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Synthesis and estrogenic activity of bisphenol A mono- and di-*β*-D-glucopyranosides

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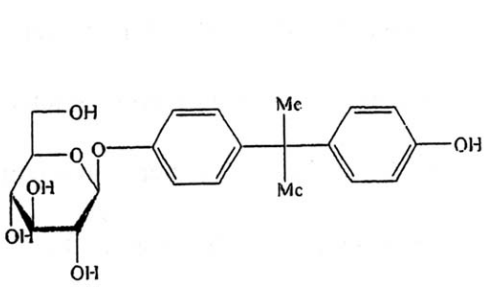
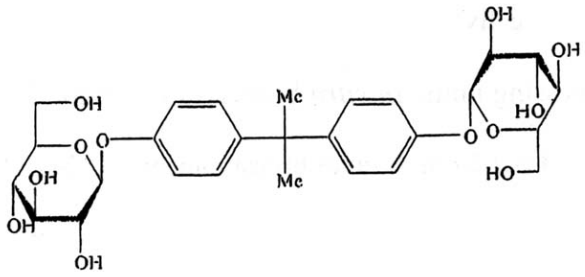
Simple syntheses of bisphenol A mono- and di-*β*-D-glucopyranosides (1 & 2) based on glucosylation of bisphenol A with glucose pentaacetate have been devised and the products characterized. The estrogenic activities of synthetic 1 and 2 were measured with a receptor binding assay employing an ELISA system and a yeast two-hybrid assay system. In the ELISA system the a 3-4x greater concentration of 1 was required to produce the same degree of inhibition as unconjugated bisphenol A. Compound 2 showed no measurable estrogenic activity in the ELISA-based test. Neither 1 nor 2 showed any estrogenic activity in the yeast two-hybrid assay.



1



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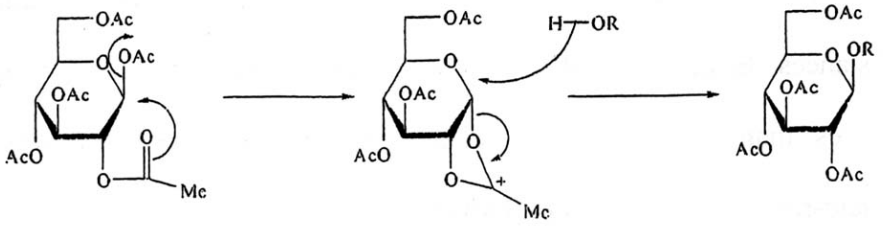

Benzene, $POCl_3$

R = hisphenol A or bisphenol A mono- β -D-glucopyranoside