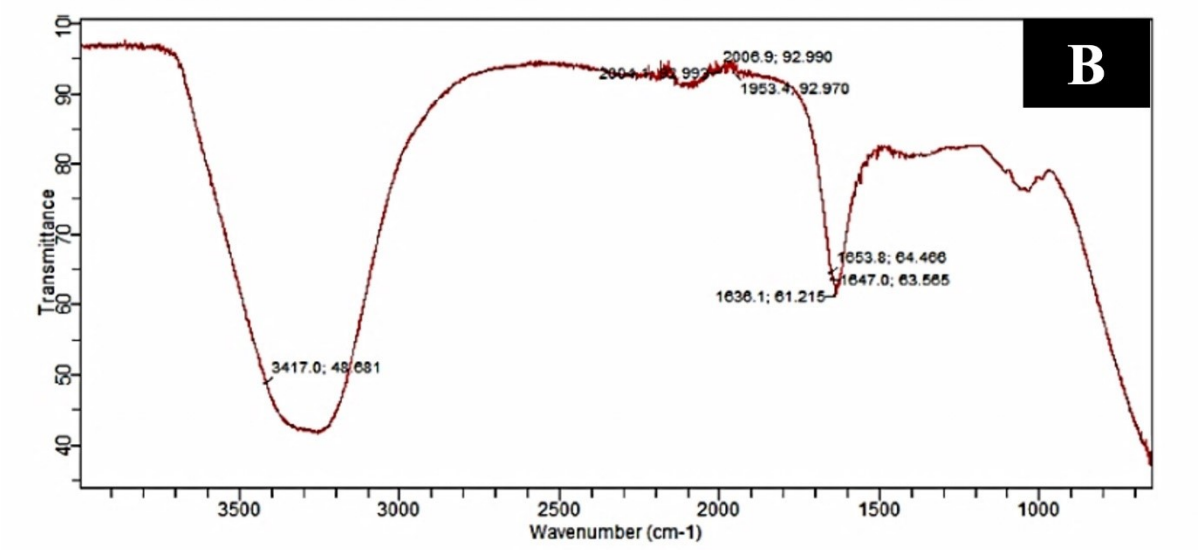

Fig. 1S. Characterization of MgO through FTIR (B).

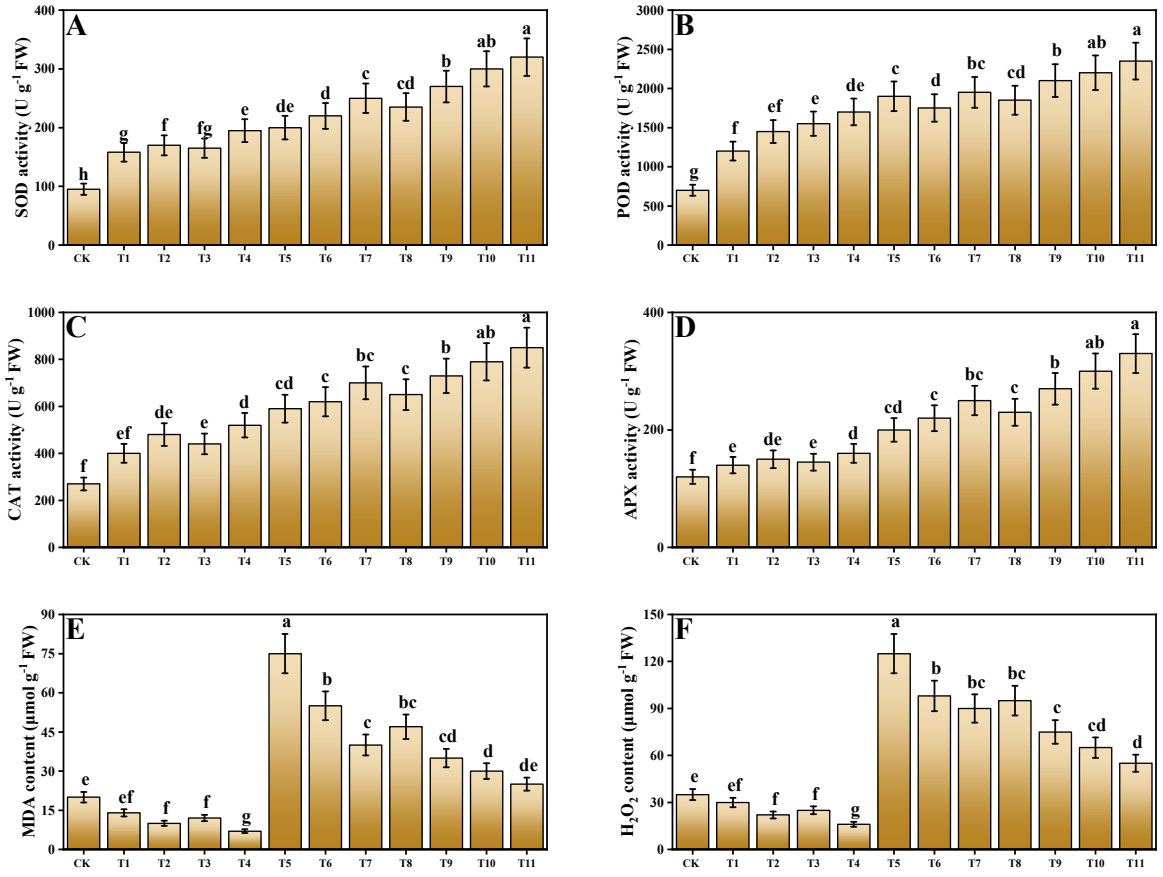

Figure 2S: Effect of different treatments on (A) superoxide dismutase (SOD) activity, (B) peroxidase (POD) activity, (C) catalase (CAT) activity, (D) ascorbate peroxidase (APX) activity, (E) malondialdehyde (MDA) content, (F) and hydrogen peroxide (H_2O_2) content of *Z. mays* plants under Pb stress. The data represent mean values with standard error bars, and different letters represent significant variations between the treatments at $P < 0.05$, as determined by Tukey's HSD test. The treatments abbreviations are as follows: CK: control (no Pb + MgO + TiO_2), T1: MgO (25 µM L^{-1}), T2: MgO (50 µM L^{-1}), T3: TiO_2 (25 µM L^{-1}), T4: TiO_2 (50 µM L^{-1}), T5: Pb (100 mg kg^{-1}), T6: Pb (100 mg kg^{-1}) + MgO (25 µM L^{-1}), T7: Pb (100 mg kg^{-1}) + MgO (50 µM L^{-1}), T8: Pb (100 mg kg^{-1}) + TiO_2 (25 µM L^{-1}), T9: Pb (100 µM) + TiO_2 (50 µM L^{-1}), T10: Pb (100 mg kg^{-1}) + MgO (25 µM L^{-1}) + TiO_2 (25 µM L^{-1}), and T11: Pb (100 mg kg^{-1}) + MgO (50 µM L^{-1}) + TiO_2 (50 µM L^{-1}).

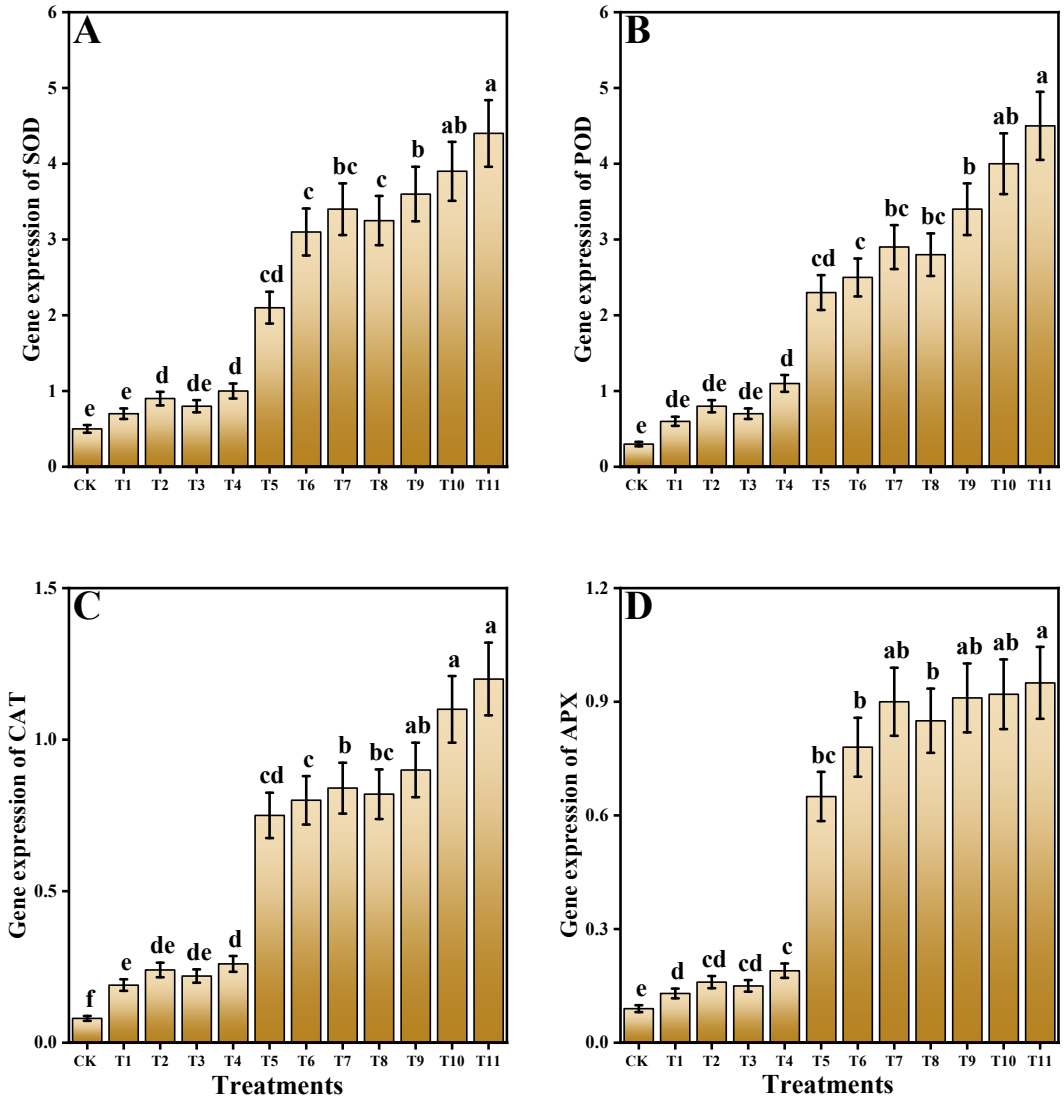

Figure 3S: Effect of different treatments on gene expression of (A) superoxide dismutase (SOD), (B) peroxidase (POD), (C) catalase (CAT), and (D) ascorbate peroxidase (APX) in *Z. mays* plants under Pb stress. The data represent mean values with standard error bars, and different letters indicate significant differences between treatments at $P < 0.05$, as determined by Tukey's HSD test. The treatments abbreviations are as follows: CK: control (no Pb + MgO + TiO_2), T1: MgO (25 µM L^{-1}), T2: MgO (50 µM L^{-1}), T3: TiO_2 (25 µM L^{-1}), T4: TiO_2 (50 µM L^{-1}), T5: Pb (100 mg kg^{-1}), T6: Pb (100 mg kg^{-1}) + MgO (25 µM L^{-1}), T7: Pb (100 mg kg^{-1}) + MgO (50 µM L^{-1}), T8: Pb (100 mg kg^{-1}) + TiO_2 (25 µM L^{-1}), T9: Pb (100 µM) + TiO_2 (50 µM L^{-1}), T10: Pb (100 mg kg^{-1}) + MgO (25 µM L^{-1}) + TiO_2 (25 µM L^{-1}), and T11: Pb (100 mg kg^{-1}) + MgO (50 µM L^{-1}) + TiO_2 (50 µM L^{-1}).

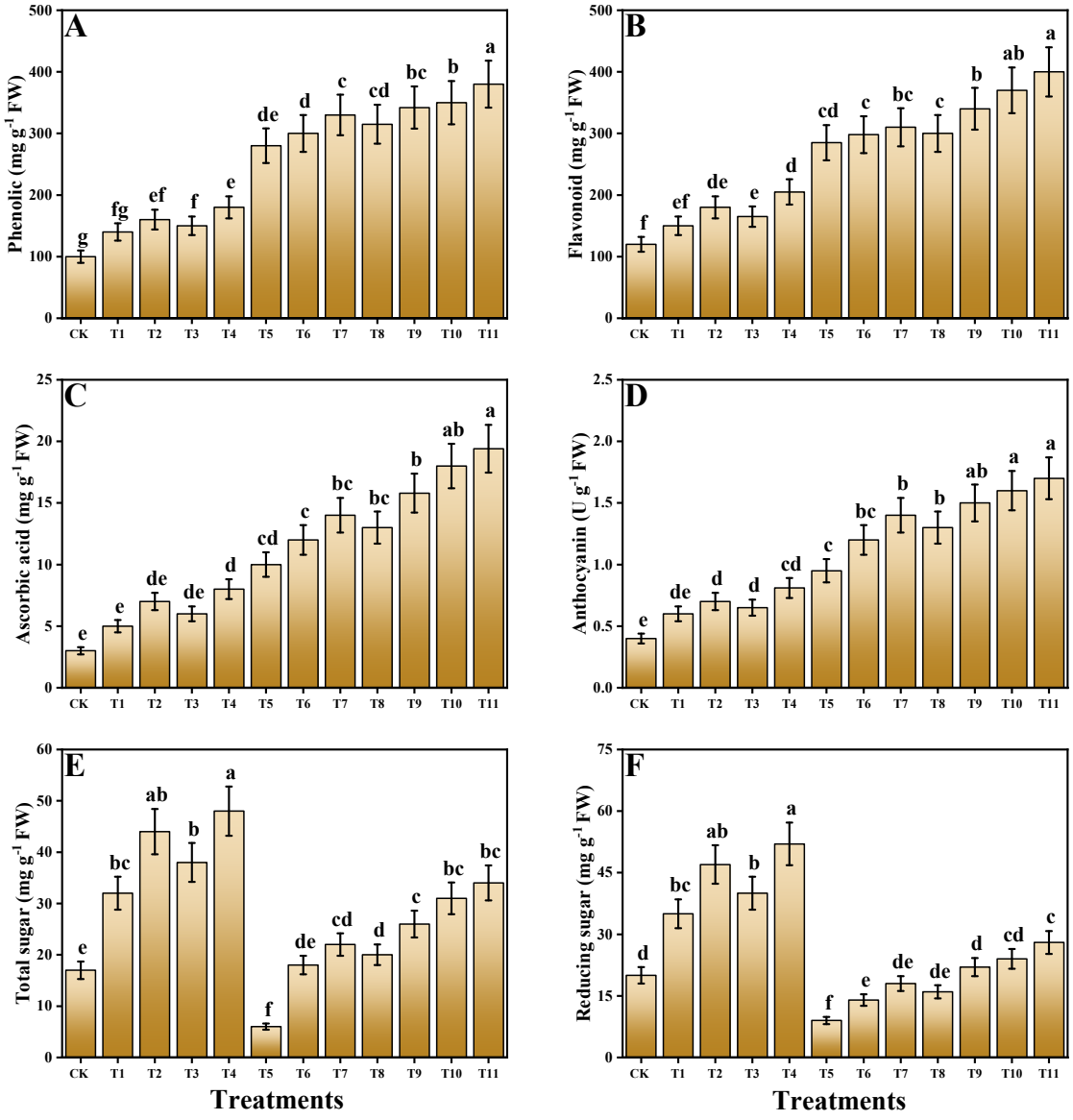

Figure 4S: Effect of different treatments on (A) phenolic content, (B) flavonoid content, (C) ascorbic acid content, (D) anthocyanin content, (E) total sugar content, and (F) reducing sugar content in *Z. mays* plants under Pb stress. The data represent mean values with standard error bars, and different letters indicate significant differences between treatments at $P < 0.05$, as determined by Tukey's HSD test. The treatments abbreviations are as follows: CK: control (no Pb + MgO + TiO_2), T1: MgO (25 µM L^{-1}), T2: MgO (50 µM L^{-1}), T3: TiO_2 (25 µM L^{-1}), T4: TiO_2 (50 µM L^{-1}), T5: Pb (100 mg kg^{-1}), T6: Pb (100 mg kg^{-1}) + MgO (25 µM L^{-1}), T7: Pb (100 mg kg^{-1}) + MgO (50 µM L^{-1}), T8: Pb (100 mg kg^{-1}) + TiO_2 (25 µM L^{-1}), T9: Pb (100 µM) + TiO_2 (50 µM L^{-1}), T10: Pb (100 mg kg^{-1}) + MgO (25 µM L^{-1}) + TiO_2 (25 µM L^{-1}), and T11: Pb (100 mg kg^{-1}) + MgO (50 µM L^{-1}) + TiO_2 (50 µM L^{-1}).

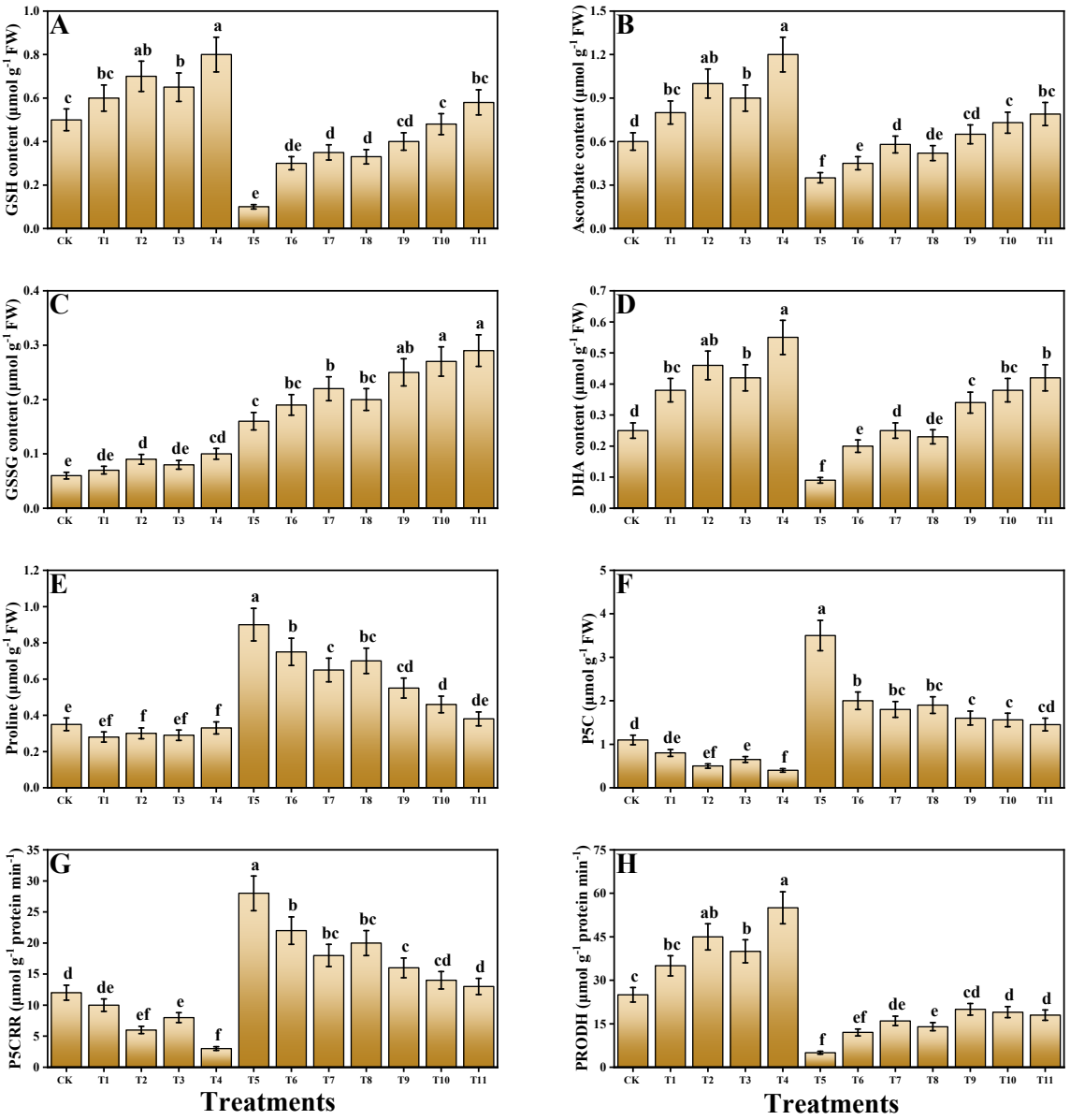

Figure 5S: Effect of different treatments on (A) GSH content, (B) ascorbate content, (C) GSSG content, (D) DHA content, (E) proline content, (F) PSC content, (G) GR activity, and (H) GSH-Px activity in *Z. mays* plants under Pb stress. The data represent mean values with standard error bars, and different letters reflect significant differences across the treatments. at $P < 0.05$, as determined by Tukey's HSD test. The treatments abbreviations are as follows: CK: control (no Pb + MgO + TiO_2), T1: MgO (25 µM L^{-1}), T2: MgO (50 µM L^{-1}), T3: TiO_2 (25 µM L^{-1}), T4: TiO_2 (50 µM L^{-1}), T5: Pb (100 mg kg^{-1}), T6: Pb (100 mg kg^{-1}) + MgO (25 µM L^{-1}), T7: Pb (100 mg kg^{-1}) + MgO (50 µM L^{-1}), T8: Pb (100 mg kg^{-1}) + TiO_2 (25 µM L^{-1}), T9: Pb (100 µM) + TiO_2 (50 µM L^{-1}), T10: Pb (100 mg kg^{-1}) + MgO (25 µM L^{-1}) + TiO_2 (25 µM L^{-1}), and T11: Pb (100 mg kg^{-1}) + MgO (50 µM L^{-1}) + TiO_2 (50 µM L^{-1}).

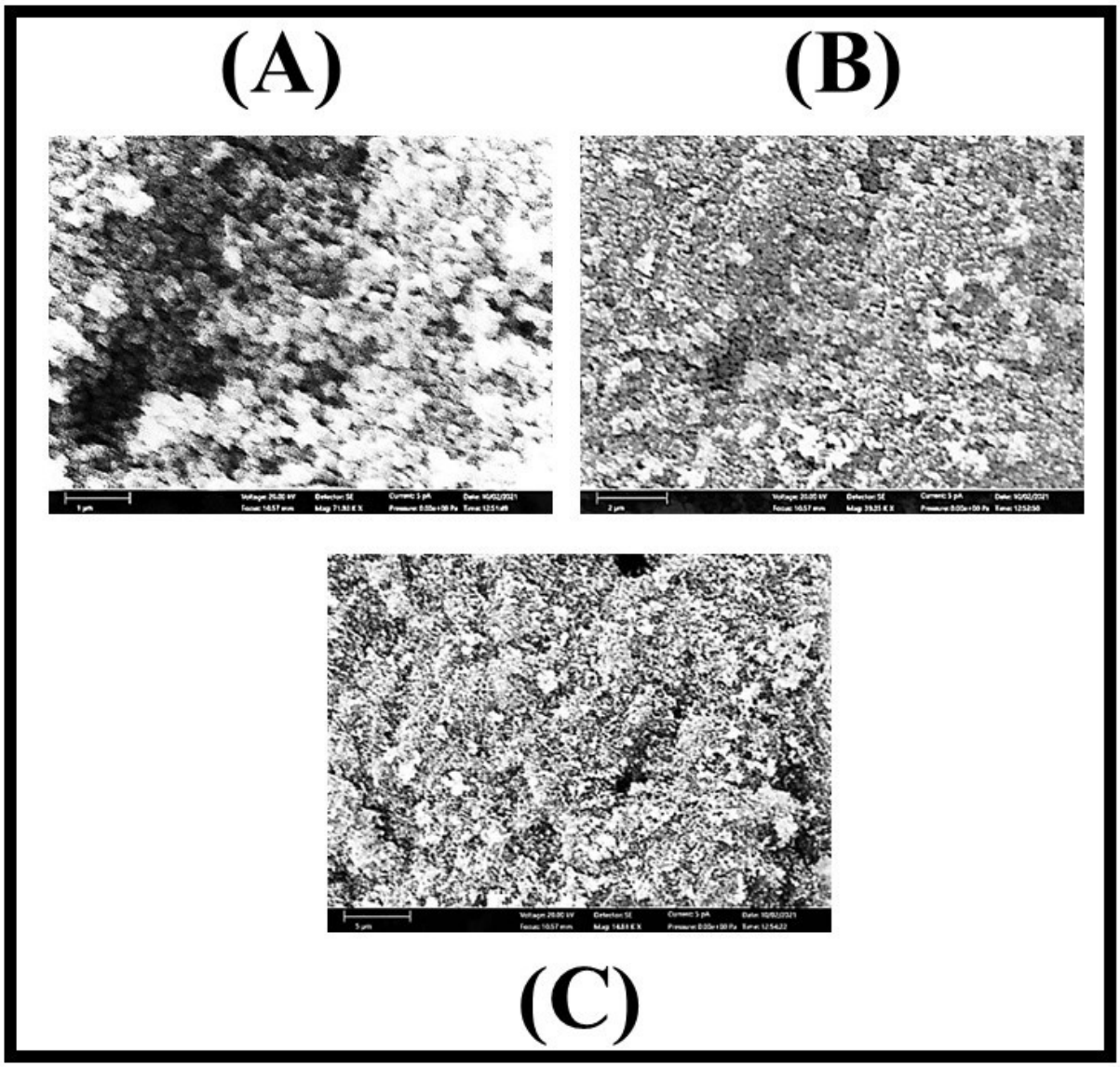

Figure 6S: Scanning electron microscopy (SEM) images of *Z. mays* shoots under different treatments: (A) control (no Pb + MgO + TiO_2), (B) Pb stress (100 mg kg^{-1}), and (C) combined application of TiO_2 and MgO NPs under Pb stress (100 mg kg^{-1}).

Gene	Primer Sequence (5′-3′)	Gene Accession Number
Fe-SOD	F: ATCTTAGTTATGGTTCTCTTTGT	M64267
	R: ATGGTGTAGAGCCTTTTCATAT	
POD	F: TTGAAATAAAC CAAAGGAGTAGT	AF145349
	R: AATAATTATTTGAATCTCTTTAAGG	
CAT	F: AGCATCTCACCTGAACTTGAA	AF035252
	R: AGGTGAGAGGTTTGTGGCC	
APX	F: CGTGACGATGATTGGGAAGT	NM_001354113
	R: TGATAGTGATCTTTCGGACCT	

Table 1S. Gene-specific primers sequences used in present study