

The aim of the project is to verify whether curdlan-tannic acid composite prepared in ecologic one-step method which does not require the use of organic solvents exhibits a potential as an elastic, wound-healing, hemostatic and antibacterial wound dressings.

The implementation of the project will allow:

- 1) to synthesize the prototype of intelligent, highly adhesive, flexible, pH-sensitive and natural compounds-based hydrogel dressing;
- 2) to verify whether this dressing can be efficiently supplemented with active agents to reveal an enhanced therapeutic effect;
- 3) to evaluate the antibacterial efficacy, desired functionality and safety of the produced prototypes after application as wound dressings. If positive results are obtained, the produced dressing hydrogels can be used as biosafe, intelligent dressings for the treatment of severe burn wounds and bacterial infections of postoperative wounds.