

Supporting information for:

Glycomic Analysis of Sialic Acid Linkages in Glycans Derived from Blood Serum Glycoproteins

William R. Alley, Jr. and Milos V. Novotny*

National Center for Glycomics and Glycoproteomics
Department of Chemistry
Indiana University, Bloomington, IN, USA 47405

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*Corresponding Author:

E-mail: novotny@indiana.edu

Phone: (812) 855-4532

Fax: (812) 855-8300

Table S1. Reproducibilities of the glycan isomers detected in a 0.5- μ l aliquot of commercially-available female human blood serum.

Glycan	Structure	m/z	No. of α 2,3	No. of α 2,6	Avg Rel Int	%RSD
B1S		2431.6	1	0	11.91	10.14
		2444.6	0	1	13.43	5.45
B1SF		2605.8	1	0	1.57	12.42
		2618.8	0	1	2.53	14.46
B2S		2792.9	2	0	9.60	12.89
		2805.9	1	1	8.17	10.13
		2818.5	0	2	45.05	4.87
B2SF		2967.0	2	0	0.11	20.23
		2980.0	1	1	0.42	17.13
		2993.0	0	2	1.26	12.60
T2S		3242.2	3	0	1.44	9.16
		3255.2	2	1	1.58	15.58
		3268.5	1	2	1.30	14.90
T3S		3603.5	3	0	0.21	15.82
		3616.5	2	1	0.21	18.82
		3629.5	1	2	0.91	15.30
		3642.6	0	3	0.31	15.51

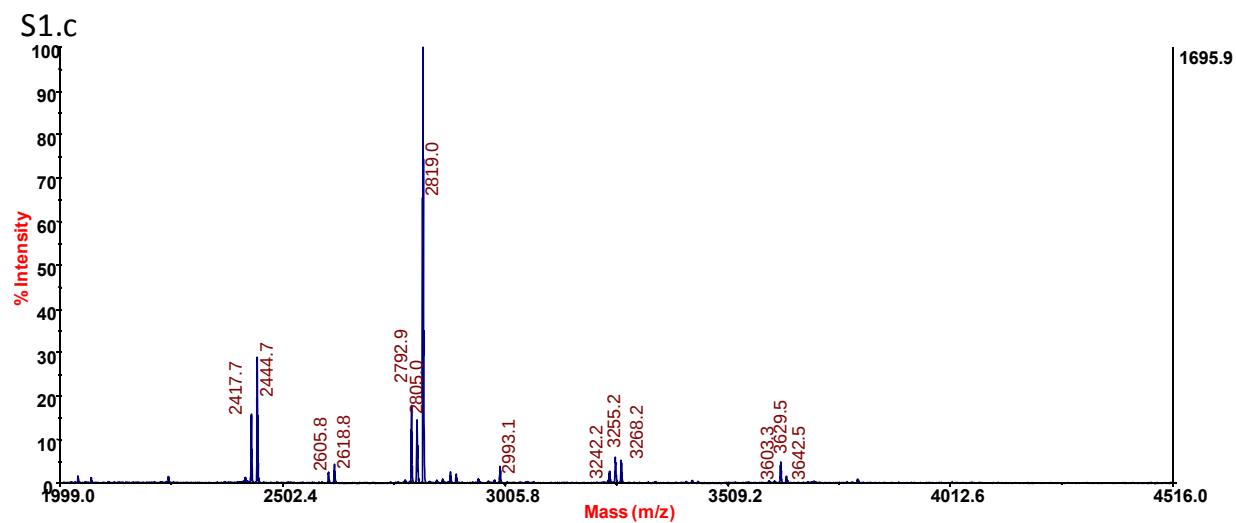
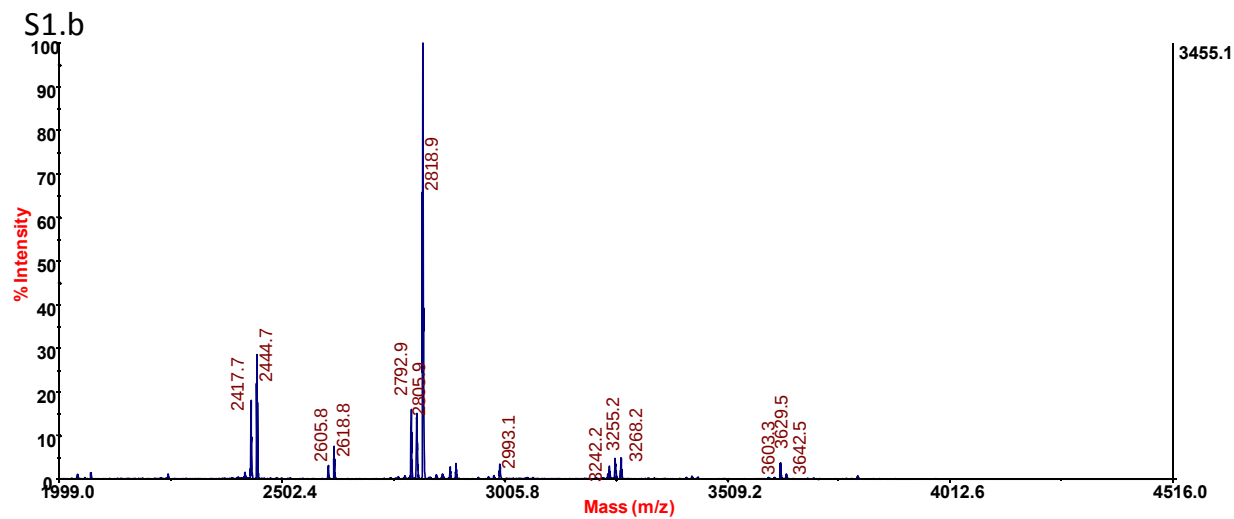
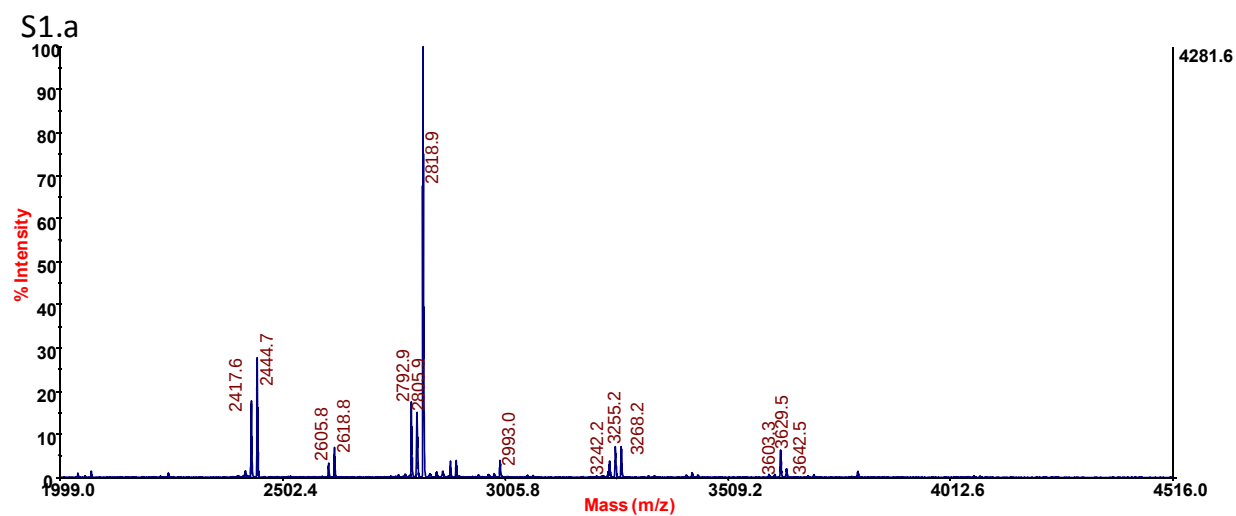
Figure S1. a-j: MALDI mass spectra of 10 replicate analyses of a 0.5- μ l aliquot of commercially-available female human blood serum used to determine the reproducibility of the method.

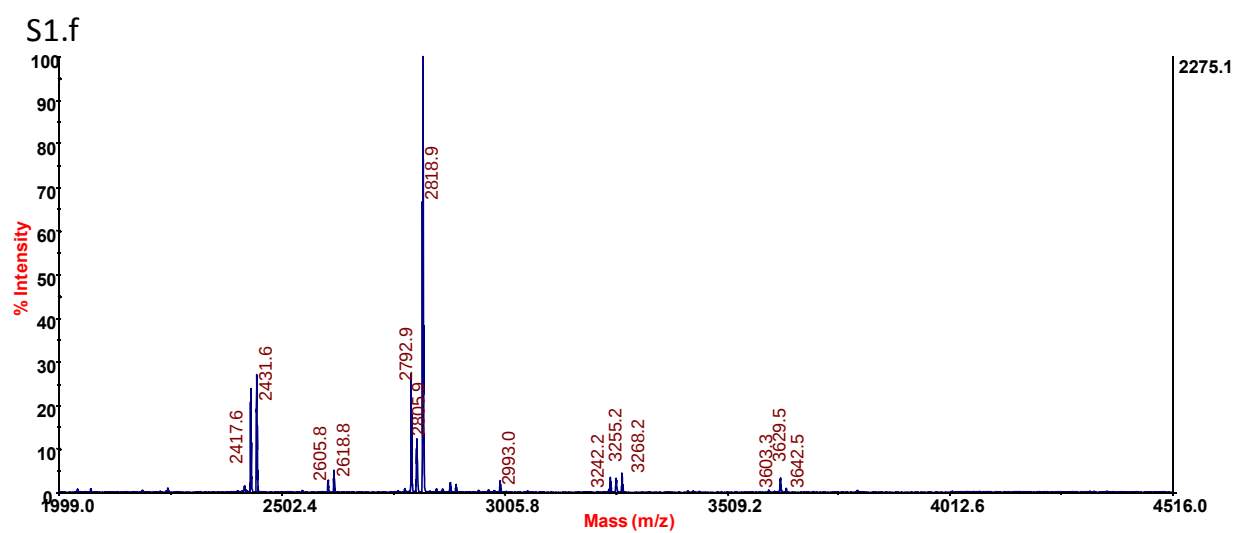
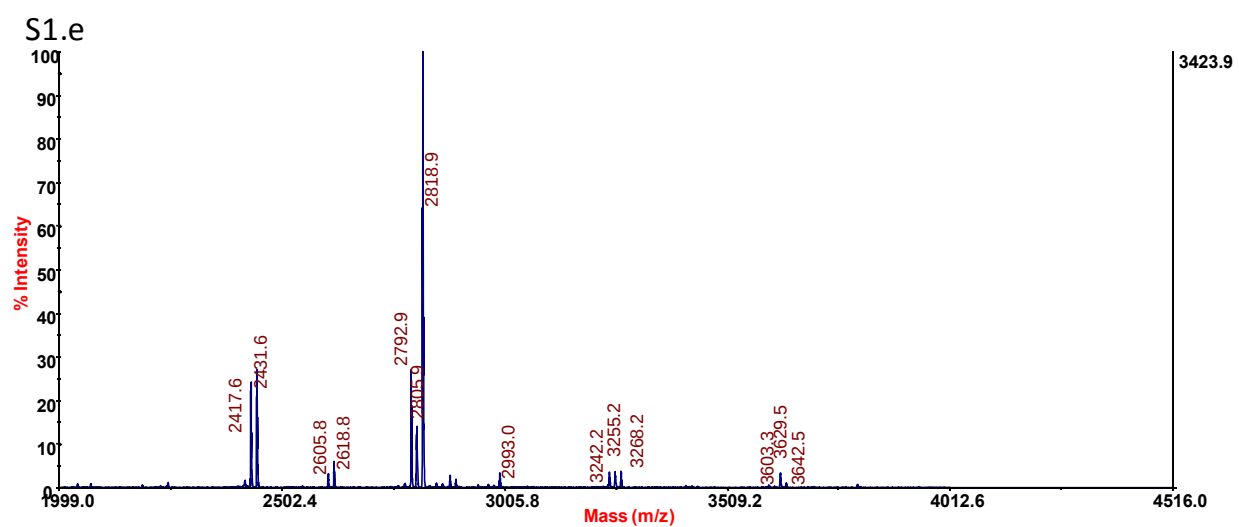
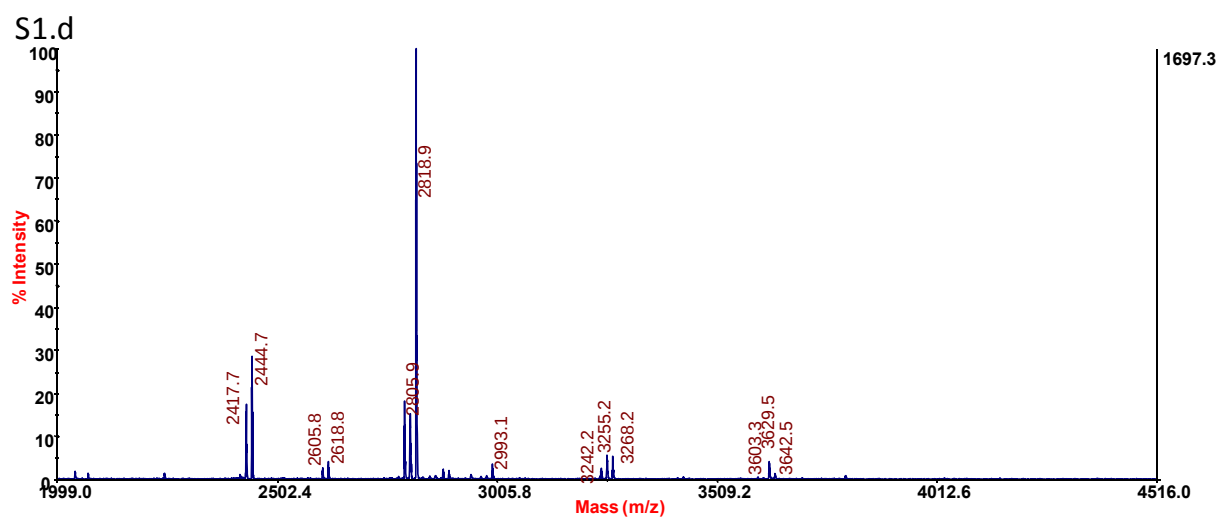
Figure S2. Representative MALDI mass spectrum of glycans derived from bovine fetuin demonstrating the method's ability to accurately reflect the ratios of sialic acid linkages.

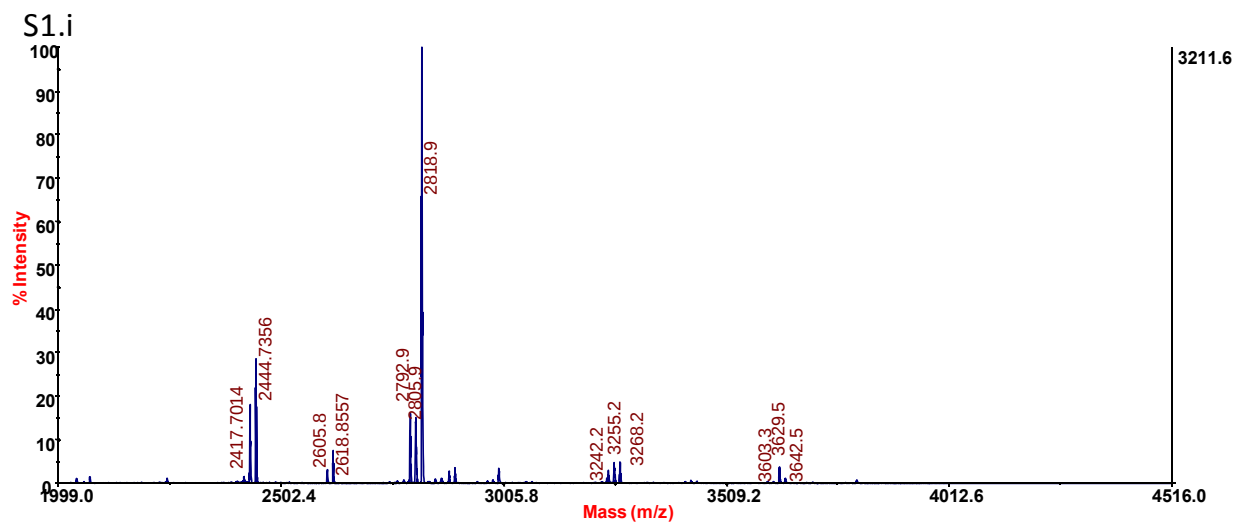
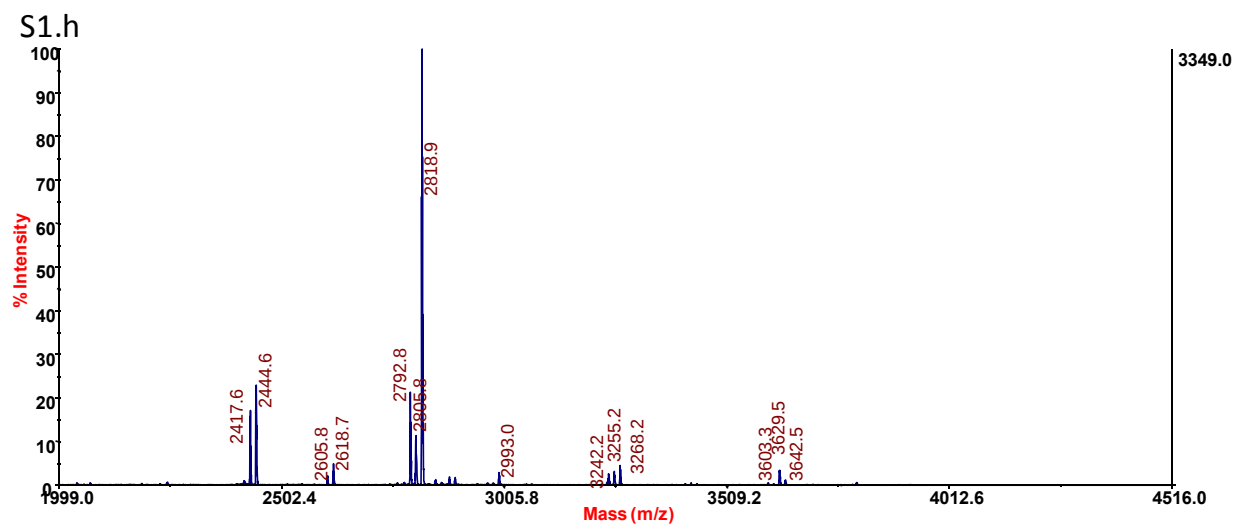
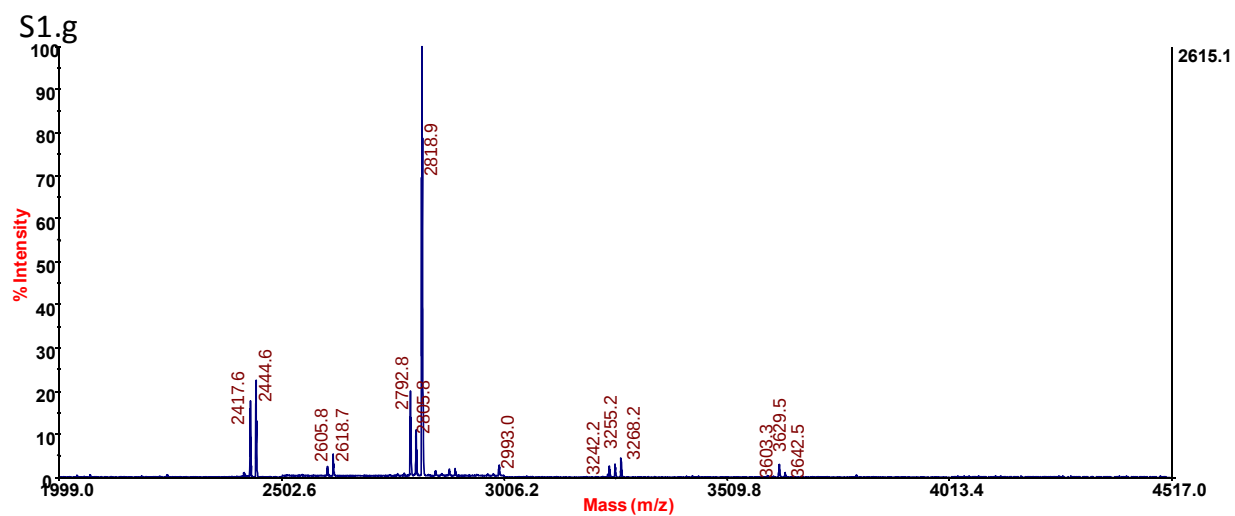
Figure S3. a-f: Comparison of the ratios of sialic-acid isomers determined by NMR and MALDI MS for glycans derived from bovine fetuin. The NMR data was obtained from Reference 34.

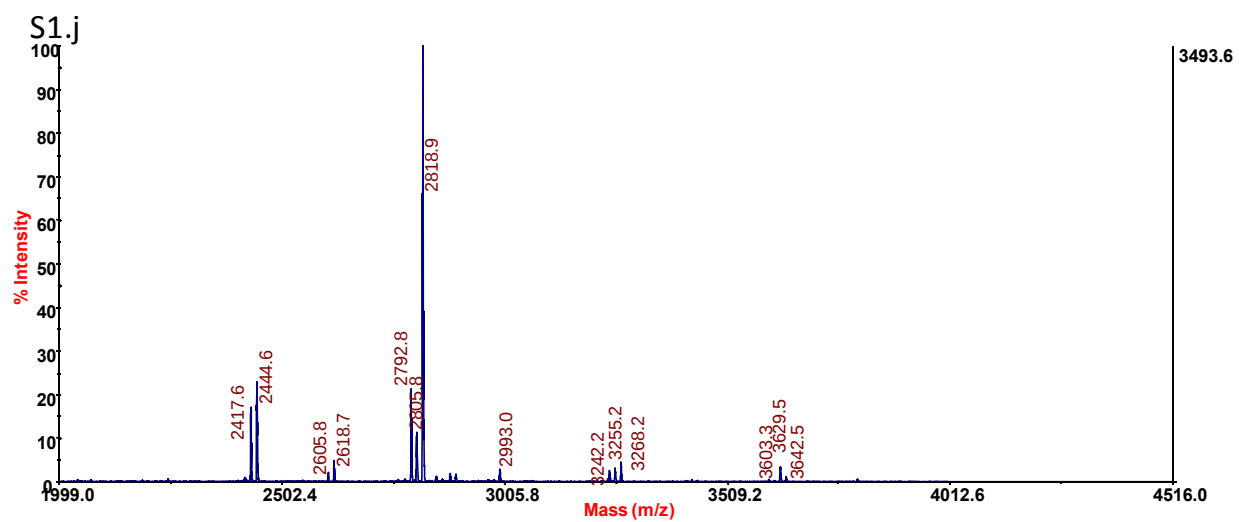
Figure S4. a-j: MALDI mass spectra of the 10 cancer-free individuals used in this study.

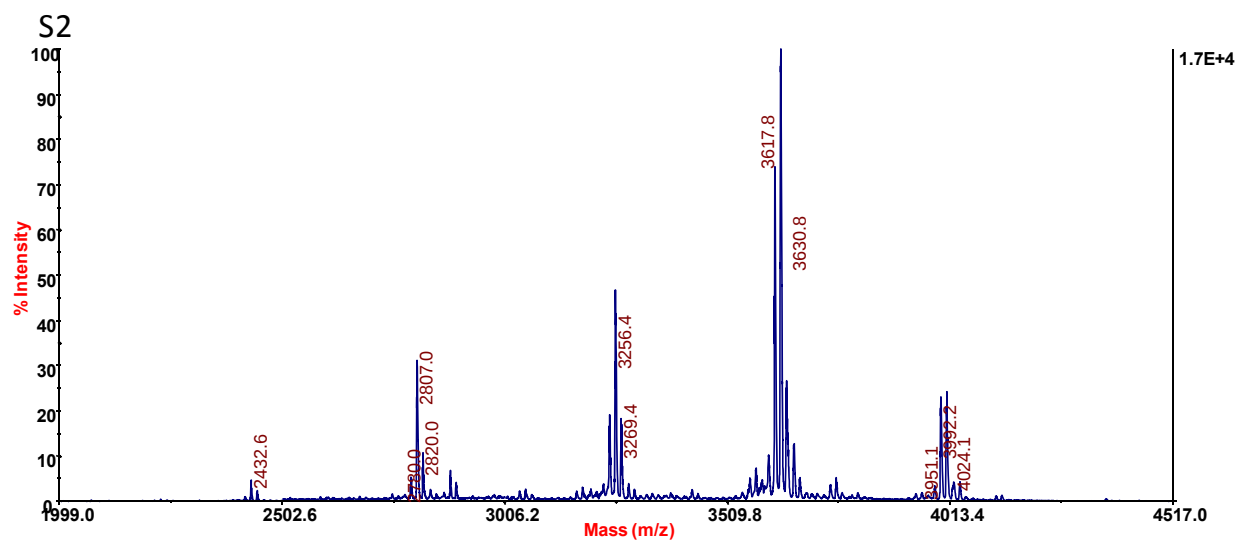
Figure S5. a-j: MALDI mass spectra of the 10 late-stage breast cancer patients used in this study.

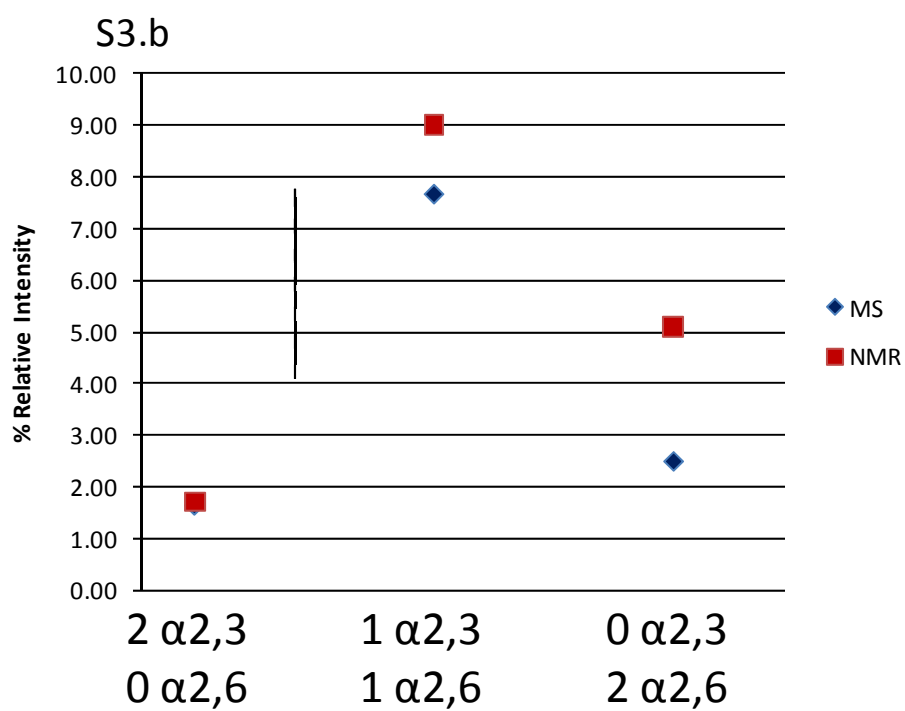
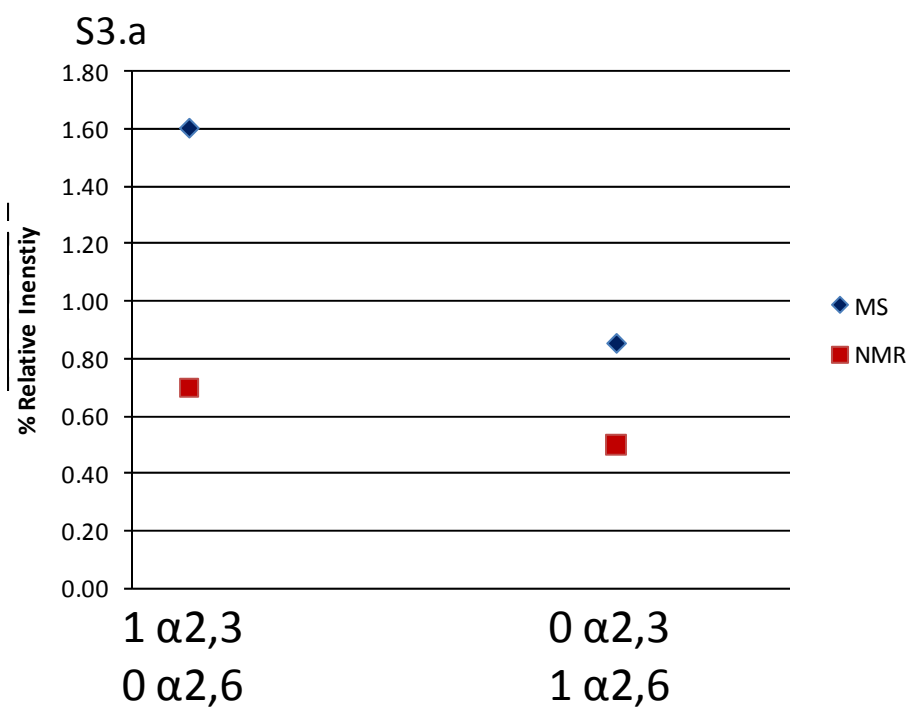


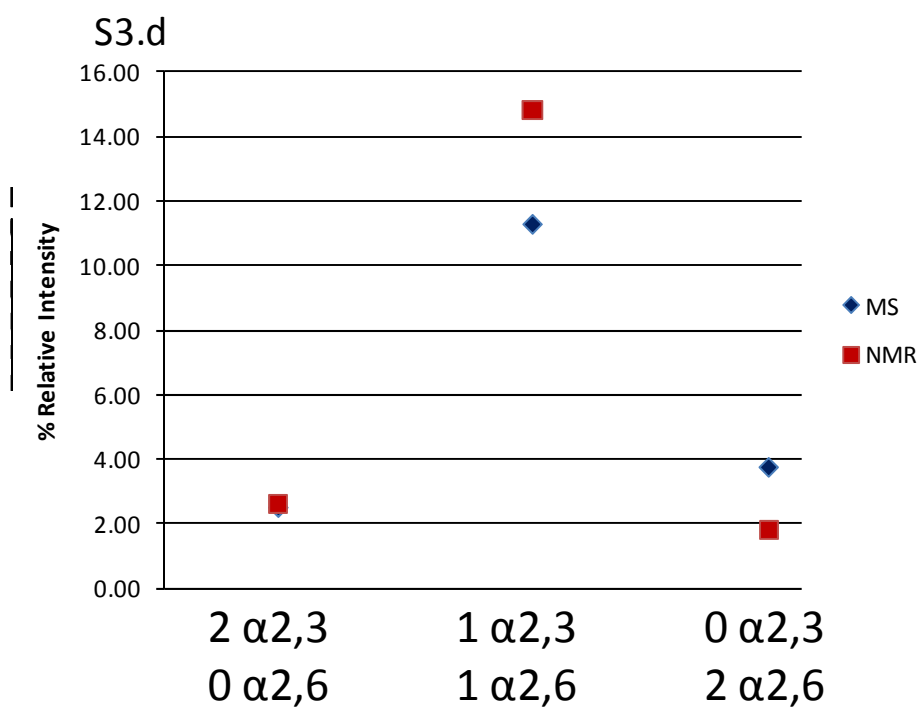
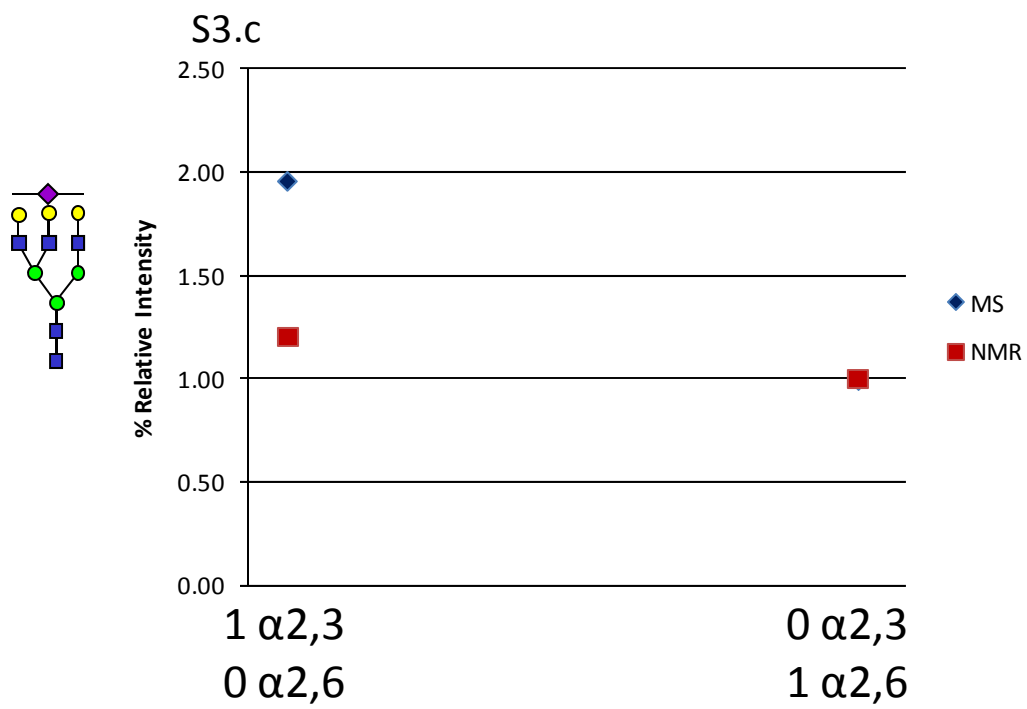


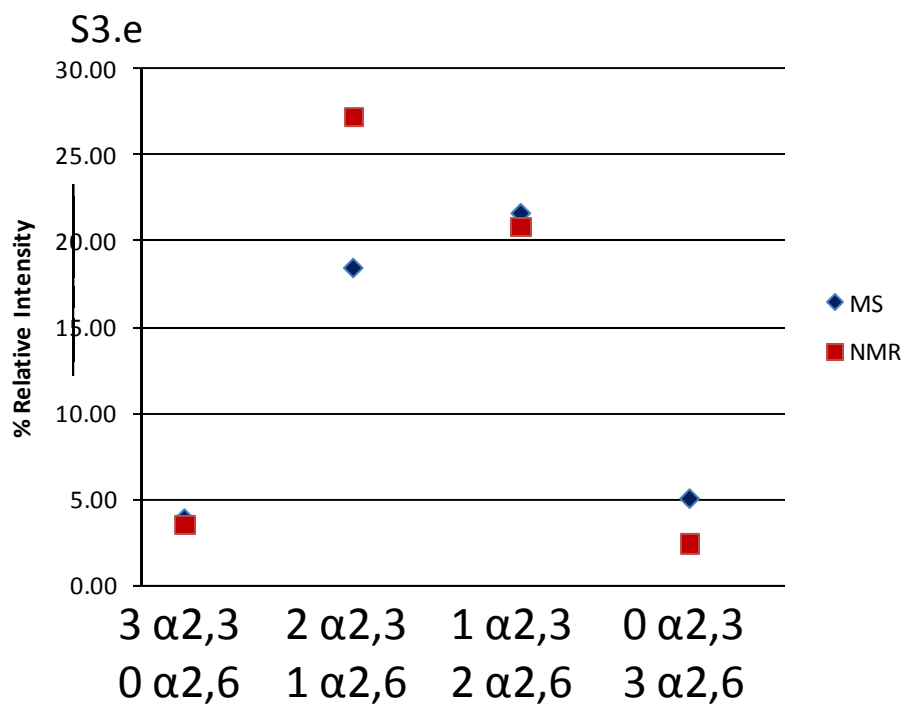


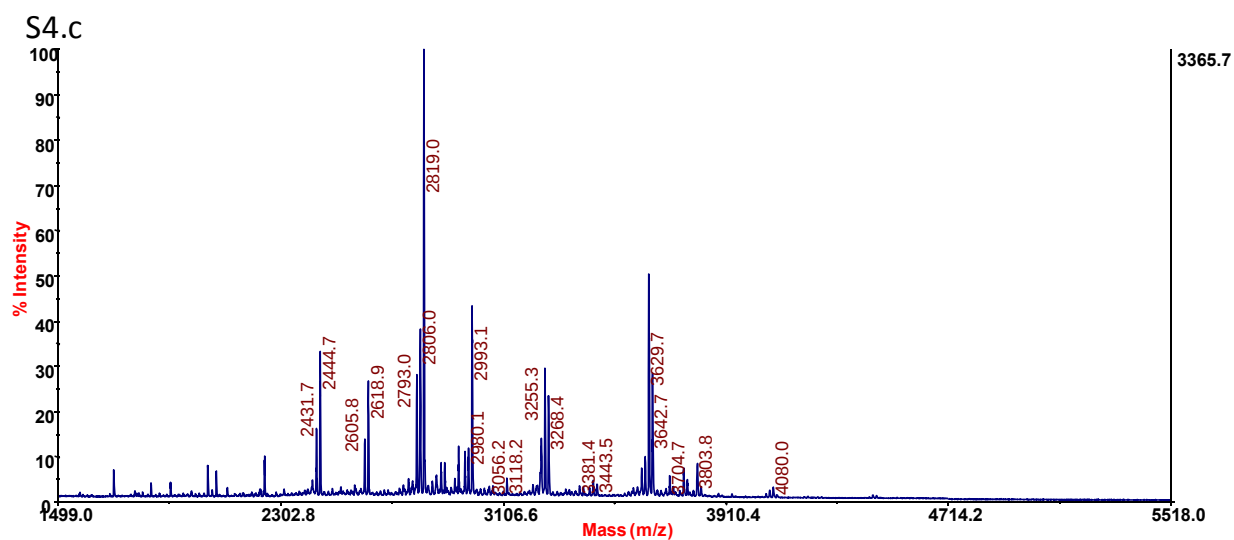
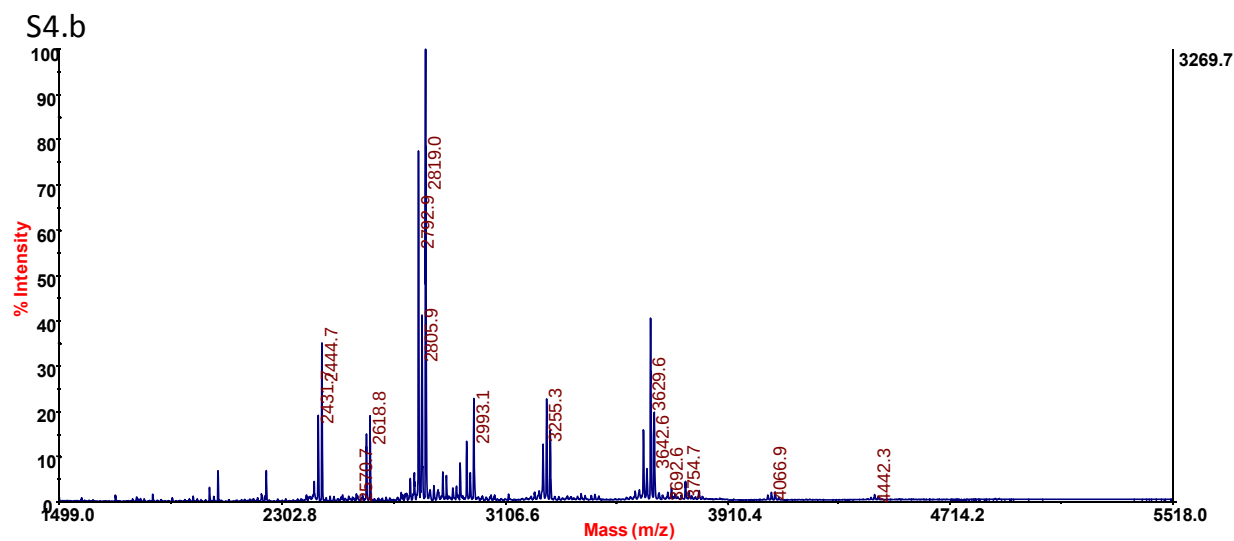
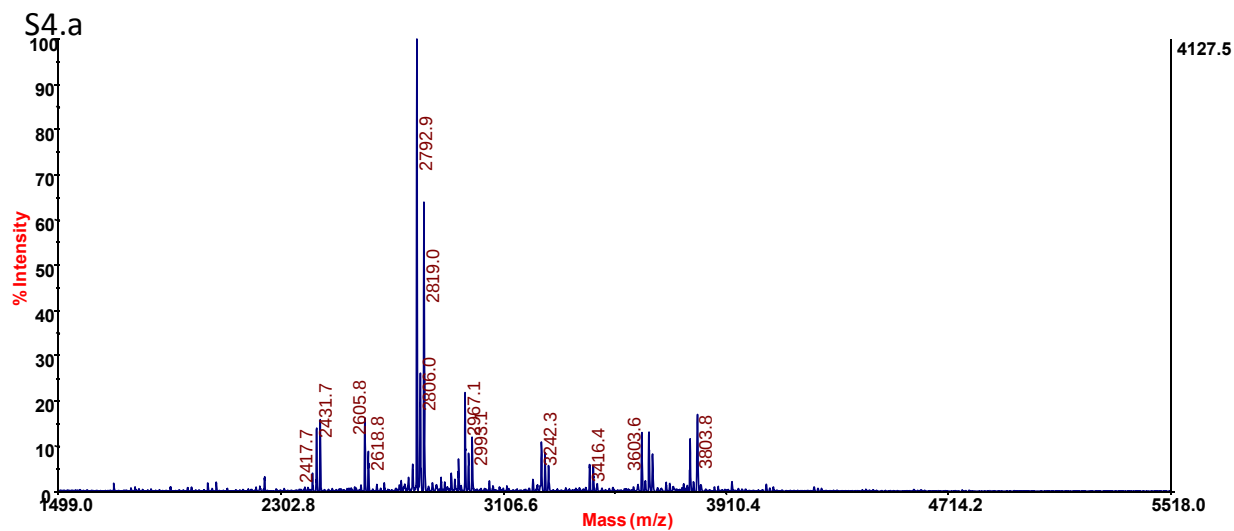


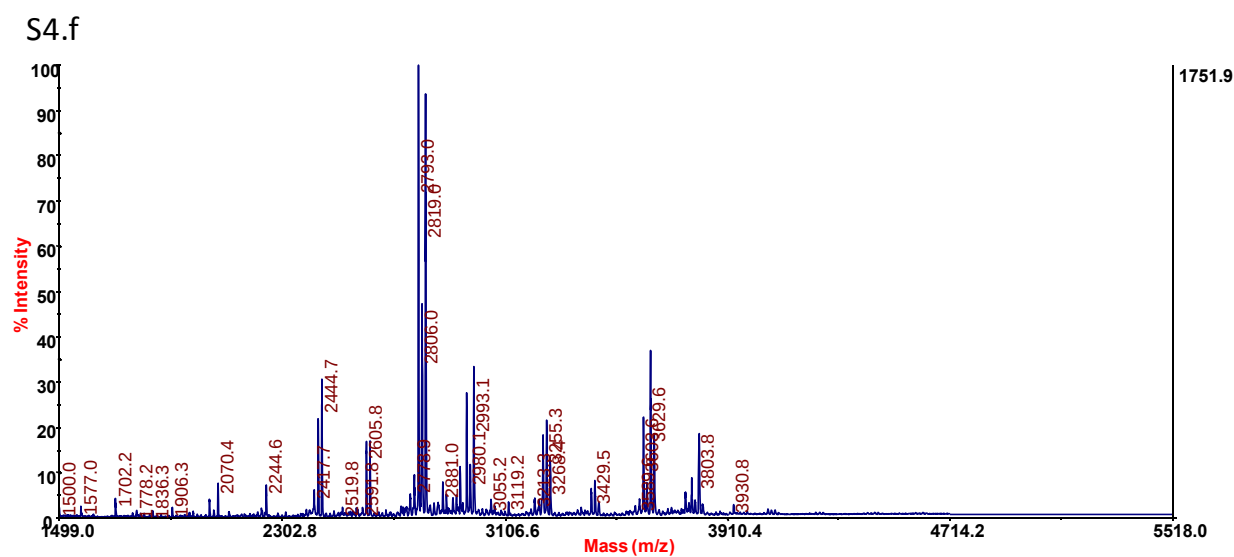
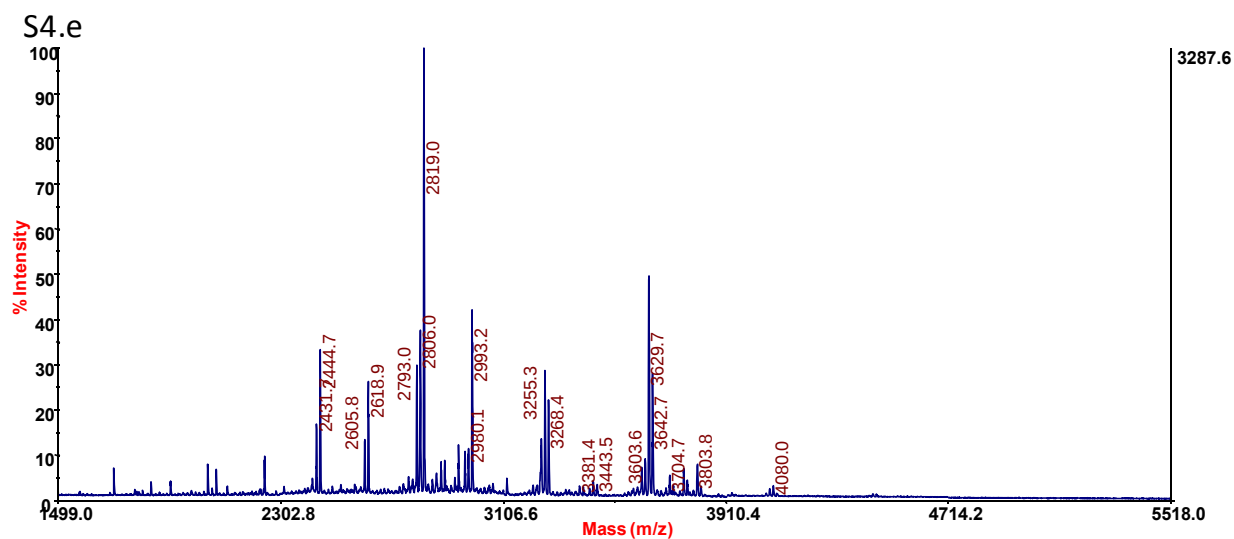
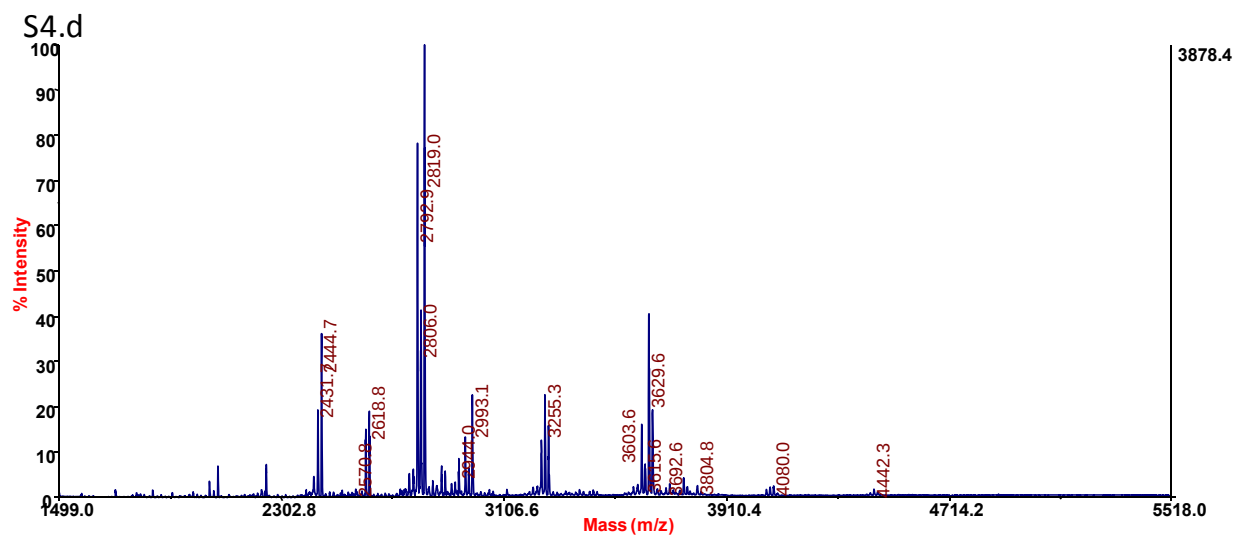


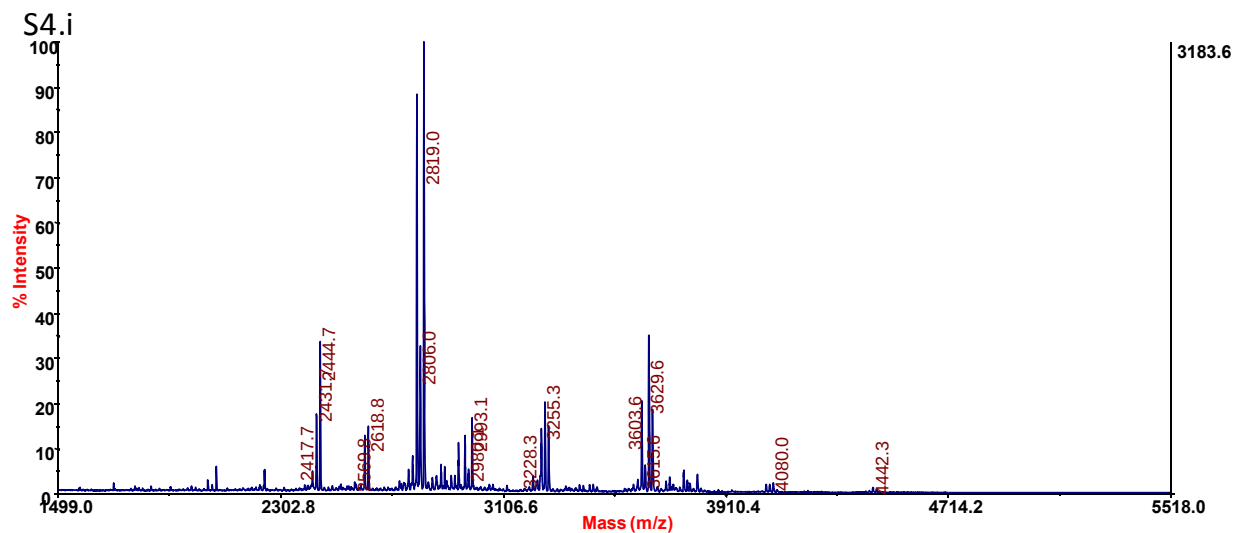
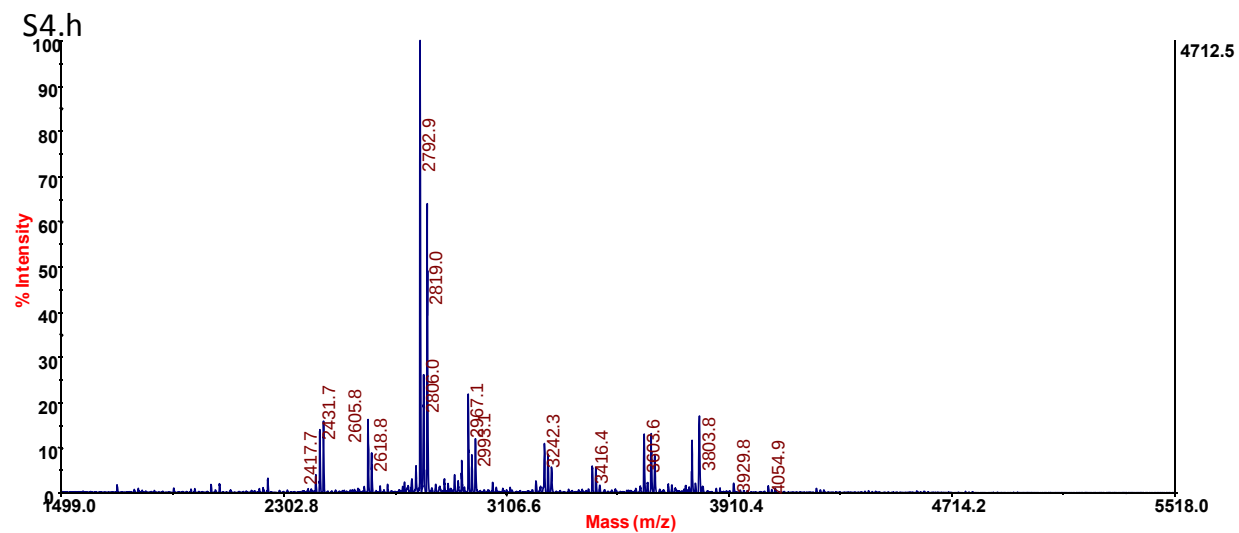
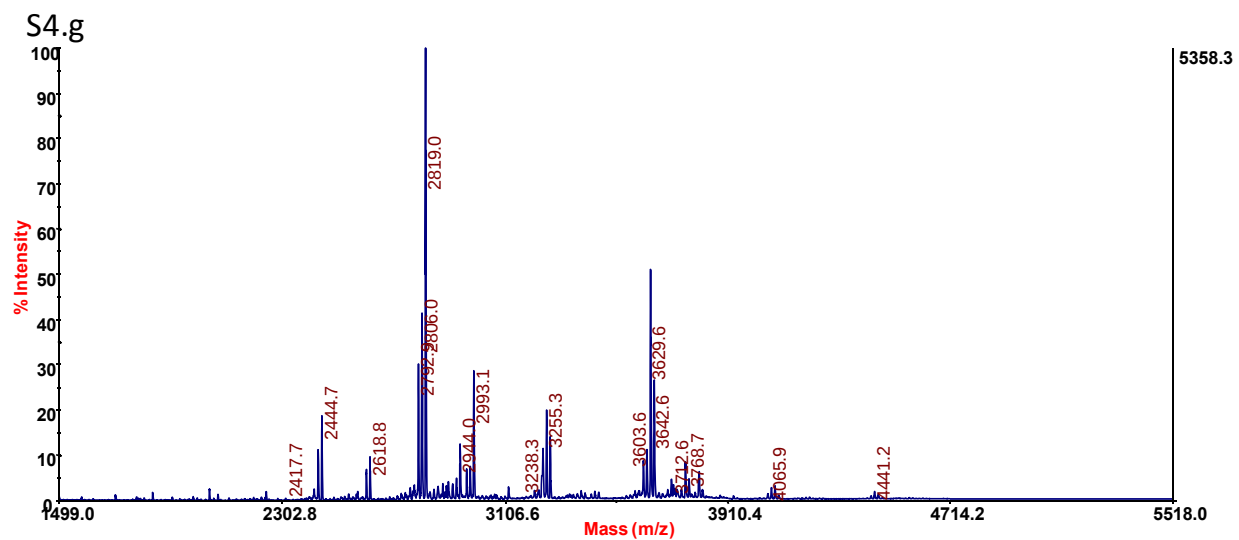


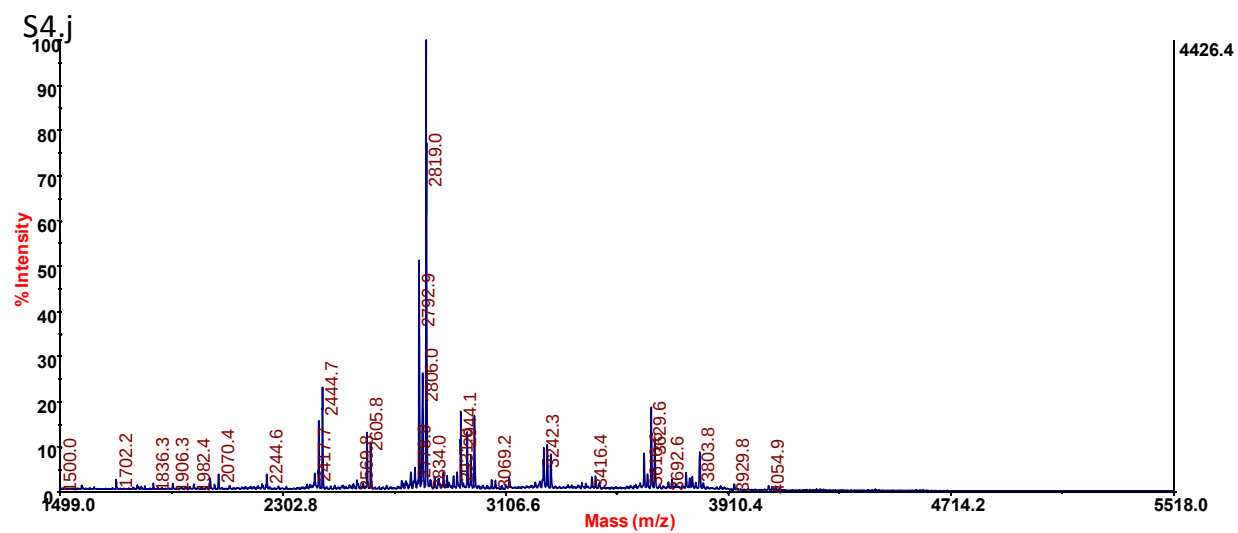


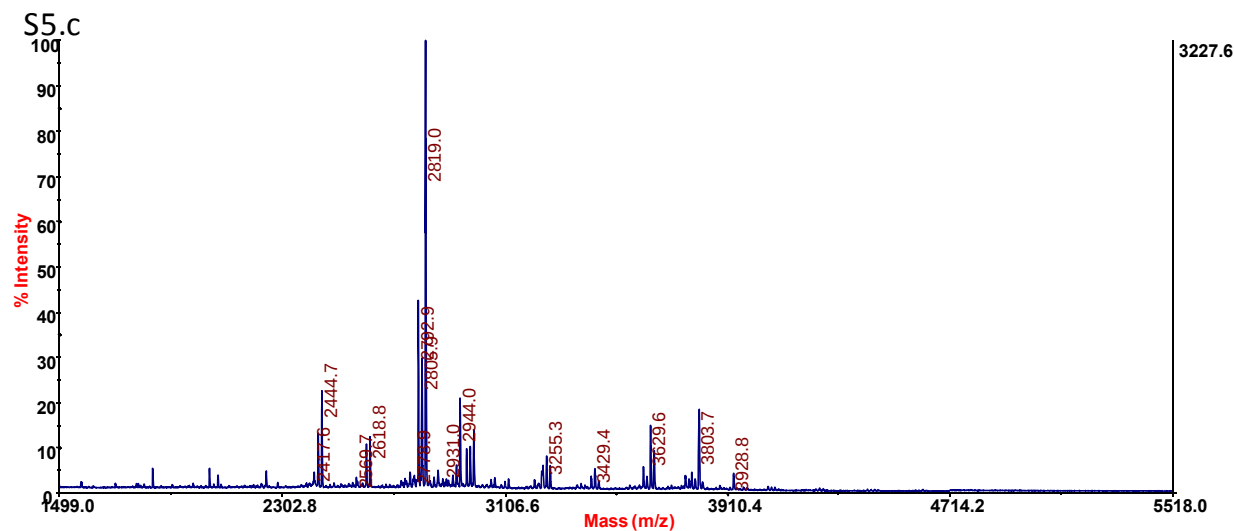
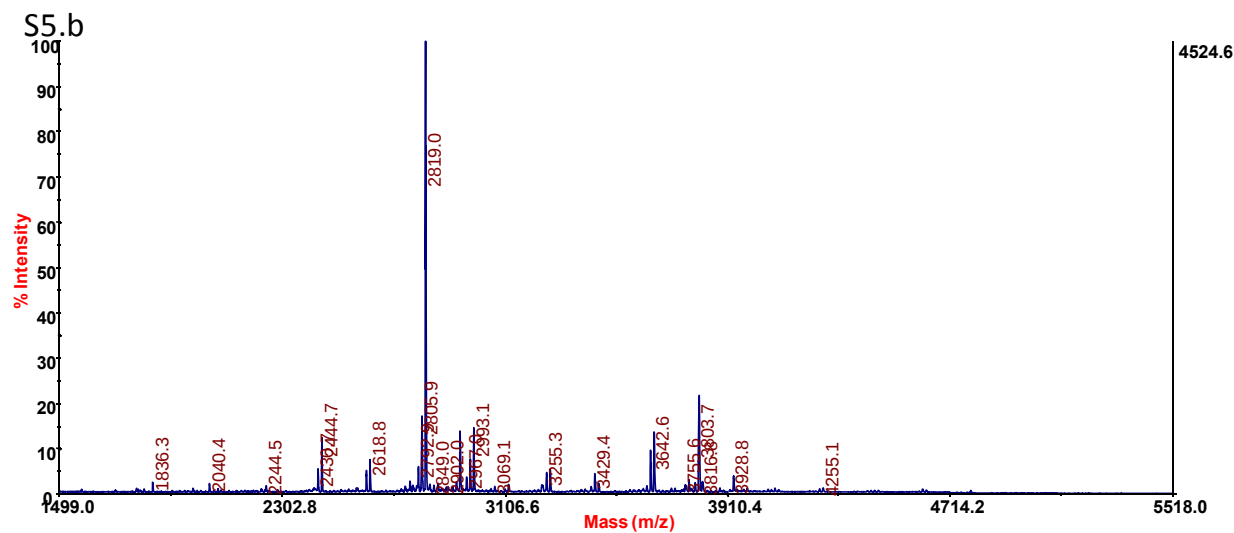
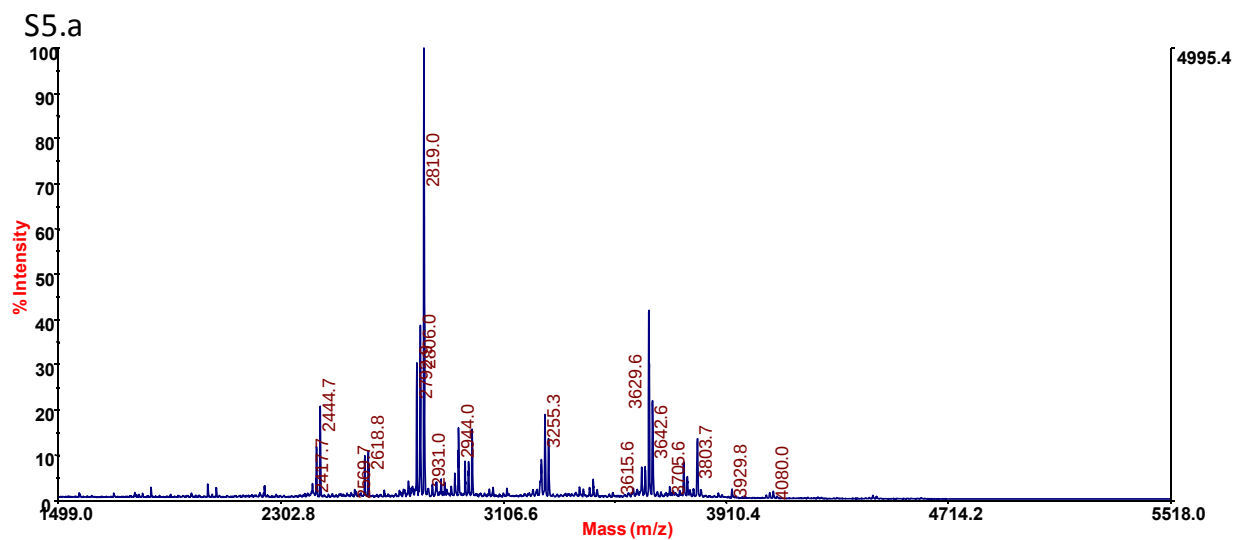


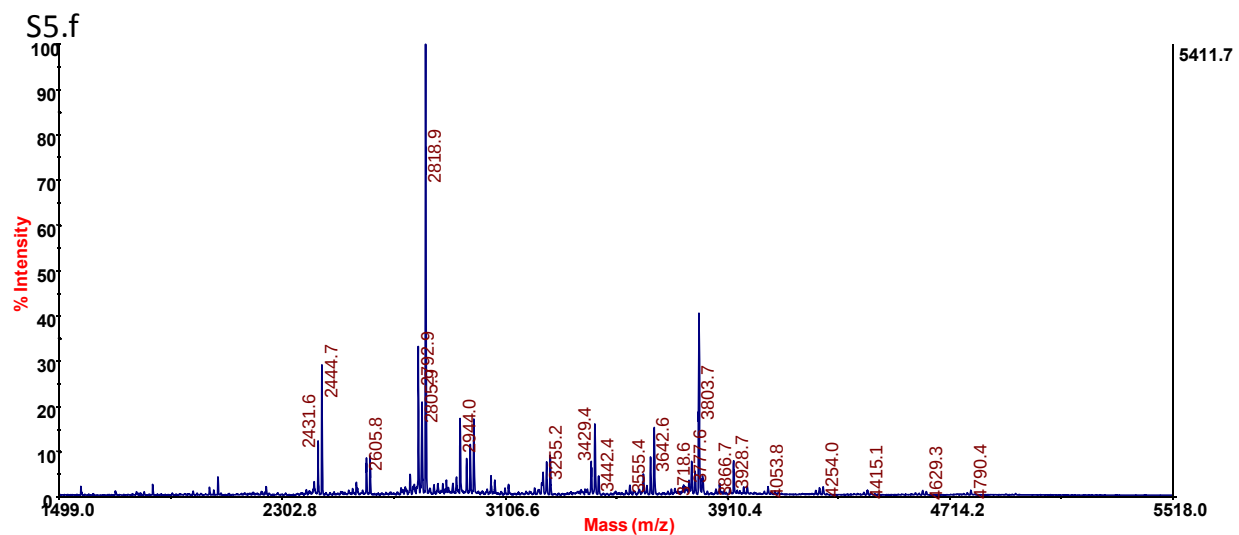
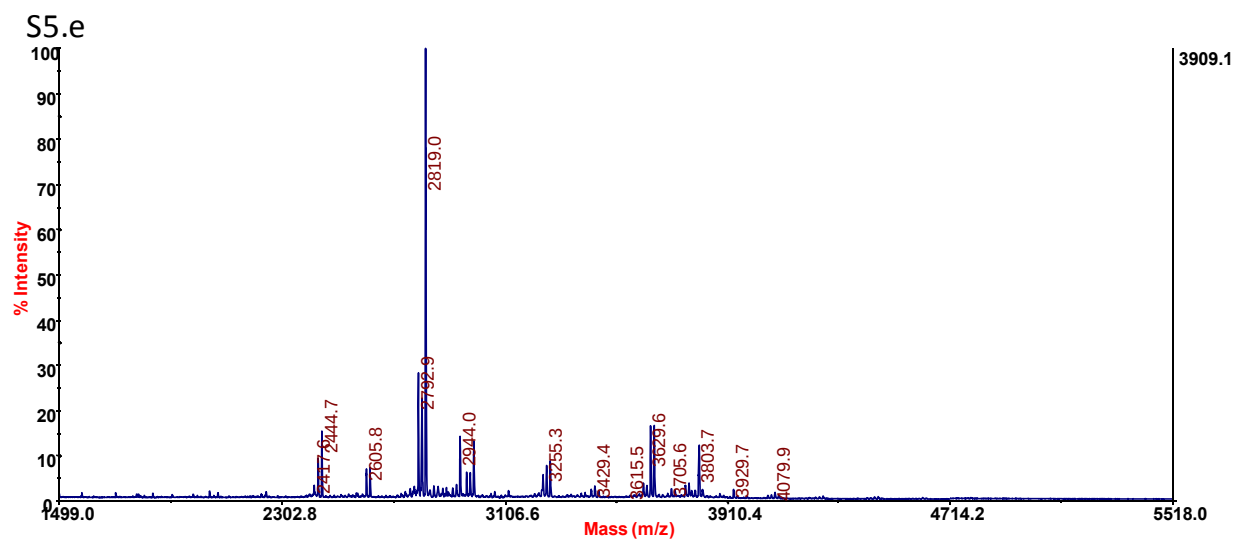
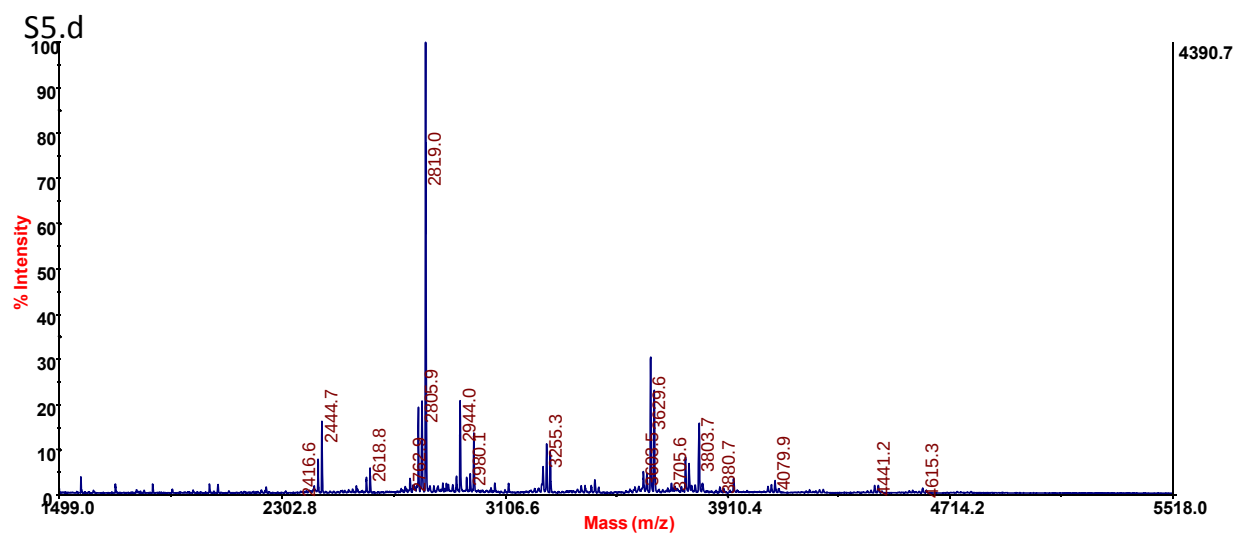




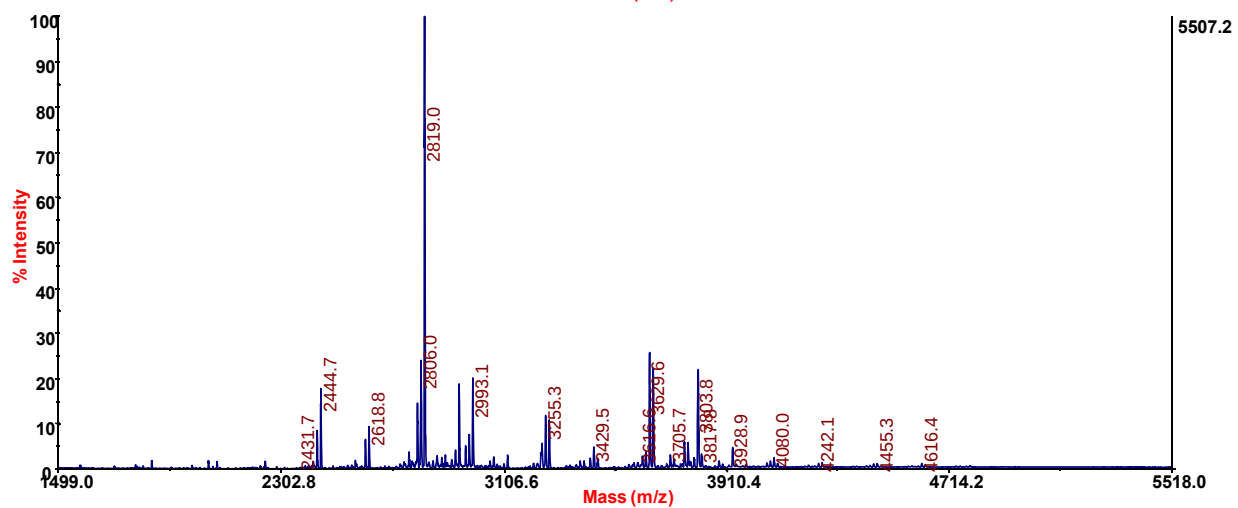
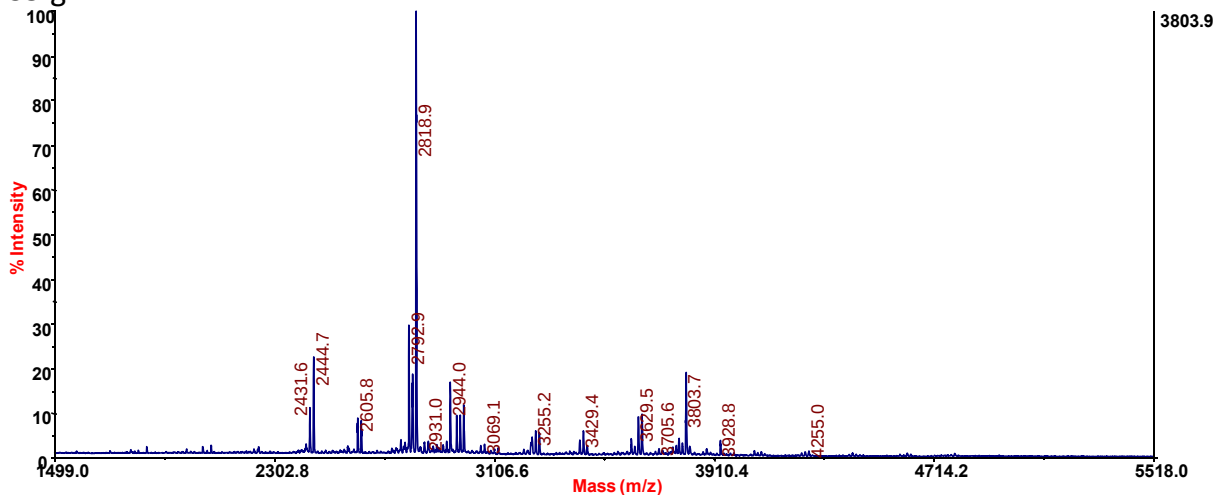








S5.g



S5.i

