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Cover
See Amandine Chefson and Karine Auclair, page 462. Structure of cytochrome P450. Image reproduced with permission of Amandine Chefson and Karine Auclair from *Mol. BioSyst.*, 2006, **2**, 462.

CHEMICAL BIOLOGY

B37

Drawing together research highlights and news from all RSC publications, *Chemical Biology* provides a 'snapshot' of the latest developments in chemical biology, showcasing newsworthy articles and significant scientific advances.

HOT OFF THE PRESS

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Hot off the Press

Topics highlighted in this month's *Hot off the Press* include structural organization of the 19S proteasome lid, a hybrid molecular probe for analysis of biological samples, a three-hybrid trap for quantitative proteome fingerprinting, improving the robustness of enzymes by nanogel encapsulation and some items published recently in the RSC's journals.

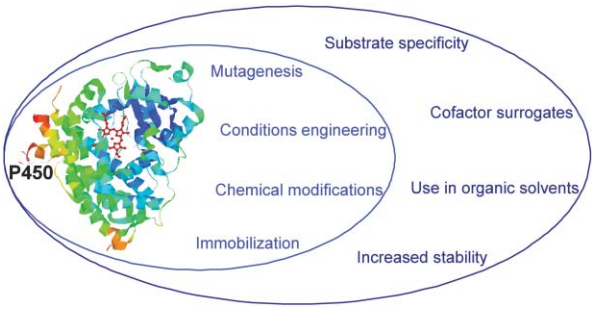
HIGHLIGHTS

462

Progress towards the easier use of P450 enzymes

Amandine Chefson and Karine Auclair*

P450 enzymes have attracted the interest of chemists in part because they catalyze the difficult hydroxylation of inactivated C–H bonds. Over the past few decades, significant advancements have been made towards the use of these enzymes in synthetic applications.

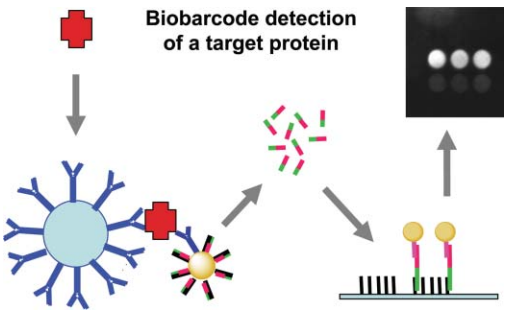


470

Protein detection using biobarcodes

Uwe R. Müller

This article discusses the strategies taken during the last 40 years to improve the sensitivity of immunoassays, with specific emphasis on the most recently introduced nanoparticle-based biobarcode technology.



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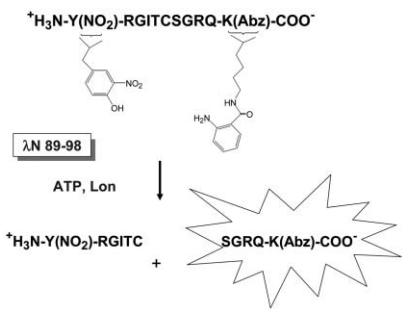
Recent developments in the mechanistic enzymology of the ATP-dependent Lon protease from *Escherichia coli*: highlights from kinetic studies

Irene Lee, Anthony J. Berdis and Carolyn K. Suzuki

Elucidation of the timing of ATP hydrolysis with peptide cleavage in Lon protease by pre-steady state kinetic techniques.



PAPERS

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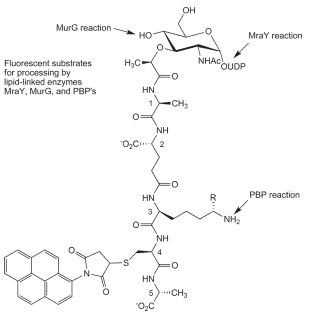
Fluorescent reagents for *in vitro* studies of lipid-linked steps of bacterial peptidoglycan biosynthesis: derivatives of UDPMurNAc-pentapeptide containing D-cysteine at position 4 or 5

James A. Schouten, Sangeev Bagga, Adrian J. Lloyd, Gianfranco de Pascale, Christopher G. Dowson, David I. Roper and Timothy D. H. Bugg*

Fluorescent derivatives of the UDPMurNAc-pentapeptide labelled at the 3rd, 4th, and 5th position of the peptide chain were prepared chemoenzymatically, in order to study the reactions catalysed by enzymes in this cycle.



PAPERS

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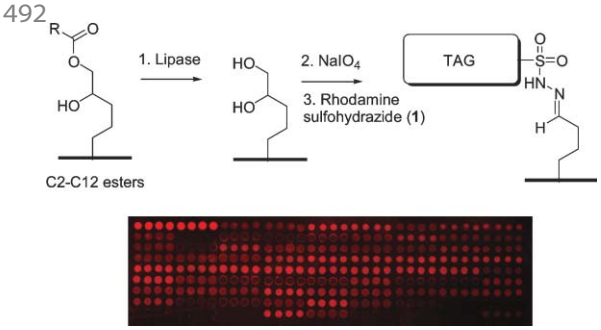

A red-fluorescent substrate microarray for lipase fingerprinting

Johann Grognux and Jean-Louis Reymond*

A substrate microarray-based detection system for lipase activities is demonstrated using esters of aliphatic acids printed on glass slides by covalent attachment *via* a polyethylene glycol spacer.

BOOK CHAPTER

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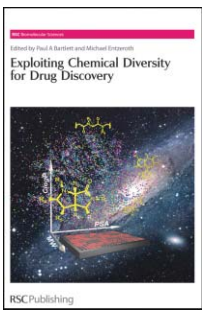

Translating peptides into small molecules

Gerd Hummel, Ulrich Reineke and Ulf Reimer

This is Chapter 8 taken from the book *Exploiting Chemical Diversity for Drug Discovery* which forms part of the RSC Biomolecular Sciences series. More information about this book and the whole series is available from www.rsc.org/biomolecularsciences or the RSC Sales team, email: sales@rsc.org.

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