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Contents in Context
Environmental Chemistry, Vol. 3(2), 2006

especially oxidative damage to cellular proteins and DNA. This paper investigated quantitatively selected quinones and hydroquinones by high performance liquid chromatography in various airborne PM samples. Also, we investigated the presence of persistent semiquinone radicals in solid samples and quinoid radicals in aqueous extracts of alkaline solution by electron paramagnetic resonance spectroscopy.

Sorption of a Xenobiotic Contaminant in Clean and Petroleum-Contaminated Soil: Roles of Water and Xenobiotic Size
T. R. Todoruk, C. H. Langford *Environ. Chem.* **2006**, *3*, 124

Soil uptake of xenobiotics (e.g. pesticides) can be a complex phenomenon where it is useful to distinguish readily reversible sorption from longer-term retention. A scheme for doing this using fluorescence detection is presented here, along with application to uptake of a model compound in clean and oil-contaminated soils. Both the wetting of the soil and the size of the xenobiotic seem to be important. The present data concern uptake. Desorption is expected to exhibit dependencies on similar factors. The data have implications for understanding persistence.

Reduction of Arsenates by Humic Materials
N. E. Palmer, J. H. Freudenthal, R. von Wandruszka *Environ. Chem.* **2006**, *3*, 131

Reduction of arsenic(V) to arsenic(III) in the environment is of interest because of the greater toxicity and mobility of the latter. It is important to know to what extent humic materials (which are ubiquitous in soils) can act as abiotic reducing agents, and what factors influence their actions.

Arsenic Speciation: Reduction of Arsenic(V) to Arsenic(III) by Fulvic Acid
T. Tongesayi, R. B. Smart *Environ. Chem.* **2006**, *3*, 137

Most technologies for arsenic removal from water are based on the oxidation of the more toxic and more mobile arsenic(III) to the less toxic and less mobile arsenic(V). As a result, research effort has been focussed on the oxidation of arsenic(III) to arsenic(V). It is equally important to explore environmental factors that enhance the reduction of arsenic(v) to arsenic(III). An understanding of the redox cycling of arsenic could result in the development of cheaper and more efficient arsenic removal technologies, especially for impoverished communities severely threatened by arsenic contamination.

In-Cloud Concentrations and Below-Cloud Scavenging Processes in Hong Kong, China
P. A. Tanner, C. W. F. Tam *Environ. Chem.* **2006**, *3*, 142

There are fewer studies of cloudwater than of precipitation because of the limited occurrence of cloud events, and technical and logistic sampling difficulties. In order to assess the importance of in-cloud and below-cloud processes, cloudwater and rainwater samples were collected at the highest mountain in Hong Kong and also near sea level.

Water-Soluble and Total Sulfur in Particulate Matter Determined by Inductively Coupled Plasma Dynamic Reaction Cell Mass Spectrometry (ICP-DRC-MS)
S. F. Kan, P. A. Tanner *Environ. Chem.* **2006**, *3*, 149

Sulfate in particulate matter is usually collected by a high-volume air sampler and analysed as a soluble extract by ion chromatography. The use of an inductively coupled plasma mass spectrometer fitted with a dynamic reaction cell enables not only the water-soluble, but also the total sulfate to be determined at the same time as the analyses of metal ions. Results from Hong Kong show that sulfate is strongly correlated with crustal species in particulate matter.