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## SUPPLEMENTARY MATERIALS

### **In vitro effects of particulate matter associated with a wildland fire in the North-West of Italy**

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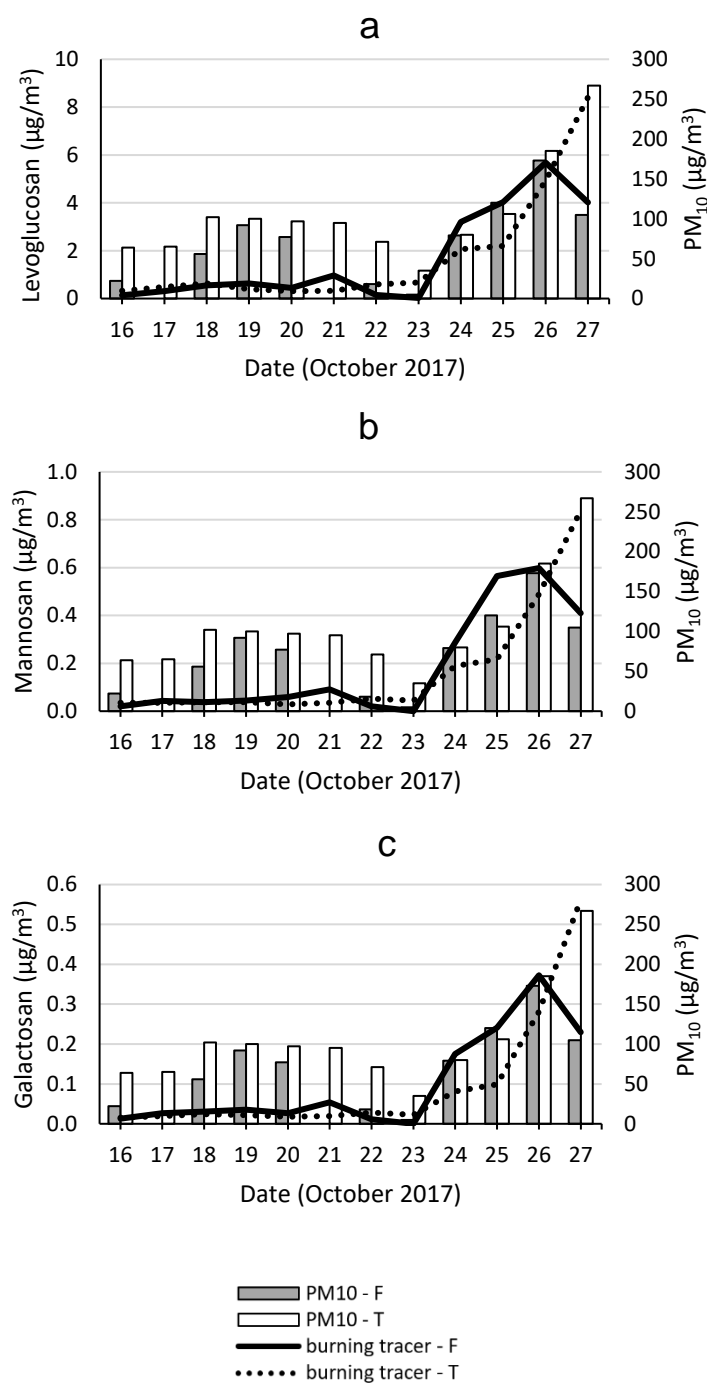
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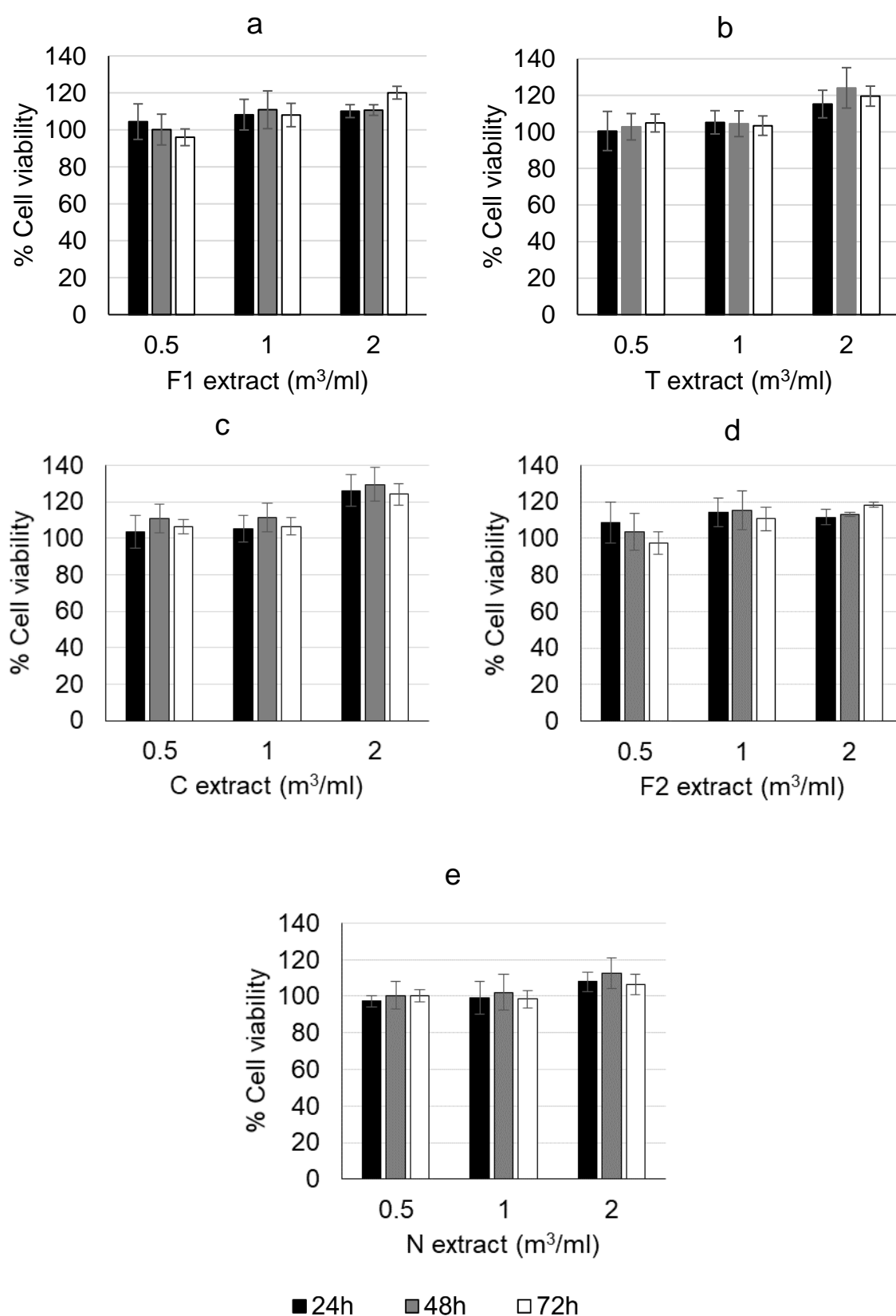
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**Table S1.** Concentrations of PM tested in the biological assays expressed as m<sup>3</sup>/ml and µg/ml. F1 – PM<sub>10</sub> collected in Chiomonte (wildland fire); T – PM<sub>10</sub> collected in Torino; C – PM<sub>10</sub> collected in Ceresole Reale; F2 – PM<sub>2.5</sub> collected in Chiomonte (wildland fire); N – PM<sub>2.5</sub> collected in Novara.

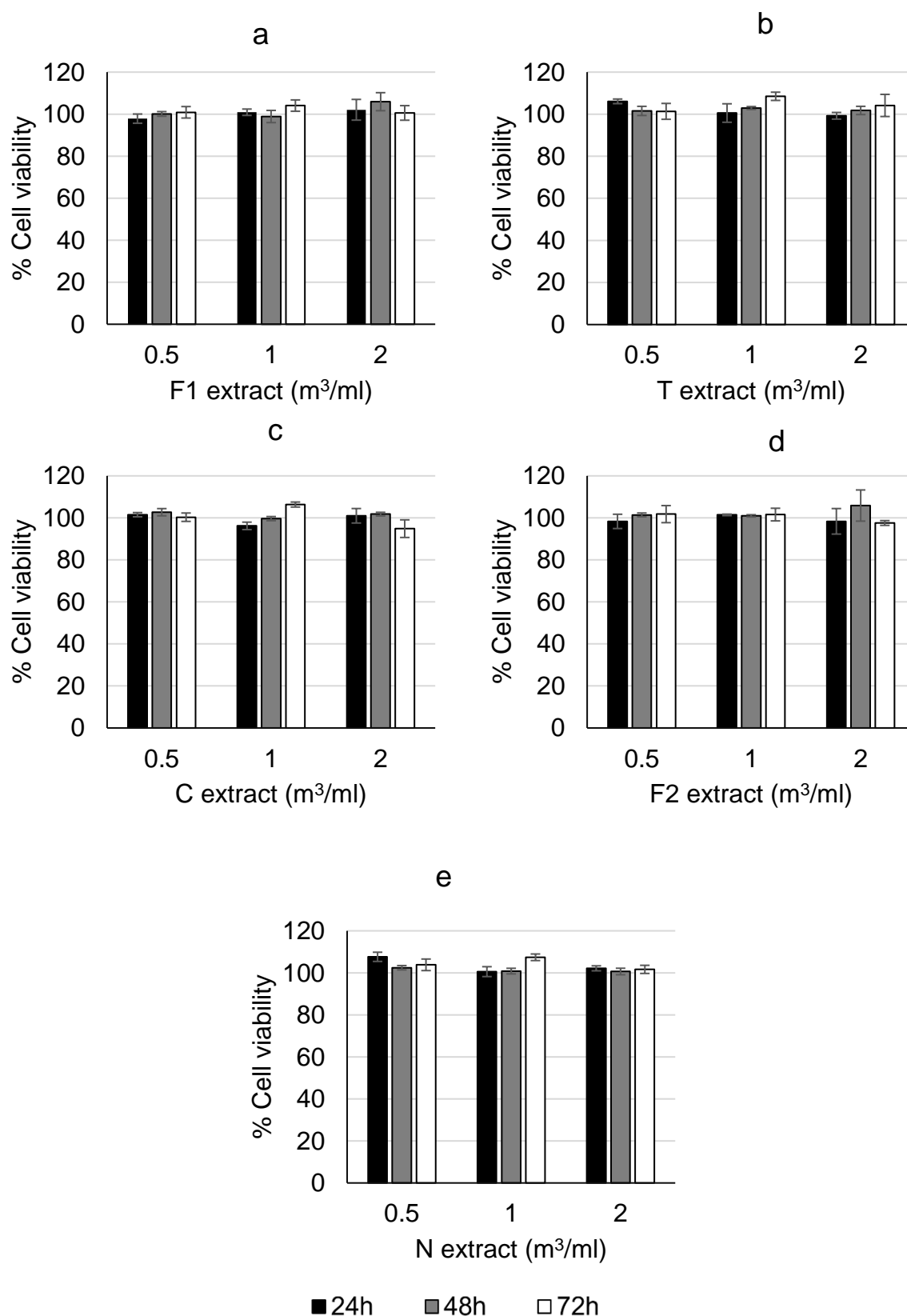
		m <sup>3</sup> /ml	µg/ml
<b>F1</b>	dose 1	0.5	25.5
	dose 2	1.0	51.0
	dose 3	2.0	102.0
	dose 4	2.5	127.5
<b>T</b>	dose 1	0.5	39.5
	dose 2	1.0	79.0
	dose 3	2.0	158.0
	dose 4	2.5	197.5
<b>C</b>	dose 1	0.5	15.0
	dose 2	1.0	30.0
	dose 3	2.0	60.0
	dose 4	2.5	75.0
<b>F2</b>	dose 1	0.5	21.5
	dose 2	1.0	43.0
	dose 3	2.0	86.0
	dose 4	2.5	107.5
<b>N</b>	dose 1	0.5	18.0
	dose 2	1.0	36.0
	dose 3	2.0	72.0
	dose 4	2.5	90.0



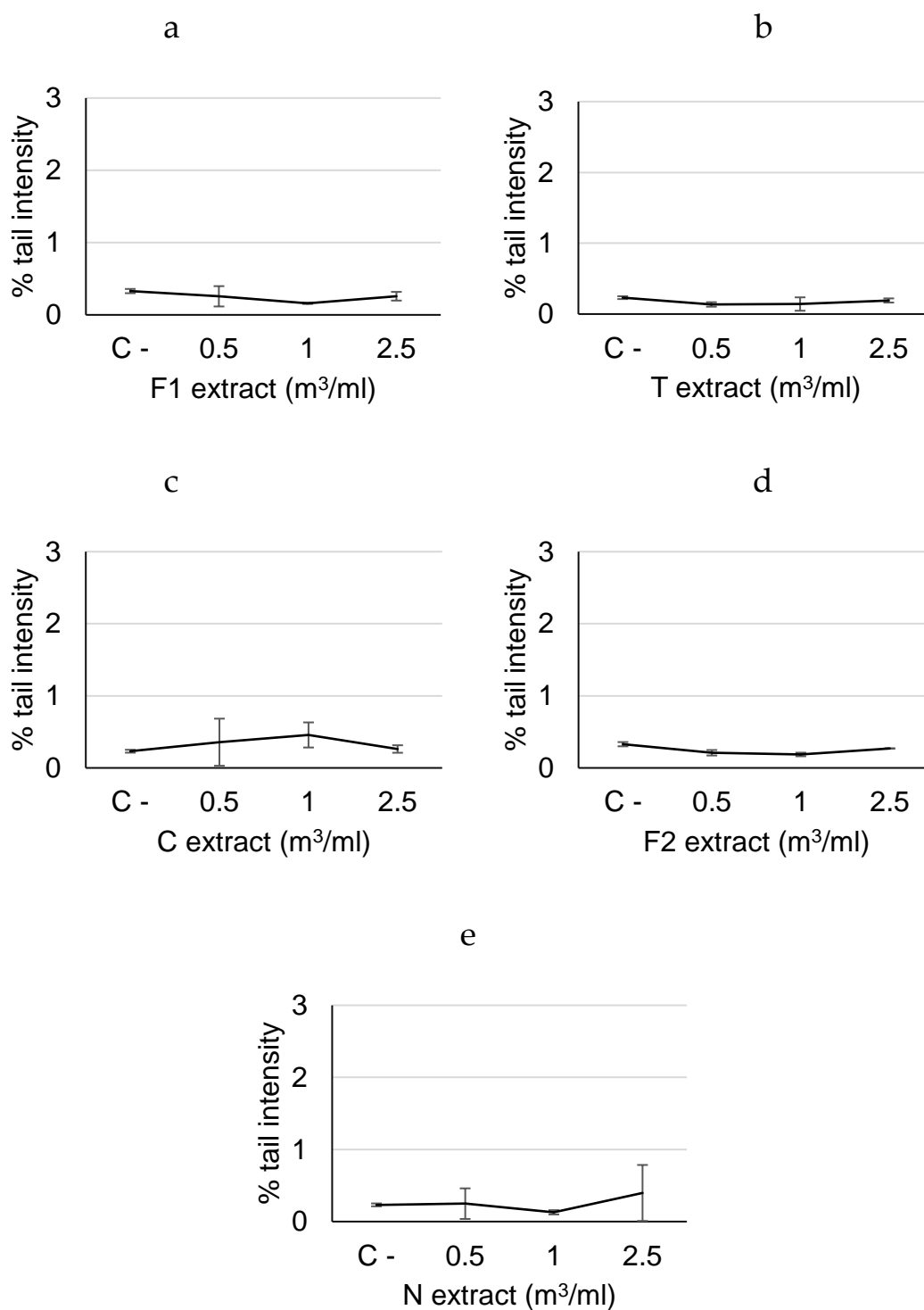
**Figure S1.** Daily concentrations of biomass burning tracers in the rural site F (Chiomonte) and in urban site T (Torino): levogluconan concentrations (a), mannosan concentrations (b), galactosan concentrations (c). Data are compared with the PM<sub>10</sub> concentrations measured in the same sites (PM<sub>10</sub> concentrations are not available for 17<sup>th</sup> and 21<sup>st</sup> October 2017 in site F).



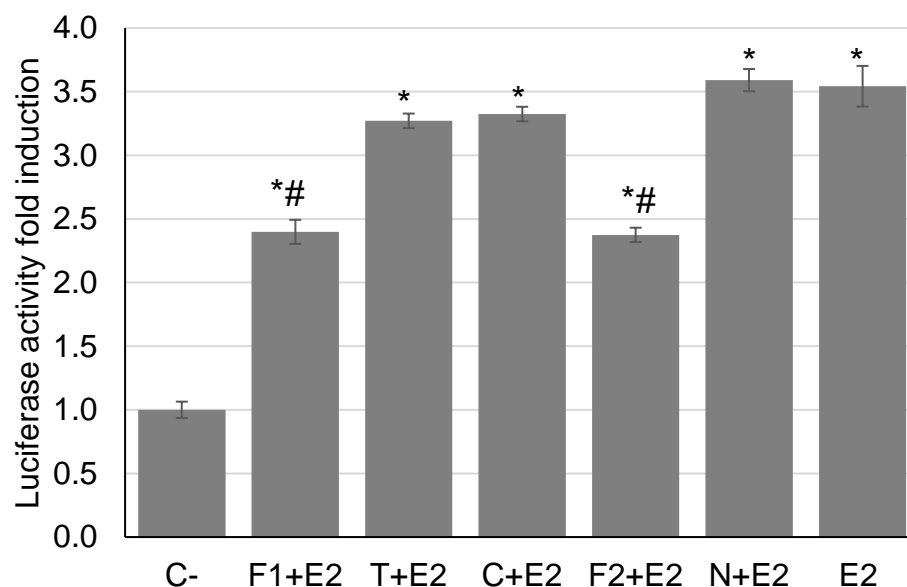
**Figure S2.** Cell viability detected using WST-1 assay in PM<sub>10</sub> extracts collected in (a) Chiomonte (wildland fire), (b) Torino, (c) Ceresole Reale and in PM<sub>2.5</sub> extracts collected in (d) Chiomonte (wildland fire), (e) Novara. Data expressed as % of cell viability (means and standard deviations) with respect to negative control (C- = 100%). T-test was not significant (data vs C-,  $p > 0.05$ ).



**Figure S3.** Cell viability detected using LDH assay in PM<sub>10</sub> extracts collected in (a) Chiomonte (wildland fire), (b) Torino, (c) Ceresole Reale and in PM<sub>25</sub> extracts collected in (d) Chiomonte (wildland fire), (e) Novara. Data expressed as % of cell viability (means and standard deviations) with respect to negative control (C- = 100%). T-test was not significant (data *vs* C-,  $p > 0.05$ ).



**Figure S4.** DNA damage detected using Comet assay in PM<sub>10</sub> extracts collected in (a) Chiomonte (wildland fire) – F1; (b) Torino – T; (c) Ceresole Reale – C and in PM<sub>2.5</sub> extracts collected in (d) Chiomonte (wildland fire) – F2 (e) Novara – N. Data expressed as % of tail intensity (means and standard deviations). One-way ANOVA test followed by *post-hoc* Dunnett test not significant (data *vs* C-,  $p > 0.05$ ).



**Figure S5.** Estrogenic activity detected using luciferase gene reporter assay in the PM extracts ( $1 \text{ m}^3/\text{ml}$ ) tested in combination with  $17\beta$ -estradiol ( $10^{-10} \text{ M}$ ). The results are expressed as luciferase activity fold induction (means and standard deviations) respect to negative control ( $C^- = 1$ ). E2 =  $17\beta$ -estradiol ( $10^{-10} \text{ M}$ ). \* $p < 0.05$  vs  $C^-$  according to T- test. # $p < 0.05$  vs E2 according to t-test.