# *Endo-endo* Bridged Ligand Pairs for Self-Sorting in $Pd_2L_4$ Cages

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Self-assembly is one possible pathway for the formation of supramolecular structures from smaller building blocks. In addition to this, reliable methods for self-sorting are indispensable for the successful design and synthesis of more complex heteroleptic cages. Steric bulk[1] and shape complementarity[2] can for example be used to achieve self-sorting. Herein we present a new method of self-sorting currently under development: *endo-endo* bridging of ligand pairs. Hereby formed complexes should exhibit a higher stability and this method would enable the formation of complexes containing similar ligands with differently functionalized backbones, thereby opening the doors to a variety of applications for chromophore-decorated ligands.

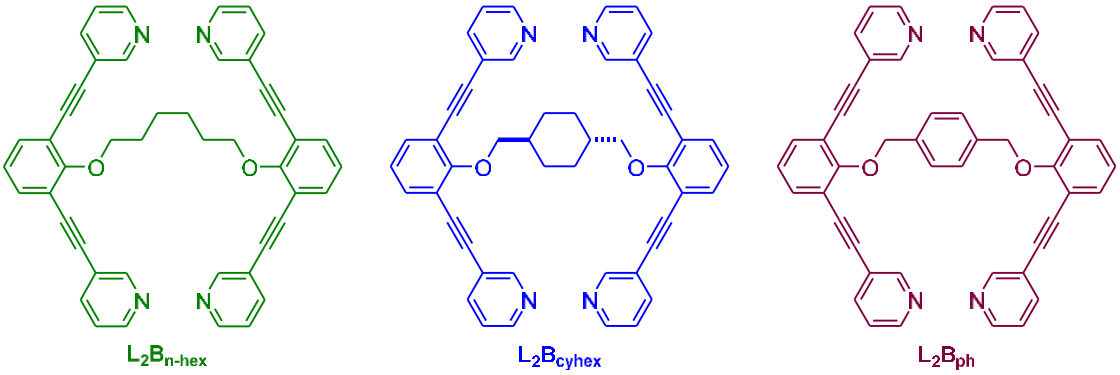


**Figure 1:** Synthesized, easily accessible, *endo-endo* bridged ligand pairs with an increasing bridge rigidity.

Preliminary studies indicate an increased bridge rigidity favors the formation of heteroleptic $Pd_2L_2(L_2B)$-type complexes.

References:
[1] Q. Zhang et al. Angew. Chem. Int. Ed. 2023, 62, e202217215.
[2] G. H. Clever et al. Nat. Chem. 2024, 16, 584–591.