Supplementary materials

HPLC-DAD analysis

Materials and methods

Dried crude extracts were dissolved in methanol at concentrations of 1.0 mg/mL and filtered through 0.45 μm PTFE filters. Aliquots of 20 μL were analyzed by HPLC-DAD. HPLC analyses were carried out with a HPLC with a binary pump system (LC-10 AD) equipped with a diode array detector (SPD-10 AVP), Phenomenex Luna column (C18, 5 μm, 250 × 4.6 μm) and a SCL-10 control unit. The mobile phase was ACN:H_2O with 1% formic acid, and the flow rate was 1.0 mL/min. Data were collected with Class-VP software (Shimadzu, Kyoto, Japan).

Results and discussion

Both direct induction and inter-plant communication were detected with HPLC data; peak X increased in the herbivory treatment and the internal control relative to the external control 20 days after herbivory began (Figs. S.1-S.3).

Induction of peak X remained detectable in the damaged plants through the course of the experiment, but peak X decreased in the internal control by day 30, suggesting induction occurs via interplant communication but is stronger in plants actually receiving herbivore damage.

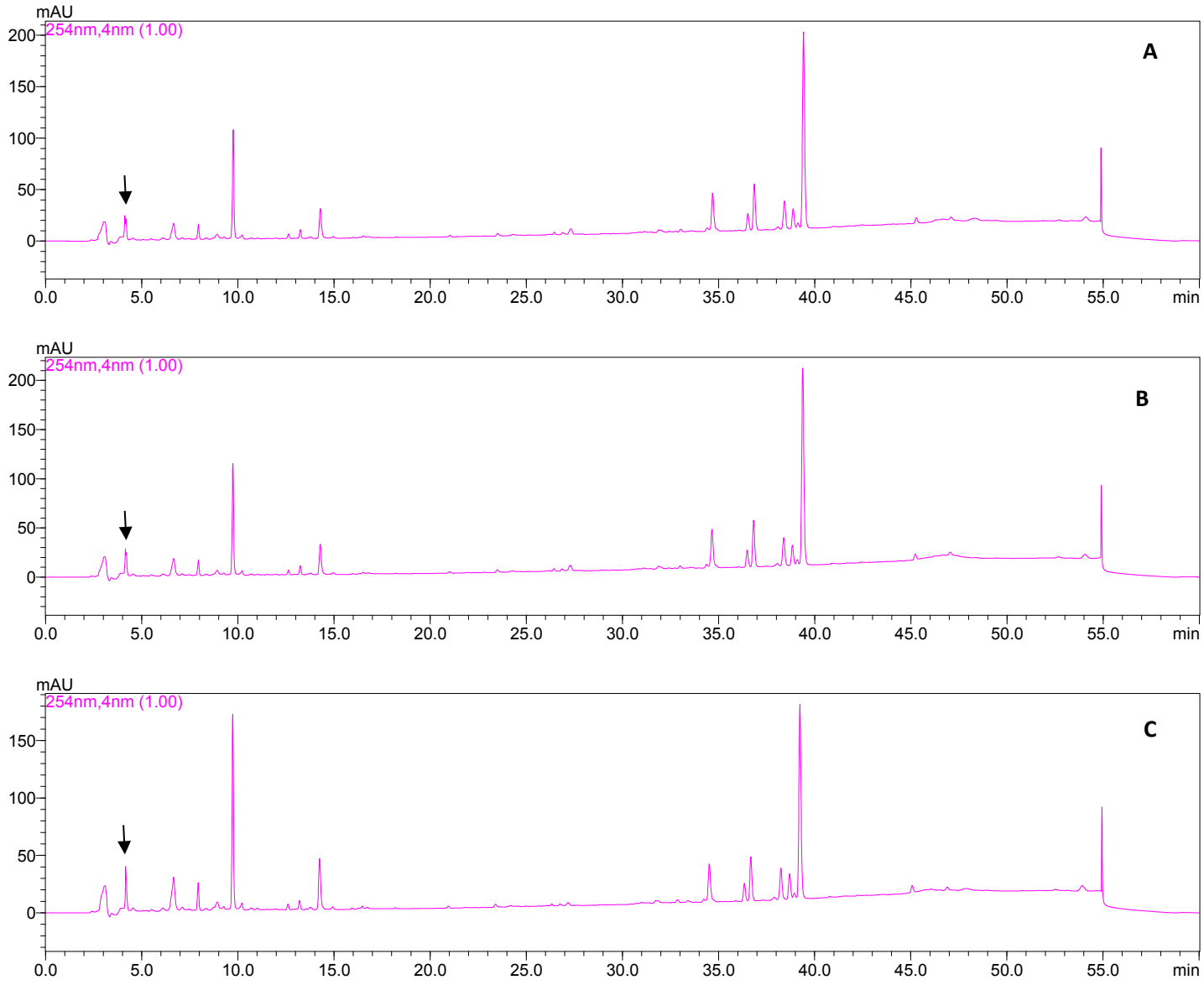

Figure S.1. HPLC metabolic profile of *P. obtusifolia* grown in isolation from the herbivore damaged plants (external control) after 10 days (A), 20 days (B) and 30 days (C).

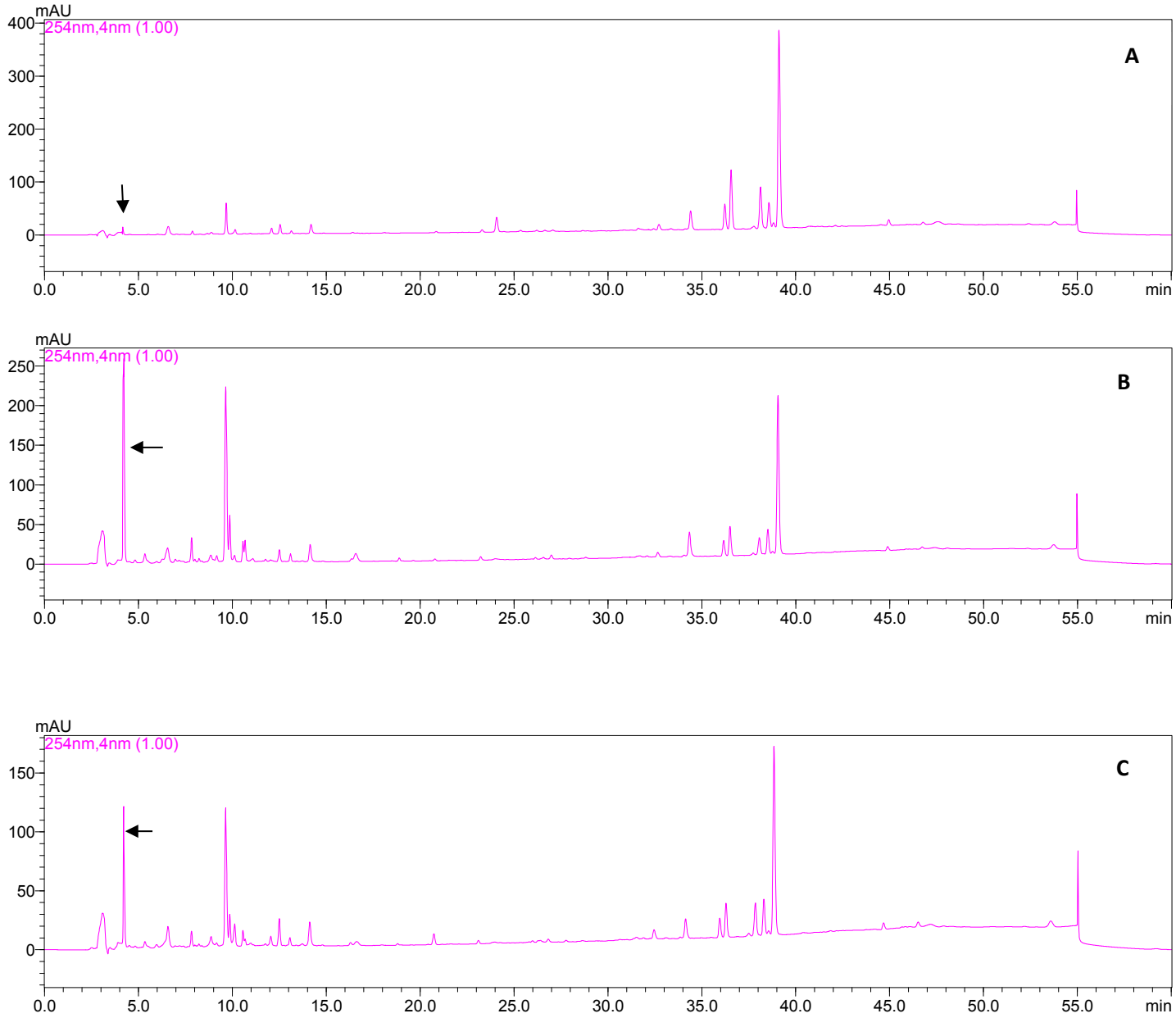

Figure S.2. HPLC metabolic profile of *P. obtusifolia* after 10 days (A), 20 days (B) and 30 days (C) of beetle herbivory

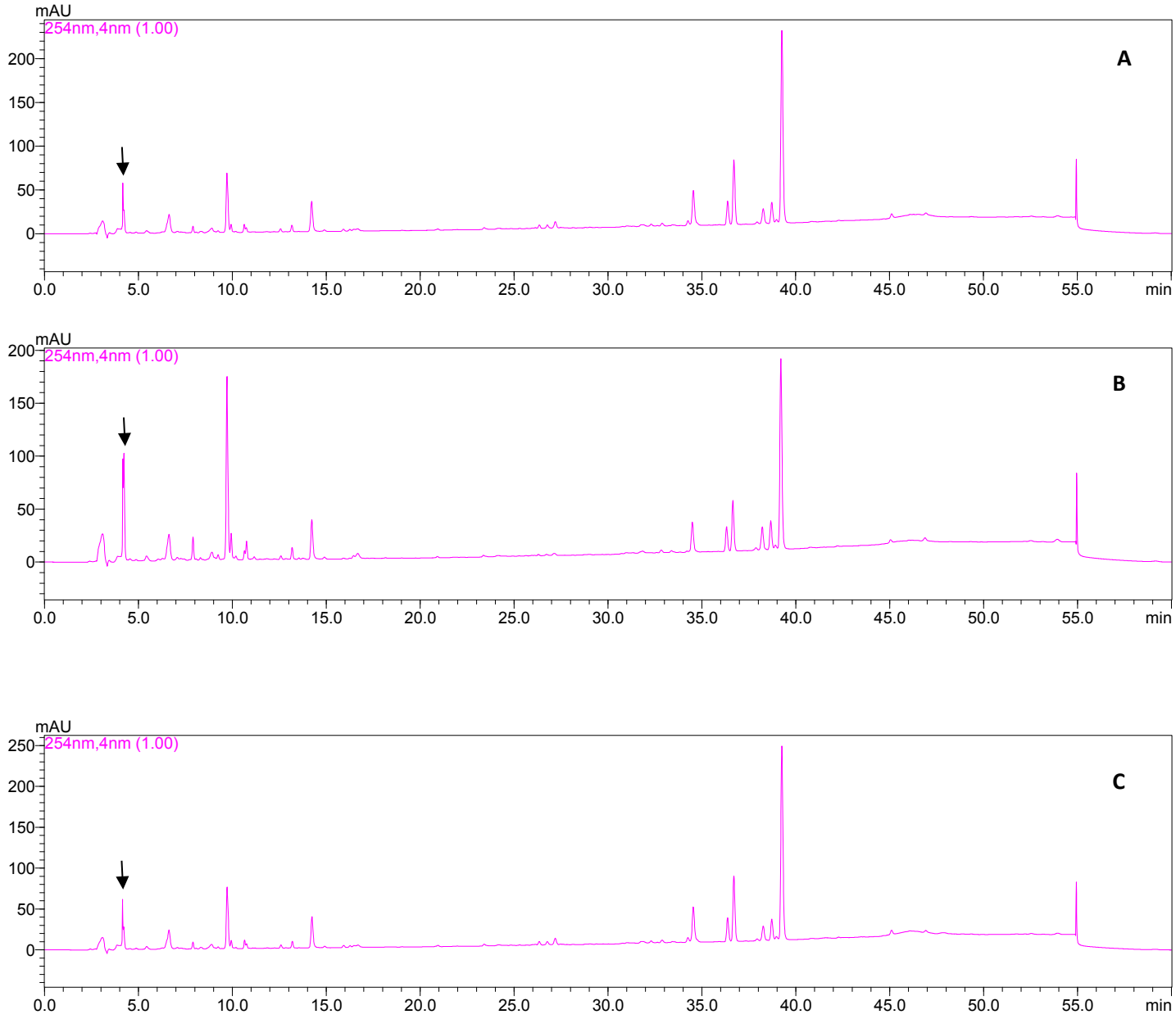

Figure S.3. HPLC metabolic profile of *P. obtusifolia* grown in atmospheric contact with the herbivore damaged plants (internal control) after 10 days (A), 20 days (B) and 30 days (C).

ATR-FTIR ANALYSIS

Materials and methods

ATR-FTIR spectra of leaves of the plants were performed upon pressing different regions of the leaf specimen on the diamond window of the spectrometer. FTIR-ATR spectra of samples and reference materials were obtained with a Vertex 70 Fourier transform infrared spectrometer with a FR-DTGS (fast recovery deuterated triglycine sulphate) temperature-stabilized coated detector. Number of co-added scans: 32; resolution: 4 cm^{-1}.

Results and discusion

ATR-FTIR spectra of homogeneously green regions of leaves of *P. obtusifolia* protected from herbivory, after 10 days of beetle herbivory and protected from herbivory but allowed to communication with damaged plants were quite similar, displaying several groups of overlapping absorption bands in the –OH region centered at 3200 cm^{-1}, the carbonyl region around 1600 cm^{-1}, accompanying the most prominent absorptions between 1200 and 800 cm^{-1}, as can be seen in Fig. S.4. The unique significant but small variations were detected in this last region, depicted in Fig. S.5, appearing as different features at 1035 and 1065 cm^{-1}. Again, the spectra of the plant specimens submitted to herbivory were essentially identical to those of specimens protected from herbivory but having allowed communication with damaged plants but differed from the spectra of external control plants protected from both herbivory and communication.

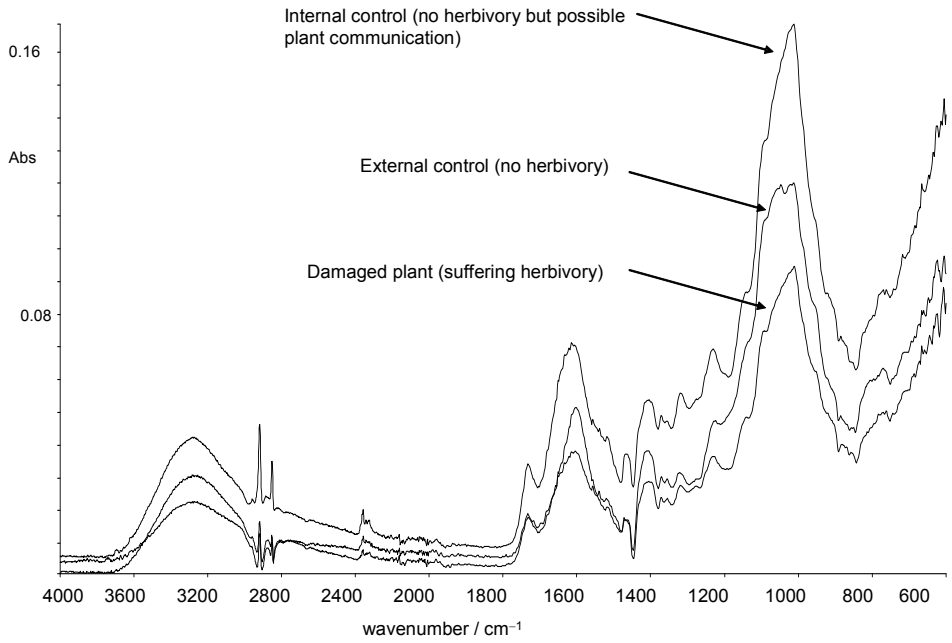

Figure S.4. ATR-FTIR spectra of green leaves of *P. obtusifolia* protected from herbivory, after 10 days of beetle herbivory and protected from herbivory but allowed to communication with damaged plants.