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Application of metabolomics for toxicity assessment of solid waste re-utilization

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Leachate samples from fly ash and bottom ash obtained by gasification of solid wastes were analyzed by non-targeted screening using liquid chromatography-quadrupole-time of flight-mass spectrometry (LC-QTOF-MS). The results were used to determine which organic compounds could contribute to the toxicity of the leachates of solid waste gasification. Subsequently, the effects of the leachate on mortility and immobility of Daphnia mangna were evaluated as a method for monitoring water quality, and as a screening method for toxicity assessment of solid waste re-utilization.

Biography

Sam Li is a faculty member at the Department of Chemistry, National University of Singapore (NUS). He received his BSc, PhD and DSc degrees from Imperial College, UK. His research interests include environmental science and technology, metabolomics, biosensors and nanotechnology. He has authored/co-authored 325 publications in international peer review journals, more than 100 conference presentations and 10 US patents. He serves/served on editorial advisory boards of several international scientific journals, including Electrophoresis (Germany), Journal of Chromatographic Science (USA), LC-GC (Asia Pacific), and Biomedical Chromatography (UK).

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