

APPLICATION NOTE

YMC
EUROPE GMBH

YMC-Triart C18: Amino acids with 100% aqueous mobile phase

For analysis of very polar compounds the option to work with 100% aqueous mobile phases is required. Only in the absence of added organic eluents can reasonable retention times be achieved as in the example of amino acid separation.

The proven aqueous stability of YMC-Triart C18 is a clear benefit when analysing polar target molecules!

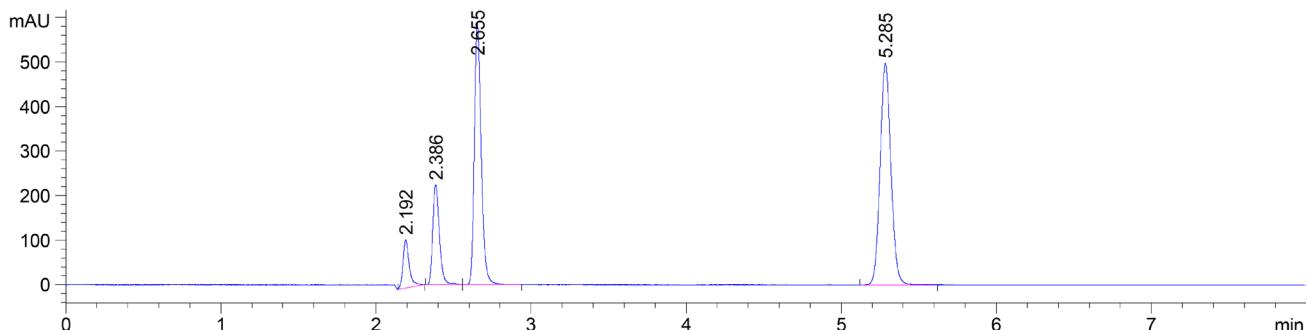


Figure 1: Separation of L-aspartic acid, L-arginine, L-histidine, L-methionine on YMC-Triart C18

Table 1: Method details

Column	YMC-Triart C18 1.9 µm, 150 x 3 mm ID
Part No.	TA12SP9-1503PT
Eluent	Isocratic 40 mM potassium phosphate pH 7.0
Flow rate	0.3 mL/min
Temperature	20°C
Detection	UV at 210 nm
Injection	2 µL, 1 mg/mL each

Table 2: Amino acids analysed

Retention time	Analyte	Structure
2.2 min	L-aspartic acid	The chemical structure of L-aspartic acid shows a central alpha-carbon atom bonded to a carboxyl group (-C(=O)OH) at the top, an amino group (-NH2) on the left, a methylene group (-CH2-) in the middle, and another carboxyl group (-C(=O)OH) at the bottom.
2.4 min	L-arginine	The chemical structure of L-arginine shows a central alpha-carbon atom bonded to an amide group (-CONHNH2) at the top, an amino group (-NH2) on the left, a methylene group (-CH2-) in the middle, and a carboxyl group (-C(=O)OH) at the bottom.
2.7 min	L-histidine	The chemical structure of L-histidine shows a central alpha-carbon atom bonded to an amide group (-CONHNH2) at the top, an amino group (-NH2) on the left, a methylene group (-CH2-) in the middle, and a carboxyl group (-C(=O)OH) at the bottom.
5.3 min	L-methionine	The chemical structure of L-methionine shows a central alpha-carbon atom bonded to a methylsulfhydryl group (-CH2-SCH3) at the top, an amino group (-NH2) on the left, a methylene group (-CH2-) in the middle, and a carboxyl group (-C(=O)OH) at the bottom.

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