

## 1    **Supporting Information**

2    Table S1 Information of the differentially expressed proteins in *P. expansum* spores under 0.25 mg L<sup>-1</sup>  
3    cinnamon oil stress after 6 h of culturing by iTRAQ analysis.

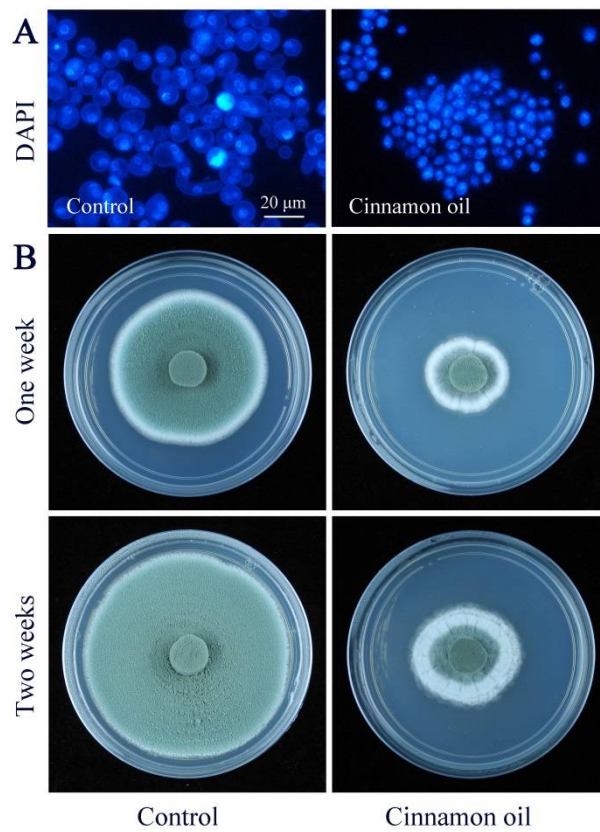
4    Accession: the accession number of non-redundant protein database of NCBI; Expt. Mr: Experimental  
5    molecular mass; Coverage: Amino acid sequence coverage for the identified proteins; Sequence: The  
6    sequence information of identified peptides; Score: Mascot scores are statistically significant (p<0.05);  
7    Control/Cinnamon oil: Fold change of relative abundance of DEGs at control group versus cinnamon oil  
8    treatment group; COG: Clusters of Orthologous Groups of proteins; KEGG: The Kyoto Encyclopedia of  
9    Genes and Genomes; EC: Enzyme Commission; GO: Gene Ontology.

**Table S2** Primer pairs used for qRT-PCR analysis

Name	Number	NCBI accession	Description	Sequence (5'-3')	Product length (bp)
<i>PeCO1</i>	DEP867	gi 700451849 gb KGO41868.1	Aldo/keto reductase	Forward: GGTTCCTCCCAAGGAATGA Reverse: AACCATAGCCTGATGCACGG	178
<i>PeCO2</i>	DEP861	gi 700486419 gb KGO72046.1	Glucose/ribitol dehydrogenase	Forward: GAGGGACTTTGCTCGTGTCA Reverse: GGGTCACTTTGACGACCCAT	126
<i>PeCO3</i>	DEP853	gi 700477337 gb KGO64934.1	Polyketide synthase, enoylreductase	Forward: TATCCAGGGTTCGCTCGTTG Reverse: AGTCTCGACGCCATCTTTGG	121
<i>PeCO4</i>	DEP847	gi 700488368 gb KGO73655.1	Short-chain dehydrogenase/reductase SDR	Forward: CGGACGGACGTTGGTAGAAA Reverse: GCCGAGTTGCTGCTTTCAAT	159
<i>PeCO5</i>	DEP827	gi 700475873 gb KGO63722.1	Pyruvate carboxyltransferase	Forward: ACCACCACAAGCGCAATCTA Reverse: CCTCCGTAGTTGTCGCTACC	146
<i>PeCO6</i>	DEP818	gi 700477787 gb KGO65288.1	Acetate/Propionate kinase	Forward: GACGCGTCGATCTCTGGAAT Reverse: ACAGCGCTGCAAGAGGTATT	135
<i>PeCO7</i>	DEP811	gi 700485292 gb KGO71124.1	Bifunctional 6-phosphofructo-2-kinase/fructose-2, 6-bisphosphate 2-phosphatase	Forward: CGCAAAGCAATCGTTGACCA Reverse: GGGTCCTGGCCTTTGTAGTC	146
<i>PeCO8</i>	DEP794	gi 700460677 gb KGO49984.1	Fructose-1,6-bisphosphatase class 1/Sedoheputulose-1,7-bisphosphatase	Forward: GGACTCGCTGGTTCCTCAAA Reverse: AGACAACAGCGTAACGAGCA	178
<i>PeCO9</i>	DEP789	gi 700470445 gb KGO58790.1	Histidine phosphatase superfamily, clade-1	Forward: GAGGTTACGGAGGCGGTTAG Reverse: TCTCCACCGGGACATCCATC	134
<i>PeCO10</i>	DEP784	gi 700469756 gb KGO58135.1	Succinate CoA transferase	Forward: CTCTTCGACAGCGGAAACCT Reverse: ATGATCTCGGGGGAGTTGGA	149

<i>PeCO11</i>	DEP781	gi 700477299 gb KGO64915.1	Aldehyde dehydrogenase, N-terminal	Forward: CCGGGTACTTCATCCATCCG Reverse: AGGACATCGTCCTCGTCAGA	121
<i>PeCO12</i>	DEP776	gi 700471576 gb KGO59833.1	Pyridoxal phosphate-dependent transferase, major region, subdomain	Forward: ACCGACACTCGCTTTGTGAT Reverse: ACTAGCCGCATCAACGTGAA	180
<i>PeCO13</i>	DEP764	gi 700478031 gb KGO65485.1	Glucose-6-phosphate dehydrogenase, NAD-binding	Forward: AGCTTGTCATCCGTGTCCAG Reverse: TCACGGACGAAGTTGGAGTG	199
<i>PeCO14</i>	DEP752	gi 700472832 gb KGO60973.1	Glycoside hydrolase, superfamily	Forward: GCCAAAGACCACGTTGTGAC Reverse: GATCCAGTGGACTTGCCCTC	170
<i>PeCO15</i>	-	XM_016739499	CreA, Zinc finger, C2H2	Forward: AGAACATGACCCGTTTCGCAT Reverse: TGGGTGAGTTGGGACGAGAG	81

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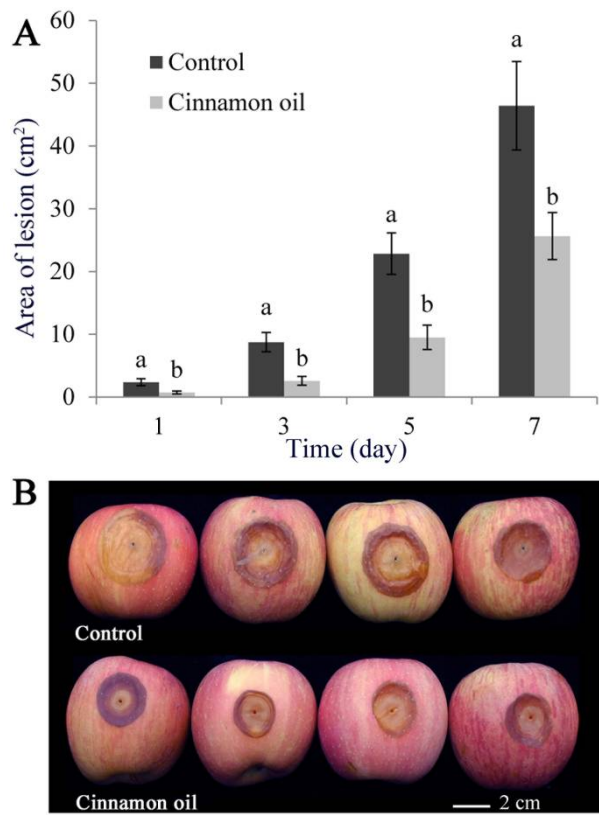


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13 **Figure S1.** (A) Microscopic observation of *P. expansum* spores with DAPI staining after 6 h of culturing

14 under 0 or 0.25 mg L<sup>-1</sup> cinnamon oil stress. (B) Effects of 0.25 mg L<sup>-1</sup> cinnamon oil on colonial morphology

15 of *P. expansum*.



**Figure S2.** (A) Effects of 0.25 mg L<sup>-1</sup> cinnamon oil on blue mold rot caused by *P. expansum* in apple. Bar represents the standard deviation of the means of three independent experiments. Low case letters indicate significant differences at  $p < 0.05$  at each time point. (B) The apples inoculated by *P. expansum* spores with 0 or 0.25 mg L<sup>-1</sup> cinnamon oil after 7 days of storage at 25 °C.

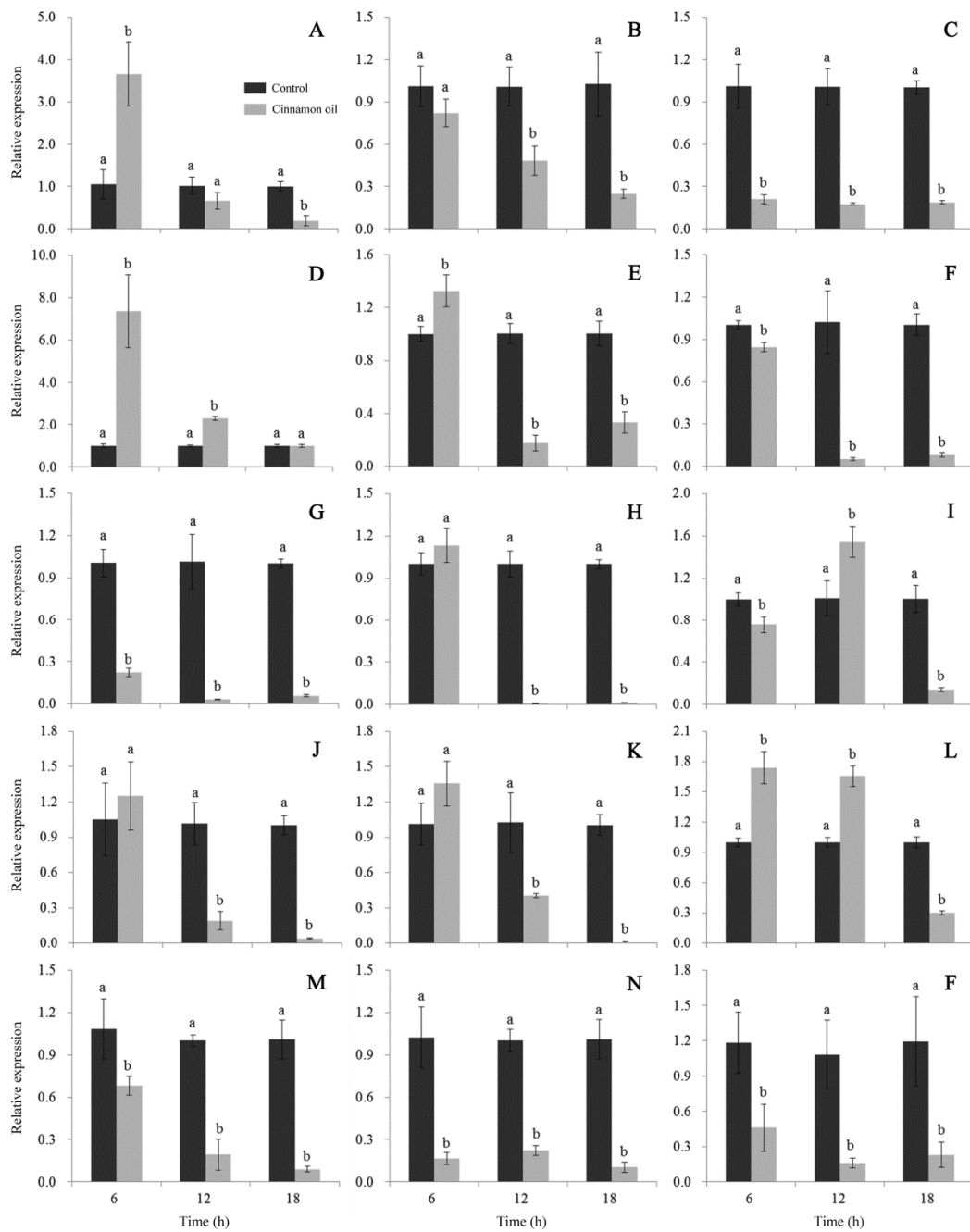
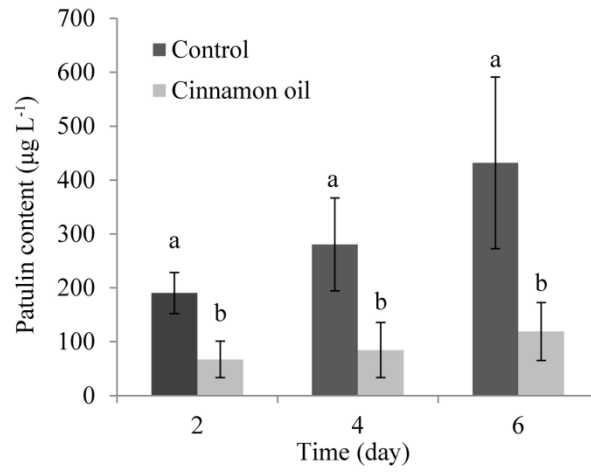


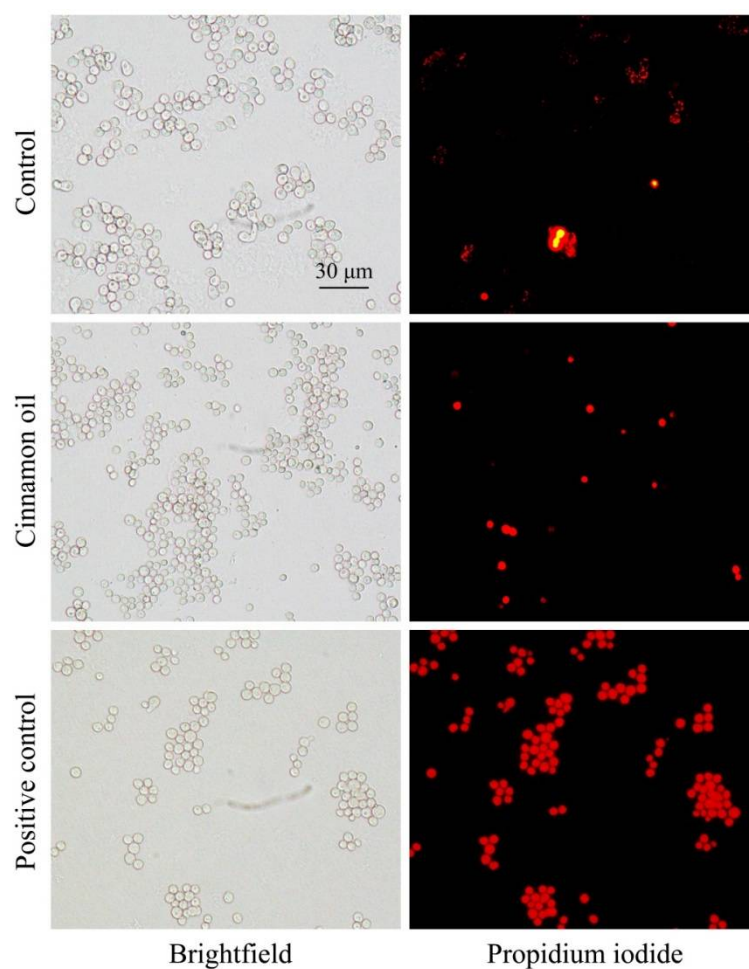
Fig. S3. Effects of 0.25 mg L<sup>-1</sup> cinnamon oil on the expression of genes involved in patulin biosynthesis in *P. expansum*. Relative expression levels of PatA to PatO (A to O) are determined by qRT-PCR and the  $\beta$ -tubulin is used as the internal control. Bar represents the standard deviation of the means of three independent experiments. Low case letters indicate significant differences at  $p < 0.05$  at each time point.



27

28 **Figure S4.** (A) Effects of 0.25 mg L<sup>-1</sup> cinnamon oil on patulin production of *P. expansum*. Bar represents  
 29 the standard deviation of the means of three independent experiments. Low case letters indicate  
 30 significant differences at  $p < 0.05$  at each time point.

31



**Figure S5.** Effect of 0.25 mg L<sup>-1</sup> cinnamon oil on the membrane integrity of *P. expansum* spores. Spores were cultured at 25 °C in PDB medium supplemented with 0 (negative control), 0.25 mg L<sup>-1</sup> cinnamon oil. After 6 h of culture, half of the cinnamon oil-treated spores were incubated in boiling water for ten minutes (as positive control). Then, all the spores were stained with the prodium iodide and observed with a fluorescence microscope.