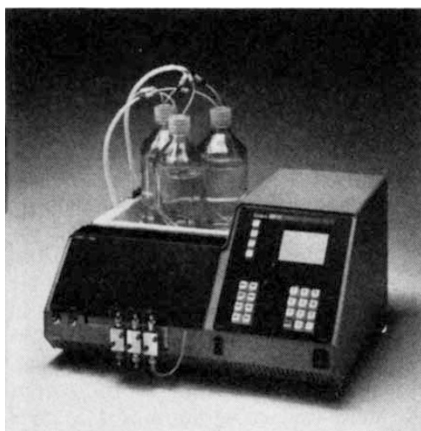


# Forensics and receptor binding

Forensic drug analysis is covered in a new data sheet and a new system simplifies receptor binding assays.

- Latest option for EG&G Ortec's System 5000 energy dispersive spectrometer is the Model 5165 system for digital beam control and X-ray colour mapping. The Model 5165 allows the System 5000 to store and display up to 12 elemental maps of data acquired from an energy dispersive X-ray spectrometer connected to an electron microscope. All 12 maps plus a histogram and an expanded display of one of the maps may be displayed simultaneously. *Reader Service No. 100.*

- Two new polymeric ion-exchange columns have been developed by Interaction Chemicals Inc. for the separation of peptides that are difficult or impossible to separate using silica-based columns. Column efficiencies approach 100,000 plates per metre. The BIO-10 column contains a low capacity material particularly suited for separation of acidic peptides. The BIO-20 column contains a low capacity polymer that will easily separate basic peptides using low ionic strength eluents at elevated pH values. Acidic peptides are not retained on this column, so group separations are readily accomplished. Both polymers are stable from pH 0 to 15 and can be used with most aqueous eluents. *Reader Service No. 101.*



The Model 9600 from Eldex.

- The Eldex Model 9600 is an integrated, programmable solvent delivery system designed for applications ranging from micro-bore HPLC separations to high-resolution preparative scale purification. The Model 9600 is designed to generate ternary gradients with pulse-free solvent delivery and is fitted with ports for interfacing with other chromatography peripherals. *Reader Service No. 102.*

These notes are based on information provided by the manufacturers. For further details circle the appropriate numbers on the Reader Service Card bound inside the journal.

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APPLIED SEPARATION TECHNIQUES

FIELD OF INTEREST: Rapid Identification of Anesthetic Gases

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APPLICATION: Gas Chromatographic Analysis of Aliphatic and Aromatic Hydrocarbons in Admixture

FIELD OF INTEREST: Analysis of solvent mixtures in a gas phase analysis e.g. auto exhaust analysis, zoning for odours, etc. and analysis of liquid phase solvents in a liquid phase analysis, synthetic hydrocarbons in wastes employing mixed solvents in product tests (gas, solvents)

INTRODUCTION: This G.C. procedure employs the polar stationary phase: 1, 2, 3-tris (2-cyanoethoxy) propane (TCPE). The material was first employed by H. McNeil et al. for aromatic hydrocarbons, alcohols, ethers, amines and carbon oxides, when its application permits the simultaneous analysis of aliphatic and aromatic hydrocarbons in admixture.

EQUIPMENT: GOW-MAC Series 700 Flow Injection Gas Chromatograph (GOW-MAC Model 10-100) Flow Control Module, Stainless steel column: 10 m. packed with 10% w/w TCPE on 2/32 mesh 12-cyanoethoxy propane on Chromosorb P, 1/8" ID, 100 mesh, Microtite 1/8" ID, 100 mesh, 500 µm particle size, 500 µm diameter.

OPERATING CONDITIONS: Flow Rate: Carrier: Helium 20 ml/min (use 100 µm diameter column); Hydrogen: 30 ml/min; Air: 100 ml/min; Temperature: Column: 60 °C; Injection Port: 80 °C; Detector: 110 °C; Abundance: A = 10 (using gain multiplier) 16, 111 (using gain multiplier)

ANALYSIS: Chromatogram A displays the separation and retention times of all eight component mixture of aliphatic and aromatic hydrocarbons containing all hydrocarbons of low molecular weight. Chromatogram B displays the separation and retention times of all hydrocarbons of low molecular weight. The quantities listed in the table are for the aliphatic components and B2 chromatogram to the journal.

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GM-133 S

- Four new data sheets from Gow-Mac cover novel topics. One discusses "Forensic and Analytical Toxicological Drug Analysis", the second discusses other "Analytical and Toxicological Drug Analysis" the third discusses "Forensic Toxicology", and the fourth discusses a new instrument, the 740-770P series of gas chromatographs. To receive copies of these data sheets and a list of others available use the Reader Service Card. *Reader Service No. 103.*

- Miles Scientific offers six monoclonal antibodies to four major groups of proteins: collagen Type IV, laminin, keratin sulphate and proteoglycan. (Three antibodies directed to three types of chondroitin sulphate stubs remaining after chondroitinase ABC digestion.) All antibodies are broadly species reactive except collagen Type IV, which appears specific for human tissue and cells only. *Reader Service No. 104.*

- Receptor binding assays are simplified by a new system from Skatron based on the Skatron Cell Harvester. Operation of the instrument involves simultaneous filtration (under reduced pressure) of twelve incubation samples suitably held in Macrowell tubes. A specially designed suction unit head effectively washes the contents of the tubes onto a suitable filter paper — Skatron recommends glass-fibre filter catalogue no. 7034. The Skatron Filterpunch transfers the disks of filter material, six at a time, directly into scintillation vials. *Reader Service No. 105.*

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- Now available from Genzyme Corporation for use in glycoprotein research is *N*-glycanase (peptide *N*-glycosidase F). The ultrapure enzyme cleaves all asparagine-linked glycan chains from glycoproteins to yield a carbohydrate-free polypeptide and oligosaccharides with the reducing end of their chitobiose cores intact. The enzyme preparation is also completely free of proteases and other endo- or exoglycosidase activities. The purity and broad specificity for complex, hybrid and high-mannose oligosaccharide structures makes the enzyme useful for structural and functional studies of the sugar and polypeptide portions of glycoproteins. *Reader Service No. 106.*

- A new Biorad cation exchange HPLC column offers high resolution, high sample loads and high recoveries of biologically active proteins and peptides. Called Bio-Gel TSK SP-5PW, the new resin-based column can operate in the pH range 2-12. Either acid (0.1M HCl) or base (0.1M NaOH) washes may be used to clean the column. Pore size is 1,000 Å, so the SP-5PW matrix can separate proteins with molecular weights as high as one million with no loss of capacity, resolution or column life. Loading capacity is in the range 1-5 mg for the protein of interest. *Reader Service No. 107.*



The Reichert-Jung Polyvar with new condenser.

- A new condenser for the Reichert-Jung Polyvar photomicroscope overcomes the difficulties inherent in illuminating very large fields at different magnifications. Instead of having to re-arrange the optical elements in the condenser and adjust the aperture and field size to accommodate the objectives being used, the operator can utilize the widefield condenser 0.90/0.32 NA system to provide uniform illumination within a broad magnification range. *Reader Service No. 108.*