

## Perspective for the Creation of Molecular Imprinted Polymers from Coal Waste

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**Abstract :** The aim of this project is to develop methods for obtaining new molecularly imprinted polymers from coal waste to study their structure, structural and morphological features and properties. Recently, the development of molecularly imprinted polymers has become one of the hot topics for researchers. Modern research indicates the broad prospects of rapidly developing molecular imprinting technologies for creating a new generation of sorption materials. The attractiveness of this area of research lies in the fact that the use of imprinted polymers is not limited to scientific research; they are already being introduced in the chemical, pharmaceutical and biotechnological industries, primarily at the stages of purification of the final product. For the use of molecularly imprinted polymers in the development of sorption material, their ability to selectively remove pollutants, including trace concentrations, is of fundamental importance, and the exceptional stability of polymeric materials under harsh conditions makes it possible to simplify the process of water purification as a whole. The scientific and technical effect is associated with the development of technologies for the production of new molecularly imprinted polymers, the establishment of optimal conditions for their production and the creation of effective imprinted sorbents on their basis for wastewater treatment from heavy metals. The social effect is due to the fact that the use of coal waste as a feedstock for the production of imprinted sorbents will make it possible in the future to create new industries with additional jobs and obtain competitive multi-purpose products. The economic and multiplier effect is associated with the low cost of the final product due to the involvement of local coal waste in the production, reduction of transport, customs and other costs.

**Keywords :** imprinted polymers, coal waste, polymerization, template, customized sorbents

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