[Biol. Pharm. Bull., **16**, 1291-1293 (1993)] [Lab. of Hygienic Chemistry]

Polysaccharides in Fungi. XXXII. Hypoglycemic Activity and Chemical Properties of a Polysaccharide from the Cultural Mycelium of *Cordyceps sinensis*.

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Crude polysaccharides were obtained from a hot-water extract and alkaline extracts of the cultural mycelium of *Cordyceps sinensis*. They showed significant activity in normal mice and streptozotocin-induced diabetic mice as a result of i.p. injection. A neutral polysaccharide (CS-F30) exhibited higher hypoglycemic activity than its crude polysaccharide from 5% NaOH extract by i.p. injection, and it significantly lowered the plasma glucose level by p.o. administration (50mg/kg). CS-F30 is composed of galactose, glucose and mannose (molar percent, 62:28:10), and its molecular weight is about 45000.

[Jpn. J. Toxicol. Environ. Health, **39**, 230-235 (1993)] [Lab. of Hygienic Chemistry]

Forensic Chemical Study on Cotton by Acid-Catalyzed Pyrolysis-Gas Chromatography.

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It has been difficult to analyze a slight amount of cotton composed of cellulose by pyrolysis-gas chromatography (PyGC). In our study, acid-catalyzed pyrolysis was applied to forensic discrimination of cotton and its blended yarn by PyGC. Fibers were pyolyzed using a Curie-point pyrolyzer, attached to GC and GC-MS spectrometer under the conditions by the addition of hydrochloric acid or phosphoric acid. This method made it possible to analyze a slight amount of cotton and its blended yarn by PyGC.

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The Effect of Carbohydrate Sulfate Salts on the Absorption and Excretion of Paraquat in Rats.

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The effect of carbohydrate sulfate salts on the absorption and excretion of the herbicide, paraquat dichloride (PQ), was investigated in rats. The results indicate that the efficiency of the carbohydrate sulfate, *i.e.*, sodium dextran sulfate or sodium glucose sulfate, counteracting the acute toxicity of PQ is due to inhibition of PQ absorption from the intestine. The carbohydrate sulfate inhibits PQ absorption from the intestine by associating with the herbicide, and increasing the rate of transit of PQ through the intestine.