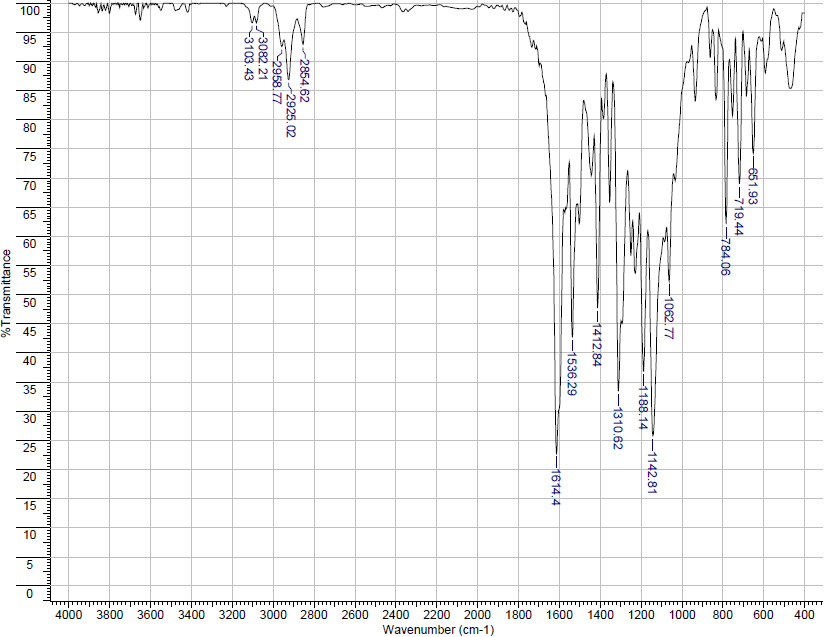
**Supplementary Information for the Manuscript:**

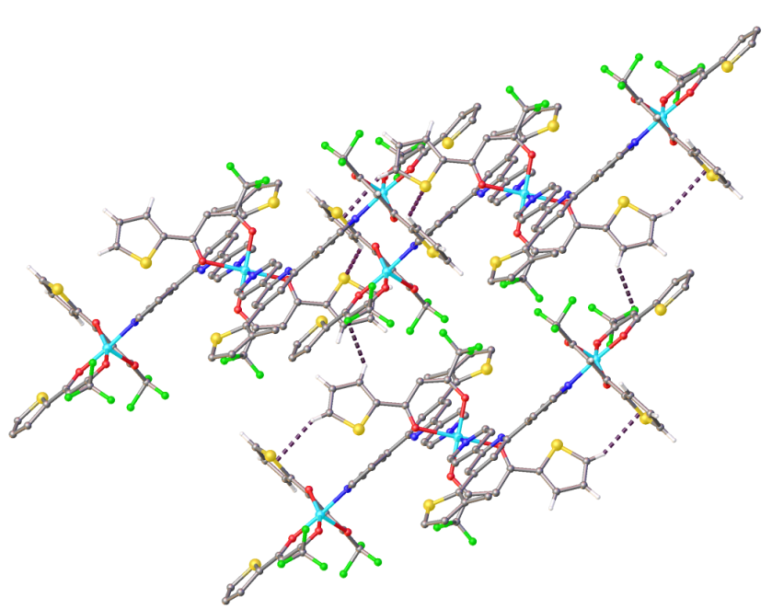
**“Unusual trinuclear complex of Copper (II) containing a 4'-(3-methyl-2-thienyl)-4,2':6',4''-terpyridine ligand. Structural, spectroscopic, electrochemical and magnetic properties”**

By the authors:

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**Fig. S1.** FT-IR spectra of complex **1**.



**Fig. S2**. Packing view of intermolecular Hydrogen Bonds in complex **1** projected along the [001] direction.

**Table S1**. Intermolecular hydrogen bonds in complex **1**.

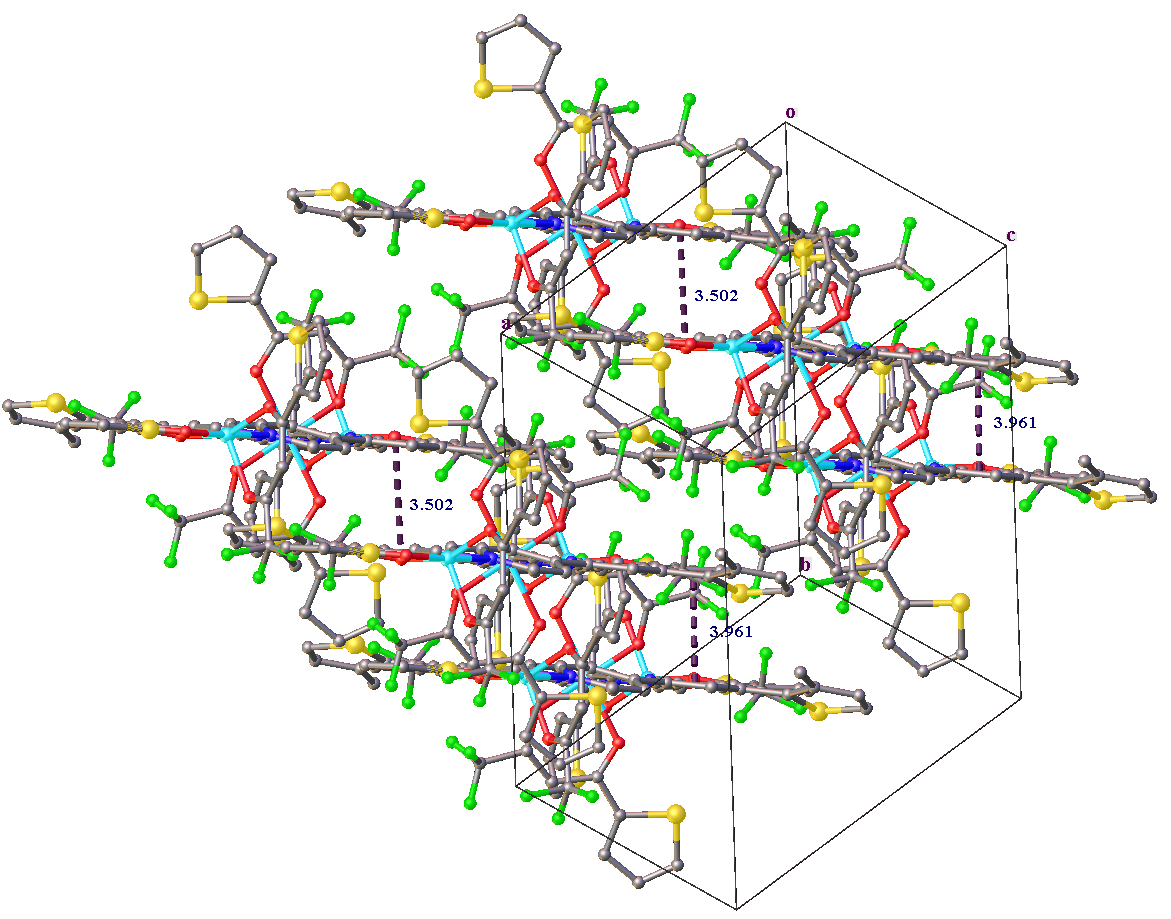
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| D-H···A | d(D···H)(Å) | d(H···A)(Å) | d(D···A)(Å) | <(D-H···A) (°) |
| C(8A)–H(8A) Cg(9)ii | 0.95 | 2.95 | 3.795(6) | 148 |
| C(6C)–H(6C) F(4BC)iii | 0.95 | 2.54 | 3.469(11) | 167 |
| C(6B)–H(6B) S(2)iv | 0.95 | 2.87 | 3.591(6) | 134 |
| Symmetry codes: (ii) 2-X,1-Y,-1-Z ; (iii) -x,2-y,-1-z ; (iv) -1+x,1+y,-1+z | | | | |

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**Fig. S3**. Packing view of C-F···π Interactions in complex **1** projected along the [110] direction. Hydrogen atoms are omitted for clarity.

**Table S2**.C-F···π Interactions in complex **1**.

|  |  |  |  |
| --- | --- | --- | --- |
| D-F···A | d(D···F)(Å) | d(F···A)(Å) | <(D-F···A) (°) |
| C(4C)–F(4CC)---Cg(8)v | 1.321(5) | 3.741(4) | 103.5(3) |
| Symmetry codes: (v) -1+X,1+Y,Z | | | |



**Fig. S4**. Packing view of π-π interactions in complex **1**. Hydrogen atoms are omitted for clarity.

**Table S3**.π-π interactions in complex **1**.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Group 1/Group2 | ccd (Å) | da (°) | ipd (Å) | sa(°) |
| Cg(18)···Cg(18) ii | 3.502(4) | 0.0(4) | 3.337(3) | 1.063(5) |
| Cg(10)···Cg(18)vi | 3.961(3) | 2.38(19) | 3.467(4) | 1.804(13) |
| Cg(18) is the centroid of the N2 /C6-C10 pyridine ring and Cg(10) is the centroid of the S4/ C5B-C8B thienyl ring. Symmetry codes; (ii) 2-X,1-Y,-1-Z ; (vi):- 1-X,2-Y,-1-Z.  Note: ccd is the centre-to-centre distance (distance between ring centroids); da is the dihedral angle between rings; ipd is the interplanar distance (distance from one plane to the neighbouring centroid), sa is the slippage angle (angle subtended by the intercentroid vector to the normal plane) [1]. | | | | |

[1] C. Janiak, J. Chem. Soc., Dalton Trans. (2000) 3885-3896.