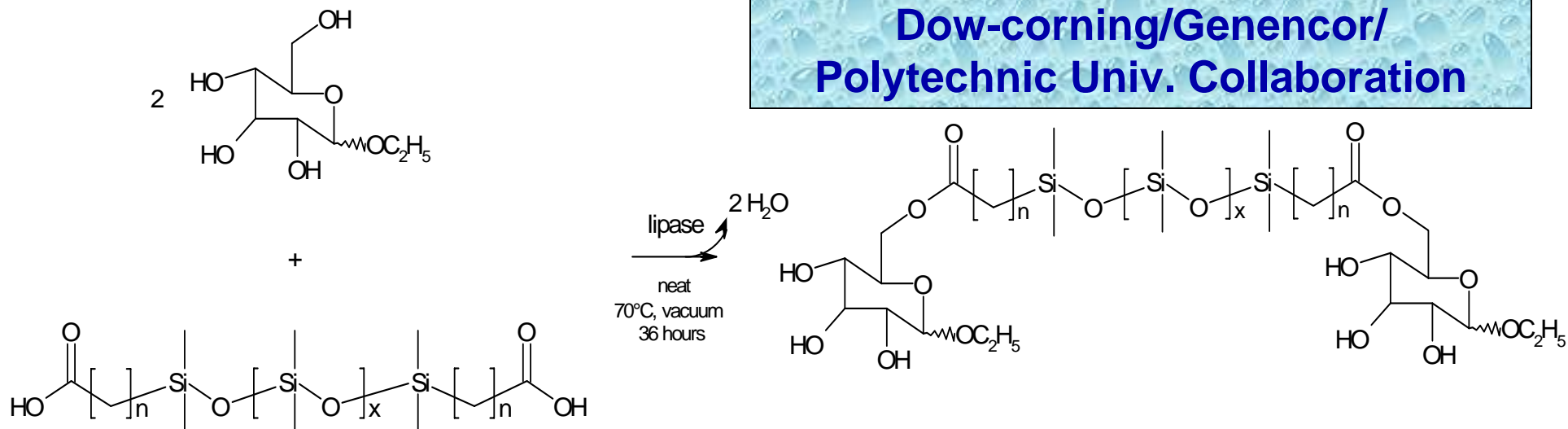


Biocatalytic route to 'sweet silicones'

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- Organosilicon-sugar conjugates, also known as "sweet silicones," can be used as surfactants, adhesion promoters, and chiral templates. Their synthesis usually requires an acid or base catalyst, protection-deprotection steps, and activation of carboxylic acid terminal groups on the siloxane starting material, but uncontrolled side reactions and poor regioselectivity have impeded the ability to control the structure of the resulting compounds. Richard A. Gross of Polytechnic University, Brooklyn, N.Y. in collaboration with scientists at Dow Corning considered that enzyme catalysis might circumvent these problems (*Org. Lett.* 2005, 7, 3857). The researchers used *Candida antarctica* lipase B immobilized on acrylic beads (Novozyme 435) to catalyze esterification of dimethylsiloxane oligomers containing carboxylic acid end groups with ethyl glucoside. This greener, simplified route should allow a more diverse set of sweet silicones to be prepared and used in a broader range of applications, the researchers conclude.**