Article:
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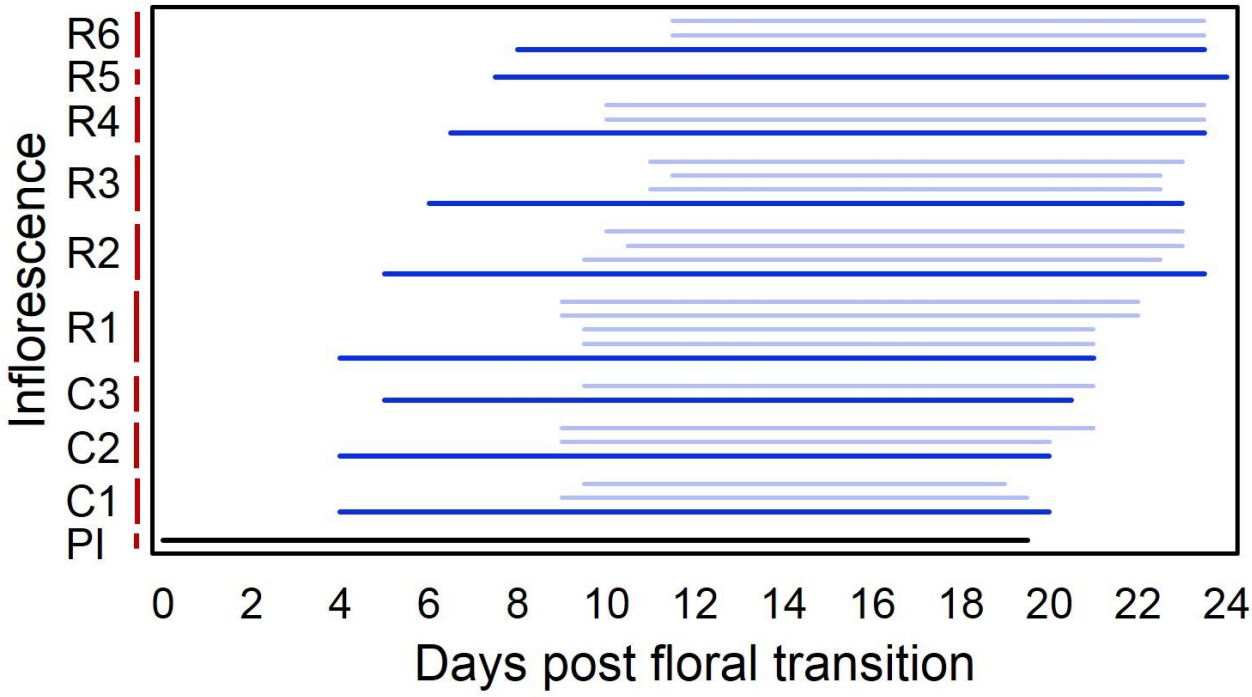
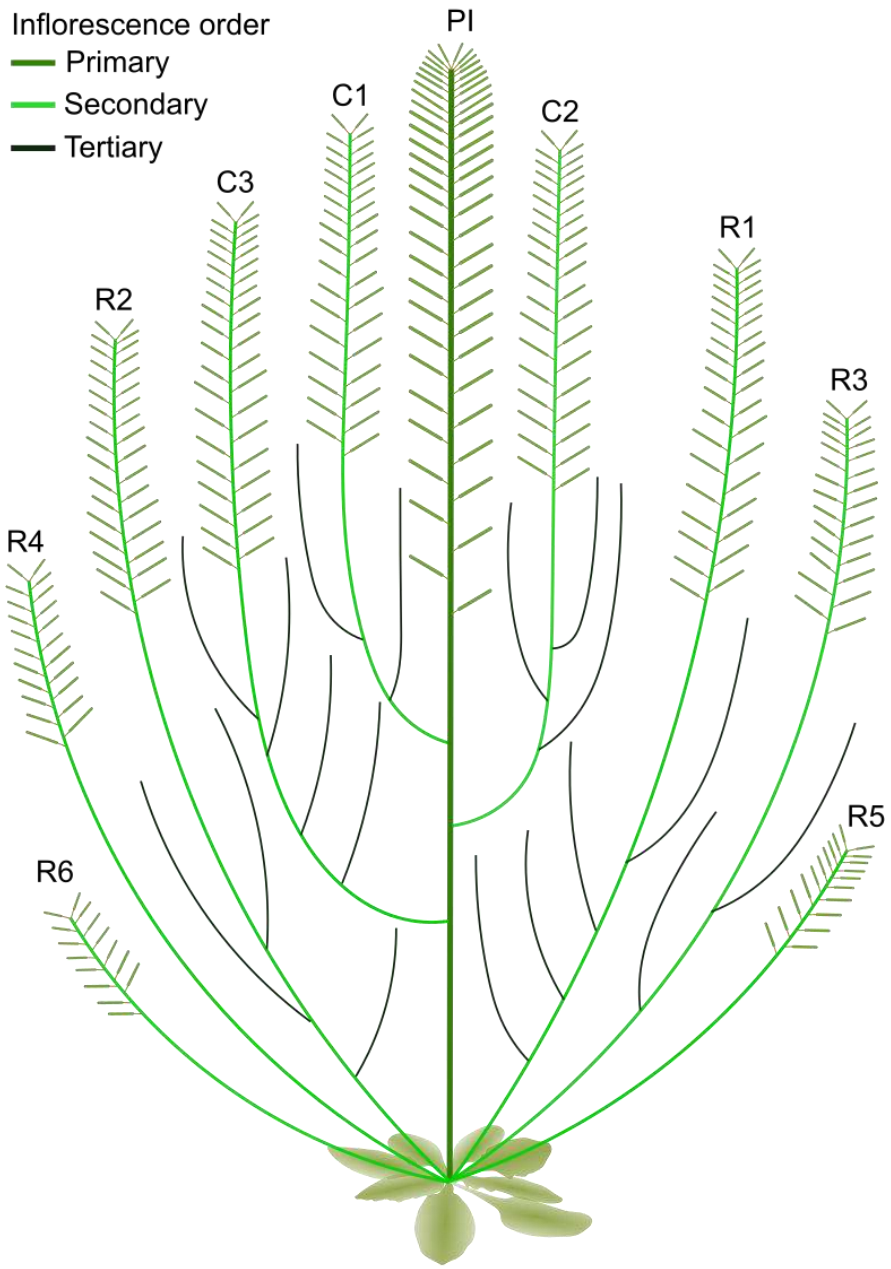


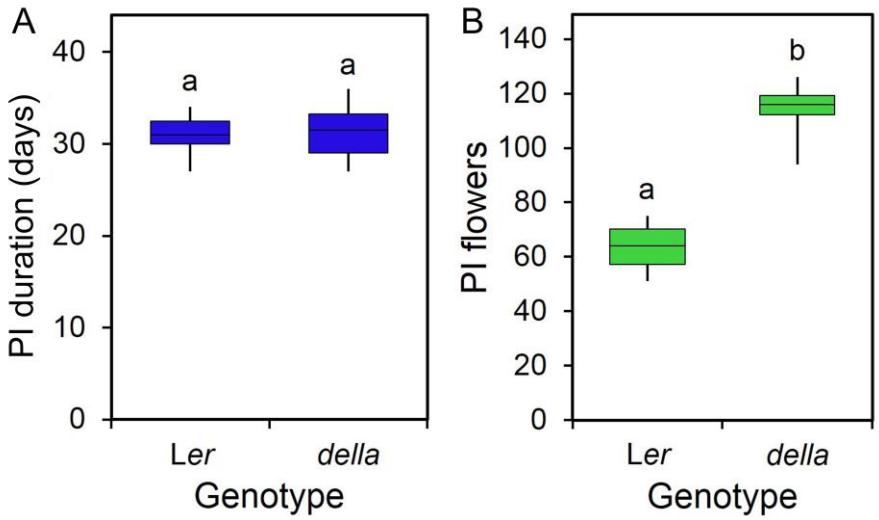
Supplementary Figure 1: Inflorescence classes and durations

Complete dataset for data shown in Figure 2A, 2B. Duration of individual inflorescences in Col-0, from inflorescence activation to arrest, shown relative to the time since bolting started. The primary inflorescence ('PI') is indicated in black, secondary cauline (C1, C2, etc.) and rosette (R1, R2, etc.) inflorescences in dark blue. Tertiary inflorescences are shown in light blue above their parent secondary inflorescence. Values are derived from analysis of 8 plants. Each inflorescence duration is the mean of 3-8 plants, depending on which plants had which inflorescence type. Any inflorescence type occurring on two or fewer plants was excluded from analysis.



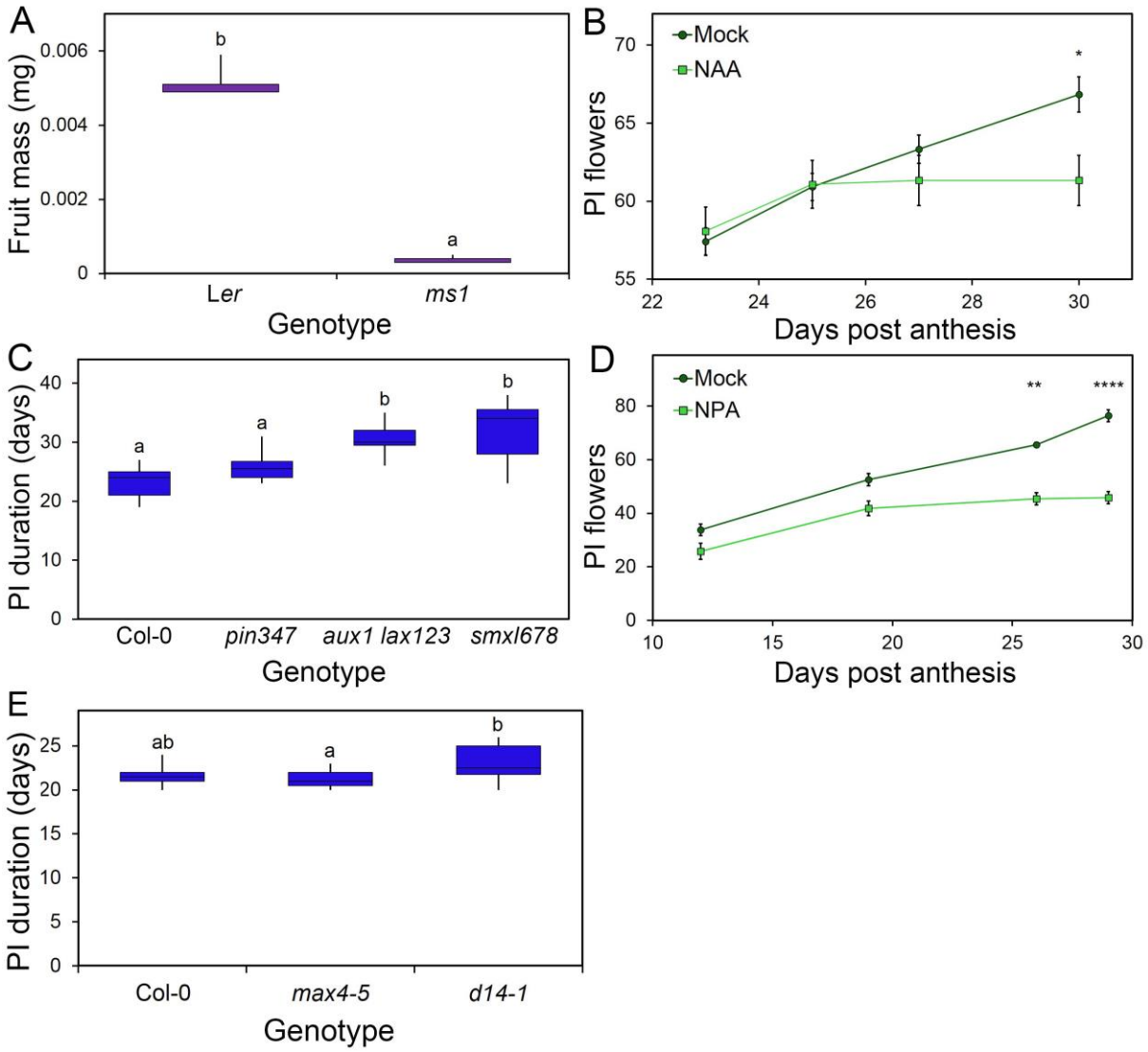
Supplementary Figure 2: Inflorescence architecture and nomenclature

Diagram illustrating the typical architecture of an Arabidopsis shoot system. The primary embryonic shoot apex gives rise to primary leaves and eventually forms the primary inflorescence. Flowering branches that form from axillary buds in the axils of primary leaves are secondary inflorescences. Secondary inflorescences formed from primary cauline leaves are cauline inflorescences (denoted C1 etc.), those from primary rosette leaves are rosette inflorescences (denoted R1 etc.). Secondary inflorescences are numbered in the order in which they activate, from the shoot apex downwards through the cauline nodes, and then into the rosette nodes. Thus, C1 is the apical-most cauline inflorescence, C2 is the second apical-most inflorescence, and so on. We have separated the numbering of the cauline and rosette nodes, such that R1 is the apical-most rosette inflorescence. Branches that form from secondary inflorescences are tertiary inflorescences, and are named after the parental branching system in rootward fashion (e.g. C2.1 = uppermost tertiary branch on the second cauline inflorescence).



Supplementary Figure 3: Role of gibberellin in floral arrest

(**A, B**) Effect of *della* quintuple mutants (which have constitutive gibberellin responses) on inflorescence arrest, relative to L*er* wild-type plants. The duration of the PI arrest was measured (**A**), as well as the number of flowers produced by the PI (**B**). *n*=12, bars indicate s.e.m. Bars with the same letter are not statistically different from each other (t-test, p>0.05).



Supplementary Figure 4: Role of auxin transport in floral arrest

A) Weight in milligrams of 5 fertile (L*er*) or sterile (*ms1-1)* fruits harvested at six days post anthesis.

B) Temporal production of flowers by the PI of male-sterile *ams* plants upon application of either 5mg/g NAA in lanolin, or a mock treatment consisting of lanolin and DMSO, to the de-fruited pedicels of the top 10 fruit in *ams* at 23dpa; any further fruit which were produced were also treated in the same manner. *n*=12. Asterisks indicate significance

C) Effect of the auxin transport mutants *pin3-3 pin4-3 pin7-1* (*pin347*), *aux1 lax1 lax2 lax3* (*aux1 lax123*) and *smxl6-4 smxl7-1 smxl8-1* (*smxl678*) on primary inflorescence (PI) duration, relative to Col-0 wild-type. *n* = 9-12, bars indicate s.e.m. Bars with the same letter are not statistically different from each other (ANOVA, Tukey HSD test).

D) Effect of subapical NPA treatment on temporal flower production in the PI of the male-sterile line *ams*. An approximately 1cm region directly below the apex of the PI was either treated with NPA (0.1mg/g) in lanolin or a mock at 12dpa. n=5, asterisks indicate significance as determined by Sidak's multiple comparisons following fitting of a mixed-effects model; * = <0.05; ** = <0.01; *** = 0.001; **** = 0.0001.

E) Effect of the strigolactone mutants *max4-5 and d14-1* on primary inflorescence (PI) duration, relative to Col-0 wild-type. n = 8-11, bars indicate s.e.m. Bars with the same letter are not statistically different from each other (ANOVA, Tukey HSD test).

Experiment	GH or WI	Floral duration (Days)	PI duration (Days)	RF duration (Days)	Fruit count	RF fruit count
1	WI	24.4 ± 0.9	19.4 ± 1.3			
2	WI	27.7 ± 1.5	20.6 ± 1.1		423 ± 51	569 ± 53
3	WI	27.1 ± 1.9	22.3 ± 1.1		378 ± 62	513 ± 75
4	WI	25.4 ± 2.6	19.3 ± 1.3			
5	WI	25.4 ± 1.4	20.1 ± 1.0			
6	WI		21.3 ± 0.2			
7	WI	28.1 ± 2.5	21.3 ± 1.3		515 ± 128	
8	WI		23.2 ± 0.8			
9	WI	27.8 ± 0.3	23.5 ± 0.5			
10	WI	31.1 ± 0.6	25.1 ± 0.8			
11	WI		24.9 ± 0.4			
12	GH		27.3 ± 0.7			
13	WI				184 ± 30	208 ± 27
14	WI				501 ± 101	571 ± 149
15	WI				352 ± 129	483 ± 173
16	WI			9.9 ± 2.9	241 ± 65	301 ± 86

Supplementary Table 1

Details of experiments used for flowering duration and fruit assessments. Means are presented for the untreated controls in each experiment ± standard deviation. All experiments were performed under similar long day conditions (16h day/8h night), grown in either a greenhouse with supplementary lighting (GH) or a walk-in controlled environment chamber (WI). PI = primary inflorescence, RF = after re-flowering.