

## ABSTRACT

Master's thesis for master's degree in specialty 161 "Chemical technologies and engineering" on the topic: « Inorganic material based on modified nano-porous silicon for medical purpose » / Igor Sikorsky Kyiv Polytechnic Institute; Supervisor: *Sybbota I.S.*; Student: Fesiienko Oleh., XM–61m group.

Explanatory note: 100 pages, 20 figures, 33 tables, 37 sources.

Graphic part: 24 slides.

**Object of research** – an inorganic material based on modified nano-porous silicon. Inorganic materials based on modified nanoporous silicon have their application, as a sorption materials. Sorbents are solid or liquid substances that are capable of selectively absorbing on their surface certain gases, ions or chemicals, while retaining them by entering into a chemical interaction reaction.

**Methods of research.** A comparative audit of methods for treating the surface of a material based on modified nanoporous silicon, with a variation in the parameters of the process, the collection of statistical data. Analysis of the chemical composition of the surface and analysis of the functionalization results was carried out by X-ray photoelectron spectroscopy (XPS), infrared reflection / absorption spectrometry (PM-IRRAS), FTIR-infrared spectroscopy and the wetting angle measurement method.

**Key words:** INORGANIC MATERIALS, NANOPOROUS SILICA, SURFACE MODIFICATIONS, SILANIZATION, METABOLITES, METIONIN