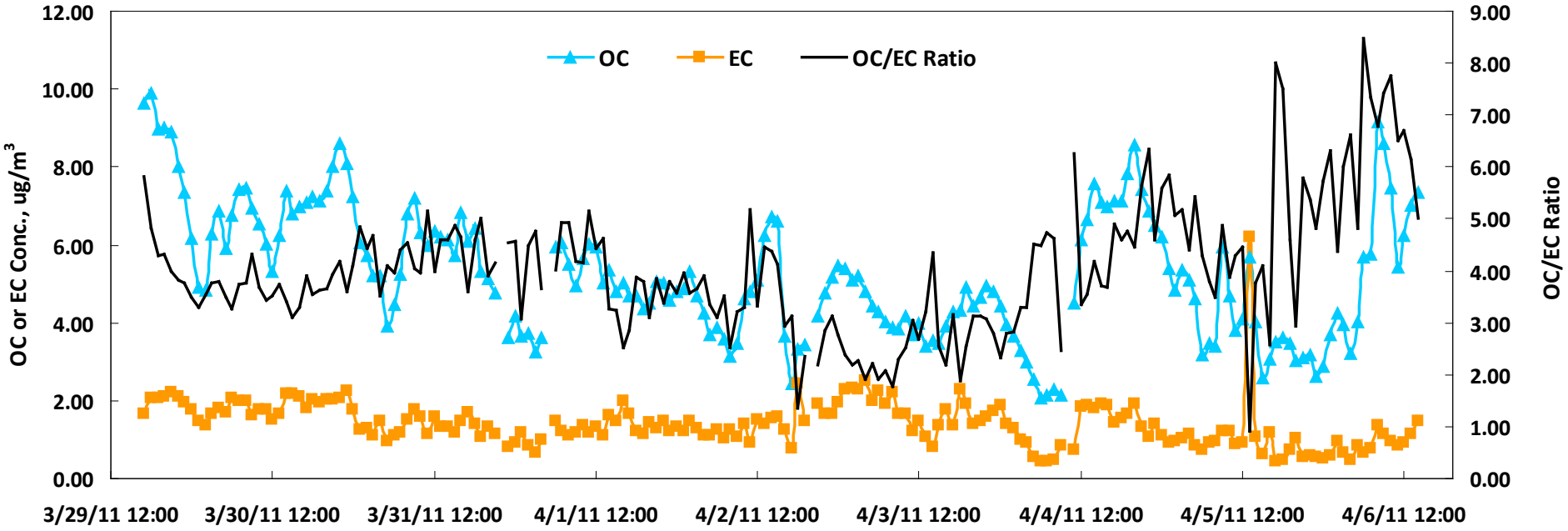
# Semi-Continuous OC-EC Field Analyzer

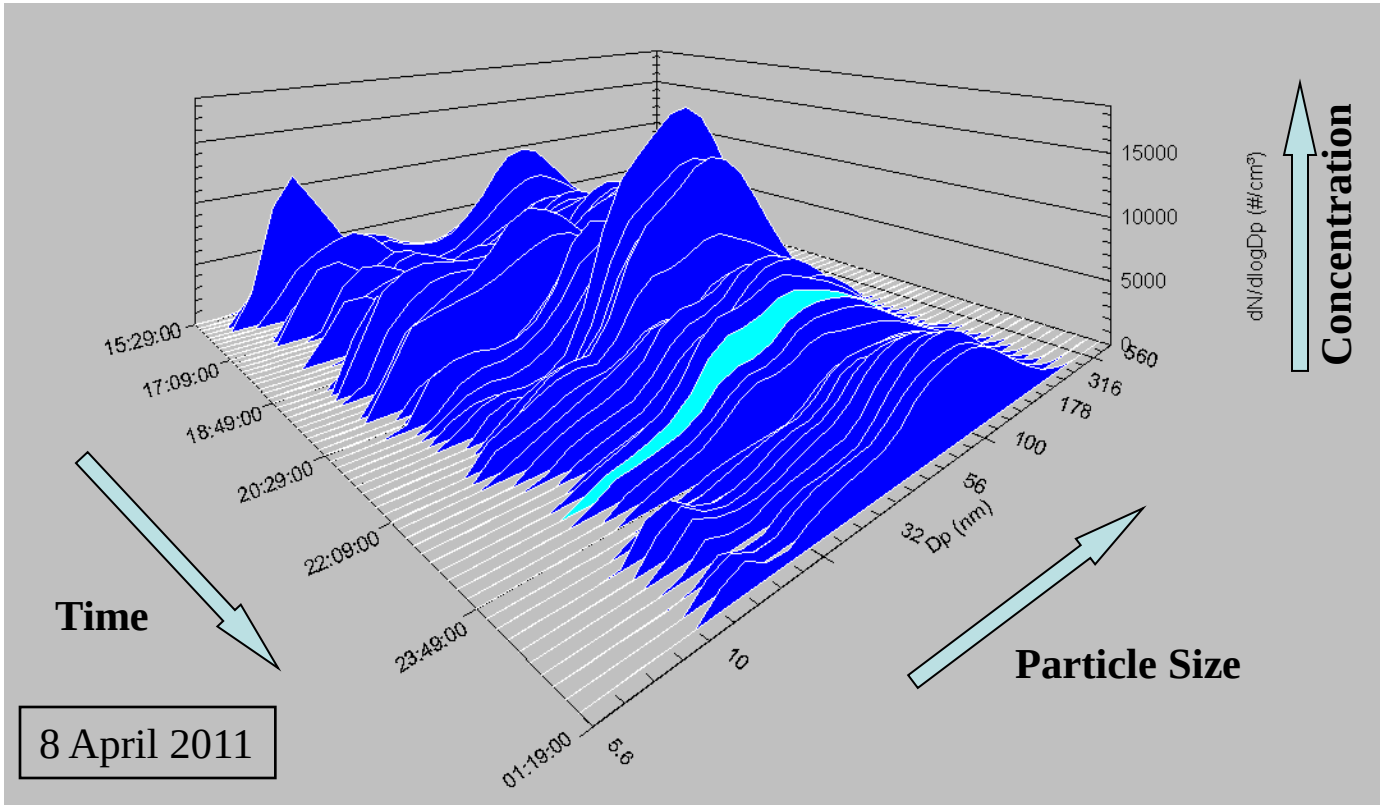
– To measure the levels of organic and elemental carbon in fine air particulates

Mar. 29 – Apr. 6 at HKUST Air Quality Research Supersite



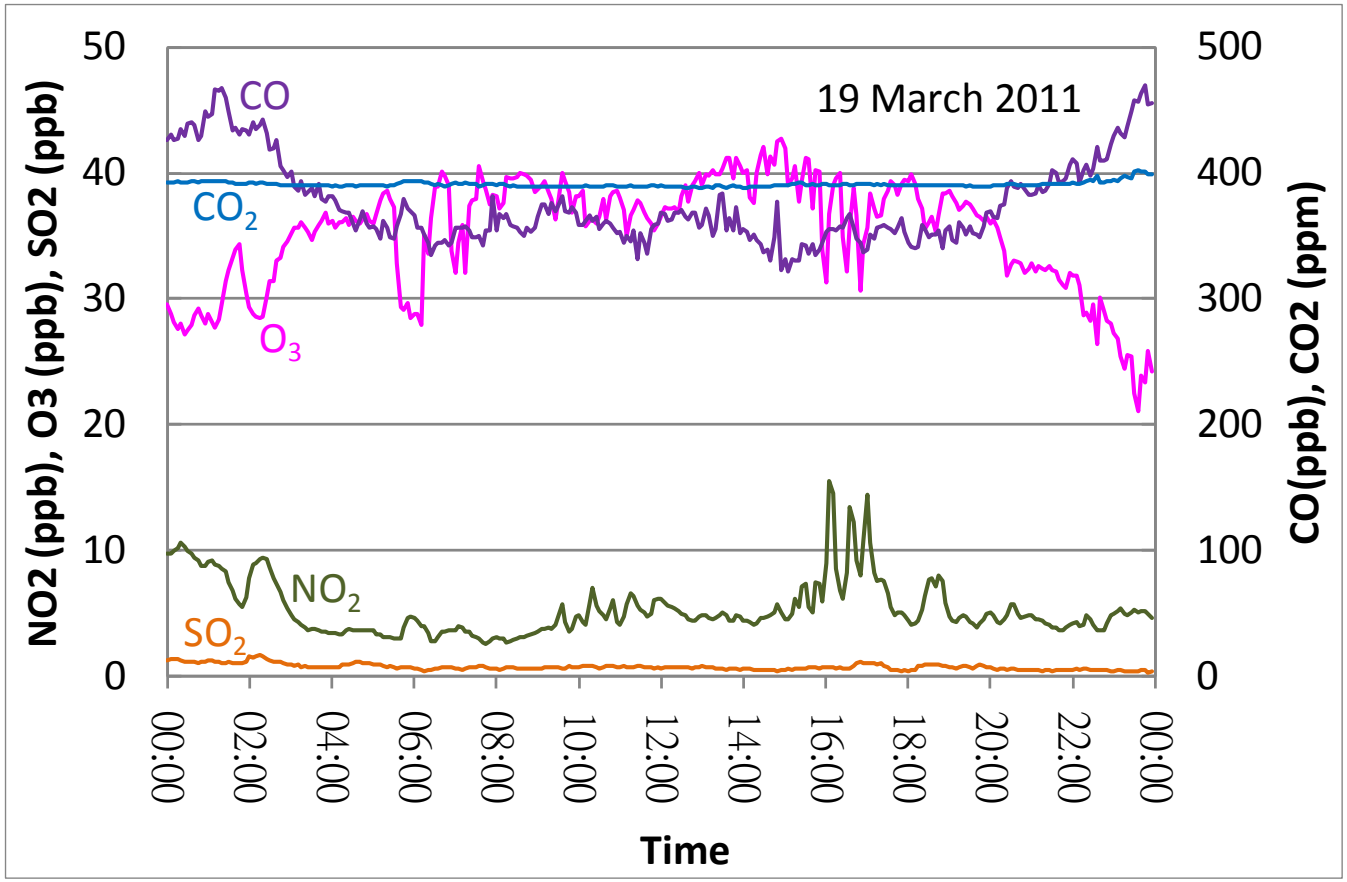
# Fast Mobility Particle Sizer

– **To measure the <u>number size distribution</u> of fine particles in air**



# Gas Analyzer System

– **To measure the concentration of CO, $CO_2$, $NO_2$, $O_3$ and $SO_2$**



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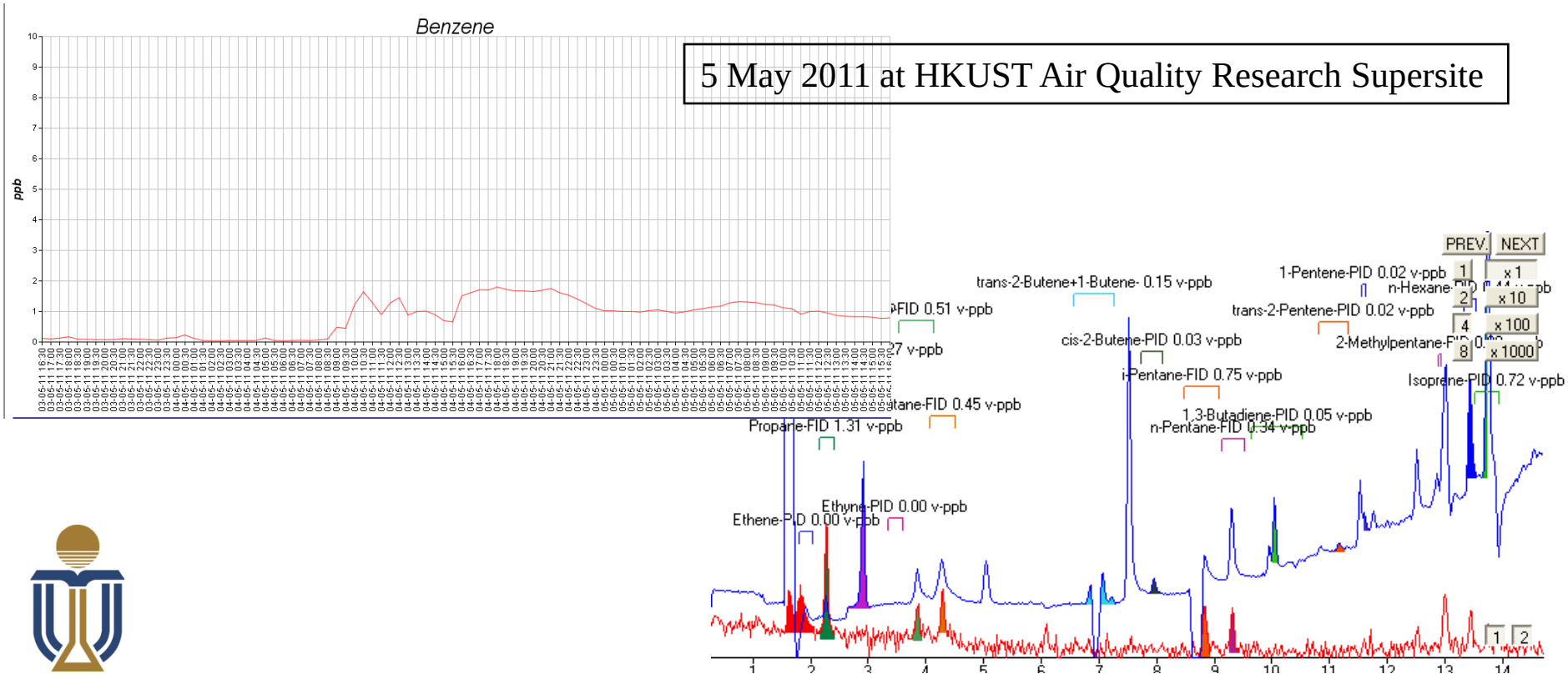
# Online VOC Gas Chromatograph

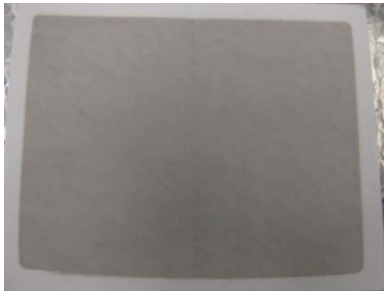
– **To measure the concentration of different <u>VOC compounds</u> in ambient air**



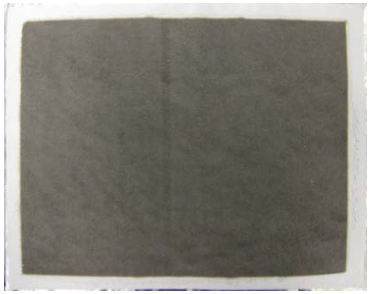
# PM2.5 High Volume Air Sampler

- **To collect PM2.5 in the ambient atmosphere at a flow rate of 40 CFM (1.13 $m^3$/min)**

Samples on 6 May 2011



HKUST AQRS



Tsuen Wan AQMS

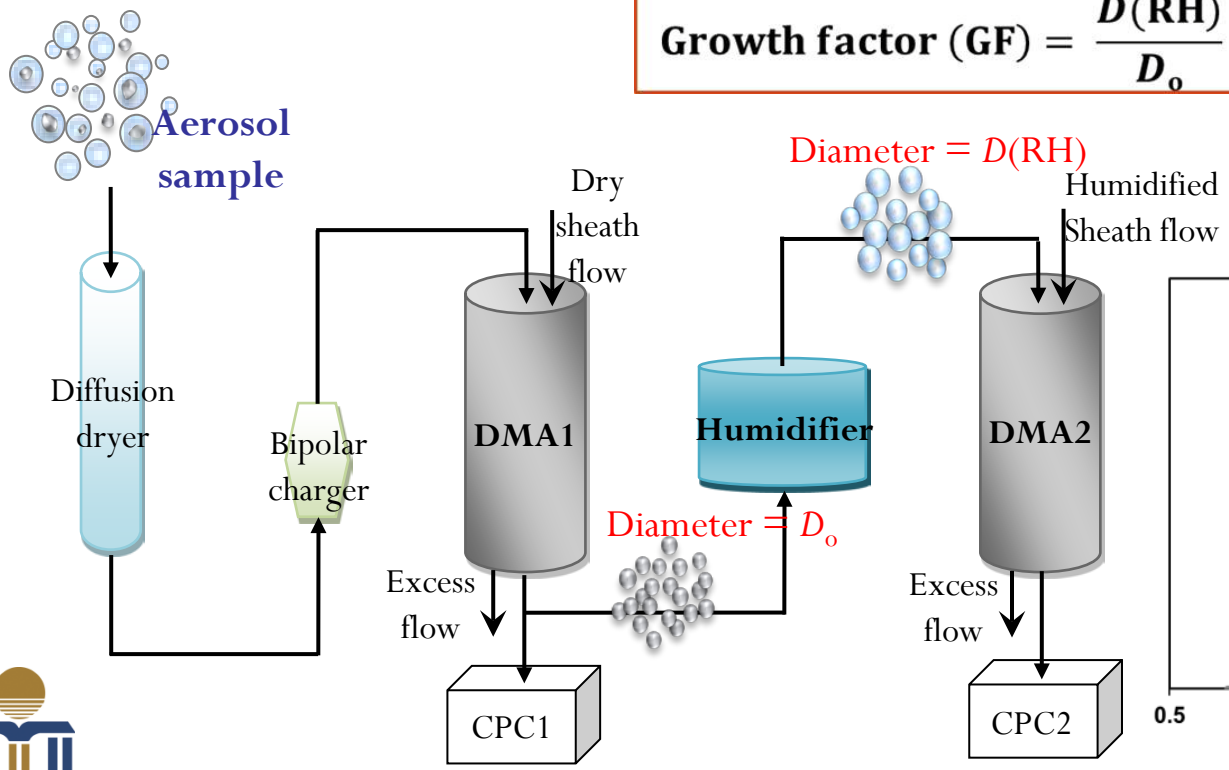
Yuen Long AQMS

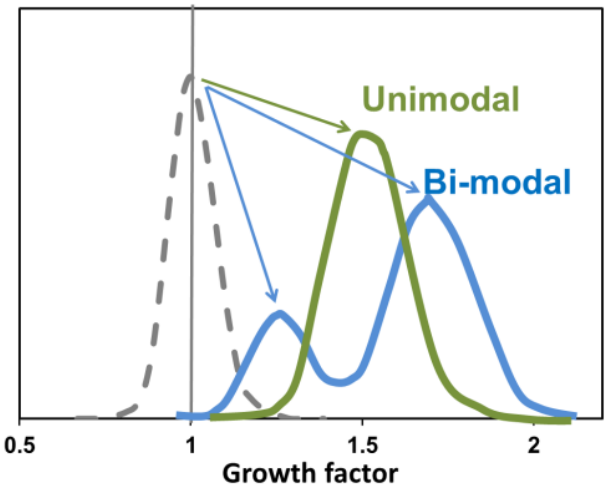
Mong Kok AQMS

# HTDMA

– To measure the hygroscopic growth of particles

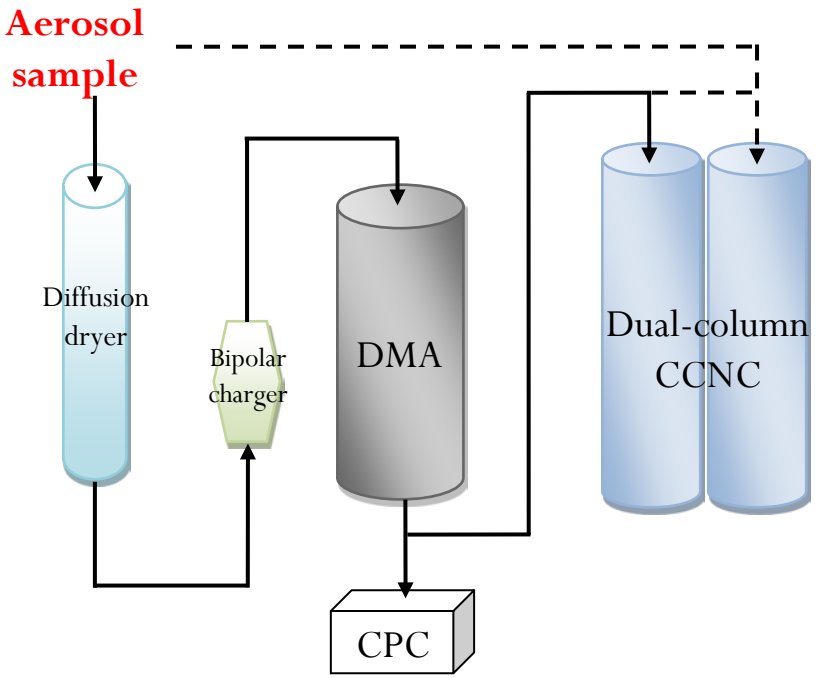
$$\text{Growth factor (GF)} = \frac{D(\text{RH})}{D_o}$$

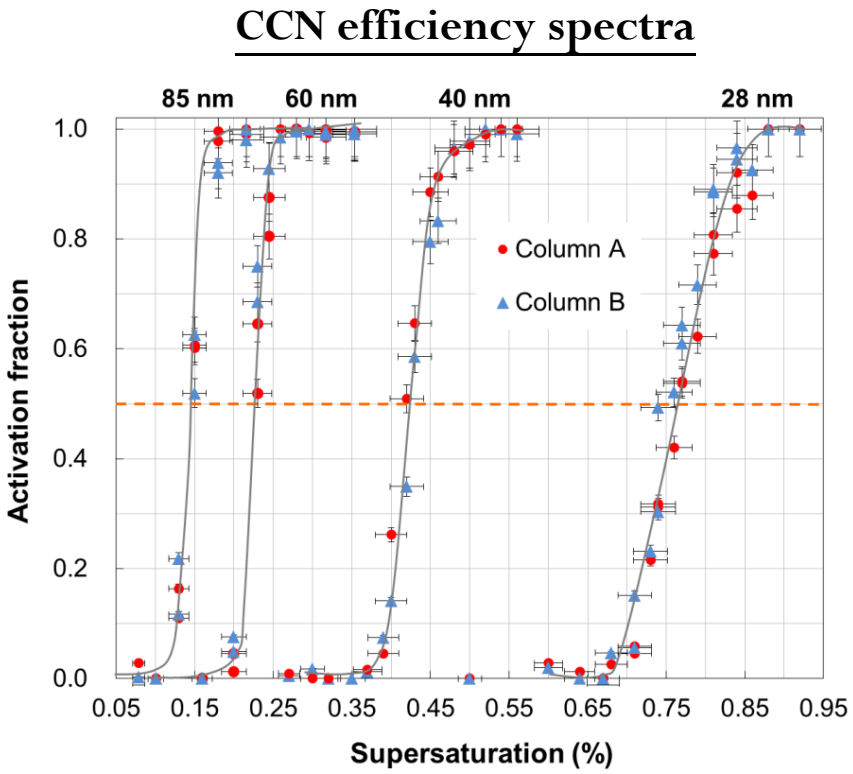


# CCN Counter

– To measure the concentration of cloud condensation nuclei (CCN) and the fraction of particles that will be activated into cloud droplets in air



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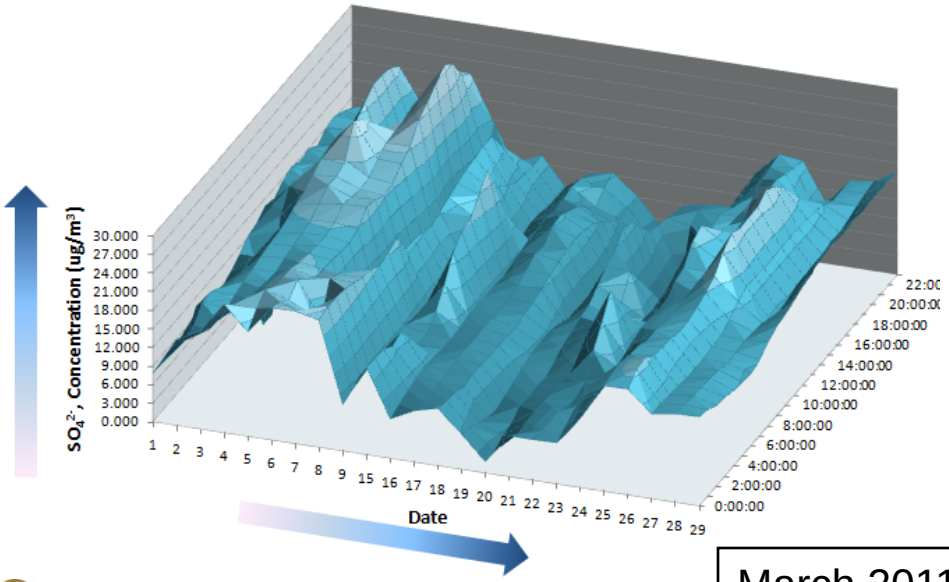
applikon ANALYTICAL

# M A R G A

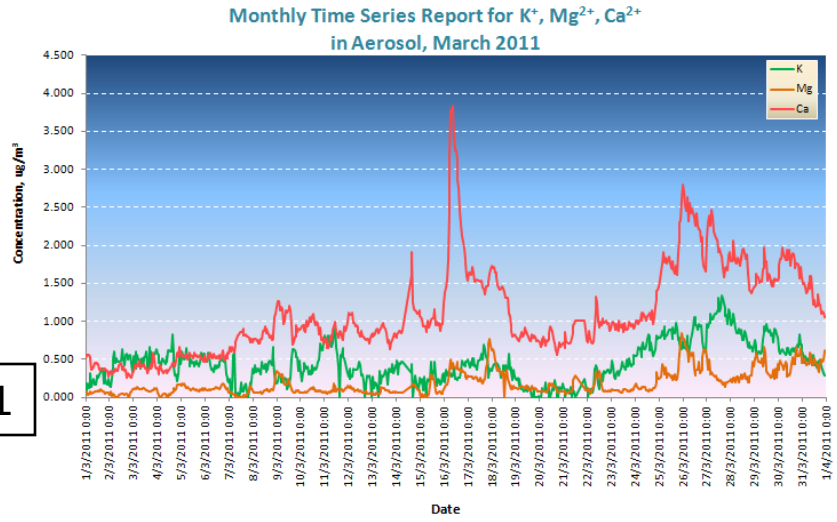
Monitor for Aerosols & Gases in Ambient Air

– To measure the inorganic species in the aerosol and gas phase in ambient air

Monthly Time Series of sulphate conecntration in aerosol, ( $SO_4^{2-}$)



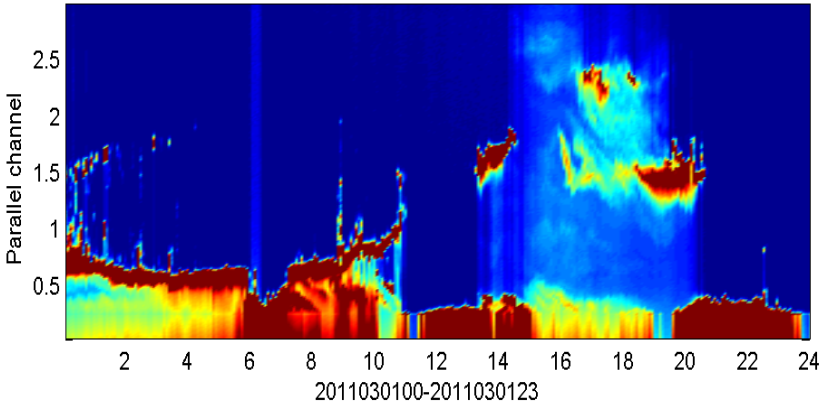

March 2011

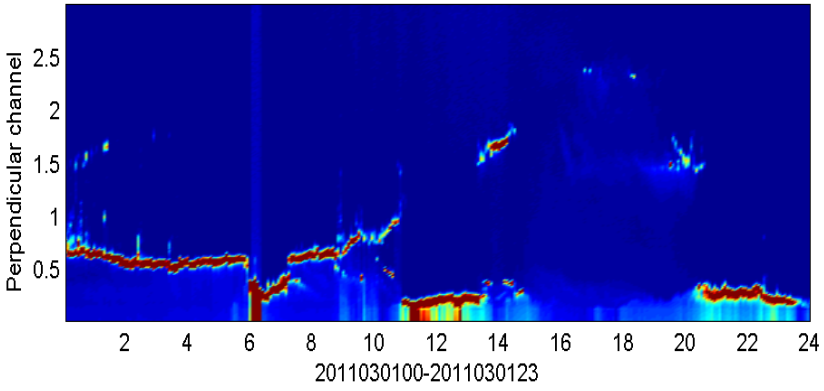


# Micropulse Polarization Lidar
# 微脈衝偏振激光雷達

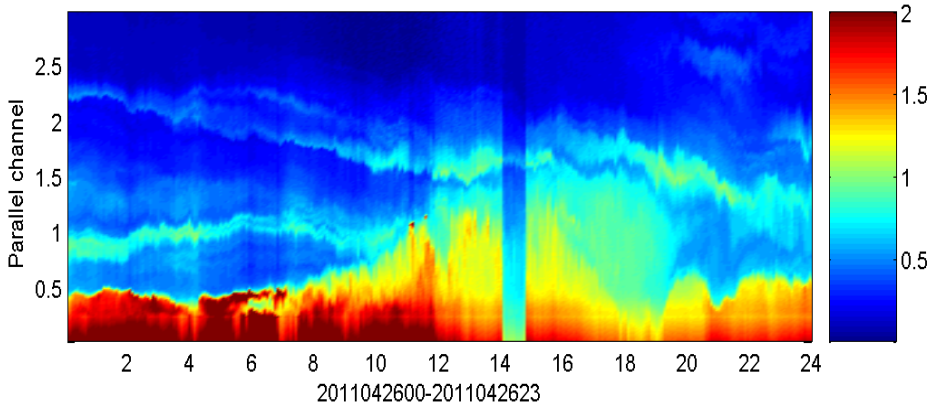
– **To measure the vertical distribution of moisture and aerosol in the atmosphere (測量顆粒物及水氣的垂直空間分布)**

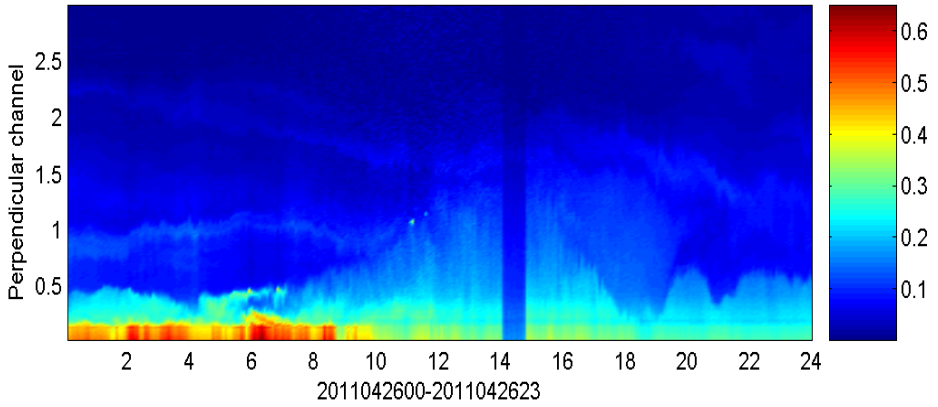
1 March 2011 – lots of low clouds




26 April 2011 – surface fog but no cloud



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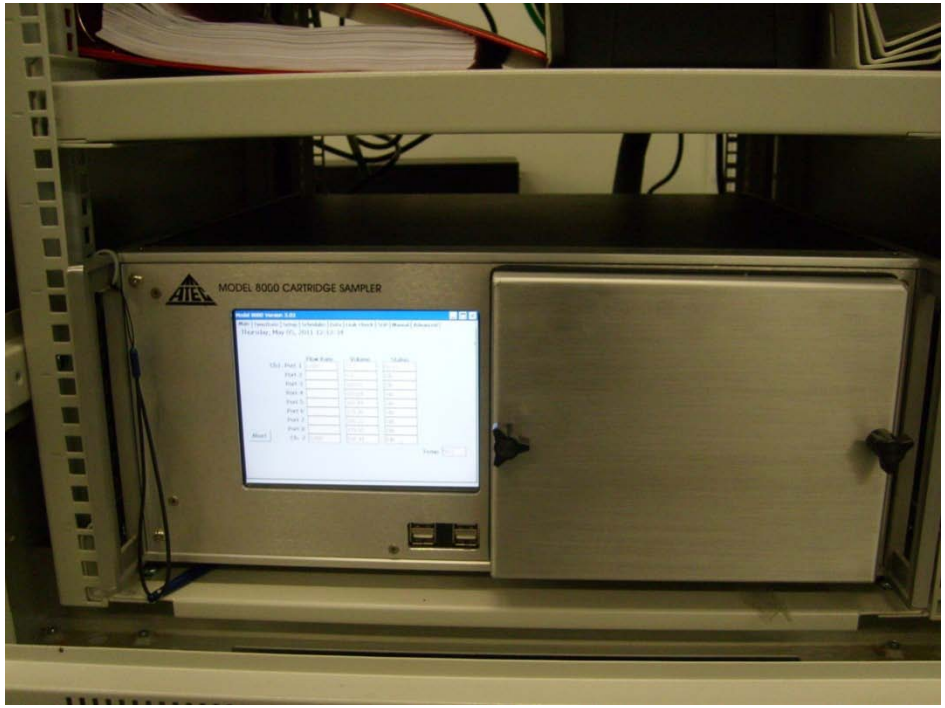
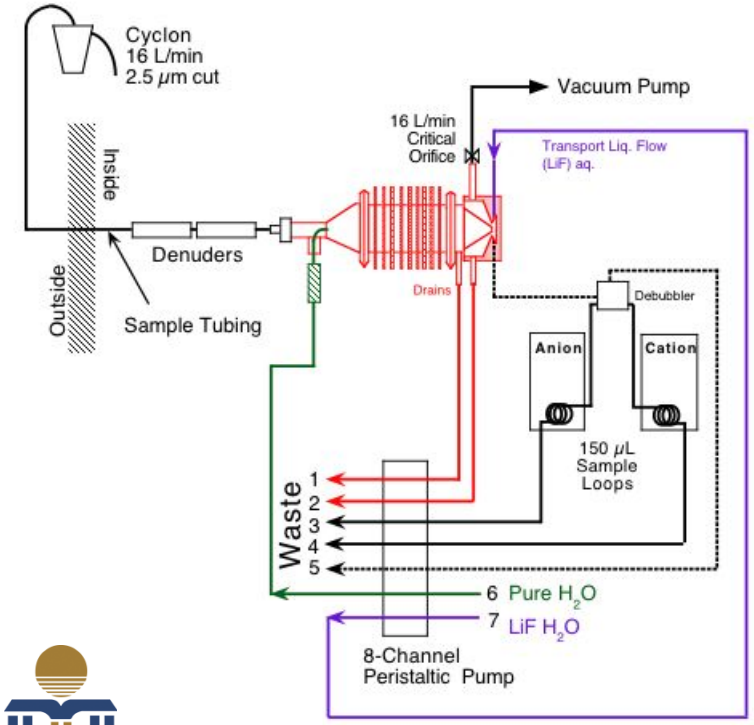
# Carbonyl compounds active sampler

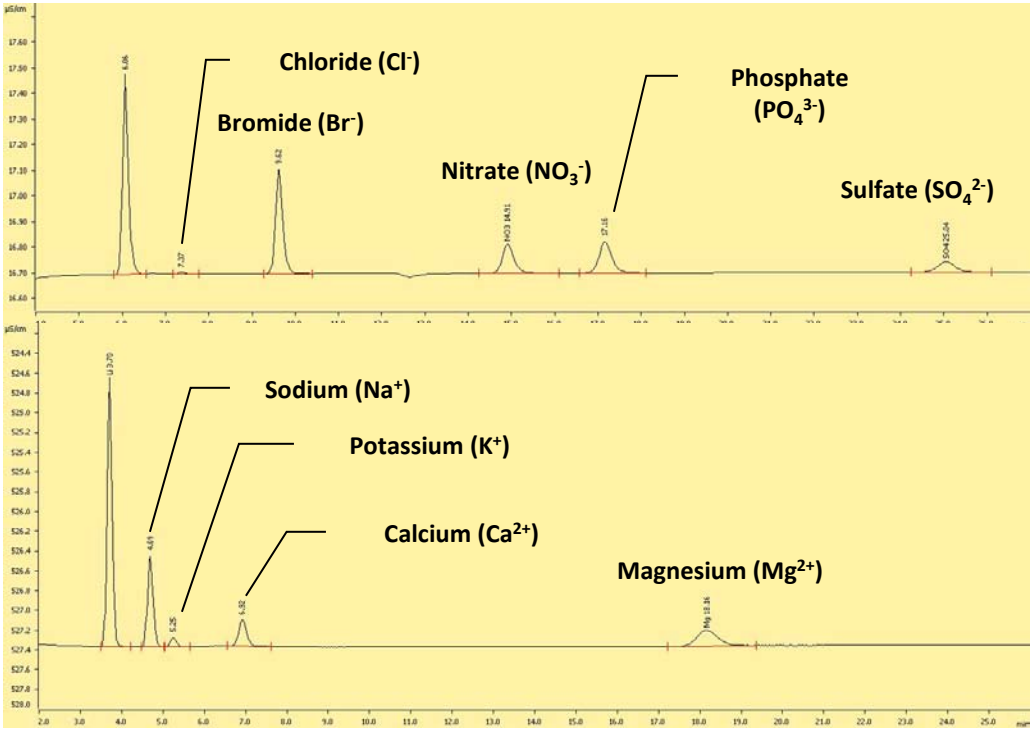
– To collect cartridge sample for laboratory analysis of speciated carbonyl compounds in air



# Particle-Into-Liquid Sampler Coupled with Ion Chromatography (PILS-IC)

– To semi-continuously measure anions and cations in ambient fine particles

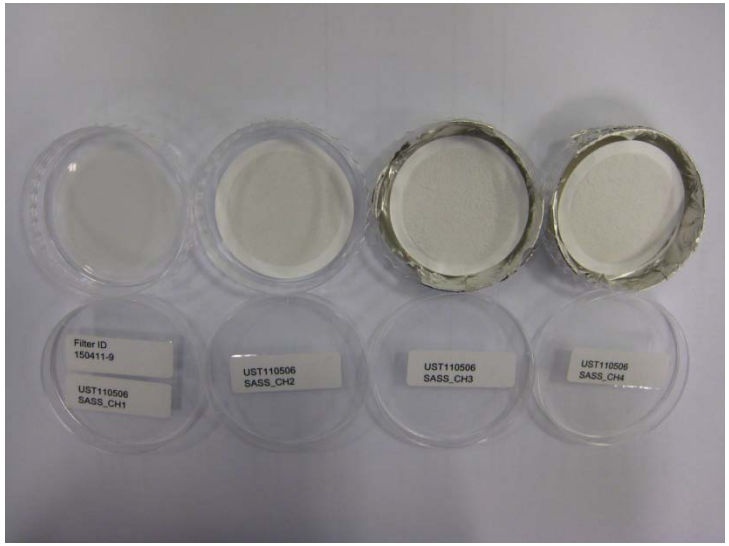


# SASS Speciation Sampler

– **To collect ambient PM2.5 onto multiple filter medias at a flow rate of 6.7 L/min**

6 May 2011 at HKUST Air Quality Research Supersite

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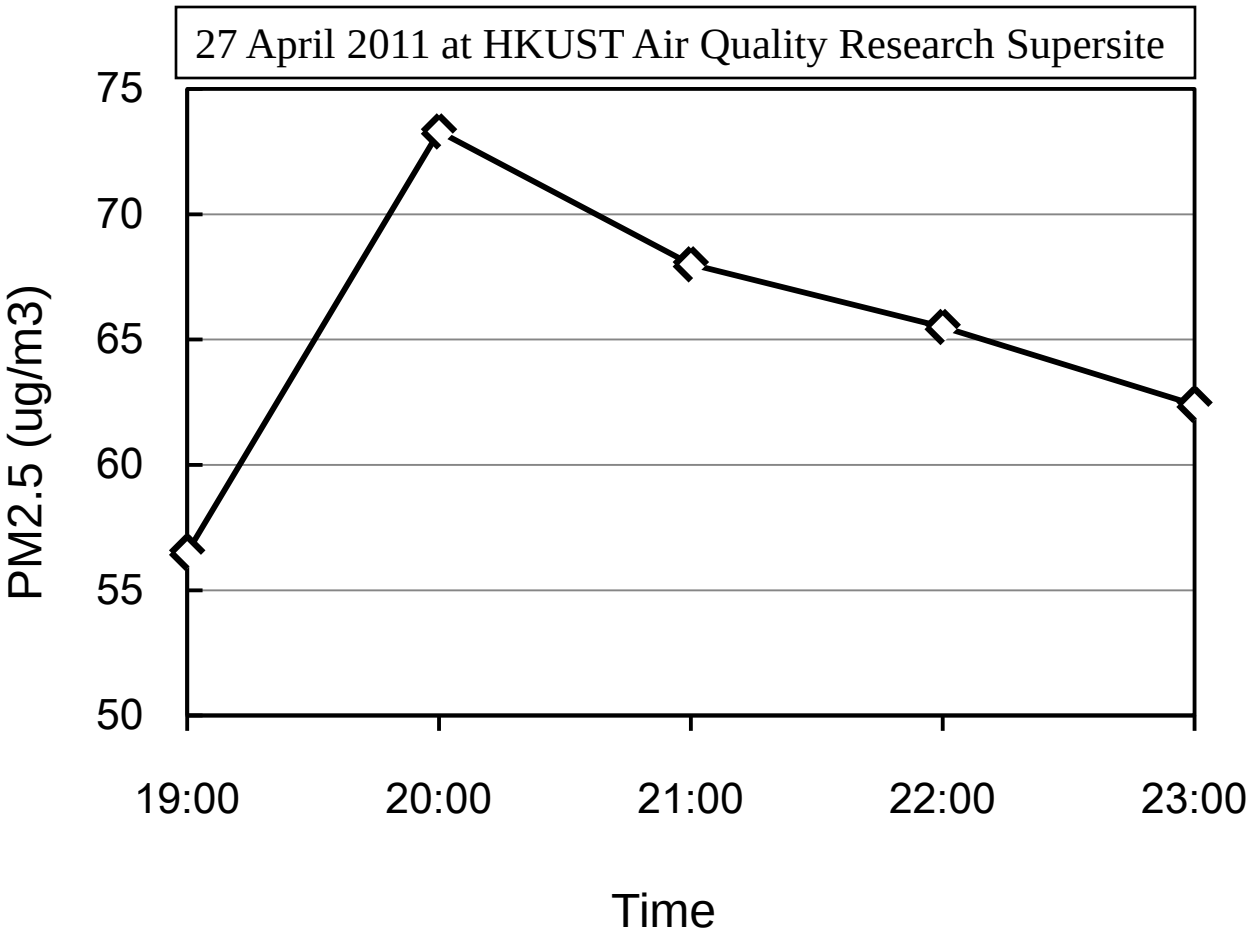
# SHARP

## – To measure PM2.5 in ambient air



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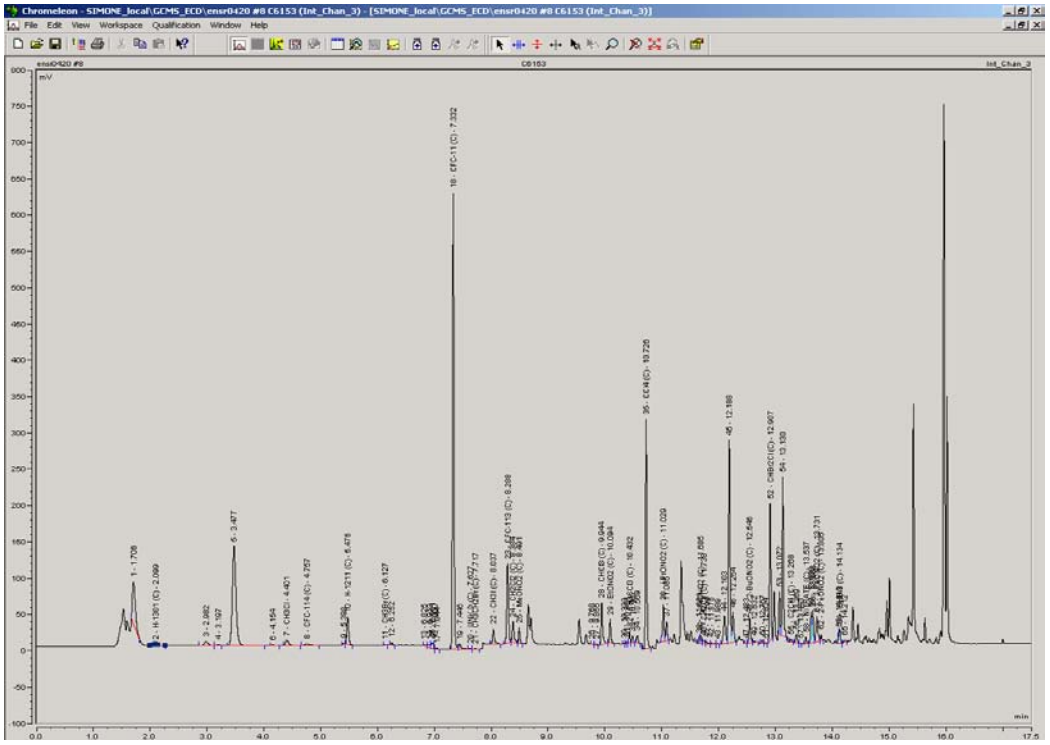
# Volatile organic compounds (VOC) active sampler

– To collect canister sample for laboratory analysis of speciated VOC in air

Canister Sample



Analytical Results

# Real-Time VOC Analyzer
# (實時揮發有機物分析儀)

– **To measure the concentration of VOCs and trace gases, e.g. Methyl tert-butyl ether, ammonia , acetaldehyde, methane at real-time (實時測量揮發性有機物及痕量氣體濃度, 例如：甲基叔丁基醚、氨、乙醛、甲烷)**