

# Contents

|  |     |
|--|-----|
| <b>Molecular Logic Gates and Luminescent Sensors Based on Photoinduced Electron Transfer</b> .....                                 | 1   |
| A. Prasanna de Silva and Seiichi Uchiyama  |     |
| <b>Luminescent Chemical Sensing, Biosensing, and Screening Using Upconverting Nanoparticles</b> .....                              | 29  |
| Daniela E. Achatz, Reham Ali, and Otto S. Wolfbeis   |     |
| <b>Luminescence Amplification Strategies Integrated with Microparticle and Nanoparticle Platforms</b> .....                        | 51  |
| Shengchao Zhu, Tobias Fischer, Wei Wan, Ana B. Descalzo, and Knut Rurack   |     |
| <b>Luminescent Chemosensors Based on Silica Nanoparticles</b> .....  | 93  |
| Sara Bonacchi, Damiano Genovese, Riccardo Juris, Marco Montalti, Luca Prodi, Enrico Rampazzo, Massimo Sgarzi, and Nelsi Zaccheroni |     |
| <b>Fluorescence Based Sensor Arrays</b> .....  | 139 |
| Roberto Paolesse, Donato Monti, Francesca Dini, and Corrado Di Natale  |     |
| <b>Enantioselective Sensing by Luminescence</b> .....  | 175 |
| Alessandro Accetta, Roberto Corradini, and Rosangela Marchelli   |     |
| <b>Index</b> .....   | 217 |