





**Figure 1.** Structure-superstructure relation in  $(\text{CH}_2\text{Cl}_2)_{3,4} @ [(\text{Cp}^{\text{Bn}}\text{FeP})_{3,12}(\text{Cu})_{3,54}(\text{MeCN})_{1,46}]$

**Keywords:** giant supramolecule, pentaphosphaferrocene, superstructure, single-crystal X-ray diffraction

## MS33-P5 Zn(II) and Cu(II) coordination polymers based on anthracene ligands: Luminescence and antimicrobial properties

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Anthracene derivatives have been widely studied during the last two decades as perspective materials for luminescence [1]. Moreover anthracene derivatives have been intensively investigated as an attractive building block and starting material in OLEDs (organic light-emitting diodes), due to their unusual photoluminescence and electroluminescence properties [1]. Coordination compounds of Cu(II) and Zn(II) have been developed *in vitro* as promising materials for antimicrobial properties against *Staphylococcus aureus*, *Bacillus subtilis*, *Escherichia coli*, *Pseudomonas aeruginosa* etc... [2,3]. In this work, new coordination polymers of Zn(II) and Cu(II) based on new anthracene derivatives (Figure 1) will be presented combining both luminescent and antimicrobial properties. The ligand (L1) was already investigated with Ag(I) in our group. While the shift of emission and the decrease of eximer band are observed upon coordination to silver ion in crystalline form, amorphous nanowires showed a large emission band for this system [4]. Three coordination polymers of Cu(II) and three of Zn(II) were obtained with ligands L1 and L2 by slow liquid diffusion technique. Crystalline structures of coordination compounds were obtained from X-ray single crystal measurements, and solved by SHELX-97 program. Further luminescent and antimicrobial properties will be investigated.

### References

- [1] Jinhai Huang, Jian-Hua Su and He Tian., *J. Mater. Chem.*, 2012, **22**, 10977-10989.[2]Qing Yuan., *Journal of Inorganic Biochemistry*, 2009, **103**, 1156–1161.[3]Sudeep Goswami *et al.*, *J. Mater. Chem. B*, 2015 **3**, 7068-7078. [4] Jing Chen, Antonia Neels and Katharina M. Fromm., *Chem. Commun.*, 2010, **46**, 8282-8284.