SYNTHESIS AND CHARACTERISATION OF 1,3-BIS(2-BENZIMIDAZYL)-2-THIAPROPANE AND 1,5-BIS(2-BENZIMIDAZYL)-3-THIAPENTANE LIGANDS AND THEIR Pd(II) COMPLEXES

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Abstract
Benzimidazole and bis-benzimidazole derivatives are key components in great many bioactive compounds of both natural and synthetic origin. These ligands and their derivatives display a wide range of pharmacological activity, and their inhibitory properties as regards the replication of polio viruses have been fully demonstrated [1]. Many derivatives of benzimidazole and bis-benzimidazole type compounds are also becoming well known as bioactive compounds[2].

In addition to their biological importance, these ligands are strongly coordinating agents and form stable complexes with various transition metals.

The aim of this work is to prepare and characterise 1,3-bis (2-benzimidazyl) -2-thiapropane [BTPR] and 1,5-bis(2-benzimidazyl)-3-thiapentane [BTPE] ligands (Figure 1), their transition metal Pd(II) complexes. Characterisation of these ligands and their palladium complexes were carried out using analytical data and modern spectroscopic methods such as FT-Raman, FT-IR, UV-vis, \textsuperscript{1}H and \textsuperscript{13}C NMR spectrometers.

![Figure 1: The Structure of the Ligands, n = 1 (BTPR), n = 2 (BTPE)](image)

References: