

# Analytical Techniques and Methods for Biomass

Sílvio Vaz Jr.  
Editor

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 Springer

*Editor*

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# Preface

The use of biomass as a renewable raw material to substitute oil is a topic of strong academic, industrial and marketing appeal due to the establishment of a green economy (or bioeconomy) less harmful to the environment. Thus, more than ever, it has sought to expand the biomass uses beyond those already in use, such as agriculture and energy. In order to develop new products and processes, and ensure the quality of existing ones, it is fundamental to carry out chemical analysis of raw materials as both the products and their co-products and residues.

The objectives of the book are (1) to demonstrate the importance of analytical chemistry in understanding the chemical composition of biomass and its products and (2) to introduce modern techniques and their methods of analysis, which can positively influence in a direct way the improvements of products and processes and reduce the environmental impacts of biomass chains, focusing on plant. These precedents are based on great efforts seeking to advance scientific knowledge of chemical analysis, which has been occurring over decades of work by the chemical community.

The authors conducted a thorough survey of the relevant analytical techniques to the biomass, based on their academic and professional experience and the trends in current analytical science, as well as consideration of other relevant aspects such as the proposal for a more sustainable chemistry. The theoretical principles of analytical techniques are presented in order to direct their applications, since the book is aimed at researchers, scientists, biomass professionals and graduate students who already have knowledge in analytical chemistry and organic chemistry. Thus, it is intended to transmit a sound knowledge about the most useful analytical techniques and methods applied to the main types of biomass and their products, in order to allow them to develop their analytical methods and interpret the results.

Good lecture!

Brasília, Brazil

Sílvio Vaz Jr.

# Contents

<b>1</b>	<b>The Use of Analytical Chemistry to Understand Biomass</b> .....	<b>1</b>
	Sílvia Vaz Jr.	
<b>2</b>	<b>Qualitative and Quantitative Analysis of Lignins from Different Sources and Isolation Methods for an Application as a Biobased Chemical Resource and Polymeric Material</b> .....	<b>15</b>
	Basma El Khaldi-Hansen, Margit Schulze, and Birgit Kamm	
<b>3</b>	<b>Analyses of Biomass Fibers by XRD, FT-IR, and NIR</b> .....	<b>45</b>
	Alexis Ferrer, Carlos Alciaturi, Alexis Faneite, and Josybel Ríos	
<b>4</b>	<b>Molecular Properties and Functions of Humic Substances and Humic-Like Substances (HULIS) from Biomass and Their Transformation Products</b> .....	<b>85</b>
	Davide Savy, Pierluigi Mazzei, Antonio Nebbioso, Marios Drosos, Assunta Nuzzo, Vincenza Cozzolino, Riccardo Spaccini, and Alessandro Piccolo	
<b>5</b>	<b>Mass Spectrometry for Metabolomics and Biomass Composition Analyses</b> .....	<b>115</b>
	Maria Esther Ricci-Silva, Boniek Gontijo Vaz, Géssica Adriana Vasconcelos, Wanderson Romão, Juliana A. Aricetti, Camila Caldana, and Patrícia Verardi Abdelnur	
<b>6</b>	<b>Analyses of Biomass Products by Nuclear Magnetic Resonance Spectroscopy</b> .....	<b>143</b>
	Oigres Daniel Bernardinelli, Etelnivo Enrique Novotny, Eduardo Ribeiro de Azevêdo, and Luiz Alberto Colnago	

<b>7 Microscopy Applied In Biomass Characterization .....</b>	<b>173</b>
Idania Valdez-Vazquez, Francisco R. Quiroz-Figueroa, Julián Carrillo-Reyes, and Artemisa Medina-López	
<b>8 Analytical Strategies using Chromatographic Methodologies to Analyze Lignocellulosic Feedstocks and their Value-Added Compounds in Biorefinery Processes .....</b>	<b>197</b>
Augusto Lopes Souto, Vanda Maria de Oliveira, Viviane Cândida da Silva, Mauro Vicentini Correia, Wesley Pereira da Silva, Magno Aparecido Gonçalves Trindade, and Clenilson Martins Rodrigues	
<b>9 Chemical Analysis and Characterization of Biomass for Biorefineries .....</b>	<b>235</b>
Luz Marina Flórez-Pardo and Jorge Enrique López-Galán	
<b>Index.....</b>	<b>275</b>

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