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4.5 PCR and DNA sequencing: General introduction 4.6 PCR; 4.7 Microbial marker genes - 16S; 4.8 DNA sequencing; 4.9 454 16S amplicon pyrotag sequencing; 4.10 Protocol 1: DNA extraction using the Qiagen DNeasy Plant Mini Kit; 4.11 Protocol 2: Full-length 16S PCR using the Qiagen Multiplex Kit; 4.12 Protocol 3: Analysis of full-length 16S genes; 4.13 Protocol 4: 16S amplicon PCR for 454 sequencing using the Qiagen Multiplex Kit; 4.14 Protocol 5: Trimming and filtering of 454 16S pyrotag sequencing; 4.15 Protocol 6: Taxon-based analyses; 4.16 Protocol 7: Phylogeny-based analyses; References Section 3 Community comparison by genetic fingerprinting techniques 4.17 Introduction; 4.18 History and principles of the methods; 4.19 Advantages and limitations of fingerprinting techniques; 4.20 Materials and equipment; 4.21 Suggestions for data analysis and presentation; 4.22 Troubleshooting hints and tips; Acknowledgements; References; Section 4 Metagenomics; 4.23 Introduction and brief summary of methods; 4.24 Overview of metagenomics methods; 4.25 Method introduction; 4.26 Overview of DNA handling for BAC library construction; 4.27 BAC and Fosmid library construction
4.28 Library handling, archiving, and databasing

Sommario/riassunto

Biofouling Methods provides a "cook book" for both established workers and those new to the field. The methods included in this important new book range from tried and tested techniques to those at the cutting edge, encompassing the full diversity of this multidisciplinary field. The book covers methods for microbial and macrofouling, coatings and biocides, and ranges from methods for fundamental studies to methods relevant for industrial applications. There is an emphasis on answering questions and each chapter provides technical methods and problem-solving hints and tips. Bringing togethe