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[Lab. of Hygienic Chemistry]

**Polysaccharides in Fungi. XXXVI. Hypoglycemic Activity of a Polysaccharide (CS-F30) from the Cultural Mycelium of *Cordyceps sinensis* and Its Effect on Glucose Metabolism in Mouse Liver.**

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A polysaccharide (CS-F30) obtained from the cultural mycelium of *Cordyceps sinensis* showed potent hypoglycemic activity in genetic diabetic mice after intraperitoneal administration, and the plasma glucose level was quickly reduced in normal and streptozotocin-induced diabetic mice after intravenous administration. Administration of CS-F30 to normal mice significantly increased the activities of hepatic glucokinase, hexokinase and glucose-6-phosphate dehydrogenase. CS-F30 lowered the plasma triglyceride level and cholesterol in mice.

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**Polysaccharides in Fungi. XXXVII. Immunomodulating Activities of Carboxymethylated Derivatives of Linear (1→3)- $\alpha$ -D-Glucans Extracted from the Fruiting Bodies of *Agrocybe cylindracea* and *Amanita muscaria*.**

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Immunomodulating activities of three carboxymethylated derivatives of linear (1→3)- $\alpha$ -D-glucans from *Agrocybe cylindracea* and *Amanita muscaria* were evaluated with murine peritoneal macrophages playing an important role in tumor immunity. These glucans exhibited higher potentiating activities for macrophages than carboxymethylated linear (1→3)- $\beta$ -D-glucans (CMPS) in the potency of reduction of nitro blue tetrazolium, products of nitric oxide and soluble cytotoxic factor, the amount of glucose consumption, and the activation of acid phosphatase. These glucans were found to induce the tumor regressing factor in mouse serum.

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[Lab. of Hygienic Chemistry]

**Forensic Chemical Study on Nylon Fibers by Acid-Catalyzed Pyrolysis Gas Chromatography.**

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We developed a method for forensic identification of minute fibers of 6-nylon and 6,6-nylon by acid-catalyzed pyrolysis gas chromatography (PyGC). The fibers were pyrolyzed in the presence of phosphoric acid with a Curie point pyrolyzer directly connected to GC and GC-MS spectrometer. Phosphoric acid prompted production of specific volatile substances such as 3 isomers of hexenenitrile and  $\epsilon$ -caprolactam from 6-nylon and adiponitrile from 6,6-nylon. The phosphoric acid-catalyzed PyGC was able to identify a smaller amount of nylon fibers than the conventional non-catalyzed by PyGC.