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Waters Application Notebook

930554

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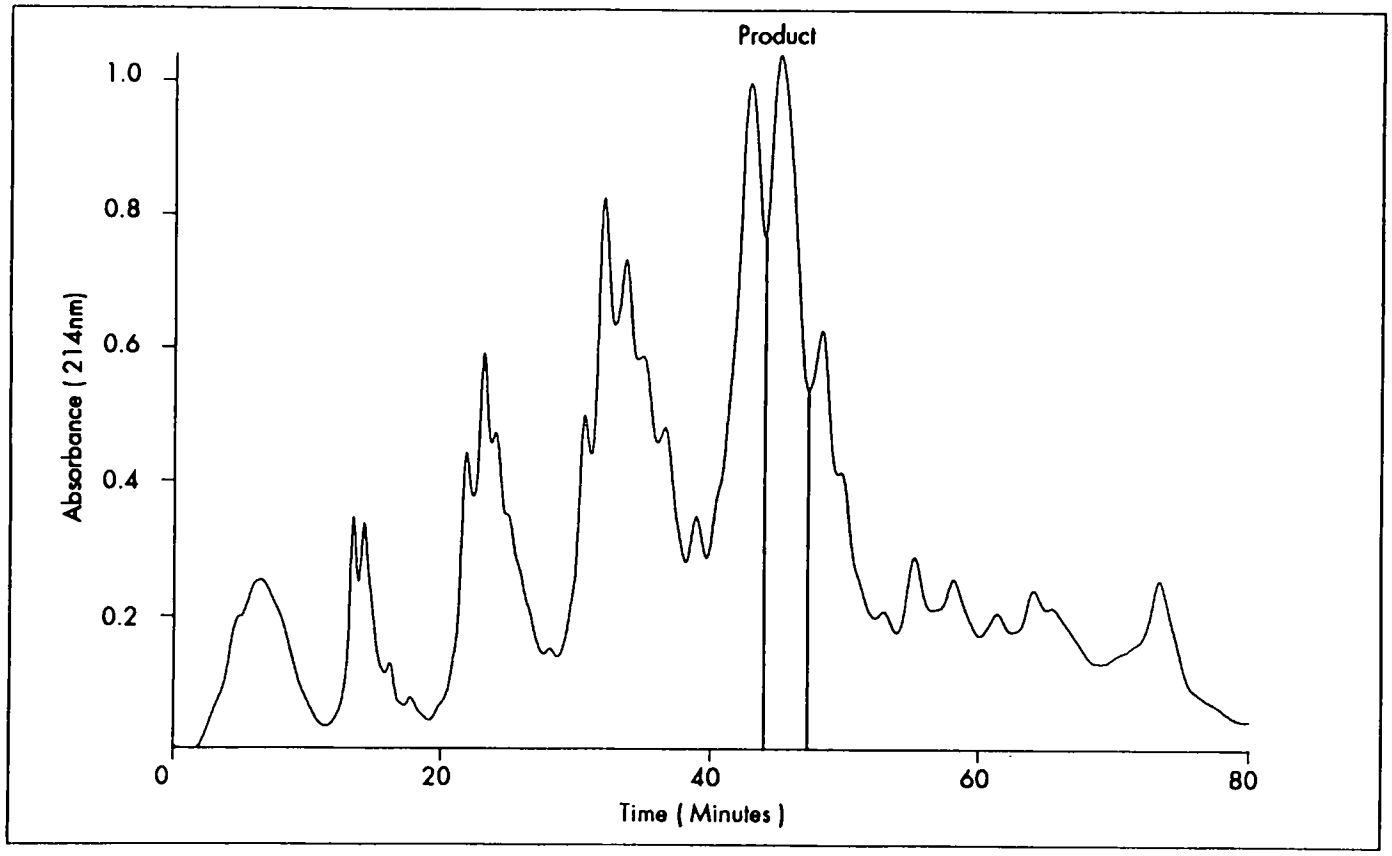
035

Cation Exchange Isolation of Synthetic Peptide



Conditions:

Sample: 100mg Synthetic H_2N-AGIAAKLAKDREAAEGLGSHC-COOH

Column: Protein-Pak™ SP 15HR, 20 x 200mm

Eluent: Eluent A: 200mM Sodium Phosphate
Eluent B: Acetonitrile
Eluent C: 1.0M Sodium Chloride
Eluent D: Water

Gradient:

Time	% A	% B	% C	% D
Init	10	20	0	70
78.5	10	20	45	25
88.5	10	20	70	0

Flow Rate: 8.0ml/min

Detection: 214nm

Injection Volume: 20ml

Sample Concentration: 5mg/ml

Sample Preparation: Dissolve in mobile phase

Peak ID's:

Objective:

Synthetic peptides are routinely isolated by reversed phase high performance liquid chromatography. However, complete resolution often requires extremely shallow gradients and small particle packing materials, that substantially increase the cost of the purification. Cation exchange chromatography uses less costly packings with a higher mass capacity and has an orthogonal selectivity to reversed phase. It is, therefore, useful to use this mode to simplify the sample and to reduce the total mass, before using reversed phase as the final purification step. Further, the reversed phase column is protected from irreversible degradation from exposure to the harsh reagents used in peptide synthesis and deblocking.

Details:

The orthogonal selectivity of cation exchange is a part improved peptide isolation protocols where column and solvent costs are reduced by over 50% without compromising throughput, convenience of recovery, or purity of the final product.

System:

DeltaPrep 4000, 486TUV (Semi-prep cell)

References:

P.M.Young, T.E.Wheat, J.Grant, and T.Kearney, LC•GC, 10, 726—731 (1991).