

Melatonin

Determination of Melatonin by μHPLC with a preconcentration step and Laser Induced Fluorescence Detection

Instruments:

HPLC pump: Agilent 1100 series + LC Packings Acurate™ Flow Splitter
Injector: Rheodyne Manual Injector model 7725i
Switching valve: Rheodyne two-Position Six-Port Type 70 model 7000
Detector: Picometrics ZETALIF detector
Laser: DPSS Laser 266 nm, 2 mW

Sample:

Melatonin diluted in water

Reagents:

None (Naturally fluorescent compound)

Methods:

A - Preconcentration

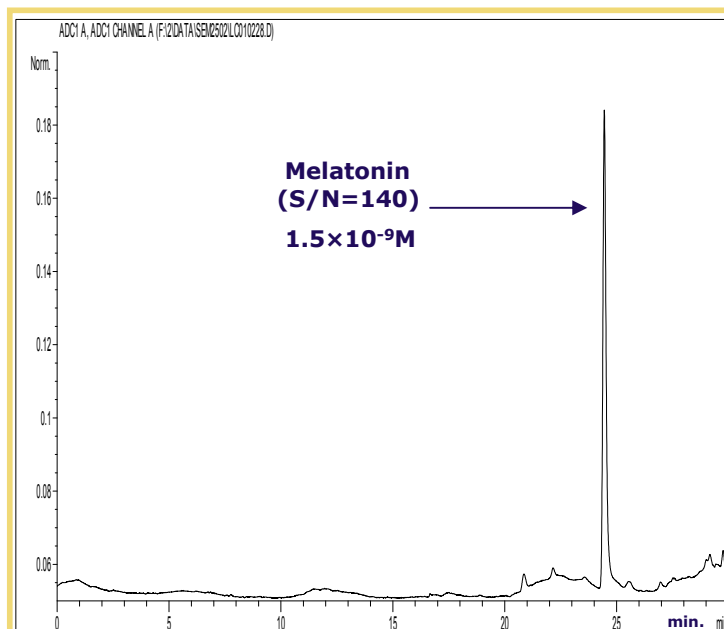
Mobile Phase: Acetonitrile/water
Injection volume: 100 μL
μ-Precolumn™: LC Packings C18, 5 μm, 100Å;
300 μm ID x 5 mm.
Flowrate: 200 μL/min
Preconcentration time: 2 min.

B - Analysis

Mobile Phase: Acetonitrile/water
Flowrate: 4 μL/min
Column: micro column LC Packings FUS 15-03-C18 Inertsil ODS-3, 3 μm; 300 μm ID x 15 cm
Detector Capillary: 75 μm ID

Limit of Detection*:
 $3.2 \times 10^{-11} M$

* Estimated for a S/N of 3



Source: Picometrics application lab. 06/2002.