



GUARANTEED CHEMISTRY

➔ 30-MINUTE AMINO ACID ANALYSIS OF HYDROLYZED SAMPLES

Pickering Laboratories specializes in the manufacturing of cation-exchange columns and eluants for amino acid analysis. No other technique has been shown to match the reproducibility and selectivity of ion-exchange analysis with post-column Ninhydrin detection. Nor is there a chromatography technique that provides as much information; the 570/440 nm signal ratio for each amino acid is a constant and so offers information about peak purity.

Pinnacle PCX post-column derivatization system provides a unique opportunity to combine eluant gradient capabilities of modern HPLC instruments with column temperature gradients. As might be expected, this capability also reduces the analysis time.

We introduce an accelerated Amino Acid analysis method for hydrolyzed samples that utilizes temperature and eluant gradients.

METHOD

Analytical Conditions

Column: High-efficiency Sodium cation-exchange column,
4.6 x 110 mm,
Catalog number 1154110T

Flow Rate: 0.6 mL/min

Mobile Phase: Na315, Na740, RG011

Post-Column Conditions

Post-Column System: Pinnacle PCX

Reactor Volume: 0.5 mL

Temperature: 130 °C

Reagent: Trione Ninhydrin reagent

Flow Rate: 0.3 mL/min

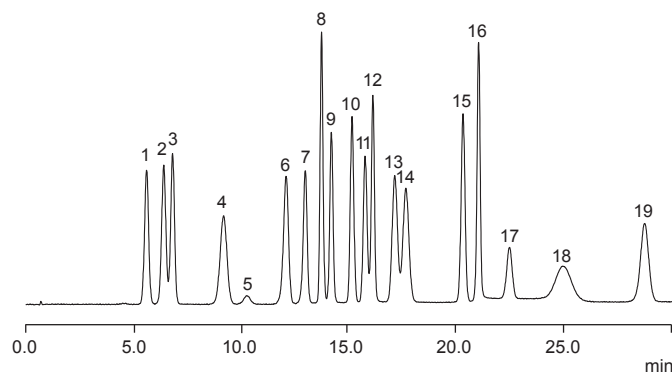
Detection: UV/VIS 570 nm for primary amino acids
440 nm for secondary amino acids

Runtime: 30 min

Equilibration Time: 9 min

COLUMN OVEN PROGRAM	
TIME	TEMP °C
0	46
3	46
10	55
22	70
27	70
28	46

HPLC PROGRAM			
TIME	Na315 %	Na740 %	RG011 %
0	100	0	0
7.3	100	0	0
15	53	47	0
15.1	0	100	0
28	0	100	0
28.1	0	0	100
30	0	0	100



Chromatogram of Protein Hydrolysate Standard

1	Aspartic Acid	8	Cystine	15	Lysine
2	Threonine	9	Valine	16	Histidine
3	Serine	10	Methionine	17	Ammonia
4	Glutamic Acid	11	Isoleucine	18	Tryptophan
5	Proline	12	Leucine	19	Arginine
6	Glycine	13	Tyrosine		
7	Alanine	14	Phenylalanine		