**Table S1.** Summary of the experiments and experimental systems described in this report.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Experiment Name** | **Experimental System** | **Pore Classificationa** | **Pore Geometry** | **Results** |
| Macropore Evaporative Flux | Glass capillary tubes | Fine Macropore | Uniform cylinders:1.2 mm diameter | Table 2, Figure 2 |
| Macropore Drying | Glass capillary tubes | Fine Macropore | Uniform cylinders:1.2 mm diameter | Figure 3A |
| Soil Micromodel Drying | Emulated soil micromodels | Micropore to Very Fine Macropore | 2D sandy loam:Width: 10 to 300 µm Height: 35 µm | Figure 3B, Figure 4 |
| Micropore Drying | Microfluidic capillary arrays | Micropore | Uniform rectangles:Width: 20 µmHeight: 35 µm | Figure 5 |

a Pore classification from the Glossary of Soil Science Terms. (Soil Science Society of America, 2008)