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Utilizing NIST Traceable Mineral Oil Standard to Verify Accuracy of *m*-VROC II at 100 °C

m-VROC II, our flagship viscometer, formally revamped in 2023, has remained a beloved staple in numerous labs since its inception in 2009. Elevating its capabilities further, the *m*-VROC II now requires a sample volume as low as 10 μL and boasts an impressive maximum shear rate of 2,020,000 1/s. Additionally, we have integrated extensional viscosity and intrinsic viscosity measurements into the same versatile instrument, making it a comprehensive solution for various viscosity measurement needs.

Extended Temperature Range

One of the most significant enhancements in the *m*-VROC II is its extended temperature range capability of up to 100 °C. This advanced feature significantly enhances the instrument's versatility and application potential across various industries, including pharmaceuticals, chemicals, and food & beverage. The ability to measure viscosity at higher temperatures allows researchers and quality control professionals to conduct more comprehensive fluid analyses, providing valuable insights into

the behavior of fluids under different thermal conditions.

Proven Performance and Precision

Building on the proven performance of its predecessor, *m*-VROC II offers unmatched precision and accuracy in measuring viscosity. The integration of advanced technologies ensures that every measurement is reliable and reproducible, even under the most challenging conditions. To demonstrate its high-temperature accuracy, we tested a certified NIST traceable mineral oil standard using our *m*-VROC II E05 chip (Figure 1). Utilizing a NIST traceable standard ensures reliable and consistent measurements, as NIST focuses on creating critical measurement solutions and equitable standards for various technologies. This provides users with the confidence that their viscosity measurements are accurate and dependable.

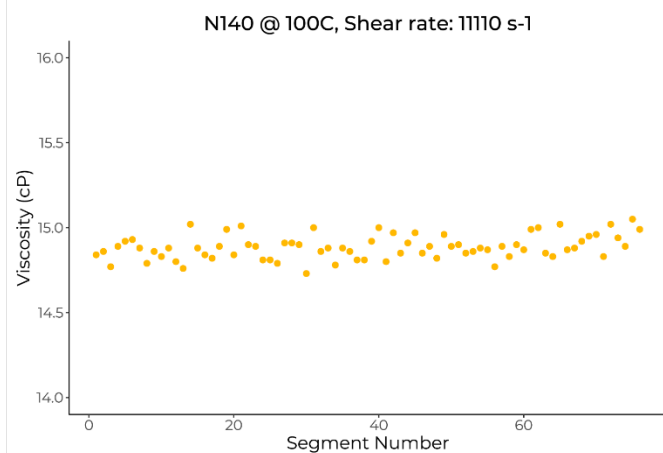


Figure 1. NIST traceable standard at 100 C



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Calibration and Quality Assurance

Ensuring the highest quality and accuracy, all VROC chips undergo rigorous in-house calibration before being prepared and shipped to our end users. This includes both pressure and viscosity calibration. Pressure calibration involves exposing the VROC chips to specific high-pressure levels, ensuring they meet our stringent quality standards. Viscosity calibration ensures that each chip delivers precise and accurate measurements, maintaining the integrity of your research and quality control processes.

Versatility and Application Range

m-VROC II Viscometer is designed to cater to a wide range of applications across various industries. Its small sample volume requirement, high shear rate capability, and extended temperature range make it an ideal tool for researchers and quality control professionals in the pharmaceutical, chemical, petroleum, and food & beverage industries. Whether you are conducting research, developing new products, or ensuring the quality of existing products, the *m*-VROC II provides the comprehensive data you need to make informed decisions.

Conclusion

m-VROC II Viscometer stands as a testament to our commitment to innovation and excellence in fluid characterization. Its enhanced features

and capabilities make it an indispensable tool for advancing research and quality control in diverse applications. With its unparalleled precision, accuracy, and versatility, *m*-VROC II is set to revolutionize the way you approach viscosity measurement.



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