

## Book Review of Poly(Lactic Acid): Synthesis, Structures, Properties, Processing, and Applications

**Poly(Lactic Acid): Synthesis, Structures, Properties, Processing, and Applications.** Edited by Rafael A. Auras. (Michigan State University, East Lansing, MI, USA), Loong-Tak Lim. (University of Guelph, Ontario, Canada), Susan E. M. Selke. (Michigan State University), and Hideto Tsuji. (Toyohashi University of Technology, Aichi, Japan). J. Wiley & Sons, Inc.: Hoboken, NJ. 2010. xxiv + 500 pp. \$149.95. ISBN 978-0-470-29366-9.

Polymers that can be produced from renewable resources such as corn or sugar feedstocks are attracting much attention, not only from the viewpoint of a nonpetroleum-based feedstock but also because these polymeric materials can be metabolized. Among the most promising of these polymers are polylactides, which are derived from plant-based carbohydrates and can be used in various applications, including packaging and container products. This is particularly true since Cargill, Inc. has developed key processes and technologies for the production and purification of lactic acid by fermentation under anaerobic conditions.

The purpose of this book is to combine all the information on polylactides into a single volume that researchers can use as a comprehensive source on this subject. The book is divided into five parts, covering synthesis, properties, processing, degradation, and applications of PLA (poly(lactic acid)). That is, it covers the life cycle of PLA from cradle to grave. The book is an easy read while surveying all of the important topics related to PLA. The author(s) of each chapter are authorities in the field and provided sufficient examples related to the topics as well as references to the original literature. The literature coverage was fairly complete through 2008, with some select coverage into 2009. Nevertheless, some more recent references are warranted for the first two parts of the book. Although the editors stated that some duplication of material between chapters was inserted in order to allow chapters to stand alone, at times this repetition was a bit excessive in the early chapters. The text is very well produced, clearly written, and relatively free of errors. At least one error in a reference with regard to both the authors' name and details caught my eye; i.e., ref 126 on page 58 should have read T. M. Oviatt and G. W. Coates, *J. Am. Chem. Soc.* **1999**, *121*, 4072.

In summary, I found this book to be a valuable, one-source reference to the chemistry of polylactides. It should serve as an excellent compilation for researchers and prospective researchers in this growing field of polymer chemistry. I recommend this book to all who are interested in these biodegradable polymers.

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