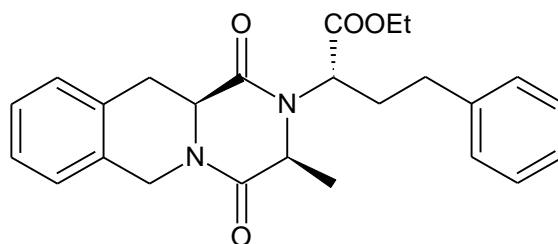


Certificate of Analysis

Structure:



Name	quinapril diketopiperazine
Synonym(s)	ethyl (2 <i>S</i>)-2-((3 <i>S</i> ,11 <i>aS</i>)-3-methyl-1,4-dioxo-1,3,4,6,11,11 <i>a</i> -hexahydro-2 <i>H</i> -pyrazino(1,2- <i>b</i>)isoquinolin-2-yl)-4-phenylbutanoate
Epichem Item #	EPL-AA135 Batch 1
CAS #	103733-49-9
Molecular Formula	C ₂₅ H ₂₈ N ₂ O ₄
Molecular Weight	420.51 g/mol
Purity	99.5% (weight/weight) 100.0% by HPLC at 220nm (assuming all components detected with the same response factor). No significant impurities detected by ¹ H NMR analysis. 0.3% water by Karl Fischer method. 0.2% ash.
Combustion Analysis	Required (%): C:71.4; H:6.7; N:6.7. Found (%): C:71.3; H:6.8; N:6.8.
Appearance	Colourless microcrystals
Melting Point	123.5-125.0°C
Date of Manufacture	22 April 2013
Storage Requirements	Protect from heat, light and moisture
Special Precautions	This compound is for laboratory use only. Its toxicological properties may not have been fully established. It should be handled only by suitably qualified personnel.

Wayne Best, PhD
Managing Director
27 May 2013