

# Hexagonal boron nitride and carbon on 4d transition metals: Corrugated single layer templates for nanosciences

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Single layer dielectrics of hexagonal boron nitride on Rh(111) or Ru(0001) form corrugated superstructures with about 3nm lattice constant. These structures were stable in air and electrolytes and may be used as templates for supramolecular architectures. The peculiar trapping mechanism for single molecules with a diameter of 1 to 2 nm is traced back to strong lateral electric fields within the nanostructure [1]. A comparison with the metallic sp<sup>2</sup> sibling graphene reveals similar, though weaker lateral electric fields above the corrugated surface [2].

[1] Dil et al. Science, 319 (2008) 1824.

[2] Brugger et al. Phys. Rev. B, 79 (2009) 045407.