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水溶性茂钛配合物的表征及其在芳香酸茂钛衍生物合成中的应用

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摘要 二氯二茂钛与5－磺基水杨酸形成了较为稳定的水溶性配合物。由等摩尔系列 法确定了其组成为1:1，通过对含5－磺基水杨酸二茂钛配离子的不溶性配合物1的 结构分析表明，其中的羧基以双齿形式与钛配位，形成了四元环状结构。首次利用 该水溶性配合物在水相和两体系中得到了八种新的二茂钛芳香酸衍生物，为配合物 2～ 9。运用元素分析、IR及~1H NMR对它们的组成和结构进行了表征，结果表明 ，这八种配合物中羧基均以单齿形式与钛配位，且不含5－磺基水杨酸配体。

关键词 金属茂络合物 芳香族羧酸 元素分析 红外分光光度法 结构表征 钛络合物

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Characterization of Titanocene Water-Soluble Complex and Its Application in Synthesis of Aromatic Acid Titanocene Derivatives

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Abstract 5-Sulfosalicylato titanocene complex is soluble and stable in water. The composition of complex was determined by the methods of UV-vis and the isomolar series. The structure of the aqueous complex was inferred by an insoluble complex 1, which is characterized by elemental analysis, IR and TG analysis. The results show that the carboxyl in 5- sulfosalicylic acid acts as a bidentate ligand and coordinates to Ti to form a tetratomic cyclic compound. Furthermore, eight derivatives of titanocene were synthesized by the reaction of 5-sulfosalicylato water- soluble complex of titanocene with aromatic acid. These compounds were characterized by elemental analysis, IR and ~1H NMR spectra. Spectroscopic data suggest that, for complexes 2～9, the carboxyl of each aromatic acid coordinates to Ti as a monodentate ligand and the ligand of 5-sulfosalicylic acid is not found in their structures.

Key words METALLOCENES AROMATIC CARBOXYLIC ACID ELEMENTAL ANALYSIS IR STRUCTURE CHARACTERISTICS TITANIUM COMPLEX

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