

Supplementary Material

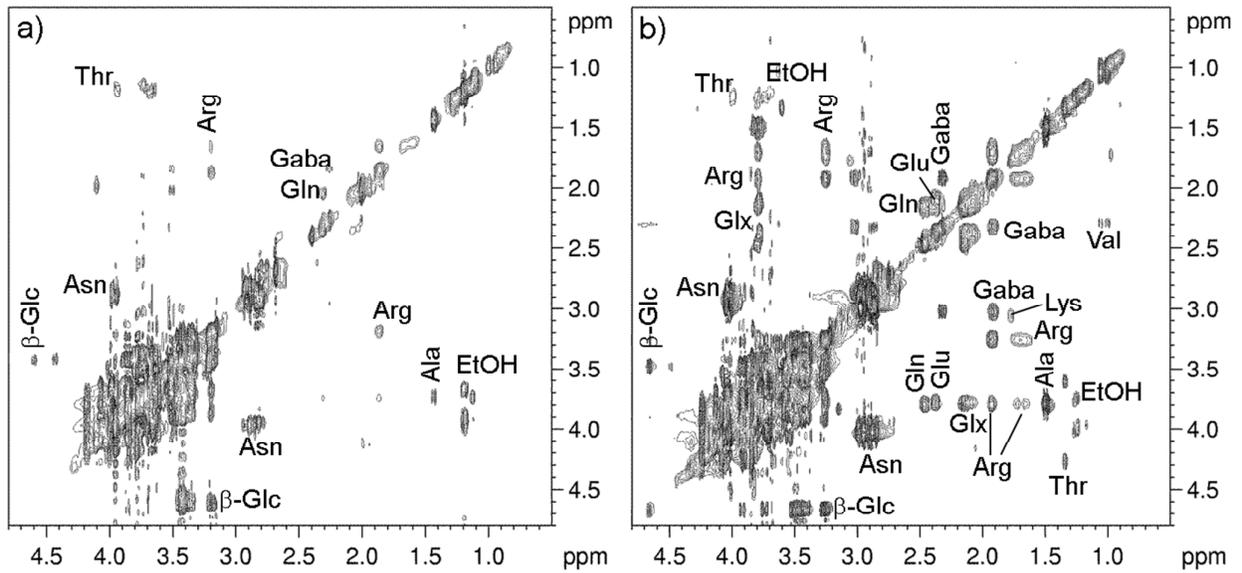


Figure S1. Partial  $^1\text{H}, ^1\text{H}$ -TOCSY spectra of callus sample of 'Conference' pear (a) and 'BA 29' quince (b) control.

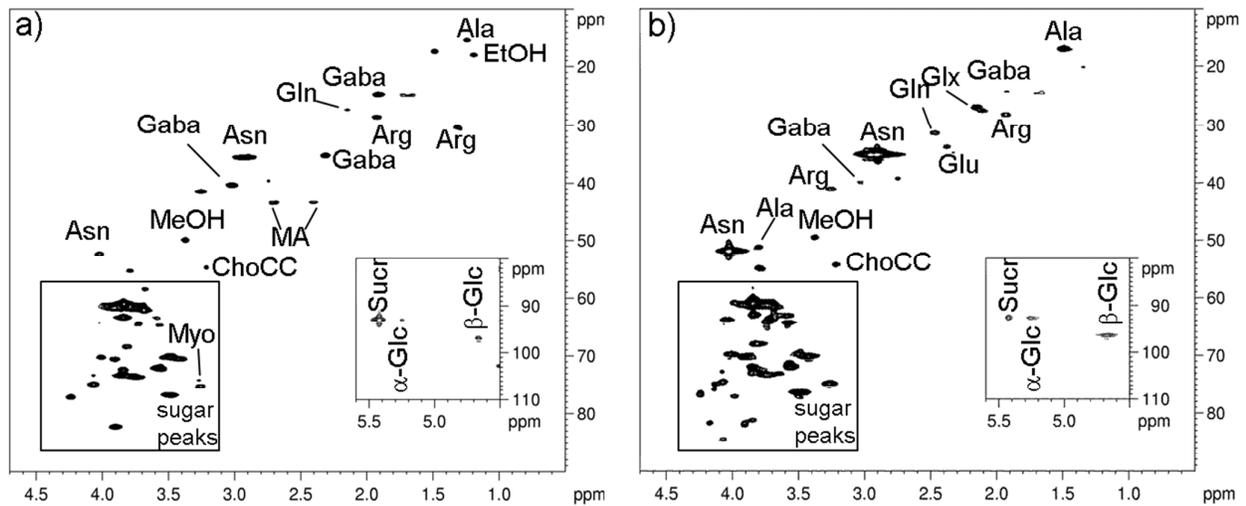


Figure S2. Partial  $^1\text{H}, ^{13}\text{C}$ -HSQC spectra of callus sample of 'Conference' pear (a) and 'BA 29' quince (b) control.

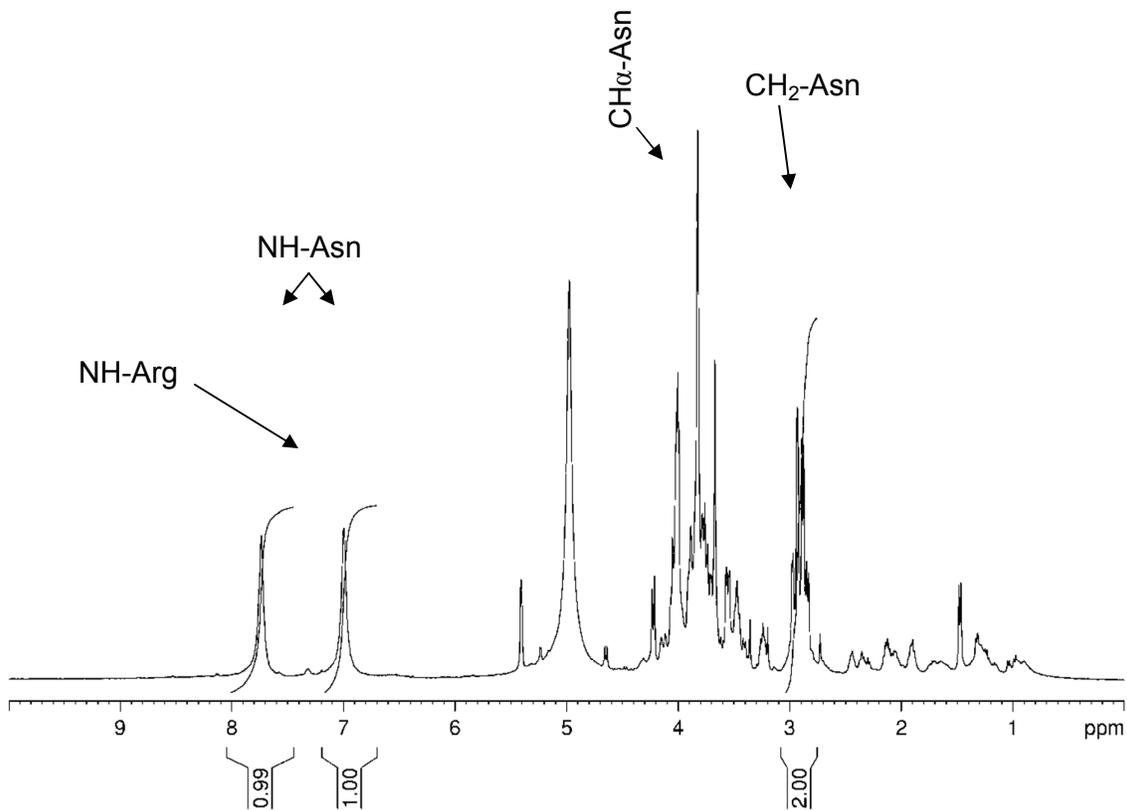


Fig S3: <sup>1</sup>H NMR spectrum of 'BA 29' quince control, representing the typical integral ratio of signals assigned to Asn.

Linear correlations were found for both quince and 'Conference' pear integrals of Asn between NH and CH<sub>α</sub> signals, with good R<sup>2</sup> (0.98) for quince and lower R<sup>2</sup> (0.87) for pear (where the Asn signals are lower).

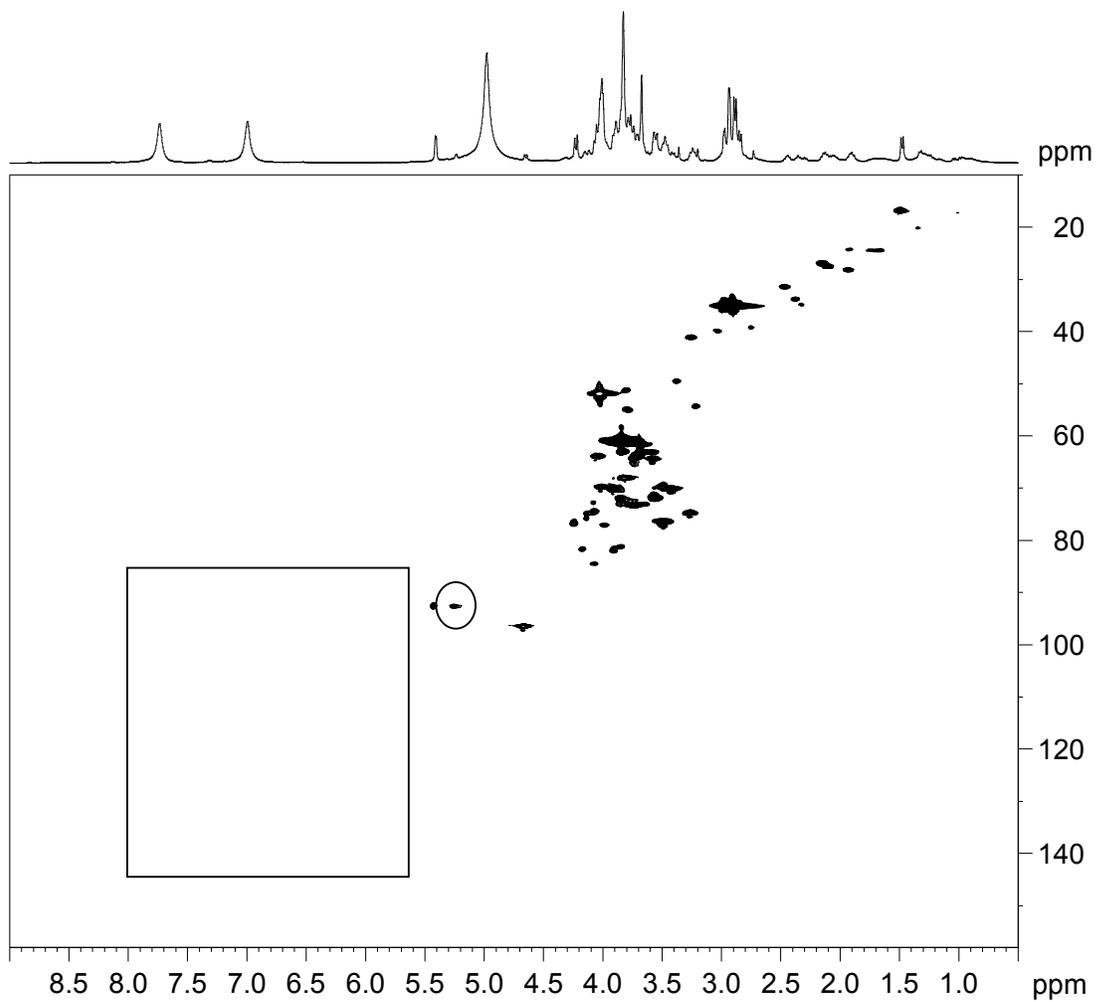


Figure S4: Total  $^1\text{H}$ ,  $^{13}\text{C}$ -HSQC of 'BA 29' quince control, showing that, even in the case of very strong peaks at 7.8 and 7.0 ppm, no H,C correlations are found for these two proton signals (square). With the same levels, the much lower signal from  $\alpha$ -Glc H-1 gives a detectable correlation (circle).

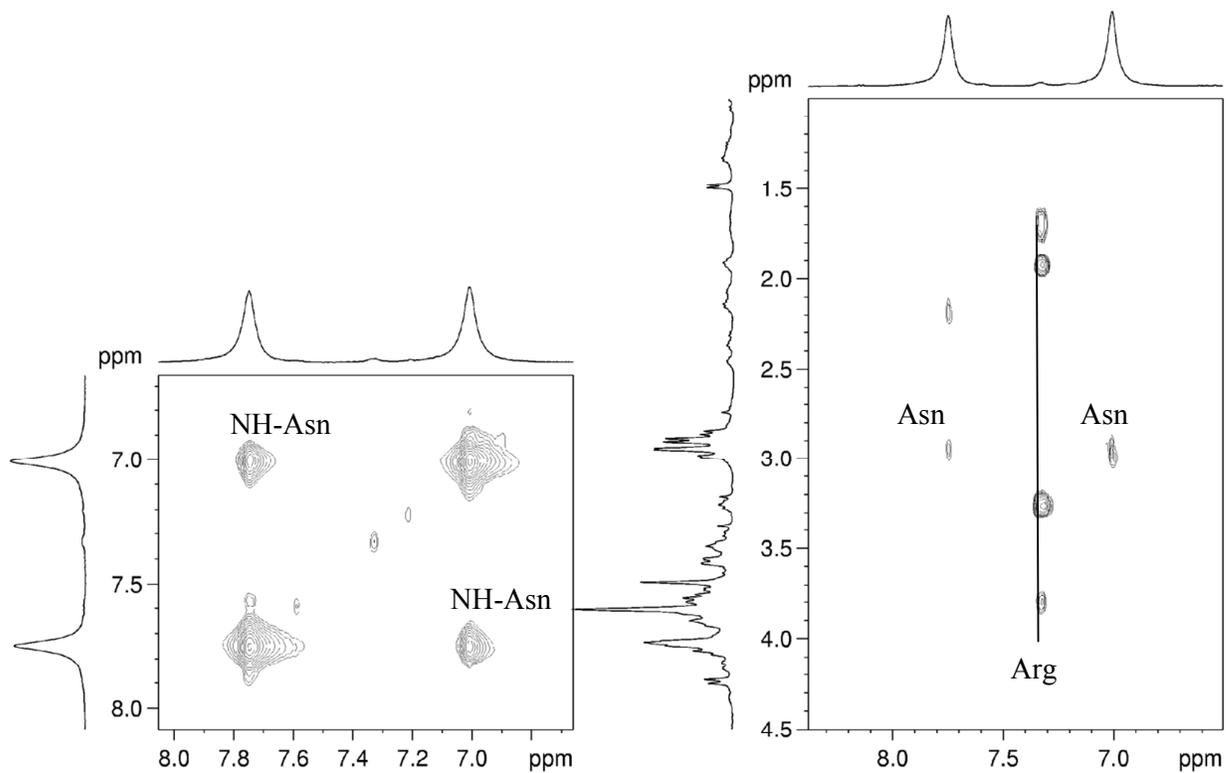


Figure S5: Partial TOCSY spectrum of 'BA 29' quince control showing an intense correlation between NH-Asn protons, faint correlations among them and CH<sub>2</sub> Asn protons, and high correlations among a low and broad signal at 7.3 ppm with all the Arg resonances (1.69, 1.92, 3.25, 3.80 ppm), thus assigned to NH-Arg.

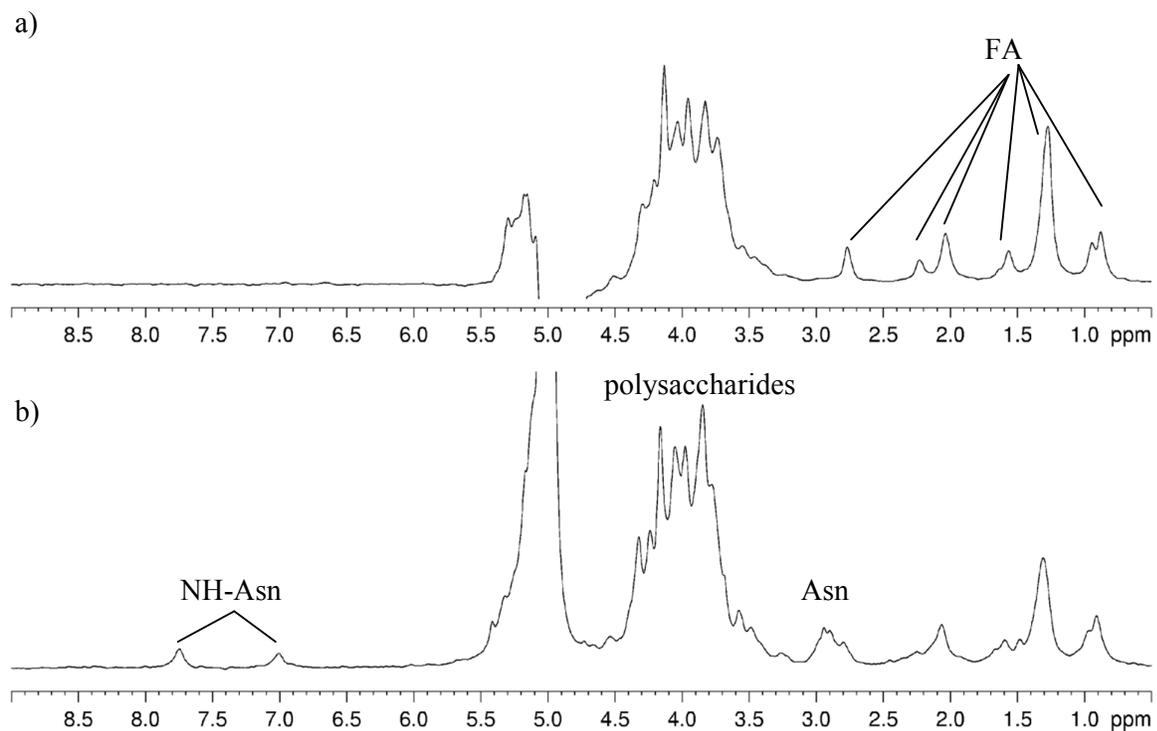


Figure S6: Diffusion-edited  $^1\text{H}$  spectra of 'Conference' pear (a) and 'BA 29' quince (b) controls, showing mainly signals from polysaccharides and fatty acid chains (FA), the latter more evident in pear. In the case of quince, also signals from Asn are detected.

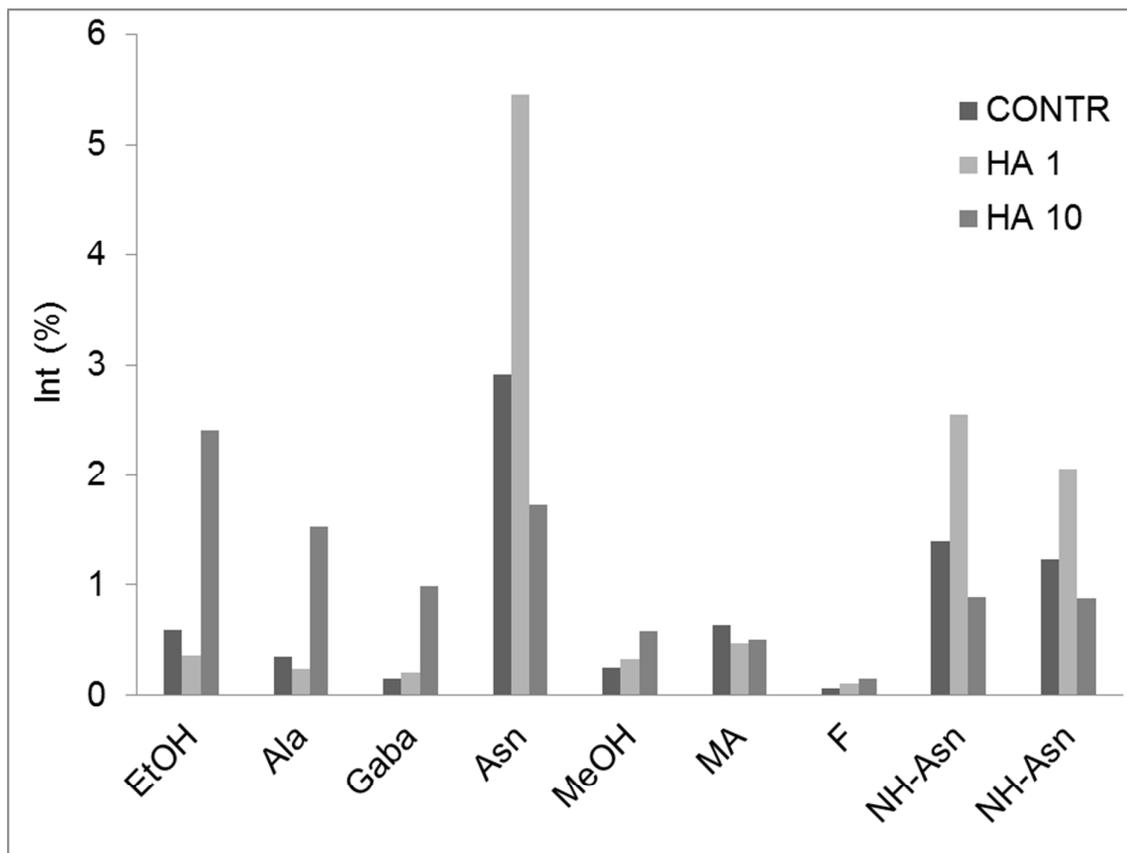


Figure S7: Changes in the integrals of selected  $^1\text{H}$  NMR signals in callus samples of 'Conference' pear treated with different HA amounts [0, control (CONTR), 1 and 10 mg C L $^{-1}$ ].

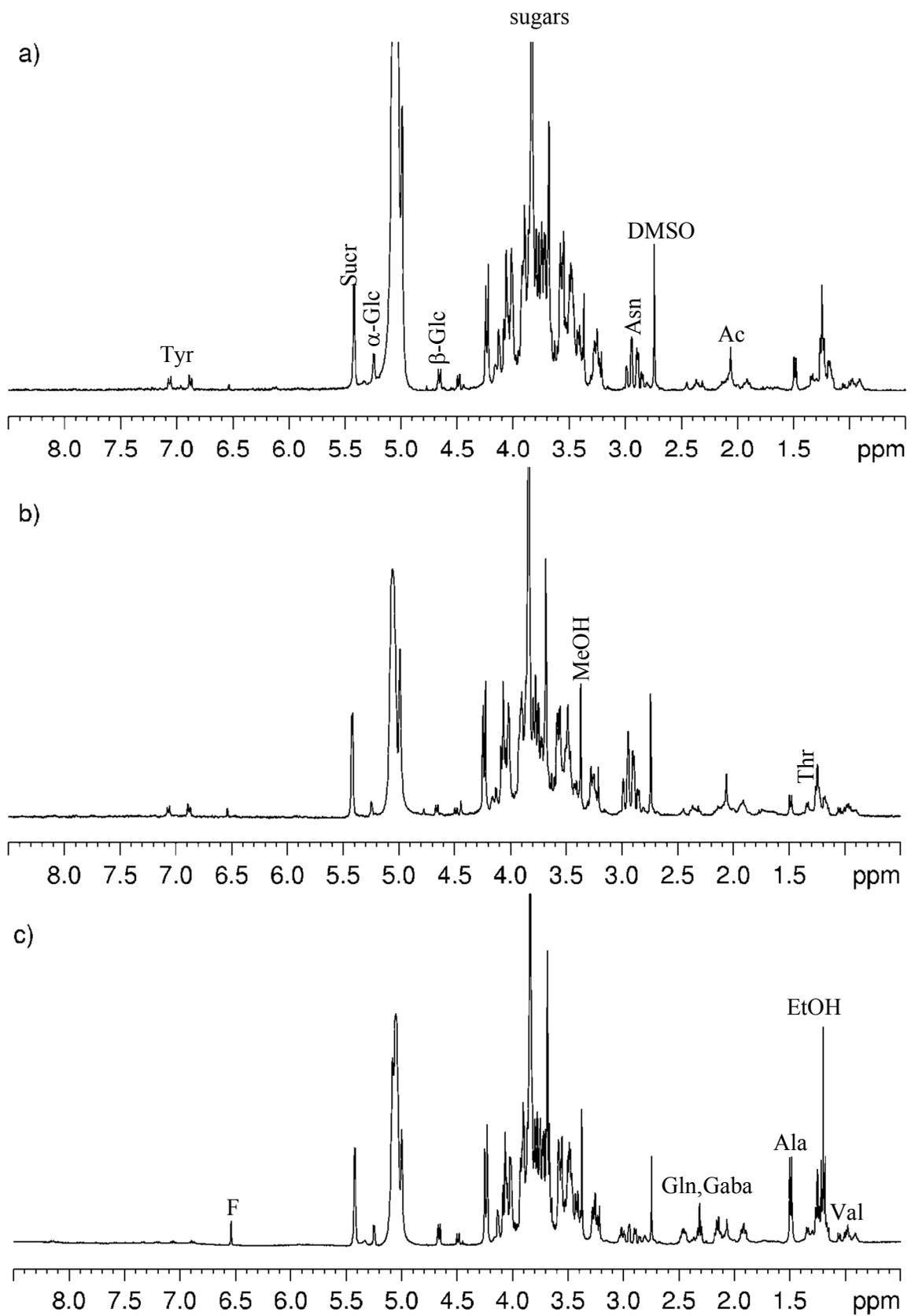


Figure S8: CPMG  $^1\text{H}$  NMR spectra of leaf-derived callus samples of 'Conference' pear at 30 day in the induction phase: (a) controls, and explants treated with 1 (b) and 10 (c) mg  $\text{C L}^{-1}$  HA. (DMSO: dimethylsulphoxide; Ac: acetyl).

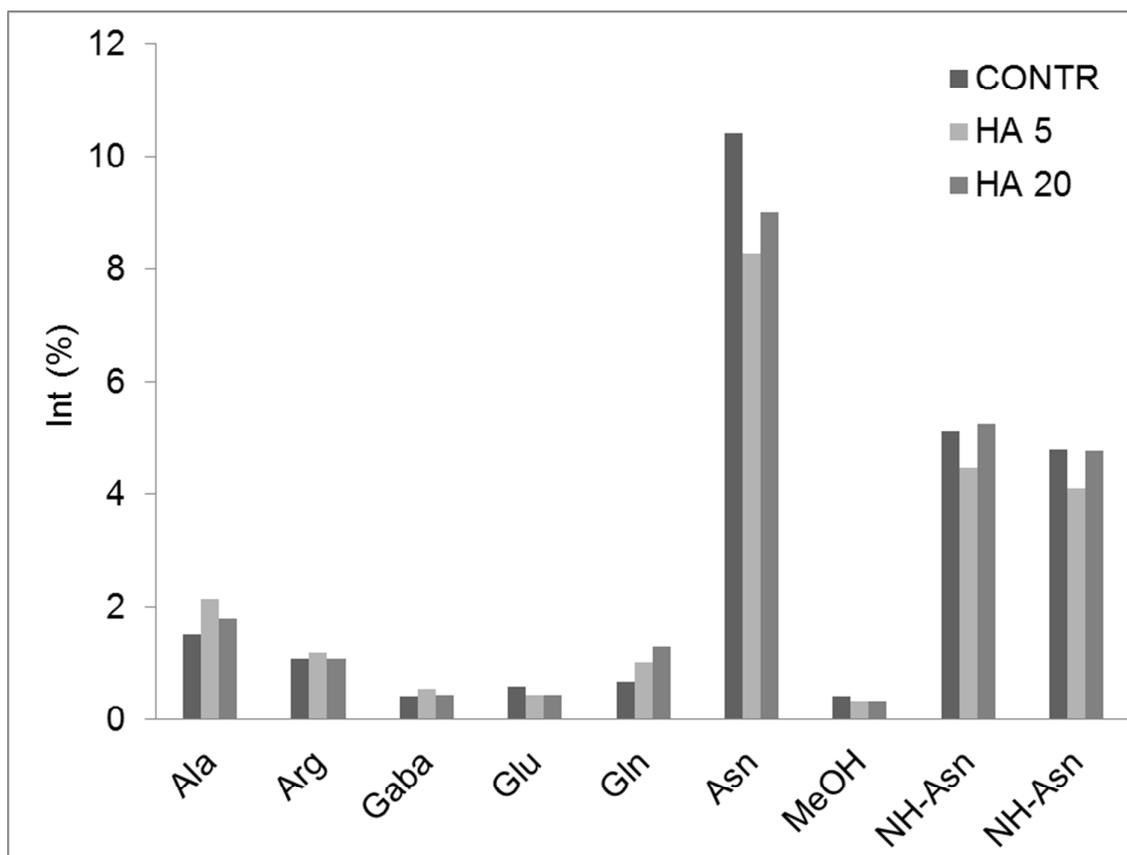


Figure S9. Changes in the integrals of selected  $^1\text{H}$  NMR signals in callus samples of 'BA 29' quince treated with different HA amounts [0, control (CONTR), 5 and 20 mg C L $^{-1}$ ].

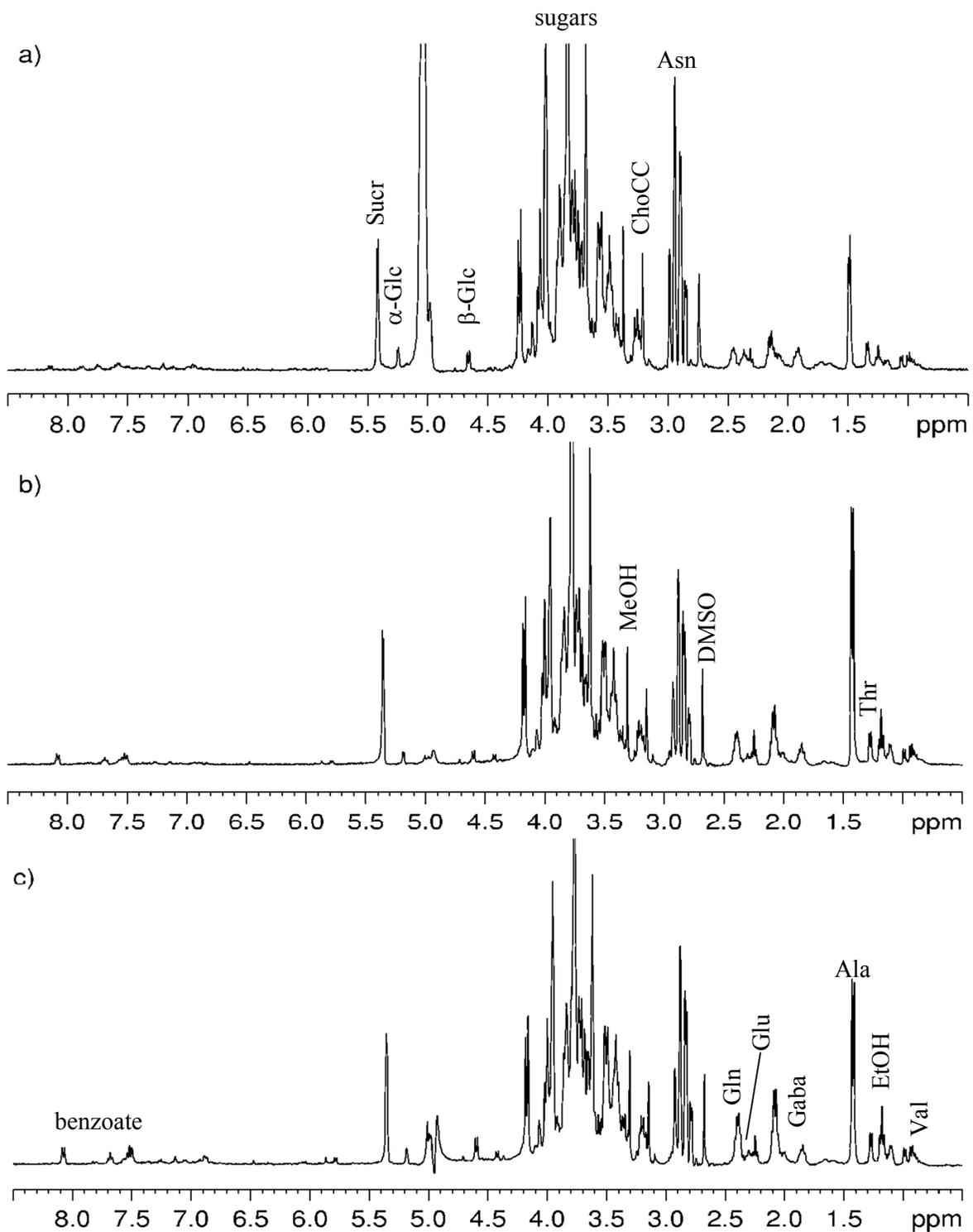


Figure S10. CPMG  $^1\text{H}$  NMR spectra of leaf-derived callus samples of 'BA 29' quince at d 30 in the induction phase: a) controls, and explants treated with 5 (b) and 20 (c) mg C L $^{-1}$  HA. (DMSO: dimethylsulphoxide).