SYNTHESIS OF BENZOPYRANO[3,4-c]- AND BENZOTHIOPYRANO[3,4-c]-[2,1,3]SELENADIAZOL-4-ONES

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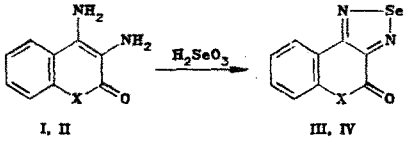
In continuation of our work on the synthesis of new condensed systems based on 3,4-difunctionally substituted coumarins and thiocoumarins (e.g., [1,2] and references therein) we have treated 3,4-diaminocoumarin (I) and 3,4-diaminothiocoumarin (II) with hydroselenic acid. Treatment of dioxane solutions of I and II with aqueous H_2SeO_3 readily gives 1H-[1]-benzopyrano[3,4-c][2,1,3]selenadiazol-4-one (III, 90%, mp 236-238°C, from 1:3 benzene: isopropanol) and 1H[1]-benzothiopyrano[3,4-c][2,1,3]-selenadiazol-4-one (IV, 85%, mp 223-225°C, from 1:3 benzene:alcohol) — the first representatives of selenadiazoles in the coumarin and thiocoumarin series.

The systems obtained may prove of interest in studying their chemical and physicochemical properties and in relation to the search for novel physicologically active compounds.

Elemental analytical data and molecular weights (determined mass spectrometrically) were in agreement with those calculated.



I, II III, IV

I, III X=O; II, IV X=S

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