Application Note
Reference ***AN 040-03A***

CE-LIF

410 nm
442 nm

γ-Carboxyglutamic Acid, Aspartate & Glutamate

Determination of γ-Carboxyglutamic Acid, Aspartate & Glutamate using Capillary Electrophoresis and Laser Induced Fluorescence Detection. Comparison of LOD for NDA derivatives after excitation at 410 or 442 nm.

Limit of Detection*:
5 x 10^{-10} M for Glu & Asp
6 x 10^{-9} M for γ-CGA

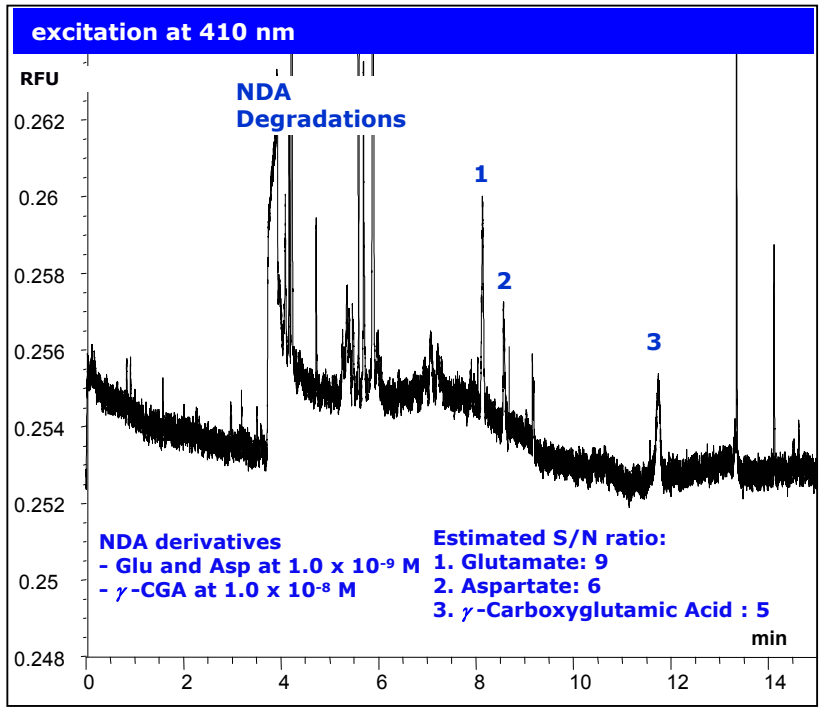
** Estimated for a S/N of 3*

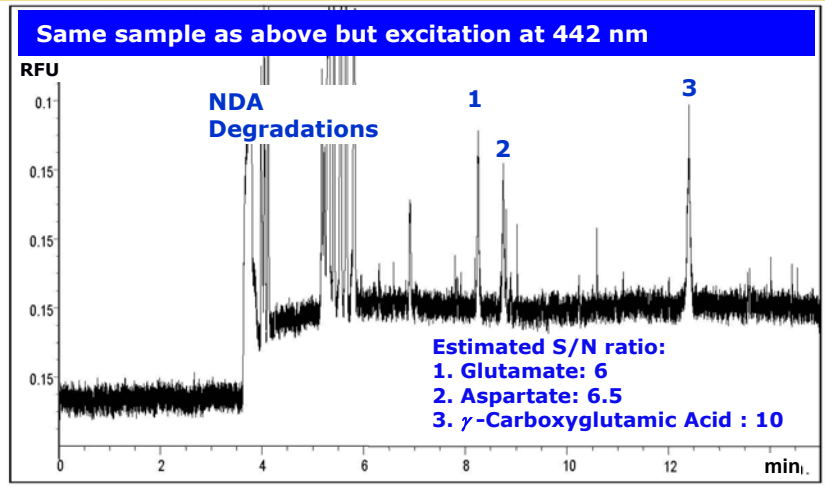
Instruments:
Capillary Electrophoresis: Agilent CE
Detector: Picometrics ZETALIF 2000 detector
Laser: Diode laser, 410 nm, 15 mW or
He-Cd laser, 442 nm, 40 mW

Sample:
Standard solution of γ-Carboxyglutamic Acid, Aspartate & Glutamate.

Reagents:
Derivatization agent: Naphthalene Dicarboxaldehyde (NDA)

Methods:
Capillary: 50 µm ID, 72 cm length (57 cm effective length), T = 25°C
Buffer: 100 mM borate pH=8.9
Voltage: 30 kV
Injection: 20 seconds at 50 mbar (27 nL injected)





➔ *The 410 nm diode Laser gives results equivalent to the ones obtained with excitation by a 442 nm HeCd gas Laser.*

Source: Picometrics application lab. 06/2003.

picometrics

more on ***www.picometrics.com***

10 Avenue de l'Europe - 31520 Ramonville – France . Tel.: +33.(0)5.61.28.56.84 . Fax: +33.(0)5.61.28.56.00 . Email: info@picometrics.com