

Supplementary Materials

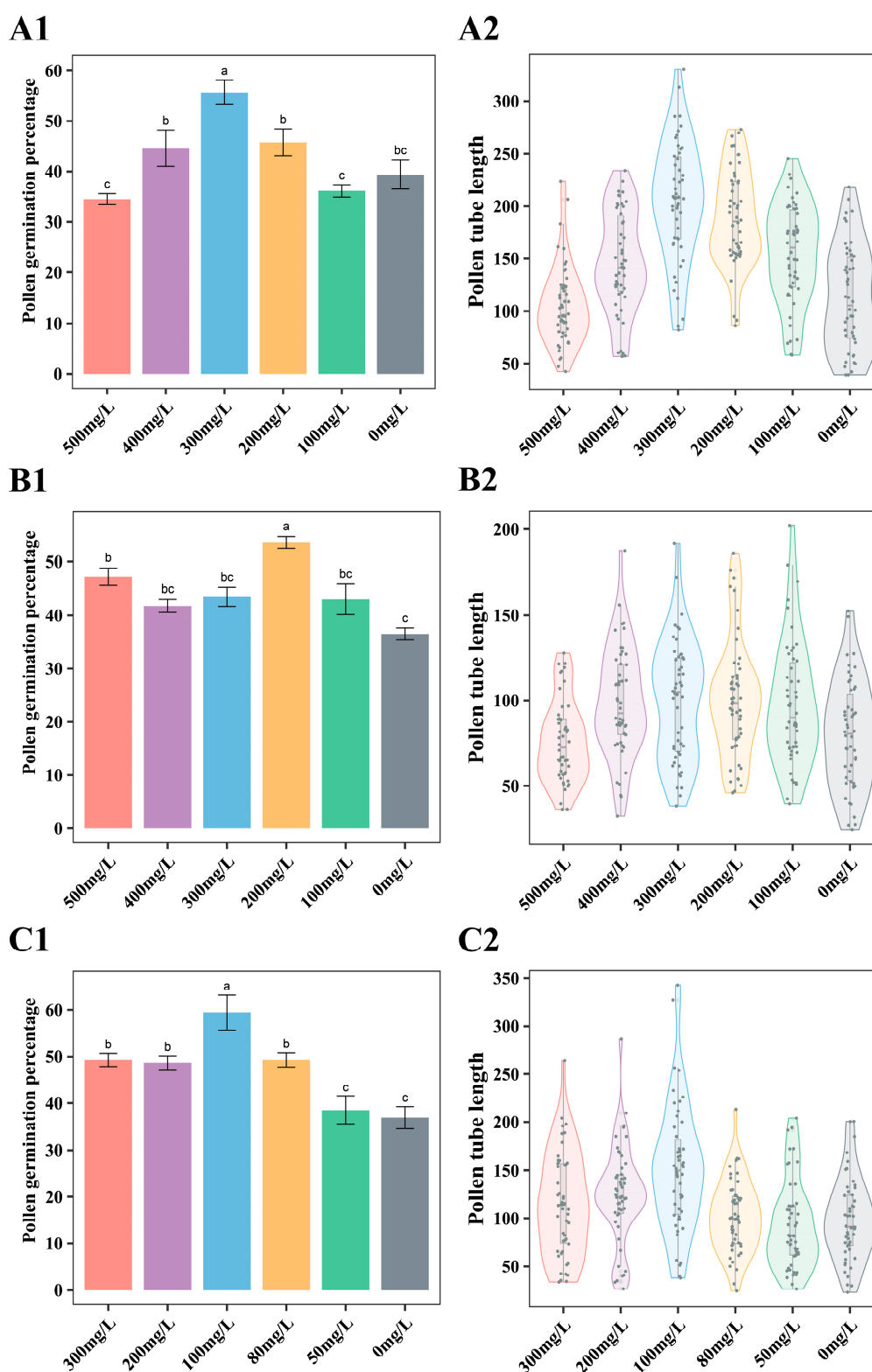


Figure S1. Pollen germination percentage (%) and pollen tube length (μm) of *Paeonia ostii* at different concentrations (A1-A2): Calcium nitrate; (B1-B2): Magnesium sulfate; (C1-C2): Potassium nitrate.

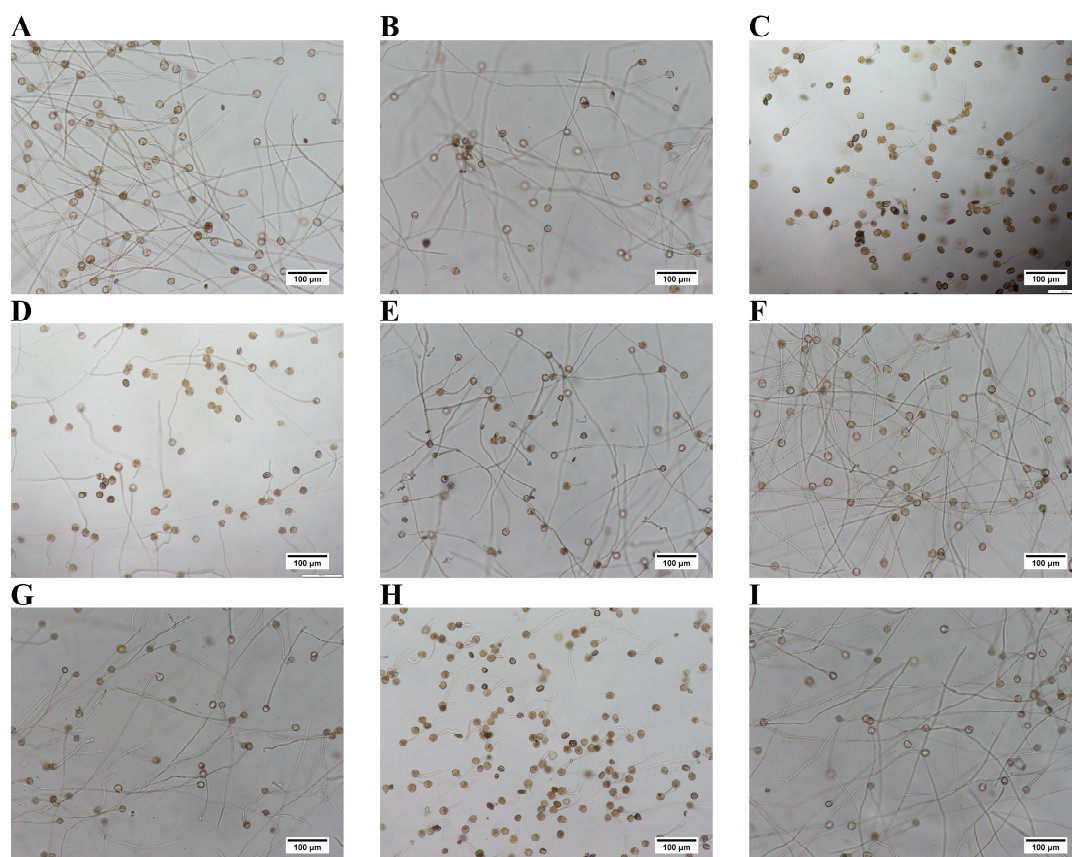


Figure S2. The pollen tube growth and pollen germination of *Paeonia ostii* in different mediums using an orthogonal assay test strategy (A-G represents 1-9 in Table 4). Bar=100µm.

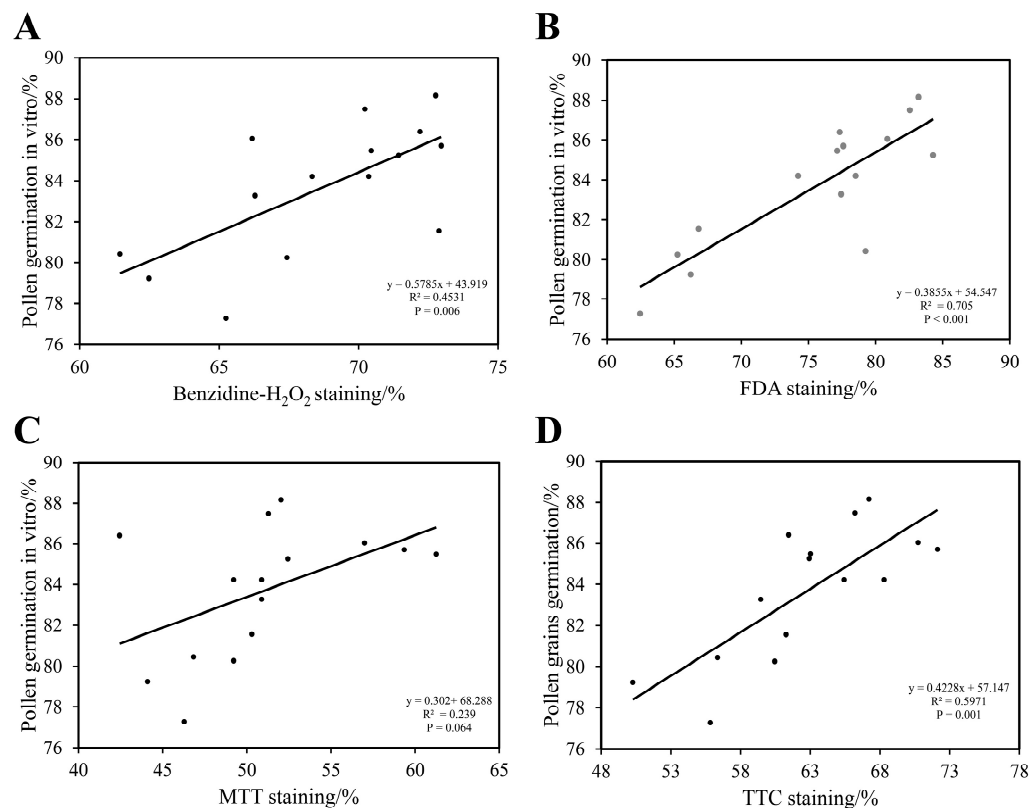


Figure S3. Single linear regression of pollen germination in vitro (%) relative to different pollen staining method (%) for *Paeonia ostii*. Each point represents the value of one replicate.

Table S1. Concentration of each component in single factor experiment with sucrose.

Levels	Sucrose (S) (g/L)	Boric acid (B) (mg/L)	Calcium nitrate (Ca) (mg/L)	Magnesium sul- fate (Mg) (mg/L)	Potassium ni- trate (K) (mg/L)	PEG6000 (P) (g/L)	pH (H)
1	200						
2	150						
3	100						
4	80	100	300	200	100	150	6.2
5	50						
6	0						

Table S2. Concentration of each component in single factor experiment with boric acid.

Levels	Sucrose (S) (g/L)	Boric acid (B) (mg/L)	Calcium nitrate (Ca) (mg/L)	Magnesium sul- fate (Mg) (mg/L)	Potassium ni- trate (K) (mg/L)	PEG6000 (P) (g/L)	pH (H)
1		300					
2		200					
3		100					
4	100	80	300	200	100	150	6.2
5		50					
6		0					

Table S3. Concentration of each component in single factor experiment with calcium nitrate.

Levels	Sucrose (S) (g/L)	Boric acid (B) (mg/L)	Calcium nitrate (Ca) (mg/L)	Magnesium sul- fate (Mg) (mg/L)	Potassium ni- trate (K) (mg/L)	PEG6000 (P) (g/L)	pH (H)
1			500				
2			400				
3			300				
4	100	100	200	200	100	150	6.2
5			100				
6			0				

Table S4. Concentration of each component in single factor experiment with magnesium sulfate.

Levels	Sucrose (S) (g/L)	Boric acid (B) (mg/L)	Calcium nitrate (Ca) (mg/L)	Magnesium sul- fate (Mg) (mg/L)	Potassium ni- trate (K) (mg/L)	PEG6000 (P) (g/L)	pH (H)
1				500			
2				400			
3				300			
4	100	100	300	200	100	150	6.2
5				100			
6				0			

Table S5. Concentration of each component in single factor experiment with potassium ni-trate.

Levels	Sucrose (S) (g/L)	Boric acid (B) (mg/L)	Calcium nitrate (Ca) (mg/L)	Magnesium sul- fate (Mg) (mg/L)	Potassium ni- trate (K) (mg/L)	PEG6000 (P) (g/L)	pH (H)
1					300		
2					200		
3	100	100	300		100	150	6.2
4				200	80		
5					50		
6					0		

Table S6. Concentration of each component in single factor experiment with PEG6000.

Levels	Sucrose (S) (g/L)	Boric acid (B) (mg/L)	Calcium nitrate (Ca) (mg/L)	Magnesium sul- fate (Mg) (mg/L)	Potassium ni- trate (K) (mg/L)	PEG6000 (P) (g/L)	pH (H)
1						250	
2						200	
3	100	100	300	200	100	150	6.2
4						100	
5						50	
6						0	

Table S7. Concentration of each component in single factor experiment with pH.

Levels	Sucrose (S) (g/L)	Boric acid (B) (mg/L)	Calcium nitrate (Ca) (mg/L)	Magnesium sul- fate (Mg) (mg/L)	Potassium ni- trate (K) (mg/L)	PEG6000 (P) (g/L)	pH (H)
1							5.4
2							5.8
3	100	100	300	200	100	150	6.2
4							7.5
5							8.4
6							9.6

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