INVESTIGATION AND BIOLOGICAL ACTIVITY OF VINYL COMPOUNDS OF PIPERIDINE AND 2,4-DIBROMPHENOLE

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N-vinyl compounds in most cases are biologically-active. They can be obtained by vinylation of organic compounds, containing active hydrogen atoms by acetylene under pressure or at the atmospheric pressure in the presence of alcali catalysts. This method in last years has a scientific and industrial development [1].

Application of high-basic systems of type catalyst-solvent in acetylene chemistry allowed to obtain some earlier unnown or hard-synthesized vinyl compounds.

Earlier we have investigated vinylation of piperidine [2] and 2,4-dibromphenol [3] by acetylene at atmospheric pressure in media of high-basic solvents in the presence of alcali catalysts and have obtained N-vinylpiperidine (NVP) and vinyl ether of 2,4-dibromphenol (VEDBPh). Dimethylsulfoxid and KOH were used as solvent and catalyst correspondently. The optimal conditions for these reactions were determined, at which yields of products were 27,0 and 26,0 % correspondently.

In this work the toxicality and antiinflammatory action in comparision with acetylsalicilic acid (ASA) of obtained compounds was investigated with aim of determination of their biological activity. Investigations were carried out on white mouses. Results of experiments have shown that at the interperitonent introduction the values LD50 for mouses were equal 141(120-170) mg/kg and 44(31-54) mg/kg for NVP and VEDBPh correspondently.

Data on antiinflammatory action of these preparates in comparision with ASA shown their ability to supress inflammatory caused by carrogenine and also that by action they didn’t yield to ASA.

The investigation has shown that preparate NVP can be atributed to class of moderatly toxical compounds, but VEDBPh - to class of toxical substences and both compounds have a high biological activity.

References

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