MOLDOVA STATE UNIVERSITY
INSTITUTE of CHEMISTRY
Laboratory of Ecological Chemistry
3, Academiei str., MD 2028, Chisinau, Republic of Moldova

E-mail: ***lupascut@gmail.com***

HR EXCELLENCE IN RESEARCH

PECTIN OXIDATION PROCESS

PATENT: MD 4746 B1 2021.02.28

AUTHORS:LUPAŞCU Tudor, MITINA Tatiana, GOREACIOC Tatiana, CULIGHIN Elena, CIBOTARU Silvia, POVAR Igor, DEMCHENKO Pavlo, KOZLOV Kostiantyn, VOITKO Oleksandr.

APPLICATION FIELDS: medicine

AIM: The invention relates to a process for increasing the ion exchange capacity of pectins, which can be used in medicine as enterosorbents for the removal of radioactive metal ions and heavy metals.

SOLUTION: The essence of the invention consist in that the pectins homogenized in hydrogen peroxide are oxidized with ozone. The technical result of the invention consists in the fact that the process of immobilization of heavy metals on ozone oxidized pectin in hydrogen peroxide increases about 3.0 times compared to intact pectin and about 2.1 times compared to oxidized pectin with concentrated hydrogen peroxide.

ADVANTAGES: the oxidation of pectins is accompanied by the destruction of their molecules, leading to the creation of polymer products with smaller molecules and additional acidic functional groups. So, using the process of oxidizing pectins with ozone in concentrated hydrogen peroxide, we can increase the ion exchange capacity of pectins.

IMPLEMENTATION STAGE: laboratory scale

ACKNOWLEDGMENTS: This research was supported by the research projects: ANCD/20.80009.7007.21.