

## Supplementary Information

### **Proton controlled synthesis of two dicopper(II) complexes and their magnetic and biomimetic catalytic studies along with probing the binding mode of the substrate to the metal centre**

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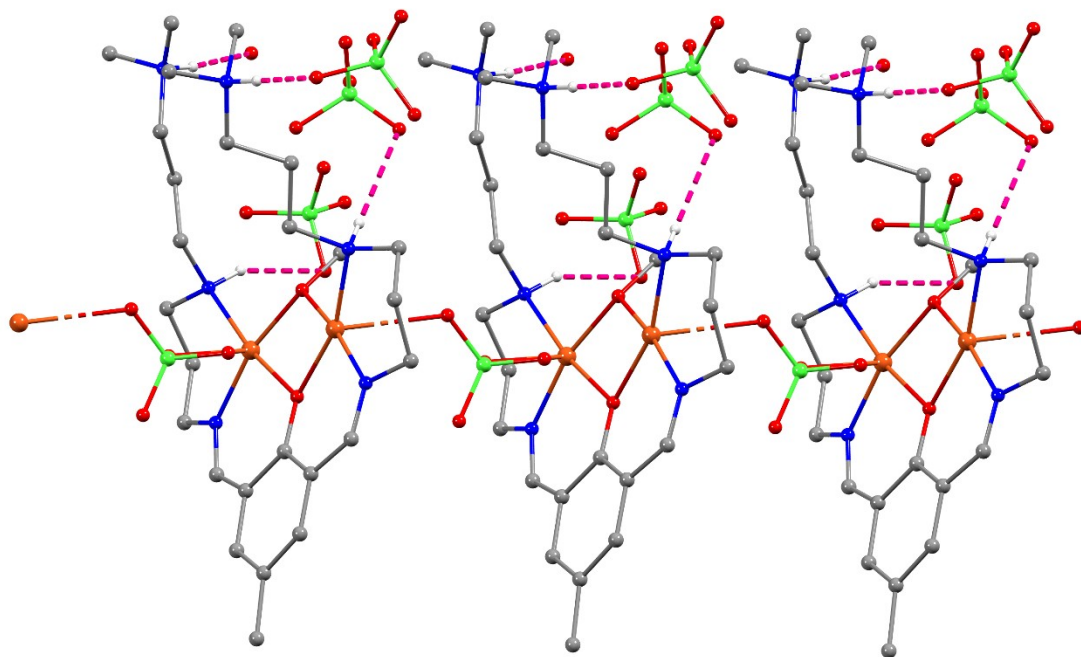
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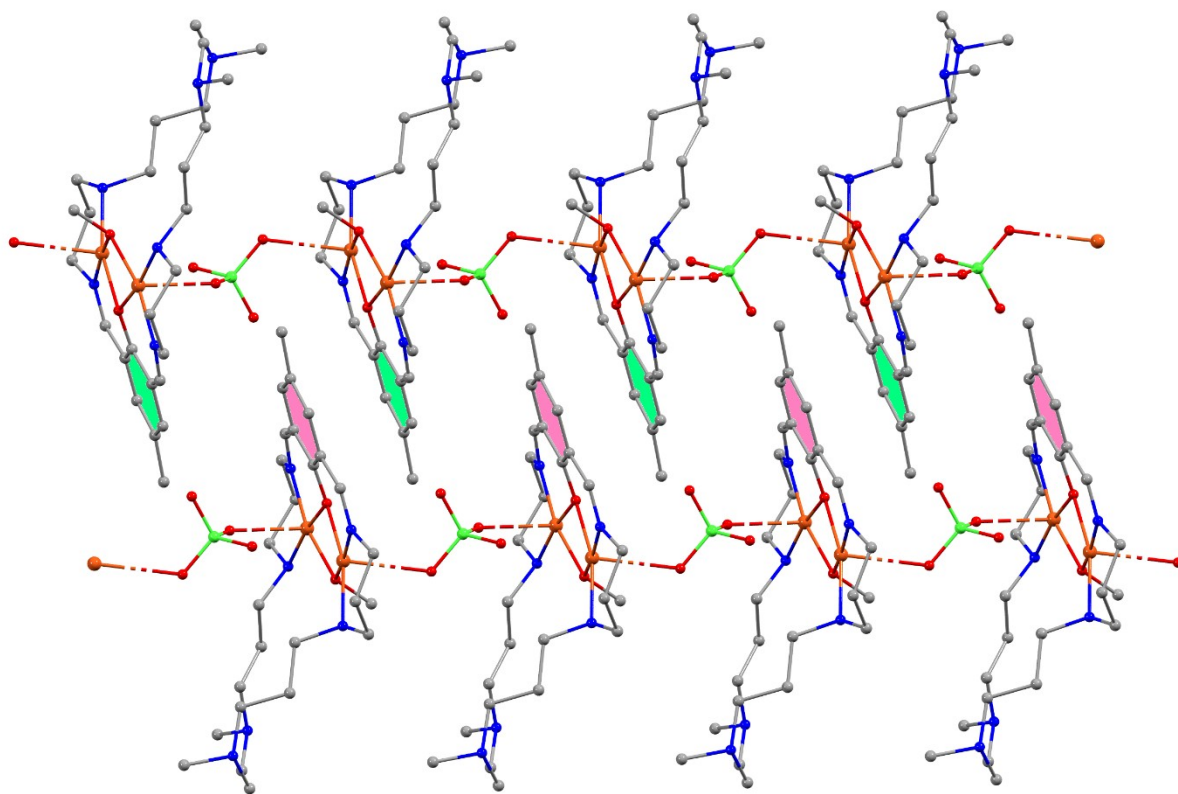
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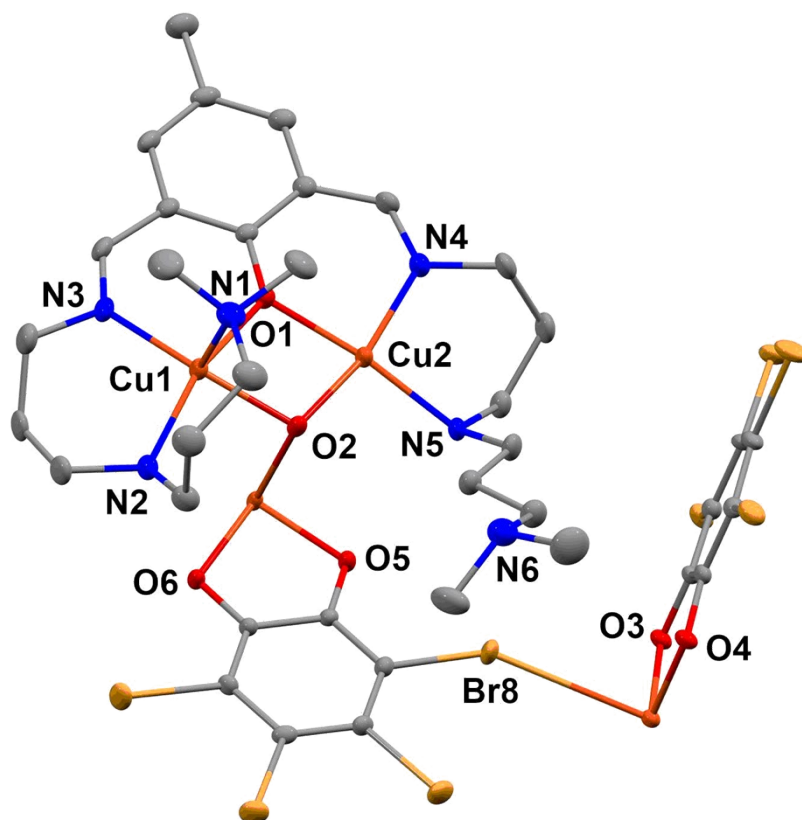
\* Corresponding author e-mail: ampanja@yahoo.co.in



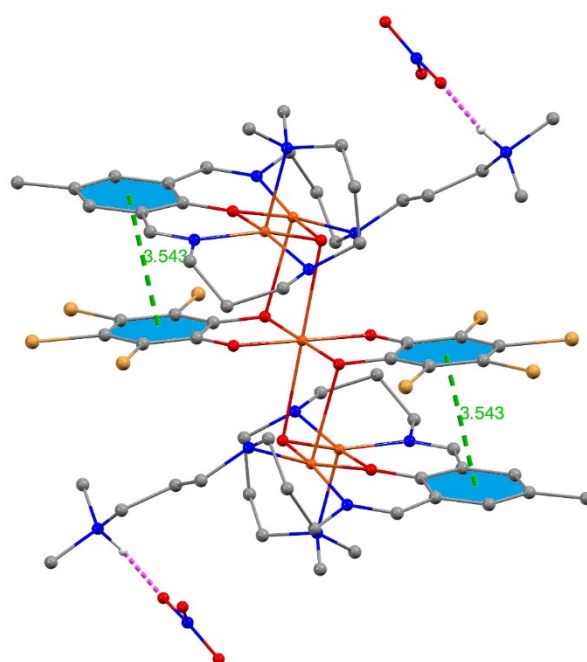
**Fig. S1.** Hydrogen bonding interaction in complex **1**



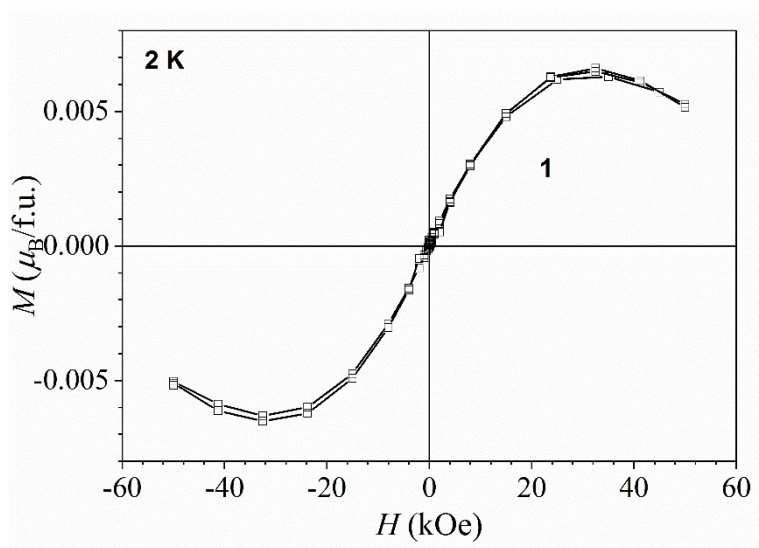
**Fig. S2.** The  $\pi$ - $\pi$  interlocking in the chain structure of complex **1**



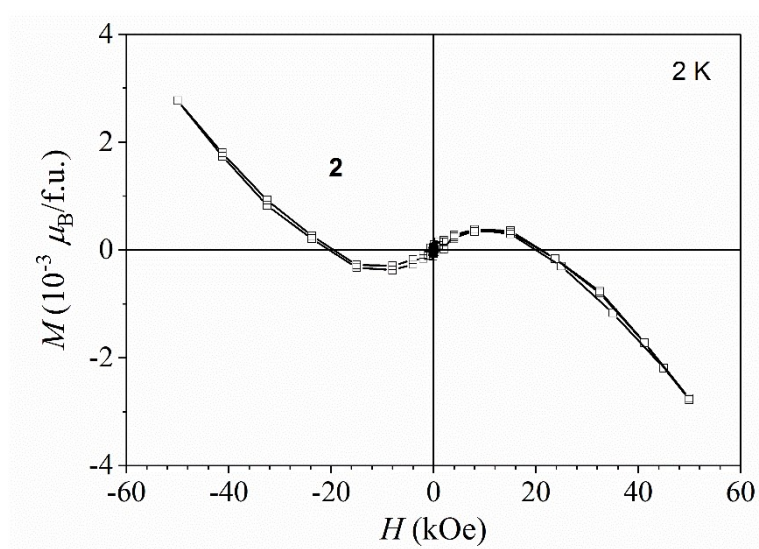
**Fig. S3.** Complex cation of **3** in the asymmetric unit. Hydrogen atoms are omitted for clarity of the picture.



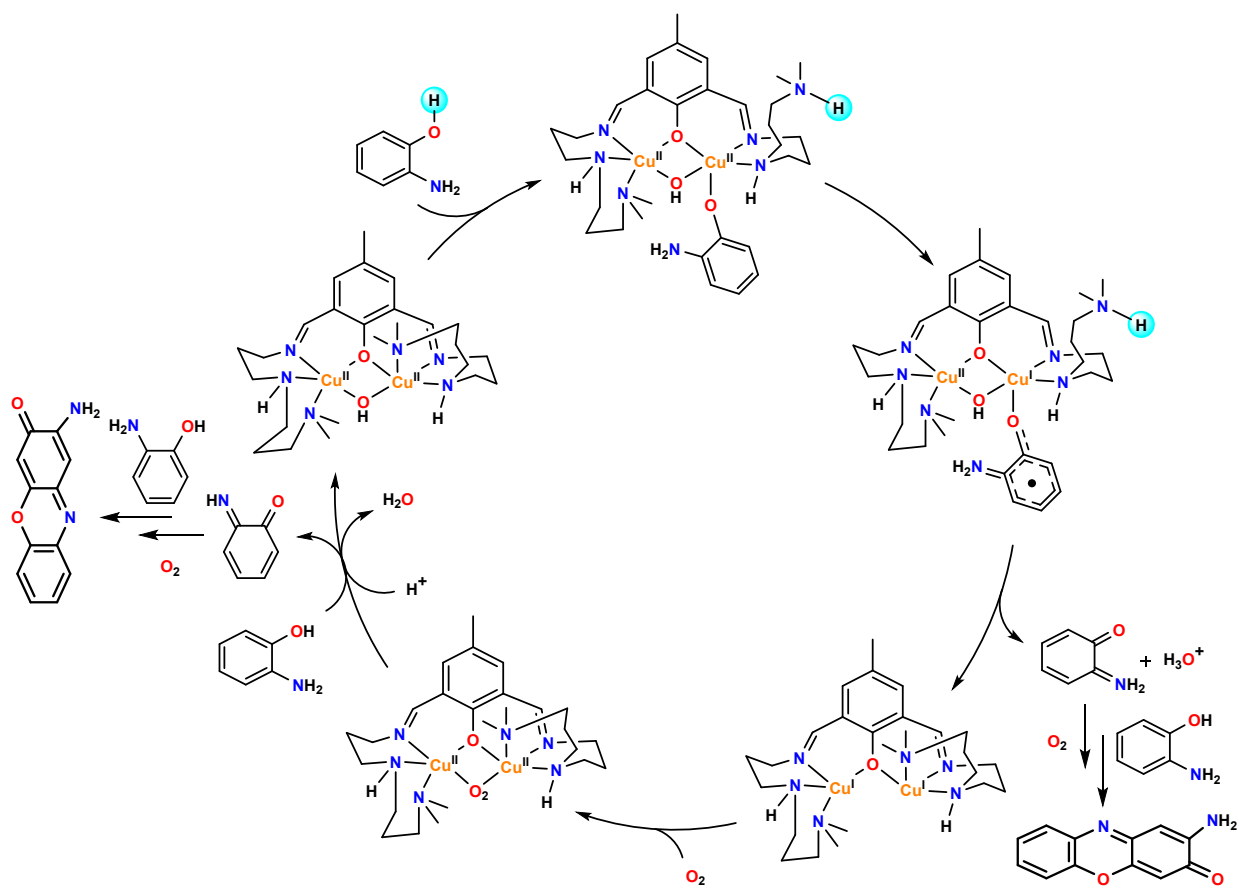
**Fig. S4.** The  $\pi$ - $\pi$  stacking and hydrogen bonding interactions in **3**.



**Fig. S5.** Isothermal magnetization of **1** at 2 K in the applied dc field 0–50 KOe.



**Fig. S6.** Isothermal magnetization of **2** at 2 K in the applied dc field 0–50 KOe.



**Scheme S1.** The most probable catalytic cycle for the oxidation of OAPH by complex 2