

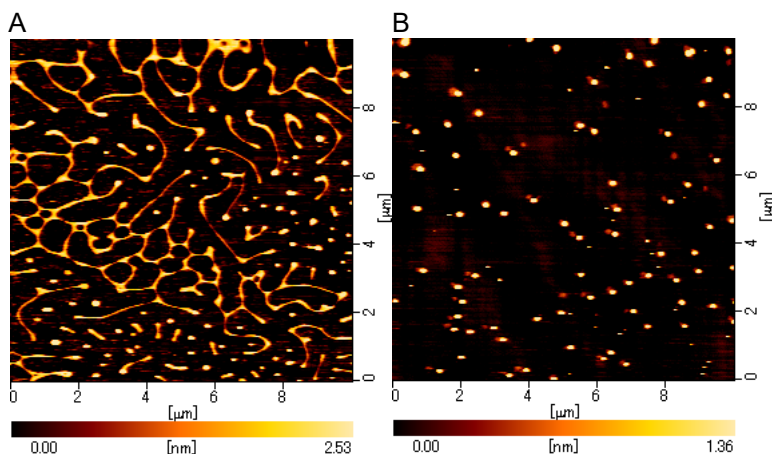
## Epitaxially Grown Ultra-flat Self-assembling Monolayer of Dendrimers

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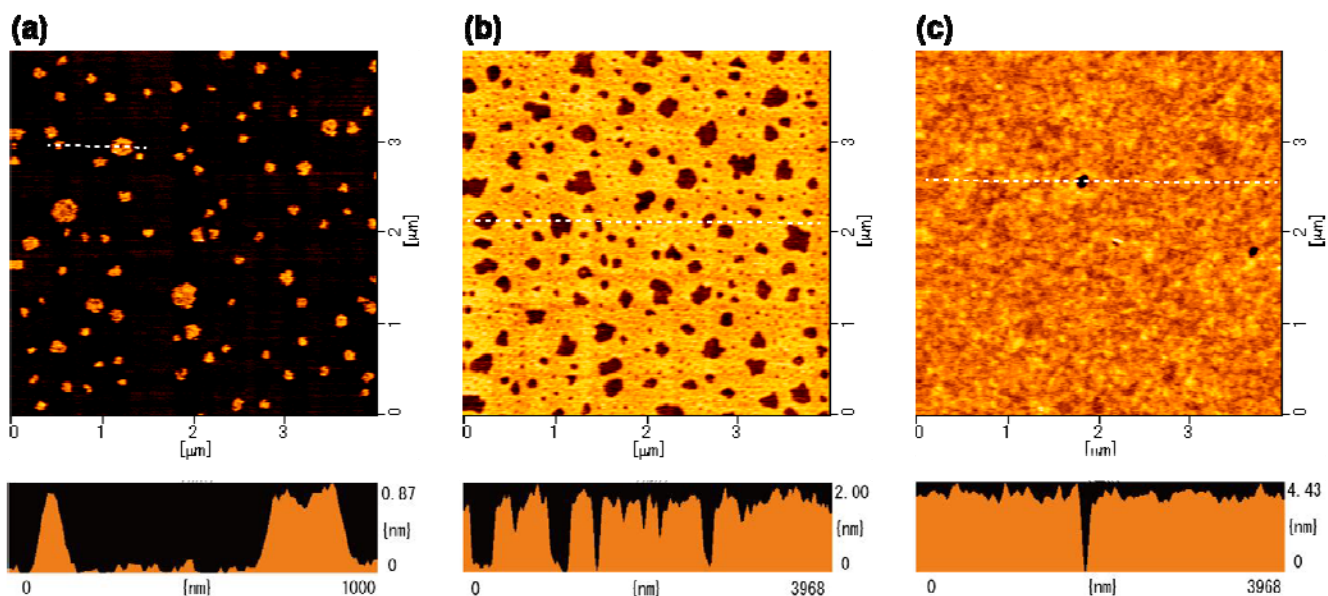
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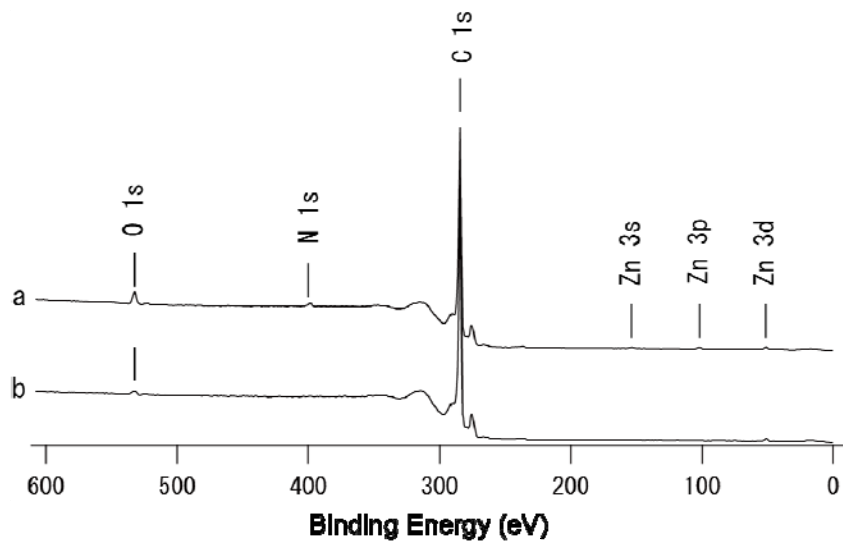
### Supplementary Figures



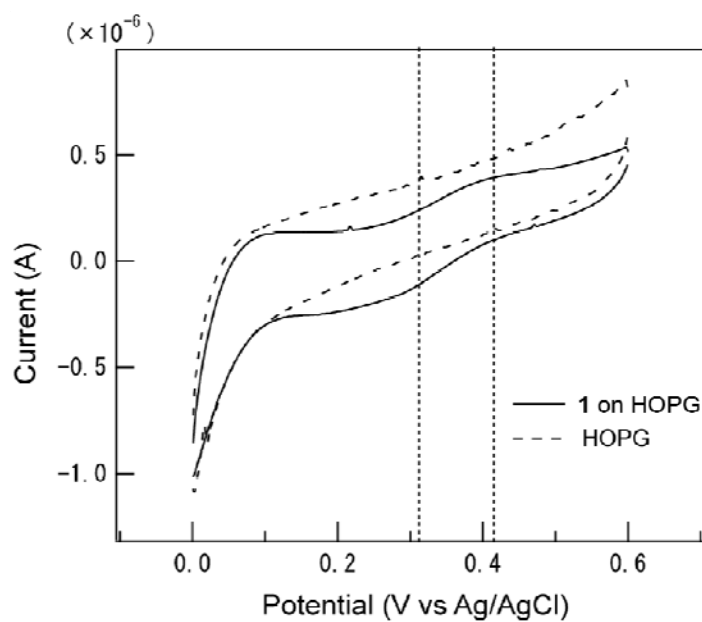
**Figure. S1.** AFM images of the A) Benzyl ether dendrimer (2), (B) Polyamidoamine dendrimer PAMAMG4OH purchased from Aldrich



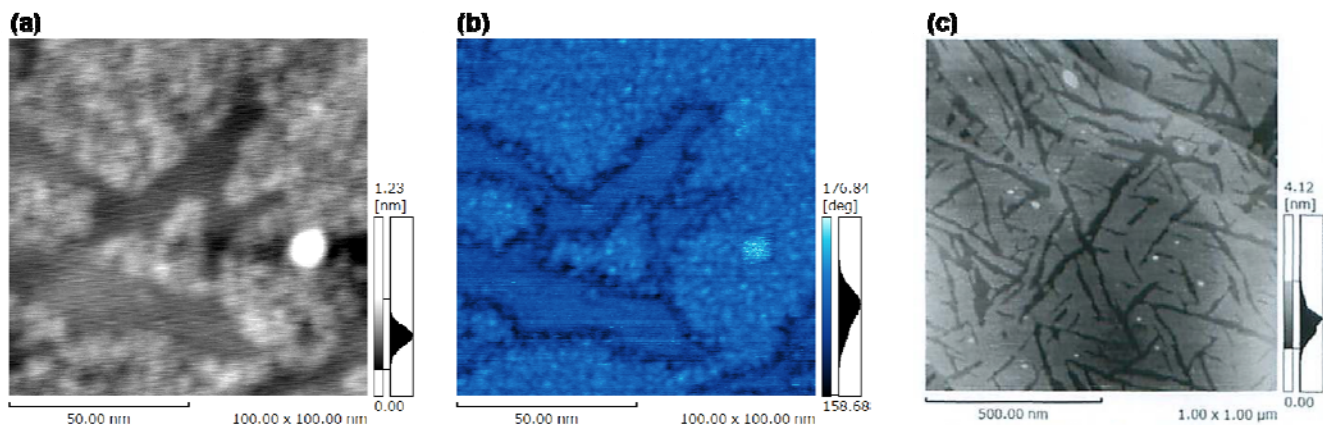
**Figure. S2.** AFM topographic images of the SAM of **1** on mica substrates. The fabrication was carried out by a dip-coating method using toluene as the solvent. The concentrations of **1** in the toluene solution were (a) 0.1  $\mu\text{mol L}^{-1}$ , (b) 10  $\mu\text{mol L}^{-1}$  and (c) 100  $\mu\text{mol L}^{-1}$ , respectively. Lower images are the cross-section along the dashed lines shown in the topographic images.



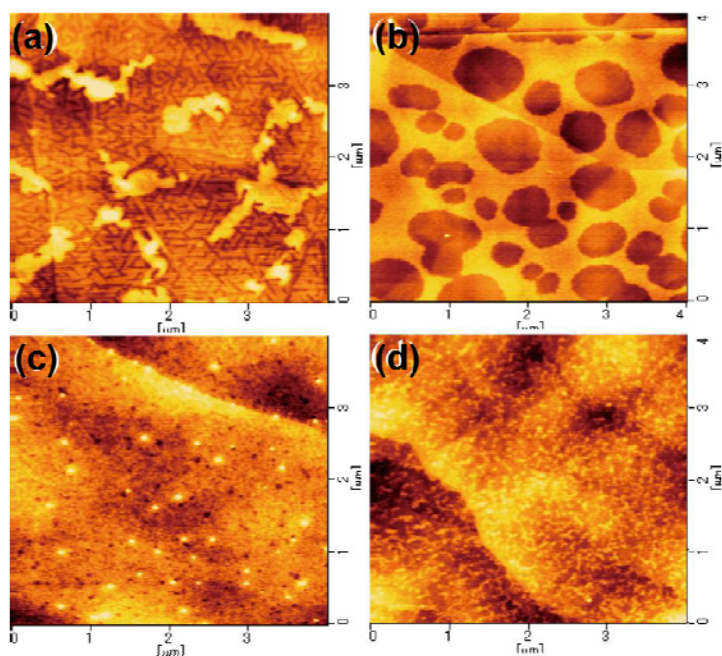
**Figure. S3.** XPS of HOPG substrates in the presence (a) and the absence (b) of the SAM.



**Figure. S4.** Cyclic voltammograms of the dendrimer(1)-modified HOPG electrode and a bare HOPG electrode in aqueous solution of  $\text{KPF}_6$  ( $0.1 \text{ mol L}^{-1}$ ).



**Figure. S5.** (a) A higher magnification AFM topographic image and (b) a phase-shift image of the SAM of **1** on an HOPG substrate. (c) The lower magnification AFM topographic image at the same area. The SAM was prepared by dip-coating in a benzene solution of **1** ( $1 \mu\text{mol L}^{-1}$ ) in the presence of naphthalene ( $50 \mu\text{mol L}^{-1}$ ).



**Figure. S6.** AFM topographic images of the SAM of **1** on HOPG substrates. These SAMs were prepared by different solvents. (a) benzene, (b) chloroform, (c) tetrahydrofuran and (d) toluene.