

# **Characteristics of Polynuclear Aromatic Hydrocarbons in Ambient air through a Long-term Sampling program at a Metropolitan City in Taiwan**

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摘要.

## **Abstract**

Polynuclear aromatic hydrocarbon (PAH) concentrations in total suspended particulate (TSP) matter as well as gaseous PAH contents are measured at an urban site adjacent to the capital of Taiwan. Several factors, such as seasonal variation, ring number, G/P (gas/particulate) ratio, and C-atom number, are utilized to characterize the pollution features of 14 PAHs. The results show that the total PAH content in TSP has been reduced gradually. The probable carcinogenic PAH compounds exist primarily in the particulate phase. The concentration distributions of each PAH compound are different, and the quantities and ring distributions of PAHs are significantly affected by seasonal fluctuation. The G/P ratio is highly associated with the C-atom number of PAHs. Factor analysis, along with the characteristic ratios of PAHs, is used to qualitatively identify the probable contributors. The results suggest that traffic exhaust and industrial origins are the predominant contributors.