Tailor-made Fluorinated Copolymer/Clay Nanocomposite by Cationic RAFT Assisted Pickering Miniemulsion Polymerization

Arindam Chakrabarty^a, Longhe Zhang^{c,d}, Kevin A. Cavicchi^c, R.A. Weiss^c, Nikhil K Singha^{a,b}*

Supporting Information

Table S1: Formulation for Pickering miniemulsion polymerization at 75 °C.

Ingredients	wt% (w.r.t. monomer)	wt% (w.r.t. total weight)
Laponite-RDS	20-40	2.0-4.8
DMTTC	0.8-2.0	0.08-0.2
Initiator, AAPH	0.1-0.25	0.01-0.025
n-BA	60	6.0
MMA	30	3.0
PFPA	10	1.0

 ^a Rubber Technology Centre, Indian Institute of Technology Kharagpur, Kharagpur 721302, India
 ^bSchool of Nano-Science and Technology, Indian Institute of Technology Kharagpur,
 Kharagpur-721302, India

^c Department of Polymer Engineering, University of Akron, Akron, OH, 44325-0301, USA.

^d Present Address: Department of Macromolecular Science and Engineering, Case Western Reserve University, 2100 Adelbert Road, Cleveland, Ohio 44106, USA

^{*} Correspondence to Nikhil K. Singha; nks@rtc.iitkgp.ernet.in

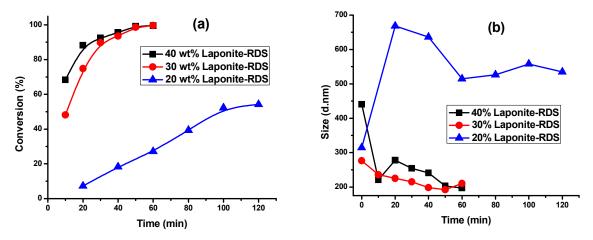


Figure S1: Kinetic study of the Pickering miniemulsion polymerization with 1.2 wt% cationic RAFT agent DMTTC and varying amount of laponite-RDS in terms of a) evolution of conversion and b) evolution of particle size w.r.t. time of polymerization.

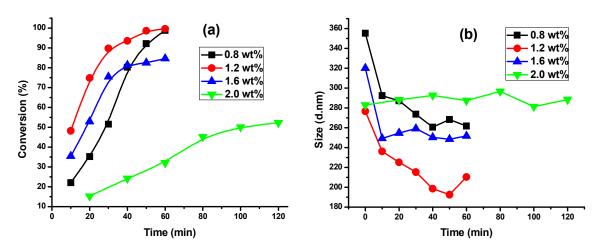


Figure S2: Kinetic study of the Pickering miniemulsion polymerization with 30 wt% laponite-RDS and varying amount of cationic RAFT agent in terms of a) evolution of conversion and b) evolution of particle size w.r.t. time of polymerization.

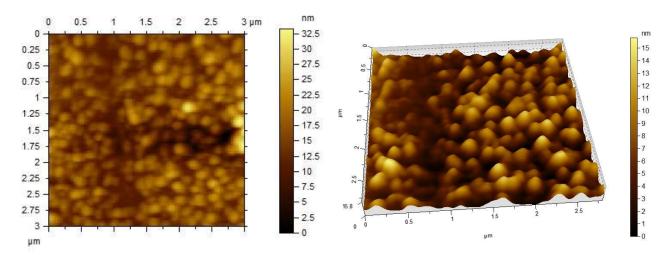


Figure S3: AFM images of the fluorinated copolymer prepared by Pickering miniemulsion polymerization with laponite-RDS.

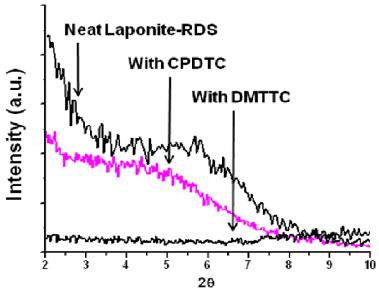


Figure S4: XRD profile diagram of neat laponite-RDS and fluorinated copolymer nanocomposites.