Supporting Information

Isolation of pure lignin and highly digestible cellulose from defatted and steam-exploded *Cynara cardunculus*

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Number of pages: 7

Number of figures: 8

Table of contents

ATR-FTIR spectra of defatted and steam-exploded cardoon (Figure S1) **p.S3**

ATR-FTIR spectra of cellulose-rich fractions (Figure S2) **p.S4**

^{31}P-NMR spectra of isolated lignin (Figures S3-S8) **p.S5**

ATR-FTIR spectra of defatted and steam-exploded cardoon (Figure S1)

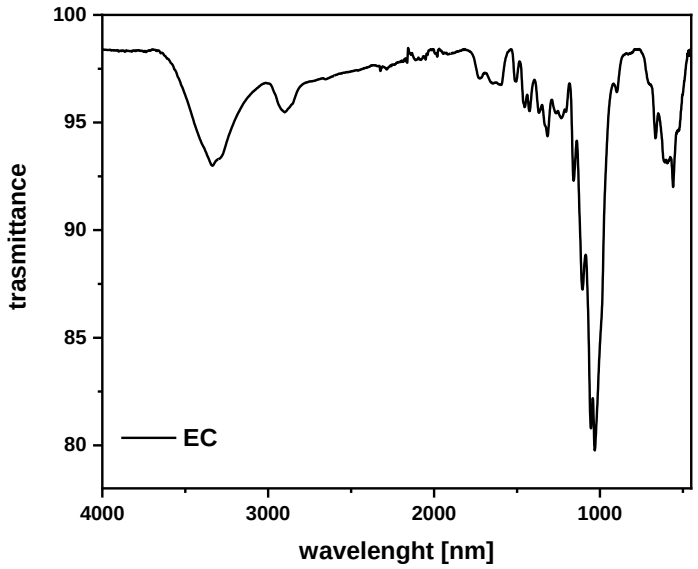

Figure S1. ATR-FTIR spectrum of defatted and steam-exploded cardoon.

ATR-FTIR spectra of cellulose-rich fractions (Figure S2)

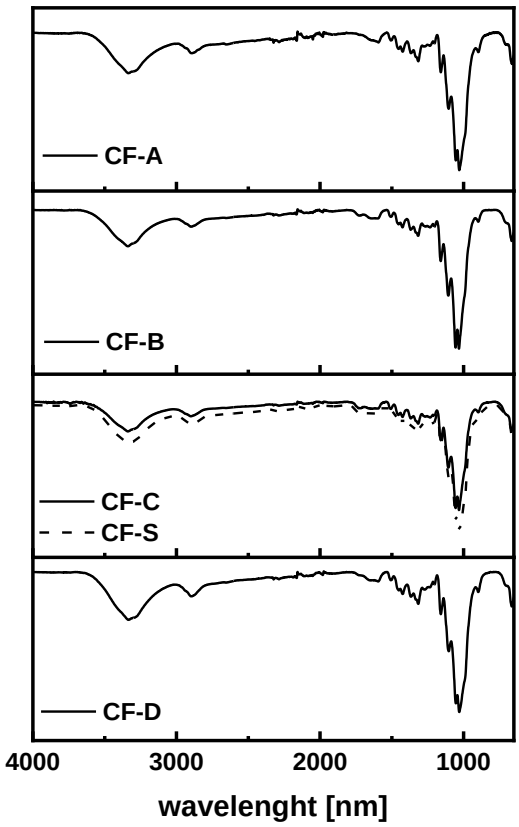

Figure S2. ATR-FTIR spectra of cellulose-rich fractions isolated after extraction A, B, C, D and S of table 2.

^{31}P-NMR spectra of isolated lignin (Figures S3-S8)

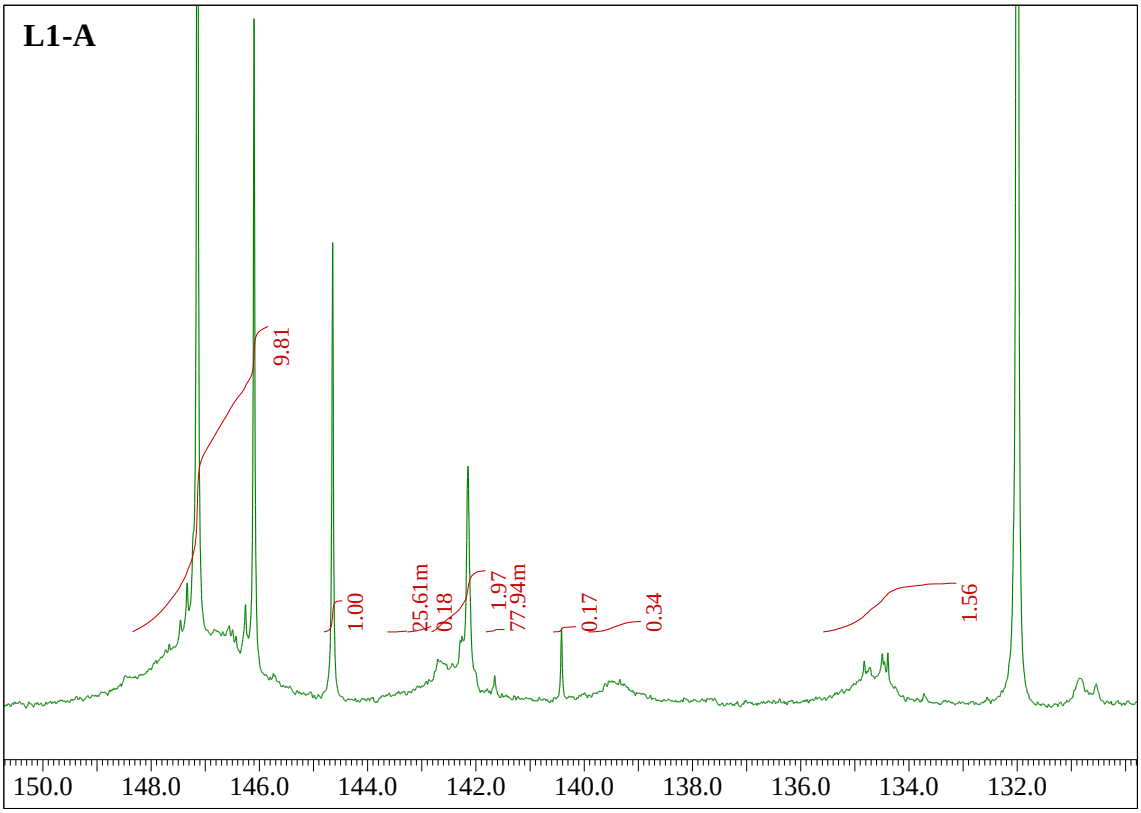

Figure S3. ^{31}P-NMR spectrum of L1-A lignin

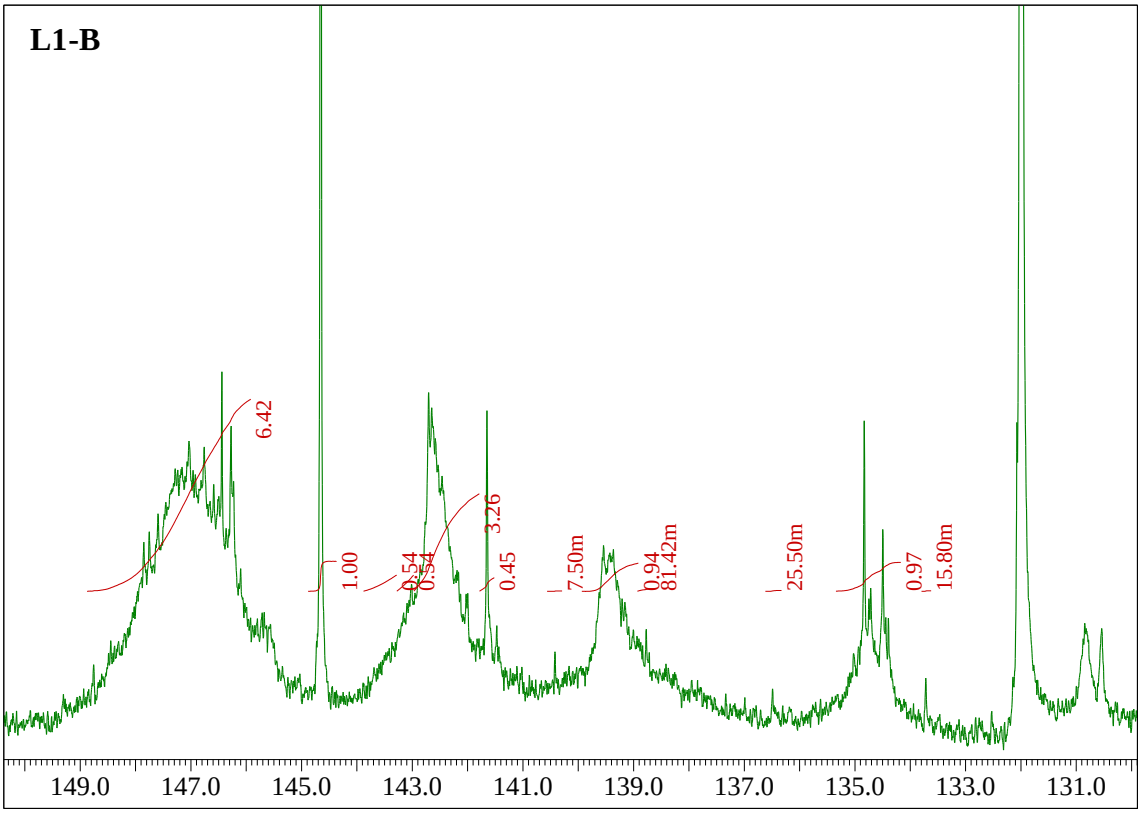

Figure S4. ^{31}P-NMR spectrum of L1-B lignin

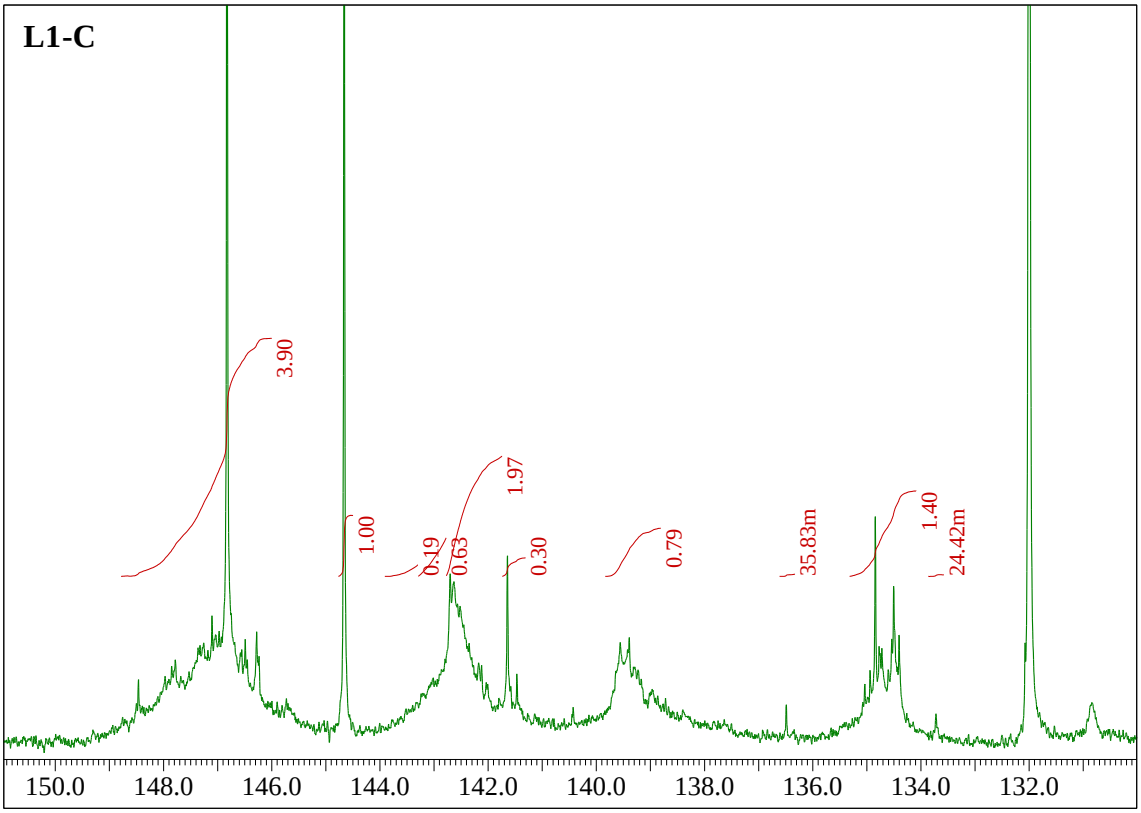

Figure S5. ^{31}P-NMR spectrum of L1-C lignin

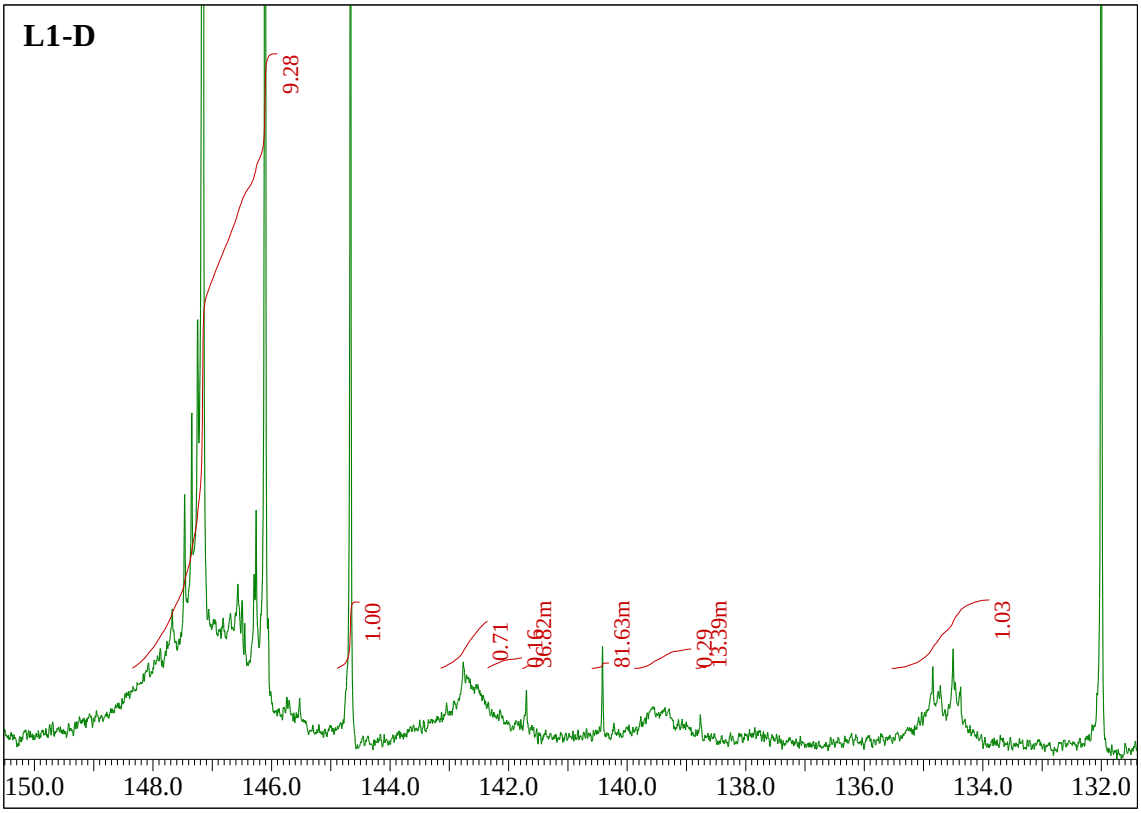

Figure S6. ^{31}P-NMR spectrum of L1-D lignin

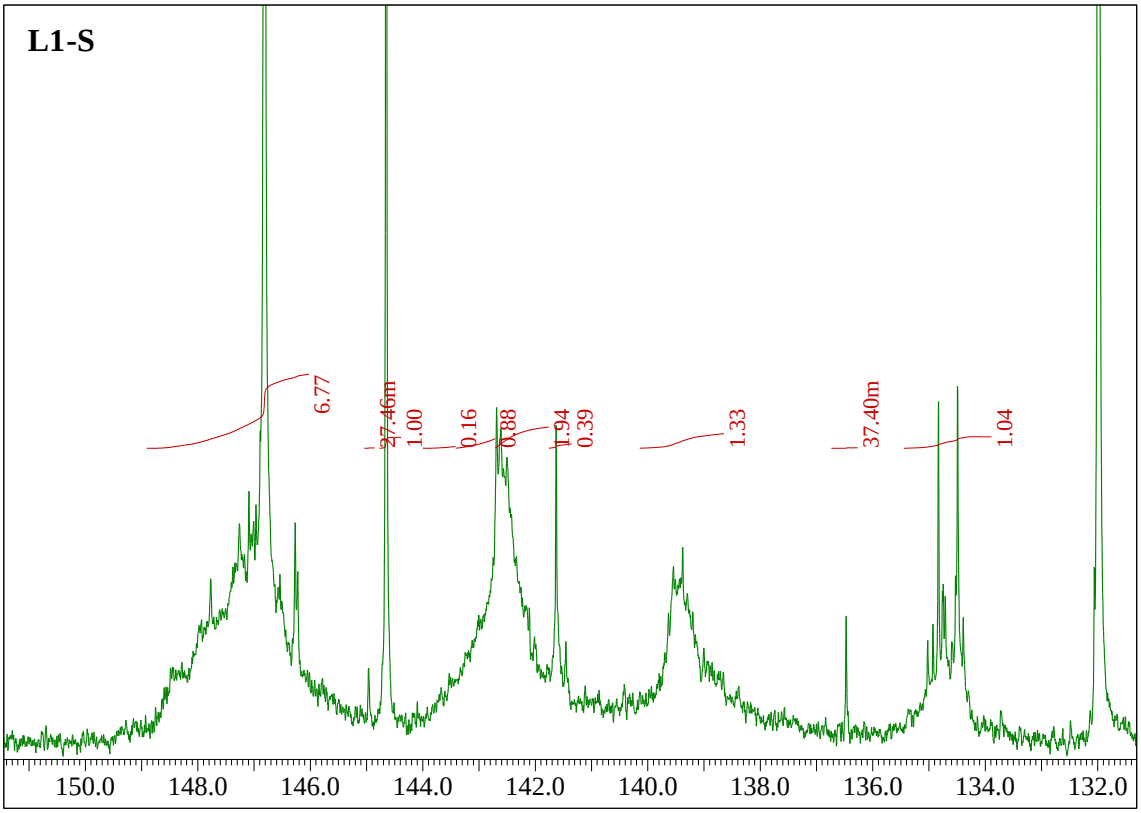

Figure S7. ^{31}P-NMR spectrum of L1-S lignin

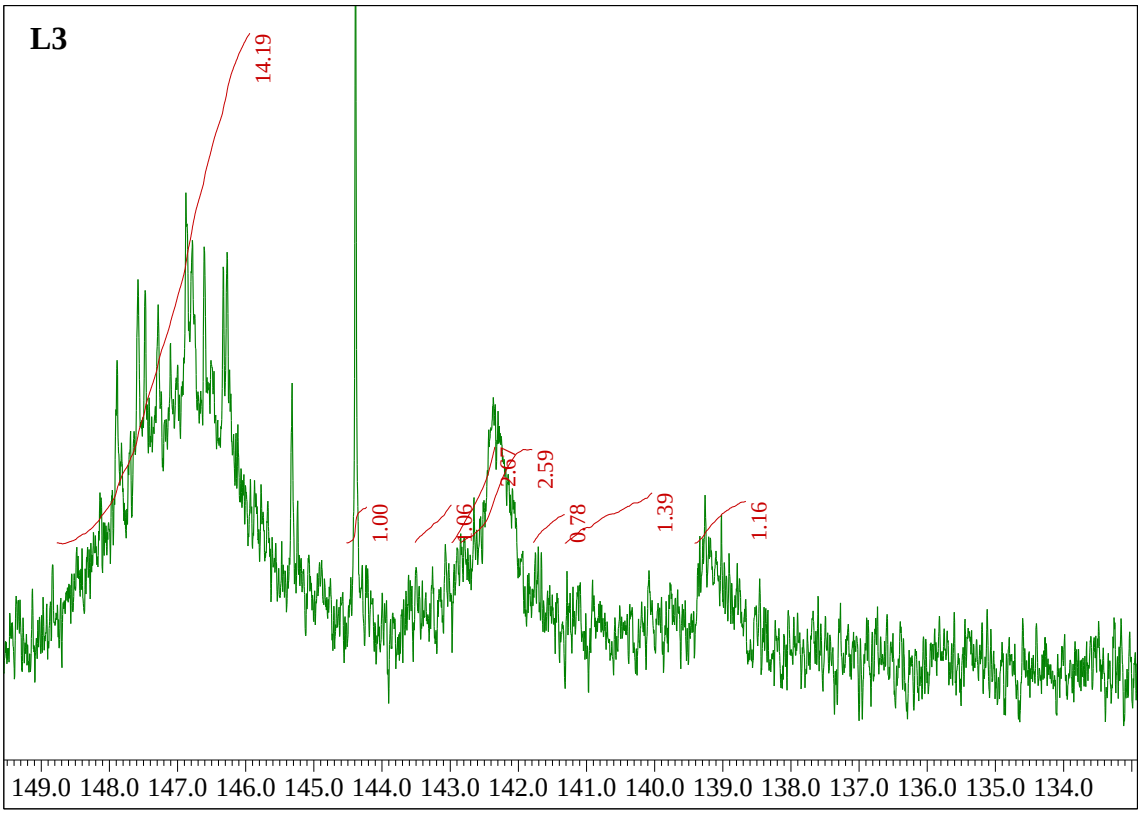

Figure S8. ^{31}P-NMR spectrum of L3 lignin