

Ref. No. SERB/EEQ/ITP/ 2017-06

Dated: 24.05.2017

TENDER NOTICE FOR MICROWAVE REACTOR/DIGESTER

Sub: Procurement of Microwave Reactor/Degester

Sealed rate quotations are invited from reputed Original Equipment Manufacturers / Authorized Dealers / Bidders for supply and installation of a **Microwave Reactor/Degester** at Chemistry Department, Nagaland University, Lumami. Specifications are as follows:

Microwave assisted focused monomode organic synthesis system should be able to handle the synthetic reactions involving routine organic, organometallic, Nano Materials synthesis, fluorination, caustic solutions, catalysts using palladium, non-polar solvents like toluene, hexane etc.

- System should have Microwave power output of minimum 800 W or higher
- Maximum Pressure & Temperature should be 30 bar and 300°C or greater for all vessel types for scale up reactions without re-optimization of parameters.
- Should be able to effectively heat polar as well as non-polar solvents like Toluene, Dioxane etc. without heating aids.
- Temperature Measurement: IR measurement as standard facility with multi point calibration for accurate temperature measurement of reaction/s.
- Integrated Pressure Sensor to measure, display as well as document reaction pressure.
- Should have inbuilt magnetic stirrer device with variable speed from 0 rpm upto at least 1000 rpm or more to ensure uniform temperature in the reaction mixture volume for uniform heating of even high viscous reactions.
- Self-tuning cavity for optimum heating efficiency with all vessel types
- Should be supplied with Glass Vials with sustainable material of construction and allow for multiple reaction runs to be conducted in the same vial.
- Should be supplied with vessels made of material like Silicon Carbide for carrying out reactions involving metallic particles, in-situ fluorination, caustic solutions of high alkaline pH such as NaOH at elevated temperatures and reactions using other aggressive reactants and can be used for unlimited reactions.
- Sealing of reaction vessels should be easy and without use of any tools.
- Heating Performance benchmarks with glass vessels and without any heating aids : Large inbuilt Touchscreen display with capability for online graphical display of reaction parameters like pressure, power and temperature and review of previous reaction runs
- Direct printout to PDF files or export of data to excel via USB ports
- Suitable air compressor for operation of the instrument and cooling of reaction vials after a reaction is over should also be quoted.

- System must have an integrated camera for monitoring the reactions with display on the screen of the instrument.
- Consumables: Stir Bars for vessels, Caps, Silicone Septum must be quoted in the main offer along with the instrument for trouble free operation.
- The system should be upgradable with an autosampler.

The price should be quoted for Nagaland University, Lumami Campus and should reach within 10 days of date of publication of this notification.

The quotation should be addressed to:

Project Guide
SERB-DST project
Department of Chemistry
Nagaland University
Lumami – 798627
Nagaland

Email: itphucho@gmail.com

or

itphucho@nagalanduniversity.ac.in