SYNTHESIS OF 4-DEOXY-4-C-ETHYLPHOSPHINYL-D-RIBO- AND -L-LYXO-FURANOSES

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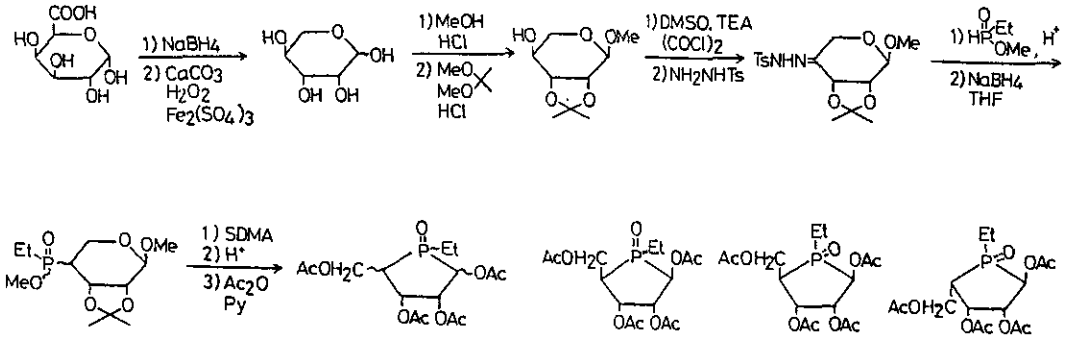
Sugar analogues having a phosphorus atom in the ring are of interest not only from the viewpoint of their physicochemical properties but also from that of the potential utility of their biological activities. In our effort to prepare such phosphorus sugars, we recently reported various 5-deoxy-5-C-phosphinyl-D-xylo-, -D-gluco-, and -L-ido-pyranoses as well as 4,5-dideoxy-4-C-phenylphosphiny-D-ribo- and -L-lyxo-furanoses (Refs. 1,2).

We now wish to present a new approach to the preparation of 4-deoxy-4-C-ethylphosphinyl-D-ribo- and -L-lyxo-furanoses, starting from D-galacturonic acid as described in the following Scheme:



Structures of the final products have been established by high-resolution mass and 400 MHz proton NMR spectroscopy.

REFERENCES

1 e.g., H. Yamamoto, K. Yamamoto, S. Inokawa, M. Yamashita, M.-A. Armour, and T.T. Nakashima, J. Org. Chem., 43, 435 (1983), and references cited therein.

2 H. Yamamoto and S. Inokawa, Adv. Carbohydr. Chem. Biochem., in press.