

## Supplementary material

### Figures



**Figure S1.** Two main appearance characteristics of citrus fruit split (vertical and horizontal). The samples were collected at the peak of fruit splitting during fruit development.

### Tables

**Table S1.** The key DEMs may help to alleviate fruit splitting following treatment with potassium fertilizer.

Metabolite	Description	Log2(FC) (Group C/A)	P-value
Amino acid <sup>a</sup>	gamma-Glutamylphenylalanine	2.20	0.0359
	L-Isoleucine	1.72	0.0375
	5-Hydroxytryptophol	1.58	0.0296
	Uridine diphosphate glucose	1.33	0.0337
	(±)-Tryptophan	1.35	0.0472
	Citrulline	1.27	0.0329
Hormone <sup>a</sup>	Cabreuvin	-30.02	0.0385
Glycoside <sup>a</sup>	Geranyl arabinopyranosyl-glucoside	-1.71	0.0247
	Neryl arabinofuranosyl-glucoside	-1.64	0.0019
	Agavasaponin C	34.52	0.0251
	Kaempferol 4'-glucoside 7-rhamnoside	-31.01	0.0030
	Quercetin 3-arabinoside 7-glucoside	-1.32	0.0468
Flavonoids <sup>a</sup>	4',5-Dihydroxy-3',5',7,8-tetramethoxyflavone	-1.24	0.0325
	7-Hydroxy-3,3',4',5,6,8-hexamethoxyflavone	-1.07	0.0085
	5,7-Dihydroxy-3',4',5'-trimethoxyflavone	-1.52	0.0152
Glycoside <sup>b</sup>	Arachidoside	28.81	0.0492
	Ranupenin 3-rutinoside	2.35	0.0472
	Diosmetin 7-O-beta-D-glucuronopyranoside	2.56	0.0401
	Quercetin 3-lathyroside	1.83	0.0344

Note: The letters a and b indicate that they are derived from the peel and flesh, respectively. DEMs, differentially expressed metabolites; FC, fold-change. For specific information of the fold-change in groups A and C, see Table 1.