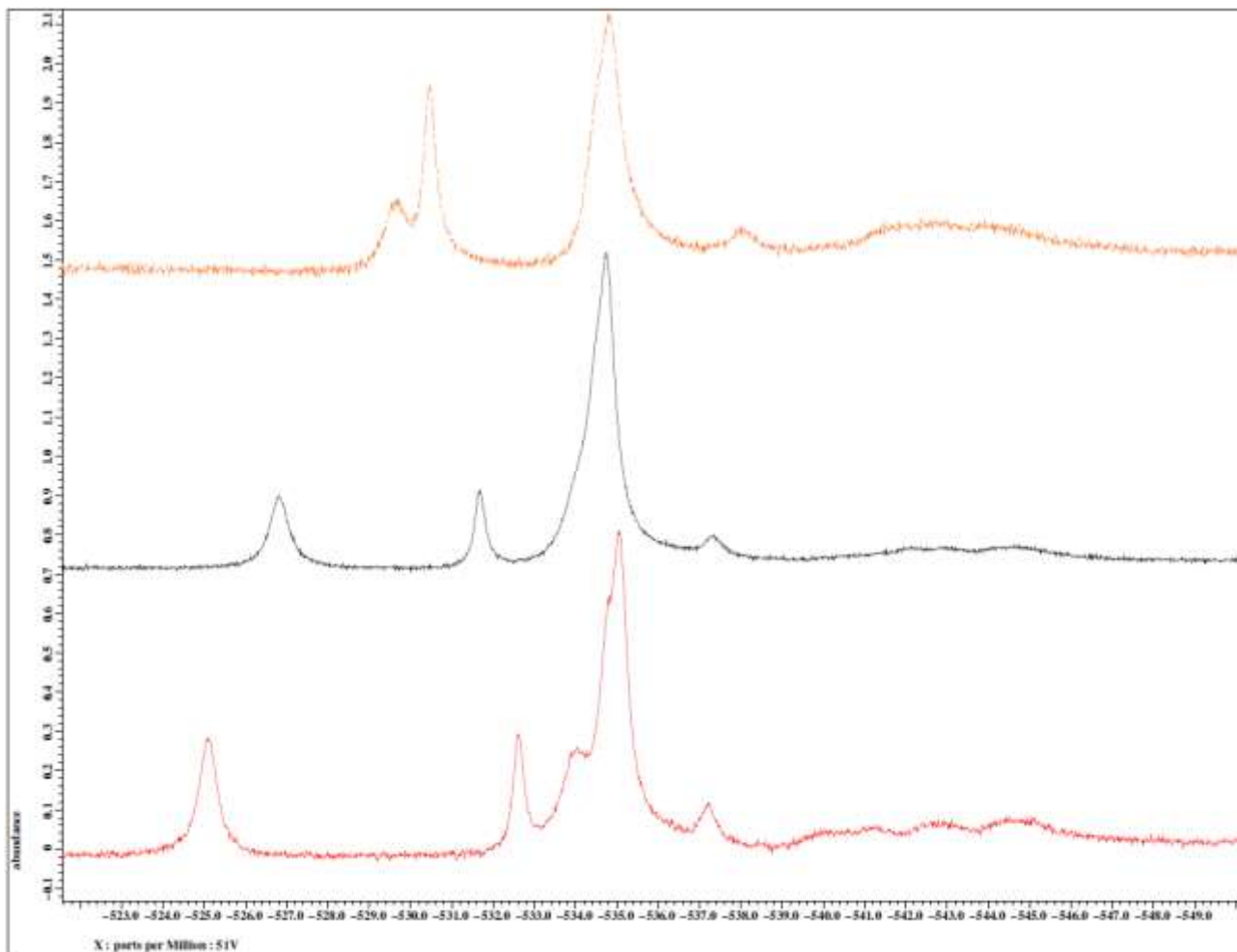


# Selective catalytic conversion of biobased carbohydrates to formic acid using molecular oxygen

## Supplementary Information

### 5 NMR-spectra

The  $^{51}\text{V}$ -NMR spectra were recorded on a JEOL ECX-400MHz. The spectrum at the bottom, recorded from the reaction mixture of the experiment from entry 3 in table 1 before reaction, shows the typical signals for the  $\text{H}_5\text{PV}_2\text{Mo}_{10}\text{O}_{40}$  catalyst in water, as already shown by Pettersson et. al. The spectrum in the middle was recorded from the same reaction mixture after reaction. To assure, that the catalyst was still intact after reaction, an additional spectrum, depicted at the top was recorded. This spectrum was taken from a sample of the reaction mixture before reaction, but with an additional amount of 20 wt-% FA. The spectrum clearly shows that the signal shift arises from the changing solvent as FA was built during the reaction.



### Elemental Analysis

For Lignin a composition of C, 51.93; H, 4.73; N, 0.09; S 2.55 was found. For poplar sawdust a composition of C, 46.82; H, 5.88; N, 0.11; S, 0.00 was found.