Electronic Supplementary Information (ESI)

Electrochemistry-driven molecular tiling of a charged polycyclic aromatic compound

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Figure S1. Cyclic voltammogram of (PQPC₆)₂AQDSA-modified Au(111) in 0.1 M HClO₄ (red trace, identical to Fig. 1 in main text; scan rate 10 mV s⁻¹), and of ca. 1 mM AQDSA + 0.1 M HClO₄ (polycrystalline Au, scan rate 50 mV s⁻¹, blue trace), identifying P2/P2’ as related to anthraquinone electrochemistry. The larger peak separation and double peak in the second measurement may originate from contributions from both adsorbed and solution-based AQDSA, but centres around the same formal potential as P2/P2’.
Figure S2. Mirror image domains within the hexameric adlayer. $E_s = 0.3 \text{ V}$; $U_{\text{bias}} = -0.65 \text{ V}$; $I_t = 1 \text{ nA}$.

Figure S3. EC-STM image of amorphised $(\text{PQPC}_6)_2\text{AQDSA}$ adlayer on Au(111) in 0.1 M HClO$_4$ at $E_s = 0.8 \text{ V}$. $U_{\text{bias}} = -0.65 \text{ V}$; $I_t = 1 \text{ nA}$. 
Figure S4. Preliminary results indicating anion effects in supramolecular ordering of PQP-based compounds: (A) Structural formula of PQPC$_6$ClO$_4$ (note that the cation is identical as discussed in the main text). (B, C) EC–STM images of PQPC$_6$ClO$_4$-modified Au(111) electrode in 0.1 M HClO$_4$, demonstrating that only short-range order is obtained. $E_s = 0.45$ V; $U_{\text{bias}} = -0.6$ V; $I_t = 1.0$ nA. (D) Idem, with $E_s = 0.8$ V.