Substituents at Oxygen Influence N,O-Distances in Thiohydroxamates

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The N,O bond in *O*-derivatives of *N*-(hydroxy)thiazole-2(3*H*)-thiones may selectively be cleaved upon thermal (60–80 °C) or photochemical (300–350 nm) excitation. This circumstance along with additional useful chemical properties causes *N*-oxy-substituted thiazolethiones to be unprecentedly versatile and efficient precursors for the generation of reactive intermediates such as carbon or oxygen centered radicals [1].

In view of the fact that *N*-alkoxycarbonyloxy-, *N*-acyloxy-, and *N*-alkoxy-derivatives of thiazole-2(3*H*)-thiones differ significantly in their stability, selected candiates of each set of thiones (a total of 14 compounds) were investigated by single-crystal X-ray diffraction at temperatures ranging between 298 K and 100 K.

The results of the study indicate that the N,O bond length in *N*-oxy-substituted thiazole-2(3*H*)-thiones increases along the series of substituents at oxygen H ~ alkyl < acyl < alkoxycarbonyl [2,3].

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