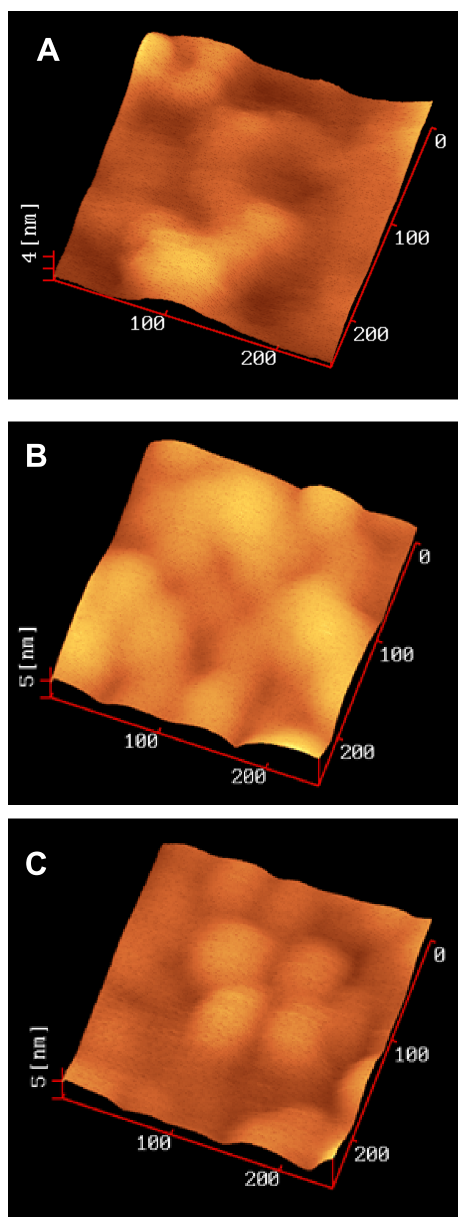


**Fig. S1.** AFM topographic surface images for (A) a pristine quartz substrate, (B) a 15-cycle **ML** of **Pc1** on quartz and (C) a 8-cycle **ML** of **Pc2** on quartz . The observed scan area is 0.25 μm × 0.25 μm.

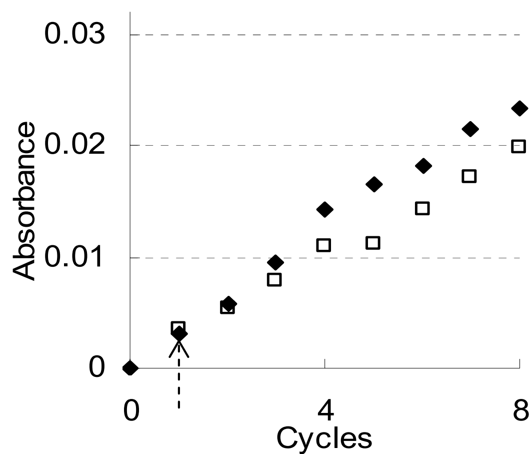


**Fig. S2.** Changes of absorbance at 670 nm of **Pc2** following the number of alternate dipping cycles for two different TiOx-**Pc2 ML**s grown on a one-cycle TiOx-**Pc2** layer (♦) and on a SAM of **Pc2** (□) (shown by the broken arrow) initially fabricated on a quartz substrate.

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**Table S1** XPS elemental analysis data for TiOx-**Pc** **ML**s[a]

| | $C_{1s}$ | $N_{1s}$ | $O_{1s}$ | $Si_{2p}$ | $Ti_{2p}$ | Ti/**Pc**[b] |
|---|---|---|---|---|---|---|
| 14-cycle TiOx-**Pc1** | 0.49 | 0.043 | 0.34 | 0.11 | 0.023 | 4.3 |
| 6-cycle TiOx-**Pc2** | 0.54 | 0.058 | 0.31 | 0.071 | 0.028 | 3.8 |
| 6-cycle TiOx-**Pc3** | 0.53 | 0.045 | 0.32 | 0.088 | 0.021 | 3.8 |

[a] Measured at a take-off angle of 90° for the layers fabricated on quartz substrates. [b] $(Ti_{2p} \times 8)/N_{1s}$.