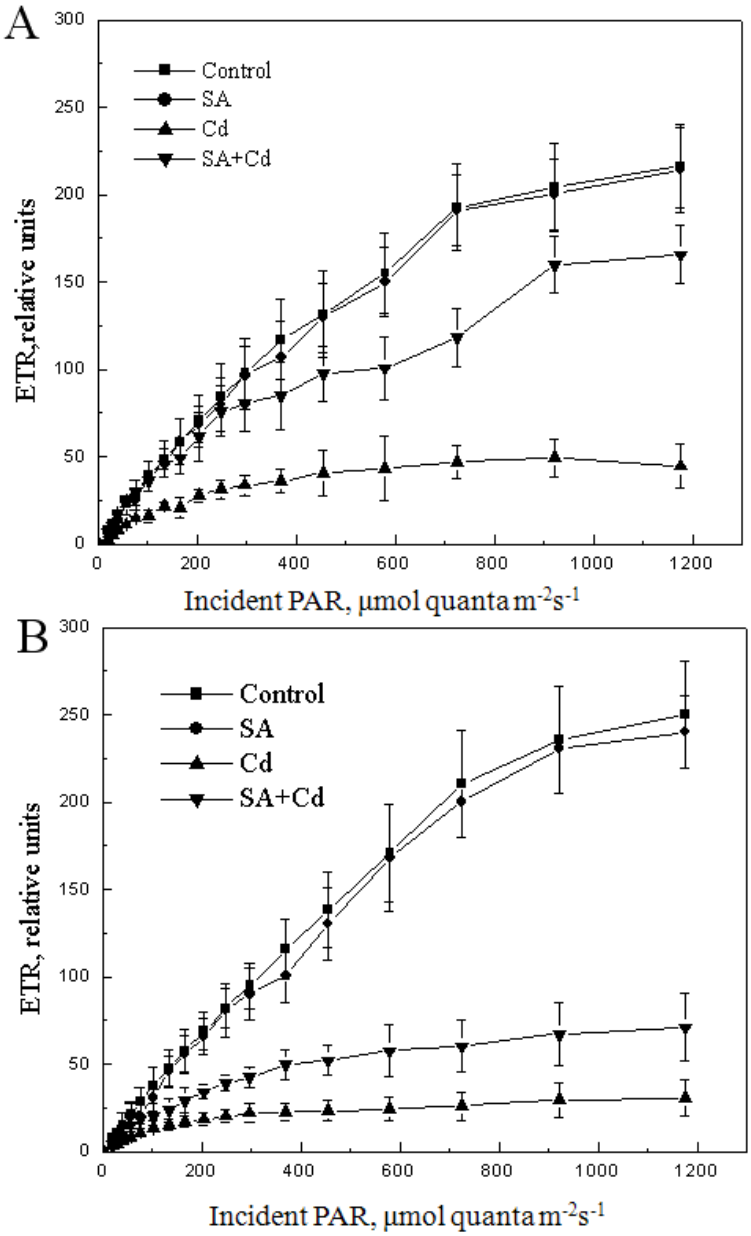
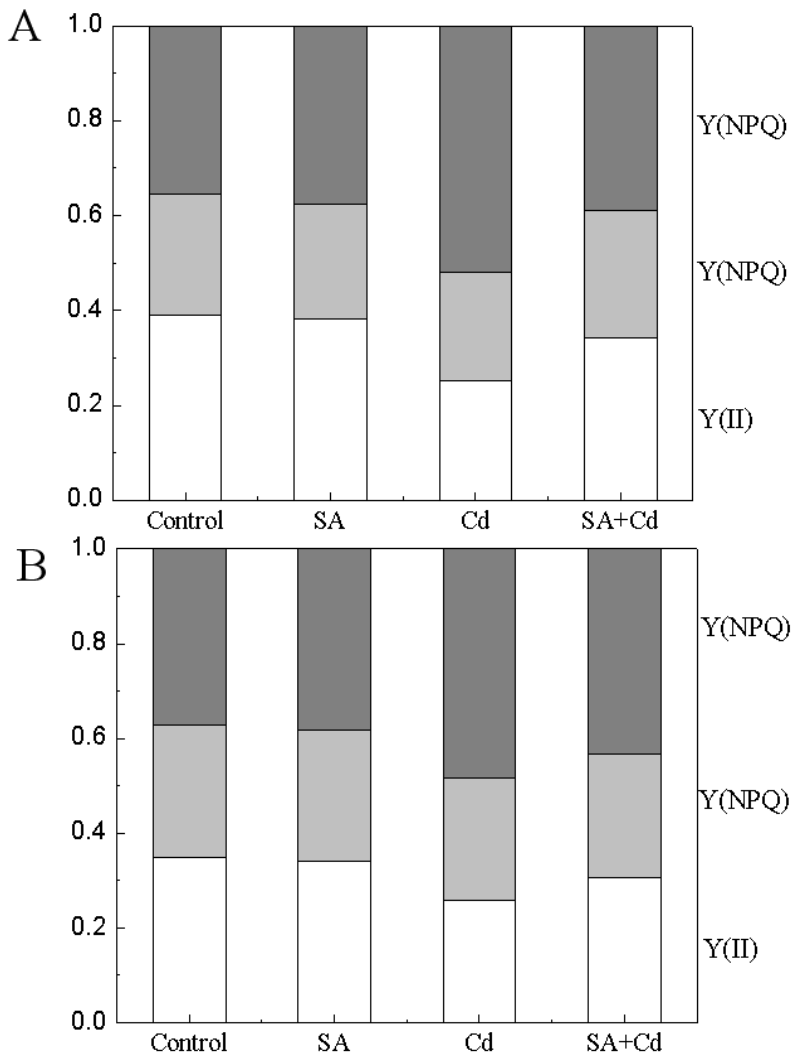
Supplemental Figure



Supplemental Fig.1. Alleviation of SA on light response curves of the relative photosynthetic electron transport rate, ETR, in wild-type (A) and NahG (B) *Arabidopsis* leaves treated with 50 μM Cd. Each value is the mean ± S.D. of four independent leaves.



Supplemental Fig.2. Time-dependent changes in excitation flux at PS II induced by 50 μM Cd pretreated or un-pretreated with SA in WT (A) and NahG (B) *Arabidopsis*. Complementary changes in the quantum yield (Y(II) (white), Y(NO) (black) and Y (NPQ) (grey)) were assessed as described in Materials and methods. Experiments were repeated four times.

SUPPLEMENTAL DISCUSSION

Cd as a highly toxic heavy metal from industrial processes and phosphate fertilizers could induce changes in plant metabolism and finally led to plant growth inhibition [Supplemental references 1]. In our preliminary experiments, phenotypic characteristics were observed to examine the effect of Cd (25, 50 or 100 μM on MS medium) on plant growth and development in WT *Arabidopsis* seedlings. Results demonstrated that 14-day-old seedlings did not show visible toxic symptom on MS medium containing 25 μM Cd, however, at a concentration of 100 μM Cd, the plant growth could be totally inhibited. In contrast, the leaves showed a phenotype of leaf roll and chlorosis after treatment with 50 μM Cd. This may be related to the reduction of chlorophyll content caused by Cd [Supplemental references 2]. Cd often deposits in the thylakoids binding with the membrane protein and results to destruction of chloroplast enzyme system when it goes into plant chloroplast.

SUPPLEMENTAL REFERENCES

1. L. S. di Toppi and R. Gabbrielli, Response to cadmium in higher plants, *Environ. Exp. Bot.,* 1999, **41**, 105–130.

2. D. M. Kramer, G. Johnson, O. Kiirats, G. E. Edwards, New fluorescence parameters for the determination of QA redox state and excitation energy fluxes, *Photosynth. Res.*, 2004, **79**, 209–218.