

## 第 27 回クロマトグラフィーシンポジウム (徳島)

### シンポジウム

#### 招待講演

- S-01 分析化学的手法に立脚したメタロイドの体内動態と代謝機構の解明  
○小林弥生 (国立環境研究所)
- S-02 薬物動態研究における LC-MS/MS によるバイオアナリシス  
浅川孝樹 (サンプラネット 薬物動態バイオアナリシスユニット)

#### 依頼講演

- I-01 キャピラリー電気泳動法を用いた唾液中イオンの分析と生理活性物質との関係  
森 勝伸 (高知大院理工)
- I-02 CE による機能性 DNA アプタマーの 1 ラウンド選抜  
齋藤伸吾 (埼玉大院理工)
- I-03 酸化亜鉛ナノワイヤプレートをを用いる超薄層クロマトグラフィー/表面支援 LDI-MS システムの開発  
○梅村知也<sup>1</sup>, 安井隆雄<sup>2</sup> (<sup>1</sup> 東薬大生命, <sup>2</sup> 名大院工)

#### 一般講演

- O-01 サイズ排除型マイクロチップを用いるタンパク質のオンライン濃縮と酵素消化への応用  
○山本佐知雄, 辰巳凱, 前谷一仁, 木下充弘, 鈴木茂生 (近畿大薬)
- O-02 チューブ状炭酸マグネシウムを用いた試料前処理  
(P-02)  
○小池凌太<sup>1</sup>, 隅谷王士郎<sup>1</sup>, 清水佳一<sup>1</sup>, 中神

光喜<sup>1</sup>, 植田郁生<sup>2</sup>, 齊戸美弘<sup>1</sup> (<sup>1</sup> 豊橋技科大院工, <sup>2</sup> 山梨大院工)

- O-03 組紐構造を有する新規試料前処理媒体  
(P-03) ○中神光喜<sup>1</sup>, 物部寛也<sup>1</sup>, 隅谷王士郎<sup>1</sup>, 小池凌太<sup>1</sup>, 清水佳一<sup>1</sup>, 高島和則<sup>1</sup>, 植田郁生<sup>2</sup>, 齊戸美弘<sup>1</sup> (<sup>1</sup> 豊橋技科大院工, <sup>2</sup> 山梨大院工)
- O-04 Poly(4-vinyl pyridine)固定相を用いた LC における分子形状選択性  
(P-06) ○清水佳一<sup>1</sup>, 中神光喜<sup>1</sup>, 小池凌太<sup>1</sup>, 隅谷王士郎<sup>1</sup>, 植田郁生<sup>2</sup>, 齊戸美弘<sup>1</sup> (<sup>1</sup> 豊橋技科大院工, <sup>2</sup> 山梨大院工)
- O-05 LC における pyrazine 類の特異的保持挙動  
(P-07) ○隅谷王士郎<sup>1</sup>, 大塚 健<sup>1</sup>, 清水佳一<sup>1</sup>, 小池凌太<sup>1</sup>, 中神光喜<sup>1</sup>, 植田郁生<sup>2</sup>, 齊戸美弘<sup>1</sup> (<sup>1</sup> 豊橋技科大院工, <sup>2</sup> 山梨大院工)
- O-06 超低温 HPLC における保持の検討—逆相固定相の表面修飾化学種の影響—  
(P-08) ○金山隆幸, 本野智大, 北川慎也, 大谷 肇 (名古屋工業大学大学院)
- O-07 周波数分割多重化法を用いた HPLC-MS における多重度増大に関する研究 : 6HPLC-1MS の開発  
(P-09) ○先田 廉, 岸 博香, 北川慎也, 大谷 肇 (名古屋工業大学大学院)
- O-08 キャピラリー電気泳動/動的前端分析によるカルボキシルエステラーゼの酵素反応解析  
○峯 大典<sup>1</sup>, 松本直也<sup>2</sup>, 水口仁志<sup>3</sup>, 高柳俊夫<sup>3</sup> (<sup>1</sup> 徳島大院先端技科, <sup>2</sup> 徳島大理工, <sup>3</sup> 徳島大院社会産業理工)
- O-09 電気炉加熱分解法により合成された親水性カーボンナノドットのキャピラリー電気泳動法による特性評価  
○岩崎颯太<sup>1</sup>, 森田耕太郎<sup>2</sup>, 平山直紀<sup>2</sup>, 水口

- 仁志<sup>3</sup>, 高柳俊夫<sup>3</sup> (<sup>1</sup>徳島大院先端技術, <sup>2</sup>東邦大理, <sup>3</sup>徳島大院社会産業理工)
- O-10 エクソソームの選択的分離のためのスポンジモノリス型分離基材の開発  
○久保拓也<sup>1</sup>, 加藤誠也<sup>1</sup>, 和田峻太郎<sup>1</sup>, 内藤豊裕<sup>1</sup>, 秋吉一成<sup>2</sup>, 大塚浩二<sup>1</sup> (<sup>1</sup>京大院工・材料化学, <sup>2</sup>京大院工・高分子化学)
- O-11 抗イディオタイプ DNA アプタマーを用いる rituximab のバイオアナリシス法の開発  
濱田大地<sup>1</sup>, 渡邊圭一郎<sup>1</sup>, 山田明宏<sup>1</sup>, 太田茂徳<sup>2</sup>, 水野 初<sup>1</sup>, 杉山栄二<sup>1</sup>, 豊岡利正<sup>1</sup>, ○轟木堅一郎<sup>1</sup> (<sup>1</sup>静岡県大薬, <sup>2</sup>ジーエルサイエンス)
- O-12 エキシマー蛍光誘導体化を用いるリジンおよびオルニチンの高選択的二次元 HPLC 分析法開発と尿中含量解析  
○古賀鈴依子<sup>1</sup>, 木村奈生<sup>1</sup>, 坂口洋平<sup>1</sup>, 三田真史<sup>2</sup>, 井手友美<sup>3</sup>, 浜瀬健司<sup>4</sup>, 吉田秀幸<sup>1</sup>, 能田 均<sup>1</sup> (<sup>1</sup>福岡大薬, <sup>2</sup>KAGAMI, <sup>3</sup>九大院医, <sup>4</sup>九大院薬)
- O-13 誘導体化 LC-MS/MS によるタンパク質の脱 (P-18) アミド化モニタリング法  
○川末慎葉, 坂口洋平, 古賀鈴依子, 吉田秀幸, 能田 均 (福岡大薬)
- O-14 二次元 HPLC-MS/MS システムによるヒトおよび D-アミノ酸酸化酵素欠損マウスの血漿中キラルアミノ酸含量解析  
○石井千晴<sup>1</sup>, 秋田健行<sup>1</sup>, 三田真史<sup>2</sup>, 井手友美<sup>3</sup>, 浜瀬健司<sup>1</sup> (<sup>1</sup>九大院薬, <sup>2</sup>KAGAMI, <sup>3</sup>九大院医)
- O-15 三次元 HPLC を用いる黒酢およびヒト血漿における乳酸鏡像異性体の定量  
○謝 金玲<sup>1</sup>, 秋田健行<sup>1</sup>, 長野正信<sup>2</sup>, 三田真史<sup>3</sup>, 井手友美<sup>4</sup>, 李 仁愛<sup>5</sup>, 浜瀬健司<sup>1</sup> (<sup>1</sup>九大院薬, <sup>2</sup>坂元醸造, <sup>3</sup>KAGAMI, <sup>4</sup>九大院医, <sup>5</sup>台北医大薬)
- O-16 種々の地球外試料におけるキラルアミノ酸の三次元 HPLC 分析  
○古庄 仰<sup>1</sup>, 秋田健行<sup>1</sup>, 三田真史<sup>2</sup>, 奈良岡浩<sup>3</sup>, 浜瀬健司<sup>1</sup> (<sup>1</sup>九大院薬, <sup>2</sup>KAGAMI, <sup>3</sup>九大院理)
- O-17 塩基性アミノ酸を対象とした三次元キラル HPLC 分析法の高性能化とヒト尿中含量の解析  
○植木大和<sup>1</sup>, 古庄 仰<sup>1</sup>, 吉岡夏輝<sup>1</sup>, 秋田健行<sup>1</sup>, 三田真史<sup>2</sup>, 井手友美<sup>3</sup>, 浜瀬健司<sup>1</sup> (<sup>1</sup>九大院薬, <sup>2</sup>KAGAMI, <sup>3</sup>九大院医)
- O-18 炭素材料との特異的な相互作用を利用したハロゲン化ベンゼンの分離  
○金尾英佑, 内藤豊裕, 久保拓也, 大塚浩二 (京大院工)
- O-19 超臨界流体クロマトグラフィーと結晶スポンジ法を組み合わせた新規分析プラットフォームの開発  
○谷口慈将<sup>1</sup>, 三田穂高<sup>2</sup>, 西村貴幸<sup>2</sup>, 武士恵里子<sup>3</sup> (<sup>1</sup>キリン HD 中央研, <sup>2</sup>協和キリン CMC センター, <sup>3</sup>協和キリン低分子医薬研)
- O-20 糖鎖認識に基づく糖タンパク質分離のため (P-20) のボロン酸誘導体固定化新規分離媒体の開発  
○増田佑亮<sup>1</sup>, 小林宏資<sup>2</sup>, 内藤豊裕<sup>1</sup>, 久保拓也<sup>1</sup>, 大塚浩二<sup>1</sup> (<sup>1</sup>京大院工, <sup>2</sup>信和化工株式会社)

#### ポスター発表

- P-01 固相抽出型捕集デバイスを用いた空気中の揮発性抗がん剤の定量  
○住家克典<sup>1</sup>, 植田郁生<sup>1</sup>, 菊池良介<sup>2</sup>, 河田圭司<sup>2</sup> (<sup>1</sup>山梨大院工, <sup>2</sup>山梨大病薬)
- P-02 チューブ状炭酸マグネシウムを用いた試料 (O-02) 前処理  
○小池凌太<sup>1</sup>, 隅谷王士郎<sup>1</sup>, 清水佳一<sup>1</sup>, 中神光喜<sup>1</sup>, 植田郁生<sup>2</sup>, 齊戸美弘<sup>1</sup> (<sup>1</sup>豊橋技科大院工, <sup>2</sup>山梨大院工)
- P-03 組紐構造を有する新規試料前処理媒体 (O-03) ○中神光喜<sup>1</sup>, 物部寛也<sup>1</sup>, 隅谷王士郎<sup>1</sup>, 小池

- 凌太<sup>1</sup>, 清水佳一<sup>1</sup>, 高島和則<sup>1</sup>, 植田郁生<sup>2</sup>, 齊戸美弘<sup>1</sup> (<sup>1</sup>豊橋技科大院工, <sup>2</sup>山梨大院工)
- P-04 灯油中クマリンの迅速定量法の開発  
○中神光喜<sup>1</sup>, 小林 曜<sup>1</sup>, 隅谷王士郎<sup>1</sup>, 高橋和哉<sup>1</sup>, 植田郁生<sup>2</sup>, 齊戸美弘<sup>1</sup> (<sup>1</sup>豊橋技科大院工, <sup>2</sup>山梨大院工)
- P-05 Poly(butylene terephthalate)固定相を用いた多環芳香族化合物の保持挙動  
○中神光喜<sup>1</sup>, 網谷美里<sup>1</sup>, 隅谷王士郎<sup>1</sup>, 清水佳一<sup>1</sup>, 小池凌太<sup>1</sup>, 植田郁生<sup>2</sup>, 齊戸美弘<sup>1</sup> (<sup>1</sup>豊橋技科大院工, <sup>2</sup>山梨大院工)
- P-06 Poly(4-vinyl pyridine)固定相を用いた LC における分子形状選択性 (O-04)  
○清水佳一<sup>1</sup>, 中神光喜<sup>1</sup>, 小池凌太<sup>1</sup>, 隅谷王士郎<sup>1</sup>, 植田郁生<sup>2</sup>, 齊戸美弘<sup>1</sup> (<sup>1</sup>豊橋技科大院工, <sup>2</sup>山梨大院工)
- P-07 LC における pyrazine 類の特異的保持挙動 (O-05)  
○隅谷王士郎<sup>1</sup>, 大塚 健<sup>1</sup>, 清水佳一<sup>1</sup>, 小池凌太<sup>1</sup>, 中神光喜<sup>1</sup>, 植田郁生<sup>2</sup>, 齊戸美弘<sup>1</sup> (<sup>1</sup>豊橋技科大院工, <sup>2</sup>山梨大院工)
- P-08 超低温 HPLC における保持の検討ー逆相固定相の表面修飾化学種の影響ー (O-06)  
○金山隆幸, 本野智大, 北川慎也, 大谷 肇 (名古屋工業大学大学院)
- P-09 周波数分割多重化法を用いた HPLC-MS における多重度増大に関する研究 : 6HPLC-IMS の開発 (O-07)  
○先田 廉, 岸 博香, 北川慎也, 大谷 肇 (名古屋工業大学大学院)
- P-10 フォトダイオードアレイ検出器の UV カットオフフィルターは光感受性医薬品の分解を抑制する  
○川畑公平<sup>1</sup>, 内方崇人<sup>2</sup>, 松本恵子<sup>2</sup>, 西 博行<sup>1</sup> (<sup>1</sup>安田女子大薬, <sup>2</sup>島津製作所)
- P-11 一本鎖・二本鎖イオン性界面活性剤を用いた非水系キャピラリー電気泳動法によるメタクリレート系ポリマーの電気泳動分離  
○北川慎也, 内田壮一郎, 大谷 肇 (名工大院工)
- P-12 シリカ系逆相固定相のエンドキャッピングへの新たな試み:熱処理によるシラノール基のシロキサン結合への変換  
○長江徳和<sup>1</sup>, シーラ悦子<sup>2</sup>, 塚本友康<sup>1</sup> (<sup>1</sup>クロマニックテクノロジーズ, <sup>2</sup>バイオニック)
- P-13 発表中止
- P-14 LVSEP-FASI 法による非水系キャピラリー電気泳動の高感度化  
○北川文彦, 青山丈一郎, 若城慎一郎, 糠塚いそし (弘前大院理工)
- P-15 LVSEP-FASI 法による生体分子の高感度マイクロチップ電気泳動分析  
○北川文彦, 山崎綾花, 原 和希, 糠塚いそし (弘前大院理工)
- P-16 エキシマー蛍光誘導体化-LC 法による二枚貝中ドウモイ酸の分析  
○吉田秀幸, 米原万結, 宮平恵里, 庄司莉子, 坂口洋平, 古賀鈴依子, 能田 均 (福岡大薬)
- P-17 フルオラス分離技術を組み合わせた新規ジアステレオマー化 LC 分析  
○山田 大, 坂口洋平, 古賀鈴依子, 吉田秀幸, 能田 均 (福岡大薬)
- P-18 誘導体化 LC-MS/MS によるタンパク質の脱アミド化モニタリング法 (O-13)  
○川末慎葉, 坂口洋平, 古賀鈴依子, 吉田秀幸, 能田 均 (福岡大薬)
- P-19 金属有機構造体充填カラムを用いたポリエチレングリコール誘導体の選択的分離  
○松浦綾一郎<sup>1</sup>, 細野暢彦<sup>2</sup>, 植村卓史<sup>2</sup>, 内藤豊裕<sup>1</sup>, 久保拓也<sup>1</sup>, 大塚浩二<sup>1</sup> (<sup>1</sup>京大院工, <sup>2</sup>東大院工)
- P-20 糖鎖認識に基づく糖タンパク質分離のためのボロン酸誘導体固定化新規分離媒体の開発 (O-20)  
○増田佑亮<sup>1</sup>, 小林宏資<sup>2</sup>, 内藤豊裕<sup>1</sup>, 久保拓也<sup>1</sup>, 大塚浩二<sup>1</sup> (<sup>1</sup>京大院工, <sup>2</sup>信和化工株式

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★ ポスター番号 P-02, P-03, P-06, P-07, P-08, P-09, P-18, P-20 は、一般講演の併設ポスターですので、それぞれ講演番号 O-02, O-03, O-04, O-05, O-06, O-07, O-13, O-20 の要旨をご覧ください。

## The 27<sup>th</sup> Chromatography Symposium (Tokushima)

### Special Lectures

- S-01 **Elucidation of the metabolism and toxicity mechanism of metalloids by analytical chemistry techniques**  
Yayoi Kobayashi; National Institute for Environmental Studies
- S-02 **LC-MS/MS Bioanalysis on Drug Metabolism and Pharmacokinetics**  
Yoshiki Asakawa; DMPK&Bioanalysis Unit, Tsukuba R&D Supporting Division, Sunplanet Co., Ltd.

### Invited Lectures

- I-01 **Analyses of salivary ions using capillary electrophoresis and relationship with bioactive substances**  
Masanobu Mori\*; Graduate School of Science and Technology, Kochi University
- I-02 **Single-Round Selection of Functional DNA Aptamers by Means of Capillary Electrophoresis**  
Shingo Saito\*; Graduate School of Science and Technology, Saitama University
- I-03 **Development of a Hyphenated Analysis System of Ultra-Thin Layer Chromatography with Surface-Assisted LDI-MS**  
Tomonari Umemura<sup>1\*</sup>, Takao Yasui<sup>2</sup>; <sup>1</sup>School of Life Sciences, Tokyo University of Pharmacy and Life Sciences; <sup>2</sup>Graduate School of Engineering, Nagoya University

### Oral Presentations

- O-01 **Size exclusion microchip electrophoresis for on-line protein preconcentration and application to on-line enzymatic digestion**  
Sachio Yamamoto\*, Gai Tatsumi, Kazuhito Maetani, Mitsuhiro Kinoshita, Shigeo Suzuki; Faculty of Pharmaceutical Science, Kindai University
- O-02 **Sample Preparation Using Tubular Magnesium Carbonate for Liquid**  
(P-02) **Chromatographic Analysis of Water Samples**  
Ryota Koike<sup>1\*</sup>, Ohjiro Sumiya<sup>1</sup>, Keiichi Shimizu<sup>1</sup>, Koki Nakagami<sup>1</sup>, Ikuo Ueta<sup>2</sup>, Yoshihiro Saito<sup>1</sup>; <sup>1</sup>Department of Applied Chemistry and Life Science, Toyohashi University of Technology; <sup>2</sup>Department of Applied Chemistry, University of Yamanashi
- O-03 **Braid as a Novel Sample Preparation Medium**  
(P-03) Koki Nakagami<sup>1\*</sup>, Tomoya Monobe<sup>1</sup>, Ohjiro Sumiya<sup>1</sup>, Ryota Koike<sup>1</sup>, Keiichi Shimizu<sup>1</sup>, Kazunori Takashima<sup>1</sup>, Ikuo Ueta<sup>2</sup>, Yoshihiro Saito<sup>1</sup>; <sup>1</sup>Department of Applied Chemistry and Life Science, Toyohashi University of Technology; <sup>2</sup>Department of Applied Chemistry, University of Yamanashi
- O-04 **Molecular Shape Selectivity of Poly(4-Vinyl Pyridine) Stationary Phase in Liquid**  
(P-06) **Chromatography**  
Keiichi Shimizu<sup>1\*</sup>, Koki Nakagami<sup>1</sup>, Ryota Koike<sup>1</sup>, Ohjiro Sumiya<sup>1</sup>, Ikuo Ueta<sup>2</sup>, Yoshihiro Saito<sup>1</sup>; <sup>1</sup>Department of Applied Chemistry and Life Science, Toyohashi University of Technology; <sup>2</sup>Department of Applied Chemistry, University of Yamanashi
- O-05 **An Abnormal Retention Behavior for Pyrazines in Liquid Chromatography**  
(P-07) Ohjiro Sumiya<sup>1\*</sup>, Takeru Otsuka<sup>1</sup>, Keiichi Shimizu<sup>1</sup>, Ryota Koike<sup>1</sup>, Koki Nakagami<sup>1</sup>, Ikuo Ueta<sup>2</sup>, Yoshihiro Saito<sup>1</sup>; <sup>1</sup>Department of Applied Chemistry and Life Science, Toyohashi

- O-06  
(P-08) University of Technology; <sup>2</sup>Department of Applied Chemistry, University of Yamanashi  
**Study of retention in ultralow-temperature HPLC -Effect of surface modifying species of reversed-phase stationary phase-**  
Takayuki Kanayama\*, Tomohiro Motono, Shinya Kitagawa, Hajime Ohtani; Graduate School of Engineering, Nagoya Institute of Technology
- O-07  
(P-09) **Study for Enhancing Multiplicity in Frequency Division Multiplex HPLC-MS : Development of 6HPLC-1MS**  
Ren Sakita\*, Hiroka Kishi, Shinya Kitagawa, Hajime Ohtani; Graduate School of Engineering, Nagoya Institute of Technology University
- O-08 **Kinetic analysis of enzymatic reaction of carboxylesterase by capillary electrophoresis/dynamic frontal analysis**  
Masanori Mine<sup>1\*</sup>, Naoya Matsumoto<sup>2</sup>, Hitoshi Mizuguchi<sup>3</sup>, Toshio Takayanagi<sup>3</sup>; <sup>1</sup>Graduate School of Advanced Technology and Science, Tokushima University; <sup>2</sup>Faculty of Science and Technology, Tokushima University; <sup>3</sup>Graduate School of Technology, Industrial and Social Sciences, Tokushima University
- O-09 **Capillary electrophoretic characterization of hydrophilic carbon nanodots synthesized in an electric furnace**  
Sohta Iwasaki<sup>1\*</sup>, Kotaro Morita<sup>2</sup>, Naoki Hirayama<sup>2</sup>, Hitoshi Mizuguchi<sup>3</sup>, Toshio Takayanagi<sup>3</sup>; <sup>1</sup>Graduate School of Advanced Technology and Science, Tokushima University; <sup>2</sup>Faculty of Science, Toho University; <sup>3</sup>Graduate School of Technology, Industrial and Social Sciences, Tokushima University
- O-10 **Development of the separation media for the selective separation of exosomes**  
Takuya Kubo<sup>1\*</sup>, Seiya Kato<sup>1</sup>, Shuntaro Wada<sup>1</sup>, Toyohiro Naito<sup>1</sup>, Kazunari Akiyoshi<sup>2</sup>, Koji Otsuka<sup>1</sup>; <sup>1</sup>Department of Material Chemistry, Graduate School of Engineering, Kyoto University; <sup>2</sup>Department of Polymer Chemistry, Graduate School of Engineering, Kyoto University
- O-11 **Development of a bioanalytical method for rituximab using anti-idiotypic DNA aptamers**  
Daichi Hamada<sup>1</sup>, Keiichiro Watanabe<sup>1</sup>, Tomohiro Yamada<sup>1</sup>, Shigenori Ota<sup>2</sup>, Hajime Mizuno<sup>1</sup>, Eiji Sugiyama<sup>1</sup>, Toshimasa Toyooka<sup>1</sup>, Kenichiro Todoroki<sup>1\*</sup>; <sup>1</sup>Faculty of Pharmaceutical Sciences, University of Shizuoka; <sup>2</sup>GL Sciences Inc.
- O-12 **Highly Selective Chiral 2D-HPLC Analysis of Lysine and Ornithine in Human Urine Based on Intramolecular Excimer-forming Fluorescence Derivatization**  
Reiko Koga<sup>1\*</sup>, Nao Kimura<sup>1</sup>, Yohei Sakaguchi<sup>1</sup>, Masashi Mita<sup>2</sup>, Tomomi Ide<sup>3</sup>, Kenji Hamase<sup>4</sup>, Hideyuki Yoshida<sup>1</sup>, Hitoshi Nohta<sup>1</sup>; <sup>1</sup>Faculty of Pharmaceutical Sciences, Fukuoka University; <sup>2</sup>KAGAMI, Inc.; <sup>3</sup>Graduate School of Medical Sciences, Kyushu University; <sup>4</sup>Graduate School of Pharmaceutical Sciences, Kyushu University
- O-13  
(P-18) **Protein deamidation monitoring method using derivatization-liquid chromatography-tandem mass spectrometry**  
Shimba Kawasue\*, Yohei Sakaguchi, Reiko Koga, Hideyuki Yoshida, Hitoshi Nohta; Faculty of Pharmaceutical Sciences, Fukuoka University
- O-14 **Selective Determination of Chiral Amino Acids in the Plasma of Human and D-Amino Acid Oxidase Deficient Mice Using a 2D HPLC-MS/MS System**  
Chiharu Ishii<sup>1\*</sup>, Takeyuki Akita<sup>1</sup>, Masashi Mita<sup>2</sup>, Tomomi Ide<sup>3</sup>, Kenji Hamase<sup>1</sup>; <sup>1</sup>Graduate School of Pharmaceutical Sciences, Kyushu University; <sup>2</sup>KAGAMI Inc.; <sup>3</sup>Graduate School of Medical Sciences, Kyushu University
- O-15 **Enantioselective Determination of Lactic Acid in Japanese Traditional Amber Rice Vinegar and Human Plasma Using a Three-Dimensional HPLC System**  
Chin-Ling Hsieh<sup>1\*</sup>, Takeyuki Akita<sup>1</sup>, Masanobu Nagano<sup>2</sup>, Masashi Mita<sup>3</sup>, Tomomi Ide<sup>4</sup>, Jen-Ai Lee<sup>5</sup>, Kenji Hamase<sup>1</sup>; <sup>1</sup>Graduate School of Pharmaceuticals Sciences, Kyushu University; <sup>2</sup>Sakamoto Kurozu, Inc.; <sup>3</sup>KAGAMI, Inc.; <sup>4</sup>Graduate School of Medical Sciences, Kyushu University; <sup>5</sup>School of Pharmacy, Taipei Medical University
- O-16 **Three-Dimensional HPLC Determination of Chiral Amino Acids in Various Extraterrestrial Samples**

- Aogu Furusho<sup>1\*</sup>, Takeyuki Akita<sup>1</sup>, Masashi Mita<sup>2</sup>, Hiroshi Naraoka<sup>3</sup>, Kenji Hamase<sup>1</sup>;  
<sup>1</sup>Graduate School of Pharmaceutical Sciences, Kyushu University; <sup>2</sup>KAGAMI Inc.;  
<sup>3</sup>Department of Earth and Planetary Sciences, Kyushu University
- O-17 **Development of a Selective 3D-HPLC System for the Determination of Basic Amino Acid Enantiomers and the Application to Human Urine Analysis**  
 Yamato Ueki<sup>1\*</sup>, Aogu Furusho<sup>1</sup>, Natsuki Yoshioka<sup>1</sup>, Takeyuki Akita<sup>1</sup>, Masashi Mita<sup>2</sup>,  
 Tomomi Ide<sup>3</sup>, Kenji Hamase<sup>1</sup>; <sup>1</sup>Graduate School of Pharmaceutical Sciences, Kyushu  
 University; <sup>2</sup>KAGAMI Inc.; <sup>3</sup>Graduate School of Medical Sciences, Kyushu University
- O-18 **Separation of halogenated benzenes by specific interactions with carbon materials**  
 Eisuke Kanao\*, Toyohiro Naito, Takuya Kubo, Koji Otsuka; Graduate School of  
 Engineering, Kyoto University
- O-19 **Development of a Novel Analytical Platform by Supercritical Fluid Chromatography Hyphenated with Crystalline Sponge Method**  
 Yoshimasa Taniguchi<sup>1\*</sup>, Hotaka Sanda<sup>2</sup>, Takayuki Nishimura<sup>2</sup>, Eriko Takeshi<sup>3</sup>; <sup>1</sup>Kirin  
 Central Research Institute, Kirin Holdings Company, Limited; <sup>2</sup>CMC R&D Center, Kyowa  
 Kirin Company, Limited; <sup>3</sup>Small Molecule Drug Research Laboratories, Kyowa Kirin  
 Company, Limited
- O-20 **Development of novel separation media modified with boronic acid-derivatives for the separation of glycoproteins based on the recognition of glycan**  
 (P-20) Yusuke Masuda<sup>1\*</sup>, Hiroshi Kobayashi<sup>2</sup>, Toyohiro Naito<sup>1</sup>, Takuya Kubo<sup>1</sup>, Koji Otsuka<sup>1</sup>;  
<sup>1</sup>Graduate School of Engineering, Kyoto University, <sup>2</sup>Shinwa Chemical Industries Ltd.

## Posters

- P-01 **Determination of Volatile Anticancer Drugs in Air using a Solid Phase Extraction-Type Collection Device**  
 Katsunori Sumiya<sup>1\*</sup>, Ikuo Ueta<sup>1</sup>, Ryosuke Kikuchi<sup>2</sup>, Keishi Kawata<sup>2</sup>; <sup>1</sup>Department of  
 Applied Chemistry, University of Yamanashi; <sup>2</sup>Department of Pharmacy, University of  
 Yamanashi Hospital
- P-02 **Sample Preparation Using Tubular Magnesium Carbonate for Liquid**  
 (O-02) **Chromatographic Analysis of Water Samples**  
 Ryota Koike<sup>1\*</sup>, Ohjiro Sumiya<sup>1</sup>, Keiichi Shimizu<sup>1</sup>, Koki Nakagami<sup>1</sup>, Ikuo Ueta<sup>2</sup>, Yoshihiro  
 Saito<sup>1</sup>; <sup>1</sup>Department of Applied Chemistry and Life Science, Toyohashi University of  
 Technology; <sup>2</sup>Department of Applied Chemistry, University of Yamanashi
- P-03 **Braid as a Novel Sample Preparation Medium**  
 (O-03) Koki Nakagami<sup>1\*</sup>, Tomoya Monobe<sup>1</sup>, Ohjiro Sumiya<sup>1</sup>, Ryota Koike<sup>1</sup>, Keiichi Shimizu<sup>1</sup>,  
 Kazunori Takashima<sup>1</sup>, Ikuo Ueta<sup>2</sup>, Yoshihiro Saito<sup>1</sup>; <sup>1</sup>Department of Applied Chemistry  
 and Life Science, Toyohashi University of Technology; <sup>2</sup>Department of Applied  
 Chemistry, University of Yamanashi
- P-04 **Rapid Determination of Coumarin in Kerosene**  
 Koki Nakagami<sup>1\*</sup>, Akira Kobayashi<sup>1</sup>, Ohjiro Sumiya<sup>1</sup>, Kazuya Takahashi<sup>1</sup>, Ikuo Ueta<sup>2</sup>,  
 Yoshihiro Saito<sup>1</sup>; <sup>1</sup>Department of Applied Chemistry and Life Science, Toyohashi  
 University of Technology; <sup>2</sup>Department of Applied Chemistry, University of Yamanashi
- P-05 **Retention Behavior of Polycyclic Aromatic Compounds on Poly(Butylene Terephthalate) Stationary Phase**  
 Koki Nakagami<sup>1\*</sup>, Misato Amiya<sup>1</sup>, Ohjiro Sumiya<sup>1</sup>, Keiichi Shimizu<sup>1</sup>, Ryota Koike<sup>1</sup>, Ikuo  
 Ueta<sup>2</sup>, Yoshihiro Saito<sup>1</sup>; <sup>1</sup>Department of Applied Chemistry and Life Science, Toyohashi  
 University of Technology; <sup>2</sup>Department of Applied Chemistry, University of Yamanashi
- P-06 **Molecular Shape Selectivity of Poly(4-Vinyl Pyridine) Stationary Phase in Liquid**  
 (O-04) **Chromatography**  
 Keiichi Shimizu<sup>1\*</sup>, Koki Nakagami<sup>1</sup>, Ryota Koike<sup>1</sup>, Ohjiro Sumiya<sup>1</sup>, Ikuo Ueta<sup>2</sup>, Yoshihiro  
 Saito<sup>1</sup>; <sup>1</sup>Department of Applied Chemistry and Life Science, Toyohashi University of  
 Technology; <sup>2</sup>Department of Applied Chemistry, University of Yamanashi
- P-07 **An Abnormal Retention Behavior for Pyrazines in Liquid Chromatography**

- (O-05) Ohjiro Sumiya<sup>1\*</sup>, Takeru Otsuka<sup>1</sup>, Keiichi Shimizu<sup>1</sup>, Ryota Koike<sup>1</sup>, Koki Nakagami<sup>1</sup>, Ikuo Ueta<sup>2</sup>, Yoshihiro Saito<sup>1</sup>; <sup>1</sup>Department of Applied Chemistry and Life Science, Toyohashi University of Technology; <sup>2</sup>Department of Applied Chemistry, University of Yamanashi
- P-08 **Study of retention in ultralow-temperature HPLC -Effect of surface modifying**
- (O-06) **species of reversed-phase stationary phase-**  
Takayuki Kanayama\*, Tomohiro Motono, Shinya Kitagawa, Hajime Ohtani; Graduate School of Engineering, Nagoya Institute of Technology
- P-09 **Study for Enhancing Multiplicity in Frequency Division Multiplex HPLC-MS :**
- (O-07) **Development of 6HPLC-1MS**  
Ren Sakita\*, Hiroka Kishi, Shinya Kitagawa, Hajime Ohtani; Graduate School of Engineering, Nagoya Institute of Technology University
- P-10 **Photoprotective effects of photodiode array detector using UV cut-off filter on degradation of photosensitive pharmaceutical**  
Kohei Kawabata<sup>1\*</sup>, Hiroyuki Nishi<sup>1</sup>, Takato Uchikata<sup>2</sup>, Keiko Matsumoto<sup>2</sup>; <sup>1</sup>Department of Pharmaceutical Chemistry, Faculty of Pharmacy, Yasuda Women's University; <sup>2</sup>Shimadzu Corporation
- P-11 **Separation of Polymethacrylates in Nonaqueous Capillary Zone Electrophoresis using Single- and Double- Stranded Ionic Surfactants**  
Shinya Kitagawa\*, Soichiro Uchida, Hajime Ohtani; Graduate School of Engineering, Nagoya Institute of Technology
- P-12 **A New Concept of End-capping for Reversed Phase Silica Material: Conversion of Silanol Groups to Siloxane Bond by Heating**  
Norikazu Nagae<sup>1\*</sup>, Etsuko Shearer<sup>2</sup>, Tomoyasu Tsukamoto<sup>1</sup>; <sup>1</sup>ChromaNik Technologies Inc.; <sup>2</sup>BioNik Inc.
- P-13 Cancelled
- P-14 **Highly-sensitive Analysis by LVSEP-FASI in Non-aqueous Capillary Electrophoresis**  
Fumihiko Kitagawa\*, Joichiro Aoyama, Shinichiro Wakagi, Isoshi Nukatsuka; Graduate School of Science and Technology, Hirosaki University
- P-15 **Highly-sensitive Microchip Electrophoresis Analysis of Biomolecules by LVSEP-FASI**  
Fumihiko Kitagawa\*, Ayaka Yamazaki, Kazuki Hara, Isoshi Nukatsuka; Graduate School of Science and Technology, Hirosaki University
- P-16 **Liquid-chromatographic Determination of Domoic Acid in Bivalves using Intra-molecular Excimer-forming Fluorescence Derivatization**  
Hideyuki Yoshida\*, Mayu Yonehara, Eri Miyahira, Riko Shohji, Yohei Sakaguchi, Reiko Koga, Hitoshi Nohta; Faculty of Pharmaceutical Sciences, Fukuoka University
- P-17 **Diastereomeric derivatization-LC method combined fluorous separation technology**  
Hajime Yamada\*, Yohei Sakaguchi, Reiko Koga, Hideyuki Yoshida, Hitoshi Nohta; Faculty of Pharmaceutical Sciences, Fukuoka University
- P-18 **Protein deamidation monitoring method using derivatization-liquid chromatography-**
- (O-13) **tandem mass spectrometry**  
Shimba Kawasue\*, Yohei Sakaguchi, Reiko Koga, Hideyuki Yoshida, Hitoshi Nohta; Faculty of Pharmaceutical Sciences, Fukuoka University
- P-19 **Selective separation of PEG derivatives based on the terminus by MOF packed columns**  
Ryoichiro Matsuura<sup>1\*</sup>, Nobuhiko Hosono<sup>2</sup>, Takashi Uemura<sup>2</sup>, Toyohiro Naito<sup>1</sup>, Takuya Kubo<sup>1</sup>, Koji Otsuka<sup>1</sup>; <sup>1</sup>Graduate School of Engineering, Kyoto University; <sup>2</sup>Graduate School of Engineering, The University of Tokyo.
- P-20 **Development of novel separation media modified with boronic acid-derivatives for**
- (P-20) **the separation of glycoproteins based on the recognition of glycan**  
Yusuke Masuda<sup>1\*</sup>, Hiroshi Kobayashi<sup>2</sup>, Toyohiro Naito<sup>1</sup>, Takuya Kubo<sup>1</sup>, Koji Otsuka<sup>1</sup>; <sup>1</sup>Graduate School of Engineering, Kyoto University; <sup>2</sup>Shinwa Chemical Industries Ltd.