

Application Report 136

Resolution of Bilirubin and Biliverdin on Discovery® C18

Bilirubin is an abundant pigment and potent cellular antioxidant. It is likely regenerated from biliverdin and thus represents an important redox cycle.

Each of the sample analytes have contaminants. Their identity in the case of biliverdin is not known. The bilirubin main component is isomer IXa, while two other known contaminants are isomers IIIa and XIIIa.

The mobile phase is intentionally MS-compatible.

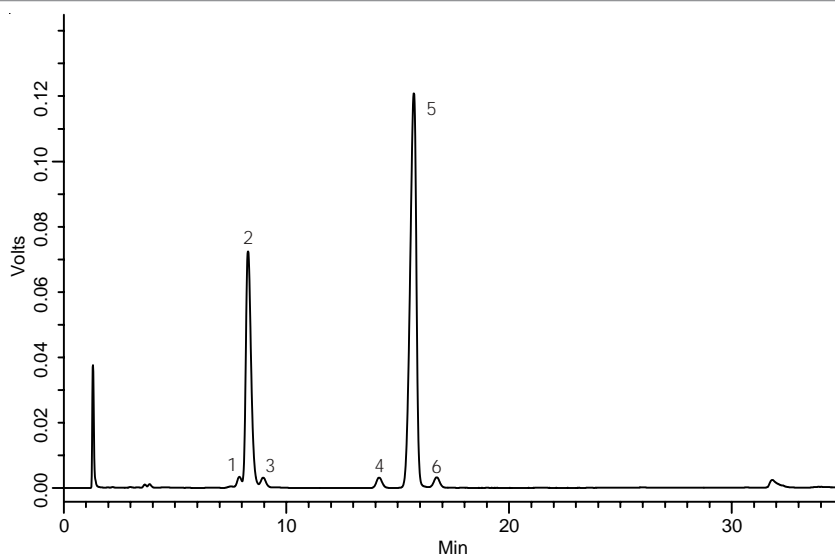
Author: Hillel Brandes

Acquisition System: Shimadzu LC-10AD System

Notebook Reference: 1527

Key Words

bilirubin, B4129, 635-65-4; biliverdin, 55482-27-4; porphyrin; Discovery C18, 569220-U



G002490

Conditions

Column: Discovery C18, 10cm x 2.1mm ID, 5µm particles
Cat. No.: 569220-U
Mobile Phase A: 10mM NH₄OAc, (pH unadjusted)
Mobile Phase B: 90:10, CH₃OH : (100mM NH₄OAc)
Gradient:

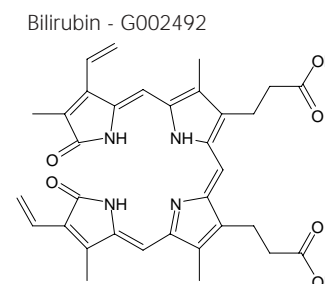
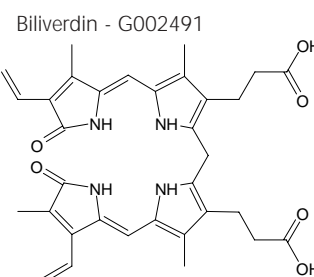
Min	%A	%B
0	40	60
20	20	80

Flow Rate: 0.2mL/min
Temp.: ambient
Det.: UV, 405nm
Inj.: 1µL
Sample: as indicated (in 50% CH₃OH, 1% NH₄OH)

Peak IDs

1. Biliverdin contaminant
2. Biliverdin (0.25g/L)
3. Biliverdin contaminant
4. Bilirubin contaminant
5. Bilirubin (0.25g/L)
6. Bilirubin contaminant

Structures



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