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 solid state chemistry is not considered. However, due to increasing interest in environmental protection and waste minimization, solid state chemistry has recently gained momentum. High speed ball milling (HSBM) has been developed as a solid state technique which may potentially rival solution phase chemistry. HSBM has been demonstrated to be equally fast, efficient and as reproducible as solution phase chemistry. HSBM can be conducted under a variety of conditions, mimicking solution phase chemistry for a variety of chemical reactions and procedures. Although methods have been developed to trap and dispose of solvent waste more efficiently, the ideal situation is to avoid generating the waste completely. In our research laboratory, we have developed safer, more environmentally benign method for reductions and oxidations using HSBM. We further look to develop a more fundamental understanding of chemical reactions via this unique reaction pathway.

Wednesday 10/8/14
4:45 pm A255
Science Center

A reception will be held at 4:30 in the David Love Lounge
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