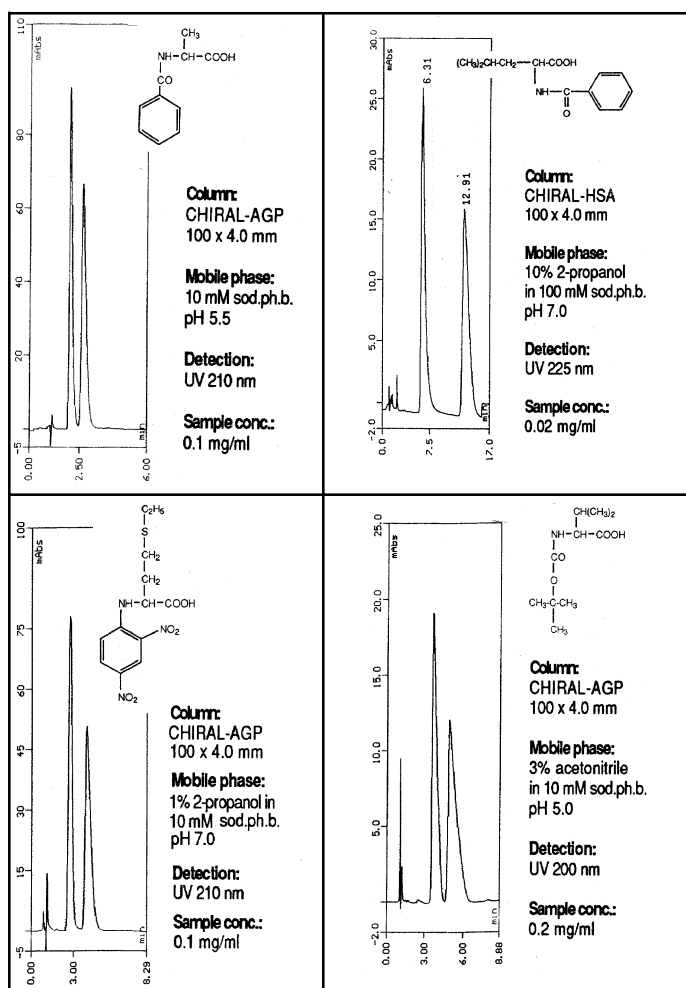


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Increasing request for methods for the resolution of amino acid derivatives

We have experienced an increasing request for methods for the resolution of different types of amino acid derivatives. A study has been performed to investigate the chromatography of these kind of compounds on the **CHIRAL-AGP** and **CHIRAL-HSA** columns. Both columns were found to be very useful for these separations. 15 different derivatives were investigated, all could be resolved on **CHIRAL-AGP** and 11 on **CHIRAL-HSA**. The mobile phases were 10 mM sodium phosphate buffers in the pH-range 5.0 - 7.0 containing different concentrations of 2- or 1-propanol. Below are some examples of the chromatograms obtained:



Enantioselective of amino acid derivatives on CHIRAL-AGP and CHIRAL-HSA

Derivative	AGP	HSA
	α (separation factor)	
DNP-Citrulline	1.66	3.36
DNP-Glutamic acid	1.68	2.83
DNP-Aminobutyric acid	3.24	2.79
DNP-Norvaline	3.20	1.61
DNP-Norleucine	3.77	2.92
DNP-Aminocaprylic acid	1.36	N.R.
DNP-Methionine	1.73	2.08
DNP-Ethionine	1.57	1.50
BOC-Alanine	1.37	N.R.
BOC-Valine	1.59	N.R.
BOC-Leucine	1.39	1.16
Benzoyl-Valine	4.25	1.32
Benzoyl-Leucine	4.06	1.94
Dansyl-Valine	1.27	2.29
Dansyl-Leucine	1.24	N.R.

N.R. = Not Resolved

Influence of pH and organic modifiers

The influence of the pH (5.0-7.0) on retention and enantioselectivity was investigated for DNP-norvaline on **CHIRAL-AGP**. Retention decreased with increasing pH. Enantioselectivity was almost unaffected up to pH 6.5, however at pH 7.0 there was no resolution at all.

The influence of the 2-propanol concentration on the enantioselectivity for DNP-norleucine and DNP-aminocaprylic acid was also investigated on **CHIRAL-AGP**. DNP-norleucine showed an increase in enantioselectivity up to 2.5% then it decreased, while it was almost unaffected for DNP-aminocaprylic acid.

More organic modifier had to be added to the mobile phase on the **CHIRAL-HSA** column compared to the **CHIRAL-AGP** column, in order to be able to elute the solutes.

This investigation has been presented as a poster. If you want a copy of the poster, please send an email.