

## AN ION-EXCHANGE METHOD OF OBTAINING METVIN

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Existing laboratory methods of obtaining metvin (vincanine methochloride) by means of freshly prepared AgCl or via the quaternary base [1] have fundamental defects: low yield (~50%) and expensive reagents.

We have proposed a new method consisting in the passage of a solution of the methiodide through an anion-exchange resin in the Cl<sup>-</sup> form. This leads to the replacement of the I<sup>-</sup> ions of the methiodide by the Cl<sup>-</sup> ions of the resin, and the eluate from a column of the resin consists of a solution of vincanine methochloride.

The dynamic exchange capacity to breakthrough (DEC) was determined for three types of anion-exchange resins (AN-1, ÉDE-10p, and AV-16g). It was found that the maximum capacity is possessed by the strongly basic resin AV-16g.

We have also investigated some dynamic characteristics of the process: the dependence of the DEC on the dimensions of the grains of the resin -  $d_g$  - and on the ratio of the height of the layer of resin to the internal diameter of the column -  $H/d$  - at a constant amount of resin. It was found that the DEC increases with a decrease in  $d_g$  and reaches a maximum at  $H/d=6-7$ .

The breakthrough of vincanine methiodide was determined by means of a qualitative reaction for the I<sup>-</sup> ion [2], and also by thin-layer chromatography on alumina. In the chloroform-acetone-methanol (50:45:5) system, the  $R_f$  value of the methiodide is 0.25 and that of the methochloride is 0.05. When the plates are treated with a 1% solution of cerium ammonium sulfate in orthophosphoric acid, the methiodide gives a brown coloration and the methochloride a yellow-green coloration.

Free vincanine (1.0 g) [3] was converted into its methiodide (1.49 g), and 0.85 g of this was dissolved in 245 ml of methanol and passed through a column containing 2 g of AV-16g anion-exchange resin in the Cl<sup>-</sup> form at the rate of 3.8 ml/min · cm<sup>2</sup>.

The resulting solution of metvin was evaporated to dryness in vacuum and the residue was recrystallized from methanol-acetone (15.5:84.5). Yield 0.58 g, which amounted to 86.5% of the stoichiometric amount.

### LITERATURE CITED

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