**Table S1.**The maximum water pressure gradient between the upstream and downstream reservoir of the cavitron (*ΔP*max, MPa) produced by the high pressure, low pressure and no pressure gradient method in relation to a particular xylem pressure (*P*, MPa).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *P*high pressure | *ΔP*high pressure | *P*low and no pressure | *ΔP*low pressure | *ΔP*no pressure |
| -0.5485284 | 0.06069121 | -0.56589159 | 0.02642175 | 0.02642175 |
| -0.66371936 | 0.07343637 | -0.68472882 | 0.03197032 | 0.02642175 |
| -0.78988089 | 0.08739535 | -0.81488389 | 0.03804732 | 0.02642175 |
| -0.92701299 | 0.10256815 | -0.95635678 | 0.04465276 | 0.02642175 |
| -1.07511566 | 0.11895478 | -1.10914751 | 0.05178664 | 0.02642175 |
| -1.23418889 | 0.13655523 | -1.27325607 | 0.05944895 | 0.02642175 |
| -1.40423269 | 0.15536951 | -1.44868247 | 0.06763969 | 0.02642175 |
| -1.58524706 | 0.17539761 | -1.63542669 | 0.07635887 | 0.02642175 |
| -1.77723200 | 0.19663953 | -1.83348875 | 0.08560648 | 0.02642175 |
| -1.98018751 | 0.21909528 | -2.04286863 | 0.09538253 | 0.02642175 |
| -2.19411358 | 0.24276485 | -2.26356635 | 0.10568701 | 0.02642175 |
| -2.41901022 | 0.26764825 | -2.49558191 | 0.11651993 | 0.02642175 |
| -2.65487743 | 0.29374547 | -2.73891529 | 0.12788129 | 0.02642175 |
| -2.90171521 | 0.32105652 | -2.9935665 | 0.13977108 | 0.02642175 |
| -3.15952356 | 0.34958139 | -3.25953555 | 0.1521893 | 0.02642175 |
| -3.42830247 | 0.37932008 | -3.53682243 | 0.16513596 | 0.02642175 |
| -3.70805195 | 0.4102726 | -3.82542714 | 0.17861105 | 0.02642175 |
| -3.99877200 | 0.44243894 | -4.12534968 | 0.19261458 | 0.02642175 |
| -4.30046262 | 0.47581911 | -4.43659005 | 0.20714655 | 0.02642175 |
| -4.61312381 | 0.5104131 | -4.75914826 | 0.22220695 | 0.02642175 |
| -4.93675556 | 0.54622092 | -5.0930243 | 0.23779578 | 0.02642175 |
| -5.27135788 | 0.58324256 | -5.43821817 | 0.25391305 | 0.02642175 |
| -5.61693077 | 0.62147802 | -5.79472987 | 0.27055876 | 0.02642175 |
| -5.97347423 | 0.66092731 | -6.1625594 | 0.2877329 | 0.02642175 |
| -6.34098825 | 0.70159042 | -6.54170676 | 0.30543547 | 0.02642175 |
| -6.71947285 | 0.74346736 | -6.93217196 | 0.32366648 | 0.02642175 |
| -7.10892801 | 0.78655812 | -7.33395499 | 0.34242592 | 0.02642175 |