

1 **Supplementary material**

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3 The following supplementary material is available for this article:

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5 **Fig. S1** Schematic depiction of the growth arenas used to examine the effect of emitter
6 volatiles on receiver growth. **a.** Experimental design to examine the growth of receiver
7 seedlings in response to increasing emitter abundance to different emitter genotypes and to
8 increased ethylene emission in response to 1-aminocyclopropane-1-carboxylic acid (ACC)
9 supplementation. 0 – 45 emitters were grown in the outer Petri dish (9 cm) and shared their
10 headspace with five receivers grown in the inner Petri dish (6 cm). Root interactions and
11 competition for nutrient between emitters and receivers was prevented by the Petri dishes. **b.**
12 Emitted volatiles, including ethylene, were removed from the headspace by KMnO₄ beads.
13 KMnO₄ beads were placed in a larger Petri dish (14 cm) that contained the open growth arena
14 described above. Contact of the plants and the media with KMnO₄ was prevented by the 9-cm
15 Petri. The headspace volume was approximately 231 cm³.

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17 **Fig. S2** Mean (+ SE) ethylene emission (nl/cuvette) from 15 WT seedlings grown on media
18 supplemented with ACC (upper panel) or grown in the presence of KMnO₄ beads (lower panel).
19 Asterisks indicate significant differences at the level of P < 0.001.

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Fig S3 Mean (+ SE) root length (cm) of wild-type *Nicotiana attenuata* (WT) receiver seedlings. Five receiver seedlings were grown in growth arenas and shared the headspace with either 15 emitter seedlings that were grown on media supplemented with 1-aminocyclopropane-1-carboxylic acid (ACC) or in the presence of ethylene scrubbing KMnO_4 beads. Shared letters indicate no significant differences among means as determined by ANOVA with treatment as fixed variables, and post ANOVA Tukey tests; $P < 0.001$.

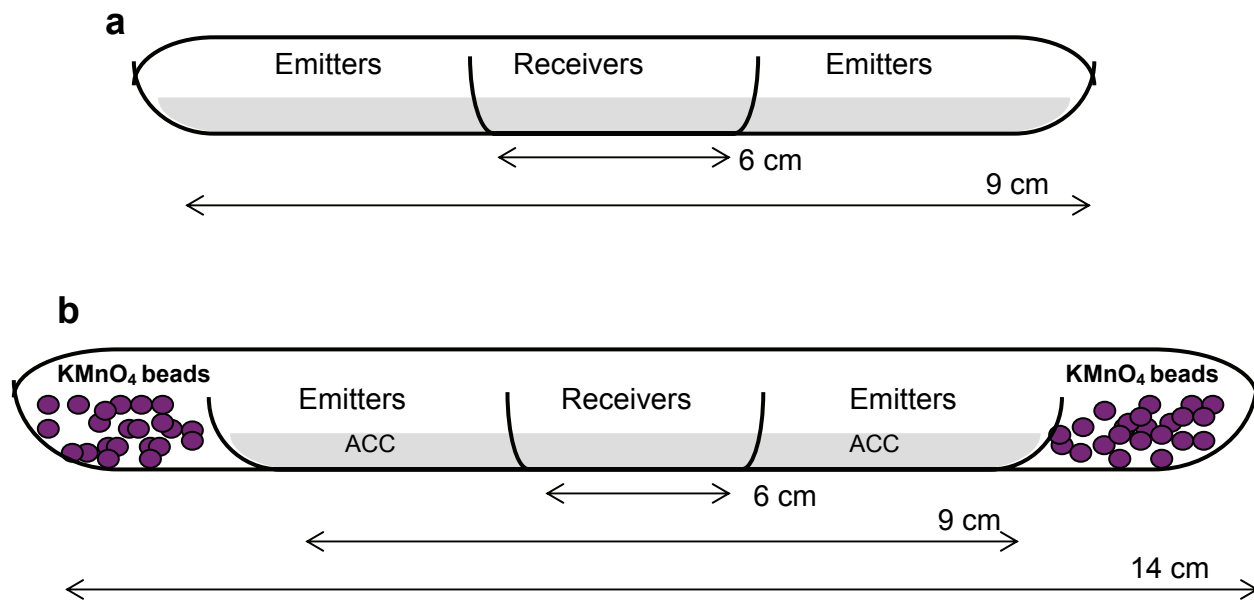


Figure S1

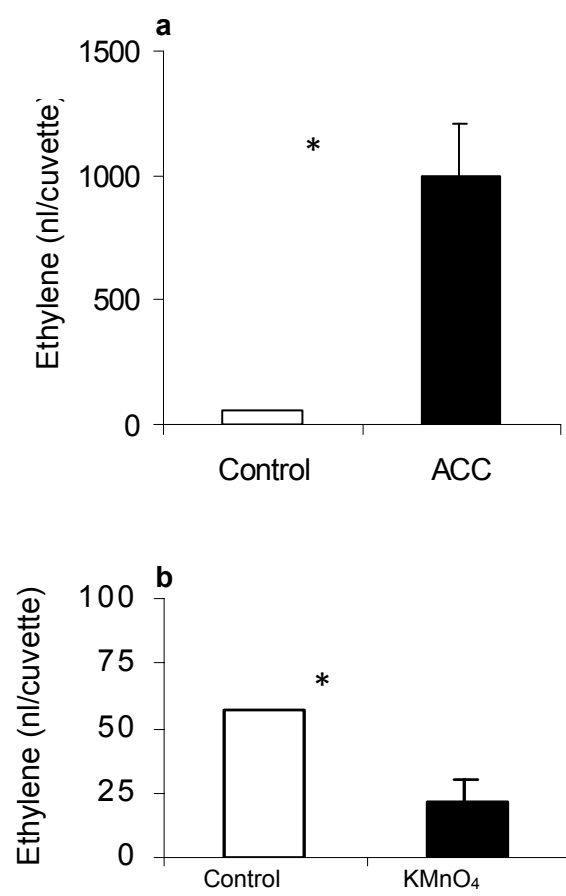


Figure S2

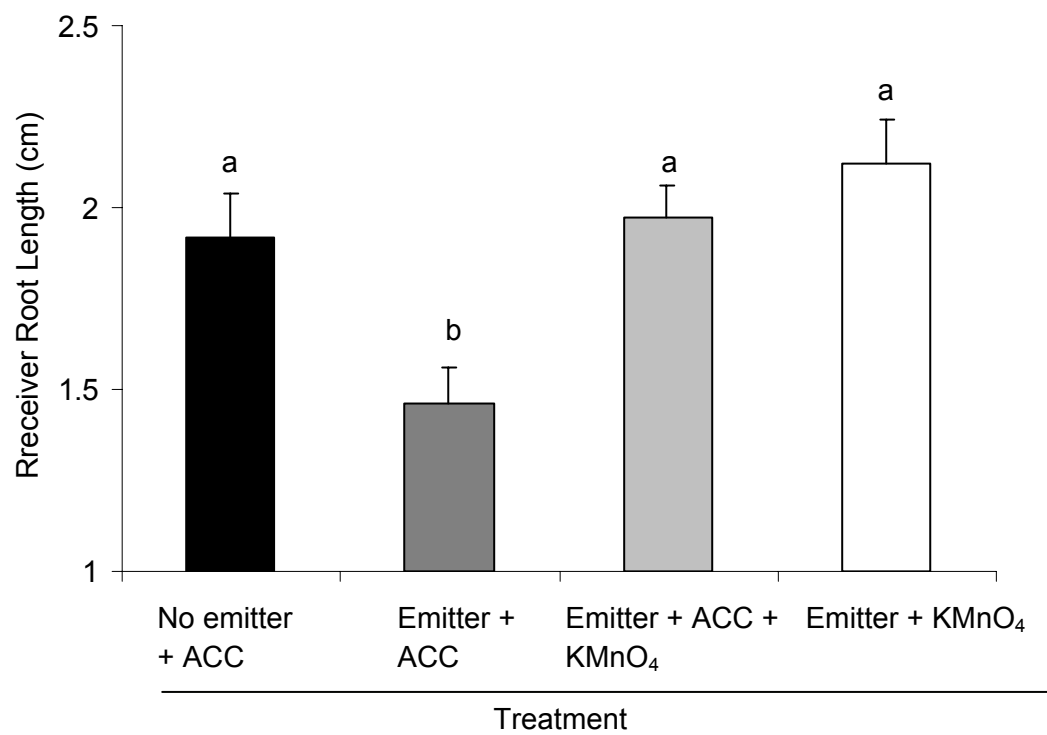


Figure S3