Spectrophotometric Determination of Hydrochlorothiazide and Reserpine in Combination

An accurate and simple method is proposed for the determination of hydrochlorothiazide and reserpine. The former is determined by the application of the differential spectrophotometric method and the latter by formation of a charge-transfer complex with iodine. The procedure has been applied successfully to the determination of hydrochlorothiazide and reserpine when present in combination with a concentration of hydrochlorothiazide 100× that of reserpine.

Keywords: *Hydrochlorothiazide determination*; *reserpine determination*; *spectrophotometry*

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Analyst, 1978, **103**, 354–358.

Fluorescence Properties of Metoclopramide and Its Determination in Pharmaceutical Dosage Forms

The native fluorescence characteristics of metoclopramide in various solvents and at different pH values were determined qualitatively and quantitatively. Fluorimetric determinations can be performed directly and are based on an intense emission at 360 nm that occurs when the sample is excited at 310 nm following dilution in pH 2.0 buffer solution to a final concentration up to 6 μg ml^{-1}. The detection limit is 3×10^{-2} μg ml^{-1}.

A comparison is made between the fluorescence behaviour of metoclopramide and the structurally analogous procainamide molecule. Finally, metoclopramide has been converted into its monoacetyl derivative at the primary aromatic amine function. Spectral data confirming the structure are reported. Apart from the second-order excitation shoulder at 275 nm, no significant difference concerning fluorescence behaviour, qualitative or quantitative, between the acetyl derivative and the original molecule is established.

Keywords: *Fluorimetry*; *metoclopramide fluorescence properties*; *metoclopramide determination*; *pharmaceutical analysis*

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Analyst, 1978, **103**, 359–367.

Determination of Substituted Ureas and Some Related Herbicide Residues in Soils by Gas Chromatography

A method for the determination of 11 substituted ureas and related herbicides in soils is described. Acetone extraction is followed by alkaline hydrolysis, steam distillation and concentration of anilines in toluene, the last three steps being carried out in a single operation using a liquid - liquid extractor. The anilines, after partition into hydrobromic acid, are brominated and determined by gas chromatography with an electron-capture detector. The procedure is sufficiently sensitive for investigations into problems of crop damage and can be applied to a wide variety of soil types. An additional step to remove interference due to the presence of aniline metabolites is also described. The limit of detection is 0.01 mg kg^{-1} and recoveries at residual levels are generally better than 80%.

Keywords: *Substituted urea determination*; *herbicide residue determination*; *gas chromatography*

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Analyst, 1978, **103**, 368–374.

Application of Gas - Liquid Chromatography to the Analysis of Essential Oils

Part VI. Determination of Limonene and 1,8-Cineole in Oils of Peppermint (Varieties *Mentha*)

Report prepared by the Essential Oils Sub-Committee.

Keywords: *Limonene determination*; 1,8-*cineole determination*; *oils of peppermint*; *gas - liquid chromatography*

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Analyst, 1978, **103**, 375–381.

Microbiological Determination of Zinc Bacitracin in Animal Feedingstuffs

Report prepared by the Antibiotics in Animal Feedingstuffs Sub-Committee.

Keywords: *Zinc bacitracin determination*; *microbiological assay*; *animal feedingstuffs*; *antibiotics*

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Analyst, 1978, **103**, 382–390.

Standardised General Method for the Determination of Iron with 1,10-Phenanthroline

Report prepared by the Iron Sub-Committee.

Keywords: *Iron determination*; 1,10-*phenanthroline*; *spectrophotometry*

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Analyst, 1978, **103**, 391–396.

Gas-chromatographic Determination of Some Sulphur Gases at the Volumes per Million Level in Air Using Tenax-GC

Short Paper

Keywords: *Sulphur gas determination*; *gas chromatography*; *Tenax-GC*; *air analysis*

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Analyst, 1978, **103**, 397–400.

Development of Acidity in Non-ionic Surfactants: Formic and Acetic Acids

Short Paper

Keywords: *Non-ionic surfactant decomposition*; *pharmaceutical adjuvants*; *degradation*; *storage*

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Analyst, 1978, **103**, 400–402.

Comparison of Different Forms of Cadmium as Reducing Agents for the Batch Determination of Nitrate

Short Paper

Keywords: *Nitrate batch determination*; *cadmium reduction*; *spectrophotometry*; *water analysis*

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Analyst, 1978, **103**, 403–406.

Determination of Nitrogen with Copper as Catalyst for High-temperature Digestion

Short Paper

Keywords: *Nitrogen determination*; *clinical analysis*; *automatic analysis*; *digestion*; *spectrophotometry*

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Analyst, 1978, **103**, 406–409.

Improvement of the Nebuliser Pattern of a Flame Photometer

Short Paper

Keywords: *Flame photometer*; *nebuliser pattern*; *glycerol*; *plant digests*

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Analyst, 1978, **103**, 409–410.

Effect of Cyanoethylation on End-point Sharpness in Catalytic Thermometric Titrations with Acrylonitrile as the Indicator Reagent

Communication

Keywords: *Cyanoethylation*; *anionic polymerisation*; *catalytic thermometric titrimetry*

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Analyst, 1978, **103**, 411–412.

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