

Fast, High-throughput Drug Screening and Library Generation

In a century where time equals money, efficiency enhancement of chemical synthesis processes plays a more and more important role. It is well known, that microwave irradiation impressively increases process efficiency, but there is still room for further optimization: using equipment for parallelization, almost 200 microwave-assisted reactions can be performed simultaneously. This tremendous save in time represents a new dimension in reaction screening.

Multiwave PRO serves all your needs!

Multiwave PRO is an oven-type multimode microwave reactor being able to handle different rotor types with different specifications. Besides solutions for parallel synthesis in the several-gram scale, special rotors for reaction screening and library generation down to the microliter range are available. Those rotors hold well plates made out of silicon carbide (SiC), which provide significant advantages for high-throughput applications.

Your Benefits from using SiC microtiter plates

- **Fast reactions:** since SiC is strongly microwave absorbing, the plates (and contents) are heated quickly to the target temperature.
- **Uniform heating:** due to the ultra-fast heat distribution, the plates heat uniformly, independent of the composition of the reaction mixtures. Even non-polar reaction mixtures are heated efficiently!
- **Enhanced conditions:** due to the special sealing mechanism, reactions can be heated up to 200 °C and 20 bar.
- **Different scales:** Different plate formats (see picture below) allow scales between 0.02 µL up to 3 mL per well.
- **High-throughput:** depending on the plate format, up to 192 reactions can be performed in parallel.
- **No cross-contaminations:** The reaction containers are tightly sealed with septa+screw caps and/or with aluminium plates, which completely prevent cross-contaminations.
- **Utmost convenience:** the plate format 5x4 employing standard HPLC/GC vials allows performing synthesis and analysis in the same vial, which is highly appreciated e.g. in forensic applications.



Good to know

The modular microwave reactor platform Multiwave PRO can hold different rotor types for parallel reactions in microliter up to the liter scale for reactions under enhanced temperature/pressure conditions.



Do you have any questions?

Contact Anton Paar directly:
info@anton-paar.com

Further reading:

- Application Report D19IA059EN
- Product information D19IE018EN
- Review: M. Damm, C. O. Kappe, *Mol. Div.* **2012**, 16, 5