6)-C(25)	1.326(19)	C(25)-C(26)	1.38(2)		
Compound 3							
W(1)-O(18)	1.64(3)	W(5)-O(22)	1.64(2)	O(3)-W(6)#1	2.39(5)	N(3)-C(11)	1.35(4)
W(1)-O(8)#1	1.85(3)	W(5)-O(7)#1	1.88(3)	O(4)-W(4)#1	2.37(5)	N(3)-C(15)	1.38(4)
W(1)-O(15)	1.88(3)	W(5)-O(5)	1.88(3)	O(4)-W(6)#1	2.41(5)	C(23)-C(22)	1.31(6)

W(1)-O(13)#1	1.93(3)	W(5)-O(6)	1.90(3)	Cu(2)-O(40)	1.94(2)	C(25)-C(21)	1.33(5)
W(1)-O(11)	1.94(3)	W(5)-O(10)	1.91(3)	Cu(2)-N(3)	1.99(3)	C(25)-C(24)	1.41(4)
W(1)-O(3)	2.35(5)	W(5)-O(1)#1	2.39(5)	Cu(2)-N(4)	2.00(3)	C(25)-C(26)	1.45(4)
W(1)-O(2)	2.46(5)	W(5)-O(4)	2.43(5)	Cu(2)-Cl(1)	2.240(11)	C(6)-C(5)	1.38(5)
W(2)-O(21)	1.65(3)	W(6)-O(20)	1.68(2)	Cu(1)-O(41)	1.90(2)	C(6)-C(7)	1.47(5)
W(2)-O(11)	1.85(3)	W(6)-O(9)	1.84(3)	Cu(1)-O(43)	1.94(2)	C(10)-C(9)	1.37(5)
W(2)-O(10)	1.89(3)	W(6)-O(5)#1	1.89(3)	Cu(1)-N(2)	1.98(3)	O(40)-C(26)	1.22(4)
W(2)-O(16)	1.93(3)	W(6)-O(12)	1.92(3)	Cu(1)-N(1)	1.99(3)	C(15)-C(14)	1.39(5)
W(2)-O(14)	1.97(3)	W(6)-O(13)	1.92(3)	O(13)-W(1)#1	1.93(3)	C(20)-C(19)	1.33(6)
W(2)-O(2)	2.37(5)	W(6)-O(3)#1	2.39(5)	O(8)-W(1)#1	1.85(3)	C(5)-C(4)	1.40(5)
W(2)-O(1)#1	2.37(5)	W(6)-O(4)#1	2.41(5)	O(7)-W(5)#1	1.88(3)	C(22)-C(21)	1.40(5)
W(3)-O(17)	1.71(2)	Si(1)-O(2)#1	1.56(6)	O(5)-W(6)#1	1.89(3)	C(9)-C(8)	1.39(5)
W(3)-O(8)	1.88(3)	Si(1)-O(2)	1.56(6)	N(4)-C(20)	1.31(5)	C(17)-C(18)	1.33(6)
W(3)-O(9)	1.88(3)	Si(1)-O(4)#1	1.61(5)	N(4)-C(16)	1.41(4)	C(18)-C(19)	1.27(5)
W(3)-O(14)	1.91(3)	Si(1)-O(4)	1.61(5)	O(41)-C(26)	1.32(4)	C(11)-C(12)	1.43(5)
W(3)-O(6)	1.93(3)	Si(1)-O(1)	1.63(5)	N(5)-C(24)	1.36(4)	C(2)-C(3)	1.34(6)
W(3)-O(1)#1	2.39(5)	Si(1)-O(1)#1	1.63(5)	N(5)-C(23)	1.40(5)	C(12)-C(13)	1.20(5)
W(3)-O(3)#1	2.39(5)	Si(1)-O(3)#1	1.65(5)	O(43)-C(24)	1.18(4)	C(8)-C(7)	1.22(5)
W(4)-O(19)	1.66(3)	Si(1)-O(3)	1.65(5)	N(2)-C(10)	1.29(4)	C(14)-C(13)	1.32(6)
W(4)-O(16)	1.84(3)	O(1)-O(2)#1	1.80(7)	N(2)-C(6)	1.30(4)	C(3)-C(4)	1.38(5)
W(4)-O(7)	1.85(3)	O(1)-W(2)#1	2.37(5)	N(1)-C(1)	1.30(5)		
W(4)-O(12)	1.88(3)	O(1)-W(3)#1	2.39(5)	N(1)-C(5)	1.43(4)		
W(4)-O(15)	1.89(3)	O(1)-W(5)#1	2.39(5)	C(1)-C(2)	1.28(5)		
W(4)-O(4)#1	2.37(5)	O(2)-O(1)#1	1.80(7)	C(16)-C(15)	1.39(5)		
W(4)-O(2)	2.45(5)	O(3)-W(3)#1	2.39(5)	C(16)-C(17)	1.46(5)		
Compound 4							
Cu(1)-O(24)	1.96(2)	W(6)-O(7)	1.88(3)	O(15)-W(4)#2	1.90(2)	C(4)-C(5)	1.47(4)
Cu(1)-N(3)	2.01(2)	W(6)-O(10)	1.91(3)	O(5)-W(1)#2	1.89(3)	C(19)-C(20)	1.38(4)
Cu(1)-N(4)	2.03(2)	W(6)-O(11)	1.94(3)	O(24)-C(30)	1.27(3)	C(8)-C(9)	1.39(5)
Cu(1)-Cl(2)	2.260(8)	W(6)-O(3)#2	2.37(4)	O(23)-C(30)	1.23(3)	C(8)-C(7)	1.45(5)
Cu(1)-O(20)#1	2.59(2)	W(5)-O(17)	1.63(2)	N(4)-C(22)	1.29(4)	C(8)-H(8A)	0.9300
Cu(1)-Cl(1)	2.812(9)	W(5)-O(10)	1.86(3)	N(4)-C(23)	1.36(3)	C(28)-C(27)	1.33(4)
Cu(1)-Cu(2)	3.183(6)	W(5)-O(15)	1.87(2)	N(3)-C(13)	1.32(4)	C(28)-C(29)	1.41(4)
Cu(2)-O(23)	1.946(19)	W(5)-O(6)	1.87(3)	N(3)-C(24)	1.36(3)	C(28)-H(28A)	0.9300
Cu(2)-N(1)	1.99(2)	W(5)-O(14)	1.87(2)	C(24)-C(16)	1.41(4)	C(29)-H(29A)	0.9300
Cu(2)-N(2)	2.03(2)	W(5)-O(1)#2	2.40(4)	C(24)-C(23)	1.46(4)	C(9)-C(10)	1.39(5)
Cu(2)-Cl(1)	2.250(8)	W(4)-O(12)	1.71(2)	N(5)-C(26)	1.32(4)	C(9)-H(9A)	0.9300
Cu(2)-Cl(2)	2.602(9)	W(4)-O(25)#2	1.86(3)	N(5)-C(27)	1.34(4)	C(6)-C(5)	1.32(5)
Si(1)-O(1)#2	1.61(4)	W(4)-O(16)	1.891(19)	N(2)-C(10)	1.34(4)	C(6)-C(7)	1.41(5)
Si(1)-O(1)	1.61(4)	W(4)-O(15)#2	1.90(3)	N(2)-C(11)	1.35(4)	C(6)-H(6A)	0.9300
Si(1)-O(3)	1.61(4)	W(4)-O(22)	1.90(2)	N(1)-C(1)	1.28(4)	C(20)-H(20A)	0.9300
Si(1)-O(3)#2	1.61(4)	W(3)-O(18)	1.68(2)	N(1)-C(12)	1.32(4)	C(17)-H(17A)	0.9300
Si(1)-O(2)#2	1.65(3)	W(3)-O(7)	1.88(3)	C(22)-C(21)	1.33(4)	C(14)-C(15)	1.30(5)
Si(1)-O(2)	1.65(3)	W(3)-O(16)	1.89(2)	C(22)-H(22A)	0.9300	C(14)-H(14A)	0.9300
Si(1)-O(4)	1.66(3)	W(3)-O(9)	1.91(3)	C(30)-C(25)	1.50(4)	C(26)-H(26A)	0.9300
Si(1)-O(4)#2	1.66(3)	W(3)-O(14)#2	1.96(2)	C(12)-C(4)	1.41(4)	C(1)-C(2)	1.40(5)
O(1)-O(4)	1.79(5)	W(3)-O(3)#2	2.38(4)	C(12)-C(11)	1.49(4)	C(1)-H(1A)	0.9300

O(1)-W(4)	2.35(4)	W(2)-O(119)	1.684(17)	C(23)-C(19)	1.35(4)	C(15)-H(15A)	0.9300
O(1)-W(5)#2	2.40(4)	W(2)-O(11)	1.83(3)	C(13)-C(14)	1.39(4)	C(10)-H(10A)	0.9300
O(1)-W(3)	2.46(4)	W(2)-O(22)	1.84(2)	C(13)-H(13A)	0.9300	C(27)-H(27A)	0.9300
O(2)-W(5)	2.35(3)	W(2)-O(5)	1.89(3)	C(18)-C(17)	1.34(5)	C(5)-H(5A)	0.9300
O(2)-W(2)	2.37(3)	W(2)-O(6)	1.92(3)	C(18)-C(19)	1.46(4)	C(2)-C(3)	1.34(5)
O(2)-W(6)	2.40(3)	W(1)-O(20)	1.708(19)	C(18)-H(18A)	0.9300	C(2)-H(2A)	0.9300
O(3)-W(6)#2	2.37(4)	W(1)-O(9)	1.86(3)	C(21)-C(20)	1.43(4)	C(3)-H(3A)	0.9300
O(3)-W(3)#2	2.38(4)	W(1)-O(5)#2	1.89(3)	C(21)-H(21A)	0.9300	O(25)-W(4)#2	1.86(2)
O(3)-W(1)#2	2.42(4)	W(1)-O(25)	1.91(3)	C(16)-C(15)	1.37(5)		
O(4)-W(2)	2.33(3)	W(1)-O(8)	1.91(3)	C(16)-C(17)	1.44(5)		
O(4)-W(4)	2.35(3)	W(1)-O(3)#2	2.42(4)	C(11)-C(7)	1.33(4)		
O(4)-W(1)#2	2.42(3)	W(1)-O(4)#2	2.42(3)	C(25)-C(29)	1.37(4)		
W(6)-O(21)	1.65(2)	O(20)-Cu(1)#1	2.59(2)	C(25)-C(26)	1.38(4)		
W(6)-O(8)	1.86(3)	O(14)-W(3)#2	1.96(2)	C(4)-C(3)	1.41(5)		
Compound 5							
W(1)-O(21)	1.68(2)	W(8)-O(22)	1.92(2)	O(2)-W(2)#1	2.43(4)	C(11)-C(12)	1.38(4)
W(1)-O(10)	1.88(2)	W(8)-O(3)	2.32(4)	O(2)-W(1)#1	2.43(4)	C(11)-H(11A)	0.9300
W(1)-O(6)	1.89(3)	W(8)-O(1)#1	2.45(4)	O(4)-W(11)#1	2.44(4)	C(6)-C(5)	1.43(4)
W(1)-O(23)#1	1.89(2)	W(11)-O(20)	1.66(2)	N(5)-C(25)	1.34(3)	C(24)-C(25)	1.37(4)
W(1)-O(9)	1.89(2)	W(11)-O(23)	1.88(2)	N(5)-C(21)	1.34(3)	C(24)-C(23)	1.37(4)
W(1)-O(4)	2.37(4)	W(11)-O(7)	1.88(2)	O(11)-W(3)#1	1.92(2)	C(24)-H(24A)	0.9300
W(1)-O(2)#1	2.43(4)	W(11)-O(8)#1	1.88(3)	O(9)-W(3)#1	1.90(2)	C(20)-C(19)	1.38(4)
W(2)-O(19)	1.66(2)	W(11)-O(5)	1.93(3)	O(8)-W(11)#1	1.88(3)	C(20)-H(20A)	0.9300
W(2)-O(22)	1.84(3)	W(11)-O(4)#1	2.44(4)	N(4)-C(16)	1.35(3)	C(19)-C(18)	1.36(5)
W(2)-O(11)	1.87(2)	W(11)-O(3)	2.45(4)	N(4)-C(20)	1.36(4)	C(19)-H(19A)	0.9300
W(2)-O(7)	1.90(2)	Cu(1)-O(29)	1.92(2)	N(3)-C(15)	1.34(3)	C(14)-C(13)	1.40(5)
W(2)-O(10)	1.93(2)	Cu(1)-N(2)	1.96(2)	N(3)-C(11)	1.39(3)	C(14)-H(14A)	0.9300
W(2)-O(3)	2.37(4)	Cu(1)-N(1)	1.97(2)	O(30)-C(26)	1.25(3)	C(23)-H(23A)	0.9300
W(2)-O(2)#1	2.43(4)	Cu(1)-N(5)	2.00(2)	O(29)-C(26)	1.24(3)	C(1)-C(2)	1.42(4)
W(3)-O(15)	1.656(19)	Cu(2)-O(30)	1.95(2)	N(1)-C(1)	1.33(3)	C(1)-H(1A)	0.9300
W(3)-O(9)#1	1.90(2)	Cu(2)-N(3)	1.98(2)	N(1)-C(5)	1.34(4)	C(12)-C(13)	1.34(5)
W(3)-O(12)	1.90(2)	Cu(2)-N(4)	1.98(2)	N(2)-C(10)	1.32(4)	C(12)-H(12A)	0.9300
W(3)-O(14)	1.91(2)	Cu(2)-Cl(1)	2.254(7)	N(2)-C(6)	1.38(3)	C(8)-H(8A)	0.9300
W(3)-O(11)#1	1.92(2)	Cu(2)-O(17)	2.42(2)	C(15)-C(14)	1.39(4)	C(18)-C(17)	1.34(5)
W(3)-O(2)	2.36(3)	Si(1)-O(1)#1	1.59(3)	C(15)-C(16)	1.44(4)	C(18)-H(18A)	0.9300
W(3)-O(1)#1	2.41(4)	Si(1)-O(1)	1.59(3)	C(16)-C(17)	1.39(4)	C(4)-C(3)	1.31(5)
W(4)-O(17)	1.69(2)	Si(1)-O(2)	1.62(4)	C(21)-C(22)	1.40(4)	C(4)-C(5)	1.46(4)
W(4)-O(14)	1.86(2)	Si(1)-O(2)#1	1.62(4)	C(21)-H(21A)	0.9300	C(4)-H(4A)	0.9300
W(4)-O(6)	1.89(2)	Si(1)-O(4)	1.65(4)	C(22)-C(23)	1.37(4)	C(17)-H(17A)	0.9300
W(4)-O(18)	1.89(2)	Si(1)-O(4)#1	1.65(4)	C(22)-H(22A)	0.9300	C(13)-H(13A)	0.9300
W(4)-O(8)	1.91(2)	Si(1)-O(3)	1.65(5)	C(7)-C(6)	1.36(3)	C(10)-H(10A)	0.9300
W(4)-O(4)	2.33(4)	Si(1)-O(3)#1	1.65(5)	C(7)-C(8)	1.37(4)	C(2)-C(3)	1.39(4)
W(4)-O(1)#1	2.39(3)	O(1)-O(2)#1	1.77(5)	C(7)-H(7A)	0.9300	C(2)-H(2A)	0.9300
W(8)-O(16)	1.66(2)	O(1)-W(4)#1	2.39(3)	C(9)-C(10)	1.39(4)	C(3)-H(3A)	0.9300
W(8)-O(12)	1.86(2)	O(1)-W(3)#1	2.41(4)	C(9)-C(8)	1.41(5)	O(23)-W(1)#1	1.89(2)
W(8)-O(5)	1.89(2)	O(1)-W(8)#1	2.45(4)	C(9)-H(9A)	0.9300		
W(8)-O(18)	1.92(2)	O(2)-O(1)#1	1.77(5)	C(26)-C(25)	1.55(4)		

Table s2 C-H...O and O-H...O interactions in compounds 1-4.

Compound 1					
Bonds: Atom #1	Symmetry #1	Atom #2	Symmetry #2	Distance [Å]	Angle (°)
#172: O41	x, y, z	C1	x, y, z	2.9645(1)	113.0
#173: O41	x, y, z	C11	x, y, z	3.0365(1)	113.2
#174: OW1	x, y, z	C30	x, y, z	3.1672(1)	115.4
#175: OW1	x, y, z	C31	x, y, z	3.1364(1)	95.8
#176: O42	x, y, z	C10	x, y, z	3.0073(1)	113.8
#177: O42	x, y, z	C34	x, y, z	2.8667(1)	96.0
#178: O43	x, y, z	C20	x, y, z	3.1063(1)	114.5
#179: O43	x, y, z	C32	x, y, z	2.7821(1)	96.8
#181: C9	x, y, z	O29	x, -1+y, z	2.9623(1)	94.7
#182: C10	x, y, z	O29	x, -1+y, z	2.8349(1)	102.9
#183: O26	x, y, z	C20	x, y, z	3.1531(1)	102.1
#184: C30	x, y, z	O38	x, -1+y, z	3.1380(1)	117.6
#185: C34	x, y, z	O29	x, -1+y, z	3.1089(1)	126.6
#186: C35	x, y, z	O37	x, -1+y, z	3.0963(1)	121.8
#180: C9	x, y, z	O15	x, 0.5-y, -0.5+z	2.9758(1)	105.1
#156: O37	x, y, z	C35	x, 1+y, z	3.0963(1)	121.6
Compound 2					
#102: O23	x, y, z	C1	x, y, z	2.9984(8)	117.8
#103: O23	x, y, z	C38	x, y, z	2.7155(9)	99.0
#104: O24	x, y, z	C22	x, y, z	3.0393(9)	114.1
#105: O24	x, y, z	C40	x, y, z	2.8063(10)	96.7
#107: C20	x, y, z	O14	1-x, 1-y, -z	3.0394(10)	135.6
#109: C34	x, y, z	OW2	-1+x, y, z	3.1947(12)	97.3
Compound 3					
#109: O41	x, y, z	C1	x, y, z	3.0524(5)	113.8
#110: O43	x, y, z	C10	x, y, z	2.9544(5)	115.8
#111: C4	x, y, z	O14	2-x, 2-y, -1-z	3.1051(7)	114.8
#114: C20	x, y, z	O8	0.5+x, 2.5-y, -0.5+z	3.1406(4)	91.2
#115: C18	x, y, z	O7	1.5-x, -0.5+y, -1.5-z	3.0212(5)	94.4
Compound 4					
#79: O24	x, y, z	C22	x, y, z	3.0514(9)	113.7
#80: O24	x, y, z	C29	x, y, z	2.7972(10)	96.6
#81: O23	x, y, z	C26	x, y, z	2.7144(10)	98.8
#82: O23	x, y, z	C10	x, y, z	3.0098(8)	111.1
#83: C22	x, y, z	O12	2-x, 1-y, -z	3.0883(10)	133.1
#84: C14	x, y, z	O11	1+x, y, 1+z	3.0636(7)	109.9
#85: C1	x, y, z	O119	1+x, y, 1+z	3.1718(12)	124.1
#87: C27	x, y, z	O14	2-x, -y, -z	3.1982(11)	103.1
#88: C5	x, y, z	O10	2-x, -y, 1-z	3.0978(8)	124.7
#89: C2	x, y, z	O119	1+x, y, 1+z	3.1773(11)	122.8