Chemistry. — *"On the presence of lupeol in some kinds of gutta-percha."* By Prof. P. VAN ROMBURGH.

An investigation of the so-called resinous constituents of various authentic kinds of gutta-percha, made first in conjunction with Dr. SACK and afterwards with Dr. V. D. LINDEN, has shown that some of them contain various cinnamic esters of alcohols which seem related to cholesterol. One of these cinnamic esters, which appeared identical with TSCHIRCH's[1]) crystal-albane, and occurs as a beautifully crystallised compound m.p. 241° (corr.) I have submitted to a closer investigation, with Dr. V. D. LINDEN. On saponification, an alcohol was obtained melting at 210°, which on being treated with benzoyl chloride and pyridine yielded a benzoate melting at 264° (corr.). The melting points of these two last substances agree exactly with those of lupeol and its benzoate.

Lupeol has been discovered by E. SCHULZE[2]) in the skins of lupines. At my request Prof. SCHULZE was kind enough to present me with a quantity of lupeol and its benzoate for the purpose of comparison, for which I wish here to express my best thanks. The alcohol being mixed with the lupeol, the melting point was not lowered; neither was this the case with the benzoates.

In addition to its occurrence as a cinnamic ester, lupeol also seems to occur as an acetate in a substance related to gutta-percha, called "djelutung", the product of the milky juice from some species of *Dyera*, which is known in European commerce under the name of "bresk" or Pontianak; this has been shown to be probable by Mr. COHEN, who is making a study of this article in my laboratory. In a consignment of "bresk" for which I have to thank Messrs. WEISE & Co., of Rotterdam, the amount of lupeol appeared to be rather considerable, thus enabling Mr. COHEN to make a study of this otherwise somewhat inaccessible product. On oxidation with chromic acid a beautifully crystallised ketone (m. p. 169°) has already been obtained, which also yields with hydroxylamine a crystalline substance.

Mr. COHEN, who intends to further investigate these substances, has also found in the "djelutung" the substance melting at 235°, which I had found previously in the gutta-percha from *Payena Leerii*, and which has been characterised as the acetic ester of an alcohol melting at 195°.

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[1]) Arch. d. Pharm. **241**, 653.

[2]) Zeitschr. f. physiol. Chemie **15**, 415; **41**, 474.