

Poster Presentation

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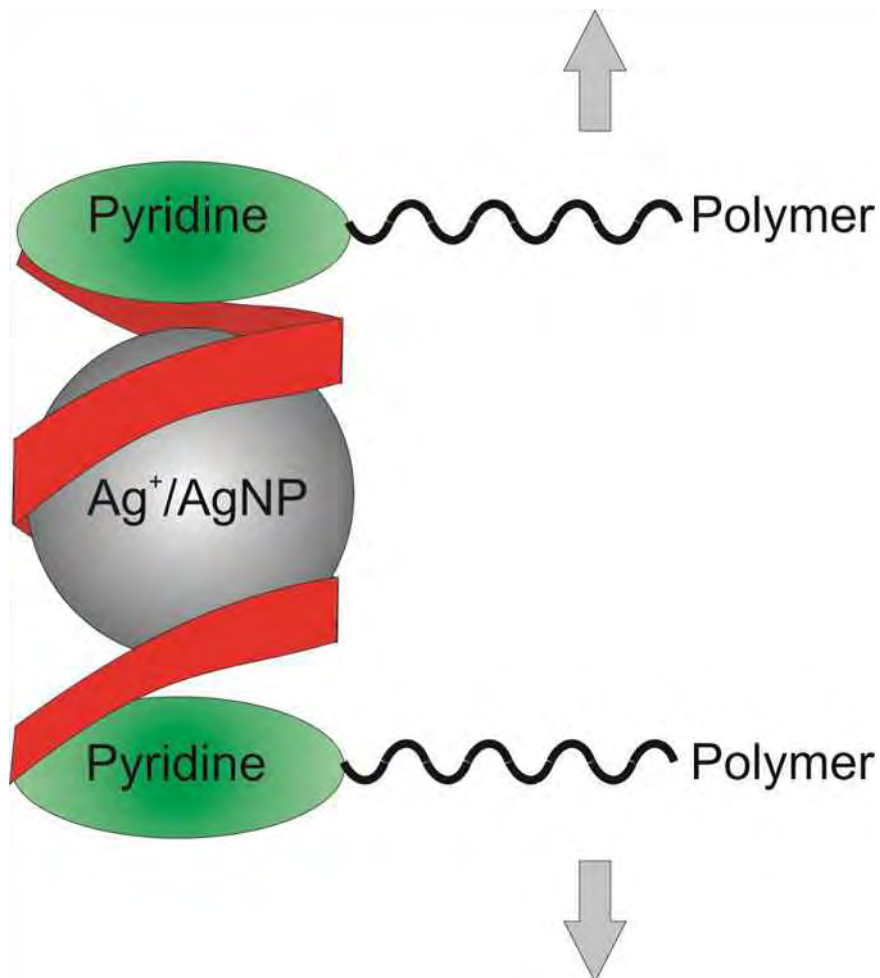
Antimicrobial complexes of Schiff base ligands and copper family metal ions

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Schiff base complexes were extensively studied because of their catalytic properties in various fields and partly for their biological activity[1]. The utilisation of copper (II)[2] and silver (I)[3] can introduce antimicrobial properties to these structures or enhance them; thus provides new fields of applications, like in medicine. Compared to classical Schiff bases, the synthesis of dual N,N-donor Schiff bases is facile too, and the resulting product contains several coordination sides for diverse metals. Applying these unique advantages, we developed several antibacterial Schiff base metal complexes. Our ligand system is based on functionalized pyridine end-capped imine linker units which differ in the nature of the linker chain, such as ethylene glycols or alkyl chains. Substitution on the pyridine rings offer the possibility to attach oligomers or polymer chains which can work e.g. as handles. By applying, for example, mechanical force, like ultra-sonication, the metal ions can be released (Figure 1) by an external trigger and used for catalysis or in medicine, where its antimicrobial properties are required. Figure 1: Schematic illustration of controlled silver release from a ligand-polymer system by applied force (arrows).

[1] J. McGinley et al.; *Polyhedron* 2013, 55, 169., [2] J. O`Gorman, H. Humphreys, *Journal of Hospital Infection* 2012, 81, 217., [3] S. Eckhard, P. S. Brunetto, J. Gagnon, M. Priebe, B. Giese, K. M. Fromm, *Chem. Rev.* 2013, 113, 4708.



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