

# Differential responses of BVOC emissions in *Pinus massoniana* to drought stress and rehydration: Implications for climate change and air quality

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## Electronic Supplementary Material (ESM)

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Table S1. Changes in BVOC emission rates under different conditions (mean  $\pm$  standard deviation of three tests) ( $\mu\text{g}\cdot\text{m}^{-2}\cdot\text{h}^{-1}$ )

| Compound                | CG                            | LD                             | SD                             | RH                            |
|-------------------------|-------------------------------|--------------------------------|--------------------------------|-------------------------------|
| Isoprene                | 2.81 $\pm$ 0.42 <sup>b</sup>  | 2.39 $\pm$ 0.40 <sup>b</sup>   | 2.05 $\pm$ 0.28 <sup>a</sup>   | 2.62 $\pm$ 0.43 <sup>b</sup>  |
| Monoterpenes            | 53.40 $\pm$ 6.68 <sup>a</sup> | 74.53 $\pm$ 11.71 <sup>b</sup> | 94.65 $\pm$ 13.63 <sup>c</sup> | 49.32 $\pm$ 5.06 <sup>a</sup> |
| $\beta$ -phellandrene   | 3.16 $\pm$ 0.76 <sup>a</sup>  | 4.41 $\pm$ 0.81 <sup>b</sup>   | 5.71 $\pm$ 0.19 <sup>c</sup>   | 2.53 $\pm$ 0.54 <sup>a</sup>  |
| $\alpha$ -pinene        | 10.94 $\pm$ 1.42 <sup>a</sup> | 15.04 $\pm$ 3.46 <sup>b</sup>  | 17.22 $\pm$ 3.87 <sup>b</sup>  | 10.57 $\pm$ 1.53 <sup>a</sup> |
| $\beta$ -myrcene        | 11.31 $\pm$ 1.18 <sup>a</sup> | 16.24 $\pm$ 2.70 <sup>b</sup>  | 17.46 $\pm$ 1.85 <sup>b</sup>  | 10.71 $\pm$ 1.09 <sup>a</sup> |
| D-limonene              | 15.41 $\pm$ 2.73 <sup>a</sup> | 18.80 $\pm$ 4.99 <sup>a</sup>  | 28.37 $\pm$ 5.37 <sup>b</sup>  | 15.14 $\pm$ 2.18 <sup>a</sup> |
| Sabinene                | 0.51 $\pm$ 0.06 <sup>a</sup>  | 0.70 $\pm$ 0.02 <sup>b</sup>   | 0.88 $\pm$ 0.14 <sup>c</sup>   | 0.50 $\pm$ 0.11 <sup>a</sup>  |
| $\beta$ -pinene         | 12.07 $\pm$ 2.19 <sup>a</sup> | 19.34 $\pm$ 6.44 <sup>b</sup>  | 25.01 $\pm$ 7.04 <sup>b</sup>  | 9.88 $\pm$ 0.78 <sup>a</sup>  |
| Sesquiterpenes          | 4.26 $\pm$ 0.26 <sup>a</sup>  | 4.87 $\pm$ 0.52 <sup>a</sup>   | 5.66 $\pm$ 0.69 <sup>b</sup>   | 4.21 $\pm$ 0.13 <sup>a</sup>  |
| $\beta$ -selinene       | 0.62 $\pm$ 0.10 <sup>b</sup>  | 0.51 $\pm$ 0.15 <sup>a</sup>   | 0.61 $\pm$ 0.20 <sup>b</sup>   | 0.61 $\pm$ 0.11 <sup>b</sup>  |
| $\alpha$ -caryophyllene | 2.86 $\pm$ 0.29 <sup>a</sup>  | 3.41 $\pm$ 0.42 <sup>b</sup>   | 3.88 $\pm$ 0.56 <sup>b</sup>   | 2.91 $\pm$ 0.23 <sup>a</sup>  |
| $\alpha$ -longipinene   | 0.14 $\pm$ 0.02 <sup>a</sup>  | 0.15 $\pm$ 0.02 <sup>a</sup>   | 0.16 $\pm$ 0.02 <sup>a</sup>   | 0.13 $\pm$ 0.03 <sup>a</sup>  |
| Longifolene             | 0.64 $\pm$ 0.08 <sup>a</sup>  | 0.80 $\pm$ 0.13 <sup>b</sup>   | 1.01 $\pm$ 0.17 <sup>c</sup>   | 0.56 $\pm$ 0.04 <sup>a</sup>  |

<sup>a-c</sup>significant differences among treatments at  $P < 0.05$  based on Tukey's HSD test; values are means  $\pm$  SD ( $n = 9$ ); CG – control group; LD – light drought; SD – severe drought; RH – rehydration