THE POLYBUFFER SEPARATION OF THE TOTAL ALKALOIDS OF Petillium radiana

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By separating the mixture of alkaloids from P. radiana according to their basicities and solubilities, by chromatography on alumina, and by the preparation of salts, imperialine, edpetiline, petiline, petilidine, petilidinine, and petilinine have been isolated [1-3].

In order to isolate the alkaloids remaining in the mother liquor, 50 g of the mother liquor was dissolved in 3 liters of chloroform, and the solution was filtered and passed through a semiautomatic apparatus for polybuffer separation [4]. Each buffer solution was filled into four columns.

At the end of the separation, the buffer solutions were made alkaline with 25% ammonia and were extracted with chloroform. The compositions of the fractions were checked in a thin layer of silica gel–gypsum (9 : 1). The following systems of solvents were used: 1) chloroform–methanol (7 : 1), 2) petroleum ether–chloroform–ethanol (10 : 1 : 1), and 3) chloroform–butanol–ethyl acetate (10 : 2 : 1). The crystals that deposited were identified by their R_f values and by mixed melting points. The results obtained are given in Table 1.

Thus, from the mother liquor we have isolated additionally base A (pH 7.0 and 6.5, R_f 0.15 in system 3), base E (pH 5.5 and 5.0, R_f 0.36 in system 1), and base C – a crystalline mixture of two alkaloids (pH 1.0, R_f 0.27 and 0.39 in system 2).

The region of passage of the main alkaloids – imperialine, petiline, petilinine, and base C – into the buffer solutions has also been determined. The separation of the total alkaloids is continuing.

TABLE 1

pH of the buffer solution	Weights of the fractions	Compounds isolated	g
Distilled water	2,4	Chloroform	1,50
		Edpetiline	0,23
7	0,5	Base A	0,42
6,5	0,8	Chloroform	1.50
6,0	1,2	Edpetiline	0,23
		Base A	0,42
5,5	4,6	Petiline	2,40
5,0	6,8	Petilidine	1,60
4,0	5,1	Base E	0,27
3,0	4,9		
2,0	3,7	1,61 Petiline	
1,5	5,9		
1,0	4,4	Petilidine B	4,00
Chloroform	4,9		

LITERATURE CITED

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