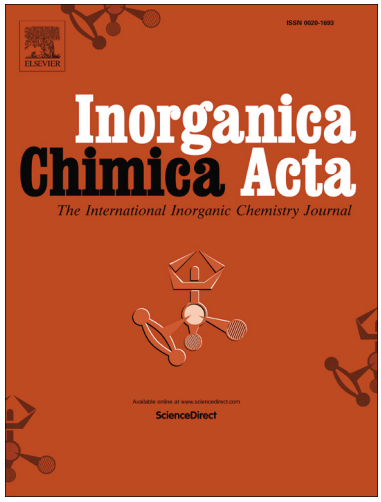

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PII: S0020-1693(17)31636-5
DOI: https://doi.org/10.1016/j.ica.2018.02.007
Reference: ICA 18117

To appear in: *Inorganica Chimica Acta*

Received Date: 26 October 2017
Revised Date: 31 January 2018
Accepted Date: 4 February 2018

Please cite this article as: M. Sedighipoor, A.H. Kianfar, G. Mohammadnezhad, H. Görls, W. Plass, Unsymmetrical Palladium(II) N,N,O,O-Schiff Base Complexes: Efficient Catalysts for Suzuki Coupling Reactions, *Inorganica Chimica Acta* (2018), doi: https://doi.org/10.1016/j.ica.2018.02.007

Unsymmetrical Palladium(II) N,N,O,O-Schiff Base Complexes: Efficient Catalysts for Suzuki Coupling Reactions

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Abstract

Palladium offers various applications in the field of fine chemicals. As one of the most widely used catalytic metals, due to its high activity and selectivity, there are many possibilities for carbon-carbon bond formation in the organic synthesis. This study focused on the condensation reaction between the selected aldehyde or ketone, and 1, 2-Phenylenediamine; as a result, two different Schiff base ligands were prepared. The reaction between palladium(II) acetate and Schiff base ligand, in a molar ratio of 1:1, resulted in the formation of palladium(II) Schiff base complexes **PdL^1** and **PdL^2** (**L^1** = N-2-hydroxyacetophenon-N´-2, 4-dihydroxbenzaldehyde-1,2 phenylenediimine, and **L^2** = N-2-hydroxyacetophenon-N´-2-hydroxynaphthaldehyde-1,2 phenylenediimine), as identified by elemental analysis, FT-IR, UV-Vis and ^{1}H NMR spectroscopies. The X-ray analysis of **PdL^2** also showed that the Schiff base acted as a tetradentate ligand which, through both phenolic O and azomethine N atoms, could be coordinated to the Pd atom with the square planar geometry. By using GC, the catalytic activity

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