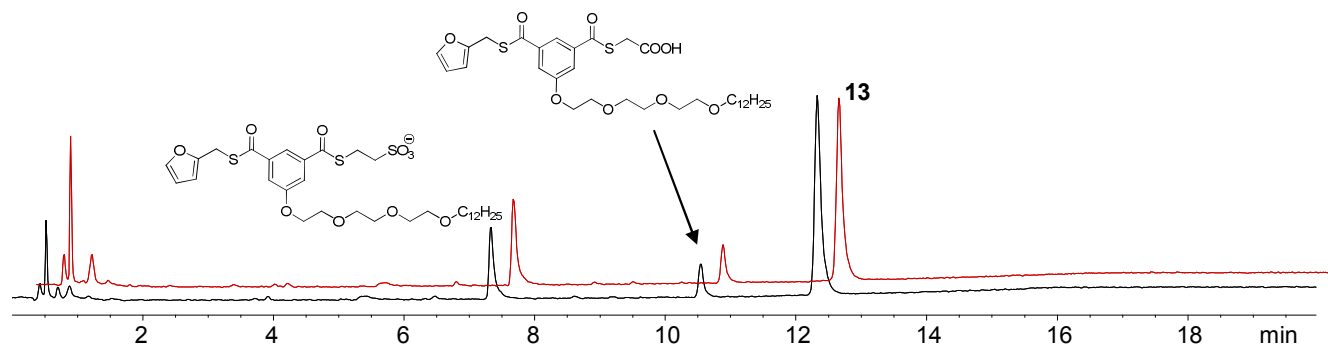


## Supporting Information

**Dynamic Combinatorial Chemistry at the Phospholipid Bilayer Interface**

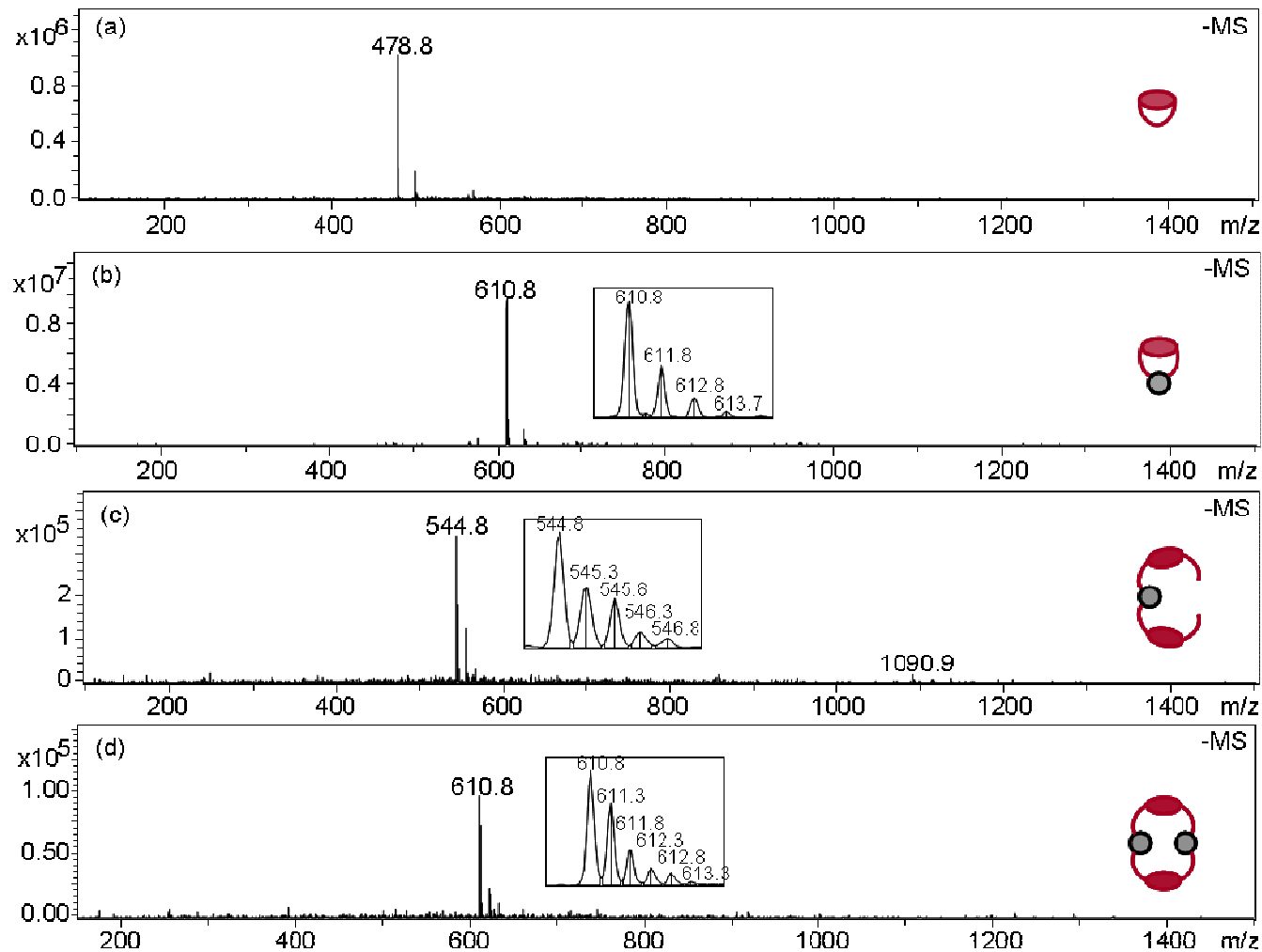
Friederike M. Mansfeld, Ho Yu Au-Yeung, Jeremy K. M. Sanders and Sijbren Otto\*

Centre for Systems Chemistry, Stratingh Institute, University of Groningen, Nijenborgh 4, 9747 AG  
Groningen, The Netherlands  
Email: [s.otto@rug.nl](mailto:s.otto@rug.nl)

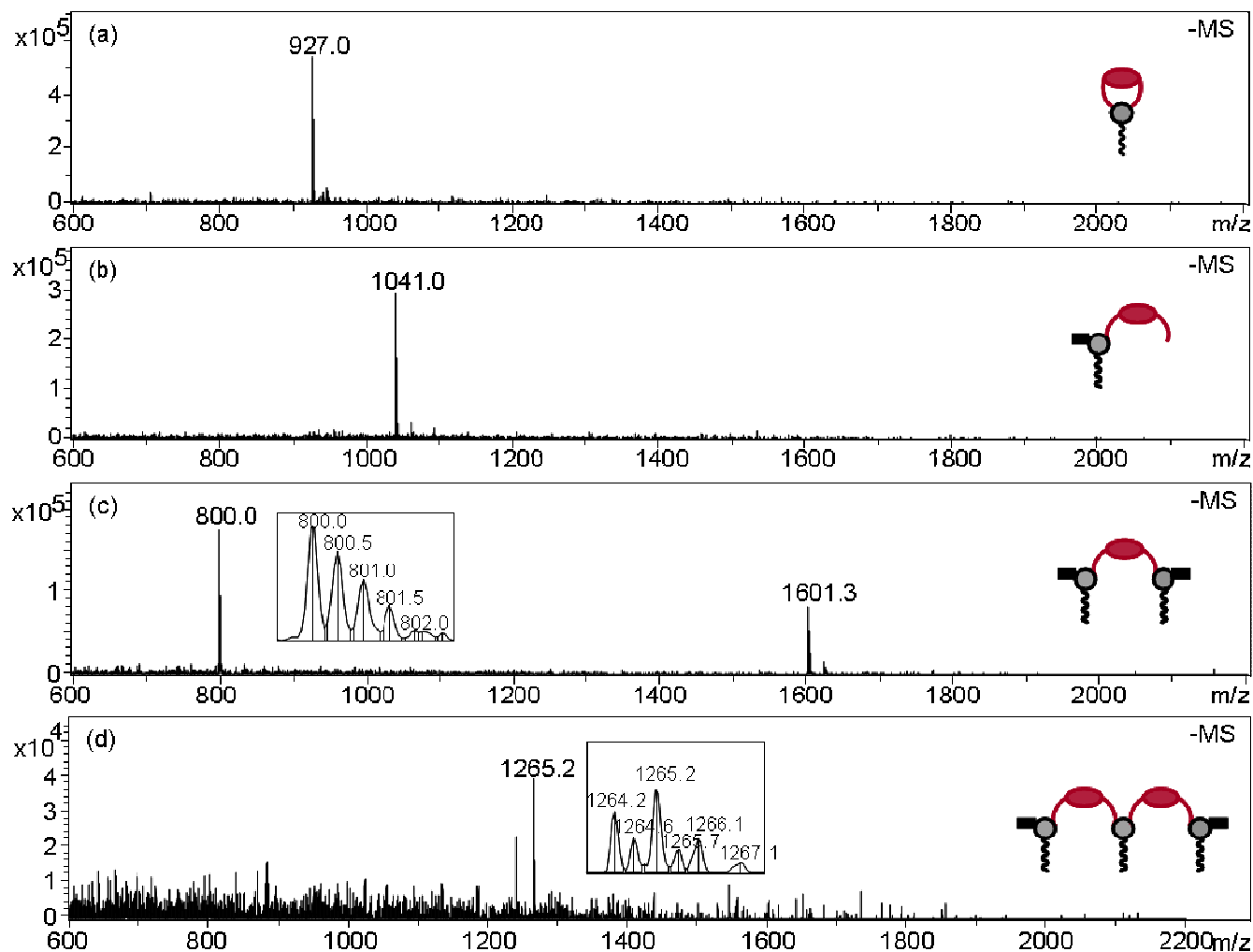
**Product Distribution on Addition of Thiols Before or After Vesicle Formation**

**Figure S1 Evidence for diffusion of thiols and/or flip-flop of building block 13.** HPLC analysis of two DCLs consisting of 10 mM egg PC, 1 mM 13, 10 mM 4 and 10 mM 7. Black: Thiols were added after vesicle formation. Red: Thiols were added prior to vesicle formation, 5 mM DTT was added after vesicle formation to ensure presence of free thiols.

## LC-MS data



**Figure S2** Electrospray MS for library members observed in the DCL shown in Figure 5a. Insets show isotopic patterns.



**Figure S3** Electrospray MS for library members observed in the DCL shown in Figure 5b. Insets show isotopic patterns.

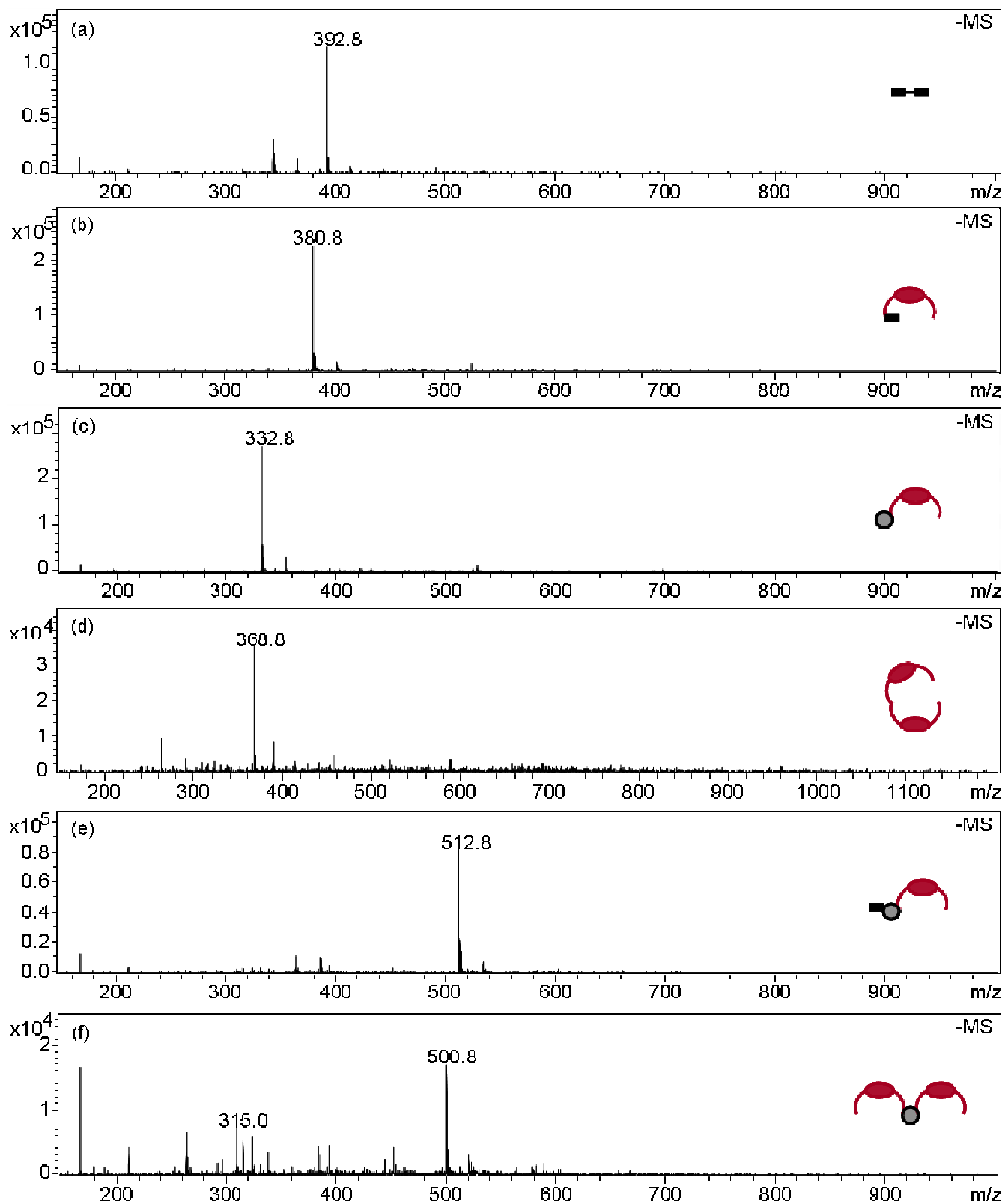
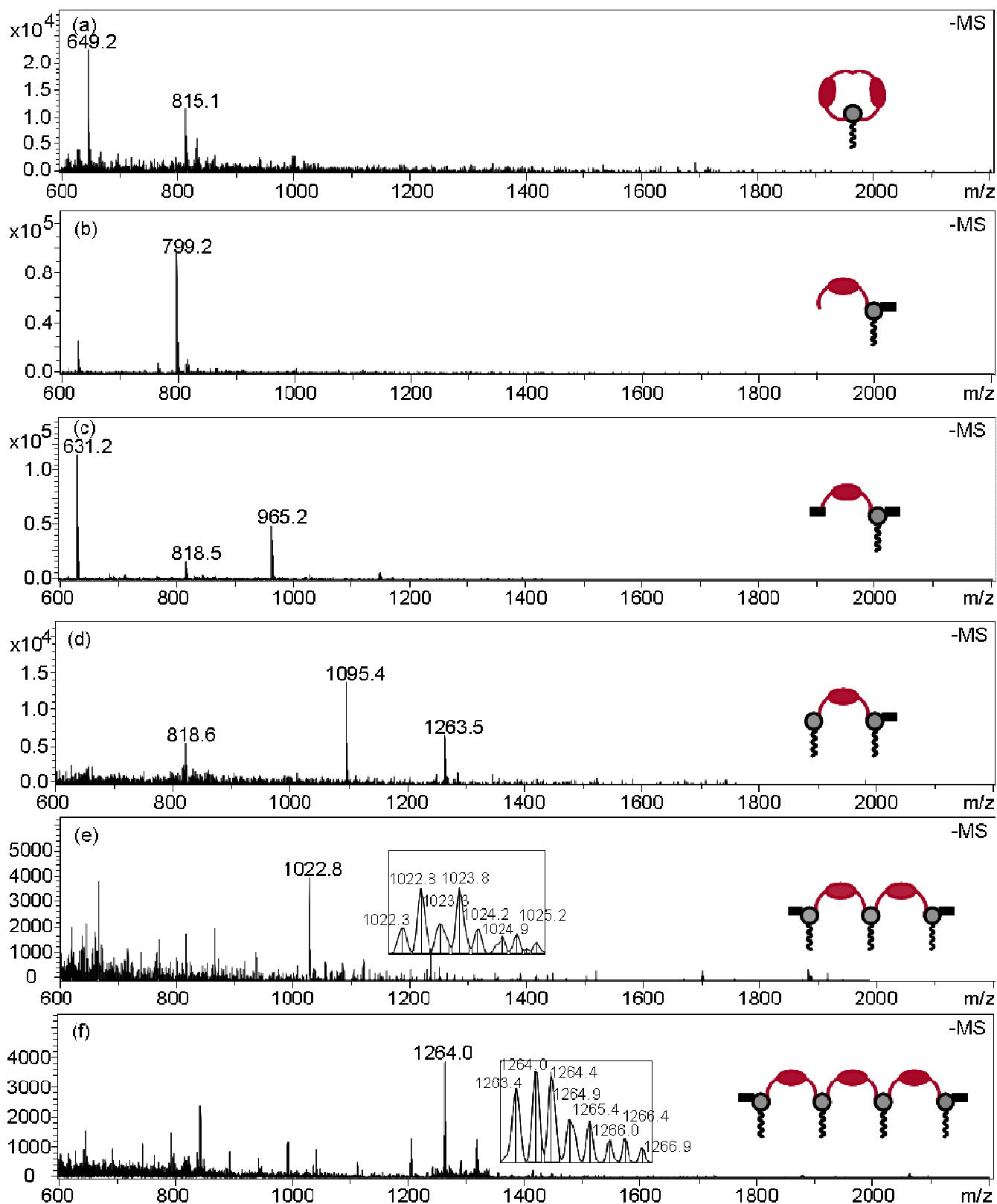


Figure S4 Electrospray MS for library members observed in the DCL shown in Figure 6a.



**Figure S5** Electrospray MS for library members observed in the DCL shown in Figure 6b. Insets show isotopic patterns.