

New chemical reaction offers opportunities for drug development

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(PhysOrg.com) -- Scientists at University College Dublin have solved a chemistry problem which has stumped researchers worldwide for more than a decade. The results have earned the group the cover story of the leading scientific journal, *Angewandte Chemie*.

The problem involved a chemical reaction called 'homoallenylation' which provides 'building blocks' for the advancement of new chemical compounds used in [drug discovery](#) and development.

"All previous work on this reaction has mostly led to unsatisfactory mixtures" says Professor Pat Guiry, a synthetic organic chemist and Director of the Centre for Synthesis and Chemical Biology (CSCB) at UCD, who led the research team.

"But after 6 years of scientific research into the applications of a series of compounds called 'chiral bis(oxazoline) ligands' which we reported back in 2002, we hit upon reaction conditions which allowed them to promote homoallenylation in good yield and with 100% selectivity for one of two possible products."

[Chemical reactions](#), which are sufficiently selective, useful and broad in scope, are applied in the large-scale manufacture of [pharmaceutical drugs](#), many of which are made in Ireland. At present, pharmaceutical exports account for over 50% of Ireland's GNP.

"To discover a chemical reaction with this high level of selectivity takes

considerable effort, expertise, time, and, of course, a little luck," says Professor Guiry.

Provided by University College Dublin

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