SYNTHESIS AND Fungicidal activity OF (SUBSTITUTED PHENYL)(SUBSTITUTED PHENYLAMINO)METHYLPHOSPHONIC ACIDS

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**Supplemental Materials**

**Antifungal Activity**

The fungicidal activity was evaluated by the classic plate method. The samples were dissolved in DMF (0.5-1.0 mL) to the concentration of 1000 mg/L. The solutions (1 mL) were mixed rapidly with thawed potato glucose agar culture medium (9 mL) under 50 oC. The mixtures were poured into Petri dished. After the dishes were cooled, the solidified plates were incubated with 4-mm mycelium disk, inverted, and incubated at 28 oC for 48 h. Distilled water was used as the blank control. Three replicates of each test were carried out. The mycelial elongationradius (mm) of fungi settlements was measured after 48 h of culture. The growth inhibitory rates were calculated with the following equation: *I* = [(*C-T*)/*C*] × 100%. Here, *I* is the growth inhibitory rate (%), *T* is the treatment group fungi settlement radius (mm), and *C* is the radius of the blank control.

**Table S 1** Fungicidal activity of the title compounds **3**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Compd | R1 | R2 | Inhibitory rate (%) | | | | |
| *Phytophthora infestans* | *Fusarium oxysporum* | *Corynespora cassiicola* | *Pseudomonas syringae* | *Xanthomonas axonopodis* |
| **3a** | 3-NO2 | 4-CH3 | -21.0 | -38.7 | 9.5 | 9.0 | -3.8 |
| **3b** | 3-NO2 | 4-F | 78.1 | 40.1 | 24.3 | 11.4 | 3.3 |
| **3c** | 3-NO2 | 2-Cl | 6.2 | 29.2 | 1.7 | -0.7 | -25.1 |
| **3d** | 4-Br | 4-CH3 | 56.1 | -0.6 | 18.7 | -2.5 | -0.7 |
| **3e** | 4-Br | 4-F | 38.8 | 41.4 | 32.8 | -13.7 | 6.3 |
| **3f** | 4-CF3 | 2,4-diCl | 69.4 | 71.4 | 27.5 | 40.3 | 32.8 |
| **3g** | 3-NO2 | 4-NO2 | 55.9 | 12.9 | -19.4 | 28.2 | 47.0 |
| **3h** | 3-NO2 | H | 63.8 | 86.4 | 10.9 | 5.8 | 8.4 |