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Pyrolyse-GC, GC/MS Notes

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PYA1-001E	Analysis of Residual Oligomers in Polystyrene (PS); Part 1: Thermal Extraction in Evolved Gas Analysis (EGA)
PYA1-002E	Analysis of Residual Oligomers in Polystyrene (PS); Part 2: Thermal Extraction Conditions and Quantitative Analysis
PYA1-003E	Analysis of Acrylonitrile Butadiene Rubber (NBR) by Double-Shot Technique
PYA1-004E	Analysis of Antioxidants in Acrylonitrile Butadiene Rubber (NBR); Part 1: Study of Thermal Extraction by Evolved Gas Analysis (EGA)
PYA1-005E	Analysis of Antioxidants in Acrylonitrile Butadiene Rubber (NBR); Part 2: Reproducibility in Quantitative Analysis
PYA1-006E	Analysis of Offensive Odor Components in Polypropylene (PP) Pellets
PYA1-007E	Analysis of Alkylketene Dimers (AKD) in Paper
PYA1-008E	Analysis of Stereoregularity of Polymethyl Methacrylate (PMMA)
PYA1-009E	Composition Analysis of a Multi Component Acrylate Copolymer
PYA1-010E	Analysis of Ceramic Composite Materials with Double-Shot Pyrolyzer and Peripheral Devices; Part 1: Evolved Gas Analysis (EGA) and Library Search using EGA-MS Polymer Library

PYA1-011E	Analysis of Ceramic Composite Materials with Double-Shot Pyrolyzer and Peripheral Devices; Part 2: Data Analysis by EGA-MS with Mass Chromatogram Method
PYA1-012E	Analysis of Ceramic Composite Materials with Double-Shot Pyrolyzer and Peripheral Devices; Part 3: Analysis by Heart cutting EGA-GC/MS Technique
PYA1-013E	Composition Analysis of Adhesives Using Double-Shot Pyrolyzer and Peripheral Devices; Part 1: EGA and Library Search with EGA-MS LIB
PYA1-014E	Composition Analysis of Adhesives Using Double-Shot Pyrolyzer and Peripheral Devices; Part 2: Analysis by EGA-GC/MS Technique
PYA1-015E	Analysis of Compounded Rubber by Double-Shot Technique
PYA1-016E	Analysis of Thermoset Resin Using Double-Shot Pyrolyzer and Peripheral Devices; Part 1: Evolved Gas Analysis (EGA) and Library Search with EGA-MS LIB
PYA1-017E	Analysis of Thermoset Resin Using Double-Shot Pyrolyzer and Peripheral Devices; Part 2: Analysis by EGA-GC/MS Technique
PYA1-018E	Analysis of Printer Toner Using Double-Shot Pyrolyzer and Peripheral Devices; Part 1: Evolved Gas Analysis (EGA) and Library Search by EGA-MS LIB
PYA1-019E	Analysis of Printer Toner Using Double-Shot Pyrolyzer and Peripheral Devices; Part 2: Analysis by Heart Cut EGA-GC/MS Technique
PYA1-020E	Characterization of Polysiloxanes by Py-GC/MS
PYA1-021E	Quantitative Analysis of Trace Amount of Butadiene Rubber in High Impact Polystyrene (HIPS)
PYA1-022E	Analysis of Food Wrap Film Using Double-Shot Pyrolyzer; Part 1: Analysis with Evolved Gas Analysis (EGA)
PYA1-023E	Analysis of Food Wrap Film Using Double-Shot Pyrolyzer; Part 2: Analysis of Polyvinylidene chloride (PVDC) by EGA Heart-Cut GC/MS Technique
PYA1-024E	Analysis of Food Wrap Film Using Double-Shot Pyrolyzer; Part 3: Analysis of Polypropylene (PP) + Nylon by EGA GC/MS Technique
PYA1-025E	Analysis of Food Wrap Film Using Double-Shot Pyrolyzer; Part 4: Analysis of Evolved Gases Components at 100°C
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PYA1-032E	Analysis of Volatile Components of Crude Drug "Propolis" by Heart-cut EGA-GC/MS
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PYA1-035E	Studies of Curing Process of Epoxy Resins by Py-GC - Cured with Hexahydrophthalic Acid Anhydride (HHPA) -
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PYA1-042E	Discriminative analysis of Eucalyptus camaldulensis grown from seeds of various origins based on lignin components measured by Py-GC
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PYA1-044E	Tacticity of methacrylic copolymers studied by Py-GC
PYA1-045E	A novel approach to the characterization of end groups in styrene-methyl methacrylate copolymers by Py-GC
PYA1-046E	Photodegradative changes in chemical structures of silk studied by Py-GC with sulfur chemiluminescence detection

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PYA1-072E	Simple quantitative analysis of a brominated flame retardant in polyester film pressure sensitive electrical insulating tape by thermal desorption GC/MS
PYA1-073E	Thermal desorption GC/MS of brominated flame retardant - Optimization study of PY/GC interface and GC injector temperatures for EGA/PY-3030D -
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PYA1-082E	Quantitative analysis of phthalate Bis(2 - Ethylhexyl) Phthalate (DEHP) in heat resistant PVC sheath using ASTM D7823-14 (thermal desorption-GC/MS)
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PYA1-084E	Comparing glass and deactivated stainless steel sample cups - Part 2 Analysis of fatty acids in <i>Salmonella</i> by reactive Py-GC/MS
PYA1-085E	Evaluation of the aged deterioration of PE pipes used for a hot-water heating system (2)

PYA1-086E	Determination of antioxidant Irganox 1098 in ethylene-vinyl alcohol copolymer using Py-GC/MS
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PYA1-089E	Sampling of micro-samples using Micro Sample Collector (1) - Qualitative analysis of unknown powders on a table cloth -
PYA1-090E	Sampling of micro-samples using Micro Sample Collector (2) - Qualitative analysis of unknown powders on a table cloth -
PYA1-093E	Cure failure analysis of a two-component epoxy resin
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Reaktive Pyrolyse Notes

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PYA2-002E	Analysis of Diethylene Glycol (DEG) in Polyethylene Terephthalate (PET)
PYA2-003E	Simple Determination of Cellulose by Reactive Pyrolysis in Presence of Cobalt Sulfate
PYA2-004E	Composition Analysis of Fully Aromatized Polyester by Py-GC Utilizing Reactive Pyrolysis
PYA2-005E	Analysis of Polybutylene Terephthalate (PBT) by Reactive Pyrolysis
PYA2-006E	Analysis of Polyethylene Terephthalate (PET) by Reactive Pyrolysis

PYA2-007E	Analysis of Polypyromellitimide (PI) by Reactive Pyrolysis
PYA2-008E	Characterization of Natural Resin Shellac by Reactive Py-GC in the Presence of Organic Alkali
PYA2-009E	Compositional analysis of polyunsaturated fatty acid oil by one-step thermally assisted hydrolysis / methylation in the presence of trimethylsulfonium hydroxide (TMSH)
PYA2-010E	Effect of Coexisting Inorganic Impurities on Reactive Py-GC in the Presence of Organic Alkali
PYA2-011E	Precise Compositional Analysis of Industrially-Used Natural Wax by Reactive Py-GC in the Presence of TMAH
PYA2-012E	Discriminative Analysis of Natural Waxes by Reactive Py-GC followed by Multivariate Analysis Method
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PYA2-014E	Unequivocal Identification of Pyrolysis Products by Retention Index Data
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PYA2-016E	Characterization of the Network Structures in UV-Cured Acrylic Ester Resin by Reactive Py-GC
PYA2-017E	Direct Determination of a Polymeric Hindered Amine Light Stabilizer in Polypropylene by Reactive Thermal Desorption-GC
PYA2-018E	Highly Sensitive Determination of Lipids in Zooplankton by Reactive Py-GC in the presence of Trimethylsulfonium Hydroxide
PYA2-019E	Determination of the Cross-linking Agent in Cross-linked Polycarbonate by Reactive Pyrolysis GC/MS
PYA2-020E	Determination of Residual Bisphenol A in Polycarbonate by Thermal Desorption (TD)-GC/MS with TMS-Derivatization
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PYA2-024E	Effect of elapsed time after the addition of tetramethylammonium hydroxide in reactive pyrolysis
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PYA2-026E	Quantitative reactive pyrolysis of liquid crystal polyesters using the “sandwich” prep method
PYA2-027E	Determination of trace organophosphonate surfactant in aqueous media using Reactive Pyrolysis-GC/MS
PYA2-029E	Development of an On-line micro Reaction Sampler
PYA2-030E	Analysis of fatty acids in a cooking oil using an On-line micro Reaction Sampler
PYA2-031E	Determination of fatty acids in SBR rubber using reactive pyrolysis GC/MS
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Evolved Gas Analysis Notes

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PYA3-003E	Analysis of Flame Retardant Polymers; Part 1: Analysis of Evolved Gases using Atomic Emmission Detector (AED)
PYA3-004E	Analysis of Flame Retardant Polymers; Part 2: Analysis of Evolved Gases (EGA) using Mass Spectrometer (MS)
PYA3-006E	Analysis of Rubber composition with EAG and EGA Polymer MS Library (EGA-MS LIB)

PYA3-007E	Thermal Degradation Studies of Flame-Retarded PBT by Temperature Programmed Py-GC/MS
PYA3-008E	Characterization of chitin-based polymer hybrids by EGA and EGA-GC/MS (1)
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PYA3-012E	Forensic Discrimination of Fibers by Evolved Gas Analysis and Library Search by F-Search
PYA3-013E	Differentiating plant fibers using Py-GC/MS
PYA3-014E	Viability of Evolved Gas Analysis with F-Search and an MS Library for Qualitative Analysis of Rubber Products
PYA3-015E	Differentiation of styrenic polymer using evolved gas analysis (EGA)-MS
PYA3-016E	Differentiation of <i>Lavandula angustifolia</i> (Lavender) species using EGA-MS
PYA3-017E	Differentiation of polyamides using evolved gas analysis (EGA)-MS
PYA3-018E	Quantitative analysis of red phosphorus flame retardant in polybutylene terephthalate by evolved gas analysis (EGA)-MS
PYA3-020E	Evaluation of the aged deterioration of PE pipes used for a hot-water heating system (1)
PYA3-021E	Analysis of yellowing of a polyvinyl chloride sheet. Part 1: Evolved gas analysis-MS
PYA3-022E	Analysis of yellowing of a polyvinyl chloride sheet. Part 2: Heart-cut EGA-GC/MS
PYA3-023E	Outdoor exposure tests of 6,6-nylon cable ties - usefulness of evolved gas analysis (EGA)-MS -
PYA3-024E	Determination of red phosphorus in phenol resin
PYA3-025E	Analysis of polyvinyl alcohol contaminated by a small amount of polymer using heart-cut (HC) EGA-GC/MS

PYA3-026E Outdoor exposure tests of 6,6-nylon cable ties - Use of thermal desorption (TD)-GC/MS -

PYA3-027E Analysis of oil-based black inks - Comparison of good and defective inks -

Carrier Gas Selector Notes

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PYA4-001E	Applications Using Carrier Gas Selector; Part 1: Pyrolysis of Polystyrene (PS) in Air
PYA4-002E	Applications Using Carrier Gas Selector; Part 2: Evolved Gas Analysis (EGA) of Polystyrene in Air
PYA4-003E	Analaysis Examples Using Carrier Gas Switcher; Part 3: Pyrolysis of Polycarbonate (PC) in Air
PYA4-004E	Analysis Examples Using Carrier Gas Switcher ; Part 4: Pyrolysis of Polystyrene (PE) in Air
PYA4-007E	Effect of hydrogen carrier gas on Py-GC/MS analysis of polymers; Part 1 Hydrogenation of HDPE pyrolyzates
PYA4-008E	Effect of hydrogen carrier gas on Py-GC/MS analysis of polymers; Part 2 Hydrogenation of HDPE pyrolyzates in EI source of MS
PYA4-009E	Effect of hydrogen carriers gas on Py-GC/MS analysis of polymers; Part 3 Library search using existing database

UV Irradiation /Pyrolysis Gas Chromatography/Mass Spectroscopy (UV/Py-GC/MS) Notes

No.	Article name
PYA5-001E	Analysis of volatiles released from a UV curable resin using UV/Py-GC/MS technique
PYA5-002E	Study of Photo/Thermal/Oxidative degradation of Polycarbonate Using UV/Py-GC/MS
PYA5-003E	Analysis of the photo/thermal/oxidative degradation products formed when high impact polystyrene (HIPS) is UV irradiated
PYA5-004E	EGA thermogram of degraded high impact polystyrene
PYA5-005E	Papid evaluation of ethylene vinyl acetate degradation using online UV irradiation Py-GC/MS
PYA5-006E	Photo, thermal and oxidative degradation of EPDM rubber using online UV irradiation PY-GC/MS
PYA5-007E	Multi-Sample UV Irradiator - Part 1 Development -
PYA5-008E	Multi-Sample UV Irradiator - Part 2 Comparison of degradation degree by sample cup position -
PYA5-009E	Multi-Sample UV Irradiator - Part 3 Correlation with Micro-UV Irradiator -

Pyrolyzer Hardware & Accessories Technical Notes

No.	Article name
PYT-001E	Features of Double-Shot Pyrolyzer PY-2020D & iD; Part 1: Two Guaranteed Performance Specs
PYT-002E	Features of Double-Shot Pyrolyzer PY-2020D & iD; Part 2: Two Guaranteed Performance Specs
PYT-003E	Features of Double-Shot Pyrolyzer PY-2020D & iD; Part 3: Elution of High Boiling Components and it's Importance
PYT-004E	Three Analytical Techniques of Double-Shot Pyrolyzer PY-2020D & iD; Part 1: Evolved Gas Analysis
PYT-005E	Three Analytical Techniques of Double-Shot Pyrolyzer PY-2020D & iD; Part 2: Instant Pyrolysis (Single-Shot-Technique)
PYT-006E	Three Analytical Techniques of Double-Shot Pyrolyzer PY-2020D & iD; Part 3: Multi-Step Pyrolysis (Double-Shot Technique)
PYT-007E	Correlation Between Evolved Gas Analysis and Thermal Gravimetric Analysis with the Double-Shot Pyrolyzer
PYT-008E	Temperature Stability and Cooling Performance of Double-Shot Pyrolyzer (PY-2020D)
PYT-009E	Temperature Profiles and Pyrolyzer Heating Systems
PYT-010E	Comparison of Free-Fall Sample Introduction versus Sliding Sample Introduction
PYT-012E	Effects of Pyrolysis Temperature of Pyrograms
PYT-013E	Finding Proper Pyrolysis Temperature
PYT-014E	Reproducibility of EGA Curves in Evolved Gas Analysis (EGA)
PYT-015E	Operational Principle of Auto Shot Sampler (AS-1020E)

PYT-016E	Reproducibility of Pyrograms Obtained with Auto Shot Sampler (AS-1020E) and Double-Shot Pyrolyzer
PYT-017E	Polymer Prepper, A Simple Polymer Pulverizing Tool for Py-GC; Part 1: Surface Form and Contamination Removal
PYT-018E	Polymer Prepper, A Simple Polymer Pulverizing Tool for Py-GC ; Part 2: Comparison with Other Pretreatment Methods
PYT-019E	Operational Principle of MicroJet Cryo Trap (MJT-1030E)
PYT-022E	Operational Principle of Selective Sampler (SS-1010E)
PYT-023E	Points to Consider in Obtaining Pyrograms by Py-GC/MS in Air Circumstance
PYT-024E	Procedures for Acquiring Pyrograms in Air and Its Automation
PYT-025E	Improvement of Temperature Profile at Py-GC Interface by Heat Sink Adaptor and Reduction of Memory Effect for Low and Reactive Volatile Component
PYT-026E	Improvement of Temperature Profile at Py-GC Interface and Yield Enhancement of High Boiling Components by Heat Sink Adaptor
PYT-027E	Effects of Temperature on the pyrolysis of polystyrene (PS) in air
PYT-028E	Splitless-mode sample introduction in Py-GC system
PYT-029E	Suppression of secondary reactions by using "flow-through cup"
PYT-030E	Correlation between Evolved Gas Analysis and Thermogravimetry (TG) - Correlation in apex temperatures between EGA and TG -
PYT-031E	S/N ration comparison of thermograms obtained by Evolved Gas Analysis (EGA-MS) and Thermogravimetry (TG)
PYT-032E	Development of a micro-sample collection tool (Micro Sample Collector: MSC)

Capillary Columns - Ultra Alloy Application Notes

No.	Article name
UAA-001E	Analysis of Free Alkylphenols and Phthalate Esters Using Ultra ALLOYR-5(P) Column
UAA-002E	Analysis of Butter Using Ultra ALLOY-TRG, A Column Designed for Triglycerides Analysis
UAA-003E	Analysis of Polywax 655 Using Ultra ALLOY-SIM Column for Simulated Distillation
UAA-004E	Analysis of Agricultural Chemicals Using Ultra ALLOY-1(S) Column for Trace Amount Analysis
UAA-005E	Effectiveness of Deactivated Quartz Insert in Trace Analysis

Capillary Columns - Ultra Alloy Hardware Notes

No.	Article name
UAT-001E	Comparing Ultra ALLOY Metal Capillary Column with Fused Silica Capillary Columns
UAT-002E	Inner Surface Structure of Ultra ALLOY Metal Capillary Columns (Contamination Durability)
UAT-003E	Thermal Resistance (Bleeding) of Ultra ALLOY Metal Capillary Columns
UAT-004E	Mechanical Strength (Flexural Strength) of Ultra ALLOY and other Metal Capillary Columns
UAT-005E	Contamination Resistance of Ultra ALLOY Metal Capillary Columns
UAT-006E	Development of Ultra ALLOY® metal capillary column for analysis of brominated flame retardants