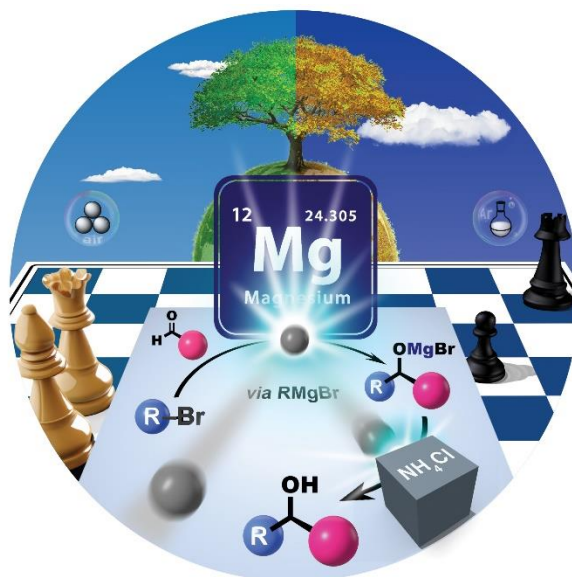


Mechanochemistry: new opportunities for organic synthesis

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Mechanochemistry is an age-old technique that has received renewed interest in recent years for its ability to conduct organic reactions with minimal or no solvent use, by milling and grinding solid reactants together. The reduced use of solvents leads to decreased environmental impact, enhanced safety, and improved cost-effectiveness, making it highly appealing for industrial applications. Besides the green chemistry-related benefits, mechanochemistry significantly boosts the reaction rates and reactivity of solids, including metals, helping to resolve long-standing challenges in organic synthesis. The recent results from our laboratory will be presented to illustrate the power of mechanochemistry in the synthesis of amides,^[1] active pharmaceutical ingredients,^[2,3] and in the mechanochemical activations of metals to improve the performance of Barbier-Grignard^[4] and Birch reactions.^[5]



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