

G. Sh. Burasheva,
M. M. Mukhamed'yarova,
and T. K. Chumbalov

UDC 547.972

Continuing a study of the leaves of *Alhagi kirgisorum* Schrenk gathered in the autumn, by chromatography we have isolated substance (5) with mp 182–184°C (from methanol), $[\alpha]_D^{24} - 112^\circ$ (c 0.14; CH₃OH).

In the products of acid hydrolysis (2% HCl, 100°C, 2 h) we found isorhamnetin, rhamnose, and glucose (1:1:1), and on fermentation with rhamnodiastase we found isorhamnetin and a biose.

In substance (5), the biose was present in position 3: $\lambda_{\max}^{C_2H_5OH}$ 368, 254 nm, $\lambda_{\max}^{ZrOCl_3}$ 412, 260 nm, $\lambda_{\max}^{ZrOCl_3 + \text{citric acid}}$ 366, 256 nm.

β -Emulsin and hydrolysis under mild conditions (cyclohexanol + formic acid, 102–107°C, 1.5 h) gave glucose and substance (6) with mp 194–196°C, $[\alpha]_D^{24} - 155^\circ$ (c 0.08; CH₃OH).

IR spectroscopy and the results of a calculation of molecular rotations of substance (5) ($[M]_D - 702.2^\circ$) in comparison with those for the corresponding phenyl rhamnosides showed that the rhamnose was attached to the isorhamnetin by an α -bond and was present in the furanose form [1, 2].

Thus, substance (6) has the structure of isorhamnetin 3-O- α -L-rhamnofuranoside.

An isorhamnetin 3-rhamnoside has been isolated previously; only its melting point and specific rotation were given. However, these constants for the isorhamnetin 3-rhamnoside that we have identified (mp 194–196°C, $[\alpha]_D^{24} - 155^\circ$) differ from those given in the literature (mp 155–156°C, $[\alpha]_D^{20} - 171^\circ$) [3]. On the basis of the facts given above, substance (5) is isorhamnetin 3-rutinoside: It is characterized as isorhamnetin 3-[6-(α -L-rhamnofuranosyl)- β -D-glucoside].

LITERATURE CITED

1. I. P. Kovalev and V. I. Litvinenko, *Khim. Prirodn. Soedin.*, 239 (1965).
2. V. G. Bukharov and V. V. Karlin, *Khim. Prirodn. Soedin.*, 70 (1970).
3. A. Umarov and V. S. Batyuk, *Khim. Prirodn. Soedin.*, 523 (1971).

S. M. Kirov Kazakh State University. Translated from *Khimiya Prirodnikh Soedinenii*, No. 3, p. 426, May-June, 1975. Original article submitted February 10, 1975.

©1976 Plenum Publishing Corporation, 227 West 17th Street, New York, N.Y. 10011. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, microfilming, recording or otherwise, without written permission of the publisher. A copy of this article is available from the publisher for \$15.00.