

Pyridine-based perylene derivatives for Metal-Organic Frameworks (MOFs)

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Metal-Organic Frameworks (MOFs) are inorganic-organic hybrid crystalline materials composed of metal ions and organic linkers.¹ Their properties such as porosity and the stability, provide a wide range of applicability like gas storage, gas separation, drug delivery, and sensing.² In this work, the aim was to synthesize two new organic linkers based on aromatic compounds, which would form MOFs with d^{10} metals, such as cadmium or zinc. Different methods of crystallization, such as solvent layering, solvothermal, slow evaporation, and vapor diffusion were used to afford MOFs based on the synthesized ligands. The luminescent properties of MOFs given by these aromatic linkers could allow chemical sensing or detection.

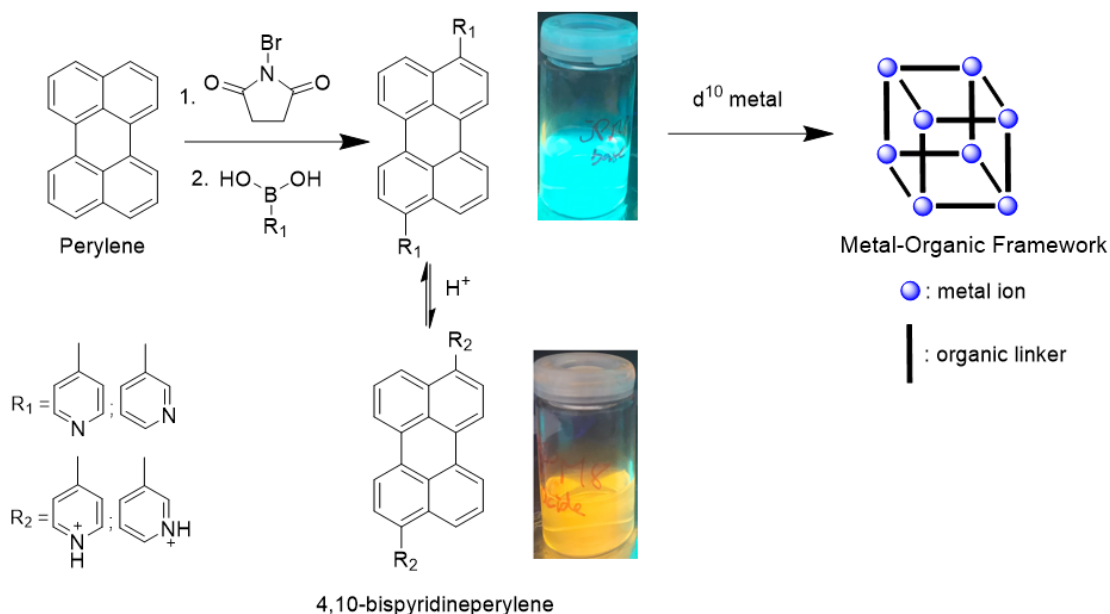


Figure : Synthesis of MOFs with perylene derivatives and their luminescence.

¹Mendes, R. F.; Almeida Paz, F. A. Transforming Metal–Organic Frameworks into Functional Materials. *Inorg. Chem. Front.* **2015**, 2 (6), 495–509.

²Kumar, P.; Deep, A.; Kim, K.-H. Metal Organic Frameworks for Sensing Applications. *TrAC Trends Anal. Chem.* **2015**, 73, 39–53.

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