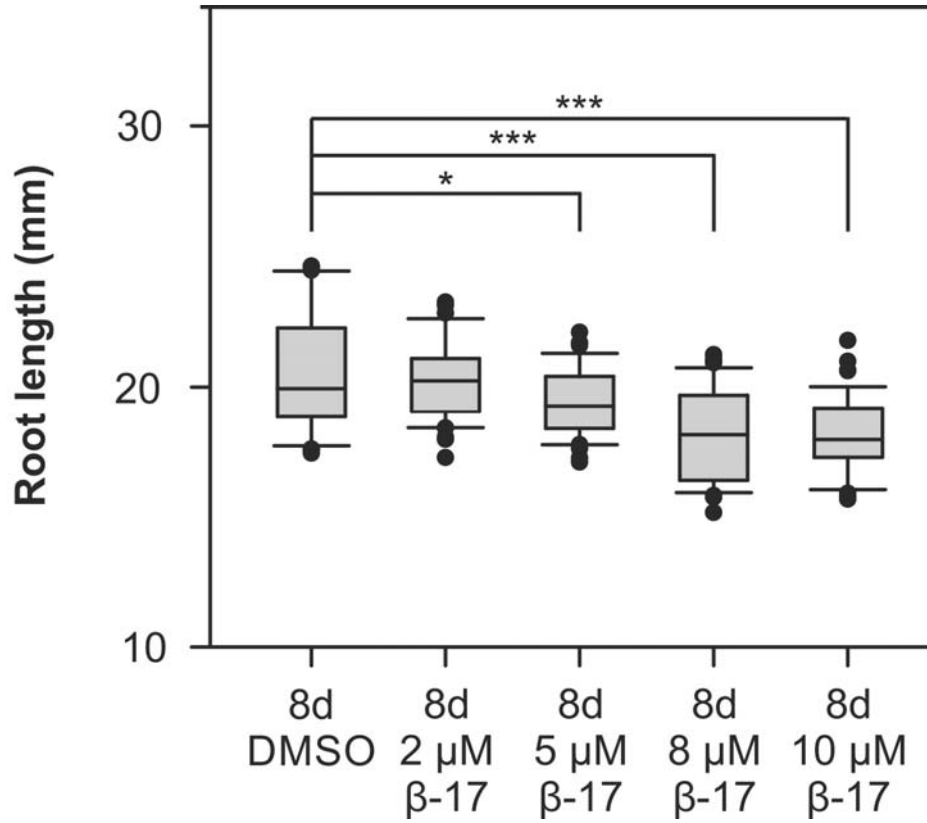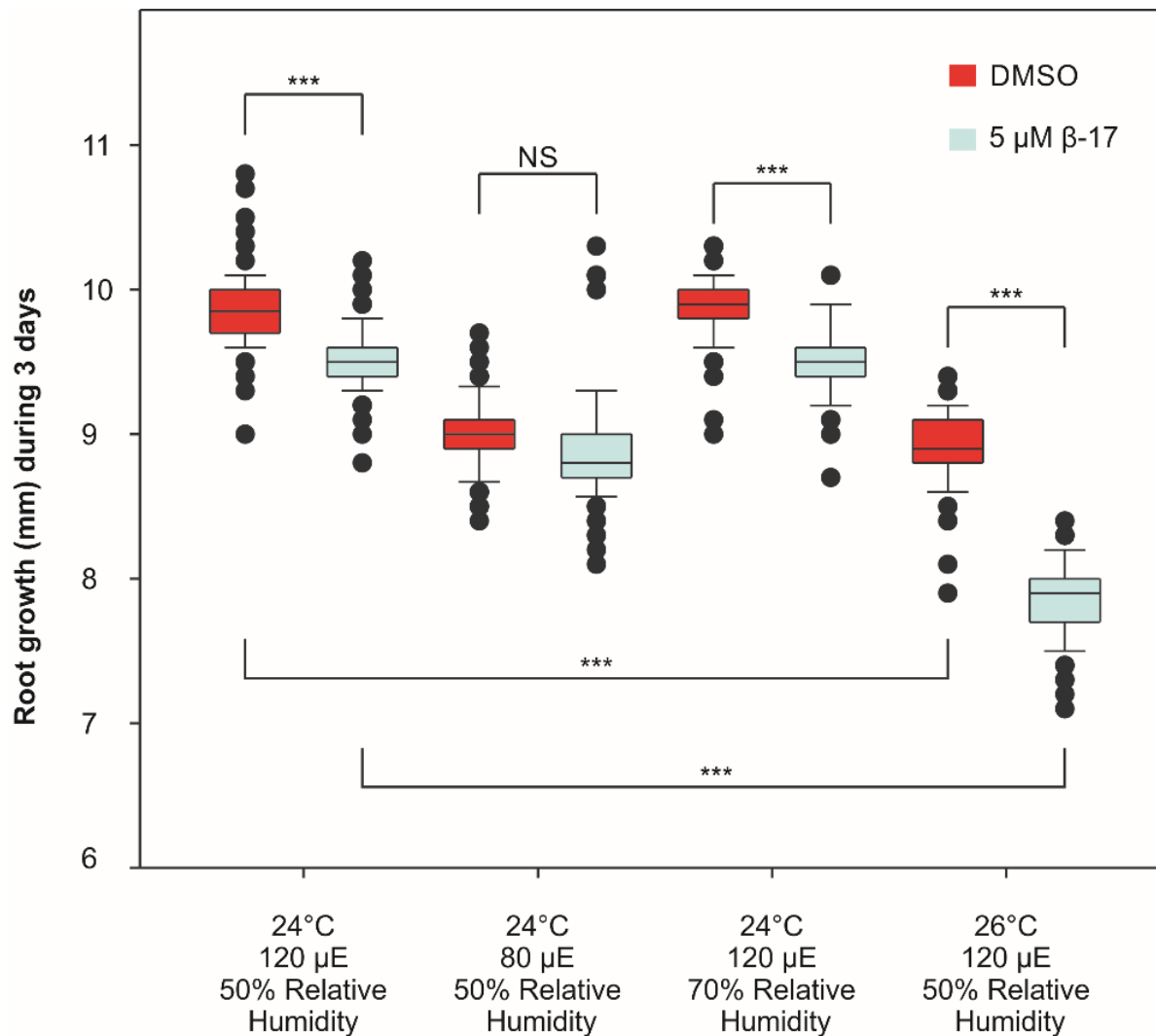1 **SUPPLEMENTAL MATERIAL**

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9 **Supplemental Figure S1.** Effect of 17-β-estradiol treatment on root growth (in the Purdue University).

10 Root length (millimeters) of Col-0 plants germinated on DMSO solvent control plates or 17-β-estradiol

11 plates (2 µM, 5 µM, 8 µM, 10 µM) and grown for 8, 11 or 13 days. Asterisks indicate significant

12 difference (Mann-Whitney U test): *=P<0.05; **= P<0.01; ***= P<0.001.

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16 **Supplemental Figure S2.** Effect of growth conditions (temperature, light intensity and relative
17 humidity) on 17-β-estradiol-mediated root growth inhibition. Col-0 seedlings were grown on ¼ MS
18 media for 6 days and transferred on DMSO (red) or 5 μM 17-β-estradiol (cyan) plates. Root growth (in
19 millimeters) was measured 72 hours after transfer. Box-plots show the results of three biological
20 repeats with 32 samples each. Asterisks indicate significant difference (ANOVA with Turkey's *post hoc*
21 test): ***= P<0.001; NS= Not Significant; microEinstein, μE. These experiments were performed in the
22 University of Maryland.

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Supplemental Table S1. Primers to amplify and clone the inducible promoters

Entry clone	Primers (left, top; right, bottom)
p1R4-p6xUAS:XVE	Cloning explained in Materials and Methods. **G1090F-attB4**: ggggacaactttgtatagaaaagttgatctgatagtttaaactgaaggcgggaaacg; **rbcTR-not1**: ttttgcggccgcgtttgggatgtgtttactcctcatattaacttcggtc; **nostF-not1**: atatgcggccgcatcgttcaaacatttggcaataaagtttcttaagattg; **laxR-attB1**: ggggactgctttttgtacaaacttgtgctagagtcgactagcttcagcg
p1R4-pAHP6:XVE	aaaactcgagcacggggcgcaaagaagcatgac aaaactcgagccacaacggcacacccgtcttg
p1R4-pANT:XVE	p226GII-pANT plasmid was digested with *Xho*1 and *Sma*1 and the subsequent 5137bp *ANT* promoter was cloned into *Xho*1-*Sna*B1-digested p1R4-pML:XVE to obtain p1R4-pANT:XVE
p1R4-pAPL:XVE	cgatcgatttatcgaatttagtgtt tctctctctctctctctctgactctc
p1R4-pAtSUC2:XVE	tataggcgcgccttcaaggccactataatttctca tataggtaccatttgacaaaccaagaaagtaaga
p1R4-pCALS3:XVE	ctcagtcgacgatttgagctca tttgtctaccctataacctccag
p1R4-pCCS52A1:XVE	cgaccggtcgaagaagaactcgtcagtct ccgtacgtatggttttttttttttgttgac
p1R4-pCO2:XVE	tataggtaccgggccccccctcgag tataagcgctaaaactcttgttgcattattgtcaaatccttttggca
p1R4-pCYP79B3:XVE	taggtaccgccagttcgtatgggctcta taggtacctgcaaggaagaaggagaagg
p1R4-pG1090:XVE	Cloning explained in Materials and Methods. **G1090F-attB4**: ggggacaactttgtatagaaaagttgatctgatagtttaaactgaaggcgggaaacg; **rbcTR-not1**: ttttgcggccgcgtttgggatgtgtttactcctcatattaacttcggtc; **nostF-not1**: atatgcggccgcatcgttcaaacatttggcaataaagtttcttaagattg; **laxR-attB1**: ggggactgctttttgtacaaacttgtgctagagtcgactagcttcagcg
p1R4-pGCI:XVE	tataaccggtaaacaaaatggttgcaaca tatactcgagatttcttgagtagtgatttt
p1R4-pIRX8-XVE	cgaccggtacgagctgacttgtgtcgatgag ccgtacgtacgaagagggaaactggatcttacg
p1R4-pLFY:XVE	cggcgcgccggatccatttttcgcaaagg cgaccggtctattttttctctctctctctatcac
p1R4-pLexA	By recombining into pDONR 221. Amplified with primers: ggggacaactttgtatagaaaagttgttagcttgggctgcaggtcg ggggactgctttttgtacaaacttgtgctagagtcgactagcttcagcg
p1R4-pML:XVE	Cloning explained in Materials and Methods. **MLF-attB4**: ggggacaactttgtatagaaaagttggcgcgccatcgataccggtggtaccctcgagtacgtaccaattccgggcggaatga; **rbcTR-not1**: ttttgcggccgcgtttgggatgtgtttactcctcatattaacttcggtc; **nostF-not1**: atatgcggccgcatcgttcaaacatttggcaataaagtttcttaagattg; **laxR-attB1**: ggggactgctttttgtacaaacttgtgctagagtcgactagcttcagcg
p1R4-pRCH1:XVE	tattaccggtcgtcagaatccaagaaagtcttttttcagtacaccac tattctcgagtttctttgcatttggctctcaaatccaaaacaagc
P1R4-pS17:XVE	atatggcgcgcctctggattagcgactaaggcta

	taatctcgagcttaatgaccggtttaaaattgttt	25
p1R4-pSCR:XVE	aaaactcgagatgaaaagtggaaatttacctggaagtccg	26
	aaaactcgagggagattgaagggttgttggtcgtg	
p1R4-pTHE:XVE	cgaccggttcaccgttccaaaggataac	
	ccgtacgtagaaccctaaaacccaaattgg	
p1R4-pTMO5:XVE	ttggcgcgccgttgaacgtcgtgtgggcttc	
	ttggtaccttttggttttttttggttttttttagtttttgg	
p1R4-pUBQ10:XVE	cggggtaccagtctagctcaacagagct	
	ggactcgagggtattgttttatagaagaagaag	
p1R4-pWER:XVE	aaaactcgagtgaaaggcgggcccaatac	
	aaaactcgagtctttttgtttctttgaatgatagacgagagag	
p1R4-pWOL:XVE	Cloning explained in Materials and Methods. **G1090F-attB4**: ggggacaactttgtatagaaaagttgatctgatagtttaaactgaaggcgggaaacg; **rbcTR-not1**: ttttgcggccgcgtttgggatgtttactcctcatattaacttcggtc; **nostF-not1**: atatgcggccgcatcgttcaaacatttggcaataaagtttcttaagattg; **laxR-attB1**: ggggactgctttttgtacaaacttgtgctagagtcgactagcttcagcg	
p1R4-pWOX5:XVE	taggtacccccctggtagcgaactaggaa	
	taggtaccttttacgttttagggcctgtg	
p1R4-pZCP4-XVE	cgaccggtctcaagacatttcttacttatagac	
	cgctcgagtgttgttgttgttgtggatg	