the direct method using the Rentgen-75 program [5] in the automatic regime and was refined by the method of least squares (MLS) first in the isotropic approximation and then in the anisotropic approximation to R = 0.064. Difference series enabled all the hydrogen atoms (except for one H at C(14)) to be found. The coordinates of the atom are given in Table 2.

The experimental results were obtained on the Sintex $P2_1$ diffractometer with the participation of B. T. Ibragimov of the Institute of Bioorganic Chemistry, Academy of Sciences of the Uzbek SSR.

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COMPOSITION OF THE ESSENTIAL OIL OF THE MYCELIAL FUNGUS *Eremothecium ashbyi*

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The mycelial fungus *Eremothecium ashbyi* is used in industry as a producing agent of riboflavin [1]. The capacity of this microorganism also for synthesizing monoterpene alcohols — geraniol, nerol, and linalool — has been shown by TLC and GLC methods [2].

To investigate the prospects of the use of the aromatic material produced by *E. ashbyi* a more detailed investigation of its composition is necessary. In view of this, we have studied the essential oil of a number of strains of *E. ashbyi* — BKM-F 124, 1397, 1399, 1906, and 108 — after their cultivation for two days on a fermentation medium containing (g/liter): glucose, 10; peptone, 3; yeast extract, 0.5; sodium succinate, 1.5; K_2HPO_4, 0.5; inositol, 140 mg/liter. The culture was grown in flasks on a shaking machine at 200 rpm and 28 ± 2°C. The essential oil was isolated from the culture liquid by steam distillation [3]. Depending on the strain characteristics, its yield varied in the range of 53.2 ± 105.0 mg/liter [sic]. The product obtained was a mobile pale yellow liquid with n_D^{20} 1.4791-1.4840.

The essential oil was fractionated on a column of silica gel with the hexane—ethyl acetate (85:15) solvent system and was investigated by TLC and GLC (Chrom-4 chromatograph) using three columns with different polarities, by IR spectroscopy (Specord IR-75 instrument), and by chromato-mass spectrometry in the LKB GC-MS-2091 analytical system. The following main components of value for perfumery were identified in the essential oil: geraniol (41.3-54.9%), citronellol (1.9-3.8%), nerol (0.8-2.3%), linalool (0.1-0.4%), and β-phenylethanol (17.5-30.1%). The presence of citronellol and β-phenylethanol in the essential oil of *E. ashbyi* has not been reported previously. In addition, we detected minor components of the oil — geranial, neral, and esters of geraniol and citronellol (up to 1.2% in total).

The composition and ratio of the components given, and also the physicochemical and spectral indices of the essential oil of *E. ashbyi* are similar to those from the essential oil from fresh rose petals, containing mainly monoterpene alcohols and β-phenylethanol [4]. The interstrain differences in the composition and ratio of some components of the essential oil were insignificant.

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TERPENOIDS OF *Mentha piperita* OF THE VARIETIES KRASNODARSKAYA 2, PRILUKSKAYA 6, KUBANSKAYA 6, SELENA, AND SEREBRISTAYA

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Three varieties of *Mentha piperita* (peppermint) are cultivated on the territory of Krasnodar Krai: Krasnodarskaya 2, Prilukskaya 6 and Kubanskaya 6. The last was isolated in the North Caucasus ZOS of VILR in cooperation with the Institute of Cytology and Genetics, Siberian Branch, Academy of Sciences of the USSR [1]. In 1986, another two varieties of peppermint bred by the North Caucasus ZOS VILR were passed to Gossortset' [State Variety Inspectorate for Grain and Oilseed Crops] Serebristaya (hybrid 36-77-1) and Selena (hybrid 24-77-1). They were obtained with the inclusion of wild species of mint [2] and have been studied for the essential oil and menthol that they contain.

Hybrid 24-77-1 was obtained on crossing with the species *M. spicata* L.; it contains a 4.6-5% of essential oil with up to 69% of menthol. From a total of two cuttings it gives about 2100 kg/ha of leaves and up to 83 kg/ha of essential oil.

Hybrid 36-77-1 is similar in its morphological characteristics of the wild species *M. crispa* L. It contains 4.3-4.9% of essential oil with more than 60% of menthol. A total of two cuttings gives about 2300 kg/ha of leaves and up to 100 kg/ha of essential oil.

We investigated the amounts of the 15 main terpenoids of the essential oil of mint of the given varieties by gas–liquid chromatography (Tsvet-4). Conditions of performing the analysis: carrier gas argon at a rate of flow of 32 ml/min; Chromaton NAW; liquid phase PEGS, 15%; 3-m stainless-steel column at a temperature of 220°C; thermostat temperature 150°C. The terpenoids were identified by the addition of markers and from their relative retention times, and their amounts from the areas of the peaks. The results are given in Table 1.

TABLE 1

Compound	Amounts for the following varieties, %				
	arskaya 6	Priluk-skaya 6	Kuban-skaya 6	Selena (hybrid 24-77-1)	Serebristaya (hybrid 36-77-1)
Piperitone	2,61	2,78	2,18	0,87	2,36
Pulegone	6,22	0,9	1,64	0,35	—
Menfyl acetate	0,69	0,45	0.55	—	0,42
Methol	36,25	35,67	45,83	61,26	56,47
Neomenthol	10,80	7,13	21,27	5,57	6,96
Isomenthol	10,11	12,49	11,45	17,05	6,46
Menthone	24,05	24,97	13,64	12,80	22,59
Menthofuran	0,17	0,06	Tr.	Tr.	0,05
Linalool	—	0,03	Tr.	—	—
p-Cymene	0,34	0,03	Tr.	0,09	0,26
Cinéole	5,32	2,67	Tr.	0,7	1,84
Limonene	1,66	10,93	1,64	1,04	1,94
β-Pinene	1,13	1,56	1,64	0,02	0,53
Camphene	0,04	0,01	Tr.	Tr.	—
α-Pinene	0,22	0,33	0,14	Tr.	0,13

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