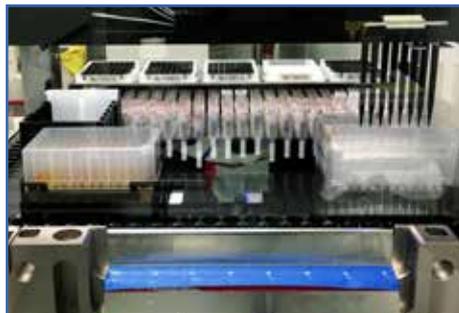


numares' Video Tutorial Series: AXINON[®] System - Automated high-throughput sample preparation*

**For sample preparation refer to respective IFUs of numares' AXINON[®] serum and urine kits. .*



For high sample volumes, we recommend sample preparation with liquid/pipetting handling robots (e.g. Tecan[®], Hamilton[®]).



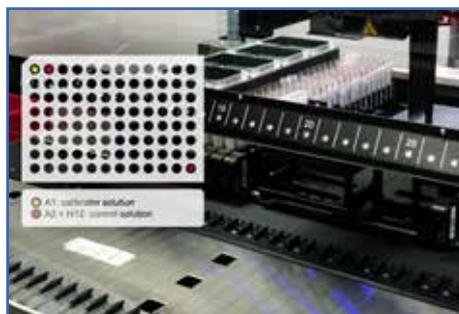
The automated sample preparation of 96 samples in parallel takes approximately 20 minutes. numares provides ready-to-use reagents for serum & urine samples.



Sample IDs are automatically scanned by a barcode reader.



The AXINON[®] kits consist of 3 ready-to-use components: control, calibrator and additives solution.



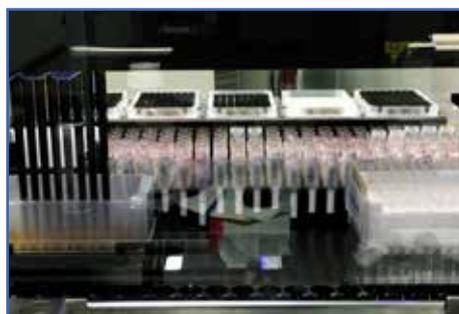
In a 96 well plate, position A1 is filled with calibrator solution, position A2 and H12 with control solution.



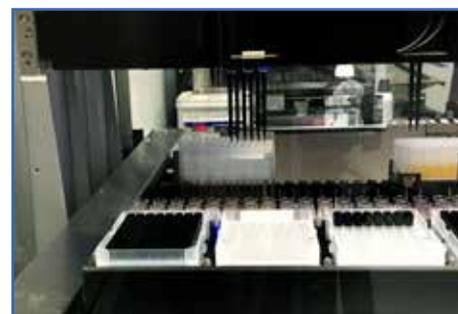
The other 93 wells are prefilled with the additives solution.



The analytes are transferred to the 96 well plate containing the additives solution.



The analytes are mixed carefully by the automatic multi-pipette of the robot.



600µl of the prepared samples have to be transferred to the NMR automation rack holding the NMR tubes.



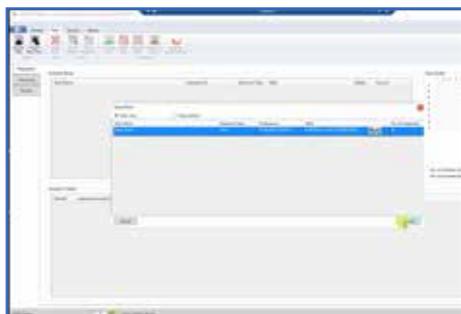
Alternatively, thin metal tips can be used for filling and air inclusion-free mixing.



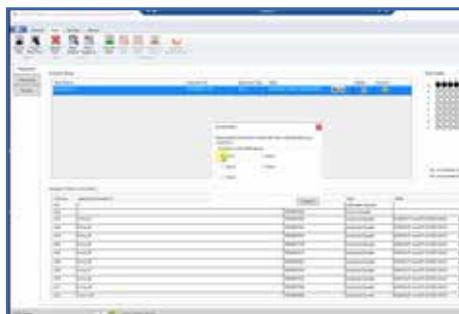
NMR tubes are closed with barcode caps and scanned. The cap barcodes are automatically assigned to the sample ID. The data is captured by the LI(M)S.



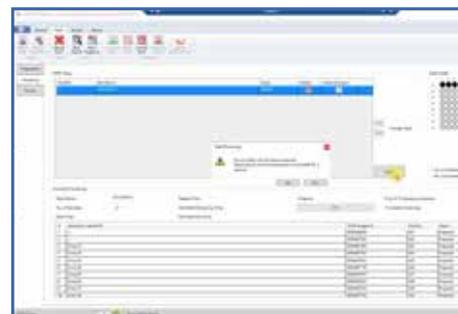
After the automatic pipetting process, the rack is transferred to a free slot in the SampleJet®. Keep slot number in mind.



Open AXINON® Software: Import data from the LI(M)S, which will provide the chosen test application.



Assign to the respective slot...



...and press „Start“ to start measurements.

More from the *numares'* Video Tutorial Series:



Find more helpful video tutorials on numares' YouTube channel...



numares' Video Tutorial Series: Sample Preparation

**Only for trained personnel. For sample preparation refer to respective IFUs of numares' AXINON® serum and urine kits.*



For higher sample volumes, all steps can be automated with liquid handling robots (e.g. Tecan® or Hamilton®).



For any sample preparation for the AXINON® System, please use exclusively numares' AXINON® serum or urine kit.*



Place respective additives solution into the prepared sample vials.



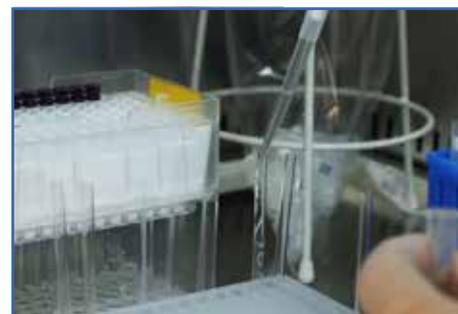
Transfer the analyte samples to the sample tubes containing the additives solution.

Note sample/additives ratios 10:1 (e.g. serum: 630µL/70µL) and 6:1 (e.g. urine: 600µL/120µL).



Mix carefully.

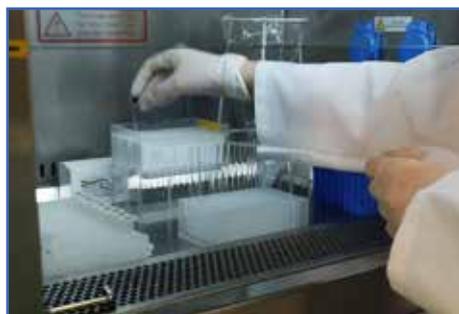
For urine samples: centrifuge the samples for 10 min. at 20,000 g.



Transfer 600µL of the prepared samples to NMR tubes - avoid any air inclusions by slowly draining the sample from the pipette.



Close each NMR tube thoroughly with an NMR cap.



Place the filled NMR tubes in a new NMR rack, starting at A3, A4, A5... H11.

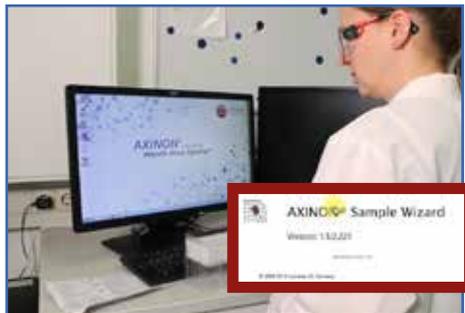
Leave position A1, A2 and H12 free.



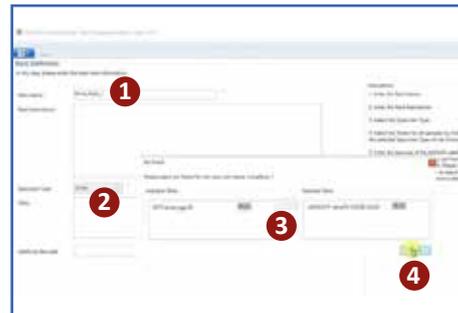
Prepare 1 NMR tube with calibrator and place at position A1.



Prepare 2 NMR tubes with quality control solution and place controls at positions A2 and H12.



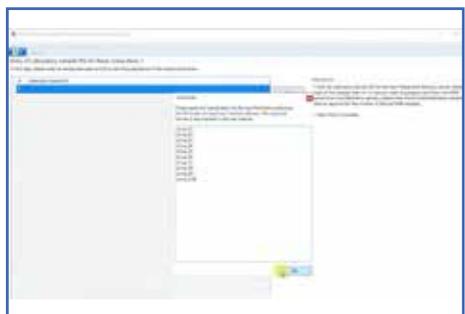
Open the AXINON® Sample Wizard and follow the instructions.



Name rack (1), select specimen type (2), choose required test module(s) (3) and click "Save" to continue (4).



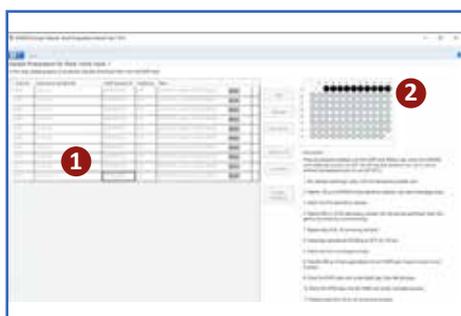
Scan the **additives solution barcode** in the kit IFU.



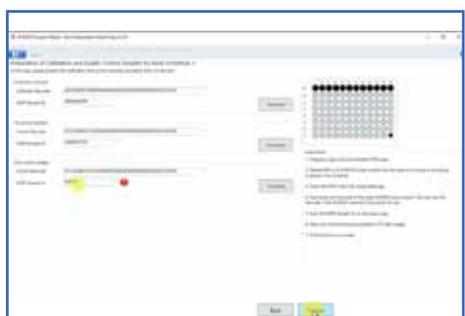
Enter the NMR Sample IDs or import the internal sample list and...



...scan all sample barcodes on the NMR caps, starting with A3.



All barcodes will be displayed in the AXINON® Sample Wizard (1). Scanned samples will be displayed as filled, black dots in the rack overview (2).



Continue with scanning the **calibrator barcode** in the IFU and the corresponding calibrator NMR cap. Then scan the **control barcode** in the IFU and the corresponding NMR caps of the 2 control samples. Save the loaded rack for the AXINON® Software by pushing „Finalize...“ (here the kit expiration



dates will be checked) and „Export rack“.



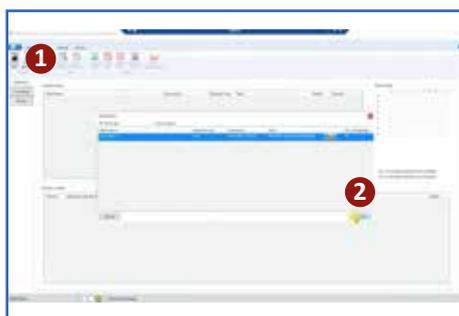
Transfer the rack to a free slot in the SampleJet.



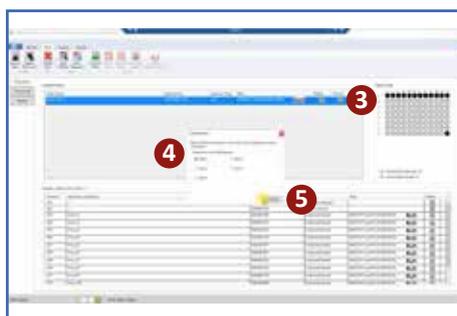
Keep slot number in mind.



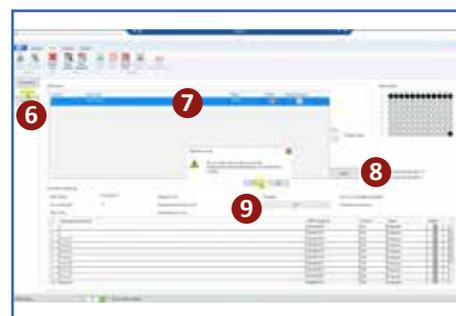
Open AXINON® Software



Import rack (1+2)...



...click "Commit" in the "Available Racks" row (3) and assign to the respective slot (4). Then click "Confirm" (5).



Switch to the tab "Processing" (6), select the rack in the "NMR set-up" (7) and press „Start“ to start measurements (8). Confirm that you want to start processing (9).

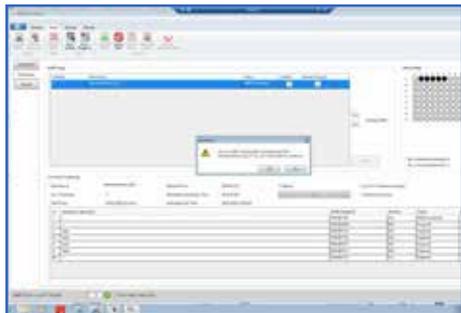
More from the *numares'* Video Tutorial Series:



numares' Video Tutorial Series:

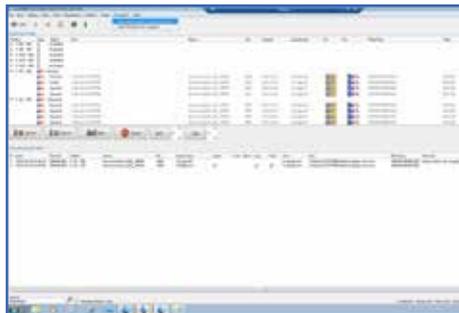
Reboot the AXINON[®] System*

**Only for trained personnel. Also refer to numares' Maintenance Manual.*



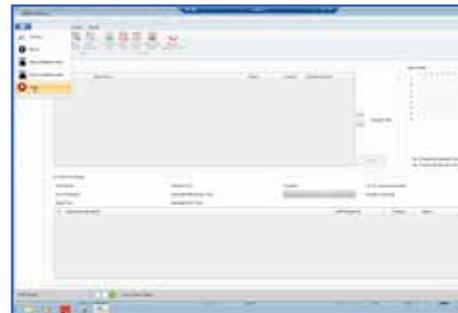
AXINON[®] PC:

To reboot the AXINON[®] System, stop all running tasks within AXINON[®] Software.



BRUKER PC:

Stop the Bruker ICON NMR run and click „Return all samples to their positions“.



AXINON[®] PC:

Close AXINON[®] Software...



BRUKER PC:

...and TopSpin Software. Turn off the SampleJet by clicking „Shutdown system“ in the web interface of SampleJet.



Power off all BCUs.



Open the NMR console. Switch off all units from bottom to top (1-3). Give each unit time to shut down completely to avoid any system errors. Then turn off the console power (4).



To restart the AXINON[®] System, reboot all computers.



Turn on the power console and wait at least for 30 sec.

Note: This will automatically reactivate the SampleJet.



Switch on the top unit. Give it time to display green control lights and the permanent status code („98“ on IPSO for AVANCEIII console) before continuing with next unit.



Continue with other units from top to bottom. Each unit should display green control lights before proceeding to the next unit.



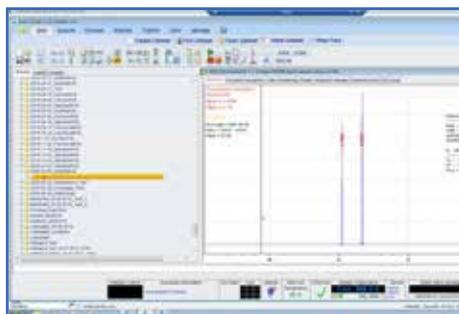
Turn on all BCUs. Check that the controller is set to "remote" and the remote control light is green. Wait at least for 30 minutes.



Perform an Error Recovery. Follow the instructions at the SampleJet display.



Open the TopSpin Software and switch on the vtu temperature control. Wait until temperature display is green.



BRUKER PC: Open an active data set in TopSpin...



BRUKER PC: ...and enter „ii restart“ in the command line.



When „ii finished“ appears below the command line, TopSpin is ready for use.

If „ii aborted“ appears, try “ii”/“ii restart” again 2-3 times. If the error persists, contact our technical service.



Start pre-tests (Operational Qualification*) before using the system.

*Please refer to numares' Maintenance Manual.



numares' Video Tutorial Series:

How to Change the NMR Pincer*

**Only for trained personnel. Also refer to Bruker SampleJet User Manual.*



New pincers and o-rings can be purchased via the Bruker shop (<https://bruker-labscapex.store/>): USC Spare Parts Kit for SampleJet, catalog no. Z106 364.



Prepare a new pincer by pulling the o-ring over the pincer's sleeves.



Make sure that the o-ring is placed in the second indentation of the pincer's sleeves.



To access the gripper arm in the SampleJet, push "Load rack" and select any rack number of options 1 through 5 on the SampleJet Touch Display.



The gripper arm will move to a neutral position at the back of the SampleJet.



To access the gripper arm, ensure the cover of the SampleJet is pushed upwards.



Remove the old pincer by slowly turning while simultaneously pulling it off.

Push the new pincer into the gripper arm and turn the pincer slowly until it clicks into place.



Pull down the cover of the SampleJet.



The pincer is now ready to use.

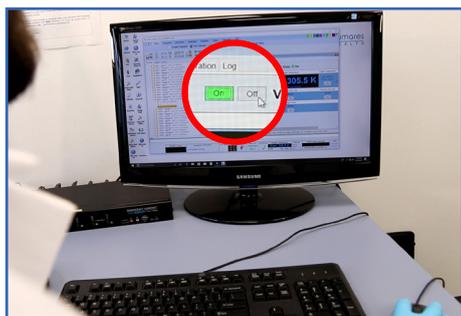
Find more helpful video tutorials on numares' YouTube channel...



numares' Video Tutorial Series:

How to clean the NMR probe*

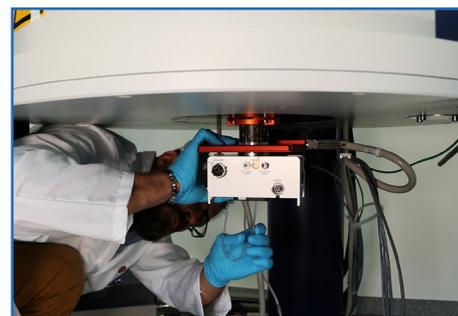
**Only for trained personnel. Also refer to Bruker manual: Bruker NMR magnet system.*



Turn off the temperature control unit (vtu) in TopSpin.



Carefully disconnect all cables and the BCU connection from the probe.



Loosen the screws at the bottom of the probe while holding the probe.

! Hold the probe tight to prevent fall and damage !



Slide the probe carefully out of the magnet.



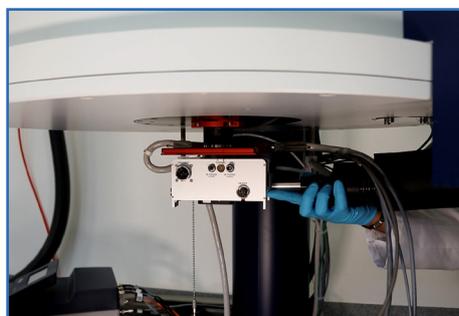
Place the probe upright onto a stable surface. Avoid tipping it over.



Soak the tip of a cotton swab with 96% ethanol from a clean tube. Use lint-free swabs to ensure probe is not contaminated.

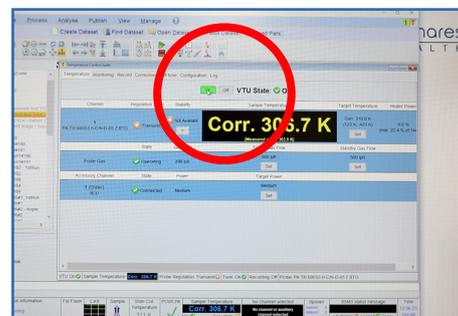


Insert the cotton swab carefully into the upper part of the probe until you feel resistance. Repeat this procedure 2x with fresh, clean ethanol soaked cotton swabs. Let the probe dry for several minutes before remounting.



Reinsert the probe and fasten screws. Reconnect all cables and reattach the BCU connection.

Find more helpful video tutorials on numares' YouTube channel...

Turn on the temperature control unit (vtu) and wait for 30 minutes. Perform a temperature calibration. (see NMR Maintenance Guide for AXINON® test systems).

Pedro Lopes, Technical Support