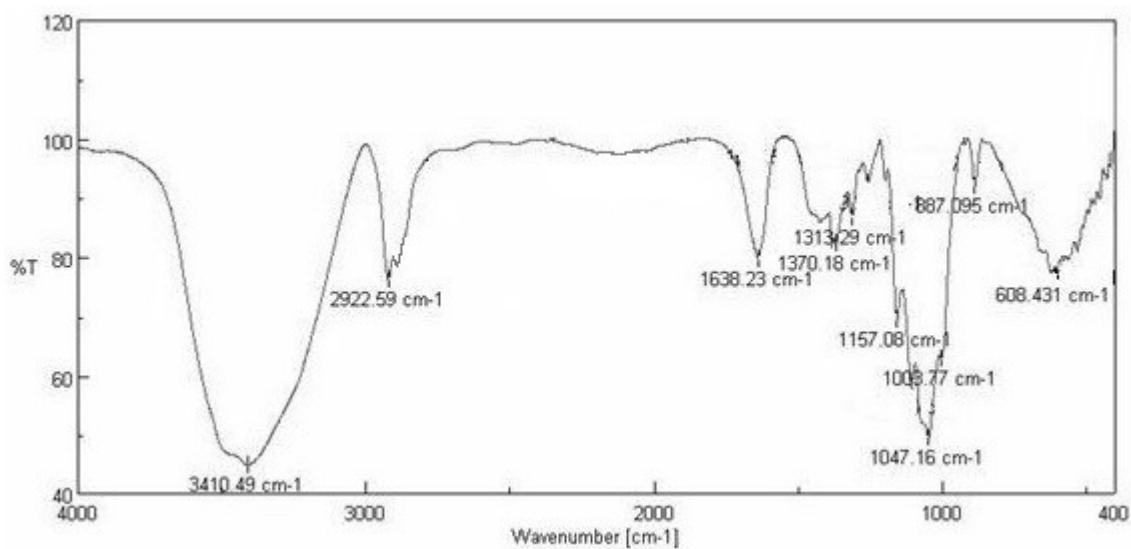
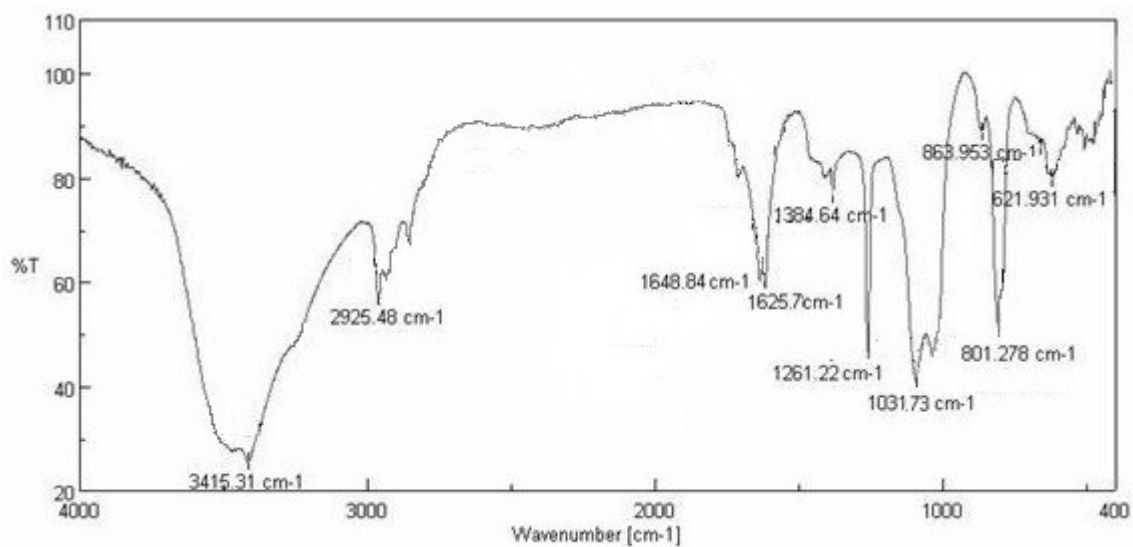


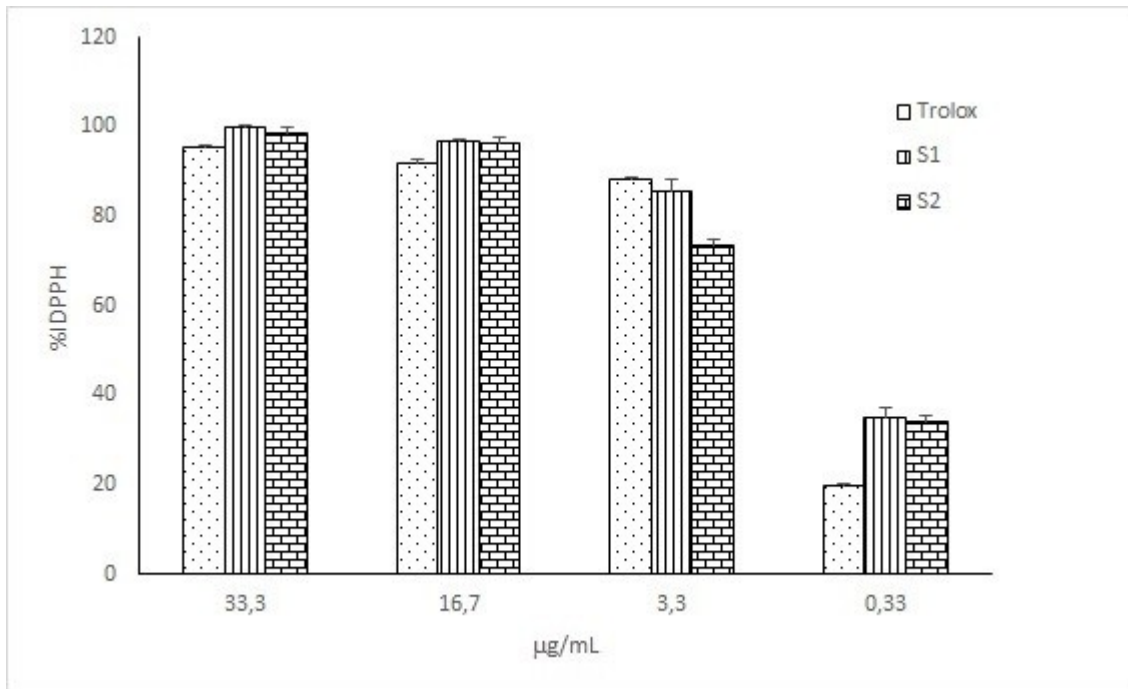
### Electronic supplementary information



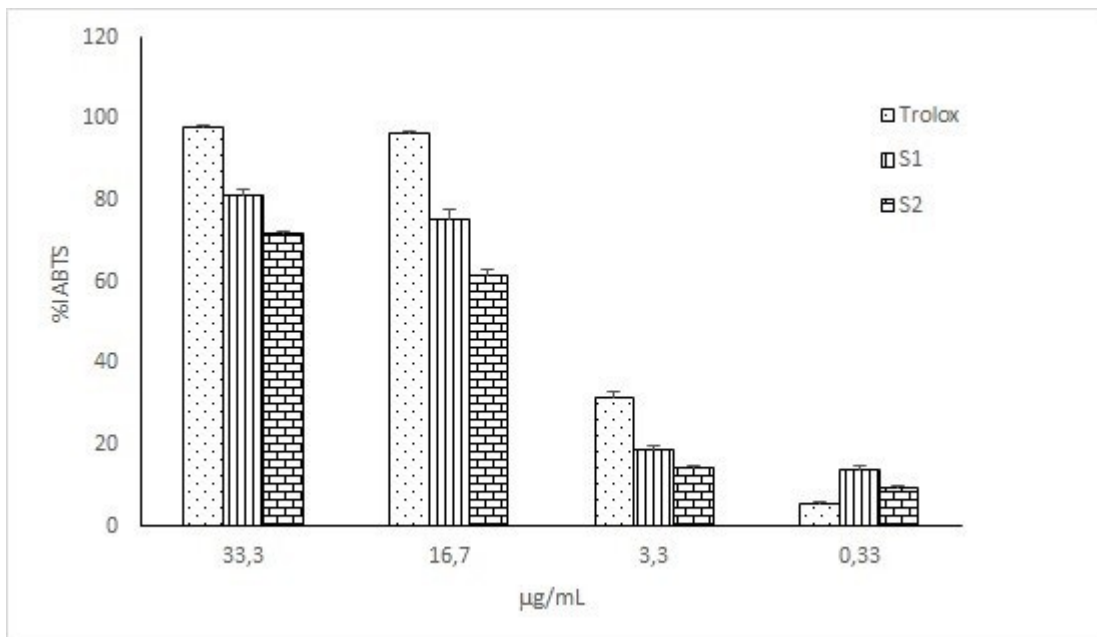
**Figure S1.** Infrared spectrum of commercial  $\beta$ -glucans.



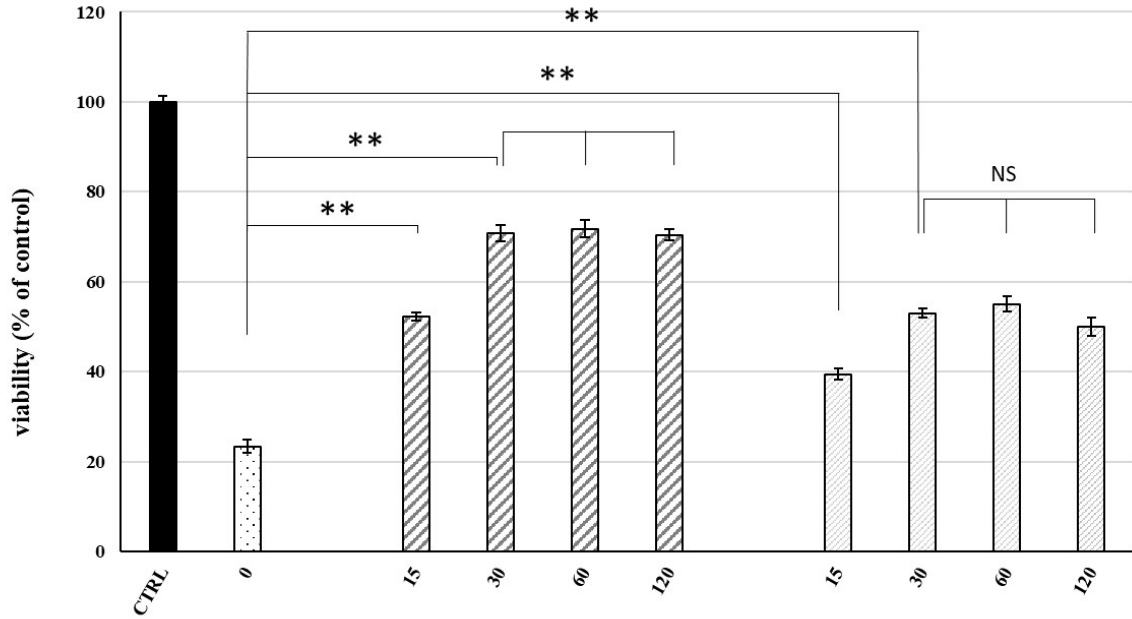
**Figure S2.** Infrared spectrum of extracted  $\beta$ -glucans.



**Figure S3** DPPH radical scavenging of acetone and methanol extracts



**Figure S4.** ABTS radical scavenging of acetone and methanol extract



Men (20 μM)	-	+	+	+	+	+	+	+	+	+	+
S1 (μg/mL)	-	-	-	-	-	-	+	+	+	+	+
S2 (μg/mL)	-	-	+	+	+	+	-	-	-	-	-

**Figure S5.** Protection from menadione-induced-oxidative stress. Hek-293 human embryonic kidney epithelial cells were treated with S1 or S2 extracts at the indicated four different concentrations (15, 30, 60 and 120 μg/mL) for 24 h. subsequently, ROS production was induced treating cells for 1 hour with 20 μM menadione. The residual cell viability was assessed by MTT assay, as described. Data are representative of three independent experiments performed in triplicate. *Columns* mean, *bars* SD (\*\*p<0.001, NS non significant).

**Table S1.** Validation results<sup>a</sup>

	Level (mg/g)											
	40		60		80		100		120		150	
	R	CV	R	CV	R	CV	R	CV	R	CV	R	CV
<i>Pomegranate peel powder</i>	87	9.2	89	8.9	91	8.9	91	7.2	93	7.6	95	6.2

<sup>a</sup>R = recovery (%); CV = coefficients of variation (%).

**Table S2.** Antioxidant activity of acetone (S1) and methanolic (S2) extracts from *Akko* pomegranate peels<sup>a</sup>

		%I <sub>DPPH</sub>	%I <sub>DPPH</sub>	%I <sub>DPPH</sub>	%I <sub>ABTS</sub>	%I <sub>ABTS</sub>	%I <sub>ABTS</sub>
		S1	S2	Trolox	S1	S2	Trolox
	33.3	99.83±0.4	98.57±1.2	95.59±0.4	81.02±1.8	71.97±0.3	98.12±0.4
<b>Concentration</b>	16.7	96.81±0.3	96.56±1.0	92.07±0.7	75.45±2.5	61.78±1.5	96.59±0.5
(µg/ml)	3.3	85.73±2.4	73.72±1.2	88.32±0.3	18.59±1.4	14.29±0.5	31.54±1.4
	0.33	35.10±2.3	34.09±1.4	19.84±0.6	13.90±0.99	9.54±0.6	5.56±0.4
<b>IC<sub>50</sub>(µg/ml)</b>		0.58±0.6	0.79±0.13	0.89±0.14	8.02±1.13	12.44±1.6	4.06±0.09

<sup>a</sup> Radical scavenging ability of S1 and S2 at various concentrations. Results are expressed as mean ± SD