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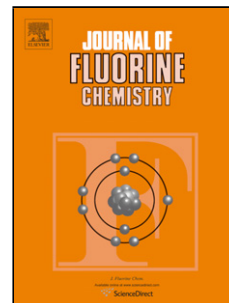
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The history and future challenges associated with the hydrogenation of vinyl fluorides

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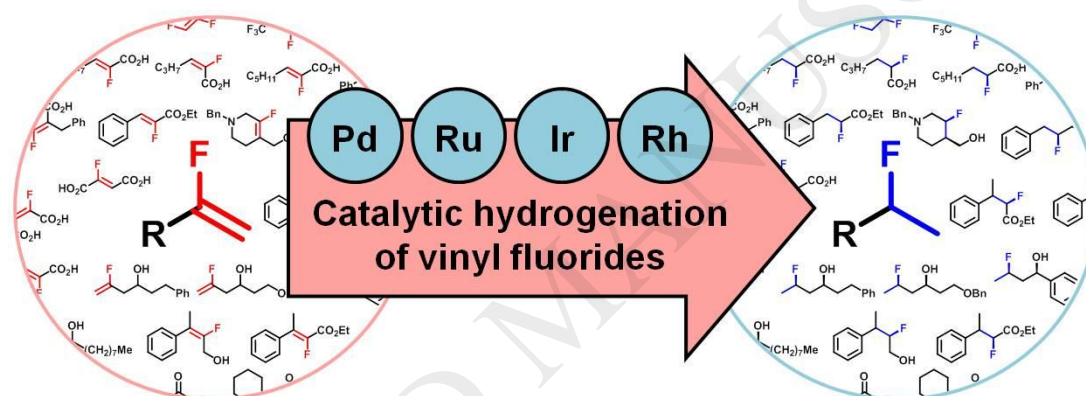
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Graphical abstract



Abstract

Catalytic hydrogenation is one of the most powerful transformations available in synthetic chemistry; there have been three Nobel Laureates rewarded for their work in the field. Despite the advances in substrate scope and the development of enantioselective versions of this transformation, vinyl fluorides remain somewhat underrepresented. Successful hydrogenation of vinyl fluorides can give rise to a fluorine-containing stereocenter, an important feature which has great potential in many areas of chemistry. This review aims to explore the history of vinyl fluorides as substrates in hydrogenation reactions, and to highlight modern day challenges and unresolved issues regarding this ambitious transformation.

Keywords

Vinyl fluoride, fluoroalkene, catalytic hydrogenation, palladium, iridium, rhodium

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