

氏名:宮元展義

専門分野:無機化学、ソフトマテリアル、高分子

所属:福岡工業大学工学部 生命環境科学科

URL: <http://www.fit.ac.jp/~miyamoto>



本領域における分担テーマ:分子ロボティクスのための無機有機複合ゲルの合成

主な研究成果・発表論文:

■無機/高分子ナノ複合体の合成:

•Macromol. Rapid Commun. 35, 1741, (2014). "Anomalous Thermo- and Photo-Responsive Anisotropic Deformation of Poly(N-Isopropylacrylamide) Gel Hybridized with Liquid Crystalline Inorganic Nanosheets Aligned by Electric Field"

•Chem. Commun. 49, 1082, (2013). "Liquid Crystalline Inorganic Nanosheets for Facile Synthesis of Polymer Hydrogels with Anisotropies in Optical Property, Structure, Swelling/Deswelling, and Ion Transport/Fixation"

■無機ナノシート液晶の合成と応用:

•Angew Chem Int Ed 54, 4222, (2015). "Polymeric Micelle Assembly with Inorganic Nanosheets for Construction of Mesoporous Architectures with Crystallized Walls"

•Nature Commun. 4: 1632, (2013). "Reversible, Instant, and Unusually Stable ~100-Fold Swelling of Inorganic Layered Materials"

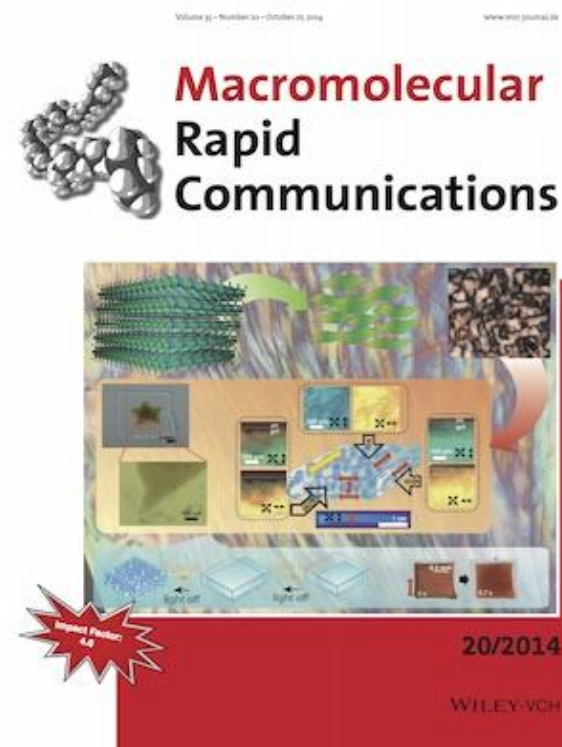
•Adv. Mater. 14, 1267, (2002). "Liquid Crystalline Nature of K4nb6o17 Nanosheet Sols and Their Macroscopic Alignment"

■X線および中性子線小角散乱によるソフトマテリアルの構造解析:

•Phys. Rev. E. 85, 011403, (2012). "Aspect Ratio Dependent Phase Transitions and Concentration Fluctuations in Aqueous Colloidal Dispersions of Charged Plate-Like Particles"

■光機能を持つ無機有機ナノ複合体の合成:

•J. Am. Chem. Soc. 123, 6949, (2001). "Uni-Directional Orientation of Cyanine Dye Aggregates on a K4nb6o17 Single Crystal: Toward Novel Supramolecular Assemblies with Three-Dimensional Anisotropy"



一言(近況など):西日本ナノシート研究会の代表を務めています。余暇はスキーとジャズを楽しんでいます。