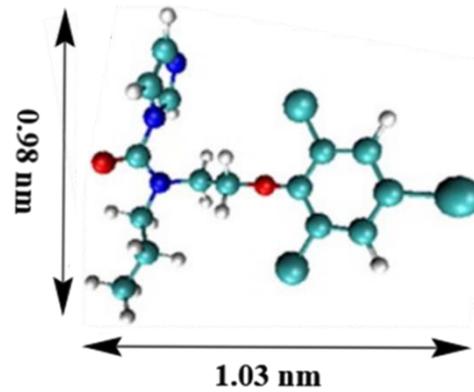


## Legends

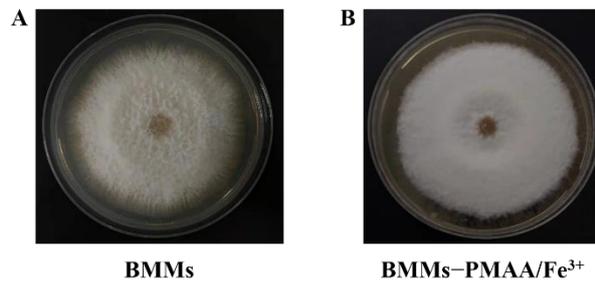
Figure S1. 3D structure simulation diagram of Prochloraz molecule by ChemBio3D Ultra 12.0.

Figure S2. Bioactivities of the of BMMs and BMMs-PMAA/Fe<sup>3+</sup> against *Rhizoctonia solani*.

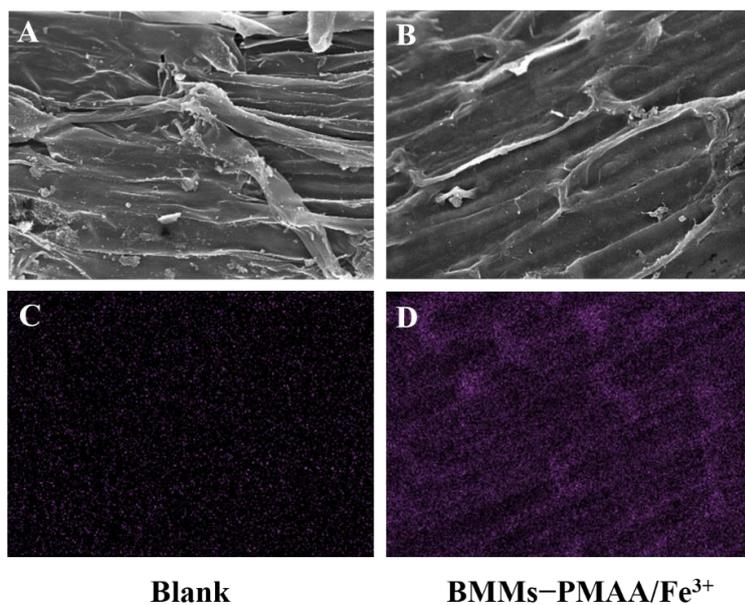
Figure S3. SEM (A, B) and EDS (C,D) mapping characterizations of the rice plant root treated with deionized water and BMMs-PMAA/Fe<sup>3+</sup> nanoparticles.



**Figure S1.** 3D structure simulation diagram of Prochloraz molecule by ChemBio3D Ultra 12.0 (PerkinElmer, Waltham, MA, USA).



**Figure S2.** BMMs-Bioactivities of BMMs (A) and BMMs-PMAA/Fe<sup>3+</sup> (B) against *Rhizoctonia solani*.



**Figure S3.** SEM images of the rice plant root treated with deionized water (A) and BMMs-PMAA/Fe<sup>3+</sup> nanoparticles (B), EDS mapping characterizations of the rice plant root treated with deionized water (C) and BMMs-PMAA/Fe<sup>3+</sup> nanoparticles (D).