

Supporting Information

Graphene Oxide/Ferrocene-containing Polymer/Gold Nanoparticle Triple Nanocomposite

Wenhao Qian ^{1,*}, Tao Song ¹, Mao Ye ¹, Haiyan Zhang ¹, Chun Feng ², Guolin Lu ² and Xiaoyu Huang ^{2,*}

¹ Department of Stomatology, Shanghai Xuhui District Dental Center, 685 Zhaojiabang Road, Shanghai 200032, China; songtao21@139.com (T.S.); doreye@139.com (M.Y.); 13641956377@163.com (H.Z.)

² Key Laboratory of Synthetic and Self-Assembly Chemistry for Organic Functional Molecules, Center for Excellence in Molecular Synthesis, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, 345 Lingling Road, Shanghai 200032, China; cfeng@sioc.ac.cn (C.F.); luguolin@sioc.ac.cn (G.L.)

* Correspondence: pingyanlaoto@163.com (W.Q.); xyhuang@sioc.ac.cn (X.H.); Tel.: +86-21-64045643 (W.Q.); +86-21-54925310 (X.H.)

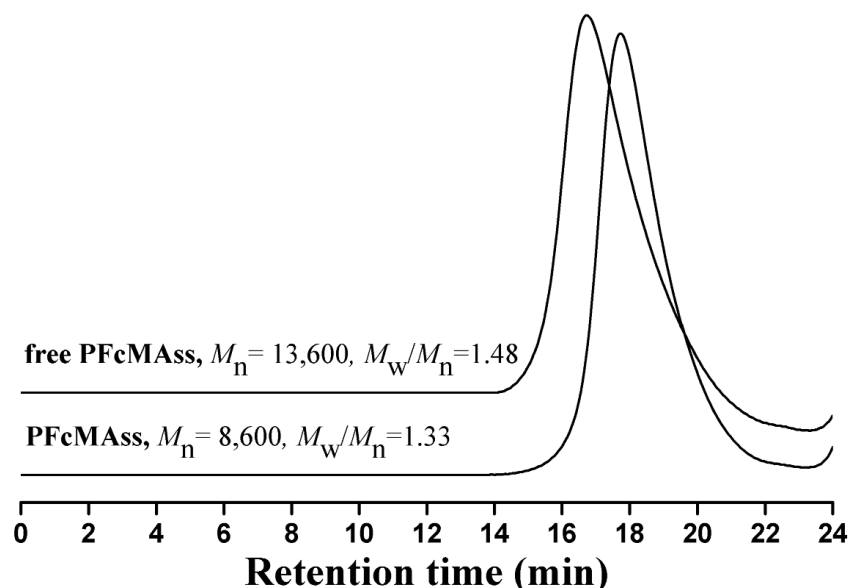


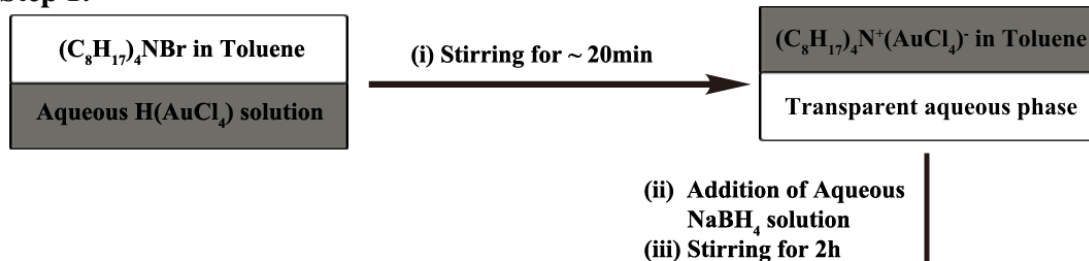
Figure 1. GPC curves of PFcMAss homopolymer and free PFcMAss polymer during surface-initiated ATRP.

Table 1. Elemental analysis of TRIS-GO-Ini, GO-PFcMAss and GO-PFcMAss- AuNPs^a.

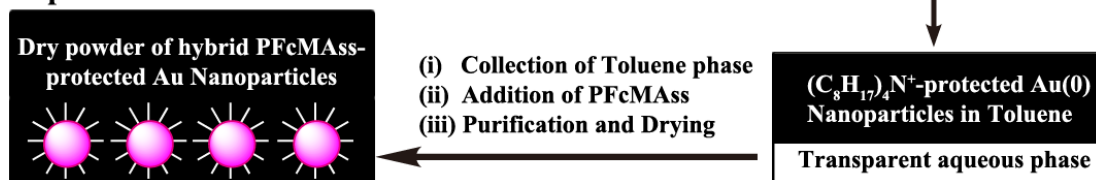
| Sample | C% (mol%) | N% (mol%) | O% (mol%) | Fe% (mol%) | S% (mol%) | Au% (mol%) |
|------------------|--------------|--------------|--------------|---------------|--------------|---------------|
| TRIS-GO-Ini | 79.51 | 1.83 | 17.48 | NA | NA | NA |
| GO-PFcMAss | 72.71 | 1.31 | 23.26 | 1.01 | 1.60 | NA |
| GO-PFcMAss-AuNPs | 67.67 | 0.63 | 17.03 | 0.04 | 0.38 | 0.06 |

^a Obtained from XPS.

Step 1:



Step 2:



Scheme S1. Preparation of PFCMAss-protected AuNPs by optimized Brust-Schiffrin approach.

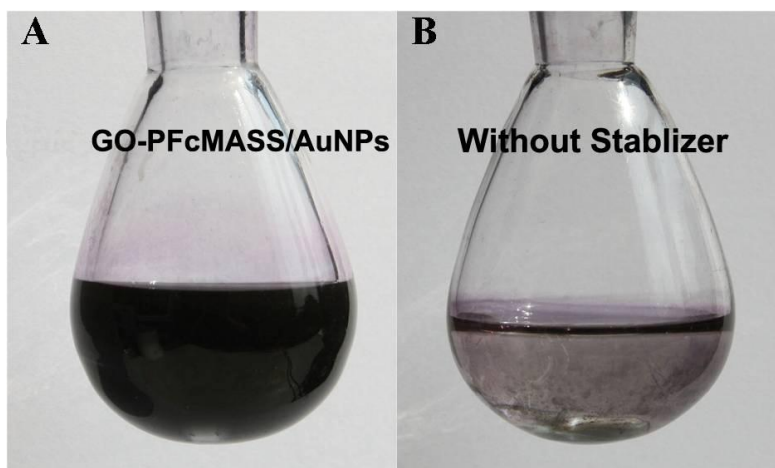


Figure 2. Photos of solutions of AuNPs prepared by Brust-Schiffrin protocol with (A) and without (B) the addition of GO-PFCMAss.

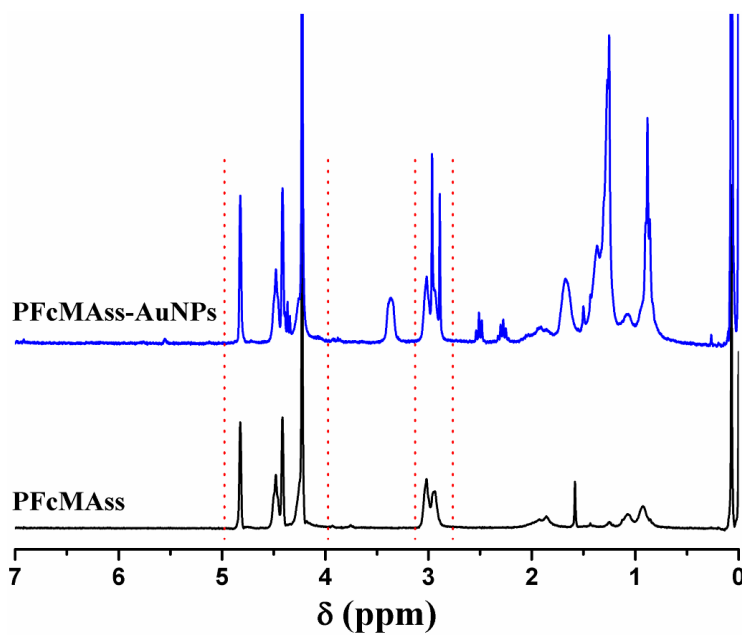


Figure 3. 1H -NMR spectra of PFCMAss and PFCMAss-AuNPs in $CDCl_3$.

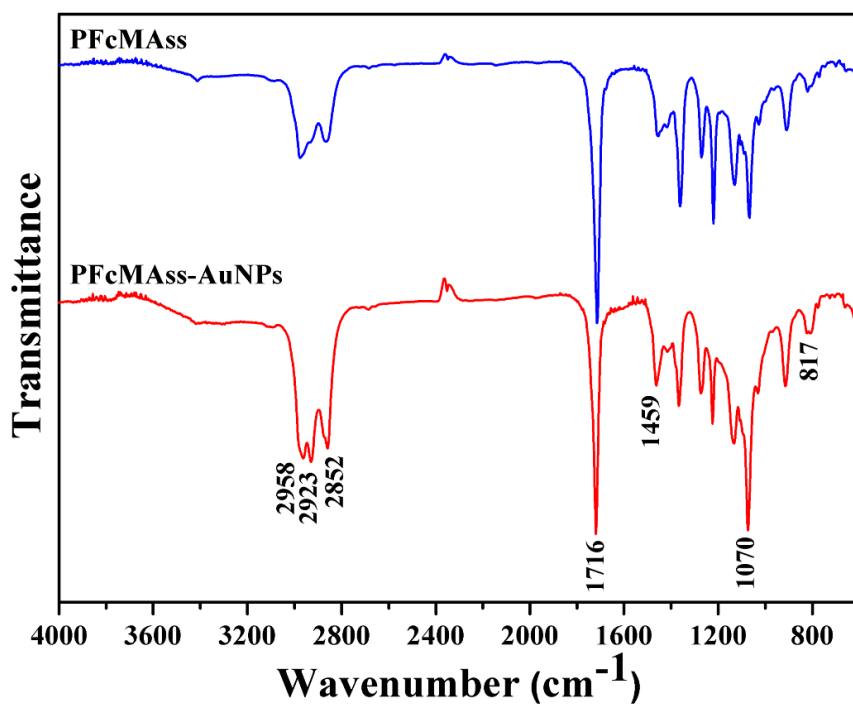


Figure 4. FT-IR spectra of PFCMAss and PFCMAss-AuNPs.

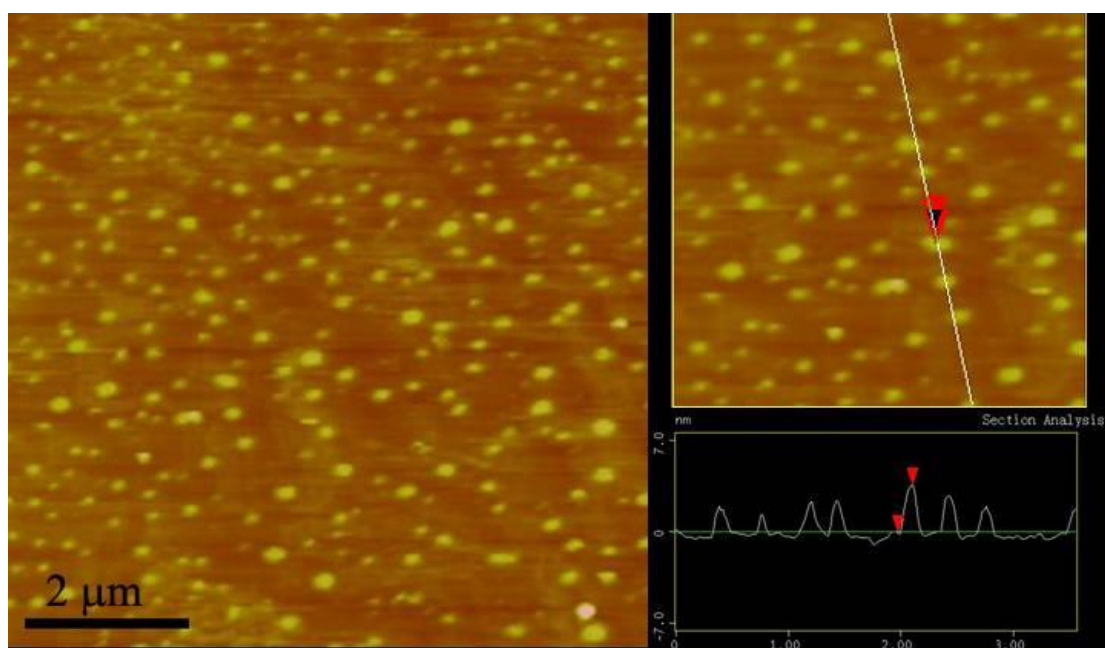


Figure 5. Tapping mode AFM images with section analysis of PFCMAss- functionalized AuNPs.