

Supporting Material

Conversion of Organic Dyes into Pigments: Flavonoids Extraction from Blackberries (*Rubus ulmifolius*) and Stabilization

Rossella Gagliano Candela ¹, Giuseppe Lazzara ², Sonia Piacente ³, Maurizio Bruno ¹,
Giuseppe Cavallaro ^{2,*} and Natale Badalamenti ^{1,*}

¹ Department of Biological, Chemical and Pharmaceutical Sciences and Technologies (STEBICEF), University of Palermo, Viale delle Scienze, Parco d'Orleans II, 90128, Palermo, Italy;

² Physics and Chemistry Department (DiFC), University of Palermo, Viale delle Scienze, Palermo d'Orleans II, 90128, Palermo, Italy;

³ Department of Pharmacy, University of Salerno, Fisciano (SA), 84084, Italy

* Correspondence: giuseppe.cavallaro@unipa.it; natale.badalamenti@unipa.i

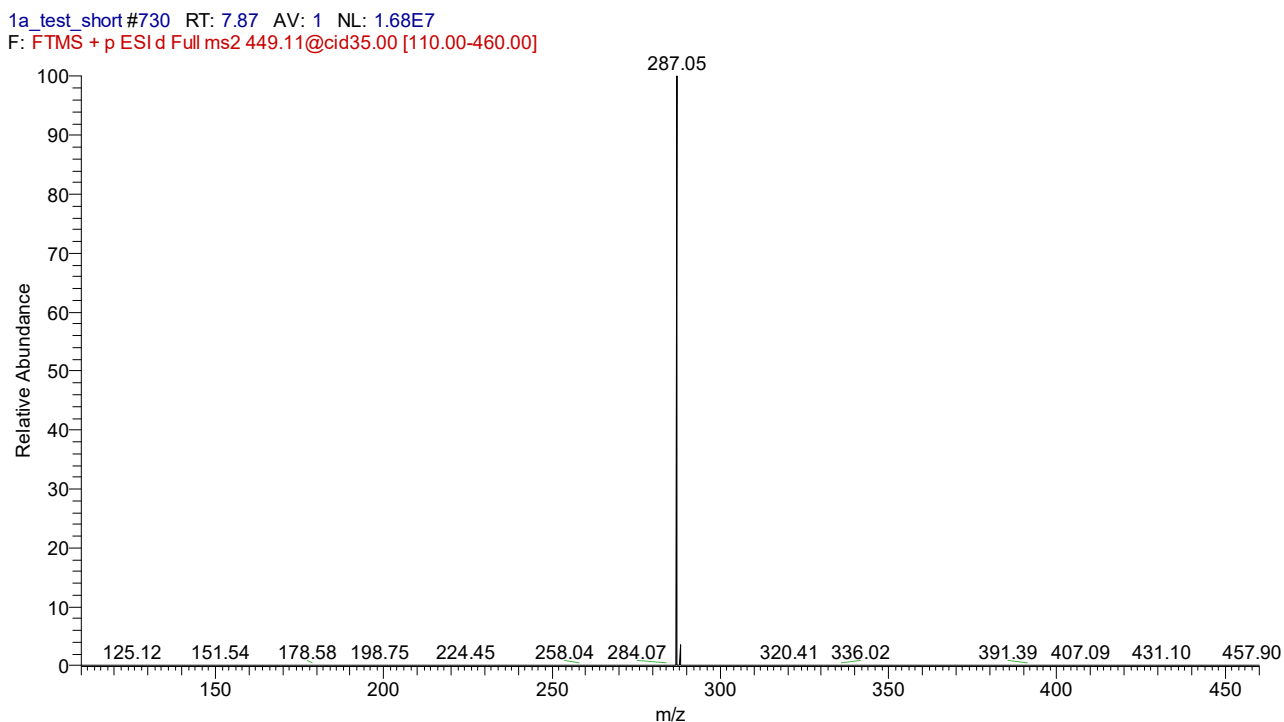


Figure S1. MS/MS spectrum of compound 3 (cyanidin 3-O-glucoside)

1a_test_short#792 RT: 8.48 AV: 1 NL: 2.05E5
F: FTMS + c ESI d Full ms2 433.11@cid35.00 [105.00-445.00]

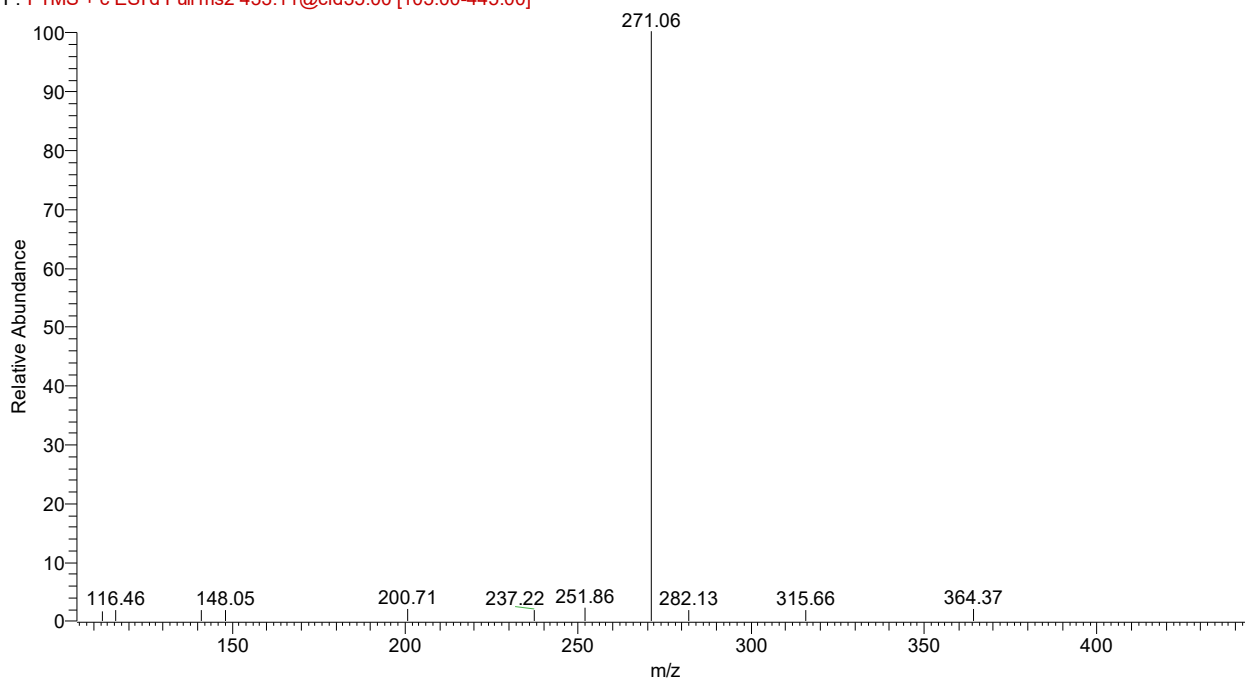


Figure S2. MS/MS spectra of compound 4 (pelargonidin 3-O-glucoside)

1a_test_short#817-848 RT: 8.71-8.98 AV: 8 NL: 6.51E6
F: FTMS + p ESI d Full ms2 419.10@cid35.00 [105.00-430.00]

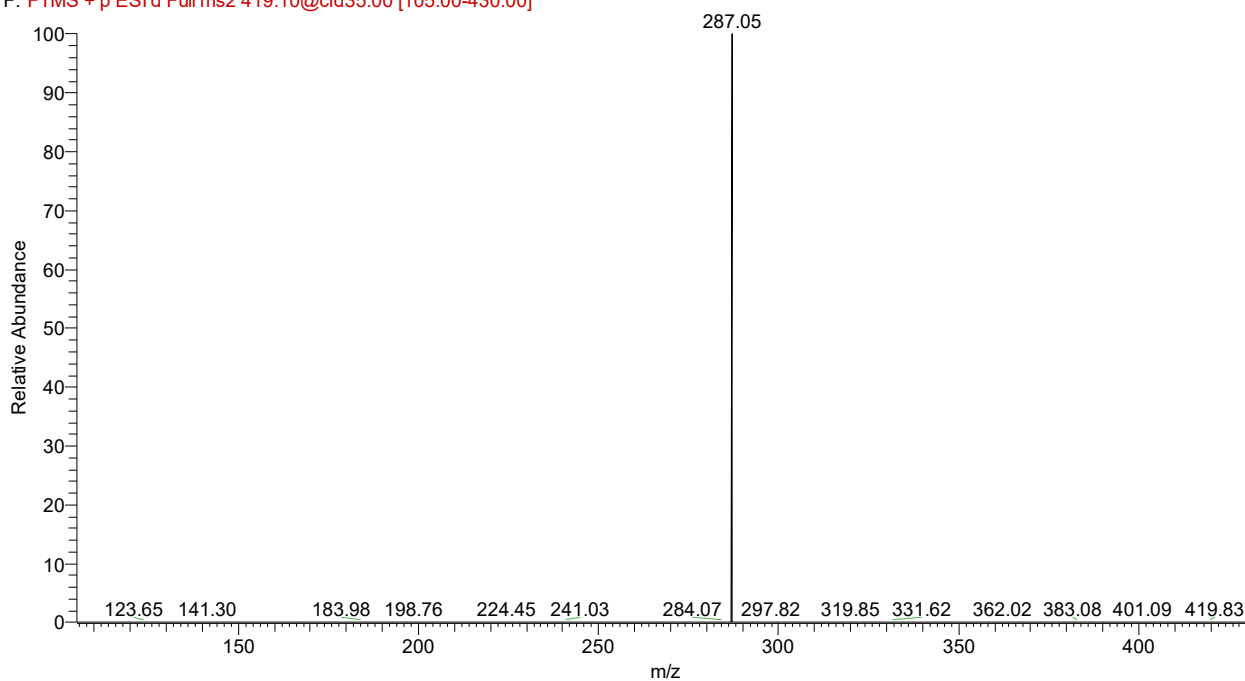


Figure S3. MS/MS spectra of compound 6 (cyanidin xyloside)

1a_test_short#1263 RT: 12.93 AV: 1 NL: 1.36E5
F: FTMS + c ESI d Full ms2 465.10@cid35.00 [115.00-480.00]

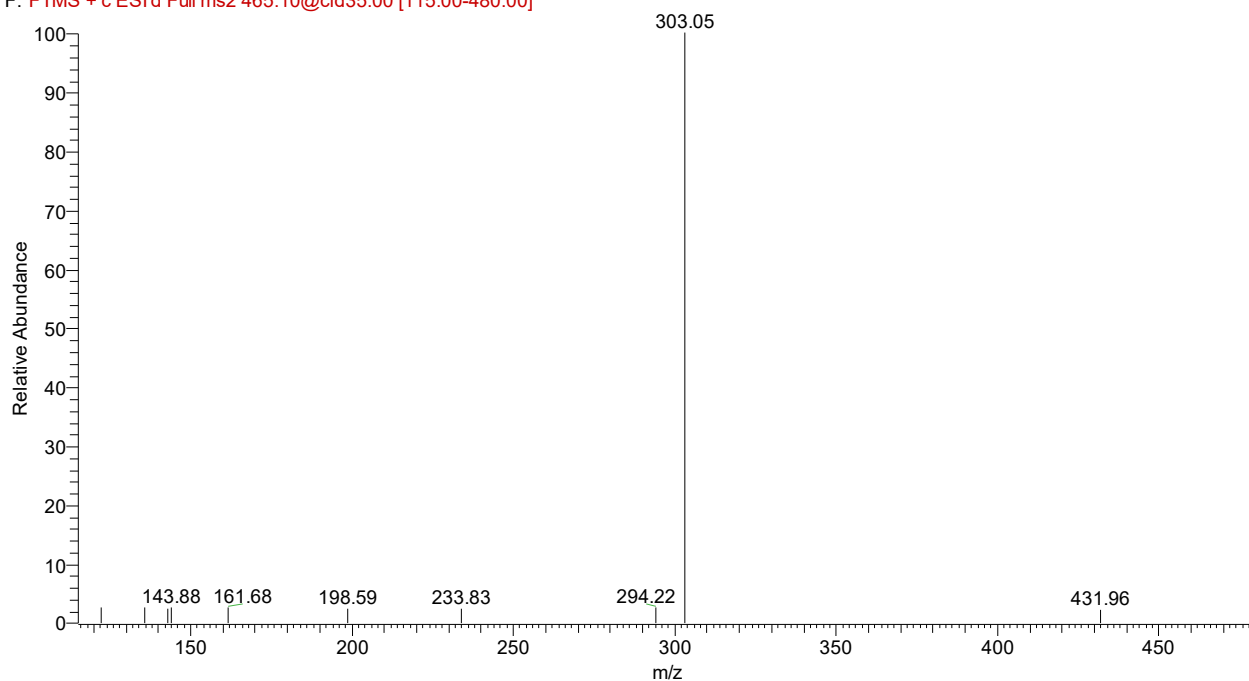


Figure S4. MS/MS spectra of compound 13 (delphinidin 3-O-glucoside)

1a_neg #618 RT: 11.64 AV: 1 NL: 1.69E6
F: FTMS - p ESI d Full ms2 463.05@cid35.00 [115.00-475.00]

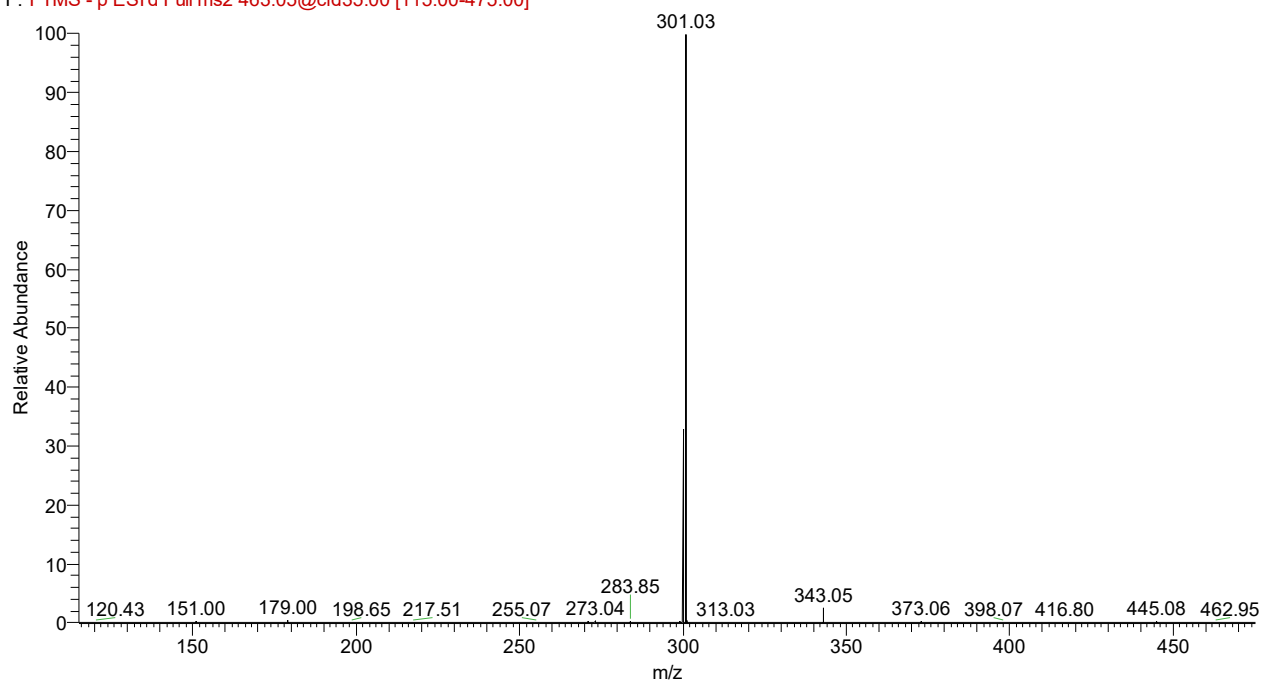


Figure S5. MS/MS spectra of compound 14 (quercetin 3-O-glucoside)

1a_neg #414 RT: 8.01 AV: 1 NL: 3.91E6
F: FTMS - p ESI d Full ms2 447.06@cid35.00 [110.00-460.00]

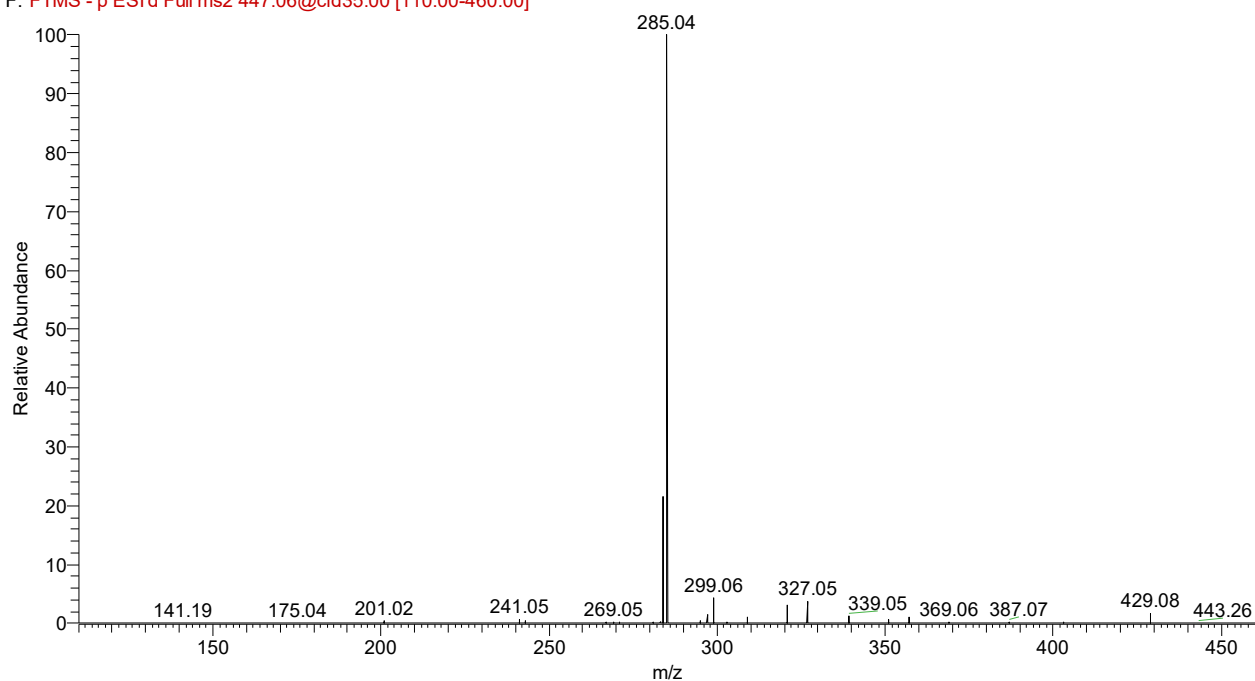


Figure S6. MS/MS spectra of compound 15 (kaempferol 3-O-glucoside)