

RESEARCH DIRECTIONS

Cost effective purification

Dr Ross Shalliker and Dr Gary Dennis, Nanoscale Organisation and Dynamics Research Group together with Phenomenex Australia Pty Ltd have been awarded a UWS Research Partnership Program grant to develop separation technology for the purification of individual chemical compounds.

'The cost effective manufacture of modern medicines, fine chemicals and reference standards all rely heavily on purification technology' says Dr Shalliker. 'Many compounds are unavailable because the cost associated with isolation and purification places a financial burden on the manufacturer and this can have important follow on ramifications to areas such as the health industry. For example the efficient separation of a target compound may mean the difference of commercialisation of a compound or not.'

The aim of this work is to isolate a target component from very complex mixtures containing thousands of components and do so in the shortest possible time with the highest product concentration and maximised purity. The high number of components makes the separation problem extremely difficult.

The experiment will use a multidimensional separation process, which is some five times more efficient than the unidimensional separation process largely because there is a more rapid cycle time.

The knowledge generated from the project will provide marked increases in purification production rates and hence reduce purification costs.



If compounds become cost effective to manufacture, this will lead to the production of medicines previously too costly to produce.

Project Title: Optimisation of preparative scale two-dimensional liquid chromatographic separations of targeted compounds in complex sample mixtures

Funding has been set at: \$32,500

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For more information on UWS Research Partnership Program, check:

<http://www.uws.edu.au/about/adminorg/devint/ors/fundingopps/internalgrants>