Supplementary File

Table S1. Gradient condition for analyzing all 20 proteinogenic amino acids with IC.

Time (min)	Water (%)	250 mM NaOH (%)	1.0 M NaOAc (%)	Curve
0	80	20	0	5
2	80	20	0	5
12	80	20	0	5
16	68	32	0	8
24	36	24	40	8
40	36	24	40	8
40.1	0	24	76	5
65	0	24	76	5

Table S2. Analysis of variances for cell mass in Figure 1 (all AA).

		SS	DF	MS	F	Sig.
Ala	Between Groups	20.301	1	20.301	3089.831	0.000
	Within Groups	0.026	4	0.007		
	Total	20.328	5			
Arg	Between Groups	8.043	1	8.043	938.430	0.000
	Within Groups	0.034	4	0.009		
	Total	8.077	5			
Asn	Between Groups	9.762	1	9.762	72.068	0.001
	Within Groups	0.542	4	0.135		
	Total	10.304	5			
Asp	Between Groups	6.060	1	6.060	707.563	0.000
	Within Groups	0.034	4	0.009		
	Total	6.094	5			
Cys	Between Groups	7.459	1	7.459	1469.555	0.000
	Within Groups	0.020	4	0.005		
	Total	7.480	5			
Gln	Between Groups	4.172	1	4.172	318.265	0.000
	Within Groups	0.052	4	0.013		
	Total	4.225	5			
Glu	Between Groups	18.833	1	18.833	434.622	0.000
	Within Groups	0.173	4	0.043		
	Total	19.006	5			
Gly	Between Groups	0.053	1	0.053	37.384	0.004
	Within Groups	0.006	4	0.001		
	Total	0.059	5			
His	Between Groups	13.600	1	13.600	1856.915	0.000
	Within Groups	0.029	4	0.007		
	Total	13.629	5			
Ile	Between Groups	48.053	1	48.053	8563.972	0.000
	Within Groups	0.022	4	0.006		
	Total	48.076	5			

Leu	Between Groups	14.199	1	14.199	490.084	0.000
	Within Groups	0.116	4	0.029		
	Total	14.315	5			
Lys	Between Groups	14.581	1	14.581	8916.915	0.000
	Within Groups	0.007	4	0.002		
	Total	14.587	5			
Met	Between Groups	12.897	1	12.897	4467.172	0.000
	Within Groups	0.012	4	0.003		
	Total	12.908	5			
Phe	Between Groups	0.241	1	0.241	75.900	0.001
	Within Groups	0.013	4	0.003		
	Total	0.254	5			
Pro	Between Groups	46.037	1	46.037	555.200	0.000
	Within Groups	0.332	4	0.083		
	Total	46.369	5			
Ser	Between Groups	12.751	1	12.751	68.201	0.001
	Within Groups	0.748	4	0.187		
	Total	13.499	5			
Thr	Between Groups	4.245	1	4.245	1747.101	0.000
	Within Groups	0.010	4	0.002		
	Total	4.255	5			
Trp	Between Groups	8.043	1	8.043	712.327	0.000
	Within Groups	0.045	4	0.011		
	Total	8.088	5			
Tyr	Between Groups	2.445	1	2.445	124.348	0.000
	Within Groups	0.079	4	0.020		
	Total	2.523	5			
Val	Between Groups	30.480	1	30.480	491.292	0.000
	Within Groups	0.248	4	0.062		
	Total	30.728	5			

Note: degrees of freedom (DF), sum of squares (SS), mean square (MS), distribution of the ratio (F).

Table S3. Analysis of variances for cell mass in Figure 1 (Gly and Tyr).

	SS	DF	MS	F	Sig.
Between Groups	2.506	3	0.835	79.277	0.000
Within Groups	0.084	8	0.011		
Total	2.591	11			

Note: degrees of freedom (DF), sum of squares (SS), mean square (MS), distribution of the ratio (F).

Table S4. Analysis of variances for cell mass in Figure 1 (Met, His, Arg, Thr, Trp, Tyr, Lys and Leu).

	SS	DF	MS	F	Sig.
Between Groups	101.581	8	12.698	188.953	0.000
Within Groups	5.107	76	0.067		
Total	106.688	84			

Note: degrees of freedom (DF), sum of squares (SS), mean square (MS), distribution of the ratio (F).

Table S5. Analysis of variances in Figure 2.

		SS	DF	MS	F	Sig.
Cell mass	Between Groups	1.777	2	0.889	24.328	0.001
	Within Groups	0.219	6	0.037		
	Total	1.996	8			
Lipid content	Between Groups	11.721	2	5.861	12.376	0.007
	Within Groups	2.841	6	0.474		
	Total	14.562	8			
Proline utilization	Between Groups	862.001	2	431.001	83.904	0.000
	Within Groups	30.821	6	5.137		
	Total	892.822	8			

Note: degrees of freedom (DF), sum of squares (SS), mean square (MS), distribution of the ratio (F).

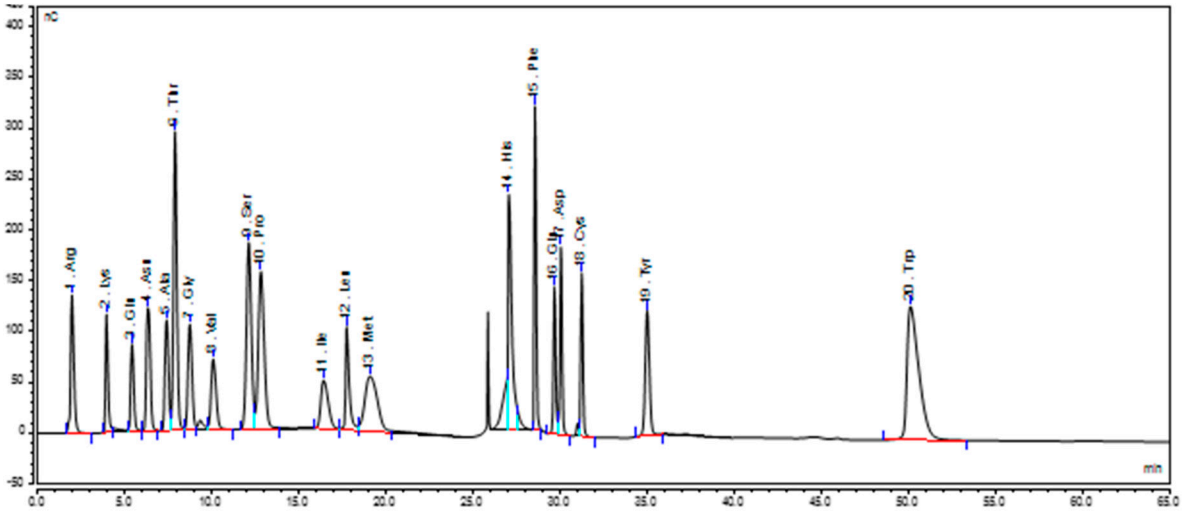

Figure S1. Chromatogram of standard mixture of all 20 proteinogenic amino acids (1. Arg, 2. Lys, 3. Gln, 4. Asn, 5. Ala, 6. Thr, 7. Gly, 8.Val, 9. Ser, 10. Pro, 11. Ile, 12. Leu, 13. Met, 14. His, 15. Phe, 16. Glu, 17. Asp, 18. Cys, 19. Tyr, 20. Trp).