Advanced Membrane Technologies for Water Purification

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Abstract. Water scarcity is a growing global challenge, necessitating the development of efficient purification technologies. This research focuses on advanced membrane technologies that are designed to improve water purification processes. By integrating novel materials and structural designs, the study aims to enhance membrane performance, increasing permeability and selectivity. The results indicate significant improvements in contaminant removal, providing a viable solution for clean water access in resource-limited settings.

Keywords: Water Purification, Membrane Technology, Contaminant Removal, Sustainability, Resource Efficiency

Introduction

Water purification is critical in addressing the global issue of water scarcity. Traditional methods often fall short in efficiency and sustainability, prompting the need for advanced technologies. This study delves into the development of innovative membrane technologies for water purification. By employing cutting-edge materials and design strategies, the research enhances membrane properties such as permeability and selectivity. These improvements are crucial for effective contaminant removal and increased water yield. The study's findings highlight the potential of these technologies to provide sustainable solutions for clean water access, particularly in regions facing severe water shortages.

References

1. РІЗАК, Г. ВПЛИВ РІЗНИХ МЕТОДІВ СИНТЕЗУ НА ТОКСИЧНІСТЬ ТА ЕФЕКТИВНІСТЬ НОВИХ БІОЛОГІЧНО АКТИВНИХ СПОЛУК НА ОСНОВІ ТІЄНОПІРИМІДИНІВ. *ПРОБЛЕМИ ХІМІЇ ТА СТАЛОГО РОЗВИТКУ Учредители: Publishing House Helvetica (Publications),(4)*, 15-24.