

Solvent-Free Organic Synthesis; by K. Tanaka; Wiley-VCH: Weinheim, 2003, Hardcover, 444 pp, \$ 170; ISBN 3.527.30612-9

For reasons of economy and pollution prevention, solvent-free methods are of fundamental and growing interest in order to modernize classical procedures, making them more clean, safe, and easy to perform. The demand for increasingly clean and efficient chemical synthesis is continuously becoming more urgent. So-called green technologies are looking for alternative ways to reduce more drastic prerequisites for reactions. Among the proposed solutions, solvent-free chemical synthesis holds a leading position. So, it is now often claimed that the best solvent is no solvent.

In this book, the third one in the 'Green Chemistry' series from Wiley-VCH, Koichi Tanaka describes the latest developments in this exciting field. It consists of 14 chapters devoted to all the main reactions in organic synthesis. These chapters summarize the diverse reactions that have been carried out under solvent-free conditions constituted of either neat reactants, or in solid state or using supported reagents on solid mineral supports such as clays, silicas or

aluminas. In each chapter, are considered rather classical reaction media (see above) and conventional activation as well as further improvements using microwave irradiation as an efficient non-classical mode of activation.

This volume is an update compilation of the recent reports in this field (537 examples of solvent-free organic reactions) classified according to reaction types: oxidation, reduction, rearrangement, hydrolysis, protection and deprotection, C-C/C-N/C-O/C-S/C-X/C-S/C-P bond formations. Each reaction includes a structure scheme, an outline of the experimental procedures and adequate references.

In conclusion, this book constitutes an essential handbook in an excellent and exhaustive overview compilation. It is highly recommended to all those concerned with Green Chemistry as a valuable resource in the field. It could be however regretted that there is an evident lack for a general extended and comprehensive introduction in a chapter describing the contents and scopes of the methodologies involved in solvent-free chemistry.

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