

LC/MS Analysis of Vitamin B12

Instrument: [Agilent 6520 Accurate-Mass Q-TOF LC/MS system](#)

Experimental Conditions:

LC Conditions:

LC System:	Waters Alliance® HT Separations Module			
Column:	Waters Atlantis C ₁₈ 2.1 x 150 mm, 3.5 µm			
Flow Rate:	0.2 mL/minute			
Mobile Phase:	Acetonitrile (A) Water (B)			
Gradient:	Time (min)	A%	B%	Curve
	0	0	100	1
	1	0	100	1
	8	40	60	6
	10	60	40	6
	11	0	100	11

Injection Volume: 10 µL

MS Conditions:

Mass Spectrometer:	Waters Micromass ZQ 4000 Mass Spectrometer
Ion Mode:	ESI+
Capillary Voltage:	3.5 kv
Cone Voltage:	80 v
Source Temperature:	105 °C
Desolvation Temperature:	180 °C
Desolvation Gas Flow:	365 L/Hour
Cone Gas Flow:	50 L/Hour
Inter Channel Delay:	0.02 s
Inter Scan Delay:	0.02 s
Dwell Time:	0.08 s



Spectralab

Scientific Incorporation

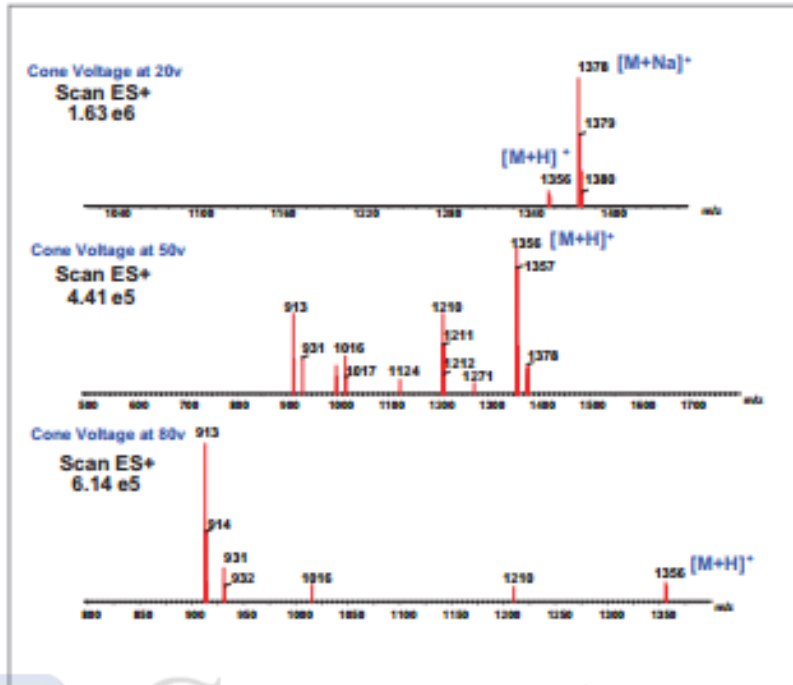


Figure 1. Full scan MS spectra for Vitamin B₁₂ at different cone voltages.

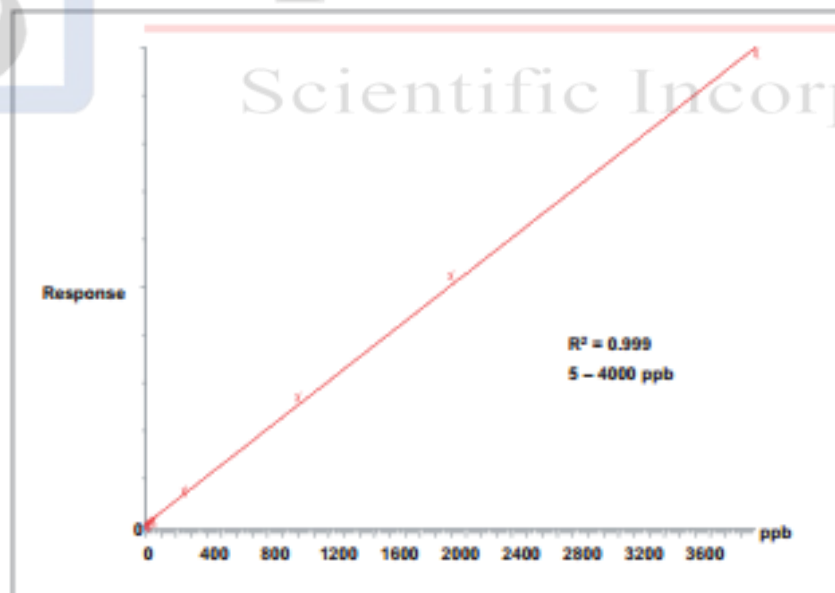


Figure 2. Calibration curve of Vitamin B₁₂.

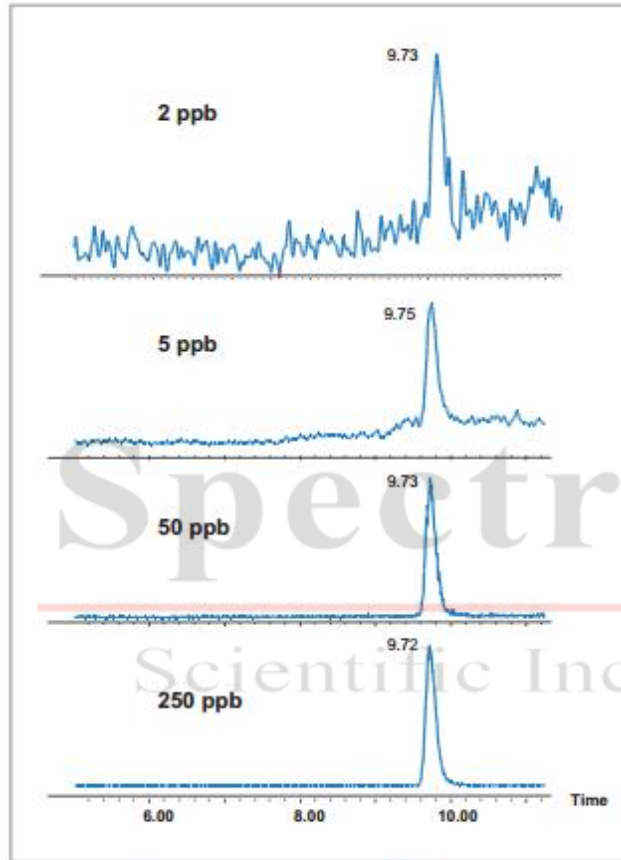


Figure 3. SIR chromatograms of Vitamin B₁₂ at m/z 913.

Reference:

1. <http://www.waters.com/webassets/cms/library/docs/720000758en.pdf>
2. Hongjian Jiang, Zhao Gui Ping, and Kate Yu, Waters China Limited, Beijing, China, Waters Corporation, Milford, MA