



Rapid HPLC analysis of Amoxicillin and Ampicillin with YMC-Triart C18 ExRS

Amoxicillin and ampicillin are aminopenicillins that belong to the class of broad-spectrum antibiotics. The chemical modification of these penicillins enhances their efficacy, enabling effective treatment for a wide range of bacterial infections. Recognised as indispensable, both are listed on the World Health

Organization's Essential Medicines List, affirming their critical role within robust health systems. The resulting elevated demand for these antibiotics requires analytical methods that combine precision, speed, and reliability, ensuring consistent supply and uncompromised quality.



This Application Note represents a rapid HPLC method for analysing amoxicillin and ampicillin in under 2 minutes. The unique YMC-Triart C18 ExRS column, engineered with an exceptionally hydrophobic surface, ensures

precise separation of structurally similar compounds, including those differing by a single methyl or hydroxyl group.

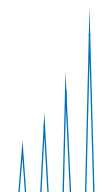




Table 1: Chromatographic conditions.

Column:	YMC-Triart C18 ExRS (8 nm, 5 μ m) 150 x 4.6 mm ID
Part No.:	TAR08S05-1546WT
Eluent:	50 mM sodium phosphate buffer (pH 4)/acetonitrile (82/18)
Flowrate:	1.0 mL/min
Temperature:	25 °C
Injection:	5 μ L
Sample:	amoxicillin, ampicillin (each 0.25 mg/mL in acetonitrile/water (50/50))
Detection:	UV at 220nm

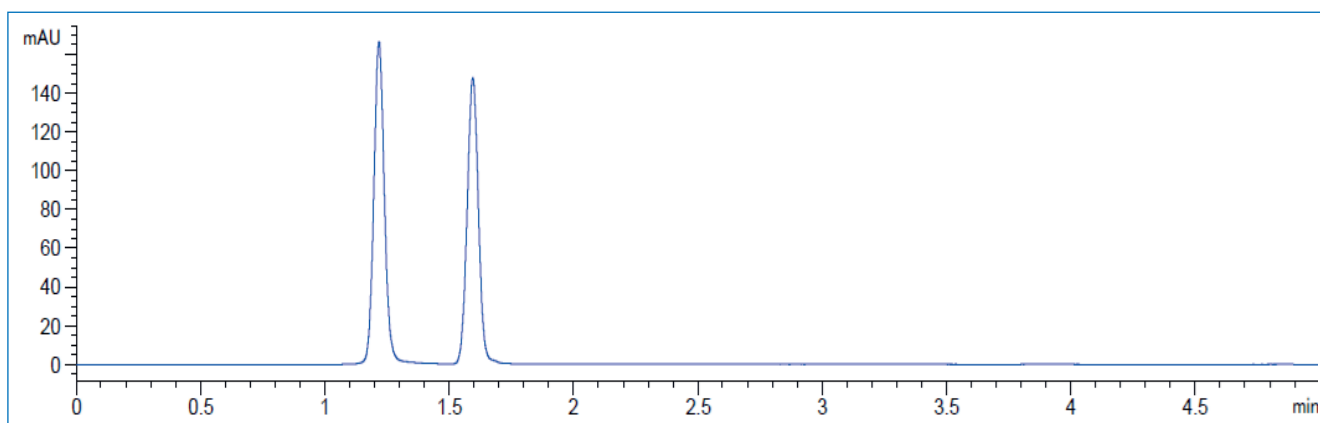


Figure 1: Analysis of amoxicillin and ampicillin.

Table 2: Calculated retention time, tailing factor and resolution of amoxicillin and ampicillin.

Peak	RT [min]	T _f	Resolution
1. Amoxicillin	1.22	1.09	
2. Ampicillin	1.56	1.03	4.8

