Supporting Information

An *in-situ* study of the adsorption behavior of functionalized nanoparticles on self-assembled monolayers via different chemical interactions

Xing Yi Ling,[a,†] *Laurent Malaquin,*[b,†,‡] *David N. Reinhoudt,*[a] *Heiko Wolf,*[b,*] *and Jurriaan Huskens*[a,*]

a Laboratories of Molecular Nanofabrication and Supramolecular Chemistry & Technology, MESA+ Institute for Nanotechnology, University of Twente, P.O. Box 217, 7500 AE, Enschede, The Netherlands

b IBM Research GmbH, Zurich Laboratory, Säumerstrasse 4, CH-8803, Rüschlikon, Switzerland

† These authors contributed equally to this work

‡ Present address: Laboratoire de Photonique et de Nanostructures, Route de Nozay, 91460 Marcoussis, France.

hwo@zurich.ibm.com, **j.huskens@utwente.nl**

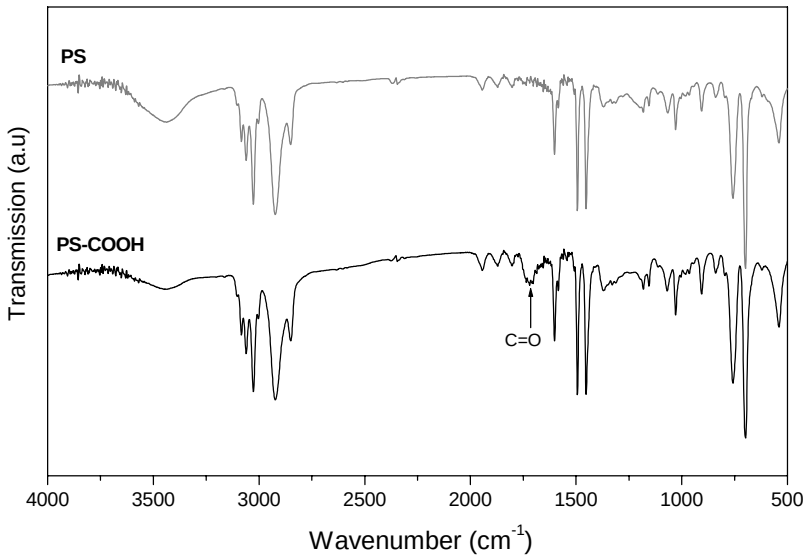

Figure S1. FTIR spectra of PS and PS-COOH nanoparticles.

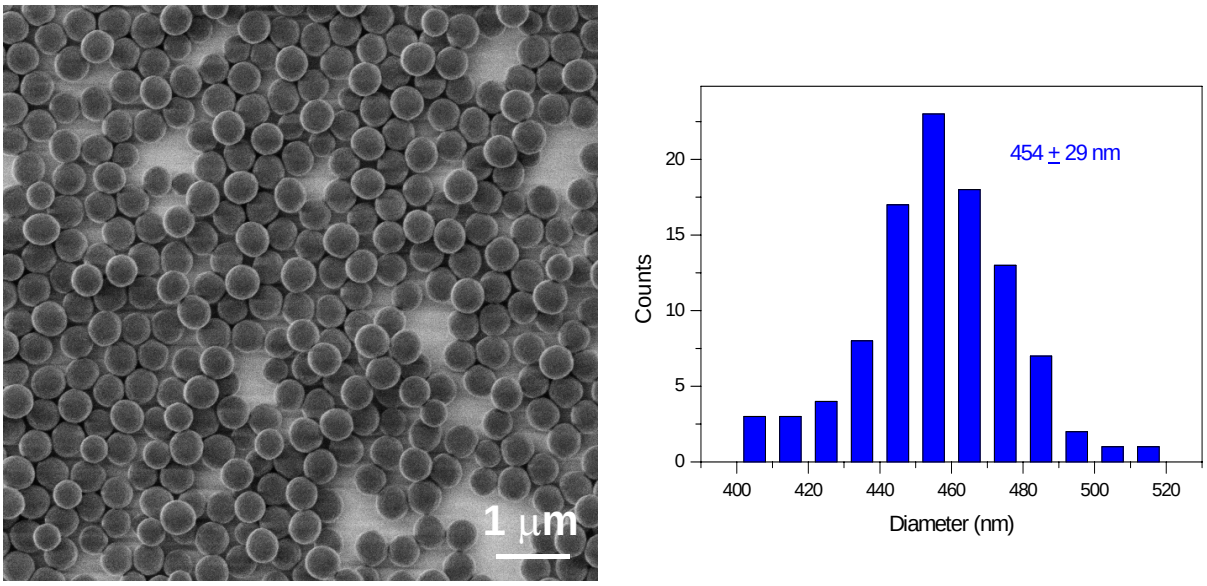

Figure S2. SEM image (left) and size distribution histogram (right) of the PS-COOH nanoparticles.

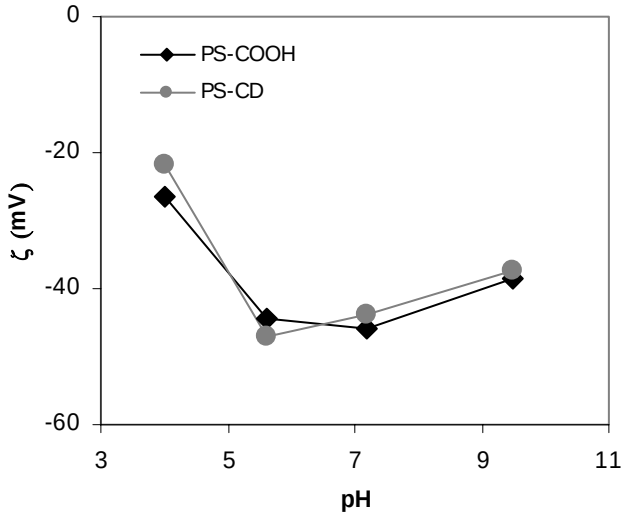

Figure S3. Zeta potentials of dispersions of PS-COOH (♦) and PS-CD (●) as a function of the pH of the buffer solution.

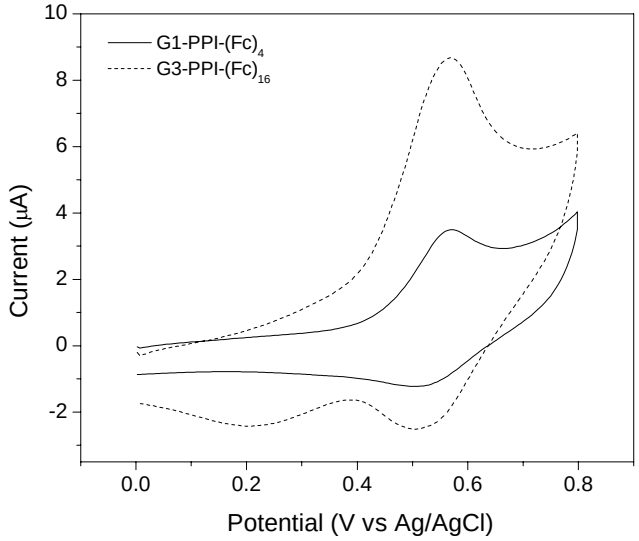

Figure S4. Cyclic voltammograms of G1-PPI-$(Fc)_4$ and G3-PPI-$(Fc)_{16}$ dendrimers preadsorbed on β-CD SAMs on gold at scan rate of 0.5 V/s in 0.1 M K_2SO_4 aqueous solution between 0 – 0.8 V vs Ag/AgCl.

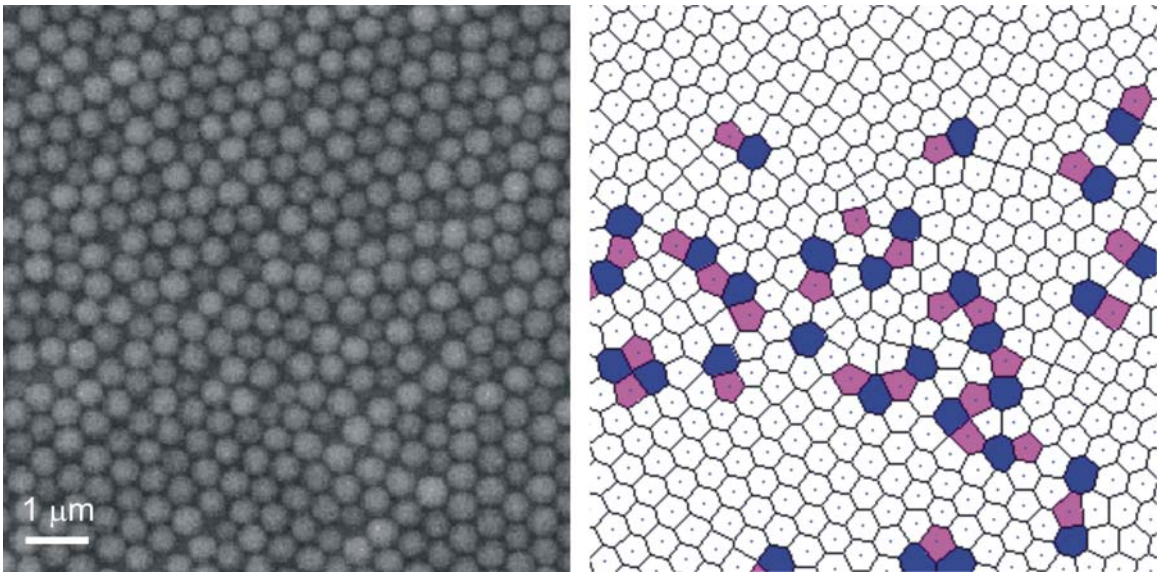

Figure S5. A SEM micrograph of the assembled nanoparticles formed by adsorption of PS-COOH on native SiO_2 substrate and its voronoi diagram, where sites with 6 neighbors are unshaded, 5- and 7-fold-coordinated sites are highlighted in magenta and blue, respectively.