

Table S1. Carbohydrate and lignin composition of pretreated substrates obtained after Klason analysis.

| Substrates      | Pretreatment            | Major composition of substrates |                  |                  |                  |                  | Abbreviation |
|-----------------|-------------------------|---------------------------------|------------------|------------------|------------------|------------------|--------------|
|                 |                         | Glu <sup>a</sup>                | Xyl <sup>b</sup> | Man <sup>c</sup> | AIL <sup>d</sup> | ASL <sup>e</sup> |              |
| Corn stover     | Steam pretreatment      | 50.8                            | 15.4             | 0.7              | 23.3             | 3.4              | SPCS         |
|                 | Organosolv pretreatment | 60.4                            | 12.2             | 1.0              | 26.3             | 1.6              | OPCS         |
| Poplar          | Steam pretreatment      | 58.2                            | 7.7              | 2.0              | 28.5             | 2.8              | SPP          |
|                 | Organosolv pretreatment | 78.2                            | 4.5              | 2.2              | 18.3             | 1.0              | OPP          |
| Lodgepole pine  | Steam pretreatment      | 53.4                            | 0.2              | 0.4              | 42.8             | 0.6              | SPLP         |
|                 | Organosolv pretreatment | 77.8                            | 1.5              | 2.0              | 25.4             | 0.3              | OPLP         |
| Dissolving pulp | -----                   | 94.2                            | 3.1              | 1.2              | 0.2              | NA <sup>f</sup>  | DSP          |

<sup>a</sup>Glucan; <sup>b</sup>Xylan; <sup>c</sup>Mannan; <sup>d</sup>Acid-insoluble lignin; <sup>e</sup>Acid-soluble lignin; <sup>f</sup>Not available