

Table S1 Retention times for the CEC separation of the N series on the FPPM column under different conditions. Errors are calculated from three replicate runs.

Mobile phase composition (ACN:water)	Separation Voltage (kV)	Retention time (minutes)				
		Thiourea (EOF marker)	N1	N2	N3	N4
65:35	5.0	10.03±0.30	19.95±0.74	25.8±1.0	51.7±2.6	122.7±7.1
	7.5	6.71±0.19	13.11±0.36	16.88±0.49	33.5±1.2	79.3±3.5
	10.0	4.92±0.07	10.09±0.96	13.2±1.6	26.6±5.3	64±15
	12.5	3.89±0.01	7.74±0.00	9.99±0.01	19.94±0.04	47.00±0.06
70:30	5.0	10.49±0.11	16.66±0.28	20.03±0.41	34.2±1.0	70.7±2.6
	7.5	7.04±0.02	11.50±0.02	13.94±0.02	24.22±0.05	50.76±0.16
	10.0	5.29±0.01	8.51±0.10	10.27±0.15	17.67±0.37	36.7±1.0
	12.5	4.24±0.01	6.87±0.01	8.29±0.02	14.32±0.04	29.81±0.09
	15.0	3.53±0.01	5.62±0.03	6.77±0.04	11.56±0.09	23.85±0.23
	20.0	2.67±0.04	4.22±0.05	5.07±0.06	8.59±0.09	17.61±0.16
	25.0	2.11±0.00	3.30±0.01	3.94±0.01	6.64±0.02	13.50±0.05
	30.0	1.76±0.02	2.75±0.03	3.28±0.03	5.48±0.07	11.06±0.21
75:25	5.0	9.22±0.01	12.93±0.01	14.83±0.01	22.52±0.01	41.34±0.07
	7.5	6.14±0.01	8.58±0.03	9.82±0.05	14.83±0.13	27.10±0.30
	10.0	4.60±0.00	6.40±0.00	7.32±0.00	11.01±0.00	20.01±0.02
	12.5	3.69±0.01	5.13±0.01	5.85±0.01	8.78±0.01	15.89±0.01
80:20	5.0	8.98±0.06	11.32±0.08	12.40±0.09	16.60±0.16	26.27±0.29
	7.5	6.05±0.14	7.59±0.14	8.31±0.16	11.10±0.21	17.50±0.31
	10.0	4.46±0.00	5.60±0.00	6.12±0.00	8.15±0.00	12.86±0.02
	12.5	3.57±0.00	4.48±0.00	4.89±0.00	6.51±0.01	10.23±0.01

Table S2 Capacity factors and resolutions for the CEC separation of the N series on the FPPM column under different conditions. Errors are calculated from three replicate runs.

Mobile phase composition (ACN:water)	Voltage (kV)	Capacity Factor				Resolution		
		k _{N1}	k _{N2}	k _{N3}	k _{N4}	R(N1/N2)	R(N2/N3)	R(N3/N4)
65:35	5.0	0.99±0.02	1.57±0.03	4.15±0.11	11.22±0.35	12.79±0.82	33.0±1.8	39.7±2.7
	7.5	0.96±0.01	1.52±0.01	4.00±0.05	10.81±0.22	12.96±0.54	32.3±1.8	34.6±6.9
	10.0	1.05±0.21	1.68±0.36	4.4±1.1	12.1±3.2	12.9±2.0	32.2±5.2	38.4±3.9
	12.5	0.99±0.00	1.57±0.01	4.13±0.02	11.08±0.04	12.99±0.07	32.6±1.7	34.2±1.1
70:30	5.0	0.59±0.02	0.91±0.03	2.26±0.09	5.74±0.23	8.47±0.21	24.62±0.40	32.7±2.3
	7.5	0.63±0.01	0.98±0.01	2.44±0.02	6.21±0.05	10.22±0.20	27.17±0.51	33.8±1.5
	10.0	0.61±0.02	0.94±0.02	2.34±0.06	5.94±0.18	9.87±0.40	27.12±0.64	34.5±1.3
	12.5	0.62±0.00	0.95±0.01	2.38±0.01	6.03±0.03	9.29±0.34	25.2±1.1	33.9±2.0
	15.0	0.60±0.00	0.92±0.01	2.28±0.02	5.77±0.05	9.28±0.26	24.51±0.86	32.0±1.2
	20.0	0.58±0.01	0.90±0.01	2.22±0.02	5.60±0.05	8.35±0.23	22.55±0.38	30.7±1.3
	25.0	0.56±0.00	0.87±0.00	2.15±0.00	5.40±0.01	7.19±0.26	19.23±0.93	25.5±1.0
	30.0	0.56±0.01	0.86±0.02	2.11±0.06	5.28±0.17	6.87±0.42	18.4±1.5	24.3±2.2
75:25	5.0	0.40±0.00	0.61±0.00	1.44±0.00	3.48±0.01	6.40±0.08	18.53±0.62	23.8±1.1
	7.5	0.40±0.00	0.60±0.01	1.42±0.02	3.41±0.04	7.18±0.04	20.40±0.16	23.2±2.7
	10.0	0.39±0.00	0.59±0.00	1.39±0.00	3.35±0.00	7.00±0.03	19.54±0.36	21.2±2.2
	12.5	0.39±0.00	0.58±0.00	1.38±0.00	3.30±0.00	6.73±0.09	18.65±0.42	23.26±0.25
80:20	5.0	0.26±0.00	0.38±0.00	0.85±0.01	1.92±0.01	4.42±0.06	13.74±0.18	19.4±2.2
	7.5	0.25±0.01	0.37±0.01	0.83±0.01	1.89±0.03	4.65±0.18	14.31±0.32	20.5±1.2
	10.0	0.26±0.00	0.37±0.00	0.83±0.00	1.89±0.00	4.80±0.06	14.21±0.24	16.5±3.0
	12.5	0.25±0.00	0.37±0.00	0.82±0.00	1.86±0.00	4.65±0.08	13.49±0.29	18.31±0.67

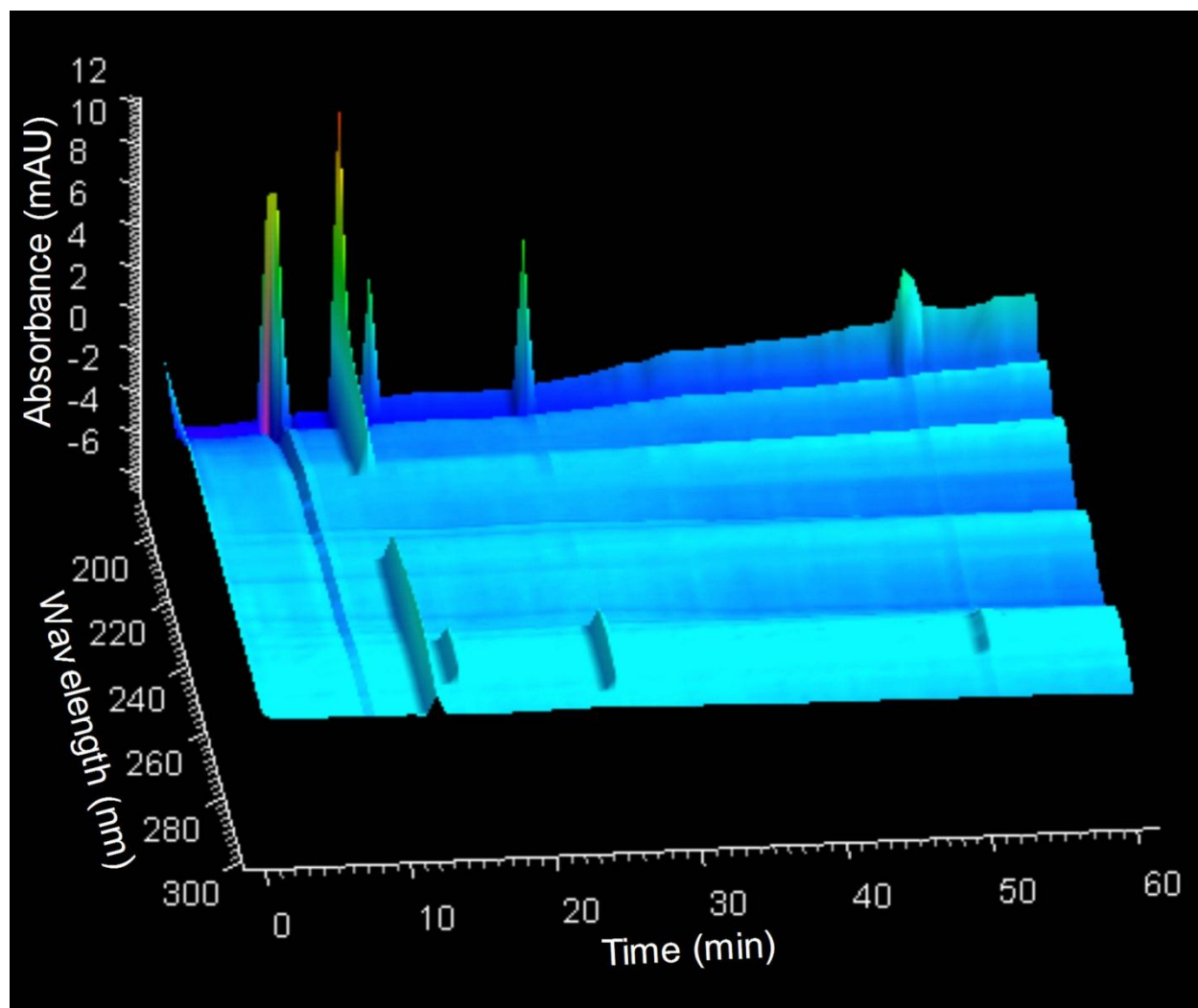


Figure S1 3D electrochromatogram showing the separation of thiourea and the N series of fluorous analytes over the wavelength range of 190-300 nm using a diode array detector. Applied voltage is 7.5 kV, mobile phase is 70:30 ACN:water.

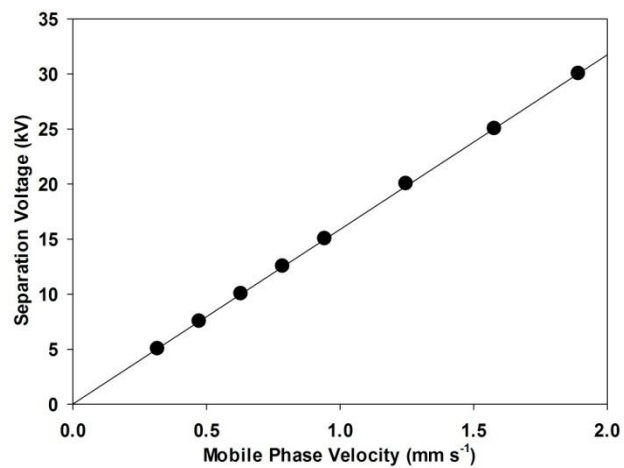


Figure S2 Mobile phase velocity over the separation voltage range 5-30 kV. Mobile phase is 70:30 ACN:water.

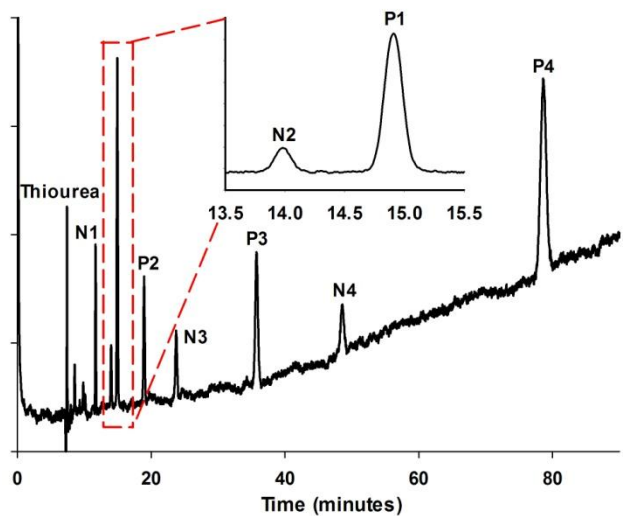


Figure S3 N- and P-series analytes separated by CEC on the FPPM column under separation voltage 7.5 kV, mobile phase 70:30 ACN:water showing improved resolution between N2 and P1. N-series concentration is 0.060 mg mL^{-1} , P series is 0.060 mg mL^{-1} , and thiourea is 0.007 mg mL^{-1} in buffer 70:30 ACN:water.

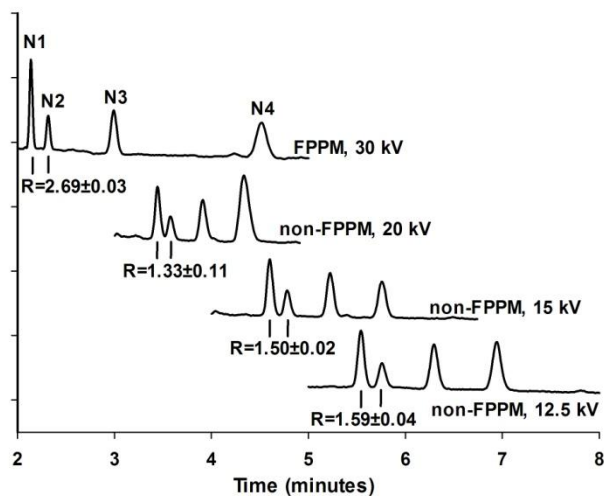


Figure S4 Electrochromatograms for the CEC separation of the N series on a FPPM column (top trace only) and a non-FPPM column in buffer 80:20 ACN:water showing poorer resolution on the non-FPPM column even with longer analysis times. Errors are calculated from three replicate runs.