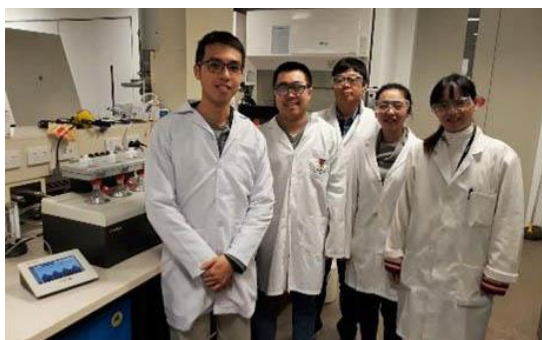


Mya 4 increased accuracy, productivity and improved reactions

Automation was the main requirement - the oil bath/dry ice option was not only time consuming but also provided inaccurate results.

Field of research: Electrochemistry, Chemistry of Catalysis, Energy Generation, Conversion and Storage Engineering



Situation

Methods previously used

- Multiple round bottom flasks with oil baths for heating
- Multiple round bottom flasks with dry ice for cooled reactions

Problems

- Issues with correct/accurate heating from oil baths
- Messy oil, potential hazards
- Issues with correct/accurate cooling from dry ice
- Constant dry ice refilling; time consuming, costs associated in materials and wasted operator time

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The objective

Automation was the main requirement for UNSW (University of New South Wales) – the oil bath/dry ice option was not only time consuming but also provided inaccurate results.

The automation of heating/cooling and programmable features would mean repeatability and correct temperature control. The Mya 4 Reaction Station has achieved this and is working well for different reactions. It has also reduced operator interaction; as they can set programs, walk away and work on other experiments.

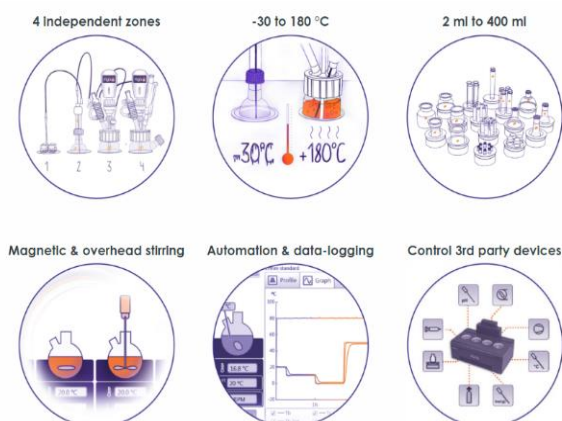
The results

In Vitro Technologies supplied and installed Radleys Mya 4 Reaction Station, trained the users and have offered additional assistance after sales support. The experiments at UNSW are now working much smoother and quicker – with correct and accurate temperature control, programmable reactions and less operator interaction required. Mya 4 has increased productivity and improved reactions.



“The best feature of Mya 4 reactor is the simple instruction and the programmed temperature control to allow four independent reaction running at the same time – this saves us so much time to tune the reactors one by one or one after one. Also, the online monitoring and active cooling feature is really something that adds a lot – keeping reactions cool for a long time unsupervised is actually not a simple practical task”

Dr Kuang-Hsu (Tim) Wu, University of New South Wales, Chemical Engineering



Dr Wu's feedback

"How did we hear about the Mya 4 Reaction Station? Our group was starting on a research direction on liquid phase (electro)catalysis and we were looking for a flexible but also multifunctional system which can adapt our research needs. For example, we need to screen various parameters (e.g., reactant concentration and temperature) of the same reaction.

One of our key needs is the ability to have independent temperature control for dry block heating with multiple channels. We realized that it was particularly difficult to find a quality assured product that actually can do this well. Mya 4 Reaction Station was launched during our search and we were fortunate to be the first buyer in Australia.

I think the best feature of Mya 4 reactor is the simple instruction and the programmed temperature control to allow four independent reaction running at the same time – this saves us so much time to tune the reactors one by one or one after one.

Also, the online monitoring and active cooling feature is really something that adds a lot – keeping reactions cool for a long time unsupervised is actually not a simple practical task.

I believe the features suit really well with my research need. In fact, we are looking into the application of using the reactor for adsorption-desorption analysis by its conveniently broad temperature range. This highly convenient instrument should find a good market.

We are making the best use of Mya 4 and extending its application for different research purposes. I would suggest a Mya 4 to colleagues if it fits their research objectives."

About Dr Wu

Dr Kuang-Hsu (Tim) Wu received his PhD in Physical Chemistry from the University of Queensland in 2015, under the supervision of Professor Ian Gentle and Dr Da-Wei Wang. Later he collaborated as an Australian-Taiwan International Research Fellow with Professor Dang-Sheng Su at Institute of Metal Research, Chinese Academy of Sciences to continue his line of research in oxygen electrocatalysis and liquid-phase catalysis using advanced carbon materials, including graphene, carbon nanotube and nanodiamond derivatives. His research focuses on sustainable (electro) catalytic systems and materials surface chemistry in relation to catalytic reaction mechanisms, and is devoted to develop several in situ and on-line electroanalytical methods to study reaction properties. In mid-2017, Dr Wu joined PartCat group as a Faculty Research Fellow, working with ARC Laureate Professor Rose Amal and Scientia Fellow Dr Da-Wei Wang to start on new electrocatalysis and redox flow battery directions.

Reference : <https://www.radleys.com/range/mya-4-reaction-station/>



ผู้เขียน: Tarakorn Nonrujjaya
Executive, Product Management

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