

**Table S1.** Spectral interpretation and assignment of canola root samples after multivariate analysis.

<b>Wavenumber (cm<sup>-1</sup>)</b>	<b>Assignment</b>	<b>Group</b>
1655	C-N stretching amide I	Proteins
1578	N-H deformation amide II	Proteins
1553	N-H deformation amide II	Proteins
1542	N-H deformation amide II	Proteins
1520	Skeletal bands of aromatic rings	Lignin
1483	C-H bending in alkyl group	Proteins
1467	CH <sub>2</sub> bending of methylene chains in lignin	Lignin
1351	CH <sub>2</sub> bending	Xyloglucan, cellulose
1275	C-O stretching	Lignin, pectin
1261	C-O stretching	Pectin
1250	C-O stretching	Pectin/lignin

**Table S2.** Primer sequences used for quantitative real-time PCR analysis.

<b>Gene Name</b>	<b>Accession No.</b>	<b>Forward</b>	<b>Reverse</b>	<b>Reference</b>
<i>BrPAL1</i>	DQ341309	CAAAGCGATTACGGAGGTAA	CGCTCCTTTGAAACCGTAGTC	[58]
<i>BrPAL2</i>	AY795080	TTGGATTACGGATTCAAAGGA	CGAGATGAGTCCCAAAGAGTT	[58]
<i>BrPAL3</i>	AY055752	AGAACGGTGTGCGCTCTTCAG	TGTGGCGGAGTGTGGTAATG	[58]
<i>BrC4H</i>	DQ485129	TGACTTTAAGTATGTGCCGTTG	GGACCTTGGCTTCATTACGAT	[58]
<i>Br4CL</i>	CX190902	TAATCCGAATCTTTACTTCCACAG	GCAACCGTCACTTTACACCTCT	[58]
<i>BrCCR</i>	CD844319	GGTGGAAGTTTAGGTCATTAGAAGA	CCAATAGTAGACTTGAGGAGGTGAA	[58]
<i>BrCAD</i>	CD814354	TTATGTCCTGGTTGGTTTCCC	CACCCTTCAATAGCTTCGTTT	[58]
<i>BrGST</i>	AI352707	GTGGCTGAGATCACCAAGAG	TACTGCGACTGAAGCAGAAG	This work
<i>BrXTH</i>	AY156708	GTCCGCATGAAATGGACCATCTAC	CCTTCTACATTCGGCTGGCATAAC	This work