

## Electronic Supplementary Information

### Microwave-assisted cleavage of cysteine perfluoroaryl thioethers

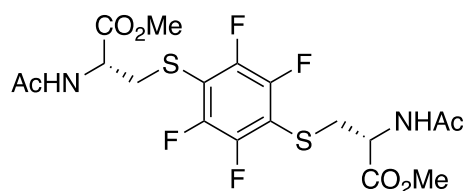
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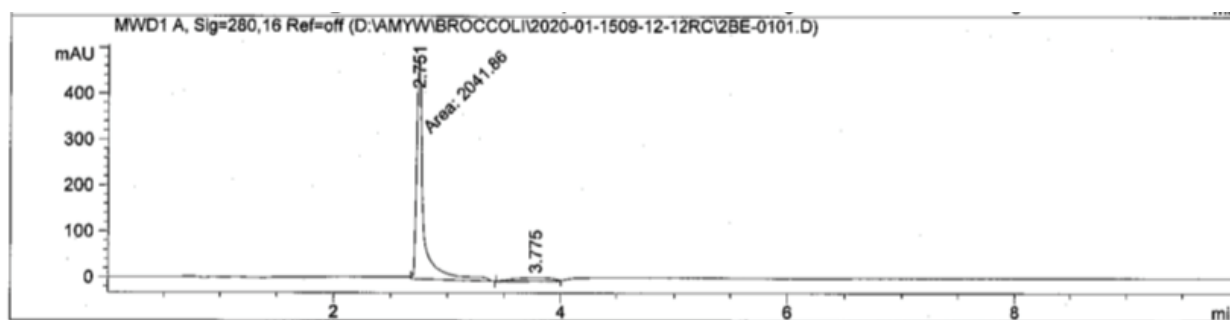
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#### Characterization of **1**



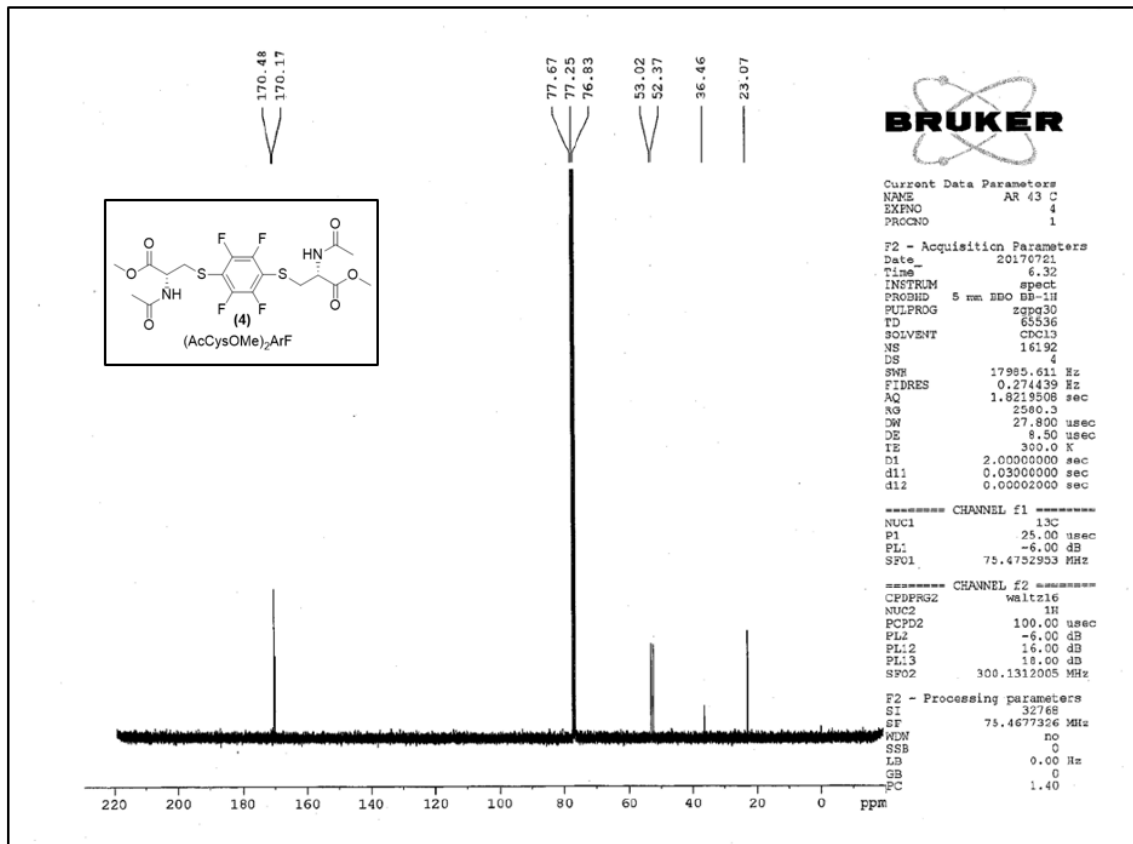
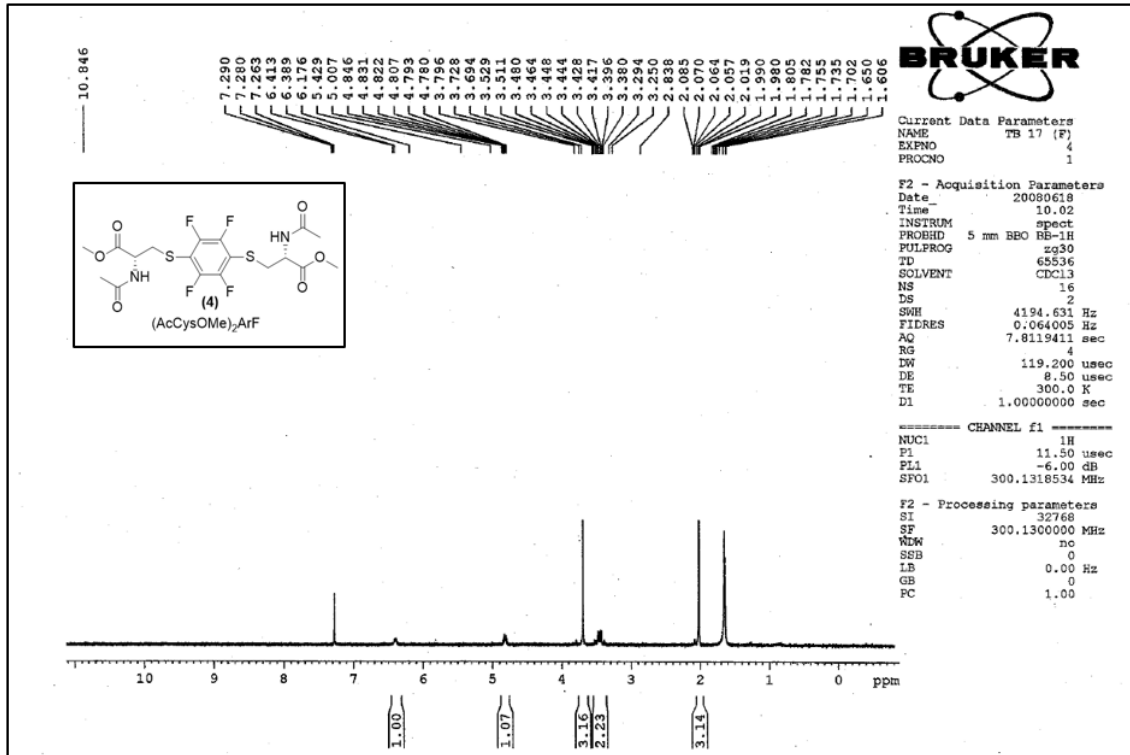
**(1)** Yield: 68 – 92%. Purity: 92% (LC/MS, gradient 25% – 95% acetonitrile/water)  $R_f$ : 0.26 (SiO<sub>2</sub>, EtOAc). White solid, mp: 156.4 – 157.3 °C. <sup>1</sup>H NMR (CDCl<sub>3</sub>, 300 MHz):  $\delta$  6.42-6.37 (br m, 1H), 4.83 (dt,  $J$ = 4.22, 4.1 Hz, 1H), 3.70 (s, 3H), 3.48 (td,  $J$ = 17.7, 1.2 Hz, 2H), 2.09 (s, 3H). <sup>13</sup>C(<sup>1</sup>H) NMR (CDCl<sub>3</sub>, 75 MHz):  $\delta$  170.48, 170.17, 53.02, 52.37, 36.46, 23.07 (aryl C–S and C–F not resolved). IR (thin film, cm<sup>-1</sup>) 3690, 3649, 2929, 2848, 1446, 1008, 914, 803, 692, 610, 523. LRMS (ESI+) calculated for C<sub>18</sub>H<sub>20</sub>F<sub>4</sub>N<sub>2</sub>O<sub>6</sub>S<sub>2</sub>: 500.1 g/mol. Observed: 501.1 (M+H<sup>+</sup>), 523.1 (M+Na<sup>+</sup>).



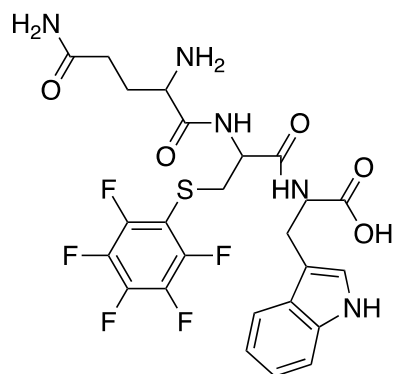
Signal 2: MWD1 A, Sig=280,16 Ref=off

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	2.751	MM	0.0690	2041.85583	493.41010	91.7831
2	3.775	VV	0.4367	182.79649	7.28656	8.2169

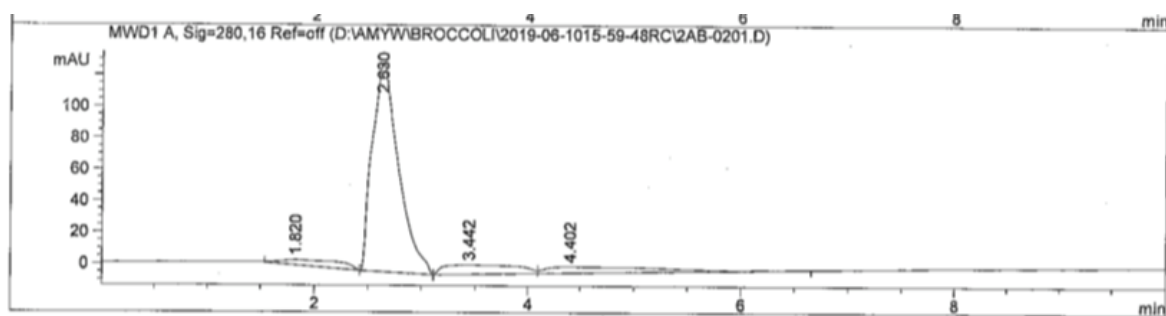
Totals : 2224.65233 500.69665



## Characterization of peptide 4



Purity (76%) was determined by LC/MS, gradient 25% – 95% acetonitrile/water. m/z calculated for C<sub>25</sub>H<sub>24</sub>F<sub>5</sub>N<sub>5</sub>O<sub>5</sub>S: 601.1, observed: 602.1 (M+H<sup>+</sup>)



Signal 2: MWD1 A, Sig=280,16 Ref=off

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	1.820	BV	0.5814	148.99315	3.22231	4.9520
2	2.630	VV	0.2364	2285.24536	133.06813	75.9536
3	3.442	VV	0.6102	286.14084	6.04527	9.5103
4	4.402	VB	0.8781	288.35815	3.89324	9.5840

Totals : 3008.73750 146.22895

MS Spectrum

