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## Recent Advances and Emerging Trends in Organic Synthesis: A Review

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Abstract: The field of organic synthesis is continuously evolving, focusing on the development of innovative and efficient methodologies for the selective construction of complex molecules. A significant trend is the integration of environmentally friendly and sustainable technologies, such as green chemistry and mechanochemistry, to minimize waste and energy consumption. Computational approaches are increasingly being employed to design and optimize synthetic pathways, facilitating the prediction of molecular properties and enhancing reaction efficiency. Additionally, the use of renewable feedstocks and sustainable synthetic strategies is gaining prominence to reduce reliance on non-renewable resources. These advancements collectively contribute to addressing contemporary challenges in drug discovery, materials science, and industrial applications, ensuring that organic synthesis remains a key driver of scientific and technological progress.

**Keywords:** Organic Synthesis, Green Chemistry, Sustainable Synthesis, Computational Chemistry, Renewable Feedstocks



