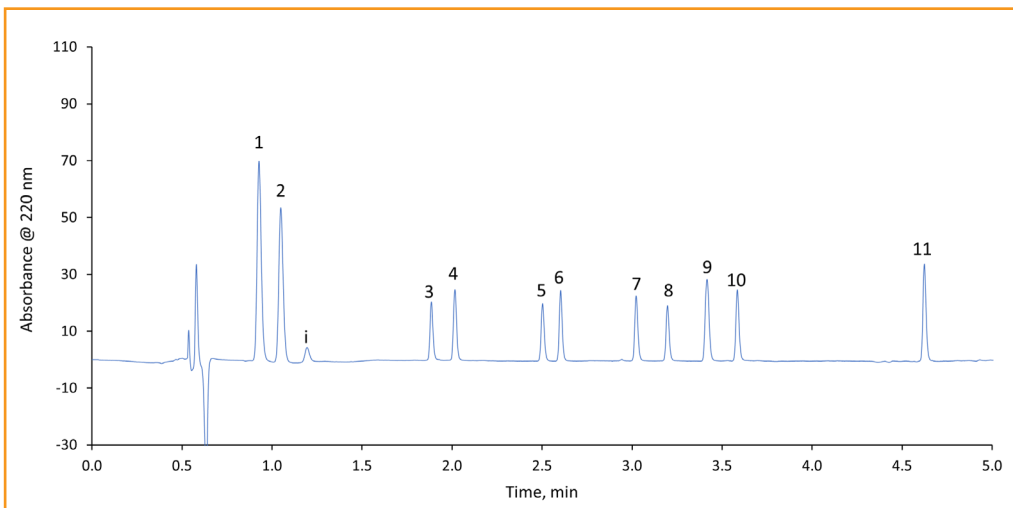




## Beta Blockers Separation on HALO® PCS C18

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### PEAK IDENTITIES:

1. Sotalol
  2. Atenolol
  3. Pindolol
  4. Nadolol
  5. Metoprolol
  6. Acebutolol
  7. Oxprenolol
  8. Bisoprolol
  9. Labetalol
  10. Propranolol
  11. Carvedilol
- i = impurity in bisoprolol

### TEST CONDITIONS:

Column: HALO 90 Å PCS C18, 2.7  $\mu$ m, 2.1 x 100 mm

Part Number: 92812-617

Mobile Phase: A: Water, 0.1% Formic Acid

B: Acetonitrile, 0.1% Formic Acid

#### Gradient Separation:

Time:	%B
0.00	3
5.00	36
6.50	100
7.50	100
8.00	3
12.00	3

Flow Rate: 0.4 mL/min

Back Pressure: 281 bar

Temperature: 30 °C

Injection: 1.0  $\mu$ L

Sample Solvent: 93/7 Water/ACN

Wavelength: PDA, 220 nm

Flow Cell: 1  $\mu$ L

Data Rate: 100 Hz

Response Time: 0.025 sec.

LC System: Shimadzu Nexera X2

Beta blockers are used for the treatment and/or prevention of heart and circulatory conditions, such as arrhythmias, heart attack, and high blood pressure. Eleven different beta blockers are separated in under 5 minutes using a HALO® PCS C18 column with UV detection and a mobile phase that is MS compatible. In order to avoid peak splitting of the early eluting compounds, the sample solvent is kept at 7% organic concentration to better match the starting organic composition of 3%.

