

عنوان مقاله:

SYNTHESIS AND CHARACTERIZATION OF TWO NOVEL NANOSIZED ORGANOTIN(IV) COMPLEXES

محل انتشار:

سومین همایش ملی تکنولوژی های نوین در شیمی، پتروشیمی و نانو ایران (سال: 1395)

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خلاصه مقاله:

Two new nanosized organotin(IV) complexes 1 and 2 were synthesized by ultrasonic method from the reaction of $\text{SnCl}_2(\text{H}_2\text{O})_2$ and $\text{SnCl}(\text{Ph})_3$ with phosphazene ligand $p\text{-CH}_3\text{-C}_6\text{H}_4\text{-SO}_2\text{N}=\text{P}(\text{NC}_4\text{H}_8\text{O})_3$. The two complexes were characterized by ^1H , ^{13}C , $^{31}\text{P}\{^1\text{H}\}$ NMR, FT-IR, fluorescence, FE-SEM microscopy and elemental analysis. The $^{31}\text{P}\{^1\text{H}\}$ NMR spectra reveal that the phosphorus chemical shift of complex 1 appears at slightly up field region (14.44 ppm) compared with that of 2 (14.46 ppm) confirming the P atom is slightly more shielded in 1 than in 2. The peak integrals in the ^1H NMR spectra show that the Sn atoms adopt octahedral conformations in both complexes 1 and 2. The FE-SEM images of complexes 1 and 2 indicate that the particles are spherical in morphology with their average particles sizes are approximately within the range of 25-40 nm.

کلمات کلیدی:

Organotin(IV) complex, Phosphazene, NMR, Ultrasonic synthesis, Nanoparticle

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