Figure S1. ^{1}H NMR spectra acquired (a) immediately after extraction and (b) after an incubation of 12 h at 20˚C for (1) *Ulva lactuca*, (2) *Gracilaria dura* and (3) *Sargassum tenerrimum*.

Figure S2. Two dimensional correlation spectra (Left Column) TOCSY and (Right Column) HSQC for (Top Row) *Ulva lactuca*, (Middle Row) *Gracilaria dura* and (Bottom Row) *Sargassum tenerrimum* collected during month of April-May 2012.

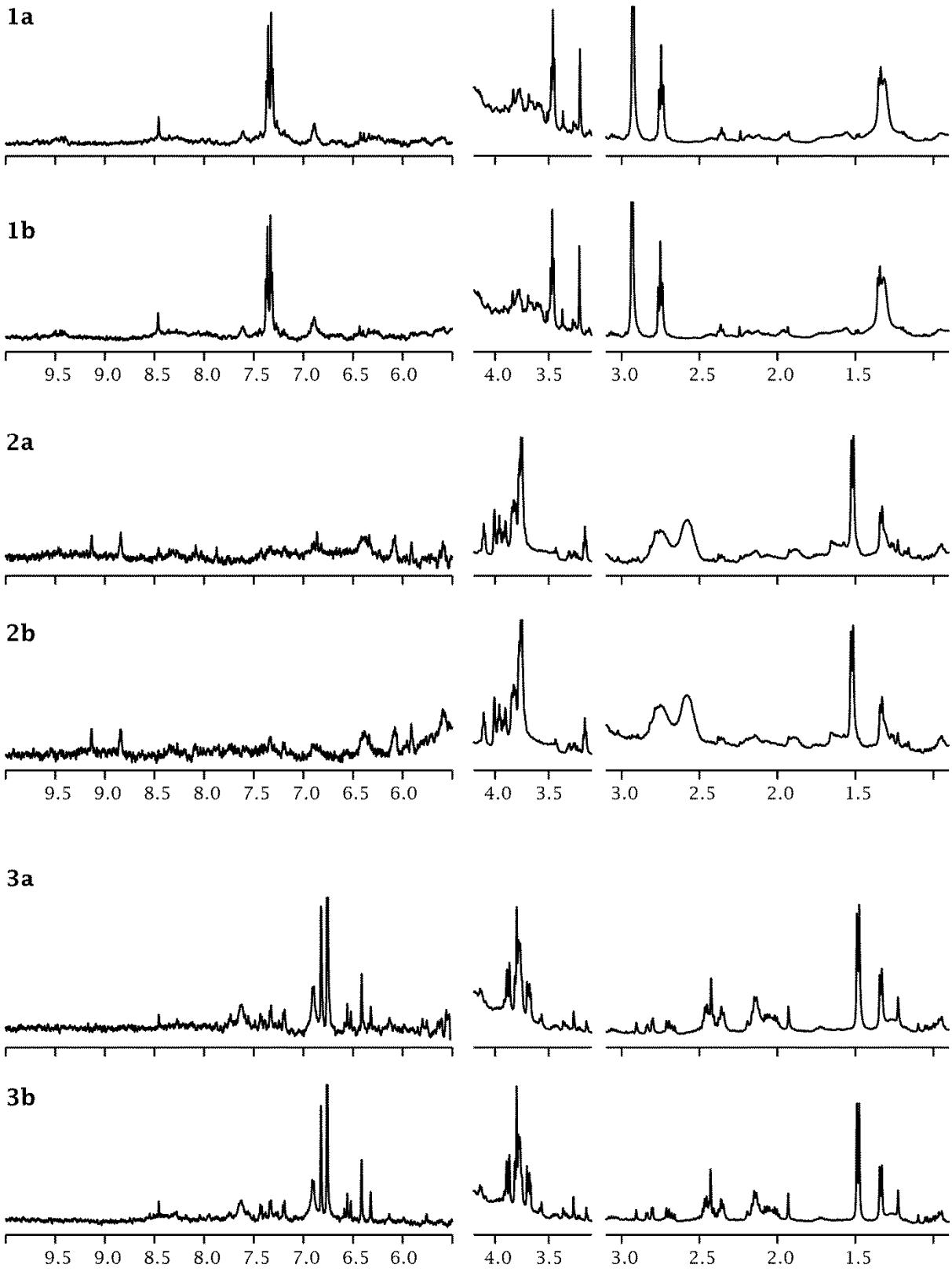
Figure S3. Two dimensional correlation spectra (Left Column) TOCSY and (Right Column) HSQC for (Top Row) *Ulva lactuca*, (Middle Row) *Gracilaria dura* and (Bottom Row) *Sargassum tenerrimum* collected during month of December 2011.

Figure S4. ^{1}H NMR spectra for samples collected during different periods (a) March 2011, (b) December 2011 and (c) April-May 2012 for algal species (1) *Ulva lactuca*, (2) *Gracilaria dura* and (3) *Sargassum tenerrimum*.

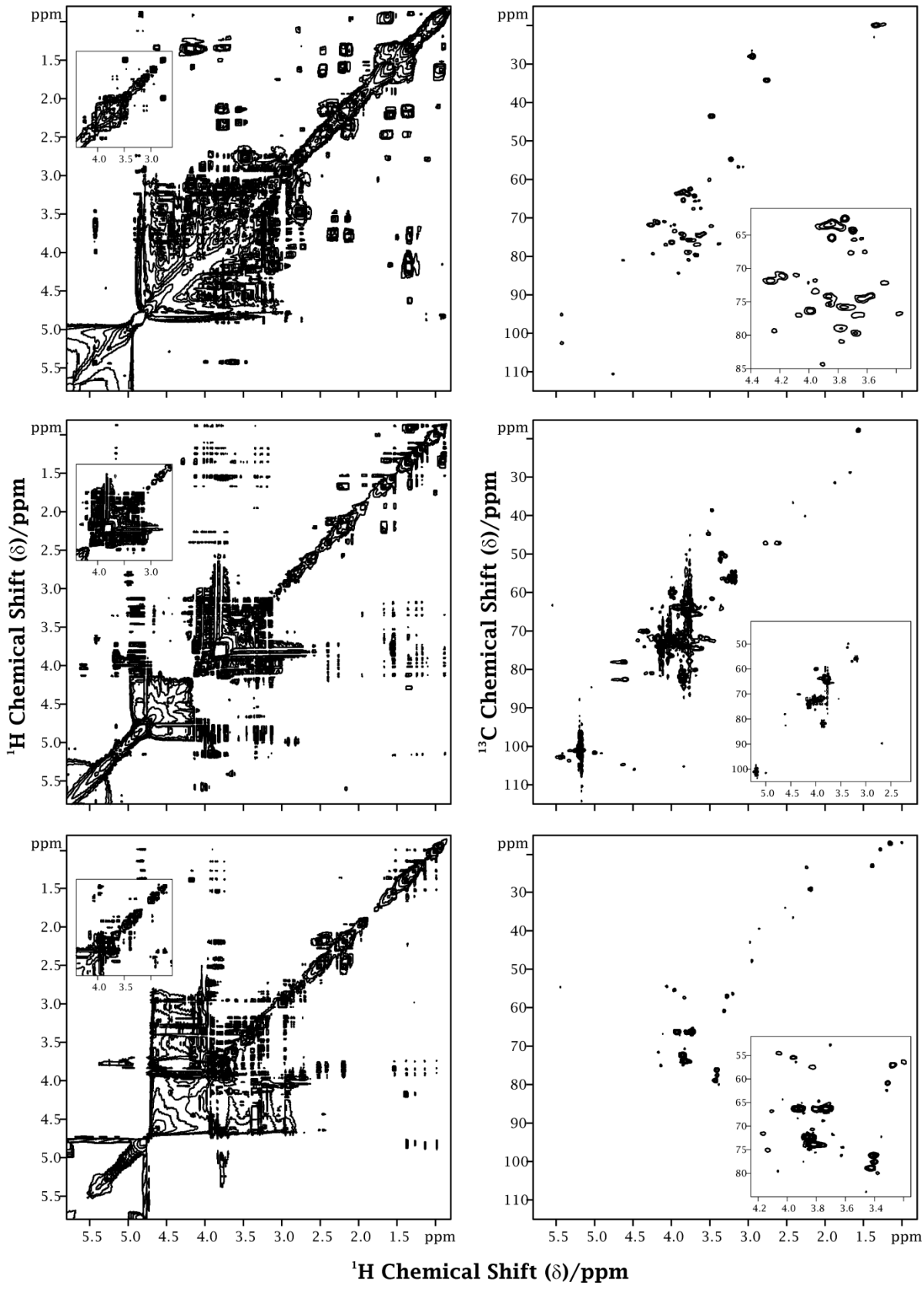
Figure S5. Overlap of HSQC spectra for (a) *U. lactuca*, (b) *G. dura* and (c) *S. tenerrimum* showing variations among spectral profile. Green and red colour present the spectra acquired for the month of April 2012 and December 2011 respectively.

Figure S6. ^{1}H NMR spectra for different macroalgal species indicating the suitability of the method as a rapid chaemotaxonomic tool to complement the conventional taxonomic approaches.

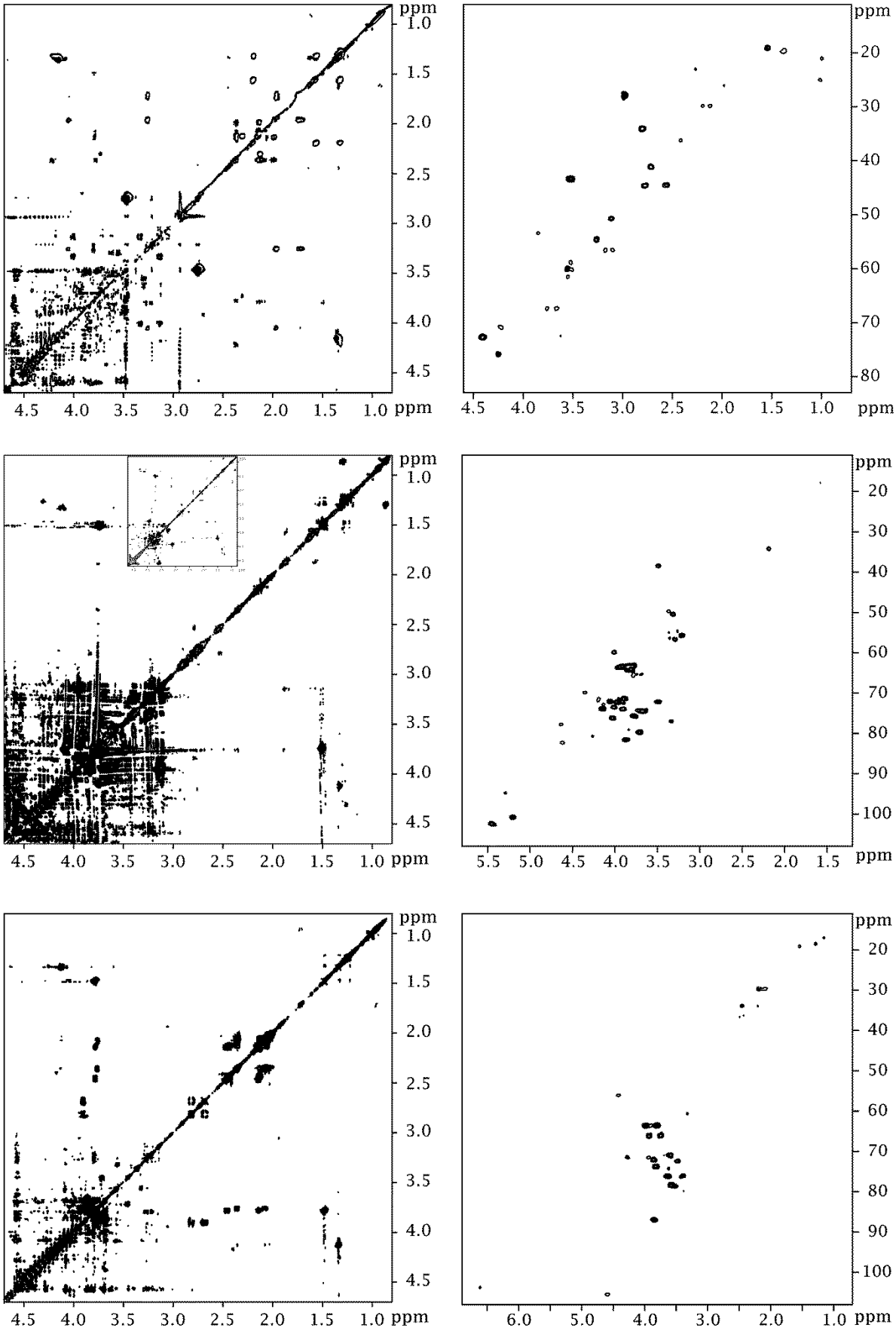
Supplementary Figure 1



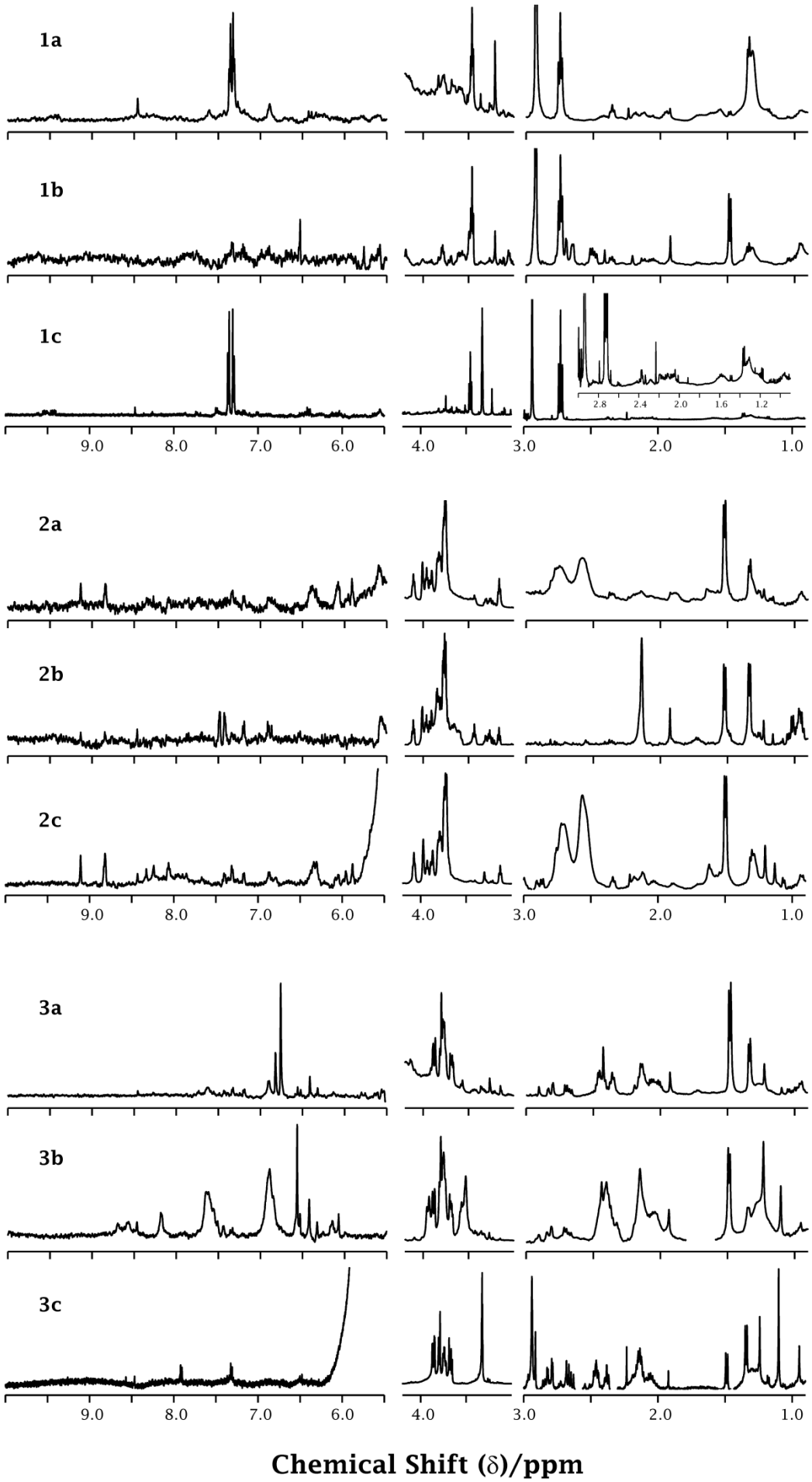
Supplementary Figure 2



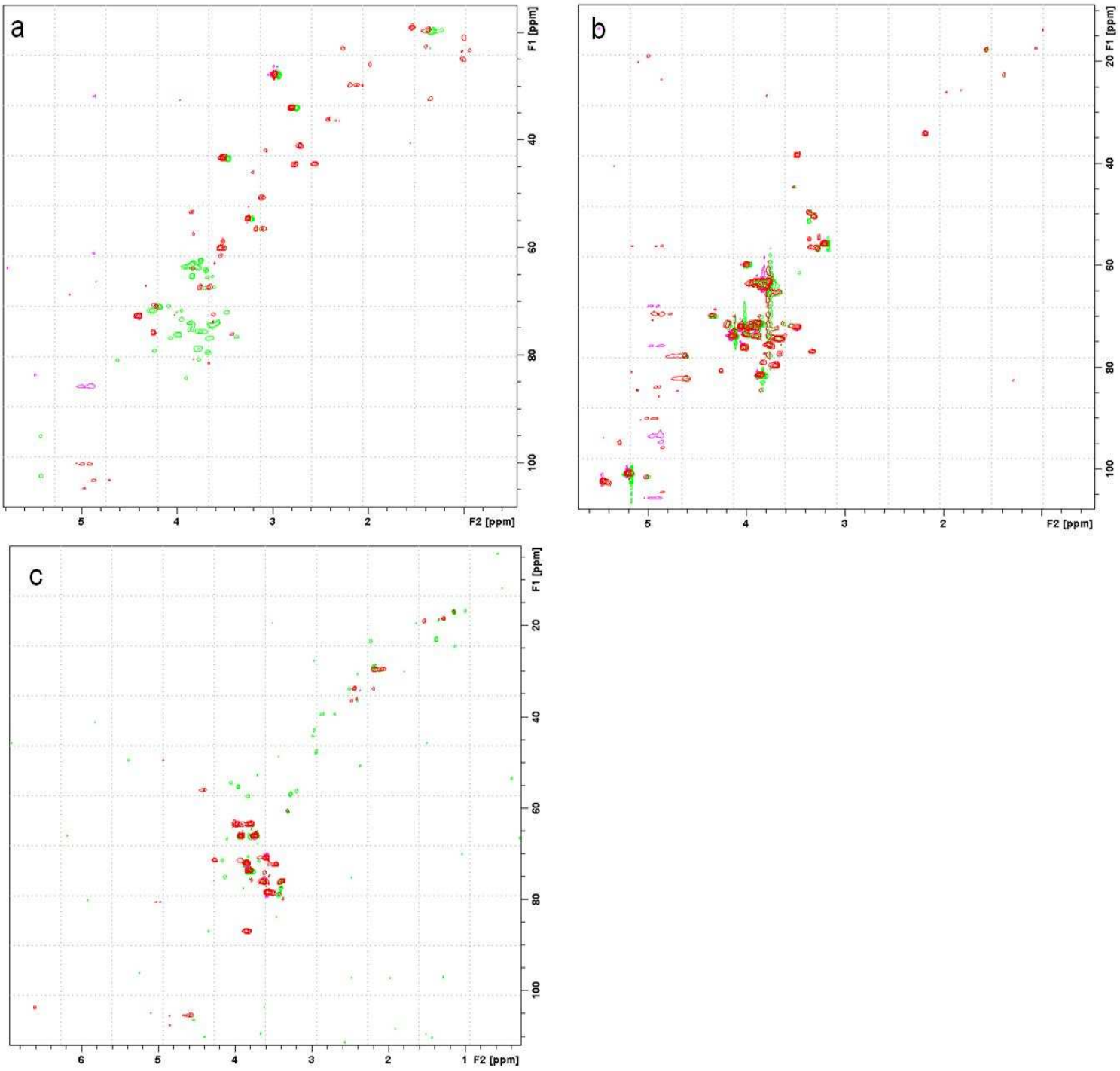
Supplementary Figure 3



Supplementary Figure 4



Supplementary Figure 5



Supplementary Figure 6