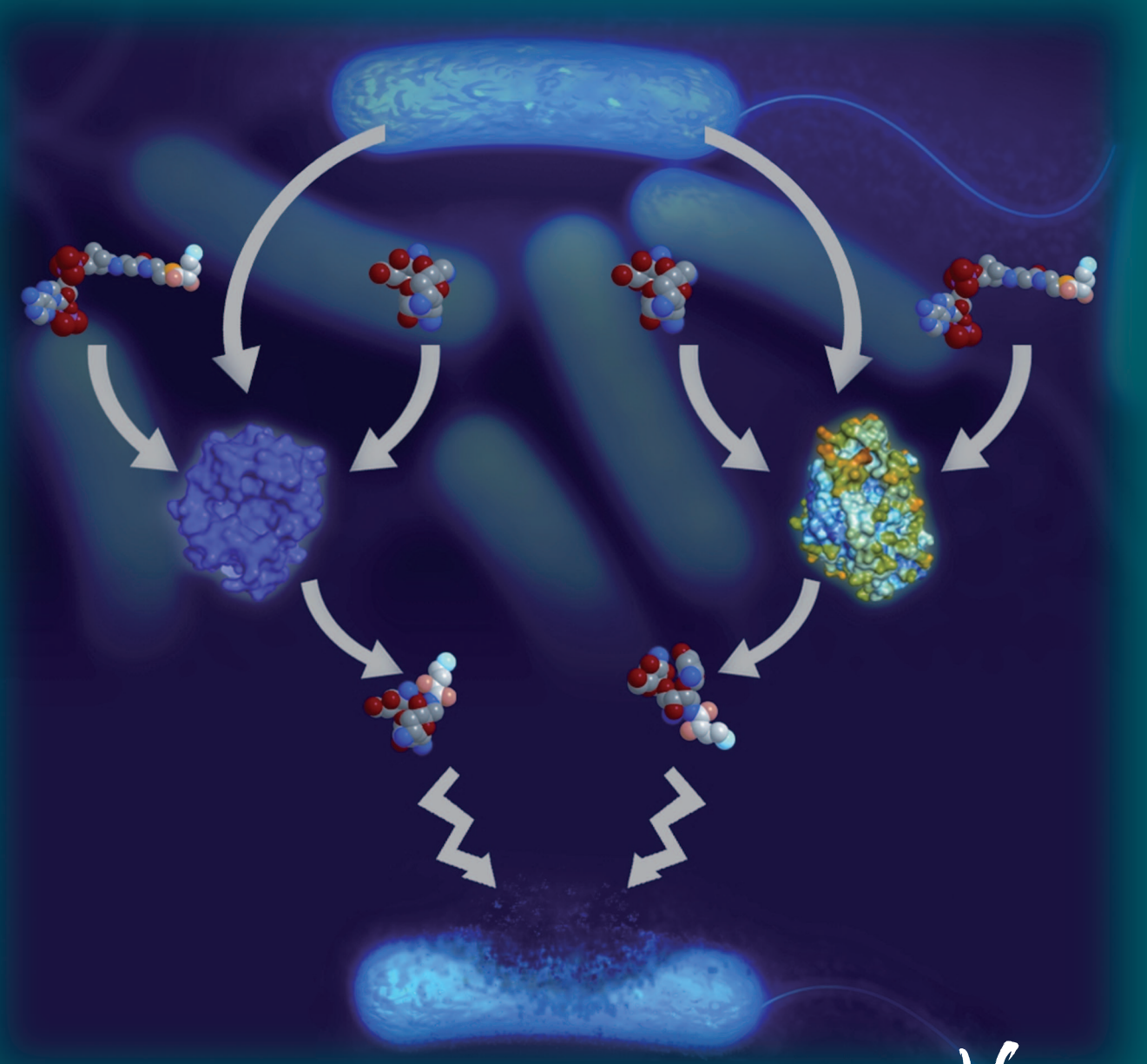
CBCHFX 11 (1) 1 – 132 (2010) · ISSN 1439-4227 · Vol. 11 · No. 1 · January 4, 2010

D55712

A EUROPEAN JOURNAL

CHEMBIOCHEM

OF CHEMICAL BIOLOGY



A Journal of

ChemPubSoc Europe

1/2010

Chemistry & Life Sciences

Minireviews: Wall Teichoic Acids (S. Walker)
Nanopores for Single-Molecule Biophysics (S. L. Cockroft)
Concept: Photochemical Control of Cellular Processes (A. Deiters)

www.chembiochem.org

WILEY-VCH

Cover Picture

Keith D. Green, Wenjing Chen, Jacob L. Houghton, Micha Fridman*, and Sylvie Garneau-Tsodikova*

The cover picture shows the concept of utilizing enzymes that evolved in bacteria to confer resistance to antibiotics as a chemical tool to generate novel antibacterials with broad-spectrum activity. On p. 119 ff, M. Fridman, S. Garneau-Tsodikova et al. show how two aminoglycoside acetyltransferases (blue on the left and multicolored on the right) isolated from resistant bacterial strains catalyze the regiospecific acyl transfer from an acyl-coenzyme A (the two molecules at the edges of the picture, the acyl atoms are shown in brighter colors) to aminoglycosides to create novel N-acylated antibiotics. On the cover, the aminoglycoside tobramycin (the two molecules in the middle) is modified to yield the 3′- (bottom left) and 6′-N-acylated tobramycin (bottom right). The N-acylated tobramycin analogues exhibit antibacterial activity, as demonstrated by the lysed bacterium at the bottom of the picture.