Selecting the optimum conditions for two-dimensional difference gel electrophoresis of proteins expressed in *Populus euphratica*

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**ABSTRACT.** We selected the optimum conditions for two-dimensional difference gel electrophoresis (2D-DIGE) of proteins expressed in the heteromorphic leaves of *Populus euphratica* Oliv. by adjusting the isoelectric focusing, the loading quantity, the concentration of the electrophoretic gel, and other parameters. The results of our study showed that protein separation was improved with many clear protein spots observed, and the differentiations were obvious. The findings of this study will be useful for future studies of protein expression in the heteromorphic leaves of *P. euphratica*.

**Key words:** *Populus euphratica* Oliv.; Heteromorphic leaf; Two-dimensional difference gel electrophoresis; Two-dimensional electrophoresis