

**Grant of the Ministry of Education and Science of the Republic of Kazakhstan  
AR05131728: "Development of production technology and obtaining prototypes of new  
cosmetic products based on pharmacological studies of domestic salt-containing and  
vegetable raw materials" (2018-2020, total amount of financing:36,000,000 tenge)**

**Scientific supervisor:** Doctor of Biological Sciences, Professor Issayeva Akmaral Umirbekovna,

***The relevance of the problem:***

- The search for new products aimed at improving skin health; the study of their pharmacological properties and the development of technology for the production of new cosmetic products are one of the serious problems of modern pharmacology.
- Salt-containing raw materials such as Aral salt, mud and brine, being a natural preservative, have bactericidal and bacteriostatic properties, which makes it an indispensable component of preparations used in cosmetology practice.

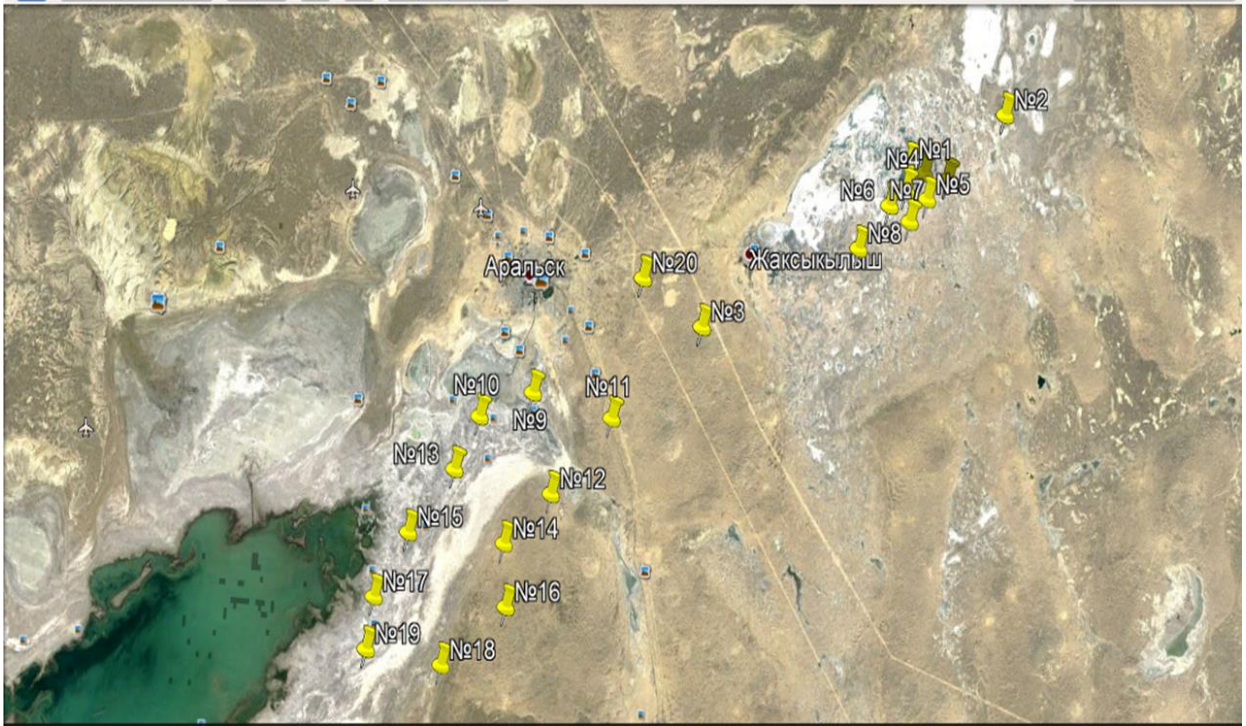
**The project was carried out jointly with scientists from the A.Mickiewicz Poznan State University (Poland)**



**Preparation  
for the conference  
with Dr. hab,  
Professor Radoslav  
Pankevich (Poznan)**

**With Dr. hab, Professor  
Bohuslava Leska (Poland)**

**Dr hab, professors Izabela  
Novak and Boguslav Lesko  
with business visitation in  
Kazakhstan**



**The route line of the expedition of SHU employees is the Aral Sea region**



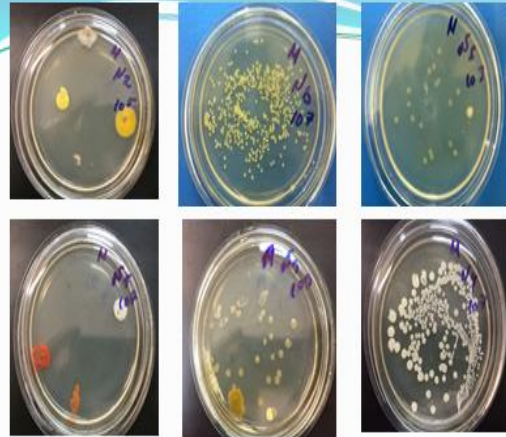
<p><b>Doctor of Biological Sciences Eshibaev Ashirbaevich on the territory of JSC Araltuz</b></p>	<p><b>Doctor of Biological Sciences, Professor Issayeva A.U. near the office of Araltuz JSC</b></p>	<p><b>Sulfate salts of the Aral Sea region</b></p>
---	---	--



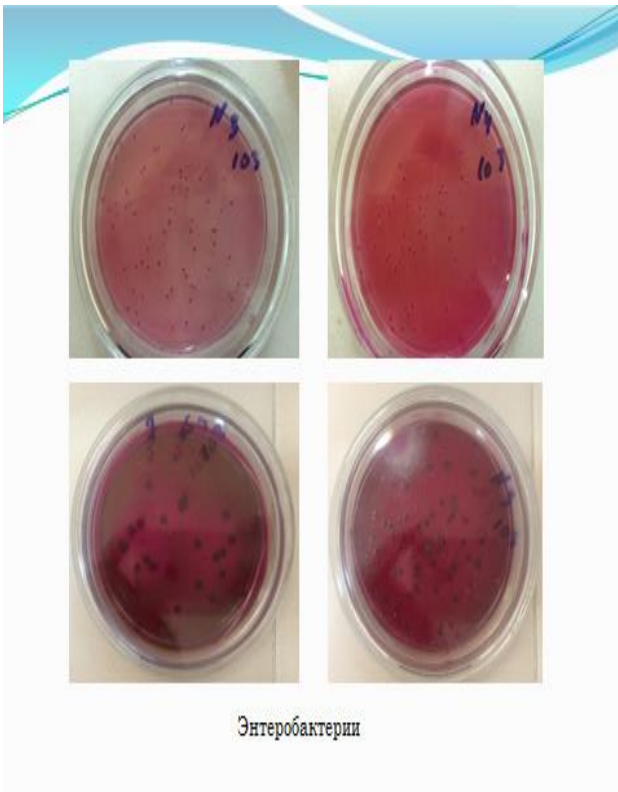
**Potash salts of the Dzhaksy-Klych deposit. Brine sampling**



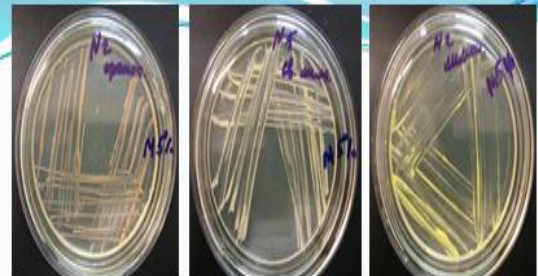
**The bottom of the Aral Sea**



Гетеротрофные микроорганизмы



Энтеробактерии



*M. roseus*

*Micrococcus* sp.

*M. luteus*



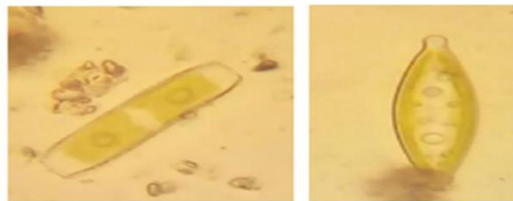
*Bacillus* sp.

*Pseudomonas* sp.

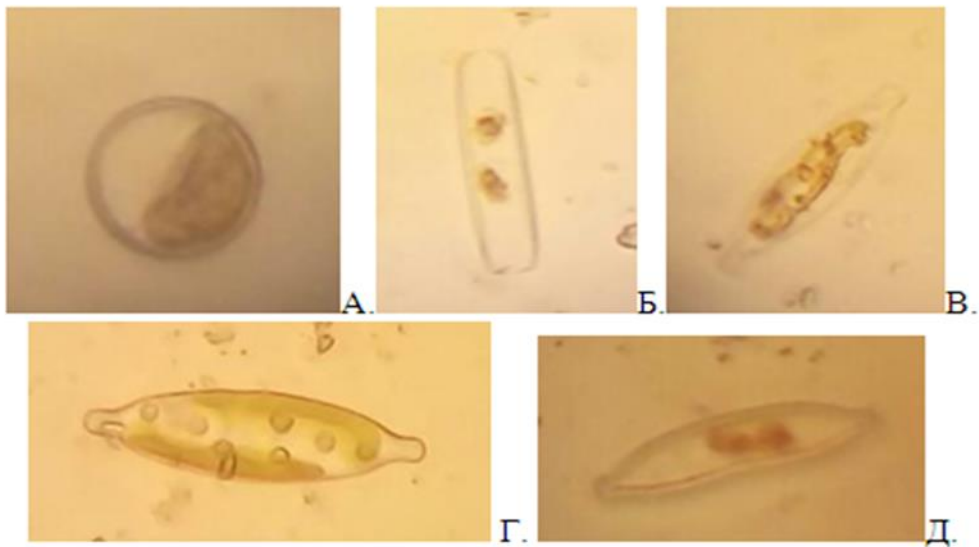
*Enterobacter* sp.

Чистые культуры микроорганизмов

**Candidate of Biological Sciences, Associate Professor Uspabayeva Aigul Amankulovna during microbiological examination**



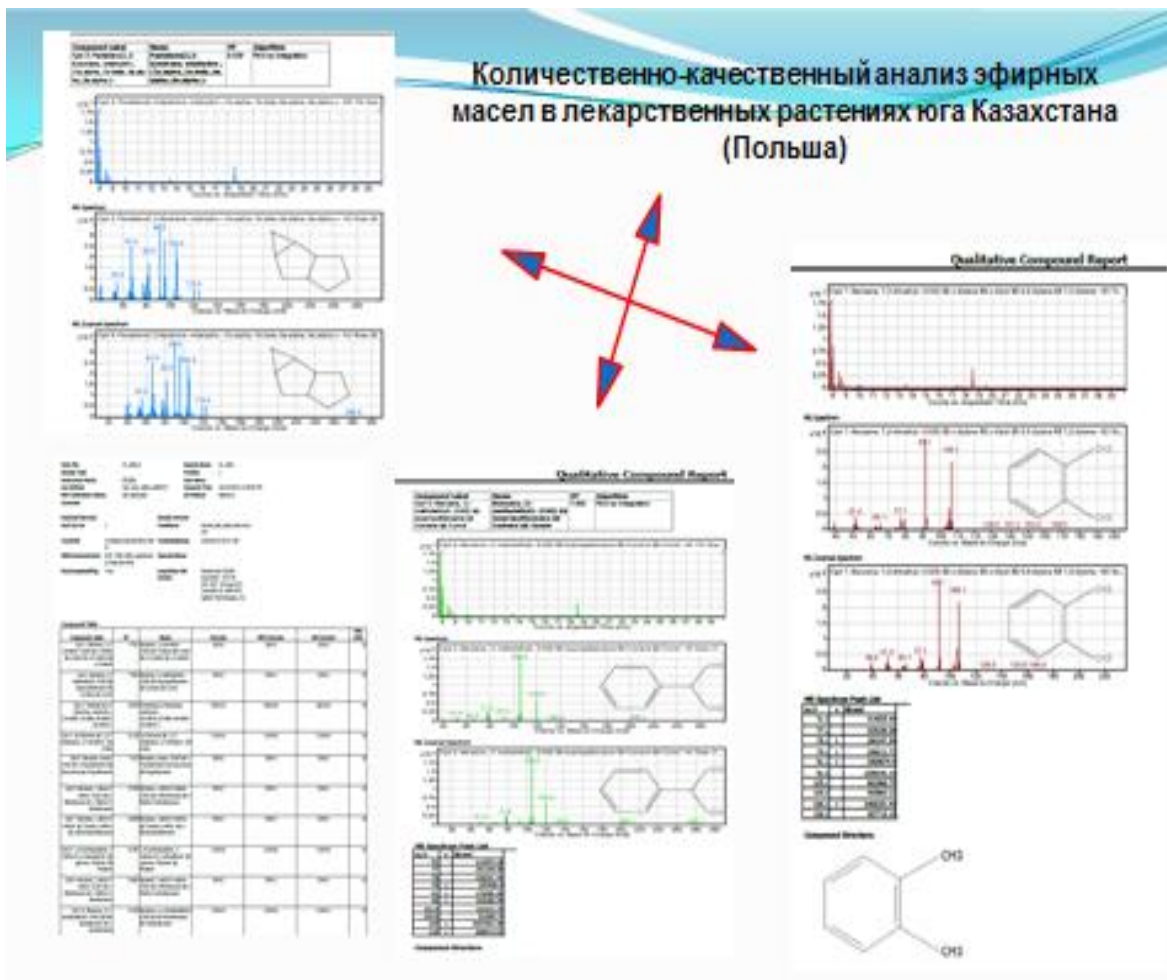
Клетки диатомовых до опыта (слева *Pinnularia*, справа *Rhaphoneis*)



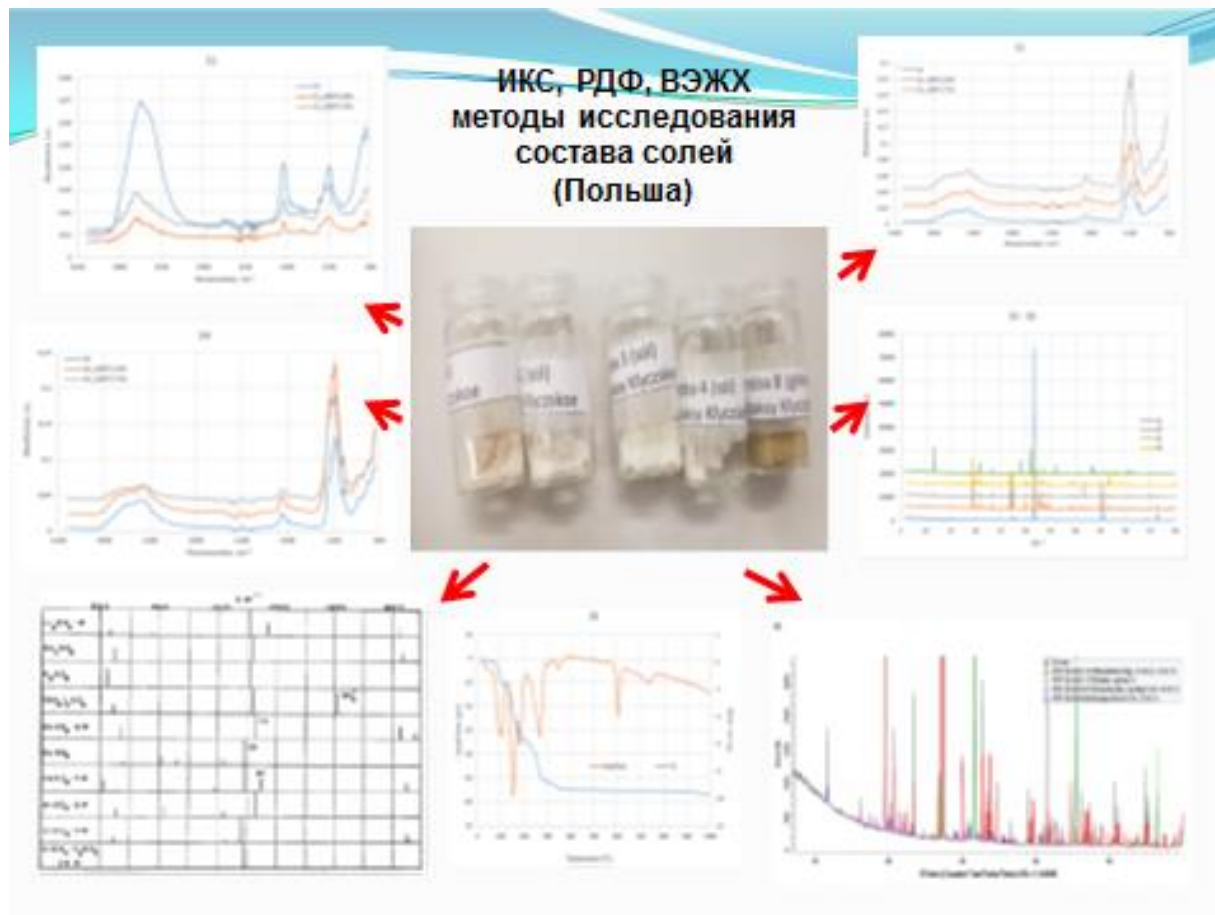
Диатомовые водоросли в стадии плазмолиза: А- *Coscinodiscus* sp. Б- *Pinnularia* sp., В,Г- *Rhaphoneis amphiceros*, Д- *Cymbella*

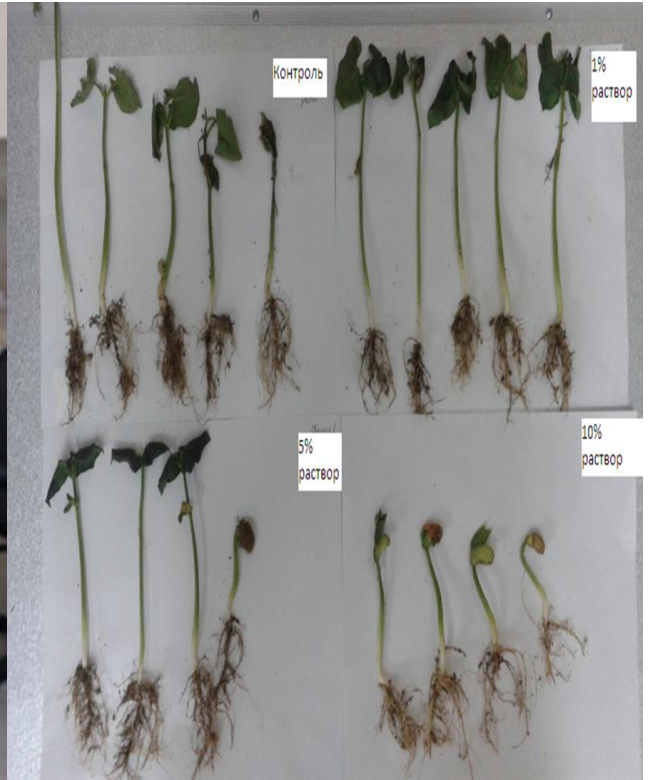
Researcher Tleukeeva A.E. during hydrobiological research

## Количественно-качественный анализ эфирных масел в лекарственных растениях юга Казахстана (Польша)

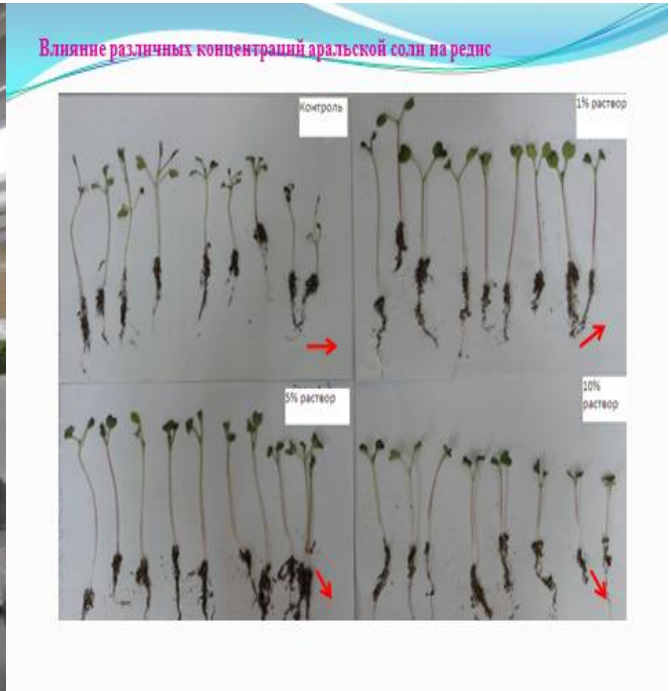


## ИКС, РФД, ВЭЖХ методы исследования состава солей (Польша)

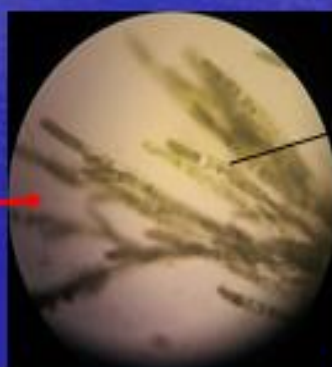
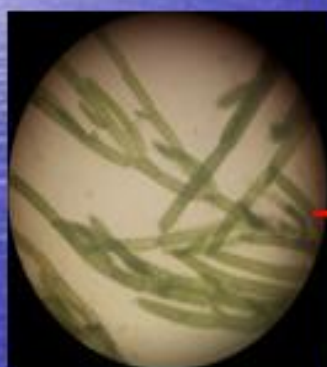
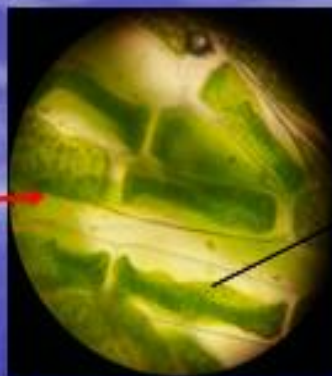




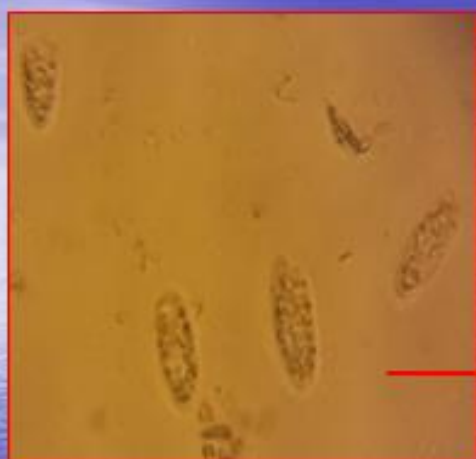
**Setting up an experiment on biotesting by Eshibayev A.A.**



**Researcher Rubtsova L.V. during the model experiment**



Реакция *Cladophora glomerata* на введение рапы в водный раствор



а

б

Реакция тест- инфузорий на введение рапы в воду

As part of the project, the first student start-up "Natural therapeutic soap" was launched.



Students of the BGg-117 group Aitbayeva Gauhar, Seitkali Nazerke and Kabyzbekova Nasiba for soap production

More than 15 types of cosmetology products have been developed, including scrubs, masks, bath salts, etc., which have undergone complete physico-chemical and biological analyses. Tests were conducted by highly qualified specialists: dentists, cosmetologists, dermatologists, allergists. Studies of the effect of the developed cosmetic products on the skin of volunteers in model conditions with programmable analyses and evaluation of the results were carried out

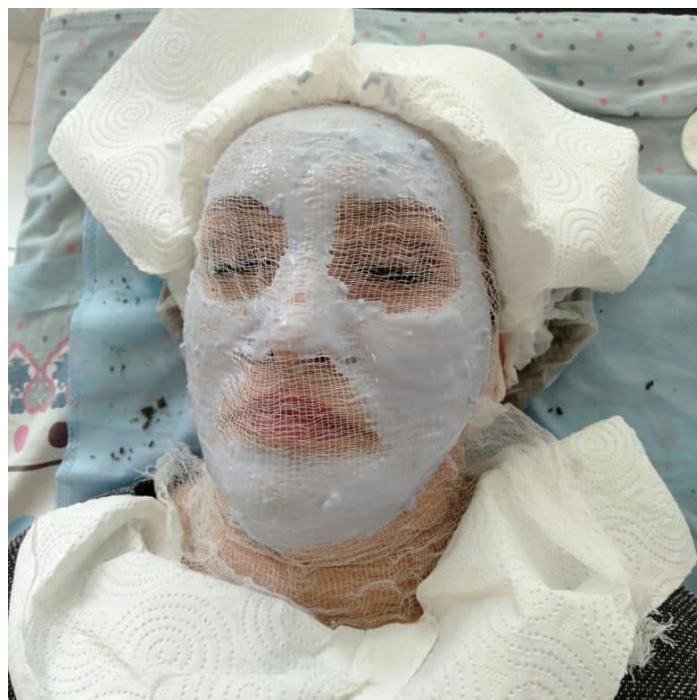


**Испытания солевого стоматологического сбора**

Наложение аппликации со сбором

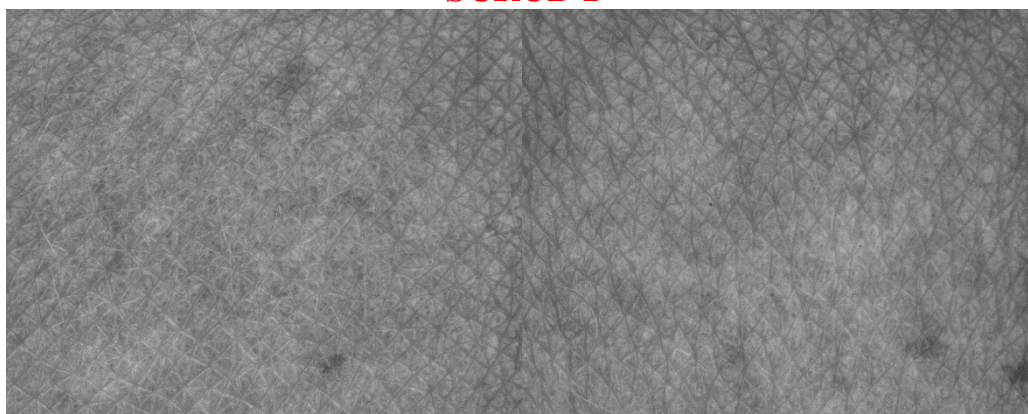
До После

A composite image showing a dental procedure and the results of a salt collection test. The top left shows a dentist in a white coat and mask applying a collection to a patient's teeth. The bottom left shows a close-up of the application. The bottom right shows two side-by-side photos of the patient's teeth, labeled 'До' (Before) and 'После' (After), showing a significant improvement in the appearance of the teeth.



Tests of scrubs and masks by a cosmetologist

### SCRUB 1



<b>SEr</b>	<b>SEsm</b>	<b>SEsc</b>	<b>SEw</b>	<b>SEr</b>	<b>SEsm</b>	<b>SEsc</b>	<b>SEw</b>
2,32	84,68	0,65	28,569	1,95	105,24	0,56	39,049
<b>R3</b>	<b>NRJ</b>	<b>CONT</b>	<b>HOM</b>	<b>R3</b>	<b>NRJ</b>	<b>CONT</b>	<b>HOM</b>
55	0,038	1,305	1,465	50	0,040	1,058	1,497

Computer processing of research results on the effect of scrub 1 on skin parameters

*Из него исходит↓*

**Commercialization of the results.** A number of cosmetology and SPA complexes in Shymkent, entrepreneurs of the south of Kazakhstan show interest in purchasing finished products.

*Из него исходит↓*

**Patent protection.** There are 2 patents for an invention and 2 patents for a utility model of the Republic of Kazakhstan and 1 patent of the EAPO

<b>N п/п</b>	<b>Name</b>	<b>Output data</b>	<b>Authors</b>
<b>1</b>	Состав для ванн на основе натурального сырья	патент РК №3423 от 26.26.2018 г.на полезную модель	Исаева А.У., Тлеукеева А.Е., Исаева А.У., Бишимбаев В.К.
<b>2</b>	Состав для оздоровительных ванн на основе натурального сырья	Патент РК № 34627 от 09.10.2020	Исаева А.У., Ешибаев А.А., Абубакирова А.А., Айтбаева Г., Сейткали Н., Кабылбекова Н.
<b>3</b>	Комплекс для ухода за полостью рта на основе натурального сырья.	Патент РК № 34660 от 16.09.2020	Исаева А.У., Ешибаев А.А., Абубакирова А.А., Айтбаева Г., Сейткали Н.,
<b>4</b>	Бактерицидно-органическое кусковое мыло	Патент на полезную модель №6065 от 15.10.2020	Исаева А.У., Тлеукеева А.Е.
<b>5</b>	Состав для оздоровительных ванн на основе натурального сырья	Патент ЕАПО №202092341 от 29.04.2022	Исаева А.У., Сейткулов Н.А., Пралиев С.Ж., Тлеукеева А.Е.