Electronic Supplementary Material (ESI) for

A Separation Voltage Polarity Switching Method for Higher Sample Loading Capacity and Better Separation Resolution in Transient Capillary Isotachophoresis Separation

Huanming Wu[†], Lian Yi[‡], Roza Wojcik[‡], Tujin Shi[‡], and Keqi Tang[#*]

†Faculty of Electrical Engineering and Computer Science, Ningbo University, Ningbo 315211, P. R. China

‡Biological Sciences Division, Pacific Northwest National Laboratory, Richland, Washington 99352, United States

#School of Material Science and Chemical Engineering, Ningbo University, Ningbo 315211, P. R. China

*Corresponding author: tangkeqi@nbu.edu.cn

The following supplementary tables and figure are included

Table S1. Repeatability of tCITP separation from five replicating experiments by using two selected peptides in 2 µM sample concentration and at 45% sample loading

Test Index	Area1	Area2	Begin Time1 (min)	End Time1 (min)	Begin Time2 (min)	End Time2 (min)	FWHM1 (min)	FWHM2 (min)	Center1 (min)	Center2 (min)	Difference of Migration Times (min)	Height1 (mAU)	Height2 (mAU)
1	0.111	0.107	14.183	14.393	14.570	14.803	0.079	0.101	14.246	14.616	0.370	1.360	1.033
2	0.109	0.106	14.244	14.446	14.608	14.843	0.077	0.100	14.289	14.654	0.365	1.363	1.032
3	0.110	0.106	14.222	14.432	14.589	14.810	0.077	0.099	14.282	14.639	0.357	1.381	1.047
4	0.110	0.109	14.211	14.416	14.563	14.816	0.075	0.098	14.263	14.611	0.348	1.418	1.066
5	0.108	0.102	14.228	14.418	14.576	14.783	0.074	0.095	14.278	14.621	0.343	1.408	1.043
STDEV.P (%)	0.1	0.3	2.0	1.8	1.6	1.9	0.2	0.2	1.5	1.6	1.0	2.3	1.2

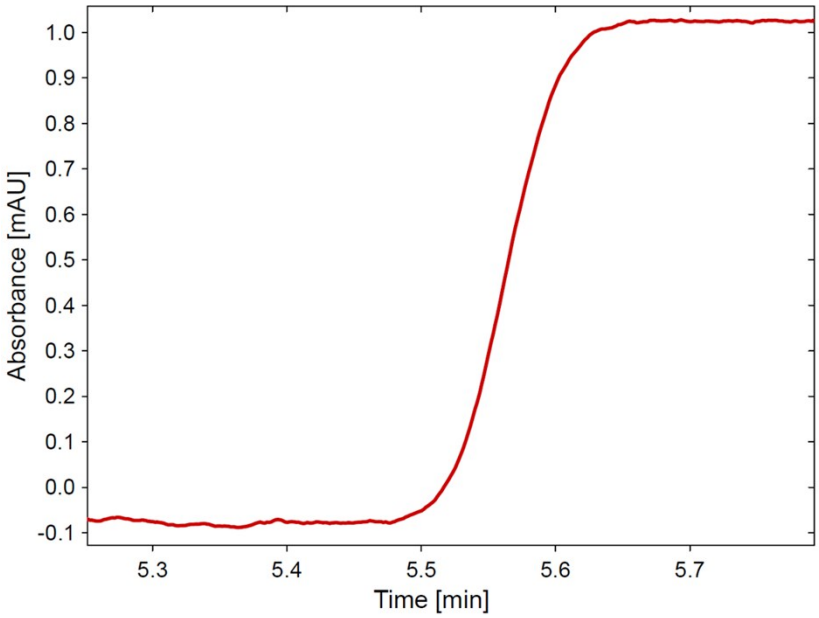

Figure S1. Sample flow rate measurement at 5 psi nitrogen pressure

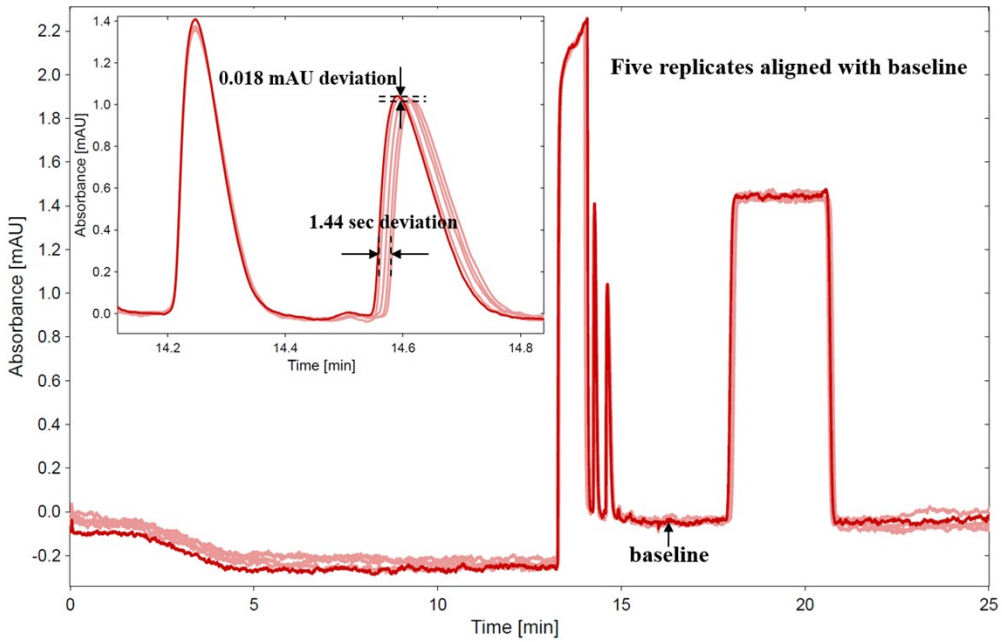

Figure S2. UV records from five replicates of tCITP separation for two peptides in 2 µM sample concentration and at 45% sample loading

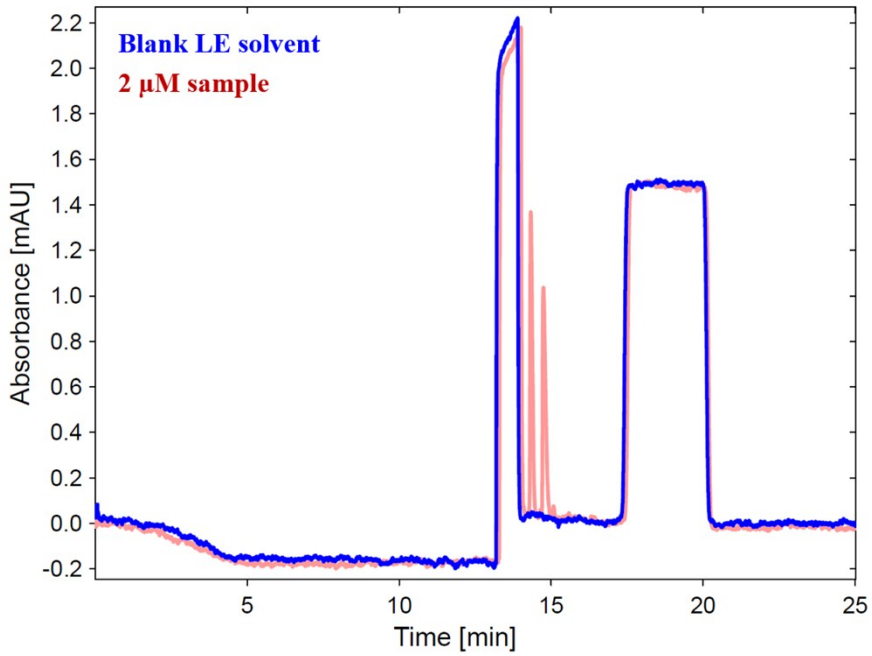

Figure S3. Comparison of the UV records from tCITP separations of the two peptides in 2 µM concentration and blank LE solvent

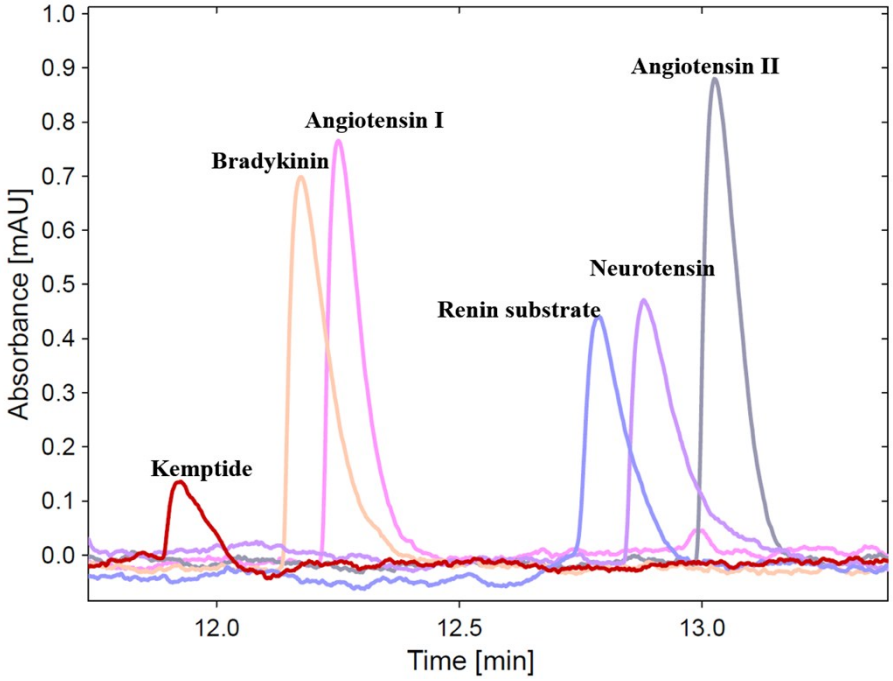

Figure S4. Six overlapped UV records of tCITP separations of individual peptide solution including Kemptide, bradykinin, angiotensin I, renin substrate, neurotensin and angiotensin II at 2 μM concentration

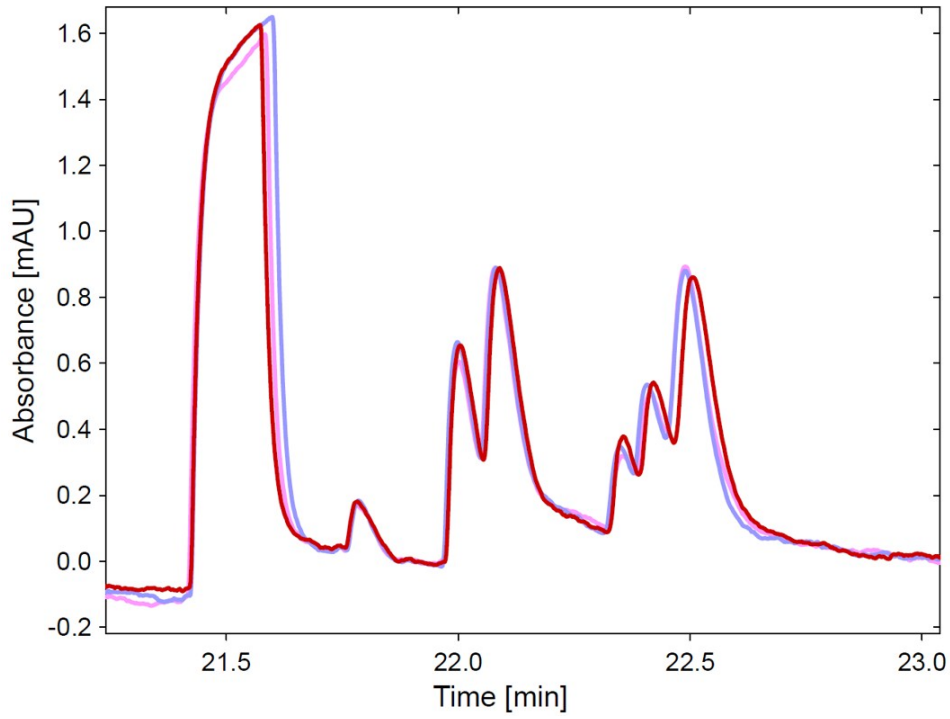

Figure S5. Three continuous PS-tCITP separations of the six selected peptides at 2 µM concentration and 50% sample loading