



KJBIOREF: Biorefinery Technology and Applications, 2017

Reading list

1. "Lignocellulosic Biorefineries",
J.-L. Wertz, O. Bédué, ISBN-13: 978-1466573062, Routledge Chapman & Hall; (June 2013)

Chapter	pages	total Pages
1 – 1.3	1 – 20	20
3 – 3.3.5	77 – 93	16
4 – 4.2.1	123 – 125	3
5 – 5.2.1	189 – 190	2
5.3 – 5.3.5	216 – 226	11
6 – 6.2.1	239 – 241	3
6.2.4 – 6.3.1	256 – 263	8
6.3.4 – 6.3.5	276 – 290	15
7 – 7.6	299 – 338	40
8 – 8.3.4	351 – 378	27
9 – 9.3.2	419 – 439	20
10.3 – 10.6	481 – 494	14
		$\Sigma = 179$

2. "Biorefineries and Chemical Processes: Design, Integration and Sustainability Analysis",
J. Sadhukhan, K.S. Ng, E. Martinez Hernandez, ISBN-13: 978-1119990864, Wiley&Sons; 1st ed.
(October 2014)

Chapter	pages	total Pages
1 – 1.6.1	1 – 31	31
1.8 – 1.11	34 – 38	5
4 – 4.7	93 – 129	36
10.2.2 – 1.4	276 – 277	2
10.3.1 – 10.3.2.1	282 – 285	4
		$\Sigma = 78$

3. "Biorefineries – Industrial Processes and Products",
B. Kamm, P.R. Gruber, M. Kamm, ISBN-13: 978-3527329533, Wiley-VCH; 1 edition (August 2010)

Chapter	pages	total Pages
<i>Volume 1, Part I: Principles and Fundamentals</i>		
1 – 1.2.2.5, 1.2.2.8	1 – 7,	7
1.3 – 1.3.2, 1.4 – 1.4.4	7 – 12, 16 – 23	10
2 – 2.2.2	41 – 43	4
<i>Volume 1, Part IV: Conversion Processes and Technologies</i>		
16 – 16.2.2.4	357 – 363	6



Chapter	pages	total Pages
<i>Volume 2, Part I: Biobased Product Families</i>		
1 – 1.3.4	3 – 10	8
1.4 – 1.4.1.1, 1.4.4, 1.4.7 – 1.4.7.1	14 – 16, 29 – 31, 40 – 41	8
1.5	49 – 51	3
		$\Sigma = 44$

4. Review papers (for overview and orientation only):

- Chemical Routes for the Transformation of Biomass into Chemicals,
[Chem. Rev. 2007, 107, 2411-2502.](#)
- The Catalytic Valorization of Lignin for the Production of Renewable Chemicals,
[Chem. Rev. 2010, 110, 3552–3599.](#)
- The Path Forward for Biofuels and Biomaterials,
[Science 2006, 311, 484-489.](#)

5. Script/Handout with references therein

6. [Jungmeier Skipt](#)

Suggestions for student presentations in second session

- Pretreatment technologies for biomass
- Fibres from biomass, e. g. Viscose, Lycell, composites, carbon fibres etc.
- Chemicals from biomass
- Comparison of enhanced solid energy carriers, i. e. by torrefaction, HTC, steam explosion
- Gasification technologies, i. e. biological and thermochemical route
- Algal biorefineries
- ...

All presentations (30–45min) have to cover at least the following aspects:

- technology
- chemistry
- applications
- advantages and disadvantages (PRO/CONS) with respect to each other
- brief market situation/examples
- adverse side effects where applicable