
Contents

<i>Preface</i>	<i>v</i>
<i>Contributors</i>	<i>ix</i>
1 Encapsulation of Nanoparticles in Virus Protein Shells..... <i>Irina B. Tsvetkova and Bogdan G. Dragnea</i>	1
2 Use of Protein Cages as a Template for Confined Synthesis of Inorganic and Organic Nanoparticles..... <i>Masaki Uchida, Shefah Qazi, Ethan Edwards, and Trevor Douglas</i>	17
3 Ferritin Encapsulation and Templated Synthesis of Inorganic Nanoparticles..... <i>Katherine W. Pulsipher and Ivan J. Dmochowski</i>	27
4 Determining the Relaxivity Values of Protein Cage-Templated Nanoparticles Using Magnetic Resonance Imaging..... <i>Barindra Sana and Sierin Lim</i>	39
5 Computationally Assisted Engineering of Protein Cages..... <i>Maziar S. Ardejani and Brendan P. Orner</i>	51
6 Recombinant Expression and Purification of “Virus-like” Bacterial Encapsulin Protein Cages..... <i>W. Frederik Rurup, Jeroen J.L.M. Cornelissen, and Melissa S.T. Koay</i>	61
7 Production of Bacterial Microcompartments..... <i>Jonathan K. Lassila</i>	69
8 Detection of Protein Cage Assembly with Bisarsenic Fluorescent Probes..... <i>Thomas A. Cornell and Brendan P. Orner</i>	79
9 Determining the Role of Metal Binding in Protein Cage Assembly..... <i>Anne Grove, Ambuj K. Kushwaha, and Khoa H. Nguyen</i>	91
10 Differential Scanning Calorimetry to Quantify the Stability of Protein Cages..... <i>Yu Zhang and Maziar S. Ardejani</i>	101
11 Material Properties of Viral Nanocages Explored by Atomic Force Microscopy..... <i>Mariska G.M. van Rosmalen, Wouter H. Roos, and Gijs J.L. Wuite</i>	115
12 Computational Mechanics of Viral Capsids..... <i>Melissa M. Gibbons, Luigi E. Perotti, and William S. Klug</i>	139
<i>Index</i>	<i>189</i>



<http://www.springer.com/978-1-4939-2130-0>

Protein Cages

Methods and Protocols

Orner, B.P. (Ed.)

2015, X, 190 p. 60 illus., 32 illus. in color., Hardcover

ISBN: 978-1-4939-2130-0

A product of Humana Press