SUPPORTING INFORMATION

New microporous copper(II) coordination polymers based upon bifunctional 1,2,4-triazole/tetrazolate bridges

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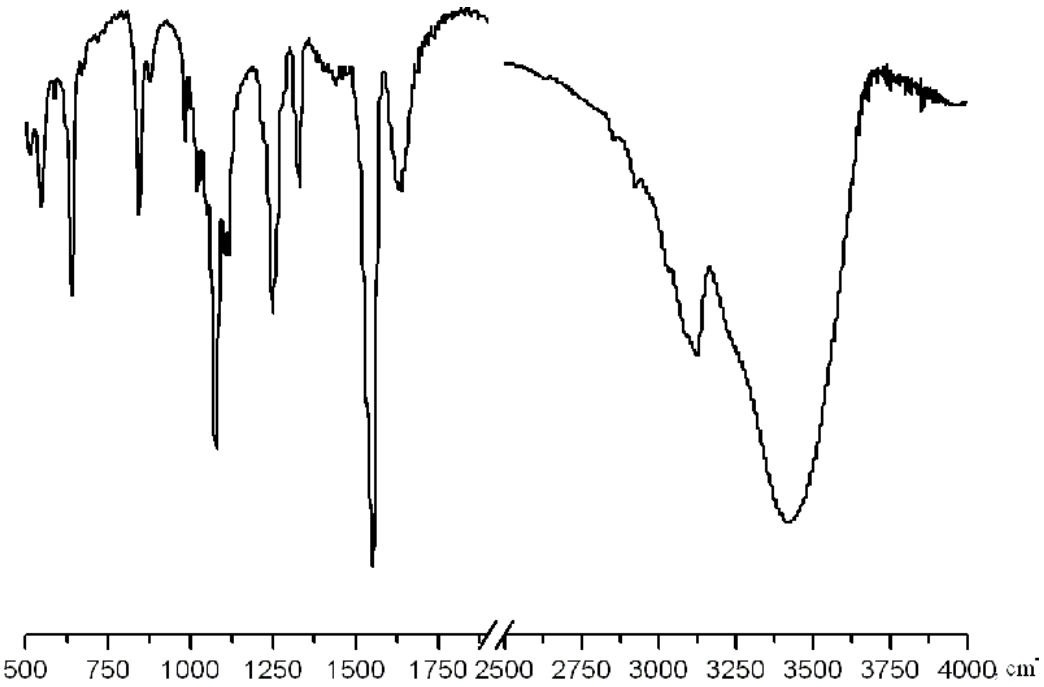

Figure SI_1. IR spectra for complex Cu(**L1**)$_2$Cl$_2$·12H$_2$O (**3**).

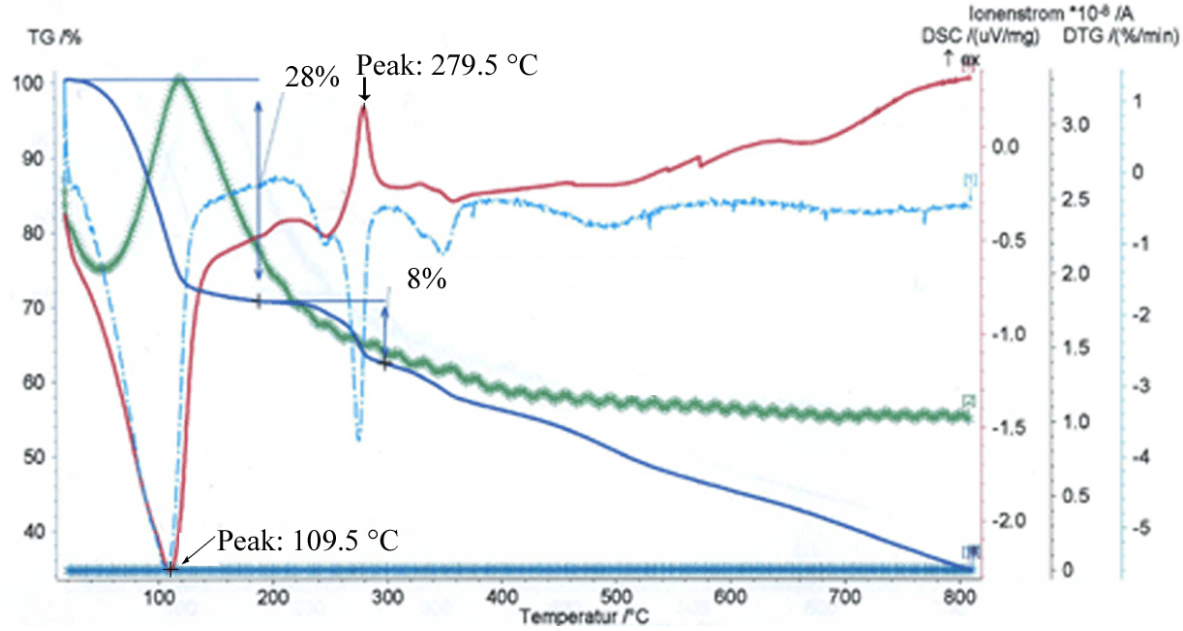

Figure SI_2. TGA, DTA and DSC traces of the complex Cu(**L1**)$_2$Cl$_2$·12H$_2$O (**3**) measured in the 20-800°C temperature range.

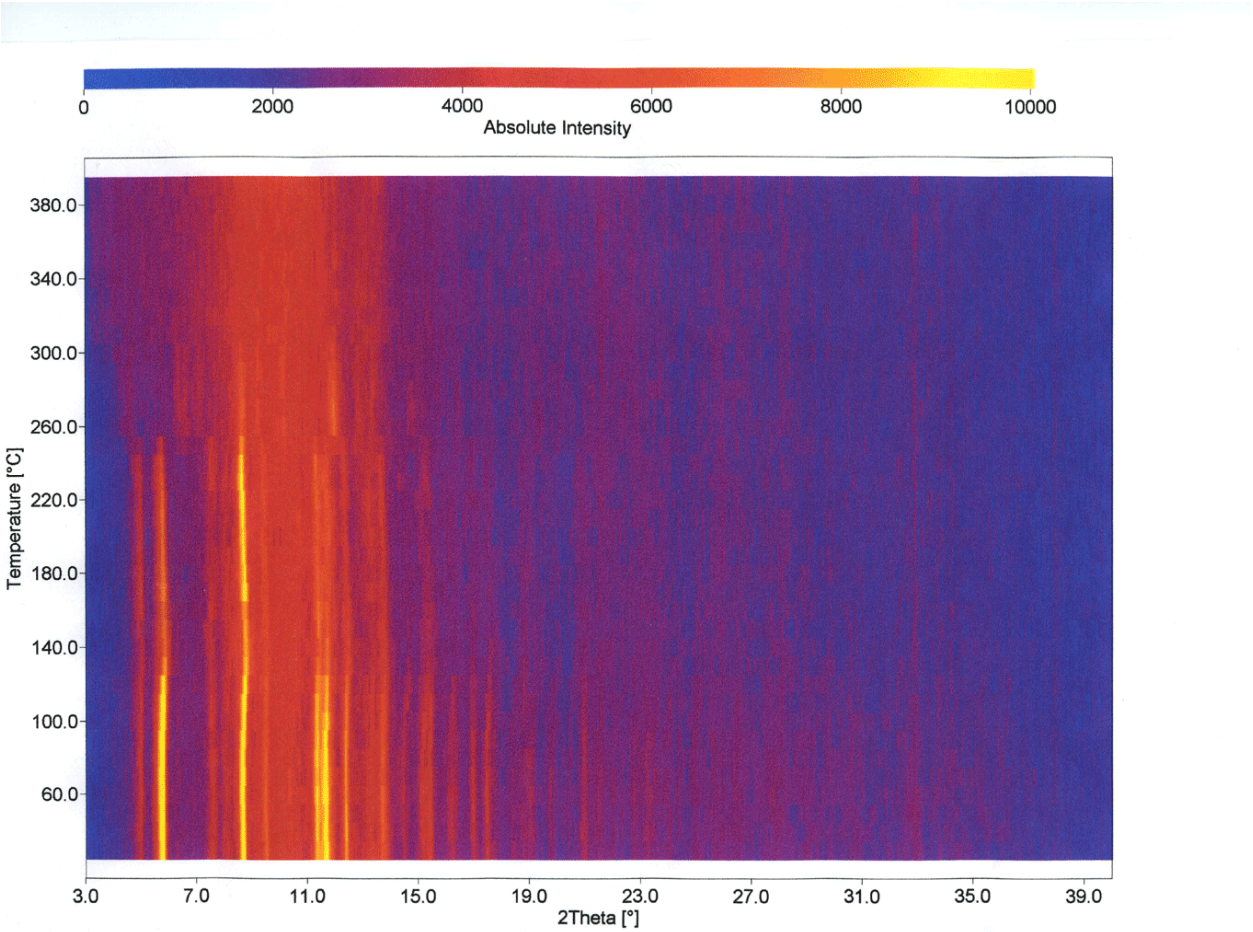

Figure SI_3. Thermodiffractograms for **3** were measured in the 20-400°C temperature range.

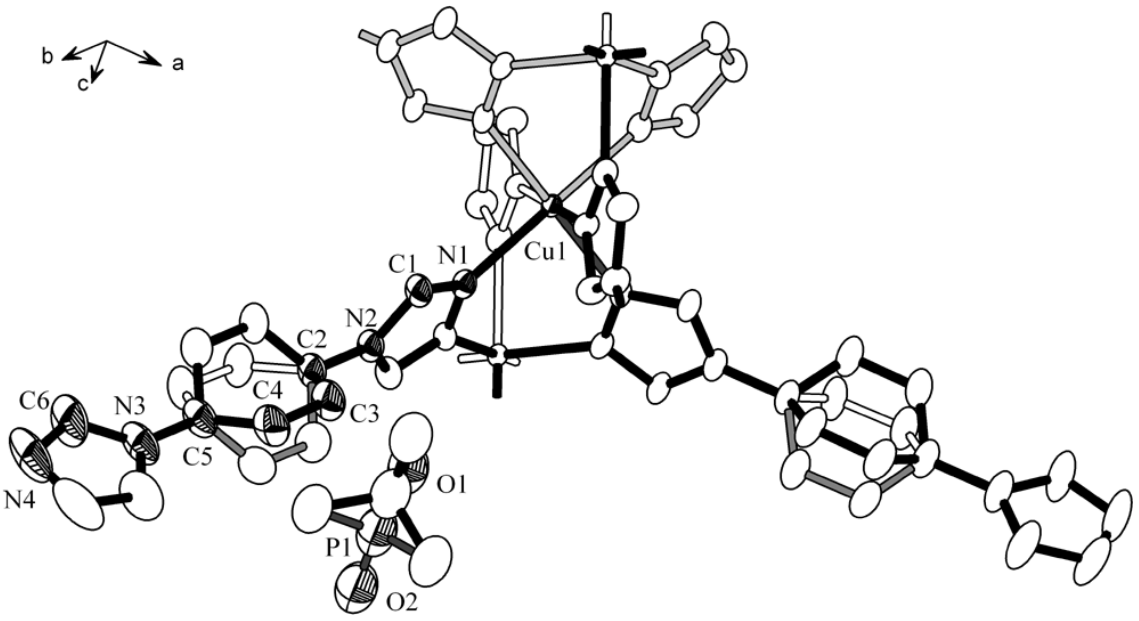

Figure SI_4. Atom labelling scheme for structure $[Cu(\mu_2\text{-}\mathbf{L1})_3]PO_3F$ (**1**) (**1**) (20% ellipsoids, hydrogen atoms omitted for clarity). The uncoordinated PO_3F dianion was refined with fixed geometry of tetrahedral PO_4. The anions are disordered over two positions (occupancy factor ½).

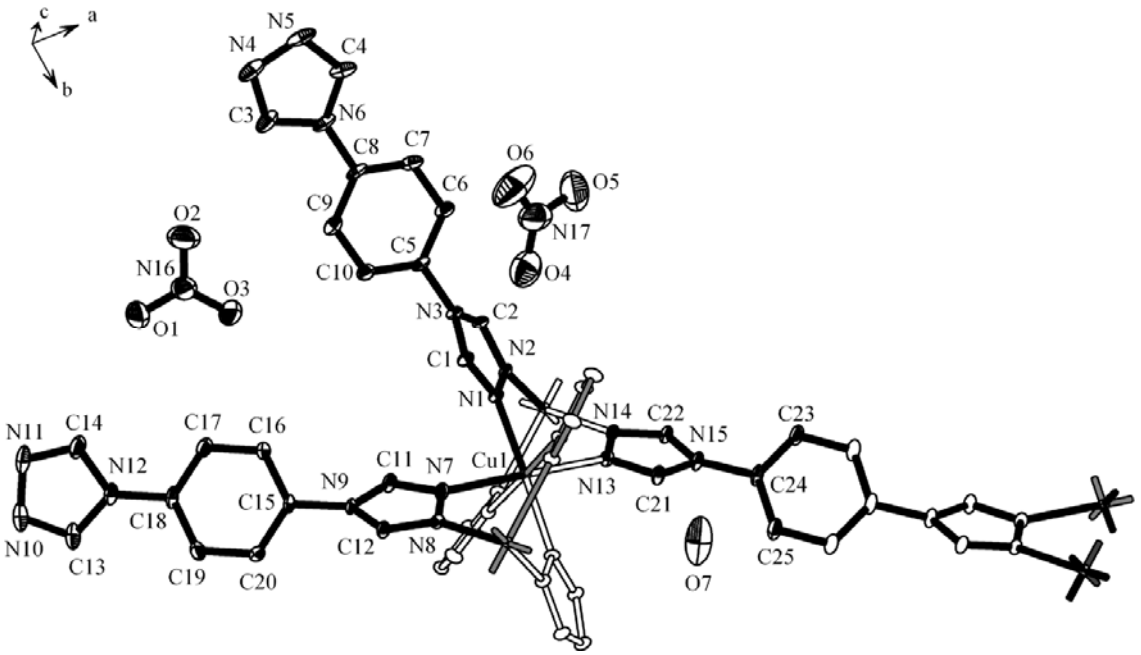

Figure SI_5. Atom labelling scheme for structure Cu(**L1**)$_5$(NO$_3$)$_4$·2H$_2$O (**2**) (30% ellipsoids, hydrogen atoms omitted for clarity).

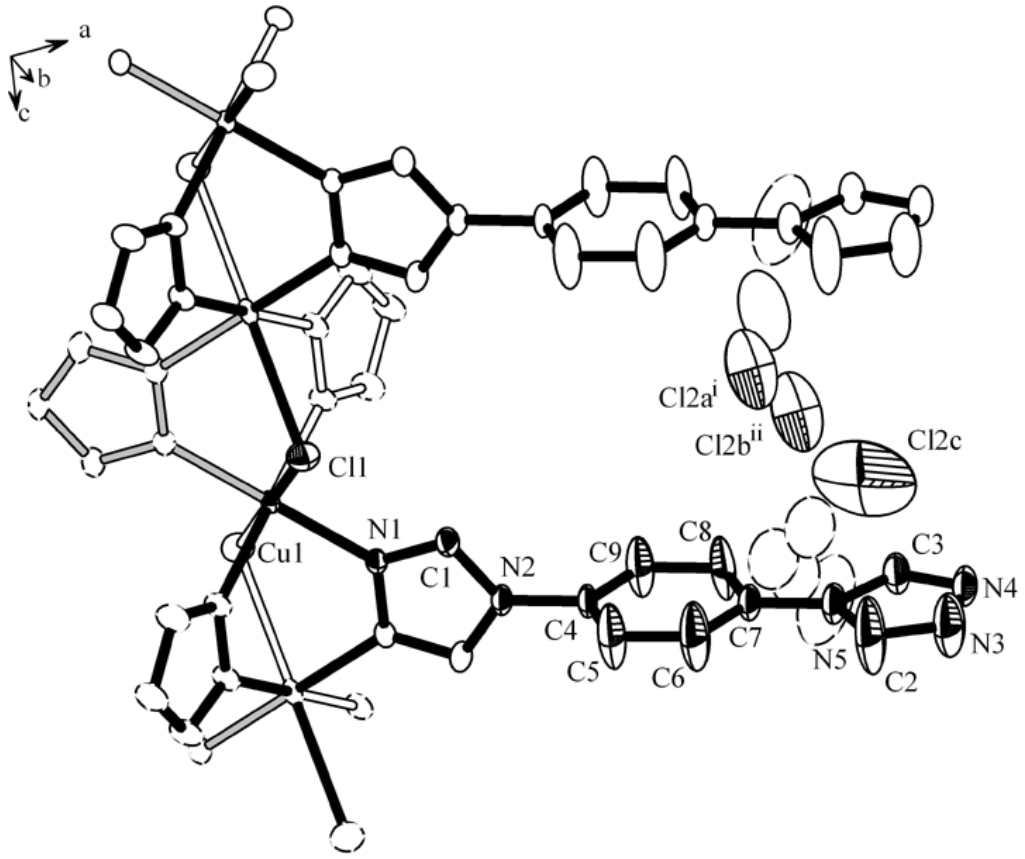

Figure SI_6. Atom labelling scheme for structure Cu(**L1**)$_2$Cl$_2$·12H$_2$O (**3**) (30% ellipsoids, hydrogen atoms omitted for clarity). The uncoordinated chloride anions are statistically disordered in the framework (occupancy factor 1/8; i: 0.5-x, 0.5-y, -0.5+z; ii: 0.5-x, -0.5+y, 1.5-z).

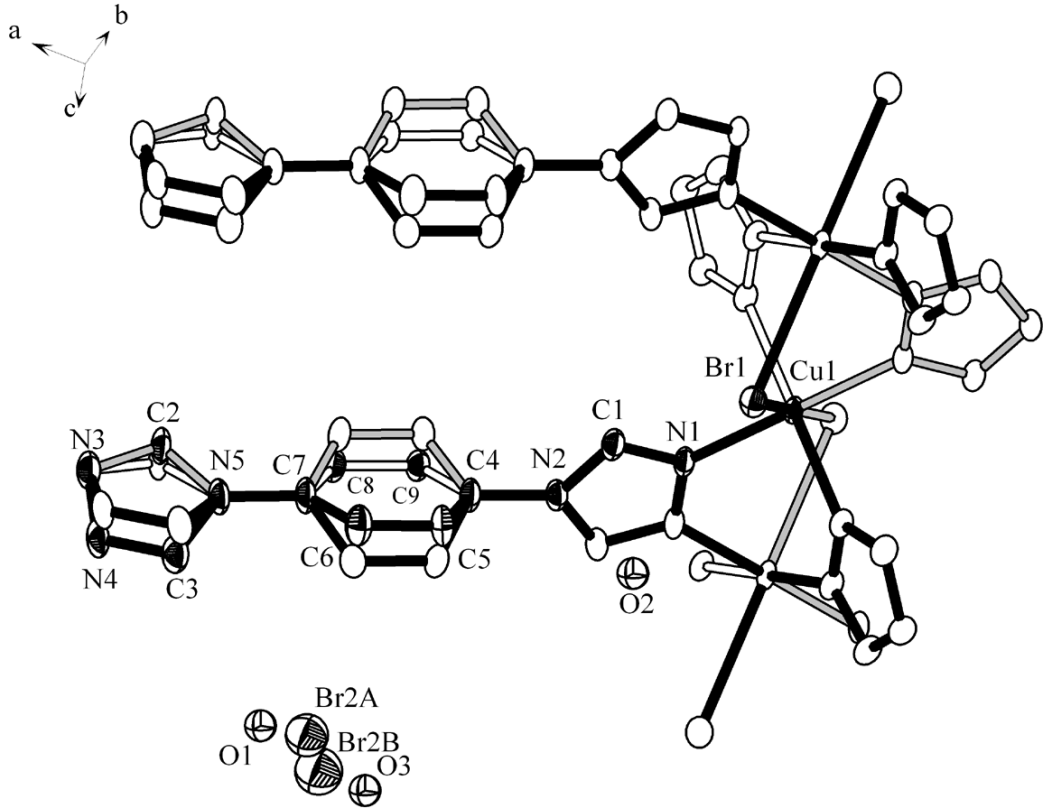

Figure SI_7. Atom labelling scheme for structure Cu(**L1**)$_2$Br$_2$·12H$_2$O (**4**) (30% ellipsoids, hydrogen atoms omitted for clarity). The uncoordinated bromide anions and water molecules are are located within the framework and statistically disordered (occupancy factors: for Br2A, Br2B 0.13; for O1, O3 and O2 are 0.5 and 0.25, respectively). The phenylene linker and uncoordinated triazole termini are disordered over two positions along the N2-N5 direction (partial contributions 0.5).

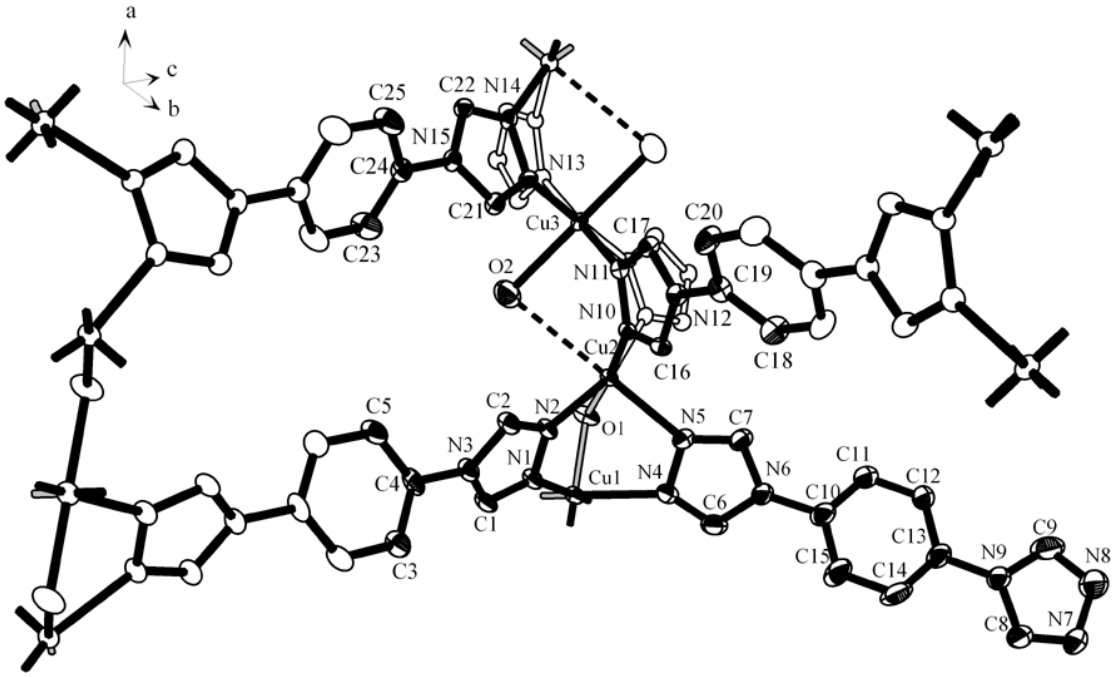

Figure SI_8. Atom labelling scheme for structure Cu$_4$(μ_2-OH)$_2$(**L1**)$_5$(H$_2$O)$_2$(CF$_3$SO$_3$)$_6$·10H$_2$O (**5**), (50% ellipsoids, the uncoordinated OTf- anions, water molecules and hydrogen atoms omitted for clarity).

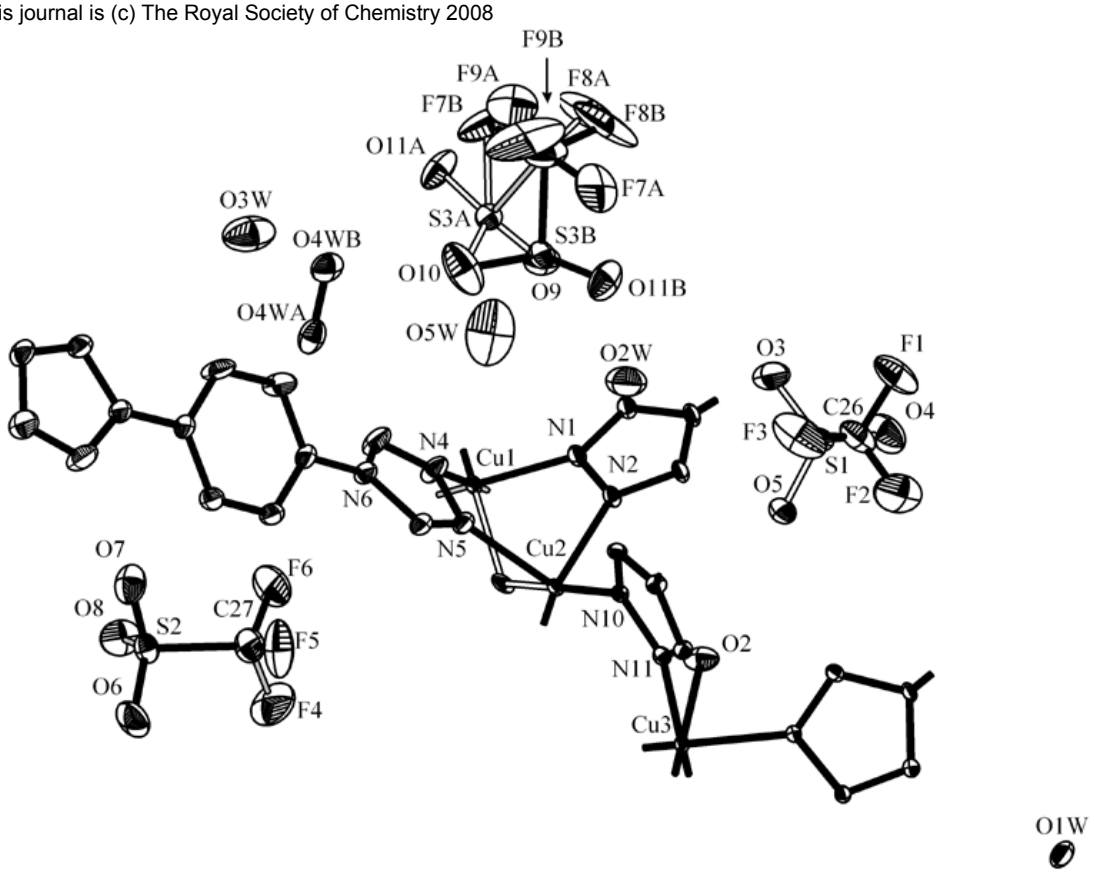

Figure SI_9. Atom labelling scheme for structural fragment in (**5**), showing disordering water molecules and $CF_3SO_3^-$ (30% ellipsoids, hydrogen atoms omitted for clarity).

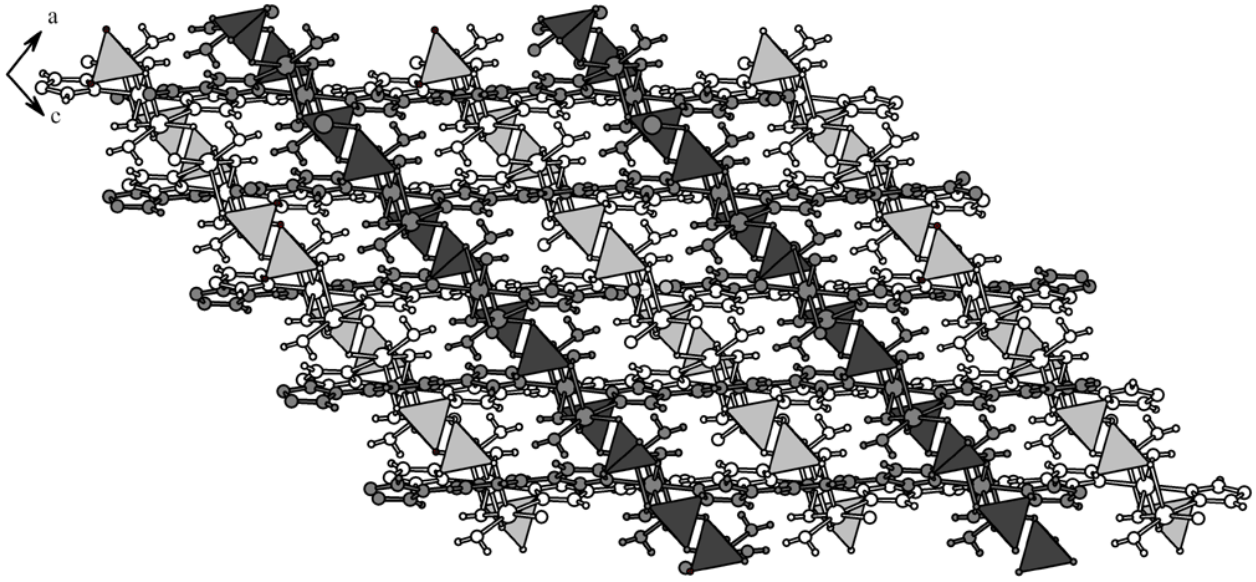

Figure SI_10. A view of the two interpenetrating nets of compound $Cu_3(\mu_2\text{-}OH)_2$(**L1**)$(H_2O)_2(SO_4)_2$ (**6**) (sulfates shown as polyhedra).

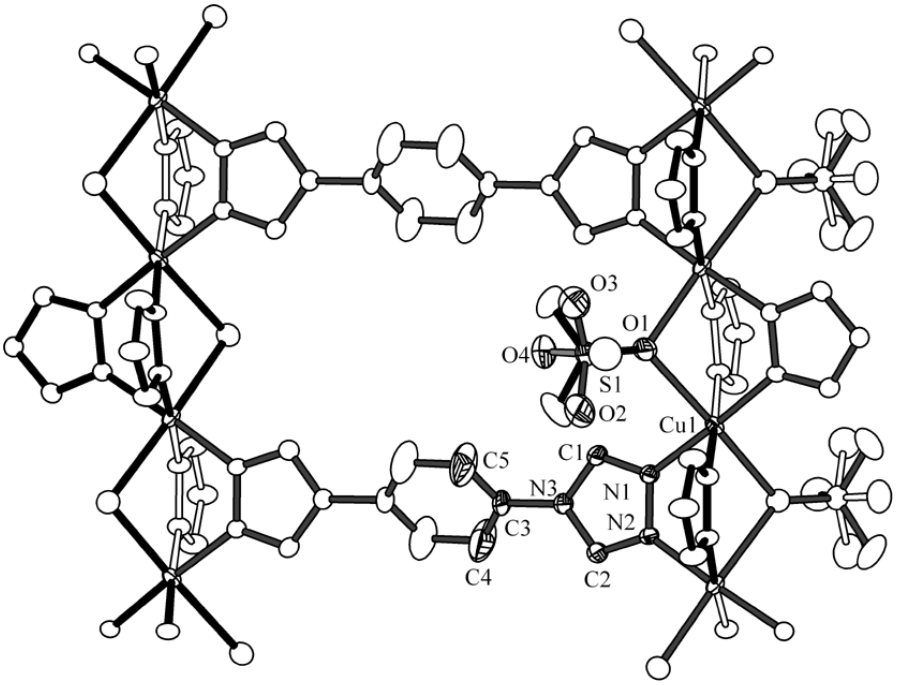

Figure SI_11. Atom labelling scheme for structure Cu(μ_4-**L1**)(μ_2-SO_4)·6H_2O (**7**). The coordinated sulfate anions are disordered along the twofold orientation axis with occupancy factor of ½ (50% ellipsoids, hydrogen atoms omitted for clarity).

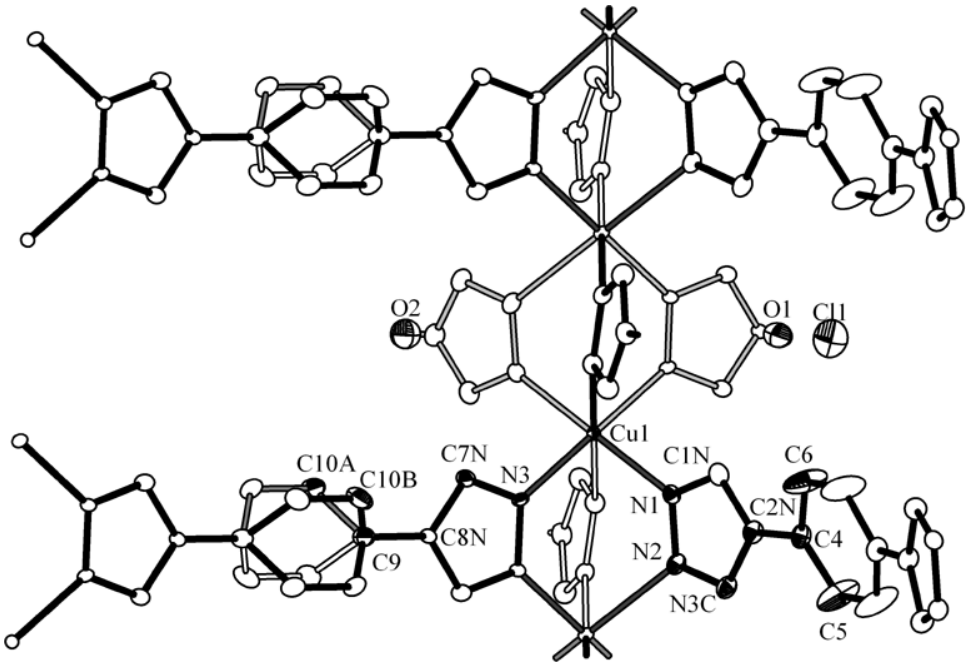

Figure SI_12. Atom labelling scheme for structure Cu_2(**L2**)$_3$Cl·12H_2O (**8**). The uncoordinated chloride anions and water molecules are disordered in the lattice; the phenylene fragments are disordered over two positions (partial contributions 0.6 and 0.4; 40% ellipsoids).