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Cyclization of N(4)-R thiosemicarbazones Derived from 2-formyl and 2-acetylpyridine (R = alkyl or aryl).

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Thiosemicarbazones and their metal complexes are of considerable interest due to their beneficial biological applications¹. The 2-heterocyclic thiosemicarbazones have been subject of numerous studies². The presence of alkyl or aryl groups at the terminal N(4) position can considerably increase the biological activity of these compounds³. In the present work reactions of VO(SO₄)₂ with 2-formyl and 2-acetylpyridine N(4)-R thiosemicarbazones (H₂Fo₄R, H₂Ac₄R, R = alkyl or aryl) were explored in ethanol. With H₂Fo₄Ph the corresponding vanadium(IV) complex [VO(H₂Fo₄Ph)H₂O]SO₄ was isolated and its mother liquors afforded a crystal that was refined by X-ray diffractometry and gave the correspondig thiosemicarbazone cyclized .

¹H. Beraldo, D. Gambino, *Mini-Reviews on Medicinal Chemistry* 4 (2004) 159.

²D.X. West, S.B. Padhye, P.S. Sonawane, *Struct. Bond.* 76 (1991) 1 and refs therein.

³A.E. Liberta, D.X. West, *Biometals* 5 (1992) 121.