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## Surface active glycosides: Synthesis and toxicity studies

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The emergence of antibiotic resistance encouraged chemists to explore new structures as new antibiotics with new modes of action. Dodecyl deoxy glycoside structures have shown a potent activity against *Bacillus* spp., in particular *B. cereus*. A small library of related glycosides, differing in saccharide configuration and deoxygenation pattern, as well as a glycone structure have been synthesized for the recognition of the structural features that determine the selectivity for *Bacillus cereus*. Their preparation was accomplished by reaction of glycals with alcohols, catalyzed by triphenylphosphane hydrobromide. Depending on their structural features, some of these compounds demonstrated a potent activity against *B. cereus*. In addition, they showed low/very low toxicity and are not genotoxic. This work clearly demonstrates the uniqueness of carbohydrates in which stereochemistry and chemical structure can tune the bioactivity exhibited by stereoisomers.

### Biography

Jorge Justino has his expertise in the biological evaluation and toxicity studies of natural and synthetic compounds and food chemistry. He is currently a Full Professor of Escola Superior Agrária de Santarém. He has completed his MSc and PhD in Chemical Engineering at Instituto Superior Técnico, Universidade Técnica de Lisboa and Habilitation in Food Chemistry at Universidade de Trás-Os-Montes e Alto Douro. He is the President of Instituto Politécnico de Santarém and Former Director of Escola Superior Agrária de Santarém. He was a Member of the networks Euroglycoforum and Prion Chemical Biology Network and is the Representative Member of the Instituto Politécnico de Santarém at the European Innovation Partnership A3 Group FCUL consortium.

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