

# Supporting information

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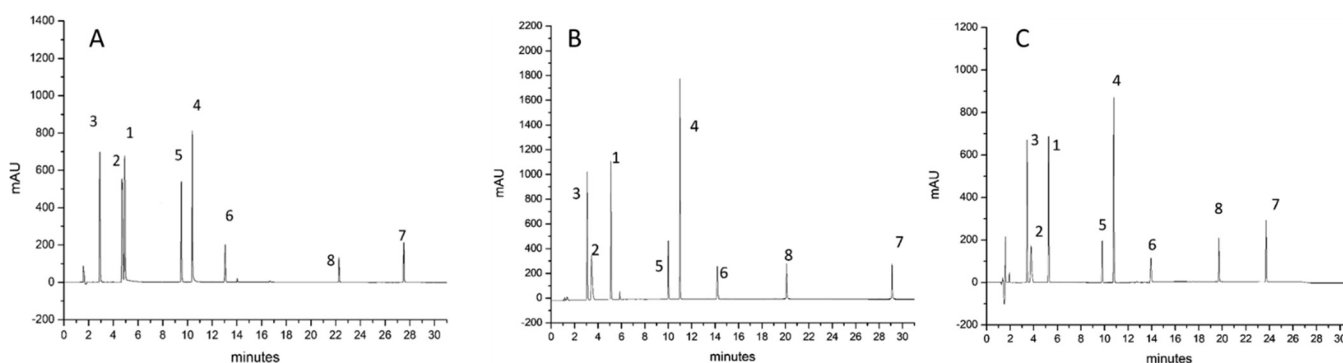
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**Figure S1.** Chromatograms refer to the separation of eight peptides (see Table 1 in main text). MP with 10 mM TBAHSO<sub>4</sub>. Columns used: A) ACQUITY UPLC® BEH C18 (150 mm × 2.1 mm L × I.D.) 1.7 μm 300 Å FPP and BEH particle B) Halo peptide ES-C18 (150 mm × 3.0 mm L × I.D.) 2.0 μm 160 Å SPP C) Halo peptide ES-C18 (150 mm × 4.6 mm L × I.D.) 2.7 μm 160 Å SPP.



**Table S1.** Asymmetry values (As).

Formic Acid					Trifluoroacetic acid					TBAHSO <sub>4</sub>				
entry	columns				entry	columns				entry	columns			
	i	ii	iii	iv		i	ii	iii	iv		i	ii	iii	iv
3	5.25	5.22	4.73	4.34	3	1.12	2.61	n.a.	n.a.	3	1.31	1.33	1.11	1.06
2	5.72	5.06	5.16	3.81	2	2.58	2.70	n.a.	n.a.	2	1.02	1.22	1.46	1.27
1	4.56	4.59	4.93	3.41	1	2.17	2.38	2.26	1.47	1	1.16	2.02	1.16	1.06
5	2.83	3.10	2.89	2.17	5	1.33	1.49	1.31	1.09	5	1.09	1.25	1.16	1.08
6	1.08	n.a.	4.63	4.36	4	2.00	2.18	2.29	1.56	4	1.18	1.14	1.14	1.05
4	2.90	n.a.	4.00	3.21	6	1.41	1.68	2.67	1.14	6	1.05	1.10	1.07	1.04
8	1.56	2.50	2.43	2.86	8	1.37	1.30	2.00	1.23	8	1.10	1.21	1.32	1.03
7	1.28	1.71	3.02	3.00	7	1.30	1.28	2.01	1.15	7	1.00	1.29	1.40	1.04

**Table S2.** Peak width at half height ( $W_{0.5}$ ).

Formic Acid					Trifluoroacetic acid					TBASO <sub>4</sub>				
entry	columns				entry	columns				entry	columns			
	i	ii	iii	iv		i	ii	iii	iv		i	ii	iii	iv
3	0.55	0.43	0.28	0.25	3	0.09	0.19	0.12	0.11	3	0.12	0.14	0.06	0.05
2	0.46	0.40	0.28	0.25	2	0.21	0.19	0.15	0.11	2	0.07	0.08	0.01	0.11
1	0.42	0.35	0.25	0.22	1	0.14	0.16	0.13	0.11	1	0.01	0.07	0.05	0.05
5	0.34	0.20	0.14	0.13	5	0.08	0.09	0.09	0.09	5	0.06	0.07	0.05	0.06
6	0.39	0.19	0.21	0.18	4	0.14	0.15	0.13	0.11	4	0.05	0.05	0.05	0.05
4	0.34	0.33	0.25	0.23	6	0.09	0.09	0.09	0.09	6	0.08	0.09	0.08	0.10
8	0.19	0.12	0.24	0.20	8	0.10	0.09	0.18	0.14	8	0.11	0.05	0.16	0.10
7	0.17	0.21	0.10	0.28	7	0.08	0.05	0.06	0.08	7	0.04	0.06	0.05	0.10

**Table S3.** Average peak width ( $W_{avg}$ ) and Peak capacity ( $n_c$ ) values.

Formic Acid					Trifluoroacetic acid				TBAHSO <sub>4</sub>			
	i	ii	iii	iv	i	ii	iii	iv	i	ii	iii	iv
Peak capacity	46	55	70	70	130	120	127	144	223	204	236	201
$W_{avg}$	0.67	0.56	0.44	0.44	0.23	0.25	0.24	0.21	0.14	0.15	0.13	0.15
STD	0.29	0.23	0.13	0.09	0.09	0.11	0.08	0.04	0.07	0.07	0.09	0.05

**Table S4.** Resolution values ( $R_s$ ).

Formic Acid					Trifluoroacetic acid					TBASO <sub>4</sub>				
entry	columns				entry	columns				entry	columns			
	i	ii	iii	iv		i	ii	iii	iv		i	ii	iii	iv
3					3					3				
2	2.26	4.74	4.62	5.65	2	14.9	2.14	1.01	1.01	2	8.43	4.77	2.61	2.44
1	1.60	2.46	4.55	4.05	1	5.04	4.56	8.05	9.55	1	22.3	16.2	11.8	10.9
5	6.16	5.22	3.83	3.62	5	4.82	6.41	4.17	1.87	5	14.0	47.1	57.6	49.3
6	8.15	6.96	15.4	11.3	4	22.3	14.1	27.1	31.8	4	10.6	4.40	12.7	10.3
4	1.26	1.07	2.86	3.64	6	1.74	3.88	2.65	3.36	6	26.9	32.2	28.7	24.9
8	7.45	7.87	3.71	1.92	8	19.1	12.4	18.1	19.2	8	81.3	28.8	35.7	22.2
7	23.2	24.5	30.1	13.8	7	24.5	47.8	16.7	31.7	7	48.5	45.3	49.9	30.0