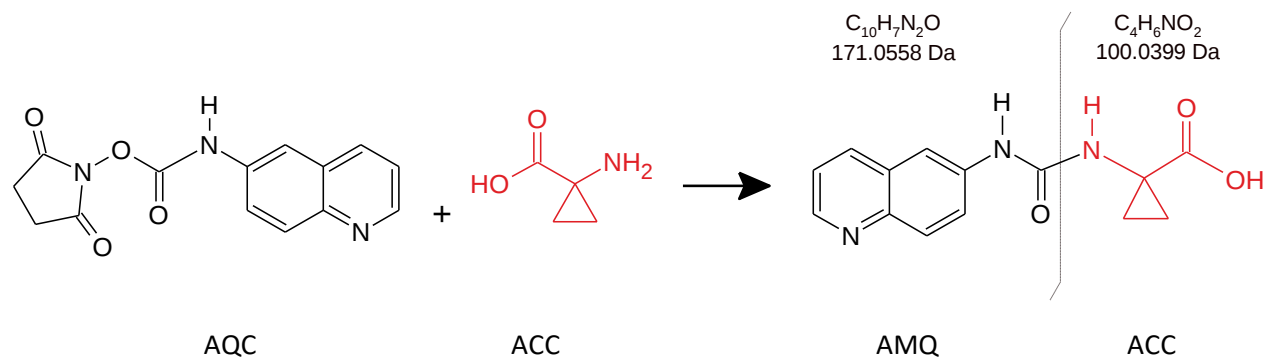


Additional file 1

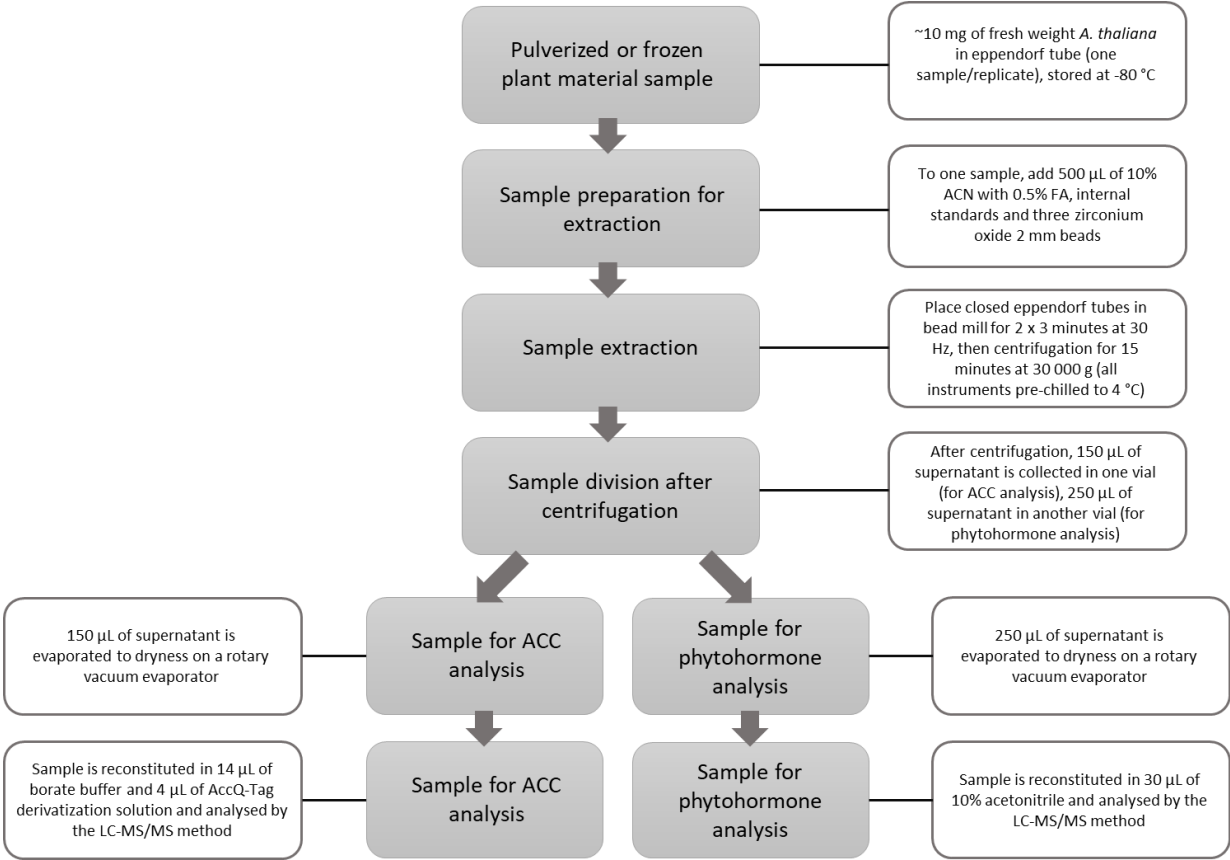
Additional file 1: Figure S1. Proposed scheme of 1-aminocyclopropane-1-carboxylic acid (ACC) derivatization with AccQ-Tag™ Ultra Derivatization Kit, with fragmentation



The proposed fragmentation is marked with a separating sign, with monoisotopic masses in Daltons (Da) of fragments atom summary formula, corresponding to m/z (mass-to-charge ratio) detected in LC-MS/MS.

AQC – 6-aminoquinolyl-*N*-hydroxysuccinimidyl carbamate; AMQ – amino-quinoline moiety

Additional file 1: Figure S2. Sample extraction and analysis workflow schematics



Additional file 1: Table S1. Autosampler stability

Analyte	Autosampler Stability (n=4; %RSD)
ACC	0.45
tZ	4.24
cZ	3.92
iP	7.50
tZR	13.02
cZR	4.77
iPR	8.46
IAA	3.59
oxIAA	6.82
IAA-Glu	1.00
IAA-Asp	1.34
ABA	0.54
JA	1.78
JA-Ile	5.59
SA	5.38

Autosampler stability was examined by analyzing the same four extracted 10 mg samples of *A.thaliana* plants, with added IS, on two separate days. Each measurement result was expressed as normalized peak area (analyte/IS), and the difference of means between the two separate day measurements is expressed as %RSD. Days 1 and 2 were approximately 72 hours apart, with samples kept in the autosampler for the whole experiment duration.

Additional file 1: Table S2. Analyte levels in root and shoot of *A.thaliana* seedlings Col-0 and *eto2, ein2-1* ethylene mutant

Analyte	Col-0		<i>ein2-1</i>		<i>eto2</i>	
	Root	Shoot	Root	Shoot	Root	Shoot
ACC	623.0 ± 125.4	1046.9 ± 197.8	4376.2 ± 715.5	3674.3 ± 1494.1	7139.4 ± 1638.5	2303.2 ± 199.6
tZ	1.17 ± 0.23	0.29 ± 0.02	1.57 ± 0.33	0.21 ± 0.01	0.64 ± 0.07	0.24 ± 0.03
cZ	2.73 ± 0.35	0.44 ± 0.02	2.63 ± 0.34	0.23 ± 0.03	2.62 ± 0.16	0.35 ± 0.03
iP	1.07 ± 0.07	0.13 ± 0.09	1.51 ± 0.13	0.11 ± 0.02	2.18 ± 0.24	0.28 ± 0.04
tZR	2.39 ± 0.34	0.65 ± 0.10	28.29 ± 10.54	0.50 ± 0.07	2.71 ± 0.34	0.70 ± 0.04
cZR	6.55 ± 1.22	0.67 ± 0.04	5.64 ± 2.71	0.26 ± 0.03	0.65 ± 0.04	0.25 ± 0.04
iPR	1.64 ± 0.36	0.32 ± 0.06	2.92 ± 1.13	0.28 ± 0.03	0.64 ± 0.01	0.28 ± 0.05
IAA	292.7 ± 14.2	135.4 ± 2.4	543.5 ± 112.9	135.0 ± 9.2	409.4 ± 107.0	112.9 ± 13.2
oxIAA	2158.0 ± 160.0	2529.6 ± 82.3	1537.4 ± 361.9	592.3 ± 123.4	649.5 ± 24.5	601.5 ± 163.5
IAA-Glu	19.49 ± 5.75	9.29 ± 4.87	138.81 ± 15.66	4.37 ± 0.97	77.65 ± 11.84	30.53 ± 14.43
IAA-Asp	89.86 ± 11.73	34.32 ± 3.03	33.81 ± 14.77	46.56 ± 4.87	53.11 ± 7.75	63.19 ± 20.31
ABA	19.99 ± 1.99	7.11 ± 1.99	35.23 ± 5.58	29.14 ± 4.14	7.18 ± 1.07	9.38 ± 2.77
JA	48.19 ± 12.89	122.59 ± 29.94	35.14 ± 19.82	36.70 ± 9.05	13.83 ± 6.88	31.89 ± 13.25
JA-Ile*	51.38 ± 16.41	218.40 ± 58.15	ND	60.83 ± 2.89	ND	34.70 ± 12.71
SA	591.24 ± 184.19	214.00 ± 14.59	2524.85 ± 208.61	544.09 ± 33.27	749.80 ± 137.24	217.35 ± 52.71

Results expressed in pmol/g FW (fresh weight) as means ± SD, n=4, except JA-Ile*, where values (n=3).

ND – not detected.