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Study on Structures, Physical Properties, and Functions of Various Polysaccharides

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There are many kinds of polysaccharides composed of glucose, mannose, galactose, xylose, arabinose, glucosamine and so on. It is not so easy to follow their functions; however, it is possible to suggest them through some information on the physiology and/or ecology of microorganisms and plants. Generally, original skills, abilities, discoveries and ideas are also necessary in order to take large steps in research. I would like to introduce some attractive matters in the science of polysaccharides in addition to an explanation of the polysaccharides (succinoglycan, β-1,2-glucan, chitin, xyloglucan, β-1,3-glucan, amylopectin) examined. Furthermore, the utilization of biomass has been anticipated as a solution to the problem of the environment and polysaccharides are the main materials of biomass. A technique for the saccharification of polysaccharides to monosaccharides and a technique for fermenting monomers to useful materials like bioethanol should be studied.

Key words: succinoglycan, xyloglucan, chitin, β-1,3-glucan, amylopectin

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