

## BIOMARKERS FOR VIDOSPECIFIC DETECTION OF BACTERIA-DESTRUCTORS OF HARD-OXIDIZABLE COMPOUNDS

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We have proposed biomarkers are proposed for species-specific detection of strains of bacteria *Microbacterium barkeri* OZ-3, *Bacillus megaterium* ONU-542 (isolated from oil contaminated soil), *Pseudomonas maltophilia* ONU-329, *Pseudomonas fluorescens* ONU-328 (isolated from the polluted marine environment). They have a destructive potential with respect to petroleum hydrocarbons and phenolic compounds [1, 2]. On the composition of cellular lipids, soil strains are characterized by a saturation factor, marine strains - the coefficient of unsaturation. In the fatty acid profiles of *M. barkeri* OZ-3 and *B. megaterium* ONU-542, unlike the fatty acid profiles of *P. maltophilia* ONU-329 and *P. fluorescens* ONU-328, were present from branched fatty acids 15-methylhexadecanoic (C<sub>17</sub>:0 iso) and 14-methylhexadecanoic (C<sub>17</sub>:0 anteiso), and C<sub>15</sub>:0 anteiso acid, which allowed them to calculate the biomarker ratios [C<sub>17</sub>:0 anteiso / C<sub>17</sub>:0 iso] and [C<sub>15</sub>:0 anteiso / C<sub>17</sub>:0 anteiso]. The maximum total content of short chain hydroxy acids was found in marine strains of microorganisms (7.4-12.6%), trace amounts (0.15-0.35%) of long chain fatty acids were fixed in the fatty acid profile of soil strains. In the fatty acid profile of marine strains, unlike soil strains, isomers of hexadecene fatty acid C<sub>16</sub>:1 w7c / C<sub>16</sub>:1 w6c were found.

### List of references:

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