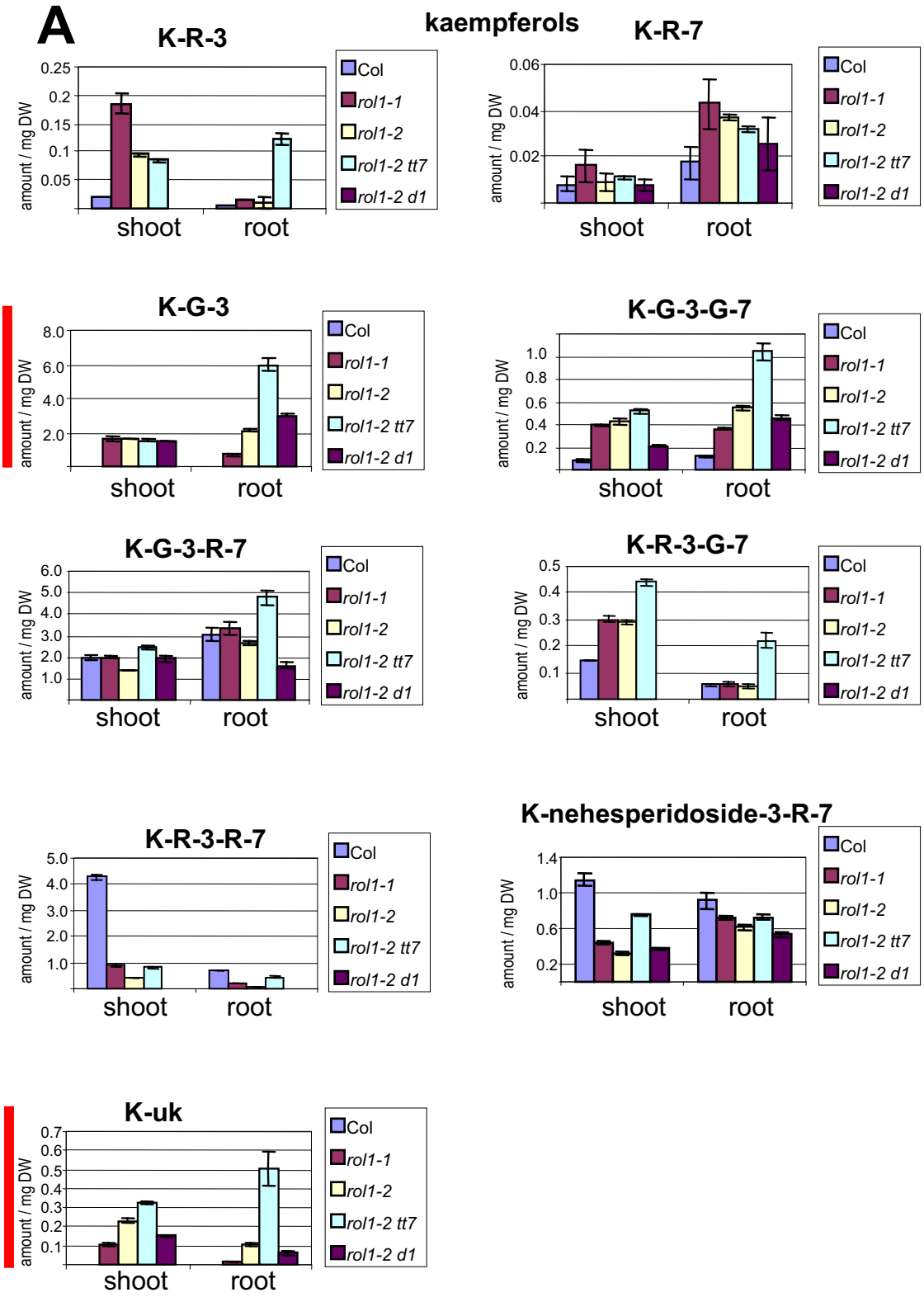
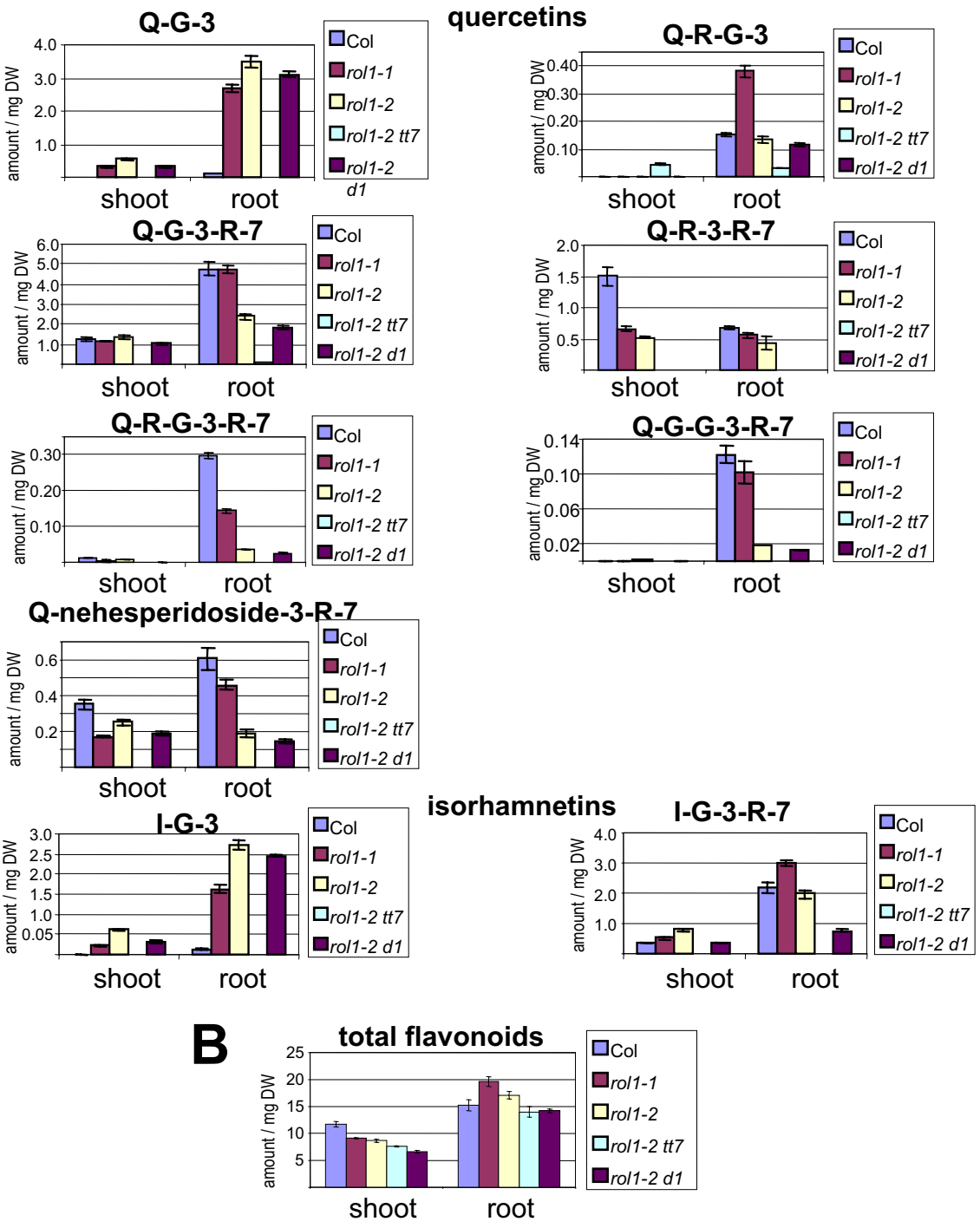
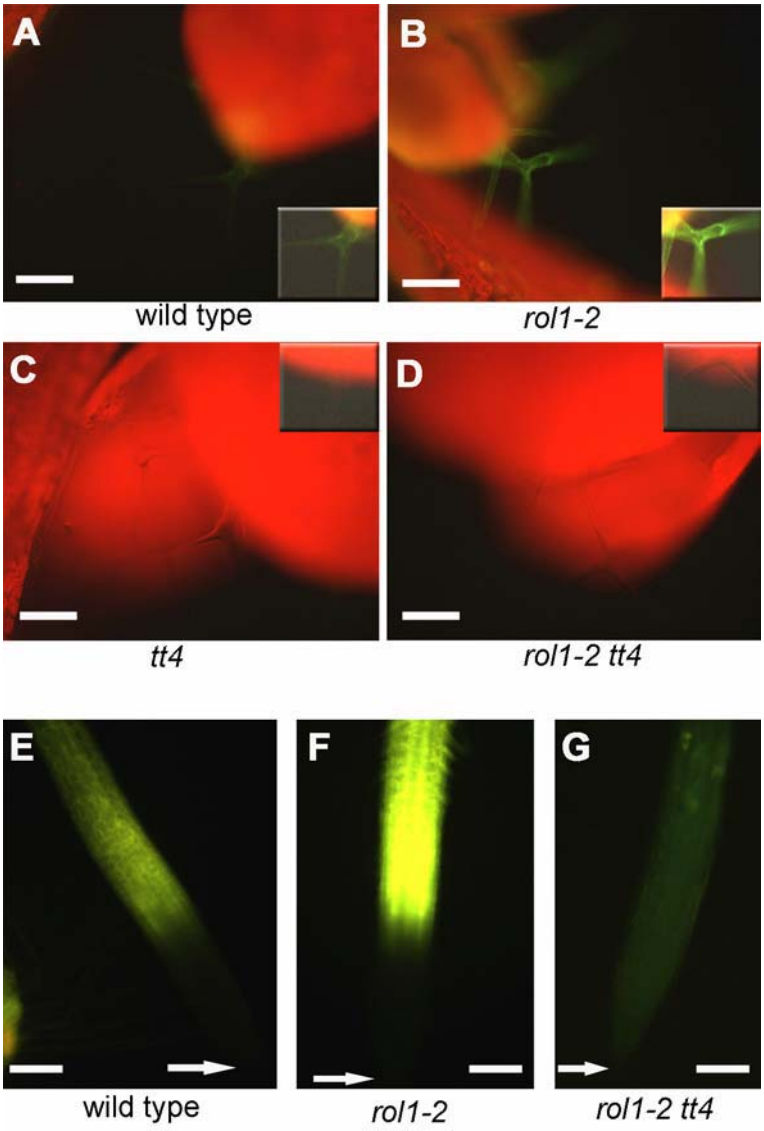
Supplemental Data. Ringli et al. (2008). The modified flavonol glycosylation profile in the Arabidopsis *rol1* mutants results in alterations in plant growth and cell shape formation.





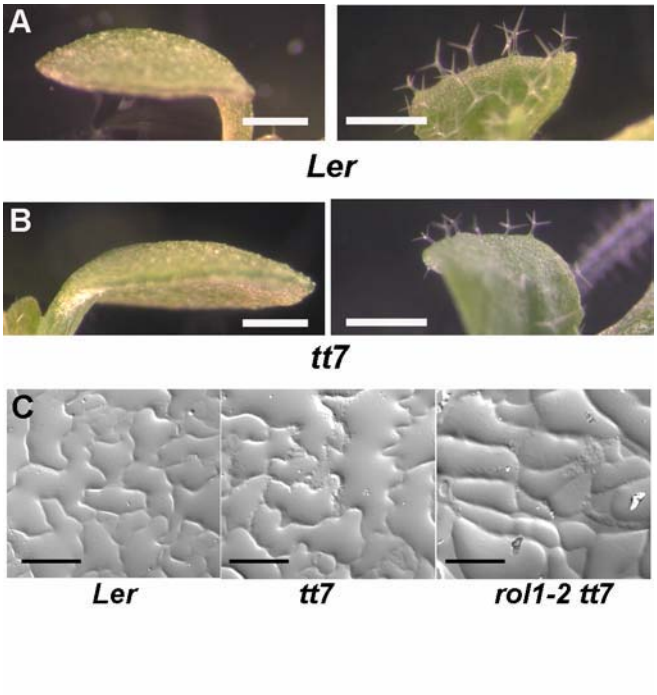
Supplemental Figure 1. Graphical Representation of Flavonol Abundance in Wild Type and *rol1* Mutant Seedlings.

(A) The distribution of the flavonol species in shoots and roots in the different lines is shown for each identified flavonol. The amount of flavonol was defined as the area under the corresponding HPLC-peak and calculated per milligram dry weight. Note the difference in the scale, i.e. the abundance of the different flavonols. Red bar: Two obvious candidates for a function in *rol1-2*. They accumulate to higher levels in *rol1* mutants compared to the wild type and are present in all lines showing the *rol1-2* phenotype. **(B)** Total amounts of flavonols in the different lines. Means ± SE of 3 samples are shown.



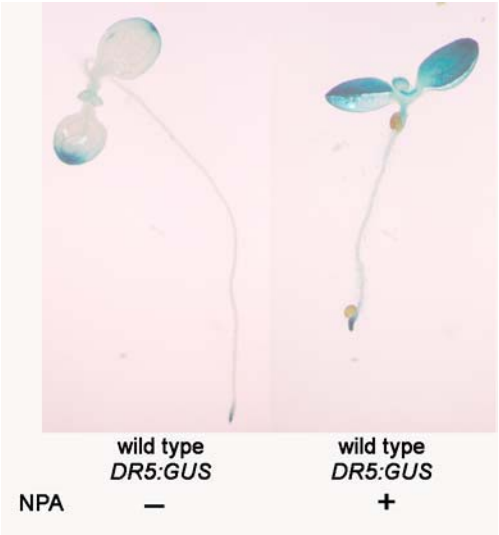
Supplemental Figure 2. Flavonoid Staining by DPBA in *Arabidopsis* Seedlings.

Seedling shoots [**(A)**-**(D)**] of wild type, *rol1-2*, *tt4*, and *rol1-2 tt4* mutants were stained with DPBA and analyzed by fluorescence microscopy. DPBA fluorescence is shown in green while the red color represents chlorophyll autofluorescence. Flavonoids are more abundant in trichomes of *rol1-2* mutants, and absent in *tt4* or *rol1-2 tt4* mutants. The insets show better visualization of trichome flavonol fluorescence. Wild type roots **(E)** show weaker fluorescence than do *rol1-2* roots **(F)** while *rol1-2 tt4* double mutant roots **(G)** reveal only background staining of the dye. The root tips are indicated by arrows. All photographs were taken at identical settings to allow comparisons in the fluorescence intensities. Bars [**(A)**-**(D)**] = 0.5 mm, Bars [**(E)**-**(G)**] = 0.5 mm.



Supplemental Figure 3. The *tt7* Mutation Does not Develop *rol1-2* Like Phenotypes.

Wild type Landsberg *erecta* (*Ler*) **(A)** and *tt7* **(B)** seedlings develop epinastic cotyledons and normal trichomes. Gel prints of pavement cells **(C)** reveal no difference between wild type and the *tt7* mutant. For comparison, a gel print of a *rol1-2 tt7* double mutant reveals the absence of the typical jigsaw puzzle-like cell shapes due to the *rol1-2* mutation. Bars = 1 mm [**(A)** and **(B)**], 100 μm **(C)**.



Supplemental Figure 4. Effect of NPA on Seedling Development and *DR5*:*GUS* Activity.

Wild-type seedlings containing the auxin-sensitive *DR5*:*GUS* reporter construct were grown with (right) or without (left) 5 μM NPA in a vertical orientation and stained for GUS activity. In the presence of NPA, seedlings show hyponastic growth and strongly increased GUS activity.