〔Chem. Pharm. Bull., **39**, 798-800 (1991)〕 [Lab. of Hygienic Chemistry]

Polysaccharides in Fungi. XXVI. Two Branched (1→3)-β-D-Glucans from Hot Water Extract of Yū ĕr.

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Two water-insoluble glucans, U-3-N ($[\alpha]_D$+1.0°, 0.5 M sodium hydroxide) and U-3-AP1 ($[\alpha]_D$+2.5°, 1M sodium hydroxide) were isolated from hot-water extract of the fruiting bodies of Yu ĕr (Chinese name) (*Auricularia* sp.). U-3-N and U-3-AP1 were investigated by a combination of chemical and spectroscopic methods. The results indicated that U-3-N was similar to β-(1→6)-branched (1→3)-β-D-glucan (N-5P) isolated from the alkaline extract of the fruiting bodies, and U-3-AP1 was β-(1→6)-branched (1→3)-β-D-glucan containing β-(1→6)-linked D-glucopyranosyl residues. U-3-N showed potent antitumor activity against sarcoma 180, although U-3-AP1 had little effect on the tumor.

〔Chem. Pharm. Bull., **39**, 1615-1616 (1991)〕 [Lab. of Hygienic Chemistry]

Mitogenic and Colony-Stimulating Factor-Inducing Activities of Polysaccharide Fractions from the Fruit Bodies of *Dictyophora indusiata* FISCH.

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Biological effects (mitogenic and colony-stimulating factor (CSF)-inducing activities) of five homogeneous polysaccharides and a conjugated polysaccharide fraction isolated from the fruit bodies of *Dictyophora indusiata* were investigated. Fucomannogalactan (T-3-Ad) and conjugated polysaccharide fraction (T-2-A) exhibited significant mitogenic and CSF-inducing activities. Among two β-(1→6)-branched (1→3)-β-D-glucans (T-4-N and T-5-N), only T-4-N showed both mitogenic and CSF-inducing effects. Partially *O*-acetylated (1→3)-α-D-mannans (T-2-HN and T-3-M') did not show these effects.

〔Chem. Pharm. Bull., **39**, 956-963 (1991)〕 [Lab. of Hygienic Chemistry]

Gas Liquid Chromatography-Mass Spectrometry of Paraquat and Diquat Reduction Products. A Reductive Cleavage of Paraquat and Diquat by $NaBH_4$ in the Presence of a Transition Metal Salt (Ni^{2+}).

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When herbicide preparations paraquat (I) and diquat (II), based on N-alkylbipyridylium derivatives, were analyzed by GLC with sodium borohydride-nickel (II) chloride reduction, the chromatograms showed minor side peaks from slight amounts of by-products appearing in front of the main peaks, arising from the respective perhydrogenerated products of I or II. Reductive cleavage of a C-N bond within each pyridine ring of I or II was suggested in view of the production of trifluoroacetic acid derivatives prepared from these by-product. The by-products were presumed to be *p*-(N-methylaminopent-3'-yl)-N-methylpiperidine from I or 1-butyl-2-aza-perhydroquinolizine from II.