

Chemo-enzymatic preparation of new bio-based bis- and trisphenols : new versatile building blocks for polymer chemistry

Florian Pion,^a Armando F. Reano,^a Paul-Henri Ducrot,^a and Florent Allais^{*a}

^a INRA/AgroParisTech, UMR1318 Institut Jean-Pierre Bourgin, RD10, F-78026 Versailles Cedex France

florent.allais@versailles.inra.fr

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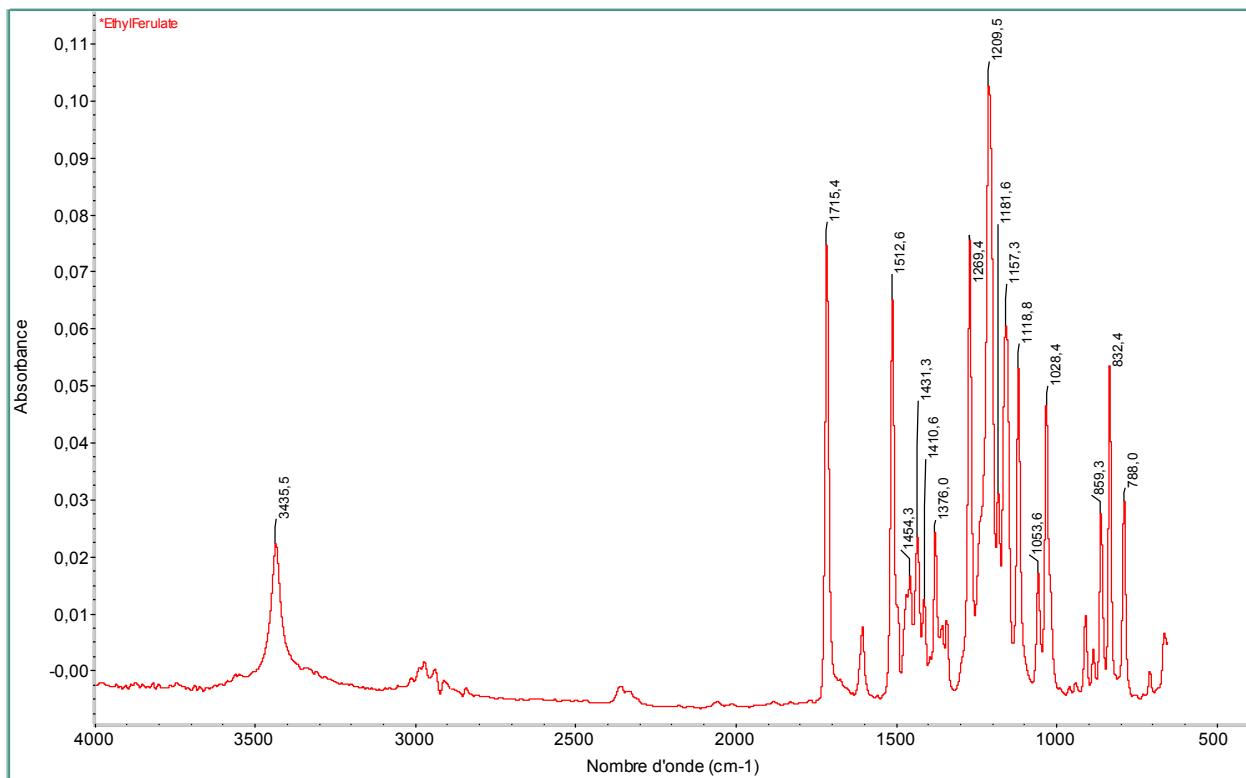


Figure S 44 : FT-IR spectrum of ethyl dihydroferulate (**2**)

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STANDARD 1H OBSERVE

Pulse Sequence: s2pul
Solvent: CDCl3
Ambient temperature
Mercury-39800 "geminis300"

Relax. delay 1.000 sec
Pulse 4.6 degrees
Aca. time 1.995 sec
Width 4508.5 Hz
12 acquisitions
OBSERVE FID 299.994864 M
DATA PROCESSING
FT size 32768
Total time 0 min, 37 sec

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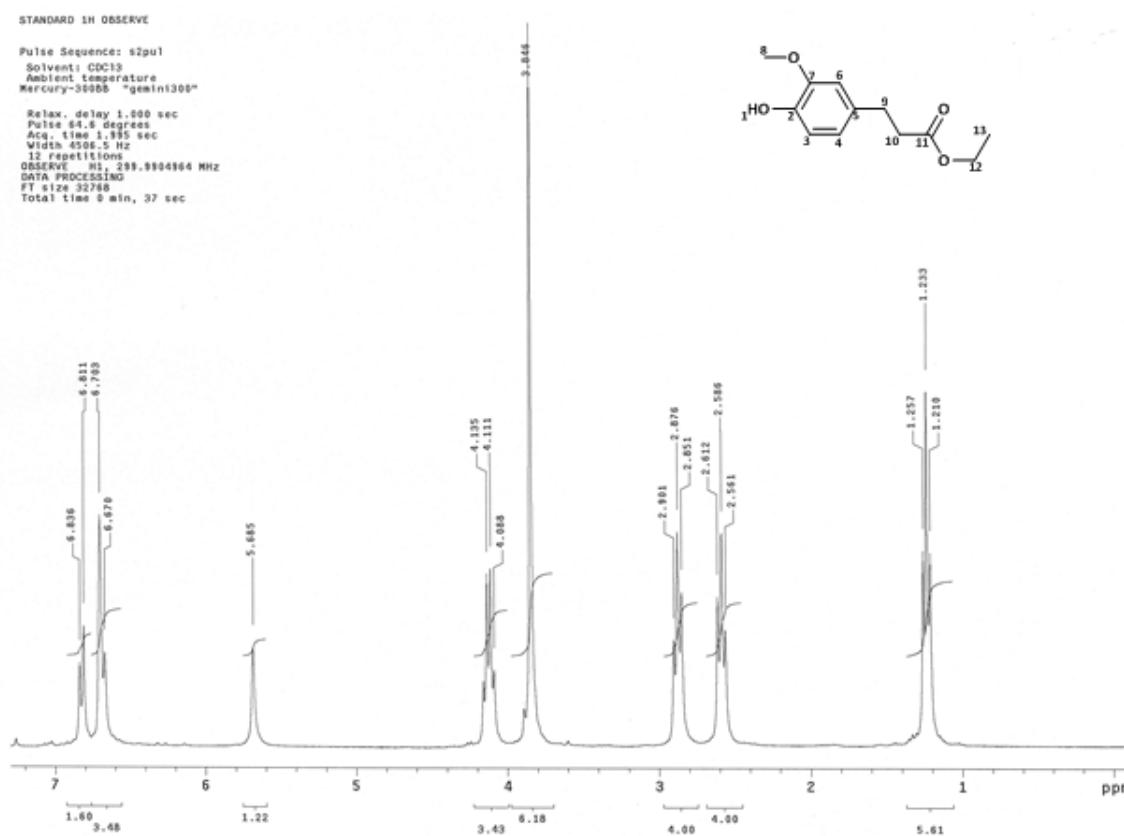
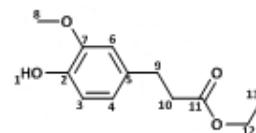


Figure S 45 : ^1H NMR spectrum of ethyl dihydroferulate (**2**)

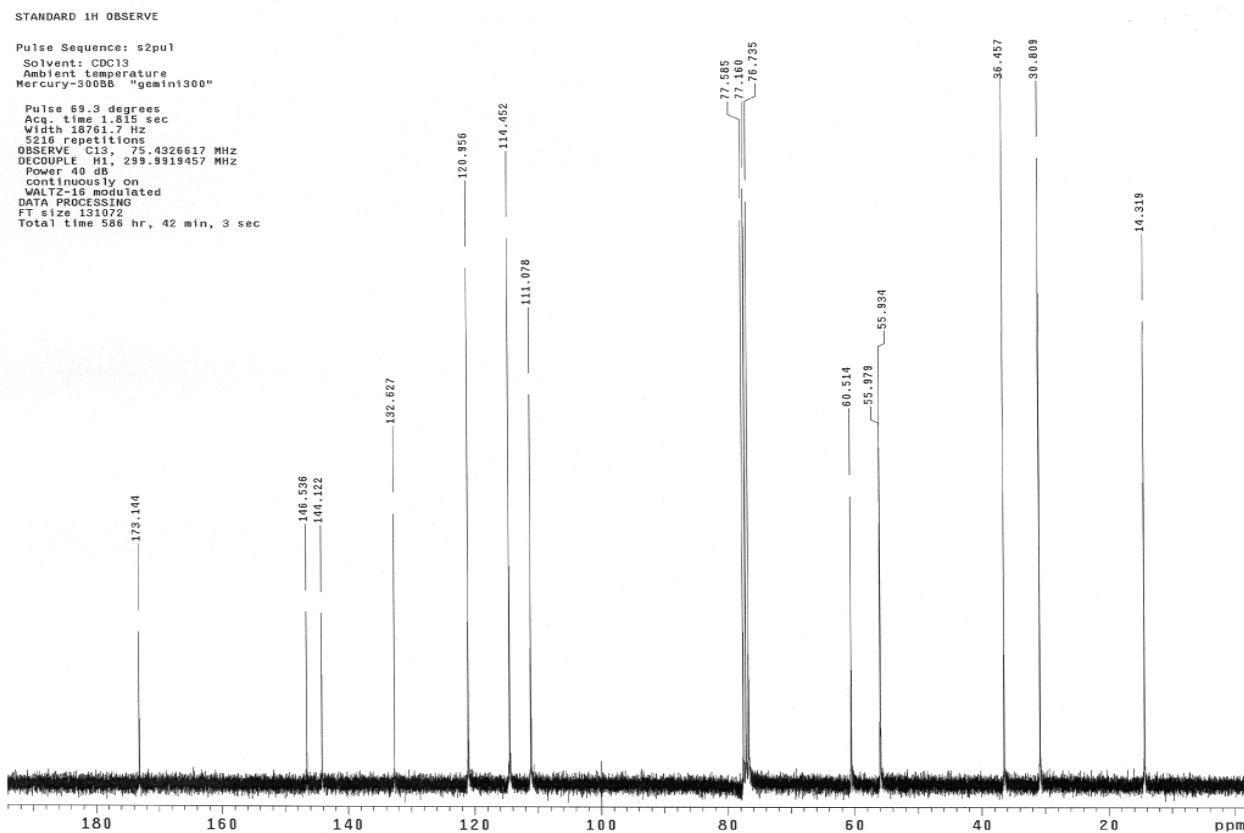


Figure S 46 : ¹³C NMR spectrum of ethyl dihydroferulate (**2**)

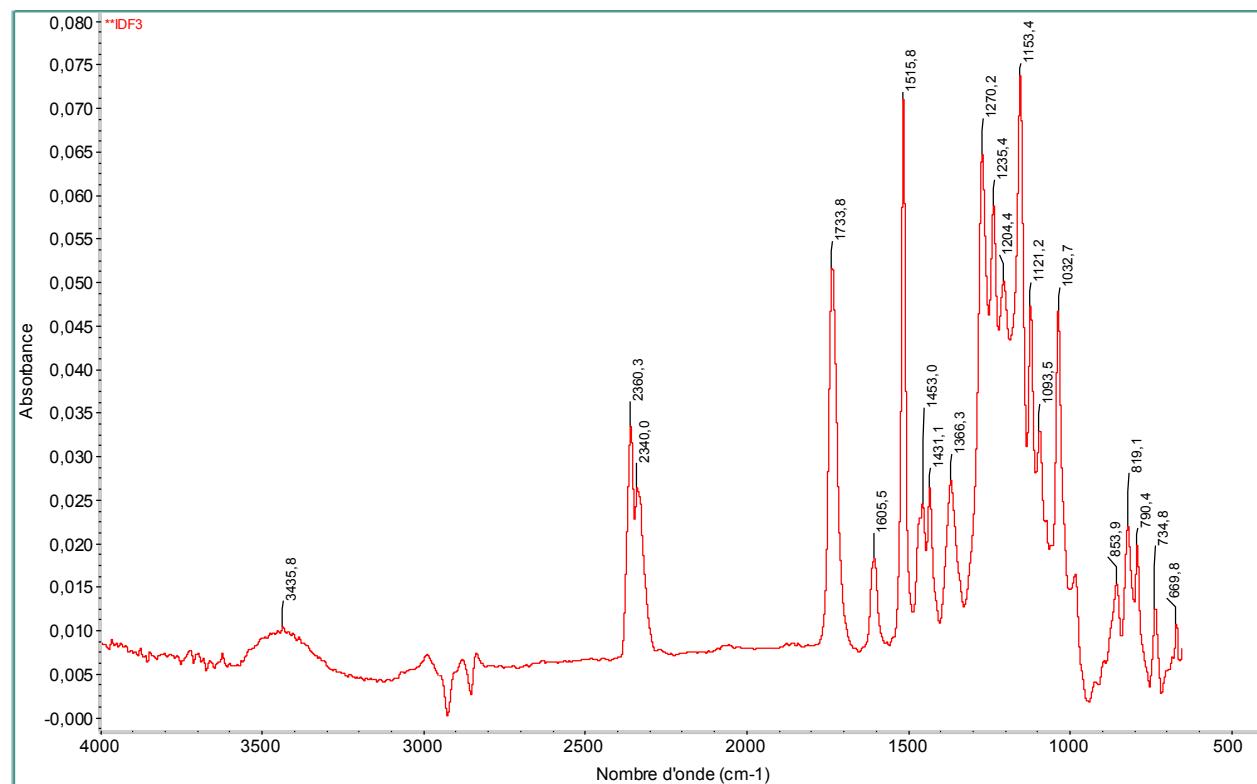


Figure S 47 : FT-IR spectrum of bis-O-dihydroferuloyl isosorbide (**3**)

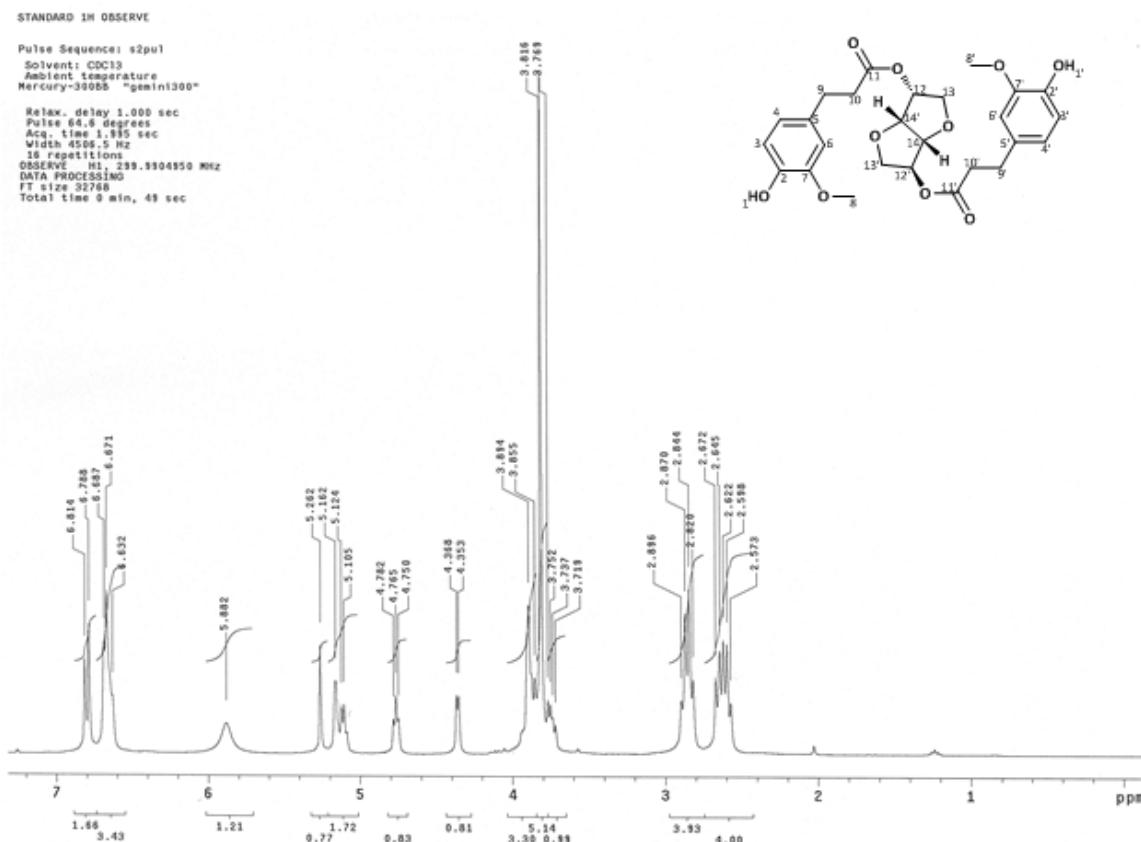


Figure S 48 : ^1H NMR spectrum of 1,4:3,6-dianhydro-D-sorbityl-bis-(dihydroferulate) (**3**)

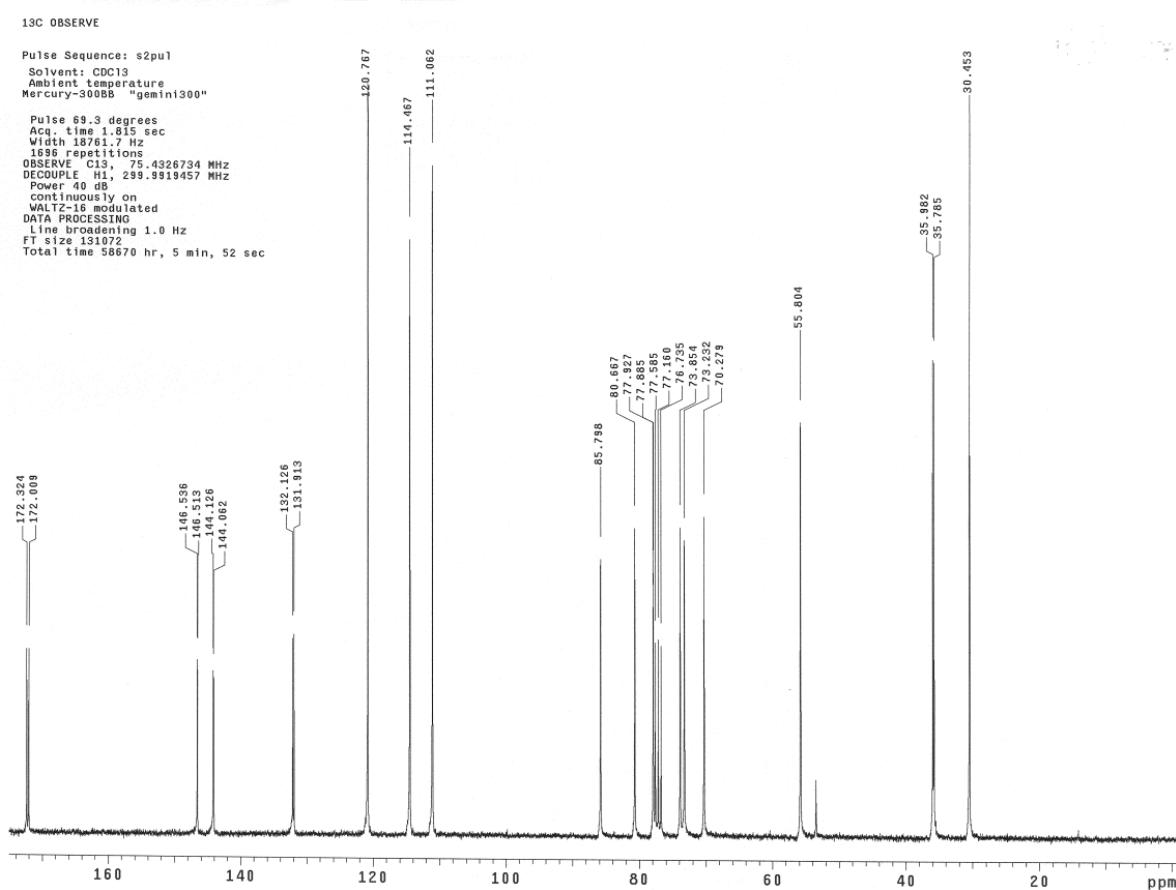


Figure S 49 : ^{13}C NMR spectrum of bis-*O*-dihydroferuloyl isosorbide (**3**)

Sample: IDF-HR 10°C/min
Size: 5.0290 mg
Method: Hi-Res - Dynamic
Comment: 6h à l'étuve 110°C

TGA

File: I:\...\macro-polyols\IDF-HR 10Cmin.001
Operator: AR
Run Date: 08-Jun-2012 01:50
Instrument: TGA Q500 V20.13 Build 39

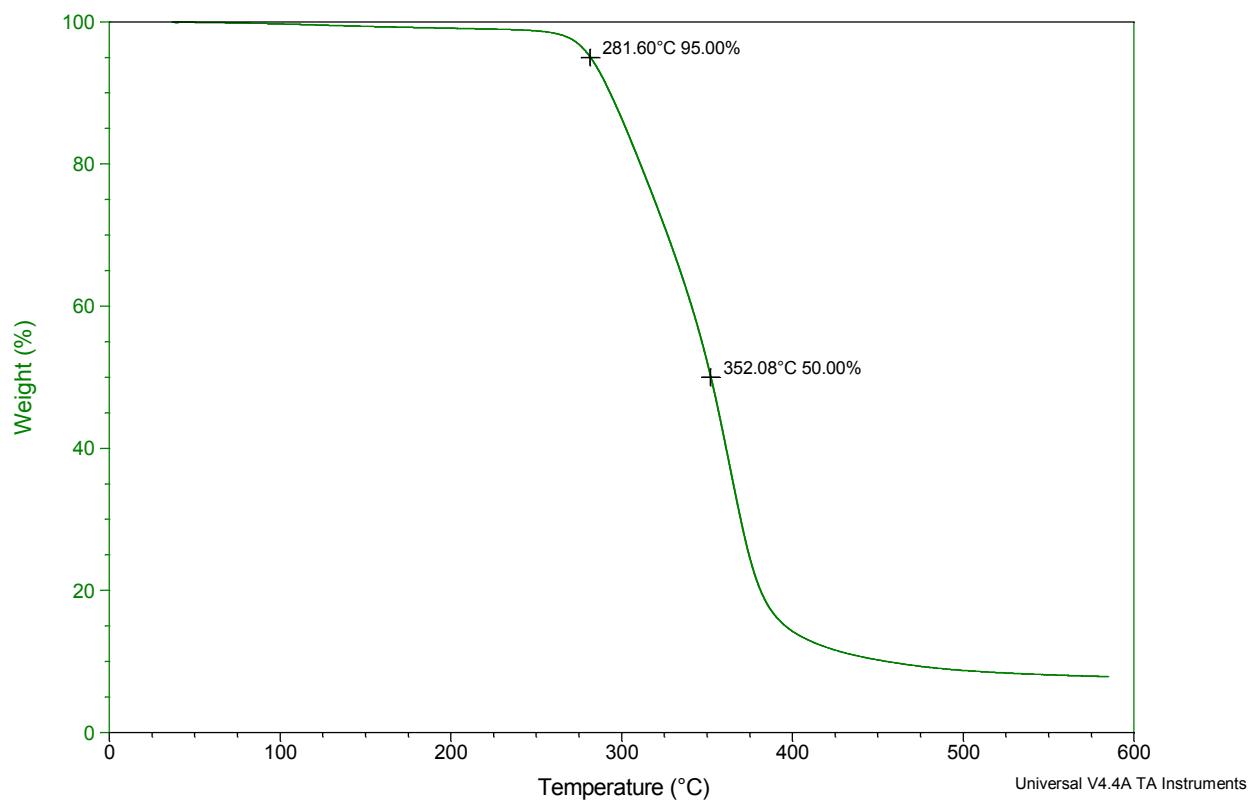


Figure S 50 : TGA of bis-*O*-dihydroferuloyl isosorbide (**3**)

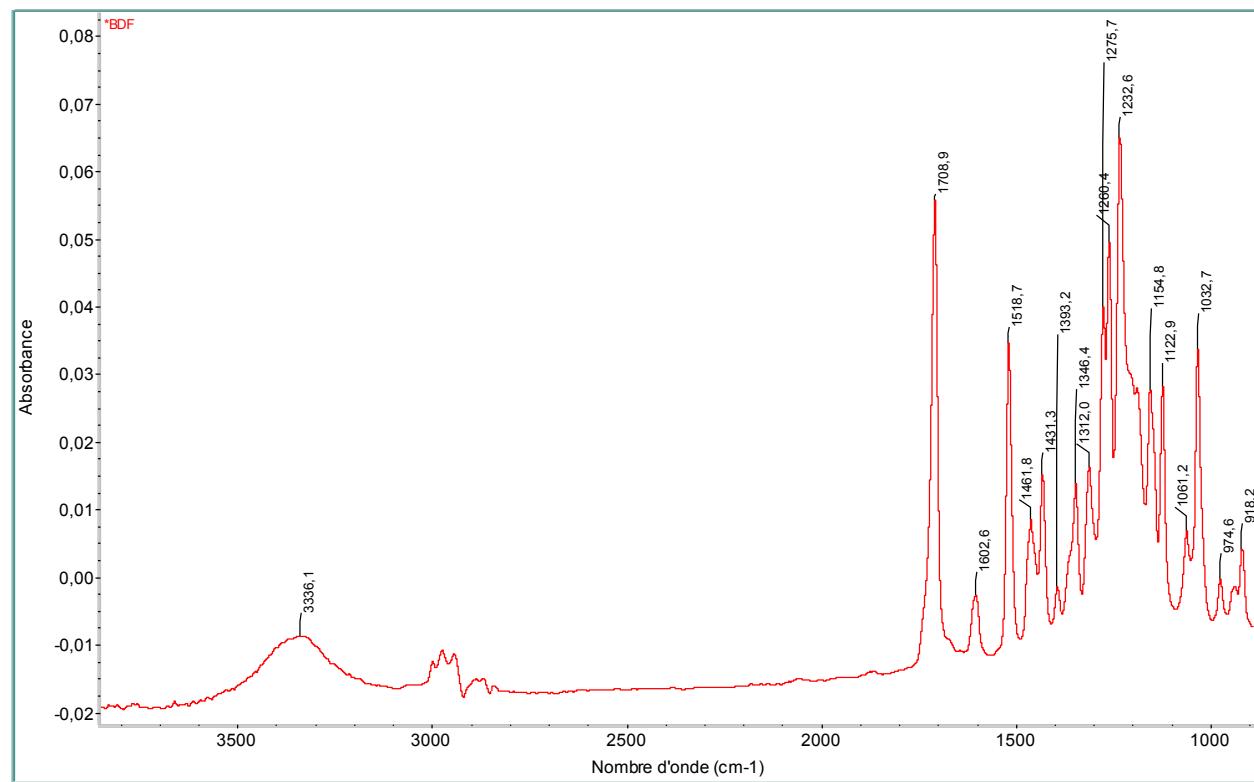


Figure S 51 : FT-IR spectrum of bis-*O*-dihydroferuloyl 1,4-butanediol (**4**)

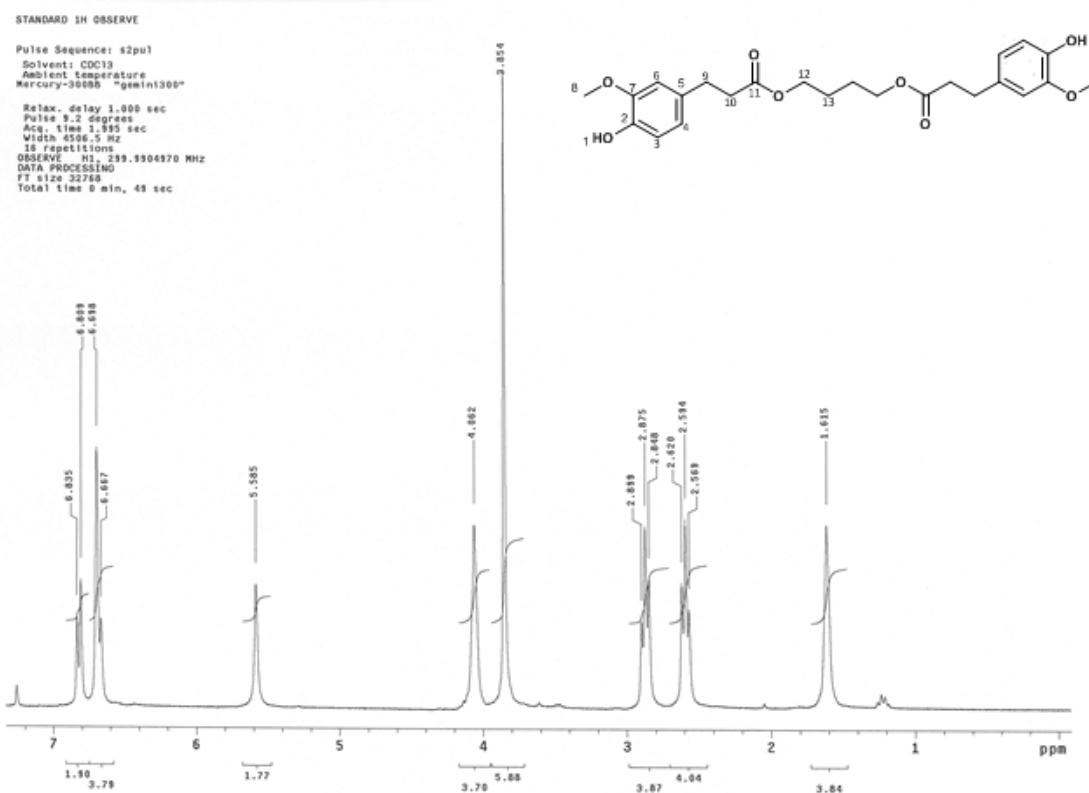


Figure S 52 : ^1H NMR spectrum of bis-*O*-dihydroferuloyl 1,4-butanediol (**4**)

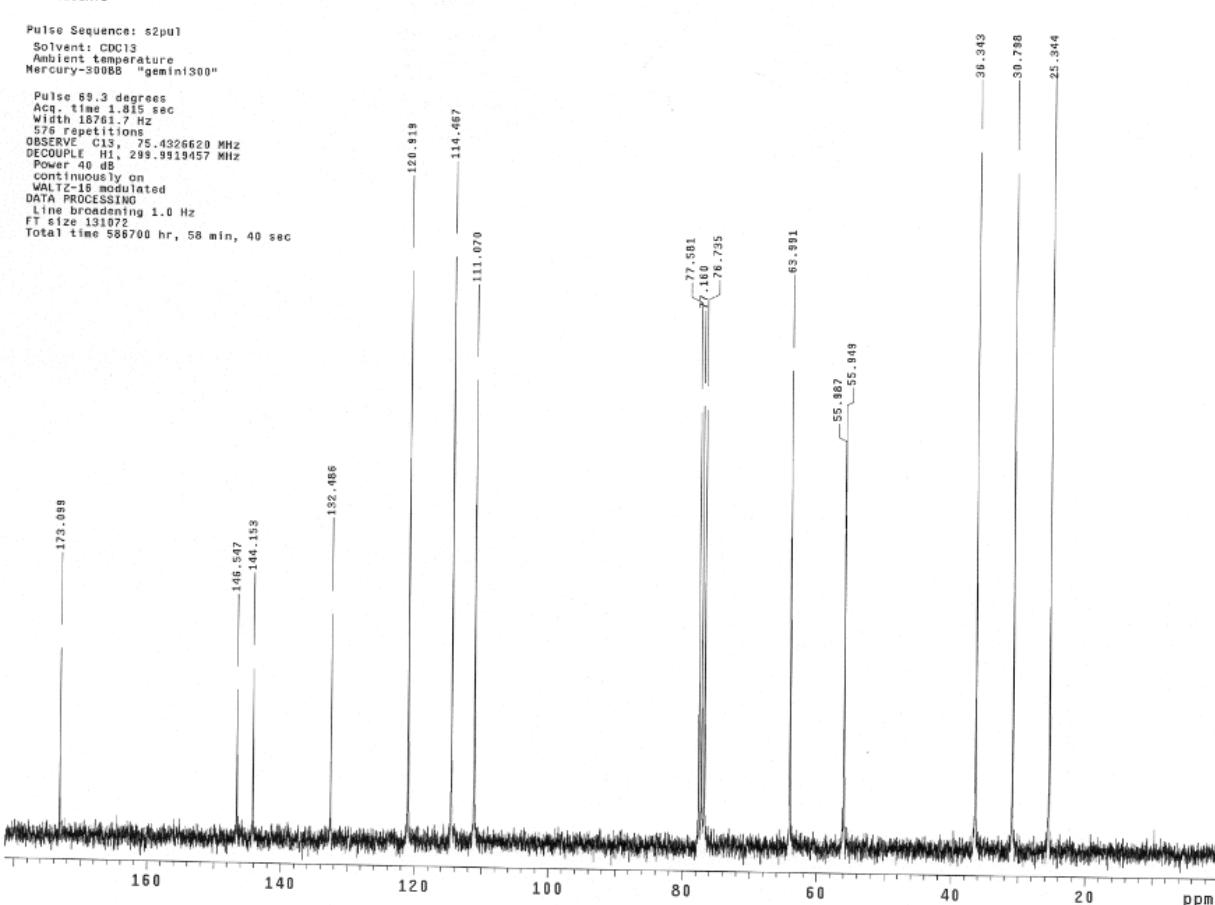


Figure S 53 : ^{13}C NMR spectrum of bis-*O*-dihydroferuloyl 1,4-butanediol (**4**)

Sample: Ar05 hi-res dyn 10
Size: 1.7800 mg
Method: Hi-Res - Dynamic

TGA

File: I:\...\Ar05 hi-res dyn 10.001
Operator: Armando
Run Date: 28-Feb-2012 00:51
Instrument: TGA Q500 V20.13 Build 39

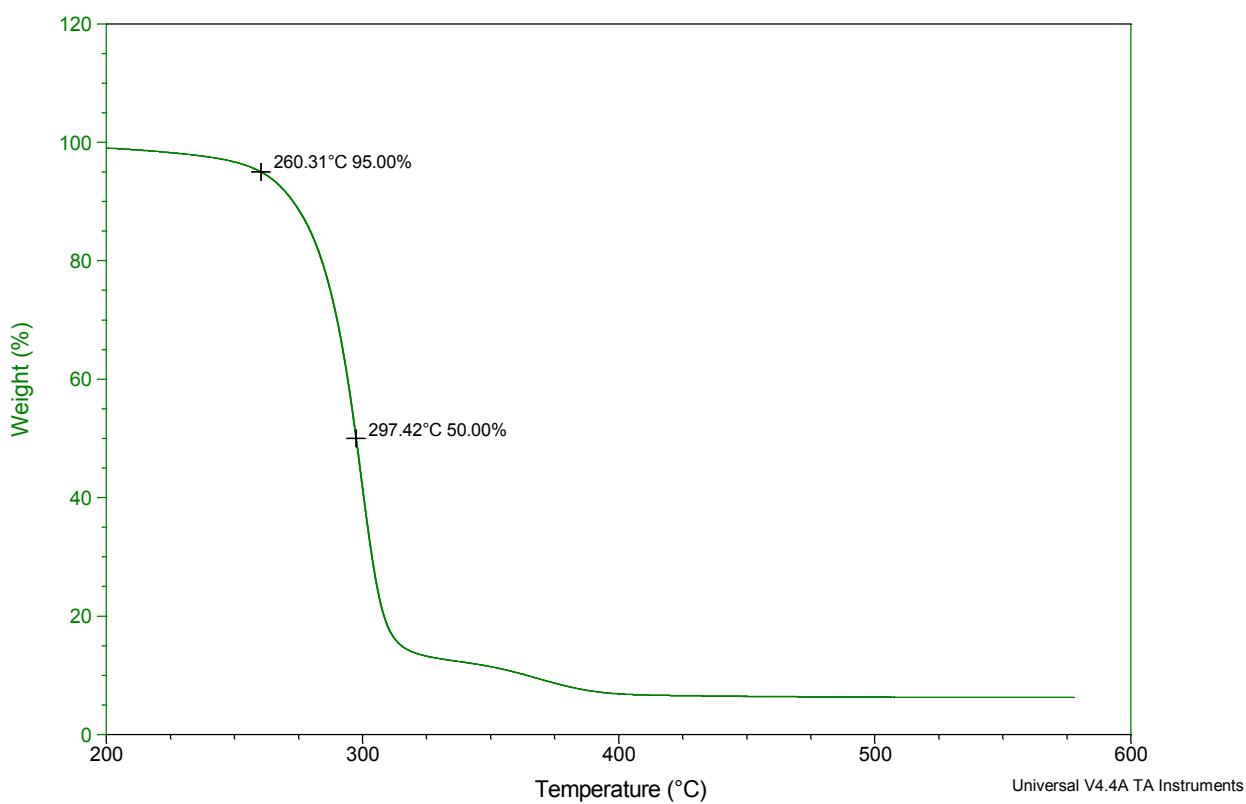


Figure S 54 : TGA of bis-*O*-dihydroferuloyl 1,4-butanediol (**4**)

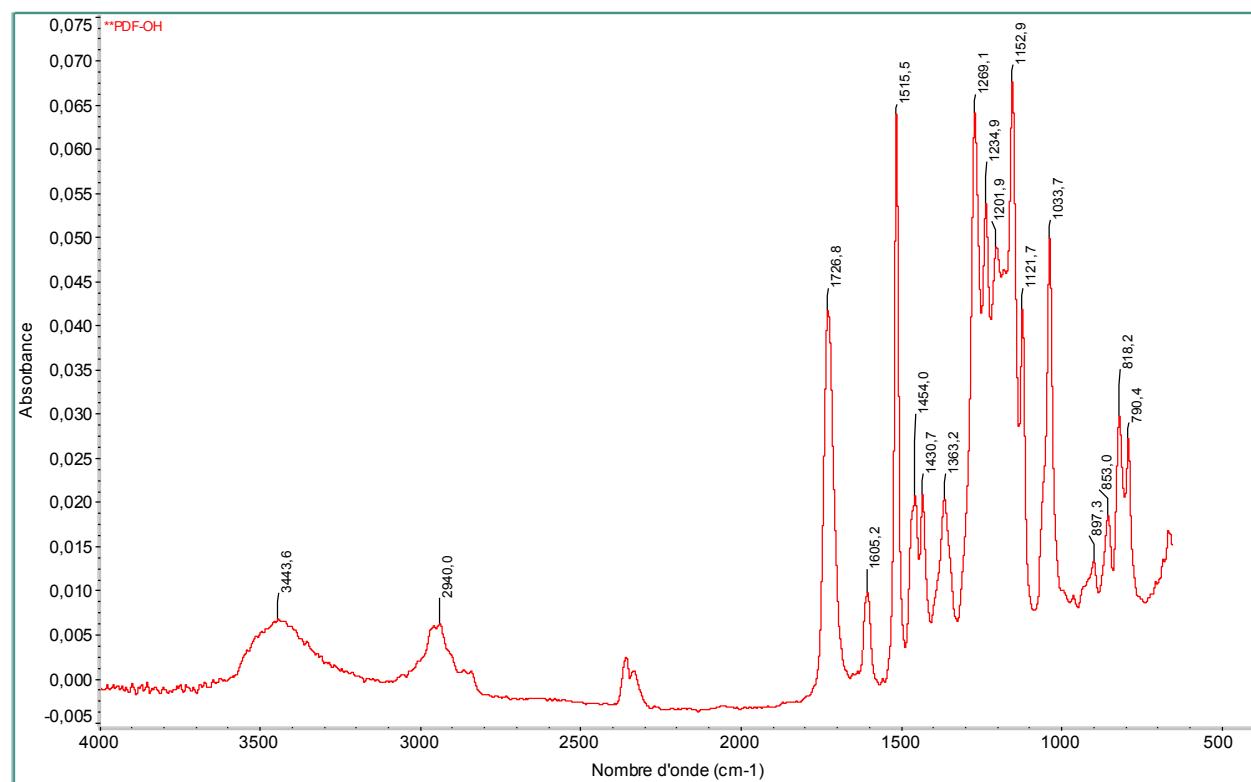


Figure S 55 : FT-IR spectrum of bis-*O*-dihydroferuloyl 1,3-propanediol (**5**)

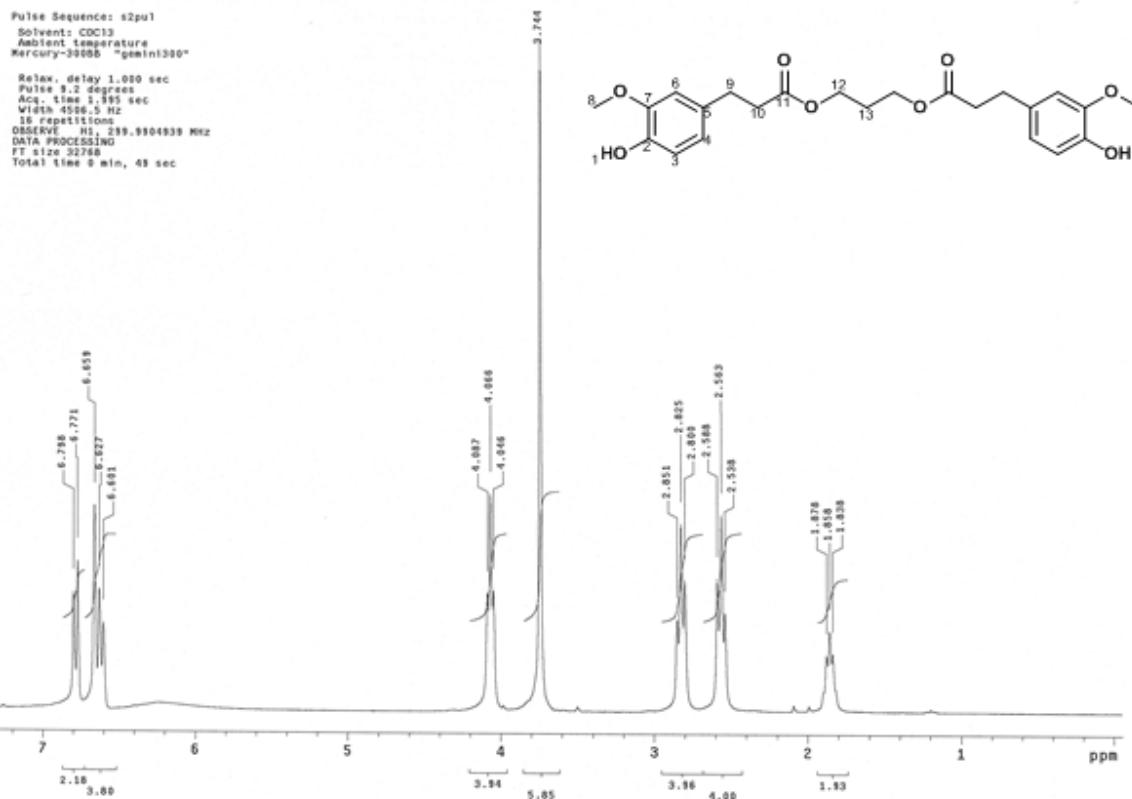


Figure S 56 : ^1H NMR spectrum of bis-*O*-dihydroferuloyl 1,3-propanediol (5)

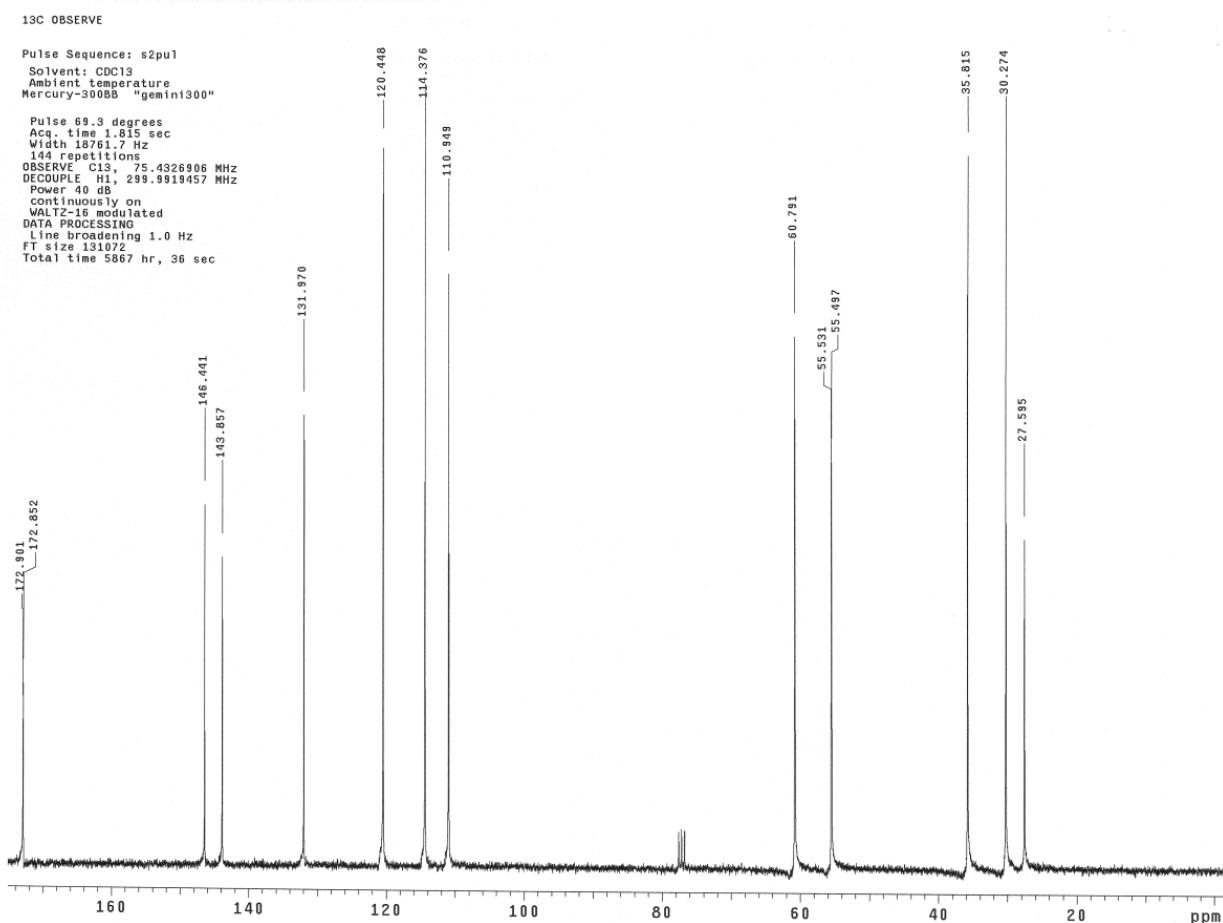


Figure S 57 : ^{13}C NMR spectrum of bis-*O*-dihydroferuloyl 1,3-propanediol (**5**)

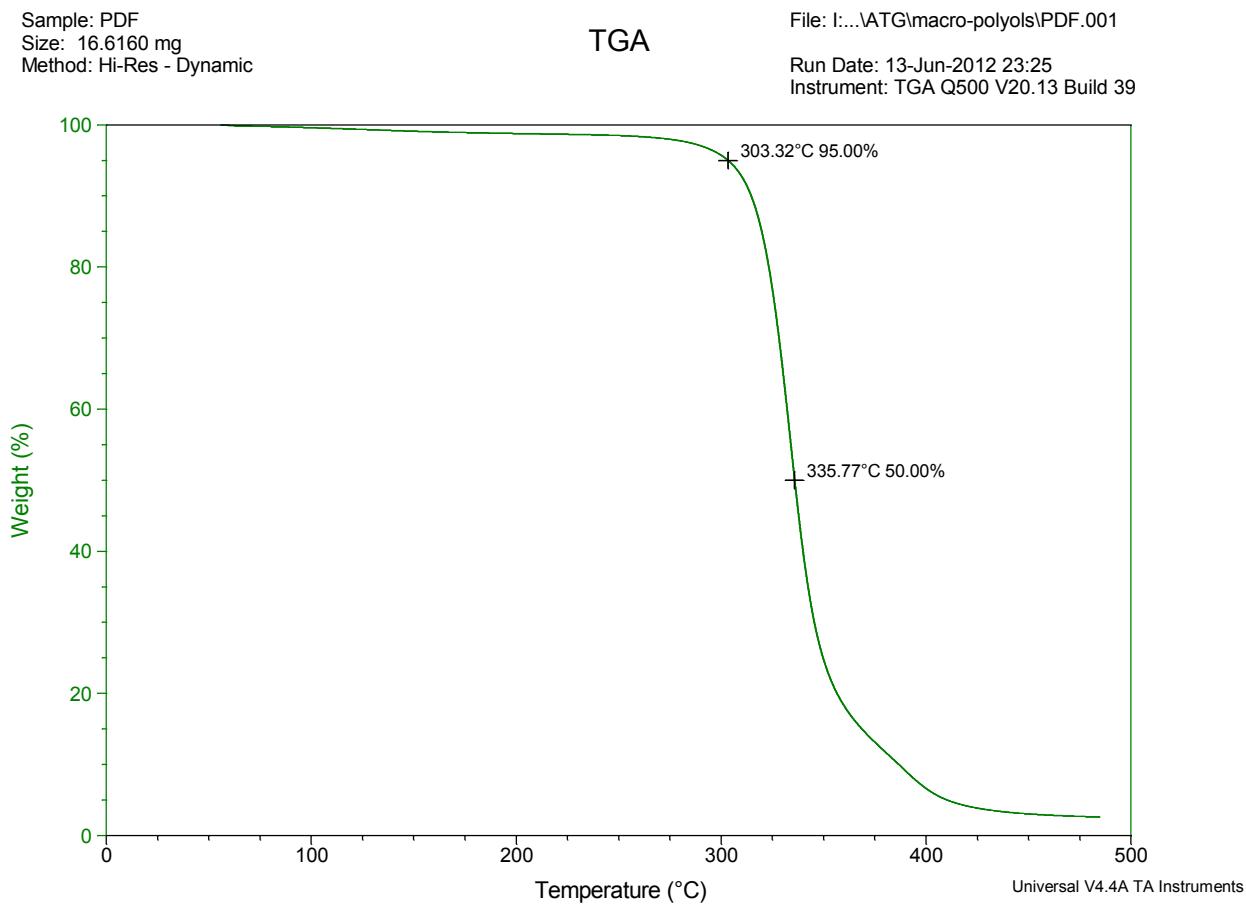


Figure S 58 : TGA of bis-*O*-dihydroferuloyl 1,3-propanediol (**5**)

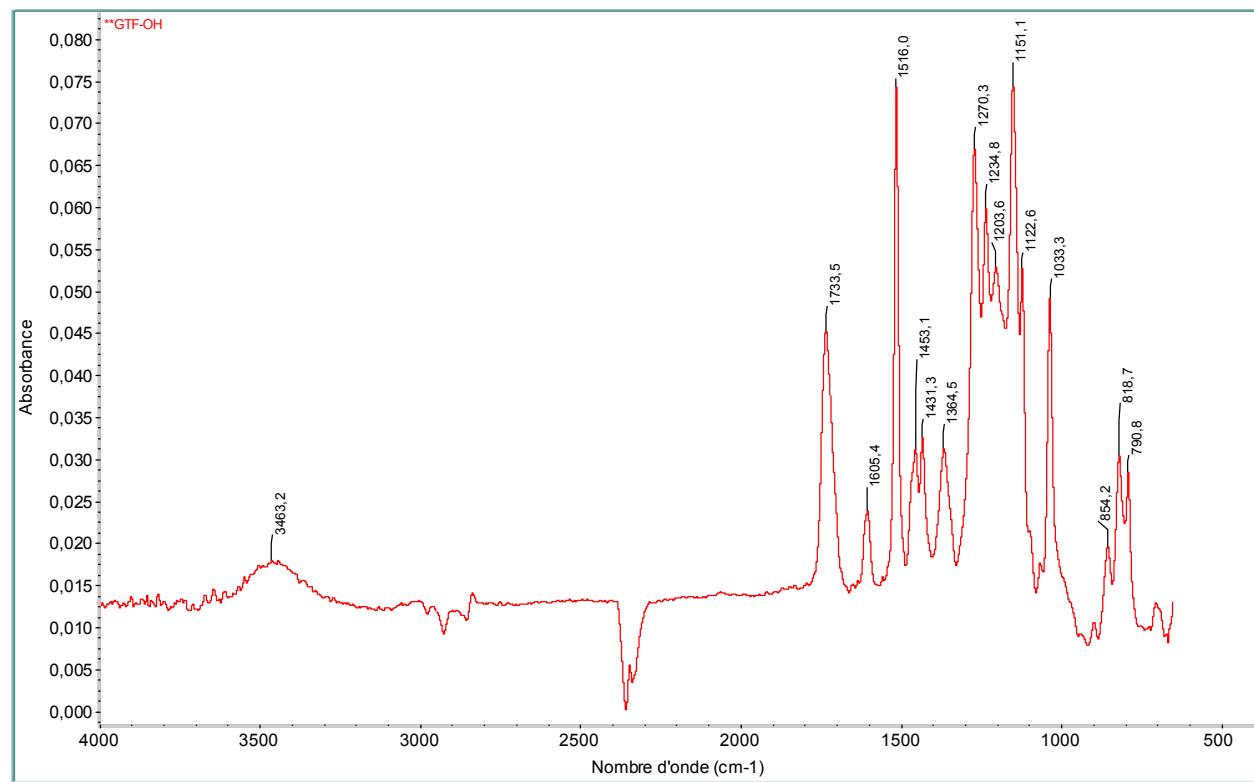


Figure S 59 : FT-IR spectrum of tris-*O*-dihydroferuloyl glycerol (**6**)

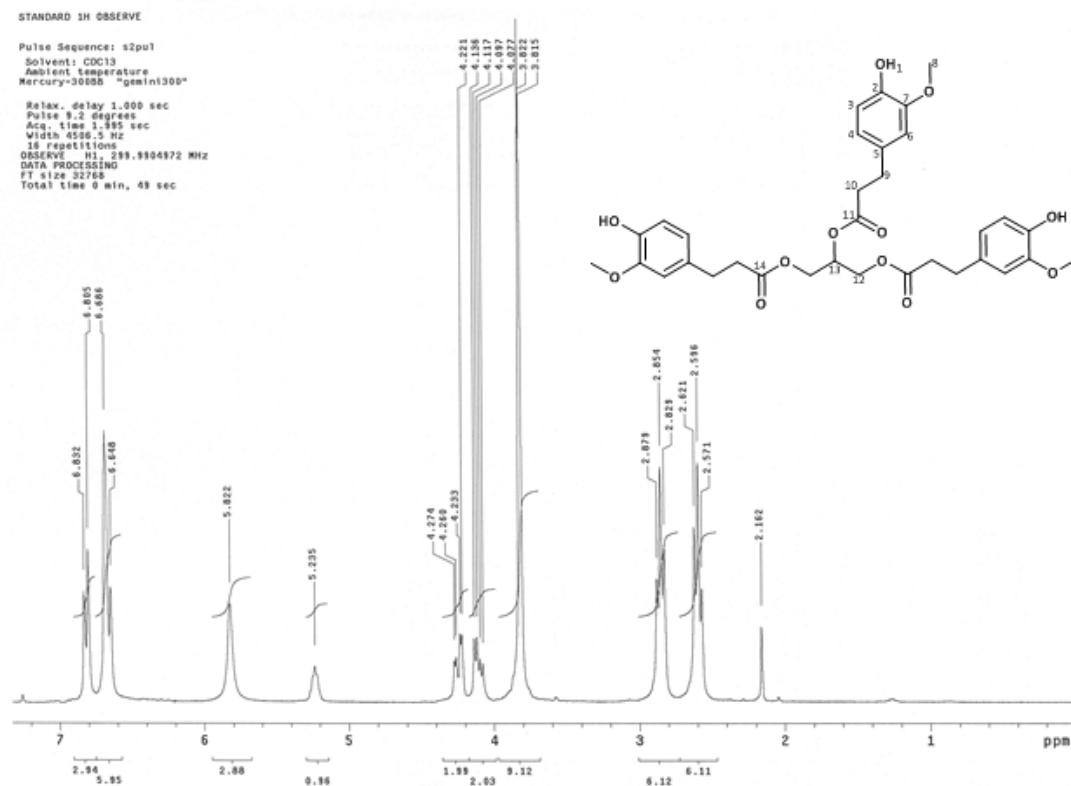


Figure S 60 : ^1H NMR spectrum of tris-*O*-dihydroferuloyl glycerol (6)

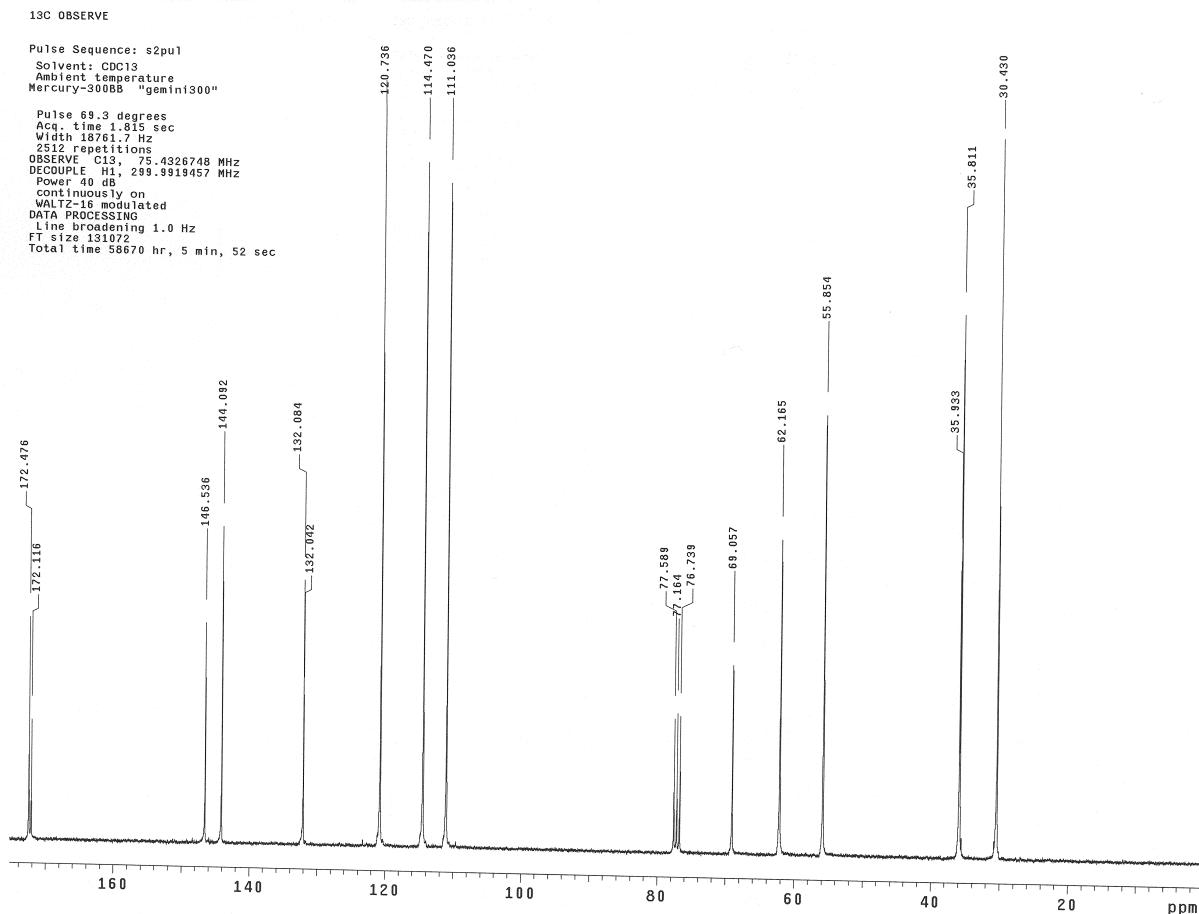


Figure S 61 : ^{13}C NMR spectrum of tris-*O*-dihydroferuloyl glycerol (6)

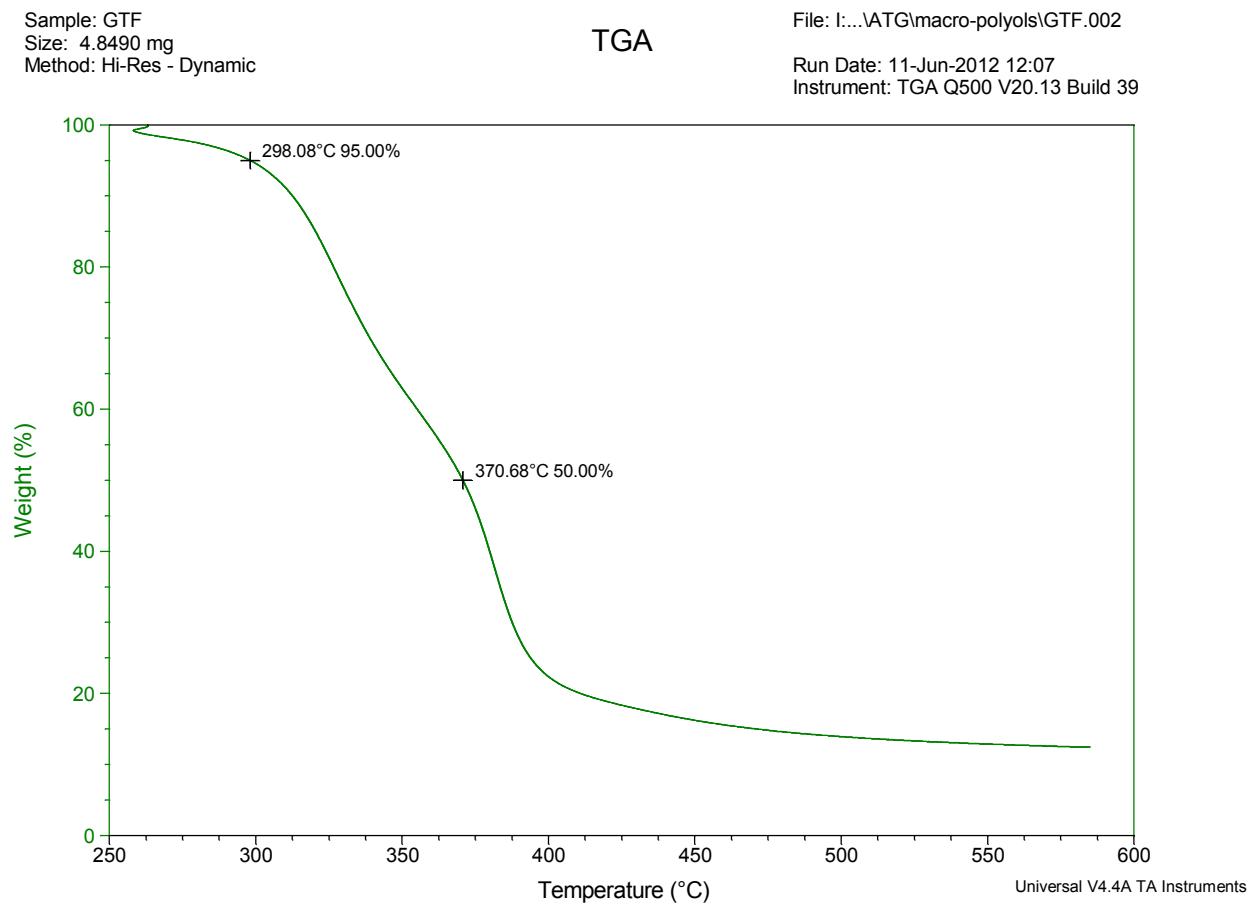


Figure S 62 : TGA of tris-*O*-dihydroferuloyl glycerol (**6**)

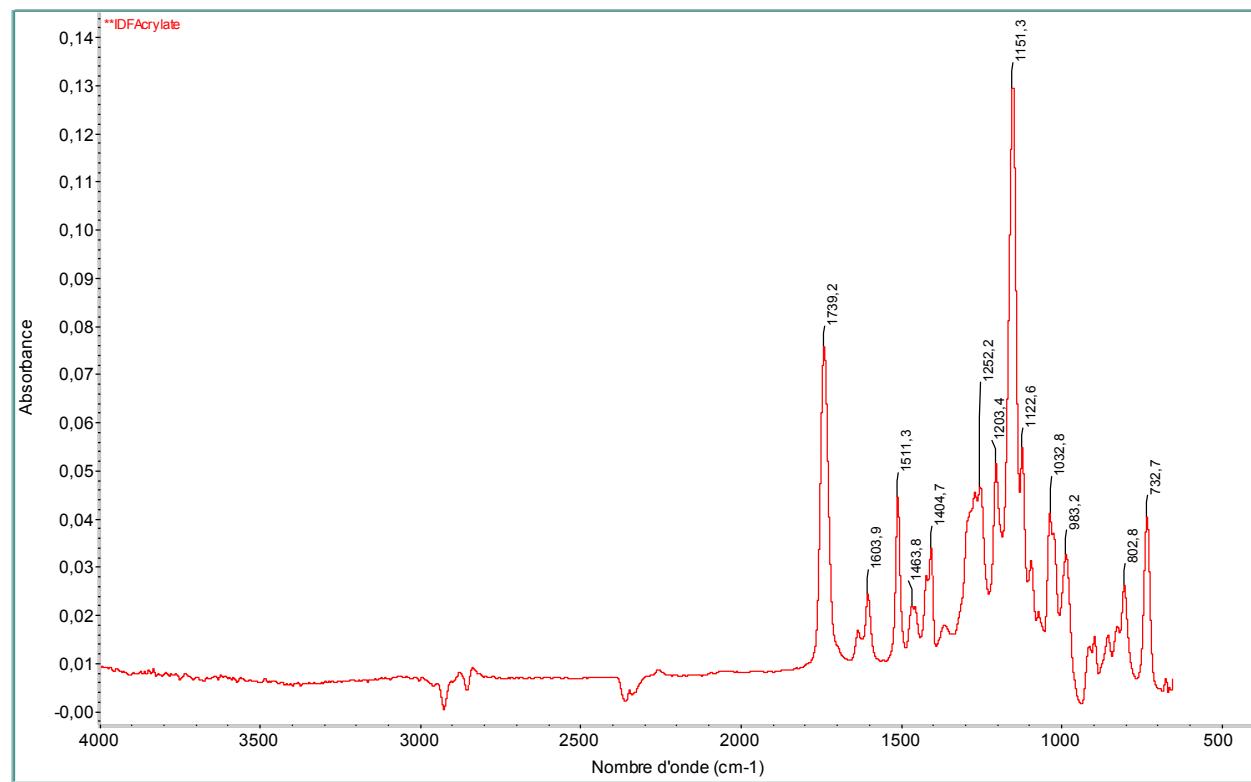


Figure S 63 : FT-IR spectrum of bis-*O*-[4-*O*-acryloyl dihydroferuloyl] isosorbide (**7**)

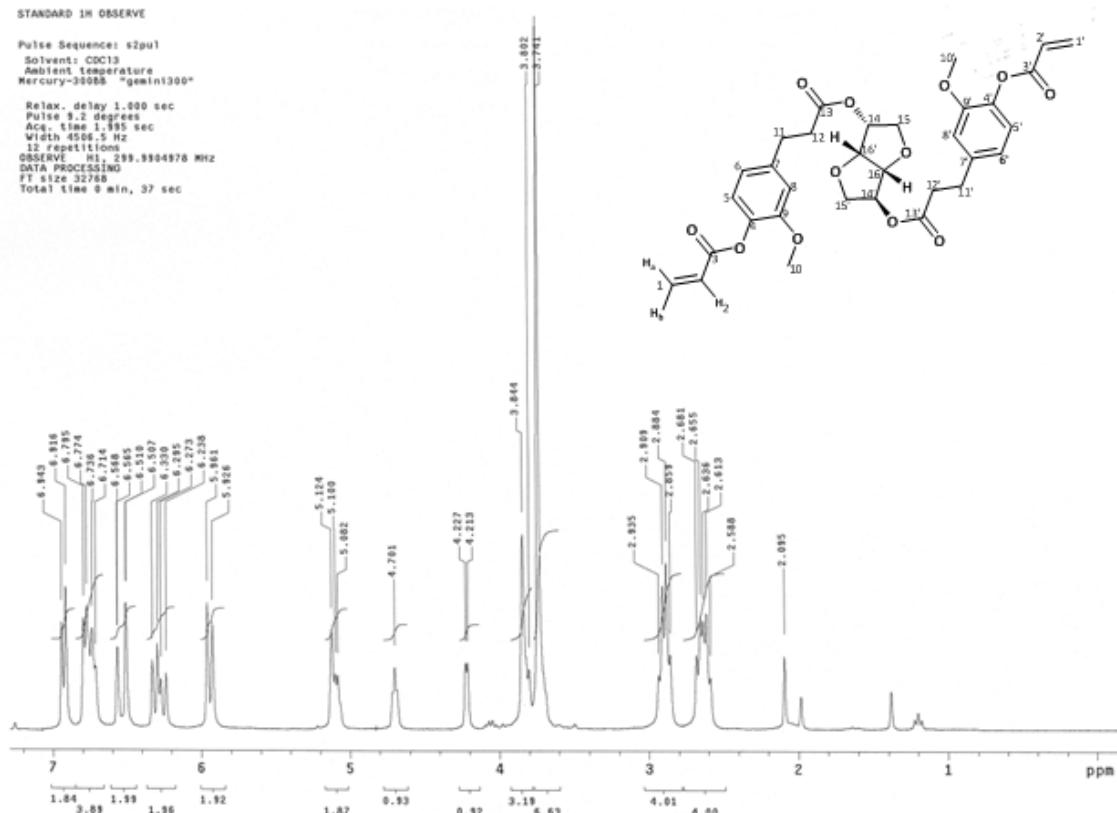


Figure S 64 : ^1H NMR spectrum of 1 bis-*O*-[4-*O*-acryloyl dihydroferuloyl] isosorbide (7)

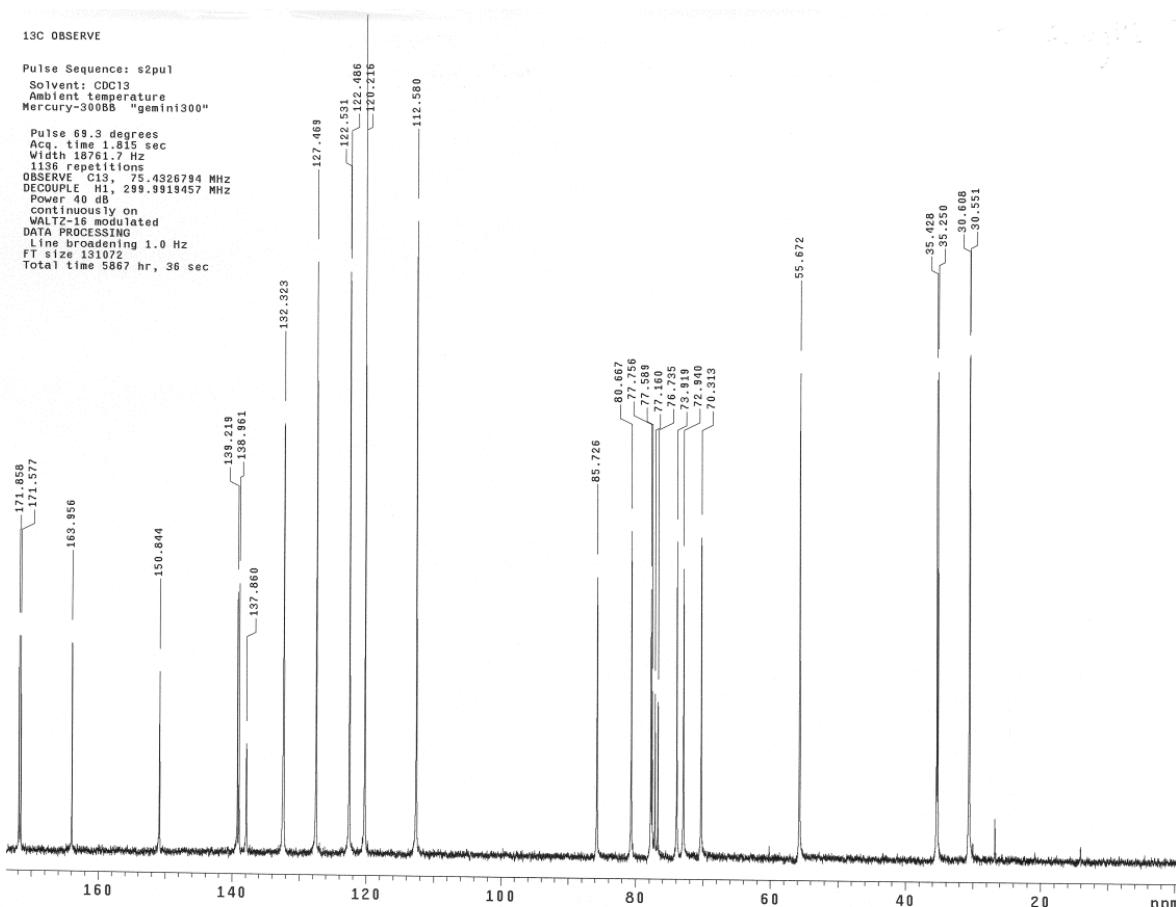


Figure S 65 : ^{13}C NMR spectrum of bis-*O*-[4-*O*-acryloyl dihydroferuloyl] isosorbide (7)

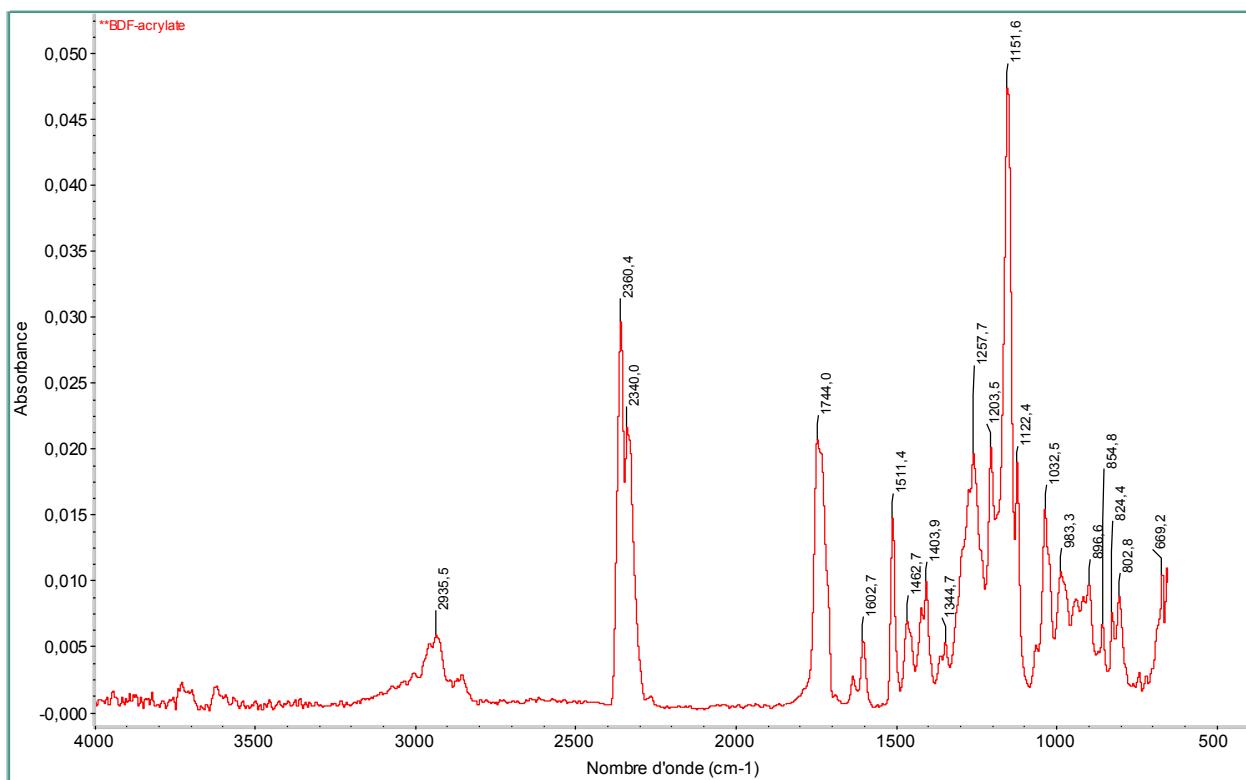


Figure S 66 : FT-IR spectrum of bis-O-[4-O-acryloyl dihydroferuloyl] 1,4-butanediol (**8**)

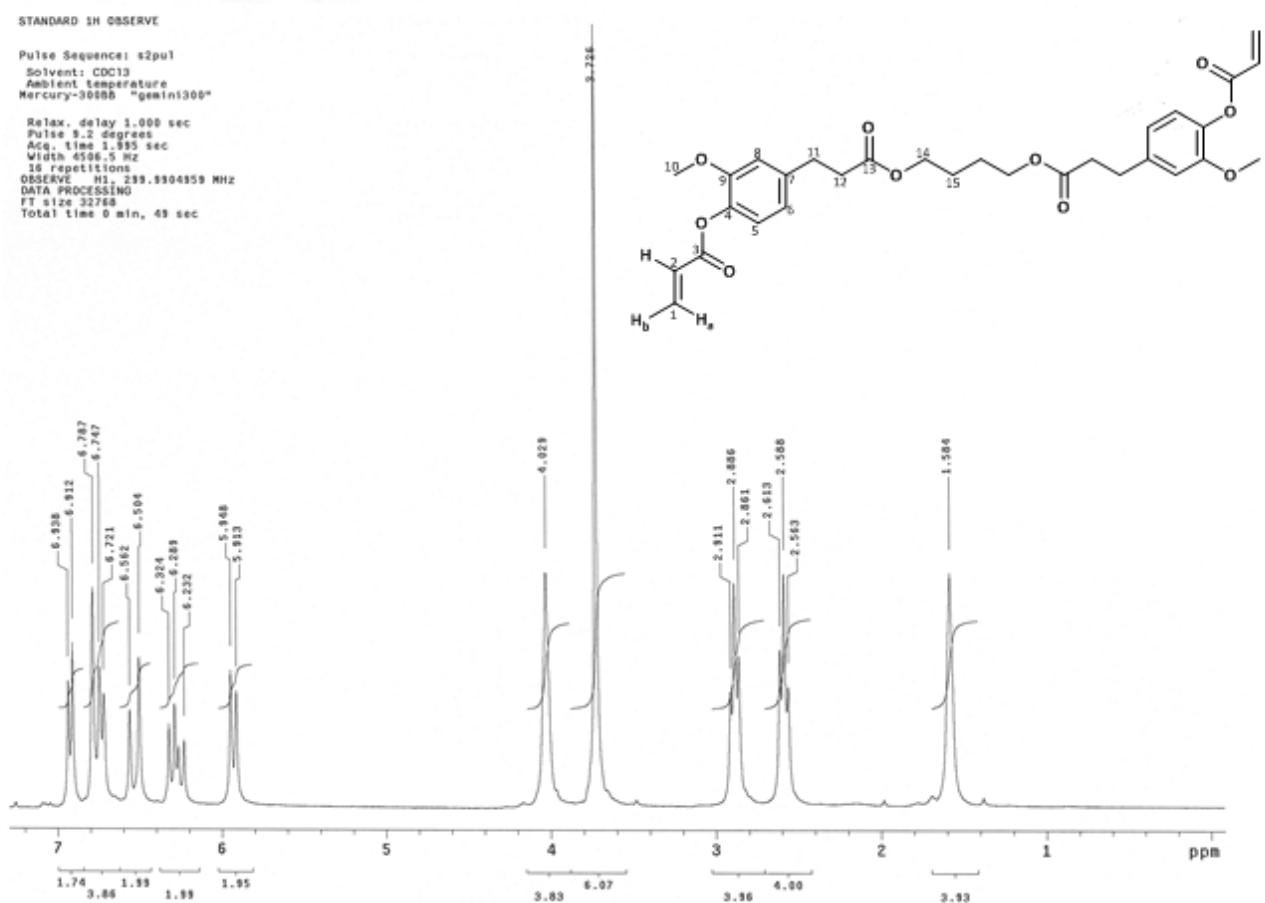


Figure S 67 : ^1H NMR spectrum of bis-*O*-[4-*O*-acryloyl dihydroferuloyl] 1,4-butanediol (**8**)

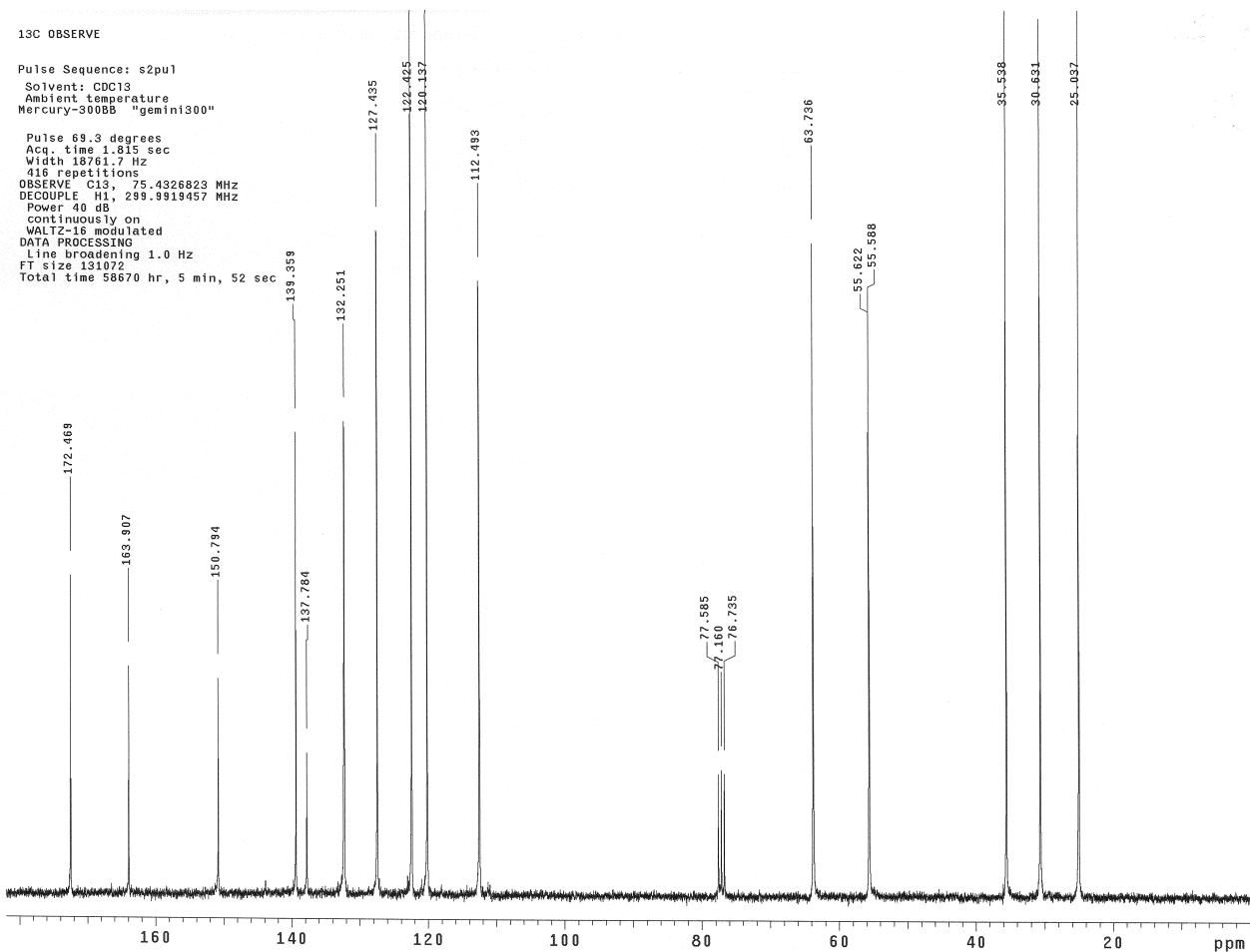


Figure S 68 : ¹³C NMR spectrum of bis-O-[4-O-acryloyl dihydroferuloyl] 1,4-butanediol (**8**)

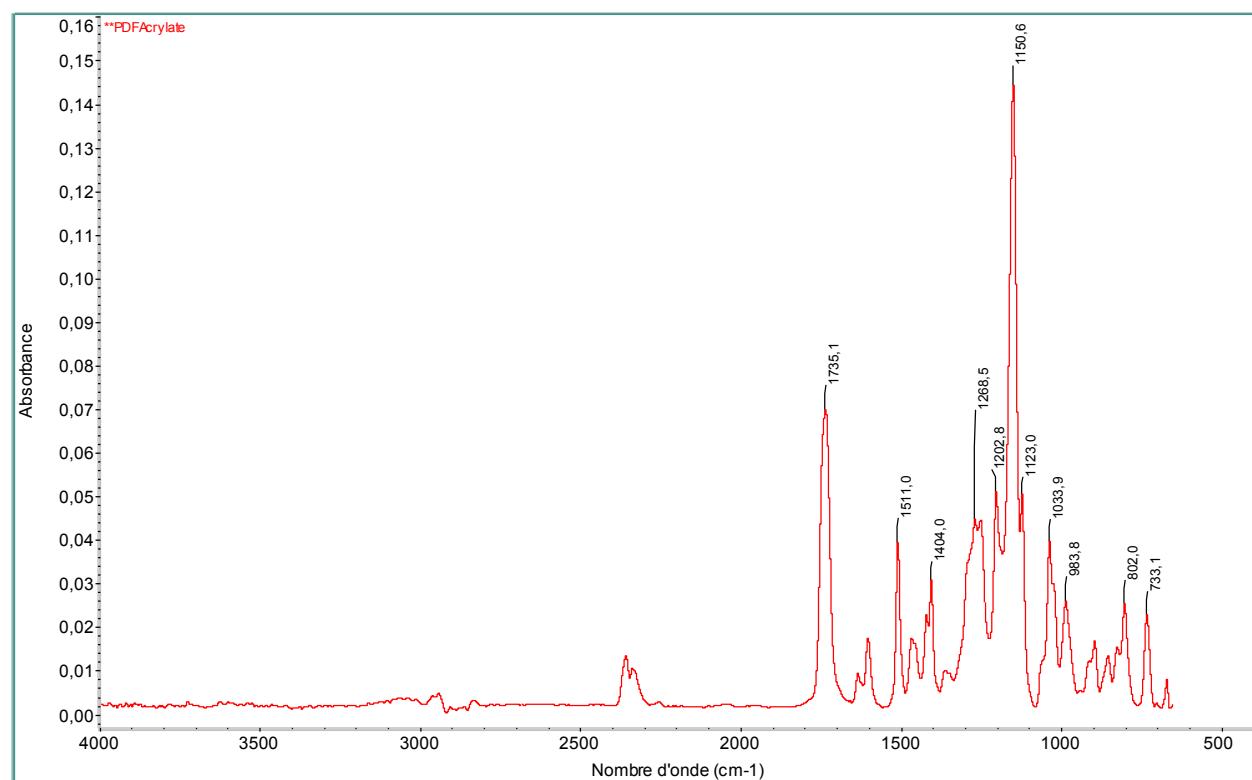
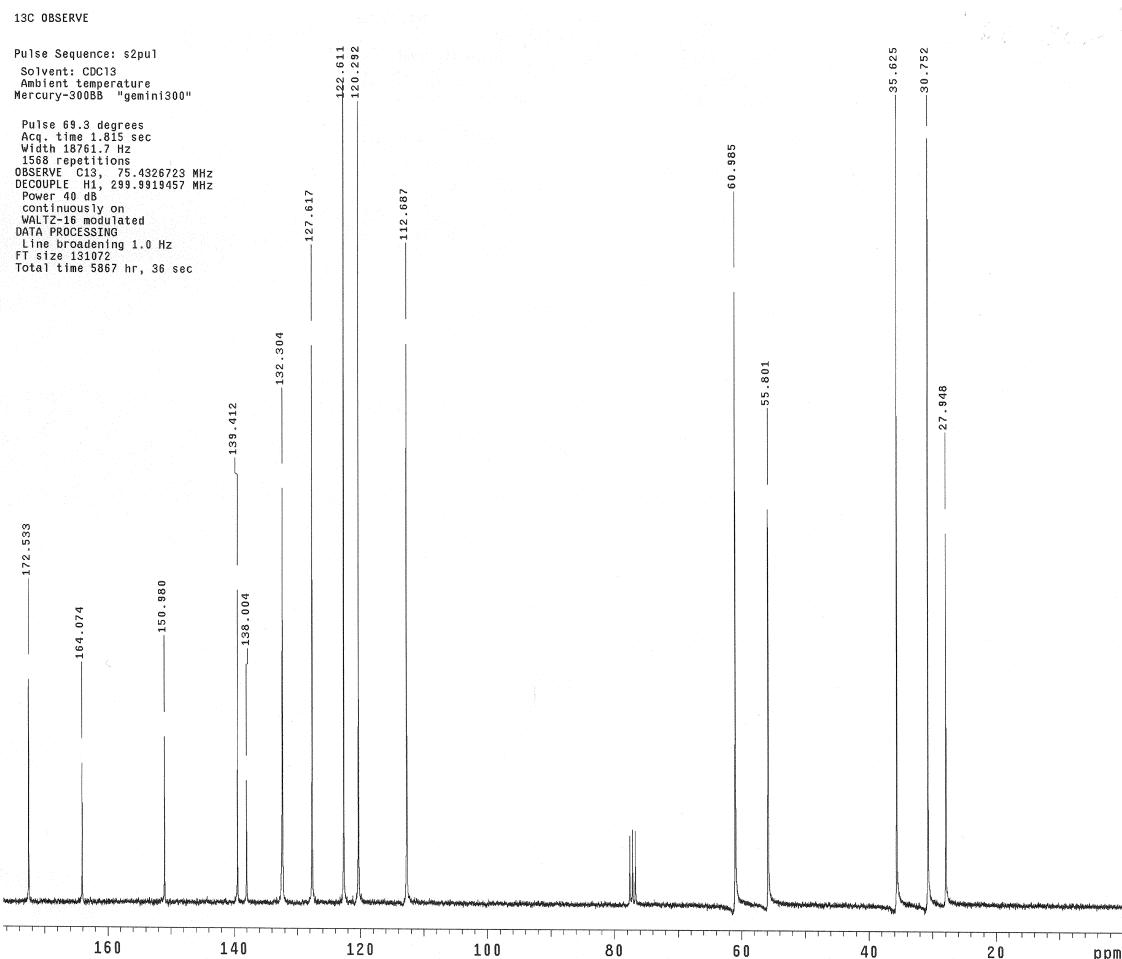
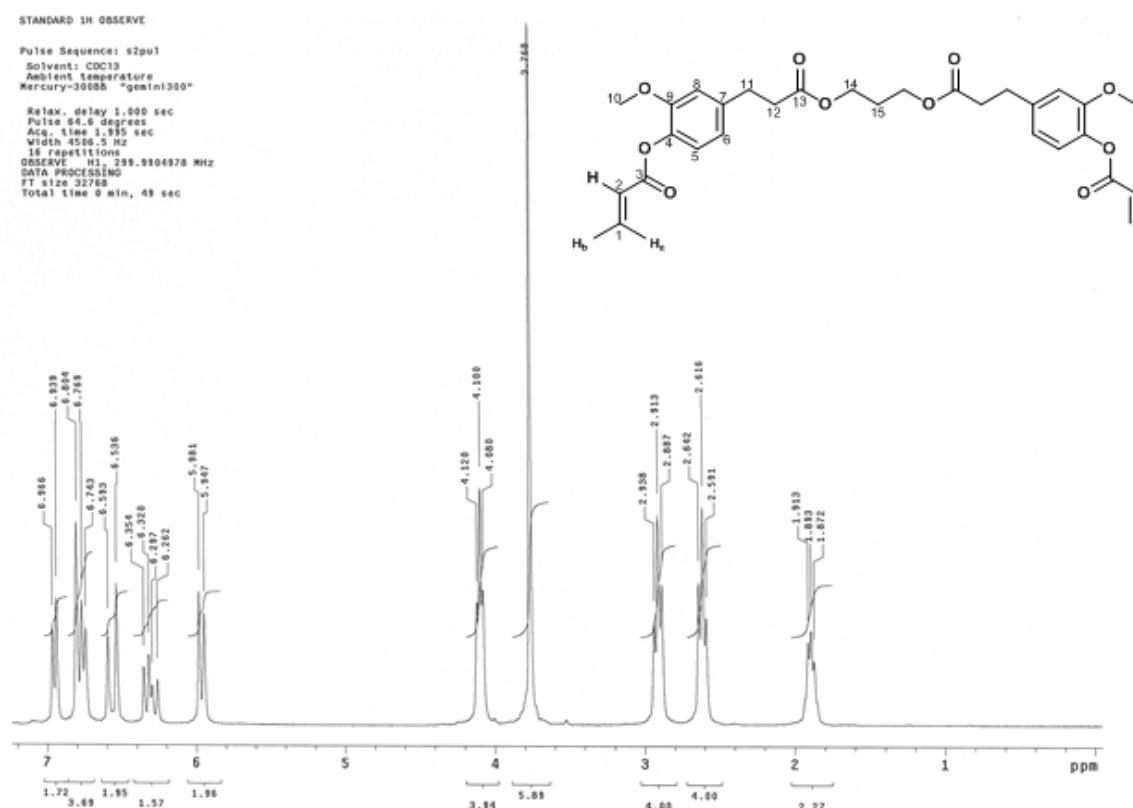


Figure S 69 : FT-IR spectrum of bis-O-[4-O-acryloyl dihydroferuloyl] 1,3-propanediol (**9**)



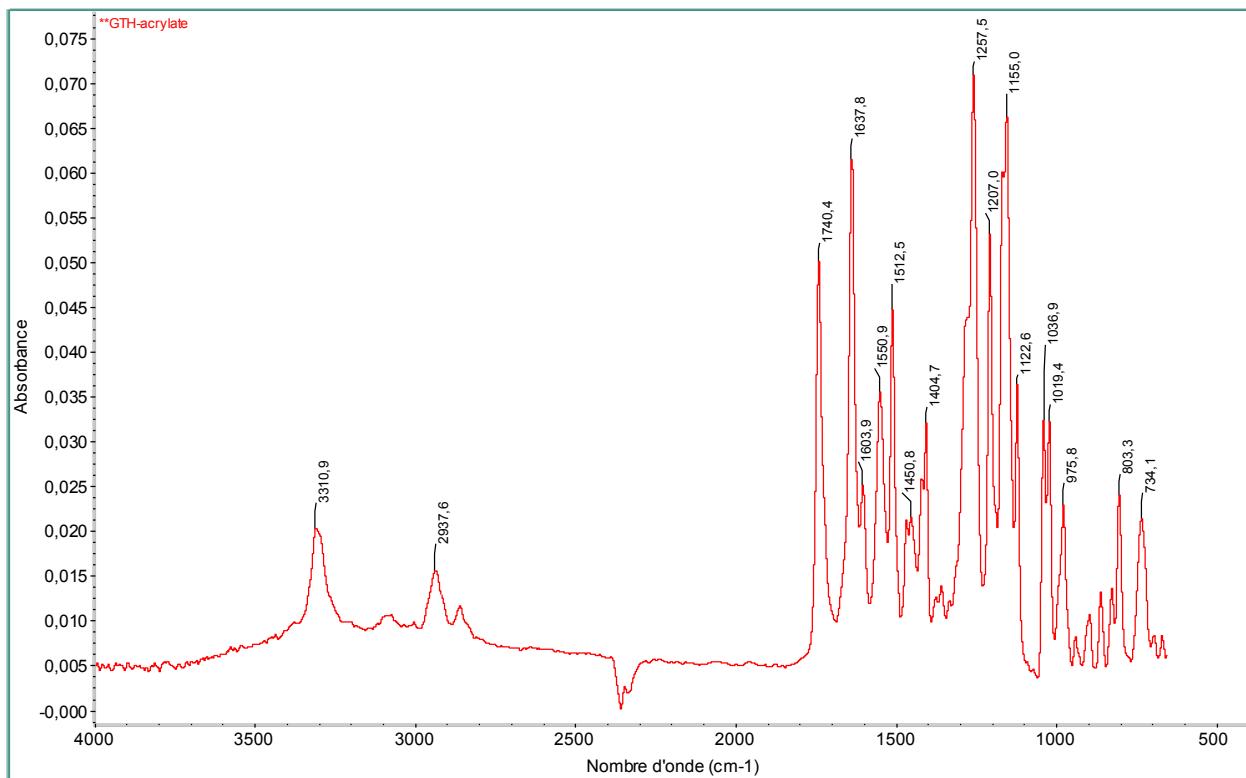


Figure S 72 : FT-IR spectrum of tris-*O*-[4-*O*-acryloyl dihydroferuloyl] glycerol (**10**)

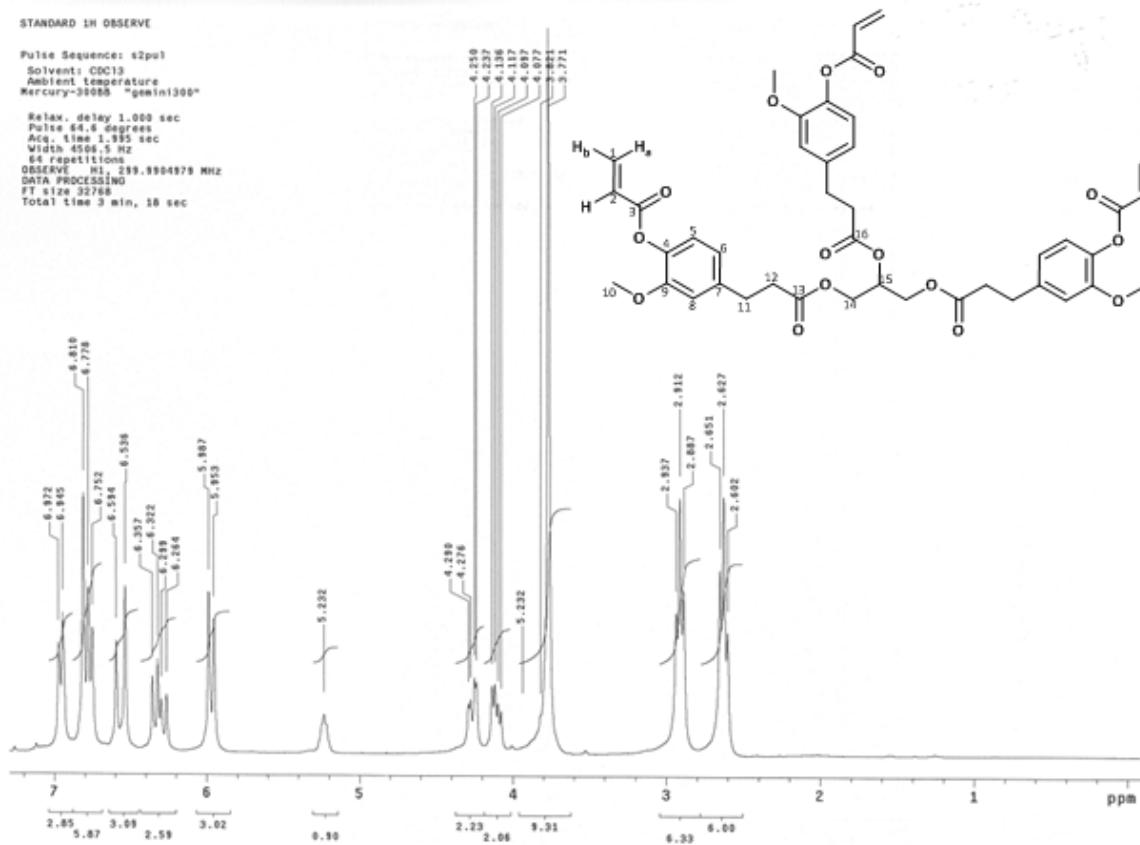


Figure S 73 : ^1H NMR spectrum of tris-*O*-[4-*O*-acryloyl dihydroferuloyl] glycerol (**10**)

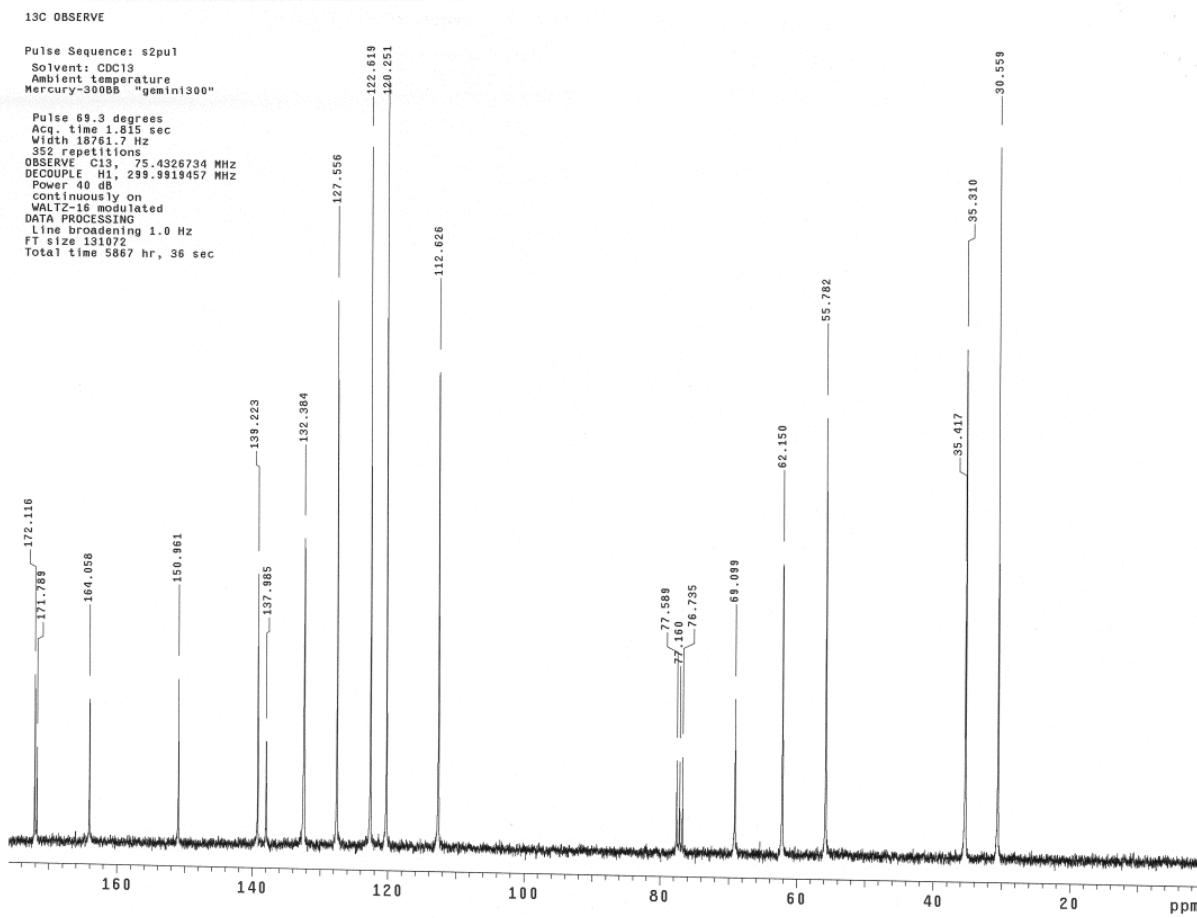


Figure S 74 : ¹³C NMR spectrum of tris-O-[4-O-acryloyl dihydroferuloyl] glycerol (**10**)

IDF-Allyl

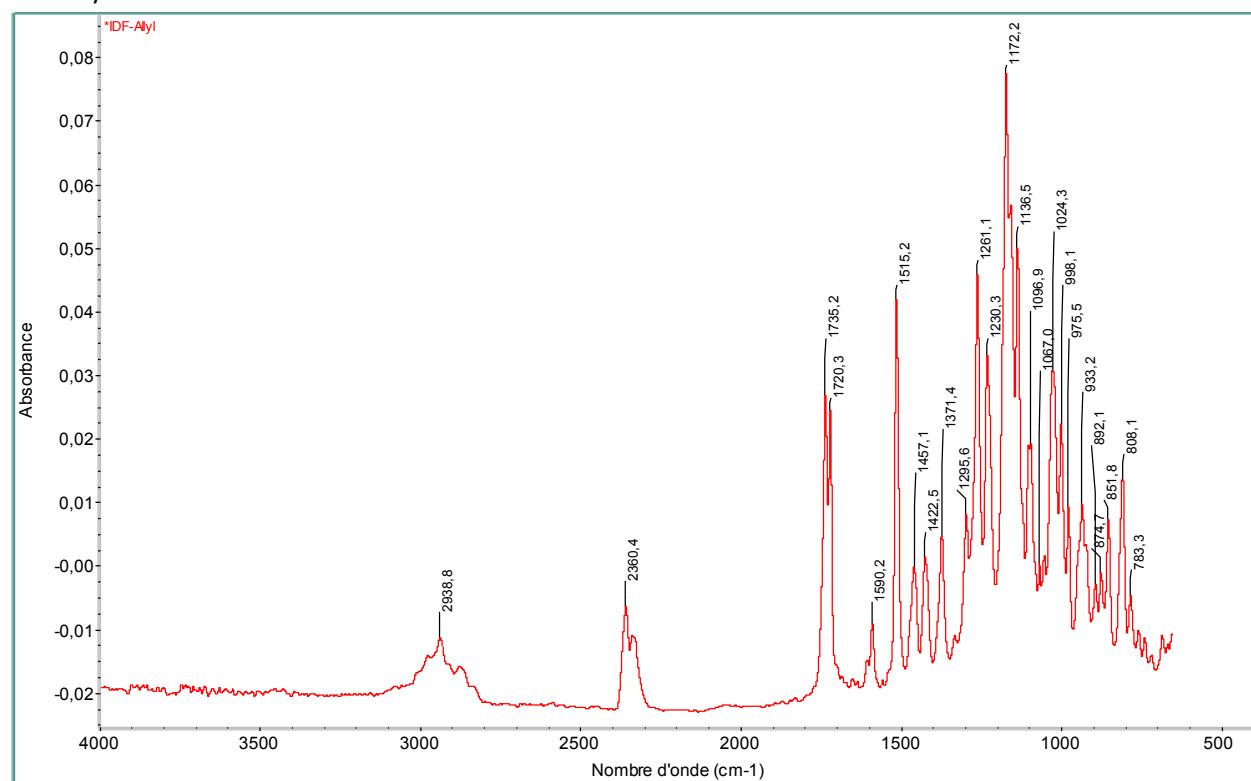


Figure S 75 : FT-IR spectrum of bis-O-[4-O-allyl dihydroferuloyl] isosorbide (**11**)

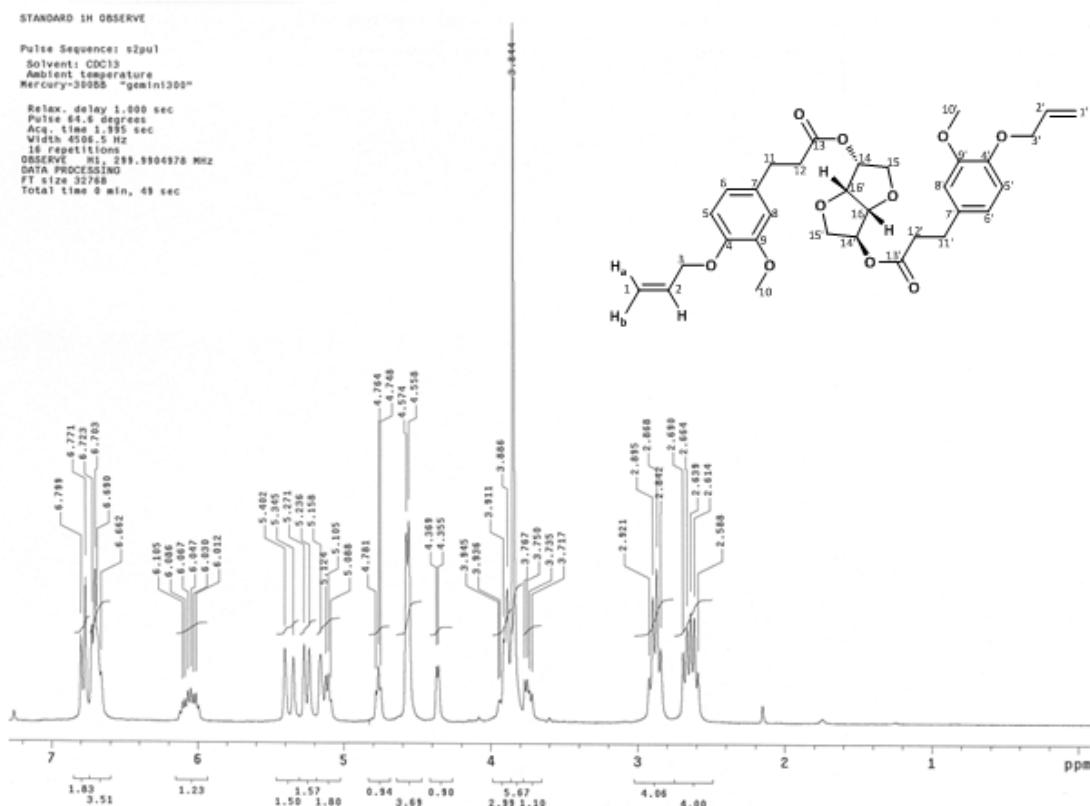


Figure S 76 : ^1H NMR spectrum of bis-*O*-[4-*O*-allyl dihydroferuloyl] isosorbide (**11**)

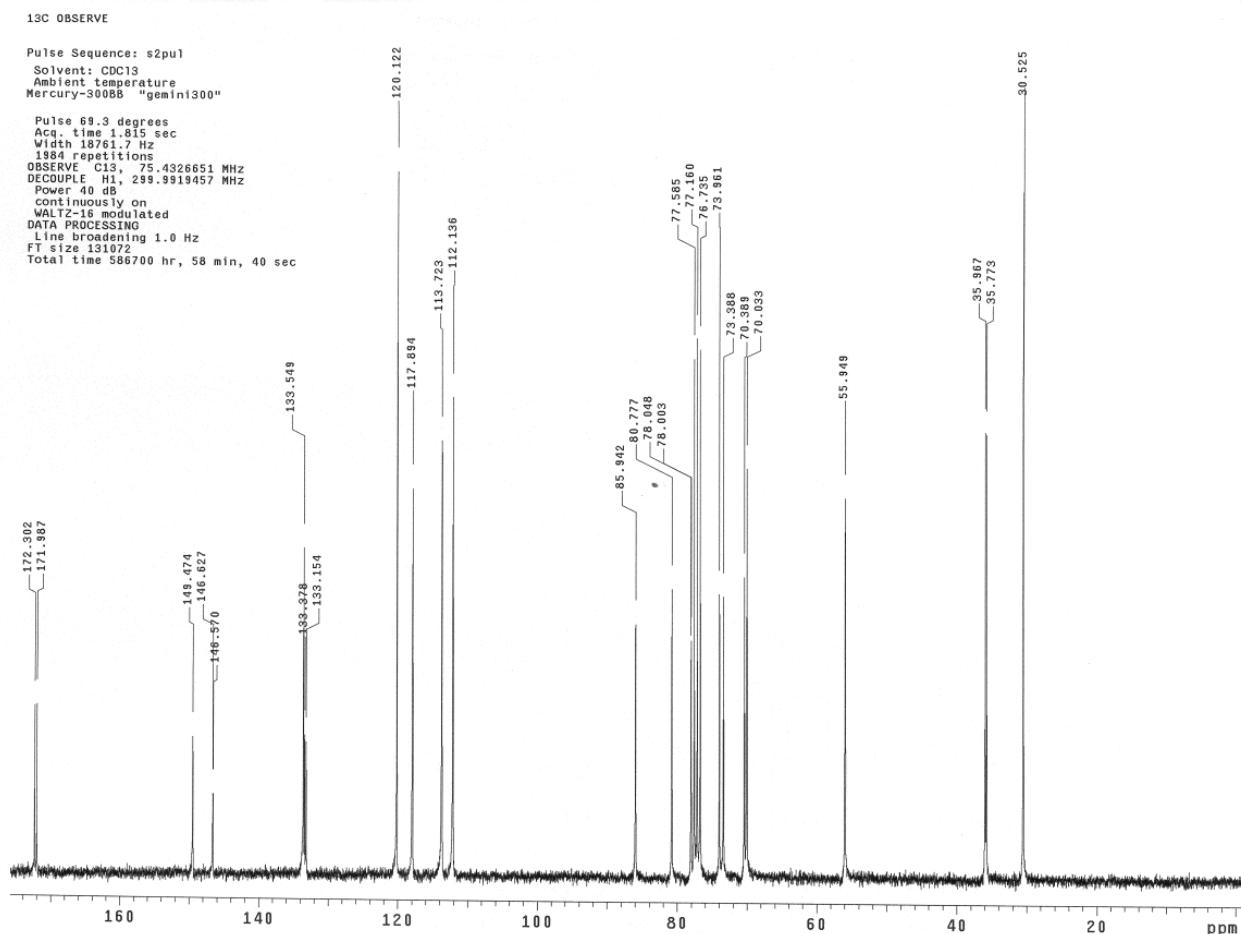


Figure S 77 : ^{13}C NMR spectrum of -O-[4-O-allyl dihydroferuloyl] isosorbide (**11**)

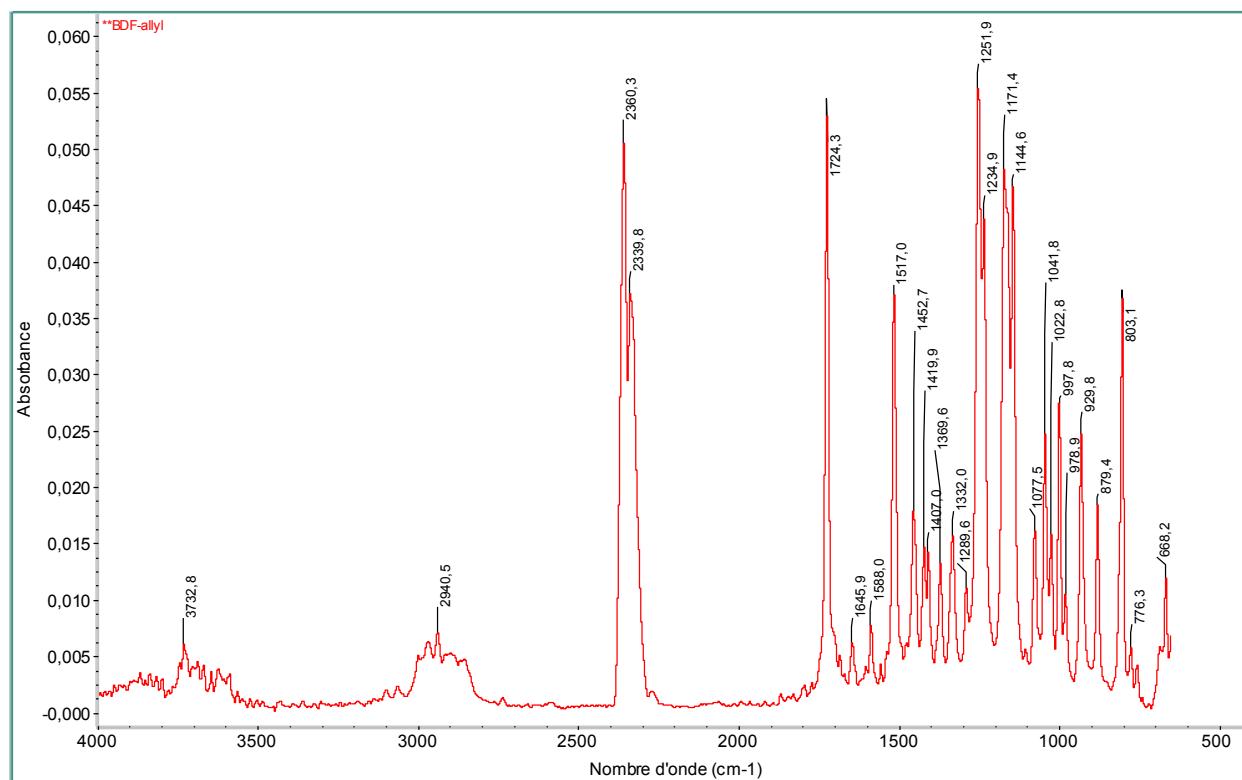


Figure S 78 : FT-IR spectrum of bis-O-[4-O-allyl dihydroferuloyl] 1,4-butanediol (12)

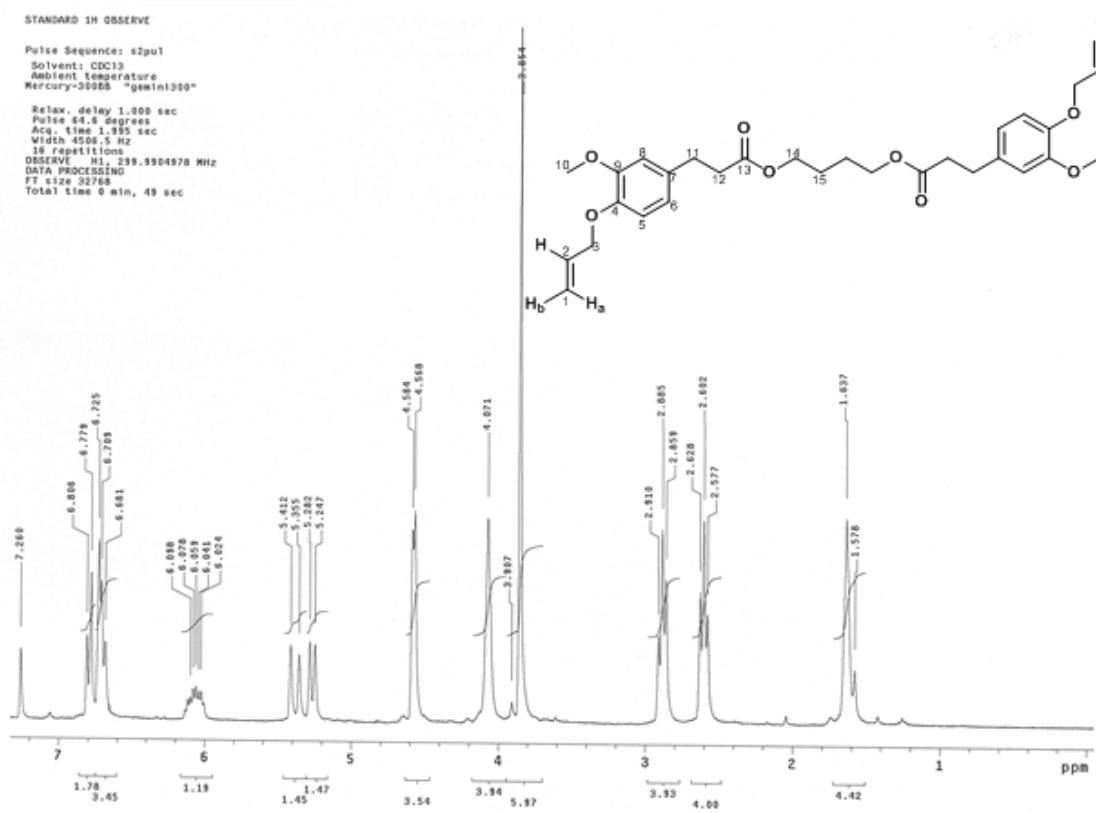


Figure S 79 : ^1H NMR spectrum of bis bis-O-[4-O-allyl dihydroferuloyl] 1,4-butanediol (**12**)

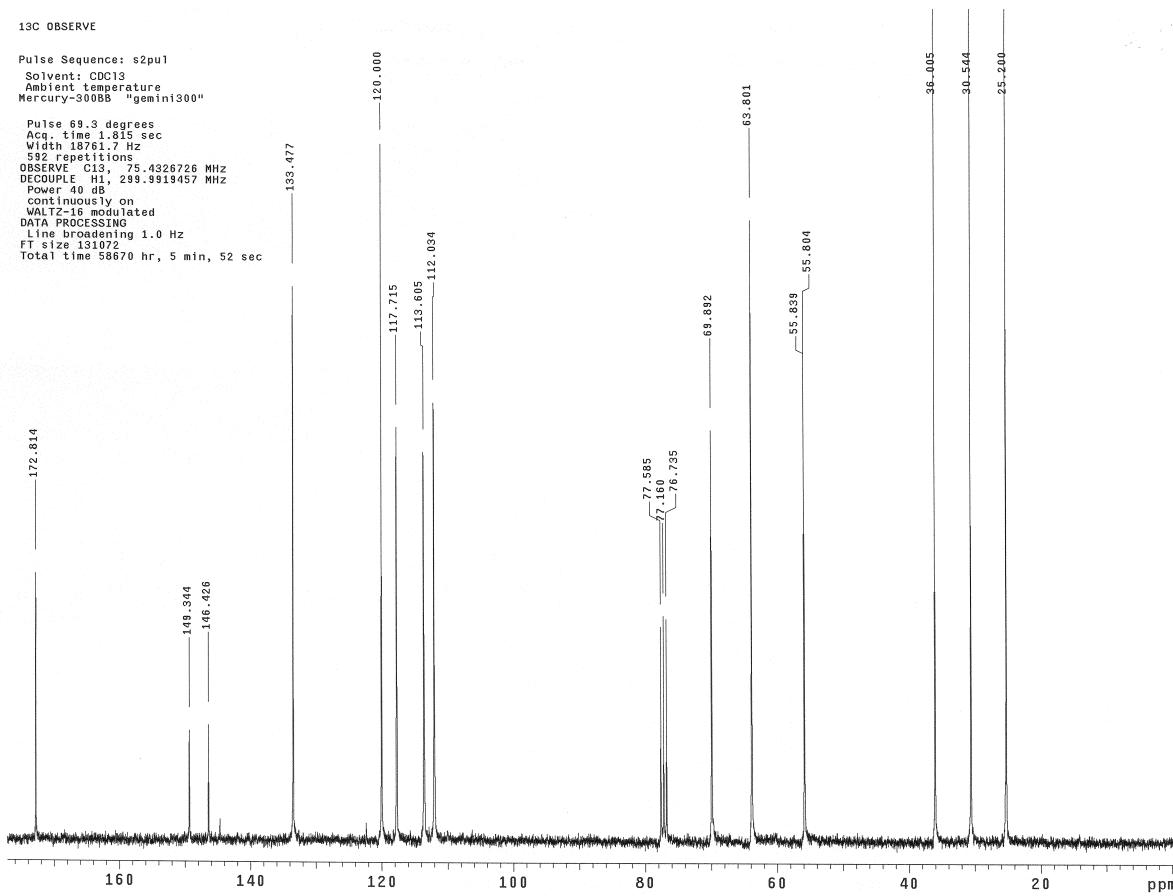


Figure S 80 : ^{13}C NMR spectrum of bis-O-[4-O-allyl dihydroferuloyl] 1,4-butanediol (**12**)

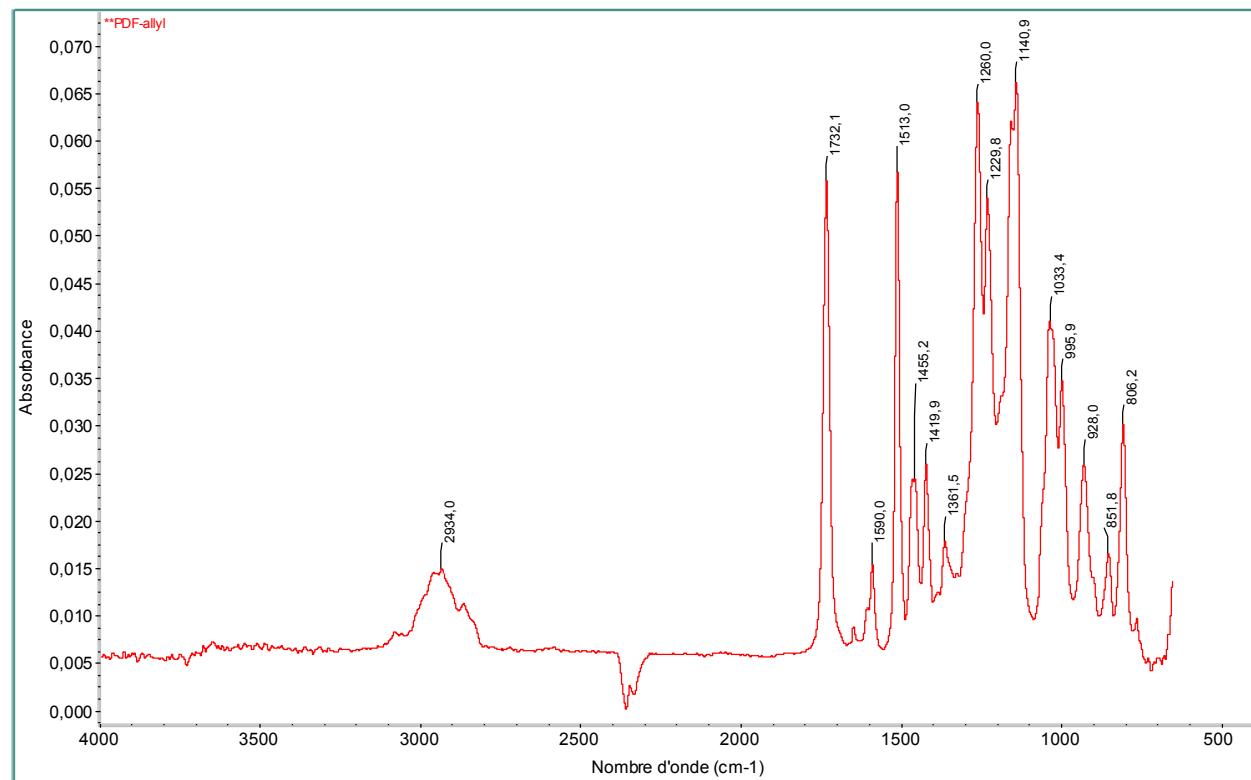


Figure S 81 : FT-IR spectrum of bis-O-[4-O-allyl dihydroferuloyl] 1,3-propanediol (**13**)

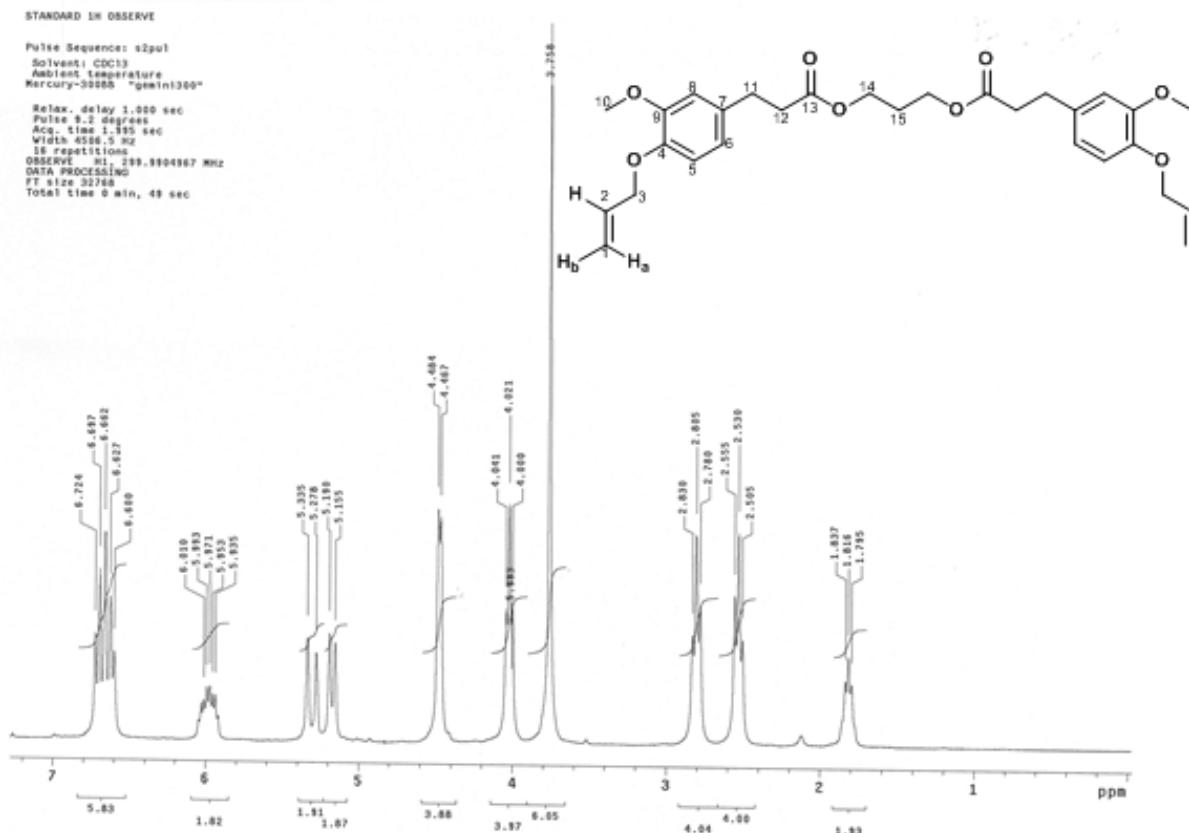


Figure S 82 : ^1H NMR spectrum of bis bis-*O*-[4-*O*-allyl dihydroferuloyl] 1,3-propanediol (**13**)

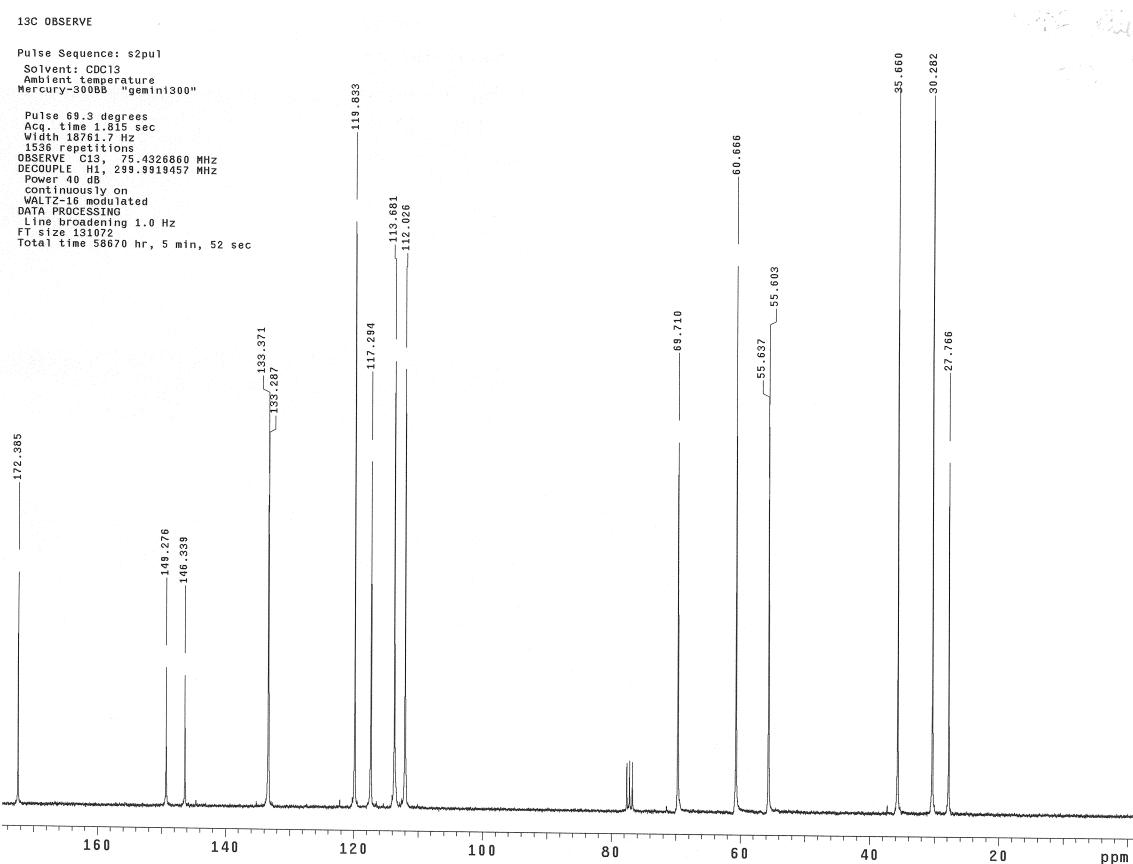


Figure S 83 : ^{13}C spectrum of bis-*O*-[4-*O*-allyl dihydroferuloyl] 1,3-propanediol (**13**)

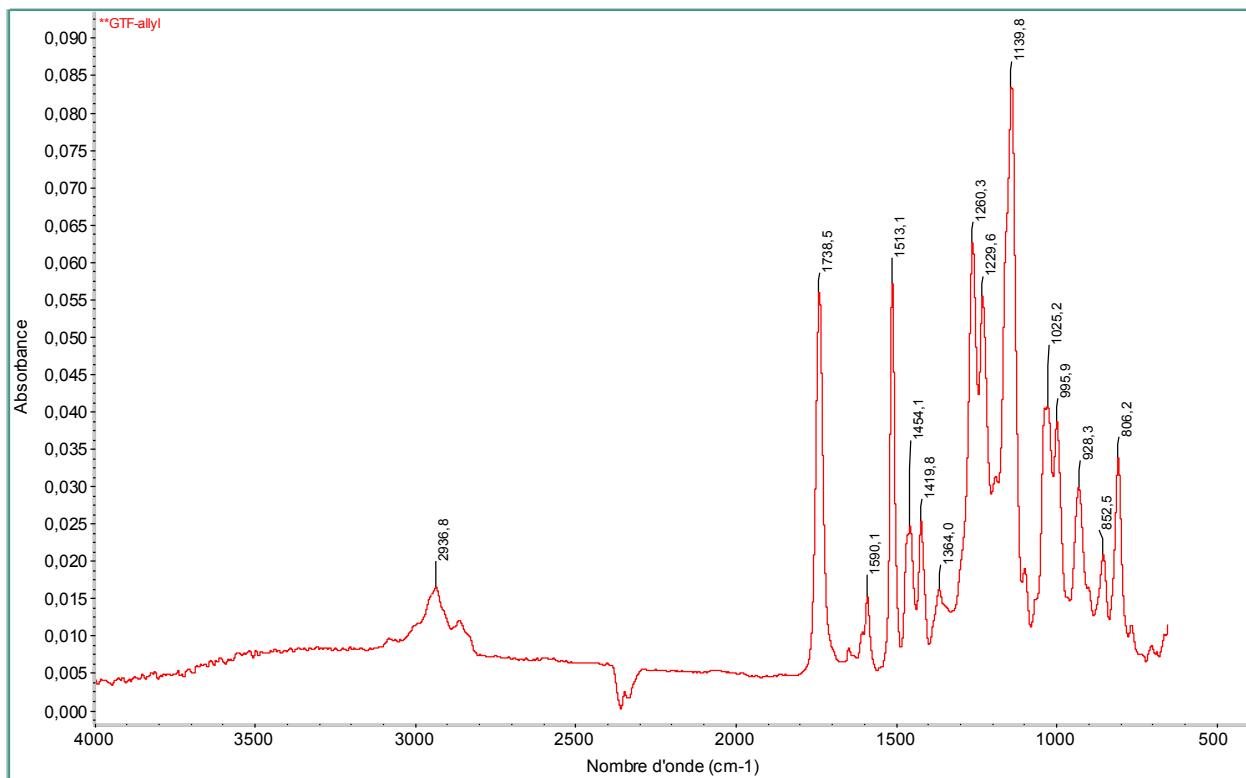


Figure S 84 : FT-IR spectrum of tris-*O*-[4-*O*-allyl dihydroferuloyl] glycerol (**14**)

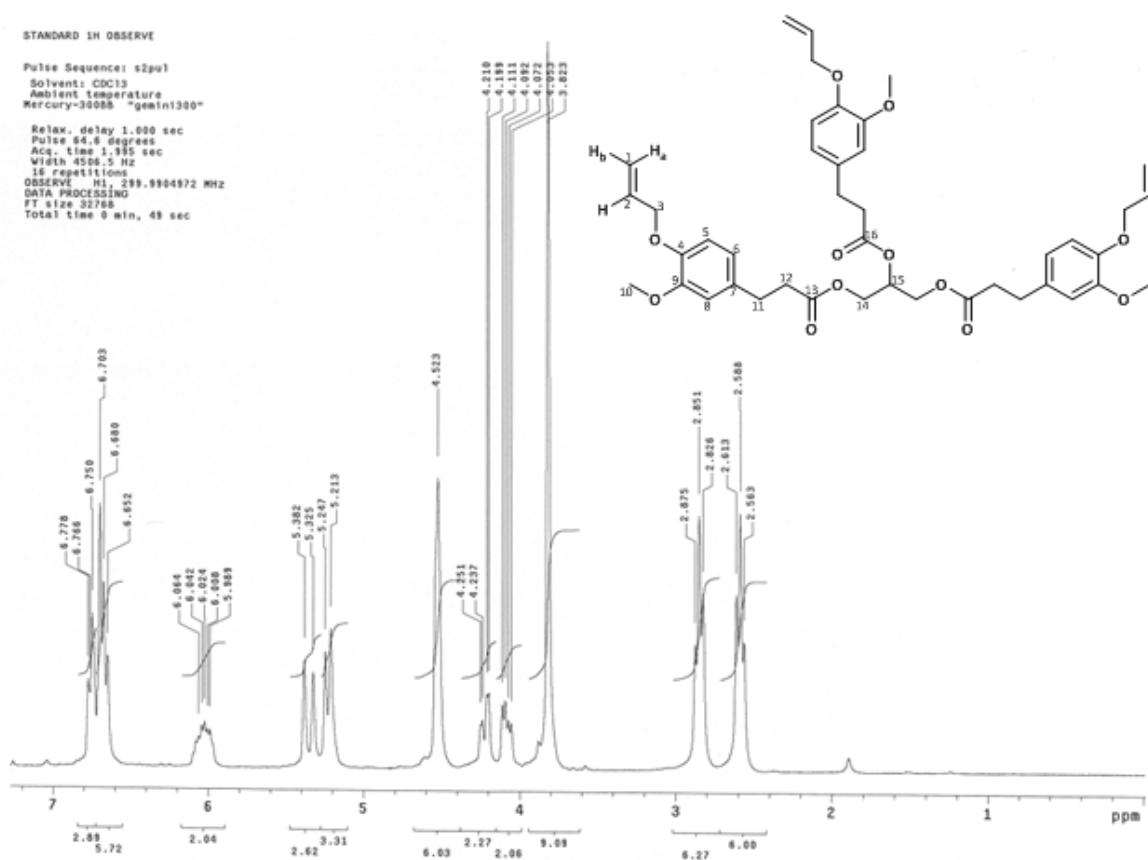


Figure S 85 : ^1H NMR spectrum of tris-*O*-[4-*O*-allyl dihydroferuloyl] glycerol (**14**)

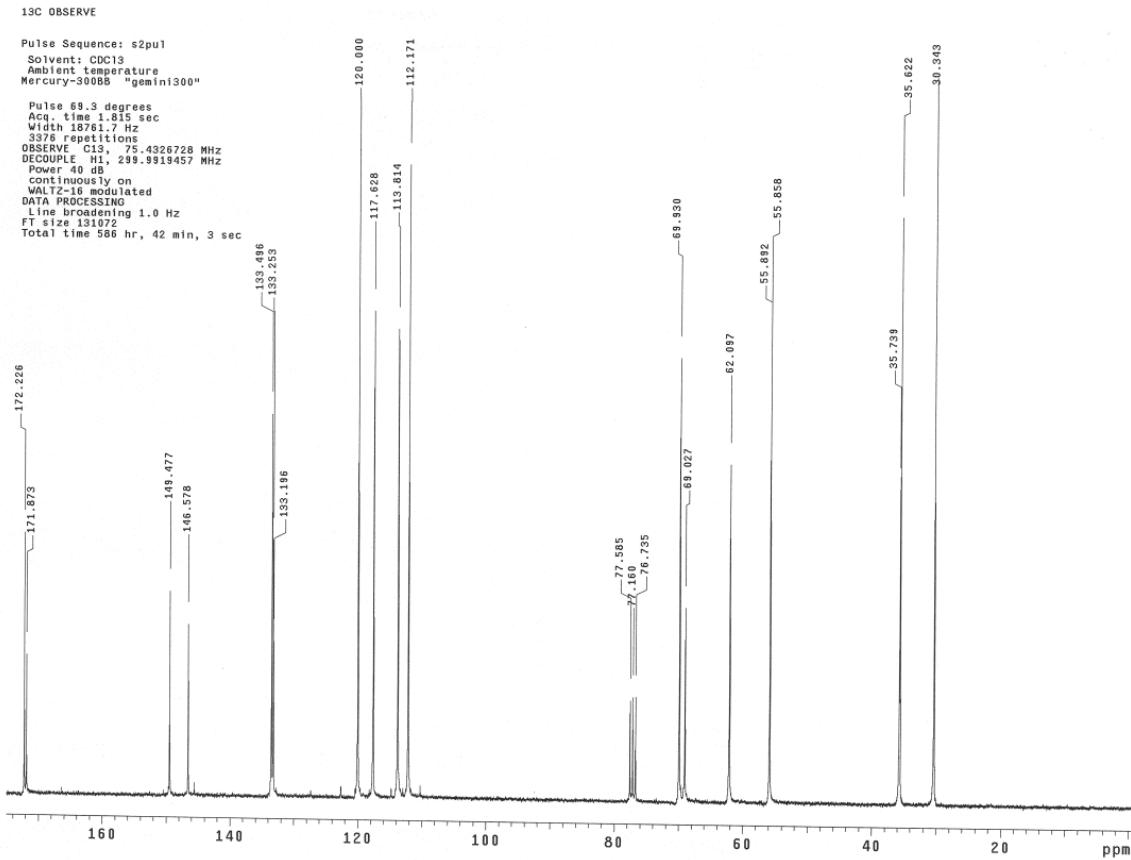


Figure S 86 : ¹³C NMR spectrum of tris-O-[4-O-allyl dihydroferuloyl] glycerol (**14**)