**Supplementary File 2.** **Secondary metabolites produced by the mdp/xpt genes in A. nidulans sexual development identified by LC-MS**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Metabolite** | **Retention time(min)** | **Detected as** | **Sum formula** | **Detected exact mass** | **Calculated exact mass** | **Confirmed by** | **Reference** |
| **1** | arugosin A | 20.36 | [M-H]- | C25H28O6 | 423.1811 | 424.1964 | A, C | (Albright et al., 2015; Pockrandt et al., 2012) |
| **2** | emericellin | 24.33 | [M-H2O+H]+ | C25H28O5 | 391.1896 | 408.1937 | A, B | (Sanchez et al., 2011) |
| **3** | shamixanthone | 24.52 | [M-H2O+H]+ | C25H26O5 | 389.1743 | 406.1780 | A, B | (Sanchez et al., 2011) |
| **4** | epishamixanthone | 25.46 | [M-H2O+H]+ | C25H26O5 | 389.1747 | 406.1780 | A, B | (Sanchez et al., 2011) |
| **5** | 2,ω-dihydroxyemodin | 8.96 | [M-H]- | C15H10O7 | 301.0351 | 302.0348 | A, B | (Sanchez et al., 2011) |
| **6** | ω-hydroxyemodin | 11.48 | [M-H]- | C15H10O6 | 285.0399 | 286.0477 | A, B | (Sanchez et al., 2011) |
| **7** | emodin | 16.09 | [M-H]- | C15H10O5 | 269.0451 | 270.0528 | A, B, D | (Sanchez et al., 2011) |
| **8** | chrysophanol | 18.66 | [M-H]- | C15H10O4 | 253.0503 | 254.0579 | A, B | (Sanchez et al., 2011) |
| **9** | paeciloxanthone | 20.62 | [M+H]+ | C20H20O4 | 325.1435 | 324.1362 | A, B | (Sanchez et al., 2011) |
| **10** | variecoxanthone A | 20.39 | [M-H2O+H]+ | C20H20O5 | 323.1270 | 340.1311 | A, B | (Sanchez et al., 2011) |

Conidia of *A. nidulans* AGB552 and *mdp*/*xpt* deletion strains were point-inoculated on MM and sexually grown for three and five days at 37°C. Extra- and intracellular metabolites were extracted and detected by LC-MS equipped with a charged aerosol detector (CAD). Only identified SMs that were detected with the CAD are given. A: Exact mass measurement; B: UV/VIS spectrum; C: MS/MS fragmentation; D: MS/MS fragmentation and retention time from commercial standard.

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