Applications for Post-Column Derivatization with the Pickering-System PINNACLE PCX

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Please Note: ***Every System can be also used for different applications; it's done with a simple and incomplicated change of the reactorcoil and configuration changes in the software. (e.g. shut off one syringe pump, change the flow rate); Usually also column and eluants should be exchanged. So you can use the system for many different applications.***

Amino Acids and Biogenic Amines

Application	Gradient / Column / Eluents / Detector	Product No., Reactor Size	Pickering-Kit	Derivatization Reagent(s)
Amino Acid Analysis of Protein Hydrolysates *in 30 min.*	ternary gradient Na^+-Ion Exchange Column 2 Na^+-Buffer, 1 Regenerant UV-Detector (Trione) or Fluorescence-Detector (OPA)	1153-1022, 0.5 mL Trione or 1153-1012, 0.15 mL OPA	0352-0058, (T200)* 0352-0057 (T100C) * 0352-0059 (OPA)	**Single-Step Reaction:** Trione (ninhydrin) or o-phthaldialdehyde (OPA) / mercaptoethanol-derivative
Amino Acid Analysis of Collagen Hydrolysates *in 30 min.*	ternary gradient Na^+-Ion Exchange Column 2 Na^+-Buffer, 1 Regenerant UV-Detector (Trione) or Fluorescence-Detector (OPA)	1153-1022, 0.5 mL Trione or 13153-1012, 0.15 mL OPA	0352-0062, (T200) 0352-0061 (T100C) 0352-0063 (OPA)	**Single-Step Reaction:** Trione (ninhydrin) or o-phthaldialdehyde (OPA) / mercaptoethanol-derivative
Amino Acid Analysis of Feed Hydrolysates *in 55 min.*	ternary gradient Na^+-Ion Exchange Column 2 Na^+-Buffer, 1 Regenerant UV-Detector (Trione) or Fluorescence-Detector (OPA)	1153-1022, 0.5 mL Trione or 13153-1012, 0.15 mL OPA	0352-0017, (T200) * 0352-0018, (T100C) * 0352-0019, (OPA)	**Single-Step Reaction:** Trione (ninhydrin) or o-phthaldialdehyde (OPA) / mercaptoethanol-derivative
Amino Acid Analysis of Native Samples *in 70 min.*	quaternary gradient Li^+-Ion Exchange Column 2 / 3 Li^+-Buffer, 1 Regenerant UV-Detector (Trione) or Fluorescence-Detector (OPA)	1153-1022, 0.5 mL Trione or 1153-1012, 0.15 mL OPA	0352-0007, (T200) * 0352-0006, (T100C) * 0352-0008, (OPA)	**Single-step Reaction:** Trione (ninhydrin) or o-phthaldialdehyde (OPA) / mercaptoethanol-derivative
Amino Acid Analysis of Neo-Natal-Blood *in 7 min.*	binary gradient Li^+-Ion Exchange Column 1 Li^+-Buffer, 1 Regenerant UV-Detector (Trione) or Fluorescence-Detector (OPA)	1153-1022, 0.5 mL	AT35 PK (T100C) * 0352-0035 (T200) *	**Single-Step Reaction:** Trione (ninhydrin:
Biogenic Amines	binary gradient K^+-Ion Exchange Column 1 K^+-Buffer, 1 Regenerant Fluorescence-Detector	1153-1012, 0.15 mL	0352-0040	**Single-Step Reaction:** o-Phthaldialdehyd (OPA) / Mercaptoethanol-Derivat

* T200 Trione (Ninhydrin) with a shelf life of 3 month, T100C Trione (Ninhydrin) with a shelf life of 12 month.

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Mycotoxins

Application	Gradient / Column / Eluents / Detector	Product No., Reactor Size	Pickering-Kit	Derivatization Reagent(s)
Aflatoxins	isocratic, RP-C18-Column Methanol, Acetonitrile/Water Fluorescence-Detector	1153-1032, 1.4 mL	0352-0050	**Single-Step Reaction:** aequeous iodine solution
Fumonisins	binary gradient, RP-C18-Column Methonaol/Phosphatbuffer Fluorescence-Detector	1153-1012, 0.15 mL		**Single-Step Reaction:** o-phthaldialdehyde (OPA) / mercaptoethanol-derivative
Ochratoxin A	isocratic, RP-C18-Column Acetonitrile/Methanol/Water/ Acetic Acid Fluorescence-Detector	1153-1022, 0.5 mL		**Single-Step Reaction:** aequeous ammonia solution
Trichothecenes (DON/NIV)	isocratic, RP-C18-Column Acetic Acid/Acetonitrile Fluorescence-Detector	1153-1072, 1.2/1.6 mL		**Two-Step Reaction:** 1) NaOH 2) 2,4-pentadion in buffer

Pesticide

Application	Gradient / Column / Eluents / Detector	Product No., Reactor Size	Pickering-Kit	Derivatization Reagent(s)
N-Methyl Carbamates (Insecticides)	binary gradient RP-C18-Column Water/Methanol or Water/Acetonitrile Fluorescence-Detector (OPA)	1153-1052, 0.5 mL	0352-0002 (23+ Components) 0352-0003, (EPA Methode 531.1) 0352-0004, (AOAC-Methode 985.23)	**Two-Step Reaction** 1) NaOH 2) o-phthaldialdehyde (OPA) / mercaptoethanol-derivative
Glyphosate / AMPA (Herbicide)	binary gradient K^+-Ion-Exchange-Column 1 K^+-Buffer, 1 Regenerant Fluorescence-Detector (OPA)	1153-1052, 0.5 mL	0352-0010	**Two-Step Reaction** 1) NaOCl 2) o-phthaldialdehyde (OPA) / mercaptoethanol-derivative
Paraquat / Diquat	ternary gradient K^+-Ion-Exchange-Column 2 K^+-Buffer, 1 Regenerant UV-Detector	1153-1012, 0.15 mL	0352-0042 (only for water analysis)	**Single-Step Reaction** sodium hydrosulfite solution

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Antibiotics

Application	Gradient / Column / Eluents / Detector	Product No., Reactor Size	Pickering-Kit	Derivatization Reagent(s)
Streptomycin	isocratic, RP-C18-Column Ion-Pair Reagent, Buffer Fluorescence-Detector	1153-1052, 1.4 - 2.5 mL	0532-0041	**Two-Step Reaction** fluorescamine or naphthoquinone-sulfonic acid / NaOH
Aminoglycoside Antibiotics	ternary gradient K^+-Ion-Exchange-Column 2 K^+-Buffer, 1 Regenerant Fluorescence-Detector	1153-1012, 0.15 mL	0352-0041	**Single-Step Reaction** o-phthaldialdehyde (OPA) / mercaptoethanol-derivative
Polyether Antibiotics, Sulfonamides	isocratic, RP-C18-Column UV-Detector	1153-1082, 1.4 mL	0352-0051	**Two-Step Reaction** vanillin or dimethylaminobenzaldehyde in methanolic sulfuric acid
Sulfonamides	isocratic, RP-C18_Column Fluorescence-Detector	1153-1032, 1.4 mL		**Single-Step Reaction:** Fluorescamine

Other Applications

Application	Gradient / Column / Eluents / Detector	Product No., Reactor Size	Pickering-Kit	Derivatization Reagent(s)
Chrom (III)/(VI)	isocratic, Ion-Exchange-Column UV-Detector	1153-1012, 0.15 mL		**Single-Step Reaction** 1,5-diphenylcarbazide in methanolic sulfuric acid
Formaldehyde	isocratic, RP-C18-Column Buffer Fluorescence-Detector	1153-1022, 0.5 mL		**Single-Step Reaction:** 2,4-pentadion in acidic buffer
Paralytic Shellfish Toxins	Binary gradient, RP-C18-Column Ion-Pair-Reagent, ACN, Buffer Fluorescence-Detector	1153-1062, 1.0 mL	0352-0052	**Two-step reaction:** 1) periodic acid in alkaline buffer 2) diluted nitric acid
Polyphosphates / Phosphonats	isocratic, binary gradient Ion-Exchange-Column, Buffer UV-Detector (Trione)	*on request,* 2.0 - 2.5 mL		**Two-step reaction:** 1) HNO_3 resp. ammonium peroxodisulfate 2) molybdenum-vanado reagent

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Heavymetals and Earth Alkaline Elements	isocratic, Ion-Exchange-Column UV-Detector (Trione)	*on request*, 0.7 mL		4-(2-pyridylazo)resorcinol (PAR) / zinc-EDTA-solution
Vitamin B1 (Thiamine)	isocratic, RP-C18-Column Ion-Pair Reagent, Buffer Fluorescence-Detector (OPA)	1153-1022, 0.5 mL		**Single-step reaction:** alkaline potassium ferricyanide solution
Vitamin B6 (Pyridoxin / Pyridoxal)	isocratic, RP-C18-Column Buffer Fluorescence-Detector (OPA)	1153-1022, 0.5 mL		**Single-step reaction:** semicarbazide
D-Biotin (Vitamin B7)	isocratic, RP-C18-Column Phosphatbuffer, Methanol Fluorescence-Detector	on request, 2.0 mL		**Single-step-reaction:** **Avidin-FITC**
Bromate	isocratic, Ion-Exchange-Column UV-Detector (Trione)	1153-1022, 0.5 mL	0785150, (Anionen changing column)	**Single-step reaction:** o-Dianisidine dihydrochloride solution , HNO_3 / KBr
Vogliobose	isocratic, Amino Column Fluorescence-Detector (OPA)	1153-1102, 3.5 mL	1446250, (Amino column)	**Single-step reaction:** taurine, natriumperidodat in water
NDELA	isocratic, RP-C18-Column UV-Detector (Trione)	1153-1098, 1.0 mL		**Single-step reaction:** 1 (Naphthyl) ethylenediumin-dihydrochloride, water, Sulfanilamide, o-phosphosacid

For furher information about application notes please visit us at **www.lctech.de/e/post-column-derivatization**

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