tions of the sugars themselves and for those of their acetates. From the results it is possible now to specify more precisely certain stereochemical features of the structures of the biose and triose. The rotations of the alpha forms of amylobiose octa-acetate and amylotriose hendeka-acetate (amorphous substances) in chloroform solution have been measured.

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NOTES

Acetyldiphenylamine from Ketene.—In a recent interesting article,[1] J. van Alphen concerned himself chiefly with reactions of the ketenes with hydrazines. In a digression from this topic, he stated[2] that ketene was entirely without action on a solution of diphenylamine in ether. Van Alphen expected the acetyl derivative to precipitate from the ether, and this it failed to do. His observation of the non-precipitation is correct, as would also have been a statement that diphenylamine does not react instantly with ketene. To state, however, that the two do not react is quite erroneous.

An excess of ketene was bubbled through an ice-cold solution of diphenylamine in ordinary ether. No precipitation ensued. The escaping gases were shown to contain much ketene by passing them into an ethereal solution of *p*-phenetidine. Phenacetin precipitated so readily that the wide-mouthed delivery tube soon became clogged.

To separate the unchanged diphenylamine from its acetyl derivative, dry hydrogen chloride was passed into the ethereal solution. Diphenyl-ammonium chloride separated. It was filtered off, and the filtrate was tested with more hydrogen chloride. In the absence of further precipitation, the solution was left to evaporate. Water was then poured on the oily residue. Gradually, this converted the oil to a solid, which was later collected upon a filter, rinsed, and pressed on a porous plate. With no further purification, the melting point was 98–100°, which indicated that the product was nearly pure. The best yield obtained was 33%, based on the original diphenylamine. A low yield of 8% was obtained when the reaction flask was not cooled with an ice-bath. The yield, instead of being bettered, was lessened when ketene was passed into pure molten diphenylamine.

The diphenylamine is, of course, easily recovered from its hydrochloride by suspending it in hot water, a reaction which proceeds more smoothly if a little hydroxide is added.

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[1] van Alphen, *Rec. trav. chim.*, **43,** 826 (1924).

[2] Ref. 1, p. 860.