Abstract

Solvent has been considered a necessity in chemical reactions since the days of Aristotle. Even today it is believed that reactions conducted in solution are faster, more efficient and show greater reproducibility than those in the solid state. Because of this, chemists have been trained to use solution phase chemistry in organic synthesis to such an extent that solvent-free chemistry is not considered. However, due to increasing interest in environmental protection and waste minimization, solvent-free chemistry has recently gained momentum. Ball milling or mechanochemistry has been developed as a solvent-free technique that is a viable alternative to solution phase chemistry. Mechanochemistry has been demonstrated to be equally fast, efficient and as reproducible as solution phase chemistry. The seminar presentation will uncover some of the mysteries of mechanochemistry, where some chemical reactions are the same as in solution and some quite different