

# CHIRAL 2D NETWORKS ON Ag(111) RESOLVED DIASTEREOMERIC DOMAINS FROM A HOMOCHIRAL MOLECULE

J. L. Alonso-Gómez,<sup>1</sup> S. Castro-Fernández,<sup>1</sup> S. Míguez-Lago,<sup>1</sup> I. R. Lahoz,<sup>1</sup> A. Navarro-Vázquez,<sup>1</sup> Y. Q. Zhang,<sup>2</sup> B. Cirera,<sup>2</sup> M. A. Öner,<sup>2</sup> C-A Palma,<sup>2</sup> J. Barth,<sup>2</sup> M. M. Cid,<sup>1</sup> F. Klappenberger<sup>2</sup>

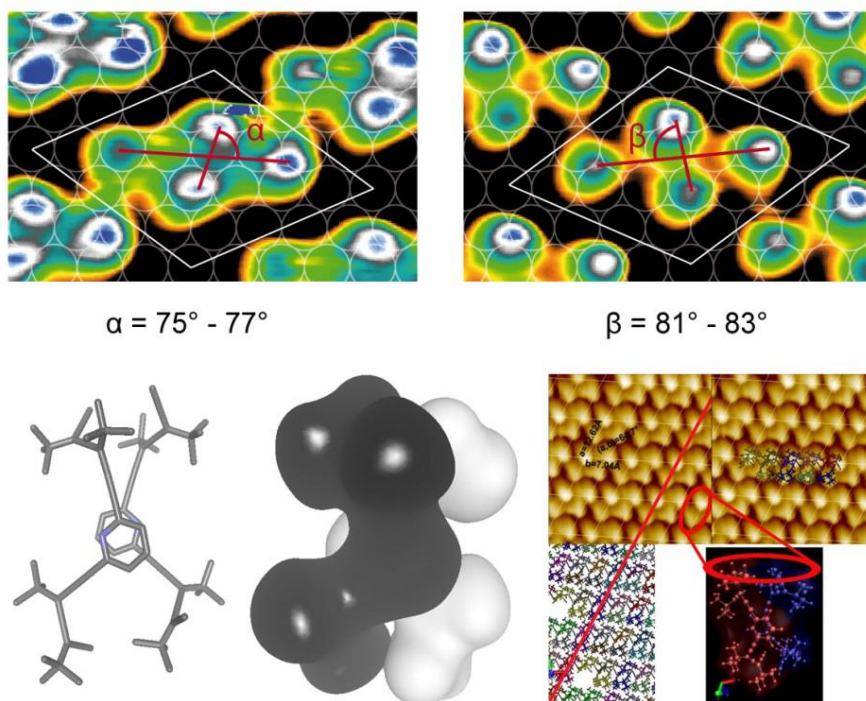
<sup>1</sup>Department of Organic Chemistry, University of Vigo, 36310 Vigo, Spain

<sup>2</sup>Physik Department E20, Technische Universität München, James Franck Str. 1, D-85748 Garching, Germany

e-mail: lorenzo@uvigo.es

## Nanociencia y Nanotecnología

A pyridine ring decorated with two homochiral allenes was deposited on Ag(111) under ultra-high vacuum (UHV) conditions and studied by scanning tunneling microscopy (STM). The experimental STM images and the tip manipulations uncover four upright molecules forming the unit cell. X-ray analysis of an analog<sup>[1]</sup> along with molecular dynamic (MD) simulations suggest anti-parallel  $\pi$ - $\pi$  stacking of the pyridine rings as the main driving force, followed by the topological complementarity of the homochiral allene subunits as responsible for this highly dense packing. Remarkably, two diastereomeric 2D networks are resolved in large domains.<sup>[2]</sup>



[1] I. R. Lahoz, A. Navarro-Vázquez, A. L. Llamas-Saiz, J. L. Alonso-Gómez, M. M. Cid *Chem. Eur. J.* **2012**, *18*, 13836-13843.

[2] Y-Q. Zhang, M. A. Öner, I. R. Lahoz, B. Cirera, C-A. Palma, S. Castro-Fernández, S. Míguez-Lago, M. M. Cid, J. V. Barth, J. L. Alonso-Gómez, F. Klappenberger *Chem. Comm.* **2014**, *50*, 15022–15025.