

S5 Table. Process efficiency and method validation (method precision and accuracy) for the ion-exchange and class-specific purification procedure. Extracts of 15 mg FW *Arabidopsis* leaves were spiked with three different concentrations of authentic standards (Low – 0.5 pmol; Medium – 5 pmol; High – 50 pmol) and known concentration of the appropriate internal labeled standards (10 pmol), purified by two-step isolation using the Oasis® MAX sorbent and the immunoaffinity gel, then directly analyzed by UHPLC-ESI(-)-MS/MS.

| Compound | Process Efficiency (%) ^a | Method precision (% RSD) ^b | | | Method accuracy (% bias) ^b | | |
|------------------|-------------------------------------|---------------------------------------|--------|------|---------------------------------------|--------|------|
| | | Low | Medium | High | Low | Medium | High |
| 2,4-D | 66 ± 17 | 6.2 | 1.4 | 4.6 | -3.6 | 3.3 | 14.6 |
| 2,4-D-Asp | 16 ± 6 | 9.6 | 3.3 | 10.6 | 12.9 | 1.2 | 6.0 |
| 2,4-D-Glu | 28 ± 8 | 8.2 | 2.3 | 7.3 | 18.3 | 4.6 | -3.8 |

^a Values are means ± SD (n = 12); ^b All analyses were performed in quadruplicate.