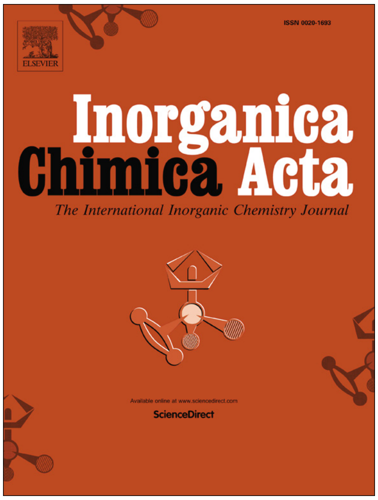

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Puspendra Singh, Gulam Shabbani, Amravati S. Singh, Hari C. Bajaj,
Eingathodi Suresh

PII: S0020-1693(18)30883-1
DOI: https://doi.org/10.1016/j.ica.2018.09.018
Reference: ICA 18476

To appear in: *Inorganica Chimica Acta*

Received Date: 4 May 2018
Revised Date: 5 September 2018
Accepted Date: 6 September 2018

Please cite this article as: P. Singh, G. Shabbani, A.S. Singh, H.C. Bajaj, E. Suresh, Regioselective cyclometallation of N-methyl-N-(naphthalen-2-ylmethyl)-2-(pyridin-2-yl)ethanamine with palladium(II) acetate and catalytic reduction of various functional groups, *Inorganica Chimica Acta* (2018), doi: https://doi.org/10.1016/j.ica.2018.09.018

Regioselective cyclometallation of N-methyl-N-(naphthalen-2-ylmethyl)-2-(pyridin-2-yl)ethanamine with palladium(II) acetate and catalytic reduction of various functional groups

Puspendra Singh*[a,b], Gulam Shabbani[a], Amravati S. Singh[b], Hari C. Bajaj[b] and Eingathodi Suresh[c]

a. Department of Chemistry, Dr. Shakuntala Misra National Rehabilitation University Lucknow, 226017, Uttar Pradesh India.

b. Inorganic Material and Catalysis Division, Central Salt and Marine Chemical Research Institute, Bhavnagar 3640002, Gujarat, India.

c. Central Salt and Marine Chemical Research Institute, Bhavnagar 3640002, Gujarat, India.

*Email: pushpendrasingh0612@gmail.com

Abstract

The preparation of novel unsymmetrical, tridentate ligand, N-methyl-N-(naphthalen-2-ylmethyl)-2-(pyridin-2-yl) ethanamine (**1**), has been described. Ligand **1** reacts with $Pd(OAc)_2$ to give the corresponding cyclometallated complex, which could not be isolated. The substitution reactions of the in-situ prepared cyclometallated complex with LiCl/LiBr afforded the corresponding palladacycles (3-((methyl(2-(pyridin-2-yl)ethyl)amino)methyl)naphthalen-2-yl)palladium(II) chloride (**2**) / bromide (**3**). Both the complexes having one γ’-C–H, N(alkyl) and N(aryl) atom, form square planar complexes with halogens (Cl for **2** and Br for **3**) as the fourth ligand. Interestingly, ligand **1** has two *ortho*-activated (γ-C–H and γ’-C–H) hydrogen