

# Oligopyridines and Their Metal Complexes

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*Abstract.* New oligopyridine ligands are prepared for metallosupramolecular chemistry.



Reza-Ali Fallahpour was born in Iran. After high school, he studied chemistry at the University of Innsbruck, Austria. He moved to the University of Zurich where he completed his Ph.D. in the laboratory of H.-J. Hansen. For a postdoctoral period, he joined the group of E. Constable at the University of Basel where he is now studying for his habilitation.

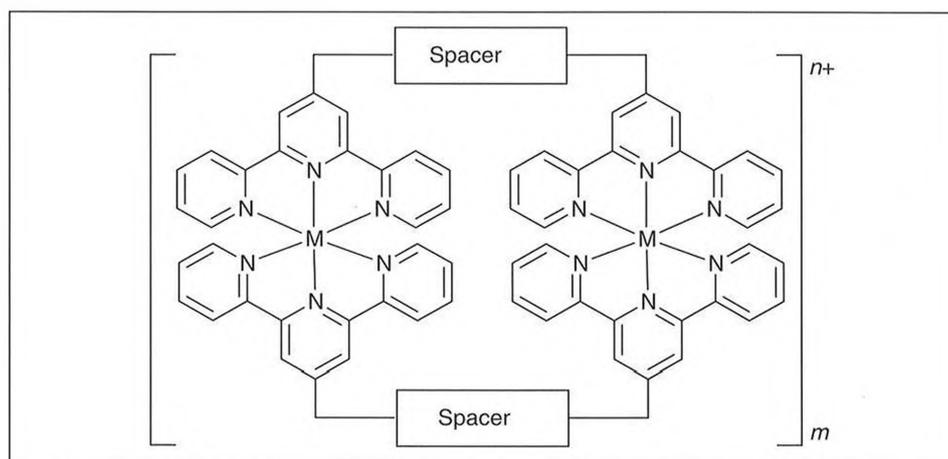


Fig. 1

2,2'-Bipyridines (bpy) and 2,2':6,2''-terpyridines (tpy) are versatile ligands for metalcomplex formation. The simultaneous functionalization of a tpy ligand at atom C(4') and at the terminal pyridine rings is of interest to us. For this purpose, dimethyl-4'-ethoxy-2,2':6,2''-terpyridines and 5,5''-dimethyl-4'-hydroxy-2,2':6,2''-terpyridine and nitrogen-containing terpyridines have been prepared [1-3].

We are interested in self-assembly of tpy ligands to form cyclic metal complexes upon reaction with different metals. The cyclic polynuclear complexes might encapsulate ions or molecules and are, additionally, interesting cores for metal-lodendrimers (Fig. 1).

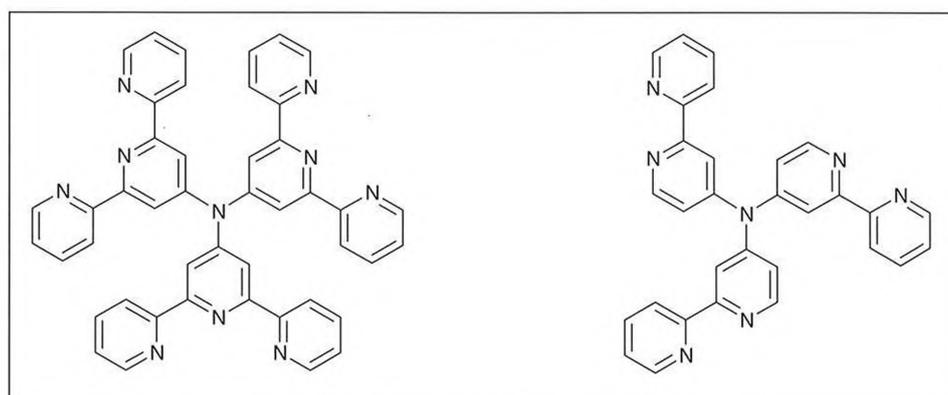


Fig. 2

Interest in chiral oligopyridines is growing due their potential application as catalysts and specific sensors for chiral analysis. Usually, a chiral auxiliary is attached to the tpy ligand; we hope to develop systems based on enantiomeric and diastereoisomeric bis- and trisarylamines. The synthesis and properties of bis- and tris-2,2':6,2''-terpyridines as well as bipyridines will be investigated. These compounds may find application as catalysts in chiral synthesis (Fig. 2).

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