

Separation of CO, N₂ & C₂H₄ (m/z 28) by using infiTOF

Introduction

Carbon monoxide (CO) is produced from the partial oxidation of carbon containing compounds. It is colorless, odorless, and tasteless, but highly toxic by preventing hemoglobin to carry oxygen to body tissues.

A mass spectrometer with high mass resolution is required when CO is analyzed, since Nitrogen (N₂) and Ethylene (C₂H₄) which have the same nominal mass of m/z 28 as CO, have to be separated.

Here, we demonstrate the feasibility of using the infiTOF for high-resolution CO analysis using CO, N₂ and C₂H₄ mixture gas.



infiTOF

Sample gas; Carbon monoxide(CO), Nitrogen(N₂) and Ethylene(C₂H₄) mixture gas

MS conditions; Ion source : EI(Pos), Ionization voltage : 70eV, Ion source Temperature : 250°C

Sample gas was introduced directly to the ion source through the fused silica capillary tube.

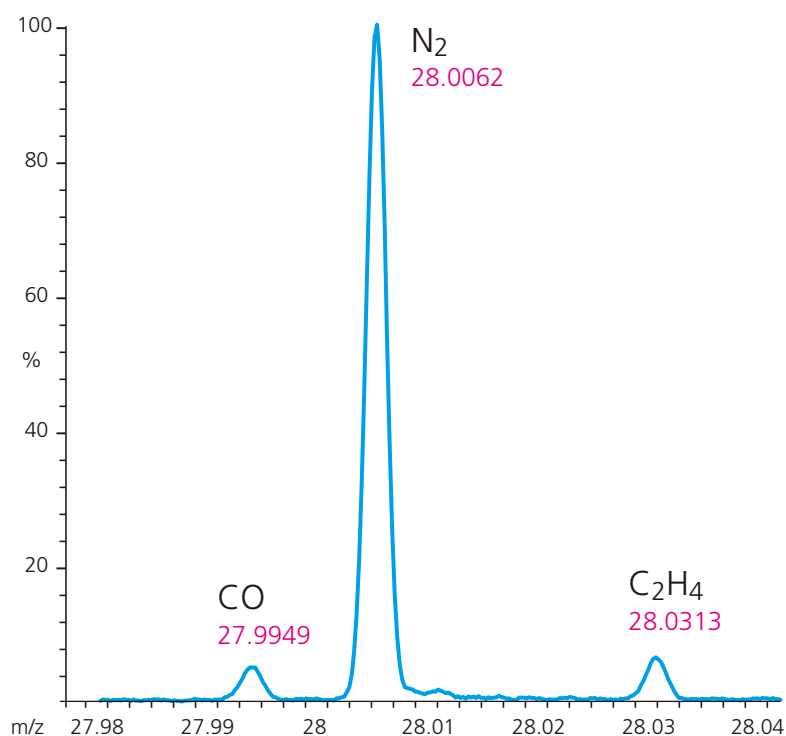


Fig. 1 Mass spectra of CO, N₂, C₂H₄

Conclusion

By using infiTOF, three peaks of CO, N₂ and C₂H₄ are completely separated.



Kanomax Analytical

KANOMAX COMPANY

Kanomax Analytical Incorporated

<Tokyo Head Office> 2-6-2 Hamamatsu-cho, Minato-ku, Tokyo 105-0013 JAPAN
TEL: +81-3-5733-6544 / FAX: +81-3-5733-6545

<Osaka Office> 2-1 Shimizu Suita-shi, Osaka 565-0805 JAPAN
TEL: +81-6-6877-0463 / FAX: +81-6-6879-2080

E-mail: analytical@kanomax.co.jp

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