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Synthesis of Pyridine-Based Ligands as Potential Magnetic Liquid Crystals

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Ligands for the development of metallomesogens (metal-containing-liquid-crystals) have attracted attention due to potential applications in materials science such as optical devices, magnetic switches, and conductors. The attempts to synthesize bis(3-alkoxy) pyridine amines are presented. These structures are designed to exhibit liquid crystalline properties as metal complexes. Reaction conditions using potassium carbonate and potassium *tert*-butoxide as bases under Ullmann-type conditions in various solvents (aromatic and non-aromatic), between -78 °C to 160 °C, have been unsuccessful. It is imperative to understand the electronic effects of the *meta*-substituted pyridine precursors to further develop the copper-catalyzed conditions of these types of molecules.