



Revista Boliviana de Química  
ISSN: 0250-5460  
revbolquim@outlook.com  
Universidad Mayor de San Andrés  
Bolivia

Bravo, José A.; Vila, José L.  
**SYNTHESIS OF ALKENES BY OXIDATIVE DECARBOXYLATION OF CARBOXYLIC ACIDS;  
MECHANISTIC VIEWS; THE ORGANIC CHEMISTRY NOTEBOOK SERIES, A DIDACTICAL  
APPROACH, Nº 6**

Revista Boliviana de Química, vol. 32, núm. 3, julio-agosto, 2015, pp. 45-52  
Universidad Mayor de San Andrés  
La Paz, Bolivia

Available in: <http://www.redalyc.org/articulo.oa?id=426341054001>

### Abstract

This is the sixth chapter in the series published by the same authors: "The Organic Chemistry Notebook Series, a Didactical Approach". Here we offer the mechanistic views of the synthesis of alkenes by oxidative decarboxylation of carboxylic acids. The aim of this series of studies is to help students to have a graphical view of organic synthesis reactions of diverse nature. The oxidative decarboxylation of carboxylic acids is a useful method for generating alkenes. Here we propose the mechanism and its discussion for the application of the method of decarboxylation of diacids lacking nearby double bonds. Also, the route is explained mechanistically for the preparation of Dewar benzene. The thermal or photolytic decomposition of di-*t*-butyl per-esters is described. The treatment of monocarboxylic acids to afford alkenes in the presence of lead tetraacetate and copperII acetate is briefly discussed. The alkylation-decarboxylation of aromatic acids is also explained. The oxidative decarboxylation of carboxylic acids can eventually conduct to the obtaining of ketones instead of alkenes. We have used a series of reactions reviewed by W. Carruthers, and we have proposed didactical and mechanistic views for them. This latest approach is included in the synthetic methods reviewed by W. Carruthers with respect to the "Formation of carbon-carbon double bonds". Spanish title: Síntesis de alquenos por descarboxilación de ácidos carboxílicos; vistas mecanísticas; De la serie: El cuaderno de notas de química orgánica, un enfoque didáctico, Nº6.

### Keywords

Organic Chemistry, oxidative decarboxylation, carboxylic acids, Alkenes, Mechanisms of Reactions.

- How to cite
- Complete issue
- More information about this article
- Journal's homepage in redalyc.org

redalyc.org

Scientific Information System  
Network of Scientific Journals from Latin America, the Caribbean, Spain and Portugal  
Non-profit academic project, developed under the open access initiative