

Synthesis, Characterization and Self-assembly of Functionalized Soft Nanomaterials

By

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Thesis submitted to Jawaharlal Nehru University, New Delhi for the award of the
degree of

Doctor of Philosophy



Raman Research Institute

Bangalore – 560080

January 2008

Dedicated to

My beloved

Parents

Raman Research Institute

CERTIFICATE

This is to certify that the thesis entitled “*Synthesis, Characterization and Self-assembly of Functionalized Soft Nanomaterials*” submitted by *Santanu Kumar Pal*, for the award of the degree of **DOCTOR OF PHILOSOPHY** of Jawaharlal Nehru University, New Delhi, is his original experimental investigation and conclusions. The subject matter of this thesis has not been previously published or submitted to any other university for the award of any other degree, diploma, associateship, fellowship or any other similar title.

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DECLARATION

I hereby declare that the entire work embodied in this thesis is the result of the experimental investigation carried out by me independently at Raman Research Institute, Bangalore, under the guidance and supervision of Prof. Sandeep Kumar. The experimental work and conclusions presented in this thesis work has not been previously submitted and no part of this thesis work has formed the basis for the award of any other degree, diploma, fellowship, associateship or any other similar title.

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