The following supplement accompanies the article

Tolerance and sequestration of macroalgal chemical defenses by an Antarctic amphipod: a 'cheater' among mutualists

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Marine Ecology Progress Series 490: 79–90 (2013)

Supplement. Additional data. Comparisons of no-choice feeding rates on individual macroalgal species (Table S1). GC/MS profiles (Figs. S1, S2 & S5), and mass spectra (Figs. S3 & S4) from macroalgae and amphipods used in this study.

Table S1. Comparisons of no-choice feeding rates on individual macroalgal species across 2010 and 2011 experiments. Statistical groups based on pair-wise Mann-Whitney tests corrected with the Sequential Dunn-Sidak method. Experiments with the same letter for an individual species are not significantly different ($\alpha = 0.05$). U_2 and p indicate results of Kruskal-Wallis Test comparing all 3 experiments for the individual species

Species	Statistical group			U_2	p
	March-April 2010	March-April 2011	May 2011		
Palmaria decipiens	A	B	B	28.155	< 0.0005
Plocamium cartilagineum	AB	A	B	8.899	0.012
Picconiella plumosa	A	B	A	13.565	0.001
Pantoneura plocamioides	A	B	B	32.213	< 0.0005
Cystoclonium obtusangulum	A	B	B	16.992	< 0.0005

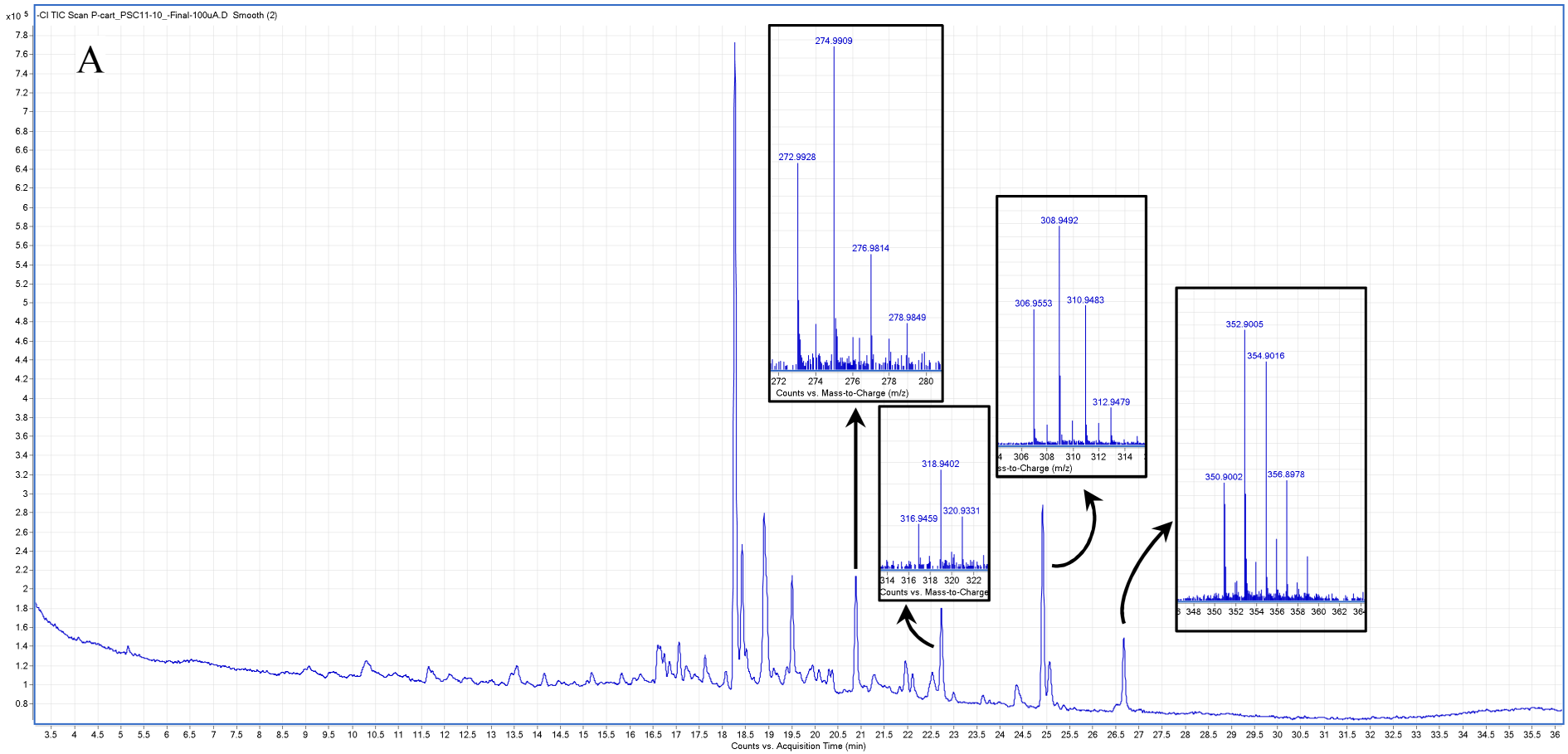

Fig. S1 A. (Fig. S1 continued on next page)

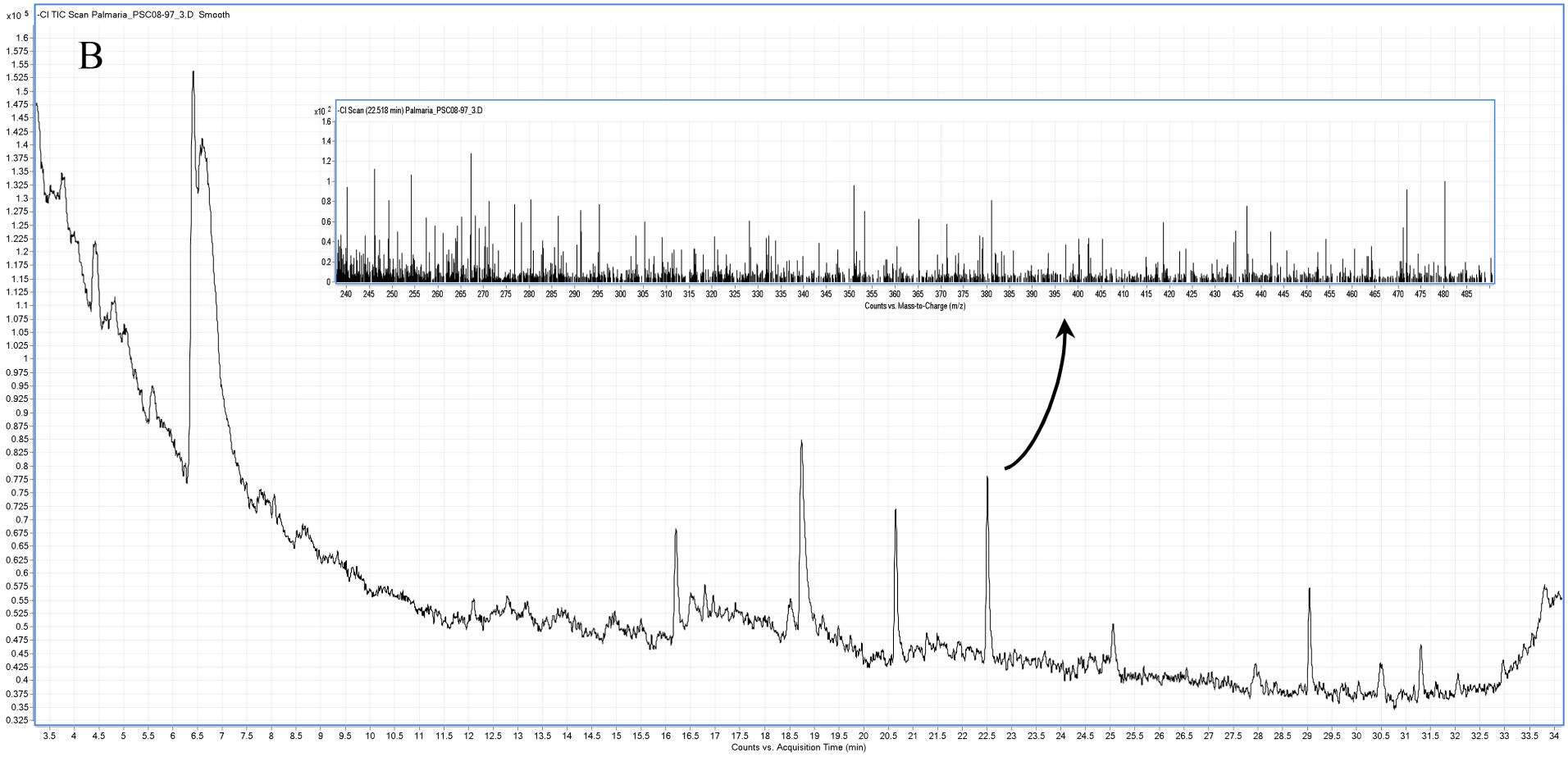

Fig. S1 B. Total Ion Chromatogram (TIC) of (A) *Plocamium cartilagineum* lipophilic extract, highlighting several peaks with clear indication of halogenation (series of ions 2 mass units apart, reflecting isotopic abundance of $^{35}Cl/^{37}Cl$ and/or $^{79}Br/^{81}Br$) and a mass range commensurate with a polyhalogenated monoterpene (240–498 amu; MarinLit v. 0312). (B) *Palmaria decipiens* lipophilic extract, for which no evidence could be found among features in this chromatogram of halogenated monoterpenes (one example shown for comparison)

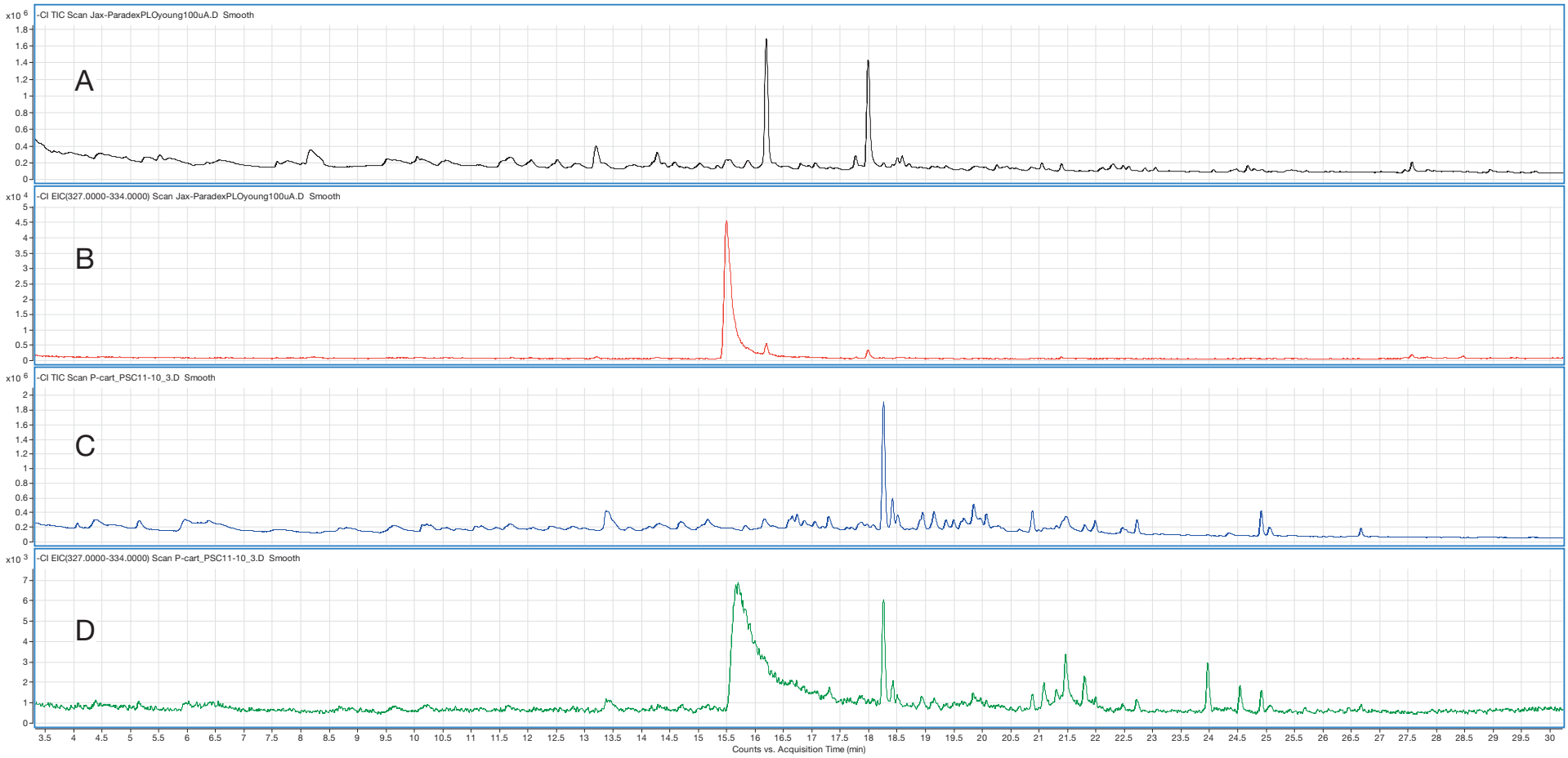

Fig. S2. GC/MS profiles from lipophilic extracts of *Paradexamine fissicauda* and *Plocamium cartilagineum*. (A) TIC from extract of *Paradexamine fissicauda* maintained for 8 weeks on a diet of *Plocamium cartilagineum*; (B) Extracted Ion Chromatogram (EIC) from chromatogram shown in Fig. S2A (above), selecting for masses between 327 and 334 amu; (C) TIC from *P. cartilagineum*; (D) EIC from chromatogram shown in Fig. S2C (above) selecting for masses between 327 and 334 amu

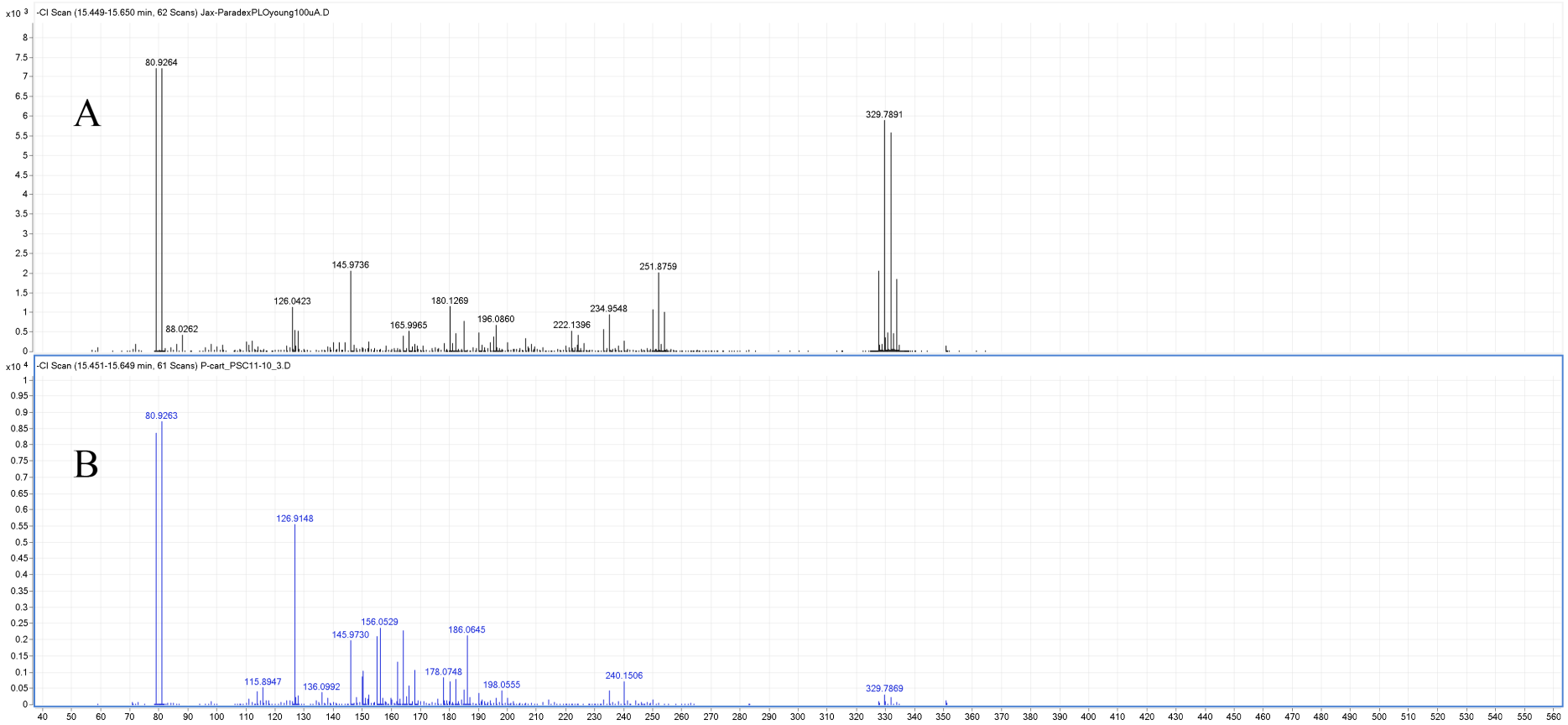

Fig. S3. Comparison of extracted mass spectra from TICs shown in Fig. S2. (A) Mass spectrum resulting from feature in Fig. S2A eluting from 15.4 to 15.6 min. (B) Mass spectrum resulting from feature in Fig. S2C eluting from 15.4 to 15.6 min

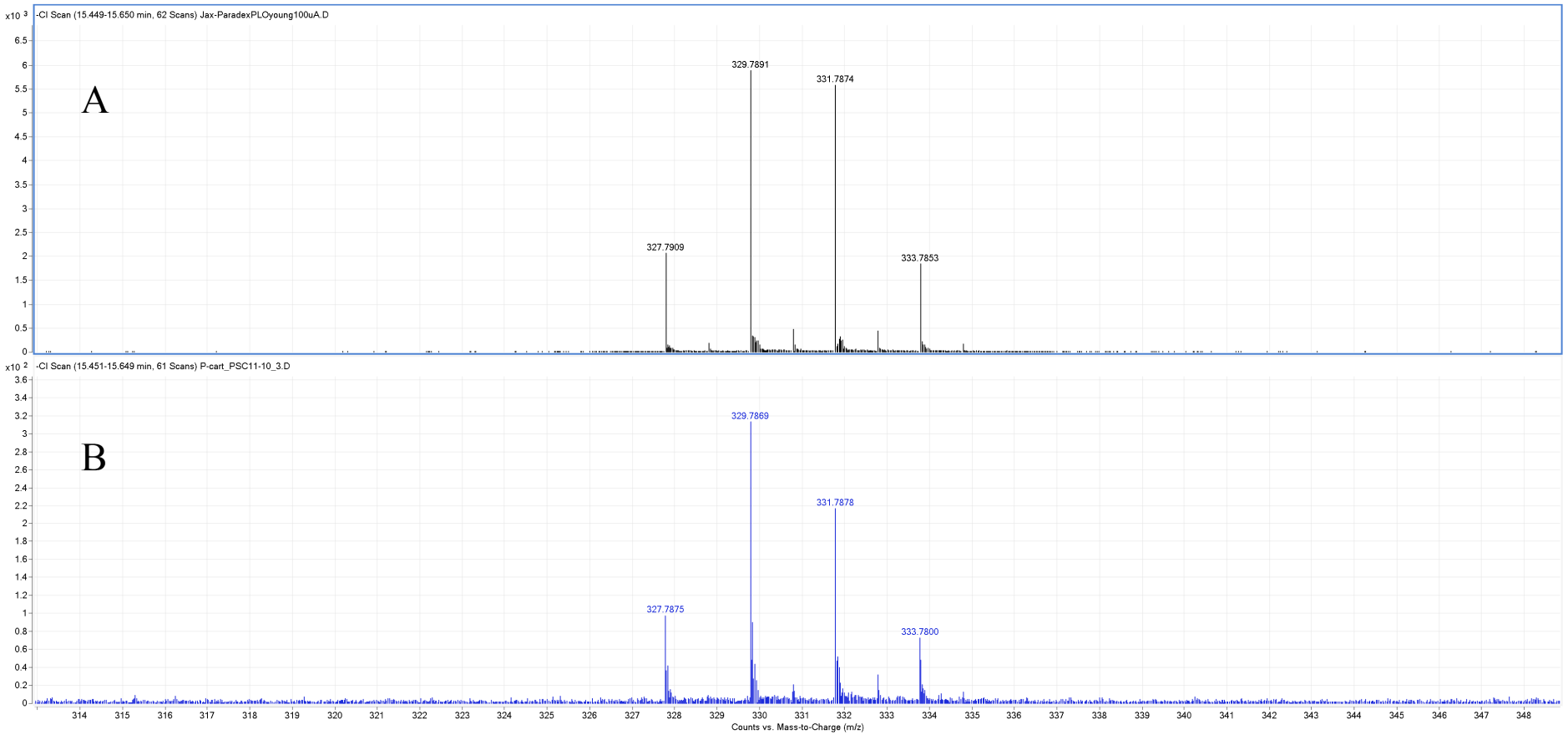

Fig. S4. X/Y expanded mass spectra derived from Figs. S3A & S3B, confirming high mass ion identity in *Plocamium cartilagineum* compound eluting from 15.4 to 15.6 min with compound in *Paradexamine fissicauda* eluting in the same time frame

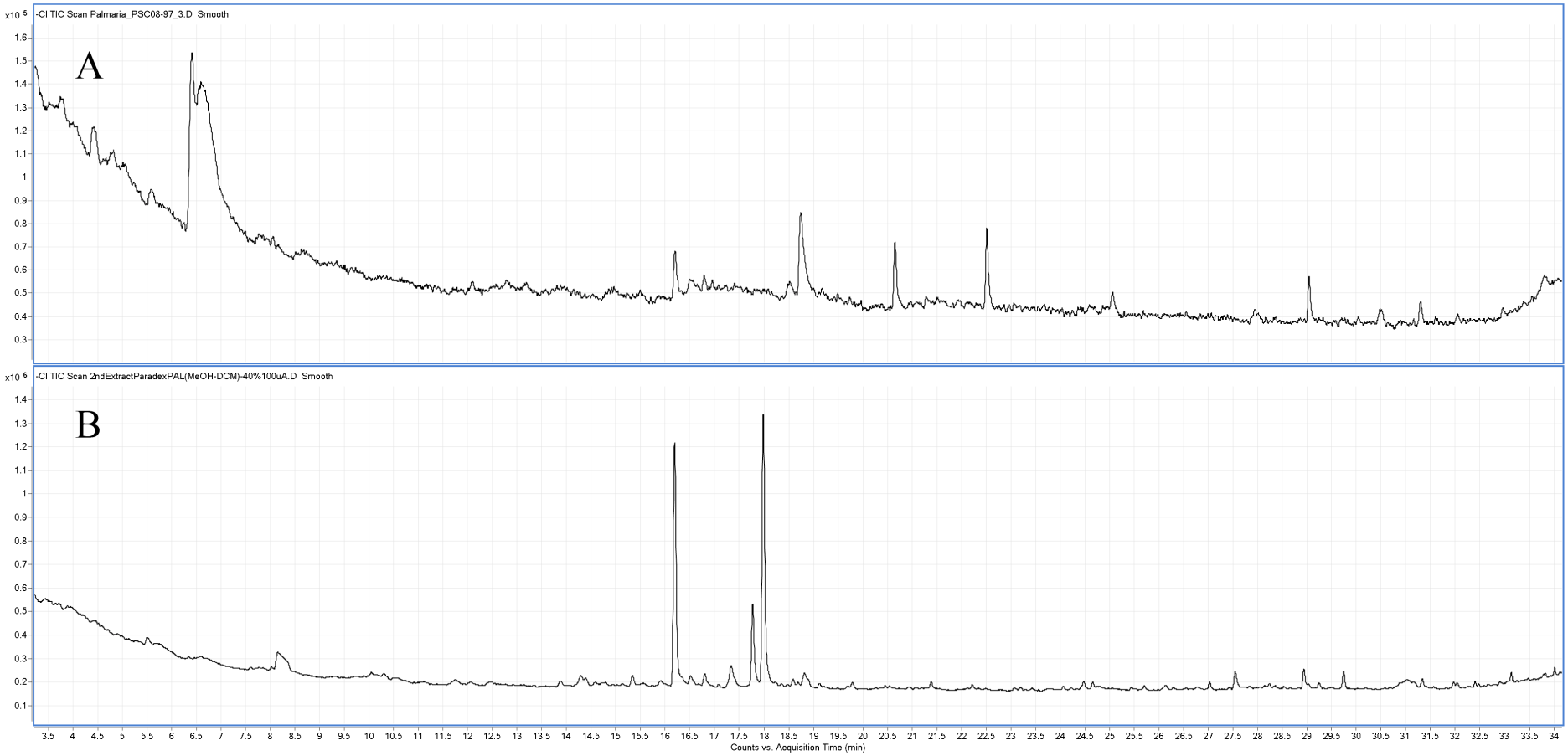

Fig. S5. Comparison of TICs from (A) *Palmaria decipiens* and (B) *Paradexamine fissicauda* maintained for 8 weeks on *P. decipiens*. Major features of (B) originate from the amphipod (compare to Fig. S2A) and several minor features found common between the two (e.g. 31.4 min) are also found in *P. fissicauda* maintained on *Plocamium cartilagineum* indicating they are likely primary metabolites