NEW RING TRANSFORMATIONS OF A SPIRO[QUINOXALINE-3,4'-BUTENE] INTO NOVEL QUINOXALINE DERIVATIVES

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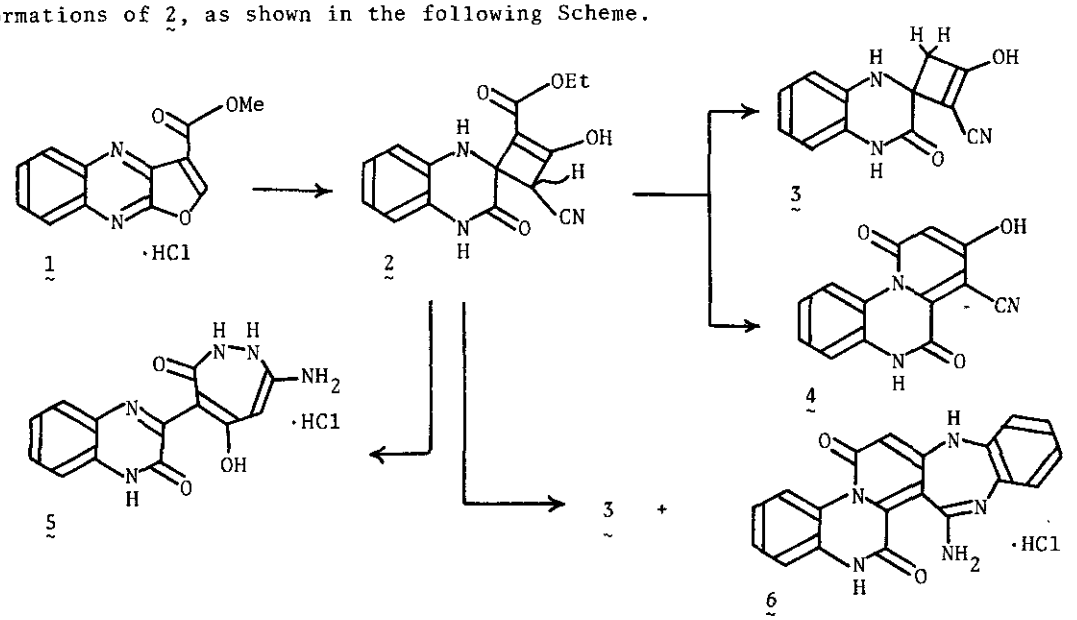
The reactions of the spiroquinoxaline (2) with guanidine hydrochloride, hydrazine dihydrochloride, and o-phenylenediamine dihydrochloride afforded the ring-transformed compounds, the pyrido[1,2-a]quinoxaline (4), the quinoxalinyl-1,2-diazepine hydrochloride (5), and the quinoxalino[1',2':1,2]pyrido[3,4-c]-1,5-benzodiazepine hydrochloride (6), respectively.

In a previous paper,* we reported a ring transformation of the furo[2,3-b]-quinoxaline hydrochloride (1) into the spiroquinoxaline (2), whose refluxing in AcOH gave the spiroquinoxaline (3). Moreover, refluxing of 2 in DMF and then in AcOH provided the pyrido[1,2-a]quinoxaline (4). In the present investigation, we found that refluxing of 2 with appropriate HCl-salt of base in AcOH easily precipitated 4 or the novel quinoxaline derivatives (5,6). We now report a simple and convenient method for the synthesis of the various quinoxalines via the ring transformations of 2, as shown in the following Scheme.



* Y. Kurasawa and others, Synthesis, submitted.