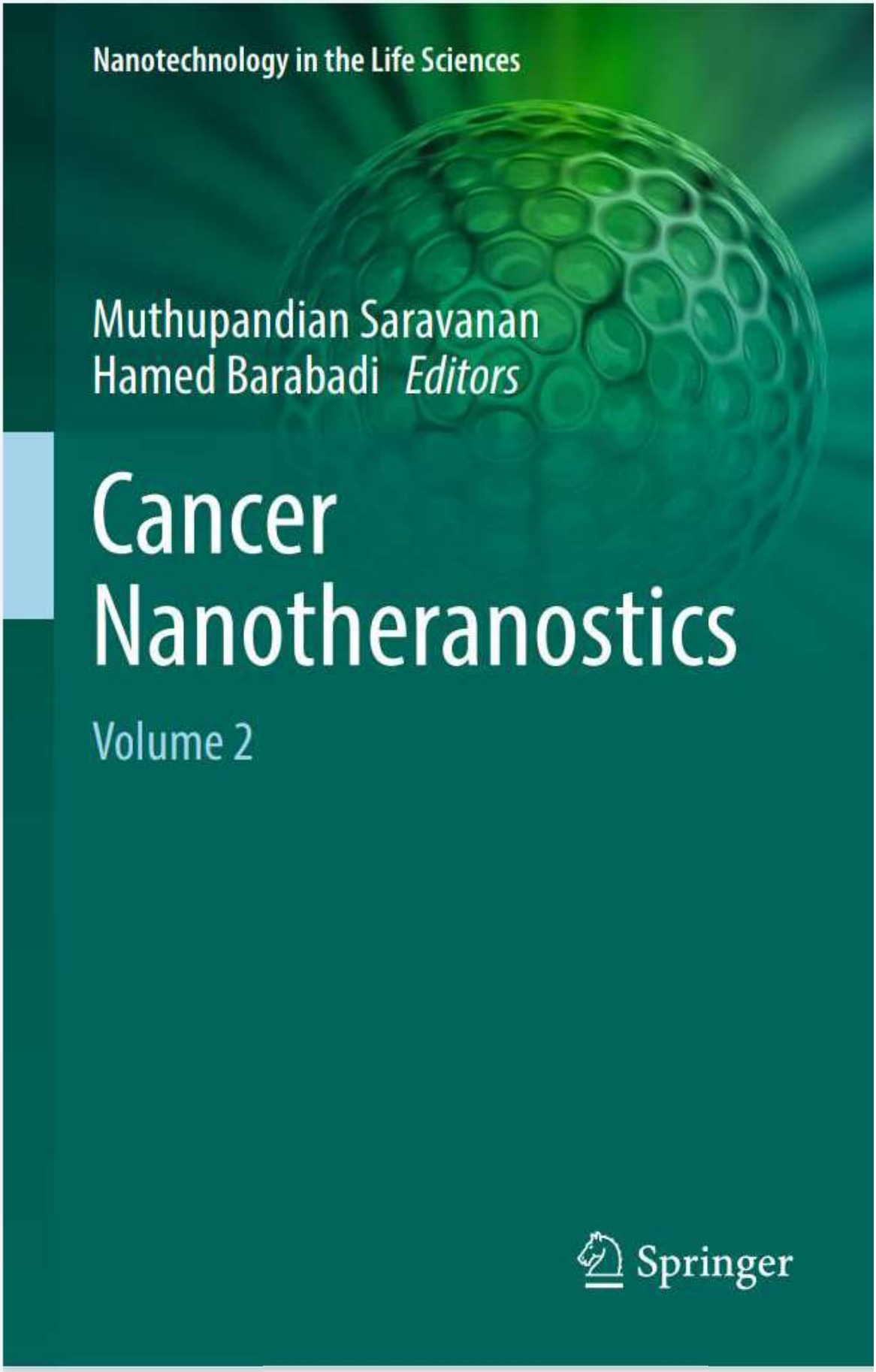
Nanotechnology in the Life Sciences



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Cancer Nanotheranostics

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Chapter 10
Nanoerythrosome-Biohybrid Microswimmers for Cancer Theranostics Cargo Delivery

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Introduction

Cancer causes about ten million deaths in 2018, and globally it is the second leading cause of cardiovascular disease. Malignant tumor was invigorated by the alteration of precancerous lesion which develops cancer as multiplex processes. Cancerous cells multiply and grow to other organs in the body, called metastases. For the survival of patients and to reduce the medication cost, it requires earlier observation of cancer and treatment (WHO, 2018). In spite of the notable developments in cancer treatment, particular side effects of chemotherapy and radiotherapy have yet to be discovered (Misra et al., 2010). Based on this matter, scientists put enormous results to evolve new nanomedication at the molecular level to treat cancer (Wu et al., 2015a; Zhang et al., 2019). Compared to free drugs, nanomedicines show high delivery efficiency, efficient retention time, lesser side effects, and prolonged circulation time (Gandhali, 2016). So, this encourages research related to nanoparticles, which would help to discover abnormalities or as carriers to transport drugs to the desired cell or as therapeutic means (Bharali et al., 2009). The concentration of

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