

Principal Researcher	Seiji Shinkai			Number of Researchers	5	
Research Institution • Department • Title	Professor, Department of Chemistry and Biochemistry, Graduate School of Engineering, Kyushu University			Location of Institution	Fukuoka	
Title of Project	Creation of functional organic/inorganic materials utilizing sol-gel transcription systems					
Abstract of Research Project	<p>We have established a concept of the “sol-gel transcription system” which enables us to transcribe a morphological variety of organic assemblies into the structural variety of inorganic superstructures. In this project we aim at functional development of this methodology by extending the dimensional variety: 1-D; insulation of conductive organic assemblies by sol-gel transcription, leading to insulated wire-like materials, 2-D; surface sol-gel transcription on the block copolymer film with the periodic surface structure, whose periodic inorganic architectures possess potentials such as nano-wiring of circuit, 3-D; three-dimensional inorganic morphologies are obtained by templating the tangling organic structure such as gel fibers. This densely tangling or helical inorganic materials will be applied to functional molecular sieves or asymmetric catalysts, etc. Fusion of both advantages of organic/inorganic materials by epitaxial conjunction should open the door for a new era of functional materials.</p>					
References	K. J. C. van Bommel, A. Friggeri, and S. Shinkai, <i>Angew. Chem. Int. Ed.</i> 2003, 42, 980-999.					
Term of Project	Fiscal years 2003-2007 . (5years)					
Budget Allocation (in thousand of yen)	FY2003	FY2004	FY2005	FY2006	FY2007	TOTAL
	26,900	24,500	11,600	11,600	11,600	86,200
Homepage Address	<a href="http://www.cstm.kyushu-u.ac.jp/shinkai">http://www.cstm.kyushu-u.ac.jp/shinkai</a>					