Supplementary information

Dimethyl disulfide exerts antifungal activity against *Sclerotinia minor* by damaging its membrane and induces systemic resistance in host plants

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**Supplementary Table 1.** List of primers used in this study

| Name     | Primer sequence (5’ → 3’) | Target gene                  | Gene ID   |
|----------|---------------------------|------------------------------|-----------|
| ACT2-F   | CCAGGCACACAGGTGTATG       | Actin                        | 101267214 |
| Act2-R   | GCCTCAGTCAGGGAACAGG       |                              |           |
| EXP2-F   | CGAACCCGTCCTCTACCTAACA    | Expansin                     | 543582    |
| EXP2-R   | GGACGATACCCGGTTTGTATTT    |                              |           |
| EXPAS-F  | ACTTGAGCCTAAGCTTGATGTC    | Expansin                     | 543558    |
| EXPAS-R  | CCGTATCCCGTGTGATAAAAT     |                              |           |
| ARF5-F   | AGCTCCAATAGGCCAGGATT      | Auxin response factor        | 100736448 |
| ARF5-R   | ACTGTGCTCCCGCTTACT        |                              |           |
| ACS2-F   | ATGTGAGGTTGCGGTATATCT     | 1-amino-cyclopropane-1-carboxylate synthase | 606304   |
| ACS2-R   | CTAACCTCATCGGCTTCTTCT     |                              |           |
| RAP2-7-F | GTCACTCCAGTGCCAGTATTT     | Ethylene-responsive transcription factor | 101252772 |
| RAP2-7-R | TAGTTGCTGATTGCTGATTAG,    |                              |           |
| APX2-F   | CAGGCTGTGACCACCTTGAGA     | Ascorbate peroxidase         | 778224    |
| APX2-R   | TCAAAACCAGAAGCGCTCCTT     |                              |           |
| PA2-F    | AGAAAGACAAATCAAGGAGGAG    | Peroxidase                   | 101254854 |
| PA2-R    | AGTAATGGTGAGGCAACAGG      |                              |           |
| PR1-F    | AAAATGGTGGAACATCTAAA      | Pathogenesis-related protein | 101267538 |
| PR1-R    | TTTTTCATCGCCCAACGC        |                              |           |
| PR5-F    | GAGTCCTGGATGCAAGGAGA      | Pathogenesis-related protein | 101264959 |
| PR5-R    | AAGTGAACCAGGGCATTGC       |                              |           |
**Supplementary Figure 1.** Effect of DMDS on fungal growth. (a) Dual plate assay showing the effect of DMDS on fungal growth, (b) fungal growth inhibition, (c) sclerotia formation. Asterisks indicate significant change in the values calculated by Student’s t-test (***, p<0.001).
Supplementary Figure 2. Relative enhancement of different plant growth parameters in plate and pot assays. Small letters above the error bars represent significant differences according to the Bonferroni’s multiple comparison test ($p$ value = 0.05).
Supplementary Figure 3. Electrolyte leakage. Asterisk indicates a significant change in the values calculated by Student’s t-test (***, p<0.001).
Supplementary Figure 4. Chromatogram showing ergosterol (a) Standard (b) Control (c) DMDS.

Ergosterol was determined by HPLC Spectra-Physics equipment with UV 100 detector and a Supelcosil C18 column at room temperature. The mobile phase was HPLC grade methanol: acetonitrile (80:20 v/v). The retention time in these conditions was about 24.5±0.2 min at a flow rate of 0.6 mL/min.