

## Analysis of inorganic gas by GC-MS

Instrument: [Shimadzu GC/MS System](#)

Inorganic gas was analyzed using a Molecular Sieve 5A PLOT column.

Table 1 shows the analysis conditions.

Table 1 Analysis Conditions

GC-MS : GCMS-QP2010 Ultra

Column: RT®-Msieve 5A (30 m long, 0.32 mm I.D.,  $df = 30 \mu\text{m}$ ) (Note 1)

[GC]

Vaporization chamber temperature: 200 °C

Column oven temperature: 35 °C (2 min) → (10 °C / min) → 150 °C (5 min)

Injection mode: Split

Control mode: Pressure (100 kPa)

Carrier gas: Helium

Split ratio: 50

Sample injection: Gas sampler (1 mL loop volume) (Note 2)

[MS]

Interface temperature: 200 °C

Ion source temperature: 200 °C

Measurement mode: Scan ( $m/z$  10 to 100)

Event time: 0.5 sec

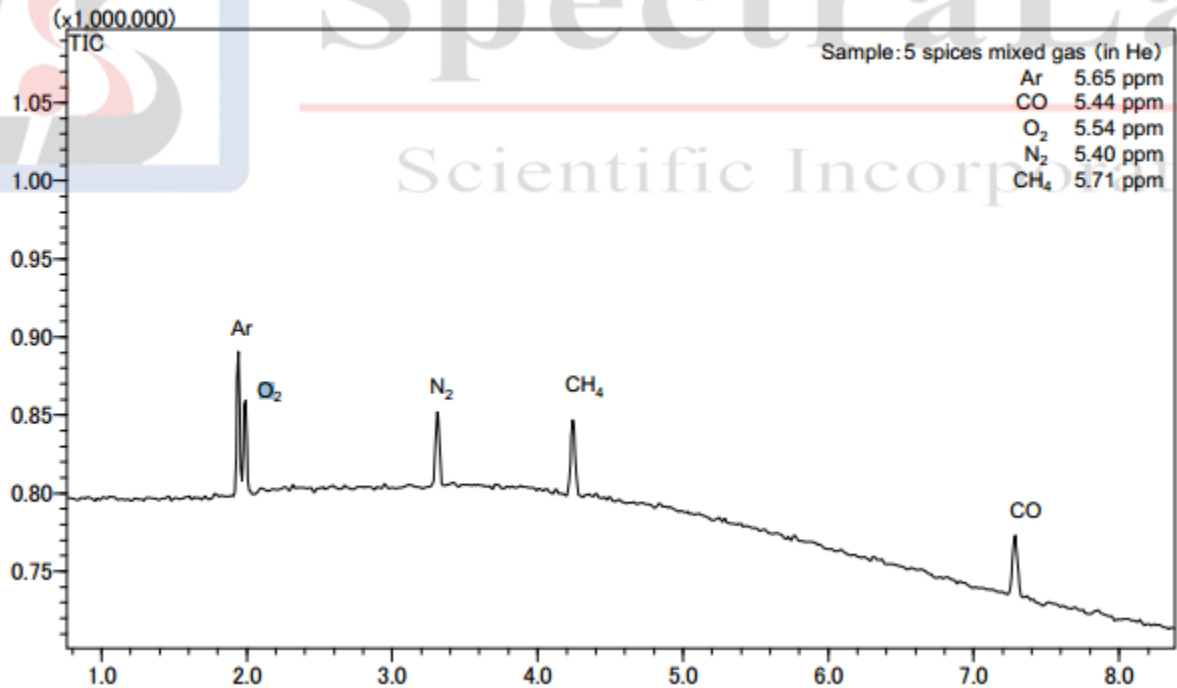
Ionization method: EI

Emission current: 150  $\mu\text{A}$

Note 1: It is recommended that an Rtx®-1 (5 m, 0.25 mm I.D.,  $df = 0.5 \mu\text{m}$ ) column be attached to the exit end (toward MS unit) of the column to trap particulates.

Note 2: Gas sampler P/N 223-57653-91

A total ion current chromatogram is shown in Figure 1. This allows confirming that target components are separated adequately.



Extracted ion chromatograms of respective components are shown in Figure 2.

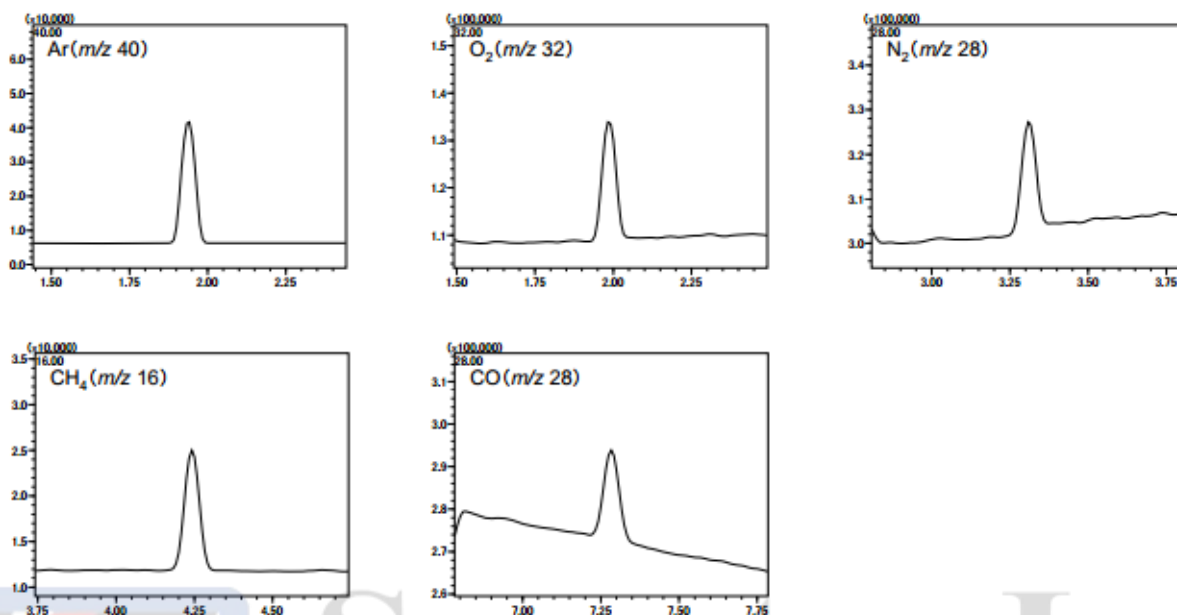
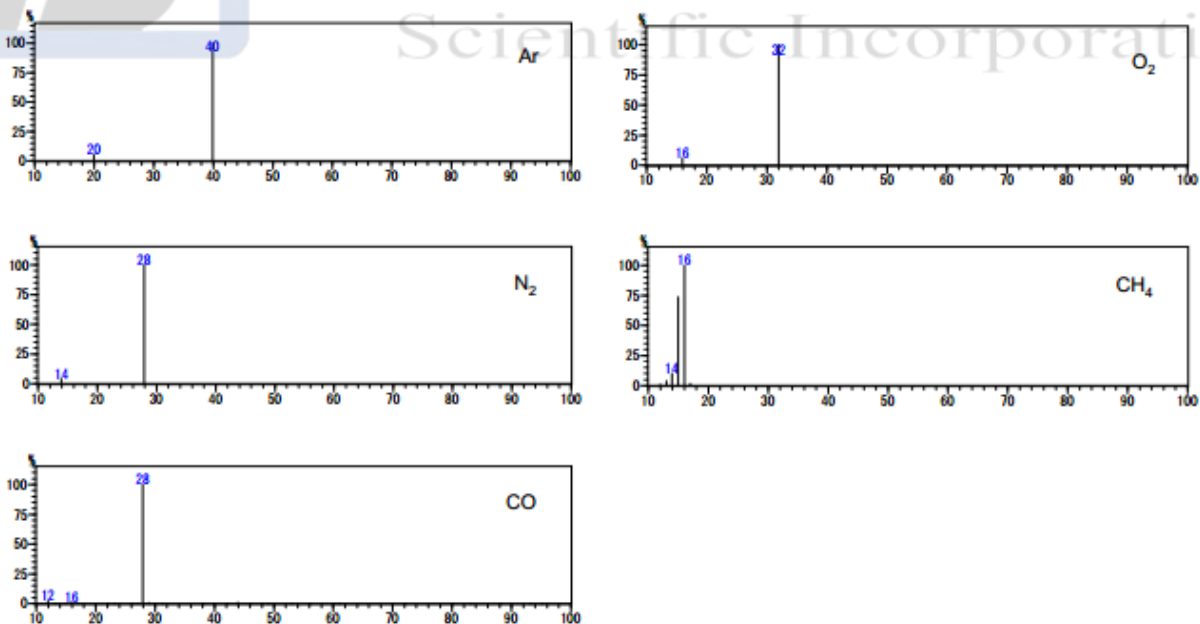


Fig. 2 Mass Chromatograms for Respective Components

Mass spectra for respective components are shown in Figure 3.



#### Reference:

<https://solutions.shimadzu.co.jp/an/s/en/gcms/jpo213119.pdf?return=http%3A%2F%2Fwww.shimadzu.com%2Fan%2Fliterature%2Fgcms%2Fjpo213119.html>