nucleosides and liver disease. For the urinary nucleoside profiles, free nucleosides were extracted by SPE in affinity mode with the subsequent analysis by MEKC. A total of 15 nucleosides were positively identified in urine samples from patients with liver diseases and normal subjects studied. Multivariate statistical analyses appropriate for the correlation between urinary nucleosides profiles and liver diseases was investigated. Canonical discrimination analysis applied to the 15 nucleosides correctly classified each urine specimen into each separate cluster according to the disease type. Star patterns were very informative in comparing the abnormal group with normal control group. The present nucleoside profiling and simple pattern recognition methods appear to be useful for the comparative analysis of urinary nucleosides among groups of normal subjects and patients with liver disease.

[PD4-22] [10/19/2001 (Fri) 09:00 - 12:00 / Hall D]

GC-SIM-MS and GC-Dual ECD Profiling and Screening Analysis of Trace Acidic and Neutral Pollutants from Water Samples

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34 trace pollutants including phenols, organic acids, polyaromatic hydrocarbons, alcohol and esters in water samples were recovered by solid-phase extraction in static adsorption mode using XAD-4 resin as the adsorbent with subsequent modified Soxhlet extraction using dichloromethane containing acetonitrile as the solvent. The extracts were evaporated with subsequent tert.-butyldimethylsilylation for the direct analysis by gas chromatography-mass spectrometry (GC-MS) in selected ion monitoring (SIM) mode and GC-dual electron capture detector (ECD) system on dual-columns of different polarity. Validation of the GC-SIM-MS and GC-ECD methods for the simultaneous profiling analysis of pollutants will be compared.

[PD4-23] [10/19/2001 (Fri) 09:00 - 12:00 / Hall D]

Residue and risk assessment of polychlorinated dibenzo-p-dioxins and dibenzofurans in the Korean population.

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Polychlorinated dibenzo-p-dioxins and dibenzofurans(PCDDs/DFs) are ubiquitous contaminants in the global environment. These compounds are detected in high concentrations in human tissues from developed and industrialized countries. However, the status of PCDDs/DFs contamination is not so clear in the general Korean population. In this study, we examined the contamination levels and characterization of these toxic compounds in human adipose tissue and human milk collected from Korea.

The human adipose and milk samples analysed in this study were collected at hospitals in Seoul, Masan and Jinju. The mean values of International Dioxin Toxic Equivalents (I-TEQ) of PCDDs and PCDFs in human adipose samples from the three regions were calculated as 9 pg TEQ/g(0.2 ~ 30 pg TEQ/g, lipid weight basis) and 8 pg TEQ/g (0.8 ~ 25 pg TEQ/g), respectively. The residue levels of PCDDs-TEQ and PCDFs-TEQ in human milk collected from Masan were 13 pg TEQ/g (lipid wt.) and 4.8 pg TEQ/g, respectively. On the whole, the contamination levels of these compounds in the Korean population were lower than those in the other countries.
Based on the analytical data and assuming a daily intake consumption of 800mL milk with 3% fat, the

average daily intake of PCDDs/DFs via human milk for a baby weighing 5Kg could be calculated. The daily intake of PCDDs/DFs via breast-feeding was estimated to be 39 pg/kg body weight/day for 2,3,7,8-TeCDD and 86 pg/kg/day for TEQ. These levels are far above all virtually safe dose(VSD) or tolerable daily intake(TDI) values proposed by health authorities in various countries, ranging from 0.001 (US EPA) to 4 pg/kag/day (WHO).

[PD4-24] [10/19/2001 (Fri) 09:00 - 12:00 / Hall D]

Impurity profiling analysis of methamphetamine synthesized by three different methods

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Knowledge of impurities in methamphetamine is important that the impurities could have additional harmful effects on the methamphetamine users and the impurities can provide useful intelligence to forensic scientist concerning illicit methamphetamine products.
To investigate the pattern of impurity from illicit methamphetamines by various synthetic methods, methamphetamines were synthesized from ephedrine through three different methods - Nagai, Moscow and Emde. For the impurity profiling analysis, about 30mg of synthetic methamphetamine was dissolved in 1mL of phosphate buffer and extracted with 200 uL of ethylacetate which contains two different internal standards of dioctylsebacate and diphenylamine. The extract was analyzed by GC using Ultra-2 capillary column (0.2mm x 25m x 0.33um). The marker impurity (key product) also was identified of synthetic methamphetamines by GC/MS.

[PD4-25] [10/19/2001 (Fri) 09:00 - 12:00 / Hall D]

Pattern Recognition for Disease Diagnostics with Probabilistic Neural Network

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Early diagnosis of disease status is especially important in the cases of metabolic disorders and high resolution and rapidity in analysis can be achived with solid phase extraction and capillary gas chromatographic systems. In this study, plasma levels of saturated VLCFAs(Very Long Chain Fatty Acids) were determined by previously established analytical method. The saturated VLCFAs are known to be related with X-ALD (x-linked adrenoleuko-dystrophy).
For diagnosis of X-ALD with plasma level of the satuarated VLCFAs, an artificial neural network with radial basis transfer function and competitive transfer function was trained. The trained network, which is called PNN(Probabilistic Neural Network), was used to predict data of valdiation group and all of them were diagnosed correctly.
The architecture of PNN and data processing details will be presented. For comparison, results from dendrogram with K-nearest neighbor and K-means nearest group algorithm will be shown.

Poster Presentations - Field E1. Pharmaceutics

[PE1-1] [10/19/2001 (Fri) 09:00 - 12:00 / Hall D]