Open Rotaxane Surgery: What Molecular Editing Can Offer to Supramolecular Chemistry?

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The skeletal editing approach represents a paradigm shift in organic synthesis by directly targeting the molecular skeleton instead of relying on often long and complicated series of organic transformations. Recent advancements in nitrogen atom deletion reactions have enabled unprecedented late-stage, precise modifications of bioactive compounds and complex natural products, influencing a seemingly distant field such as supramolecular chemistry. In a recent contribution, the Leigh group demonstrated the extrusion of a nitrogen atom from an axle of a [2]rotaxane, extending the applicability of molecular editing to complex, mechanically interlocked architectures. This highlight seeks to examine the significance of the skeletal editing method in supramolecular chemistry, address its challenges, and offer an outlook on future directions in this emerging field.

Słowa kluczowe

supramolecular chemistry, mechanically interlocked molecules, skeletal editing, rotaxanes

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