
In his book, Professor Otera gives the reader a compila-
tion of the various esterifications and related reactions
published in the literature since 1990. Indeed it gathers
some 5000 references at the end of the book and on a
CD-ROM. The volume is divided in two major parts, the
first one deals with the methodology to obtain an ester,
and the second one develops some synthetic applications
of the esterification reaction.

The methodology section reviews the different possibili-
ties for the synthesis of an ester, using an alcohol and an
acid, an acid anhydride, acid halide, acyl derivative or a
metal catalyst. For each type of reagent, the use of activa-
tors is examined. The use of enzymes is also largely de-
scribed, as well as “unconventional” techniques such as
microwave irradiation, phase transfer and enzymatic
reactions in supercritical carbon dioxide or ionic liquids.
For each case, the specificity of the method is succinctly
discussed, and an experimental procedure is provided,
along with a scheme of the reaction and the reference it
has been taken from. The regiospecificity and the stereo-
selectivity of the reactions are discussed along with some
mechanisms. In my opinion, the section will be very use-
ful for synthetic chemists using the esterification reaction
for purposes of linking building blocks in total synthesis
as well as in protecting group chemistry. For the latter,
transesterification reactions can be regarded as deprotec-
tion techniques. The last chapter of the first part shows
interesting alternatives when the use of an alcohol is not
possible.

The second part deals with synthetic applications of the
esterification reaction such as kinetic resolutions of alco-
hols or asymmetric desymmetrisation. In the case of the
kinetic resolution, a long list of enzymes and their parti-
cularities is given as well as a representative descriptive
list of non-enzymatic reactions.

The last two chapters contain miscellaneous topics and
industrial uses where one can find a summary of the syn-
thesis of particular esters and their applications. In the
miscellaneous topics chapter, the organic synthetic che-
mist will find methods for selective esterifications and
references for new reaction media, such as biphasic mix-
tures. A long table gathers the use of the different
methods of esterification for the synthesis of natural pro-
ducts, paclitaxel being one of the typical examples. For
each entry in the table, the reference is given along with
the conditions used and the number of the chapter to refer
to.

All the references quoted in the book are compiled in the
CD-ROM with a reaction scheme for each. The software
used for the compilation is designed to allow the user to
update and adapt it to one’s requirements, by introduction
of keywords and new references. Fast consultation of
reaction parameters can then be achieved.

In conclusion, I would say that this book is a valuable
source of information for all synthetic chemists. What-
ever application of esterification is needed, references
and a large range of conditions to carry out the reaction
successfully will be found in this book.

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