

[Jpn. J. Toxicol. Environ. Health, **41**, 227-233 (1995)]

[Lab. of Hygienic Chemistry]

**Rapid Analysis by Capillary Gas Chromatography of Thinners and the Related Organic Solvents.**

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The inhalation of thinners and the related organic solvents expected as an anesthetic and stimulus, is still a social problem in connection with juvenile delinquency. For the purpose of a rapid identification of the abused solvents, 38 pure organic solvents and 18 commercial thinner samples were analyzed by a flame ionization detector-gas chromatograph with capillary columns. The DB-1 column was appropriate to identify lacquer thinner and industrial toluene. This method is more efficient, and less time-consuming than the order methods so far reported.

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[Lab. of Hygienic Chemistry]

**Preparation and Antitumor Activities of  $\beta$ -(1 $\rightarrow$ 6) Branched(1 $\rightarrow$ 3)- $\beta$ -D-Glucan Derivatives.**

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The formylmethylated and aminoethylated derivatives of schizophyllan (SPG), a  $\beta$ -(1 $\rightarrow$ 6)-branched (1 $\rightarrow$ 3)- $\beta$ -D-glucan, were prepared through dimethoxyethylated SPG which was synthesized by the reaction of SPG with dimethylchloroacetal under an alkaline condition. The antitumor activities of the derivatives of SPG against S-180 tumor in mice by i.p. administration were increased more effectively than that of SPG. The activities inducing tumor regressing factor of the derivatives were 1.5 to 2 times stronger than that of SPG. The productions of soluble cytotoxic factors from murine macrophages by the administration of the derivatives of SPG were more efficient than that of SPG.

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[Lab. of Pharmaceutics]

**Effect of liquid diets with or without partially hydrolyzed guar gum on intestinal microbial flora and function of rats.**

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The effect of liquid diets with or without partially hydrolyzed guar gum (a water-soluble dietary fiber, PHGG) on intestinal function and microflora of rats was investigated. Supplementation with PHGG improved the observed atrophy of terminal ileum ( $p < 0.05$ ), and significantly increased the specific activity of diamine oxidase and alkaline phosphatase in mucosal scrapings. The results of this study suggest that the addition of PHGG to liquid diet improves the gastrointestinal tolerance and bowel control in long-term enterally fed patients.