

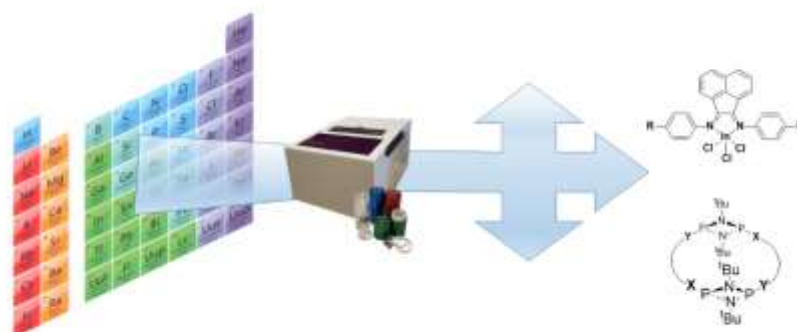
# Mechanochemistry: New Opportunities in Main Group Synthesis

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Mechanochemical syntheses are chemical transformations induced by mechanical means, such as compression, shear and friction.<sup>1</sup> In recent years, there has been an increasing interest in “greener” synthetic methods with less solvent, higher yields, and shorter reaction times being especially appealing to the fine chemicals and inorganic catalyst industries.<sup>2</sup> Mechanochemical approaches present a sustainable route towards the synthesis of inorganic materials and have been widely applied in the synthesis of poorly soluble metal oxides,<sup>3</sup> ceramics, alloys and have increasingly been adopted in modern fields such as nanomaterials.<sup>4</sup> In our studies, we demonstrate that main group compounds and complexes are readily accessible through a mechanochemical milling approach. (Fig. 1) The synthetic methodology reported herein not only bypasses the use of large solvent quantities and transition metal reagents for ligand synthesis, but also reduces reaction times dramatically.<sup>5-10</sup>

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