

Electronic Supplementary Information (ESI)

DOI: 10.1039/b000000x/

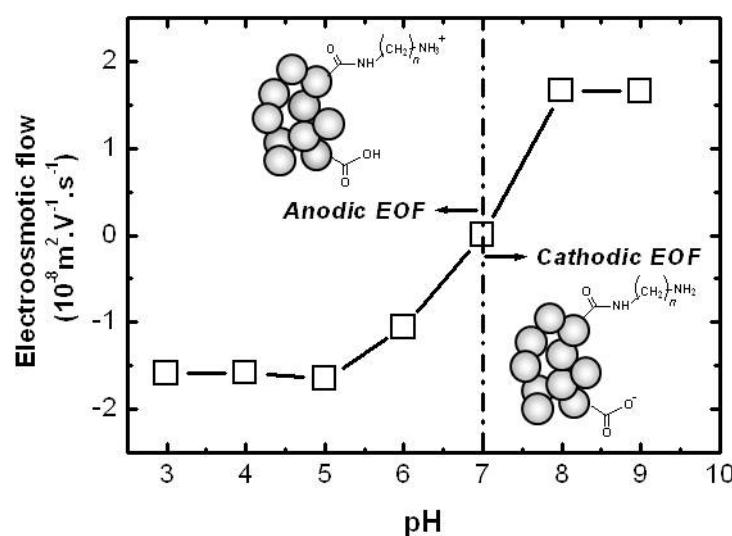
## Site-specific immobilisation of gold nanoparticles on porous monolith surface by using a thiol-yne click photopatterning approach

Mohamed Guerrouache,<sup>a</sup> Samia Mahouche-Chergui,<sup>b</sup> Mohamed M. Chehimi<sup>b</sup> and Benjamin Carbonnier<sup>a\*</sup>

<sup>a</sup> Institut de Chimie et des Matériaux Paris Est – Equipe Systèmes Polymères Complexes, UMR 7182 CNRS – Université Paris Est, 2-8 rue Henri Dunant, 94320 Thiais, France. Fax: +331 4978 1208; Tel: +331 4978 1154; E-mail: carbonnier@icmpe.cnrs.fr

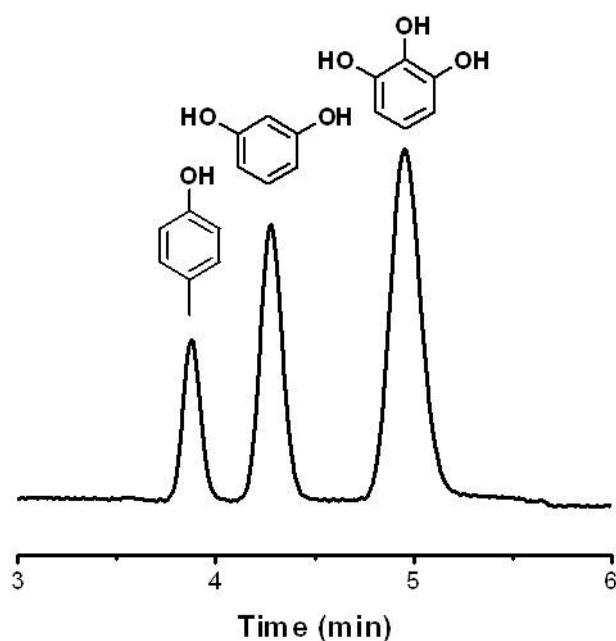
<sup>b</sup> Univ Paris Diderot, Sorbonne Paris Cité, ITODYS, UMR CNRS 7086, 15 rue J-A de Baïf, 75013 Paris, France.

### Supplementary Information S1



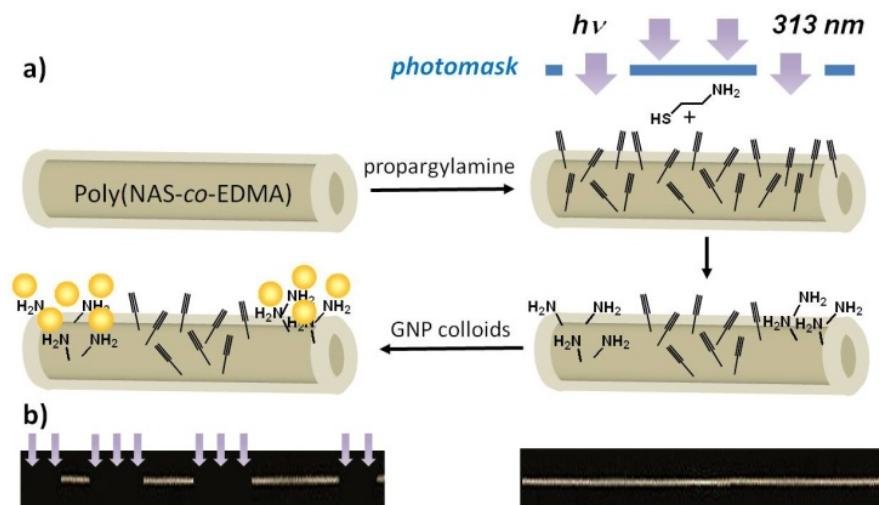
Effects of the pH of the mobile phase on the electro-osmotic mobility for cysteamine-functionalised poly(NAS-*co*-EDMA) monolith. DMF was used as neutral electro-osmosis marker. The data point with zero  $\mu_{eo}$  has been determined by interpolation between adjacent experimental points. CEC conditions: mobile phase ACN–phosphate buffer (5 mM) 70:30 v/v. capillary column length: 21 cm to detector, 31.2 cm overall. Injections 10 kV for 5 s, running voltage 30 kV at 25°C, detection at 214 nm.

Supplementary Information S2



Electrochromatographic separations of *p*-cresol, resorcinol and pyrogallol on cysteamine-functionalised poly(NAS-*co*-EDMA) monolith., CEC conditions: mobile phase: acetonitrile-phosphate buffer (10 mM, pH 2) 80–20 (v/v). capillary column length: 21 cm to detector, 31.2 cm overall. Injections 10 kV for 5 s, running voltage 20 kV at 25°C, detection at 214 nm.

Supplementary Information S3



(a) Schematic procedure for photopatterning yne-functionalised monolith through cysteamine grafting and subsequent gold nanoparticles immobilisation. (b) Optical microscopy images of monoliths with (left) amine- and (right) yne-functionalised interface after loading with gold nanoparticle colloids and rinsing. The vertical arrows indicate the UV-irradiated areas, i.e. with surface-grafted  $\text{NH}_2$  groups. The width of the monolith corresponds to the internal diameter of capillary channel and represents size of  $75\mu\text{m}$ . The dimensions of the GNPs pattern were found to match closely the actual dimensions of the tap used as photomask.