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Synthesis and characterization of N-eth–N`(4`-methylthiazol) -2ylthiourea

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Thiourea and its derivatives have long been attracting considerable attention due to their biological importance. The facile synthesis of thioureas enabled the preparation of their numerous derivatives, most of which have been evaluated for their biological activities for example herbicidal, insecticidal, antiviral, antifungal, antibacterial. The compound was prepared by boiling under reflux an equal molar ratio of 2-methyl-4-methylthiazole and ethylisothiocyanate for 10 hrs in ethanol as solvent. The reaction product was filtered off, yellow crystals washed with ethanol and recrystallized with ethanol. Yield: 80%; m.p: 233˚C. Anal. Calc. for C7H11N3S2 (201 g mol-1): C, 41.73; H, 4.97; N, 20.86; S, 31.79 Found: C,42.12; H, 5.05; N, 20.61; S, 31.38. The main IR spectral bands, useful for suggesting the bonding sites of 1- (4-methylthiazol-2-yl)-3 –ethyl thiourea are present. The infrared spectrum of compound, measured in a KBr disc, shows two band at 3435 and 3177 cm-1, assignable to (N1H) and (N2H) respectively, the band at 823 (C=S), 1476.00 (CH3), 680 (C-S-C), 1577; 1535; 1506 C (Tz ring). 1H-NMR □= 1.16 ppm (CH3), □= 2.53 ppm (CH2), □= 2.23 ppm (CH3), □= 6.61 ppm (H-5), □= 9.66 ppm (N2H), □= 11.48 ppm (N1H). 13C-NMR: □= 14.30; 48.20 ppm (ethyl carbons), □= 106.40; 145.90; 161.80 ppm (thiazol carbons), □= 178.50 ppm (C=S), □= 17.00 ppm (CH3). The spectrum of 1- (4-methylthiazol-2-yl)-3 –ethyl thiourea shows a peak at m/z 201 corresponding to a molecular weight of the compound. The molecular compound A loses H2S forming B, loses EtNH2 forming C, loses EtSCN forming D and E.

Biography

Suhair Mansour Jambi has completed her PhD at 2011 from King Abdulaziz university in Saudi Arabia in Jeddah. She is interested in modern technologies in the field of metallic complexes, the structure of metal complexes using modern methods, thiourea complexes and their use in the treatment of some microbes and some diseases such as cancer. She had published more than 10 papers in a reputed journal such as Z.Kristallogr.NCS, Journal of Molecular Liquids, Journal of Molecular Structure & Journal of Sulfur Chemistry. Now she is working at the university of Jeddah.

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