

Communication

Palladium(II) Complexes of NS Donor Ligands Derived from Steroidal Thiosemicarbazones as Antibacterial Agents

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Received: 13 May 2010; in revised form: 28 May 2010 / Accepted: 9 June 2010 /

Published: 8 July 2010

Abstract: We have investigated the antibacterial activity of some new steroidal thiosemicarbazones and their Pd(II) metal complexes were prepared by the reaction of the thiosemicarbazones with $[\text{Pd}(\text{DMSO})_2\text{Cl}_2]$. The steroidal thiosemicarbazones were prepared by the reaction of thiosemicarbazides with a steroidal ketone. The structures of these compounds were elucidated by IR, $^1\text{H-NMR}$, $^{13}\text{C-NMR}$, FAB mass spectroscopic methods, elemental analyses and TGA analysis. The antibacterial activity of these compounds were tested *in vitro* by the disk diffusion assay against two Gram-positive and two Gram-negative bacteria. The results showed that steroidal complexes are better inhibitors of both types of the bacteria (Gram-positive and Gram-negative) as compared to steroidal thiosemicarbazones. Compound **Ia** displays remarkable antibacterial activity as compared to amoxicillin.

Keywords: thiosemicarbazone; palladium (II); antibacterial activity; amoxicillin

1. Introduction

The chemistry of coordination metal complexes of thiosemicarbazone ligands have been receiving considerable attention primarily because of their bioinorganic relevance [1,2]. There have been attempts [3] to determine structural correlations between metal ion complexes of thiosemicarbazones