Reactions of Cyanothioacetamide Derivatives with 2-Hydrazinothiazol-4(5*H*)-one: Synthesis, Cyclization and Biological Evaluation of Several New Annelated Pyran, Thiazole, 1,2,4-Triazole and 1,2,4-Triazine Derivatives

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Thiocaboxamidocinnamonitriles, Pyrans, Thiazoles, 1,2,4-Triazoles, 1,2,4-Triazines

The thiocarboxamidocinnamonitriles **(2)** reacted with 2-hydrazinothiazol-4(5*H*)-one **(3)** to afford the corresponding pyrano[2,3-*d*]thiazoles **(6)**. Compounds **6** were used for the synthesis of several new annelated pyran, thiazole, 1,2,4-triazole and 1,2,4-triazine derivatives *via* their reactions with chloroacetic acid, ethyl chloroformate, diethyl oxalate and acetylacetone. Structures were established based on elemental and spectral data studies. Some of the newly synthesized heterocyclic derivatives were tested for their antimicrobial activity.