

电势诱导的 *N*-异丁酰基-*L*-半胱氨酸分子在金(111)表面的相转变

陈爱喜¹ 汪 宏² 段 赛³ 张海明^{1,*} 徐昕⁴
迟力峰^{1,*}

(¹苏州大学功能纳米与软物质研究院, 江苏省碳基功能材料与器件高技术研究重点实验室, 江苏 苏州 215123; ²明斯特大学物理研究所, 威廉-克莱姆街 10 号, 明斯特 48149, 德国; ³皇家理工学院, 生物工程学院理论化学与生物系, 斯德哥尔摩 S-106 91, 瑞典; ⁴复旦大学化学系, 上海 200433)

Potential-Induced Phase Transition of *N*-Isobutyryl-*L*-cysteine Monolayers on Au(111) Surfaces

CHEN Ai-Xi¹ WANG Hong² DUAN Sai³ ZHANG Hai-Ming^{1,*} XU Xin⁴
CHI Li-Feng^{1,*}

(¹*Institute of Functional Nano&Soft Materials (FUNSOM), Jiangsu Key Laboratory for Carbon-Based Functional Materials & Devices, Soochow University, Suzhou 215123, Jiangsu Province, P. R. China;* ²*Physikalisches Institut, Universität Münster, Wilhelm-Klemm Strasse 10, 48149 Münster, Germany;* ³*Department of Theoretical Chemistry and Biology, School of Biotechnology, Royal Institute of Technology, S-106 91 Stockholm, Sweden;* ⁴*Department of Chemistry, Fudan University, Shanghai 200433, P. R. China*)

*Corresponding authors. ZHANG Hai-Ming, Email: hmzhang@suda.edu.cn.

CHI Li-Feng, Email: chilf@suda.edu.cn; Tel: +86-512-65880031.

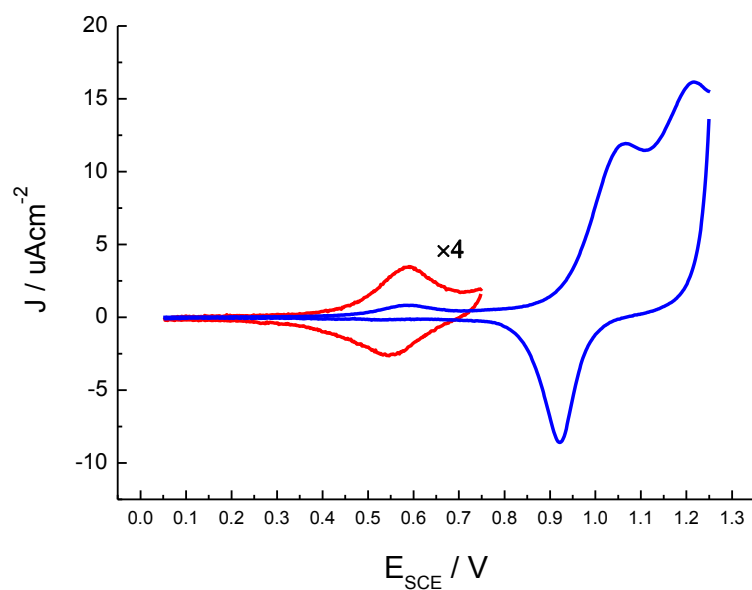


Fig.S1 Cyclic voltammograms (staircase mode) of the Au (111) electrode modified by α phase L-NIBC SAMs in $0.1 \text{ mol}\cdot\text{L}^{-1} \text{ H}_2\text{SO}_4$ with a scan rate of $10 \text{ mV}\cdot\text{s}^{-1}$

The double-layer charging region has been enlarged. The blue line shows the result of scan till the oxidation of the NIBC SAMs. The anodic peak at 0.57 V is similar with that of the scan in the double-layer region (the red line), whereas the cathodic peak disappear in the return scan after the oxidation of the SAMs. This result suggests that the pair of peak at 0.57 V represent to the properties of NIBC SAMs.

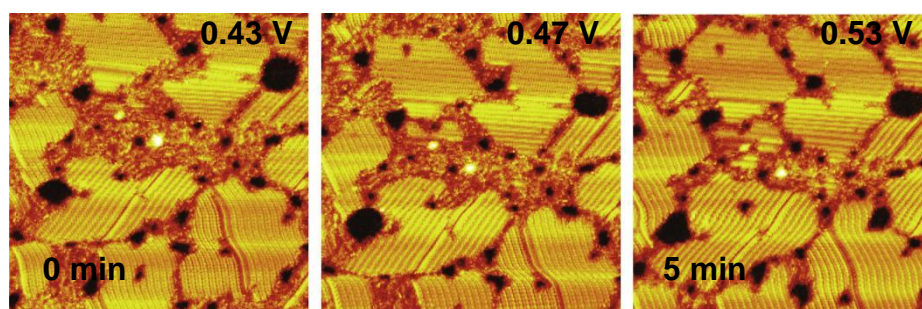


Fig.S2 Sequence of EC-STM images showing structural changes from disordered to ordered α phase structure with increase of the potential

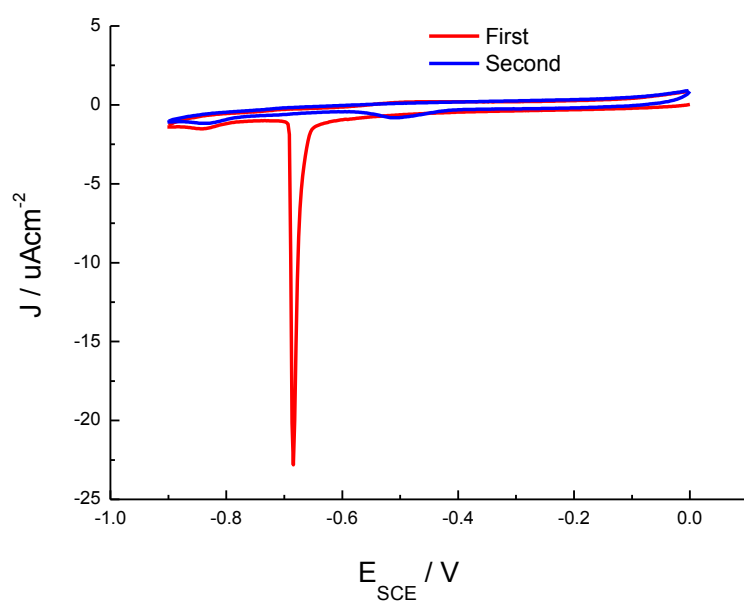


Fig.S3 Cyclic voltammograms (staircase mode) of Au (111) modified by α phase L-NIBC SAMs in $0.1 \text{ mol}\cdot\text{L}^{-1}$ NaOH with scan rate of $10 \text{ mV}\cdot\text{s}^{-1}$

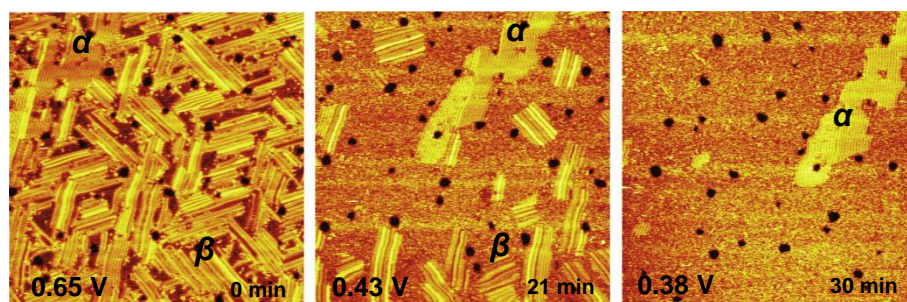


Fig.S4 EC-STM images of Au (111) surfaces modified by β phase NIBC SAMs showing the relative stability of the α phase structure