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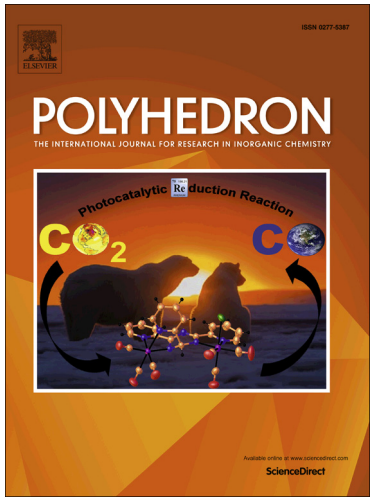

Synthesis and Characterization of Two Polydentate Pyridylamines, Their Acidified Salts and Late First-Row Transition Metal Complexes

Yi-Ju Tsai, Una H. Lee, Qinliang Zhao

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Synthesis and Characterization of Two Polydentate Pyridylamines, Their Acidified Salts and Late First-Row Transition Metal Complexes

Yi-Ju Tsai, Una H. Lee, Qinliang Zhao*

Department of Chemistry, University of the Pacific 3601 Pacific Avenue, Stockton, CA 95211, USA

Keywords: Pyridylamine, protonated amine, pyridinium ion, hydrogen bonds, metallation.

Abstract: Synthesis and characterization of a new tripodal polydentate pyridylamine ^{C}**L** and an improved synthesis of analogue ^{N}**L** were developed. Acidified salts of the two polyamines (^{C}**LH** and ^{N}**LH**), one trizinc (**1**), and two monometallic complexes (**2** and **3**) were synthesized and structurally characterized. Protonation of the polyamines occurred at the pyridine N atoms, strongly supported by the hydrogen bonds between the cations and anions in the extended network. Structural analysis of the three complexes supported by ^{N}**L** demonstrated its versatile coordination modes.

Graphic abstract:

Convenient synthesis of two tripodal polydentate pyridylamines was accomplished. Structural analysis of their acidified salts determined that protonation of the polyamines occurred at the pyridine N atoms. Versatile coordination modes of one pyridylamine with late first-row transition metal atoms were also revealed.

* Corresponding author. E-mail address: qzhao@pacific.edu