


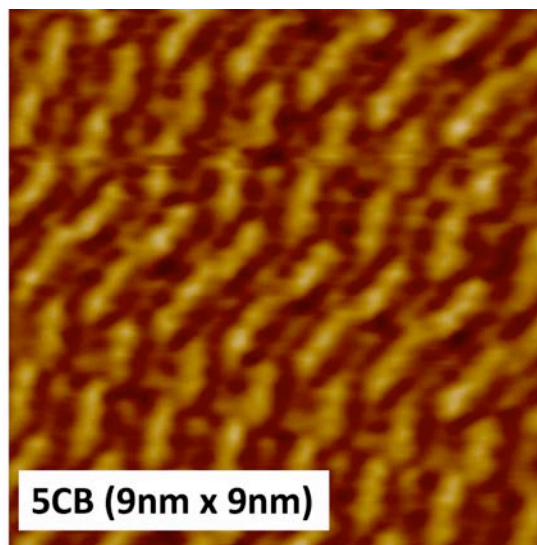
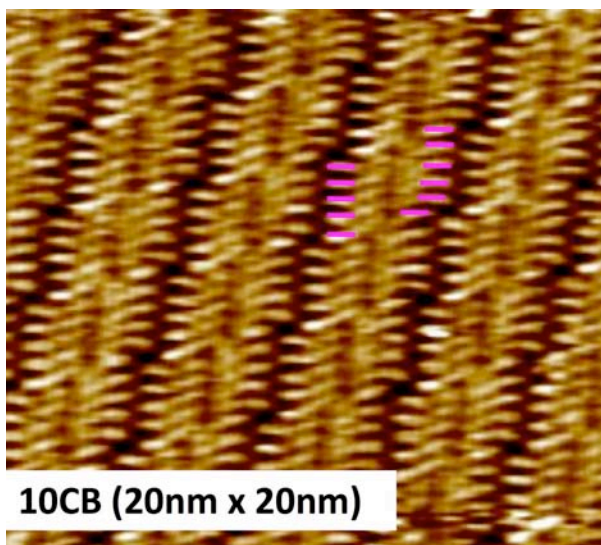
Internship proposal 2011-2012

<p>Laboratory : Institut des NanoSciences de Paris (INSP)</p> <p>Address : Corridor 22-12, 4th floor, 4 place jussieu, Paris 05</p> <p>Laboratory director : Bernard Perrin</p>	
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Organization of organic molecules on a polar substrate

Scientific project :

Molecular electronics may involve in the future organic molecules deposited on a conducting or semi-conducting substrate. The deposited molecules should be well ordered, however few substrates remain stable in air with correct molecular order. We have experimentally shown that lamellar substrate MoS₂ tends to stabilize molecular organization when these molecules have a strong dipolar moment, as for the nCB family (figure). The origin of this effect remains a puzzle. We thus plan to carry out Monte-Carlo simulations of nCB single layers deposited on MoS₂ substrates, including the polar properties thereof : the student will run the simulation programs and analyze the resulting data.



Techniques in use :

Monte-Carlo Simulations
Scanning Tunneling Microscopy

Applicant skills :

Granted internship : yes
C'nano IdF laboratory (France only) : yes
Possibility for a thesis : yes (type of grant : MRT or ANR)