Supplementary figures:

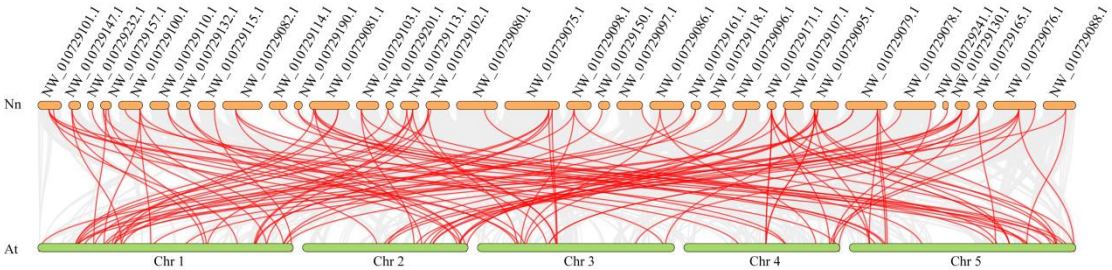

Figure S1. Synteny analysis of AP2/ERF genes between *N. nucifera* and *A. thaliana*. Gray lines indicate all syntenic gene pairs between the two species, and red lines highlight the syntenic relationships specifically associated with *AP2/ERF* genes. Orange represents the chromosomal segments of *N. nucifera*, and green represents those of *A. thaliana*.

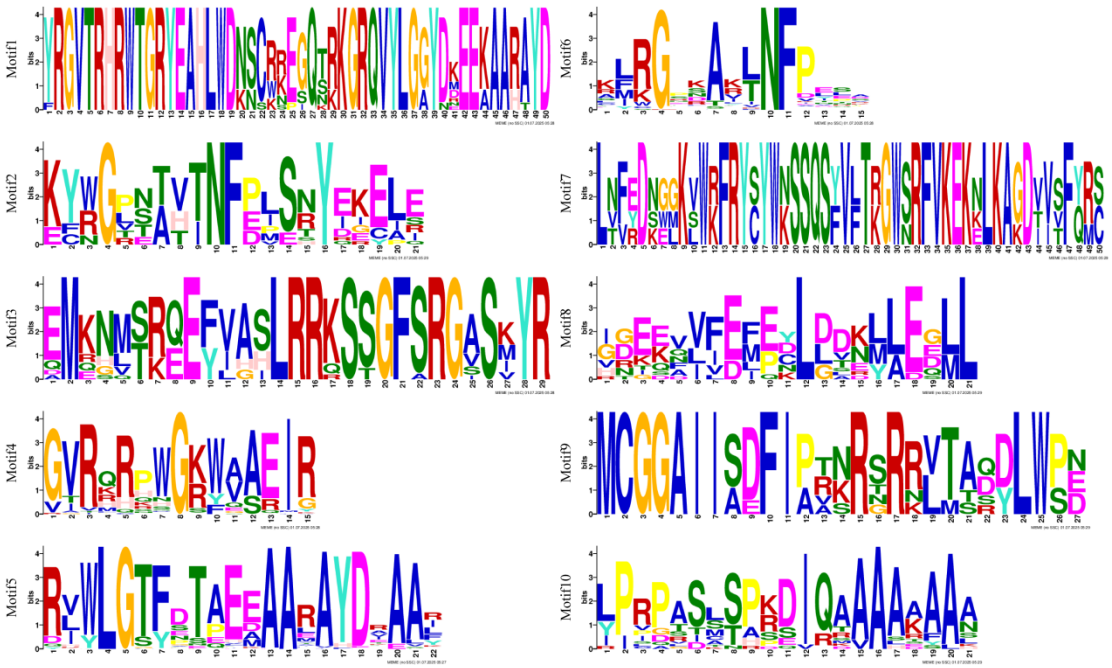

Figure S2. Conserved motif analysis of AP2/ERF proteins in *N. nucifera*. A total of 10 distinct conserved motifs were identified among AP2/ERF family proteins using MEME Suite.

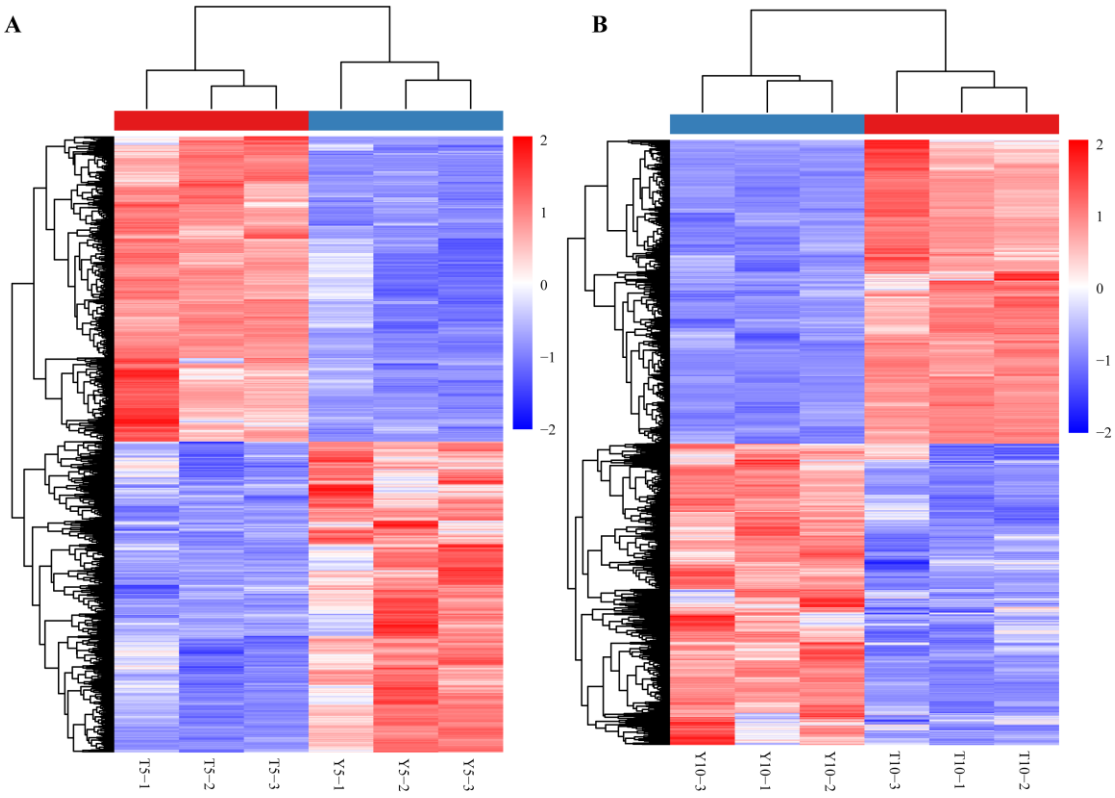

Figure S3. Heatmaps of differentially expressed genes (DEGs) identified in T5 vs. Y5 and T10 vs. Y10 comparisons.

(A-B) Heatmap showing expression patterns of DEGs between T5 **vs.**Y5 and T10 **vs.** Y10 groups. Red indicates upregulated genes, while blue represents downregulated genes. Gene expression levels were normalized and clustered to reveal expression trends under salt-alkaline stress at different treatment durations.The color scale represents normalized expression levels (log_2-transformed values).

Table S1. Primers and oligonucleotide probes were used in this study.

Primer name	Primer sequence (5'-3')
AP2-9F	ACACCCGAGGATCGGTGAAG
AP2-9R	GAGTTTGAGTAACCGCCCAAGA
ERF23F	GATACGCTGCCGAGATAAGGG
ERF23R	CTTTAACCGAAGAAGCACCCTC
ERF15F	TAATGAATTCTCGCCGGAATCT
ERF15R	CTTCGAACGCCTCTGTAGGACT
ERF31F	AACTCCCGACGATAAGTCGG

ERF31R	TGTCAAAGGTGCCAAGCCATA
ERF34F	GCCAGTTGCCTGAAGCAGTT
ERF34R	ATCTCTGCTGCCCATTTCCC
DREB21F	AAGATTCCACCACACCATCG
DREB21R	TGCCGCTGCTGTCTGGATAT
ACTIN-F	ATGGCAGATTCCGAGGATATT
ACTIN-R	CTTCAGGAGCTACACGGAGC