Supplementary Information

A general solvent system for the analysis of lignosulfonates by ^{31}P NMR

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Materials and Methods – Lignosulfonates:

1. LS 1-11: used for validation

   Figure 3+4: hardwood (beech), Mg^{2+}, for detailed characterisation see Mimini et al. 2019[1], purified according to Sumerskii et al. 2015[2] = LS1
   Figure 5: softwood + hardwood mixture (spruce, beech), Mg^{2+}, purified according to Sumerskii et al. 2015[2] = LS2-11

2. LS 1 ammonoxidised: see also Materials and Methods part, additional characterization will be published elsewhere (Wurzer et al. 2022)

3. LS 12: softwood + hardwood mixture (spruce, beech), Mg^{2+}, purified according to Sumerskii et al. 2015[2]

4. LS 13: hardwood (eucalyptus), Na^+, NSSC (neutral sulphite semi-chemical pulping process), purified according to Sumerskii et al. 2015[2]

5. LS 13 F1-F7 (F = fraction): HIC separated LS fractions with different molecular weights, data will be published elsewhere (Musl et al. 2021/2022)

References:

1   V. Mimini, E. Sykacek, S. N. A. Syed Hashim, J. Holzweber, H. Hettegger, K. Fackler, A. Potthast, N. Mundigler and T. Rosenau, *Journal of Wood Chemistry and Technology*, 2019, **39**, 14–30.
2   I. Sumerskii, P. Korntner, G. Zinovyev, T. Rosenau and A. Potthast, *RSC Advances*, 2015, **5**, 92732–92742.