Composition of hydrolysates used in the present study

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| --- | --- | --- | --- | --- | --- | --- |
| Raw material | Pretreatment | Monosaccharides | Weak acids | Furans | Phenolics | Reference |
| Spruce | Two-stage dilute acid hydrolysis with sulfuric acid as catalysator | 24.3 g/l glucose, 12.1 g/l mannose, 2.9 g/l galactose, 5.6 g/l xylose, 1.4 g/l arabinose | 2.0 g/l acetic acid | 1.9 g/l HMF, and 0.5 g/l furfural. | No information stated | Almeida 2008  <https://doi.org/10.1007/s00253-008-1364-y> |
| Eucalyptus | Hydrothermal | 0,64 g/l glucose, 8,85 g/l xylose, 0,18 g/l arabinose | 3,11 g/l acetic acid | 0,33 g/l HMF, and 1,66 g/l furfural | 2,01 g/l | Cunha 2015 <https://doi.org/10.1016/j.biortech.2015.05.006>  -> Pereira 2014 DOI 10.1007/s10295-014-1519-z |
| Corn cob | Hydrothermal | 2,6 g/l glucose, 26,3 g/l xylose, 2,6 g/l arabinose | 4,2 g/l acetic acid | 0,2 g/l HMF, and 2,4 g/l furfural |  | Cunha 2015 -> <https://doi.org/10.1016/j.biortech.2015.05.006>  Romani 2015[https://doi.org/10.1016/j.biortech.2014.12.020](https://doi.org/10.1016/j.biortech.2014.12.020" \o "Persistent link using digital object identifier" \t "_blank) |
| Corn stover | AFEX-AC\*\* | 355 mM glucose, 211 mM xylose, | 0,6 mM Succinate, 1,4 mM lactate,  2,8 mM formate  31,4 mM acetate | 1,1 uM HMF, and 67,2 uM furfural | Long detailed list available | (Serate 2015)\*  doi: 10.1186/s13068-015-0356-352 |
| Switch grass | AFEX-AC\*\* | 329 mM glucose, 208 mM xylose, | 0,4 mM Succinate,  7,6 mM formate  42,1 mM acetate | 1,1 uM HMF, and 54,3 uM furfural | Long detailed list available | (Serate 2015)  doi: 10.1186/s13068-015-0356-352 |
| Rice straw | Hot water treatment | (11.99 g/L glucose, 9.66 g/L xylose, 2.58 g/L arabinose, 0.89 g/L galactose, and 4.72 g/L fructose) | 27.11 mM acetic acid, 20.06 mM formic acid | 7.77 mM furfural, 0.46 mM 5-HMF, | 0.56 mM vanillin, and 0.37 mM syringaldehyde | (Fujitomi 2012)   doi: 10.1016/j.biortech.2012.01.161 |
| Corn stover | Not stated | 62,55 g/L glucose, 23,31 g/L xylose | 3,74 g/L acetic acid, 1,02 g/L formic acid | 0,33 g/L furfural, 0,22 g/L 5-HMF | Not stated | Zhang (2019)  <https://doi.org/10.1186/s13068-019-1456-1> |
| Synthetic |  | 1,8 mM Mannose, 30 mM arabinose,  36 mM fructose, 4,35 mM galactose, 90 mM glucose,  45 mM xylose | 6 mM lactic acid  48 mM acetic acid  4,2 mM formic acid |  | Mixture of more than 10 phenolic compounds | Sardi (2016) **DOI:**<https://doi.org/10.1128/AEM.01603-16> |
| Spruce | Steam pretreated with acid catalyst | 2,7 g/L arabinose,  3,5 g/L galactose  18,2 g/L glucose  16,3 g/L mannose  12,4 g/L xylose | 4,8 g/L acetic acid  1,8 g/L formic acid  0,8 g/L leuvulinic acid | 2,4 g/L furfural  0,2 g/L HMF | Not stated | Wu (2017)  <https://doi.org/10.1186/s12934-017-0811-9> |
| Bagasse | Steam pretreated with acid catalyst | 3,1 g/L arabinose,  1,6 g/L galactose  10,6 g/L glucose  2,4 g/L mannose  34,6 g/L xylose | 14,0 g/L acetic acid  0,3 g/L formic acid  0,5 g/L leuvulinic acid | 8,9 g/L furfural  1,1 g/L HMF | Not stated | Wu (2017)  <https://doi.org/10.1186/s12934-017-0811-9> |
| Sugar cane bagasse | Steam pretreated and enzymatically hydrolysed | 12 % sugars | 1,6 g/L acetic acid | 1,1 g/L furfural | Not stated | Unrean (2017)  DOI 10.1007/s00449-016-1725-3 |
| Spruce | Steam-pretreated | Solid fraction: 51,9 g/L glucose, 0,3 g/L Mannose, 0,2 g/L xylose  Liquid fraction:  17,6 g/L glucose  11,6 g/L mannose  5,2 g/L xylose  2,4 g/L galactose  1,6 g/L arabinose | 3,3 g/L acetic acid  0,1 g/l formic acid  0,8 g/L leuvulinic acid | 2,3 g/L HMF  1,4 g/L furfural | Not stated | Ask (2013)  http://dx.doi.org/10.1186/1475-2859-12-87 |
| Spruce | Steam-pretreated with acid catalyst | 11 g/L glucose  17 g/L mannose  4 g/L galactose  10 g/L xylose | 3,7 g/L acetic acid | 0,96 g/L HMF  0,78 g/L furfural | Not stated | Wallace-Salinas (2014)  doi:10.1186/s13568-014-0056-5 |
| Spruce | Two-step steam pretreatment with acid catalyst | 1,4 g/L arabinose  2,9 g/L galactose  20,5 g/L glucose  14,9 g/L mannose  7,0 g/L xylose | 2,8 g/L acetic acid  1,1 g/L leuvulinic acid  0,7 g/L formic acid | 2,3 g/L HMF  1,4 g/L furfural | 3,0 g/L total phenolic | Larsson (2001)  DOI 10.1007/s002530100742 |
| Corn stover | Not stated | 67,56 g/L glucose  28,57 g/L xylose | 0,34 g/L formic acid  4,33 g/L acetic acid | 0,53 g/L furfural  0,36 g/L HMF | Not stated | Zhang (2015)  [**https://doi.org/10.1002/biot.201500508**](https://doi.org/10.1002/biot.201500508) |
| Paulownia (hardwood) | Hydrothermal | 11,3 g/L xylose | 5,84 g/L acetic acid | 1,96 g/L furfural  0,72 g/L HMF | Not stated | Cuncha (2018)  <https://doi.org/10.1007/s00253-018-8955-z> |

\*contain very detailed mapping of the hydrolysate

\*\* A variant of NAC (non autoclaved) available, compositional analysis is similar