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2,2'-BIPYRIDYL ADDUCTS OF FLUORIDES AND OXIDE FLUORIDES OF TUNGSTEN

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The formation of adducts of the bidentate ligand 2,2'-bipyridyl (bipy) with fluorides and oxide fluorides of tungsten was investigated. WOF_4.bipy was prepared from the reaction of WOF_4 with bipy in the melt or in solution in CH_2Cl_2 or CH_3CN. The adduct, which is not moisture sensitive at room temperature, was characterized by elemental analysis, X-ray powder data and vibrational spectroscopy.

The crystal structure of WO_2F_2.bipy which was formed in small amounts from slow solvent assisted reaction of WOF_4.bipy was determined. The space group, unit cell parameters, and R factors are as follows : monoclinic, $P_{2_1/n}$ (No.14), $a = 8.637(1)$ Å, $b = 13.823(2)$ Å, $c = 9.526(2)$ Å, $\beta = 109.98(2)°$, $V = 1068.8$ Å^3, $Z = 4$, and $R = 0.044$.

Results concerning the adducts which were obtained when WF_6 was used instead of WOF_4 are also presented.