Operating Instruction Sheet
Q-Shell

Column Description

Product Type:	Analytical columns for both HPLC and SFC operations
Chiral Selectors:	O-9 (*tert*-butyl carbamoyl) quinine was covalently bonded on 2.7 μm superficially porous particles (SPPs)
Hardware:	Idex® (Isobar) with 2 micron (inlet) and 1 micron (outlet) frits
Dimensions:	Available in 5/10/15 cm length with 2.1/3.0/4.6 mm I.D.

QC Test Conditions

Sample:	F-MOC Methionine (2 mg/mL in methanol)
Mobile Phase:	100/0.5/0.13 (v/v/wt%) Methanol/FA/ammonium formate
Temperature:	Ambient (23 °C)
Injection Volume:	0.1-0.8 µL
Detection:	UV 254 nm

Operation Parameters

Flow Direction:	Indicated by column label
Max Pressure:	400 bar for 4.6 mm I.D. columns 500 bar for 3.0 mm/2.1 mm I.D. columns
Max Flow Rate:	Within pressure limits, there is no limit on the flow rate
Safe pH Range:	Buffer solution: pH 2.0-7.0
Temperature:	5-45 °C (allow step-wise increase/decrease @1 °C /min)

Mobile Phase Solvents

These CSPs can be used in any type of organic solvents without any issue. Allow at least 10-20 column volumes of conditioning time before injection.

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Screening Mobile Phases

Polar Ionic Mode:	100/0.4/0.1 (v/v/wt%) MeOH/FA/ammonium formate or 100/0.4/0.1 MeOH/formic acid (FA)/triethylamine (TEA)
Polar Organic:	40/60/0.4/0.1 ACN/MeOH/FA/TEA
Reversed Phase:	80/20 MeOH/50 mM ammonium formate (pH 3) buffer

Optimizations

Polar Ionic Mode:	Change concentration of salts between 0.05 wt% and 1 wt% Change ratio of FA/ammonium formate between 5/1 and 1/1 Change different ammonium salts: Use ammonium acetate or ammonium trifluoroacetate
Polar Organic:	Change ACN/MeOH ratio Change AA/TEA ratio from 5/1 to 2/1
Reversed Phase:	Change organic/buffer ratio Change different organic solvents Change pHs for acidic compounds Change different salts: Use ammonium formate or ammonium nitrate
Flow Rate:	Change the flow rate according to the retention time
Temperature:	Change the column temperatures between 5-45 °C
Storage	Pure MeOH or Ethanol is recommended for long term storage.
Regeneration	Flush the column with 50/50, ACN/50 mM NH_4OAc @ lower flow rates for at least 2 hours. Then flush with pure methanol.
Shipment	Each column has been QC-tested before shipping. The columns are stored in pure methanol.

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