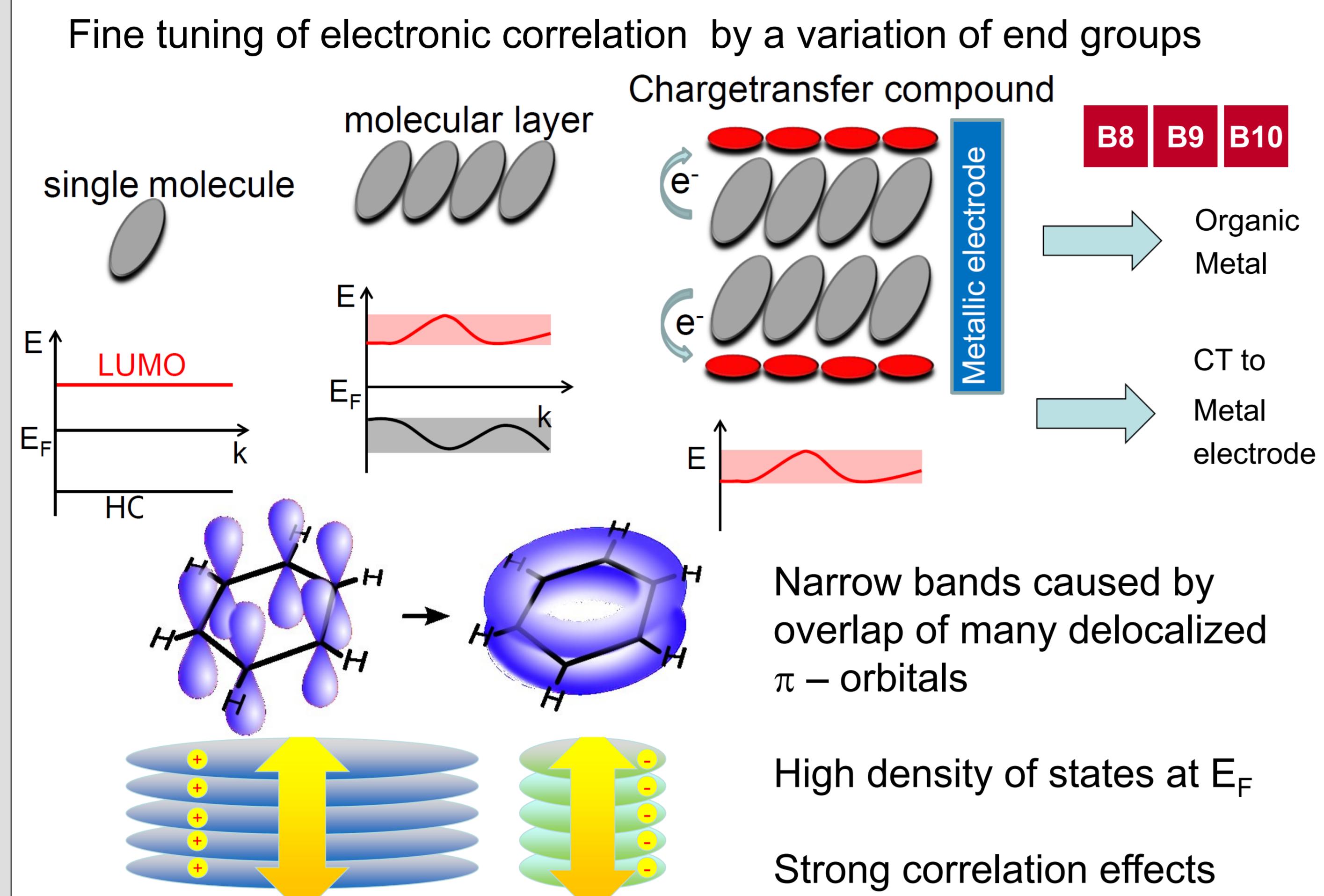


Investigation of electron correlation in organic charge transfer salts using STM

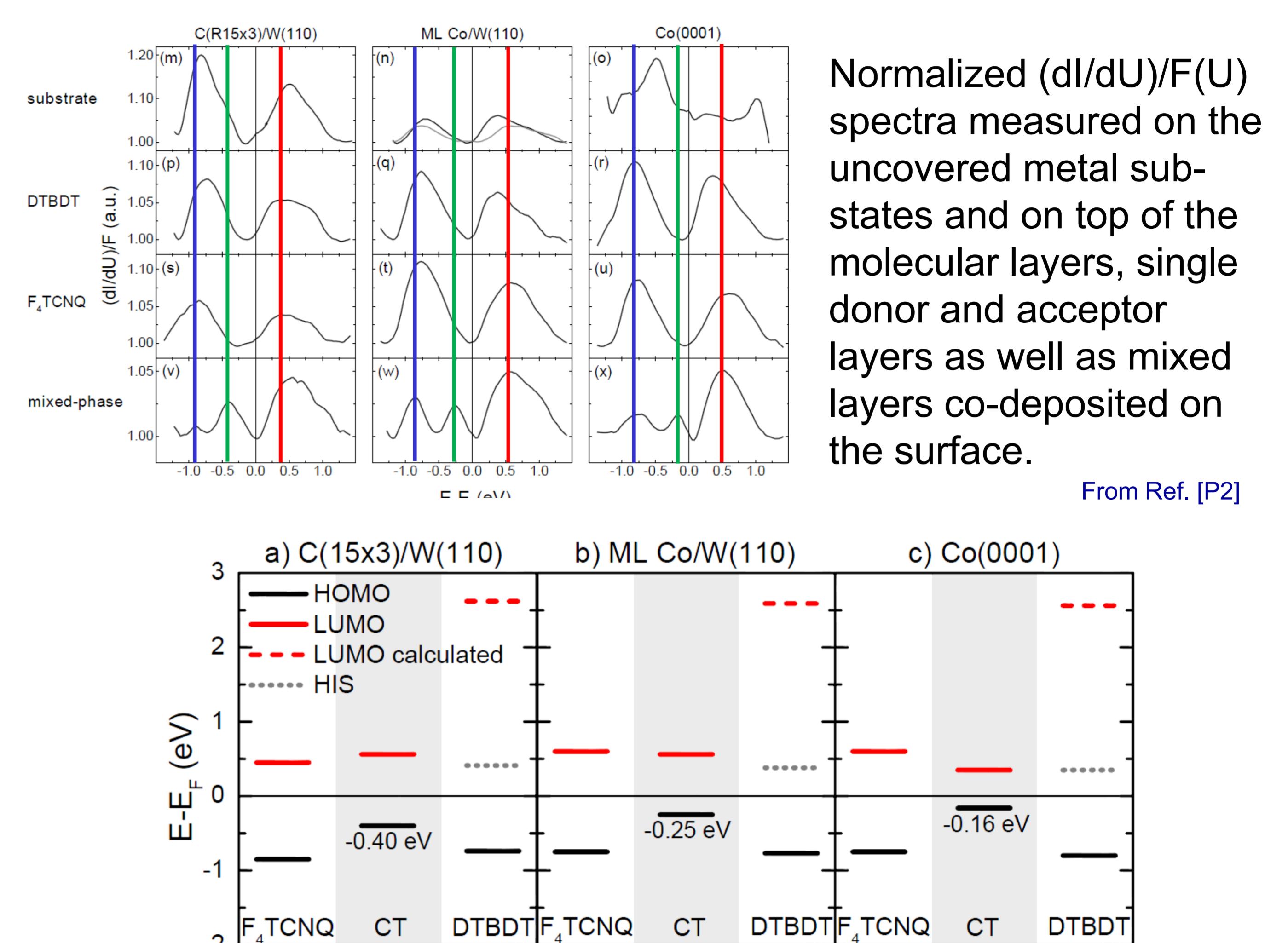
Hans-Joachim Elmers (Universität Mainz)

Thin films of novel CT salts



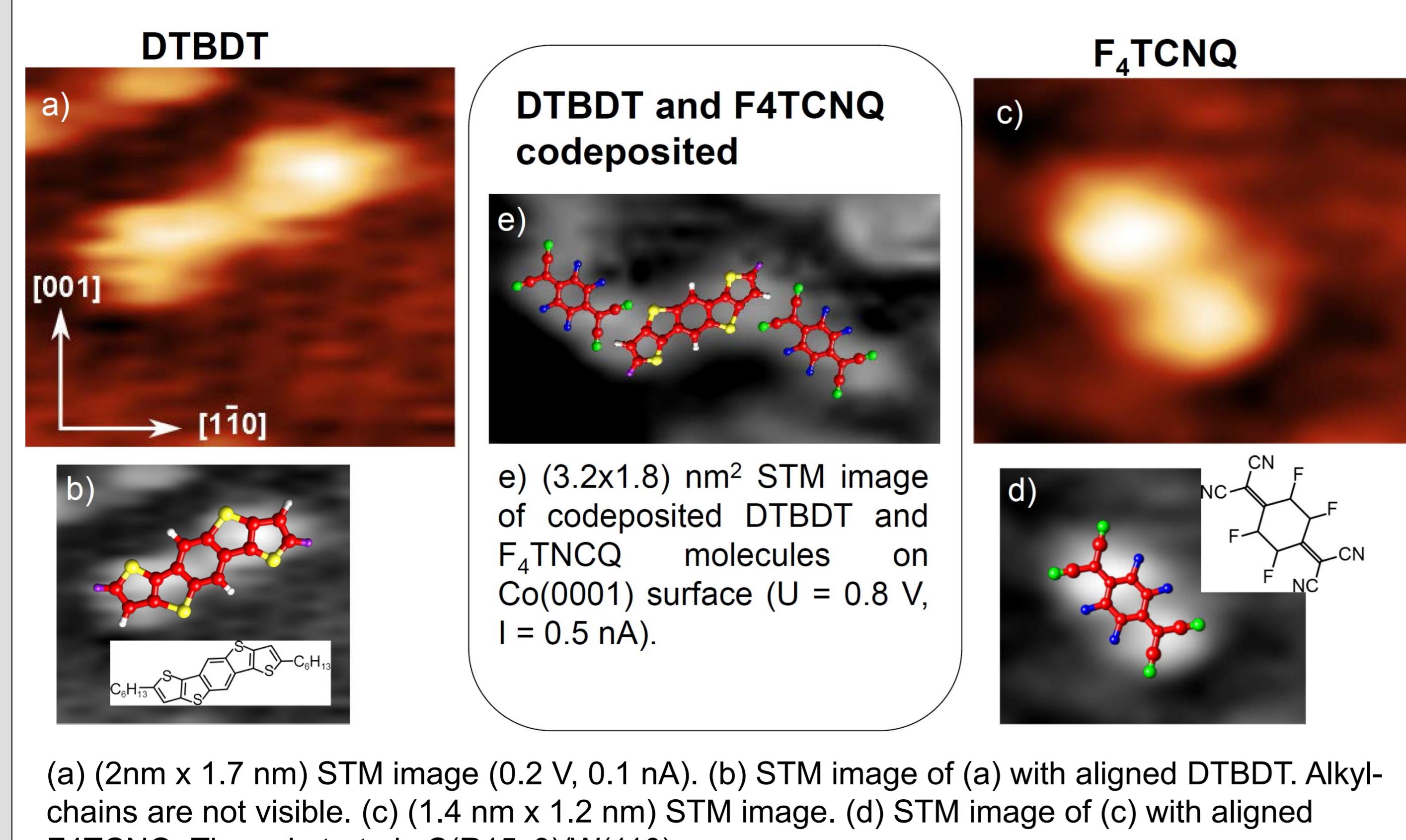
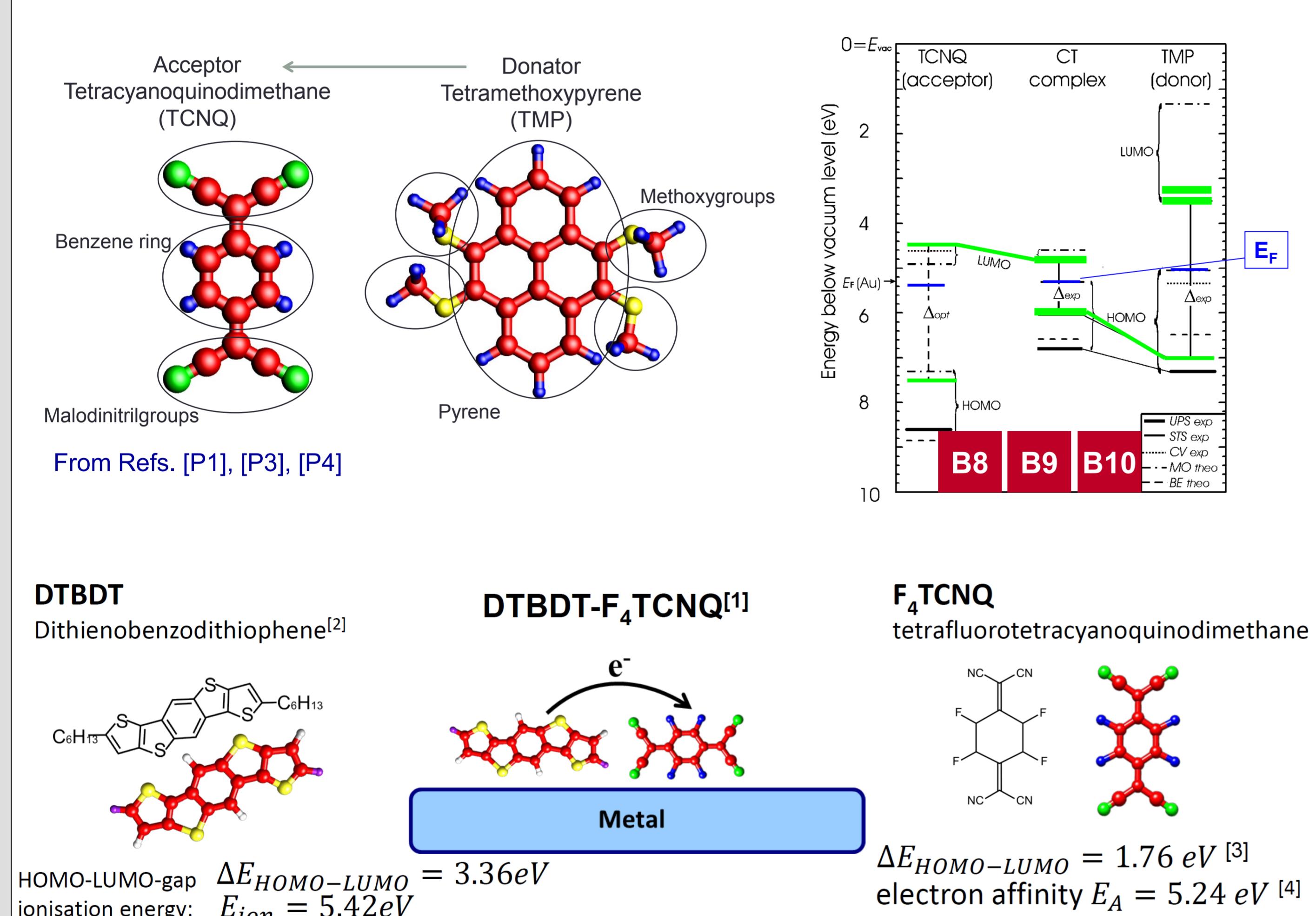
- [P1] K. Medjanik, D. Cherkas, P. Nagel, M. Merz, S. Schuppner, M. Baumgarten, K. Müllen, S.A. Nepijko, H.J. Elmers, G. Schönhense, H. O. Jeschke, and Roser Valenti, J. Am. Chem. Soc. 134, 4694 (2012).
[P2] D. Bayer, S. Diehl, M. Baumgarten, K. Müllen, T. Methfessel, and H. J. Elmers, PRB 89, 075435 (2014).
[P3] T. Methfessel, S. Steil, N. Baadji, N. Gromann, K. Koffler, S. Sanvito, M. Aeschlimann, M. Cinchetti, and H. J. Elmers, PRB 84, 224403 (2011).
[P4] J. Klanke, E. Rentschler, K. Medjanik, D. Kutnyakov, G. Schönhense, S. Krasnikov, I.V. Shvets, S. Schuppner, P. Nagel, M. Merz, and H.J. Elmers, PRL 110, 137202 (2013).

Tuning of Hole Injection Barrier

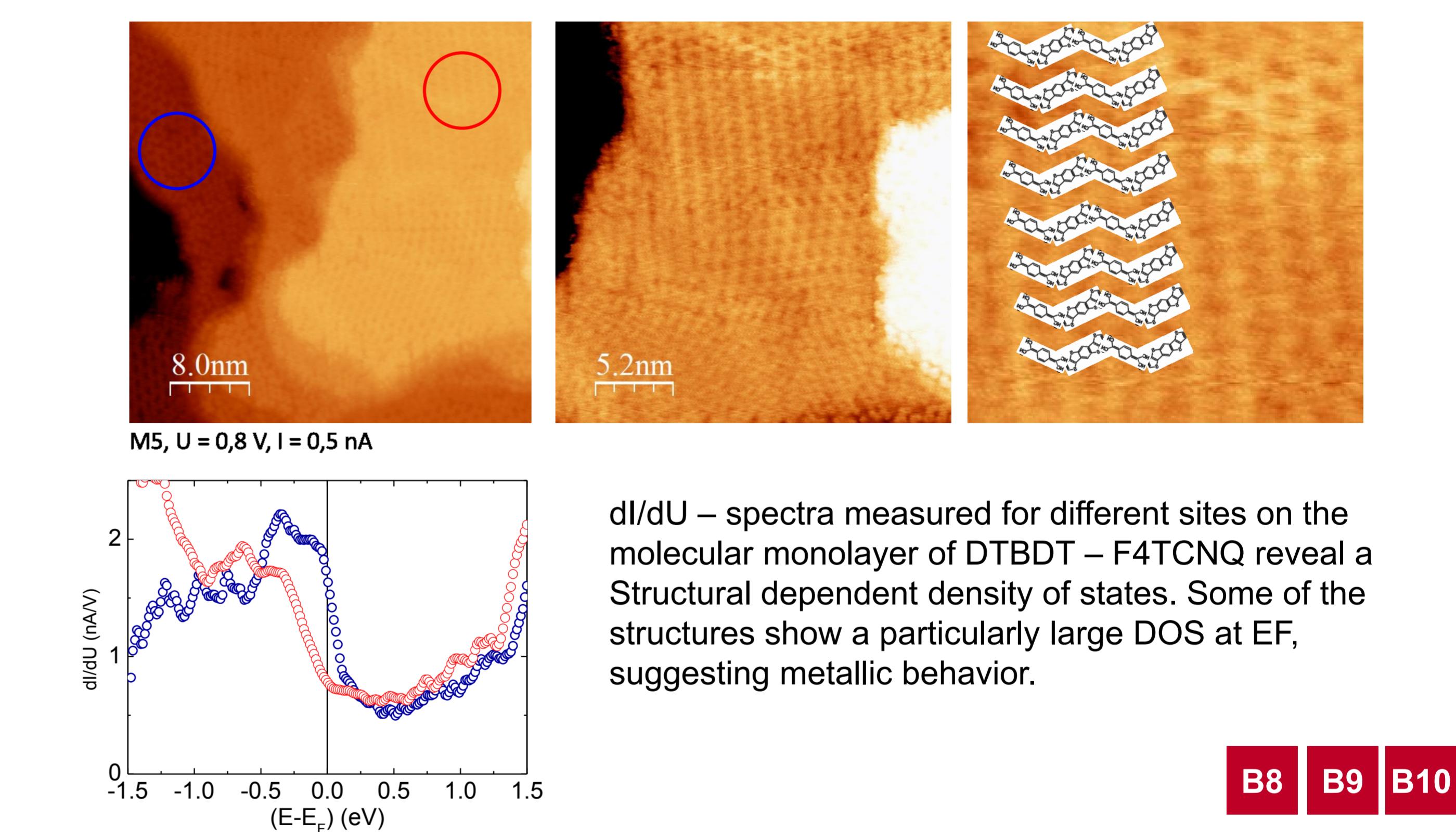


The mixed phase reveals a charge-transfer state split from the HOMO that is shifted towards the Fermi level. The shift depends on the substrate metal. For Co(0001) the HOMO lies only 0.16 eV below E_F.

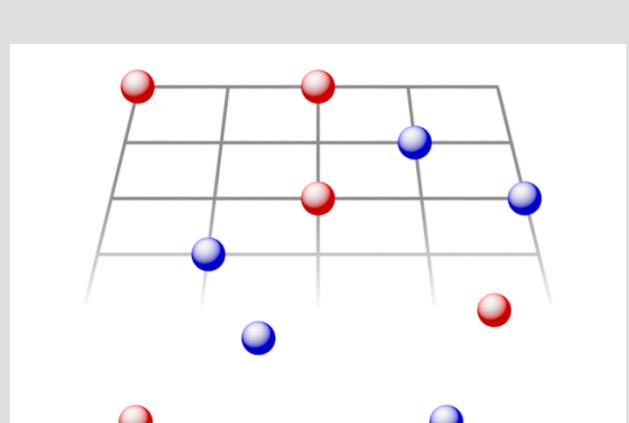
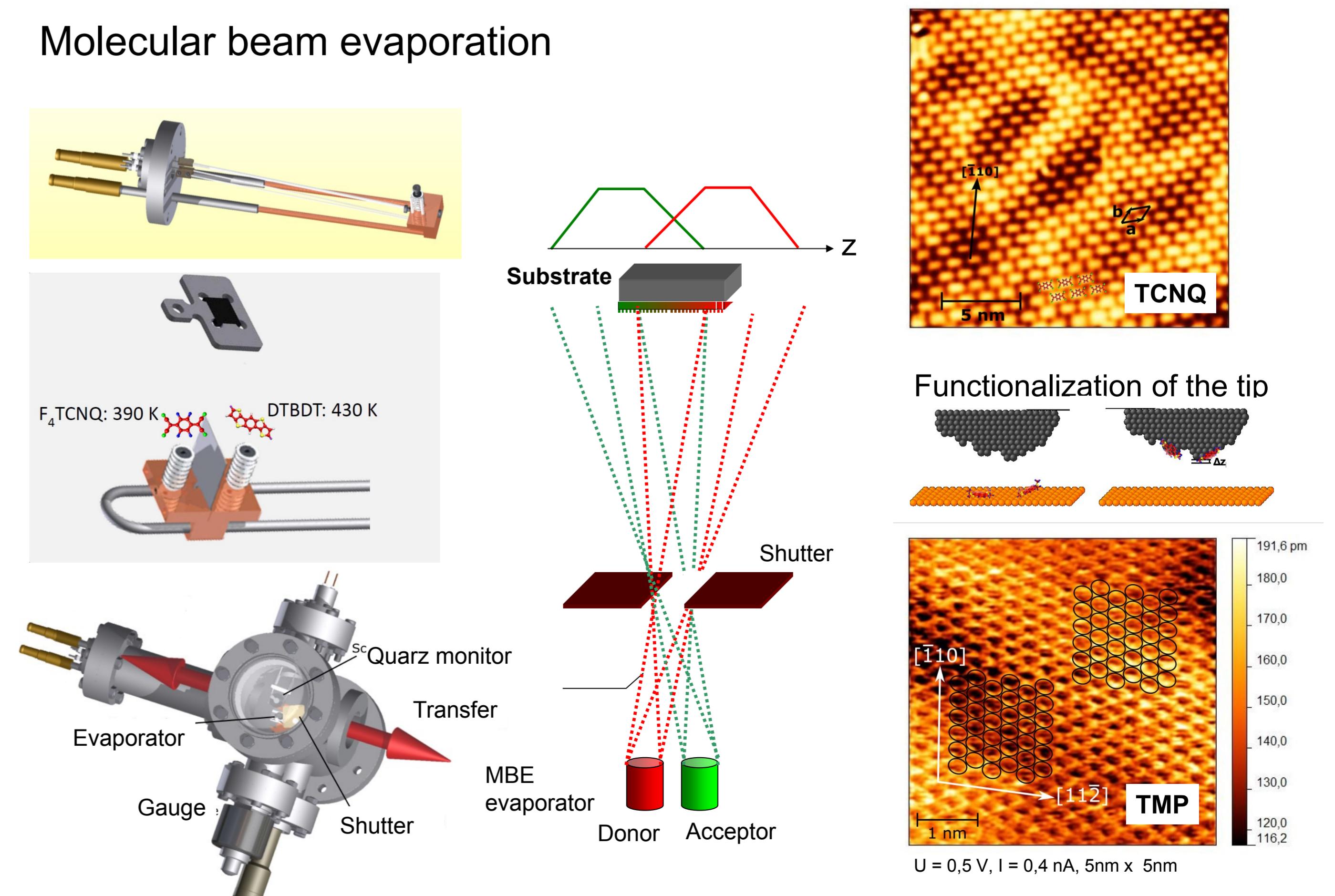
Experimental Results



Ordered CT Monolayers



Techniques



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