Synthetic Potential Inherent in D-Isoascorbic Acid as a Precursor for Pyridazine and Furo[3,2-c]pyridazine Ring Systems with Two Asymmetric Centers

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D-Isoascorbic Acid, 6-Bromo-6-deoxy- **D**-isoascorbic Acid, Pyridazine, Furo[3,2-c]pyridazine, Hepatitis B Virus

Reaction of **D**-erythro-2,3-hexodiulosono-1,4-lactone-2,3-bis(phenylhydrazone) (**2**) with an iodine, triphenylphosphine and imidazole mixture afforded the furo[3,2-c]pyridazine derivative **11**. Condensation of 6-bromo-6-deoxy-D-erythro-2,3-hexodiulosono-1,4-lactone with phenylhydrazine gave the bishydrazones **6**, and **8** or the furo[3,2-c]pyridazine (**11**) depending on the reaction conditions. The lactone ring in **11** could be opened by treatment with alkali to give the pyridazine derivative **9**. Lactonization of the later with simultaneous acetylation by acetic anhydride afforded the lactone derivative **14**. Alkali treatment of **6** gave the pyrazolindione derivative **13** that gave upon reation with HBr/AcOH the dibromide **15**. The assigned structures were based on spectral analysis. The activity of compounds **11** and **14** against hepatitis B virus has been studied.