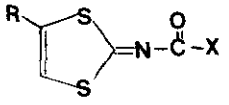
SYNTHESIS OF 2-SUBSTITUTEDIMINO-1,3-DITHIOLES, 2-SUBSTITUTEDIMINO-1,3-THIASELENOLES AND 2-SUBSTITUTEDIMINO-1,3-DISELENOLES.

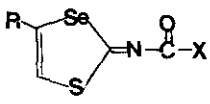
A. Shafiee and G. Fanaii

Department of Chemistry, College of Pharmacy, Tehran University, Tehran/Iran

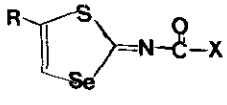
The synthesis of 5-substitued-2-carbethoxyimino-1,3-thiaselenoles in low yield was previously reported (1). In the present work a general one step method for the preparation of 4-alkyl (or aryl)-2-substitutedcarbonylimino-1,3-dithioles (I), 4-alkyl (or aryl)-2-substitutedcarbonylimino-1,3-thiaselenoles (II), 5-alkyl (or aryl)-2-substitutedcarbonylimino-1,3-thiaselenoles (III) and 4-alkyl (or aryl)-2-substitutedcarbonylimino-1,3-diseleoles (IV) in moderate to high yield is reported.



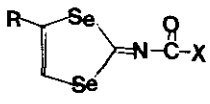
I



II



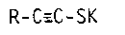
III



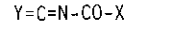
IV

R= Alkyl, aryl

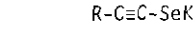
X= OEt, CH_3, aryl



V



VI



VII

The reaction of potassium 2-alkyl (or aryl)ethynethiolate (V) with isothiocyanates (VI, Y=S) or isoselenocyanates (VI, Y=Se) in tetrahydrofuran gave compounds I or II respectively. The reaction of potassium 2-alkyl (or aryl)ethyneselenolate (VII)(2) with VI (Y=S) or VI (Y=Se) gave compounds III or IV respectively.

References

1) A. Shafiee, M. Vosooghi and R. Asgharian, J. Heterocyclic Chem., 17, 117 (1980).

2) I. Lalezari, A. Shafiee and M. Yalpani, J. Org. Chem., 38, 338 (1973).