

## Description of Additional Supplementary Files

**File: Supplementary Data 1**

**Description:** Plant genetic parts

**File: Supplementary Data 2**

**Description:** Bacterial genetic parts

**File: Supplementary Data 3**

**Description:** Plasmid sequences

**File: Supplementary Movie 1**

**Description:** Root hair induction of the *A. thaliana* pC-HSL receiver by pC-HSL in the hydroponic system.

Video of the 3D reconstruction of uninduced roots (replicate 1) from Supplementary Figure 9.

**File: Supplementary Movie 2**

**Description:** Video of the 3D reconstruction of uninduced roots (replicate 2) from Supplementary Figure 9.

**File: Supplementary Movie 3**

**Description:** Video of the 3D reconstruction of induced roots (replicate 1) from Supplementary Figure 9.

**File: Supplementary Movie 4**

**Description:** Video of the 3D reconstruction of induced roots (replicate 2) from Supplementary Figure 9.