

DANI

A SCENT OF FUTURE

Master COMBI

MULTI-TASK AUTOSAMPLER & SAMPLE HANDLING STATION

MULTI INJECTION TECHNIQUES

ROBOTIC SAMPLE HANDLING

ENHANCED AUTOMATION AND FLEXIBILITY

MAXIMIZED ACCURACY AND PRODUCTIVITY

INTELLIGENT TIME MANAGEMENT





Master **COMBI**

MULTI-TASK AUTOSAMPLER & SAMPLE HANDLING STATION

MASTERCOMBI MULTI SAMPLING STATION

When leading GC front-end sampling techniques meet the best-in-class robotic sample preparation platform for upmost versatility and productivity

DANI MasterCOMBI is a unique complete robotic platform incorporating the most common sampling and extraction techniques for a holistic approach in sample preparation and injection in a GC/MS system.

DANI MasterCOMBI is ideally mated to the MasterGC-TOFMS to conveniently exploit faster GC analyses, as well as compatible with third party GC systems for maximum versatility in configuration.

DANI MasterCOMBI delivers the highest analytical flexibility to sequence different sample matrices and dedicated methods for unattended around-the-clock operation.

MULTI INJECTION TECHNIQUES

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Master

MERGED TECHNOLOGY FOR UNIQUE MULTI-TASK SAMPLE HANDLING PLATFORM

When high throughput is required, then fast GC-MS is valorized by faster sample handling, unattended operation 24/7 and highest flexibility in terms of sampling techniques.

DANI MasterCOMBI is the unique multi-task autosampler integrating the "Valve&Loop" Static Headspace, Dynamic Headspace or P&T with SPME and Liquid Injection, featuring the benefits of the world renowned robotic platform highly configurable for sample handling and preparation, including derivatization, dilution, standard addition, in-vial extraction.



Dilution, Matrix modification
standard/surrogate additions



Vortex Mixing



In-Vial extraction

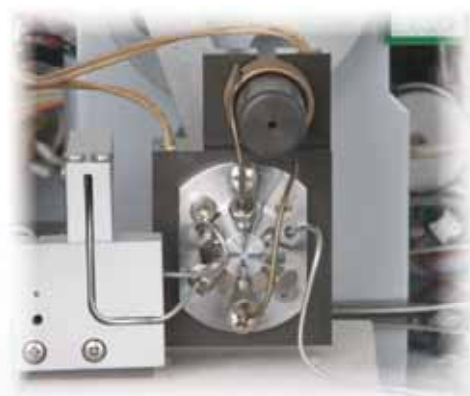


Derivatization

Full integration with PAL RTC platform extends the capability of the DANI Master Autosamplers for maximum flexibility, productivity and reliability in one single system:

INTEGRATION OF "VALVE & LOOP" STATIC HEADSPACE SAMPLER

Reference SHS technology in main industries finally works in synergy with Robotic Tools Change system with the possibility to enhance headspace extraction by automated matrix modification.



INTEGRATION OF P&T SAMPLER

No cross contamination with in-vial P&T technology now available as unique solution in combination with other sampling techniques as SPME and Liquid Injection for maximum flexibility in handling different sample matrices and wider concentration range.

INTEGRATION OF DYNAMIC HEADSPACE

Powerful enrichment technique now works in network with SPME and Liquid Injection for a wider range of sample volatility and polarity.



ENJOY AN EASY PROGRAMMING THROUGH A SMART SOFTWARE CONTROL

DANI MasterCOMBI is fully controlled in its sequential operation by Chronos SW which lets the user to increase the throughput of the analytical system based on intelligent time management.

WIDE COMPATIBILITY FOR EXTENDED CONFIGURATION CAPABILITY

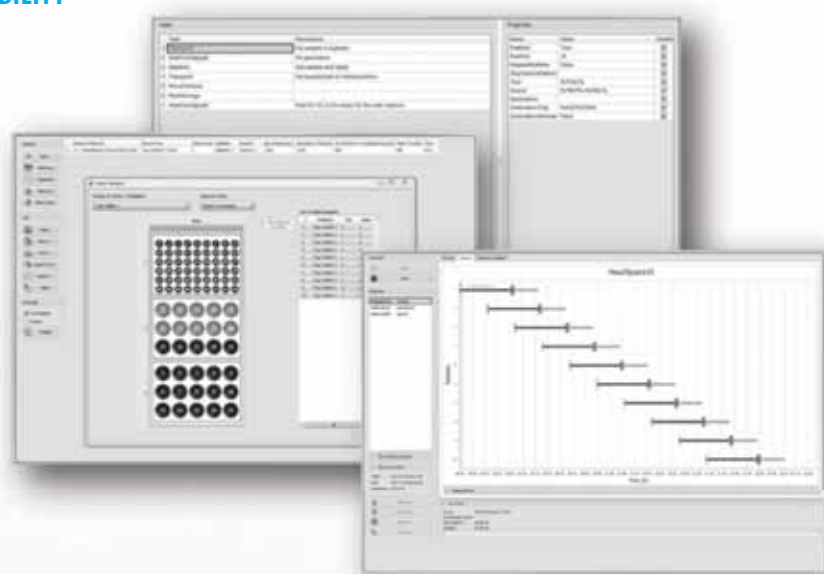
Chronos SW allows to import and export sample lists from DANI MasterLAB SW, Clarity SW and main third-party Data Systems as ChemStation and Xcalibur or cvs-format.

POWERFUL PROGRAMMABILITY OF ROBOTIC OPERATIONS

A powerful method editor allows to easily customize sequence of operations for the robotic system to fully automate time consuming and intrinsically inaccurate manual sample handling and to exploit the total integration of multi injection techniques capability.

INTELLIGENT TIME MANAGEMENT

Productivity is optimized by overlapping individual steps. No more waste time during sequences, vials incubation and analytical cycles. Intelligent management of priority samples is at your finger tip to efficiently handle laboratory needs .



WHICHEVER IS YOUR FIELD, MAKE YOUR APPLICATIONS SMARTER

DRUGS SCREENING

Drug testing has become widespread in several different settings as clinical, workplace, military, professional sports and forensic. Screening technology has been improved greatly to make available a single and fast GC method applicable to the most used drugs as Cannabis, Opioids, Cocaine, their metabolites and their adulterants from biological and autopsy samples. GC-MS is considered the gold standard for confirmatory tests but pre-treatment of the samples is mandatory for suitable derivatization. DANI MasterCombi configured with the MasterGC-TOFMS is the most versatile and automated platform for an effective time-reduction necessary for a desired high sample throughput.

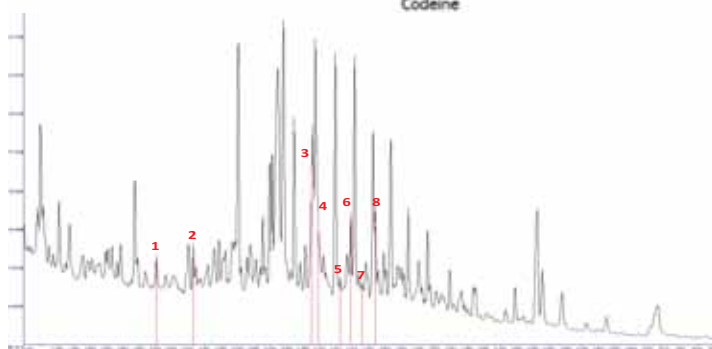
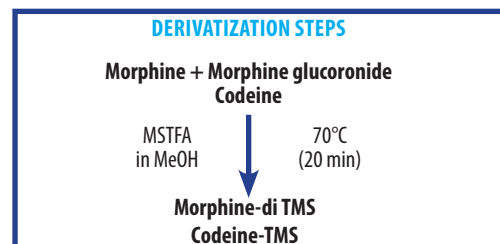
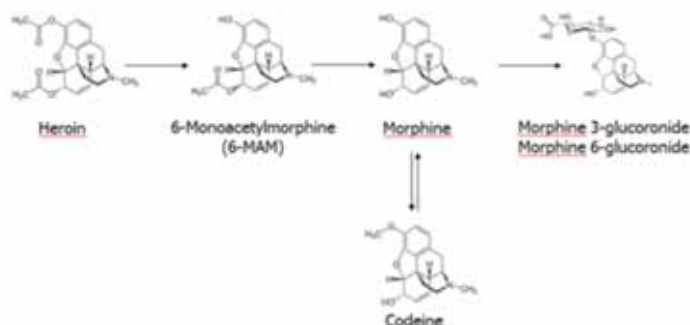


Figure 1. TIC chromatogram of Derivatized Opiates in Autopsy Plasma Sample

#	RT (min)	Match Find	Rev Match Find	Compound
1	4.360	867	883	Cotinine
2	4.783	895	898	Caffeine
3	6.153	739	858	SKF (IS)
4	6.233	503	659	Scopolamine (IS)
5	6.480	716	719	Codeine-TMS
6	6.606	700	701	Morphine-di TMS
7	6.753	720	723	Acetylmorphine-TMS
8	6.887	645	645	Nalorphine-di TMS (IS)

CONSUMER PRODUCTS QUALITY

World trading of consumer products as cosmetics, textiles, toys, packages, is imposing strict controls for possible hazardous chemicals harmful to human health and environment. Several different classes of compounds are of concern as allergens, phthalates, phenols, flame retardants, requiring multiple extraction techniques and specific sample treatment. Also manufacturing processes are in the need to keep consumer products quality under control by checking possible off-flavors responsible of bad perception or not acceptance by the final customer. The availability of multiple extraction techniques in a unique sample handling platform offered by the DANI MasterCOMBI, allows to greatly expand the analytical capability for different sample matrices and wider targets volatility and polarity in a sequence. Cumbersome sample handling and method optimization result dramatically simplified with significant time saving.

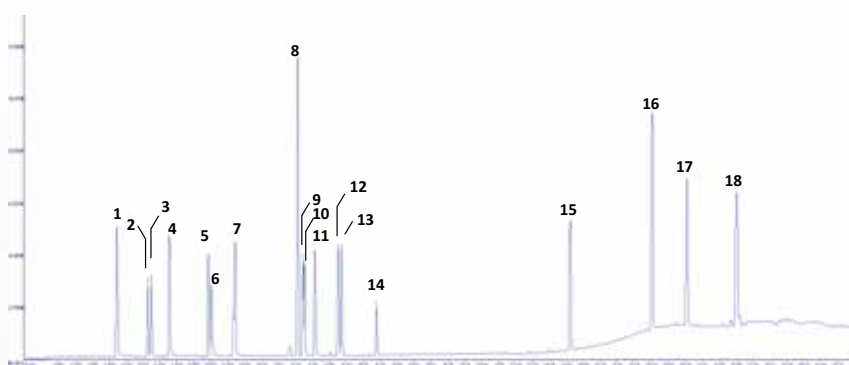


Figure 2. RIC chromatogram of volatiles from plastic material

#	RT (min)	Match Find	Rev Match Find	Compound
1	4.230	928	928	Isopropyl Alcohol
2	5.647	991	991	Ethyl Acetate
3	5.817	982	987	2-Methyl-1-Propanol
4	6.630	955	955	1-Methoxy-2-Propanol
5	8.416	946	948	Toluene
6	8.550	986	986	N,N-dimethylformamide
7	9.560	963	964	Dimethyl Sulfoxide
8	12.510	883	889	2-(2-mthoxypropoxy)-1-Propanol
9	12.740	910	911	1-(2-mthoxypropoxy)-2-Propanol
10	12.820	987	991	Butanedioic Acid, dimethyl ester
11	13.293	979	980	1-Methyl-2-Pyrrolidinone
12	14.363	976	980	1-Ethyl-2-Pyrrolidinone
13	14.510	986	986	Pentanedioic acid, dimethyl ester
14	16.116	963	981	Hexanedioic acid, dimethyl ester
15	24.973	810	823	Diisobutyl phthalate
16	28.726	904	908	n-Butyl benzyl phthalate
17	30.316	940	940	Diisooctyl phthalate
18	32.590	805	810	Di-n-octyl phthalate

KEY FEATURES

PARK STATION FOR ROBOTIC TOOL CHANGE

Exploit the flexibility of using the right tool for the best sample handling

- Park Station for up to three injection tools
- Availability for up to two Park Stations
- Liquid Syringe tool with variable volumes from 1.2 μ L to 10mL
- SPME tool with 10mm or 20mm fiber length



SAMPLE HANDLING MODULES

Configure the right tool for maximizing the automation of sample handling procedures

- Vortex mixer for 2mL / 10mL / 20 mL vials
- Incubator and agitator 2mL / 10 mL / 20 mL vials
- Large Wash module 2x1000mL solvent vials with connection to waste bottle
- Solvent Module 3x100mL for large solvent demands (i.e. dilutions)
- Barcode reader for 2mL / 10mL / 20 mL vials

MULTI EXTRACTION TECHNIQUES

- "Valve&Loop" Static Headspace with 18-vial oven capacity incubating up to 300°C for 10mL, 20mL, 22mL vials. MHE (Multiple Headspace Extraction) and MHI (Multiple Headspace Injection) capability
- Syringe Static Headspace for 2mL, 10mL, 20mL vials. Temperature from 40°C to 150°C in 1°C step
- Dynamic Headspace with Electronic Flow Control (EFC) and high temperature operation (up to 300°C)
- Purge&Trap with disposable vials, Electronic Flow Control (EFC) and Dew Stop for moisture removal
- SPME with 10mm or 20mm fiber length and multiple fibers operation capability for method development





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AUTHORIZED DEALER

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