Index

Single-molecule electronics has evolved as a vibrant research field during the last two decades. The vision is to be able to create electronic components at the highest level of miniaturization—the single molecule. This book compiles and details cutting-edge research with contributions from chemists, physicists, theoreticians, and engineers. It covers all aspects of single-molecule electronics, from the theory through experimental realizations and the chemical synthesis of molecular components to the implementation of molecular components in future integrated circuits. It describes in detail both established methods and recent advances in the field, including vibrational effects, switching phenomena, quantum interference, thermal power, and parallel assembly strategies. The authors add more details to the chapters than typically found in the primary literature so that the book can be read not only by specialists but also by non-experts and students with an interest in the research field. Each chapter is accompanied by problems, and a solutions manual is also provided.

Kasper Moth-Poulsen received his PhD in 2007 from University of Copenhagen, Denmark. He continued his career as a post doctoral scholar in Copenhagen (2007–2009) and at University of California, Berkeley (2009–2010) before joining Chalmers University of Technology, Gothenburg, Sweden, as an assistant (2011–2014) and associate professor (2014–). His research activities focus on nanomaterials chemistry, synthesis, and assembly of single-molecule electronic components and on development of methods for conversion and storage of solar energy.

PAN STANFORD PUBLISHING
www.panstanford.com

V400
ISBN 978-981-4463-38-6
9 789814 463386