Abstract Submitted
for the MAR12 Meeting of
The American Physical Society

Individual Magnetic Molecules on Ultrathin Insulating Surfaces
FADI EL HALLAK, London Centre for Nanotechnology, UCL, London, UK, BEN WARNER, London Centre for Nanotechnology, UCL, London, UK; Department of Physics & Astronomy, UCL, London, UK, CYRUS HIRJIBEHEDIN, London Centre for Nanotechnology, UCL, London, UK; Department of Physics & Astronomy, UCL, London, UK; Department of Chemistry, UCL, London, UK — Single molecule magnets have attracted ample interest because of their exciting magnetic and quantum properties. Recent studies have demonstrated that some of these molecules can be evaporated on surfaces without losing their magnetic properties [M. Mannini *et al.*, *Nature* 468, 417, (2010)]. This remarkable progress enhances the chances of real world applications for these molecules. We present STM imaging and spectroscopy data on iron phthalocyanine molecules deposited on Cu(100) and on a Cu_2N ultrathin insulating surface. These molecules have been shown to display a large magnetic anisotropy on another thin insulating surface, oxidized Cu(110) [N. Tsukahara *et al.*, *Phys. Rev. Lett.* 102, 167203 (2009)]. By using a combination of elastic and inelastic electron tunnelling spectroscopy, we investigate the binding of the molecules to the surface and the impact that the surface has on their electronic and magnetic properties.

Fadi El Hallak
London Centre for Nanotechnology, UCL, London, UK

Date submitted: 16 Nov 2011 Electronic form version 1.4