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From Bench Scale to kilolab Production of Renewable Ferulic Acid-based Bisphenols: Optimisation and Evaluation of Different Purification Approaches Towards a Technical Feasibility and Process Environmental Sustainability†

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Electronic Supplementary Information

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Table S1 Regression coefficient of fitting (R^2) to membrane permeability curves using acetone. The fitting can be linear (Jv=a ΔP + b, a=Lp by Eq.1) or a power (Jv=a ΔP^b)

Membrane	Type of fitting	a	b	R^2
Duramem 200	Power	17.9	0.53	0.98
Duramem 300	Power	50.7	0.28	0.98
Duramem 500	Power	105	0.45	0.99
GMT-oNF1	Linear	1.8	1.4	0.99
GMT-oNF2	Linear	2.0	3.2	0.99
Nano 450	Linear	9.9	2.8	0.99

Table S2 Regression coefficient of fitting (R^2) to membrane permeability curves using an acetone-based solution at a concentration of 1 g/L, containing 80% (w/w) of **BDF** and 20% (w/w) of **EtDFe**. The fitting can be linear (Jv=a ΔP + b, a=Lp by Eq.1) or a power (Jv=a ΔP^b)

Membrane	Type of fitting	a	b	R^2
Duramem 200	Power	4.9	0.88	1.0
Duramem 300	Power	9.0	0.76	0.99
Duramem 500	Power	38.7	0.64	0.98
GMT-oNF1	Linear	1.6	4.5	0.96
GMT-oNF2	Linear	1.3	5.2	0.92
Nano 450	Linear	2.6	-0.2	0.94

Table S3 Regression coefficient of fitting (R^2) to **BDF** rejection curves. The fitting can be linear (R=a ΔP + b) or a power (R=a ΔP^b)

Membrane	Type of fitting	a	b	R^2
Duramem 200	Power	70.6	0.09	1.0
Duramem 300	Power	27.7	0.31	0.99
Duramem 500	Linear	2.7	-2.0	0.98
GMT-oNF1	Power	75.9	0.07	1.0
GMT-oNF2	Power	59.5	0.14	1.0
Nano 450	Linear	30.3	0.23	0.99

Table S4 Regression coefficient of fitting (R^2) to **EtDFe** rejection curves. The fitting can be linear (R=a ΔP + b) or a power (R=a ΔP^b)

Membrane	Type of fitting	a	b	R^2
Duramem 200	Power	49.3	0.16	0.99
Duramem 300	Power	12.6	0.48	0.99
Duramem 500	Linear	1.8	-2.4	0.95
GMT-oNF1	Power	27.8	0.25	0.99
GMT-oNF2	Power	13.3	0.47	1.0
Nano 450	Power	10.8	0.47	0.95

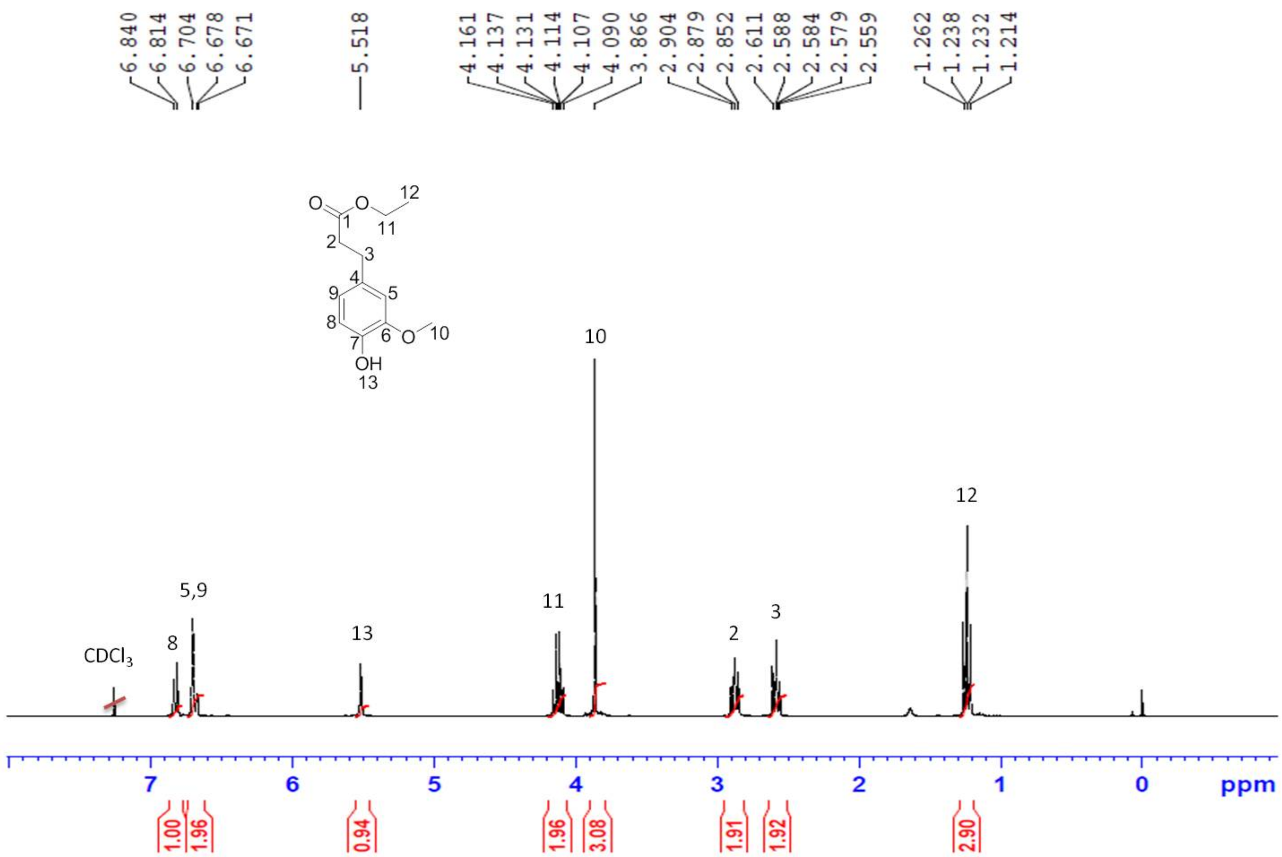

Figure S1 ^{1}H NMR spectrum of ethyl dihydroferulate (EtDFe) produced at laboratory scale ($CDCl_3$, 300 MHz)

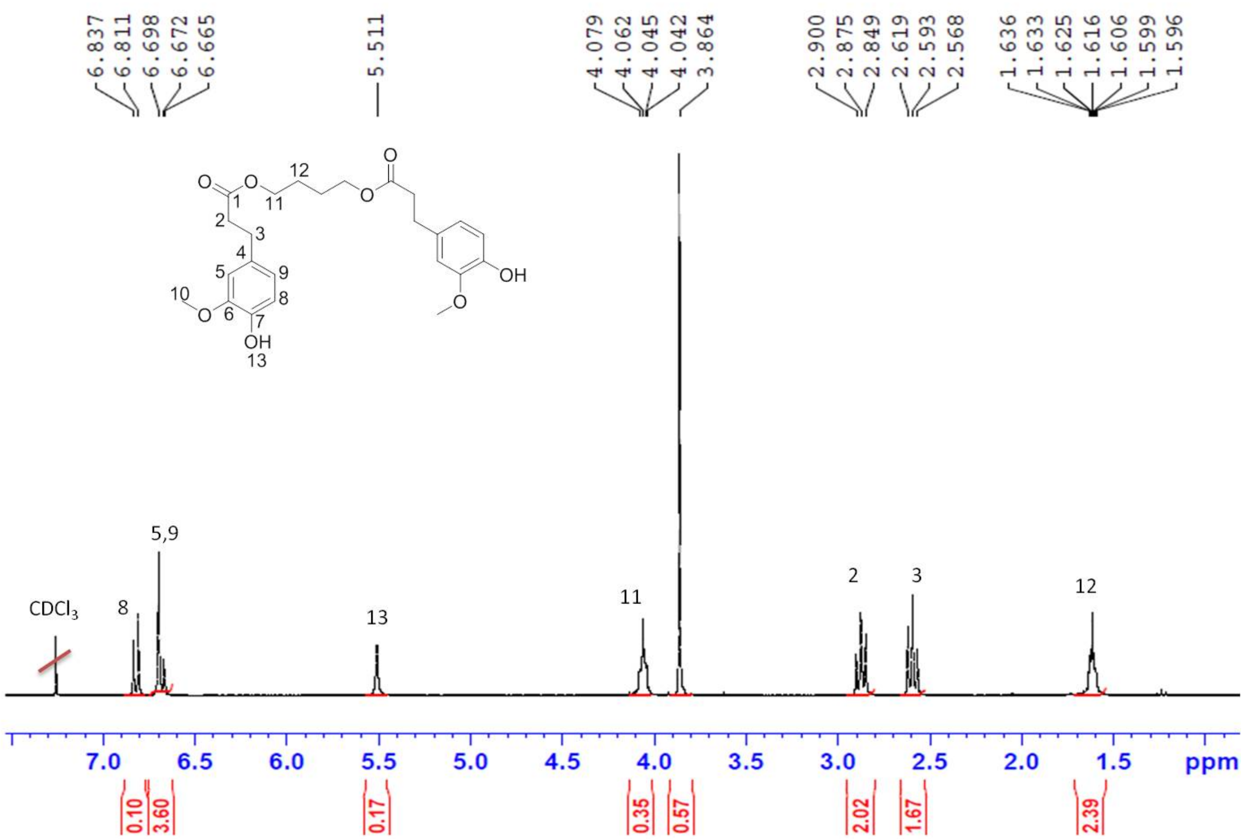

Figure S2 ^{1}H NMR spectrum of bis-*O*-dihydroferuloyl 1,4-butanediol (BDF) produced in the laboratory and purified by flash chromatography on silica gel ($CDCl_3$, 300 MHz)

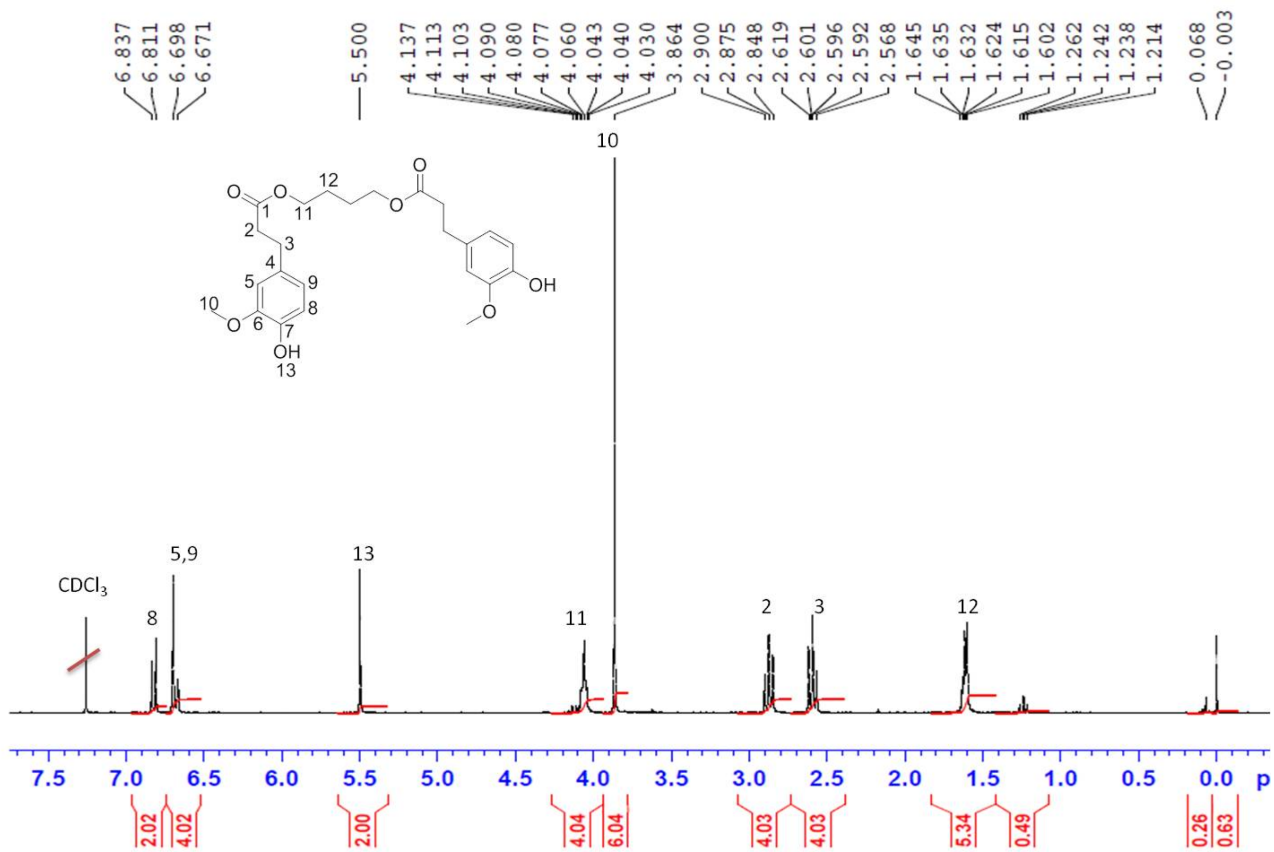

Figure S3 ^{1}H NMR spectrum of bis-*O*-dihydroferuloyl 1,4-butanediol (BDF) produced in kilolab scale and purified by recrystalysation ($CDCl_3$, 300 MHz)

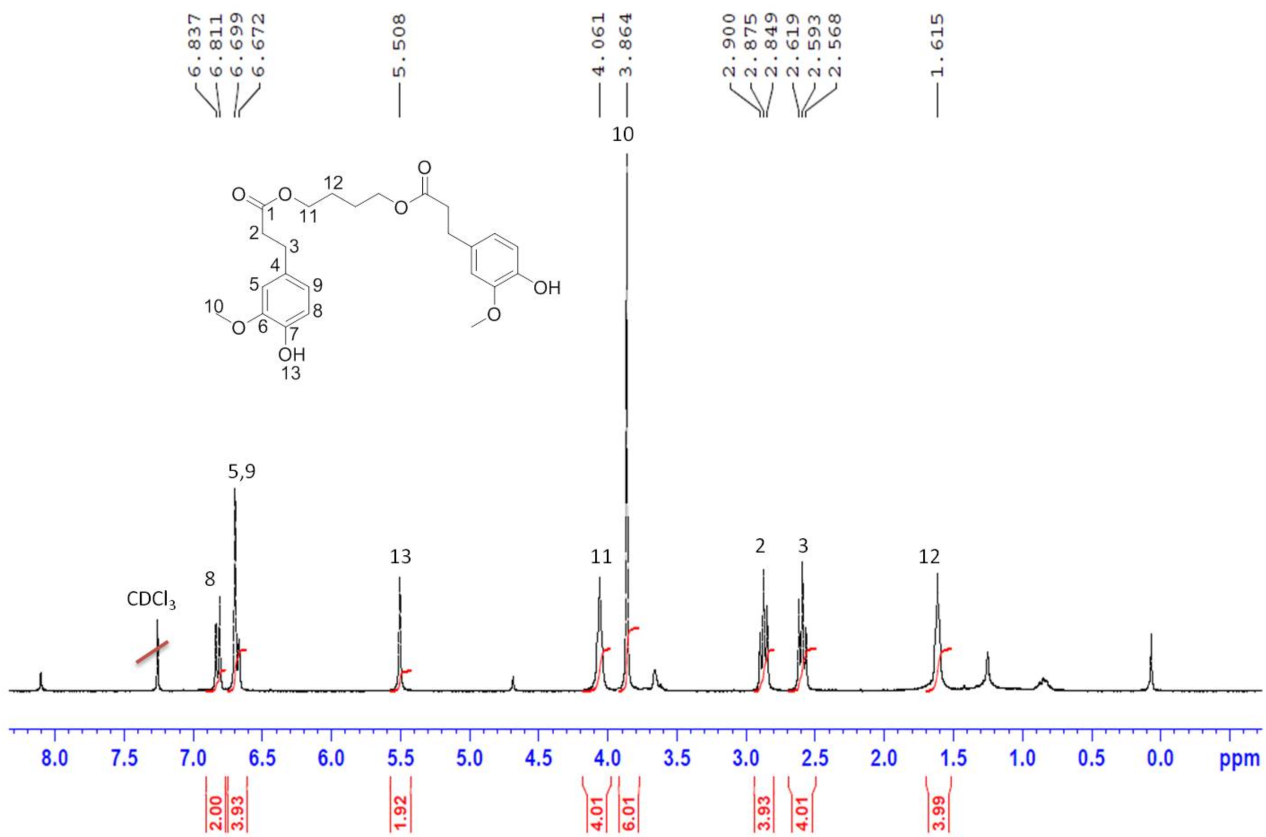

Figure S4 ^{1}H NMR spectrum of bis-*O*-dihydroferuloyl 1,4-butanediol (BDF) produced in laboratory scale and purified by diananofiltration ($CDCl_3$, 300 MHz)

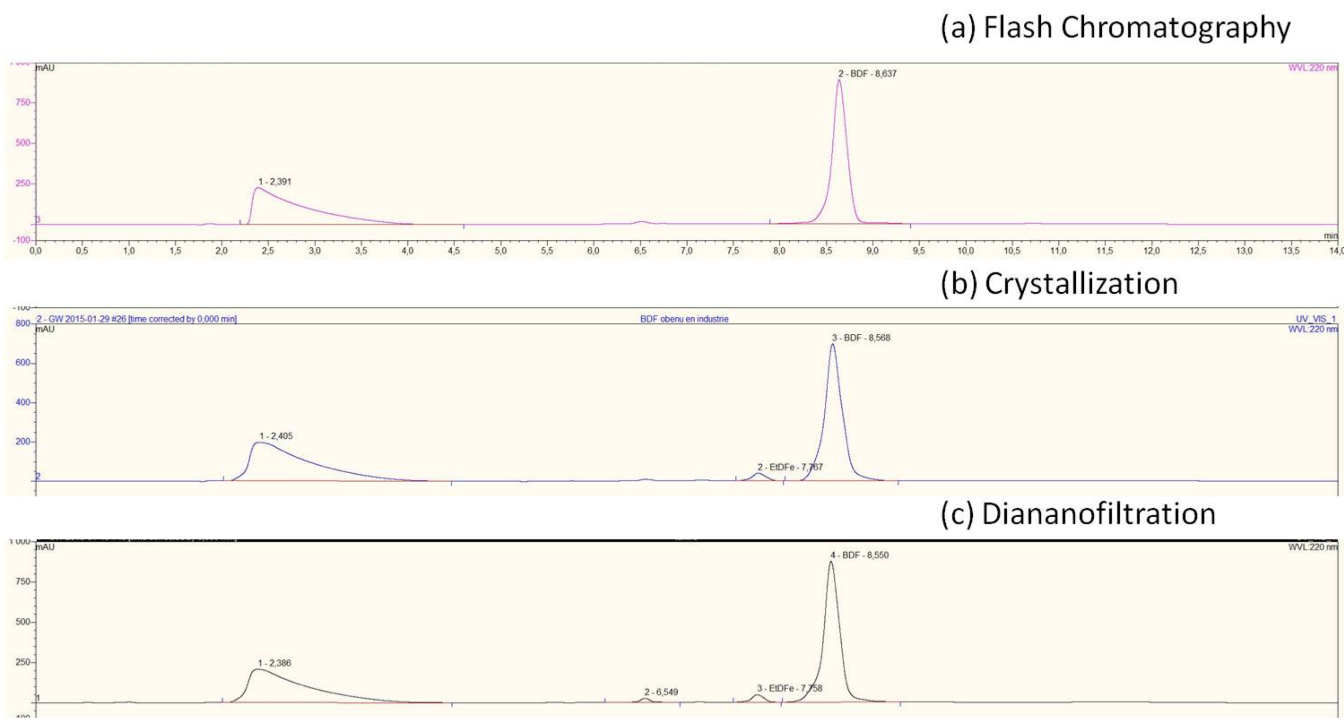

Figure S5 HPLC spectra of bis-*O*-dihydroferuloyl 1,4-butanediol (BDF) purified by the different purification methods

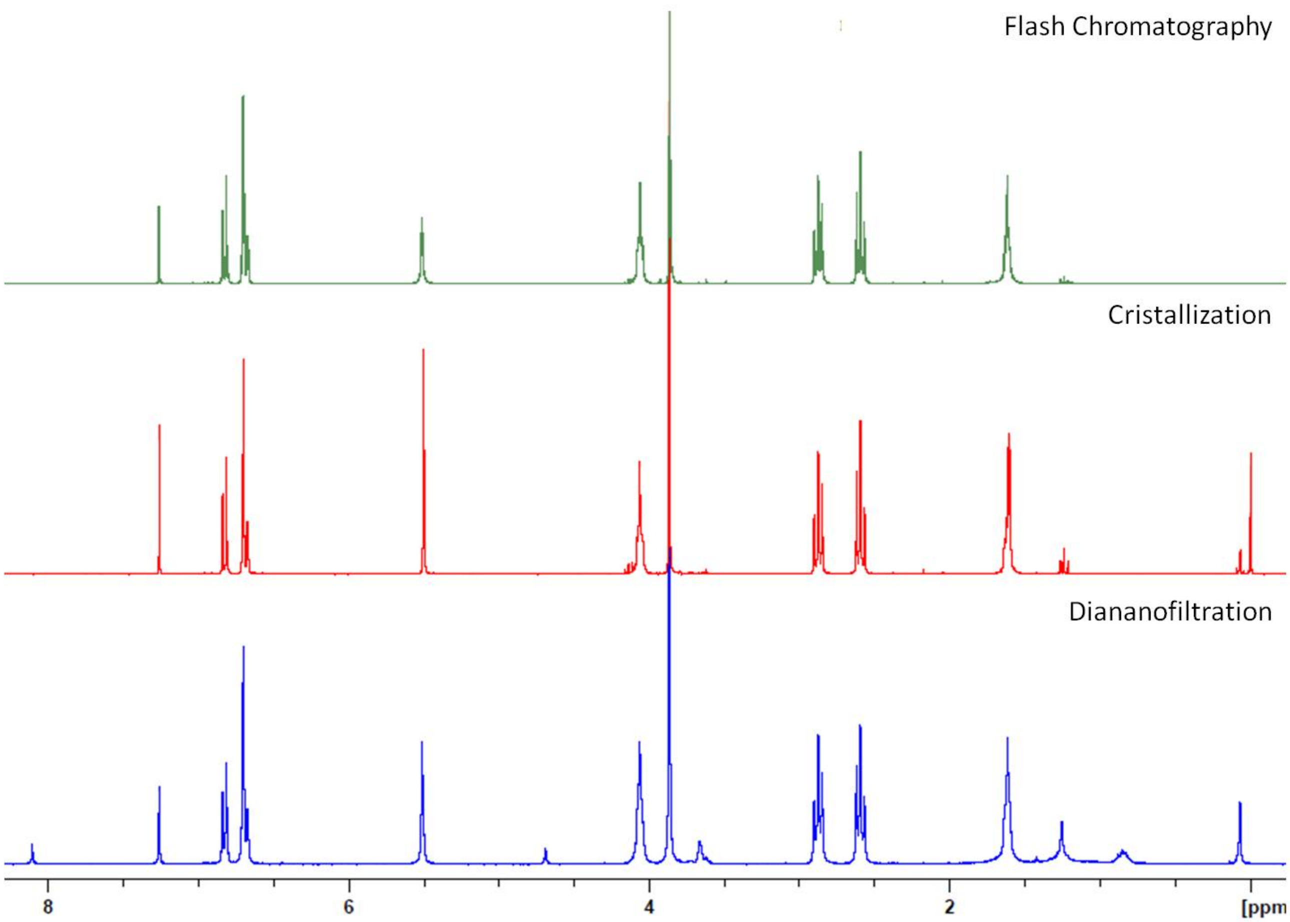

Figure S6 ^{1}H NMR spectra of bis-*O*-dihydroferuloyl 1,4-butanediol (BDF) purified by the different purification methods ($CDCl_3$, 300 MHz)